CITY OF LONG BEACH

FIRE STATION 9

4101 LONG BEACH BOULEVARD., LONG BEACH, CA 90807

BID DOCUMENTS

OCTOBER 12, 2023

PROJECT DESCRIPTION

THE CITY OF LONG BEACH PUBLIC WORKS DEPARTMENT TOGETHER WITH THE CITY OF LONG BEACH FIRE DEPARTMENT PROPOSE TO CONSTRUCT A REPLACEMENT FIRE STATION NO. 9. THE PROJECT SITE IS AT THE CORNER OF LONG BEACH BLVD. AND RANDOLPH WAY IN THE BIXBY KNOLLS AREA OF NORTH LONG BEACH. THE PROJECT SITE IS LOCATED ADJACENT TO RESIDENCES ON THE NORTH (ACROSS AN ALLEY) AND WEST, A PROFESSIONAL OFFICE BUILDING COMPLEX TO THE SOUTH AND A MEDICAL OFFICE BUILDING DIRECTLY ACROSS LONG BEACH BLVD. THE DEVELOPMENT AREA ENCOMPASSES 16,829 SF. THERE IS AN EXISTING BUSINESS OFFICE BUILDING LOCATED ON THE SITE WHICH WILL BE DEMOLISHED AS A PART OF THE PROJECT. THIS EXISTING DEVELOPMENT SITS ACROSS THREE PARCELS WITH TWO DIFFERENT ZONES. THE THREE PARCELS WILL BE MERGED INTO ONE PARCEL AND THEN REZONED TO A CONSISTENT MU-1 ZONING CATEGORY.

THE SITE WILL BE REDEVELOPED WITH CONCRETE PAVING, SITE LIGHTING, A TRASH ENCLOSURE, TRANSFORMER, LANDSCAPING, FENCING, AND GATES. ON THE WEST PROPERTY LINE, THERE IS A ROW OF EXISTING MATURE TREES THAT WILL BE PROTECTED IN PLACE. THE BALANCE OF THE PROJECT LANDSCAPING IS DESIGNED TO FOLLOW THE CITY'S LANDSCAPE DESIGN REQUIREMENTS FOR DROUGHT-TOLERANT PLANT SELECTION AND LOW FLOW IRRIGATION SYSTEMS. PLANT SELECTION IS SUITABLE TO BIO-RETENTION BASINS WHERE APPROPRIATE.

THE SITE WILL BE ACCESS BY VEHICLE AND APPARATUS TRAFFIC THROUGH THE ALLEY NORTH OF THE PROPERTY. A SECURE FIREFIGHTER PARKING AREA PROVIDES ELEVEN (11) PARKING SPACES (INCLUDING ONE (1) ACCESSIBLE SPOT, ONE (1) ACCESSIBLE PARKING SPACE WITH AN EV CHARGER AND ONE RESERVED PARKING SPACE FOR LOW EMISSION VEHICLES), AN AREA FOR APPARATUS WASHDOWN AND TANK FILL. THIS PARKING AREA INCLUDES AN EXIT DRIVEWAY ONTO LONG BEACH BLVD. THERE IS A TRASH ENCLOSURE ALONG THE NORTH PROPERTY LINE ADJACENT TO THE ALLEY AND A BB&Q PATIO AT THE SOUTHWEST CORNER OF THE SITE.

OFF-SITE IMPROVEMENTS INCLUDE A DRIVEWAY APRON ONTO LONG BEACH BOULEVARD AND A NEW RESPONSE APRON AT E. RANDOLPH PLACE. A "KEEP CLEAR" ZONE WILL BE STRIPED IN FRONT OF THE APPARATUS BAY APRON. A TRAFFIC SIGNAL IS PLANNED FOR THE INTERSECTION OF E. RANDOLPH PLACE AND LONG BEACH BOULEVARD. THE TRAFFIC SIGNAL WILL BE ABLE TO BE ACTIVATED FROM THE FIRE STATION TO ALLOW A CLEAR RESPONSE PATH ONTO LONG BEACH BLVD. IN ADDITION, THE OVERHEAD POWER LINES ALONG LONG BEACH BLVD. WILL BE UNDERGROUNDED AT THE STATION FRONTAGE.

THE ALLEY ON THE NORTH SIDE OF THE PROPERTY WILL BE WIDENED TWO FEET, 6-INCHES (2'-6") TOWARD THE FIRE STATION PROPERTY AND WILL BE RECONSTRUCTED THE FULL WIDTH WITH UNDERGROUND UTILITIES AND NEW PAVING. THE TOTAL IMPROVEMENT AREA OF THE ALLEY IS 3,064 SF. THE SIDEWALKS ALONG THE LONG BEACH BOULEVARD AND E. RANDOLPH STREET FRONTAGES WILL BE REPLACED AND EXISTING STREET TREES REPLACED, AS NECESSARY.

THE PROPOSED 12,779 SF, TWO-STORY FIRE STATION WILL HOUSE EIGHT (8) ON-DUTY FIREFIGHTERS IN A 24-HOUR SHIFT AND INCLUDES ONE SLEEPING ROOM FOR A TRAINEE. THE STATION IS DESIGNED TO ACCOMMODATE A FIRE ENGINE COMPANY, A RESCUE COMPANY AND A BATTALION CHIEF, AS FRONT-LINE RESPONDING UNITS. IN ADDITION, THERE IS APPARATUS BAY SPACE FOR A RESERVE TYPE 3 ENGINE AND STAGING AREA IN THE REAR OF THE SITE FOR A FIRE TRUCK. THE BAY IS SIZED TO ALLOW OTHER POTENTIAL COMBINATIONS OF RESPONSE COMPANIES IN THE FUTURE.THE STATION PLANNING IS FORWARD-THINKING TO ADDRESS POTENTIAL CHANGES IN RESPONSE NEEDS WELL INTO THE FUTURE.

THE STATION'S CORE FACILITIES (KITCHEN, DINING, DAYROOM, RESTROOMS, FITNESS ROOM, AND APPARATUS SUPPORT SPACES) MUST ACCOMMODATE EIGHT (8) ON-DUTY PERSONNEL PLUS ONE (1) TRAINEE.

THE FIRE STATION INCLUDES THE FOLLOWING ELEMENTS:
FIRST LEVEL:

1. THREE (3) DRIVE-THROUGH APPARATUS BAYS.
2. APPARATUS SUPPORT SPACES INCLUDING A WORKSHOP, MEDICAL STORAGE AND CLEAN-UP, TURNOUT STORAGE, AND RELATED JANITORIAL FACILITIES.
3. PUBLIC LOBBY, MEETING ROOM, ACCESSIBLE RESTROOM, AND A STATION OFFICE.

SECOND LEVEL

1. BATTALION CHIEF AND CAPTAINS' OFFICES
2. KITCHEN, STORAGE PANTRY, DINING, DAYROOM, AND LAUNDRY ROOM.
3. PRIVATE SLEEPING QUARTERS WITH ALL GENDER RESTROOMS.
4. DEDICATED FITNESS ROOM WITH EXTERIOR DECK.
5. MECHANICAL, ELECTRICAL, COMMUNICATIONS ROOMS.
6. VERTICAL CIRCULATION INCLUDES TWO (2) SETS OF STAIRS AND AN ELEVATOR.

THE FLOOR PLAN LAYOUT LOCATES THE STATION ENTRANCE ON LONG BEACH BOULEVARD WITH THE LOBBY AND STATION OFFICE ON THE EAST SIDE, APPARATUS BAYS IN THE CENTER AND APPARATUS SUPPORT AREAS ON THE WEST SIDE. THE EMERGENCY GENERATOR FOR THE FIRE STATION IS LOCATED WITHIN THE BUILDING FOR SOUND ATTENUATION. THE SECOND LEVEL LAYOUT INCLUDES THE BATTALION CHIEFS QUARTERS AND OFFICE ON LONG BEACH BLVD. THE KITCHEN, DINING, ONE BEDROOM AND THE FITNESS AREA FACE E. RANDOLPH PLACE. THE SLEEPING ROOMS ARE FACING NORTH AND WEST AND EACH INCLUDE A CODE REQUIRED EGRESS WINDOW. THE DAYROOM, RESTROOMS AND LAUNDRY ROOM ARE LOCATED IN THE CENTER OF THE FACILITY. THERE IS A ROLL-UP DOOR FROM THE FITNESS ROOM TO A WEST-FACING DECK THAT ALLOWS ABUNDANT FRESH AIR INTO THE FITNESS SPACE. A SCREEN SYSTEM IS INCORPORATED INTO THE DECK OPENING TO PROVIDE VISUAL PRIVACY. FINALLY, AS REQUIRED BY ACCESSIBILITY AND BUILDING AND SAFETY CODES, THERE ARE TWO (2) EGRESS STAIRS AND AN ELEVATOR TO THE SECOND FLOOR.

FIRE STATION DESIGN

THE EXTERIOR DESIGN OF THE FIRE STATION WAS DEVELOPED TO COMPLEMENT THE NEIGHBORHOOD, BLENDING WITH THE NEWER COMMERCIAL BUILDINGS ALONG LONG BEACH BOULEVARD WHILE USING EXTERIOR MATERIALS THAT ARE RESIDENTIAL IN SCALE. THE BUILDING EXTERIOR IS DESIGNED USING A MIXTURE OF RAIN-SCREEN SYSTEMS (METALLIC AND PHENOLIC SIDING) OVER A MASONRY BASE FOR DURABILITY. THESE SYSTEMS PROVIDE METAL AND WOOD-LIKE APPEARANCES TO CREATE A BALANCED FAÇADE AND ARE SEPARATED BY A METAL HORIZONTAL BAND IN ON THE SOUTH, WEST, AND NORTH ELEVATIONS. THE LONG BEACH BLVD. ELEVATION INCLUDES A SCREENED, WINDOW WALL SYSTEM AT AN ACUTE CORNER THAT INVITES THE PUBLIC ON THE FIRST LEVEL AND PROVIDES ABUNDANT NATURAL LIGHT AT THE BATTALIONS CHIEF OFFICE AREA SECOND LEVEL. THE BUILDING MASSING IS ARTICULATED WITH VERTICAL CORNER ELEMENTS, HORIZONTAL WOOD BANDING AND THIS ACUTE CORNER ELEMENT CREATED BY THE STREET CONFIGURATION. A MAIN FEATURE OF THE BUILDING MASSING IS THE EXTENDED ROOF ELEMENT WHICH PROVIDES A DRAMATIC TIE TO THE FLAG WHICH IS AN ESSENTIAL ELEMENT AT EVERY FIRE STATION FACILITY.

THE FIRE STATION FRONT DOOR IS IDENTIFIED WITH A RED METAL ELEMENT WHICH IS BOOKENDED BY THE MASONRY CORNER ELEMENT AND A SEMI-TRANSPARENT GLAZING SYSTEM. THE APPARATUS BAYS FACING E. RANDOLPH ARE OUTFITTED WITH STAINLESS-STEEL HIGH-SPEED ROLL-UP DOORS PLACED IN A RED FRAME TO TIE INTO THE ENTRY FEATURE. THE FENESTRATION INCLUDES A MIXTURE OF STOREFRONT SYSTEMS AND ALUMINUM CLAD WOOD WINDOWS AT THE SLEEPING ROOMS.

THE PROJECT IS BEING DESIGNED TO ACHIEVE LEED SILVER CERTIFICATION WITH A STRETCH GOAL OF LEED GOLD. IT WILL INCLUDE SOLAR PANELS ON THE ROOF, LOW FLOW PLUMBING FIXTURE, LED LIGHTING, ENERGY EFFICIENT HEATING AND COOLING SYSTEMS SUPPORTED BY HIGHLY INSULATED ROOF AND WALL ASSEMBLIES TO REDUCE HEATING AND COOLING COSTS. ALL ROOF MOUNTED EQUIPMENT IS SHIELDED BY A MECHANICAL SCREEN.

THE OVERALL HEIGHT OF THE STRUCTURE FIRE STATION IS 33'-4".

REFERENCE DOCUMENTS

GEOTECHNICAL INVESTIGATION REPORT
DATED JULY 1, 2021
PROPOSED FIRE STATION NO. 9
4101 LONG BEACH BOULEVARD, LONG BEACH, CA

PREPARED BY TWINING, INC.
LIANGCAI HE, PHD, PE 73280,
GE 3033 CHIEF GEOTECHNICAL ENGINEER
PAUL SOLTIS, PE 56140, GE 2606 VICE PRESIDENT,
GEOTECHNICAL ENGINEERING

ADDITIONAL PERCOLATION TESTING
SITE PLAN AND BORING LOCATION MAP
DATED NOVEMBER 2021
WITH BORING PERCOLATION FIELD LOG

HAZARDOUS BUILDING MATERIAL SURVEY
DATED AUG. 23, 2023
FIRE STATION NO. 9 FACILITY PROJECT
4101 LONG BEACH BOULEVARD, LONG BEACH, CA

PREPARED BY KOA CORPORATION
LUCAS G. WAIDE,
STAFF ENVIRONMENTAL SCIENTIST
ASBESTOS BUILDING INSPECTOR

EDILBERTO QUINTERO, SENIOR STAFF
ENVIRONMENTAL SCIENTIST
LEAD SAMPLING TECHNICIAN #0274

DAVID M. KELLY, CAC, CRIE, LRC
SENIOR PROJECT ENVIRONMENTAL SCIENTIST
CERTIFIED ASBESTOS CONSULTANT #23-7217

STEPHEN J. WAIDE, CIH, CSP, CIEC, CMC
PRINCIPAL ENVIRONMENTAL SCIENTIST

PROJECT TEAM

CLIENT:
CITY OF LONG BEACH
DERRY MACMAHON
SENIOR PROJECT MANAGER, PUBLIC WORKS
411 W. OCEAN BLVD., LONG BEACH, CA 90802
TEL.: (562) 570-5092

ARCHITECT:
MARY MCGRATH ARCHITECTS
MARY MCGRATH
610 16th STREET, SUITE 219, OAKLAND, CA 94612
TEL.: (510) 208-9400

CIVIL ENGINEER:
BARBARA ASHBA
ASHBA ENGINEERS LTD.
P.O. BOX 90833, LONG BEACH, CA 90809
TEL.: (562) 427-1500

STRUCTURAL ENGINEER:
CORNERSTONE STRUCTURAL ENGINEERING GROUP
DUSTIN LEE
986 W. ALLUVIAL SUITE 201, FRESNO, CA 93711
TEL.: (559) 320-3200

MECHANICAL & PLUMBING ENGINEER:
3C ENGINEERING, INC.
DENVER STANGER
1500 PALM STREET, SAN LUIS OBISPO, CA 93401
TEL.: (805) 540-3363

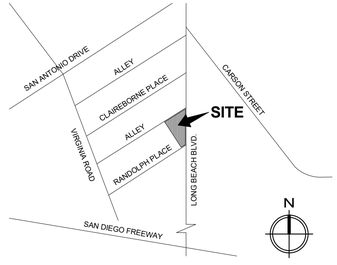
ELECTRICAL ENGINEER:
THOMA ELECTRIC, INC.
CHRIS JOSE
3562 EMPLEO STREET,
SAN LUIS OBISPO, CA 93401
TEL.: (805) 543-3850

LANDSCAPE ARCHITECT:
CUNNINGHAM ENGINEERING
LANDSCAPE ARCHITECT
MICHAEL ENGLE
2940 SPAFFORD ST, SUITE 200,
DAVIS, CA 95618
TEL.: (530) 758-2026

ALERTING SYSTEM:
WESTNET INC.
KELLY MATHENY
15542 CHEMICAL LANE,
HUNTINGTON BEACH, CA 92649
TEL.: (714) 548-3500

LEED CONSULTANT:
UL VERIFICATION SERVICES INC.
GABRIELA DE VASCONCELLOS
1000 BROADWAY, SUITE 200E
OAKLAND, CA 94607
TEL.: (510) 319-4142 EXT.: 51142

VICINITY MAP



This project is subject to Title 24, Part 2, of the California Code of Regulations, Sections 1.9.1 and 11 B-206, the state's disabled access and adaptability requirements. The design professional of record shall sign a statement on the plans to the effect:

I certify that the primary path of travel to the specific area of alteration, structural repair or addition from the public way or accessible parking space as indicated on the plans does not include steps or a slope exceeding 1 :20 except where access is provided by a ramp with 1 :12 maximum slope, accessible elevator or otherwise granted by an unreasonable hardship exemption. I understand that if the primary path of travel is found not to be as indicated, significant delays may result.

Furthermore, I certify that these plans were prepared under my direct supervision and that the area of specific alteration, structural repair or addition, including a primary entrance to the existing building and, when applicable, sanitation facilities, drinking fountains, signs and public telephones serving the area complies with current CA Title 24 Accessibility requirements.

Signature	Architect, Principal
	Title
Mary McGrath	04/22/2022
Print Name	Date

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

CITY OF LONG BEACH - DEPARTMENT OF PUBLIC WORKS - ENGINEERING BUREAU 411 W. OCEAN BLVD. LONG BEACH, CA 90802

NO.	DATE	REVISION
1	12/16/2021	PLAN CHECK SUBMITTAL
2	04/22/2022	PLAN CHECK RE-SUBMITTAL
3	06/15/2023	PLAN CHECK RE-SUBMITTAL
4	10/12/2023	BID DOCUMENTS
		AS-BUILT

REF.

DESIGNED BY: MM
DRAWN BY: LR / SL
DESIGN CHECK BY: MM
DRAFTING CHECK BY: MM / RR
PROJECT MANAGER
PROJECT OFFICER
INSPECTION
SURVEY CONTROL

CITY OF LONG BEACH

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

COVER SHEET

B # B-4797

SHEET 1 OF 236

DWG. NO. A001

10/12/2023 7:44:41 PM

ABBREVIATIONS

SYMBOLS
& - AND
@ - AT
℄ - DIAMETER
□ - SQUARE

A
AB - ANCHOR BOLT
ABV - ABOVE
ACOUST- ACOUSTICAL
ACT - ACOUSTIC CEILING TILE
AFF - ABOVE FINISH FLOOR
AHJ - AUTHORITY HAVING JURISDICTION
ALUM - ALUMINUM
AP - ACCESS PANEL
APPROX- APPROXIMATELY
ARCH - ARCHITECTURAL

B
B.C. - BOTTOM CHORD
BLK - BLOCK
BLDG - BUILDING
BLKG - BLOCKING
BLKHD - BULKHEAD
BM - BEAM
B.O. - BOTTOM OF
BOD - BASIS OF DESIGN
BOT - BOTTOM
B.R. - BULLET RESISTANT
BRNG - BEARING

C
Ç - CENTER LINE
CFCI - CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CFOI - CONTRACTOR FURNISHED, OWNER INSTALLED
CFLS - COUNTER FLASHING
CJ - CONTROL JOINT
CL - CLOSET
CLG - CEILING
CMU - CONCRETE MASONRY UNIT
CND - CONDUIT
COL. - COLUMN
COOR - COORDINATE
CONC - CONCRETE
CONSTR- CONSTRUCTION
CONT - CONTINUOUS
C.T. / CT- CERAMIC TILE
CPT - CARPET / CARPET TILE
CTSK - COUNTERSUNK
CU - CUBIC
CU FT - CUBIC FOOT
CU YD - CUBIC YARD

D
D - DEEP / DEPTH
DEG - DEGREE
DIA - DIAMETER
DIM - DIMENSION
DL - DEAD LOAD
DMPR - DAMPER
DN - DOWN
DR - DOOR
DS - DOWNSPOUT
DTL - DETAIL
DWG - DRAWING

E
EA - EACH
EIFS - EXTERIOR INSULATON AND FINISHING SYSTEM
ELEC - ELECTRICAL
EL - ELEVATION
ELEV - ELEVATION
ELMA - ELEVATOR MACHINE ROOM
EJ - EXPANSION JOINT
ENT - ENTRANCE, ENTRY
EQ - EQUAL
EST - ESTIMATE
EW - EACH WAY
EXST - EXISTING
EXT - EXTERIOR
EXP - EXPOSED
EXP JT - EXPANSION JOINT

F
F - FAHRENHEIT
FD - FLOOR DRAIN
F.E. - FIRE EXTINGUISHER
F.E.C. - FIRE EXTINGUISHER CABINET
FF - FINISHED FLOOR
FF EL - FINISHED FLOOR ELEVATION
FG - FINISHED GRADE
FHY - FIRE HYDRANT
FDC - FIRE DEPARTMENT CONNECTION
FIN - FINISH
FIN FL - FINISHED FLOOR
FF - FIREFIGHTER
FL - FLOOR
FLEX - FLEXIBLE
FLUOR - FLUORESCENT
FND - FOUNDATION
FPM - FEET PER MINUTE
FRT - FIRE RETARDANT TREATED
FSK - FOIL SCRIM KRAFT
FT - FEET, FOOT
FT - FLOOR TRANSITION
FTG - FOOTING

G
GA - GAGE, GAUGE
GALV - GALVANIZED
GL - GLASS, GLAZING
GND - GROUND
GRTG - GRATING
GWB - GYPSUM WALL BOARD

H
H - HIGH / HEIGHT
HC - HANDICAPPED
HD - HEAD
HM - HOLLOW METAL
HORIZ - HORIZONTAL
HR - HOUR
HT - HEIGHT

I
ID - INSIDE DIAMETER
IN - INCH
INFO - INFORMATION
INSUL - INSULATION

J
JB - JUNCTION BOX
JM - JAMB
JST - JOIST
JT - JOINT

L
LG - LONG
LL - LIVE LOAD
LSC - LIFE SAFETY CODE
LTG - LIGHTING

M
MACH - MACHINE
MATL - MATERIAL
MAX - MAXIMUM
MBT - MARBLE THRESHOLD
MECH - MECH
MEP - MECHANICAL / ELECTRICAL / PLUMBING
MFGR - MANUFACTURER
MH - MANHOLE
MIN - MINIMUM
MO - MASONRY OPENING
MSNRY - MASONRY
M.T. - METAL THRESHOLD
MTL - METAL
MTD - MOUNTED

N
NA - NOT APPLICABLE
NIC - NOT IN CONTRACT
NO - NUMBER
NTS - NOT TO SCALE

O
O/C - ON CENTER
OD - OUTSIDE DIAMETER
OFIC - OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI - OWNER FURNISHED, OWNER INSTALLED
OPNG - OPENING
OPP - OPPOSITE
OPP HND - OPPOSITE HAND
OV - OVER
OVHD - OVERHEAD

P
P.LAM - PLASTIC LAMINATE
PLY - PLYWOOD
PLYWD - PLYWOOD
PNLBD - PANELBOARD
PNT/ PT - PAINT
POLYISO - POLYISOCYANURATE
PRESS - PRESSURE
PROJ - PROJECT
PROP - PROPERTY
PSF - POUNDS PER SQUARE FOOT
PSI - POUNDS PER SQUARE INCH
PT - PRESSURE TREATED
PTD - PAINTED
PVC - POLYVINYL CHLORIDE
PVMT - PAVEMENT
PWT - PREFABRICATED WOOD TRUSS

R
R - RADIUS
RCP - REFLECTED CEILING PLAN
REINF - REINFORCING, REINFORCED
RES - RESINOUS
REQD - REQUIRED
REV - REVISION
RGD - RIGID
RM - ROOM
RO - ROUGH OPENING
RST - REINFORCING STEEL

S
SB - SMART BOARD
SCD - SEE CIVIL DRAWINGS
SCHED - SCHEDULE
SD - STORM DRAIN
SED - SEE ELECTRICAL DRAWINGS
SECT - SECTION
SF - SQUARE FOOT
SI - SQUARE INCH
SIM - SIMILAR
SLP - SLOPE
SMD - SEE MECHANICAL DRAWINGS
SPCL - SPECIAL
SPEC - SPECIFICATIONS
SPLY - SUPPLY
SQ - SQUARE
SS - STAINLESS STEEL
SSD - SEE STRUCTURAL DRAWINGS
ST - STREET
STD - STANDARD
STL - STEEL
STOR - STORAGE
STRUCT- STRUCTURAL
SURF - SURFACE
SUSP - SUSPENDED
SW - SWITCH
SYS - SYSTEM

T
T & B - TOP AND BOTTOM
T.B. - TACK BOARD
T.B.D. - TO BE DETERMINED
TEMP - TEMPERATURE
THK - THICK
THRES - THRESHOLD
T&G - TONGUE & GROOVE
TO - TOP OF
TOB - TOP OF BEARING POINT
TOC - TOP OF CONCRETE
TOF - TOP OF FOOTING
TOM - TOP OF MASONRY
TOP - TOP OF PAVEMENT, PARAPET
TOS - TOP OF STEEL
TRTD - TREATED
T.S. - TRANSITION STRIP
TYP - TYPICAL

U
UGND - UNDERGROUND
UL - UNDERWRITERS LAB
UNO - UNLESS NOTED OTHERWISE
UON - UNLESS OTHERWISE NOTED

V
VB - VAPOR BARRIER
VCT - VINYL COMPOSITION TILE
VERT - VERTICAL
VIF - VERIFY IN FIELD
VOL - VOLUME

W
W - WIDE / WIDTH
W/ - WITH
W/O - WITHOUT
W.B. - WHITEBOARD
WD - WOOD
WR - WATER RESISTANT
WTRPRF- WATERPROOF
WWF - WELDED WIRE FABRIC
WWM - WELDED WIRE MESH

THIS LIST OF ABBREVIATIONS IS A GUIDE TO ABBREVIATIONS WHICH MAY BE USED IN THESE DOCUMENTS. ABBREVIATIONS NOT LISTED MAY ALSO BE USED.

DRAWING INDEX

SYMBOLS & TAGS LEGEND

TAG	DESCRIPTION
101	DOOR TAG
A / W / 1	WINDOW TAG
1 A	GRID/COLUMN LINE DESIGNATION TAG
REFERENCE 0'-0"	LEVEL ELEVATION TAG
N	NORTH ARROW TAG
ROOM 101	ROOM NAME & NUMBER TAG
1 / A10	SECTION TAG
1 / A10	CALLOUT / DETAIL
0'-0"	SPOT ELEVATION TAG
1 DRAWING TITLE / DRAWING SCALE	DETAIL / DRAWING TITLE TAG
ACT-1 / 9'-0" TYPE / HEIGHT	CEILING TAG
P-1	PARTITION TAG
6 12 6:12	ROOF SLOPE ANNOTATION
1 / A10 0.0.0	ELEVATION TAG

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/7/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: **MM**
DRAWN BY: **LR / RR**
DESIGN CHECK BY: **MM**
DRAWN CHECK BY: **MM / RR**

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
GENERAL NOTES, LEGEND, ABBREVIATIONS & DRAWING INDEX

B # **B-4797**
PHASE # ____ REBID # ____
SHEET **2** OF **236**
DWG. NO. **A002**

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 2:25:31 PM

OCCUPANT LOAD & USE TABLE

NO.	NAME	AREA (S.F)	OCCUPANT LOAD FACTOR	OCCUPANT LOAD	OCCUPANCY GROUP
FIRST FLOOR					
	ELEVATOR	Not Placed			
100	LOBBY	66	100	1	B
101	STATION OFFICE	163	100	2	R2
102	HALLWAY 1	209	0	0	B
103	CONFERENCE ROOM	344	15	23	B
104	ALL GENDER ACCESSIBLE RESTROOM	53	0	0	B
105	STORAGE	39	0	0	B
106	F.F. RESTROOM	53	0	0	S2
107	APPARATUS BAY	2,945	300	10	S2
108	WORKSHOP ALCOVE	76	300	1	S2
109	APPARATUS BAY SUPPORT	177	300	1	R2
110	JAN.	37	300	1	R2
111	TURNOUT GEAR	351	300	2	S2
112	MECH./ELEC. ROOM	101	300	1	MECH.
113	GENERATOR ROOM	209	300	1	MECH.
114	ST-1	55	0	0	R2
115	ST-2	72	0	0	R2
		5,012		**43**	
SECOND FLOOR					
114	ST-1	260	0	0	R2
115	ST-2	71	0	0	R2
201	BC OFFICE	504	100	5	B
202	STORAGE	45	300	1	R2
203	BC BUNK	156	200	1	R2
204	BC ACCESSIBLE RESTROOM	103	0	0	R2
205	HALLWAY 2	331	0	0	R2
206	ELEV. MACHINE ROOM	50	300	1	B
207	CAPT. 2 RESTROOM	77	0	0	R2
208	CAPT. 2 OFFICE	134	100	2	B
209	CAPT. 2 BUNK	156	200	1	R2
210	PANTRY	53	200	1	R2
211	KITCHEN	324	200	2	R2
212	DINING	252	200	2	R2
213	FITNESS	537	50	11	R2
214	HALLWAY 3	201	0	0	R2
215	COMM.	157	300	1	R2
216	DAYROOM	581	200	3	R2
217	LAUNDRY/JAN.	134	200	1	R2
218	MECH.	65	300	1	R2
219	HALLWAY 4	159	0	0	R2
220	CAPT. 1 OFFICE	160	100	2	B
221	CAPT. 1 BUNK	185	200	1	R2
222	CAPT. 1 ACCESSIBLE RESTROOM	72	0	0	R2
223	FF BUNK	119	200	1	R2
224	FF BUNK	118	200	1	R2
225	FF BUNK	117	200	1	R2
226	FF BUNK	119	200	1	R2
227	FF BUNK	168	200	1	R2
228	TRAINEE RELIEF BUNK	143	200	1	R2
229	HALLWAY 5	270	0	0	R2
230	FF ADA RR	77	0	0	R2
231	FF RR 1	69	0	0	R2
232	FF RR 2	69	0	0	R2
233	FF RR 3	69	0	0	R2
234	HALLWAY 6	45	0	0	R2
235	DECK	59	50	1	R2
		6,033		**43**	
	NET S.F. TOTAL	**11,045**		**86**	

OCCUPANT LOAD BASIS BY FUNCTION OF SPACE PER CBC TABLE 1004.5

RESIDENTIAL	RESIDENTIAL FUNCTION AT 200 GSF/PERSON
OFFICE, LOBBY	BUSINESS FUNCTION AT 100 GSF/PERSON
APPARATUS BAY	STORAGE FUNCTION AT 300 GSF/PERSON
CONFERENCE ROOM	ASSEMBLY FUNCTION AT 15 GSF/PERSON
FITNESS	EXERCISE FUNCTION AT 50 GSF/PERSON
STORAGE (STO.) / MECHANICAL (MECH.)	ACCESSORY/STORAGE FUNCTION AT 300 GSF/PERSON

LEGEND:

GSF GROSS S.F. / PERSON
NSF NET S.F. / PERSON
A/U ACCESSORY USE

SEPARATE PERMITS REQUIRED

SEPARATE ITEMS SHALL BE REQUIRED FOR, BUT NOT LIMITED TO, THE FOLLOWING WORK ITEMS:

- SIGNAGE
- FENCES/ SITE WALLS
- TRASH ENCLOSURES
- FLAGPOLES
- POLE MOUNTED YARD LIGHTING FOUNDATIONS
- FIRE SPRINKLER SYSTEM- FIRE SPRINKLER UNDERGROUND SYSTEM
- SPRINKLER MONITORING SYSTEM
- GENERATOR/TANK - LBFD CUPA
- SOLAR PANEL ARRAY
- GRADING WORK
- DEMOLITION WORK
- ELECTRICAL WORK
- MECHANICAL WORK
- PLUMBING WORK

DEFFERED APPROVALS

- FIRE SPRINKLER SYSTEM DESIGN, SHOP DRAWINGS AND CALCULATIONS
- FIRE SPRINKLER UNDERGROUND SYSTEM DESIGN, SHOP DRAWINGS AND CALCULATIONS
- SOLAR PANEL ARRAY DESIGN, SHOP DRAWINGS AND CALCULATIONS
- ROOF FALL PROTECTION SYSTEM
- SPRINKLER MONITORING SYSTEM DESIGN, SHOP DRAWINGS AND CALCULATIONS
- GENERATOR/TANK - LBFD CUPA

SUBMITTAL DOCUMENTS FOR DEFERRED ITEMS SHALL BE SUBMITTED TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE, WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NATION INDICATING THAT THE DEFERRED DOCUMENTS HAVE BEEN REVIEWED AND THAT THEY HAVE BEEN FOUND TO BE GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE DEFERRED ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

CODE SUMMARY

LONG BEACH FIRE STATION 9
2019 CBC BASIS

CHAPTER 3 - OCCUPANCY USE AND CLASSIFICATION

FIRE STATION: OFFICE/LOBBY **B OCCUPANCY**
LIVING QUARTERS **R2 OCCUPANCY**
APPARATUS BAY **S2 OCCUPANCY**

THE FIRE STATION HAS 9 SLEEPING UNITS WHICH CAN ALLOW A MAXIMUM OF ONE OCCUPANT AT ANY ONE TIME (FOR A MAXIMUM OCCUPANCY OF 9). EACH SLEEPING UNIT HAS AN EMERGENCY EXIT WINDOW.

CHAPTER 5 - CONSTRUCTION TYPE, ALLOWABLE HEIGHT, AREA AND STORY:

FIRE STATION **TYPE V-B**

BUILDING AREA:

	1ST FLOOR	2ND FLOOR	TOTAL
S2	4,029 GSF		4,029 GSF
B	1,193 GSF	631 GSF	1,824 GSF
R2	378 GSF	6,549 GSF	6,927 GSF
			12,780 GSF

BUILDING HEIGHT (CBC 504.3)	B OCCUPANCY(S)	R2 OCCUPANCY(S)	S2 OCCUPANCY(S)
ALLOWED HEIGHT:	60'	60'	40' W/O AREA INCREASE
PROPOSED:	33'	33'	33'
NO. OF STORIES (CBC 504.4):	**B OCCUPANCY(S)**	**R2 OCCUPANCY(S)**	**S2 OCCUPANCY(S)**
ALLOWABLE:	3-STORY	3-STORY W/O AREA INCREASE	2-STORY
PROPOSED:	2- STORY	2 -STORY	2- STORY
BUILDING AREA (CBC 506.2)	**B OCCUPANCY(SM)**	**R2 OCCUPANCY(SM)**	**S2 OCCUPANCY(SM)**
ALLOWABLE AREA PER STORY WITH SPRINKLER (SM)	27,000 SF	21,000 SF W/O HEIGHT INCREASE	40,500 SF

"SM" = BUILDINGS TWO OR MORE STORIES ABOVE GRADE PLANE EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1;

CHAPTER 4 SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE SECTION 420 GROUPS R-1, R-2, *R-2.1, R-2.2,* R-3, *R-3.1,* AND R-4

420.1 GENERAL. OCCUPANCIES IN GROUPS R-1, R-2, *R-2.1, R-2.2,* R-3, *R-3.1* AND R-4 SHALL COMPLY WITH THE PROVISIONS OF SECTIONS 420.1 THROUGH 420.10 AND OTHER APPLICABLE PROVISIONS OF THIS CODE.
APPLICATION SECTIONS INCLUDE THE FOLLOWING:

PER SECTION 420.2 SEPARATION WALLS. WALLS SEPARATING DWELLING UNITS IN THE SAME BUILDING, WALLS SEPARATING SLEEPING UNITS IN THE SAME BUILDING AND WALLS SEPARATING DWELLING OR SLEEPING UNITS FROM OTHER OCCUPANCIES CONTIGUOUS TO THEM IN THE SAME BUILDING SHALL BE CONSTRUCTED AS FIRE PARTITIONS IN ACCORDANCE WITH SECTION 708.3-2

PER SECTION 420.3 HORIZONTAL SEPARATION. FLOOR ASSEMBLIES SEPARATING DWELLING UNITS IN THE SAME BUILDINGS, FLOOR ASSEMBLIES SEPARATING SLEEPING UNITS IN THE SAME BUILDING AND FLOOR ASSEMBLIES SEPARATING DWELLING OR SLEEPING UNITS FROM OTHER OCCUPANCIES CONTIGUOUS TO THEM IN THE SAME BUILDING SHALL BE CONSTRUCTED AS HORIZONTAL ASSEMBLIES IN ACCORDANCE WITH CHAPTER 7.

ALL SLEEPING ROOMS ARE PROTECTED WITH 30 MIN. FIRE SEPARATION.

MIXED USE AND OCCUPANCY - SECTION 508

PER SECTION 508.3.1 NON-SEPARATED OCCUPANCIES SHALL BE INDIVIDUALLY CLASSIFIED IN ACCORDANCE WITH SECTION 302.1. THE REQUIREMENTS OF THIS CODE SHALL APPLY TO EACH PORTION OF THE BUILDING BASED ON THE OCCUPANCY CLASSIFICATION OF THAT SPACE. IN ADDITION, THE MOST RESTRICTIVE PROVISIONS OF CHAPTER 9 THAT APPLY TO THE NON-SEPARATED OCCUPANCIES SHALL APPLY TO THE TOTAL NON-SEPARATED OCCUPANCY AREA.

R-2 IS THE MOST RESTRICTIVE OCCUPANCY AND IS THE BASIS FOR OCCUPANCY EVALUATION. THE ALLOWABLE AREA IS 21,000 SF PER STORY, THE ALLOWED HEIGHT IS 60' AND THE ALLOWED BUILDING AREA IS 63,000 GSF.

THE PROPOSED FIRE STATION IS A TOTAL OF 12,780 GSF WITH 5,600 GSF ON THE FIRST LEVEL AND 7,180 GSF ON THE SECOND. IT IS 33' HIGH AND TWO STORIES WHICH COMPLIES WITH THE REQUIREMENTS OF A NONSEPARATED OCCUPANCY.

PER 508.3.3, SEPARATIONS ARE NOT REQUIRED FOR NON-SEPARATED OCCUPANCIES (508.3.3) EXCEPTION 2: FOR R-2 DWELLING OR SLEEPING UNITS. DWELLING OR SLEEPING UNITS SHALL BE SEPARATED FROM OTHER DWELLING UNITS OR SLEEPING UNITS AND FROM OTHER CONTIGUOUS OCCUPANCIES. SEE DWG. A110 FOR WALL TYPE ASSEMBLIES. 1

INCIDENTAL USE - SECTION 508

PER SECTION 509. INCIDENTAL USE LAUNDRY ROOM.

THE FIRE STATION INCLUDES A LAUNDRY ROOM OVER 100SF WHICH IS INCLUDED AS A FUNCTIONAL AREA SUPPORTING THE R-2 OCCUPANCY. SINCE THE ROOM IS LOCATED WITHIN AND IS SERVING A "DWELLING UNIT", PER 509.1 EXCEPTION: "INCIDENTAL USES WITHIN AND SERVING A DWELLING UNIT ARE NOT REQUIRED TO COMPLY WITH THIS SECTION". NO FIRE PARTITION OR SMOKE BARRIER SPECIFIC TO THIS FUNCTIONAL AREA IS REQUIRED.

FIRE PARTITIONS - SECTION 708

SEPARATION WALLS AS DEFINED IN SECTION 420 ARE CLASSIFIED AS FIRE PARTITIONS IN RESIDENTIAL OCCUPANCIES. R-2 SHALL BE SEPARATED FROM THE B & S-2 OCCUPANCIES WITH A 30 MINUTE FIRE PARTITION. SLEEPING UNITS SHALL HAVE A 30 MINUTE FIRE PARTITION.

708.3 FIRE-RESISTANCE RATING. FIRE PARTITIONS SHALL HAVE A FIRE RESISTANCE RATING OF NOT LESS THAN 1 HOUR. EXCEPTIONS: 2. DWELLING UNIT AND SLEEPING UNIT SEPARATIONS IN BUILDINGS OF TYPES IIB, IIIB AND VB CONSTRUCTION SHALL HAVE FIRE-RESISTANCE RATINGS OF NOT LESS THAN 1/2 HOUR IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM.

HORIZONTAL SEPARATIONS AS DEFINED IN SECTION 420.3 ARE CLASSIFIED AS FIRE SEPARATIONS WHEN SEPARATING DWELLING UNITS FROM OTHER OCCUPANCIES.

711.2.4.3 DWELLING UNITS AND SLEEPING UNITS. HORIZONTAL ASSEMBLIES SERVING AS DWELLING OR SLEEPING UNIT SEPARATIONS IN ACCORDANCE WITH SECTION 420.3 SHALL BE NOT LESS THAN 1-HOUR FIRE-RESISTANCE-RATED CONSTRUCTION. **EXCEPTION:** HORIZONTAL ASSEMBLIES SEPARATING DWELLING UNITS AND SLEEPING UNITS SHALL BE NOT LESS THAN 1/2- HOUR FIRE-RESISTANCE-RATED CONSTRUCTION IN A BUILDING OF TYPES IIB, IIIB AND VB CONSTRUCTION, WHERE THE BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1.

711.2.3 SUPPORTING CONSTRUCTION. THE SUPPORTING CONSTRUCTION SHALL BE PROTECTED TO AFFORD THE REQUIRED FIRE RESISTANCE RATING OF THE HORIZONTAL ASSEMBLY SUPPORTED.

ALL SUPPORTING STRUCTURAL ELEMENTS ARE MASONRY OR FIRE PROTECTED STEEL MEET THE 1/2 HOUR PROTECTION REQUIREMENT.

713.14 ELEVATOR, DUMBWAITER AND OTHER HOISTWAYS. ELEVATOR, DUMBWAITER AND OTHER HOISTWAY ENCLOSURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTIONS 712 AND 713, AND CHAPTER 30.

713.4 FIRE-RESISTANCE RATING. SHAFT ENCLOSURES SHALL HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 2 HOURS WHERE CONNECTING FOUR STORIES OR MORE, AND NOT LESS THAN 1 HOUR WHERE CONNECTING LESS THAN FOUR STORIES. .

SHAFTS AND ELEVATOR HOISTWAY BETWEEN LEVELS ARE SPECIFIED TO BE ONE HOUR SHAFT WALLS WHERE REQUIRED.

FIRE SPRINKLER SYSTEM

FULLY AUTOMATIC, MONITORED-TYPE, PER NFPA-13

CHAPTERS 10, SECTION 1019

EXIT ACCESS STAIRWAYS
1019.3 OCCUPPANCIES OTHER THAN I-2, I-2.1, I-3, & R-2.1.

ITEM 4 - EXIT ACCESS STAIRWAYS AND RAMPS IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1, WHERE THE AREA OF THE VERTICAL OPENING BETWEEN STORIES DOES NOT EXCEED TWICE THE HORIZONTAL PROJECTED AREA OF THE STAIRWAY OR RAMP AND THE OPENING IS PROTECTED BY A DRAFT CURTAIN AND CLOSELY SPACED SPRINKLERS IN ACCORDANCE WITH NFPA 13. IN OTHER THAN GROUP B AND M OCCUPANCIES, THIS PROVISION IS LIMITED TO OPENINGS THAT DO NOT CONNECT MORE THAN FOUR STORIES.

CHAPTERS 11B AND 30 - VERTICAL TRANSPORTATION ACCESSIBLE, NON-GURNEY COMPLIANT ELEVATOR

***11B*-206.6 ELEVATORS.** ELEVATORS PROVIDED FOR PASSENGERS SHALL COMPLY WITH *SECTION 11B*-407.

3002.4A GENERAL STRETCHER REQUIREMENTS. ALL BUILDINGS AND STRUCTURES WITH ONE OR MORE PASSENGER SERVICE ELEVATORS SHALL BE PROVIDED WITH NOT LESS THAN ONE MEDICAL EMERGENCY SERVICE ELEVATOR TO ALL LANDINGS MEETING THE PROVISIONS OF SECTION 3002.4A AND TO BE APPROVED BY FIRE DEPARTMENT.

EXCEPTIONS:
1.4. ELEVATOR(S) IN TWO-STORY BUILDINGS OR STRUCTURES EQUIPPED WITH STAIRS OF A CONFIGURATION THAT WILL ACCOMMODATE THE CARRYING OF THE GURNEY OR STRETCHER AS PERMITTED BY THE LOCAL JURISDICTIONAL AUTHORITY.

THE STAIR CONFIGURATION CAN ACCOMMODATE THE CARRYING OF THE GURNEY. REFER TO DETAIL 2&3/A005 - 2&3/A006

CHAPTERS 12, 1206 SOUND TRANSMISSION

ALL WALL PARTITIONS & FLOOR / CEILING ASSEMBLIES BETWEEN SLEEPING UNITS SHALL HAVE SOUND TRANSMISSION.

FLOW TEST NO. 2449 **DATE OF TEST: 10/13/21**

FLOW LOCATION: **HYDRANT LOCATED AT NE CORNER OF MARSHALL PL. AND LONG BEACH BLVD.**

PITOT PRESSURE: 22 PSI
4" OUTLET CHART READING: 2020 GPM

PRESSURE READING: **HYDRANT LOCATED AT SE SIDE OF RANDOLPH PL. AND LONG BEACH BOULEVARD INTERSECTION**

STATIC PRESSURE: 55 PSI
RESIDUAL PRESSURE: 45 PSI
SIZE OF WATER MAIN: 12" AC IN LONG BEACH BLVD.

CPC 2019 REQUIREMENT - TABLE 422.1 MINIMUM PLUMBING FACILITIES - EMPLOYEE USE CATEGORY

GENDER	TOTAL OCCUPANTS	WATER CLOSET		LAVATORY		BATHTUB OR SHOWER		DRINKING FOUNTAIN		SERVICE SINK	
		REQUIRED	PROVIDED	REQUIRED	PROVIDED	REQUIRED	PROVIDED	REQUIRED	PROVIDED	REQUIRED	PROVIDED
FEMALE	30	4	4	3	4	0	3				
MALE	31	4	5	3	5	0	4				
ALL GENDER (PER CPC 422.2 EXCEPTIONS 1 AND 2)		1									
TOTAL	**61**	**8**	**9**	**6**	**9**	**0**	**7**	**1**	**1**	**1**	**5**

OCCUPANCY LOAD CALCULATION BASED ON TABLE 422. (2019 CPC) MINIMUM PLUMBING FACILITIES BY USE

PLUMBING FIXTURE CALCULATIONS (EMPLOYEE USE)	S.F.	OCCUPANCY LOAD FACTOR	TOTAL OCCUPANTS
S2	4,056	300	14
B	1,596	150	11
R2	7,128	200	36
TOTAL	**12,780**		**61**

2 **NOTE:**

SEE DWG. A012 FIRE FLOW REPORT.

2019 ADOPTED CODES

- CALIFORNIA BUILDING CODE W/ APPENDICES C, H + I
- CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4
- CALIFORNIA PLUMBING CODE W/ APPENDICES A,C,D + I
- CALIFORNIA ELECTRIC CODE W/ANNEX H
- CALIFORNIA GREEN BUILDING CODE W/ APPENDIX A4 TIER 1 MEASURES BUT EXCLUDING
- DIVISION A4.2 AND APPENDIX A5 TIER 1 MEASURES BUT EXCLUDING DIVISION A 5.2
- CALIFORNIA FIRE CODE
- LEED REQUIREMENT (SILVER LEVEL CERTIFICATE)

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/05/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REVISION — REF.

DESIGNED BY: **MM**
DRAWN BY: **LR / RR**
DESIGN CHECK BY: **MM**
DRAWN CHECK BY: **MM / RR**

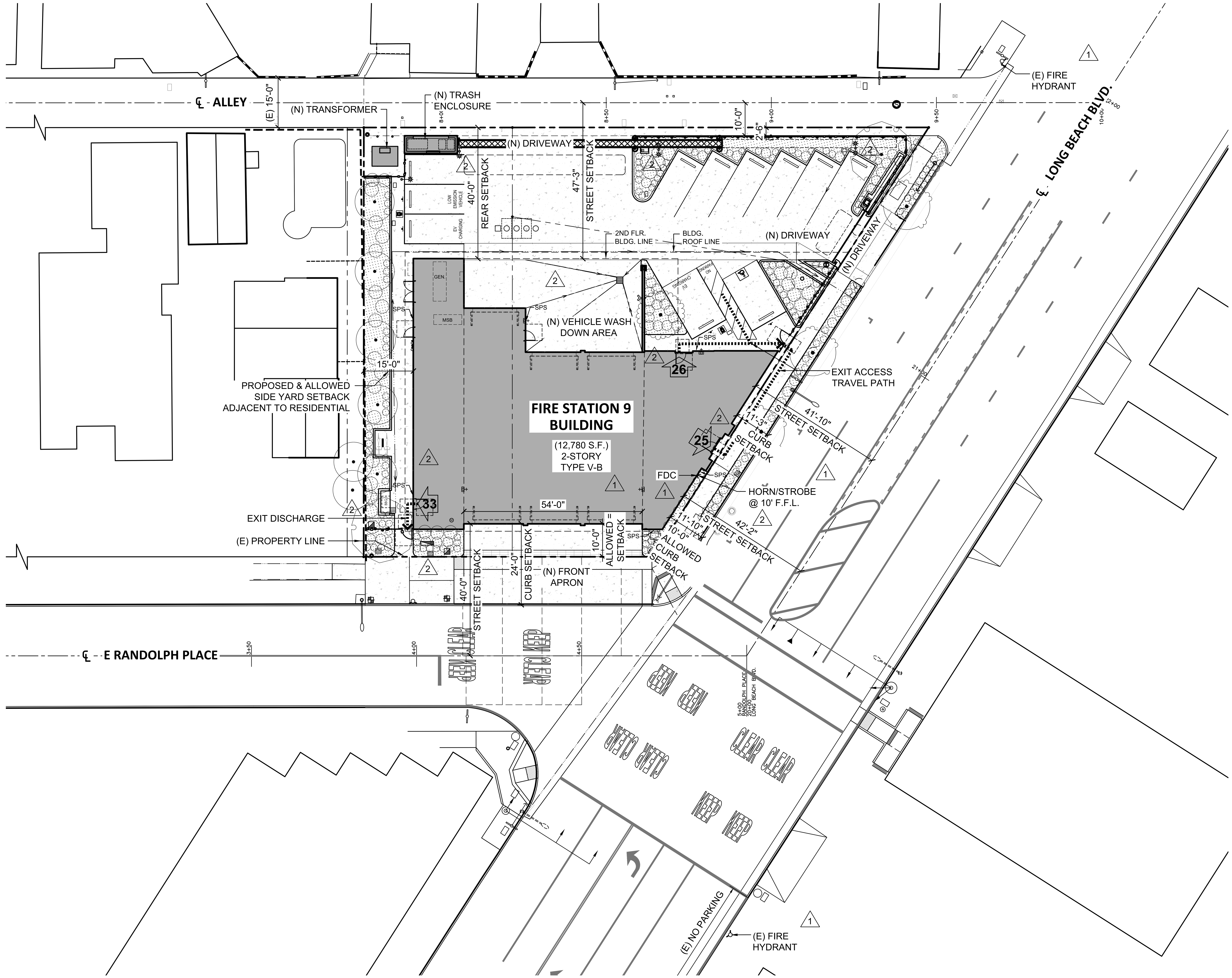
LICENSED ARCHITECT — MARY C. MCGRATH — C-24435 — REN-08-30-23 — STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

CODE ANALYSIS NOTES , TABLES & CALCULATIONS

B # **B-4797**
PHASE # REBID #
SHEET **3** OF **236**
DWG. NO. **A003**

10/12/2023 7:44:45 PM



1 CODE SHEET - SITE PLAN - PATH OF TRAVEL

1/8" = 1'-0"

CODE LEGEND

- (E) PROPERTY LINE
- (E) FENCE WALL TO REMAIN
- (N) FENCE LINE
- (N) LANDSCAPE AREA
- (N) CONCRETE PAVEMENT
- (N) BUILDING AREA
- X — EXIT ACCESS NUMBER OF OCCUPANTS AT EXIT
- EXIT DISCHARGE TRAVEL PATH
- SPS — SMOKING PROHIBITED SIGNAGE. SEE IMAGE 7A/A010.

CLEAR AREA LEVEL

- 60"X60" MIN. - DOOR PULL SIDE
- 48"X48" MIN. - DOOR PUSH SIDE

NOTE:

1. SEE A003 FOR CODE SUMMARY INFORMATION.
2. SEE A012 FIRE FLOW REPORT.

PARKING STALLS

7 STANDARD PARKING STALLS
2 EV CHARGING PARKING STALL
1 HANDICAPPED PARKING STALL
1 LOW EMISSION VEHICLE PARKING STALL

SETBACK REQUIREMENTS

- PRIMARY FRONTAGE PARKING SETBACK. 14'-0" PROVIDED(20'-0" REQ'D) SETBACK PROVIDED FROM FACE OF CURB ON LONG BEACH BOULEVARD, PARKING IS SCREENED BY SECURE SITE FENCE.
- OPEN SPACE AREA REQUIREMENT HAS BEEN MET, HOWEVER THE WIDTH OF THE PRIMARY OPEN SPACE IS 15'-0", AND NOT THE REQUIRED 16'-0".
- ALLEY FRONTAGE/SETBACK: 12'-0" FROM CENTERLINE OF ALLEY.
- INTERIOR BUILDING SETBACK: MEASURED PARCEL LINE TO BUILDING FACE; ADJACENT TO SINGE-FAMILY HOMES WITHIN R1 ZONES.
- PARKING SETBACK STANDARD @ PRIMARY FRONTAGE : 20'-0"
- PRIMARY PARKING FRONTAGE/SETBACK PROVIDED: 14'-0" FROM FACE CURB TO CLOSEST POINT OF CLOSEST PARKING SPACE.

0 8 16 32

MARY MCGRATH | ARCHITECTS

610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

AS-BUILT

REF.

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
CODE SHEET - SITE PLAN PATH OF TRAVEL

B # B-4797

PHASE # ____ / REBID # ____

SHEET 4 OF 236

DWG. NO. A004

Oct 12, 2023 - 8:21pm

FIRE NOTES

A. AT LEAST ONE PORTABLE FIRE EXTINGUISHER WITH A MINIMUM RATING OF 2A10BC SHALL BE PROVIDED WITHIN 75' MAXIMUM TRAVEL DISTANCE FOR EACH 6,000 SQUARE FEET OR PORTION THEREOF ON EACH FLOOR (CFC 1002, UFC STANDARD 10-1,TITLE 19, SECT.3.29). SEE PLANS FOR LOCATIONS.

B. AT LEAST ONE FIRE EXTINGUISHER WITH A MINIMUM RATING OF 4A2OBC SHALL BE PROVIDED OUTSIDE OF EACH MECHANICAL, ELECTRICAL OR BOILER ROOM. (CFC 1002, UFC STANDARD 10-1, TITLE 19, SECT.3.29). SEE PLANS FOR LOCATIONS.

C. COMPLETE PLANS AND SPECIFICATIONS FOR FIRE-EXTINGUISHING SYSTEMS, INCLUDING AUTOMATIC SPRINKLERS AND WET AND DRY STANDPIPES, HALON SYSTEMS AND OTHER SPECIAL TYPES OF AUTOMATIC FIRE EXTINGUISHING SYSTEMS, BASEMENT PIPE INLETS, AND OTHER FIRE-PROTECTION SYSTEMS AND APPURTENANCES THERETO SHALL BE SUBMITTED BY THE CONTRACTOR TO FIRE AND LIFE SAFETY FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. (CFC 1001.3).

D. FIRE-EXTINGUISHING SYSTEMS SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH CBC 904.

1 E. ALL VALVES CONTROLLING THE WATER SUPPLY FOR AUTOMATIC SPRINKLER SYSTEMS AND WATER-FLOW SWITCHES ON ALL SPRINKLER SYSTEMS SHALL BE ELECTRICALLY MONITORED.

F. COMPLETE PLANS AND SPECIFICATIONS FOR FIRE ALARM SYSTEMS INCLUDING AUTOMATIC SPRINKLERS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE FIRE MARSHAL FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. (CFC 1001.3)

1 G. INSTALLATION OF SPRINKLER MONITORING SYSTEMS SHALL BE IN ACCORDANCE WITH CFC 903.4.

H. AN APPROVED AUDIBLE SPRINKLER FLOW ALARM SHALL BE PROVIDED ON THE EXTERIOR OF THE BUILDING IN AN APPROVED LOCATION. AN APPROVED AUDIBLE SPRINKLER FLOW ALARM TO ALERT THE OCCUPANTS SHALL BE PROVIDED IN THE INTERIOR OF THE BUILDING IN A NORMALLY OCCUPIED LOCATION.

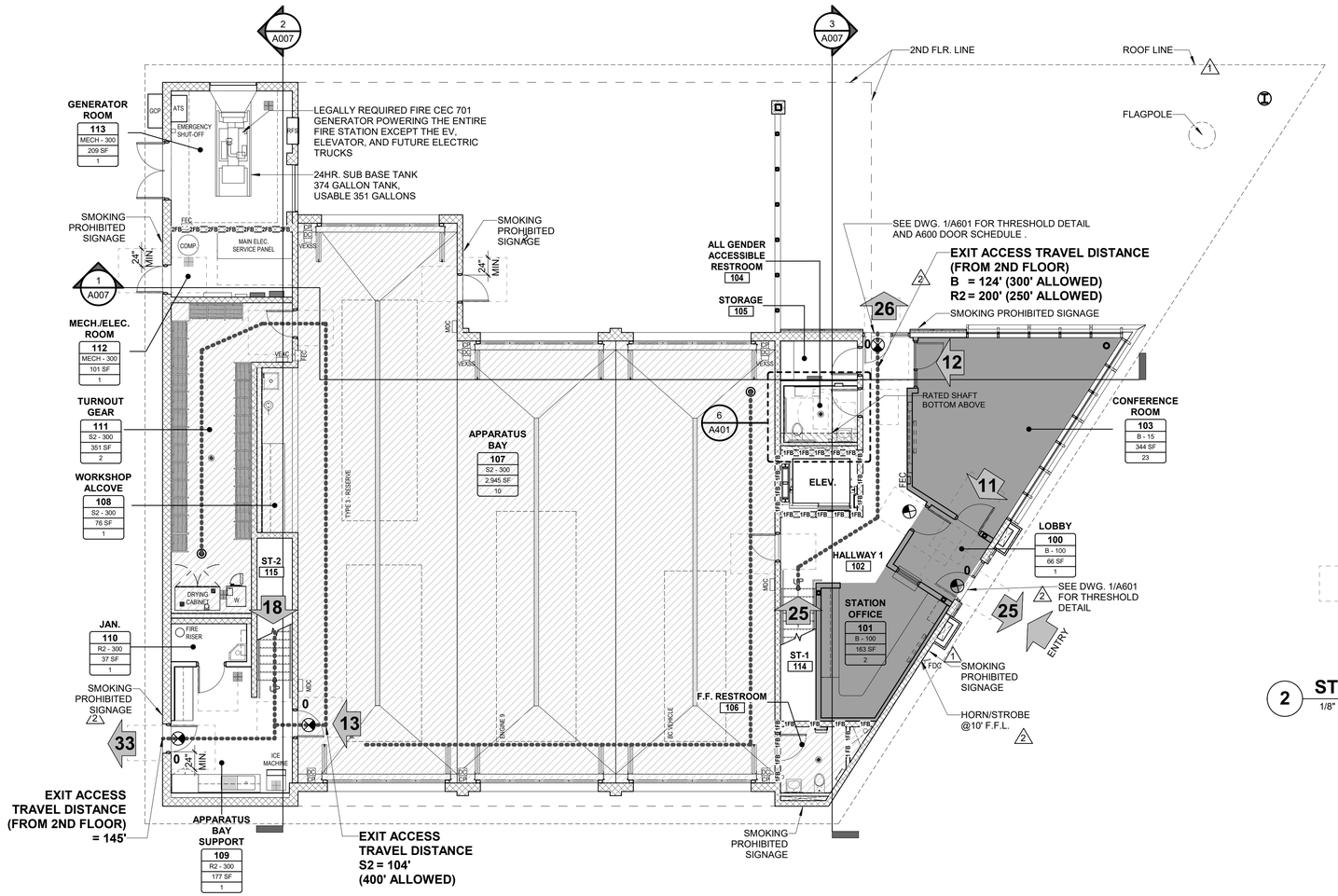
I. ANY TIME A BUILDING IS OCCUPIED THE MEANS OF EGRESS SHALL BE ILLUMINATED AT AN INTENSITY OF NOT LESS THEN 1 FOOT-CANDLE AT THE FLOOR LEVEL.

1 J. EGRESS ILLUMINATION REQUIRES A SOURCE OF EMERGENCY POWER WHEN TWO OR MORE EXITS ARE REQUIRED.

IN FIRE-RESISTANCE-RATED WALLS, DETAIL THROUGH PENETRATIONS AND MEMBRANE PENETRATIONS PER CBC 714.3.

PENETRATIONS IN FIRE-RESISTANCE-RATED WALLS SHALL COMPLY WITH CBC 714.3 THROUGH PENETRATIONS SHALL COMPLY WITH CBC OR AS NOTED BELOW:

1. STEEL, FERROUS OR COPPER PIPES MAY PENETRATE FIRE-RESISTANCE RATED WALLS, PROVIDED THE OPENING PROTECTED AS FOLLOWS:
   A. ITEM PENETRATING CONCRETE OR MASONRY WALLS IS A MAX. 6 NOMINAL DIAMETER AND THE AREA OF OPENING THROUGH THE WALL DOES NOT EXCEED 144 SQ. IN., CONCRETE, GROUT OR MORTAR IS PERMITTED WHERE IT IS INSTALLED THE FULL THICKNESS OF THE RESISTANCE RATING; OR
   B. WHEN ANNULAR SPACE IS PROTECTED WITH MATERIAL THAT MEETS ASTM E119.
2. PENETRATIONS SHALL BE FIRE-STOPPED BY A SYSTEM INSTALLED AS TESTED IN ACCORDANCE WITH ASTN E814 OR UL 1479, AND SHALL HAVE AN F RATING OF NOT LESS THAN THE REQUIRED FIRE-RESISTANCE-RATING OF THE WALL PENETRATED.
3. MEMBRANE PENETRATIONS OF MAX. 2 HRS. FIRE-RESISTANCE RATED WALLS BY STEEL ELECTRICAL BOXES ARE PERMITTED, PROVIDED THAT EACH DOES NOT EXCEED 16 SQ. IN. IN AREA AND THE TOTAL AREA OF SUCH OPENINGS DOES NOT EXCEED 100 SQ. IN. FOR ANY 100 SQ. FT. OF WALL AREA, AND THE SPACE BETWEEN THE WALL MEMBRANE AND THE BOX DOES NOT EXCEED 1/8. ADDITIONALLY, OUTLET BOXES ON OPPOSITE SIDES OF THE WALL SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24.
4. MEMBRANE PENETRATIONS OF LISTED ELECTRICAL BOXES OF ANY MATERIAL ARE PERMITTED, PROVIDED SUCH BOXES HAVE BEEN TESTED FOR USE UN FIRE-RESISTANCE-RATED ASSEMBLIES, AND THE SPACE BETWEEN THE WALL MEMBRANE AND THE BOX DOES NOT EXCEED 1/8 UNLESS LISTED OTHERWISE, ADDITIONALLY, OUTLET BOXES ON OPPOSITE SIDES OF THE WALL SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24.
5. A FIRE SPRINKLER SHALL BE PERMITTED TO BE UNPROTECTED PROVIDED SUCH SPACE IS COVERED BY A METAL ESCUTCHEON PLATE.
6. WHERE WALLS ARE PENETRATED BY OTHER MATERIALS OR OPENINGS LARGER THAN THOSE MENTIONED ABOVE, THEY MUST QUALIFIED BY TESTS IN ACCORDANCE WITH CBC 714.3.2 EXCEPT 2.



1 **FIRST FLOOR - OCCUPANT LOAD, EGRESS & SEPARATION PLAN**
1/8" = 1'-0"

GENERAL NOTES:

A. THE MEANS OF EGRESS SERVING A ROOM OR SPACE UST BE ILLUMINATED AT ALL TIMES THAT THE ROOM IS OCCUPIED WITH A MINIMUM ILLUMINATION LEVEL NOT LESS THAN 1 FOOTCANDLE (11 LUX) AT THE WALKING SURFACE.

B. EMERGENCY POWER SYSTEM SHALL PROVIDE POWER FOR A DURATION OF NOT LESS THAN 90 MINUTES AND SHALL CONSIST OF STORAGE BATTERIES, UNIT EQUIPMENT OR AN ON-SITE GENERATOR. THE INSTALLATION OF THE EMERGENCY POWER SYSTEM SHALL BE IN ACCORDANCE WITH SECTION 2702.

C. IN THE EVENT OF POWER SUPPLY FAILURE IN THE ROOMS AND SPACES THAT REQUIRE TWO OR MORE MEANS OF EGRESS, AN EMERGENCY ELECTRICAL SYSTEM SHALL AUTOMATICALLY ILLUMINATE ALL OF THE FOLLOWING AREAS:

1. AISLES
2. HALLWAYS

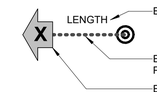
D. SEE A003 FOR OCCUPANT LOAD & USE TABLE.

2 E. SEE A012 FOR FIRE FLOW REPORT.

EXIT ACCESS TRAVEL DISTANCE (2 EXITS)

PER TABLE 1017.2 ALLOWED EXIT ACCESS TRAVEL DISTANCE:
1. **S2** 400' W/ SPRINKLER
2. **B** 300' W/ SPRINKLER
3. **R2** 250' W/ SPRINKLER

CODE LEGEND



30MIN FP 30MIN FP 30MIN FP — FIRE PARTITION WALLS (CBC 420.2 & 708.1-1 30 MIN. SEPARATION PER 708.3 (30 MIN. SEPARATION IS ALLOWED W/ SPRINKLER SYSTEM)

1FB 1FB 1FB 1FB — 1-HR FIRE BARRIER (CBC CHAPTER 713 - ELEVATOR SHAFT ENCLOSURE/MACHINE ROOM/SHAFT)

2FB 2FB 2FB 2FB — 2-HR FIRE BARRIER & STC58 (ABOVE GENERATOR ROOM SHAFT ONLY)

R2 OCCUPANCY - 200 GSF/PERSON

B OCCUPANCY - 100 GSF/PERSON

S2 OCCUPANCY - 300 GSF/PERSON

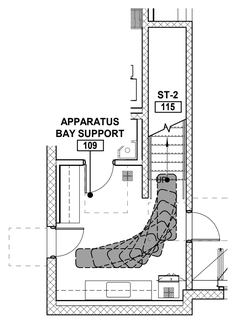
1 **0** TACTILE "EXIT" SIGN (PROVIDE TACTILE SIGNS FOR ALL PERMANENT ROOMS. SEE DETAILS 5/A010 & 8/A009.)

***** TACTILE "EXIT ROUTE" SIGN

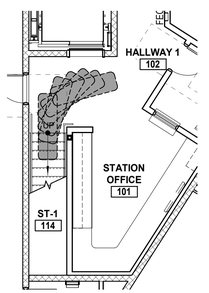
ILLUMINATED EXIT SIGN & DIRECTION INDICATOR

OFFICE — ROOM NAME
101 — ROOM NUMBER
B - 100 — OCCUPANCY - LOAD FACTOR
100 S.F — ROOM AREA
1 — OCCUPANT LOAD

NOTE:
ROOMS NOT LISTED ARE UNOCCUPIED ACCESSORY. AREAS INCLUDING HALLWAYS, STAIRWAYS & RESTROOMS



2 **STAIR 2 - GURNEY EXHIBIT**
1/8" = 1'-0"



3 **STAIR 1 - GURNEY EXHIBIT**
1/8" = 1'-0"

N

0' 4' 8' 16' 32'

NO.	DATE	SHEET APPROVAL	DESCRIPTION
	12/16/2021		PLAN CHECK SUBMITTAL
1	06/22/2022		PLAN CHECK RE-SUBMITTAL
2	09/15/2023		PLAN CHECK #2
	10/12/2023		BID DOCUMENTS
			AS-BUILT

REVISION — REF.

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR

LICENSED ARCHITECT — MARY C. MCGRATH — C-24435 — REN-08-30-23 — STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

CODE SHEET - FIRST FLOOR - OCCUPANT LOAD, EGRESS & SEPARATION PLAN

B # B-4797
PHASE # ____ REBID # ____
SHEET 5 OF 236
DWG. NO. A005

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/12/2023 7:45:02 PM

GENERAL NOTES:

A. SEE A003 FOR OCCUPANT LOAD & USE TABLE.
B. SEE A005 FOR TYPICAL FIRE AND GENERAL CODE NOTES.
C. SEE A007 FOR BLDG. SECTION CODE SHEET.

CODE LEGEND

LENGTH — EXIT ACCESS DISTANCE
EXIT ACCESS TRAVEL DISTANCE PER CBC 1701
EXIT LOAD

30MIN FP 30MIN FP 30MIN FP — FIRE PARTITION WALLS (CBC 420.2 & 708.1-1 30 MIN. SEPARATION PER 708.3 (30 MIN. SEPARATION IS ALLOWED W/ SPRINKLER SYSTEM)

1FB 1FB 1FB 1FB — 1-HR FIRE BARRIER (CBC CHAPTER 713 - ELEVATOR SHAFT ENCLOSURE/MACHINE ROOM/SHAFT)

2FB 2FB 2FB 2FB — 2-HR FIRE BARRIER & STC58 (ABOVE GENERATOR ROOM SHAFT ONLY)

R2 OCCUPANCY - 200 GSF/PERSON

B OCCUPANCY - 100 GSF/PERSON

S2 OCCUPANCY - 300 GSF/PERSON

1

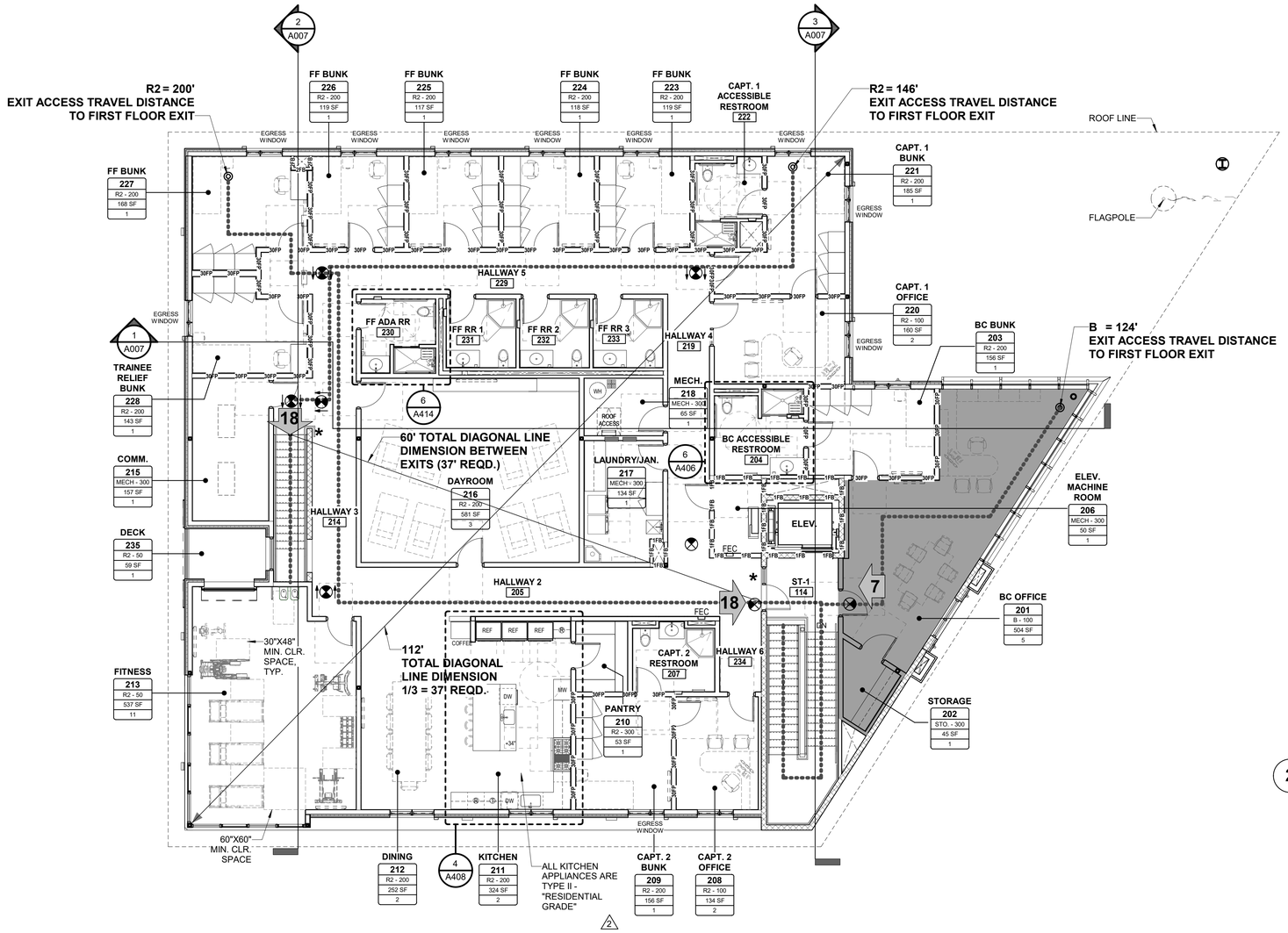
0 TACTILE "EXIT" SIGN (PROVIDE TACTILE SIGNS FOR ALL PERMANENT ROOMS. SEE DETAILS 5/A010 & 8/A009.)

* TACTILE "EXIT ROUTE" SIGN

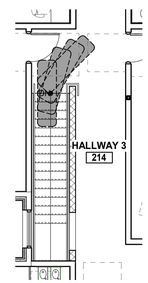
ILLUMINATED EXIT SIGN & DIRECTION INDICATOR

OFFICE — ROOM NAME
101 — ROOM NUMBER
B - 100 — OCCUPANCY - LOAD FACTOR
100 S.F — ROOM AREA
1 — OCCUPANT LOAD

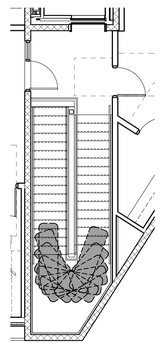
NOTE:
ROOMS NOT LISTED ARE UNOCCUPIED ACCESSORY. AREAS INCLUDING HALLWAYS, STAIRWAYS & RESTROOMS



1 SECOND FLOOR - OCCUPANT LOAD, EGRESS & SEPARATION PLAN
1/8" = 1'-0"



2 STAIR 2 - GURNEY EXHIBIT
1/8" = 1'-0"



3 STAIR 1 - GURNEY EXHIBIT
1/8" = 1'-0"

N
0' 4' 8' 16' 32'

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	05/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR
AS-BUILT
REF.

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

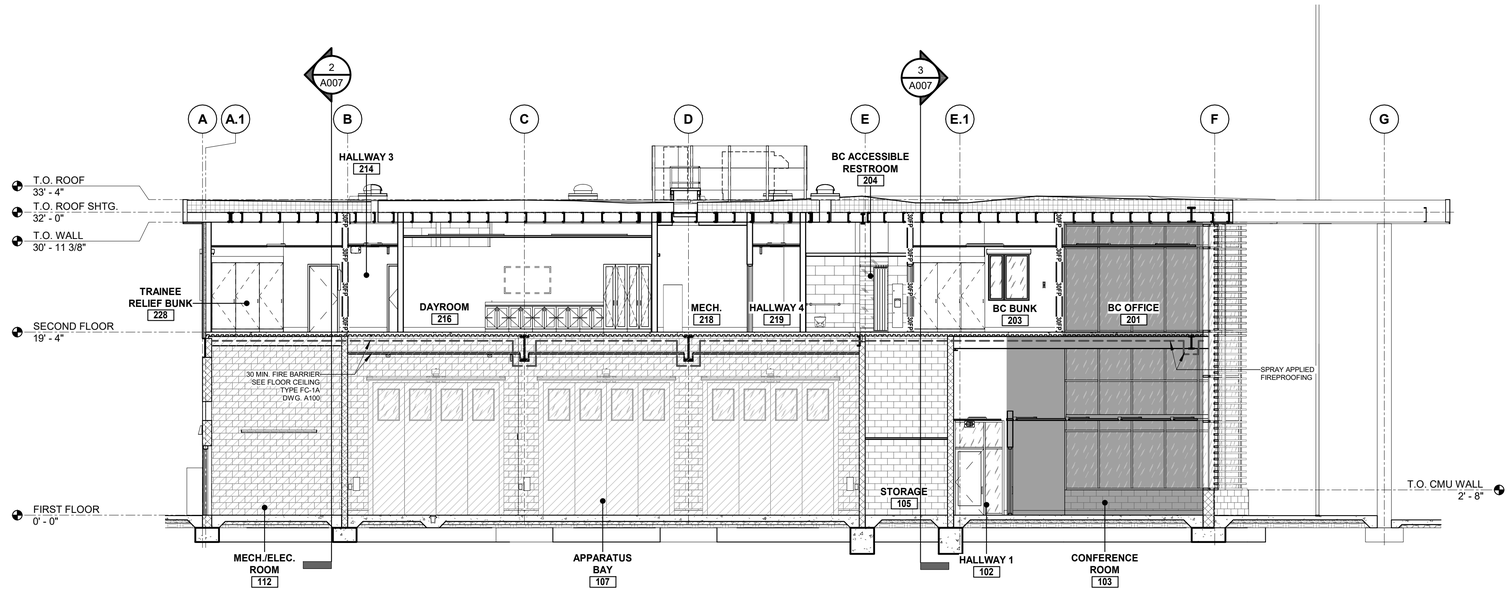
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

CODE SHEET - SECOND FLOOR - OCCUPANT LOAD, EGRESS & SEPARATION PLAN

B # B-4797
PHASE # REBID #
SHEET 6 OF 236
DWG. NO. A006

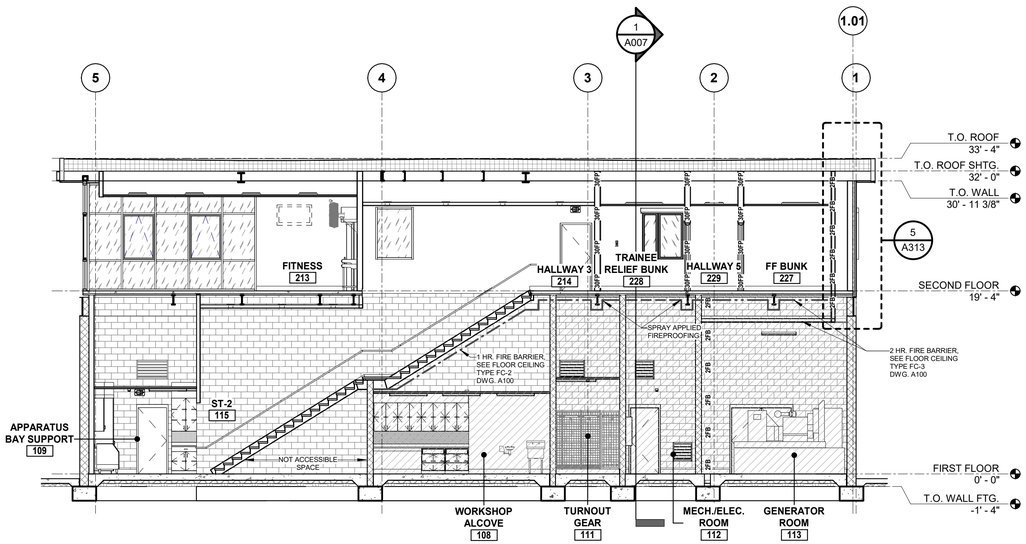
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/12/2023 7:45:11 PM



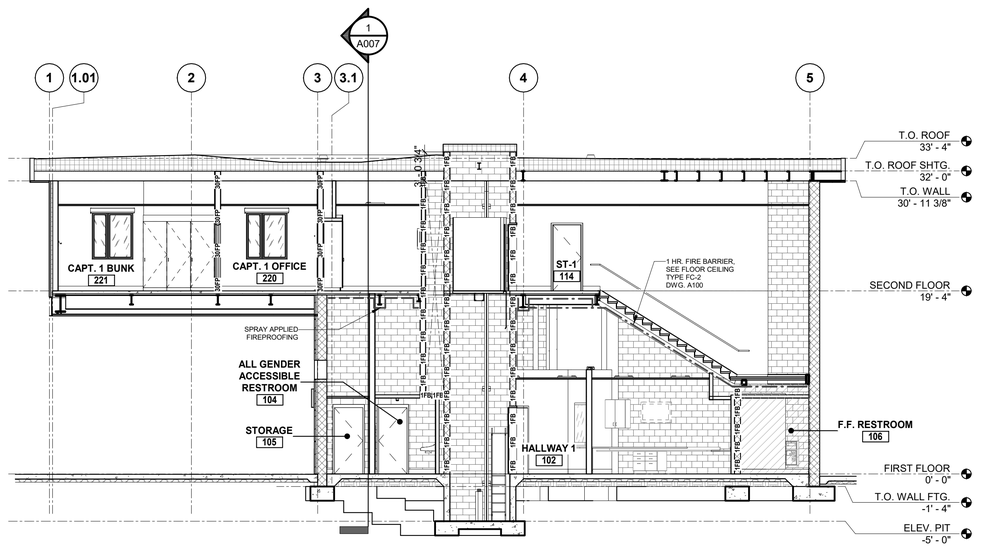
1 BUILDING SECTION

1/8" = 1'-0"



2 BUILDING SECTION

1/8" = 1'-0"



3 BUILDING SECTION

1/8" = 1'-0"

CODE LEGEND

R2 OCCUPANCY

B OCCUPANCY

S2 OCCUPANCY

WALL RATED

30FP 30FP 30FP — FIRE PARTITION WALLS (CBC 420.2 & 708.1-1 30 MIN. SEPARATION PER 708.3 (30 MIN. SEPARATION IS ALLOWED W/ SPRINKLER SYSTEM)

1FB 1FB 1FB 1FB — 1-HR FIRE BARRIER (CBC CHAPTER 713 - ELEVATOR SHAFT ENCLOSURE/MACHINE ROOM/SHAFT)

2FB 2FB 2FB 2FB — 2-HR FIRE BARRIER & STC58 (ABOVE GENERATOR ROOM SHAFT ONLY)

FLOOR - CEILING RATED

30 MIN. FIRE BARRIER

1-HR FIRE BARRIER UNDER STAIR 1 & 2

2-HR FIRE BARRIER @ GENERATOR ROOM

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/7/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: **MM**
DRAWN BY: **LR / RR**
DESIGN CHECK BY: **MM**
DRAWN CHECK BY: **MM / RR**

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

CODE SHEET - BUILDING SECTION

B # **B-4797**

PHASE # REBID #

SHEET **7** OF **236**

DWG. NO. **A007**

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/12/2023 7:45:27 PM

CLEAR FLOOR SPACE FOR WHEELCHAIRS

1. MINIMUM CLEAR FLOOR OR GROUND SPACE REQUIRED TO ACCOMMODATE A SINGLE, STATIONARY WHEELCHAIR AND OCCUPANT IS 30" x 48". MINIMUM CLEAR FLOOR OR GROUND SPACE FOR WHEELCHAIRS MAYBE POSITIONED FOR FORWARD OR PARALLEL APPROACH TO AN OBJECT. FLOOR OR GROUND SPACE FOR WHEELCHAIRS MAY BE PART OF THE KNEE SPACE AND TOE CLEARANCE REQUIRED UNDER SOME OBJECTS. ONE FULL UNOBSTRUCTED SIDE OF THE CLEAR FLOOR OR GROUND SPACE SHALL ADJOIN AN ACCESSIBLE ROUTE OR ADJOIN ANOTHER CLEAR FLOOR SPACE.
2. PROVIDE AN ADDITIONAL 12" WIDTH ON ONE SIDE FOR ALCOVES GREATER THAN 15" DEEP AND DESIGNED FOR SIDE APPROACH.
3. PROVIDE AN ADDITIONAL 6" WIDTH ON ONE SIDE FOR ALCOVES GREATER THAN 24" DEEP AND DESIGNED FOR FRONT APPROACH.

HAZARDS AND PROTRUDING OBJECTS

1. OBJECTS WITH LEADING EDGES BETWEEN 27" AND 80" ABOVE THE FINISHED FLOOR SHALL PROTRUDE NO MORE THAN 4" INTO CIRCULATION PATH.
2. OBJECTS MOUNTED WITH THEIR LEADING EDGES AT OR BELOW 27" ABOVE THE FINISHED FLOOR MAY PROTRUDE ANY AMOUNT.
3. OBJECTS MOUNTED ON POSTS / PYLONS MAY OVERHANG 12" MAXIMUM FROM 27" TO 80" ABOVE THE GROUND OR FINISHED FLOOR.
4. PROTRUDING OBJECTS SHALL NOT REDUCE THE REQUIRED CLEAR WIDTH OF AN ACCESSIBLE ROUTE OR MANEUVERING SPACE.
5. ANY OBSTRUCTION OVERHANGING A PEDESTRIAN WAY SHALL BE A MINIMUM OF 80" ABOVE THE WALKING SURFACE AS MEASURED TO THE BOTTOM OF THE OBSTRUCTION. GUARDRAILS OR OTHER BARRIERS SHALL BE PROVIDE WHERE THE VERTICAL CLEARANCE IS LESS THAN 80". SUCH GUARDRAILS SHALL BE LOCATED 27"MAX ABOVE FINISHED FLOOR.

SANITARY FACILITIES (GENERAL)

1. ALL DOORWAYS LEADING TO SANITARY FACILITIES SHALL HAVE 32" CLEAR, UNOBSTRUCTED OPENINGS.
2. ALL SINKS, FAUCET CONTROLS, AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5LBS. LEVER-OPERATED, PUSH TYPE, AND ELECTRONICALLY CONTROLLED MECHANISMS ARE EXAMPLES OF ACCEPTABLE DESIGNS. SELF-CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST 10 SECONDS.
3. LAVATORIES SHALL BE MOUNTED WITH A MINIMUM DISTANCE OF 18" FROM A WALL OR PARTITION TO THE CENTER OF THE FIXTURE. ACCESSIBLE LAVATORIES SHALL BE MOUNTED WITH THE RIM AND/OR COUNTER SURFACE NO HIGHER THAN 34" ABOVE THE FLOOR.

ENTRANCES AND DOORS

1. ALL PRIMARY ENTRANCES AND EXTERIOR GROUND FLOOR EXIT DOORS TO BUILDINGS AND FACILITIES SHALL BE MADE ACCESSIBLE TO THE PHYSICALLY DISABLED.
2. ALL ACCESSIBLE ENTRANCES SHALL BE IDENTIFIED WITH AT LEAST ONE STANDARD INTERNATIONAL SYMBOL OF ACCESSIBILITY SIGN AND WITH ADDITIONAL DIRECTIONAL SIGNS, AS REQUIRED, VISIBLE FROM APPROACHING PEDESTRIAN WAYS.
3. EVERY REQUIRED ENTRANCE OR PASSAGE DOORWAY SHALL BE OF A SIZE AS TO PERMIT THE INSTALLATION OF A DOOR NOT LESS THAN 36 INCHES IN WIDTH, AND NOT LESS THAN 80" IN HEIGHT. DOORS SHALL BE CAPABLE OF OPENING AT LEAST 90 DEGREES AND SHALL BE MOUNTED SO THAT THE CLEAR WIDTH OF THE DOORWAY IS NOT LESS THAN 32".
4. LATCHING AND LOCKING DOORS THAT ARE HAND ACTIVATED AND WHICH ARE IN A PATH OF TRAVEL, SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE, PANIC BARS, PUSH-PULL ACTIVATING BARS, OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP, PINCH OR TWIST THE OPENING HARDWARE AND MUST BE OPERABLE WITH ONE HAND.
5. LEVER HAND ACTIVATED DOOR OPENING HARDWARE SHALL BE CENTERED BETWEEN 34" MINIMUM AND 44" MAXIMUM ABOVE THE FLOOR AND NOT REQUIRE MORE THAN 5 POUNDS OF FORCE TO OPERATE.
6. THE FLOOR OR LANDING LENGTH ON EACH SIDE OF AN ENTRANCE OR A PASSAGE DOOR SHALL BE LEVEL AND CLEAR AT LEAST 60" IN THE DIRECTION OF THE DOOR SWING AND AT LEAST 48" OPPOSITE THE DIRECTION OF THE DOOR SWING AS MEASURED AT RIGHT ANGLES TO THE FACE OF THE DOOR IN THE CLOSED POSITION. THE WIDTH OF THE LEVEL AND CLEAR AREA ON THE SIDE WHICH THE DOOR SWINGS SHALL EXTEND A MINIMUM OF 24" PAST THE STRIKE EDGE OF THE DOOR FOR DOORS WITH LATCH SIDE APPROACH AND 36" FOR DOORS REQUIRING HINGE SIDE APPROACH. REFER TO DETAIL ??/A??? ON THIS DRAWING FOR ADDITIONAL CLEARANCE REQUIREMENTS.
7. THE FLOOR OR LANDING SHALL NOT BE MORE THAN 1/2" LOWER THAN THE THRESHOLD OF THE DOORWAY. CHANGES IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1:2.
8. THE BOTTOM 10" OF ALL DOORS (EXCEPT AUTOMATIC AND SLIDING) SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION WHERE NARROW FRAME DOORS ARE USED, A 10" HIGH SMOOTH PANEL SHALL BE INSTALLED ON THE PUSH SIDE OF THE DOOR, WHICH WILL ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST. SURFACES ALONG THIS AREA MUST BE WITHIN 1/16" OF THE SAME PLANE AS THE OTHER. CAVITIES CREATED BY KICK PLATES MUST BE CAPPED.
9. THE MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 LBS. FOR EXTERIOR DOORS AND 5 LBS. FOR INTERIOR DOORS. SUCH PULL OR PUSH EFFORT BEING APPLIED AT RIGHT ANGLES TO HINGED DOORS AND AT THE CENTER PLANE OF SLIDING OR FOLDING DOORS. COMPENSATING DEVICES OR AUTOMATIC DOOR OPERATORS MAY BE UTILIZED TO MEET THE ABOVE STANDARDS. WHEN FIRE DOORS ARE REQUIRED, THE MAXIMUM EFFORT TO OPERATE THE DOOR MAY NOT EXCEED 15 LBS.
10. DOOR CLOSER REQUIRE AT LEAST 5 SECONDS TO CLOSE FROM AN OPEN POSITION OF 90 DEGREES TO 12 DEGREES FROM THE LATCH.
11. EACH GRADE-LEVEL EXTERIOR EXIT DOOR SHALL BE IDENTIFIED BY A TACTILE SIGN WITH THE WORD "EXIT". EACH EXIT DOOR THAT LEADS DIRECTLY TO GRADE-LEVEL EXTERIOR EXIT BY MEANS OF STAIRWAY OR RAMP IS IDENTIFIED BY A TACTILE SIGN THAT STATES "EXIT STAIR DOWN," "EXIT RAMP DOWN," "EXIT STAIR UP," OR "EXIT RAMP UP" AS APPROPRIATE. EACH EXIT DOOR THAT LEADS DIRECTLY TO GRADE-LEVEL EXTERIOR EXIT BY MEANS OF AN EXIT ENCLOSURE OR EXIT PASSAGEWAY IS IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORDS "EXIT ROUTE". EACH ACCESS DOOR FROM AN INTERIOR ROOM OR AREA TO A CORRIDOR OR HALLWAY THAT IS REQUIRED TO HAVE A VISUAL EXIT SIGN IS IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORDS "EXIT ROUTE". EACH DOOR THROUGH AN HORIZONTAL EXIT IS IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORDS "TO EXIT".
12. VISION LIGHTS MUST HAVE BOTTOM OF AT LEAST ONE GLAZED PANEL LOCATED WITHIN 43" MAX. ABOVE FLOOR FINISH.

SIGNAGE

1. BASELINE OF THE HIGHEST CHARACTER TO BE 60" MAXIMUM AND BASELINE OF THE LOWEST CHARACTER TO BE 48" MINIMUM ABOVE FINISHED FLOOR.
2. TACTILE ROOM IDENTIFICATION SIGNS SHALL BE LOCATED SO THAT A CLEAR FLOOR SPACE OF 18" MIN. x 18" MIN. CENTERED ON SIGN IS PROVIDED BEYOND THE ARC OF ANY DOOR SWING.

TOILET ROOM FIXTURES & ACCESSORIES

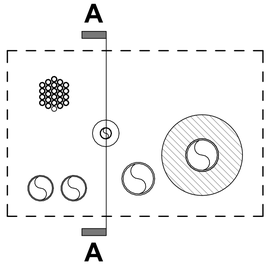
1. THE HEIGHT OF ACCESSIBLE WATER CLOSETS SHALL BE A MINIMUM OF 17" AND A MAXIMUM OF 19" MEASURED TO THE TOP OF THE TOILET SEAT.
2. PROVIDE 17" MINIMUM - 18" MAXIMUM FROM THE CENTERLINE OF THE WATER CLOSET TO THE ADJACENT WALL.
3. TOILET AND URINAL FLUSH CONTROLS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. CONTROLS FOR THE FLUSH VALVES SHALL BE MOUNTED ON THE OPEN (WIDE) SIDE OF THE TOILET STALL, NO MORE THAN 44" ABOVE THE FLOOR. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 LBS.
4. WHERE URINALS ARE PROVIDED, AT LEAST ONE SHALL HAVE A CLEAR SPACE 30" WIDE BY 48" LONG IN FRONT OF THE URINAL. AT LEAST ONE URINAL WITH 13 1/2" MIN. RIM PROJECTION FROM THE WALL AND A MAXIMUM OF 17" ABOVE THE FLOOR SHALL BE INSTALLED.
5. AMBULATORY STALLS ARE REQUIRED WHERE 6 OR MORE STALLS ARE PROVIDED WITHIN A MULTIPLE ACCOMODATION TOILET ROOM. AMBULATORY ACCESSIBLE COMPARTMENTS SHALL BE 60" DEEP MIN. AND 35"MIN - 37" MAX WIDE. COMPARTMENT DOORS SHALL NOT SWING INTO THE MINIMUM REQUIRED COMPARTMENT AREA.
6. A CLEAR FLOOR SPACE 30" WIDE BY 48" LONG SHALL BE PROVIDED IN FRONT OF A LAVATORY TO ALLOW FORWARD APPROACH. SUCH CLEAR SPACE SHALL ADJOIN OR OVERLAP AN ACCESSIBLE ROUTE AN SHALL EXTEND INTO KNEE AND TOE SPACE UNDERNEATH LAVATORY.
7. LAVATORIES SHALL BE MOUNTED WITH A CLEARANCE OF AT LEAST 29" FROM THE FLOOR TO THE BOTTOM OF THE APRON WITH 27" MINIMUM KNEE CLEARANCE UNDER THE FRONT LIP EXTENDING A MINIMUM OF 30" IN WIDTH WITH 8" MINIMUM DEPTH AT THE TOP. TOE CLEARANCE SHALL BE SAME WIDTH AND A MINIMUM OF 9 INCHES HIGH FROM THE FLOOR AND A MINIMUM OF 17"-19"MAXIMUM DEEP FROM THE FRONT OF THE LAVATORY.
8. HOT WATER AND DRAIN PIPES UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.
9. MIRRORS LOCATED ABOVE LAVATORIES OR COUNTERTOPS SHALL HAVE BOTTOM OF REFLECTIVE SURFACE 40" MAX. ABOVE FINISHED FLOOR; MIRRORS MOUNTED ELSEWHERE SHALL HAVE BOTTOM EDGE OF REFLECTIVE SURFACE 35" MAX. ABOVE FINISHED FLOOR. TOP EDGE OF MIRRORS SHOULD BE 74" HIGH TO BE USEABLE BY AMBULATORY PEOPLE.
10. LOCATE PAPER TOWEL DISPENSERS, SANITARY NAPKIN DISPENSERS, AND WASTE RECEPTACLES WITH ALL OPERABLE PARTS NOT MORE THAN 40" FROM THE FLOOR.
11. LOCATE TOILET TISSUE DISPENSERS ON THE WALL 7-9" FROM THE FRONT OF THE WATER CLOSET TO THE CENTERLINE OF THE DISPENSER. THE OUTLET OF THE DISPENSER SHALL BE BELOW THE GRAB BAR, 19" MIN. ABOVE FINISHED FLOOR AND SHALL NOT BE LOCATED BEHIND GRAB BARS. DISPENSERS SHALL NOT BE OF A TYPE THAT CONTROLS DELIVERY OR THAT DOES NOT ALLOW CONTINUOUS PAPER FLOW.
12. DOORS CANNOT SWING INTO THE REQUIRED CLEAR FLOOR SPACE AT ANY FIXTURE OTHER THAN THE DOOR TO THE ACCESSIBLE WATER CLOSET COMPARTMENT, A DOOR, IN ANY POSITION, MAY ENCROACH INTO THE TURNING SPACE BY 12" MAX.
13. CLEARANCE AROUND WATER CLOSET SHALL BE 60" WIDE x 56" DEEP PROVIDED IN FRONT OF THE WATER CLOSET, NO OTHER FIXTURES CAN BE LOCATED WITHIN THIS AREA. A MIN. 60" WIDE AND 48" DEEP MANEUVERING SPACE SHALL BE PROVIDED IN FRONT OF THE WATER CLOSET.

GRAB BARS

1. GRAB BARS SHALL BE LOCATED ON ONE SIDE AND THE BACK OF THE PHYSICALLY DISABLED TOILET STALL OR COMPARTMENT AND SHALL BE SECURELY ATTACHED 33" MINIMUM-36" MAXIMUM, MEASURED TO THE TOP OF GRIPING SURFACE, ABOVE AND PARALLEL TO THE FLOOR.
2. GRAB BARS AT THE SIDE SHALL BE AT LEAST 42" LONG WITH THE FRONT END POSITIONED 54"MINIMUM FROM THE BACK OF THE STALL AND WITH THE FRONT END POSITIONED 24" MINIMUM IN FRONT OF THE WATER CLOSET. THE SIDE GRAB BAR SHALL BE LOCATED 12" MAXIMUM FROM THE REAR WALL. GRAB BARS AT THE BACK SHALL NOT BE LESS THAN 36" LONG AND SHALL EXTEND FROM THE CENTERLINE OF THE WATER CLOSET 12" MINIMUM ON ONE SIDE AND 24"MINIMUM ON THE OTHER SIDE.
3. THE DIAMETER OR WIDTH OF THE GRIPPING SURFACES OF A GRAB BAR WITH CIRCULAR CROSS SECTIONS SHALL HAVE AN OUTSIDE DIA. OF 1 1/4"MIN AND 2" MAXIMUM. GRAB BARS WITH NON CIRCULAR CROSS SECTIONS SHALL HAVE A CROSS SECTION DIMENSION OF 2" MAXIMUM AND A PERIMETER DIMENSION OF 4" MIN AND 4.8" MAX. MAXIMUM. IF THE GRAB BARS ARE MOUNTED ADJACENT TO A WALL,THE SPACE BETWEEN THE WALL AND THE GRAB BARS SHALL BE 1-1/2".
4. GRAB BARS, AND ANY WALL OR OTHER SURFACE ADJACENT TO IT, SHALL BE FREE OF ANY SHARP OR ABRASIVE ELEMENTS.
5. GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.
6. GRAB BARS SHALL BE DESIGNED TO SUPPORT A 250 POUND FORCE.
7. NO OBJECT TO BE MOUNTED WITHIN 1 1/2" BELOW OR 12" ABOVE ANY GRAB BAR.

ACCESSIBILITY NOTES

1. ELECTRICAL CONTROLS AND SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF A ROOM OR AREA TO CONTROL LIGHTING & RECEPTACLE OUTLETS, APPLIANCES OR COOLING, HEATING AND VENTILATING EQUIPMENT SHALL BE LOCATED WITHIN ALLOWABLE REACH RANGES. LOW REACH SHALL BE MEASURED TO THE BOTTOM OF THE OUTLET BOX AND HIGH REACH SHALL BE MEASURED TO THE TOP OF THE OUTLET BOX. (11B-308.1.1)
2. ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUITS OF 30 AMP. OR LESS & COMMUNICATION SYSTEM RECEPTACLES SHALL BE LOCATED WITHIN ALLOWABLE REACH RANGES. LOW REACH SHALL BE MEASURED TO THE BOTTOM OF THE OUTLET BOX AND HIGH REACH SHALL BE MEASURED TO THE TOP OF THE OUTLET BOX (11B-308.1.2.)
3. HIGH FORWARD REACH THAT IS UNOBSTRUCTED SHALL BE 48 INCHES MAXIMUM AND THE LOW FORWARD REACH SHALL BE 15 INCHES MIN. ABOVE THE FINISH FLOOR OR GROUND. (11B-308.2.1, FIGURE 11B-308.2.1)
4. HIGH FORWARD REACH SHALL BE 48 INCHES MAXIMUM WHERE THE REACH DEPTH IS 20" OR LESS AND 44" MAXIMUM WHERE THE REACH DEPTH EXCEEDS 20 INCHES. HIGH FORWARD REACH SHALL NOT EXCEED 25" IN DEPTH. (11B-308.2.2, FIGURE 11B-308.2.2)
5. WHERE A HIGH FORWARD REACH IS OVER AN OBSTRUCTION, THE CLEAR FLOOR SPACE SHALL EXTEND BENEATH THE ELEMENT FOR A DISTANCE NOT LESS THAN THE REQUIRED REACH DEPTH OVER THE OBSTRUCTION. (11B-308.2.2)
6. HIGH SIDE REACH SHALL BE 48" MAXIMUM AND THE LOW SIDE REACH SHALL BE 15" MINIMUM ABOVE THE FINISH FLOOR WHERE THE SIDE REACH IN UNOBSTRUCTED OR THE DEPTH OF ANY OBSTRUCTION DOES NOT EXCEED 10". (11B-308.3.1, FIGURE 11B-308.3.1)
7. HIGH SIDE REACH SHALL BE 46" MAXIMUM ABOVE THE FINISH FLOOR OR GROUND WHERE THE HIGH SIDE REACH IS OVER AN OBSTRUCTION MORE THAN 10" BUT NOT MORE THAN 24" IN DEPTH. (11B-308.3.2, FIGURE 11B-308.3.2) OBSTRUCTIONS FOR HIGH SIDE REACH SHALL NOT EXCEED 34" IN HEIGHT AND 24" IN DEPTH. (11B-308.3.2, FIGURE 11B-308.3.2)
8. OPERABLE PARTS ON ACCESSIBLE ELEMENTS, ACCESSIBLE ROUTES, AND IN ACCESSIBLE ROOMS & SPACES SHALL BE PROVIDED A CLEAR FLOOR OR GROUND SPACE COMPLYING WITH 11B-305 CLEAR FLOOR OR GROUND SPACE AND BE PLACED WITHIN ONE OR MORE OF THE REACH RANGES SPECIFIED IN 11B-308 REACH RANGES. (11B-309.2)
9. OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS MAXIMUM. (11B-309.4)
10. ELEMENTS THAT ARE EXEMPT FROM ALL REQUIREMENTS FOR OPERABLE PARTS REQUIREMENTS INCLUDE ELECTRICAL OR COMMUNICATION RECEPTACLES SERVING A DEDICATED USE; FLOOR ELECTRICAL RECEPTACLES; HVAC DIFFUSERS, EXERCISE MACHINES AND EXERCISE EQUIPMENT AND THOSE OPERABLE PARTS INTENDED FOR USE ONLY BY SERVICE OR MAINTENANCE PERSONNEL. (11B-205.1)



USING HILTI FIRESTOP SYSTEMS GUIDE FOR SPECIFIERS, 2011 EDITION. FIRESTOP FOR MULTIPLE PENETRATING ITEMS THROUGH GYPSUM WALL ASSEMBLY, UL SYSTEM NO. W-L-8079

USING HILTI FIRESTOP SYSTEMS GUIDE FOR SPECIFIERS, 2011 EDITION. FIRESTOP FOR MULTIPLE PENETRATING ITEMS THROUGH CONCRETE MASONRY UNIT ASSEMBLY, UL SYSTEM NO. W-J-8051

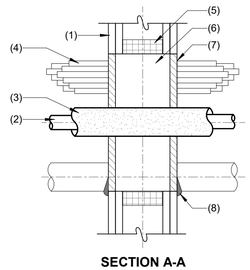
NOTE:
THROUGH PENETRATIONS SHALL BE PROTECTED BY AN APPROVED THROUGH-PENETRATION FIRESTOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH ASTM E814 OR UL 1479, WITH A MINIMUM POSITIVE PRESSURE DIFFERENTIAL OF 0.01 INCH OF WATER (2.49PA). THE SYSTEM SHALL HAVE AN F RATING/T RATING OF NOT LESS THAN 1 OUR BUT NOT LESS THAN THE REQUIRED RATING OF THE FLOOR PENETRATED.

KEYNOTES:

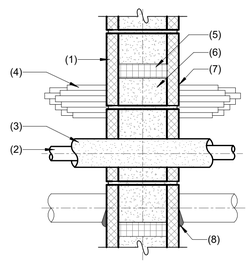
(1). 1-HOUR OR 2-HOUR GYPSUM WALL ASSEMBLY TO INCLUDE:
- A. 2X4 STUD LUMBER AT 16" O.C.,OR
- B. 3-1/2" WIDE MIN. STEEL STUDS, SPACED MAX. 24: O.C. AND
- C. NOMINAL 5/8" THICK GYPSUM WALLBOARD. TYPE, NUMBER OF LAYERS, AND SHEET ORIENTATION AS SPECIFIED IN THE INDIVIDUAL UL DESIGN.

(2). ONE OR MORE OF THE FOLLOWING PIPES, IN ANY COMBINATION MAYBE INSTALLED WITHIN THE OPENING:
- A. MAX. 4" NOMINAL DIA. STEEL PIPE
- B. MAX. 4" NOMINAL DIA. CAST OR DUCTILE IRON PIPE
- C. MAX. 3" NOMINAL DIA. COPPER PIPE OR TUBING
- D. MAX. 3" NOMINAL DIA. STEEL CONDUIT OR EMT
- E. MAX. 2" NOMINAL DIA. PVC PLASTIC PIPE
- F. MAX. 2" NOMINAL DIA. CPVC PLASTIC PIPE

(3). [OPTIONAL] ONE OR MORE METALLIC PIPES MAY BE INSULATED WITH THE FOLLOWING TYPES OF PIPE INSULATION::
- A. MIN. 1" TO MAX. 2" THICK GLASS-FIBER PIPE INSULATION
- B. MIN. 1/2" TO MAX. 3/4" THICK AB/PVC PIPE INSULATION



SECTION A-A



SECTION A-A

(4). ONE MAX. 3" DIA. CABLE BUNDLE.

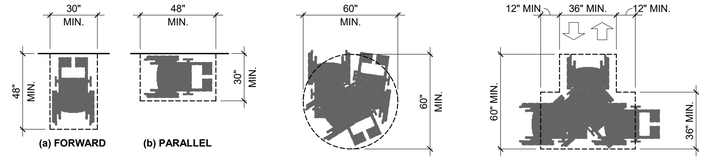
(5). MIN. 1-1/4" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED AS A BACKER AROUND THE PERIMETER OF THE OPENING.

(6). MIN. 3-1/2" OR 4-3/4" THICKNESS MINERAL WOOL (MIN, 4 PCCF DENSITY) TIGHTLY PACKED FOR 1-HOUR OR 2-HOUR FIRE-RATING-RESPECTIVELY.

(7). MINIMUM 5/8" DEPTH INTUMESCENT FIRESTOP SEALANT.

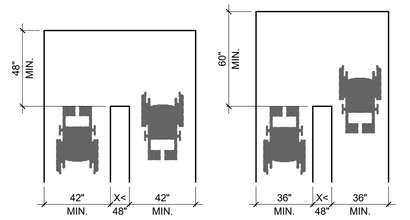
(8). MINIMUM 1/2" BEAD INTUMESCENT FIRESTOP SEALANT APPLIED AT POINT OF CONTACT.

4 FIRE STOPPING DETAILS
1 1/2" = 1'-0"



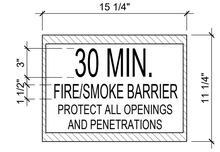
CLEAR FLOOR OR GROUND SPACE | 60 INCH DIAMETER SPACE | T - SHAPED SPACE FOR 180 DEGREE TURNS

1 WHEELCHAIR CLEAR FLOOR SPACE & TURNING
1/4" = 1'-0"



(a) 180° TURN | (b) 180° TURN (EXCEPTION)

2 CLEAR WIDTH & TURNS
1/4" = 1'-0"



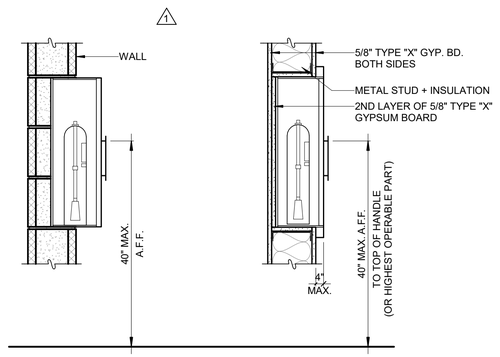
SUGGESTED SIGNAGE | **SUGGESTED STENCIL**

PER SECTION CBC 703.7, WHERE THERE IS AN ACCESSIBLE CONCEALED FLOOR, FLOOR-CEILING, OR ATTIC SPACE, FIRE WALLS, FIRE BARRIERS, FIRE PARTITIONS, SMOKE BARRIERS, AND SMOKE PARTITIONS OR ANY OTHER WALL REQUIRED TO HAVE PROTECTED OPENINGS OR PENETRATIONS SHALL BE EFFECTIVELY AND PERMANENTLY IDENTIFIED WITH SIGNS OR STENCILING IN THE CONCEALED SPACE AND SHALL:

1. BE LOCATED WITHIN 15 FEET (4572 MM) OF THE END OF EACH WALL AND AT INTERVALS NOT EXCEEDING 30 FEET (9144 MM) MEASURED HORIZONTALLY ALONG THE WALL OR PARTITION.
2. INCLUDE LETTERING NOT LESS THAN 3 INCHES (76 MM) IN HEIGHT WITH A MINIMUM 3/8" (9.5 MM)STROKE IN A CONTRASTING COLOR INCORPORATING THE SUGGESTED WORDING, "FIRE AND/OR SMOKE BARRIER - PROTECT ALL OPENINGS," OR OTHER WORDING

NOTE:
SEE SHEET A010 & A011 FOR SIGNAGE LOCATIONS

3 FIRE RATED WALL SIGNAGE
1 1/2" = 1'-0"



A. SEMI-RECESS | **B. RECESS MOUNT**

NOTES:
1. CONFORM TO ALL REQUIREMENTS OF #10 NFPA. TITLE 19 CCR & LOCAL FIRE MARSHALL REQUIREMENTS.
2. OPERABLE PARTS SHALL BE OPERABLE W/ ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5LBS MAX.

5 FIRE EXTINGUISHER INSTALLATION
1" = 1'-0"

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
	10/7/2023			BID DOCUMENTS

DESIGNED BY: MM | DRAWN BY: LR / RR | DESIGN CHECK BY: MM | DRAWN CHECK BY: MM / RR | AS-BUILT | REF.

LICENSED ARCHITECT — MARY C. MCGRATH — C-24435 — REN-08-30-23 — STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
ACCESSIBILITY NOTES, CLEARANCES & FIRE STOPPING DETAILS

B # B-4797

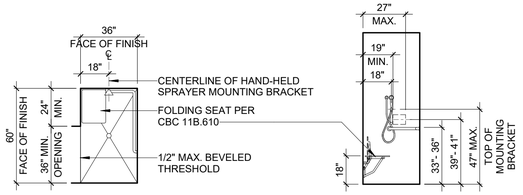
PHASE # ____ REBID # ____

SHEET 8 OF 236

DWG. NO. A008

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/12/2023 7:45:29 PM



PLAN
60"X36" ROLL-IN SHOWER

ELEVATION

11B.610 SEATS

11B-610.3 SHOWER COMPARTMENT SEATS

A SEAT IN A STANDARD ROLL-IN SHOWER COMPARTMENT SHALL BE A FOLDING TYPE, SHALL BE INSTALLED ON THE SIDE WALL ADJACENT TO THE CONTROLS, AND SHALL EXTEND FROM THE BACK WALL TO A POINT WITHIN 3 INCHES (76 MM) OF THE COMPARTMENT ENTRY. A SEAT IN AN ALTERNATE ROLL-IN TYPE SHOWER COMPARTMENT SHALL BE A FOLDING TYPE, SHALL BE INSTALLED ON THE FRONT WALL OPPOSITE THE BACK WALL, AND SHALL EXTEND FROM THE ADJACENT SIDE WALL TO A POINT WITHIN 3 INCHES (76 MM) OF THE COMPARTMENT ENTRY. THE TOP OF THE SEAT SHALL BE 17 INCHES (432 MM) MINIMUM AND 19 INCHES (483 MM) MAXIMUM ABOVE THE BATHROOM FINISH FLOOR. WHEN FOLDED, THE SEAT SHALL EXTEND 6 INCHES (152 MM) MAXIMUM FROM THE MOUNTING WALL. SEATS SHALL COMPLY WITH SECTION 11B-610.3.1 OR 11B-610.3.2.

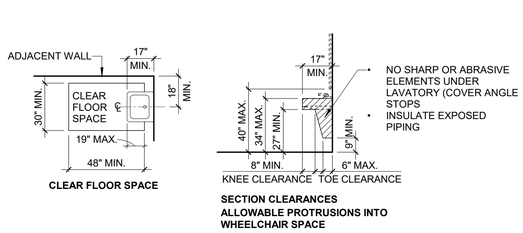
11B-610.3.2 L-SHAPED SEATS

THE REAR EDGE OF AN L-SHAPED SEAT SHALL BE 21/2 INCHES (64 MM) MAXIMUM AND THE FRONT EDGE 15 INCHES (381 MM) MINIMUM AND 16 INCHES (406 MM) MAXIMUM FROM THE SEAT WALL. THE REAR EDGE OF THE "L" PORTION OF THE SEAT SHALL BE 11/2 INCHES (38 MM) MAXIMUM FROM THE WALL AND THE FRONT EDGE SHALL BE 14 INCHES (356 MM) MINIMUM AND 15 INCHES (381 MM) MAXIMUM FROM THE WALL. THE END OF THE "L" SHALL BE 22 INCHES (559 MM) MINIMUM AND 23 INCHES (584 MM) MAXIMUM FROM THE MAIN SEAT WALL.

11B-610.4 STRUCTURAL STRENGTH

ALLOWABLE STRESSES SHALL NOT BE EXCEEDED FOR MATERIALS USED WHEN A VERTICAL OR HORIZONTAL FORCE OF 250 POUNDS (1112 N) IS APPLIED AT ANY POINT ON THE SEAT, FASTENER, MOUNTING DEVICE, OR SUPPORTING STRUCTURE.

1 SHOWER CLEARANCES
1/4" = 1'-0"



CLEAR FLOOR SPACE

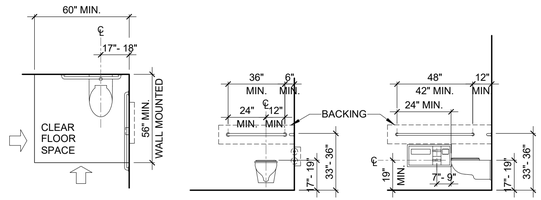
SECTION CLEARANCES ALLOWABLE PROTRUSIONS INTO WHEELCHAIR SPACE

NOTES:

ACCESSIBLE LAVATORIES SHALL COMPLY WITH THE FOLLOWING:

A. THE FAUCETS CONTROLS, AND OPERATING MECHANISM ARE:
   1. THE TYPE WHICH DOES NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE
   2. HAS AN OPERATING FORCE OF LESS THAN OR EQUAL TO 5 LBS.
   3. BE OPERABLE WITH ONE HAND.
B. IF SELF-CLOSING VALVES ARE USED, THEY SHALL REMAIN OPEN FOR GREATER THAN 10 SECONDS.

2 LAVATORY CLEARANCES
1/4" = 1'-0"

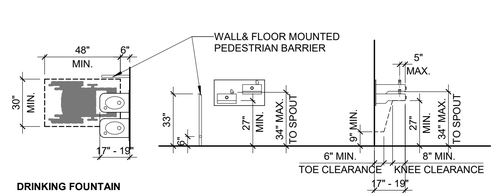


PLAN **REAR WALL** **SIDE WALL**

NOTES:

CONTROLS FOR THE FLUSH VALVE SHALL BE:
A. OPERABLE WITH ONE HAND.
B. NOT REQUIRE TIGHT GRASPING, PINCHING OR TWIST OF THE WRIST.
C. BE MOUNTED ON THE WIDE SIDE OF THE TOILET.
D. BE MOUNTED AT 44" A.F.F.
E. ACTIVATED WITH A FORCE OF LESS THAN OR EQUAL TO 5 LBS.
F. ALLOW 1 1/2" CLEAR BELOW THE GRAB BAR TOPPING AND 12" CLEAR ABOVE GRAB BAR.

3 TOILET CLEARANCES
1/4" = 1'-0"

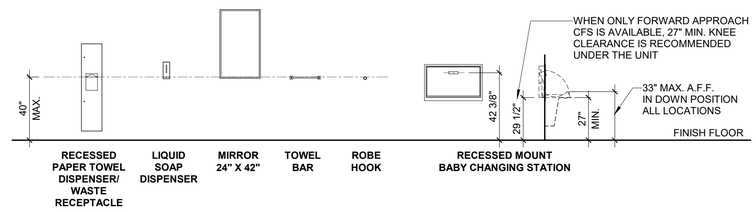


DRINKING FOUNTAIN

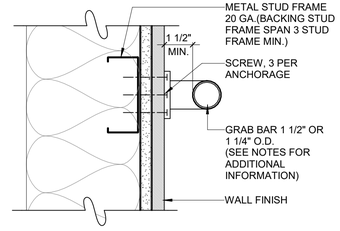
NOTE:

THE FLOW OF WATER SHALL BE ACTIVATED BY A MANUALLY OPERATED SYSTEM THAT IS FRONT OR SIDE MOUNTED AND LOCATED WITHIN 6" OF THE FRONT EDGE OF THE FOUNTAIN. THE SPOUT SHALL PROVIDE A FLOW OF WATER 4" HIGH MIN. AND SHALL BE LOCATED 5" MAX. FROM THE FRONT OF THE UNIT. THE ANGLE OF THE WATER STREAM SHALL BE MEASURED HORIZONTALLY FROM THE FRONT. WHERE SPOUTS ARE LESS THAN 3" FROM THE FRONT THE ANGLE OF WATER SHALL BE 30 DEGREES MAX. WHERE SPOUTS ARE BETWEEN 3"-5" FROM FRONT THE ANGLE OF WATER SHALL BE 15 DEGREES MAX.

4 DRINKING FOUNTAIN CLEARANCES
1/4" = 1'-0"



5 TYPICAL ACCESSIBLE RESTROOM ACCESSORIES MOUNTING HEIGHTS
1/4" = 1'-0"



NOTES:
1115B.7.2 STRUCTURAL STRENGTH

THE STRUCTURAL STRENGTH OF GRAB BARS, TUB AND SHOWER SEATS, FASTENERS AND MOUNTING DEVICES SHALL MEET THE FOLLOWING SPECIFICATIONS:

1. BENDING STRESS IN A GRAB BAR OR SEAT INDUCED BY THE MAXIMUM BENDING MOMENT FROM THE APPLICATION OF A 250-POUND (1112 N) POINT LOAD SHALL BE LESS THAN THE ALLOWABLE STRESS FOR THE MATERIAL OF THE GRAB BAR OR SEAT.
2. SHEAR STRESS INDUCED IN A GRAB BAR OR SEAT BY THE APPLICATION OF A 250-POUND (1112 N) POINT LOAD SHALL BE LESS THAN THE ALLOWABLE SHEAR STRESS FOR THE MATERIAL OF THE GRAB BAR OR SEAT, AND ITS MOUNTING BRACKET OR OTHER SUPPORT IS CONSIDERED TO BE FULLY RESTRAINED, THEN DIRECT AND TORSIONAL SHEAR STRESSES SHALL NOT EXCEED THE ALLOWABLE SHEAR STRESS.
3. SHEAR FORCE INDUCED IN A FASTENER OR MOUNTING DEVICE FROM THE APPLICATION OF A 250-POUND (1112 N) POINT LOAD SHALL BE LESS THAN THE ALLOWABLE LATERAL LOAD OF EITHER THE FASTENER OR MOUNTING DEVICE OR THE SUPPORTING STRUCTURE, WHICHEVER IS THE SMALLER ALLOWABLE LOAD.
4. TENSILE FORCE INDUCED IN A FASTENER BY A DIRECT TENSION FORCE OF A 250-POUND (1112 N) POINT LOAD, PLUS THE MAXIMUM MOMENT FROM THE APPLICATION OF A 250-POUND (1112 N) POINT LOAD, SHALL BE LESS THAN THE ALLOWABLE WITHDRAWAL LOAD BETWEEN THE FASTENER AND SUPPORTING STRUCTURE.
5. GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.

6 GRAB BAR DETAIL
3" = 1'-0"

IDENTIFICATION SIGNS

WHEN SIGNS IDENTIFY PERMANENT ROOMS AND SPACES OF A BUILDING, THEY SHALL COMPLY W/ THE FOLLOWING:

1. FINISH AND CONTRAST. CHARACTERS, SYMBOLS AND THEIR BACKGROUND SHALL HAVE A NON-GLARE FINISH. CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND, EITHER LIGHT ON A DARK BACKGROUND OR DARK ON A LIGHT BACKGROUND.
2. PROPORTIONS. CHARACTERS ON SIGNS SHALL BE SELECTED FROM FONTS THAT HAVE A WIDTH-TO-HEIGHT RATIO OF BETWEEN 3:5 (60 PERCENT) AND 1:1 (110 PERCENT) MEASURED BY THE WIDTH OF THE UPPERCASE LETTER "O" AND HEIGHT OF THE UPPERCASE LETTER "I", AND A STROKE THICKNESS MEASURED BY THE HEIGHT OF THE UPPERCASE LETTER "I". 15% MAXIMUM.
3. RAISED CHARACTERS AND PICTORIAL SYMBOL SIGNS. WHEN RAISED CHARACTERS ARE REQUIRED OR WHEN PICTORIAL SYMBOLS (PICTOGRAMS) ARE USED ON SUCH SIGNS, THEY SHALL CONFORM TO THE FOLLOWING:

   A. CHARACTER TYPE. CHARACTERS ON SIGNS SHALL BE RAISED 1/32" MINIMUM AND SHALL BE SANS SERIF UPPERCASE CHARACTERS ACCOMPANIED BY CONTRACTED BRAILLE.

   B. CHARACTER SIZE. RAISED CHARACTERS SHALL BE A MINIMUM OF 5/8" AND A MAXIMUM OF 2" HIGH.

   C. PICTORIAL SYMBOLS. PICTORIAL SYMBOL SIGNS (PICTOGRAMS) SHALL BE ACCOMPANIED BY THE VERBAL DESCRIPTION PLACED DIRECTLY BELOW THE PICTOGRAM BUT NOT IN THE PICTOGRAM FIELD. THE OUTSIDE DIMENSION OF THE PICTOGRAM SHALL BE A MINIMUM OF 6" IN HEIGHT.

   D. CHARACTER PLACEMENT. CHARACTERS AND BRAILLE SHALL BE IN A HORIZONTAL FORMAT. BRAILLE SHALL BE PLACED A MINIMUM OF 3/8" AND A MAXIMUM OF 1/2" DIRECTLY BELOW THE TACTILE CHARACTERS; FLUSH LEFT OR CENTERED. WHEN TACTILE TEXT IS MULTI-LINED, ALL BRAILLE SHALL BE PLACED TOGETHER BELOW ALL LINES OF TACTILE TEXT AND 3/8" MINIMUM FROM RAISED BORDERS & DECORATIVE ELEMENTS.
4. BRAILLE. CONTRACTED GRADE 2 BRAILLE SHALL BE PLACED A MIN. OF 3/8" AND A MAX. OF 1/2" DIRECTLY BELOW THE TACTILE CHARACTERS; FLUSH LEFT OR CENTERED. WHEN TACTILE TEXT IS MULTI-LINED, ALL BRAILLE IS PLACED BELOW ALL LINES OF TACTILE TEXT. DOTS SHALL BE 1/10" ON CENTER IN EACH CELL WITH 3/10" SPACE BETWEEN CELLS. DOTS SHALL BE RAISED 0.025" MIN.-0.037"MAX. ABOVE THE BACKGROUND. BRAILLE DOTS SHALL BE DOMED OR ROUNDED. THE INDICATION OF AN UPPERCASE LETTER OR LETTERS SHALL ONLY BE USED BEFORE THE FIRST WORD OF SENTENCES, PROPER NOUNS AND NAMES, INDIVIDUAL LETTERS OF THE ALPHABET, INITIALS, AND ACRONYMS.
5. MOUNTING LOCATION AND HEIGHT. SIGNS TO BE MOUNTED ON WALL ADJACENT TO THE LATCH SIDE OF THE DOOR. MOUNTING HEIGHT TO BE 48" MINIMUM FROM THE BASELINE OF THE LOWEST BRAILLE CELLS TO 60" MAXIMUM AFF TO THE HIGHEST LINE OF RAISED CHARACTERS. SIGNS TO BE MOUNTED SO AS TO AVOID THE SWING OF A DOOR OR PROTRUDING OBJECT.

ACCESSIBILITY SIGNS

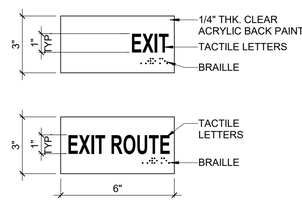
WHEN SIGNS IDENTIFY, DIRECT TO, OR GIVE INFORMATION ABOUT ACCESSIBLE ELEMENTS AND FEATURES OF A BUILDING OR SITE, THEY SHALL INCLUDE THE APPROPRIATE SYMBOL OF ACCESSIBILITY AND SHALL COMPLY WITH THE FOLLOWING:

1. FINISH AND CONTRAST. CHARACTERS, SYMBOLS AND THEIR BACKGROUND SHALL HAVE A NON-GLARE FINISH. CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND, EITHER LIGHT ON A DARK BACKGROUND OR DARK ON A LIGHT BACKGROUND.
2. SYMBOLS OF ACCESSIBILITY. THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL BE THE STANDARD USED TO IDENTIFY FACILITIES THAT ARE ACCESSIBLE TO AND USABLE BY PHYSICALLY DISABLED PERSONS. (2013 CBC SEC. 11B-703.7.2.1). SEE SYMBOL ON 6/-.

DIRECTIONAL & INFROMATIONAL SIGNS

WHEN SIGNS DIRECT TO OR GIVE INFORMATION ABOUT PERMANENT ROOMS AND FUNCTIONAL SPACES OF A BUILDING OR SITE, THEY SHALL COMPLY WITH THE FOLLOWING:

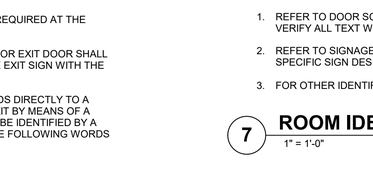
1. FINISH AND CONTRAST. CHARACTERS, SYMBOLS AND THEIR BACKGROUND SHALL HAVE A NON-GLARE FINISH. CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND, EITHER LIGHT ON A DARK BACKGROUND OR DARK ON A LIGHT BACKGROUND.
2. PROPORTIONS. CHARACTERS ON SIGNS SHALL BE SELECTED FROM FONTS THAT HAVE A WIDTH-TO-HEIGHT RATIO OF BETWEEN 3:5 (60 PERCENT) AND 1:1 (110 PERCENT) MEASURED BY THE WIDTH OF THE UPPERCASE LETTER "O" AND HEIGHT OF THE UPPERCASE LETTER "I", AND A STROKE THICKNESS MEASURED BY THE WIDTH AND HEIGHT OF THE UPPERCASE LETTER "I". 15% MAXIMUM.
3. CHARACTER HEIGHT. MINIMUM CHARACTER HEIGHT SHALL COMPLY WITH TABLE 11B-703.5.5. VIEWING DISTANCE SHALL BE MEASURED AS THE HORIZONTAL DISTANCE BETWEEN THE CHARACTER AND AN OBSTRUCTION PREVENTING FURTHER APPROACH TOWARDS THE SIGN. CHARACTER HEIGHT SHALL BE BASED ON THE UPPERCASE LETTER "I".



TACTILE EXIT SIGNS SHALL BE REQUIRED AT THE FOLLOWING LOCATIONS:

1. EACH GRADE-LEVEL EXTERIOR EXIT DOOR SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORD, "EXIT".
2. EACH EXIT DOOR THAT LEADS DIRECTLY TO A GRADE-LEVEL EXTERIOR EXIT BY MEANS OF A STAIRWAY OR RAMP SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE FOLLOWING WORDS AS APPROPRIATE:
   A. "EXIT STAIR DOWN"
   B. "EXIT RAMP DPWN"
   C. "EXIT STAIR UP"
   D. "EXIT RAMP UP"
3. EACH EXIT DOOR THAT LEADS DIRECTLY TO A GRADE-LEVEL EXTERIOR EXIT BY MEANS OF AN EXIT ENCLOSURE OR AN EXIT PASSAGEWAY SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORDS, "EXIT ROUTE".
4. EACH EXIT ACCESS DOOR FROM AND INTERIOR ROOM OR AREA TO A CORRIDOR OR HALLWAY THAT IS REQUIRED TO HAVE A VISUAL EXIT SIGN, SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORDS, "EXIT ROUTE".
5. EACH EXIT DOOR THROUGH A HORIZONTAL EXIT SHALL BE IDENTIFIED BY A SIGN WITH THE WORDS, "TO EXIT".

8 TACTILE EXIT SIGNS
N.T.S.



NOTES:

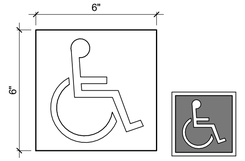
1. REFER TO DOOR SCHEDULE FOR SIGN LOCATION AND VERBIAGE. VERIFY ALL TEXT WITH ARCHITECT PRIOR TO FABRICATION.
2. REFER TO SIGNAGE DETAIL ON ARCHITECTURAL SHEETS FOR SPECIFIC SIGN DESIGN, COLORS AND FINISHES.
3. FOR OTHER IDENTIFICATION SIGNAGE REQUIREMENTS, SEE DWG. A008

7 ROOM IDENTIFICATION SIGNAGE
1" = 1'-0"

VISUAL CHARCTER HEIGHT TABLE

HEIGHT TO FINISH FLOOR OR GROUND FROM BASELINE OF CHARACTER	HORIZONTAL VIEWING DISTANCE	MINIMUM CHARACTER HEIGHT
40 INCHES TO LESS THAN OR EQUAL TO 60 INCHES	LESS THAN 72 INCHES	5/8 INCH
	72 INCHES AND GREATER	5/8 INCH PLUS 1/2 INCH PER FOOT OF VIEWING DISTANCE ABOVE 72 INCHES
GREATER THAN 70 INCHES TO LESS THAN OR EQUAL TO 120 INCHES	LESS THAN 180 INCHES	2 INCHES
	180 INCHES AND GREATER	2 INCHES PLUS 1/8 INCH PER FOOT OF VIEWING DISTANCE ABOVE 180 INCHES
GREATER THAN 120 INCHES	LESS THAN 21 FEET	3 INCHES
	21 FEET AND GREATER	3 INCHES PLUS 1/8 INCH PER FOOT OF VIEWING DISTANCE ABOVE 21 FEET

NOTE:
THE MINIMUM HEIGHT IS MEASURED USING AN UPPERCASE LETTER "I". LOWER CASE CHARACTERS ARE PERMITTED. VIEWING DISTANCE SHALL BE MEASURED AS THE HORIZONTAL DISTANCE BETWEEN THE CHARACTER AND AN OBSTRUCTION PREVENTING FURTHER APPROACH TOWARDS THE SIGN.



(a) SYMBOL PROPORTION **(B) DISPLAY CONDITION**

THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL CONSIST OF A WHITE FIGURE ON A BLUE BACKGROUND. THE BLUE SHALL BE COLOR NO.15090 IN FEDERAL STANDARD 595B.

NOTE:
PROVIDE ACCESSIBILITY SIGN AT ALL ACCESSIBLE ENTRANCE DOORS

9 INTERNATIONAL SYMBOL OF ACCESSIBILITY SIGNAGE
1" = 1'-0"

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
				REVISION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: **MM** | DRAWN BY: **LR / RR** | DESIGN CHECK BY: **MM** | DRAWN CHECK BY: **MM / RR**

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ACCESSIBILITY CLEARANCES & SIGNAGES

B # **B-4797**

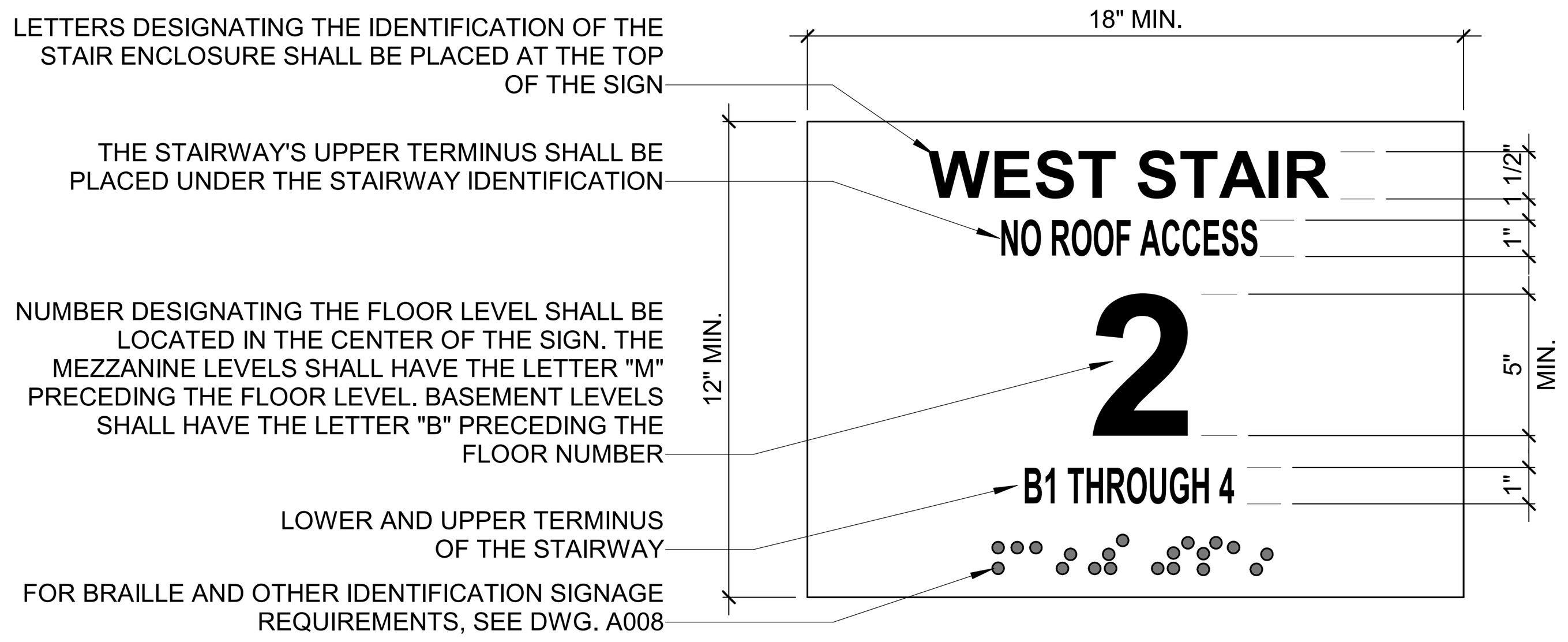
PHASE # ____ REBID # ____

SHEET **9** OF **236**

DWG. NO. **A009**

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

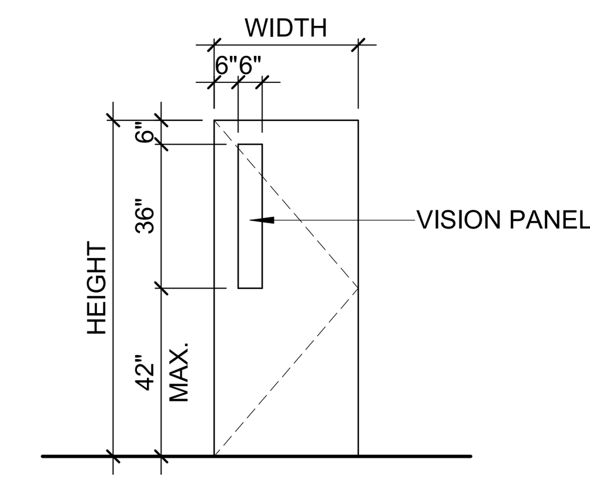
10/12/2023 7:45:31 PM



NOTES:

1. TACTILE FLOOR IDENTIFICATION SIGNS SHALL BE LOCATED AT THE LANDING OF EACH FLOOR LEVEL, PLACED ADJACENT TO THE DOOR ON THE LATCH SIDE, IN ALL ENCLOSED STAIRWAYS IN BUILDINGS TWO OR MORE STORIES IN HEIGHT TO IDENTIFY THE FLOOR LEVEL.
2. AT THE EXIT DISCHARGE LEVEL, THE SIGN SHALL INCLUDE A RAISED FIVE POINTED STAR LOCATED TO THE LEFT OF THE IDENTIFYING FLOOR LEVEL. THE OUTSIDE DIAMETER OF THE STAR SHALL BE THE SAME AS THE HEIGHT OF THE RAISED CHARACTERS.
3. FOR OTHER SIGNAGE REQUIREMENTS REFERENCE 2013 CBC SEC. 11B-703.

1 FLOOR IDENTIFICATION SIGNAGE
1" = 1'-0"

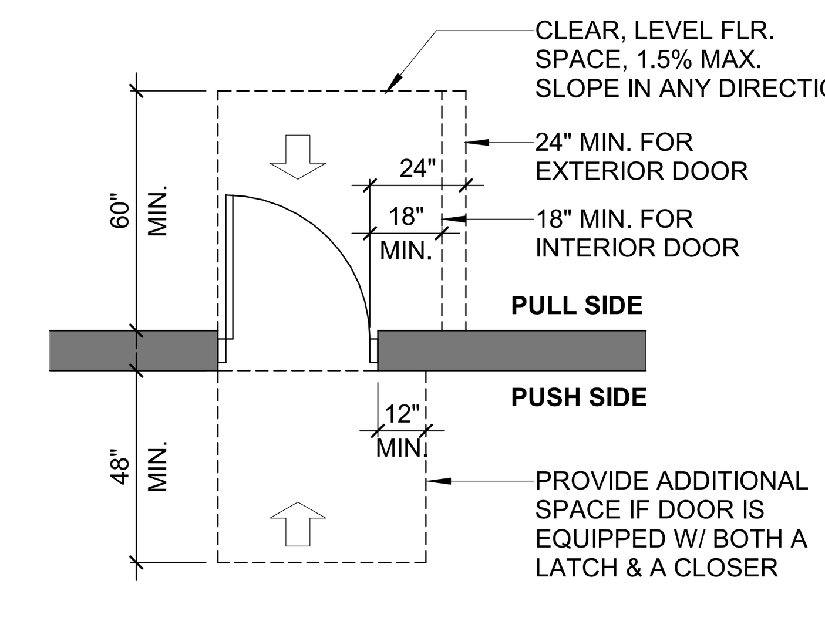


11B-404.2.11 VISION LIGHTS

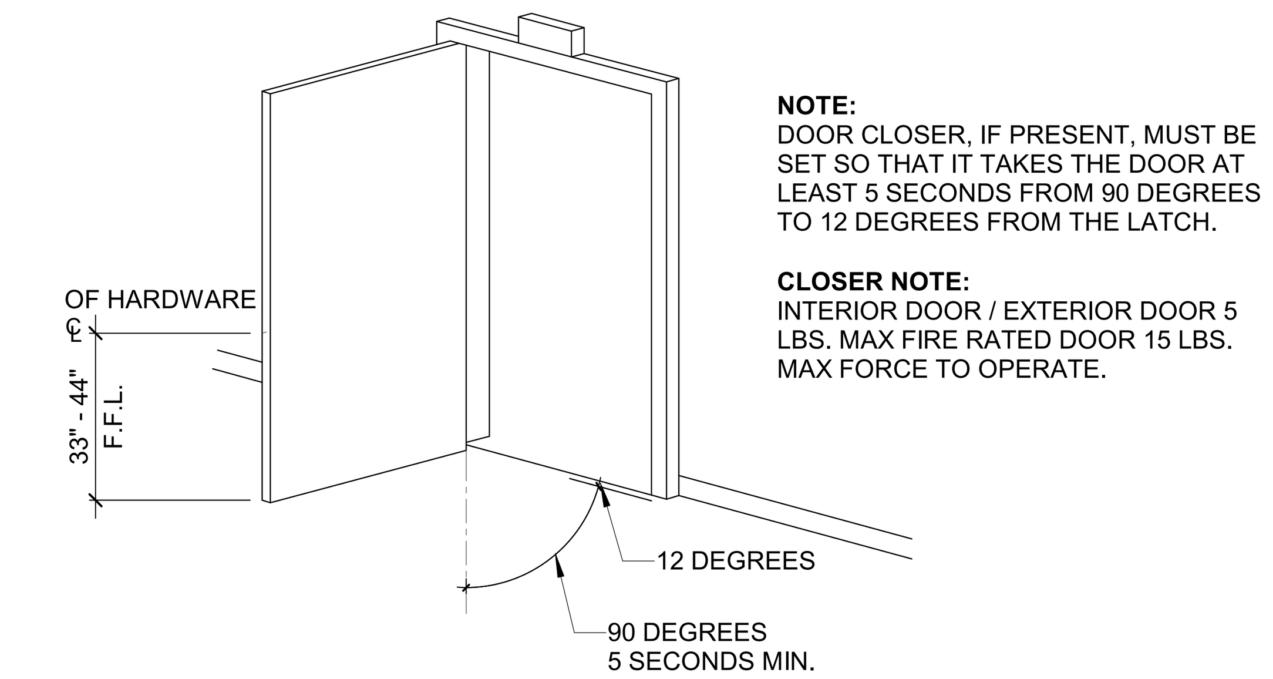
DOORS, GATES, AND SIDE LIGHTS ADJACENT TO DOORS OR GATES, CONTAINING ONE OR MORE GLAZING PANELS THAT PERMIT VIEWING THROUGH THE PANELS SHALL HAVE THE BOTTOM OF AT LEAST ONE GLAZED PANEL LOCATED 42 INCHES (1066.8 MM) MAXIMUM ABOVE THE FINISH FLOOR.

EXCEPTION: GLAZING PANELS WITH THE LOWEST PART MORE THAN 66 INCHES (1676 MM) FROM THE FINISH FLOOR OR GROUND SHALL NOT BE REQUIRED TO COMPLY WITH SECTION 11B-404.2.11.

2 DOOR VISION PANEL
1/4" = 1'-0"



3 REQUIRED DOOR CLEARANCES
1/4" = 1'-0"



NOTE:
DOOR CLOSER, IF PRESENT, MUST BE SET SO THAT IT TAKES THE DOOR AT LEAST 5 SECONDS FROM 90 DEGREES TO 12 DEGREES FROM THE LATCH.

CLOSER NOTE:
INTERIOR DOOR / EXTERIOR DOOR 5 LBS. MAX FIRE RATED DOOR 15 LBS. MAX FORCE TO OPERATE.

4 ACCESSIBLE HARWARE REQUIREMENTS
1" = 10'-0"

11-703 SIGNS
11B-703.2 RAISED CHARACTERS

11B-703.2.4 CHARACTER PROPORTIONS
CHARACTERS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "O" IS 60 PERCENT MINIMUM AND 110 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER "I".

11B-703.2.5 CHARACTER HEIGHT
CHARACTER HEIGHT MEASURED VERTICALLY FROM THE BASELINE OF THE CHARACTER SHALL BE 5/8 INCH (15.9 MM) MINIMUM AND 2 INCHES (51 MM) MAXIMUM BASED ON THE HEIGHT OF THE UPPERCASE LETTER "I".

11B-703.2.6 STROKE THICKNESS
STROKE THICKNESS OF THE UPPERCASE LETTER "I" SHALL BE 15 PERCENT MAXIMUM OF THE HEIGHT OF THE CHARACTER.

11B-703.3 BRAILLE

11B-703.3.2 POSITION
BRAILLE SHALL BE POSITIONED BELOW THE CORRESPONDING TEXT IN A HORIZONTAL FORMAT, FLUSH LEFT OR CENTERED. IF TEXT IS MULTI-LINED, BRAILLE SHALL BE PLACED BELOW THE ENTIRE TEXT. BRAILLE SHALL BE SEPARATED 3/8 INCH (9.5 MM) MINIMUM AND 1/2 INCH (12.7 MM) MAXIMUM FROM ANY OTHER TACTILE CHARACTERS AND 3/8 INCH (9.5 MM) MINIMUM FROM RAISED BORDERS AND DECORATIVE ELEMENTS.

11B-703.4 INSTALLATION HEIGHT AND LOCATION
11B-703.4.1 HEIGHT ABOVE FINISH FLOOR OR GROUND

TACTILE CHARACTERS ON SIGNS SHALL BE LOCATED 48 INCHES (1219 MM) MINIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE LOWEST BRAILLE CELLS AND 60 INCHES (1524 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE HIGHEST LINE OF RAISED CHARACTERS.

11B-703.4.2 LOCATION
WHERE A TACTILE SIGN IS PROVIDED AT A DOOR, THE SIGN SHALL BE LOCATED ALONGSIDE THE DOOR AT THE LATCH SIDE. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH ONE ACTIVE LEAF, THE SIGN SHALL BE LOCATED ON THE INACTIVE LEAF. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH TWO ACTIVE LEAFS, THE SIGN SHALL BE LOCATED TO THE RIGHT OF THE RIGHT HAND DOOR. WHERE THERE IS NO WALL SPACE AT THE LATCH SIDE OF A SINGLE DOOR OR AT THE RIGHT SIDE OF DOUBLE DOORS, SIGNS SHALL BE LOCATED ON THE NEAREST ADJACENT WALL. SIGNS CONTAINING TACTILE CHARACTERS SHALL BE LOCATED SO THAT A CLEAR FLOOR SPACE OF 18 INCHES (457 MM) MINIMUM BY 18 INCHES (457 MM) MINIMUM, CENTERED ON THE TACTILE CHARACTERS, IS PROVIDED BEYOND THE ARC OF ANY DOOR SWING BETWEEN THE CLOSED POSITION AND 45 DEGREE OPEN POSITION. WHERE PROVIDED, SIGNS IDENTIFYING PERMANENT ROOMS AND SPACES SHALL BE LOCATED AT THE ENTRANCE TO, AND OUTSIDE OF THE ROOM OR SPACE. WHERE PROVIDED, SIGNS IDENTIFYING EXITS SHALL BE LOCATED AT THE EXIT DOOR WHEN APPROACHED IN THE DIRECTION OF EGRESS TRAVEL.

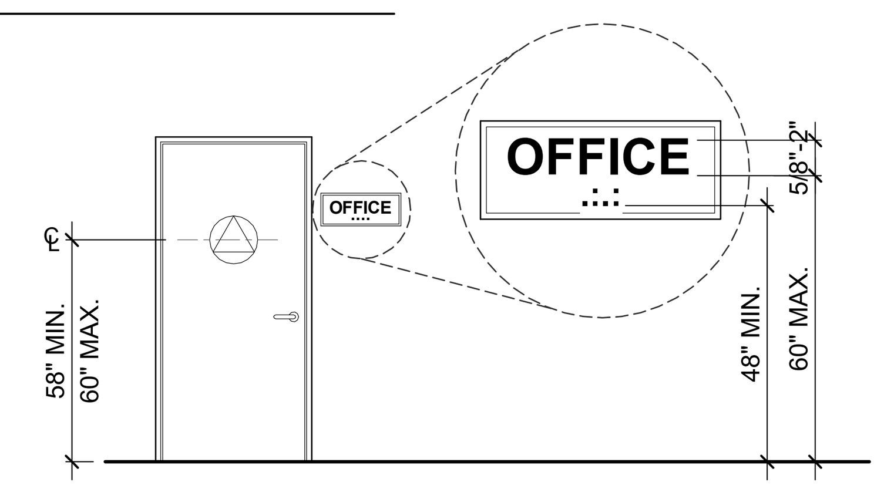


FIGURE 11B-703.4.1
HEIGHT OF TACTILE CHARACTERS ABOVE FINISH FLOOR OR GROUND

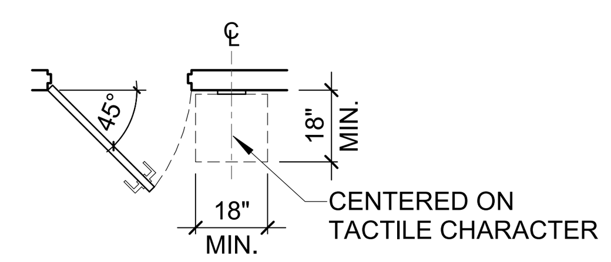


FIGURE 11B-703.4.2
LOCATION OF TACTILE SIGNS AT DOORS

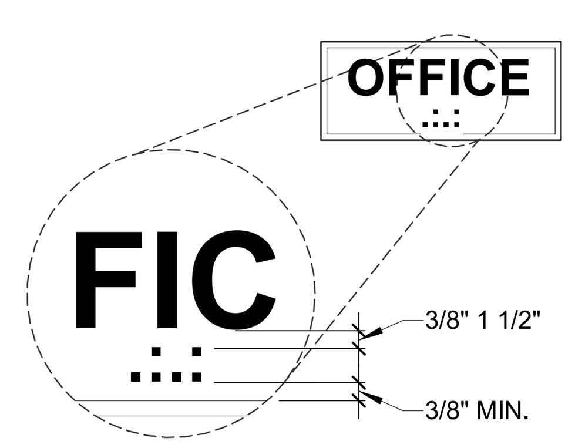
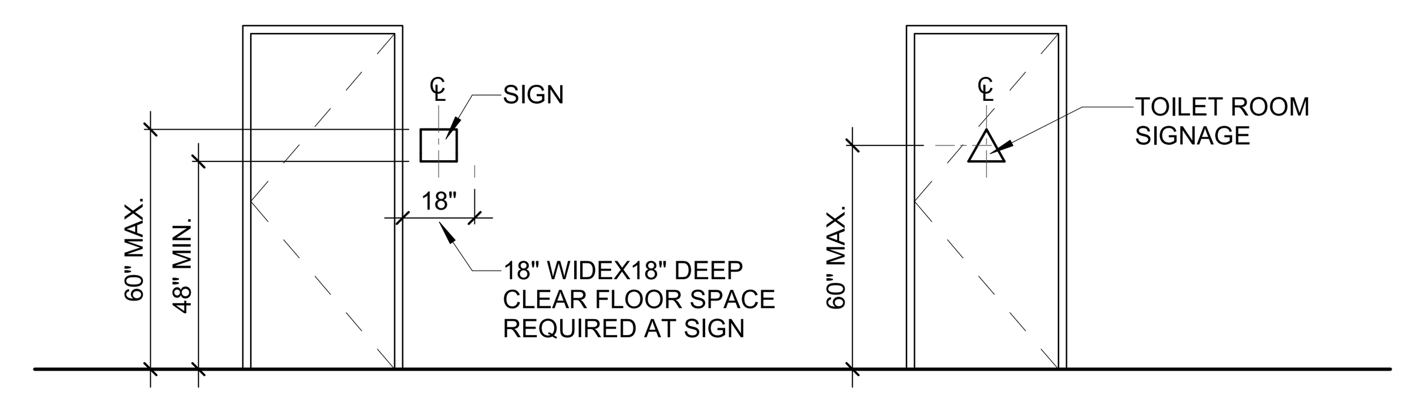
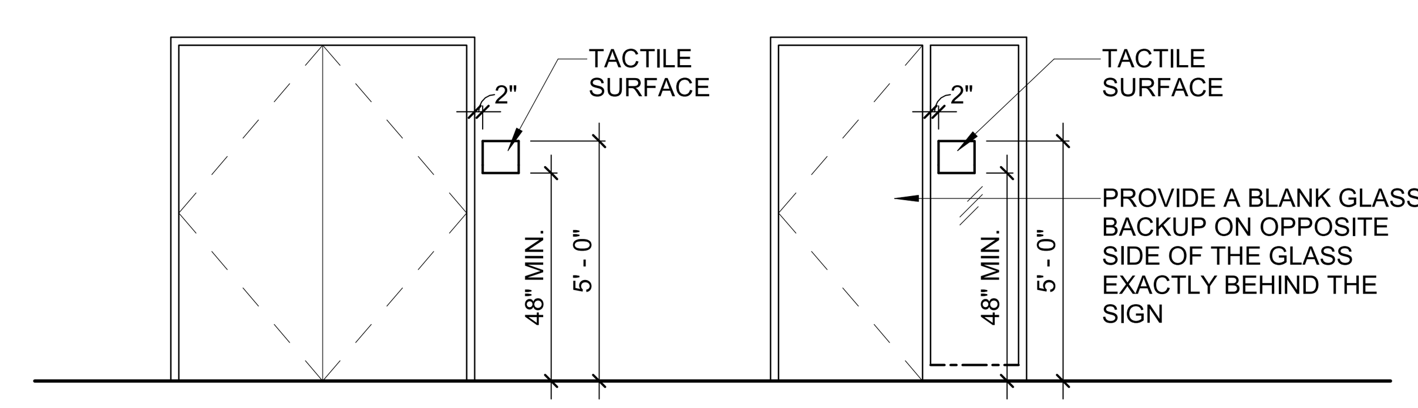


FIGURE 11B-703.3.2
POSITION OF BRAILLE



WALL MOUNTED SIGN

DOOR MOUNTED SIGN



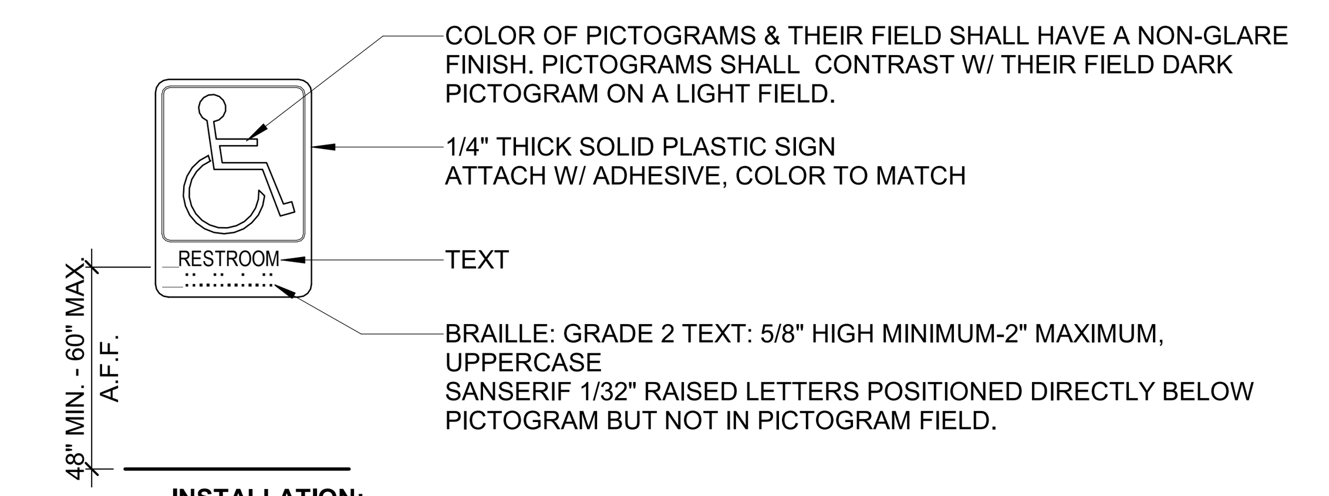
DOUBLE DOOR FRAME

SIDE LITE FRAME

NOTES:

1. ALL SIGNAGE SHALL CONFORM TO CBC & ADAAG.
2. SEE DOOR SCHEDULE FOR LOCATIONS AND TEXT.
3. SIGNS SHALL BE INSTALLED ON THE WALL ADJACENT TO THE LATCH OUTSIDE OF THE DOOR. WHERE A SIGN IS PROVIDED AT DOUBLE DOORS W/ ONE ACTIVE LEAF, THE SIGN SHALL BE LOCATED ON THE INACTIVE LEAF. WHERE A SIGN IS PROVIDED AT A DOUBLE DOOR W/ TWO ACTIVE LEAFS, THE SIGN SHALL BE LOCATED TO THE RIGHT SIDE OF THE RIGHT HAND DOOR. WHERE THERE IS NO WALL SPACE ON THE LATCH SIDE OF A SINGLE DOOR OR THE RIGHT SIDE OF DOUBLE DOORS, SIGNS SHALL BE PLACED ON THE NEAREST ADJACENT WALL, PREFERABLY ON THE RIGHT. MOUNTING LOCATION SHALL BE DETERMINED SO THAT A CLEAR FLOOR SPACE OF 18"MIN. BY 18"MIN. CENTERED ON THE TACTILE CHARACTERS, IS PROVIDED BEYOND THE ARC OF ANY DOOR SWING BETWEEN THE CLOSED POSITION AND THE 45 DEGREE OPEN POSITION. WHERE PERMANENT IDENTIFICATION SIGNAGE IS PROVIDED FOR ROOMS AND SPACES THEY SHALL BE LOCATED ON THE APPROACH SIDE OF THE DOOR AS ONE ENTERS THE ROOM OR SPACE. SIGNS THAT IDENTIFY EXITS SHALL BE LOCATED ON THE APPROACH SIDE OF THE DOOR AS ONE EXITS THE ROOM OR SPACE.

5 DOOR SIGNAGE DETAIL
1/4" = 1'-0"



INSTALLATION:
SIGNS TO BE INSTALLED SO THAT TACTILE CHARACTERS ON SIGNS SHALL BE LOCATED 48" MINIMUM ABOVE FINISH FLOOR MEASURED FROM THE BASELINE OF THE LOWEST BRAILLE CELLS AND 60" MAXIMUM CENTERED ABOVE FINISH FLOOR MEASURED FROM THE HIGHEST LINE OF RAISED CHARACTERS.

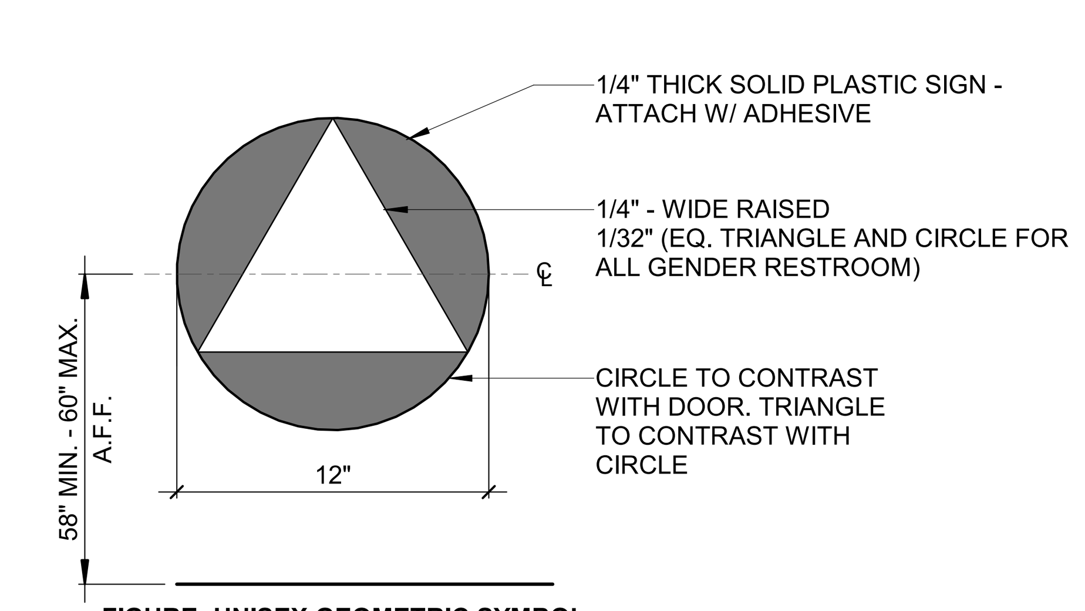


FIGURE: UNISEX GEOMETRIC SYMBOL

NOTES:

1. THE REQUIRED SIGNAGE THAT COMPLIES WITH TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS SHALL BE ACCOMPLISHED BY THE USE OF THE UNISEX GEOMETRIC SYMBOL PURSUANT TO THE 2016 EDITION OF THE CALIFORNIA BUILDING CODE SECTIONS 11B-703.7.2.6 AND 11B-703.7.2.6.3.
2. GEOMETRIC SYMBOLS AT ENTRANCES TO TOILET FACILITIES SHALL BE MOUNTED AT 58 INCHES MINIMUM AND 60 INCHES MAXIMUM ABOVE THE FINISHED FLOOR OR GROUND SURFACE MEASURED FROM THE CENTERLINE OF THE SYMBOL.
3. WHERE A DOOR IS PROVIDED, THE SYMBOL SHALL BE MOUNTED WITHIN ONE-INCH (1") OF THE VERTICAL CENTERLINE OF THE DOOR. A CIRCLE, 1/4-INCH (1/4") THICK AND 12-INCHES (12") IN DIAMETER WITH A 1/4-INCH (1/4") THICK TRIANGLE WITH A VERTEX POINTING UPWARD, SUPERIMPOSED ON AND GEOMETRICALLY INSCRIBED WITHIN THE CIRCLE AND WITHIN THE 12-INCH (12") DIAMETER, SHALL BE PROVIDED AT ENTRANCES TO TOILET FACILITIES. THE VERTICES OF THE TRIANGLE SHALL BE LOCATED 1/4-INCH (1/4") MAXIMUM FROM THE EDGE OF THE CIRCLE. THE TRIANGLE SYMBOL SHALL CONTRAST WITH THE CIRCLE SYMBOL, EITHER LIGHT ON A DARK BACKGROUND OR DARK ON A LIGHT BACKGROUND. THE CIRCLE SYMBOL SHALL CONTRAST WITH
4. THE DOOR, EITHER LIGHT ON A DARK BACKGROUND OR DARK ON A LIGHT BACKGROUND. NO PICTOGRAM, TEXT, OR BRAILLE IS REQUIRED ON THE SYMBOL.

6 RESTROOM DOOR SIGNAGE
1/4" = 1'-0"

A.

B.

7 SMOKING PROHIBITED SIGNAGE
3" = 1'-0"

SITE SIGNAGE DETAILS
SEE CIVIL DWG. B4/ C012 FOR CITY'S STANDARD PARKING SPACE & SIGN DETAILS

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

AS-BUILT
REF.

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
ACCESSIBILITY CLEARANCES & SIGNAGES

B # B-4797
PHASE # ____ REBID # ____

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

CHAPTER 5
NONRESIDENTIAL MANDATORY MEASURES

DIVISION 5.602
CALGreen VERIFICATION GUIDELINES MANDATORY MEASURES CHECKLIST
(2019 SUPPLEMENT EFFECTIVE JULY 1, 2021)

DIVISION 5.1 PLANNING & DESIGN

REQUIREMENT	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN, SHEET, SPEC.,ATTACH REF., COMMENTS
Mandatory	Storm water pollution prevention plan	5.106.1	✓				C005
Mandatory	Short-term bicycle parking	5.106.4.1	✓				A101 & 1/A104
Mandatory	Long-term bicycle parking	5.106.4.2			✓		A130
Mandatory	Designated parking for clean air vehicles with footnote & note	5.106.5.2	✓				A101 Refer to note 13/E111 & note 12/E003
Mandatory	Parking stall marking	5.106.5.2.1	✓				A101
Mandatory	Single charging space requirements	5.106.5.3.1	✓				A101, Refer to note 13/E111 & note 12/E003
Mandatory	Multiple charging space requirements [N]	5.106.5.3.2	✓				A101, Refer to note 13/E111 & note 12/E003
Mandatory	EV charging space calculation [N] (with exceptions)	5.106.5.3.2	✓				A101, Refer to note 13/E111 & note 12/E003
Mandatory	[N] Identification	5.106.5.3.4	✓				A101
Mandatory	[N] Future charging spaces with note	5.106.5.3.5			✓		
Mandatory	Grading and Paving	5.106.10	✓				C008

DIVISION 5.2 ENERGY EFFICIENCY

REQUIREMENT	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN, SHEET, SPEC.,ATTACH REF., COMMENTS
Mandatory	Meet California Code	5.201.1	✓				T240-T248

DIVISION 5.3 WATER EFFICIENCY & CONSERVATION

REQUIREMENT	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN, SHEET, SPEC.,ATTACH REF., COMMENTS
Mandatory	Buildings in excess of 50,000 square feet/ sub-meter	5.303.1.1	✓				This project consists of a single tenant
Mandatory	Water closets shall not exceed 1.28 Gallons per flush	5.303.3.1					Refer to Plumbing Schedule
Mandatory	Wall and Floor Mounted Urinals	5.303.3.2.1 and 5.303.3.2.2			✓		No urinals in this project
Mandatory	Single Showerhead shall have a maximum flow rate of 1.8 GPM at 80 psi.	5.303.3.3.1	✓				Refer to Plumbing Schedule
Mandatory	Multiple showerheads serving one shower shall have a combined flow rate of 1.8 GPM at 80 psi.	5.303.3.2			✓		
Mandatory	Wall and Floor Mounted Urinals	5.303.3.2.1 and 5.303.3.2.2			✓		No urinals in this project
Mandatory	Non/residential lavatory faucets	5.303.3.4.1	✓				0.35 GPM per Plumbing Schedule
Mandatory	Kitchen Faucets	5.303.3.4.2	✓				1.5 GPM per Plumbing Schedule
Mandatory	Wash Fountains	5.303.3.4.3			✓		
Mandatory	Metering Faucets	5.303.3.4.4			✓		
Mandatory	Metering Faucets for wash fountains	5.303.3.4.5			✓		
Mandatory	Pre-rinse spray valve	5.303.3.4.6			✓		
Mandatory	Commercial Kitchen Equipment Food waste disposers	5.303.4 5.303.4.1			 ✓		Food disposer are residential type. Not a commercial kitchen.
Mandatory	Areas for additions or alterations	5.303.5			✓		
Mandatory	Standard plumbing fixtures and fittings	5.303.6	✓				P001 Plumbing Schedule
Mandatory	Outdoor water use	5.304.1	✓				
Mandatory	Outdoor potable water use	5.304.6	✓				

DIVISION 5.4 MATERIAL CONSERVATION & RESOURCE EFFICIENCY

REQUIREMENT	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN, SHEET, SPEC.,ATTACH REF., COMMENTS
Mandatory	Weather protection	5.407.1	✓				A200-A201
Mandatory	Sprinklers	5.407.2.1	✓				L1.0 Irrigation Plan
Mandatory	Roof overhangs and recesses entries	5.407.2.2			✓		Used other methods which provide equivalent protection. Refer to Bldg. Elevations A200-A201
Mandatory	Nonabsorbent interior finishes	5.407.2.2			✓		
Mandatory	Construction waste diversion	5.408.1	✓				
Mandatory	Excavated soil and land clearing debris	5.408.3	✓				
Mandatory	Recycling by occupants	5.410.1	✓				
Mandatory	Commissioning (>10,000 sq.ft.)	5.410.2	✓				See M00 CAL Green code non-residential mandatory measures note block
	• Owner's Project Requirements (OPR)	5.410.2.1	✓				
	• Basis of Design (BOD)	5.410.2.2	✓				
	• Commissioning Plan	5.410.2.3	✓				
	• Functional performance Testing	5.410.2.4	✓				
	• Systems manual	5.410.2.5.1	✓				
	• System operations training	5.410.2.5.2	✓				
	• Commissioning report	5.410.2.6	✓				

DIVISION 5.4 MATERIAL CONSERVATION & RESOURCE EFFICIENCY CONT.

REQUIREMENT	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN, SHEET, SPEC.,ATTACH REF., COMMENTS
Mandatory	Testing, adjusting and balancing (<10,000 sq.ft.)	5.410.4	✓				See M00 CAL Green code non-residential mandatory measures note block
	• Systems	5.410.4.2	✓				
	• Procedures	5.410.4.3	✓				
	• HVAC balancing	5.410.4.3.1	✓				
	• Reporting	5.410.4.4	✓				
	• Operation and maintenance manual	5.410.4.5	✓				
	• Inspections and reports	5.410.4.5.1	✓				

DIVISION 5.5 ENVIRONMENTAL QUALITY

REQUIREMENT	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN, SHEET, SPEC.,ATTACH REF., COMMENTS
Mandatory	Fireplace	5.503.1			✓		
Mandatory	Wood stoves	5.503.1.1			✓		
Mandatory	Covering of duct openings and protection of mechanical equipment during construction	5.504.3	✓				
Mandatory	Finish material pollutant control	5.504.4	✓				
	• Adhesives, sealants and caulks	5.504.4.1	✓				Meet VOC limit in Table 5.504.4.1 & 5.504.4.2
	• Paints and coatings	5.504.4.3	✓				Meet VOC limit in Table 5.504.4.1 & 5.504.4.2
	• Aerosol paints and coatings	5.504.4.3.1	✓				Meet VOC limit in Table 5.504.4.3
	• Verification	5.504.4.3.2	✓				
Mandatory	Carpet systems	5.504.4.4	✓				
Mandatory	Carpet cushion	5.504.4.4.1	✓				
Mandatory	Composite wood products	5.504.4.5	✓				Meet Formaldehyde limit in Table 5.504.4.5
Mandatory	Resilient flooring system	5.504.4.6	✓				
Mandatory	Filters	5.504.5.3	✓				See M00 CAL Green code non-residential mandatory measures note block
Mandatory	Environmental tobacco smoke (ETS) control	5.504.7			✓		
Mandatory	Indoor moisture control	5.505.1	✓				See M00 CAL Green code non-residential mandatory measures note block
Mandatory	Outside air delivery	5.506.1	✓				
Mandatory	Carbon dioxide (CO_2) monitoring	5.506.2	✓				
Mandatory	Acoustical control	5.507.4	✓				
Mandatory	Exterior noise transmission for roof	5.507.4.1	✓				
Mandatory	Exterior noise transmission for walls		✓				
Mandatory	Exterior noise transmission for windows		✓				
Mandatory	Interior sound	5.507.4.2	✓				
Mandatory	Ozone depletion and global warming reductions	5.508.1			✓		
Mandatory	CFCs	5.508.1.1	✓				
Mandatory	Halons	5.508.1.2	✓				

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION	REF.
	12/16/2021			PLAN CHECK SUBMITTAL	
	10/12/2023			BID DOCUMENTS	
					AS-BUILT

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
CALGREEN INFORMATION

B # B-4797

PHASE # ___ / REBID # ___

SHEET 11 OF 236

DWG. NO. A011

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

CONDITIONS OF APPROVAL

CITY OF LONG BEACH

Department of Public Works
411 West Ocean Boulevard, 5th Floor Long Beach, CA 90802
(562) 570-6383

TECHNICAL ADVISORY COMMITTEE
CONDITIONS OF APPROVAL
ISSUED BY DEPARTMENT OF PUBLIC WORKS

Date: January 25, 2022

To: Maryanne Cronin, Planner **Date of TAC Notice:** October 11, 2021

From: Giselle Terzian, Civil Engineer, Public Works Project Management
Pablo Leon, Capital Projects Coordinator IV, Public Works Project Management

Subject: **4101 LONG BEACH BLVD – Case No. 2109-01**

The Department of Public Works submits the following requirements for the proposed development referenced in the above subject line. The Applicant must comply with all requirements noted below.

GENERAL REQUIREMENTS

a. Prior to the start of ANY demolition, excavation, or construction, the Applicant shall,
   i. Submit a construction plan for pedestrian protection, construction staging, scaffolding and excavations, and
   ii. Submit a traffic control plan with street lane closures and routing of construction vehicles (excavation hauling, concrete and other deliveries, etc.) prepared by a registered Civil or Traffic Engineer in the State of California, with wet seal and signature, and
   iii. Submit a plan for construction area and/or site perimeter fencing with custom printed screen(s),
   iv. All to be coordinated with the Department of Public Works and installed in accordance with the latest version of the Public Works Development Guideline.

   Work, including hauling soils or other debris, is not allowed within the right-of-way without a valid Public Works permit. The Applicant shall comply with all requirements outlined within the latest version of the Public Works Development Guideline and all referenced standards at the time of application submittal.

b. All proposed refuse and recycling structures and receptacles must be placed entirely on private property, outside of the public right-of-way. The Applicant and/ or successors shall be responsible for the cleanliness of the sidewalk/roadway adjacent to the refuse and recycling area and the overall development.

c. All off-site improvements shall provide a minimum of 5 feet clear dedicated right-of-way between any and all obstructions for pedestrian travel purposes compliant with the most recent ADA standards. All hardscape shall be constructed with Portland cement concrete. All removal limits shall consist of entire panel replacements (from joint line to joint line).

d. The Applicant shall construct all off-site improvements needed to provide full ADA accessibility compliance within the adjacent public right-of-way, to the satisfaction of the Director of Public Works. If a dedication of additional right-of-way is necessary to satisfy ADA requirements, as determined during the plan check process, the right-of-way dedication way shall be provided.

e. Any proposed signage shall be located entirely on site, on private property, completely out of the public right-of-way. Any signage initially proposed in public rights-of-way shall be eliminated, to the satisfaction of the Director of Public Works.

f. Public improvements shall be constructed in accordance with Public Works construction standards, and shall be coordinated with the Department of Public Works. Detailed off-site improvement plans shall be prepared by a licensed Civil Engineer, stamped, signed and **submitted to the Public Works counter at the Permit Center on the 2nd Floor of City Hall (411 W. Ocean Blvd., Long Beach, CA 90802)**, for review. The City's Public Works Engineering Standard Plans are available online at www.longbeach.gov/pw/resources/engineering/standard-plans. **This is in addition to, and separate from, any plan check required by the Department of Development Services, Building & Safety Bureau.**

g. All conditions of approval, including cover letter signed by the Planning Officer and Case Planner, must be printed verbatim on all plans submitted for plan review to the Department of Public Works.

PUBLIC RIGHT-OF-WAY

h. The Developer shall dedicate and improve 2.5 feet of right-of-way for alley widening purposes along the east-west alley adjacent to the development site, to the satisfaction of the Director of Public Works.

i. Applicant shall be responsible for resolving all matters of easement(s) and/ or utilities encroachment to the satisfaction of the interested agency, City Department, and the Director of Public Works.

OFF-SITE IMPROVEMENTS

j. The Applicant shall reconstruct the full width of the alley adjacent to the project site with Portland cement concrete, to the satisfaction of the Director of Public Works. All existing

facilities along the alley shall be relocated by the Applicant, as necessary, to accommodate the alley widening.

k. The Applicant shall widen the alley with additional Portland cement concrete by 2.5 feet, to the satisfaction of the Director of Public Works.

l. The Applicant shall reconstruct the alley intersection at Long Beach Blvd to align with the new alley widening. Alley improvements shall be constructed with Portland cement concrete to the satisfaction of the Director of Public Works.

m. The Applicant shall install on-site alley lighting to the improved alley adjacent to the project site, to the satisfaction of the Director of Public Works.

n. The Applicant shall demolish the existing sidewalk and curb ramp located near the southeast corner of the project site and construct a new ADA compliant curb ramp to the satisfaction of the Director of Public Works. The Applicant shall construct all off-site improvements needed to provide full ADA accessibility compliance within the adjacent public right-of-way. Sidewalk improvements shall be constructed with Portland cement concrete.

o. The Applicant shall reconstruct cracked, deteriorated, or uplifted/depressed sections of sidewalk pavement, curb and curb gutter along Long Beach Blvd and Rudolph Pl adjacent to the site to the satisfaction of the Director of Public Works. The Applicant shall construct all off-site improvements needed to provide full ADA accessibility compliance within the adjacent public right-of-way. Sidewalk improvements shall be constructed with Portland cement concrete to the satisfaction of the Director of Public Works. All sidewalk removal limits shall consist of entire panel replacements (from joint line to joint line).

p. The Applicant shall remove all unused driveways and curb cuts, or portions thereof along all perimeter streets of the project site, and replace with full-height curb, curb gutter and sidewalk pavement to the satisfaction of the Director of Public Works. Sidewalk improvements shall be constructed with Portland cement concrete.

q. The Applicant shall check with the Long Beach Water Department at (562) 570-2300 and the Gas and Oil Department at (562) 570-2030 for scheduled main replacement work prior to submitting any improvement plans to the Department of Public Works.

r. The Applicant proposes improvements that may impact existing under- and above-ground utilities through and adjacent to the project site, such as gas lines, water pipelines, and utility poles and overhead lines, and along the perimeter streets and alleyways adjacent to the project site. The Applicant shall be responsible for all design, applicable utility approval, permitting, relocation work, easements relocation and commissioning as required by the interested agency and shall work with each utility directly.

s. The Applicant shall be responsible for the maintenance, repair and replacement of off-site improvements abutting the project boundary during construction of the on-site improvements, until final inspection of the on-site improvements by the City. All off-site improvements adjacent to the development site, and/or along the truck delivery route found damaged as a result of construction activities, shall be reconstructed or replaced by the Applicant, to the satisfaction of the Director of Public Works.

t. The Applicant shall provide for the resetting to grade of existing manholes, pull boxes, and meters in conjunction with the required off-site improvements, to the satisfaction of the Director of Public Works.

u. The Applicant shall submit a grading plan and drainage plan with hydrology and hydraulic calculations showing building elevations and drainage pattern and slopes, for review by Public Works.

TRAFFIC AND TRANSPORTATION

v. As illustrated in the submitted plans, The Applicant is proposing the installation of traffic signals at the intersection of Long Beach Blvd and Randolph Place and "Keep Clear" striping on Rudolph Place and Long Beach Blvd. The Applicant shall be responsible to install traffic signal related equipment to current CA MUTCD and/or City of Long Beach Standards. The Applicant shall coordinate with the Traffic & Transportation Bureau for implementation of traffic control measures.

w. The size and configuration of all proposed driveways serving the project site shall be coordinated with the Traffic & Transportation Bureau.

x. The Applicant shall salvage and reinstall all traffic signs that require temporary removal to accommodate new construction within the public right-of-way. All traffic signs shall be reinstalled to the satisfaction of the City Traffic Engineer. The Applicant shall replace all traffic signs and mounting poles damaged or misplaced as result of construction activities to the satisfaction of the City Traffic Engineer.

y. The Applicant shall repaint all traffic markings obliterated or defaced by construction activities to the satisfaction of the City Traffic Engineer.

z. The Applicant shall contact the Traffic & Transportation Bureau, at (562) 570-6331, to modify any existing curb marking zones adjacent to the project site.

aa. All traffic control device installations, including pavement markings within the private parking lot, shall be installed in accordance with the provisions of the Manual on Uniform Traffic Control Devices (MUTCD), 2012 or current edition (i.e. white parking stalls, stop signs, entry treatment signage, handicapped signage, etc.).

FIRE FLOW REPORT

Long Beach Water
Exceptional Water · Exceptional Service

Christopher J. Garner
General Manager

1800 E. Wardlow Road, Long Beach, CA 90807-4931
562.570.2300 | lbwater.org

October 14, 2021

Ms. Marilyn Surakus
Long Beach Public Works Department
411 W. Ocean Blvd.
Long Beach, CA 90802
dmacmahon@koacorp.com

Dear Ms. Surakus:

In response to your request to perform a fire flow test for **4101 Long Beach Blvd.**, the following data was furnished:

Flow Test No. 2449 Date of Test: 10/13/21

Flow Location: **Hydrant located at NE corner of Marshall Pl. and Long Beach Blvd.**
Pitot Pressure: 22 psi
4" Outlet Chart Reading: 2020 gpm

Pressure Reading: **Hydrant located at SE side of Randolph Pl. and Long Beach Boulevard intersection**
Static Pressure: 55 psi
Residual Pressure: 45 psi
Size of Water Main: 12" Ac in Long Beach Blvd.

The flow test represents data taken on the above date. Flows and pressures are subject to seasonal and time of day demand variations and fluctuations in reservoir levels and these variations may be significant. The data represent hydraulic capacity in the vicinity of the test site only and care should be taken in extrapolating data to other areas.

If you have any questions, please call Bronsyn Ledgard at (562) 570-2419.

Sincerely,

Dennis A. Santos, P.E.
Manager of Engineering

Att.
cc: Hailey Vu, Civil Engineering Assistant
Bronsyn Ledgard, Engineering Intern

DAS:BL:kn
H:\DEVELOP\CUSERV\FIRE FLOW\2021\WFT2449 - 4101 Long Beach Blvd\WFT2449-Letter.docx

SYSTEM HYDRAULIC INFORMATION

DATE: 10/13/21 BY: E. GARCIA

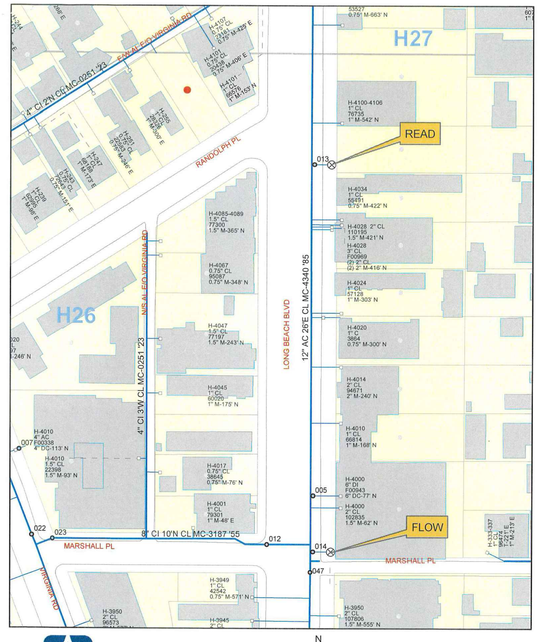
HIGH WATER RESERVOIR LEVEL:		MWD CONNECTION:	
ALAMITOS:	29.71 FEET	LB-8: FLOW:	Ø MGD
		PRESSURE:	63 PSI
J. WILL JOHNSON:	25.3 FEET	LB-4: FLOW:	Ø MGD
		PRESSURE:	Ø PSI

CITIZEN PUMP STATION:		42-INCH WATER MAIN:	
FLOW:	32.8 MGD	☐ OPEN	Ø MGD
PRESSURE:	73 PSI	☒ CLOSED	

REFERENCE FIRE FLOW TEST NUMBER: 2449

The Alamitos Reservoir Tank Bottom Elevation is 170-Feet.

The J. Will Johnson Reservoir Tank Bottom Elevation is 170-Feet.



Long Beach Water
Exceptional Water · Exceptional Service
1800 E. Wardlow Rd., Long Beach, CA 90807

N
1 inch = 83 feet
0 50 100
Feet

Fire Flow Test No. 2449
Water Atlas No. H26
4101 Long Beach Blvd.

NO.	DATE	SHEET	APPROVAL	REVISIONS DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

CONDITIONS OF APPROVAL & FIRE FLOW REPORT

B # B-4797

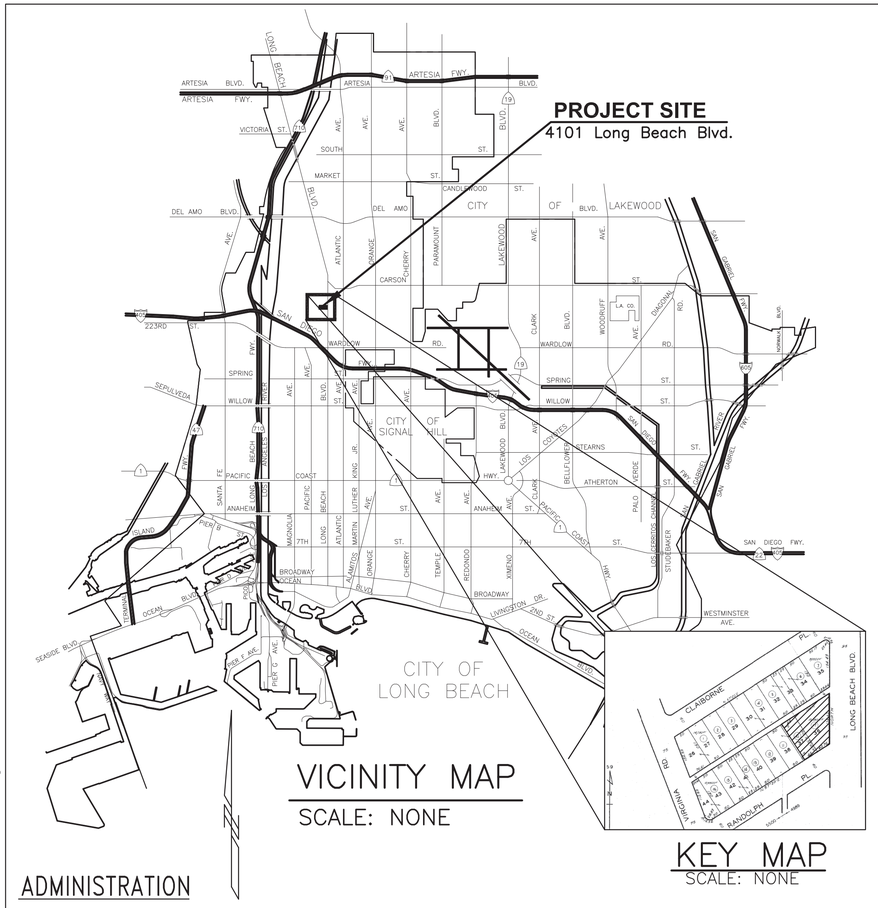
PHASE # ____ / REBID # ____

SHEET 12 OF 236

DWG. NO. A012

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 12, 2023 - 8:21pm



VICINITY MAP

SCALE: NONE

KEY MAP

SCALE: NONE

ADMINISTRATION

1. THIS PROJECT IS SUBJECT TO TITLE 24, PART 2, OF CALIFORNIA CODE OF REGULATIONS, SECTIONS 1.9.1 AND 11B–206, THE STATE'S DISABLED ACCESS AND ADAPTABILITY REQUIREMENTS. THE DESIGN PROFESSIONAL OF RECORD SHALL SIGN A STATEMENT ON THE PLANS TO THE EFFECT:

I CERTIFY THAT THE PRIMARY PATH OF TRAVEL TO THE SPECIFIC AREA OF ALTERATION, STRUCTURAL REPAIR OR ADDITION FROM PUBLIC WAY OR ACCESSIBLE PARKING SPACE AS INDICATED ON THE PLANS DOES NOT INCLUDE STEPS OR A SLOPE EXCEEDING 1:20 EXCEPT WHERE ACCESS IS PROVIDED BY A RAMP WITH 1:12 MAXIMUM SLOPE, ACCESSIBLE ELEVATOR OR OTHERWISE GRANTED BY AN UNREASONABLE HARDSHIP EXEMPTION. I UNDERSTAND THAT IF THE PRIMARY PATH OF TRAVEL IS FOUND NOT TO BE AS INDICATED, SIGNIFICANT DELAYS MAY RESULT.

FURTHERMORE, I CERTIFY THAT THESE PLANS WERE PREPARED UNDER MY DIRECT SUPERVISION AND THAT THE AREA OF SPECIFIC ALTERATION, STRUCTURAL REPAIR OR ADDITION, INCLUDING A PRIMARY ENTRANCE TO THE EXISTING BUILDING AND, WHEN APPLICABLE, SANITATION FACILITIES, DRINKING FOUNTAINS, SIGNS AND PUBLIC TELEPHONES SERVING THE AREA COMPLIES WITH CURRENT CA. TITLE 24 ACCESSIBILITY REQUIREMENTS.

SIGNATURE	TITLE
BARBARA ASHBA	04–20–2022
PRINT NAME	DATE

REGISTERED PROFESSIONAL ENGINEER BARBARA J ASHBA No. 31417 Expires 12–31–24 10/13/23 CIVIL STATE OF CALIFORNIA

2. PRIOR TO PERMIT ISSUANCE, UNDER PENALTY OF PERJURY, THE OWNER OR AGENT HAVING THE PROPERTY OWNER'S CONSENT SHALL SIGN A STATEMENT ON THE PLANS TO THE EFFECT STATING THAT:

I CERTIFY THAT THE PROPOSED WORK WILL NOT DESTROY OR UNREASONABLY INTERFERE WITH ANY ACCESS OR UTILITY EASEMENT BELONGING TO OTHERS AND LOCATED ON MY PROPERTY, BUT IN THE EVENT OF SUCH WORK DOES DESTROY OR UNREASONABLY INTERFERE WITH SUCH EASEMENT, A SUBSTITUTE EASEMENT(S) SATISFACTORY TO THE HOLDER(S) OF THE EASEMENT WILL BE PROVIDE.

SIGNATURE	TITLE
BARBARA ASHBA	04–20–2022
PRINT NAME	DATE

REGISTERED PROFESSIONAL ENGINEER BARBARA J ASHBA No. 31417 Expires 12–31–24 10/13/23 CIVIL STATE OF CALIFORNIA

CLB BENCHMARK NO. 368
NE COR LONG BEACH BLVD. @ MARSHALL PLACE.
BRASS DISC IN CATCH BASIN STAMPED "VERTICAL CONTROL MARK NATIONAL GEODETIC SURVEYS 1313 1978 VERT. CTRL. MARK" 0.9' E/ CURB: 15.5' N/N PL ALLEY

ELEVATION = 104.150 MSL DATUM NGVD 1929 – 1985 ADJUSTMENT.

SURVEY MONUMENT NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION AND PERPETUATION OF ALL EXISTING MONUMENTS WHICH CONTROL SUBDIVISIONS, TRACTS, BOUNDARIES OR RIGHT–OF–WAY. OR WHICH PROVIDE SURVEY CONTROL, INCLUDING BENCHMARKS, WHICH WILL BE DISTURBED BY THE CONTRACTOR ACTIVITIES.
AFTER RECEIVING THE NOTICE–TO–PROCEED, THE CONTRACTOR, USING THE SERVICES OF A SURVEYOR LICENSED IN CALIFORNIA, SHALL SUBMIT TO THE CITY SURVEYOR'S OFFICE AT CITY HALL, PRELIMINARY CORNER RECORDS FOR THOSE MONUMENTS THAT WERE DISTURBED, AND PREPARE PRELIMINARY CORNER RECORDS FOR THE NEW TIES.
AFTER CONSTRUCTION, THE CONTRACTOR'S SURVEYOR SHALL SUBMIT TO THE CITY THE PRELIMINARY CORNER RECORDS FOR ANY MONUMENTS REPLACED OR CONSTRUCTED, OR WHOSE TIES ARE RESET. THE CONTRACTOR SURVEYOR SHALL FILE CORNER RECORDS FOR THOSE MONUMENTS IN THE OFFICE OF THE COUNTY SURVEYOR AND SHALL PROVIDE THE CITY WITH A COPY OF ALL THE CORNERS RECORDS FILED. (CA BUSINESS & PROFESSIONS CODE SECTION 8771, 8772, AND 8773)

BENCHMARK PERPETUATION NOTES

PRIOR TO REMOVALS, THE CONTRACTOR SHALL REQUEST THE CITY SURVEYOR'S OFFICE (562) 270–6992, TO TRANSFER THE ELEVATION FOR ANY BENCH MARKS TO BE RESET, TO TEMPORARY BENCHMARKS; AND PROVIDE A BRASS DISC FOR THE CITY SURVEYOR STAMP. WHEN THE DISC ARE STAMPED AND RETURNED TO THE CONTRACTOR, THE CONTRACTOR SHALL CONSTRUCT THE BENCH MARKS AT LOCATION MARKED OUT BY THE CITY SURVEYOR.

CITY SURVEYOR STATEMENT:

I HAVE REVIEWED THE PLANS FOR COMPLIANCE WITH BUSINESS AND PROFESSIONS CODE 8771, 8772 AND 8773.

DAVID E. WOOLLEY, PLS 7304
INTERIM CITY SURVEYOR, CITY OF LONG BEACH

BUILDING & SAFETY GRADING GENERAL NOTES:

1. GRADING WORK SHALL BE DONE IN ACCORDANCE WITH THE CALIFORNIA BUILDING CODE 2016 AS MOST RECENTLY ADOPTED BY THE CITY OF LONG BEACH.
2. RECOMMENDATIONS INCLUDED IN THE CONSULTANT SOILS AND GEOLOGY REPORTS. AND ALL ADDENDA SHALL BE COMPLIED WITH AND ARE A PART OF THE GRADING PLANS AND SPECIFICATIONS.
3. YARDAGE QUANTITIES FOR PERMIT PURPOSES:
CUT ____1700_____CY
FILL _____837___CY
EXPORT _____863_____CY
4. THE CONTRACTOR SHALL OBTAIN A PERMIT FROM CALIFORNIA DIVISION OF INDUSTRIAL SAFETY FOR THE CONSTRUCTION OF TRENCHES OR EXCAVATIONS WHICH ARE FIVE FEET DEEP OR DEEPER. SHEETING, SHORING AND BRACING FOR THE TRENCH EXCAVATION SHALL CONFORM TO THE REQUIREMENTS OF "CONSTRUCTION SAFETY ORDERS," TITLE 8, DIVISION OF INDUSTRIAL SAFETY, STATE OF CALIFORNIA.
5. A COPY OF THE GRADING PERMIT AND APPROVED GRADING PLANS MUST BE IN THE POSSESSION OF A RESPONSIBLE PERSON AND AVAILABLE AT THE SITE AT ALL TIMES.
FOR PROJECTS GREATER THAN 1 ACRE IN SIZE, A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MUST BE IN THE POSSESSION OF A RESPONSIBLE PERSON AND AVAILABLE AT THE SITE AT ALL THE TIMES.
6. ALL PROPERTY CORNERS SHALL BE CLEARLY DELINEATED IN THE FIELD PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION/GRADING.
7. DUST SHALL BE CONTROLLED BY WATERING OR OTHER APPROVED METHODS.
8. OFFSITE DISPOSAL OF EXCAVATION MATERIAL IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE INCLUDED IN ITS BID. THE CONTRACTOR SHALL HOLD THE CITY OF LONG BEACH HARMLESS AS A RESULT OF ANY CLAIMS ARISING FROM ACTION IN ROUTE OR AWAY FROM THE SITE.
9. WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL PROVISIONS OF THE BUILDING CODE (EXCAVATION AND FILLS).
10. FILL REPLACEMENT AREAS SHALL BE INSPECTED AND APPROVED BY THE CONSULTANT GEOLOGIST AND SOILS ENGINEER PRIOR TO PLACEMENT OF ANY FILL.
11. A REGISTERED CIVIL ENGINEER SHALL SUBMIT TO THE CITY OF LONG BEACH DEVELOPMENT SERVICES CENTER WRITTEN CERTIFICATION OF COMPLETION IN ACCORDANCE WITH THE APPROVED GRADING PLAN PRIOR TO ISSUANCE OF THE BUILDING PERMIT. CERTIFICATIONS SHALL BE TO LINE, GRADE, ELEVATION AND LOCATION OF CUT AND FILL SLOPES.
12. GRADING SHALL BE DONE UNDER THE SUPERVISION OF A COMPETENT SOILS ENGINEER WHO SHALL CERTIFY THAT ALL FILL HAS BEEN PROPERLY PLACED AND WHO SHALL SUBMIT A FINAL COMPACTION REPORT FOR ALL FILLS OVER 1 FOOT DEEP.
13. A REGISTERED CIVIL ENGINEER OR LICENSED LAND SURVEYOR SHALL SUBMIT CERTIFICATION OF BUILDING PAD ELEVATION WHERE SPECIFIC ELEVATIONS ARE REQUIRED. THE ELEVATION WITH RESPECT TO MEAN SEAL LEVEL SHALL BE GIVEN. IF AN ELEVATION WITH RESPECT TO ADJACENT GROUND SURFACE IS REQUIRED THE ACTUAL DISTANCE ABOVE ADJACENT GROUND SHALL BE GIVEN.
14. APPROXIMATE DATE OF: BEGINNING OPERATION ___JUNE 2022__COMPLETION __JUNE 2023__
A STANDBY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (OCT 15 TO APRIL 15). THE CONTRACTOR SHALL PROVIDE PROTECTIVE MEASURES AND TEMPORARY DRAINAGE FACILITIES TO PROTECT ADJOINING PROPERTIES AND THE PUBLIC RIGHT–OF–WAY FROM MUD, SILT AND STORM WATERS ORIGINATING ON OR DIVERTED FROM THE CONSTRUCTION SITE. CONSTRUCT TEMPORARY DESILTING BASIN FOR TRAPPING MUD, DEBRIS, ETC., AND TO CLEAR THE WATER PRIOR TO DEWATERING BY ANY ACCEPTABLE MEANS LIKE PUMPING. WHEN WATER HAS BEEN CLEARED, PUMPING CAN BE MADE DIRECTLY INTO THE EXISTING PUBLIC STORM DRAIN SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING OF SAID STORM DRAIN AFTER COMPLETION OF DEWATERING. DEWATERING OR PUMPING DIRECTLY, OR SHEET FLOW OVER PUBLIC SIDEWALK AND ROAD SURFACE, WILL NOT BE PERMITTED. DEWATERING OR PUMPING INTO LOS ANGELES COUNTY OR CALTRANS STORM DRAIN SYSTEMS MAY REQUIRED PERMITS FROM SAID AGENCIES. THEY SHALL BE CONSULTED BEFORE DOING THE WORK.
15. THIS DRAWING AND THE DATA HEREON ARE HEREBY MADE A PART OF THE SPECIFICATION. APPROVAL OF THIS PLAN BY THE CITY OF LONG BEACH DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATIONS OR THE EXISTENCE OR NONEXISTENCE OF ANY UNDERGROUND UTILITY, PIPE, OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THE CONTRACTOR IS REQUIRED TO MAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINE NOT ON RECORD OR NOT SHOWN ON THESE PLANS. ALL UTILITY LINES AND STRUCTURES THAT MAY BE DAMAGED ON ACCOUNT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE CITY.
16. SANITARY FACILITIES SHALL BE MAINTAINED ON THE SITE FROM BEGINNING TO COMPLETION OF GRADING OPERATION.
17. ANY MODIFICATIONS OF OR CHANGES IN APPROVED GRADING PLANS MUST BE APPROVED BY THE BUILDING OFFICIAL.
18. FINAL GRADING MUST BE COMPLETED BEFORE OCCUPANCY OF BUILDING WILL BE ALLOWED.
19. FOR SITES SUSPECTED TO CONTAIN HAZARDOUS MATERIALS OR FOR THE PURPOSE OF DETERMINING APPLICABILITY OF THE HAZARDOUS WASTE CONTROL LAWS, THE CONTRACTOR/DEVELOPER PRIOR TO STARTING OF GRADING OPERATIONS SHALL FILE APPLICATIONS FOR SITE CHARACTERIZATION PERMIT WITH THE DEPARTMENT OF HEALTH. ALL SITE REMEDIATION IF REQUIRED SHALL CONFORM WITH ALL APPLICABLE LOCAL AND STATE REGULATORY AGENCIES AND CONTRACTOR/DEVELOPER SHALL OBTAIN THE NECESSARY PERMITS. FOR ADDITIONAL INFORMATION, PLEASE CONTACT THE BUREAU OF FIRE PREVENTION AT (562) 570–2560.
20. THE CONSTRUCTION DOCUMENTS AND RELATED WORKS ARE REQUIRED AS FOLLOWS:
a. ALL GRADING SLOPES SHALL BE PLANTED AND SPRINKLERED.
b. NO FILL TO BE PLACED UNTIL CITY INSPECTORS HAS INSPECTED AND APPROVED THE BOTTOM EXCAVATION.
c. ALL FILL SHALL BE COMPACTED TO A MIN. RELATIVE COMPACTION OF 90%.
d. TEMPORARY EROSION CONTROL TO BE INSTALLED DURING CONSTRUCTION.

PUBLIC WORKS GENERAL NOTE:

SEE PUBLIC WORKS DRAWING NO. C–6616 FIRE STATION 9 OFF–SITE IMPROVEMENT PLANS
4101 LONG BEACH BLVD FOR PROPOSED PUBLIC RIGHT–OF–WAY IMPROVEMENTS CONDITIONED UPON THIS DEVELOPMENT BY THE CITY OF LONG BEACH.

LEGAL DESCRIPTION

LOT 36 AND PORTION OF LOT 37
TRACT No. 4493
M.B. 49, PG. 38
APN:7139–015–900, 9001.

PUBLIC WORKS OFF–SITE IMPROVEMENT GENERAL NOTES

1. ALL WORK EMBRACED HEREIN SHALL BE DONE IN ACCORDANCE WITH "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION' (GREENBOOK) TOGETHER WITH THE CITY OF LONG BEACH (COLB) AMENDMENTS TO SAID SPECIFICATIONS, CITY OF LONG BEACH STANDARD PLANS (ALL AS MOST RECENTLY ADOPTED BY THE CITY), AND STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (SPFPWC), CURRENT EDITION.
2. PRIOR TO ISSUANCE OF THE APPROPRIATE PERMIT, THE CONTRACTOR SHALL OBTAIN A PERMIT FROM CALIFORNIA DIVISION OF INDUSTRIAL SAFETY FOR THE CONSTRUCTION OF TRENCHES OR EXCAVATIONS WHICH ARE FIVE FEET OR DEEPER. SHEETING, SHORING AND BRACING FOR THE TRENCH EXCAVATION SHALL CONFORM TO THE REQUIREMENTS OF "CONSTRUCTION SAFETY ORDERS," TITLE 8, DIVISION OF INDUSTRIAL SAFETY, STATE OF CALIFORNIA.
3. PERMITS TO PERFORM WORK WITHIN THE PUBLIC RIGHT OF WAY MUST BE OBTAINED FROM THE PUBLIC WORKS COUNTER, 5TH FLOOR OF CITY HALL, 411 WEST OCEAN BOULEVARD, TELEPHONE (562) 570–6784. ALL WORK WITHIN THE PUBLIC RIGHT–OF–WAY MUST BE PERFORMED BY A CONTRACTOR HOLDING A VALID STATE OF CALIFORNIA CONTRACTOR'S LICENSE AND CITY OF LONG BEACH BUSINESS LICENSE SUFFICIENT TO QUALIFY THE CONTRACTOR TO DO THE WORK.
CONTRACTOR SHALL HAVE ON FILE WITH THE CITY ENGINEER A CERTIFICATION OF GENERAL LIABILITY INSURANCE AND AN ENDORSEMENT EVIDENCING MINIMUM LIMITS OF REQUIRED GENERAL LIABILITY INSURANCE.
4. PRIOR TO ISSUANCE OF A STREET PERMIT, THE CONTRACTOR SHALL FURNISH THE CITY ENGINEER WITH SIGNED, STAMPED AND DATED GRADE SHEETS PREPARED BY A CIVIL ENGINEER OR LAND SURVEYOR FOR SURFACE IMPROVEMENTS AND DRAINAGE STRUCTURES. INVERT ELEVATIONS AT CONNECTIONS WITH EXISTING DRAINAGE LINES SHALL BE CONFIRMED BEFORE SUBMITTAL TO THE CITY. THE REQUIRED SIGNATURE SHALL BE PRECEDED BY THE FOLLOWING
NOTE: "THIS APPROVED GRADE SHEET WAS PREPARED BY ME OR UNDER MY DIRECTIONS, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND MATHEMATICALLY CORRECT."
5. THIS DRAWING AND THE DATA HEREON ARE HEREBY MADE A PART OF THE SPECIFICATION. APPROVAL OF THIS PLAN BY THE CITY OF LONG BEACH DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATION OR THE EXISTENCE OR NON–EXISTENCE OF ANY UNDERGROUND UTILITY PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINE NOT ON RECORD OR NOT SHOWN ON THESE PLANS. ALL UTILITY LINES AND STRUCTURES THAT MAY BE DAMAGED ON ACCOUNT TO THE CONTRACTOR'S OPERATIONS SHALL
BE REPAIRED OR REPLACED AT CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE CITY.
6. THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS INSPECTION SECTION AT (562) 570–5160 AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
7. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 48 HOURS PRIOR TO THE START OF CONSTRUCTION OF THE IMPROVEMENTS SHOWN ON THESE PLANS.
a. UNDERGROUND SERVICE ALERT (USA/SC)
TELEPHONE: 811
b. CITY OF LONG BEACH WATER DEPARTMENT OR USA/SC
(WATER, SEWER AND STORM DRAIN FACILITIES)
OPERATIONS SERVICE CENTER
TELEPHONE: (562) 570–2390
c. CITY OF LONG BEACH GAS AND OIL DEPARTMENT OR USA/SC
TELEPHONE: (562) 570–2030
d. CITY OF LONG BEACH BUREAU OF TRAFFIC AND TRANSPORTATION
TRAFFIC SIGNALS COORDINATOR, OPERATIONS DIVISION
TELEPHONE: (562) 570–3264
8. REMOVAL, ADJUSTMENT OR RELOCATION OF UTILITIES OR ANY WORK ON THE AREA OF THEIR RECORDED EASEMENTS SHALL BE DONE ONLY WITH APPROVAL OF THE UTILITY OWNERS, OBTAINED BEFORE STARTING THE WORK.
9. ANY REVISIONS MADE TO APPROVED PLANS SHALL NEED SUBSEQUENT APPROVAL BY THE CITY ENGINEER BEFORE STARTING THE WORK.
10. WITHIN 72 HOURS AFTER FINAL SURFACING IS PLACED, ALL MANHOLES AND VALVE BOX FRAMES AND COVERS SHALL BE ADJUSTED BY THE CONTRACTOR TO FINISH GRADE EXCEPT THOSE OWNED BY THE GAS AND OIL DEPARTMENT, WHICH WILL BE ADJUSTED BY THE DEPARTMENT'S CREW. IN THE CASE OF THE WATER DEPARTMENT, THE ADJUSTMENT SHALL BE MADE BY THE CONTRACTOR IN ASSOCIATION WITH THE DEPARTMENT, ALL AT CONTRACTOR'S EXPENSE.
11. TOP OF MANHOLES SHALL CONFORM TO APPROVED STREET OR ALLEY GRADES, WITH A MINIMUM OF TWO ADJUSTMENT RINGS.
13. COLD–MILL ASPHALT CONCRETE WHERE JOINING EXISTING PAVEMENT AS SHOWN ON THE STANDARD PLANS OR AS DIRECTED
BY THE CITY ENGINEER.
14. ASPHALT CONCRETE SURFACE COURSE SHALL BE PG64–10.
15. PROVIDE A MINIMUM OF 4 FEET WIDE PORTLAND CEMENT CONCRETE (PCC) STRIP ADJACENT TO THE PROPERTY LINE AND ACROSS THE DRIVEWAY (CROSS SLOPE OF 2 PERCENT, MAXIMUM)
FOR USE AS A DISABLED ACCESS. (SPECIFY THE VALUE OF 'X', 'Y" AND 'W' ON DRIVEWAYS IN ACCORDANCE WITH CITY OF LONG BEACH STANDARD PLAN NO.105)
16. BEFORE DOING ANY WORK ON TREES WITHIN THE PUBLIC RIGHT–OF–WAY. INCLUDING PLANTING, REMOVAL, CUTTING, OR REPLANTING, CALL THE PUBLIC SERVICE BUREAU AT (562) 570–2700.
17. PROPOSED UTILITIES AND TREE WELLS SHALL BE IN PLACE BEFORE CONCRETING THE PUBLIC SIDEWALK.
18. EXISTING TRAFFIC LOOP DETECTORS AND TRAFFIC STRIPING DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE SATISFACTION OF THE CITY ENGINEER.
19. WATER AND SEWER IMPROVEMENTS, AND WORK WITHIN WATER AND SEWER EASEMENTS, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY'S WATER DEPARTMENT. ON–SITE SEWER IMPROVEMENTS SHALL BE COORDINATED WITH THE DEPARTMENT OF PLANNING AND BUILDING OF THE CITY OF LONG BEACH. WATER AND SEWER IMPROVEMENTS PLANS SHALL BE SUBMITTED TO THE LONG BEACH WATER DEPARTMENT FOR APPROVAL.
20. REMOVAL, ADJUSTMENT OR RELOCATION OF EXISTING TRAFFIC SIGNAL, SIGN, STRIPING, OR OTHER TRAFFIC CONTROL DEVICES SHALL BE DONE ONLY UPON APPROVAL OF THE CITY TRAFFIC ENGINEER.
21. THE CONTRACTOR SHALL SUBMIT TO THE CITY TRAFFIC ENGINEER, FOR APPROVAL A TRAFFIC CONTROL AND DETOUR PLAN PRIOR TO OCCUPYING THE STREET.
22. NOTIFY THE CITY OF LONG BEACH POLICE TRAFFIC DIVISION AT (562) 570–7260, 48 HOURS PRIOR TO OCCUPYING THE STREET.
23. NOTIFY THE CITY TRAFFIC ENGINEER (562) 570–6331 AND THE CONSTRUCTION DIVISION, INSPECTION SECTION (562) 570– 5160.
24 HOURS IN ADVANCE OF ANY REPLACEMENT LAYOUT RESTORING OBLITERATED STRIPING, PAVEMENT MARKINGS, LEGENDS OR RAISED PAVEMENT MARKERS. THE CONTRACTOR SHALL MAKE SUCH REPLACEMENT WITH LIKE MATERIALS.
24. SLOT PAVING SHALL BE REQUIRED AS SHOWN ON CITY OF LONG BEACH STANDARD PLAN NO. 116 FOR CONSTRUCTION OF CURB & GUTTER, CURB, CURB RAMP, SIDEWALK OR DRIVEWAY REPLACEMENT.
25. THE CONTRACTOR SHALL REMOVE ANY PAVEMENT AND SIDEWALK MARKINGS UPON COMPLETION OF THE WORK. THESE MARKINGS ARE USED TO IDENTIFY THE LOCATION OF UTILITY SERVICES UNDER THE USA PROGRAM AND CONSTRUCTION RELATED MARKINGS, INCLUDING
BUT NOT LIMITED TO HORIZONTAL AND VERTICAL GRADE MARKINGS, SURVEY STATIONING, OFFSETS, CURB LINES, AND OTHER LAYOUT LINES.
26. ANY OFF–SITE IMPROVEMENTS FOUND DAMAGED SHALL BE REPLACED TO THE SATISFACTION OF THE DIRECTOR OF PUBLIC WORKS.

UTILITY CONTACT INFORMATION

LONG BEACH ENERGY	2400 E. SPRING ST. LONG BEACH, CA. 90806 T. (562) 570–2032 F. (562) 570–2155
LONG BEACH WATER DEPT.	1800 E WARDLOW RD. LONG BEACH, CA. 90807 T. (562) 570–2381 F. (562) 570–2378
SO. CAL. EDISON	2800 E. WILLOW ST. LONG BEACH, CA. 90806 T. (562)981–8240 F. (562)981–8289
FRONTIER COMMUNICATIONS CABLE CO.	T. (855) 263–5941 Charter Communications T. (714)890–6383 F. (714)373–8132

PROJECT INFORMATION

OWNER
CITY OF LONG BEACH
411 W. OCEAN BLVD, 5th FLOOR
LONG BEACH, CA 90802
T. (562) 570–6563

CIVIL ENGINEER BGRD269984
ASHBA ENGINEERS LIMITED
P.O. BOX 90833
LONG BEACH, CALIFORNIA 90809
T. (562)209–6896

ARCHITECT B
MARY MCGRATH ARCHITECS
1212 BROADWAY, SUITE 1700
OAKLAND, CA. 94612
T. 510–208–9400

GEOTECHNICAL ENGINEER PN 210377.1
TWINING ENGINEERING
2883 E SPRING ST. SUITE 300
LONG BEACH, CA. 90806
T. (562) 426–3355

SHEET INDEX

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

SCOPE OF WORK

NEW FIRE STATION
NEW WIDENED ALLEY
RECONSTRUCT PORTION OF RANDOLPH PLACE
RECONSTRUCT LONG BEACH BLVD SIDEWALK AND NEW UTILITY SERVICE.

DEMOLITION & REMOVE EXISTING BUILDING AND SITE IMPROVEMENTS. CUT AND CAP ABANDONED UTILITIES. OVER EXCAVATE AND BACKFILL TO SUBGRADE ELEVATION PER THE GEOTECHNICAL REPORT. CONSTRUCT NEW FIRE STATION BUILDING AND NEW UNDERGROUND SERVICE UTILITIES. CONSTRUCT NEW SITE IMPROVEMENTS.

FLOOD ZONE X
OUTSIDE OF 0.2% ANNUAL CHANCE FLOOD.

ASHBA JOB# 8164
ENGINEERS LIMITED
POST OFFICE BOX 90833
LONG BEACH
CALIFORNIA 90809
(562) 209–6896
ISSUE DATE: 10.12.23

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: Barbara Ashba
DRAWN BY: AEL
DESIGN CHECKED BY: AEL
DRAWN CHECKED BY: Barbara Ashba
REF.

REGISTERED PROFESSIONAL ENGINEER BARBARA J ASHBA No. 31417 Expires 12–31–24 10/13/23 CIVIL STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
PLANNING APPLICATION
TITLE SHEET

B# B-4797
PHASE # ___ / REBID # ___
SHEET 13/C001 OF 236
DWG. NO. C-6616

FILE INFO: E:\Ashba Engineers Ltd\8164 CLB FS No. 9 –MMA\Working\C001. TITLE SHEET– 8164.dwg

ENGINEERS GENERAL GRADING NOTES

1. ALL WORK AND MATERIAL REQUIRED BY THESE PLANS SHALL BE IN ACCORDANCE WITH THE PROJECT MANUAL, THE CALIFORNIA BUILDING CODE, STANDARDS SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND CALIFORNIA ADMINISTRATIVE CODE, TITLE 8 AND 21.
2. APPLICABLE GEOLOGIC AND/OR SOILS REPORTS INCLUDING ALL SUPPLEMENTS, ADDENDA, AND AMENDMENTS THERETO ARE INCLUDED AS PART OF THESE PLANS BY REFERENCE. COPIES OF THESE REPORTS ARE ON FILE IN THE OFFICES OF THE ARCHITECT. ALL RECOMMENDATIONS CONTAINED THEREIN MUST BE FOLLOWED.
3. THE CONTRACTOR IS REQUIRED TO FAMILIARIZE HIMSELF WITH THE PLANS, THE SOILS AND/OR GEOLOGIC REPORTS, AND THE SITE PRIOR TO COMMENCING ANY WORK.
4. NO WORK WHATSOEVER SHALL BE STARTED IN OR ABOUT A GRADING PROJECT WITHOUT FIRST GIVING AT LEAST TWO (2) WORKING DAYS NOTICE TO THE CITY INSPECTOR.
5. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES, CONDUITS, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST KNOWLEDGE OF THE CIVIL ENGINEER THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UTILITY PIPES, CONDUITS, AND STRUCTURES SHOWN OR NOT SHOWN ON THIS DRAWING. THE CIVIL ENGINEER TAKES NO RESPONSIBILITY FOR UNDERGROUND STRUCTURES AND LINES NOT SHOWN ON THE PLANS.
6. THE OWNERS OF POLE LINES, PIPELINES, AND OTHER SUBSTRUCTURES IN THE AREA COVERED BY THESE PLANS SHALL BE NOTIFIED BY THE CONTRACTOR AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING WORK. IN ADDITION THE CONTRACTOR SHALL NOTIFY THE UNDERGROUND SERVICE ALERT AT 811 AT LEAST 48 HOURS PRIOR TO THE START OF WORK.
7. SECURE PERMISSION FROM THE CITY INSPECTOR FOR CONSTRUCTION, GRADING AND/OR DISCHARGE OF DRAINAGE WITHIN THE PUBLIC STREET RIGHT OF WAY.
8. THE CONTRACTOR SHALL KEEP THE CONSTRUCTION AREA SUFFICIENTLY DAMPENED TO CONTROL DUST CAUSED BY GRADING AND CONSTRUCTION. CONTRACTOR SHALL AT ALL TIMES PROVIDE REASONABLE CONTROL OF DUST CAUSED BY WIND.
9. ALL DEBRIS, EXCAVATED VEGETATION, AND/OR CONSTRUCTION MATERIALS ARE TO BE REMOVED FROM THE SITE. ALL EXCAVATED EARTH AND ROCK, REGARDLESS OF ITS SOURCE, NOT USED IN THE PLANNED FILLS WILL BE REMOVED FROM THE SITE. DEBRIS OR EARTH MUST BE REMOVED TO AN APPROVED FILL SITE, COUNTY DUMP, OR OTHER AUTHORIZED DUMPING LOCATION.
10. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERING ANY DISCREPANCIES IN THE AND SHALL RECEIVE CLARIFICATION ON THOSE ITEMS PRIOR TO PROCEEDING.
11. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE CITY INSPECTOR AT LEAST TWO (2) WORKING DAYS IN ADVANCE OF ANY REQUIRED INSPECTION AND/OR TESTS.
12. THE CONTRACTOR'S SURVEYOR WILL SET GRADE STAKES FOR ALL DRAINAGE DEVICES AND CONTRACTOR SHALL OBTAIN INSPECTION BY THE CITY INSPECTOR BEFORE POURING. SUBMIT GRADE SHEET TO THE ENGR. FOR REVIEW.
13. THE INSPECTOR WILL APPROVE THE WORK INSPECTED OR WILL NOTIFY THE CONTRACTOR OR HIS AGENT WHEREIN IT FAILS TO COMPLY WITH THE APPROVED PLANS AND SPECIFICATIONS.
14. IN THE EVENT A WATER WELL IS ENCOUNTERED IN THE SITE, IT SHALL BE CAPPED IN ACCORDANCE WITH ORDINANCES AND STANDARDS OF THE STATE OF CALIFORNIA.
15. ALL CISTERNS, CESSPOOLS, SEPTIC TANKS, UNDERGROUND VAULTS, BURIED TANKS, PIPELINES OR SIMILAR UNDERGROUND STRUCTURES FOUND TO EXIST DURING GRADING OPERATION SHALL BE REMOVED AND HOLES FILED TO THE SATISFACTION OF THE INSPECTOR AND/OR FIRE DEPARTMENT.
16. IN THE EVENT ANY CONTAMINATED SOIL, OR OTHER HAZARDOUS MATERIAL IS ENCOUNTERED ON THE SITE, IT SHALL BE DISPOSED AT AN APPROVED DUMP SITE IN A LEGAL MANNER.
17. IN THE EVENT AN OIL WELL IS ENCOUNTERED ON THE SITE, IT SHALL BE DISPOSED OF IN ACCORDANCE WITH STATE PROCEDURES.
18. DIRT ACCESS RAMPS OVER CURB AND GUTTER TO CONSTRUCTION SITES ARE NOT ALLOWED. WHEN NECESSARY FOR ENTRANCE TO SUCH CONSTRUCTION SITES, ASPHALT RAMPS WITH A MINIMUM 4" DIAMETER PIPE WILL BE CONSTRUCTED. ALL BASE, GRAVEL, SPOIL OR OTHER MATERIAL CARRIED INTO THE ROADWAY BY THE CONTRACTOR'S PERSONNEL OR EQUIPMENT WILL BE CLEANED AS NECESSARY AND NO LESS THAN ONCE A DAY. TRUCKS HAULING BASE, GRAVEL, FILL OR EXPORT MATERIALS WITHIN THE CITY WILL WILL BE TARPED AS NECESSARY TO PREVENT MATERIALS FROM SPILLING INTO THE ROADWAY.
19. THE STOCKPILING OF EXCESS MATERIAL SHALL BE APPROVED BY THE CITY INSPECTOR PRIOR TO EXCAVATION.
20. PURSUANT TO THE REQUIREMENTS OF THE CLEAN WATER ACT, STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED FOR THIS CONSTRUCTION SITE WHERE LAND DISTURBANCE WILL OCCUR. PRIOR TO THE START OF CONSTRUCTION, PERIMETER DRAINAGE AND EROSION CONTROLS MUST BE INSTALLED AROUND THE JOBSITE IN ACCORDANCE WITH A SWPPP PREPARED BY THE CONTRACTOR'S QSD AND APPROVED BY THE CITY.
PERIMETER CONTROLS MAY CONSIST OF A COMBINATION OF ANY OF, BUT LIMITED TO, THE FOLLOWING:

1. STABILIZATION CONSTRUCTION ENTRANCE. (ESC 24)
2. EARTH DIKE. (ESC 30)
3. TEMPORARY SWALES. (ESC 31)
4. SLOPE DRAIN. (ESC 32)
5. OUTLET PROTECTION. (ESC 40)
6. SILT FENCE. (ESC 50)
7. STRAW BALE BARRIER. (ESC 51)
8. SAND BAG BARRIER. (ESC 52)
9. ROCK FILLER. (ESC 53)
10. STORM DRAIN INLET PROTECTION. (ESC 54)
11. SEDIMENT TRAP. (ESC 55)
12. SEDIMENT BASIN. (ESC 56)

(FOR DETAILS OF PERIMETER CONTROLS, REFER TO THE CALIFORNIA STORM WATER BEST MANAGEMENT PRACTICE HANDBOOK FOR CONSTRUCTION ACTIVITY, MARCH, 1993 EDITION, PREPARED FOR THE STORM WATER QUALITY TASK FORCE. COPIES OF HANDBOOK MAY BE OBTAINED BY CALLING (510) 444-6771.

21. ALL ELEVATIONS, CONTOURS, CULTURAL FEATURES AND STRUCTURES SHOWN AS EXISTING ARE SHOWN ACCURATELY AS DETERMINED BY A SURVEY PERFORMED ON 05/18/2020.
22. ON JANUARY 17, 1994 THIS AREA EXPERIENCED A MAGNITUDE 6.2 EARTHQUAKE. THE CONTRACTOR MAY PERFORM FIELD SURVEYS NECESSARY TO SATISFY HIMSELF AS TO THE ACCURACY OF THE INFORMATION PROVIDED. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL IMPROVEMENTS TO BE JOINED.
23. THE CONTRACTOR SHALL COORDINATE THE WORK OF THE VARIOUS TRADES WORKING ON THIS PROJECT. UNDERGROUND PIPELINE SYSTEMS WHICH RELY ON GRAVITY SHALL HAVE PRECEDENCE OVER OTHER SYSTEMS. THE CONTRACTOR SHALL REARRANGE OTHER PIPELINE SYSTEMS TO ALLOW FOR THE CONSTRUCTION OF GRAVITY SYSTEMS. IN ADDITION THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ELEVATION OF UTILITY INTERFACE AT THE POINT OF CONNECTION AT THE BUILDING LINE.
24. CURBFACE SHALL BE 6" UNLESS OTHERWISE NOTED.
25. CURB AND GUTTER REMOVALS SHALL INCLUDE SAW CUTTING AND REMOVAL OF 1' MINIMUM OF EXISTING ASPHALT PAVEMENT TO FACILITATE FORM CONSTRUCTION. FULL DEPTH ASPHALT SHALL BE USED TO REPLACE REMOVED ASPHALT PAVEMENT.
26. CLEARING AND GRUBBING SHALL INCLUDE THE REMOVAL, TRANSPORTATION, SALVAGING AND STOCKPILING OF EXISTING IMPROVEMENTS. REMOVE AND SALVAGE BENCHES, TRASH BINS, RECREATIONAL EQUIPMENT, DRINKING FOUNTAINS, PARKING CONTROL DEVICES, BUMPER STOPS, GUARD POSTS/CHAINS, FLAG POLES, LIGHT POLES AND LUMINARIES OCCURRING IN THE WORK AREA AS DIRECTED.

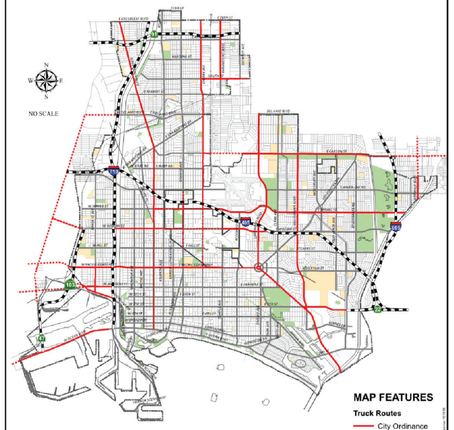
NOTICE TO CONTRACTOR :

1. THE CONTRACTOR MUST VERIFY ALL DIMENSIONS AND LOCATIONS FOR ALL EQUIPMENT PRIOR TO CONSTRUCTION AND DEMOLITION, SUBMIT VERIFICATION TO THE ENGINEER.
2. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCH., ENGINEER AND THE PROJECT MANAGER UPON DISCOVERING ANY DISCREPANCIES IN THE PLANS AND SHALL RECEIVE CLARIFICATION ON THOSE ITEMS PRIOR TO PROCEEDING.
3. ALL REMOVALS ARE TO BE SAWCUT. ALSO, ALL SAWCUTS SHALL BE MADE AT THE NEAREST CONTROL JOINT.
4. THE CONTRACTOR SHALL VERIFY LOCATION OF MISCELLANEOUS UTILITY PULL BOXES, SPRINKLER CONTROLS AND WATER METERS PRIOR TO THE START OF ANY WORK.
5. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING AND INVESTIGATE THE EXISTING CONDITIONS WHICH AFFECT OR WILL BE AFFECTED BY THE WORK OF THIS TYPE. BECOME THOROUGHLY FAMILIAR WITH THE WORKING CONDITIONS AND TAKE INTO ACCOUNT ANY SPECIAL OR UNUSUAL FEATURES PARTICULAR TO THIS JOB. BY THE THE ACT OF SUBMITTING A BID, THE CONTRACTOR WILL BE DEEMED TO HAVE COMPLIED WITH THE FOREGOING AND TO HAVE ACCEPTED SUCH CONDITIONS, AND TO HAVE MADE ALLOWANCES THEREFORE IN PREPARING HIS BID.
6. ANY AREA WHERE THE LANDSCAPE AND OR PAVING IS DISRUPTED THE CONTRACTOR MUST MAKE PROVISIONS FOR REPAIR AND OR REPLACEMENT IN KIND TO MATCH THE EXISTING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL PERTINENT SITE CONDITIONS PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL NOTE ANY FEATURES THAT MAY INHIBIT HIS ABILITY TO PERFORM THE REQUIRED WORK SUCCESSFULLY AND AS NEEDED FOR THIS PROJECT.
7. THE CONTRACTOR MUST FOLLOW CAL OSHA REQUIREMENTS FOR ANY AND ALL TRENCHES THAT MAY OCCUR ON THIS PROJECT. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND HIS SUB'S TO VERIFY ALL REQUIREMENTS HELD BY CAL OSHA FOR EXCAVATIONS AND TRENCHING AND EMPLOY SAID REQUIREMENTS. THE CONTRACTOR MUST OBTAIN A PERMIT FROM CAL OSHA PRIOR TO ANY EXCAVATION AND PROVIDE COPY OF PERMIT TO THE PROJECT MANAGER.
8. THE CONTRACTOR MUST MAKE A SUBMITTAL OF ALL PRODUCTS TO BE USED (INCLUDING LANDSCAPE MATERIALS) PRIOR TO THE PURCHASE AND OR INSTALLATION. CONTRACTOR TO PROVIDE SUBMITTALS TO THE PROJECT MANAGER AND ENGINEER OF RECORD.
9. THE CONTRACTOR'S SURVEYOR SHALL PROVIDE AN ELEVATION CERTIFICATE.
10. THE CONTRACTOR SHALL MAKE PROVISIONS FOR THE ENGINEER'S LID OBSERVATION OF DRAINAGE CONSTRUCTION.

NOTE:

SUBMIT GRADE SHEETS FOR CONSTRUCTION FLOWLINES FOR APPROVAL PRIOR TO STAKING FOR CONSTRUCTION.

CITY OF LONG BEACH
TRUCK ROUTES



TRUCK ROUTES

LEGEND:

PCC REMOVAL

AC REMOVAL

NEW AC PAVEMENTS

NEW CONC. WALK

PLANTING AREA

PUBLIC WORKS SURVEY GENERAL NOTES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION AND PERPETUATION OF ALL EXISTING MONUMENTS WHICH CONTROL SUBDIVISIONS, TRACTS, BOUNDARIES OR RIGHT-OF-WAY. OR WHICH PROVIDE SURVEY CONTROL, INCLUDING BENCHMARKS, WHICH WILL BE DISTURBED BY THE CONTRACTOR ACTIVITIES.
AFTER RECEIVING THE NOTICE-TO-PROCEED, THE CONTRACTOR, USING THE SERVICES OF A SURVEYOR LICENSED IN CALIFORNIA, SHALL SUBMIT TO THE CITY SURVEYOR'S OFFICE 10TH FLOOR CITY HALL, PRELIMINARY CORNER RECORDS FOR THOSE MONUMENTS THAT WERE DISTURBED, AND PREPARE PRELIMINARY CORNER RECORDS FOR THE NEW TIES.
AFTER CONSTRUCTION, THE CONTRACTOR'S SURVEYOR SHALL SUBMIT TO THE CITY THE PRELIMINARY CORNER RECORDS FOR ANY MONUMENTS REPLACED OR CONSTRUCTED, OR WHOSE TIES ARE RESET. THE CONTRACTOR SURVEYOR SHALL FILE CORNER RECORDS FOR THOSE MONUMENTS IN THE OFFICE OF THE COUNTY SURVEYOR AND SHALL PROVIDE THE CITY WITH A COPY OF ALL THE CORNERS RECORDS FILED. (CA BUSINESS & PROFESSIONS CODE SECTION 8771, 8772, AND 8773)

BENCHMARK PERPETUATION NOTES

PRIOR TO REMOVALS, THE CONTRACTOR SHALL REQUEST THE CITY SURVEYOR'S OFFICE (562) 270-6992, TO TRANSFER THE ELEVATION FOR ANY BENCH MARKS TO BE RESET, TO TEMPORARY BENCHMARKS; AND PROVIDE A BRASS DISC FOR THE CITY SURVEYOR STAMP. WHEN THE DISC ARE STAMPED AND RETURNED TO THE CONTRACTOR, THE CONTRACTOR SHALL CONSTRUCT THE BENCH MARKS AT LOCATION MARKED OUT BY THE CITY SURVEYOR.

CITY SURVEYOR STATEMENT:

I HAVE REVIEWED THE PLANS FOR COMPLIANCE WITH BUSINESS AND PROFESSIONS CODE 8771, 8772 AND 8773.

DAVID E. WOOLLEY, PLS 7304
INTERIM CITY SURVEYOR, CITY OF LONG BEACH

ABBREVIATIONS

AC	ASPHALT CONCRETE
AVE.	AVENUE
AWWA	AMERICAN WATER WORKS ASSOC.
BEG.	BEGIN
BLVD	BOULEVARD
BLDG	BUILDING
CAB	CRUSHED AGGREGATE BASE
CB	CATCH BASIN
CD	CURB DRAIN
℄	CENTERLINE
CF	CURBFACE
COLB, CLB	CITY OF LONG BEACH
CONC.	CONCRETE
CONST.	CONSTRUCT/ CONSTRUCTION
CONT.	CONTINUOUS
COR.	CORNER
CYD	CUBIC YARDS
DWY	DRIVEWAY
E	EAST
E'LY	EASTERLY
EA	EACH
EJ	EXPANSION JOIN
EX, (E)	EXISTING
FG	FINISH GRADE
FOB	FACE OF BUILDING
FH	FIRE HYDRANT
FL	FLOWLINE
FS	FINISHED SURFACE
EQ	EQUAL
EP	EDGE OF PAVEMENT
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HWY	HIGHWAY
GB	GRADE BREAK
IMP	IMPROVEMENT
IN	INCHES
INV	INVERSE
LBER	LONG BEACH ENERGY RESOURCE
LBS	POUNDS
LBT	LONG BEACH TRANSIT
LBWD	LONG BEACH WATER DEPARTMENT
LF	LINEAR FEET
MAX	MAXIMUM
MIN	MINIMUM
MTA	METROPOLITAN TRANSPORTATION AUTHORITY
NE	NORTHEAST
N/	NORTH OF
NOFA	NOTICE OF FINAL ACTION
NOP	NUMBER OF PIPES
NTS	NOT TO SCALE
NGVD	NATIONAL GEODETIC VERTICAL DATUM
O.C.	ON CENTER
PCC	PORTLAND CEMENT CONCRETE
POC	POINT OF CONNECTION
PLS	PROFESSIONAL LAND SURVEYOR
P℄	PROPERTY LINE
PP	POWER POLE
PT	POINT
QTY.	QUANTITY
R	RADIUS
R/W – ROW	RIGHT-OF-WAY LINE
SCE	SOUTHERN CALIFORNIA EDISON
SF	SQUARE FEET
SPFPWC	STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION
S=	SLOPE
SMH	SEWER MAN HOLE
STA.	STATION
S/W	SIDEWALK
TC	TOP OF CURB
TBD	TO BE DETERMINATE
THK	THICK
TYP	TYPICAL
WDS	LONG BEACH WATER-DEPARTMENT STANDARDS
WM	WATER METER
W	WEST
W=	WIDTH
W'LY	WESTERLY

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: **Barbara Ashba**
DRAWN BY: **AEL**
DESIGN CHECKED BY: **AEL**
DRAWN CHECKED BY: **Barbara Ashba**

REGISTERED PROFESSIONAL ENGINEER
BARBARA J. ASHBA
No. 31417
Expires 12-31-24
10/13/23
CIVIL
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
PLANNING APPLICATION
ENGINEERS GENERAL GRADING NOTES, LEGEND AND ABBREVIATIONS

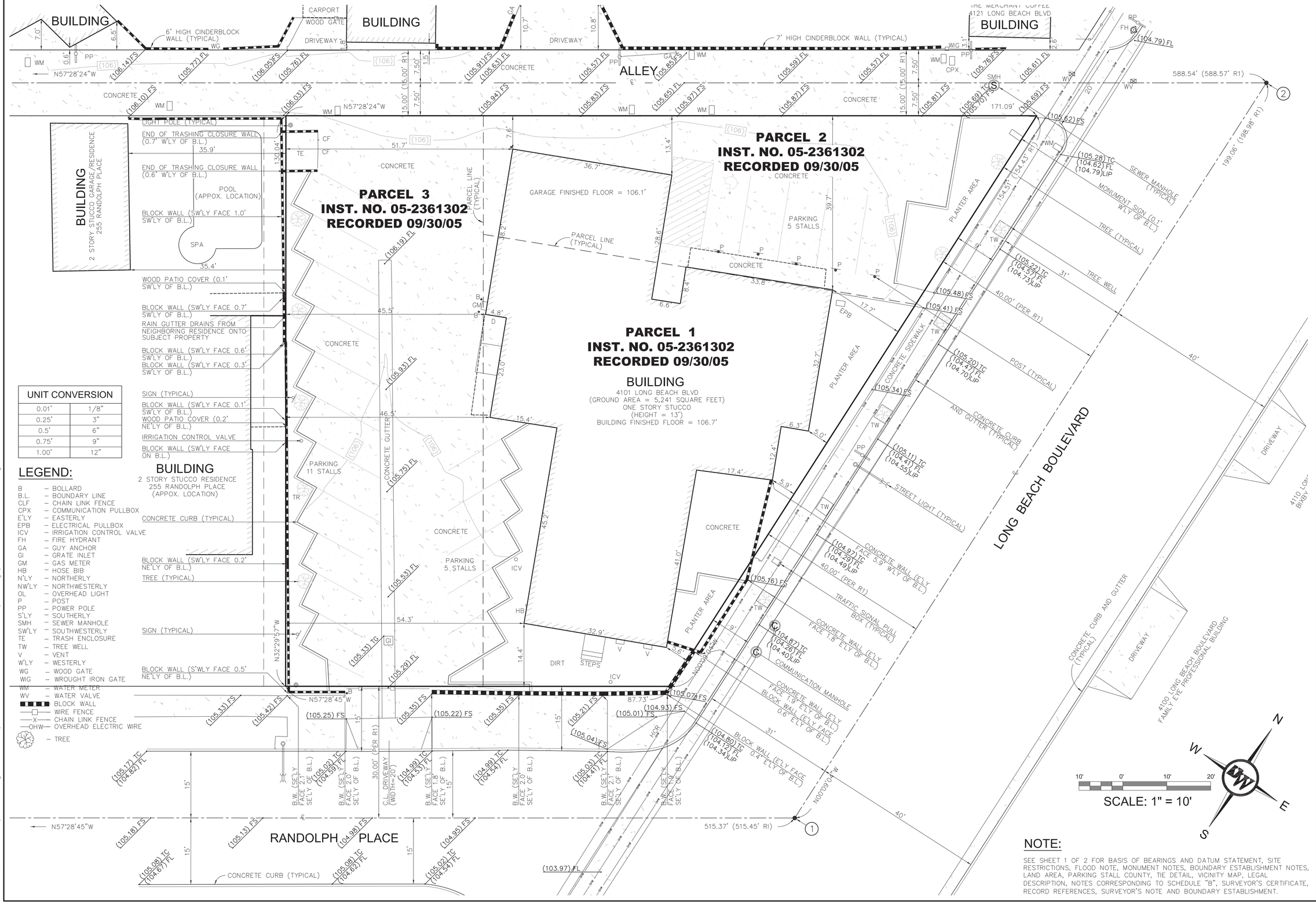
B# **B-4797**

PHASE # ___ / REBID # ___
SHEET **14/C002** OF **236**

DWG. NO. **C-6616**

ASHBA
JOB# 8164
ENGINEERS LIMITED
POST OFFICE BOX 90833
LONG BEACH
CALIFORNIA 90809
(562) 209-6896
ISSUE DATE: 10.12.23

FILE INFO: E:\Ashba Engineers Ltd\8164 CLB FS No. 9 -MMA\Working\C002. ENGINEERS GENERAL GRADING NOTES- 8164.dwg



UNIT CONVERSION	
0.01'	1/8"
0.25'	3"
0.5'	6"
0.75'	9"
1.00'	12"

LEGEND:

B	– BOLLARD
B.L.	– BOUNDARY LINE
CLF	– CHAIN LINK FENCE
CPX	– COMMUNICATION PULLBOX
E'LY	– EASTERLY
EPB	– ELECTRICAL PULLBOX
ICV	– IRRIGATION CONTROL VALVE
FH	– FIRE HYDRANT
GA	– GUY ANCHOR
GI	– GRATE INLET
GM	– GAS METER
HB	– HOSE BIB
N'LY	– NORTHERLY
NW'LY	– NORTHWESTERLY
OL	– OVERHEAD LIGHT
P	– POST
PP	– POWER POLE
S'LY	– SOUTHERLY
SMH	– SEWER MANHOLE
SW'LY	– SOUTHWESTERLY
TE	– TRASH ENCLOSURE
TW	– TREE WELL
V	– VENT
W'LY	– WESTERLY
WG	– WOOD GATE
WIG	– WROUGHT IRON GATE
WM	– WATER METER
WV	– WATER VALVE
	– BLOCK WALL
	– WIRE FENCE
	– CHAIN LINK FENCE
OHW	– OVERHEAD ELECTRIC WIRE
	– TREE

REVISIONS			
NO.	DATE	SHEET	APPROVAL
	12/16/2021		
1	04/22/2022		
2	06/15/2023		
	10/12/2023		

DESIGNED BY: Barbara Ashba
DRAWN BY: AEL
DESIGN CHECKED BY: AEL
DRAWN CHECKED BY: Barbara Ashba
REF.
AS-BUILT

DESCRIPTION
PLAN CHECK SUBMITTAL
PLAN CHECK RE-SUBMITTAL
PLAN CHECK RE-SUBMITTAL
BID DOCUMENTS

REGISTERED PROFFESSIONAL ENGINEER
BARBARA J ASHBA
No. 31417
Expires 12-31-24
10/13/23
CIVIL
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
PLANNING APPLICATION
ALTA / NSPS LAND TITLE SURVEY
FOR REFERENCE ONLY

B# B-4797
PHASE # ____ / REBID # ____
SHEET 15/C003 OF 236
DWG. NO. C-6616

FILE INFO: E:\Ashba Engineers Ltd\8164 CLB FS No. 9 -MMA\Working\C003. ALTA SURVEY.dwg

BASIS OF BEARINGS & DATUM STATEMENT:

(PURSUANT TO THE CALIFORNIA PUBLIC RESOURCE CODE, SECTIONS 8811, 8813.1, 8813.3, 8815.1, 8856 & 8857)

THE BEARINGS AND HORIZONTAL COORDINATES SHOWN HEREIN ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE 5, 2007.00 EPOCH AND WERE DETERMINED BY GLOBAL POSITIONING SYSTEM (G.P.S.) TIES TO TWO CITY OF LONG BEACH REAL TIME NETWORK (CLBRTN) STATIONS REFERRED TO AS LB07 AND PU07. DATA FOR SAID STATIONS WAS PROVIDED BY THE LONG BEACH DEPARTMENT OF ENERGY RESOURCES (LBER) AND THE CLBRTN POSITIONS WERE HELD "FIXED" HORIZONTALLY IN THIS SURVEY.

THE CCS83 GRID BEARING BETWEEN C.S.R.N. STATIONS PU07 AND LB07 BEING N62°59'16.37"E, AS DERIVED FROM THE POSITIONS FOR SAID STATIONS, IN SAID EPOCH, PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER (C.S.R.C.) ON JANUARY 18, 2007, WAS USED AS THE BASIS OF BEARINGS FOR THIS SURVEY.

THE ORTHOMETRIC ELEVATIONS SHOWN HEREIN ARE BASED ON CITY OF LONG BEACH BENCHMARK NO. 368 DESCRIBED BY THE CITY OF LONG BEACH DEPARTMENT OF PUBLIC WORKS SURVEY DEPARTMENT AS FOLLOWS:

BRASS DISC IN CATCH BASIN STAMPED "VERTICAL CONTROL MARK NATIONAL GEODETIC SURVEYS 1313 1978 VERT. CTRL. MARK" LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF LONG BEACH BOULEVARD AND MARSHALL PLACE

BENCHMARK NO. 368 ELEVATION = 104.150 (NGVD 1929)

ALL VALUES ARE EXPRESSED IN U.S. SURVEY FEET (1 FOOT = 1200/3937 METERS).

ALL COORDINATES SHOWN HEREON ARE GRID. ALL MEASURED DISTANCES SHOWN HEREON ARE GRID DISTANCES. TO OBTAIN GROUND DISTANCES, MULTIPLY GRID DISTANCES BY 1.00004962.

GRID AND GROUND DISTANCES ARE THE SAME UP TO 200.00 FEET.

SITE RESTRICTIONS:

BUILDING SETBACKS:

FRONT STREET	–	10 FT
SIDE STREET	–	10 FT
SIDE ADJACENT TO RESIDENTIAL	–	10 FT
REAR ADJACENT TO RESIDENTIAL	–	20 FT
SIDE/REAR ADJACENT TO NON–RESIDENTIAL	–	5 FT
HEIGHT	–	28 FT/2 STORIES
ZONE	–	CCA (COMMUNITY COMMERCIAL, AUTOMOBILE–ORIENTED)

ALL SITE RESTRICTIONS WERE OBTAINED PER THE CITY OF LONG BEACH (PLANNING DEPARTMENT)

CONTACT NUMBER – (562) 570–6194
WEBSITE – http://www.longbeach.gov/lbds/planning/current/zoning/

FLOOD NOTE:

ZONE – "X" PER FEDERAL EMERGENCY MANAGEMENT AGENCY MAP NO. 060136 1955 F RECORDED SEPTEMBER 26, 2008.

ZONE "X" DENOTES AREAS SUBJECT TO MINIMAL FLOODING

THE ABOVE STATEMENT IS FOR INFORMATION ONLY AND THIS SURVEYOR ASSUMES NO LIABILITY FOR THE CORRECTNESS OF THE CITED MAP(S). IN ADDITION, THE ABOVE STATEMENT DOES NOT REPRESENT THIS SURVEYOR'S OPINION OF THE PROBABILITY OF FLOODING.

MONUMENT NOTES:

1. FOUND MAG NAIL AND BRASS WASHER STAMPED "LS 6970" PER P.W.F.B. 0523/632–633 (CITY OF LONG BEACH TIE BOOK L–80–185), FLUSH IN ASPHALT.
2. FOUND MAG NAIL AND BRASS WASHER STAMPED "LS 6970" PER P.W.F.B. 0523/634–635 (CITY OF LONG BEACH TIE BOOK L–80–189), FLUSH IN ASPHALT.
3. FOUND PUNCHED 2 1/2" BRASS DISK STAMPED "MON. NO 834A" SET ON TOP OF 3 1/2" BRASS DISK STAMPED "CITY OF LONG BEACH", ACCEPTED AS C.L.B. MONUMENT 834A PER R.S.B. 217/097, DOWN 2.10' IN MONUMENT WELL.
4. SEARCHED, FOUND NOTHING AT CENTERLINE INTERSECTION, ESTABLISHED PER FOUND TIES PER CITY OF LONG BEACH TIE BOOK L–71–39, SEE TIE DETAIL HEREON.

● — INDICATES MONUMENTS FOUND AS NOTED HEREON.

○ — INDICATES GEAR SPIKE AND STELL WASHER STAMPED "LS 8862" TO BE SET UPON RECORDATION OF RECORD OF SURVEY.

BOUNDARY ESTABLISHMENT NOTES:

A. SEARCHED, FOUND NOTHING, ESTABLISHED BY PRORATION PER TRACT NO. 4493, M.B. 49/38 (R1).

B. SEARCHED, FOUND NOTHING, ESTABLISHED BY INTERSECTION.

LAND AREA:

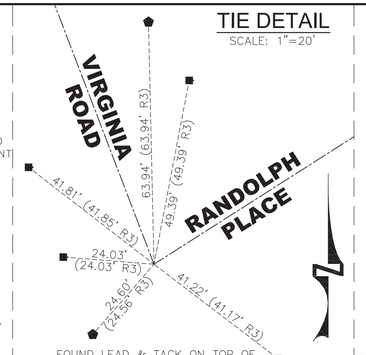
16,829 SQUARE FEET
0.386 ACRES

PARKING STALLS:

21 STANDARD PARKING STALLS
1 HANDICAPPED PARKING STALL

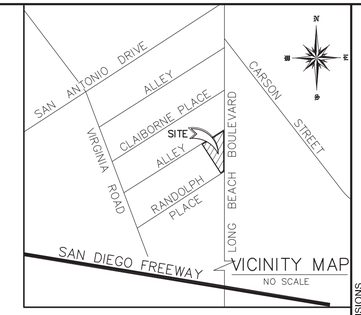
TIE DETAIL

SCALE: 1"=20'



■ = FOUND LEAD & TACK ON TOP OF CURB PER CITY OF LONG BEACH TIE BOOK L–71–39 (R3)

⬟ = FOUND LEAD, TACK & TAG STAMPED "LS 5778" PER CITY OF LONG BEACH TIE BOOK L–71–39 (R3)



LEGAL DESCRIPTION:

THE LEGAL DESCRIPTION CITED BELOW WAS TAKEN FROM THE TITLE REPORT REFERENCED HEREON:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL 1: PORTION OF APN: 7139–015–017

THAT PORTION OF LOT 36 OF TRACT NO. 4493, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 49, PAGE 38 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDED OF SAID COUNTY.

BEGINNING AT A POINT IN THE EASTERLY LINE OF SAID LOT 36, DISTANT 103.43 FEET NORTHERLY FROM THE SOUTHEASTERLY CORNER OF THEREOF; THENCE SOUTHERLY ALONG THE EASTERLY LINE OF SAID LOT, A DISTANCE OF 103.43 FEET TO THE SOUTHEASTERLY CORNER OF SAID LOT; THENCE SOUTHWESTERLY ALONG THE SOUTHEASTERLY LINE OF SAID LOT, A DISTANCE OF 42.76 FEET TO THE SOUTHWESTERLY CORNER OF SAID LOT, THENCE NORTHWESTERLY ALONG THE SOUTHWESTERLY LINE OF SAID LOT, A DISTANCE OF 103 FEET; THENCE NORTHEASTERLY IN A DIRECT LINE TO THE POINT OF BEGINNING.

PARCEL 2: PORTION OF APN: 7139–015–017

THAT PART OF LOT 36 OF TRACT NO. 4493, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 49 PAGE 38 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDED OF SAID COUNTY, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE EASTERLY LINE OF SAID LOT 36; DISTANT 103.43 FEET NORTH OF THE SOUTHEASTERLY CORNER OF SAID LOT 36; NORTH ALONG THE EAST LINE OF SAID LOT 36 TO THE NORTHEASTERLY CORNER OF SAID LOT 36, THENCE SOUTHWESTERLY ALONG THE NORTHWESTERLY LINE OF SAID LOT 36 TO THE NORTHWEST CORNER OF SAID LOT 36; THENCE SOUTHEASTERLY ALONG THE SOUTHWESTERLY LINE OF SAID LOT 36, 27 FEET; THENCE EASTERLY TO THE POINT OF BEGINNING.
PARCEL 3: APN: 7139–015–010
LOT 37 OF TRACT NO. 4493, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 49, PAGE 38 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDED OF SAID COUNTY.

EXCEPT THE WEST FIVE FEET THEREOF.

ITEMS CORRESPONDING TO SCHEDULE "B":

BY: TICOR TITLE COMPANY
1500 QUAIL STREET, 3RD FLOOR
NEWPORT BEACH, CA 92660
(714) 289–3390

ORDER NO. 00731991–989–BLA
TITLE OFFICER: BOB TAYLOR
DATED: AUGUST 3, 2020

THE FOLLOWING SURVEY RELATED ITEMS WERE FOUND IN SCHEDULE "B" OF THE ABOVE MENTIONED PRELIMINARY REPORT. NON SURVEY RELATED ITEMS SUCH AS TAXES, DEEDS OF TRUST OR LIENS ARE NOT LISTED BELOW. PLOTTABLE ITEMS ARE SO STATED BELOW:

8. EASEMENT(S) FOR POLE LINES AND CONDUITS, RECORDED IN BOOK 3048, PAGE 262, OF OFFICIAL RECORDS. THIS ITEM IS BLANKET IN NATURE OVER PARCELS 1 AND 2 OF THE TITLE COMMITMENT.
9. EASEMENT(S) FOR UTILITIES, RECORDED IN BOOK 6137, PAGE 26, OF OFFICIAL RECORDS. THIS ITEM IS BLANKET IN NATURE OVER PARCEL 3 OF THE TITLE COMMITMENT.
10. THE FACT THAT SAID LAND LIES WITHIN THE NORTH LONG BEACH REDEVELOPMENT PROJECT AREA RECORDED JULY 17, 1996 AS INSTRUMENT NO. 96–1152104 AND JUNE 29, 2007 AS INSTRUMENT NO. 20071567322, BOTH OF OFFICIAL RECORDS. THIS ITEM IS BLANKET IN NATURE AND AFFECTS THE ENTIRE SUBJECT PROPERTY.
11. COVENANTS, CONDITIONS AND RESTRICTIONS RECORDED NOVEMBER 9, 2009 AS INSTRUMENT NO. 20091686309, OF OFFICIAL RECORDS. THIS ITEM IS BLANKET IN NATURE AND DOES AFFECT THE SUBJECT PROPERTY.

ITEM NUMBERS SHOWN HEREON ARE STATED AS EXCEPTIONS ON THE ABOVE REFERENCED TITLE COMMITMENT. NO RESPONSIBILITY FOR THE COMPLETENESS, ACCURACY, OR CONTENT OF SAID REPORT IS ASSUMED BY THIS MAP.

SURVEYOR'S CERTIFICATE:

TO: THE CITY OF LONG BEACH AND TICOR TITLE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 5, 6(A), 7(A), 7(B)(1), 7(C), 8, 9, 11, 13 AND 16 OF TABLE A THEREOF.
SURVEY COMPLETED ON: SEPTEMBER 30, 2020

TREVOR D. RICE P.L.S. NO. 8862
DATE: 10/12/2020

TRACT NO. 4493

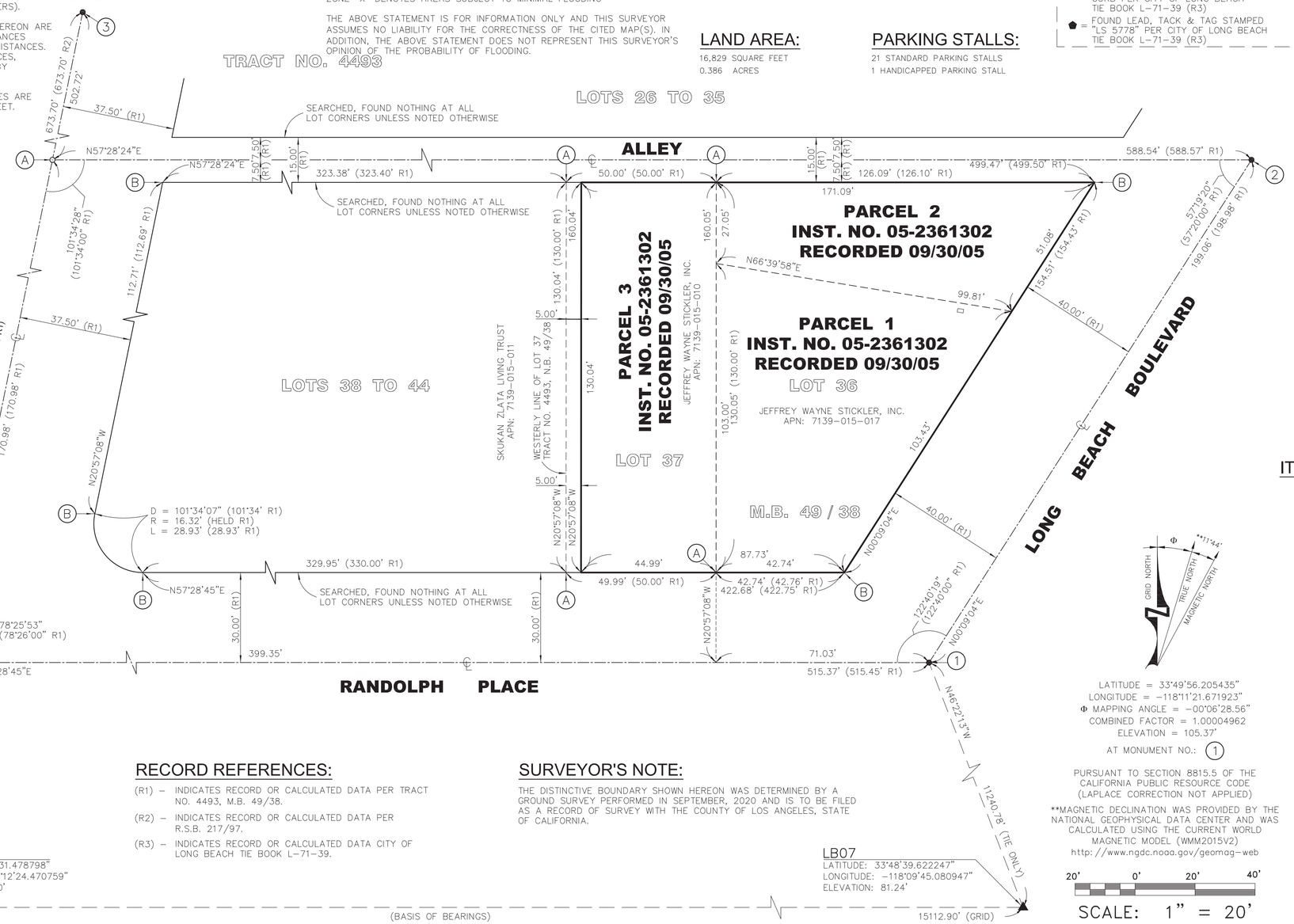
LOTS 26 TO 35

LOTS 38 TO 44

LOT 37

LOT 36

M.B. 49 / 38



RECORD REFERENCES:

(R1) – INDICATES RECORD OR CALCULATED DATA PER TRACT NO. 4493, M.B. 49/38.

(R2) – INDICATES RECORD OR CALCULATED DATA PER R.S.B. 217/97.

(R3) – INDICATES RECORD OR CALCULATED DATA CITY OF LONG BEACH TIE BOOK L–71–39.

SURVEYOR'S NOTE:

THE DISTINCTIVE BOUNDARY SHOWN HEREON WAS DETERMINED BY A GROUND SURVEY PERFORMED IN SEPTEMBER, 2020 AND IS TO BE FILED AS A RECORD OF SURVEY WITH THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA.

PU07
LATITUDE: 33°47'31.478798"
LONGITUDE: –118°12'24.470759"
ELEVATION: 33.30'

LB07
LATITUDE: 33°48'39.622247"
LONGITUDE: –118°09'45.080947"
ELEVATION: 81.24'

N62°59'16.37"E (BASIS OF BEARINGS) 15112.90' (GRID)

LATITUDE = 33°49'56.205435"
LONGITUDE = –118°11'21.671923"
Φ MAPPING ANGLE = –00°06'28.56"
COMBINED FACTOR = 1.00004962
ELEVATION = 105.37'
AT MONUMENT NO.: (1)

PURSUANT TO SECTION 8815.5 OF THE CALIFORNIA PUBLIC RESOURCE CODE (LAPLACE CORRECTION NOT APPLIED)

**MAGNETIC DECLINATION WAS PROVIDED BY THE NATIONAL GEOPHYSICAL DATA CENTER AND WAS CALCULATED USING THE CURRENT WORLD MAGNETIC MODEL (WMM2015V2)
http://www.ngdc.noaa.gov/geomag–web

20' 0' 20' 40'

SCALE: 1" = 20'

NO.	DATE	SHEET	APPROVAL	REVISIONS DESCRIPTION
1	12/16/2021			PLAN CHECK SUBMITTAL
2	04/22/2022			PLAN CHECK RE-SUBMITTAL
3	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: Barbara Ashba
DRAWN BY: AEL
DESIGN CHECKED BY: AEL
DRAWN CHECKED BY: Barbara Ashba
REF.

REGISTERED PROFESSIONAL ENGINEER BARBARA J. ASHBA No. 31417 Expires 12–31–24 10/13/23 CIVIL STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

PLANNING APPLICATION

ALTA / NSPS LAND TITLE SURVEY

FOR REFERENCE ONLY

B# B-4797

PHASE # ___ / REBID # ___

SHEET 16/C004 OF 236

DWG. NO. C-6616

FILE INFO: E:\Ashba Engineers Ltd\8164 CLB FS No. 9 –MMA\Working\C004. ALTA SURVEY.dwg

CONSTRUCTION ACTIVITY BMP

CD4(2) WATER CONSERVATION PRACTICE
Purpose: To reduce the discharge of pollutants from construction sites by using construction water that does not cause erosion or wash materials off–site.
Standards:
- Discourage washing of equipment on site.
- Avoid using water to clean construction areas. Sweep paved areas where practical.
- Direct construction water run–off to areas where it can soak into the ground.
- Apply water for dust control moderately so run–off does not occur.

CA1O MATERIAL DELIVERY AND STORAGE
Purpose: To reduce the discharge of pollutants during the delivery and storage process by minimizing the contact of materials with run–off.
Standards:
- Designate storage areas at the project site.
- Prevent spills or leakage of liquid materials from contaminating soil or soaking into the ground by placing storage areas on impervious surfaces. Do not store hazardous chemicals, drums, or bagged materials directly on the ground.
- Provide curbs or dikes around the perimeter of material storage areas.
- Store materials indoors when available.
- Minimize hazardous material storage on–site.
- Keep hazardous materials in their original containers and keep them well labeled.
- Keep ample supply of appropriate spill clean–up material near storage areas.
- Contain and clean up any spill immediately.

CA11 MATERIAL USE
Purpose: To reduce the discharge of pollutants by properly storing and utilizing materials.
Standards:
- Use materials only where and when needed to complete the construction activity.
- Follow manufacturers instructions regarding the preparation, use, and disposal of materials.
- Avoid exposing applied materials to rainfall and run–off unless sufficient time has allowed for them to dry.

CA12 SPILL PREVENTION AND CONTROL
Purpose: To reduce the discharge of pollutants from spills by preventing, containing and clean–up spills. Standards:
- Hold regular meetings to discuss and reinforce appropriate disposal procedures.
- Use absorbent materials on small spills rather then hosing down or burying the spill.
- For significant or hazardous spills that cannot be controlled by personnel in the immediate vicinity, notify local emergency response by calling 911.

CA2O SOLID WASTE MANAGEMENT
Purpose: To reduce the discharge of pollutants as a result of the creation, stockpiling and removal of litter and other construction waste.
Standards:
- Collect site trash regularly, daily during rainy and windy conditions.
- Keep solid materials shielded by using either a covered dumpster or other enclosed trash container that limits contact with rain, run–off, and/or scattering due to winds.
- Make sure that toxic wastes and chemicals are not disposed of in dumpsters designed for construction debris.

CA21 HAZARDOUS WASTE MANAGEMENT
Purpose: To reduce the discharge of pollutants by the proper storage and disposal of waste. Standards:
- Sites with existing structures may contain waste which must be disposed of in accordance with federal, state, and local regulations which include sandblasting grit mixed with lead, cadmium, or chromium based paints and asbestos.
- Major contamination, large spills, and other serious hazardous waste incidents require immediate response from specialists.
- Keep liquid or semi–liquid hazardous waste in appropriate containers and under cover.
- Clearly mark on all hazardous waste containers which materials are acceptable for the container.
- Place hazardous waste containers in secondary containment.
- Make sure that toxic wastes and chemicals are not disposed of in dumpsters designed for construction debris.

CA23 CONCRETE WASTE MANAGEMENT
Purpose: To reduce the discharge of Portland cement, concrete slurries and asphalt by implementing appropriate wash–out procedures, slurry containment, housekeeping and disposal practices.
Standards:
- Do not allow slurry residue from wet coring or saw–cutting to enter storm drains.
- Shovel or vacuum slurry residue and dispose in a temporary pit.
- Designate areas to be used for washout of vehicles transporting concrete.
- Washout areas shall have a temporary pit or berm area of sufficient volume to completely contain all liquid and waste concrete.
- Once the concrete wastes are washed into the designated areas and allowed to harden, the concrete can be properly disposed.

CA3O VEHICLE AND EQUIPMENT CLEANING
Purpose: To reduce the discharge of pollutants by cleaning equipment and related activities offsite when practical.
Standards:
- Clean all vehicles and equipment that regularly enter and leave the construction site.
- Design wash area with a sump to allow collection and disposal of wash water.
- Do not use solvents or steam to clean vehicles or equipment on site.

CA31 VEHICLE AND EQUIPMENT FUELING
Purpose: To reduce the discharge of pollutants as a result of vehicle and equipment fueling by preventing leaks and spillage.
Standards:
- Locate fueling areas on a paved surface where practical.
- Protect fueling areas with berms and/or dikes to prevent run–on, run–off, and to contain spills.
- Absorbent materials shall be used on small spills instead of hosing down or burying.
- Keep an ample supply of spill cleanup material on the site.

CA32 VEHICLE AND EQUIPMENT MAINTENANCE
Purpose: To reduce the discharge of pollutants as a result of vehicle and equipment maintenance by conducting these activities off–site or in a designated area.
Standards:
- Locate on paved surfaces where practical.
- Use berms to protect maintenance areas from run–on.
- Do not dump fuels and lubricants onto the ground.
- Do not place used oil in a dumpster or pour into a storm drain.

ASHBA
JOB# 8164
ENGINEERS LIMITED
POST OFFICE BOX 90833
LONG BEACH
CALIFORNIA 90809
(562) 209–8896
ISSUE DATE: 10.12.23

EROSION CONTROL BMP

ESCI SCHEDULING
Purpose: To reduce the discharge of pollutants from construction sites by sequencing the construction project to reduce the amount and duration of soil exposure.
- Schedule major grading operations during dry months.
- Practice erosion and sediment control year round.
- Schedule project to disturb only small portions of the site at any one time.
- Close and stabilize open trenches as soon as possible.

ESC21 DUST CONTROL
Purpose: To reduce the discharge of pollutants from construction sites by using dust control measures to stabilize soil from wind erosion, and reduce dust generated by construction activities.
- Stabilize exposed soils by using vegetation, watering/sprinkling, and stone gravel layering.
- Identify and stabilize primary access to site.
- Direct traffic to stabilized areas within the project.
- Street sweeping of adjacent public right–of–way.

ESC24 STABILIZED CONSTRUCTION ENTRANCE
Purpose: To reduce the discharge of pollutants from construction sites by reducing the amount of sediment, dust, and mud tracked off–site from construction traffic.
- Stabilize construction entrance with aggregate underlain with filter cloth.
- Construct on level ground where possible.
- Provide ample turning radius as part of entrance.
- Length should be 50–foot minimum, and width 30–foot minimum.

ESC5O SILT FENCE
Purpose: To reduce the discharge of pollutants from construction sites utilizing a silt fence that detains sediment–laden water, promoting sedimentation behind the fence.
- Use in areas where sheet flow occurs.
- Turn ends of fence uphill.
- Select filter fabric that retains 85% of soil.
- Silt fence, which is made of filter fabric, should be entrenched and attached to supporting poles.

ESC52 SAND BAG BARRIER
Purpose: To reduce the discharge of pollutants from construction sites by stacking sand bags along a level contour creating a barrier that detains sediment–laden water promoting sedimentation. Use along the perimeter of the site and around catch basin inlets to storm drains to create a temporary sediment trap.
- Use sand bags large enough to withstand flooding.
- Inspect sand bags after each rain.
- Remove sediment behind sand bags.
- Reshape or replace damaged sand bags.

ESC56 SEDIMENT BASIN
Purpose: To discharge the pollutants from construction sites by retaining runoff sufficiently to allow excessive sediment to settle.
- Should be located where failure of embankment would not cause life/property damage.
- Inspect weekly and after each rain.
- Remove sediments by using filters if necessary when basin is half–full.
- Line basin if ground water is within 10 feet of bottom.

CONSTRUCTION ACTIVITY BMP

SC-1 NON-STORMWATER DISCHARGES TO DRAINS
Purpose: To ensure that the storm water system discharge contains only storm water.
Standards:
- Locate discharges to the municipal storm drain system.
- Locate and evaluate all discharges to the industrial storm drain system.
- Develop a plan to eliminate elicit connections.
- Develop proposal options.
- Document that non–storm water discharges have been eliminated by recording tests performed. · Non–storm water discharges may include process waste waters, cooling waters, wash waters and sanitary waste water. When facilities are subject to this BMP, they must include a certification that the storm water collection system has been tested or evaluated for the presence of non–storm water discharges.

SC-2 VEHICLE AND EQUIPMENT FUELING
Purpose: To prevent fuel spills and leaks and their impacts to storm water. Standards:
- Design fueling area to prevent run–on of storm water and run–off of spills.
- Discourage "topping off" of fuel tanks.
- Use absorbent materials on small spills.

SC-3 VEHICLE AND EQUIPMENT WASHING AND STEAM CLEANING
Purpose: To prevent or reduce the discharge of pollutants to storm water from vehicle and equipment washing and steam cleaning.
Standards:
- Use designated wash areas designed to prevent runoff.
- Consider filtering and recycling wash water.

SC-4 VEHICLE AND EQUIPMENT MAINTENANCE AND REPAIR
Purpose: To prevent the discharge of pollutants to storm water from vehicle and equipment maintenance and repair including wrecking yards by running a dry shop.
Standards:
- Locate on paved surfaces where practical.
- Use berms to protect maintenance areas.
- Keep equipment clean.
- Inspect equipment for leaks on a regular basis.

SC-5 OUTDOOR LOADING - UNLOADING OF MATERIALS
Purpose: To prevent or reduce the discharge of pollutants to storm water from loading docks. Standards:
- Limit exposure of material to rainfall.
- Prevent storm water runoff.
- Contain spills during transfer operations.

SC-6 OUTDOOR CONTAINER STORAGE OF LIQUIDS
Purpose: To prevent the discharge of pollutants to storm water from outdoor container storage areas by installing safeguards against accidental release.
Standards:
- Cover storage area with roof.
- Control runoff by enclosing area with a berm.
- A spill prevention control plan.
- Emergency preparedness plan.

SC-7 OUTDOOR PROCESS EQUIPMENT
Purpose: To prevent discharges of pollutants to storm water from outdoor processing equipment by enclosing or covering all or some equipment and installing secondary containment.
Standards:
- Move activity indoors.
- Cover area with permanent roof.
- Use berms to protect area from run–on. Activities such as rock grinding or crushing, painting or coating, grinding or sanding can lead to contamination of storm water runoff.

SC-8 OUTDOOR STORAGE OF RAW MATERIALS
Purpose: To prevent the discharge of pollutant to storm water from outdoor material and product storage areas by enclosing, covering or installing secondary containment.
Standards:
- Store materials indoors.
- Cover storage area with roof.
- Cover the materials with a temporary covering made of polyethylene, polypropylene, or hypalon.

SC-9 WASTE HANDLING AND DISPOSAL
Purpose: To prevent the discharge of pollutants to storm water from waste handling and disposal of recyclable material.
Standards:
- Maintain usage inventory to limit waste generation.
- Raw material substitution or elimination.
- Process or equipment modification.
- Production planning and sequence.

SC-10 CONTAMINATED OR ERODIBLE SURFACE AREAS
Purpose: To prevent the discharge of pollutants to storm water from contaminated or erodible surface areas by leaving as much vegetation on site as possible minimizing soil exposure time, stabilizing exposed soils and preventing storm water run–on and run–off.
Standards:
- Preserve natural vegetation.
- Removal of contaminated soils.
- Chemical stabilization.

SC-11 BUILDING AND GROUNDS MAINTENANCE
Purpose: To prevent the discharge of pollutants to storm water from building and grounds maintenance by washing and cleaning up with as little water as possible.
Standards:
- Leaving or planting native vegetation to reduce water, fertilizer, and pesticide needs.
- Sweeping of paved surfaces.
- Cleaning of storm drainage system at appropriate intervals.
- Proper disposal of wash water, sweepings, and sediments.

SC-12 BUILDING REPAIR, REMODELING AND CONSTRUCTION
Purpose: To prevent the discharge of pollutants to storm water from building repair remodeling and construction by using soil erosion controls, proper storage of building materials and covering building materials. The source of these contaminants may be solvents, paints, paint and varnish removers, finishing residues, spent thinners, soap cleaners, kerosene, asphalt and concrete materials, adhesive residues and old asbestos.
Standards:
- Use soil erosion techniques if bare ground is temporarily exposed.
- Use permanent soil control techniques if the remodeling clears buildings from an area that are not to be replaced. ·
- Enclose painting operations
- Properly store materials.
- Properly store disposal waste generated from the activity.

SC-13 OVER-WATER ACTIVITIES
Purpose: To prevent the discharge of pollutants to storm water from over–water activities by minimizing over–water maintenance. Over–water activities occur at boat and ship repair yards, marinas and yacht clubs. Activities of concern include stripping and painting of hulls, on–board maintenance of engines and the disposal of domestic water and ballast water. ·

SC-14 EMPLOYEE TRAINING
Purpose: Employee training is a method by which to implement BMPs and their maintenance and to integrate the elements of employee training and individual source controls into a comprehensive training program into the facilities storm water pollution prevention plan.

NPDES NOTES :

NOTES MUST BE SHOWN AS WORDED, ON THE TITLE SHEET OF THE PLAN.

1. IN THE CASE OF EMERGENCY, CALL
AT WORK PHONE # _____
OR HOME PHONE # _____
2. SEDIMENT FROM AREAS DISTURBED BY CONSTRUCTION SHALL BE RETAINED ON SITE USING STRUCTURAL CONTROLS TO THE MAXIMUM EXTENT PRACTICABLE.
3. STOCKPILES OF SOIL SHALL BE PROPERLY CONTAINED TO MINIMIZE SEDIMENT TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES OR ADJACENT PROPERTIES VIA RUNOFF, VEHICLE TACKING, OR WIND.
4. APPROPRIATE BMP'S FOR CONSTRUCTION–RELATED MATERIALS, WASTES, SPILLS SHALL BE IMPLEMENTED TO MINIMIZE TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES, OR ADJOINING PROPERTIES BY WIND OR RUNOFF.
5. RUNOFF FROM EQUIPMENT AND VEHICLE WASHING SHALL BE CONTAINED AT CONSTRUCTION SITES UNLESS TREATED TO REDUCE OR REMOVE SEDIMENT AND OTHER POLLUTANTS.
6. ALL CONSTRUCTION CONTRACTOR AND SUBCONTRACTOR PERSONNEL ARE TO BE MADE AWARE OR THE REQUIRED BEST MANAGEMENT PRACTICES AND GOOD HOUSEKEEPING MEASURES FOR THE PROJECT SITE AND ANY ASSOCIATED CONSTRUCTION STAGING AREAS.
7. AT THE END OF EACH DAY OF CONSTRUCTION ACTIVITY ALL CONSTRUCTION DEBRIS AND WASTE MATERIALS SHALL BE COLLECTED AND PROPERLY DISPOSED IN TRASH OR RECYCLE BINS.
8. CONSTRUCTION SITES SHALL BE MAINTAINED IN SUCH A CONDITION THAT AN ANTICIPATED STORM DOES NOT CARRY WASTES OR POLLUTANTS OFF THE SITE. DISCHARGES OF MATERIAL OTHER THAN STORMWATER ONLY WHEN NECESSARY FOR PERFORMANCE AND COMPLETION OF CONSTRUCTION PRACTICES AND WHERE THEY DO NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF ANY WATER QUALITY STANDARD; CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR NUISANCE; OR CONTAIN A HAZARDOUS SUBSTANCE IN A QUANTITY REPORTABLE UNDER FEDERAL REGULATIONS 40 CFR PART 117 AND 302.
9. POTENTIAL POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO: SOLID OR LIQUID, CHEMICAL SPILLS; WASTES FROM PAINTS, STAINS, SEALANTS, GLUES, LIMES, PESTICIDES, HERBICIDES, WOOD PRESERVATIVES AND SOLVENTS; ASBESTOS FIBERS, PAINT FLAKES OR STUCCO FRAGMENTS; FUELS, OILS, LUBRICANTS, AND HYDRAULIC, RADIATOR OR BATTERY FLUIDS; FERTILIZERS, VEHICLE/EQUIPMENT WASH WATER AND CONCRETE WASH WATER; CONCRETE, DETERGENT OR FLOATABLE WASTES; WASTES FROM ANY ENGINE/EQUIPMENT STEAM CLEANING OR CHEMICAL DEGREASING AND SUPERCHLORINATED POTABLE WATER LINE FLUSHING. DURING CONSTRUCTION, PERMITTEE SHALL DISPOSE OF SUCH MATERIALS IN A SPECIFIED AND CONTROLLED TEMPORARY AREA ON–SITE, PHYSICALLY SEPARATED FROM POTENTIAL STORMWATER RUNOFF, WITH ULTIMATE DISPOSAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS.
10. DEWATERING OF CONTAMINATED GROUNDWATER, OR DISCHARGING CONTAMINATED SOILS VIA SURFACE EROSION IS PROHIBITED. DEWATERING OF NON–CONTAMINATED GROUNDWATER REQUIRES A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FROM THE RESPECTIVE STATE REGIONAL WATER QUALITY CONTROL BOARD.
11. GRADED AREAS ON THE PERMITTED AREA PERIMETER MUST DRAIN AWAY FROM THE FACE OF SLOPES AT THE CONCLUSION OF EACH WORKING DAY. DRAINAGE IS TO BE DIRECTED TOWARD DESILTING FACILITIES.
12. THE PERMITTEE AND CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATER CREATES A HAZARDOUS CONDITION.
13. THE PERMITTEE AND CONTRACTOR SHALL INSPECT THE EROSION CONTROL WORK AND INSURE THAT THE WORK IS IN ACCORDANCE WITH THE APPROVED PLANS.
14. THE PERMITTEE SHALL NOTIFY ALL GENERAL CONTRACTORS, SUBCONTRACTOR:S, MATERIAL SUPPLIERS, LESSEES, AND PROPERTY OWNERS: THAT DUMPING OF CHEMICALS INTO THE STORM DRAIN SYSTEM OR THE WATERSHED IS PROHIBITED.
15. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON. NECESSARY MATERIALS SHALL BE AVAILABLE ON SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
16. ALL REMOVABLE EROSION PROTECTIVE DEVICES SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THE 5–DAY RAIN PROBABILITY FORECAST EXCEEDS 40%.
17. SEDIMENTS FROM AREAS DISTURBED BY CONSTRUCTION SHALL BE RETAINED ON SITE USING AN EFFECTIVE COMBINATION OF EROSION AND SEDIMENT CONTROLS TO THE MAXIMUM EXTENT PRACTICABLE, AND STOCKPILES OF SOIL SHALL BE PROPERLY CONTAINED TO MINIMIZE SEDIMENT TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES, OR ADJACENT PROPERTIES VIA RUNOFF, VEHICLE TRACKING, OR WIND.
18. APPROPRIATE BMPS FOR CONSTRUCTION–RELATED MATERIALS, WASTES, SPILLS OR RESIDUES SHALL BE IMPLEMENTED AND RETAINED ON SITE TO MINIMIZE TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES, OR ADJOINING PROPERTY BY WIND OR RUNOFF.

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: **Barbara Ashba**
DRAWN BY: **AEL**
DESIGN CHECKED BY: **AEL**
DRAWN CHECKED BY: **Barbara Ashba**

REGISTERED PROFESSIONAL ENGINEER
BARBARA J. ASHBA
No. 31417
Expires 12-31-24
10/13/23
CIVIL
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
PLANNING APPLICATION
NPDES AND BMP NOTES

B# **B-4797**
PHASE # ____ / REBID # ____
SHEET **17/C005 OF 236**
DWG. NO. **C-6616**

FILE INFO: E:\Ashba Engineers Ltd\8164 CLB FS No. 9 –MMA\Working\C005. NPDES AND BMP NOTES– 8164.dwg

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
WET WEATHER EROSION CONTROL (WWECP) GENERAL NOTES

1. In case of emergency, call _____at_____

2. A stand–by crew for emergency work shall be available at all times during the rainy season (October 1 to April 15). Necessary materials shall be available on–site and stockpiled at convenient locations to facilitate rapid construction of emergency devices when rain is imminent.

3. Erosion control devices shown on this plan may be removed when approved by the building official if the grading operation has progressed to the point where they are no longer required.

4. Grade areas adjacent to fill slopes located at the site permieter must drain away from top of slope at the conclusion of each working day. All loose soils and debris that may create a potential hazard to off–site property shall be stabilized or removes from the site on a daily basis.

5. All silt and debris shall be removes from all devices within 24 hours after each rainstorm and be disposed

6. A guard shall be posted on the site whenever the depth of water in any device exceeds two feet. Th device shall be drained or pumped dry within 24 hours after rainstorm. Pumping and draining of all basins and drainage devices must comply with the appropiate BMP for dewatering operations.

7. The placement of additional devices to reduce erosion damage and contain pollutants within the site is left to the discretion of the Field Engineer. Additional devices as needed shall be installed to retain sediments and other pollutants on site.

8. Desilting basins may not be removes or made inoperable between November and April 15 of the following year without the approval of the Building Official.

9. Storm Water Pollution and Erosion Control devices are to be modified, as the project progresses, the design and pacement of these devices is the responsability of the field engineer. Plans representing changes must be submitted for approval if requested by the Building Official.

10. Every effort should be made to eliminate the discharge of non–storm water from the project sites at all times.

11. Eroded sediments and other pollutants must be retained on–site and may not be transported from the site via sheet flow, swales, area drain, natural drainage courses, or wind.

12. Stockpiles of earth and other construction–related materials must be prevented from being transported from the site by the forces of wind or water.

13. Fuels, oils, solvents, and other toxic materials must be stored in sccordance with their listing and are not to contaminate the soils and surface waters. All approved storage containers sre to be protected from the weather. Spills must be cleaned up immediately and disposed of in a proper manner. Spills may not be washed into the drainage system.

14. Excess or waste concrete may not be washed into the public way or any other drainage system. Provisions shall be made to retain concrete wastes on–site until they can be disposed of as solid waste.

15. Developers/contractors are responsible to inspect all Erosion Control Devices and BMPs are installed and functioning properly if there is a 40% chance of 0.25 inches or greater of predicted precipitation, and after actual precipitation. A construction site inspection checklist and inspection log shall be maintained at the project site all times and available for review by the Building Official. when grading occurs during the wet season (Oct. 1 through April 15). The contractor shall conduct and document self on–site inspections during rain events exceeding 0.1 inch over 24 hours period. In addition, susceptible slopes shall be covered. (copies of the self–inspection check list and inspection logs are available upon request).

16. Trash and construction–related solid wastes must be deposited into a covered receptacle to prevent contamination of rainwater and dispersal by wind.

17. Sediments and other materials may not be tracked from the site by vehicle traffic. The construction entrance roadways must be stabilized so as to inhibit sediments from being deposited into the public way. Accidental depositions must be swept up immnediately and may not be washed down by rain or other

18. Any slopes with disturbed soils or denuded of vegetation must be stabilized so as to inhibit by wind and water.

19. As the Engineer of record, I have selected appropriate BMPs to effectively minimize the negative impacts of this project's construction astivities on storm water quality. The project owner and contractor is aware that the selected BMPs must be installed, monitored, and maintained to ensure their effectiveness. The BMPs not selected for implementation are redundant or deemed not applicable to the proposed construction activity.

Civil Engineers Signature Date:

20. The following notes must be on the plan (or submitted as a separate document – Prior of plan approval)

As the Project owner or authorized agent of the owner, I have read and understand the requirements to control storm water pollution from sediments, erosion, and construction materials, and I certify that I will comply with these requirements. I or my representative, contractor, developer, or Engineer will make certain that all BMP shown on this plan will be fully implemented, and all erosion control devices will be kept clean and functioning. Periodic inspections of the BMPs will be conducted and a current log, specifying the exact nature of the inspection and any remedial measures, will be kept at the construction site at all times and will be available for the review by the Building Official.
As the project owner or authorized agent of the owner, I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to enssure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that submitting false and/or inaccurate information, failing to update the local SWPPP to reflect current conditions, or failing to properly and/or adequately inplement the local SWPPP may result in revocation of grading and/or other permits or other sanctions provided by law

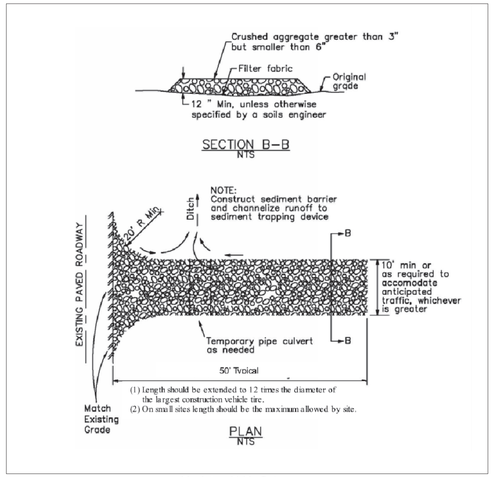
OWNER Date:

BEST MANAGEMENT PRACTICE SCHEDULE

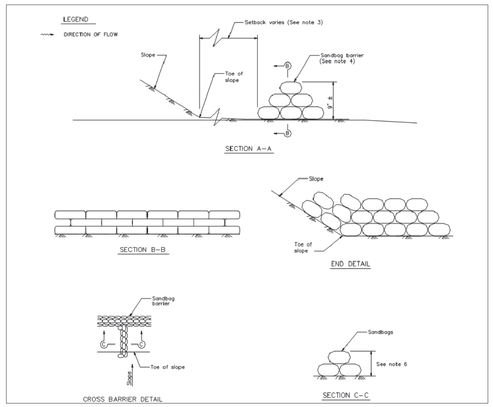
IN ACCORDANCE WITH CASQA– CALIFORNIA STORM WATER BMP HANDBOOK

LACDPW BMP MANUAL	CASQA BMP MANUAL	TITLE
SC–1	ESC–50	SILT FENCE
SC–2	ESC–56	SEDIMENT BASIN
SC–7		STREET SWEEPING AND VACCUMING
SC–8	ESC–52	SAND BAG BARRIER
SC–10		STORM DRAIN INLET PROTECTION
TC–1	ESC–24	STABILIZED CONSTRUCTION ENTRANCE
NS–12		CONCRETE CURING
NS–14		CONCRETE FINISHING
WM–1	CA–10	MATERIAL DELIVERY AND STORAGE
WM–2	CA–11	MATERIAL USE
WM–3	SC–8	STOCKPILE MANAGEMENT
WM–4	CA–12	SPILL PREVENTION AND CONTROL
WM–5	CA–20	SOLID WASTE MANAGEMENT
WM–6	CA–21	HAZARDOUS WASTE MANAGEMENT
WM–8	CA–23	CONCRETE WASTE MANAGEMENT
WM–9		SANITARY/ SEPTIC WASTE MANAGEMENT
WM–10	SC–6	LIQUID WASTE MANAGEMENT
WE–1	ESC–21	WIND EROSION CONTROL

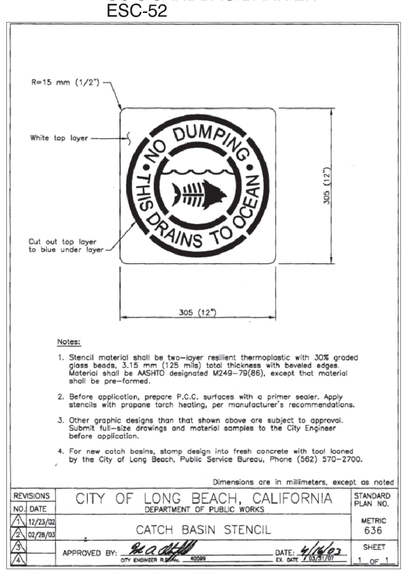
ASHBA
JOB# 8164
ENGINEERS LIMITED
POST OFFICE BOX 90833
LONG BEACH
CALIFORNIA 90809
(562) 209–6896
ISSUE DATE: 10.12.23

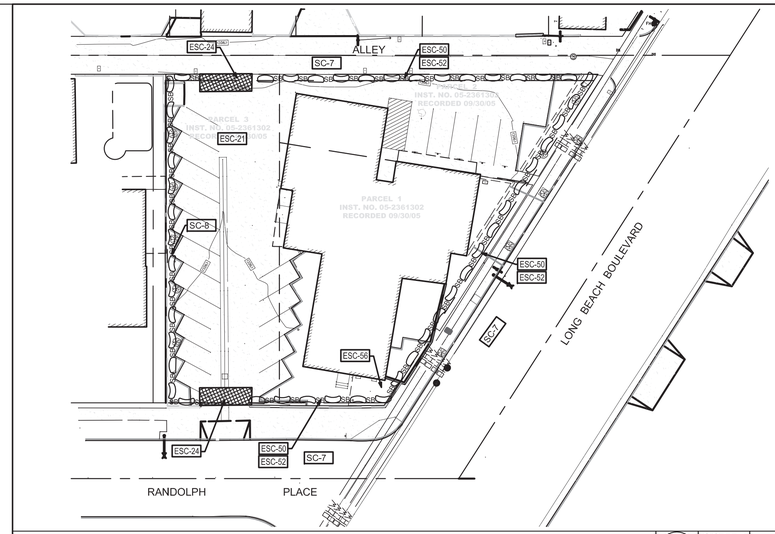


TC-1/ ESC-24
CONSTRUCTION ENTRANCE



SC-8 SANDBAG BARRIER
ESC-52





EROSION CONTROL PLAN

SCALE 1"=30' A1

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

REF.

AS-BUILT

DESIGNED BY: Barbara Ashba
DRAWN BY: AEL
DESIGN CHECKED BY: AEL
DRAWN CHECKED BY: Barbara Ashba

REGISTERED PROFFESSIONAL ENGINEER
BARBARA J ASHBA
No. 31417
Expires 12-31-24
10/13/23
CIVIL
STATE OF CALIFORNIA

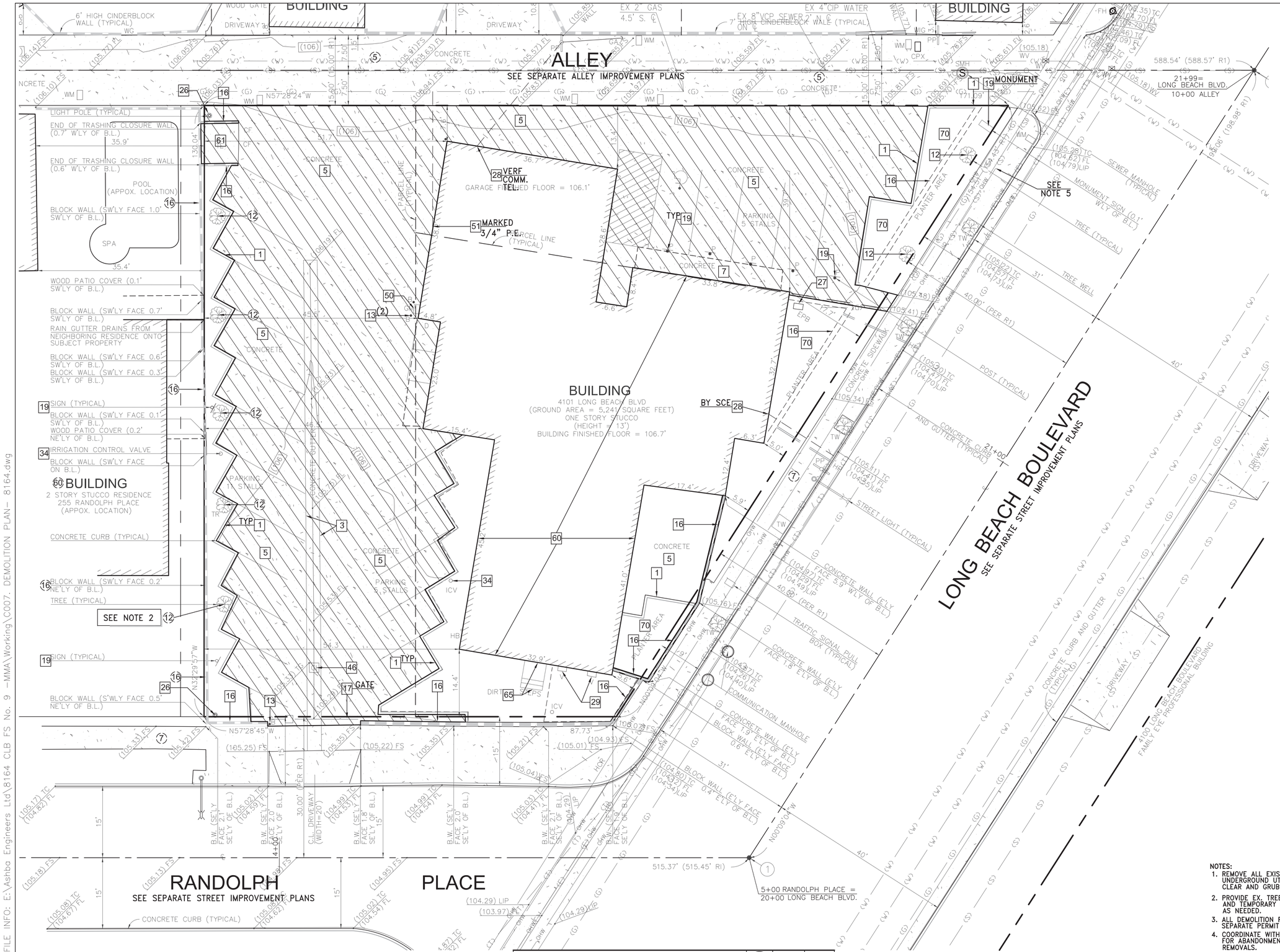
FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
PLANNING APPLICATION
EROSION CONTROL PLAN AND STD BMPS

B# B-4797

PHASE # ____ / REBID # ____

SHEET 18/C006 OF 236

DWG. NO. C-6616



CONSTRUCTION SCHEDULE	
○ CONSTRUCT NEW....	□ REMOVE EXIST....
↻ PROTECT EXIST....	⊡ RELOCATE EXIST....

#	Description	Std.	Detail
1	Curb	A103	5
2	Curb and Gutter A2-6	APWA	120
3	Longitudinal Gutter	CLB	122
4	Concrete Flume	C012	C4
5	Concrete Paving	C012	A1
6	Driveway Type 1	CLB	105
7	Concrete Walk	A103	6
8	Asphalt Concrete Paving	-	-
9	Full Depth AC	CLB	116
10	Curb Ramp	CLB	122
11	Concrete Strip	-	-
12	Tree / Tree Well	SEE	LAND.
13	Bollard	A104	3
14	Curb Drain Modified	APWA	150
15	Culvert	APWA	151
16	Wall	SEE	STRU.
17	Decorative Metal Fence	SEE	ARCH.
18	Wheel Bumper	C012	C2
19	Sign & Post	C012	B4
20	House Connection	WDS	404,506
21	VCP Pipe	ASTM	C700
22	PVC Pipe SDR 35	ASTM	D3034
23	Clean out	WDS	506
24	Floor Drain	SEE	PLUMB
25	Clarifier Interceptor	C012	C1
26	Street Light Std & Fdn	SEE	ELEC.
27	Utility Box	SEE	UTIL.
28	Conduit & Wiring	SEE	ELEC.
29	Vent	SEE	PLUMB
30	Water Service	WDS	001&002
31	Copper Pipe	ASTM	B88
32	PVC Pipe DR18	AWMA	C900
33	Ductile Iron Pipe CL52	AWMA	C151
34	Water Valve	WDS	-
35	Fire Depart. Connection	SEE	ARCH.
36	Post Indicator Valve	-	-
37	Fire Hydrant Modified	WDS	109
38	Detector Check BFP	WDS	006.1
39	Reduced Pressure BFP	WDS	015
40	Roof Drain	SEE	PLUM.
41	Fire Hydrant Mark	CLB	314
42	RCIP 3"X12"	AFC	A-470 / A-480
43	PVC PIPE SDR35	ASTM	D3034
44	Manhole	APWA	200
45	Catch Basin	APWA	304
46	Drop Inlet	C012	A2
47	Trench Drain Filter	C012	B3
48	Subdrain	-	-
49	Stencil Detail	CLB	636
50	Gas Service & Meter	LBER	Co.
51	PE Gas Pipe	SPEC	-
52	Gas Steel Pipe	ASTM	A52
53	Pressure Regulator	SEE	PLUM.
54	Earthquake Valve	SEE	PLUM.
55	Utility Pole	UTIL.	Co.
56	Guy Wire	SEE	UTIL.
57	Trench Drain	C012	B2
58	Underground Vault	UTIL.	Co.
59	Transformer/Switchgear	SEE	ELEC.
60	Building	SEE	ARCH.
61	Trash Enclosure	SEE	ARCH.
62	Flag Pole Foundation	C012	C3
63	Column	SEE	STRU.
64	Accessible Handicap Ramp	SEE	ARCH.
65	Steps	APWA	640
66	Guardrail \ Handrail	SEE	ARCH.
67	Detectable Warning	SEE	ARCH.
68	Controller	SEE	ARCH.
69	Loop Detector	SEE	TRAFF
70	Grade Only- PA	SEE	SPEC.
71	EV Charging Station	SEE	ELEC.
72	Striping	C012	B4

NOTES:
1. REMOVE ALL EXISTING ON SITE UNDERGROUND UTILITIES. CLEAR AND GRUB SITE
2. PROVIDE EX. TREE PROTECTION AND TEMPORARY IRRIGATION AS NEEDED.
3. ALL DEMOLITION REQUIRES A SEPARATE PERMIT
4. COORDINATE WITH UTILITY CO. FOR ABANDONMENTS AND REMOVALS.
5. CUT AND CAP AND ABANDOM EXISTING GAS SERVICE AND HOUSE CONNECTION SEWER LATERAL.

DEMOLITION PLAN | SCALE 1"=10' | A1

NO.	DATE	SHEET	APPROVAL	REVISIONS DESCRIPTION
1	12/16/2021			PLAN CHECK SUBMITTAL
2	04/22/2022			PLAN CHECK RE-SUBMITTAL
3	08/15/2023			PLAN CHECK RE-SUBMITTAL
4	10/12/2023			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: Barbara Ashba
DRAWN BY: AEL
DESIGN CHECKED BY: AEL
DRAWN CHECKED BY: Barbara Ashba

REGISTERED PROFESSIONAL ENGINEER BARBARA J ASHBA No. 31417 Expires 12-31-24 10/13/23 CIVIL STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
PLANNING APPLICATION
DEMOLITION PLAN

B# B-4797

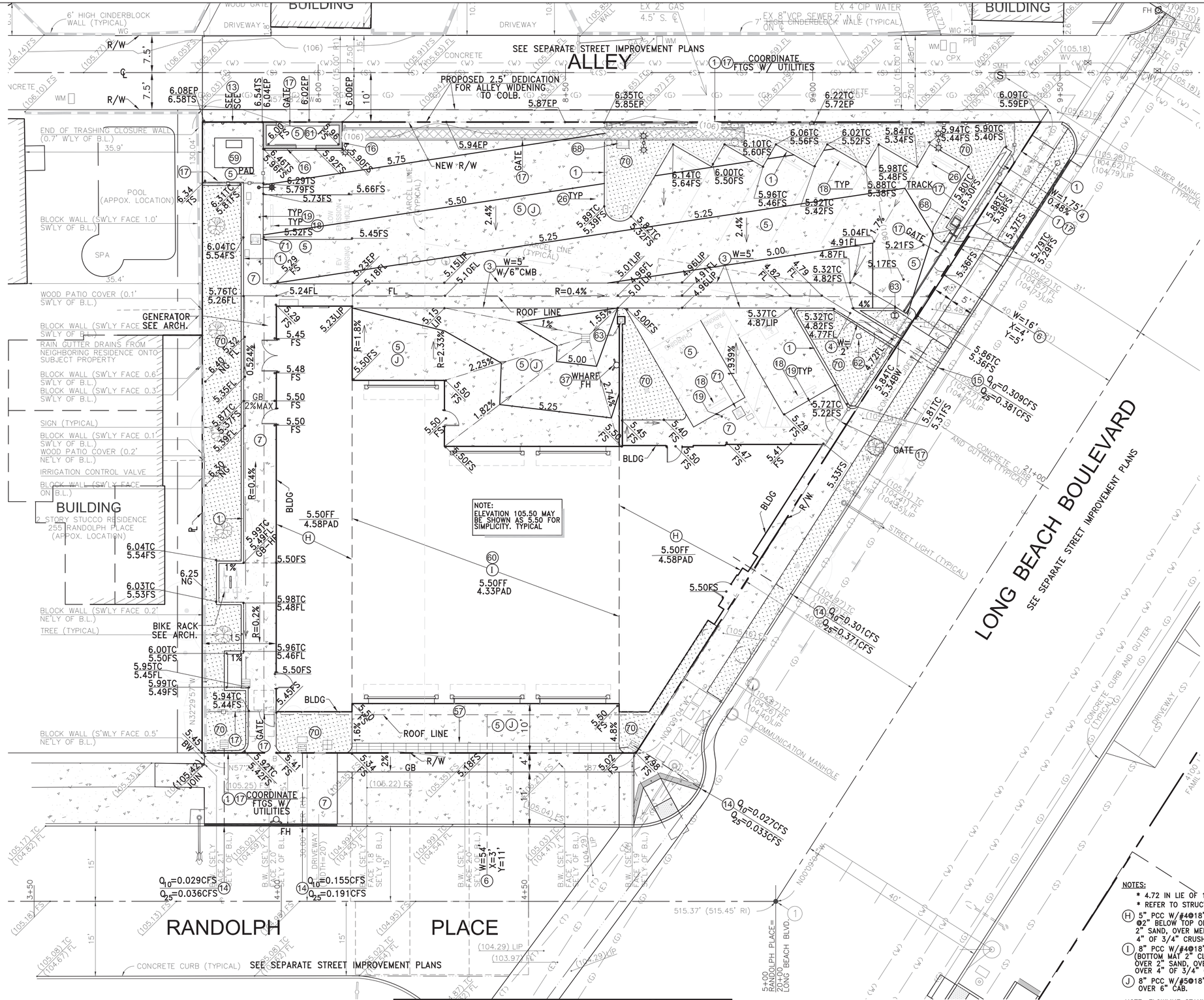
PHASE # ___ / REBID # ___

SHEET 19/C007 OF 236

DWG. NO. C-6616

ASHBA JOB# 8164
ENGINEERS LIMITED
POST OFFICE BOX 90833
LONG BEACH
CALIFORNIA 90809
(562) 209-6896
ISSUE DATE: 10.12.23

FILE INFO: E:\Ashba Engineers Ltd\8164 CLB FS No. 9 -MMA\Working\C007. DEMOLITION PLAN- 8164.dwg



CONSTRUCTION SCHEDULE

CONSTRUCT NEW.... REMOVE EXIST....
PROTECT EXIST.... RELOCATE EXIST....

#	Description	Std.	Detail
1	Curb	A103	5
2	Curb and Gutter A2-6	APWA	120
3	Longitudinal Gutter	CLB	122
4	Concrete Flume	C012	C4
5	Concrete Paving	C012	A1
6	Driveway Type 1	CLB	105
7	Concrete Walk	A103	6
8	Asphalt Concrete Paving	-	-
9	Full Depth AC	CLB	116
10	Curb Ramp	CLB	122
11	Concrete Strip	-	-
12	Tree / Tree Well	SEE	LAND.
13	Bollard	A104	3
14	Curb Drain Modified	APWA	150
15	Culvert	APWA	151
16	Wall	SEE	STRU.
17	Decorative Metal Fence	SEE	ARCH.
18	Wheel Bumper	C012	C2
19	Sign & Post	C012	B4
20	House Connection	WDS	404,506
21	VCP Pipe	ASTM	C700
22	PVC Pipe SDR 35	ASTM	D3034
23	Clean out	WDS	506
24	Floor Drain	SEE	PLUMB
25	Clarifier Interceptor	C012	C1
26	Street Light Std & Fdn	SEE	ELEC.
27	Utility Box	SEE	UTIL.
28	Conduit & Wiring	SEE	ELEC.
29	Vent	SEE	PLUMB
30	Water Service	WDS	001&002
31	Copper Pipe	ASTM	B88
32	PVC Pipe DR18	AWMA	C900
33	Ductile Iron Pipe CL52	AWMA	C151
34	Water Valve	WDS	-
35	Fire Depart. Connection	SEE	ARCH.
36	Post Indicator Valve	-	-
37	Fire Hydrant Modified	WDS	109
38	Detector Check BFP	WDS	006.1
39	Reduced Pressure BFP	WDS	015
40	Roof Drain	SEE	PLUM.
41	Fire Hydrant Mark	CLB	314
42	RCIP 3"X12"	AFC	A-470 / A-480
43	PVC PIPE SDR35	ASTM	D3034
44	Manhole	APWA	200
45	Catch Basin	APWA	304
46	Drop Inlet	C012	A2
47	Trench Drain Filter	C012	B3
48	Subdrain	-	-
49	Stencil Detail	CLB	636
50	Gas Service & Meter	LBER	Co.
51	PE Gas Pipe	SPEC	-
52	Gas Steel Pipe	ASTM	A52
53	Pressure Regulator	SEE	PLUM.
54	Earthquake Valve	SEE	PLUM.
55	Utility Pole	UTIL.	Co.
56	Guy Wire	SEE	UTIL.
57	Trench Drain	C012	B2
58	Underground Vault	UTIL.	Co.
59	Transformer/Switchgear	SEE	ELEC.
60	Building	SEE	ARCH.
61	Trash Enclosure	SEE	ARCH.
62	Flag Pole Foundation	C012	C3
63	Column	SEE	STRU.
64	Accessible Handicap Ramp	SEE	ARCH.
65	Steps	APWA	640
66	Guardrail \ Handrail	SEE	ARCH.
67	Detectable Warning	SEE	ARCH.
68	Controller	SEE	ARCH.
69	Loop Detector	SEE	TRAFF
70	Grade Only- PA	SEE	SPEC.
71	EV Charging Station	SEE	ELEC.
72	Striping	C012	B4

NOTES:
* 4.72 IN LIE OF 104.72
* REFER TO STRUCTURAL PLANS

(H) 5" PCC W/#4@18" O.C.E.W. @2" BELOW TOP OF SLAB, OVER 2" SAND, OVER MEMBRANE, OVER 4" OF 3/4" CRUSHED ROCK.

(I) 8" PCC W/#4@18" O.C.E.W. T&B (BOTTOM MAT 2" CLEAR OF SAND) OVER 2" SAND, OVER MEMBRANE, OVER 4" OF 3/4" CRUSHED ROCK.

(J) 8" PCC W/#5@18" O.C.E.W. MIDSLAB OVER 6" CAB.

NOTE: FLOWLINE STAKING SHALL BE EVERY 10' SUBMIT GRADE SHEET.

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

REVISIONS

DESIGNED BY: Barbara Ashba
DRAWN BY: AEL
DESIGN CHECKED BY: AEL
DRAWN CHECKED BY: Barbara Ashba
AS-BUILT
REF.

REGISTERED PROFESSIONAL ENGINEER BARBARA J. ASHBA No. 31417 Expires 12-31-24 10/13/23 CIVIL STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
PLANNING APPLICATION
PRECISE GRADING PLAN

B# B-4797

PHASE # ____ / REBID # ____

SHEET 20/C008 OF 236

DWG. NO. C-6616

ASHBA
JOB# 8164
ENGINEERS LIMITED
POST OFFICE BOX 90833
LONG BEACH
CALIFORNIA 90809
(562) 209-8896
ISSUE DATE: 10.12.23

PRECISE GRADING PLAN | SCALE 1"=10' | A1

FILE INFO: E:\Ashba Engineers Ltd\8164 CLB FS No. 9 -MMA\Working\C008. GRADING PLAN- 8164.dwg

NOTES:

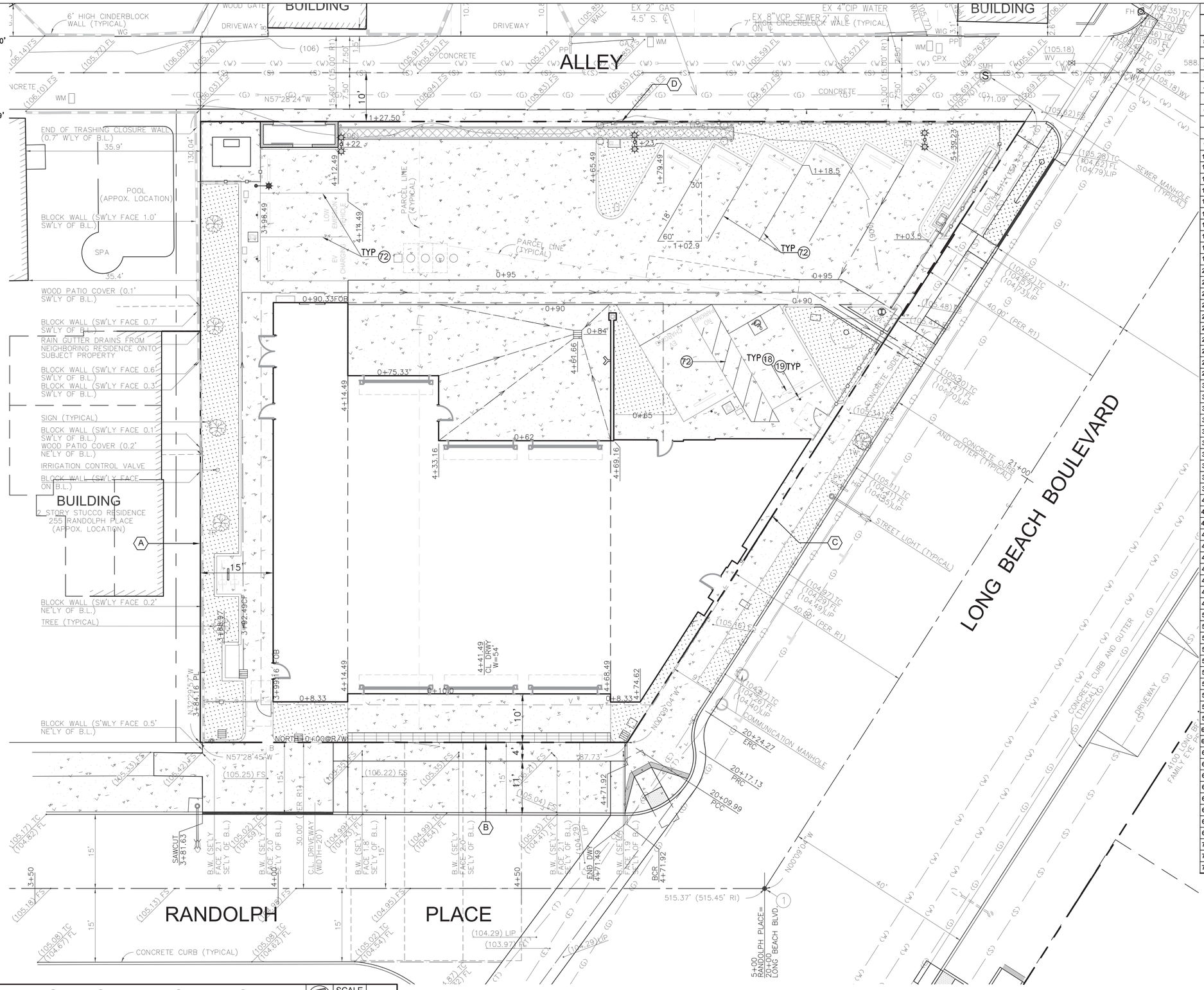
RECORD PROPERTY LINE

(A) N 32° 40' W ~ 127.50'

(B) N 57° 20' E ~ 87.76'

(C) SOUTH ~ 151.46'

(D) N 57° 20' E ~ 169.49'



CONSTRUCTION SCHEDULE			
○ CONSTRUCT NEW... □ REMOVE EXIST.... ◇ PROTECT EXIST.... ⊡ RELOCATE EXIST....			
#	Description	Std.	Detail
1	Curb	A103	5
2	Curb and Gutter A2-6	APWA	120
3	Longitudinal Gutter	CLB	122
4	Concrete Flume	C012	C4
5	Concrete Paving	C012	A1
6	Driveway Type 1	CLB	105
7	Concrete Walk	A103	6
8	Asphalt Concrete Paving	-	-
9	Full Depth AC	CLB	116
10	Curb Ramp	CLB	122
11	Concrete Strip	-	-
12	Tree / Tree Well	SEE	LAND.
13	Bollard	A104	3
14	Curb Drain Modified	APWA	150
15	Culvert	APWA	151
16	Wall	SEE	STRU.
17	Decorative Metal Fence	SEE	ARCH.
18	Wheel Bumper	C012	C2
19	Sign & Post	C012	B4
20	House Connection	WDS	404,506
21	VCP Pipe	ASTM	C700
22	PVC Pipe SDR 35	ASTM	D3034
23	Clean out	WDS	506
24	Floor Drain	SEE	PLUMB.
25	Clarifier Interceptor	C012	C1
26	Street Light Std & Fdn	SEE	ELEC.
27	Utility Box	SEE	UTIL.
28	Conduit & Wiring	SEE	ELEC.
29	Vent	SEE	PLUMB.
30	Water Service	WDS	001&002
31	Copper Pipe	ASTM	B88
32	PVC Pipe DR18	AWMA	C900
33	Ductile Iron Pipe CL52	AWMA	C151
34	Water Valve	WDS	-
35	Fire Depart. Connection	SEE	ARCH.
36	Post Indicator Valve	-	-
37	Fire Hydrant Modified	WDS	109
38	Detector Check BFP	WDS	006.1
39	Reduced Pressure BFP	WDS	015
40	Roof Drain	SEE	PLUM.
41	Fire Hydrant Mark	CLB	314
42	RCIP 3"X12"	AFC	A-470 / A-480
43	PVC PIPE SDR35	ASTM	D3034
44	Manhole	APWA	200
45	Catch Basin	APWA	304
46	Drop Inlet	C012	A2
47	Trench Drain Filter	C012	B3
48	Subdrain	-	-
49	Stencil Detail	CLB	636
50	Gas Service & Meter	LBER	Co.
51	PE Gas Pipe	SPEC	-
52	Gas Steel Pipe	ASTM	A52
53	Pressure Regulator	SEE	PLUM.
54	Earthquake Valve	SEE	PLUM.
55	Utility Pole	UTIL.	Co.
56	Guy Wire	SEE	UTIL.
57	Trench Drain	C012	B2
58	Underground Vault	UTIL.	Co.
59	Transformer/Switchgear	SEE	ELEC.
60	Building	SEE	ARCH.
61	Trash Enclosure	SEE	ARCH.
62	Flag Pole Foundation	C012	C3
63	Column	SEE	STRU.
64	Accessible Handicap Ramp	SEE	ARCH.
65	Steps	APWA	640
66	Guardrail \ Handrail	SEE	ARCH.
67	Detectable Warning	SEE	ARCH.
68	Controller	SEE	ARCH.
69	Loop Detector	SEE	TRAFF.
70	Grade Only- PA	SEE	SPEC.
71	EV Charging Station	SEE	ELEC.
72	Striping	C012	B4

NO.	DATE	SHEET	APPROVAL	REVISIONS DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
2	04/22/2022			PLAN CHECK RE-SUBMITTAL
3	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: Barbara Ashba

DRAWN BY: AEL

DESIGN CHECKED BY: AEL

DRAWN CHECKED BY: Barbara Ashba

REGISTERED PROFESSIONAL ENGINEER BARBARA J. ASHBA No. 31417 Expires 12-31-24 10/13/23 CIVIL STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

PLANNING APPLICATION

BUILDING LAYOUT AND STRIPING PLAN

B# B-4797

PHASE # ___ / REBID # ___

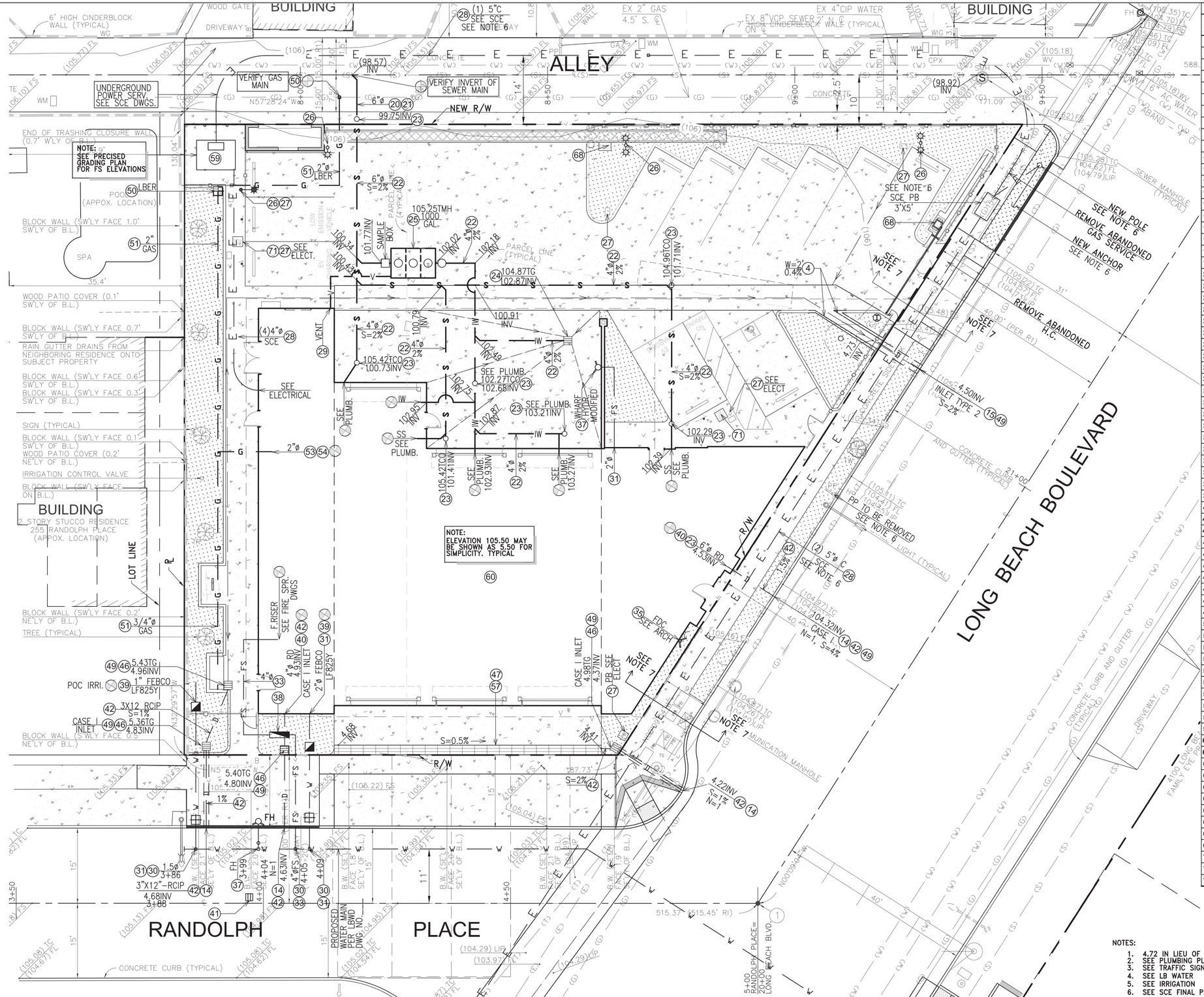
SHEET 21/C009 OF 236

DWG. NO. C-6616

ASHBA
JOB# 8164
ENGINEERS LIMITED
POST OFFICE BOX 90833
LONG BEACH
CALIFORNIA 90809
(562) 209-6896
ISSUE DATE: 10.12.23

BUILDING LAYOUT AND STRIPING PLAN | SCALE 1"=10' | A1

FILE INFO: E:\Ashba Engineers Ltd\8164 CLB FS No. 9 -MMA\Working\C009. BUILDING LAYOUT PLAN- 8164.dwg



CONSTRUCTION SCHEDULE			
○ CONSTRUCT NEW...	□ REMOVE EXIST....		
◔ PROTECT EXIST....	◪ RELOCATE EXIST....		
#	Description	Std.	Detail
1	Curb	A103	5
2	Curb and Gutter A2-6	APWA	120
3	Longitudinal Gutter	CLB	122
4	Concrete Flume	C012	C4
5	Concrete Paving	C012	A1
6	Driveway Type 1	CLB	105
7	Concrete Walk	A103	6
8	Asphalt Concrete Paving	-	-
9	Full Depth AC	CLB	116
10	Curb Ramp	CLB	122
11	Concrete Strip	-	-
12	Tree / Tree Well	SEE	LAND.
13	Bollard	A104	3
14	Curb Drain Modified	APWA	150
15	Culvert	APWA	151
16	Wall	SEE	STRU.
17	Decorative Metal Fence	SEE	ARCH.
18	Wheel Bumper	C012	C2
19	Sign & Post	C012	B4
20	House Connection	WDS	404,506
21	VCP Pipe	ASTM	C700
22	PVC Pipe SDR 35	ASTM	D3034
23	Clean out	WDS	506
24	Floor Drain	SEE	PLUMB.
25	Clarifier Interceptor	C012	C1
26	Street Light Std & Fdn	SEE	ELEC.
27	Utility Box	SEE	UTIL.
28	Conduit & Wiring	SEE	ELEC.
29	Vent	SEE	PLUMB.
30	Water Service	WDS	001&002
31	Copper Pipe	ASTM	B88
32	PVC Pipe DR18	AWMA	C900
33	Ductile Iron Pipe CL52	AWMA	C151
34	Water Valve	WDS	-
35	Fire Depart. Connection	SEE	ARCH.
36	Post Indicator Valve	-	-
37	Fire Hydrant Modified	WDS	109
38	Detector Check BFP	WDS	006.1
39	Reduced Pressure BFP	WDS	015
40	Roof Drain	SEE	PLUM.
41	Fire Hydrant Mark	CLB	314
42	RCIP 3"X12"	AFC	A-479 / A-480
43	PVC PIPE SDR35	ASTM	D3034
44	Manhole	APWA	200
45	Catch Basin	APWA	304
46	Drop Inlet	C012	A2
47	Trench Drain Filter	C012	B3
48	Subdrain	-	-
49	Stencil Detail	CLB	636
50	Gas Service & Meter	LBER	Co.
51	PE Gas Pipe	SPEC	-
52	Gas Steel Pipe	ASTM	A52
53	Pressure Regulator	SEE	PLUM.
54	Earthquake Valve	SEE	PLUM.
55	Utility Pole	UTIL.	Co.
56	Guy Wire	SEE	UTIL.
57	Trench Drain	C012	B2
58	Underground Vault	UTIL.	Co.
59	Transformer/Switchgear	SEE	ELEC.
60	Building	SEE	ARCH.
61	Trash Enclosure	SEE	ARCH.
62	Flag Pole Foundation	C012	C3
63	Column	SEE	STRU.
64	Accessible Handicap Ramp	SEE	ARCH.
65	Steps	APWA	640
66	Guardrail \ Handrail	SEE	ARCH.
67	Detectable Warning	SEE	ARCH.
68	Controller	SEE	ARCH.
69	Loop Detector	SEE	TRAFF
70	Grade Only- PA	SEE	SPEC.
71	EV Charging Station	SEE	ELEC.
72	Striping	C012	B4

NO.	DATE	SHEET	APPROVAL	REVISIONS
	12/16/2021			DESCRIPTION
1	04/22/2022			PLAN CHECK SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
3	10/12/2023			PLAN CHECK RE-SUBMITTAL
				BID DOCUMENTS
				AS-BUILT

DESIGNED BY: Barbara Ashba
DRAWN BY: AEL
DESIGN CHECKED BY: AEL
DRAWN CHECKED BY: Barbara Ashba
REF.

REGISTERED PROFFESSIONAL ENGINEER
BARBARA J. ASHBA
No. 31417
Expires 12-31-24
10/13/23
CIVIL
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
PLANNING APPLICATION
UTILITY PLAN

B# B-4797

PHASE # ____ / REBID # ____

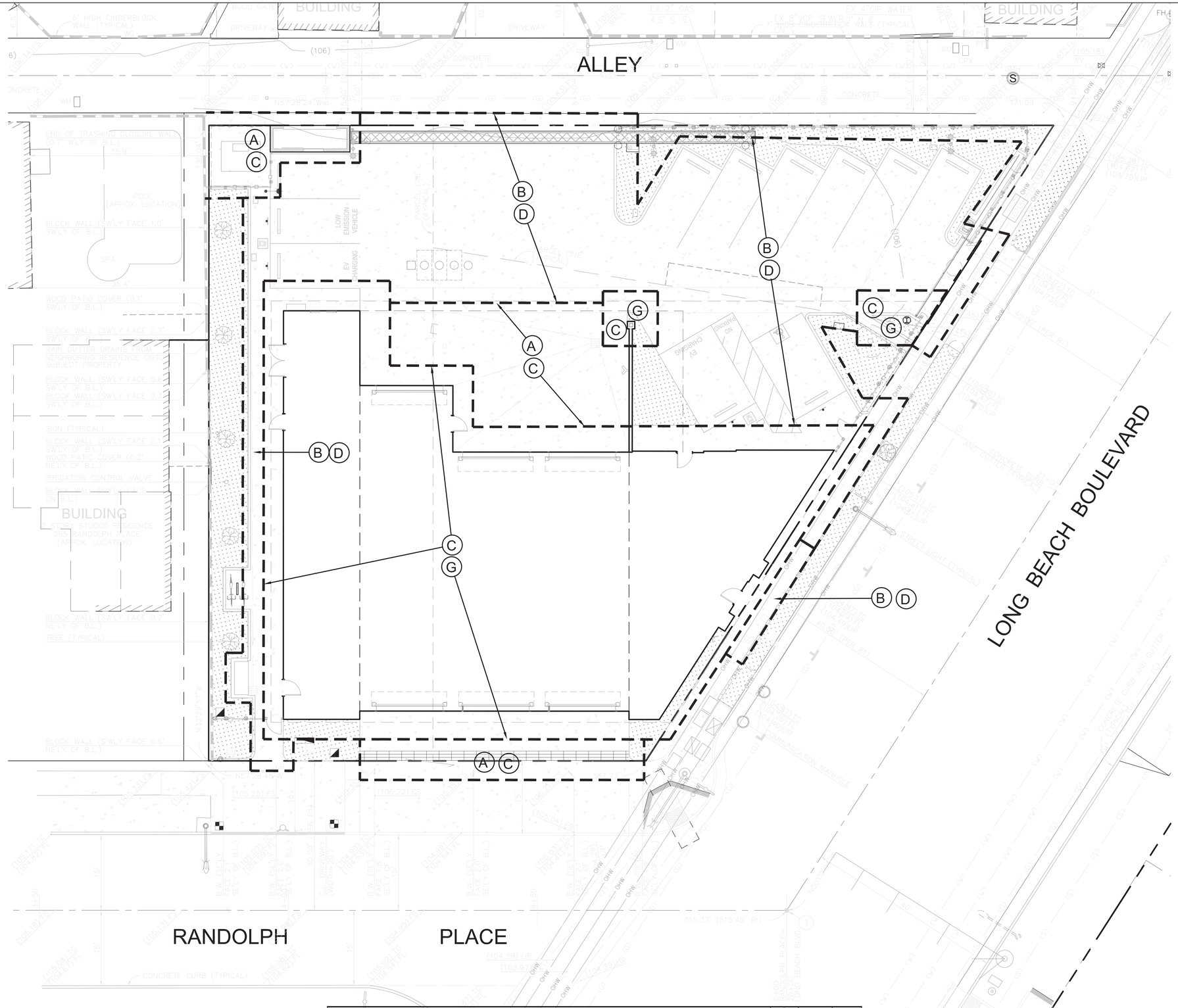
SHEET 22/C010 OI 236

DWG. NO. C-6616

NOTES:
1. 4.72 IN LIEU OF 104.72
2. SEE PLUMBING PLANS
3. SEE TRAFFIC SIGNAL PLANS
4. SEE LB WATER
5. SEE IRRIGATION
6. SEE SCE FINAL PLANS
7. POTHOLE FOR EXISTING UTILITIES AND DEPTHS.

ASHBA
JOB# 8164
ENGINEERS LIMITED
POST OFFICE BOX 90833
LONG BEACH
CALIFORNIA 90809
(562) 209-6896
ISSUE DATE: 10.12.23

FILE INFO: E:\Ashba Engineers Ltd\8164 CLB FS No. 9 -MMA\Working\C010. UTILITY PLAN- 8164.dwg



NOTES: (GEOTECHNICAL RECOMMENDATIONS)

A. FOR MINOR STRUCTURES AND SLABS-ON-GRADE THAT ARE STRUCTURALLY SEPARATED FROM THE BUILDING, THE OVER-EXCAVATION SHOULD EXTEND TO AT LEAST 2 FEET BELOW THE BOTTOM OF THE FOOTING OF THE MINOR STRUCTURES AND SLABS-ON-GRADE.

B. EXCAVATION FOR PAVEMENTS AND HARDSCAPE SHOULD BE OVER-EXCAVATED AT LEAST 1 FOOT AS MEASURED FROM THE BOTTOM OF THE PAVEMENT OR HARDSCAPE SECTION.

C. EXCAVATION SHOULD EXTEND LATERALLY BEYOND THE FOUNDATION LIMITS A MINIMUM DISTANCE EQUAL TO 3 FEET OR THE DEPTH OF OVER-EXCAVATION, WHICHEVER IS GREATER.

D. EXCAVATION FOR OTHER IMPROVEMENTS (E.G., CONCRETE WALKWAYS, FLATWORK, PAVEMENT) SHOULD EXTEND LATERALLY AT LEAST 2 FEET BEYOND THE LIMITS OF THE IMPROVEMENTS.

E. PRIOR TO PLACEMENT OF FILL OR PLACEMENT OF REINFORCING STEEL OR CONCRETE FOR FOUNDATIONS, THE BOTTOM SHOULD BE SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES AND MOISTURE CONDITIONED TO ACHIEVE GENERALLY CONSISTENT MOISTURE CONTENTS APPROXIMATELY 2 PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT. THE SCARIFIED BOTTOM SHOULD BE COMPACTED TO AT LEAST 90 PERCENT RELATIVE COMPACTION IN ACCORDANCE WITH THE LATEST VERSION OF ASTM TEST METHOD D1557 AND THEN EVALUATED AND APPROVED BY THE GEO-TECHNICAL ENGINEER.

F. COMPACTED FILL SHOULD BE PLACED IN HORIZONTAL LIFTS OF APPROXIMATELY 8 TO 10 INCHES IN LOOSE THICKNESS, DEPENDING ON THE EQUIPMENT USED. EACH LIFT SHOULD BE MOISTURE CONDITIONED, MIXED, AND THEN COMPACTED BY MECHANICAL METHODS. THE MOISTURE CONTENT SHOULD BE APPROXIMATELY 2 PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT. FILL MATERIALS SHOULD BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 95 PERCENT WITHIN THE UPPER ONE FOOT BELOW NEW VEHICLE TRAFFICKED PAVEMENT SECTIONS, AND 90 PERCENT IN ALL OTHER AREAS

G. STRUCTURE FOUNDATIONS SHOULD ALL BEAR ON AT LEAST 2 FEET OF NON-EXPANSIVE ENGINEERED FILL OR ALL ON NATIVE SOILS, DEPENDING ON EMBEDMENT OF FOUNDATIONS AND THICKNESS OF UNDOCUMENTED FILL ENCOUNTERED DURING CONSTRUCTION.

NO.	DATE	SHEET	APPROVAL	REVISIONS DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: Barbara Ashba
DRAWN BY: AEL
DESIGN CHECKED BY: AEL
DRAWN CHECKED BY: Barbara Ashba
REF.

REGISTERED PROFESSIONAL ENGINEER
BARBARA J. ASHBA
No. 31417
Expires 12-31-24
10/13/23
CIVIL
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

PLANNING APPLICATION

OVER EXCAVATION PLAN

B# B-4797

PHASE # ___ / REBID # ___

SHEET 23/C011 OF 236

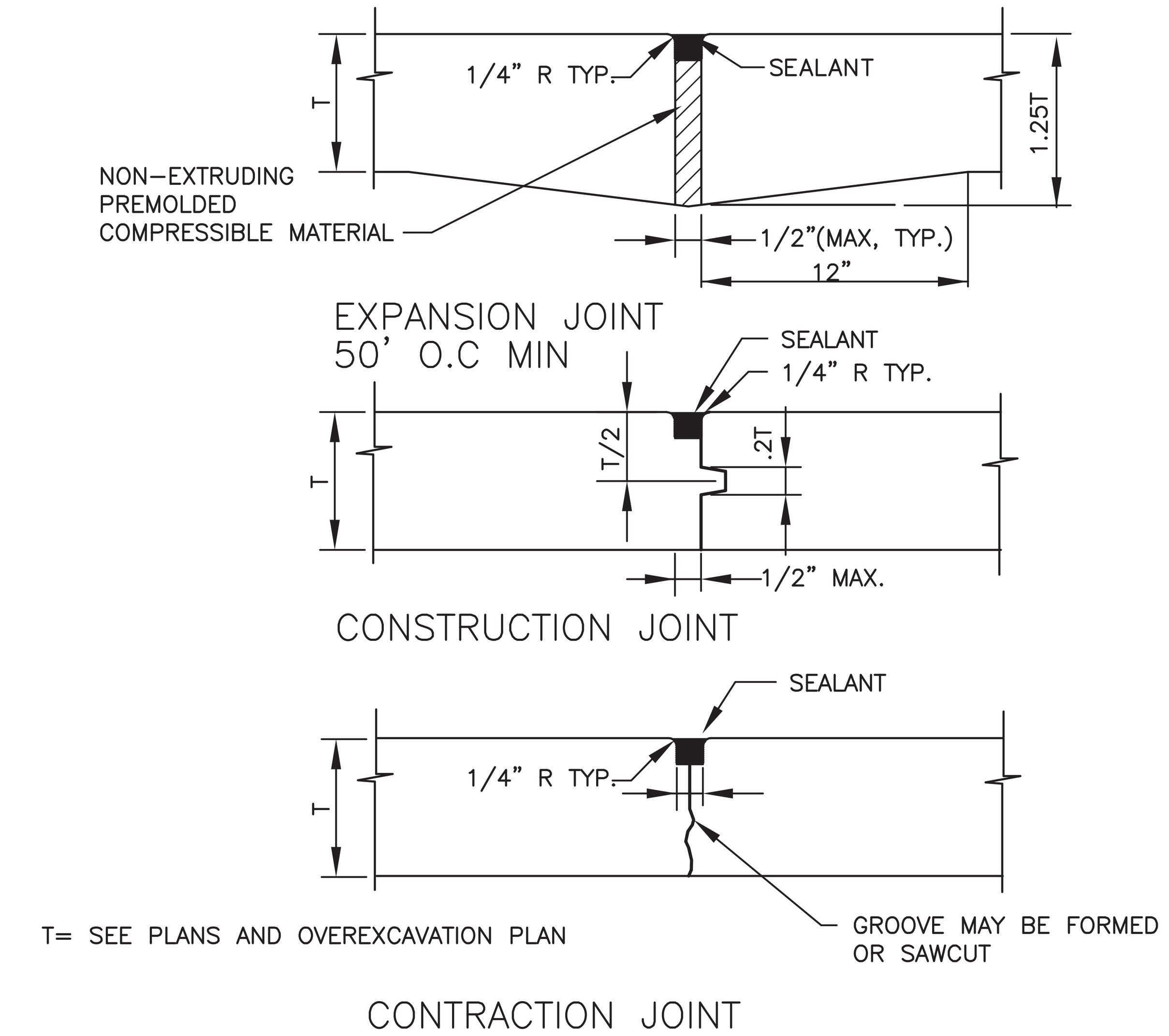
DWG. NO. C-6616

OVER EXCAVATION PLAN

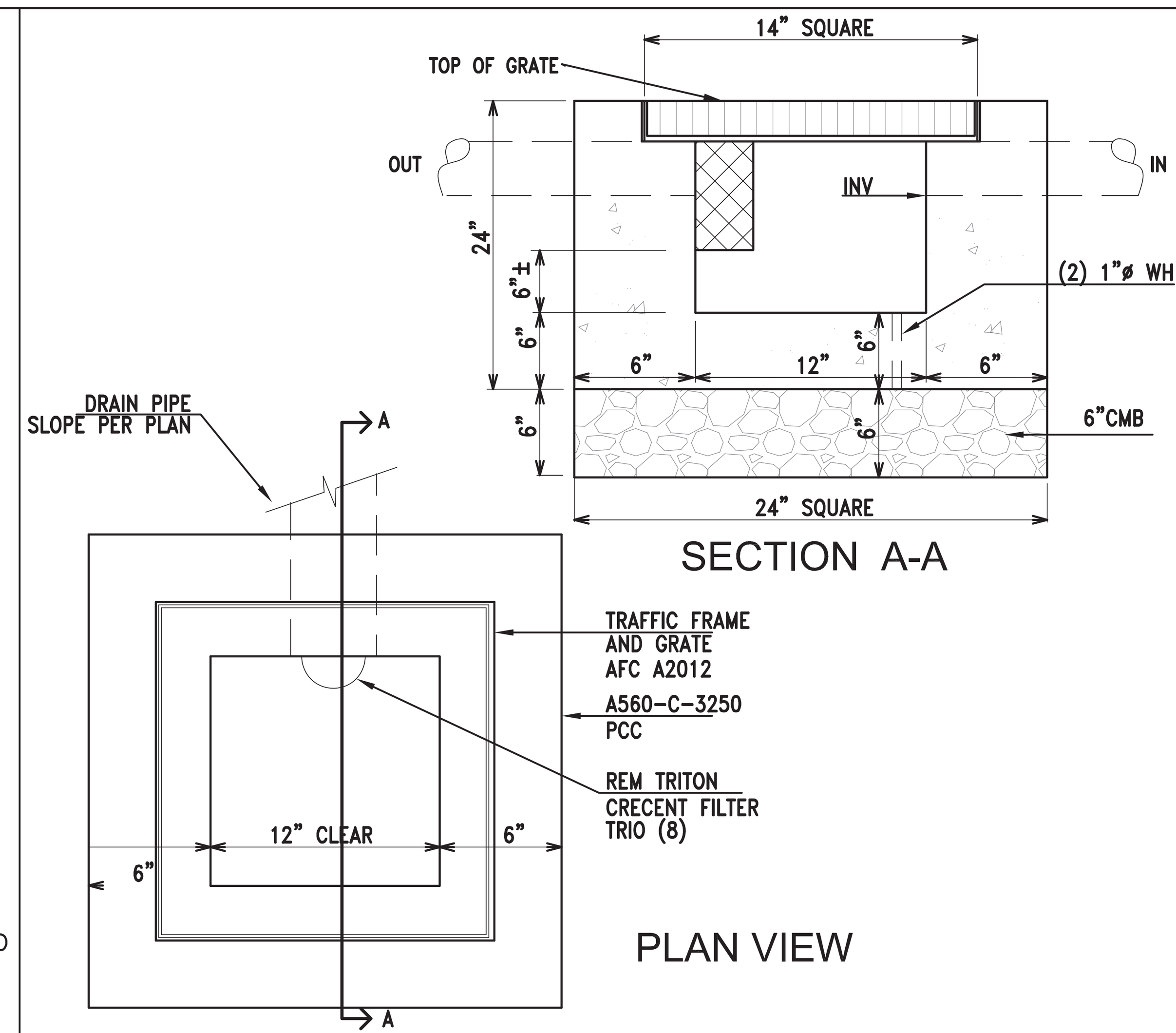
SCALE 1"=10' A1

ASHBA
JOB# 8164
ENGINEERS LIMITED
POST OFFICE BOX 90833
LONG BEACH
CALIFORNIA 90809
(562) 209-6896
ISSUE DATE: 10.12.23

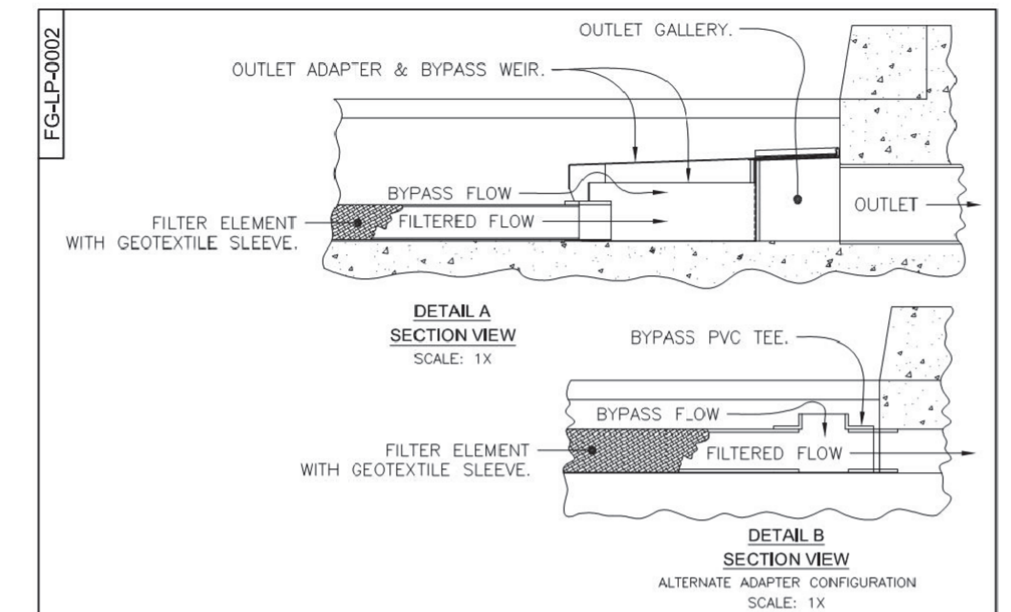
FILE INFO: E:\Ashba Engineers Ltd\8164 CLB FS No. 9 -MMA\Working\C011. OVER EXCAVATION PLAN- 8164.dwg



CONCRETE PAVING — SCALE NTS — A1



DROP INLET DETAIL — SCALE NTS — A2



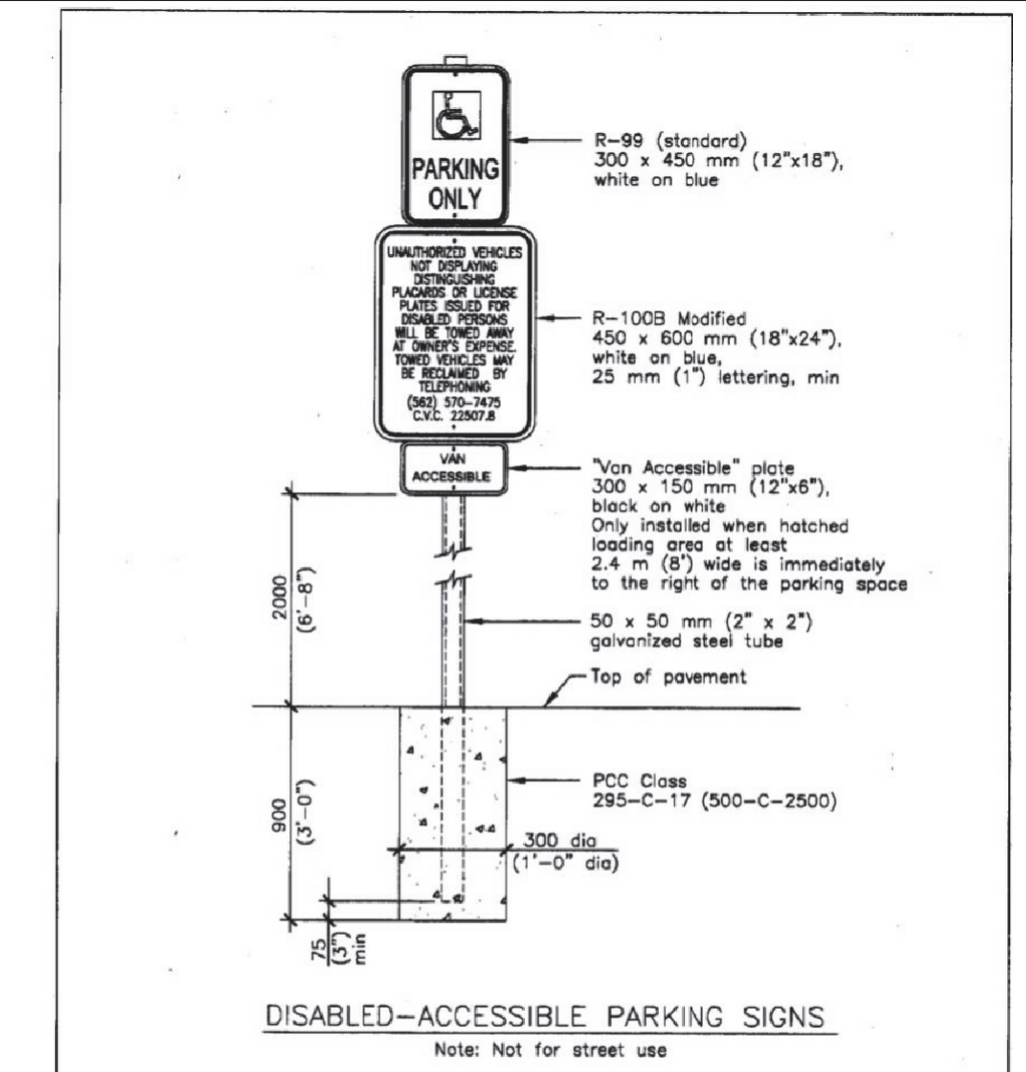
SPECIFIER CHART						
MODEL	FILTER TYPE	TRENCH WIDTH "ID" (CLEAR OPENING)	MINIMUM TRENCH DEPTH (FROM BOTTOM OF GRATE)	SOLIDS STORAGE CAPACITY CUBIC FEET **	FILTERED FLOW CUBIC FEET / SECOND **	TOTAL BYPASS CAPACITY CUBIC FEET /SECOND
FG-TDOF3	PIPE *	3.0	6.5	0.1	0.5	0.1
FG-TDOF4	PIPE *	4.0	6.5	0.2	0.5	0.1
FG-TDOF6	PIPE	6.0	6.5	0.4	0.5	0.2
FG-TDOF8	PIPE	8.0	6.5	0.7	0.5	0.3
FG-TDOF10	PIPE	10.0	6.5	0.9	0.5	0.5
FG-TDOF12	PIPE	12.0	6.5	0.9	1.0	0.6
FG-TDOF18	PIPE	18.0	6.5	1.3	1.5	1.1
FG-TDOF24	PIPE	24.0	6.5	1.8	2.0	1.5
FG-TDOA6	PANEL	6.0	4.5	0.4	0.2	0.2
FG-TDOA8	PANEL	8.0	4.5	0.7	0.2	0.3
FG-TDOA10	PANEL	10.0	4.5	0.8	0.3	0.5
FG-TDOA12	PANEL	12.0	4.5	1.0	0.4	0.6
FG-TDOA18	PANEL	18.0	4.5	1.4	0.8	1.1
FG-TDOA24	PANEL	24.0	4.5	1.8	1.1	1.5

* ALTERNATE ADAPTER CONFIGURATION. SEE DETAIL B.
**CAPACITY PER 4-FT. SEGMENT USED.

FloGard® Catch Basin Insert Filter — Trench Drain Style — Inlet Filtration

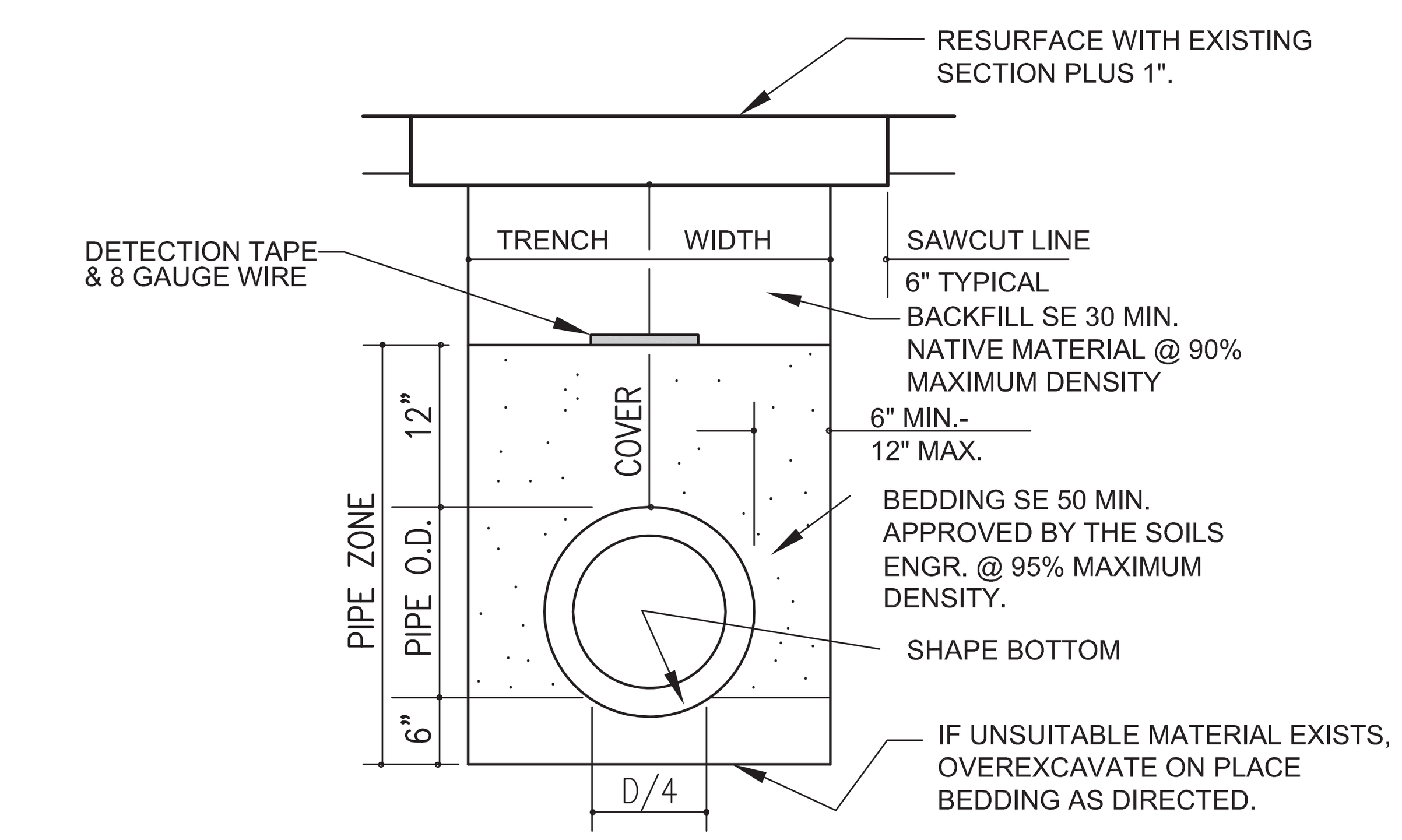
Oldcastle® Stormwater Solutions
7921 Southpark Plaza, Suite 200 | Littleton, CO | 80120 | Ph: 800.579.8819 | oldcastlestormwater.com

DRAWING NO. FG-LP-0002 | REV G | ECO ECO-0127 JPR 5/18/15 | DATE JPR 2/21/07 | SHEET 2 OF 2

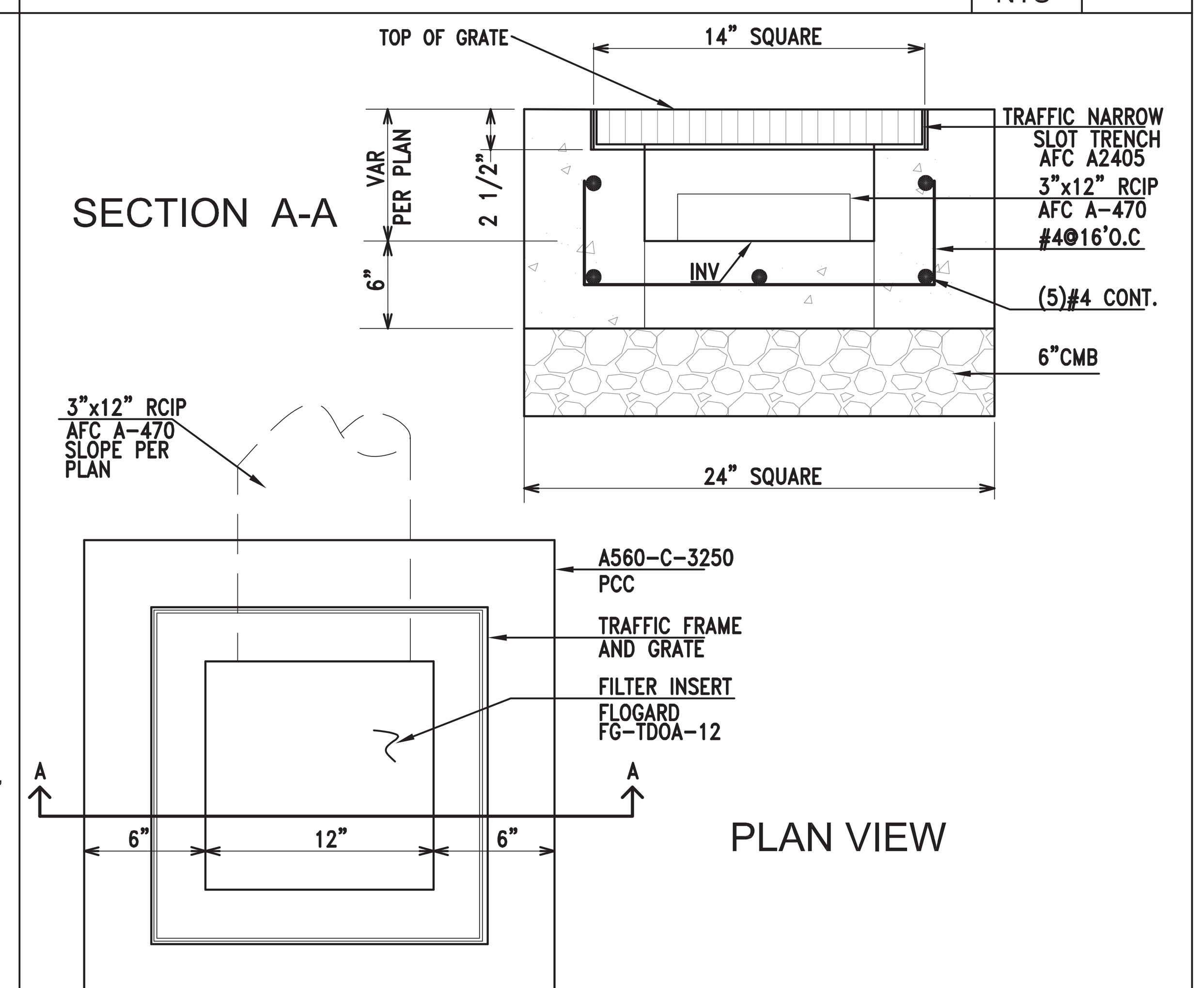


Dimensions are in millimeters, except as noted

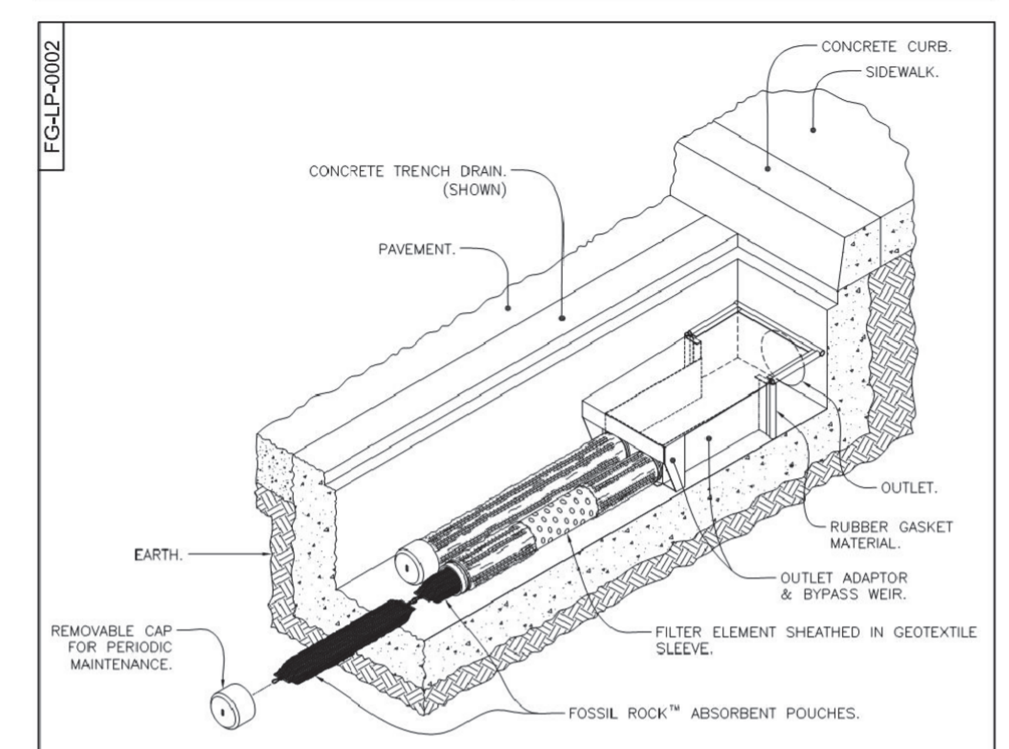
REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		
1	07/08/02	PARKING LOT STRIPING, MARKING AND SIGNING	METRIC 312
2	12/23/02		
3	02/07/03	APPROVED BY: [signature] CITY ENGINEER REG. No. 40599 DATE: 4/16/03 EX. DATE 03/31/07	SHEET 2 OF 2
4			



TYP. TRENCH DETAIL — NTS — B1



TRENCH DRAIN — SCALE NTS — B2



NOTES:

1. Filter insert shall have a high flow bypass feature.
2. Filter outlet adapter shall be constructed from stainless steel Type 304. Alternate outlet adaptor for shallow Installations shall be PVC SCH-40. See detail B, sheet 2 of 2.
3. Filter medium shall be *Fossil Rock* ™, Installed and maintained In accordance with manufacturer specifications.
4. Storage capacity reflects 80% of maximum solids collection prior to impeding filtering bypass.
5. For alternate outlet adapter configurations used for extremely shallow trench drains contact Oldcastle Stormwater Solutions for engineering assistance.
6. Filter element should be a minimum of one half the length of trench. Confirm flow rate upon order.

FloGard® Catch Basin Insert Filter — Trench Drain Style — Inlet Filtration

Oldcastle® Stormwater Solutions
7921 Southpark Plaza, Suite 200 | Littleton, CO | 80120 | Ph: 800.579.8819 | oldcastlestormwater.com

DRAWING NO. FG-LP-0002 | REV G | ECO ECO-0127 JPR 5/18/15 | DATE JPR 2/21/07 | SHEET 1 OF 2

TRENCH DRAIN FILTER — SCALE NTS — B3

DIVISION 5:
GENERAL SITE AND BUILDING ELEMENTS

***11B*-501 General**

***11B*-501.1 Scope.** The provisions of *Division* 5 shall apply where required by *Division* 2 or where referenced by a requirement in this *chapter.*

***11B*-502 Parking spaces**

***11B*-502.1 General.** Car and van parking spaces shall comply with *Section 11B*-502. Where parking spaces are marked with lines, width measurements of parking spaces and access aisles shall be made from the centerline of the markings.

Exception: Where parking spaces or access aisles are not adjacent to another parking space or access aisle, measurements shall be permitted to include the full width of the line defining the parking space or access aisle.

***11B*-502.2 Vehicle spaces.** *Car and van parking spaces shall be 216 inches (5486 mm) long minimum.* Car parking spaces shall be *108 inches (2743 mm)* wide minimum and van parking spaces shall be *144 inches (3658 mm)* wide minimum, shall be marked to define the width, and shall have an adjacent access aisle complying with *Section 11B*-502.3.

Exception: Van parking spaces shall be permitted to be *108 inches (2743 mm)* wide minimum where the access aisle is 96 inches (2438 mm) wide minimum.

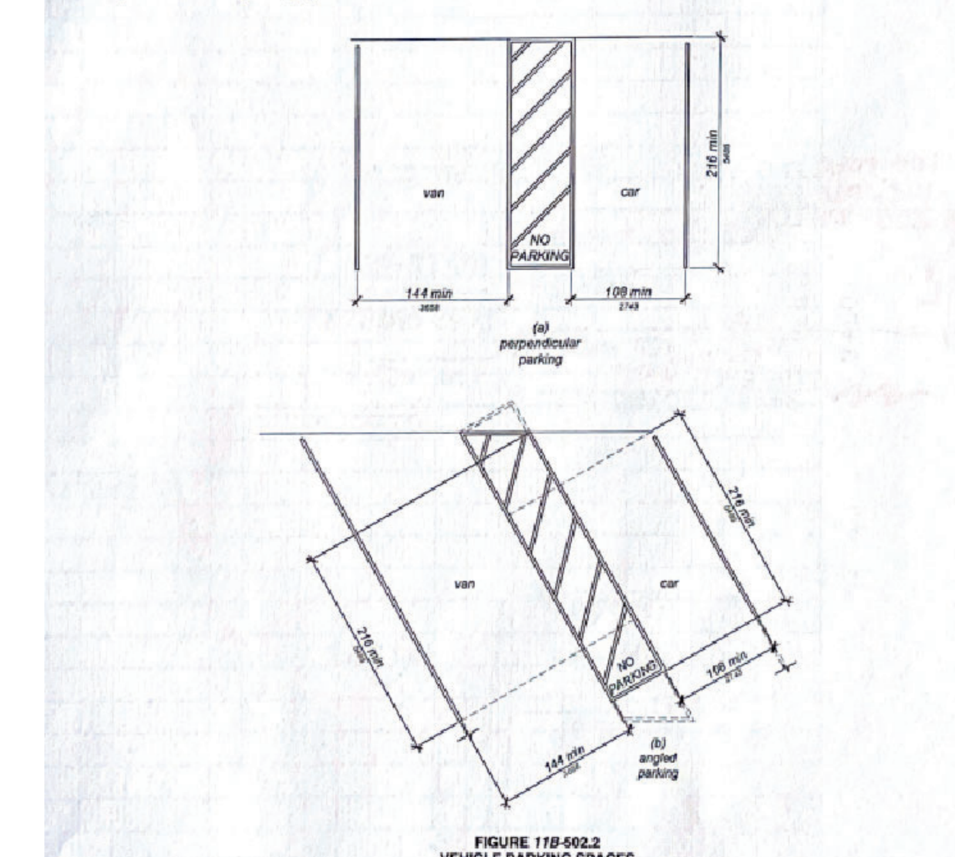
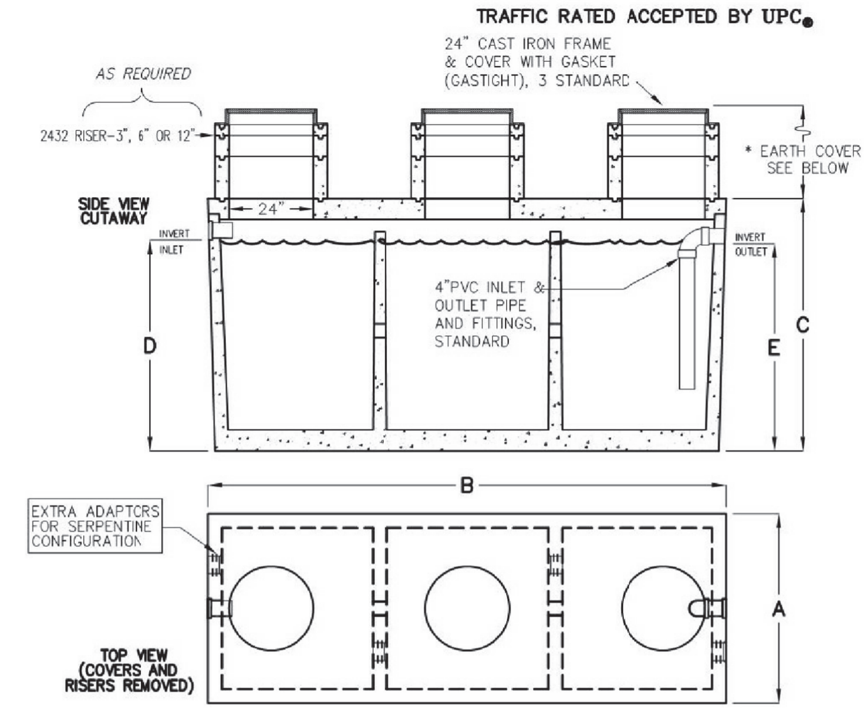


FIGURE 11B-502.2
VEHICLE PARKING SPACES

CBC FIG 11B-502.2 — SCALE NTS — B4

750-1500 GALLON CLARIFIER TANKS
TRAFFIC RATED ACCEPTED BY UPC



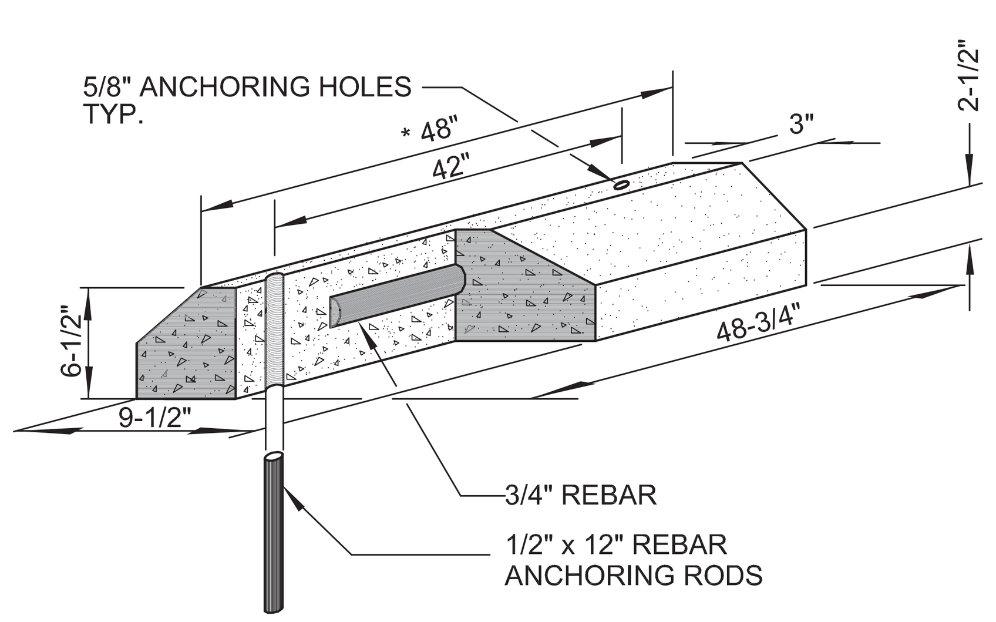
1000 GAL. →

MODEL NUMBER	LIQUID CAPACITY GALLONS	WIDTH 'A'	OVERALL LENGTH 'B'	TANK HEIGHT 'C'	INLET 'D'	OUTLET 'E'	MINIMUM EXCAVATION WIDTH	MINIMUM EXCAVATION LENGTH	* DEPTH OF BURY	TANK WEIGHT LBS.
KCL750	750	4'-0"	8'-1"	6'-3"	5'-0"	4'-9"	5'-0"	9'-1"	4" TO 8'	10,500
KCL1000	1000	5'-1"	8'-2"	6'-3"	5'-0"	4'-9"	6'-1"	9'-2"	4" TO 6'-6"	13,000
KCL1200	1200	5'-9"	8'-6"	6'-6"	5'-0"	4'-9"	6'-9"	9'-6"	4" TO 6'-6"	16,500
KCL1500	1500	5'-7"	10'-8"	6'-3"	5'-0"	4'-9"	6'-7"	11'-8"	1' TO 6'	17,700

- TANK DESIGNED FOR H-20 TRAFFIC WHEEL LOAD WITH DRY SOIL CONDITIONS (WATER TABLE BELOW TANK).
- SUITABLE NATIVE OR SUB-BASE SHALL BE PREPARED TO HANDLE ANTICIPATED LOADS. THE EXCAVATION SHALL BE BEDDED WITH SUITABLE GRANULAR MATERIAL AND SHALL BE COMPACTED TO 90% MAXIMUM DRY DENSITY, OR TO REQUIREMENTS OF THE PROJECT GEOTECHNICAL ENGINEER.
- FOR COMPLETE DESIGN AND PRODUCT INFORMATION CONTACT JENSEN PRECAST.

JENSEN PRECAST.

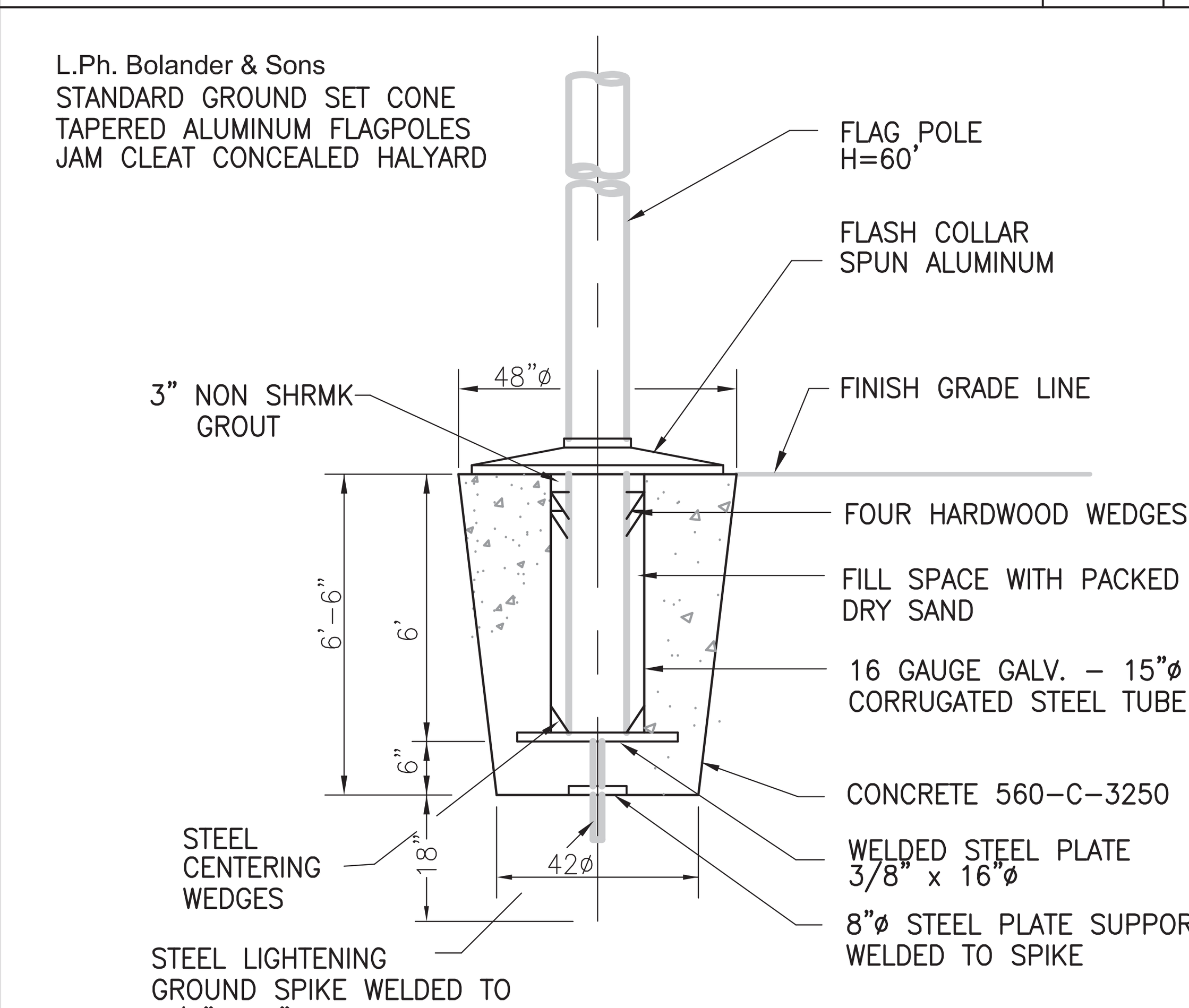
CLARIFIER INTERCEPTOR — SCALE NTS — C1



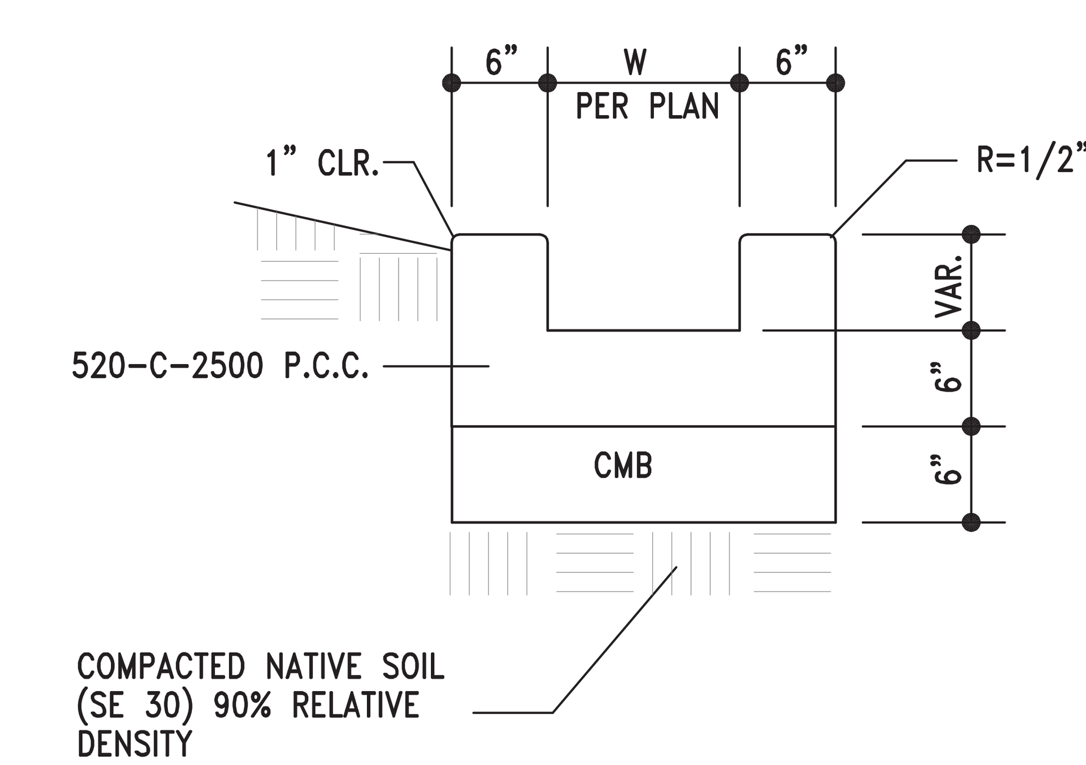
* SEE ARCHITECTURAL PLANS

WHEEL BUMPER DETAIL — SCALE NTS — C2

L.Ph. Bolander & Sons
STANDARD GROUND SET CONE TAPERED ALUMINUM FLAGPOLES JAM CLEAT CONCEALED HALYARD



FLAG POLE FOUNDATION — SCALE NTS — C3



CONCRETE FLUME — SCALE NTS — C4

REVISIONS				
NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

AS-BUILT
REF.

DESIGNED BY: **Barbara Ashba**
DRAWN BY: **AEL**
DESIGN CHECKED BY: **AEL**
DRAWN CHECKED BY: **Barbara Ashba**

REGISTERED PROFFESSIONAL ENGINEER — BARBARA J ASHBA — No. 31417 — Expires 12-31-24 — 10/13/23 — CIVIL — STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
PLANNING APPLICATION
CONSTRUCTION DETAILS

B# B-4797
PHASE # ____ / REBID # ____

ASHBA JOB# 8164
ENGINEERS LIMITED
POST OFFICE BOX 90833
LONG BEACH CALIFORNIA 90809
(562) 209-6896
ISSUE DATE: 10.12.23

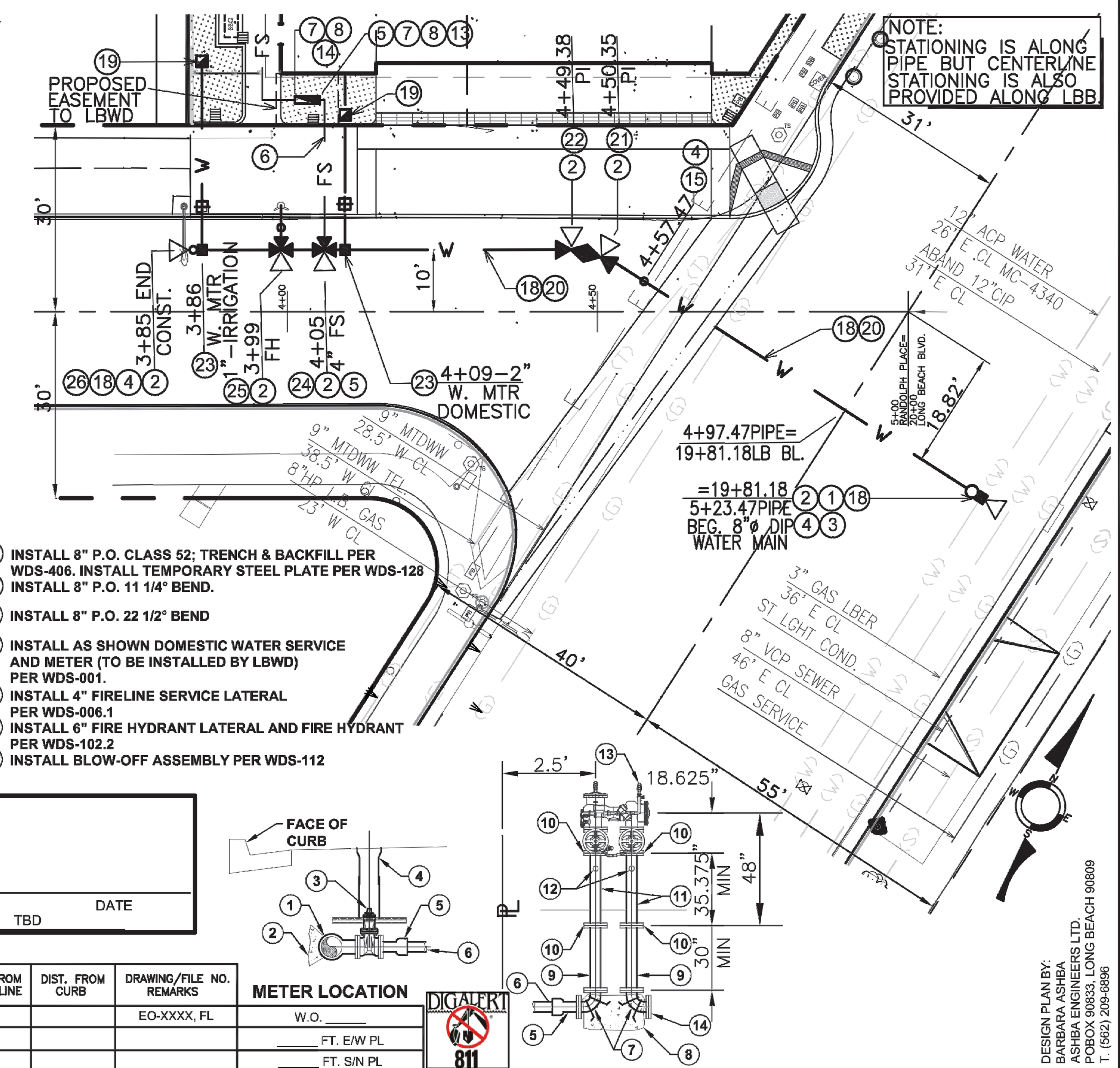
DWG. NO. C-6616

GENERAL NOTES

1. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA AT PHONE NUMBER 811 AT LEAST 48 WORKING HOURS PRIOR TO BREAKING GROUND PER CALIFORNIA GOVERMENT CODE SECTION 4216.
2. CONTRACTOR SHALL NOTIFY LBWD INSPECTION AT 562-244-933, 48-HOURS PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR SHALL VERIFY EACH POINT OF CONNECTION IN THE FIELD, INCLUDING PIPE MATERIAL AND DEPTH.
4. WATER SERVICE DEPTH SHALL HAVE COVER BETWEEN 36 AND 45 INCHES. IF EXISTING MAIN IS DEEPER THAN 45 INCHES, THE TRANSITION SHALL BE ACCOMPLISHED WITH A FLANGED 45° BEND CONNECTED TO THE TAPPING VALVE.
5. ALL BURIED FITTINGS AT FLANGED CONNECTIONS, VALVES, COUPLINGS, WASHERS AND DI PIPE. SHALL BE COATED WITH NO-OX-ID 'A-SPECIAL' GREASE COMPOUND AND WRAPPED WITH NO-OX-ID PROTECTIVE WRAP. THE ENTIRE ASSEMBLY SHALL BE ENCASED WITH 8-MIL POLYETHYLENE WRAP AND SECURED WITH 10-MIL PIPE WRAP TAPE.
6. THRUST RESTRAINING GASKETS SHALL BE USED IN ALL PUSH-ON JOINTS. THRUST BLOCKS SHALL BE INSTALLED AT ALL BURIED VERTICAL AND HORIZONTAL BENDS PER WDS-107. CONCRETE SHALL BE PER SSPWC 600-C-2500. PLACE THRUST BLOCKS AGAINST UNDISTURBED SOIL.
7. HYDROSTATIC TEST SHALL BE PERFORMED AT 150 PSI FOR A DURATION OF NO LESS THAN 2 HOURS. HYDROSTATIC AND BACTERIOLOGICAL TESTS SHALL BE COMPLETED AND ACCEPTED PRIOR TO CONSTRUCTING SYSTEM TIE-INS.
8. AN EASEMENT SHALL BE DEDICATED TO THE L.B.W.D. TO PERMIT MAINTENANCE OF THE DET. CK. DEVICE. THE EASEMENT SHALL BE 10 FEET WIDE AND 5 FEET BEYOND THE DEVICE (MINIMUM).
9. ALL CONSTRUCTION SHALL BE PER THIS APPROVED CONSTRUCTION DRAWING AND APPROVED MATERIALS LIST.
10. CONTRACTOR SHALL HAVE A COPY OF APPROVED DESIGN PLAN AND MATERIALS SUBMITTALS ON SITE AT ALL TIMES. FAILURE TO COMPLY SHALL RESULT IN LBWD INSPECTORS STOPPING ALL WORK AT THE CONTRACTOR'S EXPENSE.
11. CONTRACTOR SHALL RECORD DATA ON VALVE INFORMATION TABLE, ALL FIELD CHANGES, AND PROVIDE SIGNED 'AS-BUILT' DRAWING TO THE SATISFACTION OF LBWD PRIOR TO PROJECT CLOSE-OUT.
12. NON-POTABLE PIPELINE CROSSINGS SHALL BE INSTALLED IN ACCORDANCE WITH LBWD STD. WDS-405.

CONSTRUCTION NOTES

1. TAP EXIST. 12"ACP PIPE WITH 12" X 8" LONG-BODY STAINLESS STEEL TAPPING SLEEVE (FIELD VERIFY POINT OF CONNECTION.)
2. INSTALL THRUST BLOCK PER WDS-107.
3. INSTALL 8" FLG. VALVE NO. ___-WVA-___.
4. INSTALL GATE BOX TO GRADE PER WDS-115, WDS-116, & WDS-119.
5. INSTALL 4" FLG. X P.O. CONNECTING PIECE.
6. INSTALL 4" P.O. DIP (CLASS 52); TRENCH & BACKFILL PER WDS-406. INSTALL TEMPORARY STEEL PLATES PER WDS-128.
7. INSTALL 4" X 90° FLG. BEND
8. INSTALL THRUST BLOCK PER WDS-107 WITH #4 STEEL REBARS (SEE GENERAL NOTE 6 HEREON).
9. INSTALL 4" FABRICATED DIP SPOOL (CLASS 53)
10. INSTALL A FLANGE INSULATING KIT PER WDS-006.1 SHEET 2.
11. INSTALL A 4" FLGD. CEMENT LINED & EPOXY-COATED STEEL SPOOL PER WDS-006.1 SHEET 2.
12. INSTALL A PREFABRICATED 2" THREADED OUTLET FOR STEEL PIPE, 2" LOCKING BRASS BALL VALVE, AND A 2" PIPE PLUG PER WDS-006.1.
13. SET 4" FEBCO 876VST DOUBLE CHECK DETECTOR ASSEMBLY. PROVIDE CHAINS FOR LOCKING HAND WHEELS.
14. CUSTOMER TO CONNECT AT FLGD. END OF 4" x 90° BEND
15. INSTALL 8" FLG. VALUE No. ____-WVA-____
16. NOT USED
17. NOT USED
18. RESTORE IMPACTED PORTION OF STREET TO ITS ORIGINAL CONDITION OR AS REQUIRED BY PERMIT
19. INSTALL STRONG BOX SMOOTH BACKFLOW ENCLOSURE-FRONT ENTRY SBBC-45SS ON 3'X4.5' PCC PAD PER MANUFACTURES REQUIREMENTS
20. INSTALL 8" P.O. CLASS 52; TRENCH & BACKFILL PER WDS-406. INSTALL TEMPORARY STEEL PLATE PER WDS-128
21. INSTALL 8" P.O. 11 1/4° BEND.
22. INSTALL 8" P.O. 22 1/2° BEND
23. INSTALL AS SHOWN DOMESTIC WATER SERVICE AND METER (TO BE INSTALLED BY LBWD) PER WDS-001.
24. INSTALL 4" FIRELINE SERVICE LATERAL PER WDS-006.1
25. INSTALL 6" FIRE HYDRANT LATERAL AND FIRE HYDRANT PER WDS-102.2
26. INSTALL BLOW-OFF ASSEMBLY PER WDS-112



AS-BUILT DRAWING SUBMISSION

I CERTIFY THAT THE INFORMATION PROVIDED HEREON REFLECTS ALL FIELD CHANGES, AS-BUILT CONDITIONS, AND THAT THE VALVE INFORMATION TABLE IS PROPERLY FILLED OUT.

NAME DATE

OWNER REVIEW

NAME DATE

APPROVED:

FIRE LIFE SAFETY PLAN CHECK NO. TBD DATE

VALVE INFORMATION TABLE

NEW VALVE GIS STRUCTURE	SIZE (IN.)	MAKE (MFG.)	STEM DEPTH	NO. OF TURNS	PIPE COVER	NORTH – SOUTH STREET	DIST. FROM PROP. LINE	DIST. FROM CURB	EAST – WEST STREET	DIST. FROM PROP. LINE	DIST. FROM CURB	DRAWING/FILE NO. REMARKS
___-WVA-___	8					LONG BEACH BLVD.			RANDOLPH PL.			EO-XXXX, FL
___-WVA-___	8					LONG BEACH BLVD.			RANDOLPH PL.			

METER LOCATION
W.O. ____
____ FT. E/W PL
____ FT. S/N PL

DESIGN PLAN BY: BARBARA ASHBA, ASHBA ENGINEERS LTD. POBOX 90833, LONG BEACH 90809, T. (562) 209-6896

PE- 31417
DESIGNED BY: BARBARA ASHBA DATE: 06/22 | DRAWN BY: R. MENDOZA DATE: 06/22 | CHECKED BY: B. ASHBA DATE | RECORD DWG BY: __/__/__ | SCALE: 1" = 20' | ATLAS NO.: H-26 | REV.: _

APPROVED ____ MANAGER OF ENGINEERING DATE

LONG BEACH WATER DEPARTMENT
CHRISTOPHER J. GARNER
GENERAL MANAGER

8" WATER MAIN & 4" FIRE SERVICE
FIRE STATION No. 9
4101 LONG BEACH BLVD.

FILE: MC-5237
PROJECT: 3005010108
SHEET 1 OF 1 SHEET

8" WATER MAIN & 4" FIRE SERVICE - MC-5237 | SCALE NTS | B2

Long Beach Water

Construction Notes for Off-Site Water and Sewer Plans for Public Works or Building Department Approval

Utility plans show the concept of where various water, sewer, and other utilities will be installed. They also define who is responsible for what work and define what further plans must be drawn up for Water Department approval. Please use this listing as a guide for design.

Design plan shall list all existing water and sewer mains and services, including size and material.

Public Water Notes

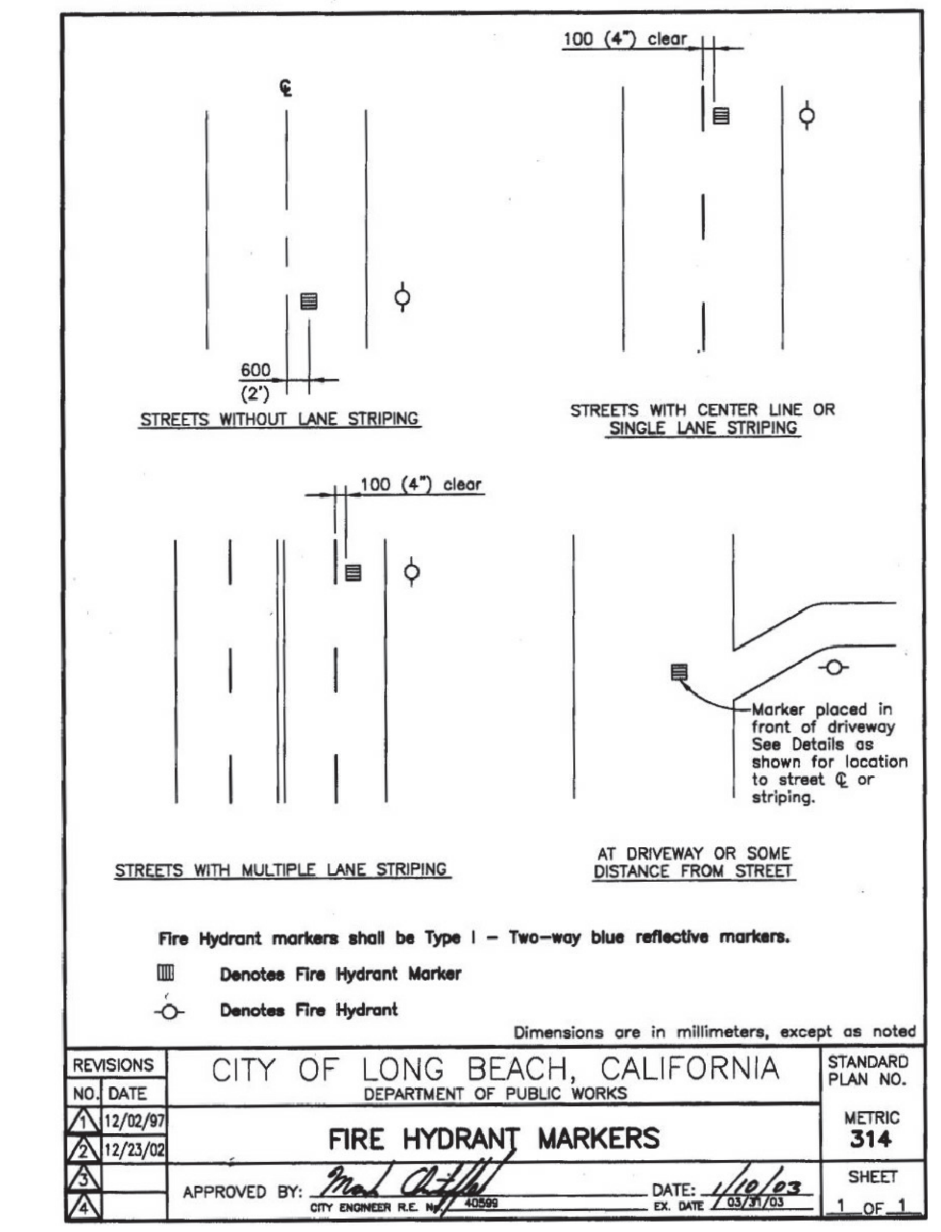
- ☒ {3/4" 1" 1 ½" 2"} {domestic / irrigation} water service and meter to be installed by LBWD per WDS-001 (see Note 1 below).
- ☐ 3" {domestic / irrigation} water service and meter to be installed by LBWD per WDS-002 (see Note 1 below).
- ☐ {4" 6" 8"} {domestic / irrigation} water lateral and meter to be installed by LBWD under separate project. Refer to WDS-011 for general requirements (see Note 2 below).
- ☒ {4" 6" 8"} {fireline service} to be installed by contractor under separate design approved by LBWD under separate project. Refer to WDS-006.1 for general requirements (see Note 3 below).
- ☒ Kill tap service to be performed by LBWD. Contact City of Long Beach Customer Service at 562-570-5991 to order. See note 6 below.
- ☒ Existing live water service. Verify that meters have been removed. If not, Contact City of Long Beach Customer Service at 562-570-5991 to request removal. See note 6 below.
- ☐ Proposed location of easement.
- ☒ Projects with new construction shall have separate commercial and residential meters. All meters shall be designated as Commercial, Residential, or Irrigation uses.

Private Water Notes

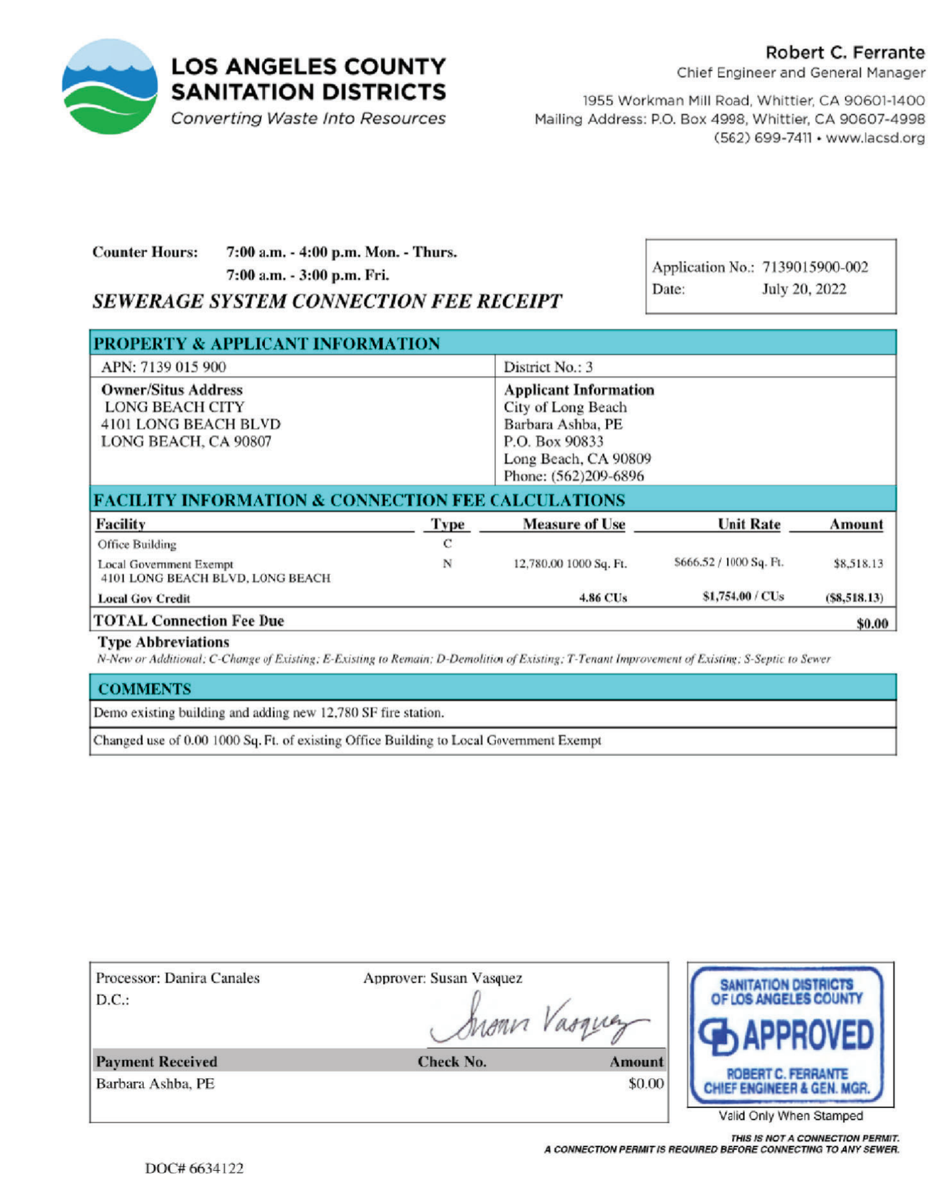
- ☒ Install {*size, manufacturer, model number*} {*if existing device list serial number*} {*reduced pressure / double check / pressure vacuum breaker*} backflow preventer per California Plumbing Code requirements. See manufacturer's cut sheet on sheet __ of __.
- ☒ Install {RP / DC / PVC} backflow preventer per {plumbing / irrigation} plans. {Plumbing / irrigation plans shall be included with subsequent plan check submittals.}
- ☒ Install { *description / model / manufacturer* } cage per detail *xxxx*.

1
H:\DEVELOP\Website\Const Notes for Off-site Water Sewer Plans.docx Revised 07/15/2020 ELB

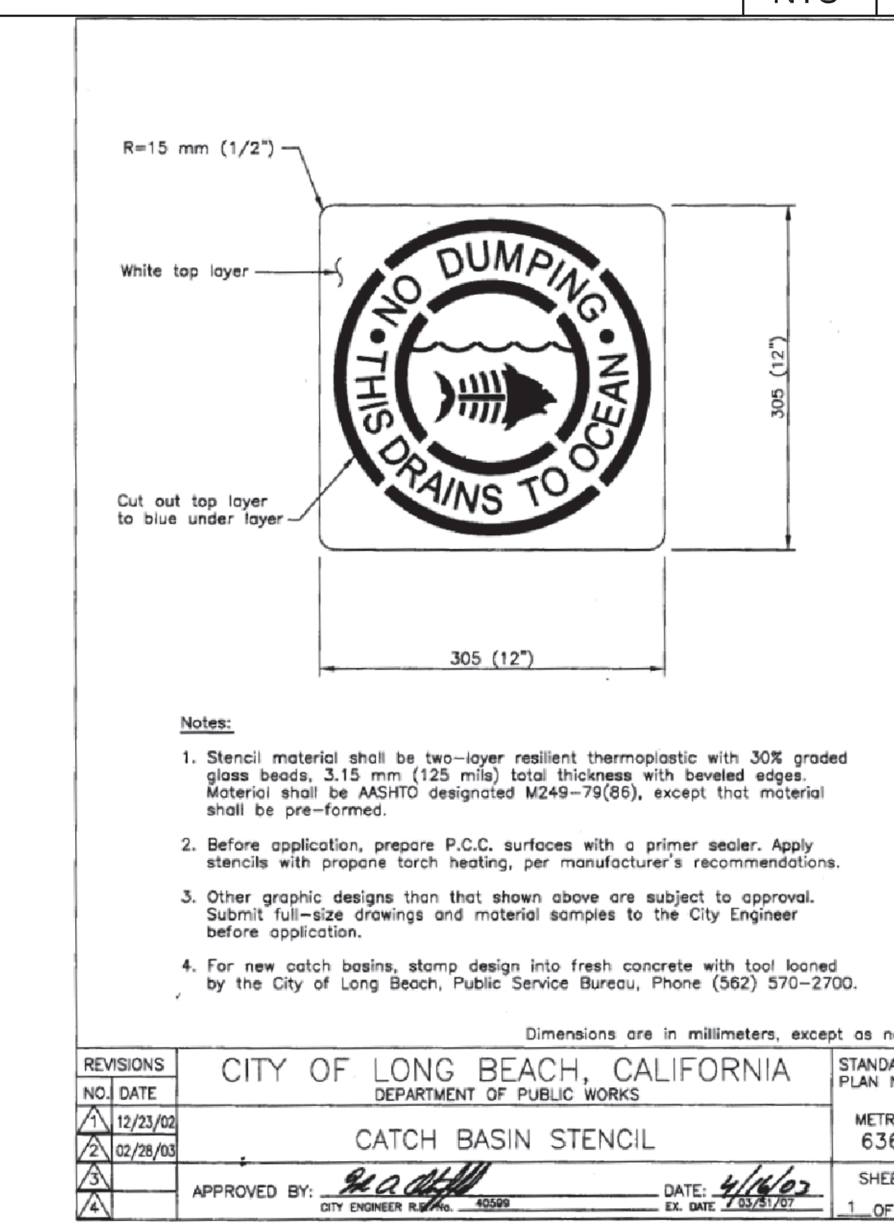
CONSTRUCTION NOTES | SCALE NTS | A3



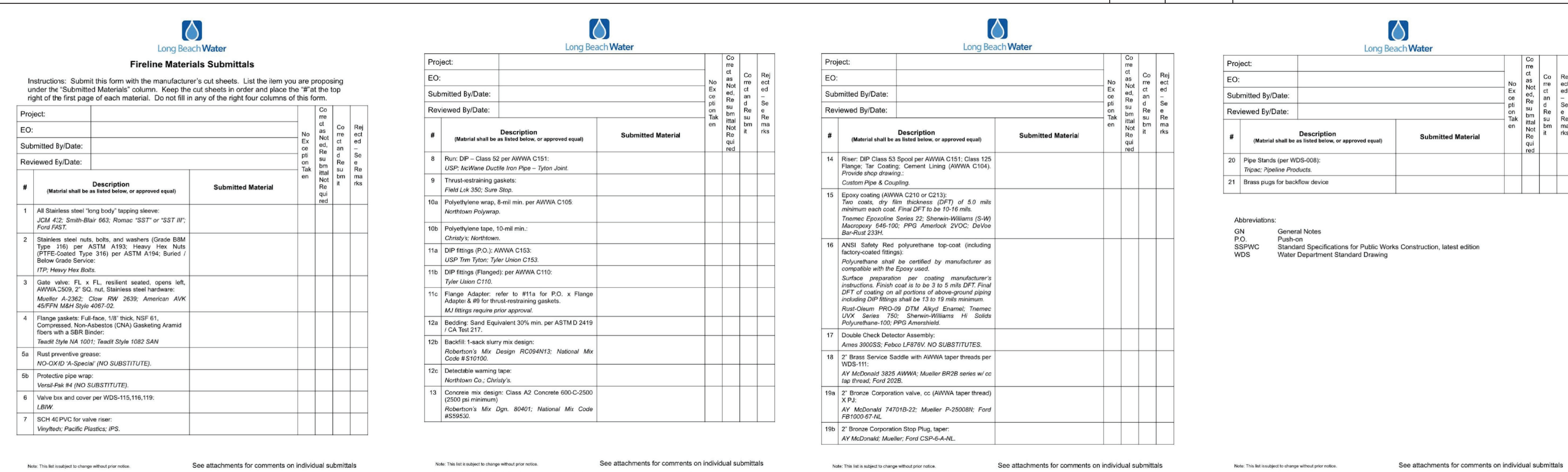
FIRE HYDRANT MARKERS | SCALE NTS | A4



SEWER CONNECTION | SCALE NTS | B3



STENCIL DETAIL | SCALE NTS | B4



FIRELINE MATERIAL SUBMITTALS | SCALE NTS | C3

Sanitary Sewer Notes:

1. Additional improvements may be required based on the results of CCTV and manhole inspections performed by owner's contractor or LBWD Operations crews.
2. Field verification is required for sewer inverts.
3. Sawcut existing pavement and trench per alignment shown on plan. Excavate to minimum 1 foot below existing sewer main. Trench shall be adequately shored to support utility bridging and traffic loads.
4. Prior to placing the concrete base, wrap existing sewer main in plastic to prevent bonding. Concrete base and stub walls shall be constructed in one operation to a point 2 inches (50 mm) minimum above the top of the inlet and/or outlet pipes. Concrete shall set for 24 hours before placing precast units and re-shaping flow channel.
5. Form flow channels in preparation of proposed sewer lateral construction per detail hereon. The channels shall be shaped and formed for a clean transition with proper hydraulics to allow the smooth placement of the proposed sewer lateral.
6. Cover trench with steel plates after concrete has set for the specified time. Install steel plate per LBWD WDS-128.
7. The contractor shall evaluate the sewer main to determine flow rate at different times of day. Installation of sewer manholes and cut-in wye may require a night work or the contractor may be required to submit a bypass plan to LBWD for approval.

SANITARY SEWER NOTES | SCALE NTS | C4

REVISIONS				
NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

AS-BUILT | REF.

DESIGNED BY: Barbara Ashba
DRAWN BY: AEL
DESIGN CHECKED BY: AEL
DRAWN CHECKED BY: Barbara Ashba

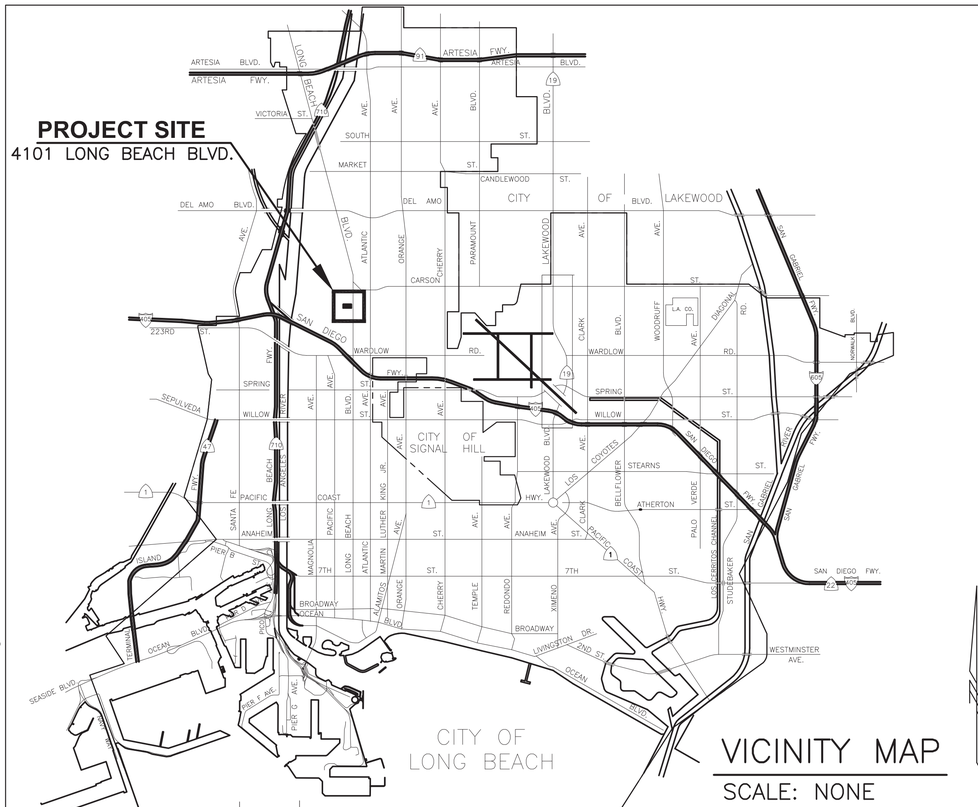
REGISTERED PROFFESSIONAL ENGINEER, BARBARA J ASHBA, No. 31417, Expires 12-31-24, 10/13/23, CIVIL, STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
PLANNING APPLICATION
CONSTRUCTION DETAILS

B# B-4797
PHASE # ____ / REBID # ____

ASHBA JOB# 8164
ENGINEERS LIMITED
POST OFFICE BOX 90833
LONG BEACH CALIFORNIA 90809
(562) 209-6896

SHEET 25/C013 OF 236
DWG. NO. C-6616



KEY MAP

SCALE: NONE

STREET IMPROVEMENT PLANS
RANDOLPH PLACE, LONG BEACH BLVD.
AND ALLEY PLAN.

CLB BENCHMARK NO. 368
NE COR LONG BEACH BLVD. @ MARSHALL PLACE.
BRASS DISC IN CATCH BASIN STAMPED "VERTICAL CONTROL MARK NATIONAL GEODETIC SURVEYS 1313 1978 VERT. CTRL. MARK" 0.9' E/ CURB: 15.5' N/N PL ALLEY

ELEVATION = 104.150 MSL DATUM NGVD 1929
1985 ADJUSTMENT.

VICINITY MAP

SCALE: NONE

CITY SURVEYOR'S OFFICE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION AND PERPETUATION OF ALL EXISTING MONUMENTS WHICH CONTROL SUBDIVISIONS, TRACTS, BOUNDARIES OR RIGHT-OF-WAY, OR WHICH PROVIDE SURVEY CONTROL, INCLUDING BENCHMARKS, WHICH WILL BE DISTURBED BY THE CONTRACTOR ACTIVITIES.
AFTER RECEIVING THE NOTICE-TO-PROCEED, THE CONTRACTOR, USING THE SERVICES OF A SURVEYOR LICENSED IN CALIFORNIA, SHALL SUBMIT TO THE CITY SURVEYOR'S OFFICE AT CITY HALL, PRELIMINARY CORNER RECORDS FOR ANY THAT WERE DISTURBED, AND PREPARE PRELIMINARY CORNER RECORDS FOR THE NEW TIES. AFTER CONSTRUCTION, THE CONTRACTOR'S SURVEYOR SHALL SUBMIT TO THE CITY THE PRELIMINARY CORNER RECORDS FOR ANY MONUMENTS REPLACED OR CONSTRUCTED, OR WHOSE TIES ARE RESET. THE CONTRACTOR SURVEYOR SHALL FILE CORNER RECORDS FOR THOSE MONUMENTS IN THE OFFICE OF THE COUNTY SURVEYOR AND SHALL PROVIDE THE CITY WITH A COPY OF ALL THE CORNERS RECORDS FILED. (CA BUSINESS & PROFESSIONS CODE SECTION 8771, 8772, AND 8773)

BENCHMARK PERPETUATION NOTES

PRIOR TO REMOVALS, THE CONTRACTOR SHALL REQUEST THE CITY SURVEYOR'S OFFICE (562) 270-6992, TO TRANSFER THE ELEVATION FOR ANY BENCH MARKS TO BE RESET, TO TEMPORARY BENCHMARKS; AND PROVIDE A BRASS DISC FOR THE CITY SURVEYOR STAMP. WHEN THE DISCS ARE STAMPED AND RETURNED TO THE CONTRACTOR, THE CONTRACTOR SHALL CONSTRUCT THE BENCHMARK AT LOCATION MARKED OUT BY THE CITY SURVEYOR'S OFFICE.

CITY SURVEYOR STATEMENT:

I HAVE REVIEWED THE PLANS FOR COMPLIANCE WITH BUSINESS AND PROFESSIONS CODE 8771, 8772 AND 8773.

DAVID E. WOOLLEY, PLS 7304
INTERIM CITY SURVEYOR, CITY OF LONG BEACH

PUBLIC WORKS OFF-SITE IMPROVEMENT GENERAL NOTES

1. ALL WORK EMBRACED HEREIN SHALL BE DONE IN ACCORDANCE WITH "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" TOGETHER WITH THE CITY OF LONG BEACH AMENDMENTS TO SAID SPECIFICATIONS, AND CITY OF LONG BEACH STANDARD PLANS, ALL AS MOST RECENTLY ADOPTED BY THE CITY.
2. PRIOR TO ISSUANCE OF THE APPROPRIATE PERMIT, THE CONTRACTOR SHALL OBTAIN A PERMIT FROM CALIFORNIA DIVISION OF OCCUPATIONAL SAFETY & HEALTH (CAL&OSHA) FOR THE CONSTRUCTION OF TRENCHES OR EXCAVATIONS WHICH ARE FIVE FEET OR DEEPER. SHEETING, SHORING AND BRACING FOR THE TRENCH EXCAVATION SHALL CONFORM TO THE REQUIREMENTS OF "CONSTRUCTION SAFETY ORDERS," TITLE 8, CHAPTER 4, DIVISION OF OCCUPATIONAL SAFETY & HEALTH (CAL/OSHA), STATE OF CALIFORNIA.
3. PERMITS TO PERFORM WORK WITHIN THE PUBLIC RIGHT-OF- WAY MUST BE OBTAINED FROM THE PUBLIC WORKS COUNTER. CONTACT PUBLIC WORKS AT PW-PRIVATEDEVELOPMENT@LONGBEACH.GOV OR (562) 570-6784 FOR REQUIREMENTS AND PROCESS INFORMATION. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY MUST BE PERFORMED BY A CONTRACTOR HOLDING A VALID STATE OF CALIFORNIA CONTRACTOR'S LICENSE AND CITY OF LONG BEACH BUSINESS LICENSE TO QUALIFY THE CONTRACTOR TO DO THE WORK. CONTRACTOR SHALL HAVE ON FILE WITH THE CITY ENGINEER A CERTIFICATION OF GENERAL LIABILITY INSURANCE AND AN ENDORSEMENT EVIDENCING MINIMUM LIMITS OF REQUIRED GENERAL LIABILITY INSURANCE.
4. PRIOR TO ISSUANCE OF A STREET PERMIT, THE CONTRACTOR SHALL FURNISH THE CITY ENGINEER WITH SIGNED, STAMPED AND DATED GRADE SHEETS PREPARED BY A CIVIL ENGINEER OR LAND SURVEYOR FOR SURFACE IMPROVEMENTS AND DRAINAGE STRUCTURES. INVERT ELEVATIONS AT CONNECTIONS WITH EXISTING DRAINAGE LINES SHALL BE CONFIRMED BEFORE SUBMITTAL TO THE CITY. THE REQUIRED SIGNATURE SHALL BE PRECEDED BY THE FOLLOWING NOTE: "THIS APPROVED GRADE SHEET WAS PREPARED BY ME OR UNDER MY DIRECTIONS, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND MATHEMATICALLY CORRECT."
5. THIS DRAWING AND THE DATA HEREON ARE HEREBY MADE A PART OF THE SPECIFICATION. APPROVAL OF THIS PLAN BY THE CITY OF LONG BEACH DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATION OR THE EXISTENCE OR NON-EXISTENCE OF ANY UNDERGROUND UTILITY PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINE NOT ON RECORD OR NOT SHOWN ON THESE PLANS. ALL UTILITY LINES AND STRUCTURES THAT MAY BE DAMAGED ON ACCOUNT TO THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AT CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE CITY.
6. THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS INSPECTION SECTION AT (562) 570-5160 AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
7. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 48 HOURS PRIOR TO THE START OF CONSTRUCTION OF THE IMPROVEMENTS SHOWN ON THESE PLANS.
   a. UNDERGROUND SERVICE ALERT (USA/SC)
      TELEPHONE: 811
   b. CITY OF LONG BEACH UTILITY SERVICES
      ENERGY RESOURCES
      TELEPHONE: (562) 570-2030
      LONG BEACH WATER (WATER AND SEWER)
      TELEPHONE: (562) 570-2419
   c. CITY OF LONG BEACH BUREAU OF TRAFFIC AND TRANSPORTATION,
      TRAFFIC SIGNALS COORDINATOR, OPERATIONS DIVISION
      TELEPHONE: (562) 570-3264
   d. CITY OF LONG BEACH POLICE DEPARTMENT
      TELEPHONE: (562) 570-7396
   e. CITY OF LONG BEACH FIRE DEPARTMENT
      TELEPHONE: (562) 570-2572
8. REMOVAL, ADJUSTMENT OR RELOCATION OF UTILITIES OR ANY WORK ON THE AREA OF THEIR RECORDED EASEMENTS SHALL BE DONE ONLY WITH APPROVAL OF THE UTILITY OWNERS, OBTAINED BEFORE STARTING THE WORK.
9. ANY REVISIONS MADE TO APPROVED PLANS SHALL NEED SUBSEQUENT APPROVAL BY THE CITY ENGINEER BEFORE STARTING THE WORK.
10. WITHIN 72 HOURS AFTER FINAL SURFACING IS PLACED, ALL MANHOLES AND VALVE BOX FRAMES AND COVERS SHALL BE ADJUSTED BY THE CONTRACTOR TO FINISH GRADE EXCEPT THOSE OWNED BY THE GAS DEPARTMENT, WHICH WILL BE ADJUSTED BY THE DEPARTMENT'S CREW. IN THE CASE OF THE WATER DEPARTMENT, THE ADJUSTMENT SHALL BE MADE BY THE CONTRACTOR IN ASSOCIATION WITH THE DEPARTMENT, ALL AT CONTRACTOR'S EXPENSE.
11. TOP OF MANHOLES SHALL CONFORM TO APPROVED STREET OR ALLEY GRADES, WITH A MINIMUM OF TWO ADJUSTMENT RINGS.
12. COLD-MILL ASPHALT CONCRETE WHERE JOINING EXISTING PAVEMENT AS SHOWN ON THE STANDARD PLANS OR AS DIRECTED BY THE CITY ENGINEER.
13. ASPHALT CONCRETE SURFACE COURSE SHALL BE PG64-10.
14. PROVIDE A MINIMUM OF 4 FEET WIDE PCC STRIP ADJACENT TO THE PROPERTY LINE AND ACROSS THE DRIVEWAY (CROSS SLOPE OF 2 PERCENT, MAXIMUM) FOR USE AS A DISABLED ACCESS. (SPECIFY THE VALUE OF "Y" ON DRIVEWAY APPROACHES IN ACCORDANCE WITH CITY OF LONG BEACH STANDARD PLAN NO. 105)
15. BEFORE DOING ANY WORK ON TREES WITHIN THE PUBLIC RIGHT-OF-WAY, INCLUDING PLANTING, REMOVAL, CUTTING, OR REPLANTING, CALL THE PUBLIC SERVICE BUREAU AT (562) 570-2700.
16. PROPOSED UTILITIES AND TREE WELLS SHALL BE IN PLACE BEFORE CONCRETING THE PUBLIC SIDEWALK.
17. EXISTING TRAFFIC LOOP DETECTORS AND TRAFFIC STRIPING DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE SATISFACTION OF THE CITY ENGINEER, CONTACT TRAFFIC OPERATORS AT (562) 570-2766.
18. WATER AND SEWER IMPROVEMENTS, AND WORK WITHIN WATER AND SEWER EASEMENTS, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY'S WATER DEPARTMENT. ON-SITE SEWER IMPROVEMENTS SHALL BE COORDINATED WITH THE DEPARTMENT OF PLANNING AND BUILDING OF THE CITY OF LONG BEACH.
19. APPROVED PLAN FROM RESPECTIVE UTILITY AGENCIES ARE REQUIRED PRIOR TO APPROVALS AND CONSTRUCTION.
20. REMOVAL, ADJUSTMENT OR RELOCATION OF EXISTING TRAFFIC SIGNAL, SIGN, STRIPING, OR OTHER TRAFFIC CONTROL DEVICES SHALL BE DONE ONLY UPON APPROVAL OF THE CITY TRAFFIC ENGINEER.
21. THE APPLICANT SHALL SUBMIT TRAFFIC CONTROL, DETOUR PLAN AND HAUL ROUTE PLAN TO COVER ALL THE IMPROVEMENTS, EXCAVATION AND OCCUPANCY ON PUBLIC RIGHT-OF-WAY.
22. NOTIFY THE CITY TRAFFIC ENGINEER (562) 570-6332 AND THE CONSTRUCTION DIVISION, INSPECTION SECTION (562) 570-5160, 24 HOURS IN ADVANCE OF ANY REPLACEMENT LAYOUT RESTORING OBLITERATED STRIPING, PAVEMENT MARKINGS, LEGENDS OR RAISED PAVEMENT MARKERS. THE CONTRACTOR SHALL MAKE SUCH REPLACEMENT WITH LIKE MATERIALS.
23. SLOT PAVING SHALL BE REQUIRED AS SHOWN ON CITY OF LONG BEACH STANDARD PLAN 116 FOR CONSTRUCTION OF CURB & GUTTER, CURB, CURB RAMP, SIDEWALK OR DRIVEWAY APPROACH REPLACEMENT.
24. THE CONTRACTOR SHALL REMOVE ANY PAVEMENT AND SIDEWALK MARKINGS UPON COMPLETION OF THE WORK. THESE MARKINGS ARE USED TO IDENTIFY THE LOCATION OF UTILITY SERVICES UNDER THE USA PROGRAM AND CONSTRUCTION RELATED MARKINGS, INCLUDING BUT NOT LIMITED TO HORIZONTAL AND VERTICAL GRADE MARKINGS, SURVEY STATIONING, OFFSETS, CURB LINES, AND OTHER LAYOUT LINES.
25. ANY OFF-SITE IMPROVEMENTS FOUND DAMAGED SHALL BE REPLACED TO THE SATISFACTION OF THE DIRECTOR OF PUBLIC WORKS.

SURVEY MONUMENT NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION AND PERPETUATION OF ALL EXISTING MONUMENTS WHICH CONTROL SUBDIVISIONS, TRACTS, BOUNDARIES OR RIGHT-OF-WAY. OR WHICH PROVIDE SURVEY CONTROL, INCLUDING BENCHMARKS, WHICH WILL BE DISTURBED BY THE CONTRACTOR ACTIVITIES.
AFTER RECEIVING THE NOTICE-TO-PROCEED, THE CONTRACTOR, USING THE SERVICES OF A SURVEYOR LICENSED IN CALIFORNIA, SHALL SUBMIT TO THE CITY SURVEYOR'S OFFICE AT CITY HALL, PRELIMINARY CORNER RECORDS FOR THOSE MONUMENTS THAT WERE DISTURBED, AND PREPARE PRELIMINARY CORNER RECORDS FOR THE NEW TIES.
AFTER CONSTRUCTION, THE CONTRACTOR'S SURVEYOR SHALL SUBMIT TO THE CITY THE PRELIMINARY CORNER RECORDS FOR ANY MONUMENTS REPLACED OR CONSTRUCTED, OR WHOSE TIES ARE RESET. THE CONTRACTOR SURVEYOR SHALL FILE CORNER RECORDS FOR THOSE MONUMENTS IN THE OFFICE OF THE COUNTY SURVEYOR AND SHALL PROVIDE THE CITY WITH A COPY OF ALL THE CORNERS RECORDS FILED. (CA BUSINESS & PROFESSIONS CODE SECTION 8771, 8772, AND 8773)

SHEET INDEX

FN:
DATE: 00/00/00
PLOT SCALE: N.T.S.

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
1	12/16/2021			PLAN CHECK SUBMITTAL
2	04/22/2022			PLAN CHECK RE-SUBMITTAL
3	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: Barbara Ashba
DRAWN BY: AEL
DESIGN CHECKED BY: AEL
DRAWN CHECKED BY: Barbara Ashba

REGISTERED PROFFESSIONAL ENGINEER
BARBARA J ASHBA
No. 31417
Expires 12-31-24
10/13/23
CIVIL
STATE OF CALIFORNIA

FIRE STATION 9
OFF-SITE IMPROVEMENT PLAN
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ASHBA ENGINEERS LIMITED
PLAN PREPARED UNDER THE DIRECTION OF:
BARBARA J. ASHBA
P.O. BOX 6853
LONG BEACH, CA. 90809
EMAIL: BARBARA@ASHBAENGINEERS.COM
B. J. ASHBA R.C.E. 31417

REGISTERED PROFFESSIONAL ENGINEER
BARBARA J ASHBA
No. 31417
Expires 12-31-24
10/13/23
CIVIL
STATE OF CALIFORNIA

B# B-4797
PHASE # ___ / REBID # ___
SHEET 26 / C1 OF 236
DWG. NO. C-6616

FILE INFO: E:\Ashba Engineers Ltd\8164 CLB FS No. 9 -MMA\Working\1-2. Street Plan - General Notes - 8164.dwg

ABBREVIATIONS

ABAND	ABANDONED
AC	ASPHALT CONCRETE
ADJ	ADJUSTED
AFC	ALHAMBRA FOUNDRY COMPANY
ANC	ANCHOR
BCR	BEGIN CURB RETURN
BD	BACK OF DRIVE
BEG	BEGIN
BM	BENCHMARK
BLDG	BUILDING
BX	BOTTOM OF X
C&G	CURB AND GUTTER
CAB	CRUSHED AGGREGATE BASE
CB	CATCH BASIN
CD	CURB DRAIN
CL–℄	CENTERLINE
CIP	CAST IRON PIPE
CF	CURBFACE
CMB	CRUSHED MISCELLANEOUS BASE
COLB, CLB	CITY OF LONG BEACH
C.O.	CLEAN OUT
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTROLLER
COR	CORNER
DR	DRIVE
DWG	DRAWINGS
DWY	DRIVEWAY
EA	EACH
E/CURB	EAST OF CURB
EP	EDGE OF PAVEMENT
EX	EXISTING
FF	FINISHED FLOOR
FG	FINISH GRADE
FL	FLOWLINE
FS	FINISHED SURFACE
GB	GRADE BREAK
GUT	GUTTER
GS	GAS SERVICE
H–XXXX	HOUSE MAP NUMBER
HWY	HIGHWAY
IN	INCHES
INV	INVERT
L	LENGTH
LBT	LONG BEACH TRANSIT
LBER	LONG BEACH ENERGY RESOURCE
LBWD	LONG BEACH WATER DEPERTMENT
MAX	MAXIMUM
mm	MILLIMETER
MOC	MIDDLE OF CURVE
MTA	METROPOLITAN TRANSPORTATION AUTHORITY
N	NORTH
NE	NORTHEAST
NO.	NUMBER
NGVD	NATIONAL GEODETIC VERTICAL DATUM
N'LY	NORTHERLY
PCC	PORTLAND CEMENT CONCRETE
PP	POWER POLE
P/L	PROPERTY LINE
PT	POINT
POR	PORTION
PRC	POINT OF REVERSE CURVE
PROD	PRODUCED
PVMT	PAVEMENT
R	RADIUS
R=	RATE
RD	ROOF DRAIN
RCIP	RECTANGULAR CAST IRON PIPE
R.O.W.	RIGHT–OF–WAY
R/W	RIGHT–OF–WAY LINE
S	SOUTH
S'LY	SOUTHERLY
SCE	SOUTHER CALIFORNIA EDISON
SE	SOUTHEAST
SF	SQUARE FOOT
SHT	SHEET(S)
SL	STREET LIGHT
STD	STANDARD
STL	STEEL
STG	SET TO GRADE / RECONSTRUCT TO FS. GRADE
SW	SOUTHWEST
SPFPWC	STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION
TC	TOP OF CURB
TL	TRUE LENGTH
TS	TRAFFIC SIGNAL
TX	TOP OF X
VAR	VARIABLE
VCP	VITRIFIED CLAY PIPE
W	WIDTH
WS	WATER SERVICE
WDS	WATER DEPARTMENT STANDARDS
X–GUT	CROSS GUTTER
–	–
–	–
–	–

SYMBOL LEGEND

▬ ▬ ▬ ▬	RIGHT–OF–WAY LINE
———	PROPERTY LINE
—— – ——	CENTERLINE
— X — X —	CHAINLINK FENCE
— (E) — (E) —	EXISTING ELECTRICAL
— (G) — (G) —	EXISTING GAS
— S — S —	EXISTING SEWER
— (W) — (W) —	EXISTING WATER
— S — S —	SEWER LINE
— FS — FS —	FIRE SERVICE
— W — W —	WATER LINE
■ BM	BENCH MARK
○ BOL	BOLLARD
	FIRE HYDRANT
◯ PP	POWER POLE
(XX.XX)	EXISTING GRADE
PB	PULL BOX
XX.XX	PROPOSED GRADE
◎	MANHOLE
S	SEWER
SD	STORM DRAIN
E / SCE	SOUTHERN CALIFORNIA EDISON
SL	STREET LIGHT POLE
T	TELEPHONE
⊞ WM	WATER METER
GM	GAS METER
⊠	METER
⊗	WATER VALVE
TS	TRAFFIC SIGNAL POLE

DEMOLITION LEGEND

REMOVE PCC PAVEMENT. PLANTING AREA

REMOVE AC PAVEMENT. PLANTING AREA

[1] REMOVE AC PAVEMENT.

[2] REMOVE PCC PAVEMENT.

[4] REMOVE PCC CURB.

[5] REMOVE EXISTING STREET TREE.

[6] REMOVE PCC DRIVEWAY AND APPROACH.

[7] PROTECT EXISTING BUILDING.

[8] PROTECT IN PLACE STREET LIGHT POLE.

[9] PROTECT EXISTING POWER POLE.

[10] PROTECT IN PLACE PCC SIDEWALK.

[11] REMOVE EXISTING ABANDONED WATER METER. PER SEPARATE LBWD PERMIT.

[12] PROTECT IN PLACE EXISTING STREET SIGN.

[13] PROTECT IN PLACE EXISTING WATER METER.

[14] PROTECT EXISTING SEWER MANHOLE.

[15] PROTECT EXISTING PULL BOX.

[16] PROTECT EXISTING PCC PAVEMENT.

[17] PROTECT EXISTING WALL.

[18] PROTECT EXISTING FIRE HYDRANT.

[19] REMOVE EXISTING STREET SIGN

[20] RELOCATE EXISTING UTILITY PULL BOX

[21] REMOVE EXISTING UTILITY POLE

[22] CUT AND CAP ABANDONED SEWER LATERAL, PER SEPARATE LBWD PLAN.

[23] PROTECT EXISTING CURB AND GUTTER.

CONSTRUCTION LEGEND

CONSTRUCT PCC PAVEMENT. PARKWAY AREA DETECTABLE WARNING

(1) CONSTRUCT PCC CURB AND GUTTER PER SPFPWC STANDARD PLAN NO. 120–3, TYPE A2–8"(200mm), W=MATCH EX., AND PER COLB STANDARD PLAN NO. 107 AND NO. 116. OVER 6"CMB.

(2) CONSTRUCT 3"–THICK PCC SIDEWALK PER COLB STANDARD. PLAN NO. 107 & SPFPWC STANDARD PLAN NO. 112–2. OVER 4" CMB.

(3) CONSTRUCT 1–FOOT–WIDE FULL–DEPTH AC SLOT PAVING PER COLB STANDARD PLAN NO. 116.

(4) CONSTRUCT ALLEY INTERSECTION PER COLB STANDARD PLAN No. 106. OVER 6"CMB.

(5) CONSTRUCT PARKWAY PER LANDSCAPE PLANS, SHEET L2.0

(6) CONSTRUCT TYPE 1 PCC DRIVEWAY 8" THICK PER COLB STANDARD. PLAN No. 105 OVER 6"CMB.

(7) CONSTRUCT MODIFIED TYPE 5 PCC DRIVEWAY 8" THICK PER COLB STANDARD. PLAN No. 105 OVER 6" CMB.

(8) CONSTRUCT PCC CURB RAMP PER COLB STANDARD PLAN No. 122, TYPE, CASE AND DETAIL ON SHEET 28/C3. OVER 6"CMB.

(9) CONSTRUCT CURB DRAIN PER SPFPWC STANDARD PLAN NO. 150–4, CASE II INLET.

(10) CONSTRUCT PCC CURB PER SPFPWC STANDARD. PLAN No. 120–3, TYPE A1–6.

(11) PLANT TREE, PER LANDSCAPE PLAN SHEET No. L2.0 – 24 INCH BOX PER COLB STANDARD PLAN No. 502, 504 AND 416.

(12) CONSTRUCT RCIP PER AFC STANDARD PLAN No. A–470 & A–480.

(16) CONSTRUCT 8"–THICK PCC ALLEY PER COLB STANDARD PLAN NO. 107. OVER 6"CMB. PER SECTION D3 ON 30/C5.

(20) CONSTRUCT DETECTABLE WARNING PER COLB STANDARD PLAN NO. 122

(21) FURNISH AND INSTALL FIRE SERVICE PER SEPARATE LBWD DRAWINGS MC–5237.

(22) FURNISH AND INSTALL WATER METER PER LBWD STANDARD PLAN WDS 001 & WDS 002. PER SEPARATE LBWD PLAN.

(23) FURNISH AND INSTALL SEWER LATERAL PER LBWD STANDARD PLAN No. WDS 404 & WDS 506. PER SEPARATE LBWD PLAN.

(24) FURNISH AND INSTALL GAS SERVICE BY LONG BEACH ENERGY RESOURCES. PER SEPARATE LBWD PLAN.

(25) CONSTRUCT 8" PCC PAVEMENT OVER 6" CMB PER TYPICAL SECTION ON SHEET 30/C5.

(26) CONSTRUCT PCC 8" THICK CROSS GUTTER OVER 6" CMB PER SPFPWC PLAN No. 122–3.

(27) CONSTRUCT PCC PARKWAY DRAIN PER SPFPWC STANDARD PLAN No. 151–3, INLET TYPE 2.

(28) CONSTRUCT FIRE HYDRANT PER LBWD STANDARD WDS–102.2 AND PER SEPARATE LBWD PLAN.

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

REF.

AS-BUILT

DESIGNED BY: **Barbara Ashba**
DRAWN BY: **AEL**
DESIGN CHECKED BY: **AEL**
DRAWN CHECKED BY: **Barbara Ashba**

REGISTERED PROFFESSIONAL ENGINEER BARBARA J ASHBA No. 31417 Expires 12–31–24 10/13/23 CIVIL STATE OF CALIFORNIA

OFF-SITE IMPROVEMENT PLAN ABBREVATION, SYMBOLS, DEMOLITION AND CONSTRUCTION NOTES

B# **B-4797**

PHASE # ____ / REBID # ____

SHEET **27 / C2** OF **236**

DWG. NO. **C-6616**

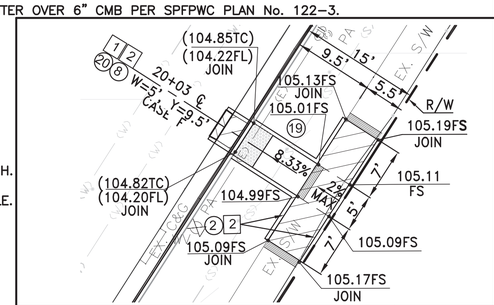
ASHBA JOB# 8164
ENGINEERS LIMITED
POST OFFICE BOX 90833
LONG BEACH
CALIFORNIA 90809
(562) 209–6896
ISSUE DATE: 10.12.23

FILE INFO: E:\Ashba Engineers Ltd\8164 CLB FS No. 9 –MMA\Working\1–2. Street Plan – General Notes – 8164.dwg

CONSTRUCTION NOTES

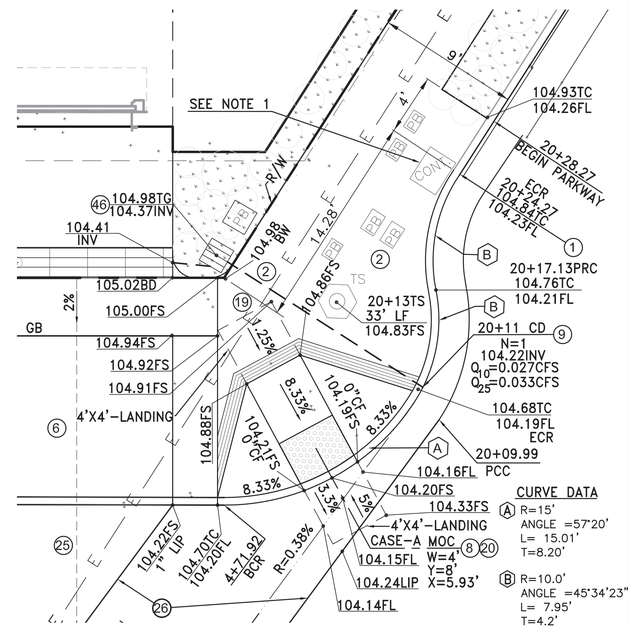
1. CONSTRUCT PCC CURB AND GUTTER PER SPFPWC STANDARD PLAN NO. 120-3, TYPE A2-8"(200mm), W=MATCH EX., AND PER COLB STANDARD PLAN NO. 107 AND NO. 116. OVER 6"CMB.
2. CONSTRUCT 3"-THICK PCC SIDEWALK PER COLB STANDARD. PLAN NO. 107 & SPFPWC STANDARD PLAN NO. 112-2. OVER 4" CMB.
3. CONSTRUCT 1-FOOT-WIDE FULL-DEPTH AC SLOT PAVING PER COLB STANDARD PLAN NO. 116.
6. CONSTRUCT TYPE 1 PCC DRIVEWAY 8" THICK PER COLB STANDARD. PLAN No. 105 OVER 6"CMB.
8. CONSTRUCT PCC CURB RAMP PER COLB STANDARD PLAN No. 122, CASE, TYPE, AND DETAIL ON SHEET 28/C3. OVER 6"CMB.
9. CONSTRUCT CURB DRAIN PER SPFPWC STANDARD PLAN NO. 150-4, CASE II INLET.
10. CONSTRUCT PCC CURB PER SPFPWC STANDARD. PLAN No. 120-3, TYPE A1-6.
19. PROVIDE A MIN 30"X48" CLEAR SPACE PER CLOB STD. PLAN 122.
20. CONSTRUCT DETECTABLE WARNING PER COLB STANDARD PLAN NO. 122
21. FURNISH AND INSTALL FIRE SERVICE PER SEPARATE LBWD DRAWINGS MC-5237
22. FURNISH AND INSTALL WATER METER PER LBWD STANDARD PLAN WDS 001 & WDS 002. PER SEPARATE LBWD PLAN.
25. CONSTRUCT 8" PCC PAVEMENT OVER 6" CMB PER TYPICAL SECTION ON SHEET 30/C5.
26. CONSTRUCT PCC 8" THICK CROSS GUTTER OVER 6" CMB PER SPFPWC PLAN No. 122-3.
28. CONSTRUCT FIRE HYDRANT PER LBWD STANDARD WDS-102.2 PER SEPARATE PLAN

1. REMOVE AC PAVEMENT.
2. REMOVE PCC PAVEMENT.
4. REMOVE PCC CURB.
6. REMOVE PCC DRIVEWAY AND APPROACH.
8. PROTECT IN PLACE STREET LIGHT POLE.
9. PROTECT EXISTING POWER POLE.
10. PROTECT IN PLACE PCC SIDEWALK.
16. PROTECT EXISTING PCC PAVEMENT.
19. REMOVE EXISTING STREET SIGN



E/S RAMP-LONG BEACH BLVD.

SCALE 1"=10' A2



N/W RAMP DETAIL

TYPICAL SECTION SEE DETAIL B3 ON SHEET 30/C5.

SCALE 1"=5' A1

NOTES:
1. SEE TRAFFIC SIGNAL PLANS FOR ADDITIONAL INFORMATION SHEETS 31/C6, 32/C7 & 33/C8.
2. SEE SEPARATE SCE PLANS FOR UNDERGROUND CONSTRUCTION
3. CONTACT LBER FOR ALL WORK ON GAS
4. SEE SEPARATE LBWD DWGS FOR WATER MAIN CONSTRUCTION.
5. SEE SEPARATE PLUMBING PLANS PLAN _P/120 &_P/121.
6. SEE SEPARATE SITE UTILITY PLAN SHT.22/C010.

SCALE
HORIZONTAL: 1"=10'
VERTICAL: 1"=1'

CONSTRUCTION LEGEND

- REMOVE PCC PAVEMENT.
- REMOVE AC PAVEMENT.
- PLANTING AREA

ASHBA
JOB# 8164
ENGINEERS LIMITED
POST OFFICE BOX. 90833
LONG BEACH
CALIFORNIA 90809
(562) 209-6896
ISSUE DATE: 10.12.23

RANDOLPH PLACE IMPROVEMENT PLAN AND PROFILE

TYPICAL SECTION SEE DETAIL C3 ON SHEET 30/C5.

GRAPHIC SCALE: 1"= 10'

NO.	DATE	SHEET	APPROVAL	REVISIONS DESCRIPTION
1	12/16/2021			PLAN CHECK SUBMITTAL
2	04/22/2022			PLAN CHECK RE-SUBMITTAL
3	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

AS-BUILT REF.

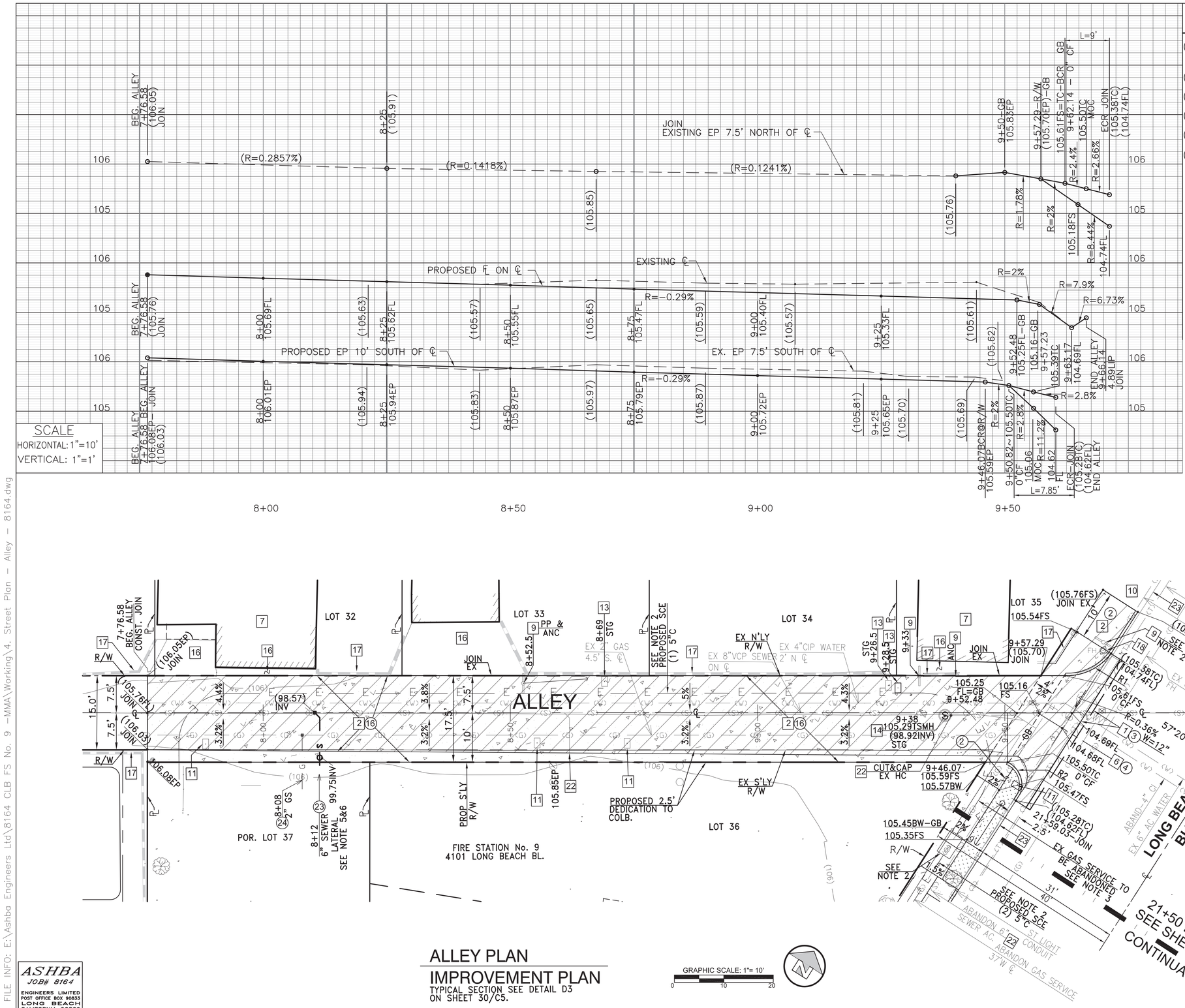
DESIGNED BY: Barbara Ashba
DRAWN BY: AEL
DESIGN CHECKED BY: AEL
DRAWN CHECKED BY: Barbara Ashba

REGISTERED PROFESSIONAL ENGINEER BARBARA J ASHBA No. 31417 Expires 12-31-24 10/13/23 CIVIL STATE OF CALIFORNIA

RANDOLPH PLACE IMPROVEMENT PLAN AND PROFILE

B# B-4797
PHASE # ____ / REBID # ____
SHEET 28 / C3 OF 236
DWG. NO. C-6616

FILE INFO: E:\Ashba Engineers Ltd\8164 CLB FS No. 9 -MMA\Working\3. Street Plan - Randolph - 8164.dwg



CONSTRUCTION NOTES

(2) CONSTRUCT 3"–THICK PCC SIDEWALK PER COLB STANDARD. PLAN NO. 107 & SPFPWC STANDARD PLAN NO. 112–2. OVER 4" CMB.
(3) CONSTRUCT 1' WIDE FULL DEPTH AC SLOT PAVING PER COLB STANDARD PLAN No. 116.
(4) CONSTRUCT ALLEY INTERSECTION PER COLB STANDARD PLAN No. 106 OVER 6" CMB.
(16) CONSTRUCT 8"–THICK PCC ALLEY PER COLB STANDARD PLAN No. 107. OVER 6"CMB. PER SECTION D3 ON 30/C5.
(23) FURNISH AND INSTALL SEWER LATERAL PER LBWD STANDARD PLAN No. WDS 404 & WDS 506 AND SEPARATE LBWD PLAN.
(24) FURNISH AND INSTALL GAS SERVICE BY LONG BEACH ENERGY RESOURCES. PER SEPARATE PLAN.

1 REMOVE AC PAVEMENT.
2 REMOVE PCC PAVEMENT.
6 REMOVE PCC DRIVEWAY AND APPROACH.
7 PROTECT EXISTING BUILDING.
9 PROTECT EXISTING POWER POLE.
10 PROTECT IN PLACE PCC SIDEWALK.
11 REMOVE EXISTING ABANDONED WATER METER. PER SEPARATE LBWD PLAN.
13 PROTECT IN PLACE EXISTING WATER METER.
14 PROTECT EXISTING SEWER MANHOLE.
15 PROTECT EXISTING PULL BOX.
16 PROTECT EXISTING PCC PAVEMENT.
17 PROTECT EXISTING WALL.
18 PROTECT EXISTING FIRE HYDRANT.
22 CUT AND CAP ABANDONED SEWER LATERAL PER SEPARATE LBWD PLAN.
23 PROTECT EXISTING CURB AND GUTTER.

NOTES:
1. SEE TRAFFIC SIGNAL PLANS FOR ADDITIONAL INFORMATION SHEETS 31/C6, 32/C7 & 33/C8.
2. SEE SEPARATE SCE PLANS FOR UNDERGROUND CONSTRUCTION
3. CONTACT LBER FOR ALL WORK ON GAS
4. SEE SEPARATE LBWD DWGS FOR WATER MAIN CONSTRUCTION.
5. SEE SEPARATE PLUMBING PLANS PLAN _P/120 &_P/121.
6. SEE SEPARATE SITE UTILITY PLAN SHT.22/C010.

CURVE DATA

R1=9.0'	R2= 5.0'
ANGLE =57°20'	ANGLE =90°
T= 4.92'	T= 5.0'
L=9.005'	L=7.85'

CONSTRUCTION LEGEND

REMOVE PCC PAVEMENT.
REMOVE AC PAVEMENT.
PLANTING AREA

ALLEY PLAN
IMPROVEMENT PLAN
TYPICAL SECTION SEE DETAIL D3 ON SHEET 30/C5.

GRAPHIC SCALE: 1"= 10'
0 10 20

ASHBA
JOB# 8164
ENGINEERS LIMITED
POST OFFICE BOX 90833
LONG BEACH
CALIFORNIA 90809
(562) 209–6896
ISSUE DATE: 10.12.23

NO.	DATE	SHEET	APPROVAL	REVISIONS DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

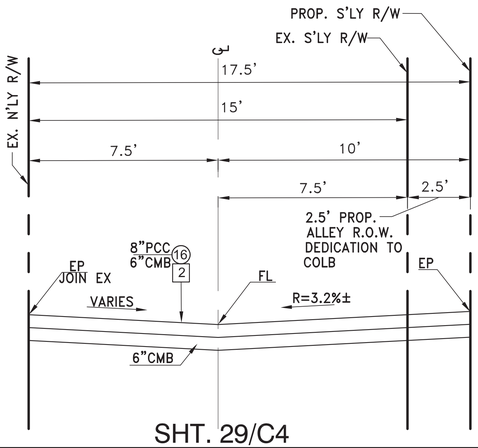
DESIGNED BY: Barbara Ashba
DRAWN BY: AEL
DESIGN CHECKED BY: AEL
DRAWN CHECKED BY: Barbara Ashba
AS-BUILT
REF.

REGISTERED PROFESSIONAL ENGINEER BARBARA J ASHBA No. 31417 Expires 12-31-24 CIVIL STATE OF CALIFORNIA
10/13/23

ALLEY PLAN IMPROVEMENT AND PROFILE PLAN

B# B-4797
PHASE # ___ / REBID # ___
SHEET 29 / C4 OF 236
DWG. NO. C-6616

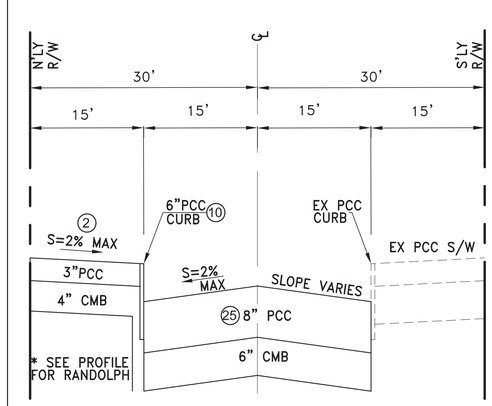
FILE INFO: E:\Ashba Engineers Ltd\8164 CLB FS No. 9 –MMA\Working\4. Street Plan – Alley – 8164.dwg



SHT. 29/C4

TYPICAL SECTION - ALLEY

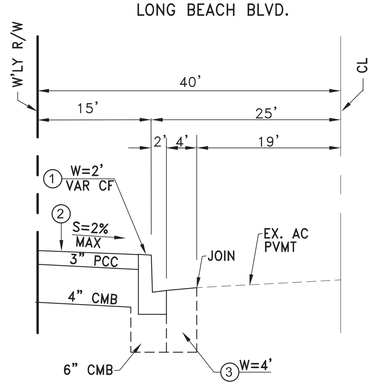
SCALE NTS | D3



SHT. 28/C3

TYP. SECTION RANDOLPH

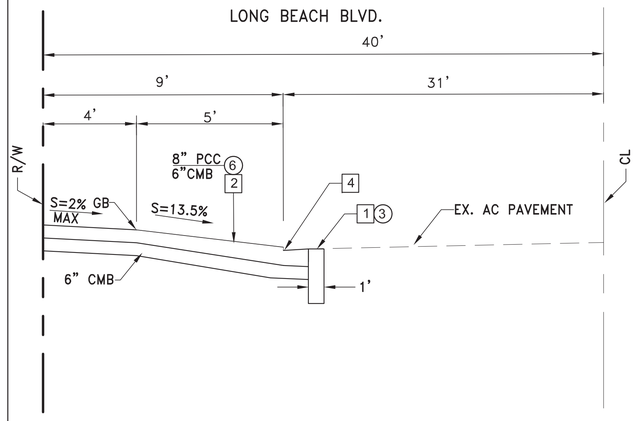
SCALE H=1"=10' V=1"=1' | C3



SHT. 28/C3

TYP. SECTION @ 20+09.99 PCC

SCALE H=1"=10' V=1"=1' | B3



TYP. SECTION @ DRIVEWAY 21+24.93

SCALE NTS | A3

1. CONSTRUCT PCC CURB AND GUTTER PER SPFPWC STANDARD PLAN NO. 120-3, TYPE A2-8"(200mm), W=MATCH EX., AND PER COLB STANDARD PLAN NO. 107 AND NO. 116. OVER 6"CMB.
2. CONSTRUCT 3"-THICK PCC SIDEWALK PER COLB STANDARD. PLAN NO. 107 & SPFPWC STANDARD PLAN NO. 112-2. OVER 4" CMB.
3. CONSTRUCT 1-FOOT-WIDE FULL-DEPTH AC SLOT PAVING PER COLB STANDARD PLAN NO. 116.
5. CONSTRUCT PARKWAY PER LANDSCAPE PLANS, SHEET L2.0
6. CONSTRUCT TYPE 1 PCC DRIVEWAY 8" THICK PER COLB STANDARD. PLAN No. 105 OVER 6"CMB.
7. CONSTRUCT MODIFIED TYPE 5 PCC DRIVEWAY 8" THICK PER COLB STANDARD. PLAN No. 105 OVER 6" CMB.
9. CONSTRUCT CURB DRAIN PER SPFPWC STANDARD PLAN NO. 150-4, CASE I INLET.
10. CONSTRUCT PCC CURB PER SPFPWC STANDARD. PLAN No. 120-3, TYPE A1-6.
11. PLANT TREE, PER LANDSCAPE PLAN SHEET No. L2.0 - 24 INCH BOX PER COLB STANDARD PLAN No. 502, 504 AND 416.
16. CONSTRUCT 8"-THICK PCC ALLEY PER COLB STANDARD PLAN NO. 107. OVER 6"CMB.
25. CONSTRUCT 8" PCC PAVEMENT OVER 6" CMB PER TYPICAL SECTION ON SHEET 28/C3.
27. CONSTRUCT PCC PARKWAY DRAIN PER SPFPWC STANDARD PLAN No. 151-3, INLET TYPE 2.

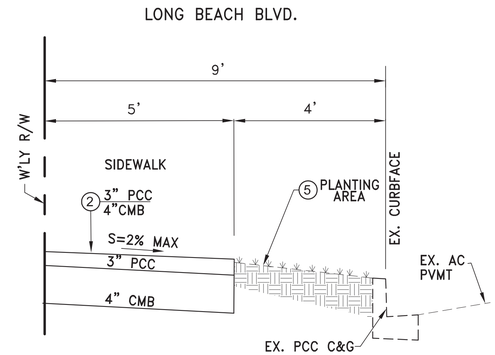
1. REMOVE AC PAVEMENT.
2. REMOVE PCC PAVEMENT.
4. REMOVE PCC CURB.
5. REMOVE EXISTING STREET TREE.
8. PROTECT IN PLACE STREET LIGHT POLE.
20. RELOCATE EXISTING UTILITY PULL BOX
21. REMOVE EXISTING UTILITY POLE
23. PROTECT EXISTING CURB AND GUTTER.

CONSTRUCTION NOTES

SCALE NTS | C2

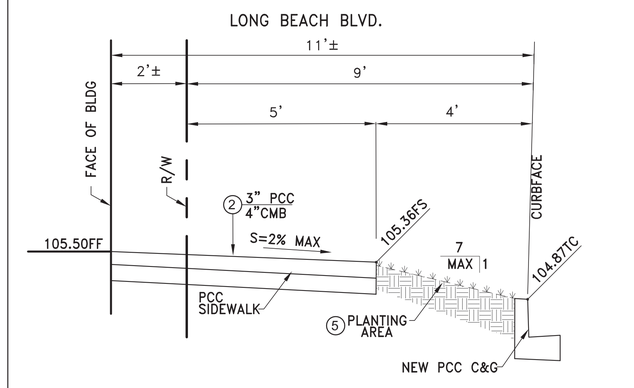
CONSTRUCTION LEGEND

- REMOVE PCC PAVEMENT.
- REMOVE AC PAVEMENT.
- PLANTING AREA



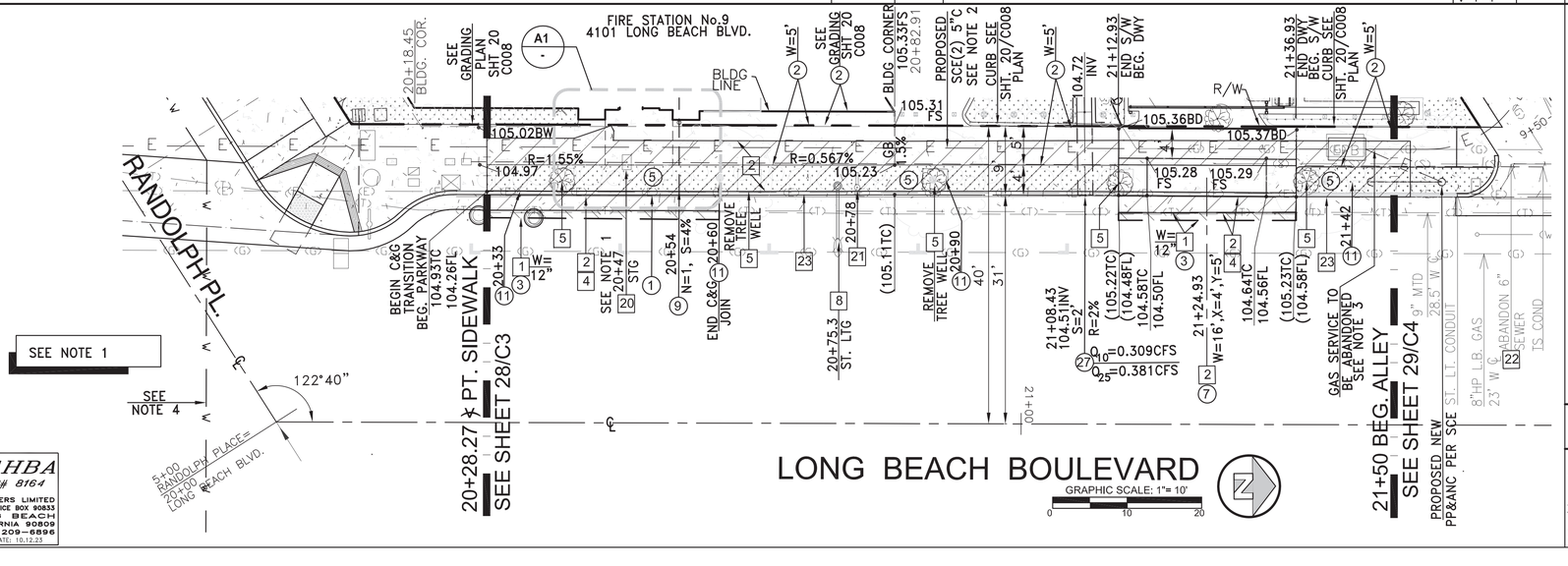
TYP. SECTION SIDEWALK

SCALE H=1"=2' V=1"=1' | B2



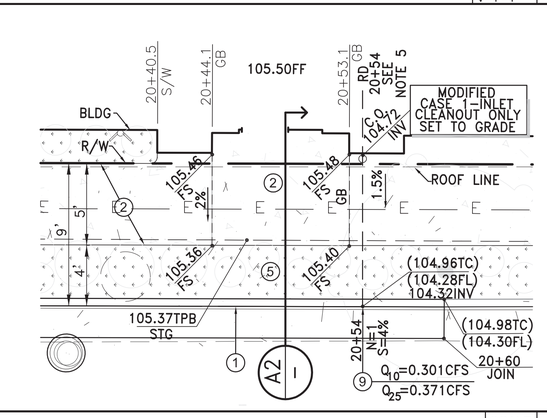
TYP. SECTION @ ENTRANCE - 20+49±

SCALE H=1"=2' V=1"=1' | A2



ENTRANCE DETAIL @ LONG BEACH BLVD.

SCALE 1"=5' | A1



NOTES:

1. SEE TRAFFIC SIGNAL PLANS FOR ADDITIONAL INFORMATION SHEETS 31/C6, 32/C7 & 33/C8.
2. SEE SEPARATE SCE PLANS FOR UNDERGROUND CONSTRUCTION
3. CONTACT LBER FOR ALL WORK ON GAS
4. SEE SEPARATE LBWD DWGS FOR WATER MAIN CONSTRUCTION.
5. SEE SEPARATE PLUMBING PLANS PLAN _P/120 &_P/121.
6. SEE SEPARATE SITE UTILITY PLAN SHT.22/C010.

REVISIONS

NO.	DATE	APPROVAL	DESCRIPTION
	12/16/2021		PLAN CHECK SUBMITTAL
1	04/22/2022		PLAN CHECK RE-SUBMITTAL
2	06/15/2023		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS

SHEET | REF. | AS-BUILT

DESIGNED BY: Barbara Ashba
DRAWN BY: AEL
DESIGN CHECKED BY: AEL
DRAWN CHECKED BY: Barbara Ashba

REGISTERED PROFESSIONAL ENGINEER BARBARA J. ASHBA No. 31417 Expires 12-31-24 10/13/23 CIVIL STATE OF CALIFORNIA

LONG BEACH BOULEVARD IMPROVEMENT PLAN

B# B-4797

PHASE # ____ / REBID # ____

SHEET 30 / C5 OF 236

DWG. NO. C-6616

ASHBA JOB# 8164
ENGINEERS LIMITED
POST OFFICE BOX 90833
LONG BEACH
CALIFORNIA 90809
(562) 209-6896
ISSUE DATE: 10.12.23

FILE INFO: E:\Ashba Engineers Ltd\8164 CLB FS No. 9 -MMA\Working\5. Street Plan - Long Beach Blvd - 8164.dwg

GENERAL NOTES: (SIGNING AND STRIPING)

1 ALL WORK DETAILED ON THESE CONSTRUCTION DRAWINGS, EXCEPT AS OTHERWISE STATED IN THE CONTRACT SPECIFICATIONS, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF LONG BEACH STANDARD CONTRACTUAL REQUIREMENTS, THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD), CITY OF LONG BEACH STANDARD PLANS, LATEST EDITION. AND THE STATE OF CALIFORNIA STANDARD PLANS AND SPECIFICATIONS, 2018 EDITION.

2 THE CONTRACTOR SHALL NOTIFY THE CITY OF LONG BEACH INSPECTION SERVICES AT LEAST TWO WORKING DAYS (48 HOURS) PRIOR TO STARTING ANY WORK.

3 ALL EXISTING PAVEMENT MARKINGS, MARKERS AND STRIPING CONFLICTING WITH AND/OR UNDER PROPOSED MARKINGS, MARKERS AND STRIPING SHALL BE REMOVED COMPLETELY BY WET GRINDING OR WET SANDBLASTING, AND THEN WATERBLAST THE PAVEMENT SURFACE TO A FIRM AND CLEAN CONDITION. NO NEW MARKINGS/STRIPING SHALL BE APPLIED OVER ANY EXISTING MARKINGS/STRIPING.

4 PAVEMENT DAMAGED DUE TO REMOVAL OF MARKERS OR STRIPING SHALL BE REPAIRED TO THE SATISFACTION OF THE CITY ENGINEER OR HIS DESIGNEE.

5 THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE STARTING WORK. IF CONDITIONS EXIST WHICH ARE CONTRARY TO THOSE SHOWN ON THESE PLANS, THE CITY OF LONG BEACH INSPECTION SERVICES SHALL BE NOTIFIED BEFORE PROCEEDING WITH ANY WORK.

6 ALL WORK SHALL CONFORM TO THE PLANS AND SPECIFICATIONS IN ALL RESPECTS AND SHALL BE SUBJECT TO APPROVAL BY THE CITY ENGINEER OR DESIGNEE.

7 STRIPING SHALL BE CAT TRACKED AND APPROVED BY THE CITY TRAFFIC ENGINEER PRIOR TO FINAL INSTALLATION.

8 PAVEMENT LEGENDS SHALL MATCH THE CITY OF LONG BEACH STENCILS.

9 CONTRACTOR SHALL FURNISH ALL SIGNS AND MATERIALS PER CALTRANS SPECIFICATION AND CITY OF LONG BEACH STANDARD. ALL SIGNS SHALL CONSIST OF 0.08" THICK ALUMINUM PANELS WITH HIGH INTENSITY PRISMATIC SHEETING AND PREMIUM PROTECTIVE OVERLAY FILM(ANTI-GRAFFITI) FINISH.

10 BLUE RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE INSTALLED ADJACENT TO ALL EXISTING FIRE HYDRANTS IN ACCORDANCE WITH CALTRANS STANDARDS.

11 ALL REMOVED SIGNS SHALL BE SALVAGED AND DELIVERED TO THE CITY OF LONG BEACH TRAFFIC OPERATIONS DIVISION LOCATED AT 2400 E. SPRING STREET, LONG BEACH, CA 90806.

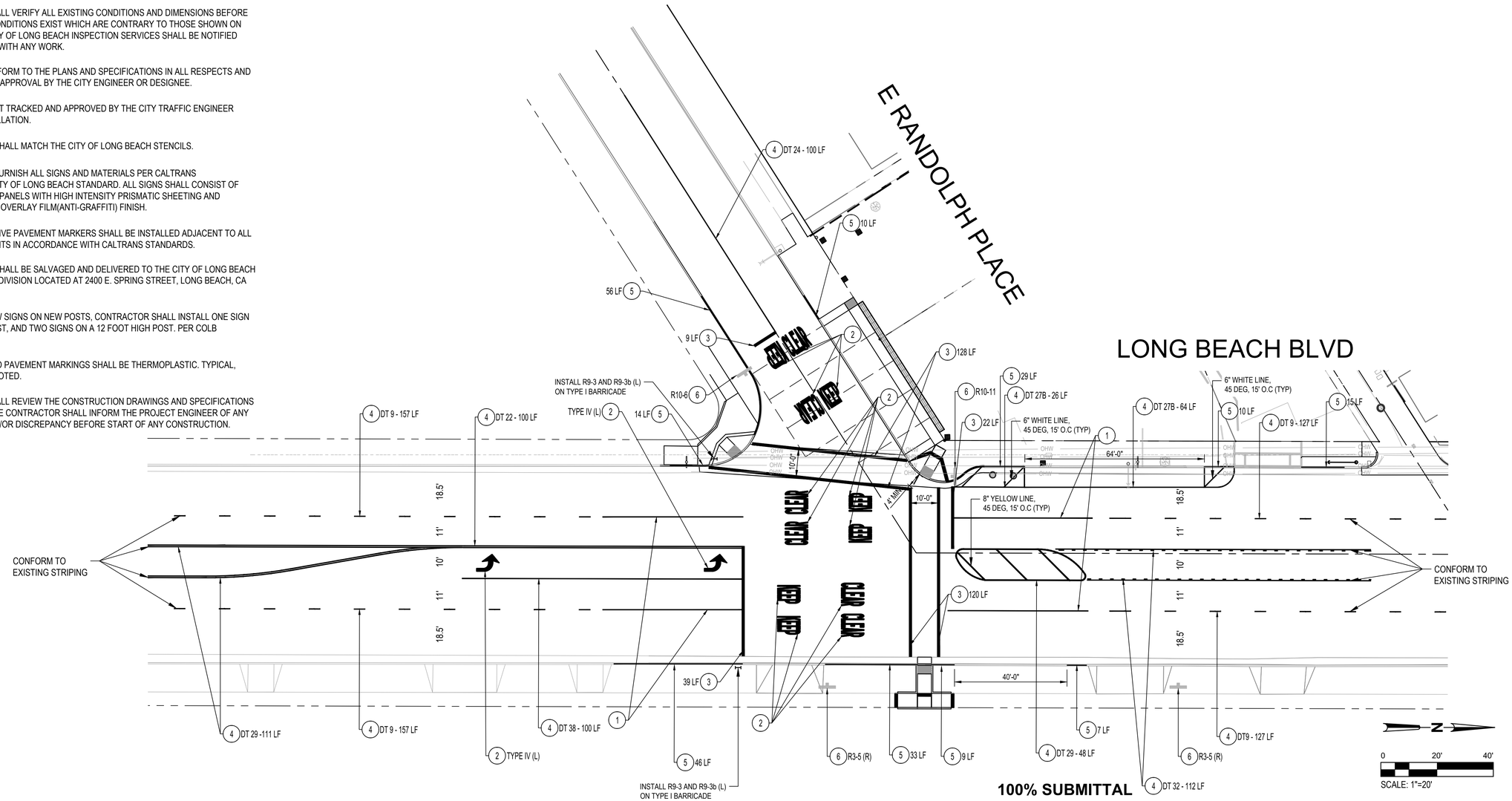
12 WHEN INSTALLING NEW SIGNS ON NEW POSTS, CONTRACTOR SHALL INSTALL ONE SIGN ON A10 FOOT HIGH POST, AND TWO SIGNS ON A 12 FOOT HIGH POST. PER COLB STANDARD PLAN 317.

13 ALL NEW STRIPING AND PAVEMENT MARKINGS SHALL BE THERMOPLASTIC. TYPICAL, UNLESS OTHERWISE NOTED.

14 THE CONTRACTOR SHALL REVIEW THE CONSTRUCTION DRAWINGS AND SPECIFICATIONS THOROUGHLY AND, THE CONTRACTOR SHALL INFORM THE PROJECT ENGINEER OF ANY ERROR, OMISSION AND/OR DISCREPANCY BEFORE START OF ANY CONSTRUCTION.

CONSTRUCTION LEGEND:

1. INSTALL 50-FOOT WHITE LANE STRIPING WITH TYPE G MAKER AT EITHER END.
2. INSTALL ARROW PAVEMENT MARKING/LEGEND, TYPE AND COLORS AS NOTED ON PLAN, PER CALTRANS PLAN A24A-A24F AND CLB STANDARD PLAN No. 308.
3. INSTALL 12-INCH LIMIT LINES, WHITE, UNLESS OTHERWISE NOTED ON PLAN, PER CLB STANDARD PLAN NO. 307 AND 309.
4. INSTALL STRIPING, PER PLAN AND CALTRANS STANDARD PLAN A20A-A20D.
5. INSTALL /REPAINT EXISTING CURB RED.
6. INSTALL SIGNS, PER CITY OF LONG BEACH STANDARD PLAN NO. 317



100% SUBMITTAL

DIGALERT DIAL TOLL FREE 811 AT LEAST TWO DAYS BEFORE YOU DIG UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

GHD Inc.
320 Goddard Way Drive Suite 200
Irvine CA 92618 USA
T 1 949 648 5200 F 1 949 648 5299
W www.ghd.com

Prepared Under the Supervision of:

FRANK W. PENRY RCE No. 62785 DATE

REGISTERED PROFESSIONAL ENGINEER FRANK W. PENRY No. C62785 Exp. 6/30/2024 CIVIL STATE OF CALIFORNIA

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
3	09/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: **MM**
DRAWN BY: **LR / RR**
DESIGN CHECKED BY: **MM**
DRAWN CHECKED BY: **MM / RR**

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

SIGNING AND STRIPING PLAN

B # **B-4797**

PHASE # ___ / REBID # ___

SHEET **31** OF **236**

DWG. NO. **TS1**

Oct 13, 2023 - 8:45am

GENERAL NOTES: (TRAFFIC SIGNALS)

1 TRAFFIC SIGNAL POLES, FOUNDATION AND MAST ARMS SHALL CONFORM TO 2010 CALTRANS STANDARDS AND SPECIFICATIONS. ALL OTHER EQUIPMENT AND WORK SHALL CONFORM TO THE LATEST (2018) CALTRANS STANDARD SPECIFICATIONS AND CITY OF LONG BEACH SPECIFICATIONS UNLESS OTHERWISE NOTED. IF THERE ARE ANY CONFLICTS BETWEEN THE STATE AND THE CITY OF LONG BEACH SPECIFICATIONS, THE CITY'S SPECIFICATIONS SHALL GOVERN.

2 THE CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION AS SHOWN WHEN IT IS OBVIOUS THAT THE UNKNOWN CONDITIONS AND/OR OBJECTS THAT EXIST MAY NOT HAVE BEEN KNOWN DURING THE PREPARATION OF THESE PLANS. SUCH CONDITIONS AND/OR OBJECTS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CITY. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATIONS.

3 ALL VEHICLE AND PEDESTRIAN COUNTDOWN INDICATIONS SHALL BE GELCORE (OR CITY APPROVED EQUIVALENT) LED MODULES.

4 ALL MATERIALS AND EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS SPECIFIED ELSEWHERE IN THE PLANS AND SPECIFICATIONS.

5 THE CONTRACTOR SHALL NOTIFY CITY OF LONG BEACH TRAFFIC OPERATIONS DIVISION AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION THAT CONSTRUCTION WILL BEGIN.

6 THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE TRAFFIC SIGNAL COORDINATOR OR ENGINEER IN THE FIELD FOR EXACT EQUIPMENT LOCATION PRIOR TO FINAL PLACEMENT.

7 THE LOCATIONS OF PROPOSED PULL BOXES ARE APPROXIMATE AND MAY BE CHANGED TO SUIT FIELD CONDITIONS. THE EXACT LOCATION OF PULL BOXES AND CONDUIT RUNS SHALL BE SPECIFIED AND APPROVED BY THE ENGINEER IN THE FIELD PRIOR TO INSTALLATION.

8 ALL PULL BOXES SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS.

9 ALL TRAFFIC SIGNAL PULL BOXES SHALL BE NO. 6 AT 24 INCHES DEEP, UNLESS OTHERWISE NOTED. ALL EXISTING TRAFFIC SIGNAL PULL BOXES NOT IN USE SHALL BE REMOVED AND DISPOSED OF.

10 PULL BOXES SHALL NOT BE LOCATED IN DRIVEWAYS, EXISTING OR FUTURE CURB RAMPS, AND WITHIN 2 FEET FROM THE CURB IN CASE OF STREETS WITHOUT GUTTER, OR OTHER LOCATIONS THAT MAY INTERFERE WITH THE MOVEMENT OF PEOPLE OR VEHICLES.

11 CONDUIT SHALL NOT BE INSTALLED DIRECTLY OVER ANY UTILITY LINE (PARALLEL WITH THE LINE). UTILITY LINE CROSSINGS ARE ALLOWED. A MINIMUM TWO FEET HORIZONTAL CLEARANCE SHALL BE PROVIDED BETWEEN EXISTING UTILITY LINE AND PROPOSED CONDUITS.

12 THESE DRAWINGS SHOW NO DEPTHS AND ONLY APPROXIMATE LATERAL LOCATIONS OF EXISTING TRAFFIC SIGNALS AND STREET LIGHTING CONDUITS. CAUTION AND DUE CARE MUST BE EXERCISED DURING ALL EXCAVATIONS TO AVOID THESE FACILITIES. PROPOSED TRAFFIC SIGNAL AND STREET LIGHT CONDUITS AND PULL BOX LOCATIONS ARE SHOWN SCHEMATICALLY ONLY.

13 WHERE CONDUIT IS INSTALLED AND DISTURBS EXISTING STRIPING, CONTRACTOR SHALL ARRANGE AND PAY FOR RE-STRIPING. SEE PROJECT SPECIFICATIONS FOR CONTRACTOR RESPONSIBILITY FOR TEMPORARY PAVEMENT MARKINGS.

14 THE CONTRACTOR SHALL LOCATE, PROTECT, SHORE, BRACE, SUPPORT, AND MAINTAIN ALL EXISTING FACILITIES INCLUDING SIGNALIZATION, GAS, WATER, IRRIGATION, SEWER, POWER, STREET LIGHTS, TELEPHONE, AND OTHER CONSTRUCTION THAT MAY BE UNCOVERED OR OTHERWISE IMPACTED BY THE WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PRESERVATION OF ALL SUCH FACILITIES IN THE AREA OF CONSTRUCTION AND SHALL NOTIFY UTILITIES 48 HOURS IN ADVANCE OF ANY CONSTRUCTION. UNDERGROUND SERVICE ALERT (USA) SHALL BE CALLED AT 800-227-2600 BEFORE PLANTING TREES, TRENCHING, DIGGING POST HOLES, BLASTING, GRADING, EXCAVATING. DRILLING, BORING, ETC. THIS SHALL INCLUDE BUT NOT BE LIMITED TO POT HOLING TO EXPOSE ALL UTILITY CROSSINGS WITH PROPOSED CONDUIT RUNS, TRAFFIC SIGNAL FOUNDATIONS, ETC.

15 ALL BORINGS SHALL BE OUTSIDE THE DRIP LINE OF ALL TREES TO MINIMIZE ROOT DAMAGE.

16 9, 5 OR 3 CONDUCTOR CABLES SHALL BE USED FROM EACH SIGNAL/PED HEAD OR PPB DIRECTLY TO THE PULL BOX AND CONNECTED TO THE 28 CONDUCTOR CABLE. SPLICING IN TERMINAL BOXES IS NOT PERMITTED.

17 CONDUCTOR SCHEDULE IS FURNISHED AS AN INSTALLATION GUIDELINE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CORRECT CONDUCTORS REQUIRED FOR THE INTENDED OPERATION.

18 CONTRACTOR SHALL INSTALL TEMPORARY TRAFFIC SIGNAL WITH TEMPORARY OVERHEAD WIRING, IF REQUIRED AT NO ADDITIONAL COST TO THE CITY. TEMPORARY SIGNAL SHALL BE INSTALLED WITH OR WITHOUT A MAST ARM, DEPENDING ON THE POLE BEING REPLACED.

19 PEDESTRIAN TRAFFIC MUST BE MAINTAINED AT ALL TIMES. PEDESTRIANS MAY BE RELOCATED ONTO PRIVATE PROPERTY ONLY WITH PROPERTY OWNERS' WRITTEN PERMISSION, SUPPLIED TO THE ENGINEER.

20 EXISTING TRAFFIC SIGNAL CIRCUITS AND INTERCONNECT CONDUITS MAY NOT BE SHOWN. CONTRACTOR SHALL LOCATE ALL TRAFFIC SIGNAL CIRCUITS AND INTERCONNECT CONDUITS PRIOR TO ANY TRENCHING, BORING, AND DIRECTIONAL DRILLING. ALL TRAFFIC SIGNAL AND INTERCONNECT CONDUITS SHALL BE MAINTAINED AND PROTECTED.

21 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING RECORD DRAWINGS FOR ALL WORK THROUGHOUT THE COURSE OF CONSTRUCTION AND SHALL PRESENT SUCH DRAWINGS TO THE ENGINEER FOR INSPECTION UPON DEMAND. NO RECORD DRAWINGS SHALL BE MORE THAN 3 DAYS OUT OF DATE.

22 IF UNUSUAL AMOUNTS OF BONE, STONE, OR OTHER POTENTIAL ARCHAEOLOGICAL ARTIFACTS ARE UNCOVERED, WORK WITHIN 165' OF THE AREA SHALL CEASE IMMEDIATELY AND A QUALIFIED ARCHAEOLOGIST SHALL BE CONSULTED TO DEVELOP, IF NECESSARY, MITIGATION MEASURES TO REDUCE ANY ARCHAEOLOGICAL IMPACT TO A LESS THAN SIGNIFICANT EFFECT BEFORE RESUMING CONSTRUCTION IN THE AREA.

23 TWO WORKING DAYS AFTER THE CONCLUSION OF CONTRACTOR'S WORK, ALL REMAINING FIELD WORK RELATED TO THE PROJECT MADE BY VARIOUS UTILITY COMPANIES USING UNDERGROUND SERVICE ALERT (USA) SHALL BE REMOVED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER IN THE FIELD.

24 TRAFFIC COMMUNICATION PULL BOXES SHALL BE INSTALLED AT A 200' SPACING.

25 THE CONTRACTOR SHALL REPAIR ALL DAMAGED LANDSCAPING AND IRRIGATION. ALL LANDSCAPING DAMAGED BY THE CONTRACTOR'S OPERATION SHALL BE REPLACED IN KIND. SEE PROJECT SPECIFICATIONS. THE REMOVAL, STORAGE, AND REPLACEMENT OF ALL SHRUBBERY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL LANDSCAPING SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION. THE CONTRACTOR SHALL REPAIR OR REPLACE ALL EXISTING SPRINKLER SYSTEMS DAMAGED DUE TO THE CONSTRUCTION OPERATIONS WITHIN 24 HOURS AT NO ADDITIONAL COST TO THE CITY.

26 THE CONTRACTOR SHALL REPAIR CONCRETE SIDEWALK OR DECORATIVE SIDEWALK AREAS ADJACENT TO NEW POLES, CABINETS, RAMPS, AND ANY OTHER AREAS WHERE SIDEWALK IS DAMAGED DURING CONSTRUCTION.

27 TRAFFIC SIGNALS SHALL REMAIN IN OPERATION AT ALL TIMES. CONTRACTOR SHALL PROVIDE TEMPORARY WIRING IF NECESSARY. FLASHING RED OPERATIONS MAY BE NEEDED IN SOME SITUATIONS.

28 THE CONTRACTOR SHALL TEST AND VERIFY ALL COMMUNICATIONS AND RELATED DEVICES ARE WORKING TO THE SATISFACTION OF THE CITY OF LONG BEACH. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEST EQUIPMENT.

29 THE CONTRACTOR SHALL PREVENT THE DISCHARGE OF ANY WATER, SAND, MUD, OIL, PETROLEUM OR OTHER POLLUTANTS FROM LEAVING THE CONSTRUCTION SITE AND ENTERING A PUBLIC STREET, STORM DRAIN OR FLOOD CONTROL CHANNEL.

30 THE PRIMARY METHOD OF CONDUIT INSTALLATION UNDER ALL SIDEWALKS, CURBS, AND STREETS SHALL BE BY BORING OR DIRECTIONAL DRILL METHOD. WHERE NOT FEASIBLE DUE TO SLTE CONDITIONS THE CONTRACTOR, WITH APPROVAL OF THE ENGINEER, HAS THE OPTION TO INSTALL CONDUIT UNDER STREET PAVEMENT USING OTHER APPROVED METHODS DESCRIBED IN THE STANDARD SPECIFICATIONS.

31 ALL NEW CONDUIT CROSSING STREETS AND HANDICAP RAMPS SHALL BE INSTALLED BY BORING OR DIRECTIONAL DRILL METHOD.

32 THE CONTRACTOR SHALL REMOVE, PROTECT, AND SALVAGE EXISTING EQUIPMENT AS SHOWN ON THE PLANS. ALL SALVAGED EQUIPMENT SHALL REMAIN THE PROPERTY OF THE CITY AND SHALL BE DELIVERED TO THE CITY OF LONG BEACH TRAFFIC OPERATIONS DIVISION, AT 2400 E. SPRING STREET, LONG BEACH, CA. NOTIFY 24 HOURS BEFORE DELIVERY, (562) 570-3264.

33 FOR ALL EQUIPMENT REMOVED AND REUSED, RELOCATED OR OTHERWISE MODIFIED, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY MATERIALS AND EQUIPMENT AS REQUIRED TO COMPLETE THE NEW INSTALLATION AND /OR OPERATIONS.

34 THE CONTRACTOR SHALL REMOVE ANY PAVEMENT AND SIDEWALK MARKINGS UPON COMPLETION OF THE WORK. THESE MARKINGS ARE USED TO IDENTIFY THE LOCATION OF UTILITY SERVICES UNDER THE USA PROGRAM AND CONSTRUCTION RELATED MAKINGS, INCLUDING BUT NOT LIMITED TO HORIZONTAL AND VERTICAL GRADE MARKINGS, SURVEY STATIONING, OFFSET, CURB LINES, AND OTHER LAYOUT LINES.

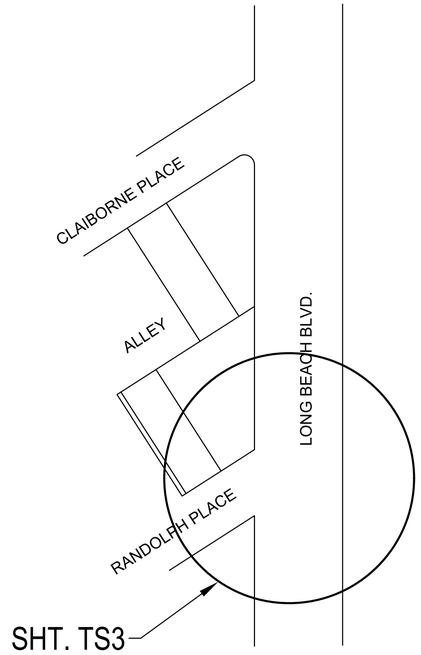
35 THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH OPERATIONS.

36 NO EXCAVATION OF ANY KIND NEAR CALTRANS EQUIPMENT, PULL BOXES, AND CONDUITS.

37 ALL EXISTING IMPROVEMENTS, MATERIALS, AND PLANT MATERIAL TO REMAIN WITHIN THE CONSTRUCTION AREA SHALL BE PROPERLY AND ADEQUATELY PROTECTED FROM DAMAGE DURING CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RESTORE TO THE ORIGINAL CONDITION OR REPLACE IN KIND ANY OF THESE EXISTING ITEMS THAT ARE DAMAGED OR DISTURBED IN ANY WAY AT NO ADDITIONAL COST TO THE CITY.

LEGEND: (TRAFFIC SIGNALS)

- SIGNAL CONDUIT
- 6 — NO. 6 PULL BOX
- 6EE — NO. 6 EE PULL BOX
- SIGNAL CONTROLLER CABINET
- SIGNAL SERVICE CABINET
- SIGNAL POLE, MAST ARM, AND LUMINAIRE
- PEDESTRIAN PUSH BUTTON POLE
- SIGNAL VEHICLE HEAD
- PEDESTRIAN HEAD
- EMERGENCY VEHICLE PRE-EMPTION
- STREET NAME SIGN (SNS)
- STREET LIGHT
- TYPE "E" LOOP DETECTOR
- EXISTING STREET LIGHT



KEY MAP

SCALE: NONE

N

100% SUBMITTAL

DIGALERT — DIAL TOLL FREE 811 — AT LEAST TWO DAYS BEFORE YOU DIG — UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

GHD Inc.
320 Goddard Way Drive Suite 200
Irvine CA 92618 USA
T 1 949 648 5200 F 1 949 648 5299
W www.ghd.com

Prepared Under the Supervision of:

FRANK W. PENRY — RCE No. 62785 — DATE

REGISTERED PROFESSIONAL ENGINEER — FRANK W. PENRY — No. C62785 Exp. 6/30/2024 — CIVIL — STATE OF CALIFORNIA

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
1	12/16/2021			PLAN CHECK SUBMITTAL
2	04/22/2022			PLAN CHECK RE-SUBMITTAL
3	06/15/2023			PLAN CHECK RE-SUBMITTAL
4	09/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT — MARY C. MCGRATH — C-24435 — REN-08-30-23 — STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

TRAFFIC SIGNAL GENERAL NOTES AND KEY LEGEND

B # B-4797

PHASE # ___ / REBID # ___

SHEET 32 OF 236

DWG. NO. TS2

Oct 13, 2023 - 8:46am

CONSTRUCTION NOTES: (THIS SHEET ONLY)

1. FURNISH & INSTALL NEW 352i ATC CONTROLLER CABINET ON NEW FOUNDATION PER CALTRANS STANDARD PLAN ES-3C. CABINET SHALL HAVE TWO INPUT FILES, A 32 CHANNEL OUTPUT FILE, FRONT AND BACK INTERNAL LED LIGHTS AND DOOR SWITCHES, A PULL-OUT DOCUMENT DRAWER, AND CITY SPECIFIED LOCKS. THE CABINET SHALL BE EQUIPPED WITH THE FOLLOWING:
   A. NEW MODEL 2070 ATC CONTROLLER WITH OMNI eX SOFTWARE.
   B. NEW IP CAPABLE CONFLICT MONITOR WITH AUXILIARY DISPLAY.
   C. NEW DETECTOR CARDS, DC ISOLATORS, AND LOAD SWITCHES.
   D. NEW GTT 764 PHASE SELECTOR WITH ETHERNET CAPABILITY.
   E. NEW BATTERY BACKUP SYSTEM IN SIDE-MOUNTED CABINET.
   F. NEW APS CONTROL UNITY WITH POWER SUPPLY.
   G. NEW ETHERNET CAPABLE RACK MOUNT POWER STRIP.
   H. NEW LAYER 2 ETHERNET SWITCH.
2. FURNISH & INSTALL NEW TYPE III-BF SERVICE EQUIPMENT ENCLOSURE ON NEW FOUNDATION PER CALTRANS STANDARD PLAN ES-2E.
3. FURNISH & INSTALL 3" CONDUIT, SCHEDULE 80 WITH PULL ROPE FROM SERVICE CABINET TO PROPOSED S.C.E. SERVICE LOCATION. THE CITY WILL COORDINATE WITH S.C.E TO GENERATE THE NEW SERVICE PLAN AND ADDRESS. THE CONTRACTOR WILL COORDINATE WITH S.C.E. AFTER THE CITY AND S.C.E HAVE FINALIZED THE NEW SERVICE PLANS.
4. FURNISH & INSTALL APS PUSH BUTTON PER POLE AND EQUIPMENT SCHEDULE. PUSH BUTTON HEIGHT SHALL MEET ADA REQUIREMENTS.
5. INSTALL 6' DIAMETER TYPE E LOOP DETECTOR PER CALTRANS STANDARD PLAN ES-5B. LEAD LOOP SHALL BE LADOT CASE II (BICYCLE AND VEHICLE) PER LADOT STANDARD PLAN S-70.1D. INSTALL MODIFIED TYPE E SHOWN ON PLANS.
6. FURNISH AND INSTALL STANDARD SIZE R13A (CA) ON SIGNAL POLE.
7. FURNISH & INSTALL STANDARD SIZE SIGN PER PLAN ON SIGNAL MAST ARM PER CALTRANS STANDARD PLAN ES-7N, DETAIL U.
8. FURNISH & INSTALL EMERGENCY VEHICLE PREEMPTION (EVP) PUSHBUTTON IN FIRE APPARATUS BAY AT LOCATIONS SHOWN (2). COORDINATED INSTALL WITH ARCHITECTURAL PLAN, AND LOCATE PER ENGINEER. EVP PUSHBUTTON SHALL BE COMPRISED OF ALUMINUM HOUSING OF SUFFICIENT SIZE TO CONTAIN PROGRAMMABLE DIGITAL TIMER RELAY MODULE, WITH LCD SCREEN, AND HEAVY-DUTY EXTENDED MUSHROOM HEAD PUSHBUTTON (30MM), CENTERED ON HOUSING FOR OPERATION BY DEPARTMENT STAFF. BUTTON HEIGHT SHALL BE 40-42 INCHES ABOVE FINISH GRADE.
9. FURNISH & INSTALL GTT OPTICOM 721 IR DETECTOR.
10. FURNISH & INSTALL 4-SECTION SIGNAL HEAD. SEE DETAIL A THIS SHEET.
11. PULL EXISTING 12PR#19 SIGNAL INTERCONNECT CABLE (SIC) SLACK FROM NEAREST EXISTING SIC PULL BOX. CUT EXISTING 12PR#19 SIC. PULL BOTH SIGNAL INTERCONNECT CABLES THROUGH NEW 2" CONDUIT INTO NEW CONTROLLER CABINET
12. FURNISH & INSTALL TYPE I PEDESTRIAN BARRICADE PER CALTRANS STANDARD PLAN ES-7Q. PLACE R9-3 AND R9-3b ON STREET SIDE OF BARRICADE.
13. FURNISH & INSTALL NEW CONDUIT, CABLES, AND CONDUCTORS. CONDUIT SIZE AND CONTENTS PER PLAN.
14. FURNISH & INSTALL NEW 24" X 36" PULL BOX FLUSH IN GRADE.

BC INSTALL PULL BOX IN EXISTING CONDUIT RUN.

FA FOUNDATION TO BE ABANDONED.

RC EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR.

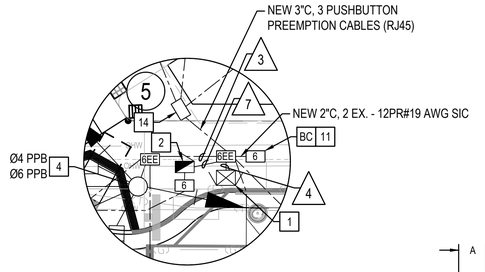
RS REMOVE AND SALVAGE EQUIPMENT.

POLE SCHEDULE

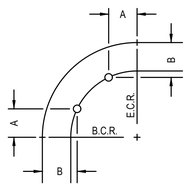
STANDARD No.	TYPE	HGT.	SIG. M.A.	LUM. M.A.	LUMINAIRE (LED)	*RSNS LEGEND	SIGNAL MOUNTING VEHICLE	SIGNAL MOUNTING PED	PPB PHASE	PLACEMENT A	PLACEMENT B	REMARKS
1	26-4-100	30'	40'	12'	138W	EAST RANDOLPH PL.	2-MAS	SV-2-TB	SP-1-CS	4			F=18'
2	1-A	10'	-	-	-	-	-	TV-2-T	-	-			-
3	19-3-100	30'	25'	12'	138W	EAST RANDOLPH PL.	2-MAS	SV-1-T	SP-1-CS	6			-
4	1-A	10'	-	-	-	-	-	TV-1-T	-	-			-
5	15TS	30'	-	12'	138W	-	-	SV-3-TC	SP-2-CS	4/6			-

*RSNS SHALL CONFORM TO CITY STANDARD PLAN 313.
ALL POLES AND SIGNAL EQUIPMENT SHALL BE NEW.
NOTE: CONSTRUCT POLE STANDARDS TO CALTRANS 2010 STANDARDS. POTHOLE ALL POLE LOCATIONS PRIOR TO ORDERING POLES. CONTRACTOR SHALL SUBMIT MATERIALS CUT SHEETS PRIOR TO ORDERING OF MATERIALS. CONTRACTOR MUST PROVIDE A MIN. 4.00' CLEAR SIDEWALK FOR PEDESTRIANS.

GENERAL NOTE:
1. PULL BOXES ARE GENERALLY #6 UNLESS OTHERWISE NOTED.
2. ALL VEHICLE INDICATIONS SHALL BE 12-INCH NOMINAL DIAMETER. BACKPLATE SHALL HAVE 2-INCH RETROREFLECTIVE STRIP ON THE FACE AROUND THE PERIMETER.
3. ALL PEDESTRIAN HEADS SHALL BE 16" LED COUNTDOWN HEADS.



DETAIL "C"
1" = 10'



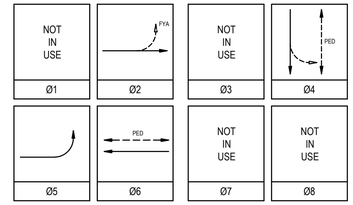
SIGNAL STANDARD PLACEMENT DETAIL
NO SCALE

CONDUCTOR SCHEDULE

AWG CIRCUIT		RUNS 1	2	3	4	5	6	7
28 CONDUCTOR SIGNAL CABLE PER CITY OF LONG BEACH SPECS.		2	2	2	2	2	2	-
#6	SERVICE	-	-	-	3	-	-	3
#10	LUMINAIRE	-	2	2	-	-	2	4
TYPE B DLC	NOT USED	-	-	-	-	-	-	-
	Ø2	-	-	4	4	4	4	-
	NOT USED	-	-	-	-	-	-	-
	Ø4	4	4	4	4	-	-	-
	Ø5	-	-	1	1	1	1	-
	Ø6	-	-	-	4	-	-	-
	TOTAL	4	4	9	13	5	5	-
GTT MODEL 138 OPTICOM CABLE		-	1	2	2	-	1	-
SIC (12PR #19) (EXISTING)		-	-	-	2	-	-	-
PUSHBUTTON PREEMPTION CABLE (RJ45)		-	-	-	3	-	-	-
PERCENT (%) FILL		16%	17%	17%	20%	17%	18%	8%
CONDUIT SIZE (INCHES)		3	3	4	2-4	3	3	2

CONTRACTOR SHALL TERMINATE CONDUCTORS IN TERMINAL COMPARTMENTS AND IN THE CONTROLLER CABINET TO ACHIEVE OPERATION SHOWN.
ALL CONDUITS AND CONDUCTORS SHALL BE NEW.

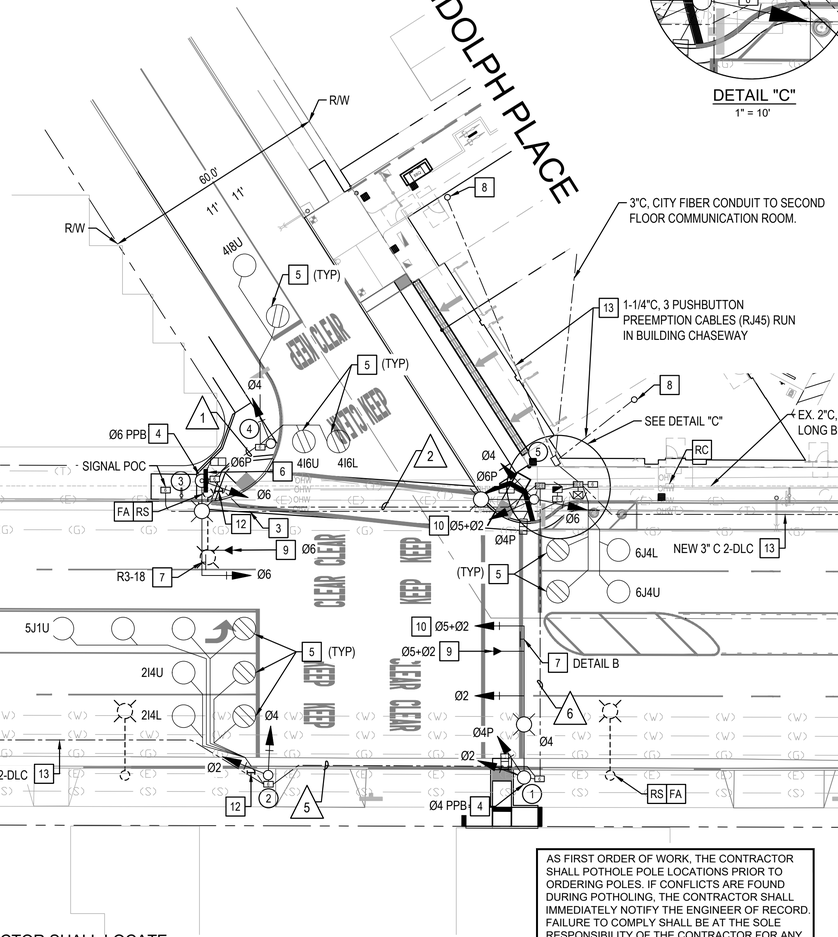
PROPOSED PHASE DIAGRAM



EMERGENCY VEHICLE PREEMPTION:
EVP A = Ø2 + Ø5
EVP B = NOT USED
EVP C = Ø6
EVP D (PUSHBUTTONS) = ALL RED

4-SECTION
DETAIL A

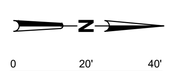
DETAIL B



AS FIRST ORDER OF WORK, THE CONTRACTOR SHALL POTHOLE POLE LOCATIONS PRIOR TO ORDERING POLES. IF CONFLICTS ARE FOUND DURING POTHOLING, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF RECORD. FAILURE TO COMPLY SHALL BE AT THE SOLE RESPONSIBILITY OF THE CONTRACTOR FOR ANY LOSS OF TIME, ADDITIONAL COST, AND DAMAGE.

UTILITY LOCATIONS PROVIDED ARE APPROXIMATE CONTRACTOR SHALL LOCATE.

NOTE: THESE PLANS ACCURATE FOR ELECTRICAL WORK ONLY. SEE TITLE SHEET FOR GENERAL NOTES



SCALE: 1"=20'

100% SUBMITTAL

DIGALERT DIAL TOLL FREE 811 AT LEAST TWO DAYS BEFORE YOU DIG UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

GHD Inc.
320 Goddard Way Drive Suite 200
Irvine CA 92618 USA
T 1 949 648 5200 F 1 949 648 5299
W www.ghd.com

Prepared Under the Supervision of:
FRANK W. PENRY RCE No. 62785 DATE

REGISTERED PROFESSIONAL ENGINEER FRANK W. PENRY No. C62785 Exp. 6/30/2024 CIVIL STATE OF CALIFORNIA

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

NO.	DATE	APPROVAL	DESCRIPTION
	12/16/2021		PLAN CHECK SUBMITTAL
	04/22/2022		PLAN CHECK RE-SUBMITTAL
	06/15/2023		PLAN CHECK RE-SUBMITTAL
	09/15/2023		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS
			AS-BUILT

REVISIONS SHEET REF.

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

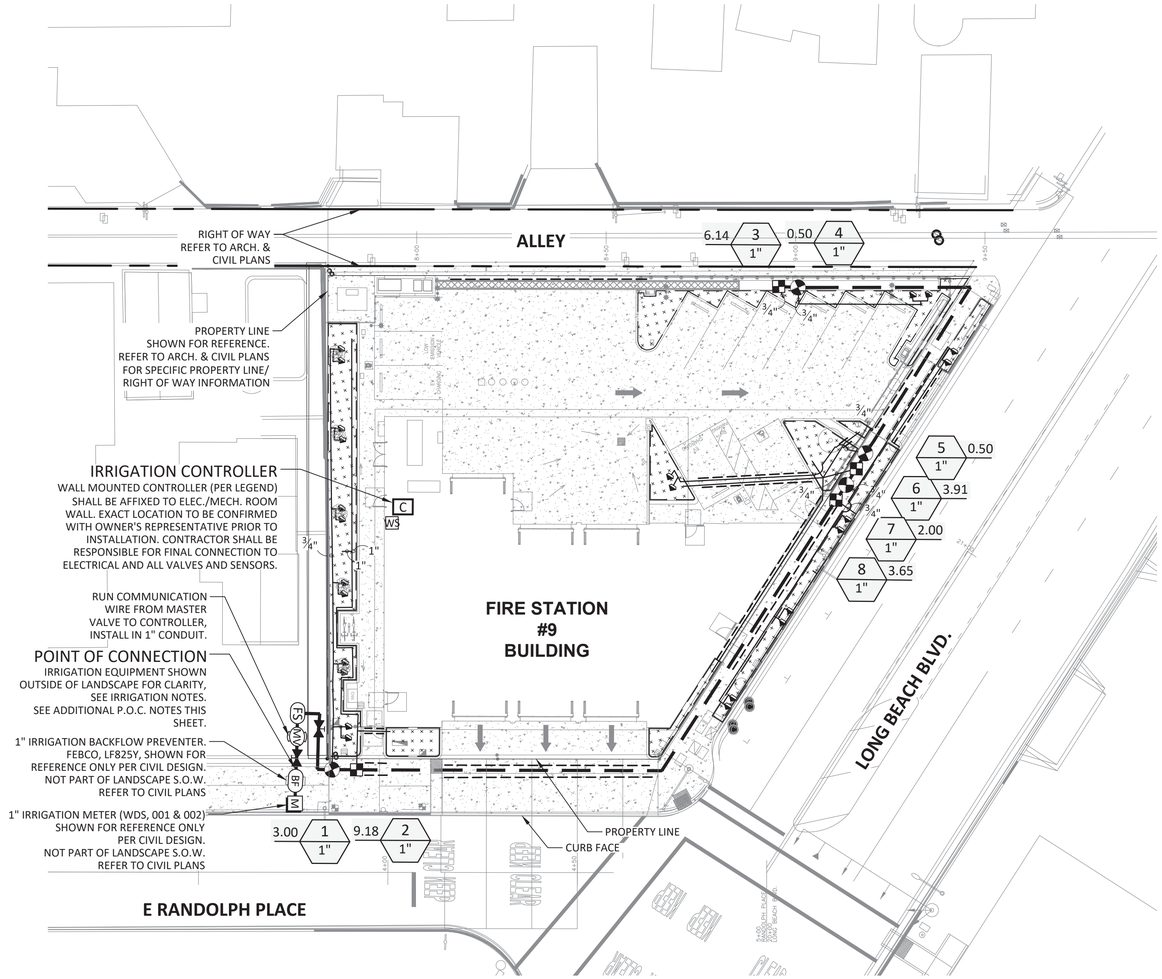
LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

TRAFFIC SIGNAL INSTALLATION PLAN

B # B-4797
PHASE # ___ / REBID # ___
SHEET 33 OF 236
DWG. NO. TS3

Oct 13, 2023 - 8:47am



IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI
0.25 0.50	ROOT ZONE WATERING SYSTEM HUNTER RZWS-SLEEVE-18-CV INSTALL TWO (2) 0.25 GPM BUBBLERS PER TREE.	20

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	AREA TO RECEIVE DRIP EMITTERS IH RISERS W/ HEB EMITTERS FLEXIBLE PVC RISER WITH EMITTER AND CHECK VALVE. INSTALL EMITTERS AT 1 AND 5 GALLON PLANTS PER SCHEDULE BELOW. INSTALL (2) 10HEB EMITTERS AT 15 GALLON TREES ONLY WHERE DEEP ROOT WATERING BUBBLERS ARE NOT INDICATED. INSTALL PER MANUFACTURER`S SPECIFICATIONS. Emitter Notes: 10HEB emitters (1 assigned to each 1 gal plant) 10HEB emitters (1 assigned to each 5 gal plant)

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER ICZ-101-25 DRIP CONTROL ZONE KIT. 1" ICV GLOBE VALVE WITH 1" HY100 FILTER SYSTEM. PRESSURE REGULATION: 25PSI. FLOW 2 GPM TO 20 GPM. 150 MESH STAINLESS STEEL SCREEN.
	REMOTE CONTROL VALVE HUNTER ICV-G GLOBE VALVE SIZE PER PLAN.
	GATE VALVE NIBCO T-113-K. CLASS125 BRONZE, THREADED WITH CROSS HANDLE. SAME SIZE AS MAINLINE PIPE WHERE LOCATED.
MV	MASTER VALVE 1" BUCKNER-SUPERIOR 3300. NORMALLY OPEN BRASS MASTER VALVE. SIZE: 2"
C	HUNTER IC-0600-PL MODULAR CONTROLLER, 6 STATIONS, OUTDOOR MODEL, PLASTIC CABINET. NO MODULE REQUIRED. COMMERCIAL USE.
WS	WEATHER SENSOR WIRELESS SOLAR, RAIN FREEZE SENSOR, WITH OUTDOOR INTERFACE, COORDINATE MAKE AND MODEL WITH OWNER OR OWNER REPRESTATIVE. CONFIRM PRECISE LOCATION WITH OWNER`S REPRESENTATIVE. INCLUDES GUTTER MOUNT BRACKET IF PROPOSED LOCATION REQUIRES.
FS	FLOW SENSOR CREATIVE SENSOR TECHNOLOGY FSI-T15-001. PVC TEE TYPE FLOW SENSOR W/SOCKET ENDS. FLOW RANGE 1.8-108 GPM.
	IRRIGATION LATERAL LINE: PVC SCHEDULE 40
	IRRIGATION MAINLINE: PVC SCHEDULE 40 FOR ALL MAINLINE UP TO 2" AND CLASS 315 PVC FOR ALL MAINLINE BETWEEN 2-1/2" AND 4".
	PIPE SLEEVE: PVC SCHEDULE 40 2X LINE SIZE FOR LATERALS, CONDUITS, AND MAINLINE UNDER ALL PAVING, TYPICAL WHETHER SHOWN OR NOT. EXTEND SLEEVES 18 INCHES BEYOND EDGES OF PAVING OR CONSTRUCTION.

VALVE CALLOUT
VALVE NUMBER
VALVE FLOW
#" VALVE SIZE

PIPE SIZING CHART

SCHEDULE 40 PVC	
SIZE	MAX. GPM
3/4"	6
1"	9
1-1/4"	18
1-1/2"	28
2"	50
2-1/2"	65
3"	100

SLEEVING CHART

PIPE SIZE	SCH. 40 PVC SLEEVE SIZE
3/4"	1-1/2"
1"	2"
1-1/4"	2-1/2"
1-1/2"	3"
2"	4"
2-1/2"	6"
3"	6"
4"	6"

WIRE QTY.	SCH. 40 PVC SLEEVE SIZE
1-10	1-1/2"
11-20	2"
21-40	3"
41-60	4"

POINT OF CONNECTION NOTES

IRRIGATION DESIGN IS BASED ON A MAXIMUM DEMAND OF 10 GPM WITH A MINIMUM OPERATING PRESSURE OF 55 PSI AT THE POINT OF CONNECTION AND 30 PSI AT EACH HEAD. LANDSCAPE CONTRACTOR SHALL TEST AND VERIFY PRESSURE AND FLOW ON SITE PRIOR TO STARTING CONSTRUCTION. NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY IF WATER AND PRESSURE FLOWS DO NOT MEET THESE MINIMUM REQUIREMENTS. IN THE EVENT THE PRESSURE DIFFERENCES ARE NOT REPORTED PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.

WATER SUPPLY: DOMESTIC REDUCED PRESSURE BACKFLOW PREVENTER. SEE CIVIL PLANS.

GENERAL SLEEVING NOTE

SLEEVES ARE SHOWN DIAGRAMMATICALLY. SLEEVES TO BE INSTALLED WHERE SHOWN AS WELL AS AT ANY AREA WHERE LATERAL OR MAINLINE PIPE CROSSES HARDSCAPE. SLEEVES UNDER WALKWAYS ARE TO BE COORDINATED BETWEEN LANDSCAPE CONTRACTOR AND CONCRETE CONTRACTOR PRIOR TO INSTALLATION.

GENERAL PIPE LOCATION NOTE

MAINLINE AND LATERAL LINES ARE SHOWN DIAGRAMMATICALLY ON PLAN FOR CLARITY. INSTALL WITHIN ADJACENT PLANTER WITH THE MINIMUM QUANTITY OF FITTINGS AND CHANGE OF DIRECTION. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS WITH UTILITIES AND PAVING.

WATER CONSERVATION STATEMENT

I HAVE COMPLIED WITH THE CRITERIA OF THE WATER EFFICIENT LANDSCAPE ORDINANCE AND APPLIED SUCH CRITERIA FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN.

LANDSCAPE DESIGNER'S SIGNATURE — DATE: 04/22/2022

NORTH
20 10 0 20 40
SCALE: 1" = 20'

WATER EFFICIENT LANDSCAPE WORKSHEET

Project type: Non Residential — **ETAF:** 0.45

Reference Evapotranspiration (ETo): 39.70 City of Long Beach

Hydrozone #/ Planting Description	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	Landscape Area (sq. ft.)	ETAF x Area	Estimated Total Water Use (ETWU)
Regular Landscape Areas							
Low Water Use - Trees	0.30	Bubbler	0.81	0.37	99.00	36.67	902.51
Low Water Use - Shrubs	0.30	Drip	0.81	0.37	2,165.00	801.85	19,736.78
				Totals	2,264.00	838.52	20,639.29
Special Landscape Areas							
Turf				1.00	-	-	-
Edibles				1.00	-	-	-
				Totals	-	-	-
						ETWU Total	**20,639.29**
						Maximum Allowed Water Allowance (MAWA)	**25,076.74**

ETWU (Annual Gallons Required) = (Eto) (0.62) (ETAF) (Area)
MAWA (Annual Gallons Allowed) = (Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]

ETAF Calculations

Regular Landscape Areas	
Total ETAF x Area	838.52
Total Area	2,264.00
Average ETAF	**0.37**

All Landscape Areas	
Total ETAF x Area	838.52
Total Area	2,264.00
Sitewide ETAF	**0.37**

Irrigation Method
overhead spray
drip

Irrigation Efficiency
0.75 for spray head
0.81 for drip

CUNNINGHAM ENGINEERING
Project Planning ≈ Civil Engineering ≈ Landscape Architecture
CECWEST.COM
Sacramento Office ≈ 2120 20th Street, Suite Three Sacramento, CA 95818 (916) 455-2026
Davis Office ≈ 2940 Spafford Street, Suite 200 Davis, CA 95618 (530) 758-2026

MARY MCGRATH | ARCHITECTS
1212 BROADWAY, SUITE 1700
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISIONS			
NO.	DATE	SHEET	APPROVAL
	12/16/2021		DESCRIPTION PLAN CHECK SUBMITTAL
1	04/22/2022		PLAN CHECK RE-SUBMITTAL
2	06/15/2023		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS
			REF.

DESIGNED BY: BK
DRAWN BY: BK
DESIGN CHEKED BY: MGE
DRAWN CHEKED BY: MGE
AS-BUILT

LICENSED LANDSCAPE ARCHITECT
MICHAEL G. ENGLE, No. 4572
Signature
7-31-22
Renewal Date
04-22-22
Date
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
IRRIGATION PLAN

B # B-4797

PHASE # ____ / REBID # ____

SHEET 34 OF 236

DWG. NO. L1.0

PLOT DATE: Oct 13, 2023 SAVED PATH S:\Projects\1800\1899 Long Beach Fire Station No 9\AutoCAD (site)\1899-03 CD\1899-03-02 LANDSCAPE\SHEETS\1899-03-LI IRRG.dwg

IRRIGATION NOTES

1. CONTRACTOR SHALL FURNISH LABOR, TOOLS, EQUIPMENT, NEW MATERIALS, TRANSPORTATION, TEMPORARY STORAGE FACILITIES AND PERFORM OPERATIONS NECESSARY TO PROPERLY EXECUTE AND COMPLETE THIS CONTRACT IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.

2. PERFORM WORK AND INSTALL MATERIALS IN FULL ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE NATIONAL ELECTRIC CODE, THE UNIFORM PLUMBING CODE, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, AND OTHER APPLICABLE LAWS OR REGULATIONS INCLUDING LOCAL WATER CONSERVATION AND IRRIGATION GUIDELINES AND MANUFACTURERS INSTRUCTIONS. NOTHING IN THESE NOTES AND DRAWINGS ARE TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE DOCUMENTS OR CODES.

3. SEE DETAILS AND NOTES FOR MATERIALS AND PROCEDURES. WORK SHALL BE PERFORMED BY PERSONNEL EXPERIENCED IN IRRIGATION INSTALLATION AND UNDER THE SUPERVISION OF A SKILLED FOREMAN.

4. CONTRACTOR SHALL WARRANT THAT THE IRRIGATION SYSTEM WILL BE FREE FROM DEFECTS IN THE MATERIALS AND WORKMANSHIP FOR 90 DAYS AFTER FINAL ACCEPTANCE OF PROJECT, AND SHALL REPLACE ANY DEFECTIVE MATERIAL OR REDO ANY WORK AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.

5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FAMILIARIZE THEMSELVES WITH ALL GRADE DIFFERENCES, SITE CONDITIONS, LOCATIONS OF STRUCTURES, CONDUITS, PIPE ROUTINGS, LOCATION OF HARDWARE, SPRINKLERS, EXISTING & PROPOSED UTILITIES. CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR AND OTHER SUBCONTRACTORS FOR THE LOCATION OF WATER SOURCE, ELECTRICAL SOURCE, SLEEVES UNDER PAVING, ETC. NOTIFY OWNER AND LANDSCAPE ARCHITECT TO REVIEW LAYOUT WHEN AREA GRADE DIFFERENCES OR OBSTRUCTIONS ARE NOT AS INDICATED ON DRAWINGS.

6. CONTRACTOR IS TO VERIFY LOCATION OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES PRIOR TO PERFORMING ANY EXCAVATIONS. FOR ALL IRRIGATION EQUIPMENT MODIFICATIONS, CONTRACTOR TO COORDINATE WITH OWNER REPRESENTATIVES AS NEEDED FOR MAINLINE AND WIRE LOCATIONS. ALL DISTURBED AREAS SHALL BE REPLACED IN-KIND TO ORIGINAL CONDITION.

7. EXERCISE CARE IN HANDLING, LOADING, UNLOADING, AND STORING MATERIALS. PROTECT PLASTIC PRODUCTS FROM EXCESSIVE EXPOSURE TO SUNLIGHT. REMOVE DAMAGED MATERIALS FROM THE CONSTRUCTION SITE, AND IF INSTALLED, REPLACE WITH NEW UNDAMAGED MATERIALS.

8. PIPING LAYOUT IS DIAGRAMMATIC. ALL EQUIPMENT SHOWN IN PAVED AREAS OR OUTSIDE PROPERTY LINES SHALL BE PLACED IN LANDSCAPE AREAS WITHIN THE PROPERTY LINES, UNLESS OTHERWISE NOTED. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SLEEVE LOCATIONS FOR ALL PIPE CROSSINGS WHETHER OR NOT SHOWN ON PLANS. DO NOT INSTALL PIPING UNDERNEATH TREES. KEEP PIPING TO OUTSIDE EDGE OF PLANTER.

9. CONTRACTOR IS RESPONSIBLE FOR CALLING THE LANDSCAPE ARCHITECT FOR IRRIGATION INSTALLATION INSPECTIONS. THE CONTRACTOR SHALL CONTACT OWNER'S REPRESENTATIVE 72 HOURS IN ADVANCE TO ARRANGE FOR INSPECTIONS. INSPECTIONS WILL NEED TO TAKE PLACE AT THE FOLLOWING POINTS DURING CONSTRUCTION:

   A. UPON INSTALLATION OF PLANTING,
   B. PRE- MAINTENANCE PERIOD,
   C. END OF MAINTENANCE PERIOD (FINAL INSPECTION)

13. WIRE SHALL BE 12 GAUGE COMMON AND 14 GAUGE CONTROL. CONTRACTOR SHALL USE SCHEDULE 40 ELECTRICAL PVC CONDUIT FOR CONTROL WIRES PASSING UNDER PAVING. CONTRACTOR SHALL SAWCUT PAVING WHERE REQUIRED AND PATCH ASPHALT OR CONCRETE AS NECESSARY AFTER BACKFILL. NON-ELECTRICAL SCHEDULE 40 SLEEVES SHALL BE SIZED TWICE THE DIAMETER OF PIPE CARRIED. CONTRACTOR IS TO INSTALL LATERALS AND/OR MAIN TO BE SLEEVED AT THE SAME TIME. ALL MAINLINE AND CONDUIT UNDER PAVING SHALL HAVE A MINIMUM DEPTH OF 24".

14. FOR ALL LOCATIONS OF SLEEVES UNDER SIDEWALKS WITH SCHEDULE 40 SLEEVES, CONTRACTOR SHALL PRE-INSTALL LATERAL LINES AND/OR MAIN LINES WHICH ARE INDICATED ON PLAN AT TIME OF SLEEVE INSTALLATION. TEMPORARY CAPS TO BE PLACED ON ALL PRE-INSTALLED SLEEVES AND LINES.

15. TRENCHING IS TO BE OF SUFFICIENT DEPTH TO PROVIDE 18" OF COVER OVER IRRIGATION MAIN LINES AND CONTROL WIRE, AND 12" OF COVER OVER PVC LATERAL LINES AND ALL LINES UNDER PAVING SHALL BE BURIED WITH 24" OF COVER.

16. REFER TO PIPE SIZING CHART FOR SIZE OF LATERAL LINES, TYP. SIZE LATERAL LINES 3/4" MINIMUM TO REDUCE PRESSURE LOSS. DO NOT USE 1/2" PIPE.

17. AFTER PIPING IS INSTALLED, BEFORE SPRINKLER AND DRIPLINE ARE INSTALLED AND BACKFILL COMMENCES, OPEN VALVES AND FLUSH SYSTEM WITH FULL HEAD OF WATER.

18. AFTER REQUIRED TESTS AND INSPECTIONS, BACKFILL TRENCHES WITH CLEAN SOIL, FREE OF ROCKS AND RUBBISH. COMPACT TO 85% (95% UNDER PAVING) RELATIVE COMPACTION. IF SETTLEMENT OCCURS, ADJUST PIPES, HEADS, VALVES AND SOIL TO PROPER LEVEL WITHOUT EXTRA COST TO OWNER.

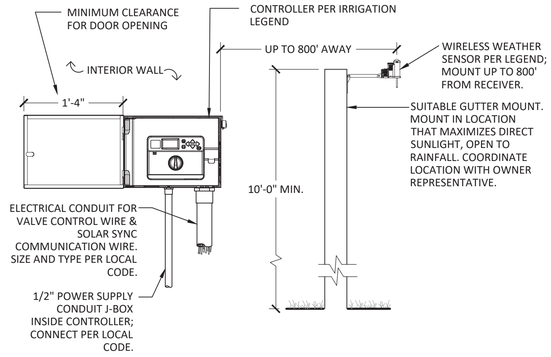
19. ALL WIRE SPLICES ARE TO BE MADE WITHIN A VALVE BOX. SPLICES ARE TO BE WIRE NUTTED, SEALED, AND WATER PROOF.

20. ALL EMISSION EQUIPMENT OF THE IRRIGATION SYSTEM SHALL BE INSTALLED AND ADJUSTED TO PROVIDE ADEQUATE COVERAGE.

21. CONTRACTOR TO REPAIR OR REPLACE ANY DEFECTS IN MATERIALS OR WORKMANSHIP AND ANY SETTLING OF TRENCHES, AT CONTRACTOR'S EXPENSE.

22. PROVIDE THE FOLLOWING UPON COMPLETION OF WORK.
   A. 2 SETS OF ANY SPECIAL TOOL REQUIRED FOR THE MAINTENANCE OF EACH TYPE OF COMPONENT USED IN THE SYSTEM.
   B. INSTRUCTION IN OPERATION OF SYSTEM TO OWNER'S AUTHORIZED REPRESENTATIVE.
   C. COPIES OF EQUIPMENT WARRANTIES AND CERTIFICATES.
   D. MANUFACTURER'S MAINTENANCE INSTRUCTIONS OF EQUIPMENT INCLUDING SPARE PARTS LISTS.
   E. ACCURATE SET OF AS-BUILT DRAWINGS TO THE OWNER AND WITH THE IRRIGATION CONTROLLER.

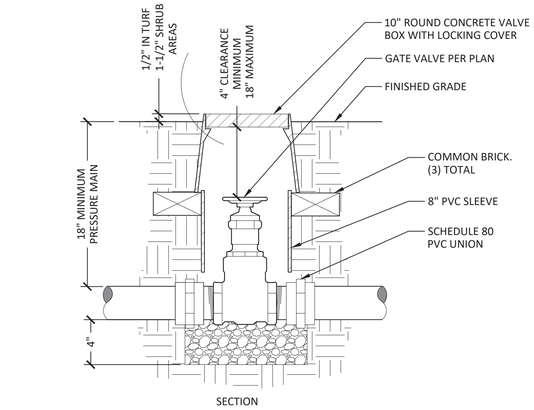
23. IRRIGATION AUDIT IS REQUIRED PRIOR TO FINAL ACCEPTANCE AND MUST BE PREFORMED BY A THIRD PARTY (NOT BY THE LANDSCAPE CONTRACTOR OR LANDSCAPE ARCHITECT).



NOTES:
1. MOUNT CONTROLLER WITH LCD SCREEN AT EYE LEVEL.
2. CONTRACTOR TO COORDINATE FINAL LOCATION WITH OWNER.

1 CONTROLLER - WALL MOUNT

NOT TO SCALE P-18-HAR1-04



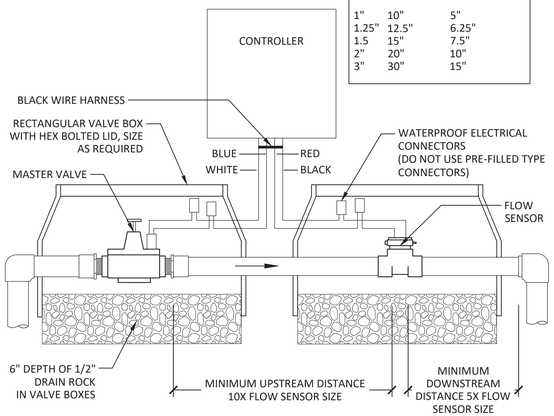
SECTION

NOTES:
1. INSTALL GATE VALVES A MINIMUM OF 24" FROM STRUCTURES OR HARDSCAPE.
2. INSTALL GATE VALVES IN PLANTING BEDS WHEREVER POSSIBLE.
3. DOMESTIC GATE VALVES SHALL BE LEAD FREE ONLY.
4. VALVE SIZE SHALL BE EQUAL WITH THE MAINLINE SIZE UNLESS LABELED OTHERWISE.

2 GATE VALVE - THREADED

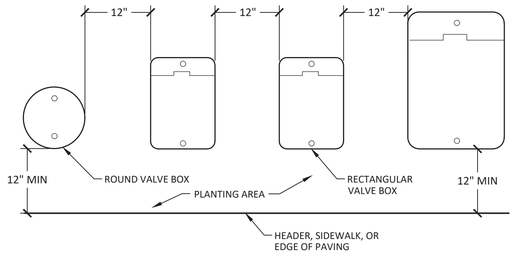
NOT TO SCALE P-RE-CHI-07

PIPE SIZING CHART		
F.S. SIZE	UPSTREAM LENGTH	DOWNSTREAM LENGTH
1"	10"	5"
1.25"	12.5"	6.25"
1.5	15"	7.5"
2"	20"	10"
3"	30"	15"



3 MASTER VALVE AND FLOW SENSOR

NOT TO SCALE P-RE-CHI-23



NOTES:

1. CENTER BOX OVER VALVE TO FACILITATE SERVICING VALVE.
2. SET BOXES 2" ABOVE FINISH GRADE OR MULCH DEPTH (WHICHEVER IS GREATER) IN GROUNDCOVER/SHRUB AREA AND FLUSH WITH FINISH GRADE IN TURF AREA.
3. SET VALVE BOX ASSEMBLY IN GROUNDCOVER/ SHRUB AREA WHERE POSSIBLE. INSTALL IN LAWN AREA ONLY IF GROUNDCOVER/ SHRUB AREA DOES NOT EXIST ADJACENT TO LAWN.
4. SET BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE.
5. AVOID HEAVILY COMPACTING SOIL AROUND VALVE BOX EDGES TO PREVENT COLLAPSE AND DEFORMATION OF VALVE BOX SIDES.
6. VALVE BOXES SHALL HAVE BOLT DOWN LIDS WITH BOLTS INSTALLED.

4 VALVE BOX LAYOUT

NOT TO SCALE P-RE-CHI-05

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
3	10/12/2023			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: BK
DRAWN BY: BK
DESIGN CHEKED BY: MGE
DRAWN CHEKED BY: MGE

LICENSED LANDSCAPE ARCHITECT
MICHAEL G. ENGLE, No. 4572
Signature
7-31-22
Renewal Date
04-22-22
Date
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

IRRIGATION NOTES & DETAILS

B # B-4797

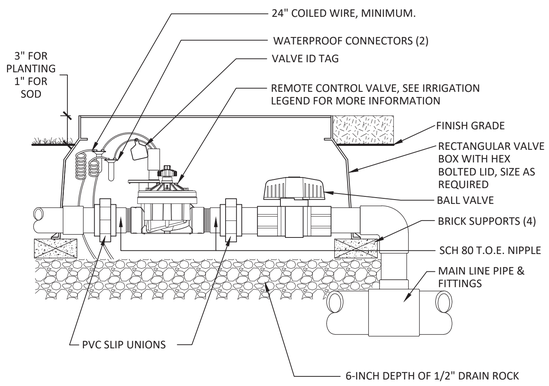
PHASE # ____ / REBID # ____

SHEET 35 OF 236

DWG. NO. L1.1

CUNNINGHAM ENGINEERING
CECWEST.COM
Project Planning ■ Civil Engineering ■ Landscape Architecture
Sacramento Office ■ 2120 20th Street, Suite Three, Sacramento, CA 95818, (916) 455-2026
Davis Office ■ 2940 Spafford Street, Suite 200, Davis, CA 95618, (530) 758-2026

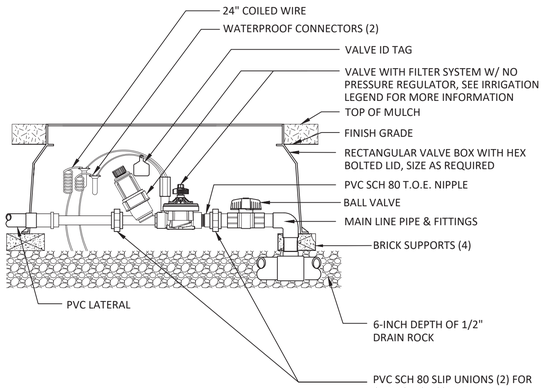
MARY MCGRATH | ARCHITECTS
1212 BROADWAY, SUITE 1700
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

1 REMOTE CONTROL VALVE W/ BALL VALVE

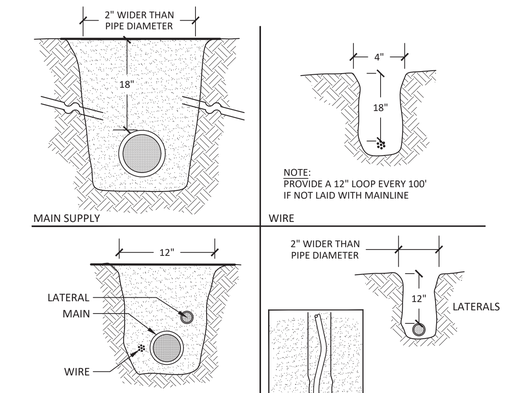
NOT TO SCALE — P-RE-CHI-11



NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

2 DRIP VALVE W/ BALL VALVE - NO PRESSURE REGULATOR

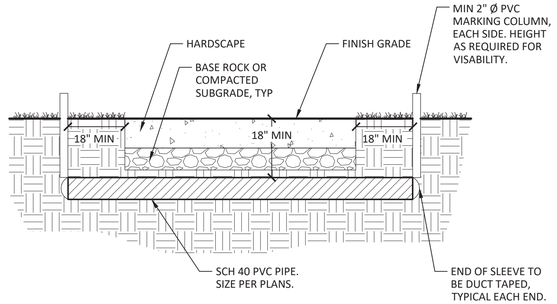
NOT TO SCALE — P-RE-CHI-13



NOTES:
1. MAIN LINE: MIN. 18" COVER
2. LATERAL LINES: MIN. 12" COVER
3. WIRE: MIN. 18" DEPTH
4. 4" SPACING BETWEEN PIPES IN JOINT TRENCH

3 TRENCHING DETAILS

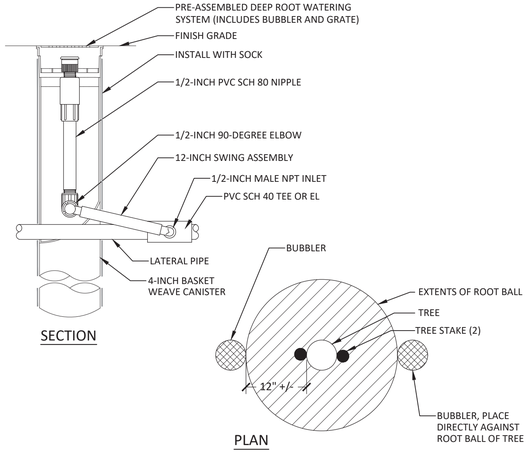
NOT TO SCALE — P-RE-CHI-09



NOTES:
1. INSTALL SLEEVES SIDE-BY-SIDE WHEN MORE THAN ONE SLEEVE OCCURS IN THE SAME TRENCH.
2. IRRIGATION WIRES SHALL BE SLEEVED IN SEPARATE SCH. 40 PVC GRAY CONDUIT

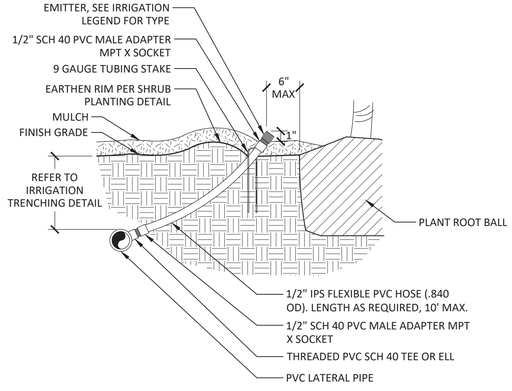
4 IRRIGATION SLEEVE

NOT TO SCALE — P-RE-CHI-08



5 DEEP ROOT WATERING SYSTEM

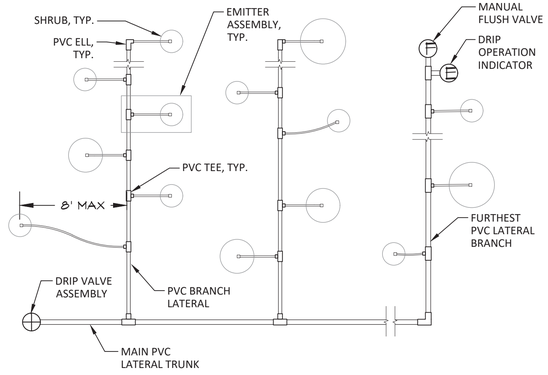
1" = 1" — P-RE-CHI-16



NOTES:
1. EMITTER SHALL BE PER IRRIGATION LEGEND
2. EMITTER SHALL BE INSTALLED WITHIN 6" OF EDGE OF PLANT ROOT BALL WITHIN PLANTING BASIN AND ON UP-HILL SIDE OF SLOPE
3. CONTRACTOR SHALL ONLY USE IPS WELD ON #795 SOLVENT CEMENT ON THE IPS FLEXIBLE PVC HOSE

6 POINT SOURCE EMITTER ON FLEXIBLE PVC HOSE

NOT TO SCALE — P-RE-CHI-49



NOTES:
1. ALL LATERAL BRANCHES SHALL BE 3/4" WITH EXCEPTION TO FURTHEST LATERAL BRANCH, WHICH SHALL MATCH MAIN LATERAL TRUNK. REFER TO IRRIGATION PLAN FOR MAIN LATERAL TRUNK SIZE.
2. REFER TO IRRIGATION PLAN FOR EMITTER TYPE AND QUANTITY PER SHRUBS.
3. FLOW AT EACH TRANSITION FROM PVC LATERAL TO DRIP EMITTER ASSEMBLY SHALL NOT EXCEED 4.5 GPM. NO EXCEPTIONS.

7 POINT SOURCE DRIP - END FEED LAYOUT

NOT TO SCALE — P-RE-CHI-26

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
3	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: BK
DRAWN BY: BK
DESIGN CHEKED BY: MGE
DRAWN CHEKED BY: MGE

LICENSED LANDSCAPE ARCHITECT — MICHAEL G. ENGLE, No. 5627 — Signature — 7-31-22 — Renewal Date — 04-22-22 — Date — STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
IRRIGATION DETAILS

B # B-4797

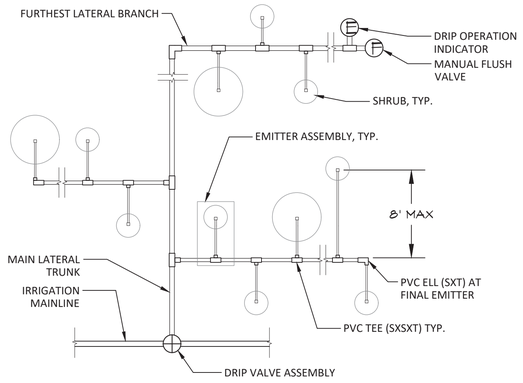
PHASE # ____ / REBID # ____

SHEET 36 OF 236

DWG. NO. L1.2

CUNNINGHAM ENGINEERING
CECWEST.COM
Project Planning ■ Civil Engineering ■ Landscape Architecture
Sacramento Office ■ 2120 20th Street, Suite Three, Sacramento, CA 95818, (916) 455-2026
Davis Office ■ 2940 Spafford Street, Suite 200, Davis, CA 95618, (530) 758-2026

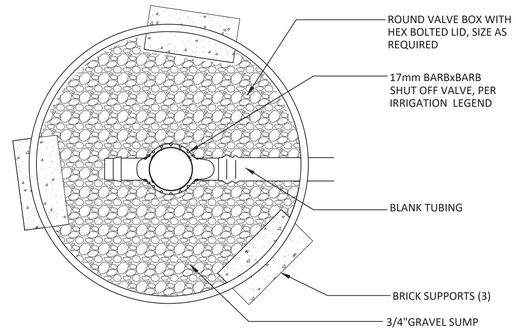
MARY MCGRATH | ARCHITECTS
1212 BROADWAY, SUITE 1700
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



NOTES:
1. ALL LATERAL BRANCHES SHALL BE 3/4" WITH EXCEPTION TO FURTHEST LATERAL BRANCH, WHICH SHALL MATCH MAIN LATERAL TRUNK. REFER TO IRRIGATION PLAN FOR MAIN LATERAL TRUNK SIZE.
2. REFER TO IRRIGATION PLAN FOR EMITTER TYPE AND QUANTITY PER SHRUBS.
3. FLOW AT EACH TRANSITION FROM PVC LATERAL TO DRIP EMITTER ASSEMBLY SHALL NOT EXCEED 4.5 GPM. NO EXCEPTIONS.

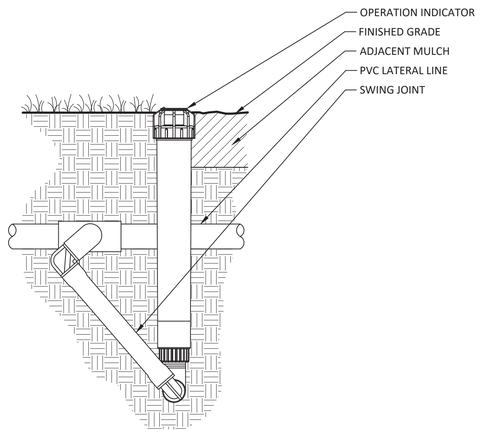
1 POINT SOURCE DRIP - CENTER FEED LAYOUT

NOT TO SCALE P-RE-CHI-25



2 MANUAL FLUSH VALVE

NOT TO SCALE P-RE-CHI-15



3 OPERATION INDICATOR

NOT TO SCALE P-RE-CHI-17

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: BK
DRAWN BY: BK
DESIGN CHEKED BY: MGE
DRAWN CHEKED BY: MGE

LICENSED LANDSCAPE ARCHITECT
MICHAEL G. ENGLE, No. 4572
Signature
7-31-22
Renewal Date
04-22-22
Date
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
IRRIGATION DETAILS

B # B-4797

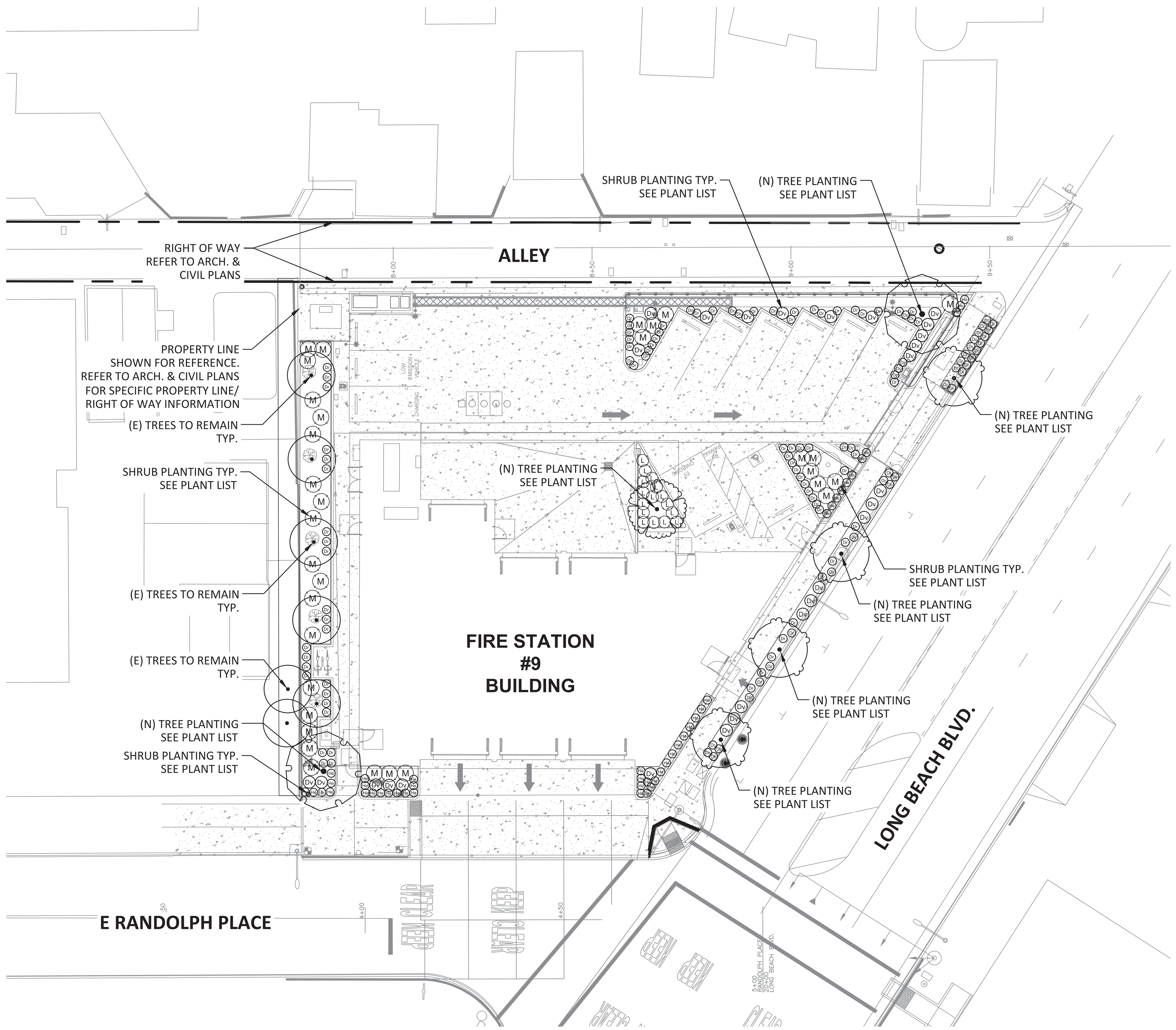
PHASE # ____ / REBID # ____

SHEET 37 OF 236

DWG. NO. L1.3

CUNNINGHAM ENGINEERING
CECWEST.COM
Project Planning ■ Civil Engineering ■ Landscape Architecture
Sacramento Office ■ 2120 20th Street, Suite Three, Sacramento, CA 95818, (916) 455-2026
Davis Office ■ 2940 Spafford Street, Suite 200, Davis, CA 95618, (530) 758-2026

MARY MCGRATH | ARCHITECTS
1212 BROADWAY, SUITE 1700
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



PLANT LIST

TREES	BOTANICAL NAME	COMMON NAME	CONT	WATER USE	HXW
	ACER PALMATUM `BLOODGOOD`	BLOODGOOD JAPANESE MAPLE	15 GAL	M	15`X15`
	EXISTING TREE	TO REMAIN AND/OR BE RELOCATED PER PLAN	EXISTING		
	LAGERSTROEMIA INDICA `CHEROKEE`	CHEROKEE CRAPE MYRTLE	15 GAL	L	15`X15`
	PARKINSONIA X `DESERT MUSEUM`	DESERT MUSEUM PALO VERDE	15 GAL	L	20`X20`
MEDIUM SHRUBS	BOTANICAL NAME	COMMON NAME	CONT	WATER USE	HXW
Dv	DIETES VEGETA	AFRICAN IRIS	1 GAL	L	3`X3`
L	LOMANDRA LONGIFOLIA `BREEZE`	DWARF MAT RUSH	1 GAL	L	3`X3`
GRASSES	BOTANICAL NAME	COMMON NAME	CONT	WATER USE	HXW
M	MUHLENBERGIA CAPILLARIS `REGAL MIST` TM	MUHLY	1 GAL	L	4`X3`
SMALL SHRUBS	BOTANICAL NAME	COMMON NAME	CONT	WATER USE	HXW
Dr	DIANELLA REVOLUTA `LITTLE REV`	LITTLE REV FLAX LILY	1 GAL	L	2`X2`
He	HESPERALOE PARVIFLORA `BRAKELIGHTS`	BRAKELIGHTS RED YUCCA	1 GAL	L	2`X2`

NORTH

20 10 0 20 40
SCALE: 1" = 20'

CECWEST.COM
CUNNINGHAM ENGINEERING
Project Planning ■ Civil Engineering ■ Landscape Architecture
Sacramento Office ■ 2120 20th Street, Suite Three, Sacramento, CA 95818, (916) 455-2026
Davis Office ■ 2940 Spafford Street, Suite 200, Davis, CA 95618, (530) 758-2026

MARY MCGRATH | ARCHITECTS
1212 BROADWAY, SUITE 1700
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT				REF.

DESIGNED BY: BK
DRAWN BY: BK
DESIGN CHEKED BY: MGE
DRAWN CHEKED BY: MGE

LICENSED LANDSCAPE ARCHITECT
MICHAEL G. ENGLE No. 4572
Signature
7-31-22
Renewal Date
04-22-22
Date
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
PLANTING PLAN

B # B-4797
PHASE # ____ / REBID # ____
SHEET 38 OF 236
DWG. NO. L2.0

PLOT DATE: Oct 13, 2023 SAVED PATH S:\Projects\1800\1899 Long Beach Fire Station No 9\AutoCAD (site)\1899-03 CD\1899-03-02 LANDSCAPE\SHEETS\1899-03-LP PLNT.dwg

PLANTING NOTES

1. WORK INCLUDES ALL LABOR, MATERIAL, EQUIPMENT AND APPLIANCES NECESSARY TO COMPLETE SOIL PREPARATION AND WEED CONTROL, FINE GRADING, PLANTING, AND MAINTENANCE PERIOD.
2. ALL WORK SHOWN ON PLANTING SHEETS SHALL BE PERFORMED PER DRAWINGS AND SPECIFICATIONS.
3. LANDSCAPE CONTRACTOR SHALL VERIFY PLANT QUANTITIES FROM LANDSCAPE PLAN. IF THERE IS A DISCREPANCY BETWEEN THE PLAN & THE LEGEND, THE PLAN SHALL GOVERN.
4. NO PLANTING SHALL BE STARTED UNTIL FINE GRADING AND IRRIGATION SYSTEM HAVE BEEN COMPLETED AND APPROVED BY THE PROJECT REPRESENTATIVE.
5. LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT IN THE EVENT OF PLANT UNAVAILABILITY IMMEDIATELY AFTER BID AWARD(S). ANY SUBSTITUTIONS MUST BE REQUESTED IN WRITING AND SUBMITTED TO THE LANDSCAPE ARCHITECT FOR APPROVAL.
6. ALL PLANT MATERIAL SHALL MEET SIZE SPECIFICATIONS AS SHOWN ON THE PLANT LEGEND, AND SHALL BE CONTAINER GROWN, HEALTHY, FULL, AND SHALL BE OF THE FIRST RATE QUALITY FOR THE SPECIES. CLEARLY LABEL REPRESENTATIVES OF EACH PLANT SPECIES OR CULTIVAR WITH BOTANICAL NAME.
7. PRIOR TO PLANTING OR GRADING, ASCERTAIN THE LOCATION OF ALL UNDERGROUND UTILITY LINES. PROMPTLY BRING ANY CONFLICT BETWEEN THE LOCATION OF UNDERGROUND LINES AND PLANT MATERIAL TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR APPROPRIATE ADJUSTMENT.
8. THE LOCATIONS OF TREES AND SHRUBS SHALL BE ADJUSTED IN THE FIELD TO ACCOMMODATE EXISTING & NEW UTILITIES, LIGHTS, SPRINKLERS, ETC. MAINTAIN 5' MINIMUM CLEARANCE BETWEEN ALL NEW TREES AND UTILITIES (EXISTING AND PROPOSED). ALL SHRUBS AT MATURITY SHALL HAVE A CLEARANCE OF THREE FEET (3') AROUND ANY ELECTRICAL BOXES, FIRE HYDRANTS, OR OTHER UTILITY BOXES.
9. ALL PLANTER AREAS SHALL BE GRADED AND PLANTED FOR POSITIVE DRAINAGE AWAY FROM STRUCTURES, WALLS & FENCES.
10. SET FINISH SOIL GRADES AS NOTED ON DETAILS FOR SHRUBS & GROUNDCOVER AREAS. AFTER PLANTING, CORRECT ANY DISTURBED GRADES AND RETURN ENTIRE AREA TO FINISH GRADE.
11. CONDUCT PLANTING OPERATIONS UNDER FAVORABLE WEATHER CONDITIONS, EXCEPT WHEN GROUND IS TOO WET, AS DETERMINED BY THE LANDSCAPE ARCHITECT.
12. THOROUGHLY WATER ALL PLANTS AT TIME OF PLANTING, TAKING CARE NOT TO COVER CROWNS OF PLANTS WITH SOIL. KEEP ROOT BALLS ADEQUATELY MOIST UNTIL TIME OF ACCEPTANCE.
13. PRE-EMERGENT WEED CONTROL TO BE APPLIED TO ALL PLANTING AREAS PRIOR TO PLANTING. CONTRACTOR SHALL APPLY AS RECOMMENDED PER MANUFACTURER'S RECOMMENDATIONS.
14. CONTRACTOR SHALL REMOVE ALL IVY OR OTHER CLIMBING VINES FROM EXISTING TREES TO REMAIN. COMPLETELY DIG OUT ROOTS TO ERADICATE UNWANTED PLANTS FROM THE SOURCE.
15. MULCH SHALL BE SPREAD IN ALL PLANTER AREAS WITHIN 24 HOURS AFTER ANY PLANTING TO UNIFORMLY COVER ENTIRE PLANTING AREA. PLANTED AREAS AS WELL AS VOIDS IN PLANTING ARE TO RECEIVE MULCH. MULCH IN BIORETENTION FACILITIES AND RAIN GARDENS SHALL BE 2" DEPTH OF ORGANIC COMPOST MULCH. MULCH IN ALL OTHER LANDSCAPE AREAS SHALL BE 3" DEPTH OF WALK-ON BARK FREE OF LARGE WOODY PIECES, SOIL, SEEDS, STONES, STICKS, DEBRIS, OR OTHER FOREIGN MATERIALS. ALL AREAS WHERE MULCH IS ADDED SHALL BE RETAINED IN THE AREAS IN WHICH IT IS INSTALLED BY ROCK, BENDERBOARD, VEGETATION OR OTHER RETENTION DEVICE SO AS TO RETAIN MULCH FROM BEING SWEPT FROM LAND AREAS AND INTO STORMWATER BIORETENTION AREAS OR THE CITY'S STORM DRAIN SYSTEM. CONTRACTOR SHALL SUBMIT MULCH SAMPLES FOR APPROVAL BY THE LANDSCAPE ARCHITECT.
16. PROTECT PLANTS FROM DAMAGE OF ANY KIND, INCLUDING HEAT, DESICCATION, AND MAINTAIN PLANTS IN A HEALTHY AND VIGOROUS CONDITION FROM TIME OF ARRIVAL AT SITE THROUGH FINAL ACCEPTANCE. REPLACE ALL DEAD OR DAMAGED PLANTS AND ALL PLANTS NOT IN A VIGOROUS, THRIVING CONDITION AS DETERMINED BY THE LANDSCAPE ARCHITECT WITHOUT COST TO THE OWNER AS SOON AS SEASONAL CONDITIONS PERMIT. REPLACE WITH PLANT MATERIAL OF COMPARABLE QUALITY AND SIZE TO THAT WHICH WAS ORIGINALLY INSTALLED.
17. UPON INITIAL COMPLETION OF THE WORK, CONTACT THE LANDSCAPE ARCHITECT TO PROVIDE A PRELIMINARY REVIEW OF ALL PLANTING AND A PUNCH LIST OF INCOMPLETE OR UNSATISFACTORY ITEMS. ONLY SATISFACTORY COMPLETION OF WORK AND PUNCH LIST ITEMS AS DETERMINED BY THE LANDSCAPE ARCHITECT SHALL ESTABLISH THE BEGINNING OF THE 90-DAY MAINTENANCE PERIOD.
18. CONTINUOUSLY MAINTAIN ALL AREAS INCLUDED IN THE CONTRACT DURING THE PROGRESS OF THE WORK, THROUGH THE 90-DAY MAINTENANCE PERIOD, AND UNTIL FINAL ACCEPTANCE OF THE WORK. WATER, PRUNE, WEED CONTROL, CULTIVATE, MULCH, PEST CONTROL, RESET PLANTS TO PROPER GRADES OR UPRIGHT POSITION, RESTORE WATERING BASINS, REMOVE DEBRIS AND PROVIDE ALL OTHER CARE NEEDED FOR PROPER GROWTH AND APPEARANCE OF THE PLANTS.
19. KEEP ALL WALKS, CURBS, AND GUTTERS CLEAR OF DEBRIS, MUD, DUST, AND STANDING WATER BY SWEEPING, MOPPING OR HOSING DOWN AS REQUIRED TO MAINTAIN CLEANLINESS THROUGHOUT. AT COMPLETION OF 90-DAY MAINTENANCE PERIOD, ALL AREAS INCLUDED IN THE CONTRACT SHALL BE CLEAN AND FREE OF DEBRIS AND WEEDS. ALL PLANT MATERIALS SHALL BE LIVE, HEALTHY, AND FREE OF INFESTATION. IF ANY ITEM OR PORTION OF THE CONTRACT WORK IS NOT ACCEPTABLE TO THE OWNER AT THE TIME OF FINAL REVIEW, MAINTAIN ALL AREAS INCLUDED IN THE CONTRACT FOR ANY ADDITIONAL PERIOD OF TIME AS MAY BE REQUIRED TO REPAIR DEFECTIVE ITEM OR PORTION..
20. PLANT SYMBOLS AS SHOWN ON THE PLANING PLAN ARE SIZED AND SPACED BASED ON GROWTH TO MATURE SIZE. CONTRACTOR SHALL ENSURE SPACING/OFFSETS TO OTHER SHRUBS, CONCRETE EDGES, PROPERTY LINES, ETC. ARE PER SPACING GUIDELINES SHOWN IN THE THE PLANTING LEGEND.

SOIL ANALYSIS NOTES

1. AFTER MASS GRADING IS COMPLETED AND PRIOR TO THE INITIATION OF ANY LANDSCAPE WORK, CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A SOIL FERTILITY REPORT WITH AMENDMENT RECOMMENDATIONS AND SUBMITTING THE RESULTS FOR APPROVAL TO THE LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE.
2. UPON RECEIPT OF APPROVED SUBMITTAL FROM THE LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE, ALL PLANTING AREAS SHALL BE AMENDED PER SOIL REPORT RECOMMENDATIONS (OR AS MODIFIED BY THE LANDSCAPE ARCHITECT) PRIOR TO THE INSTALLATION OF ANY PLANTING MATERIAL.
3. CLEAN TOOLS SHALL BE USED WHEN COLLECTING SOIL SAMPLES. ALL SAMPLES TO BE TAKEN FROM A SOIL DEPTH OF 12 INCHES.
4. SOIL SAMPLES FOR THE FERTILITY ANALYSIS TO BE OBTAINED FROM THE FOLLOWING AREAS:
   A. ONE SAMPLE SHALL BE TAKEN FROM EACH PROPOSED PLANTING AREA.
   ALL SAMPLES TO SHALL BE MIXED THOROUGHLY AS ONE AND SENT FOR A LANDSCAPE SOIL ANALYSIS.
5. ALONG WITH RECOMMENDATIONS, SOIL ANALYSIS SHALL INCLUDE THE FOLLOWING INFORMATION:
   A. SOIL TEXTURE
   B. SOIL INFILTRATION RATE
   C. SOIL PH
   D. TOTAL SOLUBLE SALTS
   E. SODIUM
   F. PERCENT OF ORGANIC MATTER
6. AFTER IRRIGATION EQUIPMENT INSTALLATION IS COMPLETED, ALL PLANTING MATERIAL SHALL BE INSTALLED PER PLANTING DETAILS.

GENERAL SOIL REQUIREMENTS FOR BIDDING

A. THE FOLLOWING ORGANIC, SOIL AMENDMENTS AND FERTILIZER ARE BASED ON TYPICAL SOIL COMPOSITION AND ESTABLISH MINIMUM REQUIREMENTS. SPECIFIC AMENDMENTS AND FERTILIZER AMOUNTS WILL BE DETERMINED AFTER ROUGH GRADING OPERATIONS ARE COMPLETE AND SOIL SAMPLES ARE TESTED BY THE CONTRACTOR AND APPROVED BY THE LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE. THE AMOUNTS LISTED IN THE PREPARATION SECTION ARE CONSIDERED MINIMUM AMOUNTS FOR THE PROJECT UNLESS DIRECTED OTHERWISE BY THE OWNER REPRESENTATIVE.
B. ALL MATERIALS SHALL BE OF, APPROVED AND FIRST-GRADE QUALITY WHEN INSTALLED AND ACCEPTED. ANY COMMERCIALLY PROCESSED OR PACKAGED MATERIAL SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL UNOPENED CONTAINER BEARING THE MANUFACTURER'S GUARANTEED ANALYSIS. CONTRACTOR SHALL SUPPLY OWNER'S REPRESENTATIVE WITH A SAMPLE OF ALL SUPPLIED MATERIALS ACCOMPANIED BY ANALYTICAL DATA FROM AN APPROVED LABORATORY SOURCE ILLUSTRATING COMPLIANCE OR BEARING THE MANUFACTURER'S GUARANTEED ANALYSIS.

ORGANIC AMENDMENT

A. ORGANIC AMENDMENT SHALL BE NITROGEN STABILIZED WOOD RESIDUAL CONTAINING 0.56 TO 0.84 PERCENT N BASED ON DRY WEIGHT.
   PARTICLE SIZE:
   95 - 100 PERCENT PASSING 6.35 MM STANDARD SIEVE
   80 - 100 PERCENT PASSING 2.33 MM STANDARD SIEVE
B. IRON CONTENT: MINIMUM 0.08 PERCENT DILUTE ACID SOLUBLE FE ON DRY WEIGHT BASIS.
C. ASH: 0-6.0 PERCENT (DRY WEIGHT).

SOIL AMENDMENTS

A. SOIL SULFUR: AGRICULTURAL GRADE SULFUR CONTAINING A MINIMUM OF 99 PERCENT SULFUR (EXPRESSED AS ELEMENTAL).
B. IRON SULFATE: 20 PERCENT IRON (EXPRESSED AS METALLIC IRON), DERIVED FROM FERRIC AND FERROUS SULPHATE, 10 PERCENT SULFUR (EXPRESSED AS ELEMENTAL).
C. CALCIUM CARBONATE: 95 PERCENT LIME AS DERIVED FROM OYSTER SHELLS.
D. GYPSUM: AGRICULTURAL GRADE PRODUCT CONTAINING 98 PERCENT MINIMUM CALCIUM SULPHATE.

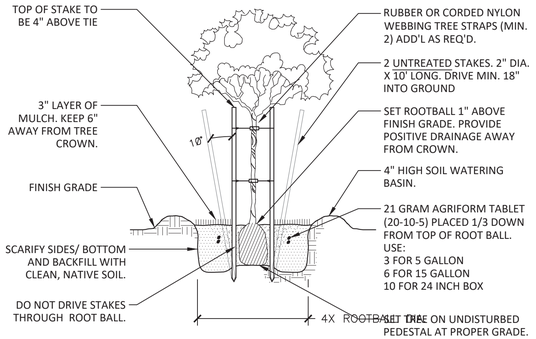
FERTILIZER

A. THE FOLLOWING DESCRIPTIONS ARE TO BE USED FOR BIDDING PURPOSES ONLY. FINAL FERTILIZER RATES AND RATIOS WILL BE BASED ON SOILS FERTILITY REPORT.
B. PLANTING FERTILIZER: PELLETED OR GRANULAR FORM SHALL CONSIST OF THE FOLLOWING PERCENTS BY WEIGHT AND SHALL BE MIXED BY COMMERCIAL FERTILIZER SUPPLIER:
   16 PERCENT NITROGEN
   6 PERCENT PHOSPHORIC ACID
   8 PERCENT POTASH

APPLICATION RATES

(PER 1,000 SQUARE FEET) THE FOLLOWING ORGANIC, SOIL AMENDMENTS AND FERTILIZER ESTABLISH MINIMUM REQUIREMENTS. SPECIFIC AMENDMENTS AND FERTILIZER AMOUNTS WILL BE DETERMINED AFTER ROUGH GRADING OPERATIONS ARE COMPLETE AND SOIL SAMPLES ARE TESTED BY THE CONTRACTOR AND APPROVED BY THE OWNER'S REPRESENTATIVE. THE AMOUNTS LISTED BELOW ARE CONSIDERED MINIMUM AMOUNTS FOR THE PROJECT UNLESS DIRECTED OTHERWISE BY THE OWNER'S REPRESENTATIVE.

A. NITROGEN STABILIZED ORGANIC AMENDMENT - 6 CUBIC YARDS FOR GROUNDCOVER AND SHRUB BEDS. OWNER'S REPRESENTATIVE MAY REQUEST DELIVERY TAGS.
B. PLANTING FERTILIZER - 15 LBS.
C. GYPSUM - 200 LBS.
D. SOIL SULPHUR - 20 LBS.
E. IRON - 2 LBS.
F. CALCIUM CARBONATE - 2 LBS.



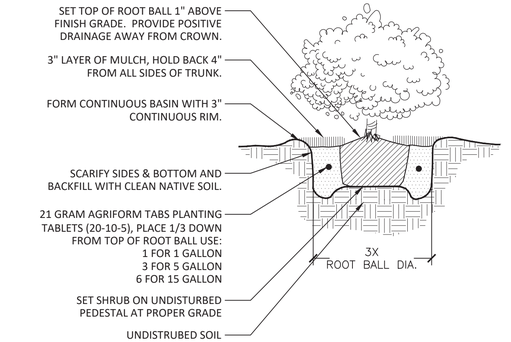
NOTES:
1. STAKES TO BE SET PERPENDICULAR TO PREVAILING WIND, INTO UNDISTURBED SOIL, PLACED 12" MIN FROM TREE TRUNK.
2. REMOVE NURSERY STAKE AFTER TREE IS PLANTED AND RESTAKED AND TIED (SEE ABOVE).
3. TREE TIES MADE OF FLEXIBLE MATERIAL, TIED JUST ABOVE POINT WHERE TREE BENDS NATURALLY WHEN HELD BY HAND. DO NOT ALLOW TREE TO RUB AGAINST STAKES.
4. WHEN RESTAKING TREES, DRIVE STAKES AT ANGLES SHOWN. CUT OFF (AT TOP) TO HEIGHT THAT STILL SUPPORTS TRUNK OF TREE BUT ALLOWS SOME MOVEMENT OF TOP.
5. REMOVE ALL STAKES AND TIES WHEN TREE CAN STAND BY ITSELF.

1 TYPICAL TREE PLANTING

NOT TO SCALE P-RE-CHI-01

TREE PRESERVATION NOTES

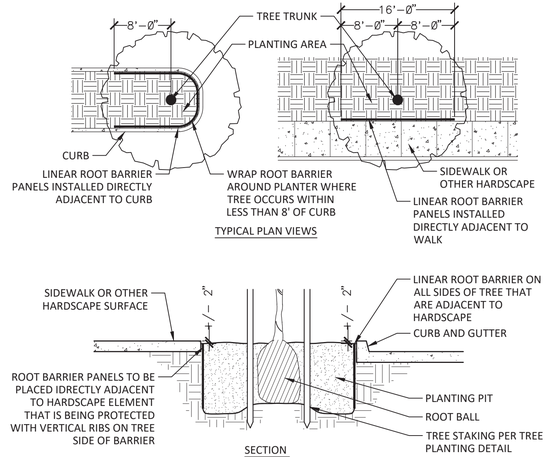
1. THERE SHALL BE NO GRADE CHANGES, STORAGE OF MATERIALS, TRENCHING, OR PARKING OF VEHICLES WITHIN ROOT ZONE OF ANY EXISTING TREE TO REMAIN.
2. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, A 6 FOOT HIGH CYCLONE FENCE SHALL BE INSTALLED AT THE DRIPLINE AROUND ALL TREES TO BE PRESERVED UNDER THE DIRECTION OF THE CITY ARBORIST. THE FENCING SHALL REMAIN IN PLACE FOR THE DURATION OF THE PROJECT. WITHIN THE FENCED AREA THERE SHALL BE NO GRADE CHANGES, STORAGE OF MATERIALS, TRENCHING, OR PARKING OF VEHICLES.
3. THE CONTRACTOR SHALL BE HELD LIABLE FOR ANY DAMAGE TO EXISTING TREES TO REMAIN I.E. TRUNK WOUNDS, BROKEN LIMBS, POURING OF ANY DELETERIOUS MATERIALS, OR WASHING OUT CONCRETE UNDER THE DRIP LINE OF THE TREE. DAMAGES WILL BE ASSESSED USING THE "GUIDE TO PLANT APPRAISAL" NINTH EDITION PUBLISHED BY THE ISA & PER SPEC 1530. THE OWNER REPRESENTATIVE WILL DO THE APPRAISAL AND SUBMIT A REPORT AS NEEDED.
4. HAND DIG TRENCHES WITHIN THE TREE DRIP LINE ZONE. ALL TREE ROOTS OVER 1" TO BE SAVED. ROOTS 1" OR SMALLER TO BE CLEAN CUT WITH SHARP, DISINFECTED PRUNING SHEARS. IF DURING EXCAVATION OF THE PROJECT ANY TREE ROOTS GREATER THAN ONE INCH IN DIAMETER ARE ENCOUNTERED WORK SHALL STOP IMMEDIATELY UNTIL PROJECT ARBORIST CAN PERFORM AN ON-SITE INSPECTION. ALL ROOTS SHALL BE CUT CLEAN AND THE TREE AFFECTED MAY REQUIRE SUPPLEMENTAL IRRIGATION, FERTILIZATION, AND PRUNING AS A RESULT OF TREE PRUNING.
5. TRENCHING WITHIN THE DRIP LINES OF TREES SHALL BE PERFORMED ONLY WITH PRIOR APPROVAL OF THE PARKS AND COMMUNITY SERVICE DIRECTOR.
6. INSTALL 2"X4" WOOD SLATS WRAPPED AROUND TREE TRUNK FOR TREE PROTECTION.



NOTE: NO ROCKS LARGER THAN 1" ARE PERMITTED IN BACKFILL MIX.

2 TYPICAL SHRUB PLANTING

NOT TO SCALE P-RE-CHI-02



3 TREE ROOT BARRIER

NOT TO SCALE P-RE-CHI-04

NO.	DATE	SHEET	APPROVAL	REVISIONS DESCRIPTION	REF.
	12/16/2021			PLAN CHECK SUBMITTAL	
1	04/22/2022			PLAN CHECK RE-SUBMITTAL	
2	06/15/2023			PLAN CHECK RE-SUBMITTAL	
3	10/12/2023			BID DOCUMENTS	

DESIGNED BY: BK
DRAWN BY: BK
DESIGN CHEKED BY: MGE
DRAWN CHEKED BY: MGE
AS-BUILT

LICENSED LANDSCAPE ARCHITECT — MICHAEL G. ENGLE, No. 4572 — Signature 7-31-22 — Renewal Date 04-22-24 — STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
PLANTING NOTES AND DETAILS

B # B-4797

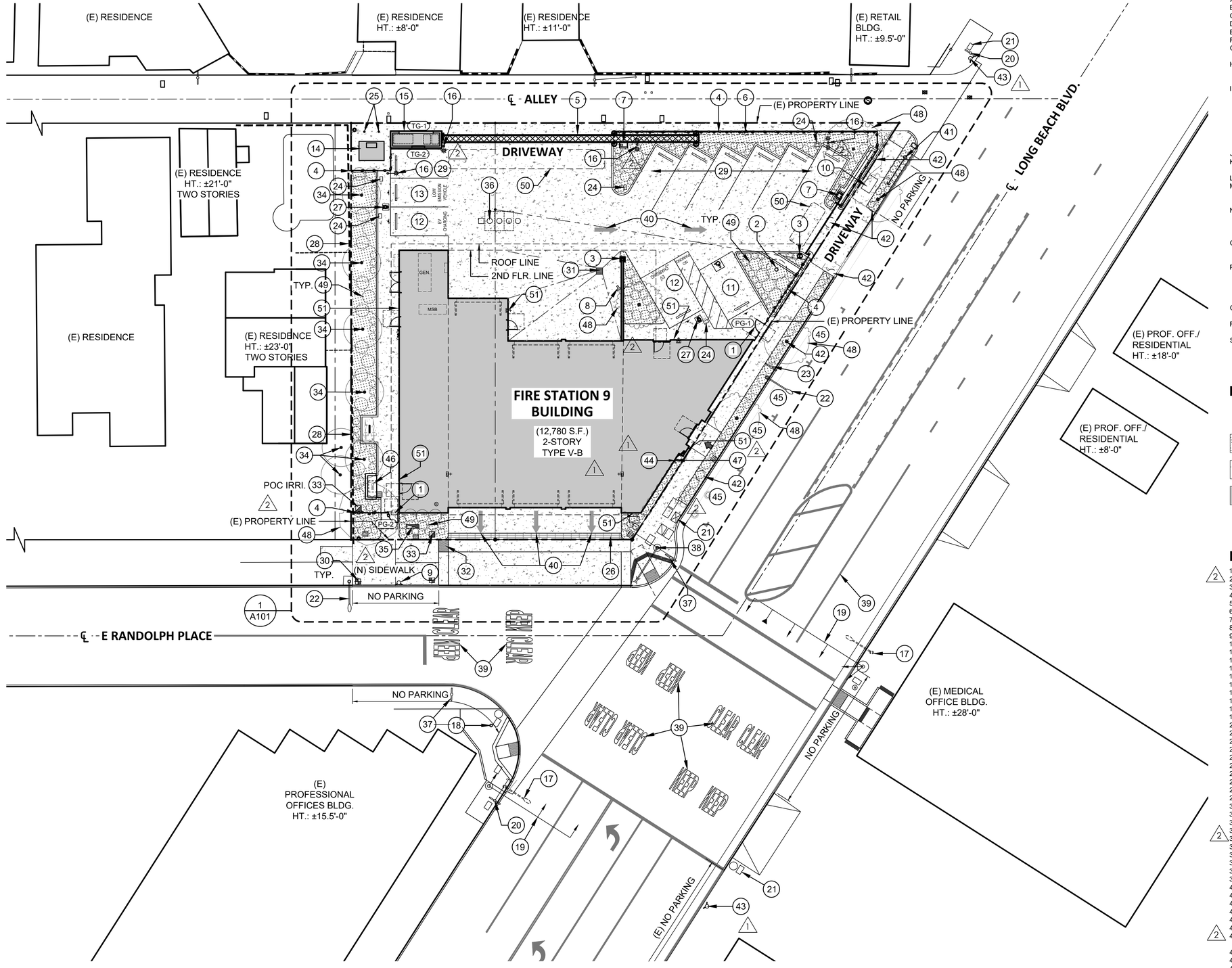
PHASE # ____ / REBID # ____

SHEET 39 OF 236

DWG. NO. L2.1

CUNNINGHAM ENGINEERING
CECWEST.COM
Project Planning ■ Civil Engineering ■ Landscape Architecture
Sacramento Office ■ 2120 20th Street, Suite Three, Sacramento, CA 95818, (916) 455-2026
Davis Office ■ 2940 Spafford Street, Suite 200, Davis, CA 95618, (530) 758-2026

MARY MCGRATH | ARCHITECTS
1212 BROADWAY, SUITE 1700
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



1 **ARCHITECTURAL OVERALL SITE PLAN**

1/16" = 1'-0"

GENERAL NOTES

A. SEE DWG. A101 FOR ENLARGED SITE PLAN.
B. SEE DWG. A004 FOR SITE CODE PLAN.
C. REFER TO DWG. A102 FOR SITE FENCE/SECURITY GATE ELEVATIONS.
D. REFER TO CIVIL DRAWINGS FOR GRADING WORK AND SITE IMPROVEMENTS.
E. REFER TO ELECTRICAL PLAN FOR SITE & EXTERIOR BLDG. LIGHTING.
F. REFER TO LANDSCAPE DRAWING FOR LANDSCAPE IMPROVEMENTS.
G. REFER TO HORIZONTAL CONTROL PLAN FOR BUILDING LOCATION, SETBACK NOTES ON ARCHITECTURAL SITE PLAN FOR REFERENCE ONLY.
H. ALL PROPERTY LINES, EASEMENTS AND BUILDINGS, EXISTING AND PROPOSED, ARE SHOWN ON THIS SITE PLAN - SEE A101 FOR MORE INFORMATION.
I. PROJECTS WHICH DISTURB LESS THAN ONE ACRE OF LAND SHALL PREVENT THE POLLUTION OF STORM WATER RUNOFF FROM THE CONSTRUCTION ACTIVITIES THROUGH ONE OR MORE OF THE FOLLOWING MEASURES (SECTION 5.106.1): A) BEST MANAGEMENT PRACTICES (BMP). PREVENT THE LOSS OF SOIL THROUGH WIND OR WATER EROSION BY IMPLEMENTING AN EFFECTIVE COMBINATION OF EROSION AND SEDIMENT CONTROL AND GOOD HOUSEKEEPING BMP. SEE SECTION 5.106.1.2 FOR SPECIFICS. B) LOCAL ORDINANCE.
J. BICYCLE PARKING FOR PROJECT SHALL COMPLY WITH CGC SECTION 5.106.4.
K. FUEL-EFFICIENT VEHICLE PARKING WILL BE PROVIDED IN ACCORDANCE WITH CGC SECTION 5.106.5.2.
L. EXTERIOR LIGHT POLLUTION MUST COMPLY WITH CGC SECTION 5.106.8.
M. THE SITE GRADING OR DRAINAGE SYSTEM WILL MANAGE ALL SURFACE WATER FLOWS TO KEEP WATER FROM ENTERING THE BUILDINGS. CHC SECTION 5.106.10.
N. LANDSCAPE IRRIGATION SYSTEMS SHALL BE DESIGNED TO PREVENT SPRAY ON STRUCTURES. EXTERIOR ENTRIES SUBJECT TO FOOT TRAFFIC OR WIND-DRIVEN RAIN SHALL BE DESIGNED TO PREVENT WATER INTRUSION INTO THE BUILDING. CGC SECTION 5.407.2.2.1.
O. SURFACE WATER WILL DRAIN AWAY FROM THE BUILDING. THE GRADE SHALL FALL A MINIMUM OF 5% WITHIN THE FIRST 10 FEET (2% FOR IMPERVIOUS SURFACES). SECTION 1804.3.
P. PRIOR TO CUTS IN THE SIDEWALK AND ROADWAY OR STREET LIGHT MODIFICATION, THE IMPROVEMENTS SHALL BE COORDINATED WITH OTHER OFFSITE IMPROVEMENTS SUCH AS CONVERSION OF THE ONE WAY ROADS TO TWO-WAY, PEDESTRIAN FACILITIES AND ANY OTHER UTILITY WORK NECESSARY PRIOR TO RE-PAVING OR CONCRETE WORK.
Q. CONTINUITY OF PEDESTRIAN AND VEHICULAR ACCESS AND LIGHTING AROUND THE SITE SHALL BE COORDINATED WITH DPW.
R. GRADED/DISTURBED AREAS REQUIRE SOIL COVER OVER 14 DAYS AND DUST CONTROL MEASURES SHALL BE IMPLEMENTED AT ALL TIMES.
S. THE EXTENT OF ASPHALT AND SIDEWALK REPAIR SHALL BE DETERMINED IN THE FIELD AS REQUIRED WITH AN ENCROACHMENT PERMIT. UTILITY TRENCHES AND ASPHALT CUTS SHALL BE SQUARED OFF AND ANGLES NO LESS THAN 90°. SIDEWALK REPLACEMENT SHALL BE FULL FLAGS.

LEGEND

(E) EXISTING
(N) NEW
(N) LANDSCAPE AREA. RE: LANDSCAPE DWG.
(N) CONCRETE PAVEMENT
(N) BUILDING AREA
(N) SHRUBS, GRASSES & SMALL. RE: LANDSCAPE DWG.
(E) TREE, TO REMAIN
(N) TREES RE: LANDSCAPE DWG.

KEY NOTES NOTES FOR THIS SHEET ONLY

1. (N) SECURED PEDESTRIAN GATE
2. (N) FLAG POLE. SEE CIVIL DWG. C3/C012 C-6616.
3. (N) BLDG. COLUMN
4. (N) SECURITY FENCE
5. (N) SECURITY GATE. SEE DWG. DETAILS A102-A103
6. (N) SECURITY GATE CONTROLS
7. (N) SECURITY GATE OPERATOR
8. (N) WHARF HYDRANT
9. (N) FIRE HYDRANT
10. (N) PULL BOX. SEE ELECTRICAL DRAWINGS
11. (N) ACCESSIBLE PARKING SPACE.SEE CIVIL DWG. B4/C012 - CLB STD 312
12. (N) EV CHARGING PARKING SPACE
13. (N) LOW EMISSION VEHICLE PARKING SPACE
14. (N) TRANSFORMER
15. (N) TRASH ENCLOSURE. SEE DETAIL 1/A103
16. (N) SITE LIGHTING
17. (E) STREET LIGHT TO BE REMOVED
18. (E) SIGNAL POLE TO REMAIN
19. (N) TRAFFIC LIGHT. SEE TRAFFIC DRAWINGS
20. (E) ELECTRICAL POWER POLE TO REMAIN
21. (N) TRAFFIC CONTROL BOX. SEE TRAFFIC DRAWINGS
22. (E) STREET LIGHT TO REMAIN
23. (E) UTILITY POLE & TRANSFORMER TO BE REMOVED. SEE ELEC. DWGS.
24. (N) ELECTRICAL PULL BOX. SEE ELECTRICAL
25. (N) BOLLARDS. SEE 4/A104
26. (N) TRENCH DRAIN, RE:CIVIL & PLUMBING DWGS.
27. (N) ELECTRIC VEHICLE CHARGING STATION
28. (E) FENCE TO REMAIN, PROTECT IN PLACE
29. (N) PARKING SPACE
30. (E) WATER METER
31. (N) SITE DRAIN. SEE CIVIL DRAWING C010
32. (N) PEDESTRIAN WARNING PADS
33. (N) REDUCED PRESSURE BFP. RE:CIVIL.
34. (E) TREE TO REMAIN - PROTECT
35. (N) DETECTOR CHECK BFP. RE:CIVIL
36. (N) CLARIFIER INTERCEPTOR
37. (N) TRAFFIC SIGN - SEE TRAFFIC DWGS.
38. (N) STREET LIGHT - SEE TRAFFIC DWGS.
39. (N) STREET MARKINGS - SEE TRAFFIC DWGS.
40. (N) PAVEMENT MARKINGS
41. (N) POLE WITH ANCHOR - SEE CIVIL DWGS
42. (E) EXISTING TREE TO BE REMOVED
43. (E) EXISTING FIRE HYDRANT TO REMAIN
44. (N) FIRE DEPARTMENT CONNECTION
45. (N) STREET PARKING
46. (N) BBQ AREA (NATURAL GAS BBQ). SEE DWG. 6,7,8 & 9/A323 FOR DETAILS.
47. HORN/STROBE @ 10' F.F.L.
48. (N) TREE. SEE LANDSCAPE DWG.
49. (N) SHRUBS, GRASSES & SMALL SHRUBS. SEE LANDSCAPE DWG.
50. (N) AUTO CLOSE LOOP DETECTOR
51. SMOKING PROHIBITED SIGNAGE. SEE IMAGE 7A/A010.

0 8 16 32

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone :- 510.208.9400
www.marymcgratharchitects.com

REVISIONS			
NO.	DATE	SHEET	APPROVAL
	12/16/2021		
1	04/22/2022		
2	06/15/2023		
	10/12/2023		

DESCRIPTION: PLAN CHECK SUBMITTAL; PLAN CHECK RE-SUBMITTAL; PLAN CHECK RE-SUBMITTAL; BID DOCUMENTS

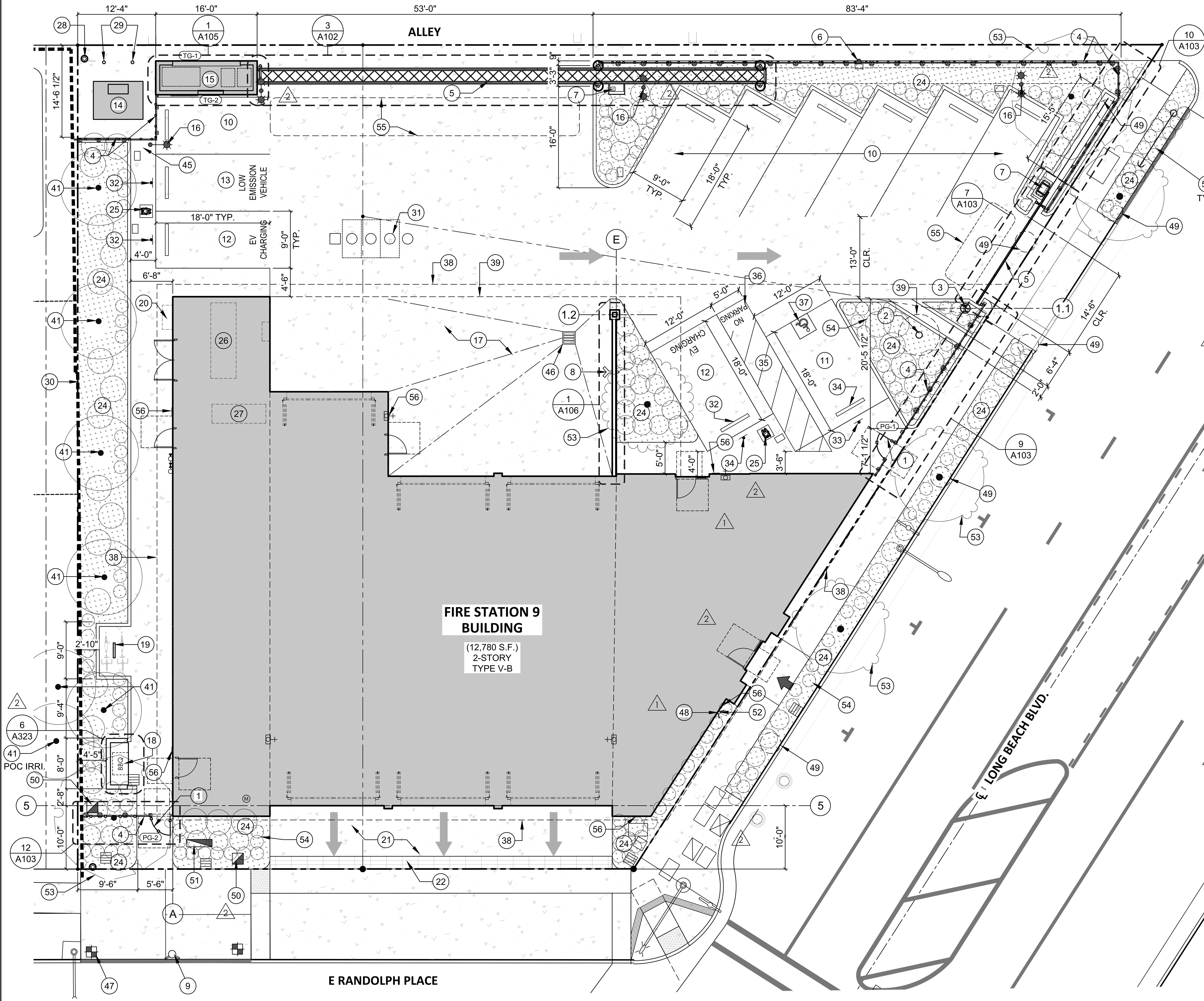
DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR
REF.
AS-BUILT

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
ARCHITECTURAL OVERALL SITE PLAN

B # B-4797
PHASE # ____ / REBID # ____
SHEET 40 OF 236
DWG. NO. A100

Oct 12, 2023 - 8:21pm



1 ARCHITECTURAL ENLARGED SITE PLAN

1/8" = 1'-0"

GENERAL NOTES

A. REFER TO DWG. A102 FOR SITE FENCE/SECURITY GATE ELEVATIONS.
B. REFER TO CIVIL DRAWINGS FOR GRADING, UTILITY, SITE IMPROVEMENTS AND SITE DETAILS.
C. REFER TO ELECTRICAL PLAN FOR SITE & EXTERIOR BLDG. LIGHTING.
D. REFER TO LANDSCAPE DRAWING FOR LANDSCAPE IMPROVEMENTS.
E. PROVIDE 4" WIDE, BLUE PAINTED BORDERLINE AROUND ACCESSIBLE PARKING SPACE.

LEGEND

- (E) PROPERTY LINE
- (E) FENCE WALL TO REMAIN
- (E) EXISTING
- (N) NEW
- (N) FENCE LINE
- (N) LANDSCAPE AREA
- (N) CONCRETE PAVEMENT
- (N) BUILDING AREA
- (N) SHRUBS, GRASSES & SMALL. RE: LANDSCAPE DWG.
- (E) TREE, TO REMAIN
- (N) TREES RE: LANDSCAPE DWG.

KEY NOTES NOTES FOR THIS SHEET ONLY

1. (N) SECURED PEDESTRIAN GATE. SEE DWG. DETAILS 9 & 12/A103 & 11/A104.
2. (N) FLAG POLE. SEE CIVIL DWG. C3/C012 C-6616.
3. (N) BLDG. COLUMN. SEE DETAIL 1/A107.
4. (N) SECURITY FENCE. SEE DWG. DETAILS 1/A102 & 10/A103.
5. (N) SECURITY GATE. SEE DWG. DETAILS 2&3/A102, 7/A103 & 9-10/A104
6. (N) SECURITY GATE CONTROLS
7. (N) SECURITY GATE OPERATOR
8. (N) WHARF HYDRANT
9. (N) FIRE HYDRANT
10. (N) FIRE DEPARTMENT PARKING SPACE
11. (N) ACCESSIBLE PARKING SPACE.SEE CIVIL DWG. B4/C012 - CLB STD 312
12. (N) EV CHARGING PARKING SPACE
13. (N) LOW EMISSION VEHICLE PARKING SPACE
14. (N) TRANSFORMER. RE: ELEC. DWGS.
15. (N) TRASH ENCLOSURE.
16. (N) SITE LIGHTING
17. (N) WASH DOWN AREA
18. (N) BBQ AREA (NATURAL GAS BBQ). SEE DWG. 6,7,8 & 9/A323 FOR DETAILS.
19. (N) BIKE RACK. SEE DWG. DETAIL 1/A104.
20. (N) GENERATOR CONTROL PANEL. RE: ELEC. DWGS.
21. (N) FRONT APRON
22. (N) TRENCH DRAIN, RE:CIVIL & PLUMBING DWGS.
23. (N) H.C. RAMP ENTRANCE. SEE CIVIL A2/5 DWG. DEMOLITION AND CONSTRUCTION PLAN - LONG BEACH BLVD. (OFF-SITE IMPROVEMENT PLAN). SEE 6/A103 FOR H.C. RAMP DETAIL.
24. LANDSCAPE AREA, RE: LANDSCAPE DWGS.
25. (N) ELECTRIC VEHICLE CHARGING STATION
26. (N) GENERATOR, RE: ELEC. DWGS.
27. (N) MAIN SWITCH BOARD, RE: ELEC. DWGS.
28. (E) ELEC. POWER POLE TO REMAIN, RE: ELEC. DWGS.
29. (N) BOLLARDS, RE: CIVIL DWGS. & 3/A104
30. (E) FENCE TO REMAIN, PROTECT IN PLACE
31. CLARIFIER INTERCEPTOR, RE: CIVIL UTILITY PLAN DWG. (C010)
32. (N) EV CHARGING STATION SIGN
33. (N) ACCESSIBLE PARKING SPACE SIGN. SEE CIVIL DWG. B4/C012 - CLB STD 312
34. (N) WHEEL BUMPERS. SEE CIVIL DWG. DETAIL A3/C012.
35. 4" WIDE PAINTED BLUE BORDER/STRIPE @ 36" O.C.
36. MIN. 12" HIGH WHITE LETTER
37. 36"X36" PAINTED INTERNATIONAL SYMBOL OF ACCESSIBILITY ON PAVEMENT PER CIVIL DWG. B4/C012 - CLB STD 312
38. BLDG. ROOF LINE ABOVE
39. BLDG. 2ND FLOOR LINE ABOVE
40. BLDG. ROOF LINE OPENING ABOVE @ FLAGPOLE
41. (E) TREE TO REMAIN
42. (N) TREE. RE: LANDSCAPE DWGS.
43. DETECTOR CHECK BFP, RE: CIVIL UTILITY PLAN DWG. (C010)
44. REDUCED PRESSURE BFP, RE: CIVIL UTILITY PLAN DWG. (C010)
45. GAS SERVICE & METER, PRESSURE REGULATOR & EARTHQUAKE VALVE, RE: CIVIL UTILITY PLAN DWG. (C010)
46. FLOOR DRAIN, RE: CIVIL UTILITY PLAN DWG. (C010)
47. (N) WATER METER
48. (N) FIRE DEPARTMENT CONNECTION
49. (E) TREE TO BE REMOVED
50. (N) REDUCED PRESSURE BFP. RE:CIVIL.
51. (N) DETECTOR CHECK BFP. RE:CIVIL
52. HORN/STROBE @ 10' F.F.L.
53. (N) TREE. SEE LANDSCAPE DWG.
54. (N) SHRUBS, GRASSES & SMALL. SEE LANDSCAPE DWG.
55. (N) AUTO CLOSE LOOP DETECTOR
56. (N) SMOKING PROHIBITED SIGNAGE. SEE IMAGE 7A/A010.

0 8 16 32

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL

AS-BUILT

REF.

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

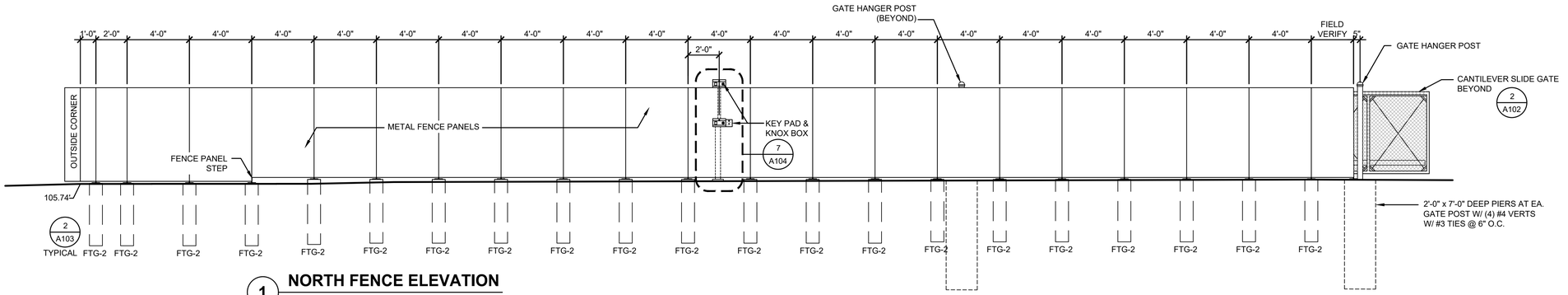
FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
ARCHITECTURAL ENLARGED SITE PLAN

B # B-4797

PHASE # ____ / REBID # ____

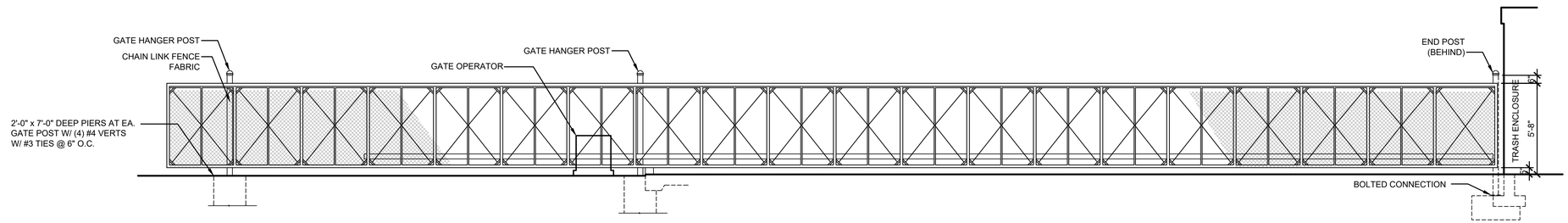
SHEET 41 OF 236

DWG. NO. A101



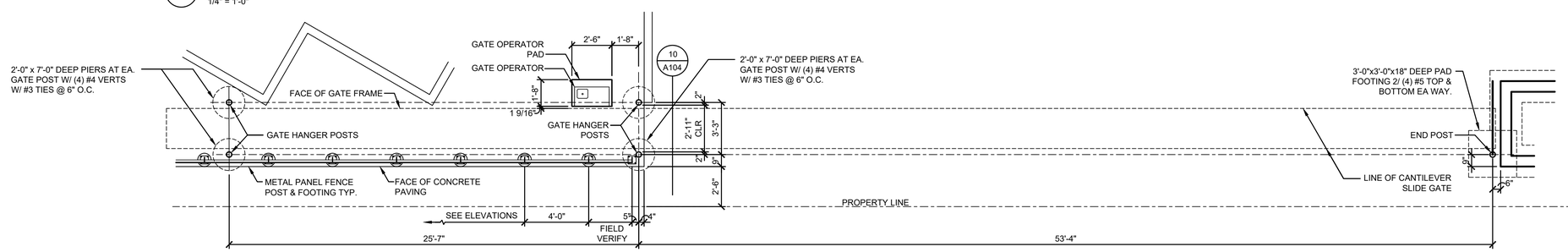
1 NORTH FENCE ELEVATION

1/4" = 1'-0"



2 COUNTERBALANCED GATE ELEVATION

1/4" = 1'-0"



3 COUNTERBALANCED GATE ENLARGED PLAN

1/4" = 1'-0"

REVISIONS			
NO.	DATE	SHEET	APPROVAL
	12/16/2021		
	10/12/2023		

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR
REF.
AS-BUILT

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

SITE DETAILS

B # B-4797

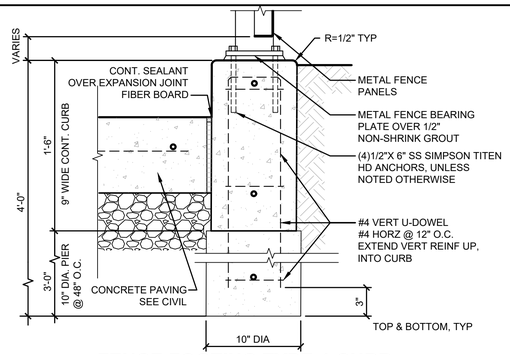
PHASE # ____ / REBID # ____

SHEET 42 OF 236

DWG. NO. A102

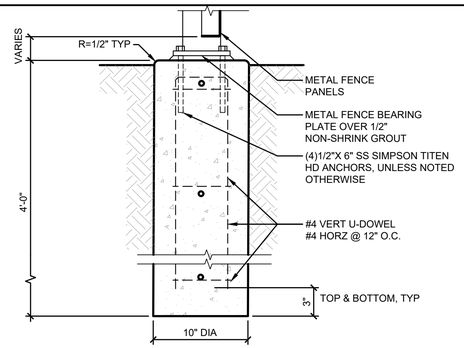
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 12, 2023 - 8:21pm



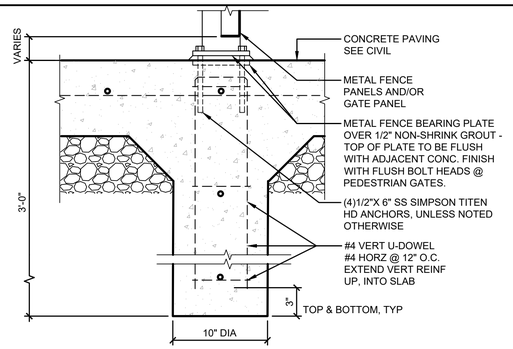
1 FENCE FOOTING TYPE-1 CURB

1 1/2" = 1'-0"



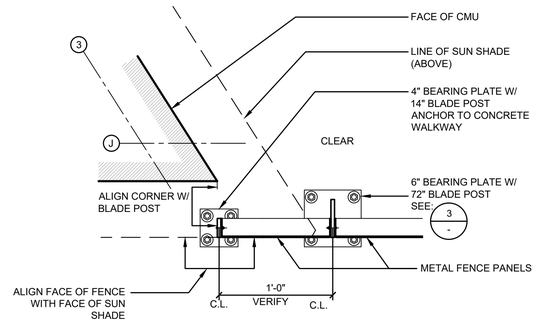
2 FENCE FOOTING TYPE-2 PIER

1 1/2" = 1'-0"



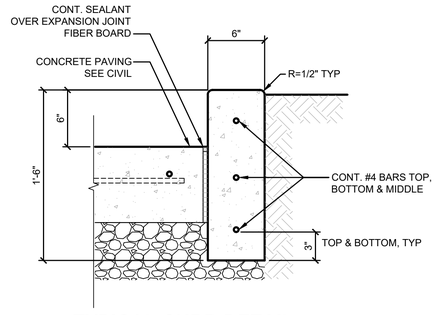
3 FENCE FOOTING TYPE-3 PAVING

1 1/2" = 1'-0"



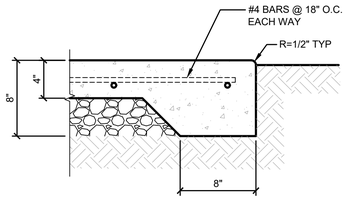
4 FENCE PLAN @ GRIDS J-3

1 1/2" = 1'-0"



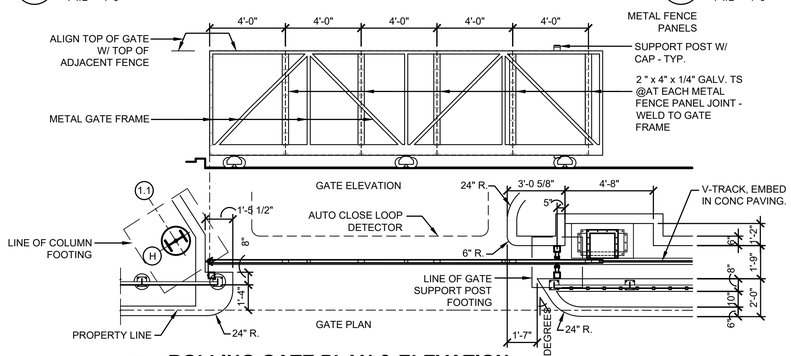
5 TYPICAL CURB DETAIL

1 1/2" = 1'-0"



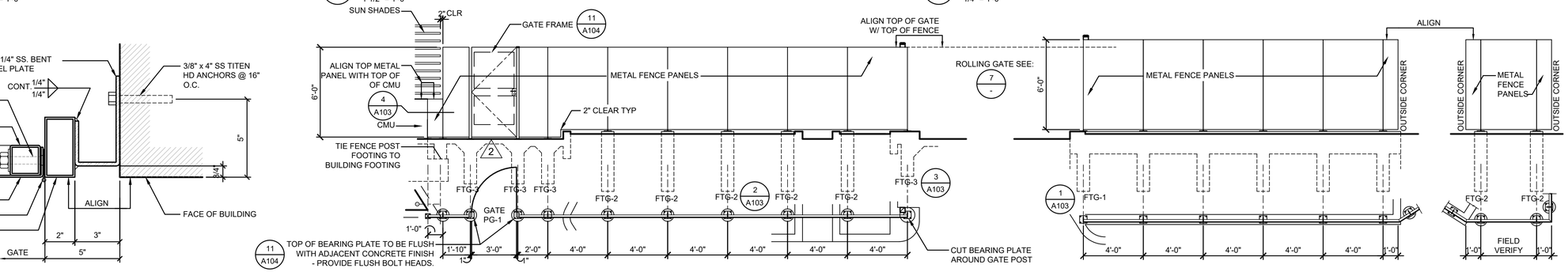
6 PEDESTRIAN CONCRETE SLAB EDGE DETAIL

1 1/2" = 1'-0"



7 ROLLING GATE PLAN & ELEVATION

1/4" = 1'-0"

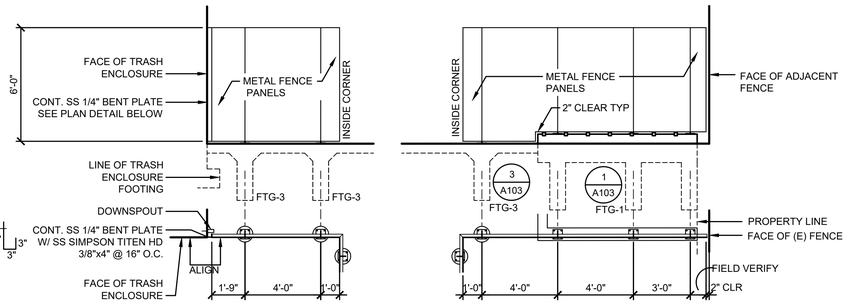


9 PEDESTRIAN GATE PG-1 PLAN & ELEVATION

1/4" = 1'-0"

10 FENCE @ EAST SLIDING GATE PLANS & ELEVATIONS

1/4" = 1'-0"

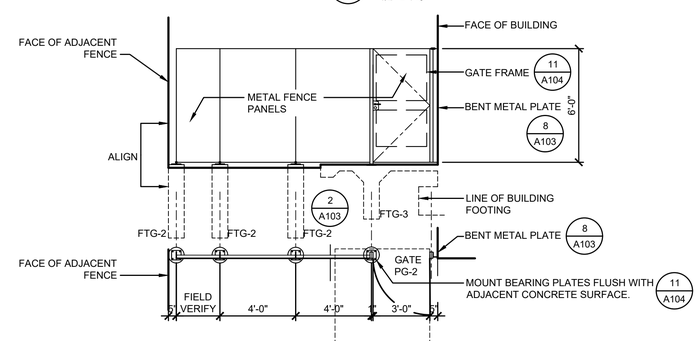


8 GATE PG-2 JAMB DETAIL

3" = 1'-0"

11 TRANSFORMER FENCE PLANS & ELEVATIONS

1/4" = 1'-0"



12 PEDESTRIAN GATE PG-2 ELEVATION

1/4" = 1'-0"

REVISIONS			
NO.	DATE	APPROVAL	SHEET
	12/16/2021		
2	06/15/2023		

REF.

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

AS-BUILT

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

SITE DETAILS

B # **B-4797**

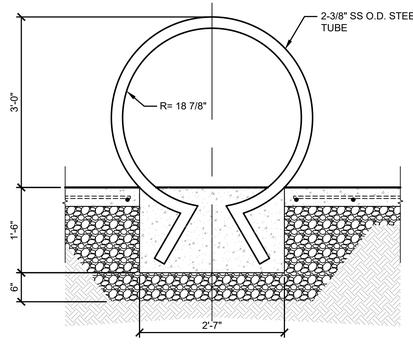
PHASE # ____ / REBID # ____

SHEET **43** OF **236**

DWG. NO. **A103**

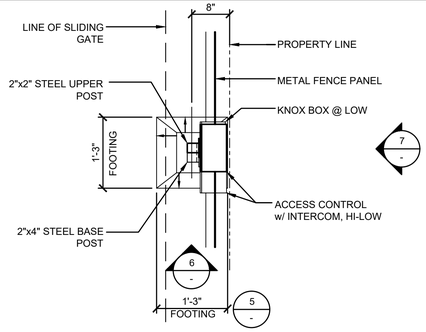
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 12, 2023 - 8:21pm

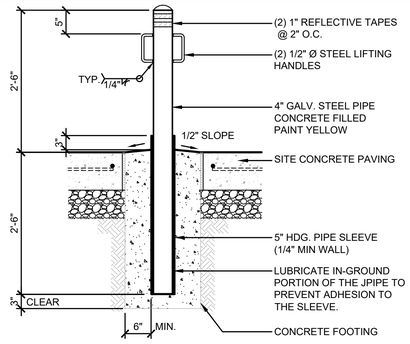


1 BIKE RACK SECTION DETAIL

3/4" = 1'-0"

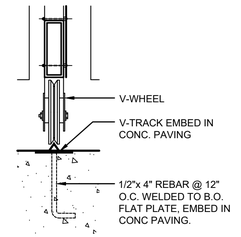


2 GATE KEY PAD & KNOX BOX PLAN



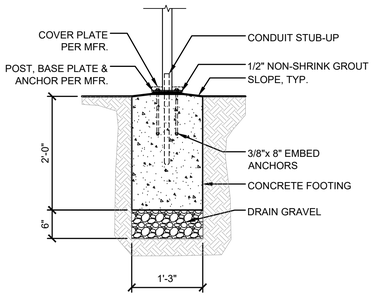
3 REMOVABLE BOLLARD SECTION DETAIL

3/4" = 1'-0"



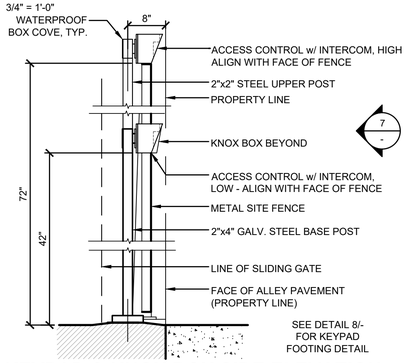
4 GATE TRACK DETAIL

1 1/2" = 1'-0"



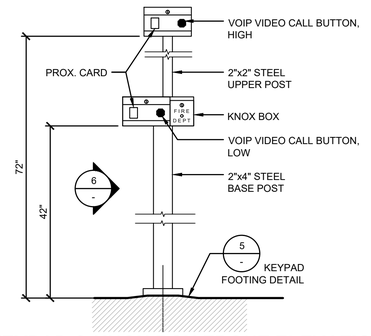
5 KEYPAD & KNOX BOX FOOTING DETAIL

3/4" = 1'-0"



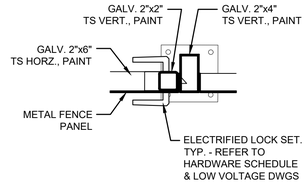
6 KEYPAD & KNOX BOX SIDE ELEVATION

3/4" = 1'-0"



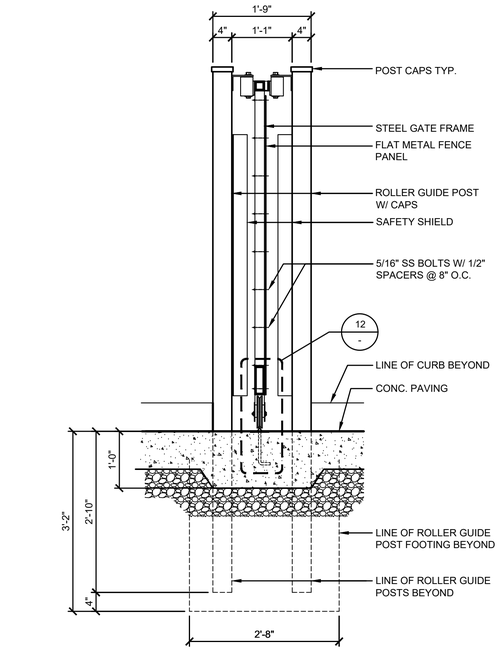
7 KEYPAD & KNOX BOX FRONT ELEVATION

3/4" = 1'-0"



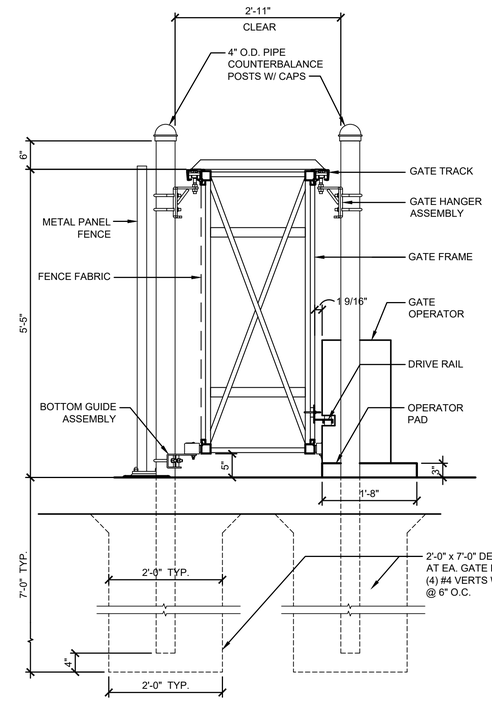
8 GATE LOCK DETAIL

1 1/2" = 1'-0"



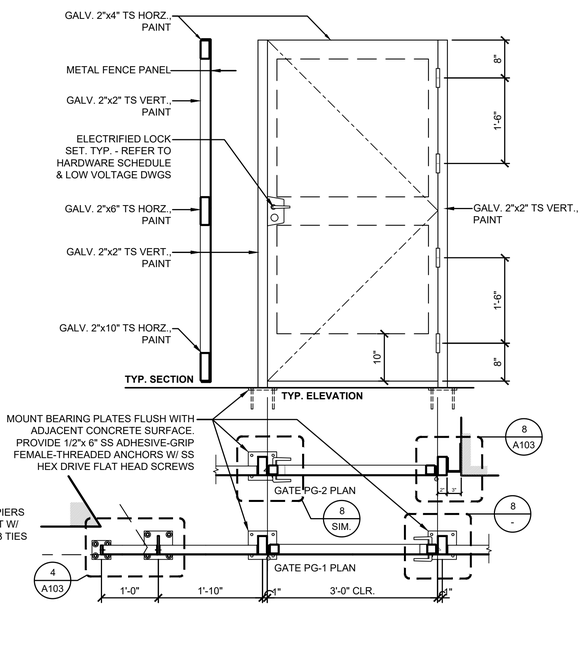
9 ROLLING SECTION GATE DETAIL

3/4" = 1'-0"



10 COUNTERBALANCE SECTION DETAIL

3/4" = 1'-0"



11 PEDESTRIAN GATE PLANS & ELEVATIONS

3/4" = 1'-0"

NO.	DATE	SHEET	APPROVAL	DESCRIPTION	REF.
	12/16/2021			PLAN CHECK SUBMITTAL	
				AS-BUILT	

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

SITE DETAILS

B # B-4797

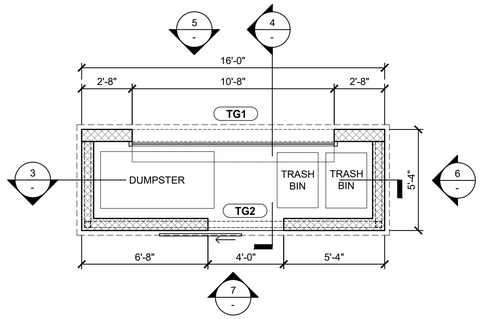
PHASE # ____ / REBID # ____

SHEET 44 OF 236

DWG. NO. A104

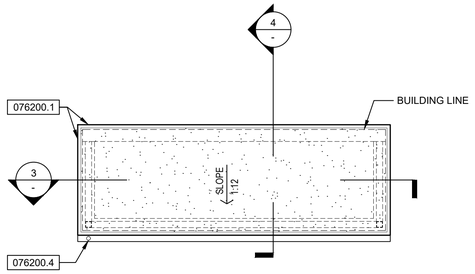
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 12, 2023 - 8:21pm



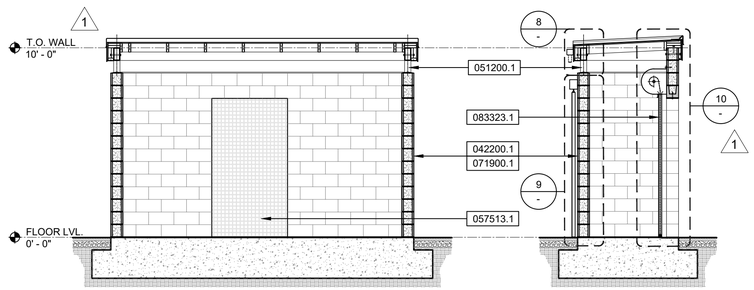
1 TRASH ENCLOSURE PLAN

1/4" = 1'-0"



2 TRASH ENCLOSURE ROOF PLAN

1/4" = 1'-0"



3 TRASH ENCLOSURE BLDG. SECTION

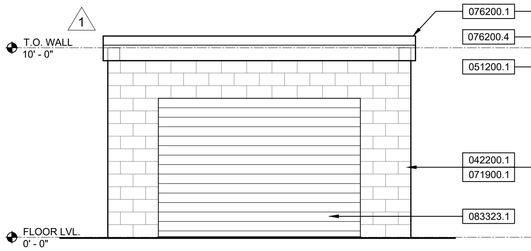
1/4" = 1'-0"

4 TRASH ENCLOSURE BUILDING SECTION

1/4" = 1'-0"

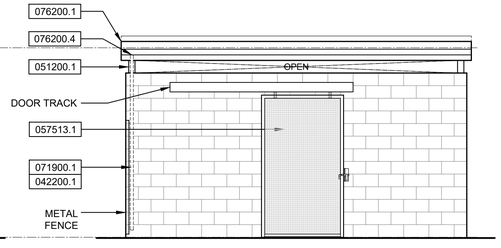
SPECIFICATION KEY NOTES

042200.1 CONCRETE MASONRY UNIT
051200.1 STEEL COLUMN, PAINT. REFER TO STRUCTURAL DWGS.
057513.1 DECORATIVE PERFORATED PANELS
071900.1 WATER REPELLENT/ANTI-GRAFFITI COATING FINISH
076200.1 SHEET METAL FASCIA, PRE-FINISHED
076200.4 PRE-FINISHED GUTTER & DOWNSPOUT
083323.1 OVERHEAD COILING DOOR



5 TRASH ENCLOSURE NORTH ELEVATION (ALLEY)

1/4" = 1'-0"

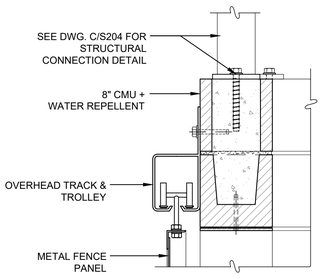


6 TRASH ENCLOSURE EAST ELEV. (MIRROR IMAGE WEST)

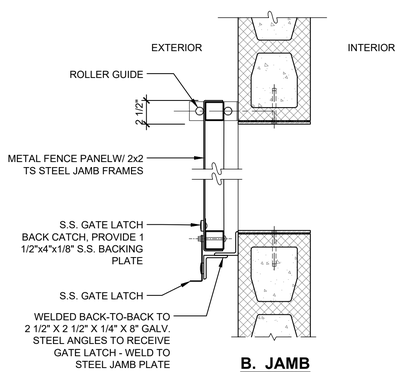
1/4" = 1'-0"

7 TRASH ENCLOSURE SOUTH ELEVATION

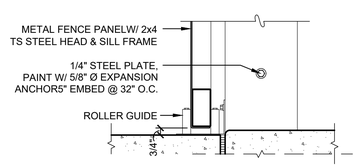
1/4" = 1'-0"



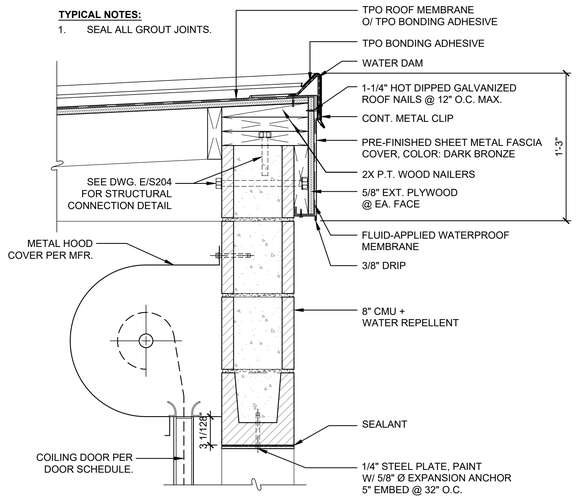
C. HEAD



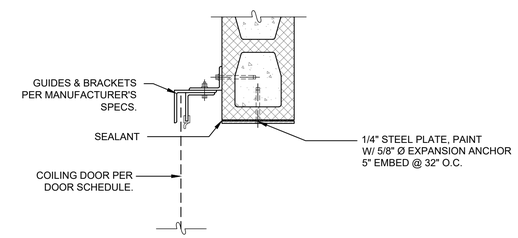
B. JAMB



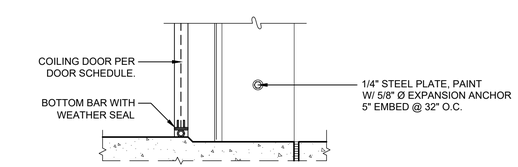
A. THRESHOLD



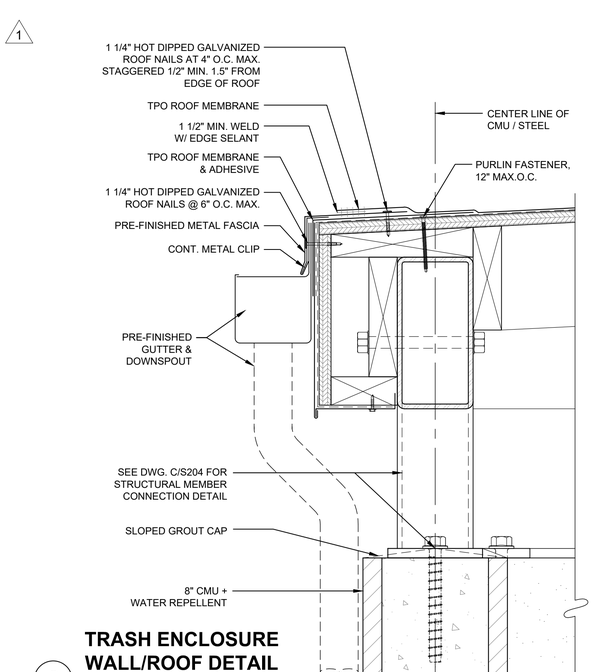
C. HEAD



B. JAMB



A. THRESHOLD



8 TRASH ENCLOSURE WALL/ROOF DETAIL

3" = 1'-0"

9 SLIDING DOOR DETAIL

1 1/2" = 1'-0"

10 OVERHEAD COILING DOOR DETAIL

1 1/2" = 1'-0"

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

AS-BUILT REF.

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

TRASH ENCLOSURE DETAILS

B # B-4797

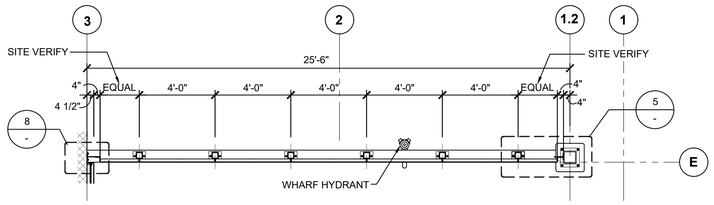
PHASE # ____ / REBID # ____

SHEET 45 OF 236

DWG. NO. A105

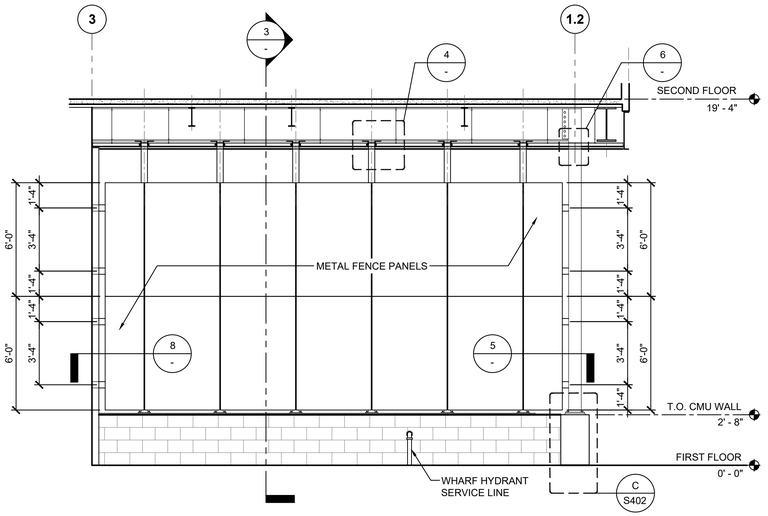
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 12, 2023 - 8:21pm



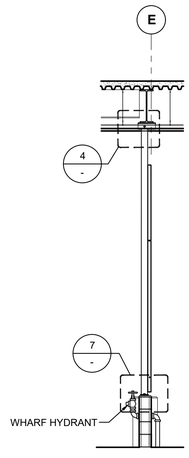
1 SCREEN WALL @ GRID E - ENLARGED PLAN

1/4" = 1'-0"



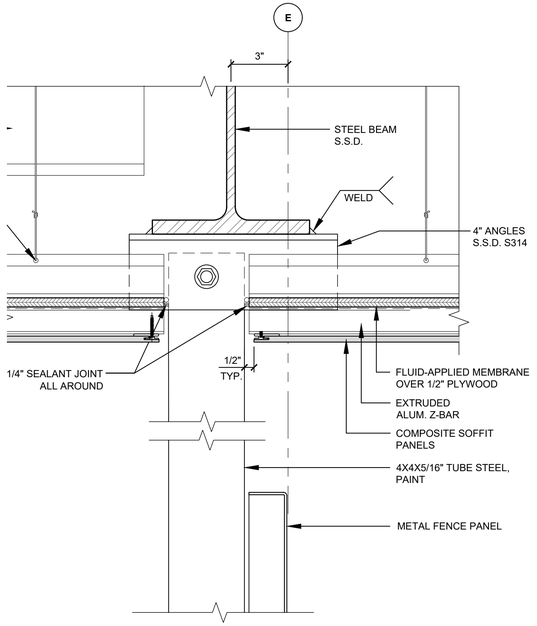
2 SCREEN WALL @ GRID E - ELEVATION & SECTION

1/4" = 1'-0"



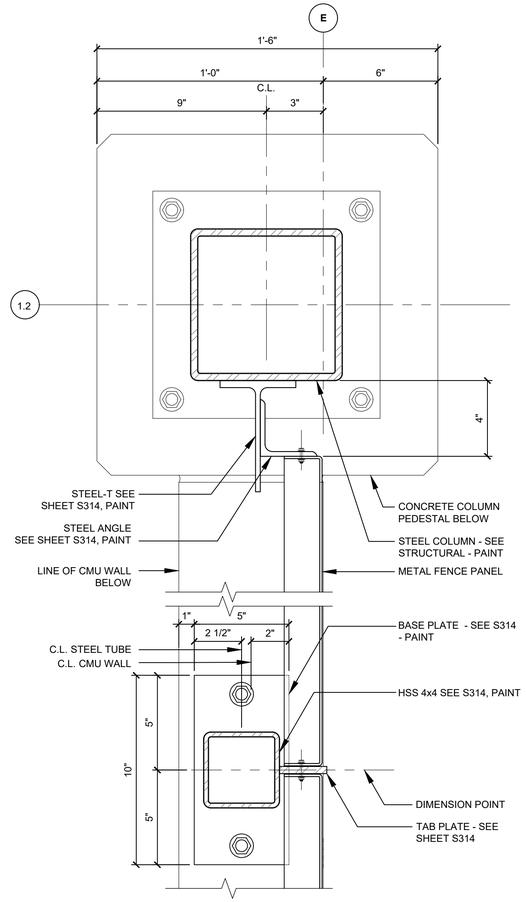
3 SECTION

1/4" = 1'-0"



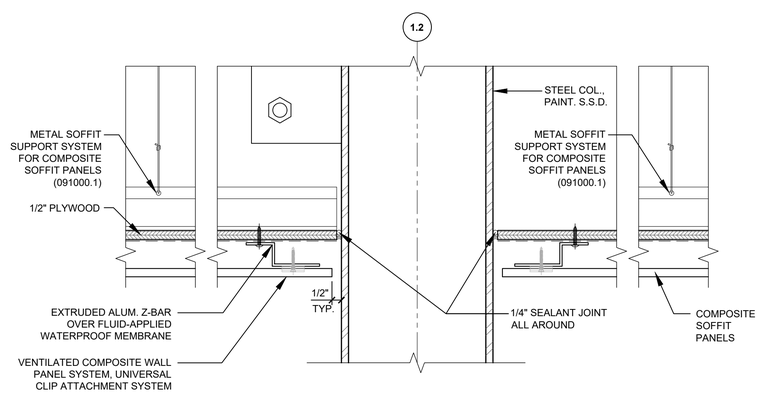
4 SCREEN WALL DETAIL @ CEILING

3" = 1'-0"



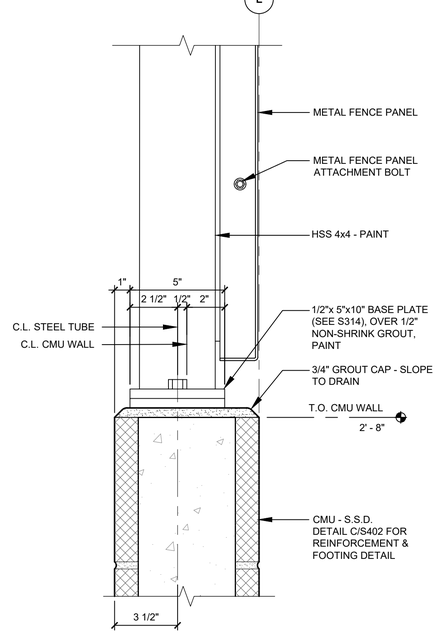
5 SCREEN WALL COLUMN SUPPORT DETAIL

3" = 1'-0"



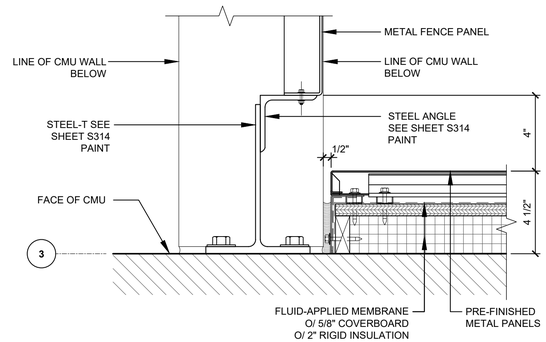
6 CLG. TERMINATION DETAIL @ COLUMN

3" = 1'-0"



7 SCREEN WALL DETAIL @ CMU WALL

3" = 1'-0"



8 SCREEN WALL TERMINATION @ BLDG . WALL DETAIL

3" = 1'-0"

NO.	DATE	APPROVAL	REVISIONS DESCRIPTION
	12/16/2021		PLAN CHECK SUBMITTAL
	10/12/2023		BID DOCUMENTS
			AS-BUILT

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

SCREEN WALL PLAN, ELEVATION & DETAILS

B # B-4797

PHASE # ____ / REBID # ____

SHEET 46 OF 236

DWG. NO. A106

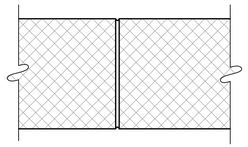
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 12, 2023 - 8:21pm

EXTERIOR WALLS & SOFFIT TYPE

1 1/2" = 1'-0"

EXTERIOR



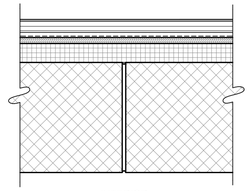
INTERIOR

EWA-1 **12" MASONRY WALL**

EWA-1A **8" MASONRY WALL**

- CMU, RE: STRUCTURAL
- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS

EXTERIOR



INTERIOR

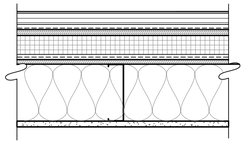
EWA-2 **12" MASONRY WALL**

EWA-2A **8" MASONRY WALL**

METAL WALL PANEL SYSTEM O/ CMU

- METAL WALL PANEL SYSTEM
- FLUID-APPLIED WATERPROOF MEMBRANE
- COVER BOARD
- 2" RIGID INSULATION
- CMU, RE: STRUCTURAL
- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS

EXTERIOR



INTERIOR

EWA-3

METAL WALL PANEL SYSTEM O/ METAL STUD WALL

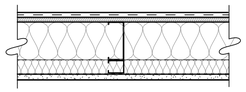
- METAL WALL PANEL SYSTEM
- FLUID-APPLIED WATERPROOF MEMBRANE
- COVER BOARD
- 2" RIGID INSULATION
- FLUID APPLIED AIR BARRIER
- PLYWOOD SHEATHING, RE: STRUCTURAL
- 6" METAL STUD FRAMING
- BUILDING INSULATION - FULL STUD DEPTH
- GYPSUM BOARD, SEE GENERAL NOTES
- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS

EWA-3A

FURRED WALL METAL WALL PANEL SYSTEM O/ METAL STUD WALL

- METAL WALL PANEL SYSTEM
- FLUID-APPLIED WATERPROOF MEMBRANE
- COVER BOARD
- 2" RIGID INSULATION
- FLUID APPLIED AIR BARRIER
- PLYWOOD SHEATHING, RE: STRUCTURAL
- 6" METAL STUD FRAMING
- SEE GENERAL NOTES

EXTERIOR



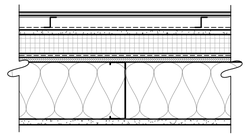
INTERIOR

EWA-5

PRE-FINISHED SHEET METAL O/ METAL STUD WALL

- PRE-FINISHED SHEET METAL
- FLUID-APPLIED WATERPROOF MEMBRANE
- SHEATHING, RE: STRUCTURAL
- 4" METAL STUD FRAMING
- BUILDING INSULATION - FULL DEPTH OF WALL CAVITY
- 1 1/2" METAL FURRING
- BUILDING INSULATION - FULL DEPTH OF WALL CAVITY
- GYPSUM BOARD, SEE GENERAL NOTES
- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS

EXTERIOR



INTERIOR

EWA-4

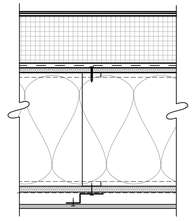
VENTILATED COMPOSITE WALL PANELS O/ METAL STUD WALL

- VENTILATED COMPOSITE WALL PANELS
- 1 1/4" ALUMINUM Z BARS @ 24" O.C.
- FLUID-APPLIED WATERPROOF MEMBRANE
- COVER BOARD OVER 2" EXTERIOR RIGID INSULATION
- FLUID APPLIED AIR BARRIER
- PLYWOOD SHEATHING, RE: STRUCTURAL
- 6" METAL STUD FRAMING
- BUILDING INSULATION - FULL DEPTH OF WALL CAVITY
- GYPSUM BOARD, SEE GENERAL NOTES
- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS

EWA-4A & 4B

VENTILATED COMPOSITE WALL PANELS O/ METAL STUD WALL RESTROOM AND PLUMBING CHASE WALL

- VENTILATED COMPOSITE WALL PANELS
- 1 1/4" ALUMINUM Z BARS @ 24" O.C.
- FLUID-APPLIED WATERPROOF MEMBRANE
- COVER BOARD OVER 2" EXTERIOR RIGID INSULATION
- FLUID APPLIED AIR BARRIER
- SHEATHING, RE: STRUCTURAL
- 6" METAL STUD FRAMING
- BUILDING INSULATION - FULL DEPTH OF WALL CAVITY
- SEE GENERAL NOTES



SFT-1

EXTERIOR SOFFIT

- THERMOPLASTIC POLYOLEFIN (TPO) ROOFING
- ROOF SHEATHING
- STRUCTURAL COLD FORMED METAL FRAMING
- BUILDING INSULATION (R-30 BATT INSULATION)
- PLYWOOD
- FLUID-APPLIED WATERPROOF MEMBRANE
- 1 1/4" METAL Z-FURRING
- VENTILATED COMPOSITE SOFFIT PANELS

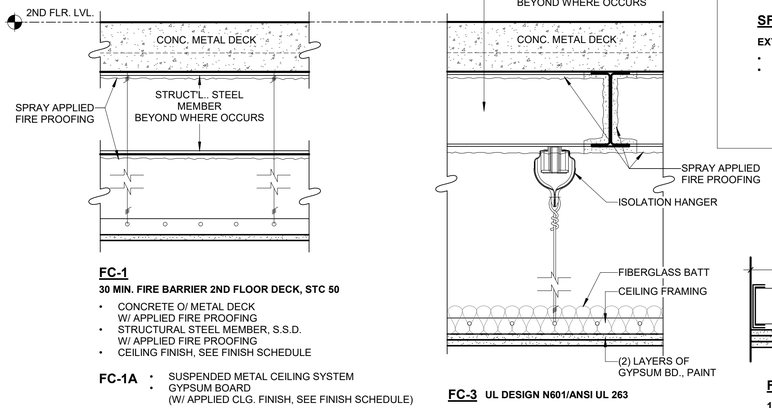
SFT-2

EXTERIOR SOFFIT

- METAL SOFFIT SUPPORT SYSTEM (091000.1)
- COMPOSITE SOFFIT PANELS

INTERIOR FLOOR CEILING TYPE

1 1/2" = 1'-0"



FC-1

30 MIN. FIRE BARRIER 2ND FLOOR DECK, STC 50

- CONCRETE O/ METAL DECK W/ APPLIED FIRE PROOFING
- STRUCTURAL STEEL MEMBER, S.S.D. W/ APPLIED FIRE PROOFING
- CEILING FINISH, SEE FINISH SCHEDULE

FC-1A • SUSPENDED METAL CEILING SYSTEM
• GYPSUM BOARD (W/ APPLIED CLG. FINISH, SEE FINISH SCHEDULE)

FC-1B • (SUSPENDED ACOUSTICAL CEILING TILES IN LIEU OF GYPSUM BOARD)

FC-1C • (SUSPENDED LINEAR WOOD PANEL CEILING IN LIEU OF GYPSUM BOARD)

FC-1D • (1-HR. FIRE BARRIER UNDER LANDING @ STAIR 1 AND 2)
- CONCRETE O/ METAL DECK W/ APPLIED FIRE PROOFING
- STRUCTURAL STEEL MEMBER, S.S.D. W/ APPLIED FIRE PROOFING
- CEILING FINISH, SEE FINISH SCHEDULE

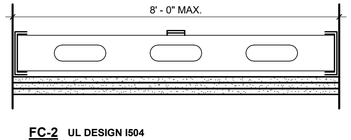
FC-3 **UL DESIGN N601/ANSI UL 263**

2 HR. FIRE BARRIER

- CONCRETE O/ METAL DECK W/ APPLIED FIRE PROOFING
- STRUCTURAL STEEL MEMBER, S.S.D. W/ APPLIED FIRE PROOFING
- CEILING FINISH, SEE FINISH SCHEDULE

NOTE:

- PROVIDE 1/2" SEALANT JOINT AT ROOM PERIMETER TO ISOLATE THE CEILING FROM THE WALLS.
- SEAL ALL PENETRATIONS FOR AN AIR-TIGHT ASSEMBLY



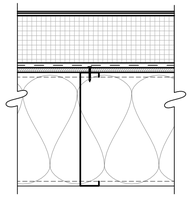
FC-2 **UL DESIGN I504**

1 HR. FIRE BARRIER @ UNDERSIDE OF STAIR

- 6" PERIMETER, 20 GA. HORIZONTAL STEEL STUDS @ 16" O.C. W/ 2 LEGS ATTACHED TO SIDE OF WALL @ 24" O.C. ATTACH TOP LEG OF PERIMETER CHANNELS W/ 1/2" PAN HEAD SCREWS, SPACED @ 16" O.C.
- 4" 20 GA. FLAT STRAP OR PERIMETER CHANNELS SECURED PERPENDICULAR TO TOP OF STUDS @ CENTERLINE OF THE SPAN W/ TWO 1/2" PAN HEAD SCREWS.
- 3 LAYERS GYPSUM BOARD

ROOF TYPE

1 1/2" = 1'-0"



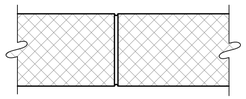
RA-1

TPO ROOFING AT STEEL STUD FRAMING

075423	THERMOPLASTIC POLYOLEFIN (TPO) ROOFING • TPO MEMBRANE • BONDING ADHESIVE • COVER BOARD • ROOF INSULATION (VARIES) • SELF ADHERED VAPOR BARRIER
061600	ROOF SHEATHING
054000.1	STRUCTURAL COLD FORMED METAL FRAMING
072100.1	BUILDING INSULATION (R-30 BATT INSULATION) (EXPOSURE RATED)

INTERIOR WALL TYPES

1 1/2" = 1'-0"



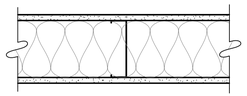
M8 FIRE RATING PER CBC TABLE 721.1

TYPICAL INTERIOR CONCRETE MASONRY

- APPLIED INTERIOR WALL, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS
- 8" CMU, RE: STRUCTURAL
- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS

M8-1HR 1-HR. FIRE BARRIER @ ELEVATOR SHAFT

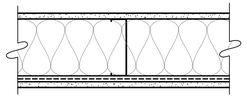
M8-2HR 2-HR. FIRE BARRIER @ GENERATOR ROOM



P1

TYPICAL INTERIOR 6" METAL STUD WALL, STC 50

- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS
- GYPSUM BOARD, SEE GENERAL NOTES
- 6" METAL STUD FRAME
- SOUND ATTENUATION BLANKET INSULATION, FULL DEPTH OF WALL CAVITY
- GYPSUM BOARD, SEE GENERAL NOTES
- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS



1

P1-R30 **UL DESIGN UL407; STC 50**

TYPICAL INTERIOR 6", TYP. & 8" WHERE NOTED METAL STUD - 30MIN. FIRE PARTITION WALL

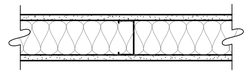
- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS
- GYPSUM BOARD, SEE GENERAL NOTES.
- 6" TYP. & 8" WHERE NOTED METAL STUD FRAME @ 24" O.C.
- MINERAL WOOL INSULATION, FULL DEPTH OF WALL CAVITY
- RESILIENT CHANNEL AT RIGHT ANGLE @ 24" O.C. W/ 1/2" TYPE S SCREWS ATTACH TO RESILIENT CHANNEL TO STUD AT EA. INTERSECTION.
- GYPSUM BOARD, SEE GENERAL NOTES, W/ 1" TYPE S DRYWALL SCREWS SPACED 12" O.C.
- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS.

1

P1-R60 **UL DESIGN UL419; STC 50**

TYPICAL INTERIOR 6" METAL STUD - 60MIN. FIRE BARRIER WALL

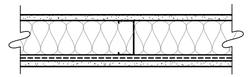
- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS
- GYPSUM BOARD, SEE GENERAL NOTES
- 6" METAL STUD FRAME
- MINERAL WOOL INSULATION, FULL DEPTH OF WALL CAVITY
- GYPSUM BOARD, SEE GENERAL NOTES
- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS



P2

TYPICAL INTERIOR 4" METAL STUD WALL, STC 50

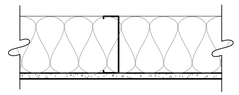
- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS
- GYPSUM BOARD, SEE GENERAL NOTES
- 4" METAL STUD FRAME
- SOUND ATTENUATION BLANKET INSULATION, FULL DEPTH OF WALL CAVITY
- GYPSUM BOARD, SEE GENERAL NOTES
- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS



P2-R **UL DESIGN UL407 & UL419; STC 50**

TYPICAL INTERIOR 4" METAL STUD - 30 & 60 MIN. FIRE PARTITION AND BARRIER WALLS

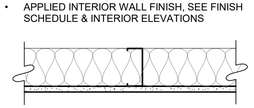
- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS
- GYPSUM BOARD, SEE GENERAL NOTES
- 4" METAL STUD FRAME @ 24" O.C.
- MINERAL WOOL INSULATION, FULL DEPTH OF WALL CAVITY
- RESILIENT CHANNEL AT RIGHT ANGLE @ 24" O.C. W/ 1/2" TYPE S SCREWS ATTACH TO RESILIENT CHANNEL TO STUD AT EA. INTERSECTION.
- GYPSUM BOARD, SEE GENERAL NOTES. W/ 1" TYPE S DRYWALL SCREWS SPACED 12" O.C.
- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS



P3

TYPICAL INTERIOR 6" METAL STUD FURRED WALL

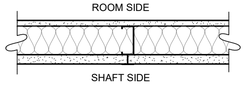
- 6" METAL STUD FRAME
- SOUND ATTENUATION BLANKET INSULATION, FULL DEPTH OF WALL CAVITY
- GYPSUM BOARD, SEE GENERAL NOTES
- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS



P4

TYPICAL INTERIOR 4" METAL STUD WALL

- 4" METAL STUD FRAME
- SOUND ATTENUATION BLANKET INSULATION, FULL DEPTH OF WALL CAVITY
- GYPSUM BOARD, SEE GENERAL NOTES
- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS



R1-60 **UL DESIGN UL415; STC 50**

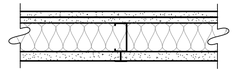
TYPICAL 1-HR FIRE BARRIER SHAFT WALL

- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS
- (1) LAYER GYPSUM BOARD, SEE GENERAL NOTES
- 4" C-H METAL STUD FRAME
- MINERAL WOOL INSULATION, FULL DEPTH OF WALL CAVITY
- 1" GYPSUM BOARD LINER PANEL

R1A-60 **UL DESIGN UL415; STC 50**

TYPICAL 1-HR FIRE BARRIER SHAFT WALL & RESTROOM

- THIN SET CERAMIC TILE SYSTEM OR SOLID SURFACE: SEE SPEC., FINISH SCHEDULE & INTERIOR ELEVATIONS
- 5/8" CEMENT BOARD
- 4" C-H METAL STUD FRAME
- MINERAL WOOL INSULATION, FULL DEPTH OF WALL CAVITY
- 1" GYPSUM BOARD LINER PANEL



R2 **UL DESIGN UL415; STC 50**

TYPICAL 2-HR. FIRE BARRIER SHAFT WALL

- APPLIED INTERIOR WALL FINISH, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS
- (2) LAYERS GYPSUM BOARD
- 4" C-H METAL STUDS 25 GA.
- 3" MINERAL FIBER INSULATION
- 1" GYPSUM BOARD LINER PANEL

GENERAL NOTES

A. ALL WALL GYPSUM BOARD TO BE 5/8" TYPE-X. U.O.N. (PROVIDE 1" SHAFT LINER BOARD PANELS WHERE SHOWN AT SHAFT WALL CONSTRUCTION). PROVIDE "QUIET ROCK" @ SOUND RATED WALLS.

B. PROVIDE MOISTURE RESISTANT GYPSUM BOARD PANELS AT ALL WET LOCATIONS.

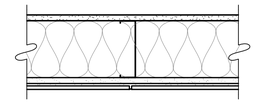
C. ALL CEILING GYPSUM BOARD TO BE 5/8" - TYPE-C.

D. ALL METAL WALL STUD FRAMING TO BE 16" O.C., U.O.N.

E. COVER ALL ELECTRICAL BOXES WITH PUTTY PADS AT WALLS SHOWN TO HAVE ACOUSTICAL BATT INSULATION.

F. PROVIDE FIRE RATED SEALANT AROUND ALL PENETRATIONS AND PUTTY PADS AT ALL ELECTRICAL BOXES IN FIRE RATED WALLS FOR AN AIR-TIGHT ASSEMBLY.

G. SEE DETAIL 2 & 3 / A501 FOR TYPICAL HEAD AND SILL PARTITION DETAILS.



T1

TYPICAL INTERIOR 6" METAL STUD RESTROOM PLUMBING WALL, STC 50

- APPLIED INTERIOR WALL FINISH WHERE OCCURS, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS
- GYPSUM BOARD
- 6" METAL STUD FRAME
- SOUND ATTENUATION BLANKET INSULATION, FULL DEPTH OF WALL CAVITY, SEE GENERAL NOTES
- 5/8" CEMENT BOARD
- THIN SET CERAMIC TILE SYSTEM OR SOLID SURFACE FINISH: SEE SPEC., FINISH SCHEDULE & INTERIOR ELEVATIONS

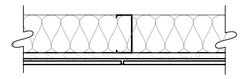
T1-R30 **UL DESIGN UL433, STC 50**

TYPICAL INTERIOR 6" METAL STUD - 30 MIN. FIRE PARTITION WALL

T1-R60 **UL DESIGN UL433, STC 50**

TYPICAL INTERIOR 6" METAL STUD - 1 HR. FIRE PARTITION WALL

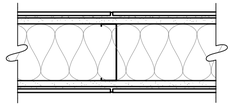
- APPLIED INTERIOR WALL FINISH WHERE OCCURS, SEE FINISH SCHEDULE & INTERIOR ELEVATIONS
- GYPSUM BOARD
- 6" METAL STUD FRAME
- MINERAL WOOL INSULATION, FULL DEPTH OF WALL CAVITY, SEE GENERAL NOTES
- 5/8" CEMENT BOARD
- THIN SET CERAMIC TILE SYSTEM OR SOLID SURFACE FINISH: SEE SPEC., FINISH SCHEDULE & INTERIOR ELEVATIONS



T2

TYPICAL INTERIOR 4" METAL STUD RESTROOM PLUMBING/FURRED WALL

- 4" METAL STUD FRAME
- SOUND ATTENUATION BLANKET INSULATION, FULL DEPTH OF WALL CAVITY, SEE GENERAL NOTES
- 5/8" CEMENT BOARD
- THIN SET CERAMIC TILE SYSTEM OR SOLID SURFACE FINISH: SEE SPEC, FINISH SCHEDULE & INTERIOR ELEVATIONS



T3

TYPICAL INTERIOR 6" METAL STUD RESTROOM WALL, STC 50

- THIN SET CERAMIC TILE SYSTEM OR SOLID SURFACE FINISH: SEE SPEC, FINISH SCHEDULE & INTERIOR ELEVATIONS
- 5/8" CEMENT BOARD
- 6" METAL STUD FRAME
- SOUND ATTENUATION BLANKET INSULATION, FULL DEPTH OF WALL CAVITY, SEE GENERAL NOTES
- 5/8" CEMENT BOARD
- THIN SET CERAMIC TILE SYSTEM OR SOLID SURFACE FINISH: SEE SPEC, FINISH SCHEDULE & INTERIOR ELEVATIONS

T4

TYPICAL INTERIOR 4" METAL STUD RESTROOM WALL, STC 50

- THIN SET CERAMIC TILE SYSTEM OR SOLID SURFACE FINISH: SEE SPEC, FINISH SCHEDULE & INTERIOR ELEVATIONS
- 5/8" CEMENT BOARD
- 4" METAL STUD FRAME
- SOUND ATTENUATION BLANKET INSULATION, FULL DEPTH OF WALL CAVITY, SEE GENERAL NOTES
- 5/8" CEMENT BOARD
- THIN SET CERAMIC TILE SYSTEM OR SOLID SURFACE FINISH: SEE SPEC, FINISH SCHEDULE & INTERIOR ELEVATIONS

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: MM | DRAWN BY: LR / RR | DESIGN CHECK BY: MM | DRAWN CHECK BY: MM / RR

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
EXTERIOR, INTERIOR WALL AND ROOF ASSEMBLIES

B # B-4797

PHASE # ____ REBID # ____

SHEET 47 OF 236

DWG. NO. A110

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/12/2023 7:45:35 PM

GENERAL NOTES

A. REFER TO CIVIL PLANS FOR FURTHER INFORMATION ON SITE IMPROVEMENTS, ADJACENT FLATWORK, AND ADJACENT GRADES TO THE BUILDING.

B. REFER TO ARCHITECTURAL SITE PLAN FOR FURTHER INFORMATION.

C. REFER TO ENLARGED FLOOR PLANS AND INTERIOR ELEVATIONS A400-A414 FOR ADDITIONAL INFORMATION.

D. ALL DIMENSIONS ARE TO THE FACE OF FRAMING OR CONCRETE MASONRY WALLS UNLESS OTHERWISE NOTED.

E. REFER TO DRAWINGS A110 FOR EXTERIOR AND INTERIOR WALL TYPES.

F. REFER TO STRUCTURAL PLANS, SHEAR WALL TO EXTEND ENTIRE LENGTH OF PLANE.

G. CONTRACTOR TO REFER TO STRUCTURAL PLANS FOR LOCATION AND SIZE OF STRUCTURAL ELEMENTS AND COMPONENTS.

H. REFER TO MECHANICAL PLANS FOR FURTHER INFORMATION ON MECHANICAL EQUIPMENT.

I. REFER TO PLUMBING PLANS FOR FURTHER INFORMATION ON THE PLUMBING FIXTURES, COMPONENTS, AND SITE COORDINATION.

J. REFER TO ELECTRICAL PLANS FOR FURTHER INFORMATION ON ELECTRICAL EQUIPMENT AND SITE COORDINATION.

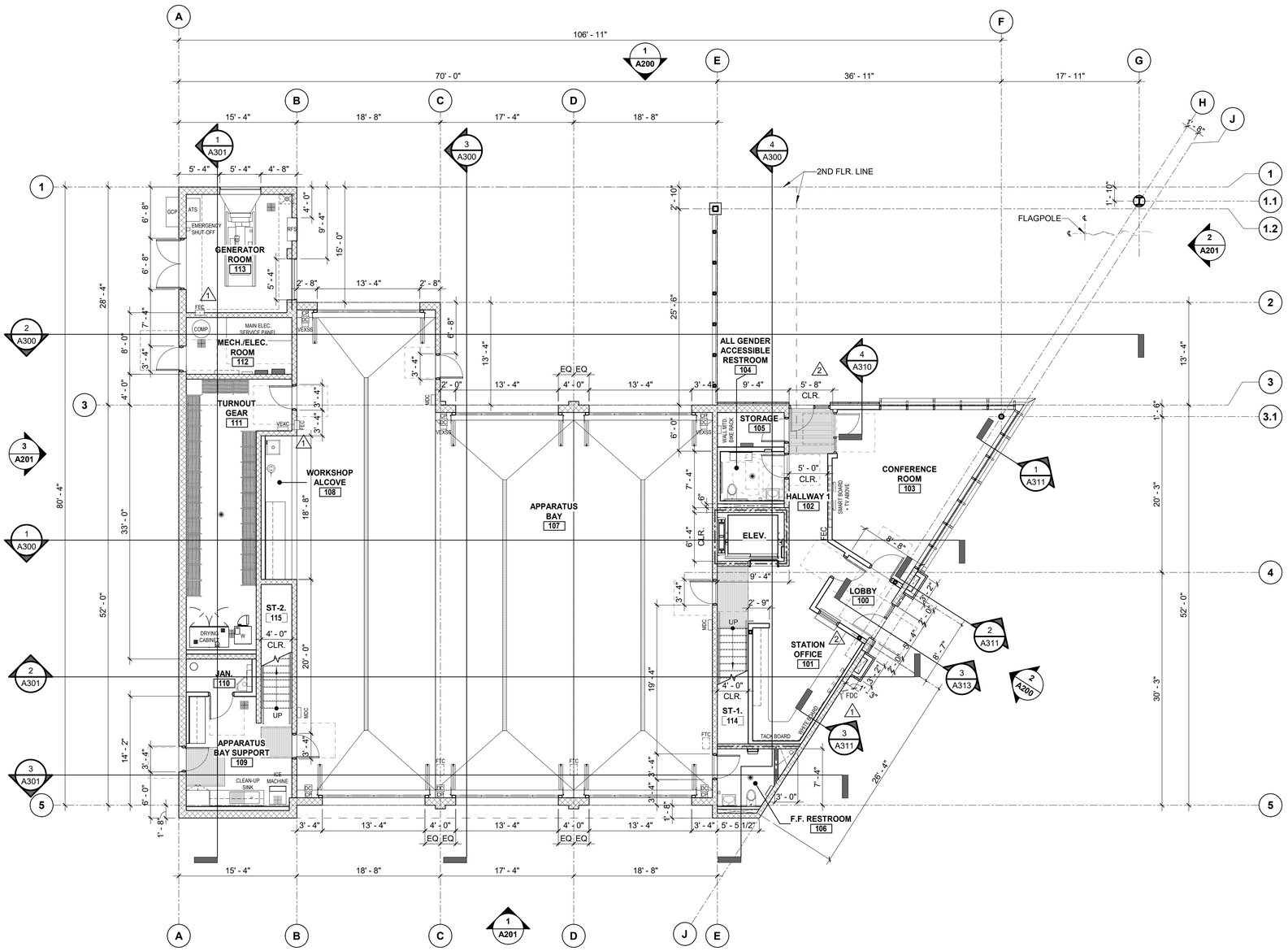
K. ALL DOOR THRESHOLDS TO BE LEVEL FROM JAMB TO JAMB, INCLUDING AT THE APPARATUS BAY FOLDING DOORS AND ROLLING / COILING DOORS.

L. ALL DOOR JAMBS ON HINGE SIDE TO BE 4" FROM CORNER OF WALL UNLESS OTHERWISE NOTED.

M. MINIMUM 1/8":12" SLOPE FOR CONCRETE FLOORS WHERE FLOOR AND TRENCH DRAIN OCCUR.

N. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK TO COMPLY WITH ACCESSIBLE STANDARDS PER CODE.

O. FIRE EXTINGUISHER CABINETS ARE SHOWN AND NOTED W/ FEC, LOCATION TO BE CONFIRMED W/ FIRE MARSHALL.



1 DIMENSIONAL FIRST FLOOR PLAN

1/8" = 1'-0"

N

0' 4' 8' 16' 32'

REVISION			
NO.	DATE	SHEET	APPROVAL
	12/16/2021		
1	04/22/2022		
2	06/15/2023		
	10/12/2023		

DESCRIPTION: PLAN CHECK SUBMITTAL; PLAN CHECK RE-SUBMITTAL; PLAN CHECK RE-SUBMITTAL; BID DOCUMENTS

DESIGNED BY: MM	DRAWN BY: LR / RR	DESIGN CHECK BY: MM	DRAWN CHECK BY: MM / RR

AS-BUILT

REF.

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

DIMENSIONAL FIRST FLOOR PLAN

B # B-4797

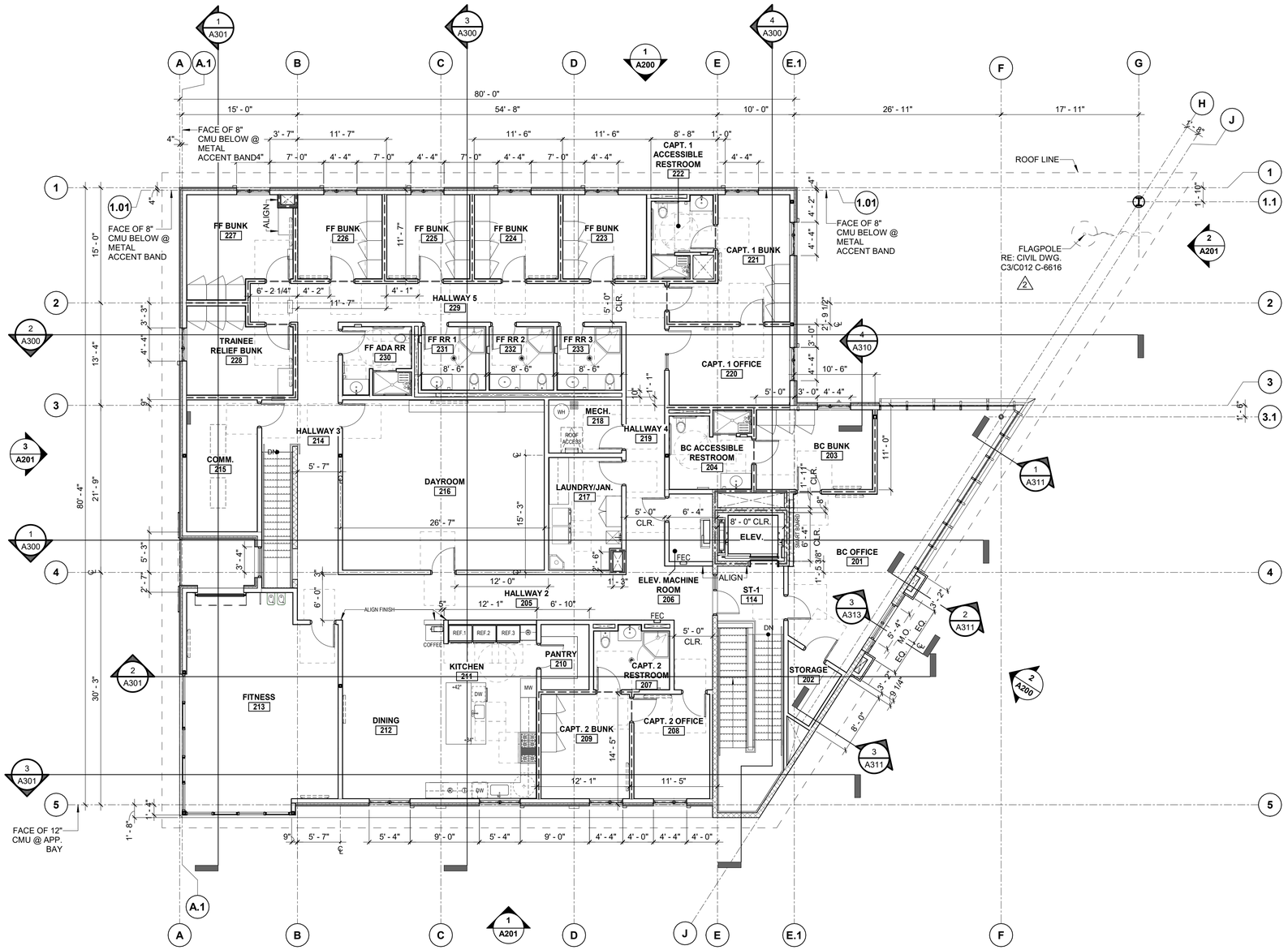
PHASE # REBID #

SHEET 48 OF 236

DWG. NO. A120

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/12/2023 7:45:43 PM



1 DIMENSIONAL SECOND FLOOR PLAN

1/8" = 1'-0"

10/12/2023 7:45:48 PM

REVISION			
NO.	DATE	SHEET	APPROVAL
			DESCRIPTION
	12/16/2021		PLAN CHECK SUBMITTAL
1	06/15/2023		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS

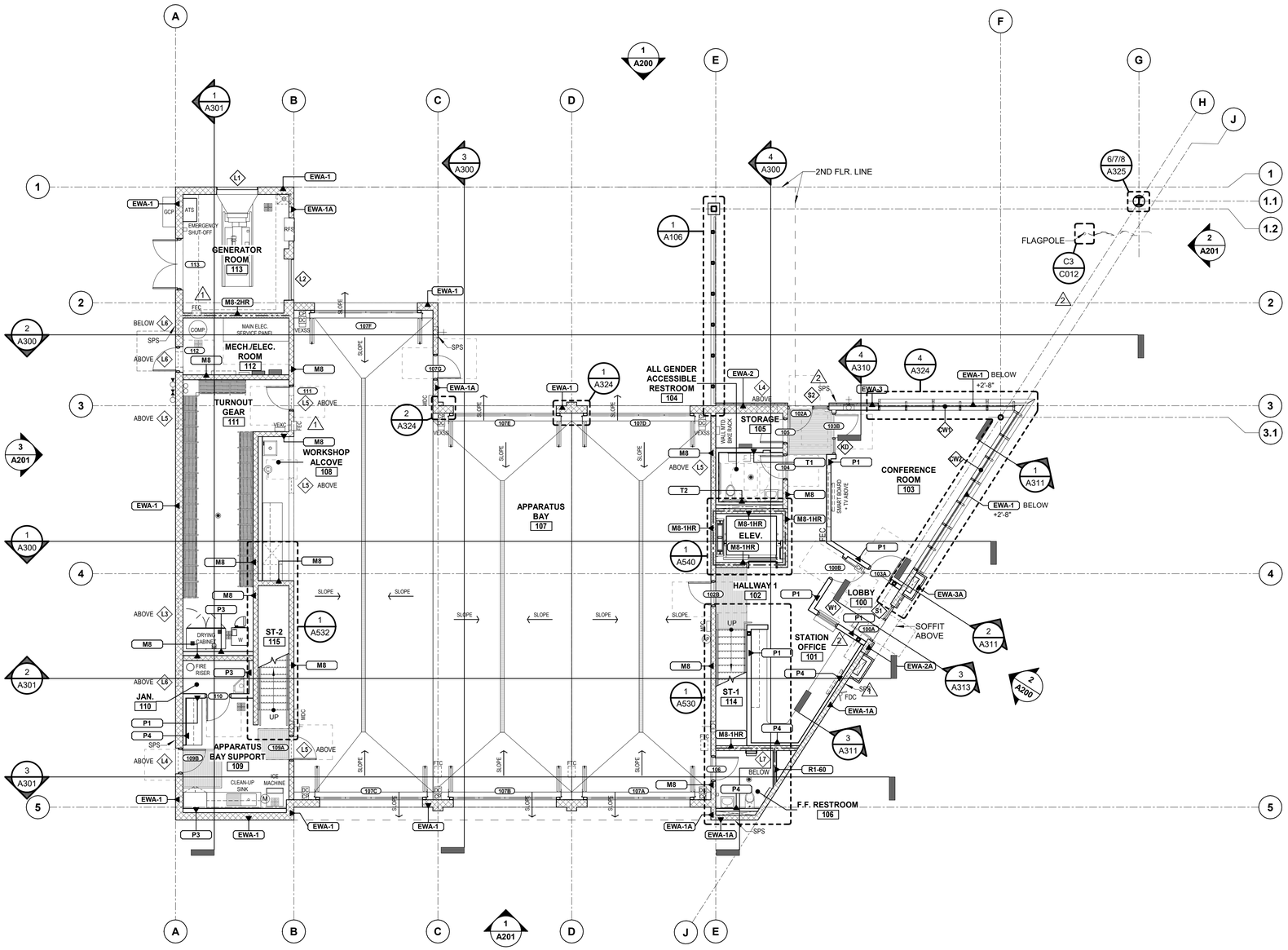
DESIGNED BY: **MM**
DRAWN BY: **LR / RR**
DESIGN CHECK BY: **MM**
DRAWN CHECK BY: **MM / RR**
AS-BUILT
REF.

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
DIMENSIONAL SECOND FLOOR PLAN

B # **B-4797**
PHASE # ____ REBID # ____
SHEET **49** OF **236**
DWG. NO. **A121**

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



1 FIRST FLOOR PLAN

1/8" = 1'-0"

GENERAL NOTES

A. REFER TO CIVIL PLANS FOR FURTHER INFORMATION ON SITE IMPROVEMENTS, ADJACENT FLATWORK, AND ADJACENT GRADES TO THE BUILDING.

B. REFER TO ARCHITECTURAL SITE PLAN FOR FURTHER INFORMATION.

C. REFER TO ENLARGED FLOOR PLANS AND INTERIOR ELEVATIONS A400-A414 FOR ADDITIONAL INFORMATION.

D. ALL DIMENSIONS ARE TO THE FACE OF FRAMING OR CONCRETE MASONRY WALLS UNLESS OTHERWISE NOTED.

E. REFER TO DRAWINGS A110 FOR EXTERIOR AND INTERIOR WALL TYPES.

F. REFER TO STRUCTURAL PLANS, SHEAR WALL TO EXTEND ENTIRE LENGTH OF PLANE.

G. CONTRACTOR TO REFER TO STRUCTURAL PLANS FOR LOCATION AND SIZE OF STRUCTURAL ELEMENTS AND COMPONENTS.

H. REFER TO MECHANICAL PLANS FOR FURTHER INFORMATION ON MECHANICAL EQUIPMENT.

I. REFER TO PLUMBING PLANS FOR FURTHER INFORMATION ON THE PLUMBING FIXTURES, COMPONENTS, AND SITE COORDINATION.

J. REFER TO ELECTRICAL PLANS FOR FURTHER INFORMATION ON ELECTRICAL EQUIPMENT AND SITE COORDINATION.

K. ALL DOOR THRESHOLDS TO BE LEVEL FROM JAMB TO JAMB, INCLUDING AT THE APPARATUS BAY FOLDING DOORS AND ROLLING / COILING DOORS.

L. ALL DOOR JAMBS ON HINGE SIDE TO BE 4" FROM CORNER OF WALL UNLESS OTHERWISE NOTED.

M. MINIMUM 1/8":12" SLOPE FOR CONCRETE FLOORS WHERE FLOOR AND TRENCH DRAIN OCCUR.

N. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK TO COMPLY WITH ACCESSIBLE STANDARDS PER CODE.

O. FIRE EXTINGUISHER CABINETS ARE SHOWN AND NOTED W/ FEC, LOCATION TO BE CONFIRMED W/ FIRE MARSHALL.

NOTE:

SPS - SMOKING PROHIBITED SIGNAGE LOCATIONS. SEE IMAGE IN DWG. 7A/A010.

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
1	12/16/2021			PLAN CHECK SUBMITTAL
2	04/22/2022			PLAN CHECK RE-SUBMITTAL
3	08/15/2023			PLAN CHECK RE-SUBMITTAL
				AS-BUILT

DESIGNED BY: **MM** | DRAWN BY: **LR / RR** | DESIGN CHECK BY: **MM** | DRAWN CHECK BY: **MM / RR** | REF.

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

FIRST FLOOR PLAN

B # **B-4797**

PHASE # ____ REBID # ____

SHEET **50** OF **236**

DWG. NO. **A130**

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/12/2023 7:45:58 PM

GENERAL NOTES

A. REFER TO CIVIL PLANS FOR FURTHER INFORMATION ON SITE IMPROVEMENTS, ADJACENT FLATWORK, AND ADJACENT GRADES TO THE BUILDING.

B. REFER TO ARCHITECTURAL SITE PLAN FOR FURTHER INFORMATION.

C. REFER TO ENLARGED FLOOR PLANS AND INTERIOR ELEVATIONS A400-A414 FOR ADDITIONAL INFORMATION.

D. ALL DIMENSIONS ARE TO THE FACE OF FRAMING OR CONCRETE MASONRY WALLS UNLESS OTHERWISE NOTED.

E. REFER TO DRAWINGS A110 FOR EXTERIOR AND INTERIOR WALL TYPES.

F. REFER TO STRUCTURAL PLANS, SHEAR WALL TO EXTEND ENTIRE LENGTH OF PLANE.

G. CONTRACTOR TO REFER TO STRUCTURAL PLANS FOR LOCATION AND SIZE OF STRUCTURAL ELEMENTS AND COMPONENTS.

H. REFER TO MECHANICAL PLANS FOR FURTHER INFORMATION ON MECHANICAL EQUIPMENT.

I. REFER TO PLUMBING PLANS FOR FURTHER INFORMATION ON THE PLUMBING FIXTURES, COMPONENTS, AND SITE COORDINATION.

J. REFER TO ELECTRICAL PLANS FOR FURTHER INFORMATION ON ELECTRICAL EQUIPMENT AND SITE COORDINATION.

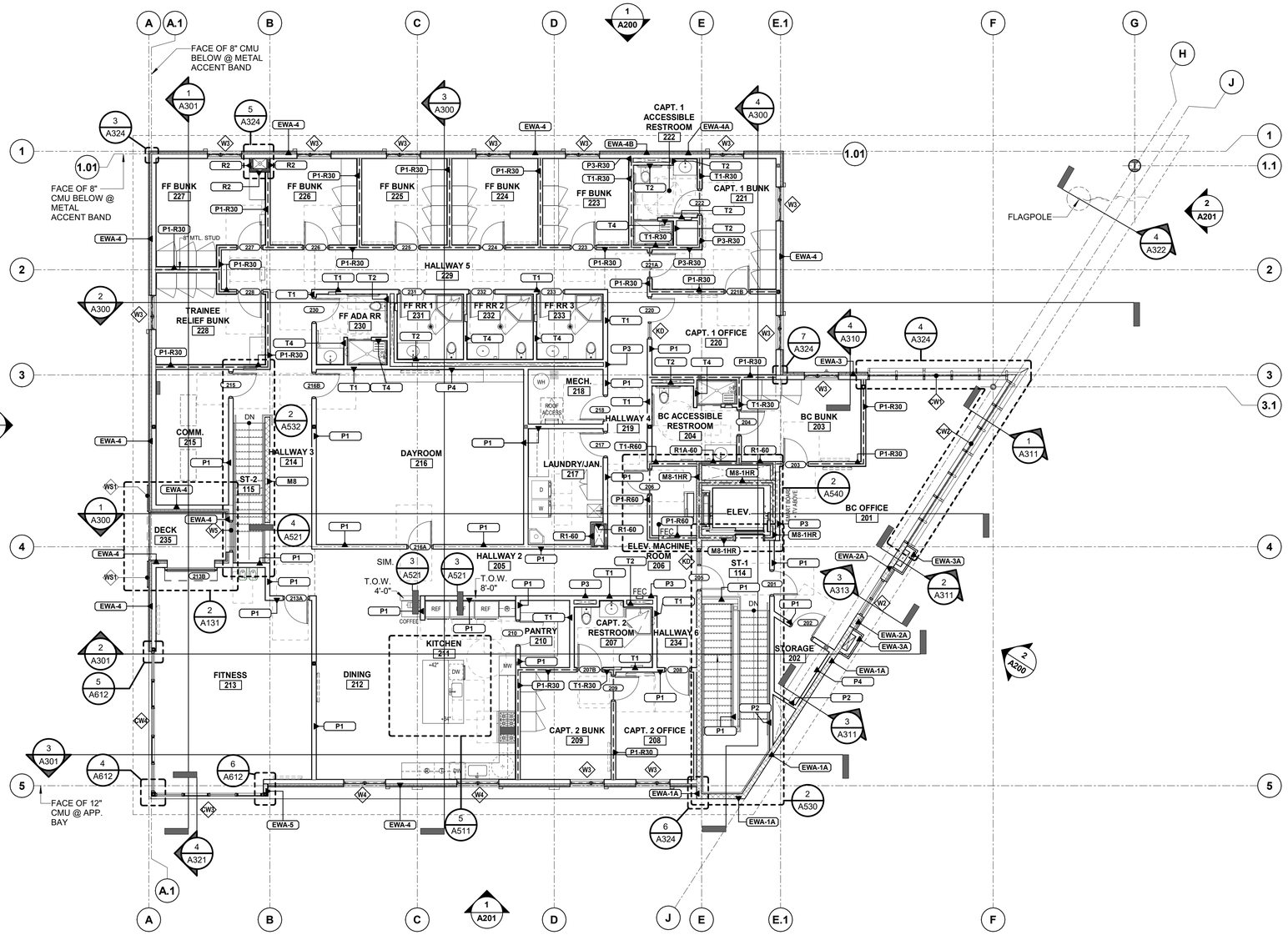
K. ALL DOOR THRESHOLDS TO BE LEVEL FROM JAMB TO JAMB, INCLUDING AT THE APPARATUS BAY FOLDING DOORS AND ROLLING / COILING DOORS.

L. ALL DOOR JAMBS ON HINGE SIDE TO BE 4" FROM CORNER OF WALL UNLESS OTHERWISE NOTED.

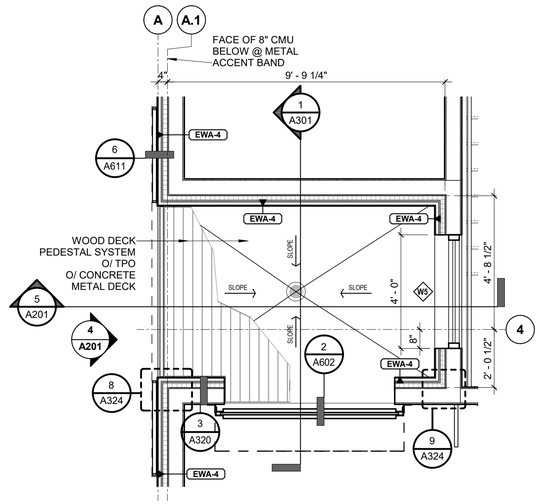
M. MINIMUM 1/8":12" SLOPE FOR CONCRETE FLOORS WHERE FLOOR AND TRENCH DRAIN OCCUR.

N. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK TO COMPLY WITH ACCESSIBLE STANDARDS PER CODE.

O. FIRE EXTINGUISHER CABINETS ARE SHOWN AND NOTED W/ FEC, LOCATION TO BE CONFIRMED W/ FIRE MARSHALL.



1 SECOND FLOOR PLAN
1/8" = 1'-0"



2 ENLARGED DECK PLAN
3/8" = 1'-0"

0' 4' 8' 16' 32'

NO.	DATE	REVISION / SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/7/2023			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR
REF.

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

SECOND FLOOR PLAN

B # B-4797

PHASE # REBID #

SHEET 51 OF 236

DWG. NO. A131

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/12/2023 7:46:04 PM

LEGEND:

- EXIT LIGHT - CEILING MOUNTED (ARROW INDICATES DIRECTION)
- EXIT LIGHT - WALL MOUNTED
- LIGHT FIXTURE - WALL MOUNTED (BLDG. EXTERIOR)
- LIGHT FIXTURE - CEILING SURFACE MOUNTED
- LIGHT FIXTURE - SUSPENDED
- LIGHT FIXTURE - WALL MOUNTED
- LIGHT FIXTURE - 2X2 RECESSED
- LIGHT FIXTURE - RECESSED DOWNLIGHT
- UNDERMOUNT CABINET LIGHT; BOT. OF SOFFIT HT. SEE INTERIOR ELEVATION DWGS.
- WINDOW SHADE
- DCP DOOR CONTROL PANEL
- MDC MASTER DOOR CONTROL PANEL
- CORD DROP/AIR HOSE REEL
- PANEL BOARD OR LIGHT CONTROL PANEL, SEE ELEC. DWG.
- CAM CAMERA, SEE ELEC. DWG.
- CR CARD READER, SEE ELEC. DWG.
- SUPPLY AIR DIFFUSER, SEE MECH. DWG.
- RETURN AIR DIFFUSER, SEE MECH. DWG.
- CEILING MOUNTED EXHAUST AIR GRILLE, SEE MECH. DWG.
- MECH. LOUVER, SEE MECH. DWG.
- ACCESS PANEL
- SC SATELLITE CONTROLLER
- S SATELLITE
- DB DOOR BELL BUTTON
- ES EMERGENCY SWITCH
- SW SPEAKER SWITCH
- VC VOLUME CONTROL
- HPS HIGH POWERED AMPLIFIED SPEAKER
- PM UPS HIGH POWERED AMPLIFIER MODULE
- TT TURNOUT TIMER - MEDIUM
- COMPANY INDICATOR
- ACT-X/IT ACTIVE - X - IT STRIP
- PM UPS POWER MODULE WITH UPS

GCP GENERATOR CONTROL PANEL
ATS AUTOMATIC TRANSFER SWITCH
RFS REFILL FUEL STATION

CEILING TAG

FC-1B — FLOOR CEILING TYPES
ACT-1 — CEILING FINISH TYPES
10'-0" — CEILING HEIGHT

CEILING FINISH TYPES

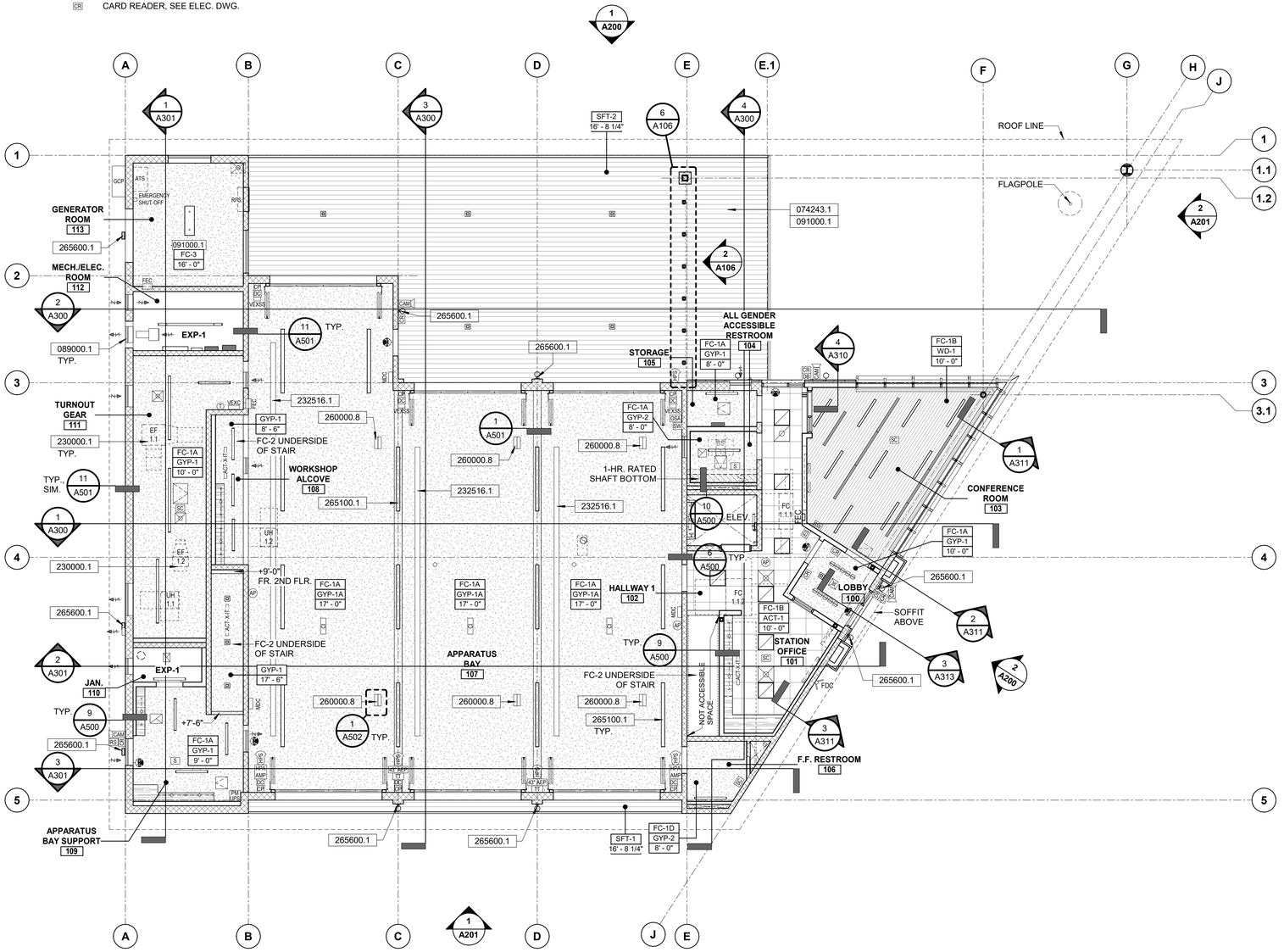
ACT-1	SUSPENDED 2'X2' ACOUSTICAL CEILING TILES. SEE DWG. A500
GYP-1	GYPSUM BOARD CEILING W/ METAL JOIST FRAMING, PAINT
GYP-1A	SUSPENDED GYPSUM BOARD CEILING, PAINT
GYP-2	WATER-RESISTANT GYPSUM BOARD CEILING W/ METAL JOIST FRAMING, PAINT
WD-1	SUSPENDED LINEAR WOOD CEILING - INTERIOR
SFT-2	VENTILATED COMPOSITE PANEL SOFFIT - EXTERIOR W/ METAL SOFFIT SUPPORT SYSTEM
EXP-1	EXPOSED TO STRUCTURE, PAINT

FLOOR CEILING TYPES (SEE DETAILS DWG. A110)

FC-1 **30 MIN. FIRE BARRIER BELOW 2ND FLOOR DECK, STC 50**
- CONCRETE O/ METAL DECK W/ APPLIED FIRE PROOFING
- STRUCTURAL STEEL MEMBER, S.S.D. W/ APPLIED FIRE PROOFING
- CEILING FINISH, SEE FINISH SCHEDULE
  - **FC-1A** • SUSPENDED METAL CEILING SYSTEM • GYPSUM BOARD, PAINT
  - **FC-1B** • (SUSPENDED ACOUSTICAL CEILING TILES IN LIEU OF GYPSUM BOARD)
  - **FC-1C** • (SUSPENDED LINEAR WOOD PANEL CEILING IN LIEU OF GYPSUM BOARD)
  - **FC-1D** • (1-HR. FIRE BARRIER UNDER LANDING @ STAIR 1) GYPSUM BOARD, PAINT

FC-2 1HR. FIRE BARRIER UNDERSIDE OF STAIRWAY 1 & 2 **(UL DESIGN I504)**

FC-3 2 HR. FIRE BARRIER (**UL DESIGN N601/ANSI UL 263)**



1 FIRST FLOOR REFLECTED CEILING PLAN

1/8" = 1'-0"

GENERAL NOTES - RCP

A. REFER TO SHEET A500 FOR CEILING DETAILS.

B. REFER TO ELECTRICAL, MECHANICAL, PLUMBING AND ALERTING PLANS FOR CEILING MOUNTED EQUIPMENT, REGISTER AND FIXTURE LOCATIONS FOR OTHER SYMBOLS/LEGEND NOT SHOWN HERE.

C. UNDERSIDE OF EXPOSED STRUCTURE, PIPING, AND DUCTWORK IN ALL ROOMS, STAIRWAYS, AND OTHER SPACES SHALL BE PAINTED UNLESS NOTED OTHERWISE. CONTRACTOR SHALL COORDINATE COLOR SELECTION WITH ARCHITECT PRIOR TO PAINTING OR PRIMING, TYP.

D. WHERE CEILINGS ARE EXPOSED ALL TIES, CABLES, AND SUPPORTS FOR CLOUDS, ELECTRICAL, MECHANICAL EQUIPMENT AND OTHER APPURTENANCES SHALL BE INSTALLED IN A NEAT, ORGANIZED AND WORKMAN LIKE MANNER. VISIBLE TIES SHALL BE PLUMB/TRUE/SQUARE TO ELEMENTS, TIGHTLY WRAPPED, WITH EXCESS WIRE NEATLY CUT.

E. CONTRACTOR SHALL COORDINATE THE COLOR AND FINISH OF ALL CEILING MOUNTED EQUIPMENT SUCH AS DIFFUSERS, RETURNS, SPEAKERS, ETC. WITH THE ARCHITECT TO ENSURE THERE ARE NO STARK CONTRASTING COLORS.

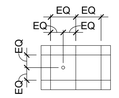
GENERAL NOTES - FIRE SPRINKLER

A. SPRINKLER LOCATIONS DEPICTED HEREIN ARE DIAGRAMMATIC AND ARE SHOWN FOR DESIGN INTENT ONLY.

B. FIRE SPRINKLER HEADS ARE TO BE CENTERED IN THE MIDDLE OF HALLWAY, OFFICES, AND RESTROOMS.

C. FIRE SPRINKLER HEADS WHERE PLACED BETWEEN TWO LIGHT FIXTURES, SHOULD BE CENTERED BETWEEN THE FIXTURES.

D. FIRE SPRINKLER CONTRACTOR TO COORDINATE WORK WITH THE STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL PLANS.



2X4 ACOUSTICAL CEILING TILE AT FIRE SPRINKLER LOCATION

SPECIFICATION KEYNOTES

074243.1	VENTILATED COMPOSITE WALL PANELS AND SOFFIT
089000.1	LOUVER & VENTS. SEE MECH. DWG. M120 FOR DIMENSION REQTS. & LOUVER DETAILS ON DWG. A615.
091000.1	METAL SOFFIT SUPPORT SYSTEM FOR COMPOSITE SOFFIT PANELS
230000.1	MECHANICAL EQUIPMENT, REFER TO MECHANICAL DWGS.
232516.1	VEHICLE TAILPIPE EXHAUST SYSTEM, REFER TO MECHANICAL DWGS.
260000.8	COMBINATION AIR / ELECTRIC REELS, REFER TO ELECTRICAL DWGS. COORDINATE FINAL LOCATION W/ FIRE DEPARTMENT.
265100.1	INTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.
265600.1	EXTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.

N

0' 4' 8' 16' 32'

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT				REF.

REVISION

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

FIRST FLOOR REFLECTED CEILING PLAN

B # B-4797
PHASE # REBID #
SHEET 52 OF 236
DWG. NO. A140

10/12/2023 7:46:11 PM

LEGEND

- EXIT LIGHT - CEILING MOUNTED (ARROW INDICATES DIRECTION)
- EXIT LIGHT - WALL MOUNTED
- LIGHT FIXTURE - WALL MOUNTED (BLDG. EXTERIOR)
- LIGHT FIXTURE - CEILING SURFACE MOUNTED
- LIGHT FIXTURE - WALL MOUNTED
- LIGHT FIXTURE - PENDANT
- LIGHT FIXTURE - RECESSED LINEAR
- LIGHT FIXTURE - 2X4 RECESSED
- LIGHT FIXTURE - 2X2 RECESSED
- LIGHT FIXTURE - RECESSED DOWNLIGHT
- WP — LIGHT FIXTURE - RECESSED DOWNLIGHT WATERPROOF
- SL — UNIT SKYLIGHT
- PANEL BOARD OR LIGHT CONTROL PANEL, SEE ELEC. DWG.

- COVE LIGHTING OVER FF LOCKERS
- UNDERMOUNT CABINET LIGHT; BOT. OF SOFFIT HT. SEE INTERIOR ELEVATION DWGS.
- WINDOW SHADE
- SOLID SURFACE MATERIAL CLG. @ ACCESSIBLE SHOWER
- SUPPLY AIR DIFFUSER, SEE MECH. DWG.
- RETURN AIR DIFFUSER, SEE MECH. DWG.
- CEILING MOUNTED EXHAUST AIR GRILLE, SEE MECH. DWG.
- ACCESS PANEL
- SA — COMBINATION SMOKE ALARM & CARBON MONOXIDE, SEE ELEC. POWER PLAN DWG. (1)

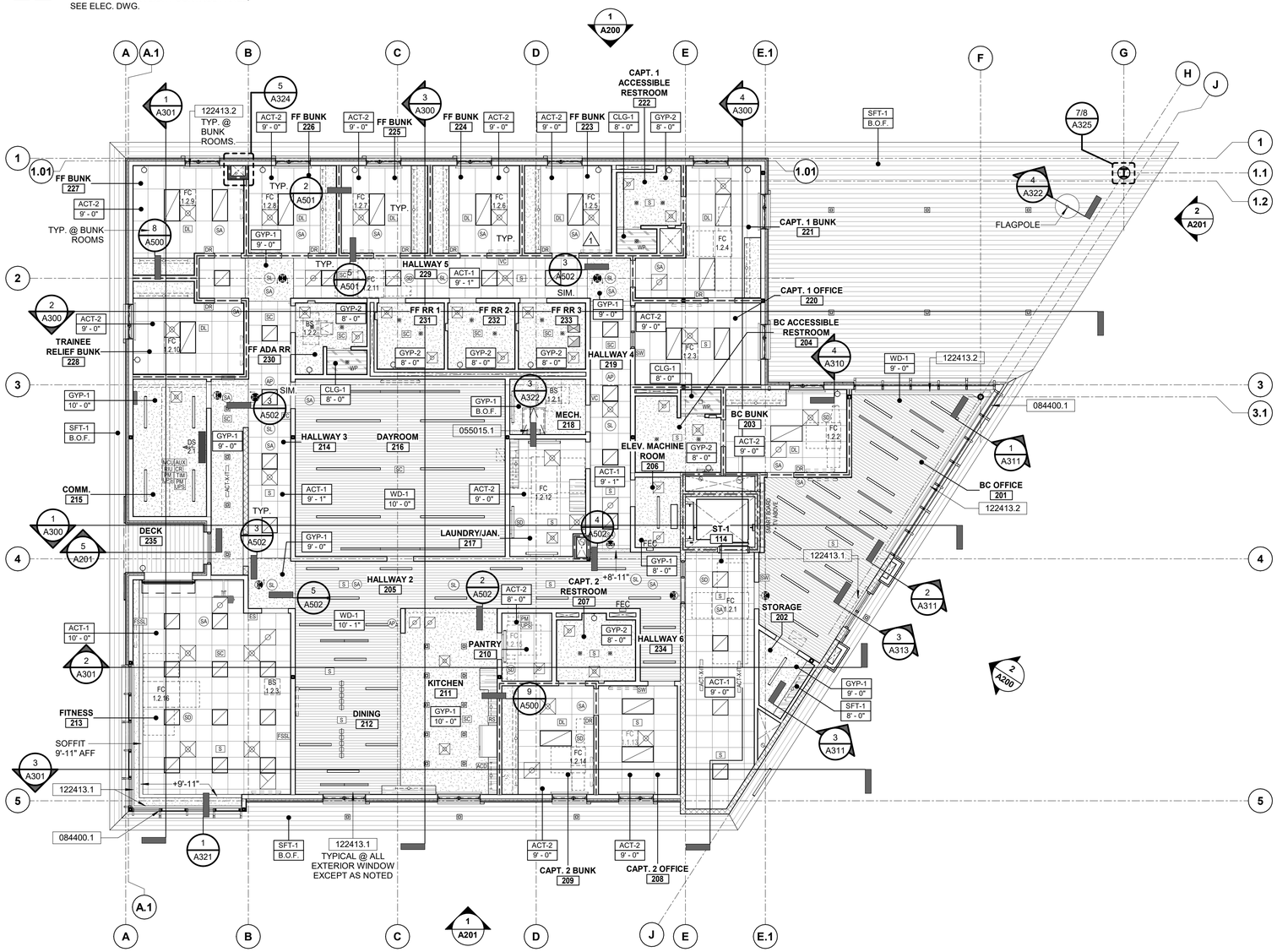
- ACS — APPLIANCE CONTROLLER DEVICE
- RS — APPLIANCE RESET SWITCH
- SC — SATELLITE CONTROLLER
- S — SATELLITE
- DR — DORM REMOTE
- DL — DORM LIGHT
- DB — DOOR BELL BUTTON
- ES — EMERGENCY SWITCH
- SW — SPEAKER SWITCH
- VC — VOLUME CONTROL
- ACT-X-IT — ACTIVE - X - IT STRIP
- MCU — MASTER CONTROL UNIT
- TIM — TELEPHONE INTERFACE MODULE
- CR — CONTROL REMOTE
- RIU — RADIO ISOLATION UNIT
- AUX — AUXILIARY MODULE
- PM UPS — POWER MODULE WITH UPS

CEILING TAG

ACT-1 — CEILING TYPES
10'-0" — CEILING HEIGHT

CEILING TYPES (1)

ACT-1	SUSPENDED 2X2 ACOUSTICAL CEILING TILES. SEE DWG. A500
ACT-2	SUSPENDED 2X4 ACOUSTICAL CEILING TILES. SEE DWG. A500
GYP-1	GYPSUM BOARD CEILING W/ METAL JOIST FRAMING, PAINT
GYP-2	WATER-RESISTANT GYPSUM BOARD CEILING, PAINT
WD-1	SUSPENDED LINEAR WOOD CEILING - INTERIOR
SFT-1	VENTILATED COMPOSITE PANEL SOFFIT - EXTERIOR, SEE DWG. A110



1 SECOND FLOOR REFLECTED CEILING PLAN

1/8" = 1'-0"

GENERAL NOTES - RCP

A. REFER TO SHEET A500 FOR CEILING DETAILS.

B. REFER TO ELECTRICAL, MECHANICAL, PLUMBING AND ALERTING PLANS FOR CEILING MOUNTED EQUIPMENT, REGISTER AND FIXTURE LOCATIONS FOR OTHER SYMBOLS/LEGEND NOT SHOWN HERE.

C. UNDERSIDE OF EXPOSED STRUCTURE, PIPING, AND DUCTWORK IN ALL ROOMS, STAIRWAYS, AND OTHER SPACES SHALL BE PAINTED UNLESS NOTED OTHERWISE. CONTRACTOR SHALL COORDINATE COLOR SELECTION WITH ARCHITECT PRIOR TO PAINTING OR PRIMING, TYP.

D. WHERE CEILINGS ARE EXPOSED ALL TIES, CABLES, AND SUPPORTS FOR CLOUDS, ELECTRICAL, MECHANICAL EQUIPMENT AND OTHER APPURTENANCES SHALL BE INSTALLED IN A NEAT, ORGANIZED AND WORKMAN LIKE MANNER. VISIBLE TIES SHALL BE PLUMB/TRUE/SQUARE TO ELEMENTS, TIGHTLY WRAPPED, WITH EXCESS WIRE NEATLY CUT.

E. CONTRACTOR SHALL COORDINATE THE COLOR AND FINISH OF ALL CEILING MOUNTED EQUIPMENT SUCH AS DIFFUSERS, RETURNS, SPEAKERS, ETC. WITH THE ARCHITECT TO ENSURE THERE ARE NO STARK CONTRASTING COLORS.

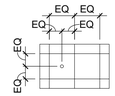
GENERAL NOTES - FIRE SPRINKLER

A. SPRINKLER LOCATIONS DEPICTED HEREIN ARE DIAGRAMMATIC AND ARE SHOWN FOR DESIGN INTENT ONLY.

B. FIRE SPRINKLER HEADS ARE TO BE CENTERED IN THE MIDDLE OF HALLWAY, OFFICES, AND RESTROOMS.

C. FIRE SPRINKLER HEADS WHERE PLACED BETWEEN TWO LIGHT FIXTURES, SHOULD BE CENTERED BETWEEN THE FIXTURES.

D. FIRE SPRINKLER CONTRACTOR TO COORDINATE WORK WITH THE STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL PLANS.



2X4 ACOUSTICAL CEILING TILE AT FIRE SPRINKLER LOCATION

SPECIFICATION KEYNOTES

055015.1	ACCESS LADDER
084400.1	CURTAINWALL SYSTEM W/ INTEGRAL LOUVERS. SEE DWGS. A610-A613 FOR ELEV. & DETAILS.
122413.1	ROLLER WINDOW SHADES (SINGLE)
122413.2	ROLLER WINDOW SHADES (DOUBLE)

N

0' 4' 8' 16' 32'

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REVISION

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR
REF.

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

SECOND FLOOR REFLECTED CEILING PLAN

B # B-4797
PHASE # ____ REBID # ____
SHEET 53 OF 236
DWG. NO. A141

10/12/2023 7:46:23 PM

SPECIFICATION KEYNOTES

051200.1	STEEL COLUMN, REFER TO STRUCTURAL DWGS.
055000.4	MECHANICAL ENCLOSURE SCREEN, PRE-FINISHED
075423.1	TPO ROOFING OVER RIGID TAPERED INSULATION
075423.2	TPO ROOFING FORMED GUTTER
075423.3	YELLOW WORKING STRIPE
075423.4	WALKWAY PAD
077200.1	ROOF ACCESS HATCH AND HATCH FALL PROTECTION RAIL GUARD SYSTEM WITH SELF CLOSING GATE. SEE DWG. 3/A322 FOR DETAILS.
086200.1	UNIT SKYLIGHT. SEE DWG. 2/A322 FOR DETAILS.
107500.1	FLAGPOLE
118129.1	FACILITY FALL PROTECTION SYSTEM. SEE DWG. 5/A322 FOR DETAILS 1
220000.1	COMBO ROOF OVERFLOW DRAIN, REFER TO PLUMBING DWGS.
230000.1	MECHANICAL EQUIPMENT, REFER TO MECHANICAL DWGS.
260000.1	PV SOLAR PANEL ALLOWED AREA
260000.10	INVERTER, REFER TO ELECTRICAL DWGS.

GENERAL NOTES

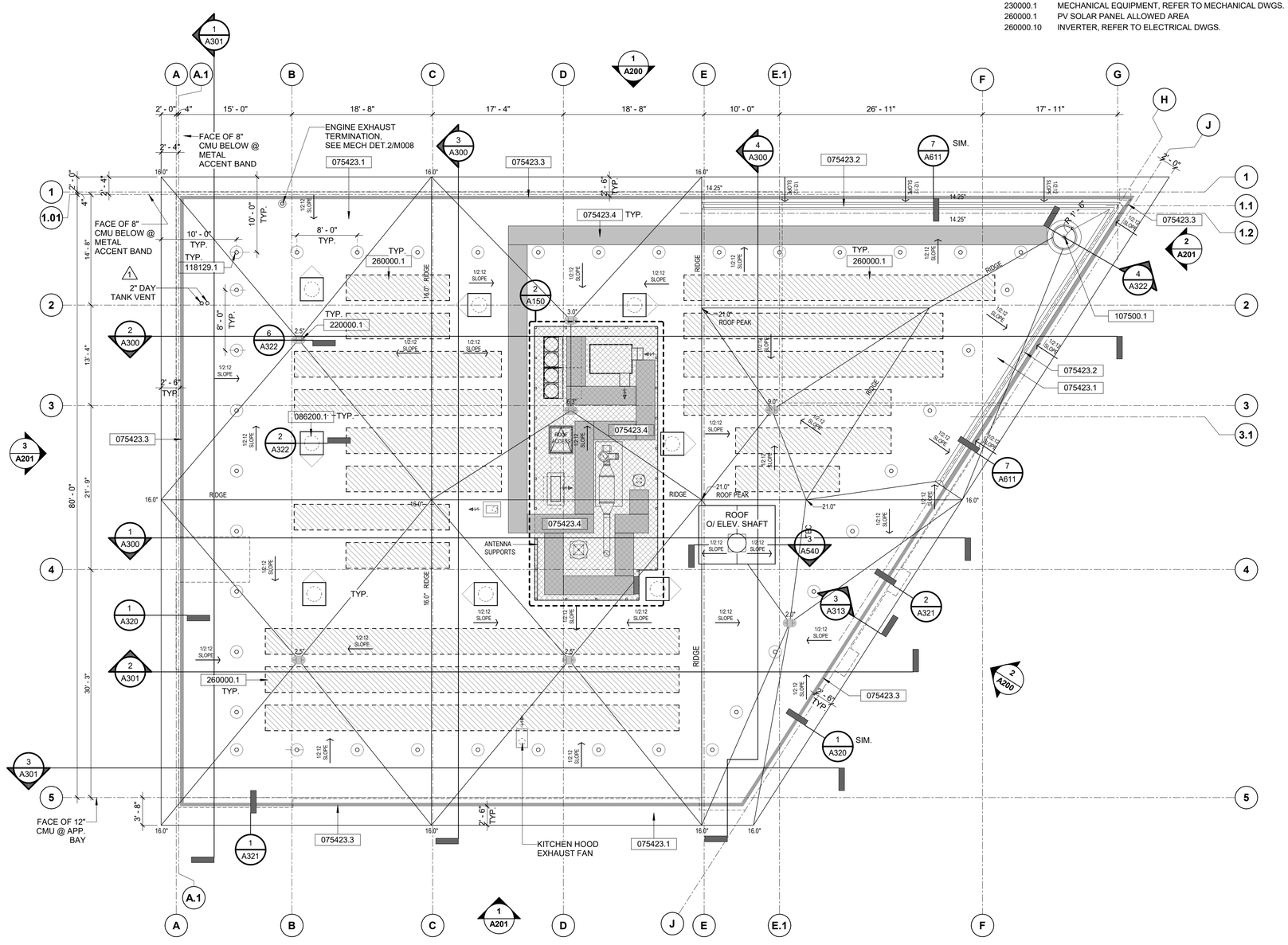
A. REFER TO MECHANICAL AND STRUCTURAL DRAWINGS FOR CURB LOCATIONS, EQUIPMENT, AND DETAILS.

B. REFER TO PLUMBING AND CIVIL DRAWINGS FOR ROOF DRAIN CONNECTIONS AND PIPING.

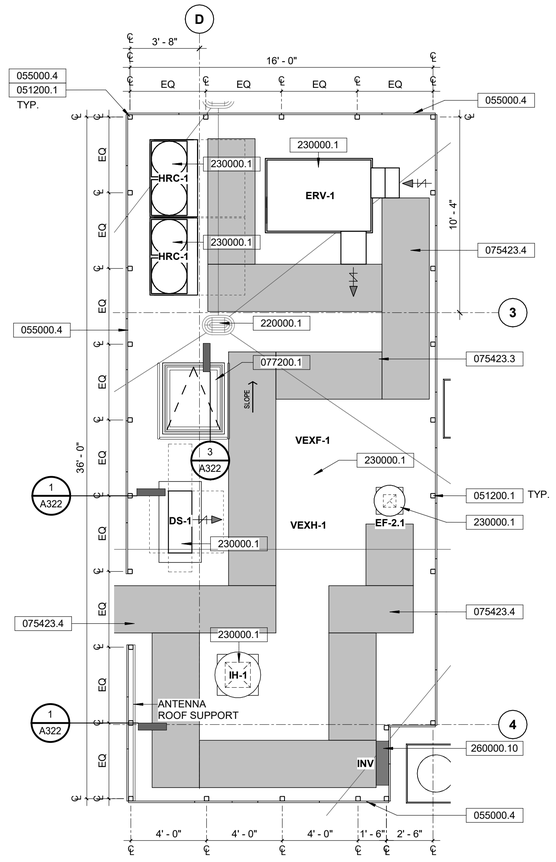
C. REFER TO ELECTRICAL DRAWINGS FOR ANTENNA ROOF PENETRATIONS.

D. PROVIDE TAPERED INSULATION CRICKETS AT ALL ROOF MOUNTED EQUIPMENT AND CLERESTORY STRUCTURES TO PROVIDE POSITIVE DRAINAGE TO NEAREST ROOF DRAIN. SLOPE CRICKETS MINIMUM 1/2" PER FOOT. PROVIDE ADDITIONAL TAPERED INSULATION AS REQUIRED TO PROVIDE POSITIVE ROOF DRAINAGE.

E. ALL ROOF PENETRATIONS SHALL BE FLASHED/SEALED. PROVIDE ROOF MEMBRANE FLASHING PER MANUFACTURER STANDARD INSTALLATION INSTRUCTIONS.



1 ROOF PLAN
1/8" = 1'-0"



2 ENLARGED PLAN - MECH. AREA
1/4" = 1'-0"

0' 4' 8' 16' 32'

N

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISION NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

AS-BUILT REF.

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR

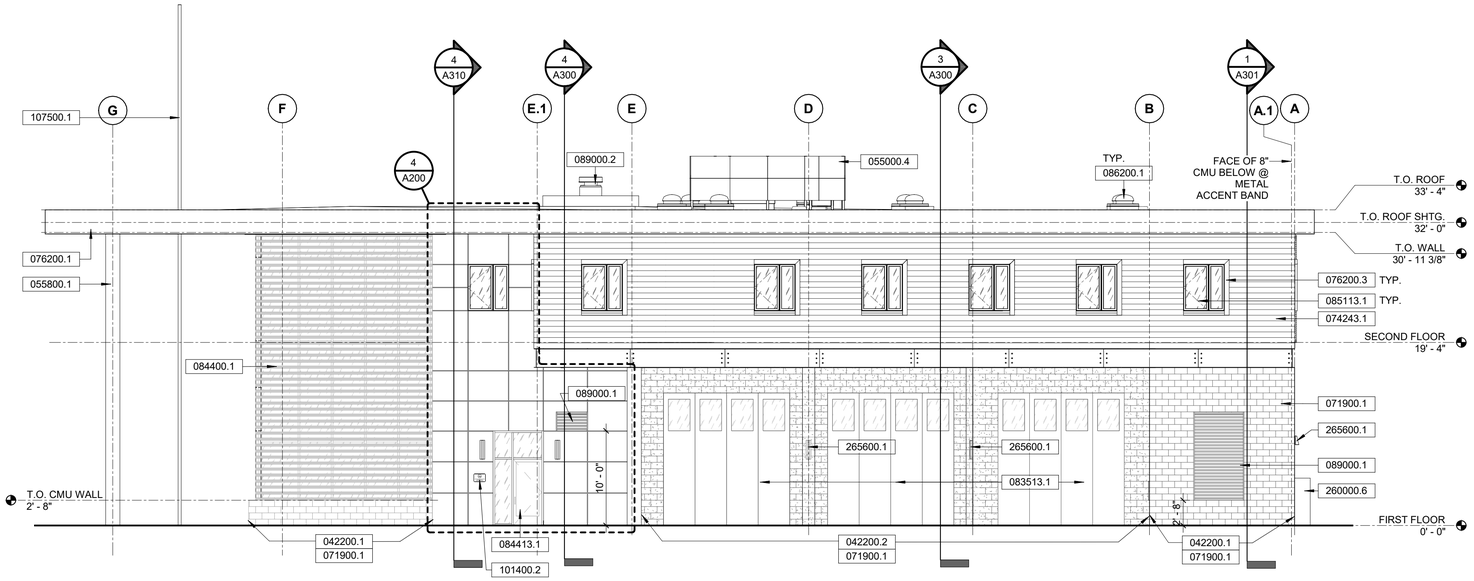
LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ROOF PLAN

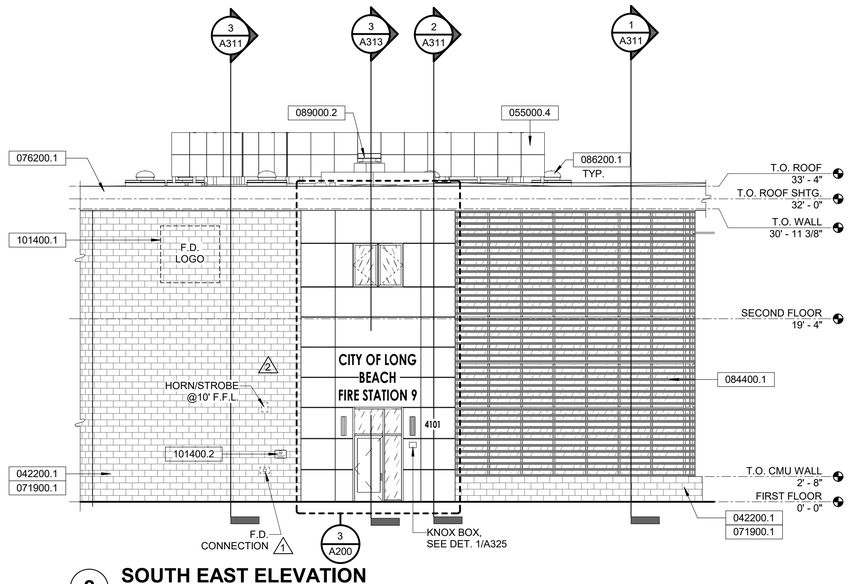
B # B-4797
PHASE # REBID #
SHEET 54 OF 236
DWG. NO. A150

10/12/2023 7:46:31 PM



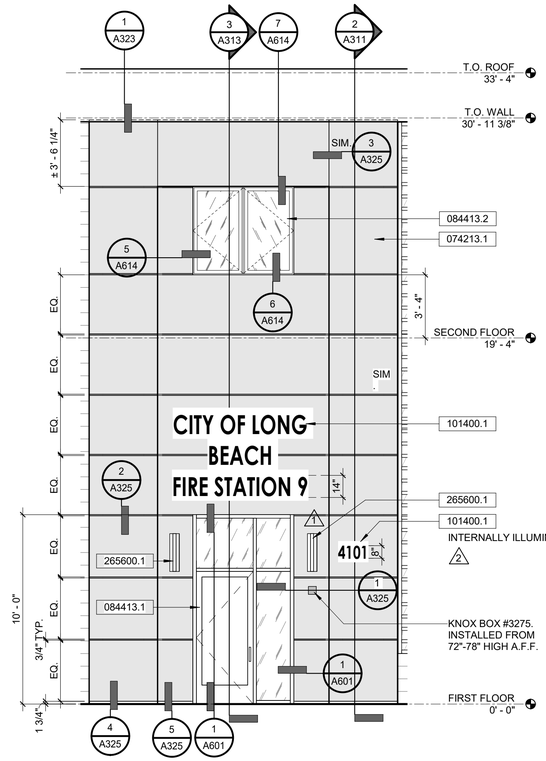
1 NORTH ELEVATION

1/8" = 1'-0"



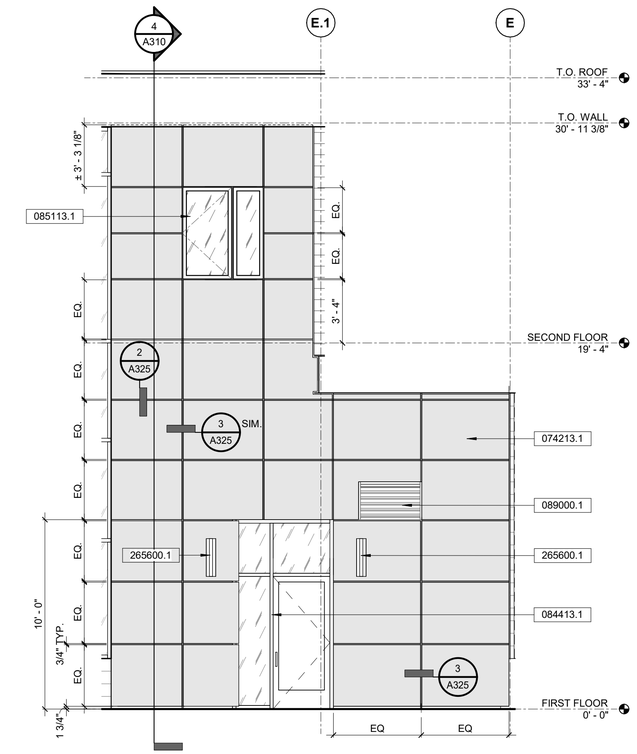
2 SOUTH EAST ELEVATION

1/8" = 1'-0"



3 ENLARGED WALL ELEV. @ GRID J

1/4" = 1'-0"



4 ENLARGED WALL ELEV. @ GRID 3

1/4" = 1'-0"

SPECIFICATION KEYNOTES

	042200.1	CMU TYPE 01-CANYON BLUFF
	042200.2	CMU TYPE 02-GREYSTONE
	055000.4	MECHANICAL ENCLOSURE SCREEN, PRE-FINISHED
	055800.1	ARCHITECTURAL METALS COLUMN COVER. PROVIDE ALUM. MOLDING TRIM, COL. COLLAR TO RECEIVE EXTERIOR & INTERIOR SOFFIT MATERIAL. COLOR TO MATCH COLUMN.
	071900.1	WATER REPELLENT
	074213.1	METAL WALL PANELS
	074243.1	VENTILATED COMPOSITE WALL PANELS AND SOFFIT
	076200.1	SHEET METAL FASCIA, PRE-FINISHED
	076200.3	ALUM. TUBE SHAPE @ WINDOWS
1	083513.1	AUTOMATIC FOLDING DOORS. SEE DOOR SCHEDULE A600 FOR DOOR SIZE AND 1/A602FOR DETAILS.
	084400.1	CURTAINWALL SYSTEM W/ INTEGRAL LOUVERS. SEE DWGS. A610-A613 FOR ELEV. & DETAILS.
	084413.1	ALUMINUM-FRAMED ENTRANCE & STOREFRONT. SEE DWG. A601.
	084413.2	ALUMINUM STOREFRONT OPERABLE WINDOW. SEE DWG. 5&6/A614.
	085113.1	ALUMINUM CLAD WINDOW. SEE DWG. 1-4/A614 FOR DETAILS.
	086200.1	UNIT SKYLIGHT. SEE DWG. 2/A322 FOR DETAILS.
	089000.1	LOUVER & VENTS. SEE MECH. DWG. M120 FOR DIMENSION REQTS. & LOUVER DETAILS ON DWG. A615.
	089000.2	GRAVITY VENTILATOR
	101400.1	SIGNAGE
	101400.2	SMOKING PROHIBITED SIGNAGE. SEE IMAGE 7A/A010.
	107500.1	FLAGPOLE
	260000.6	GENERATOR CONNECTION PANEL. REFER TO ELECTRICAL DWGS.
	265600.1	EXTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			ADDENDUM #1
	10/12/2023			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: **MM**
DRAWN BY: **LR / RR**
DESIGN CHECK BY: **MM**
DRAWN CHECK BY: **MM / RR**
REF.

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

NORTH AND EAST EXTERIOR ELEVATIONS

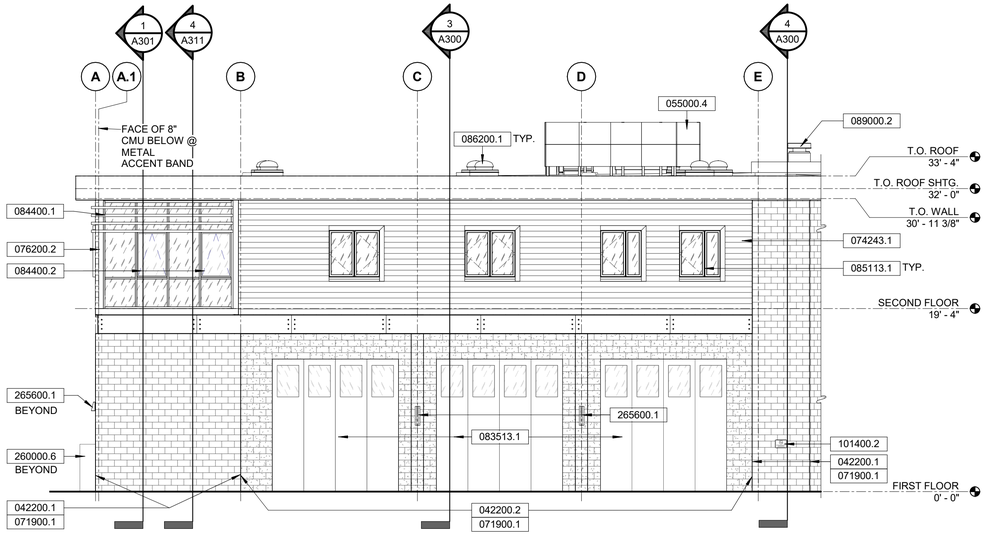
B # **B-4797**
PHASE # ____ REBID # ____
SHEET **55** OF **236**
DWG. NO. **A200**

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

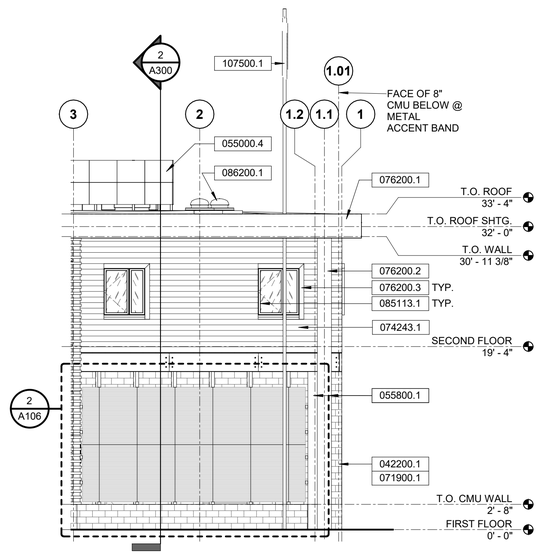
10/12/2023 7:46:38 PM

SPECIFICATION KEYNOTES

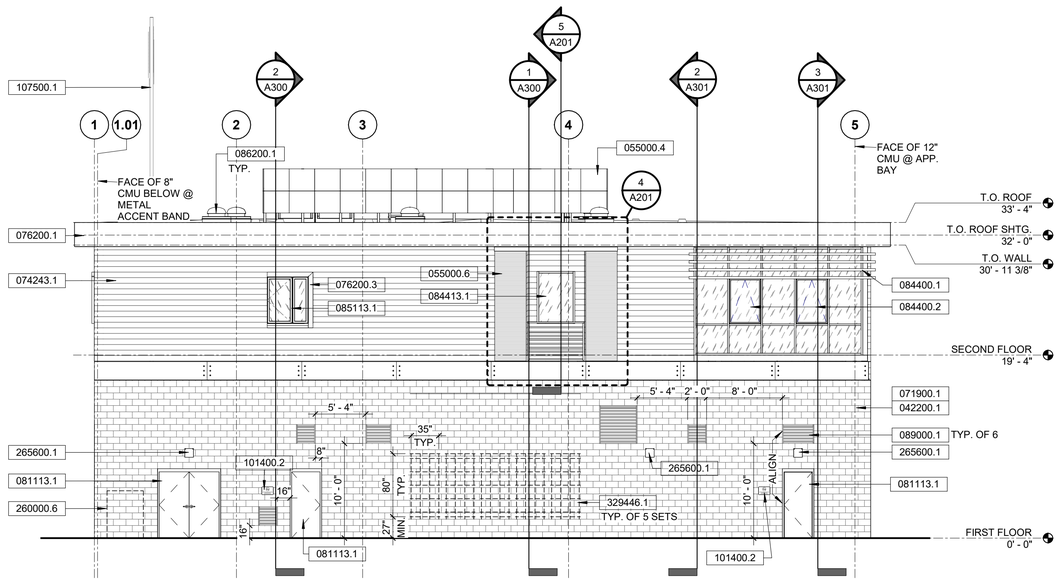
042200.1	CMU TYPE 01-CANYON BLUFF
042200.2	CMU TYPE 02-GREYSTONE
055000.4	MECHANICAL ENCLOSURE SCREEN, PRE-FINISHED
055000.5	METAL RAILING, PAINT
055000.6	METAL SLIDING SCREEN, PAINT
055800.1	ARCHITECTURAL METALS COLUMN COVER. PROVIDE ALUM. MOLDING TRIM, COL. COLLAR TO RECEIVE EXTERIOR & INTERIOR SOFFIT MATERIAL. COLOR TO MATCH COLUMN.
071900.1	WATER REPELLENT
074243.1	VENTILATED COMPOSITE WALL PANELS AND SOFFIT
076200.1	SHEET METAL FASCIA, PRE-FINISHED
076200.2	SHEET METAL, PRE-FINISHED @ COL.
076200.3	ALUM. TUBE SHAPE @ WINDOWS
081113.1	HOLLOW METAL DOOR & FRAME. SEE DOOR SCHEDULE A600 FOR DOOR SIZE. DWGS. 3/A801 FOR DETAILS.
083513.1	AUTOMATIC FOLDING DOORS. SEE DOOR SCHEDULE A600 FOR DOOR SIZE AND 1/A602FOR DETAILS.
084400.1	CURTAINWALL SYSTEM W/ INTEGRAL LOUVERS. SEE DWGS. A610-A613 FOR ELEV. & DETAILS.
084400.2	CURTAINWALL SYSTEM W/ OPERABLE WINDOW. SEE DWG. 6/A612 & 1/613.
084413.1	ALUMINUM-FRAMED ENTRANCE & STOREFRONT. SEE DWG. A601.
085113.1	ALUMINUM CLAD WINDOW. SEE DWG. 1-4/A614 FOR DETAILS.
086200.1	UNIT SKYLIGHT. SEE DWG. 2/A322 FOR DETAILS.
089000.1	LOUVER & VENTS. SEE MECH. DWG. M120 FOR DIMENSION REQTS. & LOUVER DETAILS ON DWG. A615.
089000.2	GRAVITY VENTILATOR
101400.2	SMOKING PROHIBITED SIGNAGE. SEE IMAGE 7A/A010.
107500.1	FLAGPOLE
260000.6	GENERATOR CONNECTION PANEL, REFER TO ELECTRICAL DWGS.
265600.1	EXTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.
329446.1	WIRE ROPE TRELLIS. SEE DETAIL DWG. 5/A323.



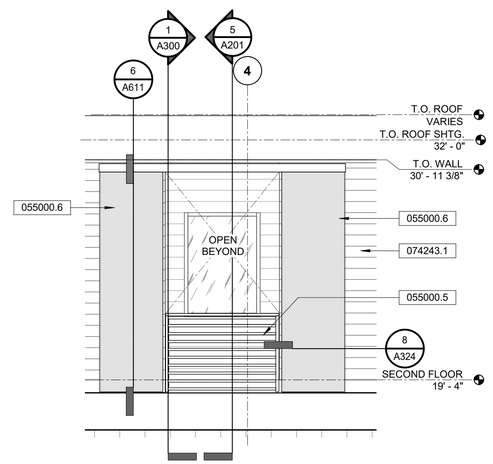
1 SOUTH ELEVATION
1/8" = 1'-0"



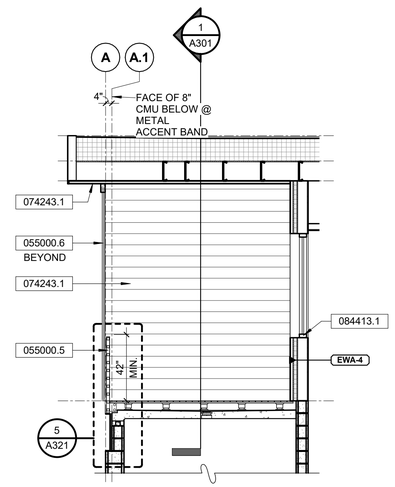
2 EAST ELEVATION
1/8" = 1'-0"



3 WEST ELEVATION
1/8" = 1'-0"



4 ENLARGED DECK ELEVATION
1/4" = 1'-0"



5 DECK NORTH ELEVATION
1/4" = 1'-0"

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/7/2023			BID DOCUMENTS

REVISION

DESIGNED BY: **MM** | DRAWN BY: **LR / RR** | DESIGN CHECK BY: **MM** | DRAWN CHECK BY: **MM / RR** | AS-BUILT | REF.

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
SOUTH AND WEST EXTERIOR ELEVATIONS

B # **B-4797**

PHASE # REBID #

SHEET **56** OF **236**

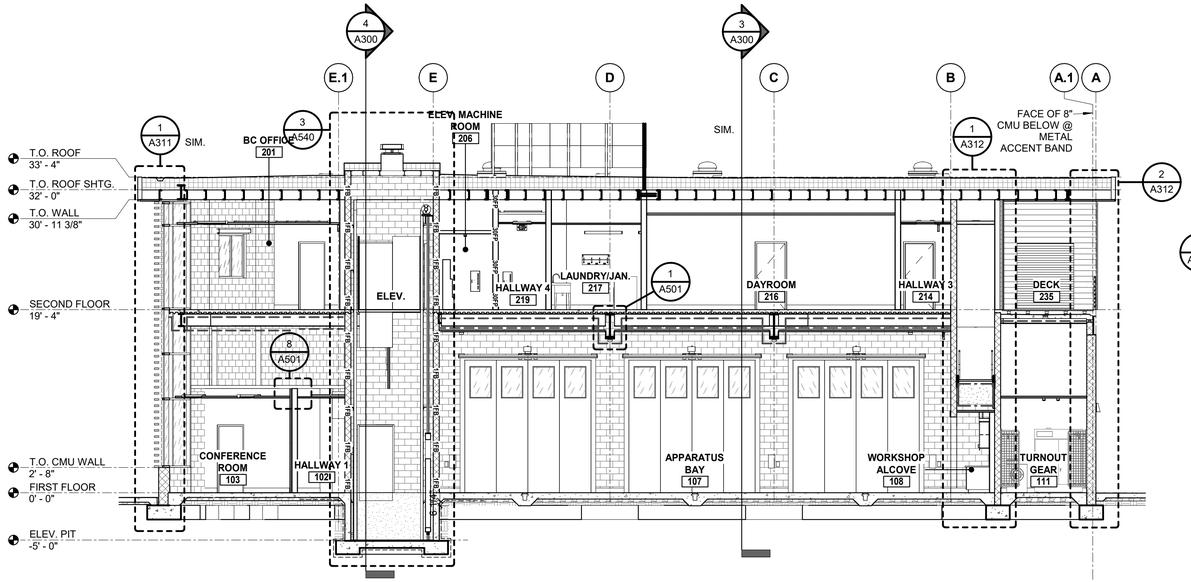
DWG. NO. **A201**

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

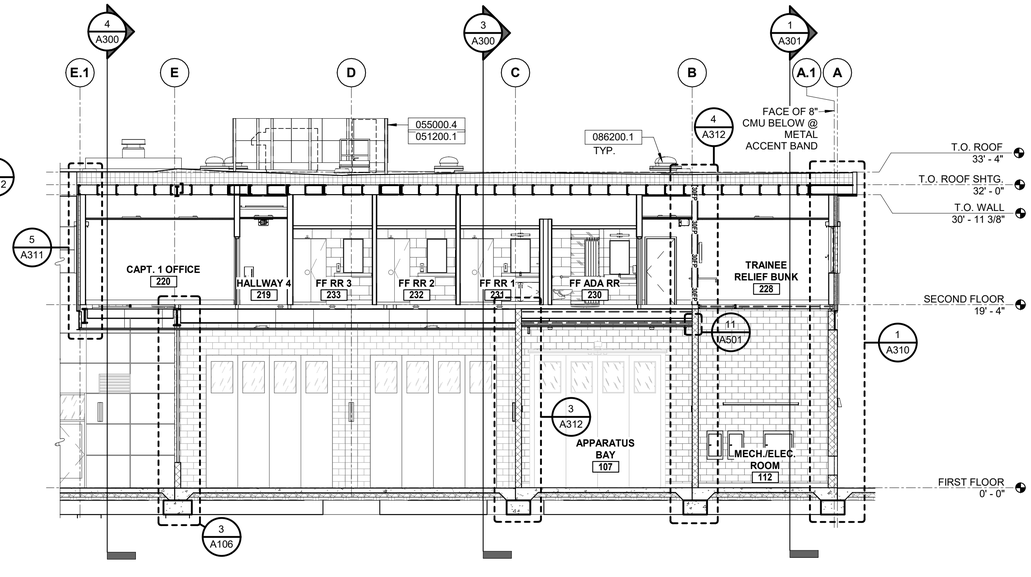
10/12/2023 7:46:50 PM

SPECIFICATION KEYNOTES

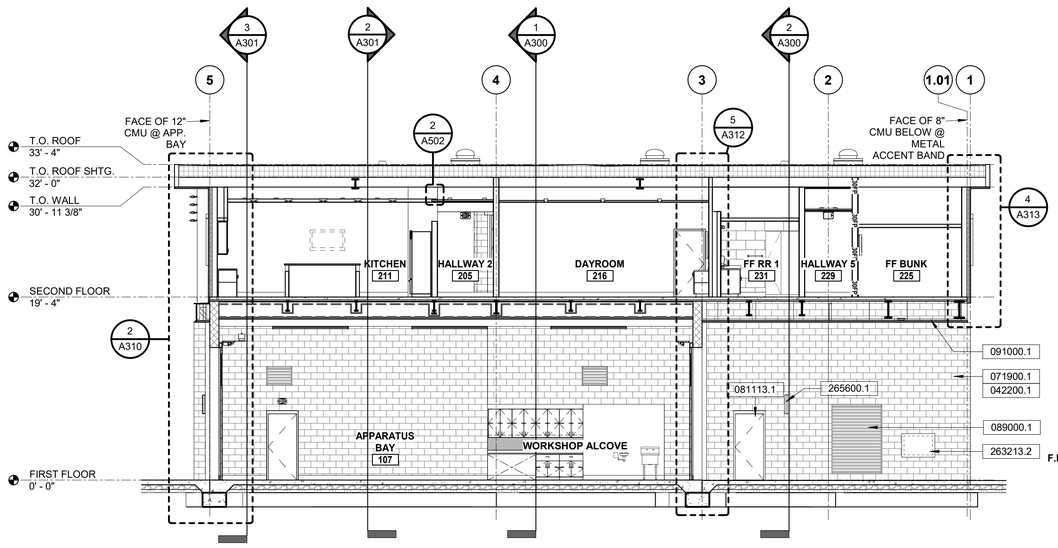
042200.1	CMU TYPE 01-CANYON BLUFF
051200.1	STEEL COLUMN, REFER TO STRUCTURAL DWGS.
055000.4	MECHANICAL ENCLOSURE SCREEN, PRE-FINISHED
071900.1	WATER REPELLENT
081113.1	HOLLOW METAL DOOR & FRAME. SEE DOOR SCHEDULE A600 FOR DOOR SIZE. DWGS. 3/A601 FOR DETAILS.
086200.1	UNIT SKYLIGHT. SEE DWG. 2/A322 FOR DETAILS.
089000.1	LOUVER & VENTS. SEE MECH. DWG. M120 FOR DIMENSION REQTS. & LOUVER DETAILS ON DWG. A615.
091000.1	METAL SOFFIT SUPPORT SYSTEM FOR COMPOSITE SOFFIT PANELS
263213.2	REMOTE FUELING FILL STATION
265600.1	EXTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.



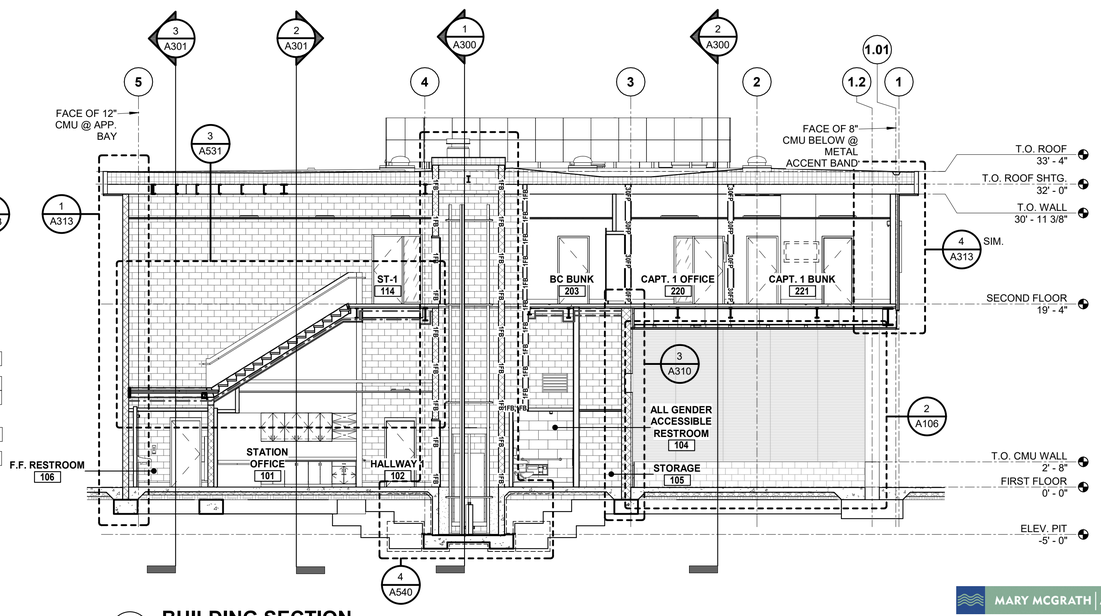
1 BUILDING SECTION 1
1/8" = 1'-0"



2 BUILDING SECTION 2
1/8" = 1'-0"



3 BUILDING SECTION
1/8" = 1'-0"



4 BUILDING SECTION
1/8" = 1'-0"

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISION NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT				REF.

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR

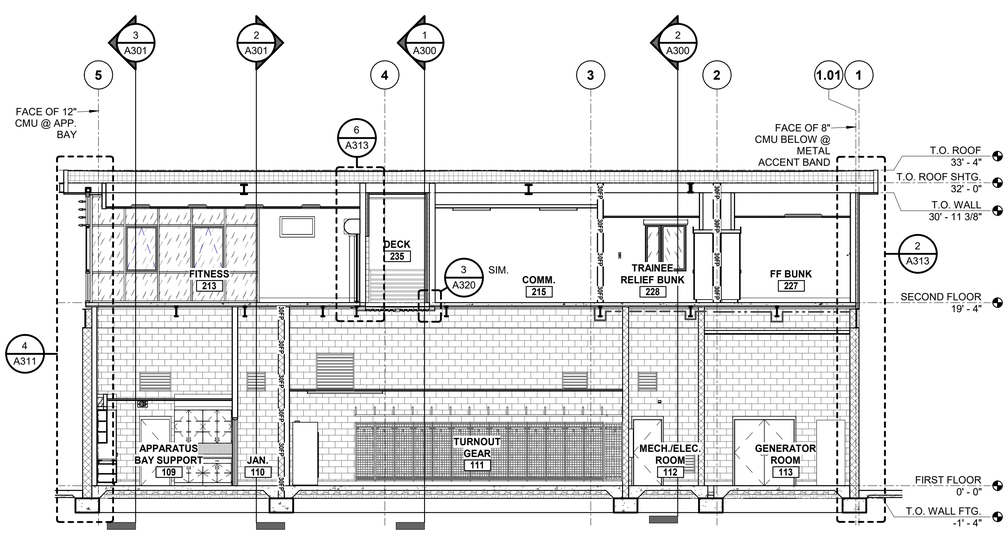
LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

BUILDING SECTIONS

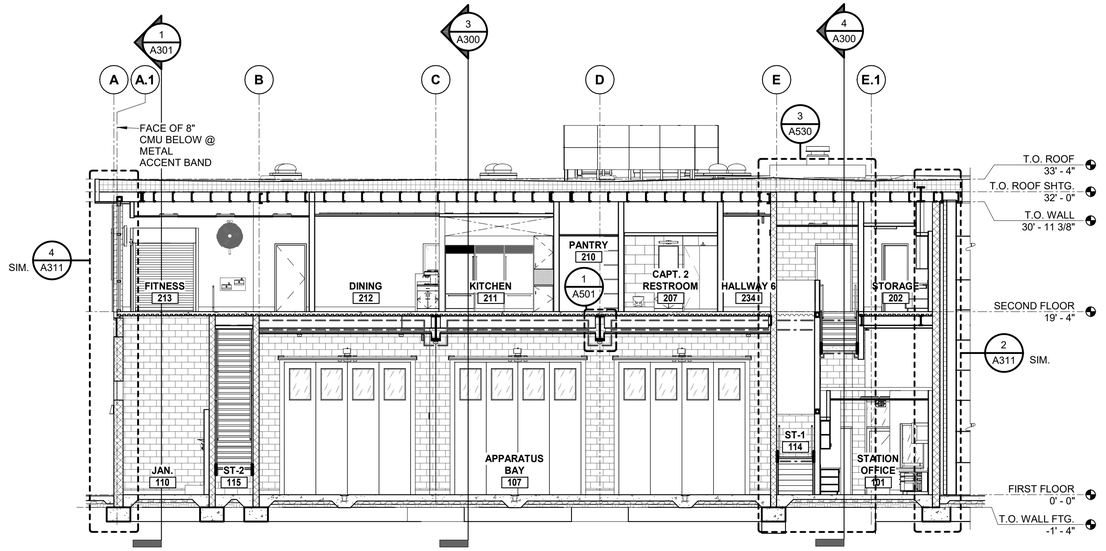
B # B-4797
PHASE # REBID #
SHEET 57 OF 236
DWG. NO. **A300**

10/12/2023 7:47:08 PM



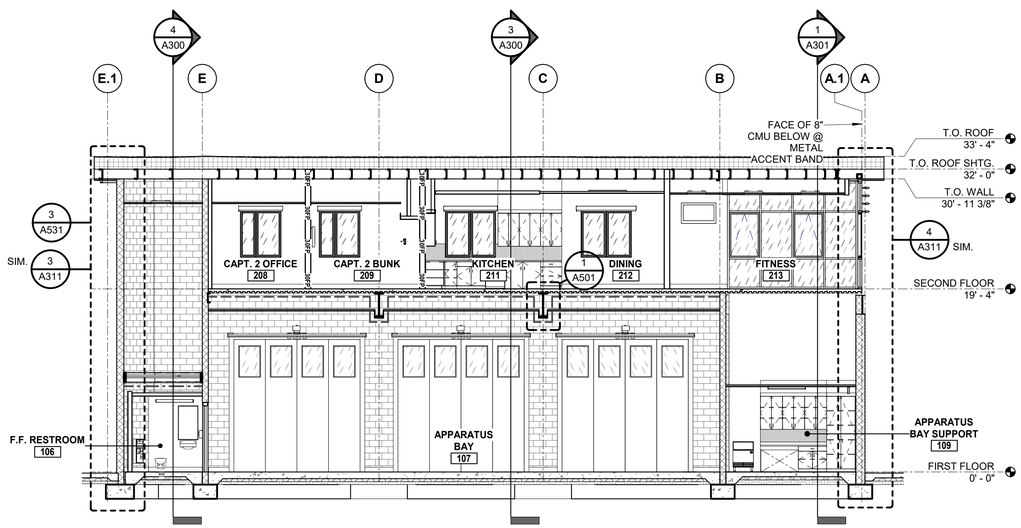
1 BUILDING SECTION

1/8" = 1'-0"



2 BUILDING SECTION

1/8" = 1'-0"



3 BUILDING SECTION

1/8" = 1'-0"

10/12/2023 7:47:28 PM

REVISION			
NO.	DATE	SHEET	APPROVAL
	12/16/2021		PLAN CHECK SUBMITTAL
	10/7/2023		BID DOCUMENTS

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR
AS-BUILT
REF.

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

BUILDING SECTIONS

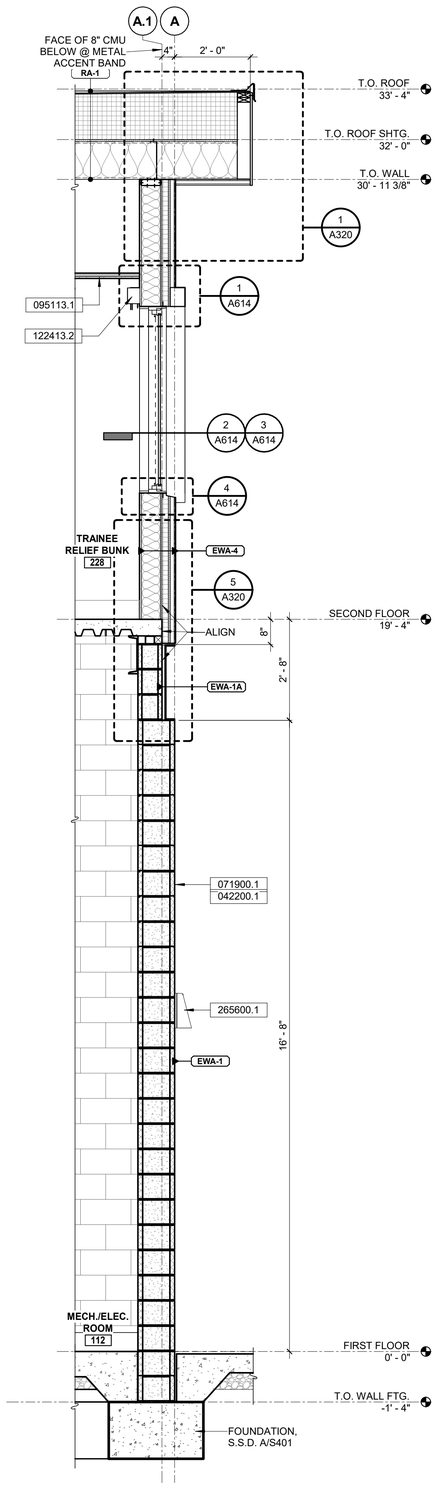
B # B-4797

PHASE # REBID #

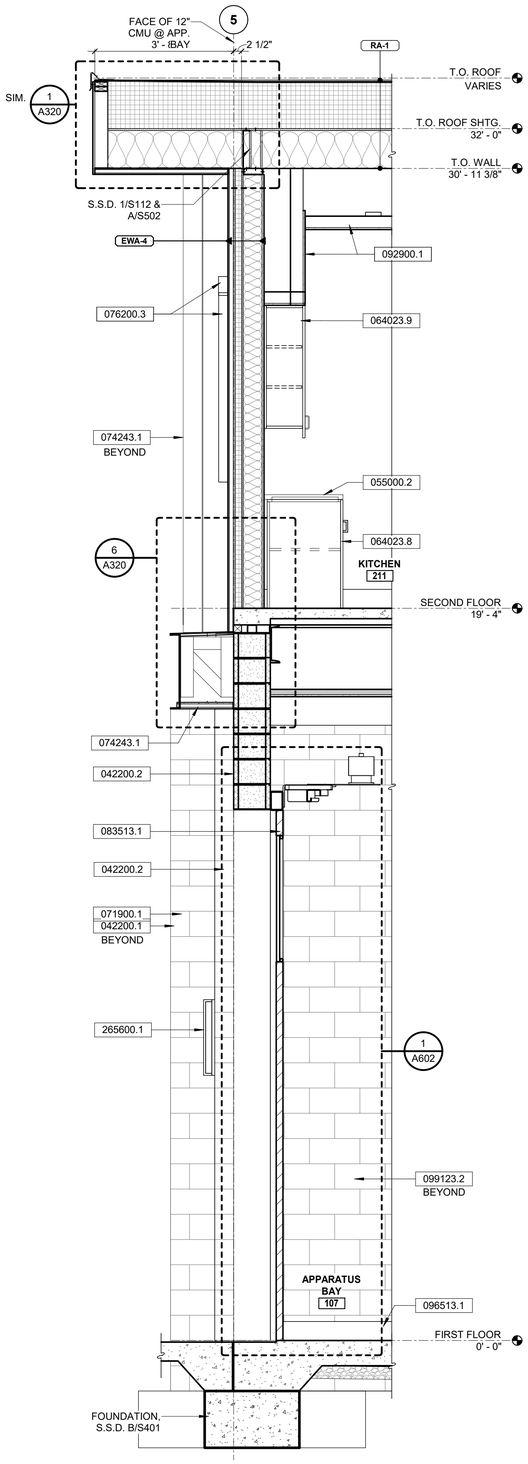
SHEET 58 OF 236

DWG. NO. A301

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



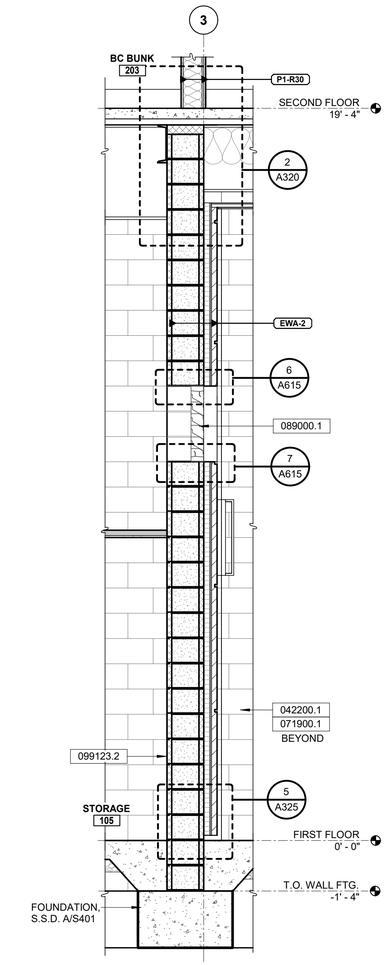
1 WALL SECTION - GRID A
1/2" = 1'-0"



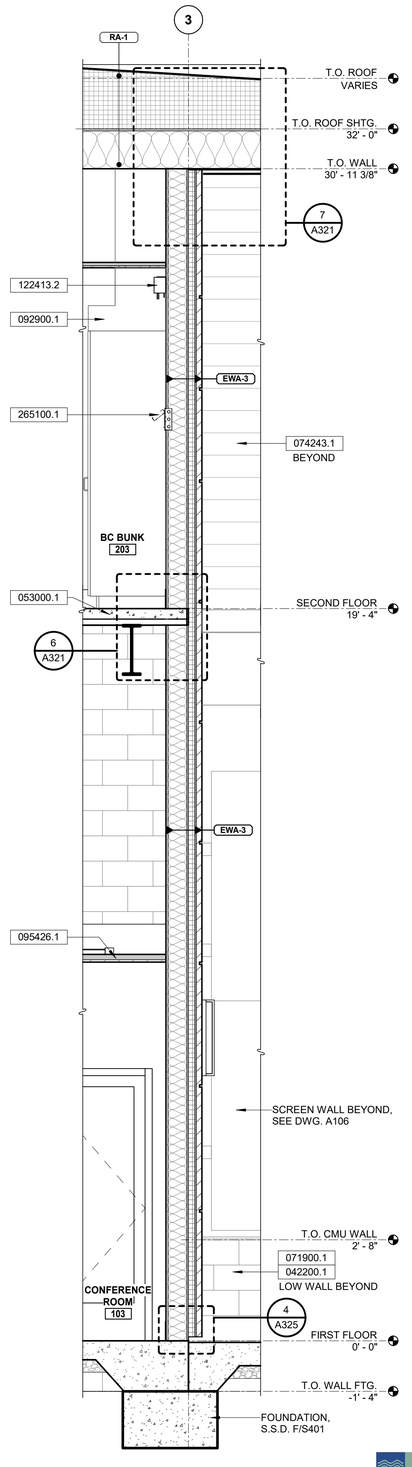
2 WALL SECTION - GRID 5
1/2" = 1'-0"

SPECIFICATION KEYNOTES

042200.1	CMU TYPE 01-CANYON BLUFF
042200.2	CMU TYPE 02-GREYSTONE
053000.1	METAL DECKING, REFER TO STRUCTURAL DWGS.
055000.2	STAINLESS STEEL COUNTERTOP & BACKSPLASH
064023.8	PHENOLIC CASEWORK
064023.9	PHENOLIC UPPER CASEWORK. SEE DWG 1/A510 FOR DETAILS
071900.1	WATER REPELLENT
074243.1	VENTILATED COMPOSITE WALL PANELS AND SOFFIT
076200.3	ALUM. TUBE SHAPE @ WINDOWS
083513.1	AUTOMATIC FOLDING DOORS. SEE DOOR SCHEDULE A600 FOR DOOR SIZE AND 1/A802FOR DETAILS.
089000.1	LOUVER & VENTS. SEE MECH. DWG. M120 FOR DIMENSION REQTS. & LOUVER DETAILS ON DWG. A615.
092900.1	GYPSUM BOARD, PAINT
095113.1	ACOUSTICAL PANEL CEILINGS
095426.1	LINEAR WOOD CEILINGS
096513.1	6" RUBBER BASE
099123.2	BLOCK FILL W/ INTERIOR PAINT
122413.2	ROLLER WINDOW SHADES (DOUBLE)
265100.1	INTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.
265600.1	EXTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.



3 WALL SECTION - STORAGE - GRID 3
1/2" = 1'-0"



4 WALL SECTION - CONF. ROOM - GRID 3
1/2" = 1'-0"

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISION NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/7/2023			BID DOCUMENTS

AS-BUILT REF.

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR

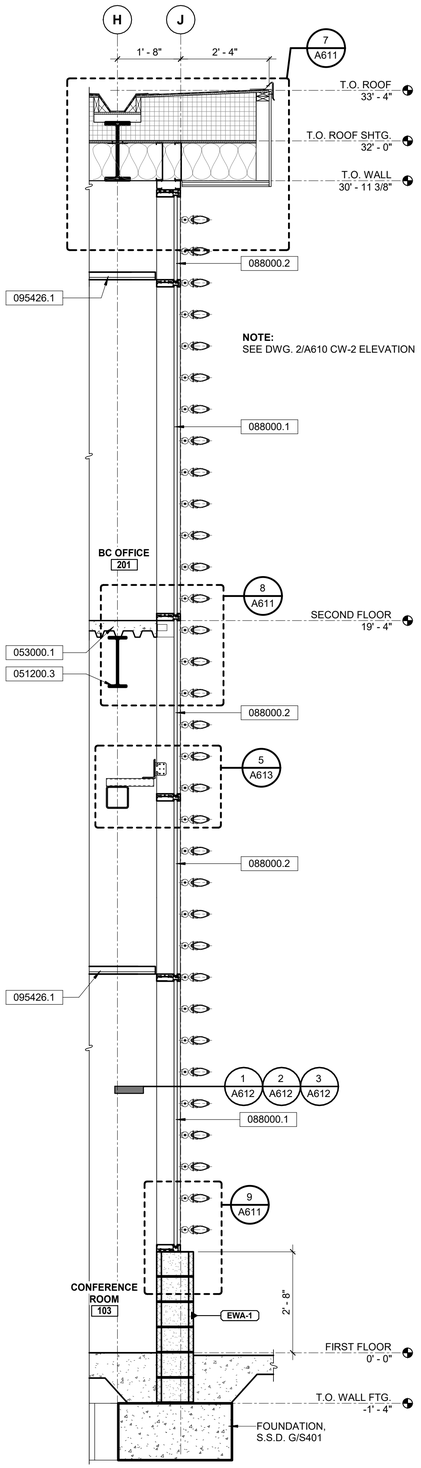
LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

BUILDING WALL SECTIONS

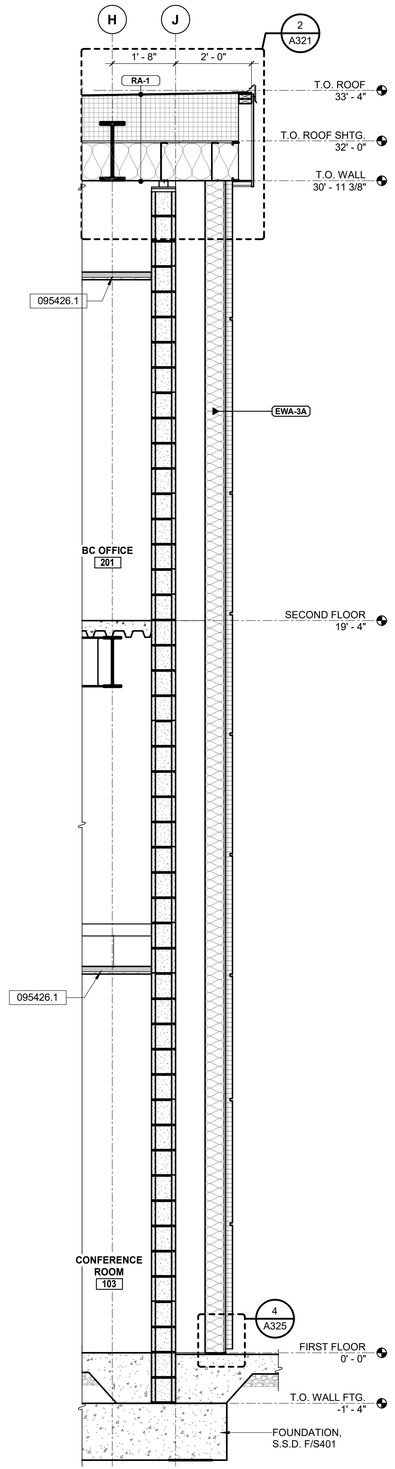
B # B-4797
PHASE # REBID #
SHEET 59 OF 236
DWG. NO. A310

10/12/2023 7:47:33 PM



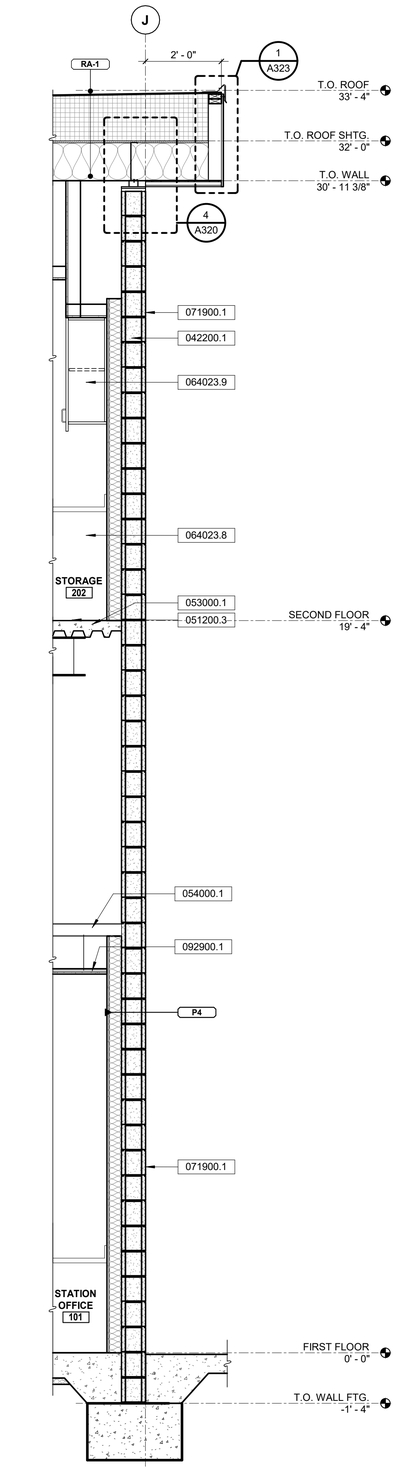
1 WALL SECTION @ GRID H-J

1/2" = 1'-0"



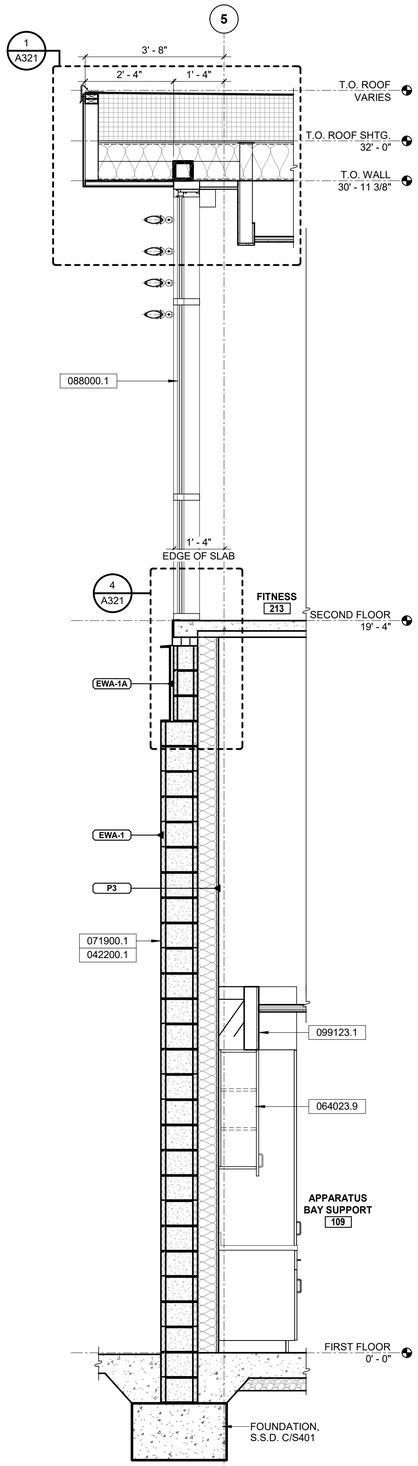
2 WALL SECTION @ GRID J

1/2" = 1'-0"



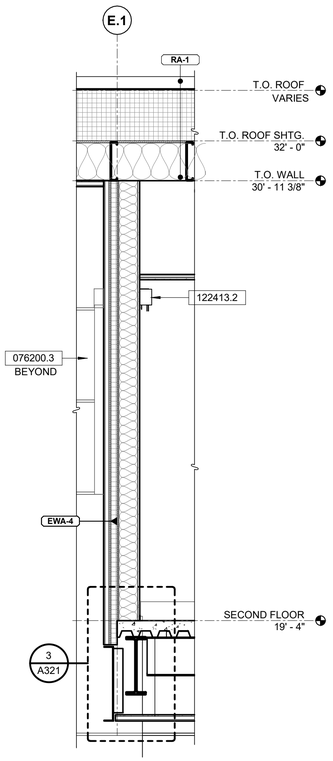
3 WALL SECTION @ GRID J

1/2" = 1'-0"



4 WALL SECTION - GRID 5

1/2" = 1'-0"



5 WALL SECTION @ CAPT. OFFICE - GRID E.1

1/2" = 1'-0"

SPECIFICATION KEYNOTES

042200.1	CMU TYPE 01-CANYON BLUFF
051200.3	STEEL BEAM, REFER TO STRUCTURAL DWGS.
053000.1	METAL DECKING, REFER TO STRUCTURAL DWGS.
054000.1	METAL STUD FRAMING, REFER TO STRUCTURAL DWGS.
064023.8	PHENOLIC CASEWORK
064023.9	PHENOLIC UPPER CASEWORK. SEE DWG 1/A510 FOR DETAILS
071900.1	WATER REPELLENT
076200.3	ALUM. TUBE SHAPE @ WINDOWS
088000.1	GLASS AND GLAZING
088000.2	SPANDREL GLAZING UNIT
092900.1	GYPSUM BOARD, PAINT
095426.1	LINEAR WOOD CEILINGS
099123.1	INTERIOR PAINT
122413.2	ROLLER WINDOW SHADES (DOUBLE)

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/12/2023			BID DOCUMENTS

AS-BUILT

REF.

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

BUILDING WALL SECTIONS

B # B-4797

PHASE # REBID #

SHEET 60 OF 236

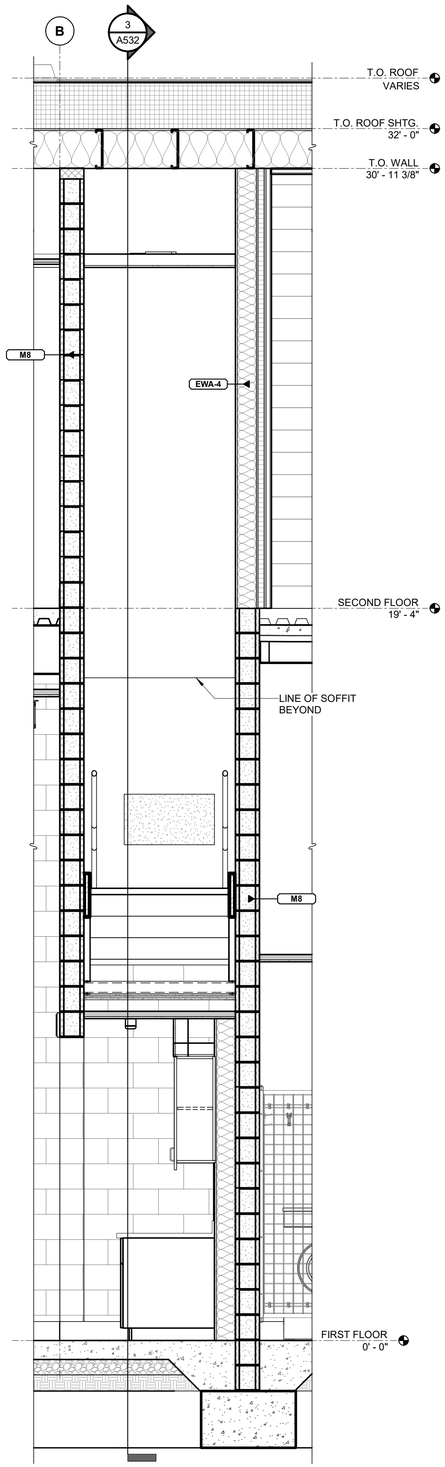
DWG. NO. A311

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

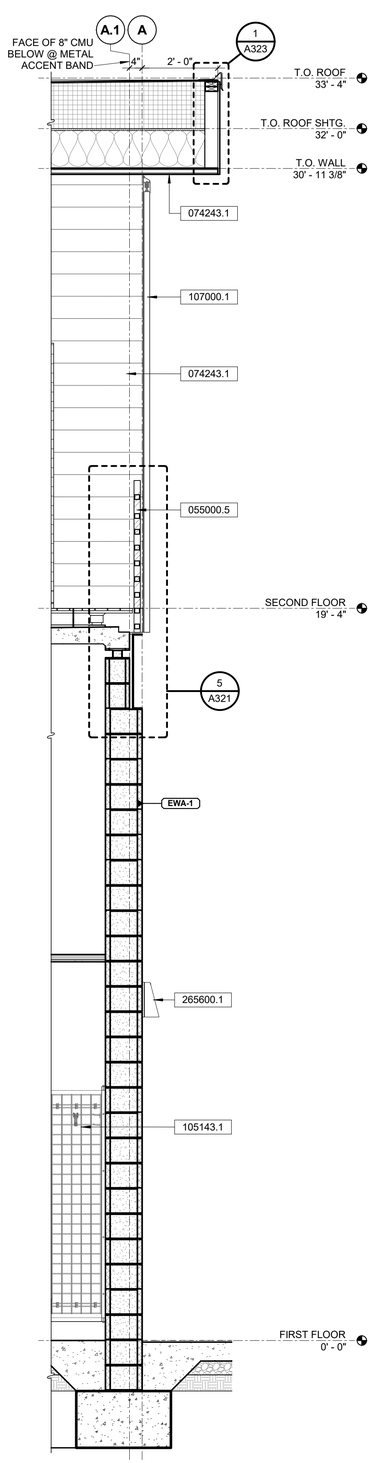
10/12/2023 7:47:39 PM

SPECIFICATION KEYNOTES

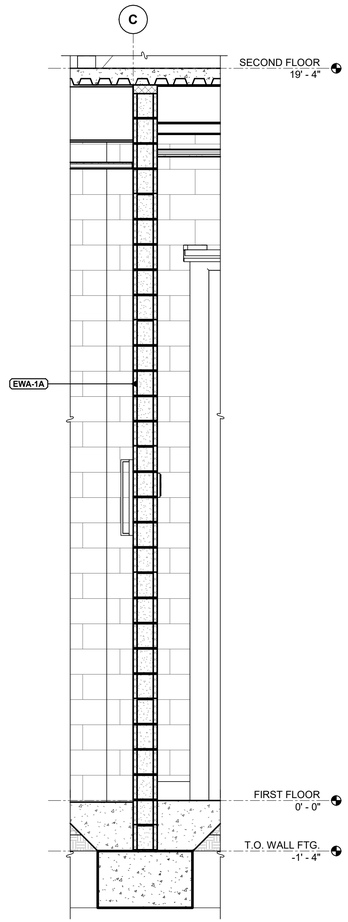
055000.5	METAL RAILING, PAINT
074243.1	VENTILATED COMPOSITE WALL PANELS AND SOFFIT
083513.1	AUTOMATIC FOLDING DOORS. SEE DOOR SCHEDULE A600 FOR DOOR SIZE AND 1/A602FOR DETAILS.
091000.1	METAL SOFFIT SUPPORT SYSTEM FOR COMPOSITE SOFFIT PANELS
095426.1	LINEAR WOOD CEILINGS
105143.1	WIRE MESH STORAGE LOCKERS
107000.1	
265600.1	EXTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.



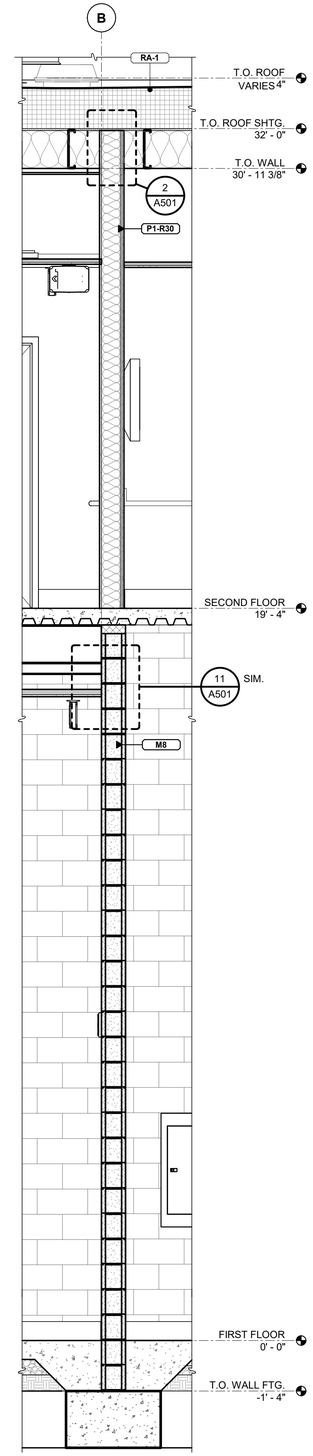
1 **WALL SECTION @ STAIR 2**
1/2" = 1'-0"



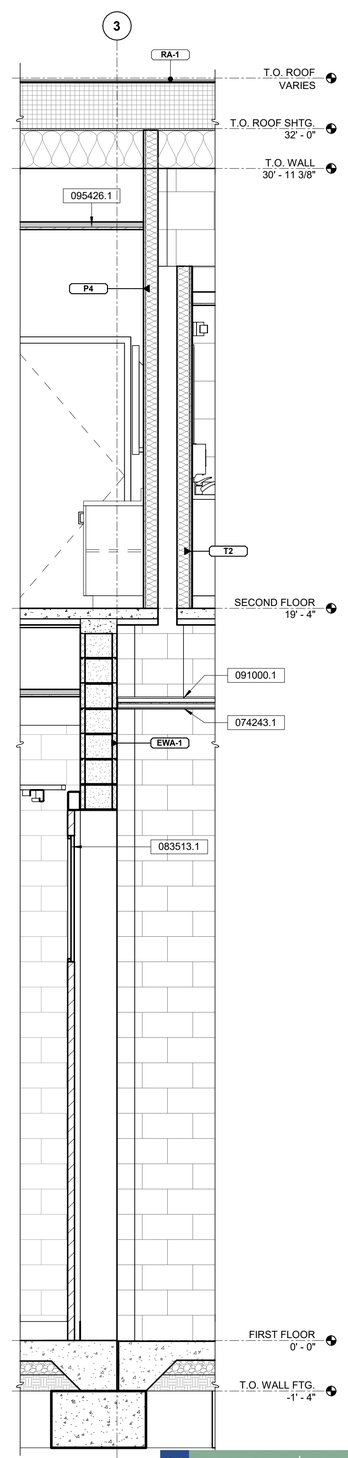
2 **WALL SECTION @ DECK - GRID A**
1/2" = 1'-0"



3 **WALL SECTION @ GRID C**
1/2" = 1'-0"



4 **WALL SECTION @ GRID B**
1/2" = 1'-0"



5 **WALL SECTION @ GRID 3**
1/2" = 1'-0"

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISION NO.	DATE	APPROVAL	DESCRIPTION
	12/16/2021		PLAN CHECK SUBMITTAL
	10/7/2023		BID DOCUMENTS

DESIGNED BY: **MM** | DRAWN BY: **LR / RR** | DESIGN CHECK BY: **MM** | DRAWN CHECK BY: **MM / RR**

AS-BUILT | REF.

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

BUILDING WALL SECTIONS

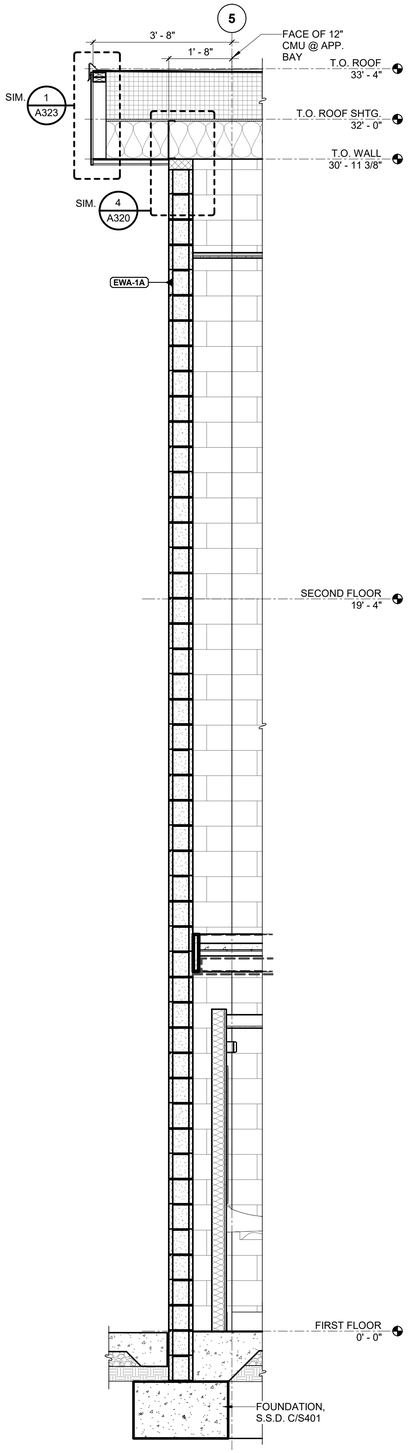
B # **B-4797**

PHASE # | REBID #

SHEET **61** OF **236**

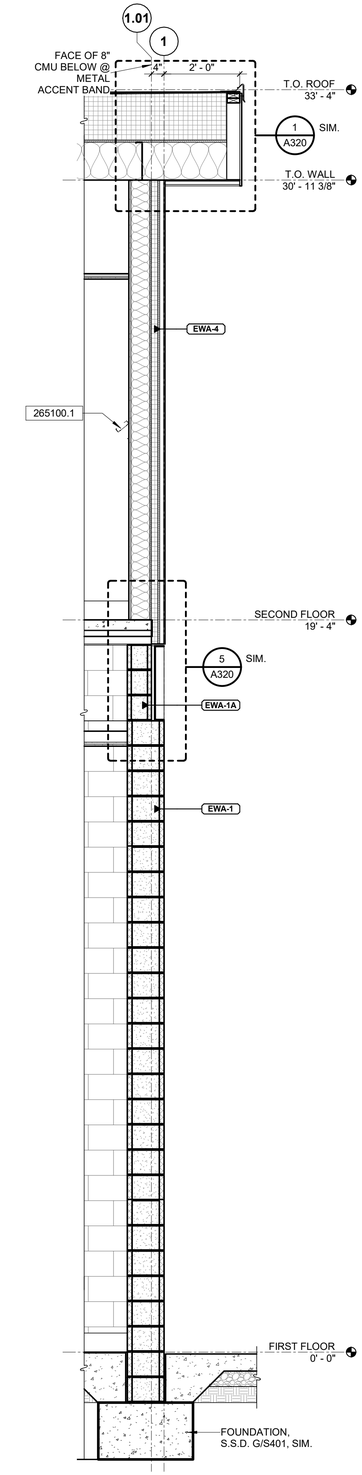
DWG. NO. **A312**

10/12/2023 7:47:44 PM



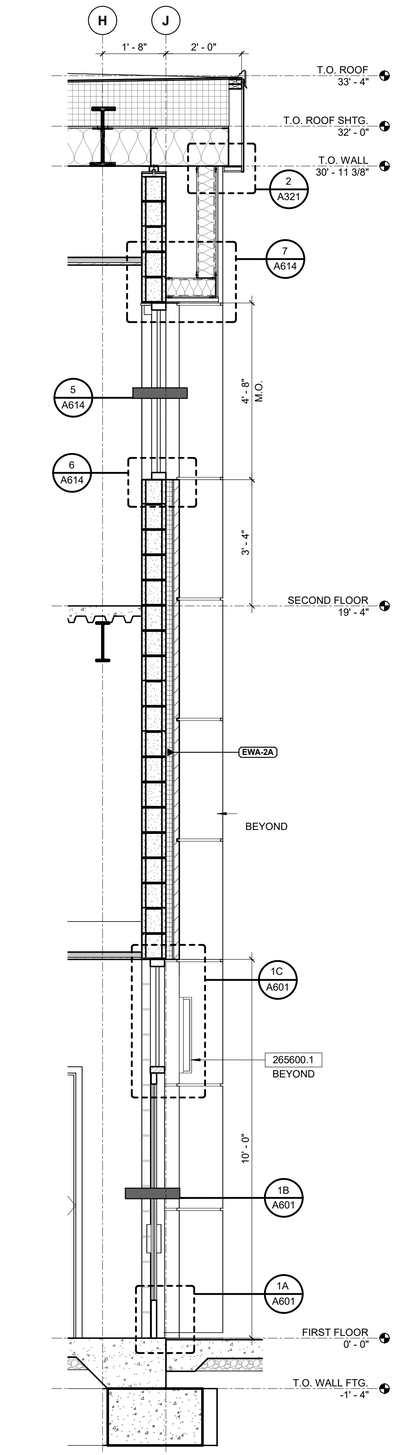
1 WALL SECTION @ GRID 5 ST-1

1/2" = 1'-0"



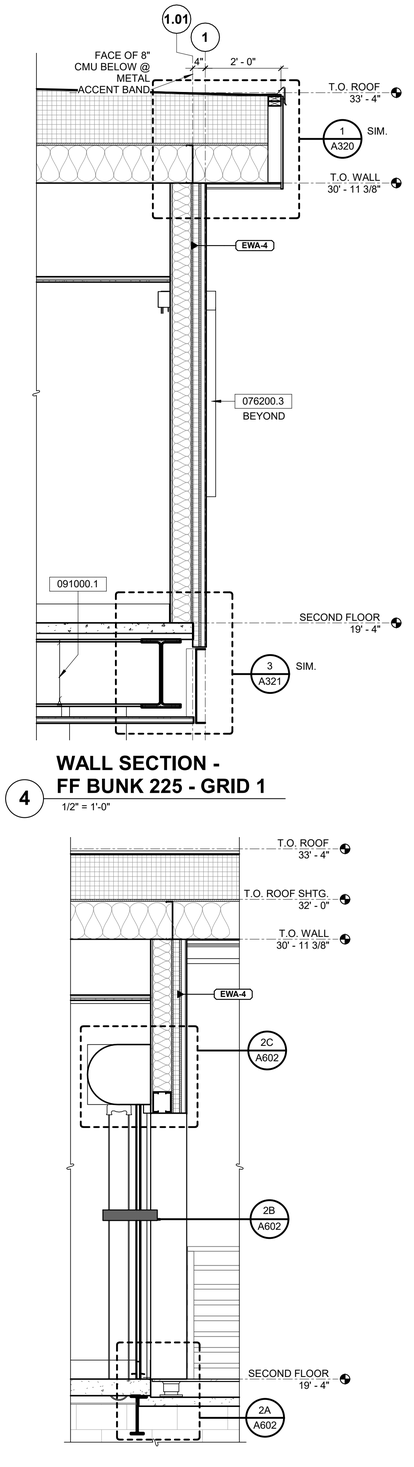
2 WALL SECTION @ GRID 1

1/2" = 1'-0"



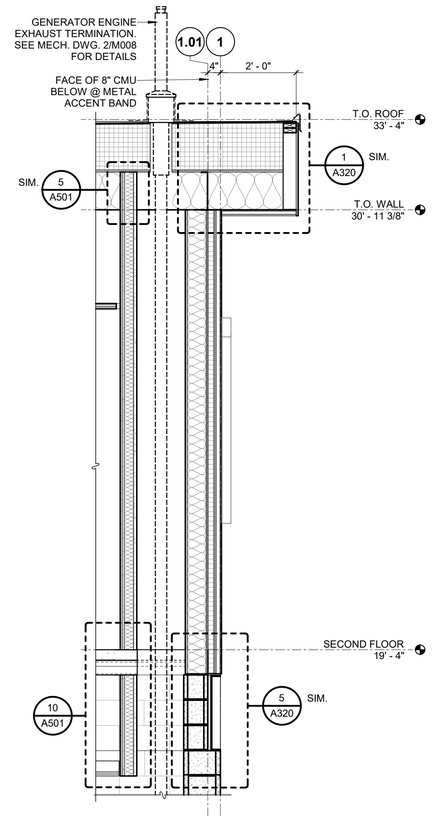
3 WALL SECTION @ MAIN ENTRY

1/2" = 1'-0"



4 WALL SECTION - FF BUNK 225 - GRID 1

1/2" = 1'-0"



5 2HR SHAFT WALL @ GRID 1

1/2" = 1'-0"

6 WALL SECTION @ FITNESS-DECK

1/2" = 1'-0"

SPECIFICATION KEYNOTES

076200.3	ALUM. TUBE SHAPE @ WINDOWS
091000.1	METAL SOFFIT SUPPORT SYSTEM FOR COMPOSITE SOFFIT PANELS
265100.1	INTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.
265600.1	EXTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/12/2023			BID DOCUMENTS

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR
AS-BUILT
REF.

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

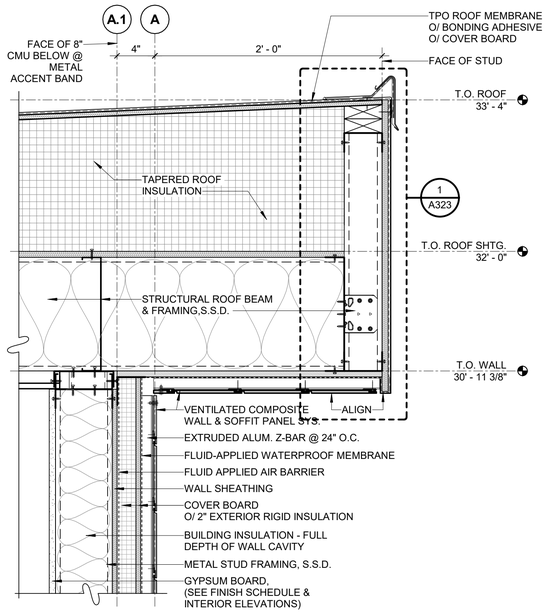
FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

BUILDING WALL SECTIONS

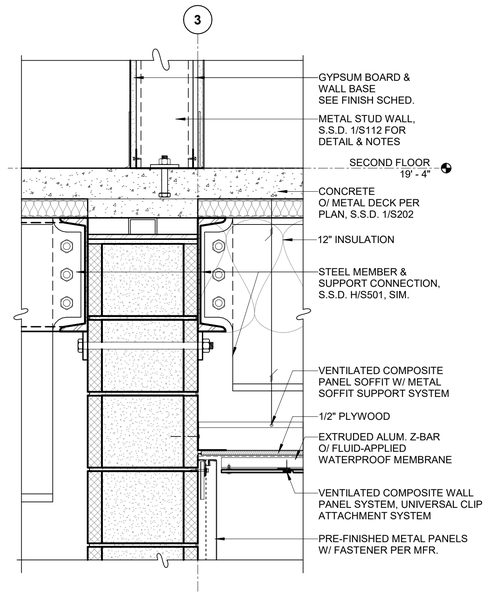
B # B-4797
PHASE # REBID #
SHEET 62 OF 236
DWG. NO. A313

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

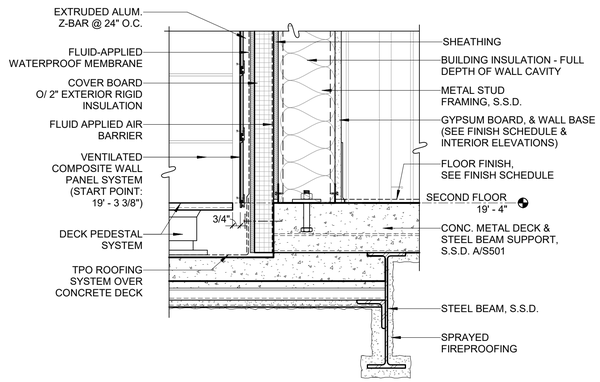
10/12/2023 7:47:50 PM



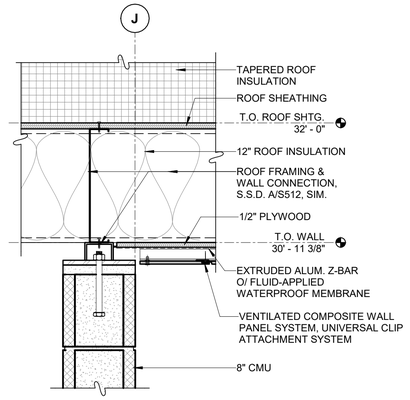
1 WALL & ROOF DETAIL @ GRID A
1 1/2" = 1'-0"



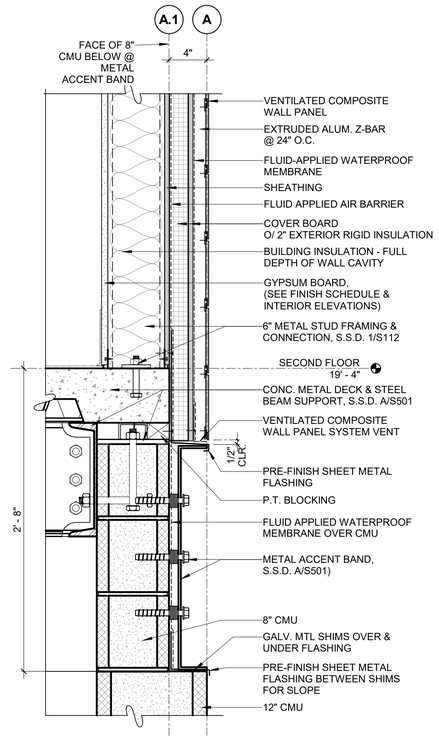
2 WALL DETAIL @ STORAGE - GRID 3
1 1/2" = 1'-0"



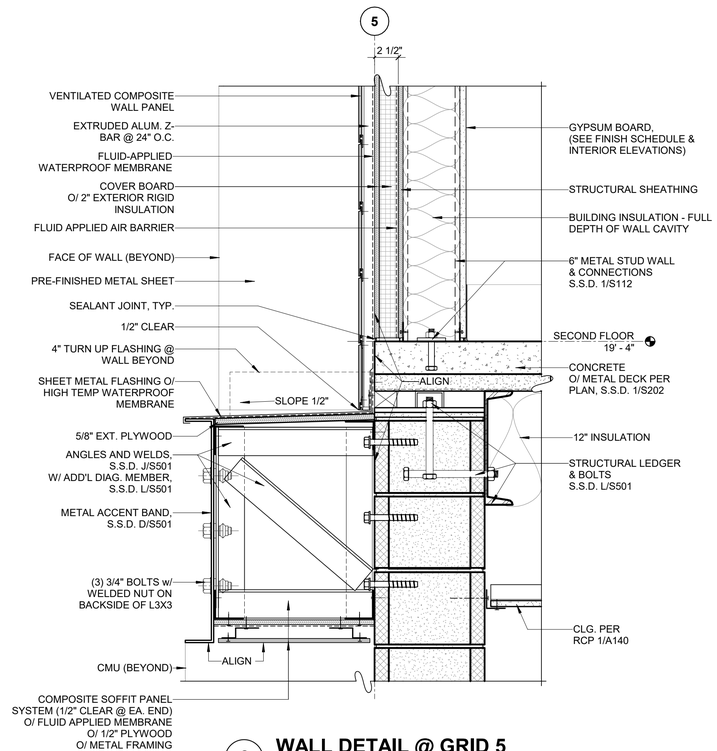
3 WALL DETAIL @ DECK AREA
1 1/2" = 1'-0"



4 ROOF-CMU WALL DET. @ GRID J
1 1/2" = 1'-0"



5 WALL DETAIL @ GRID A
1 1/2" = 1'-0"



6 WALL DETAIL @ GRID 5
1 1/2" = 1'-0"

REVISION			
NO.	DATE	SHEET	APPROVAL
	12/16/2021		DESCRIPTION: PLAN CHECK SUBMITTAL
	10/12/2023		BID DOCUMENTS
AS-BUILT			REF.

DESIGNED BY: **MM** | DRAWN BY: **LR / RR** | DESIGN CHECK BY: **MM** | DRAWN CHECK BY: **MM / RR**

LICENSED ARCHITECT — MARY C. MCGRATH — C-24435 — REN-08-30-23 — STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
EXTERIOR WALL & ROOF DETAILS

B # **B-4797**

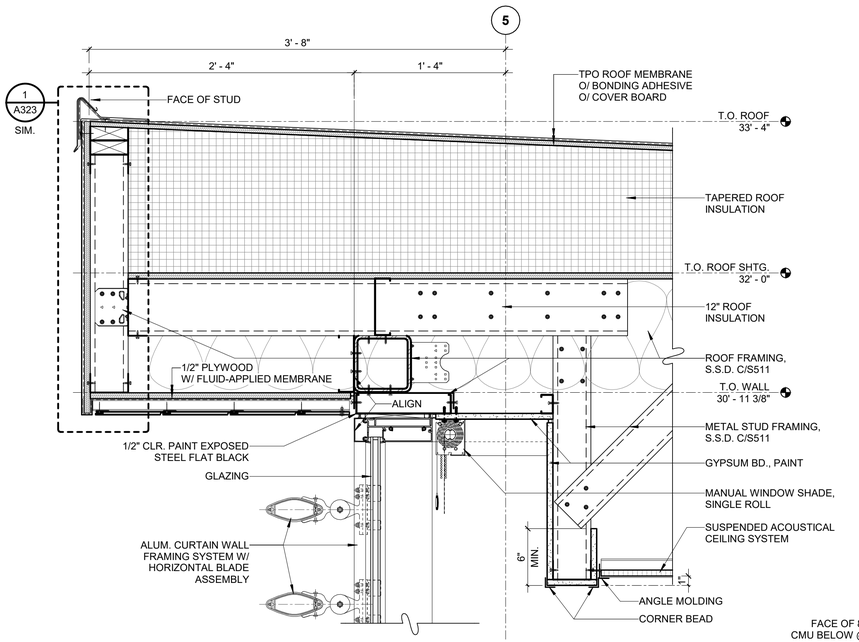
PHASE # REBID #

SHEET **63** OF **236**

DWG. NO. **A320**

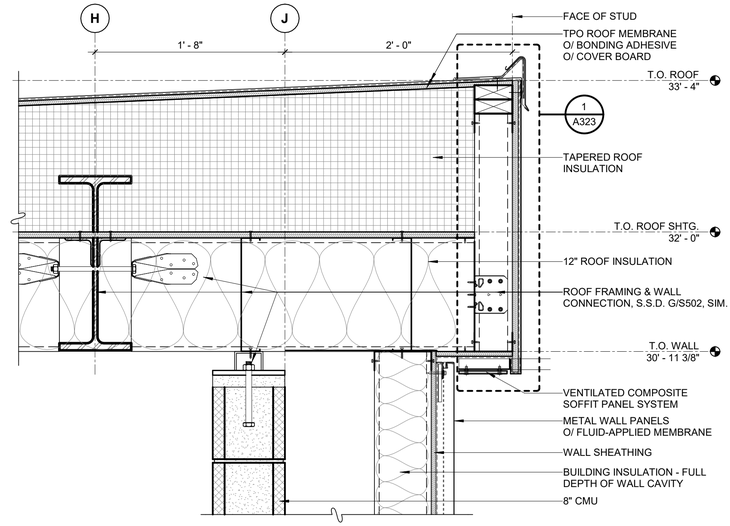
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/12/2023 7:47:53 PM



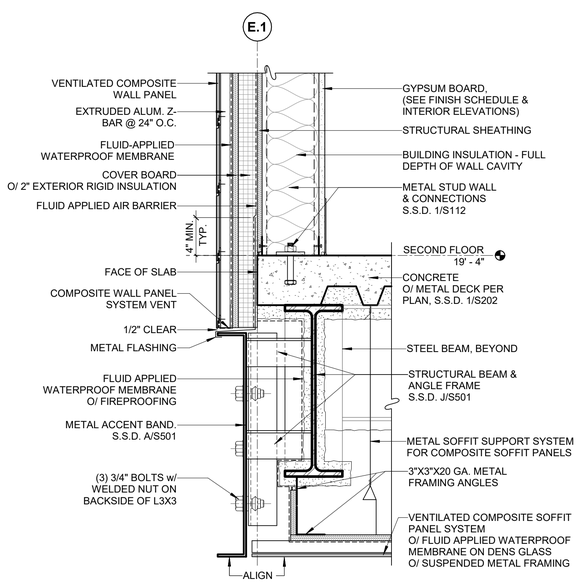
1 CURTAIN WALL HEAD & ROOF DETAIL @ FITNESS - GRID 5

1 1/2" = 1'-0"



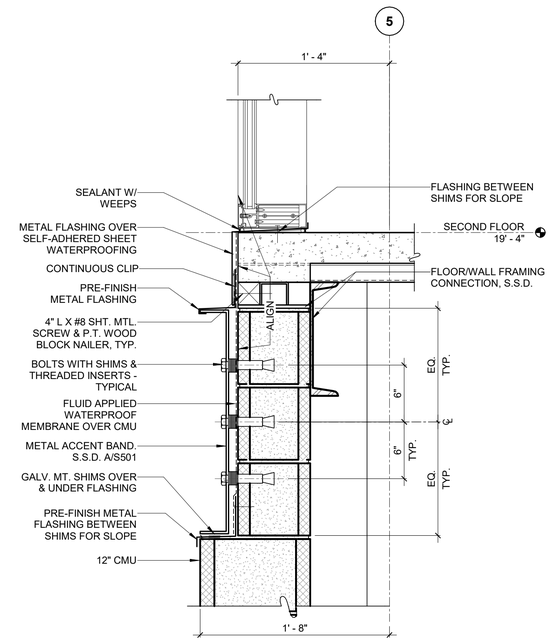
2 ROOF/WALL DETAIL @ GRID J

1 1/2" = 1'-0"



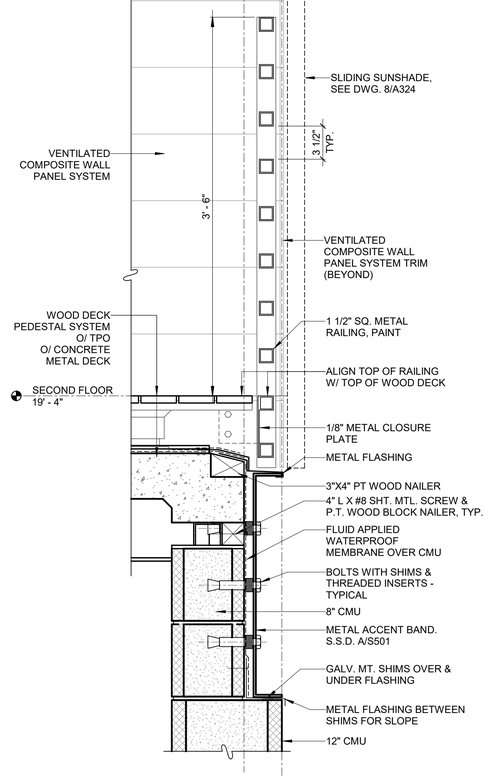
3 WALL DETAIL @ BUNK - GRID E.1

1 1/2" = 1'-0"



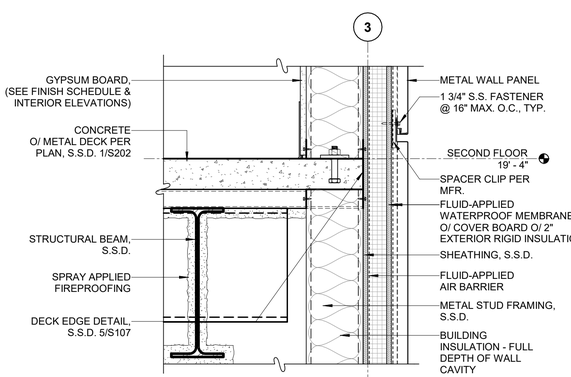
4 WALL DETAIL @ APP BAY SUPPORT - GRID 5

1 1/2" = 1'-0"



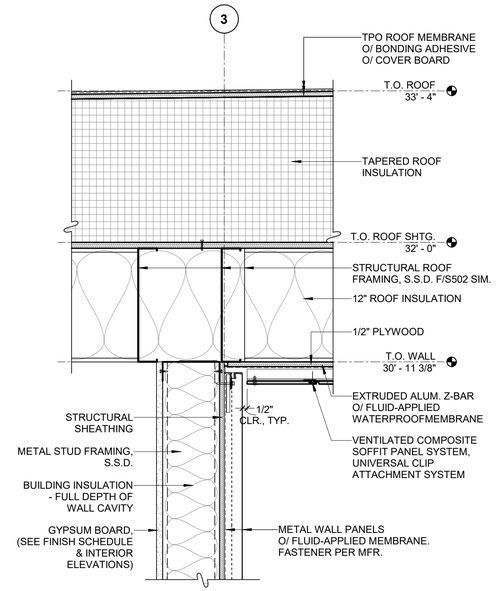
5 WALL DETAIL @ DECK - GRID A

1 1/2" = 1'-0"



6 WALL DETAIL @ CONF. RM. - GRID 3

1 1/2" = 1'-0"



7 ROOF DETAIL @ BC BUNK - GRID 3

1 1/2" = 1'-0"

10/12/2023 7:47:57 PM

REVISION			
NO.	DATE	APPROVAL	DESCRIPTION
	12/16/2021		PLAN CHECK SUBMITTAL
	10/12/2023		BID DOCUMENTS
AS-BUILT			REF.

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR

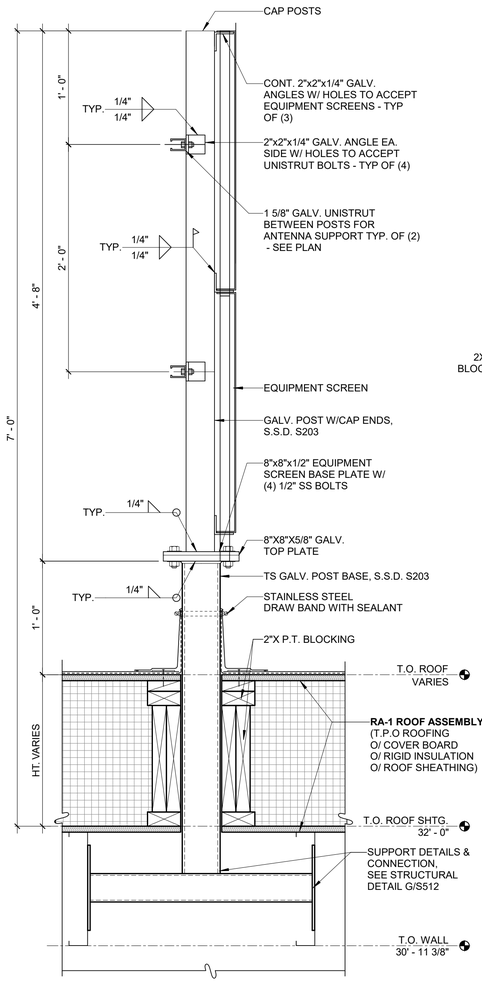
LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

EXTERIOR & ROOF DETAILS

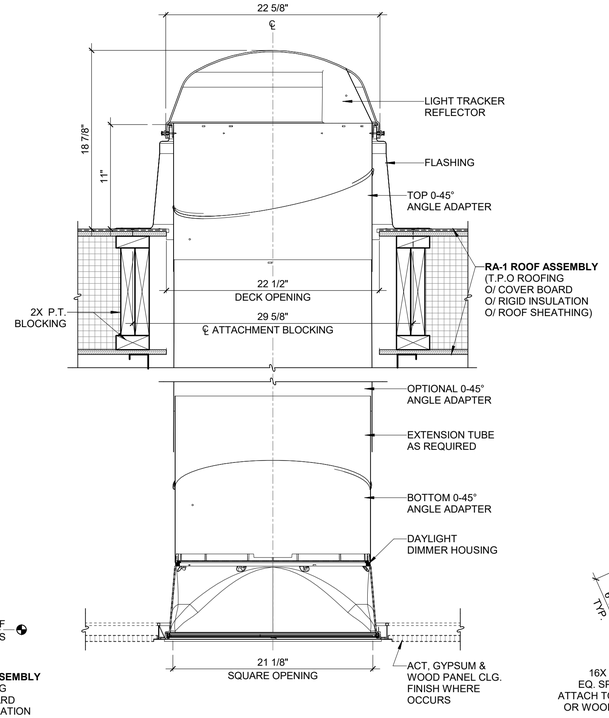
B # B-4797
PHASE # REBID #
SHEET 64 OF 236
DWG. NO. A321

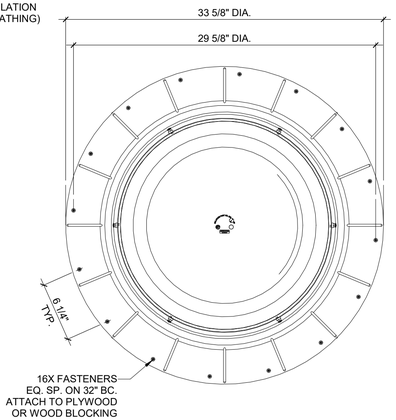
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



ROOF ANTENNA SUPPORT & MECH. ENCLOSURE DETAIL

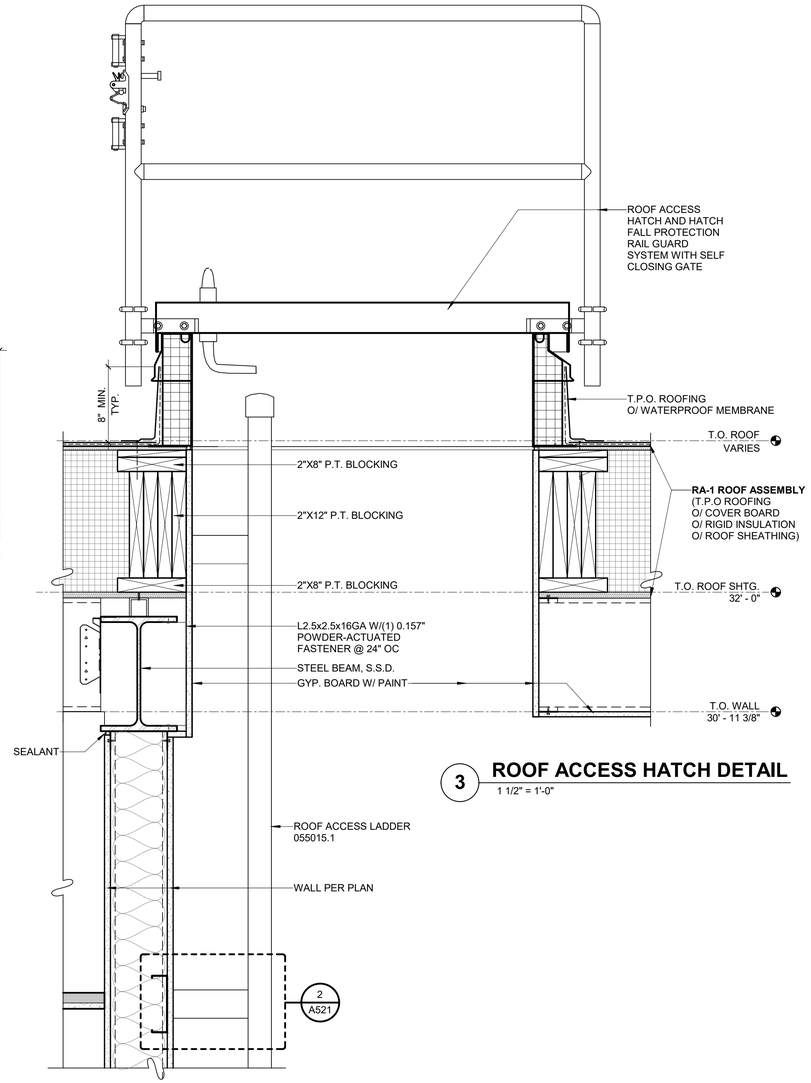
1 1/2" = 1'-0"





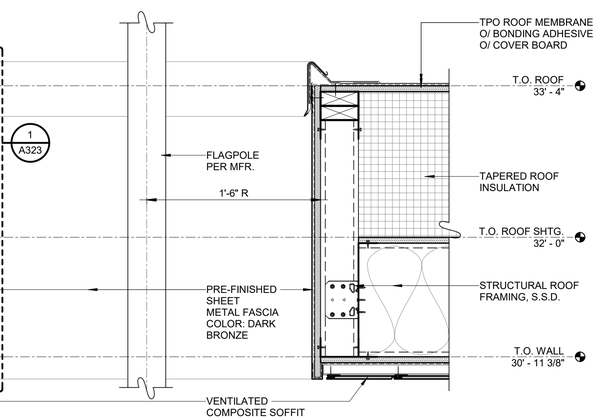
SKYLIGHT SECTION & PLAN DETAIL

2 — 1 1/2" = 1'-0"



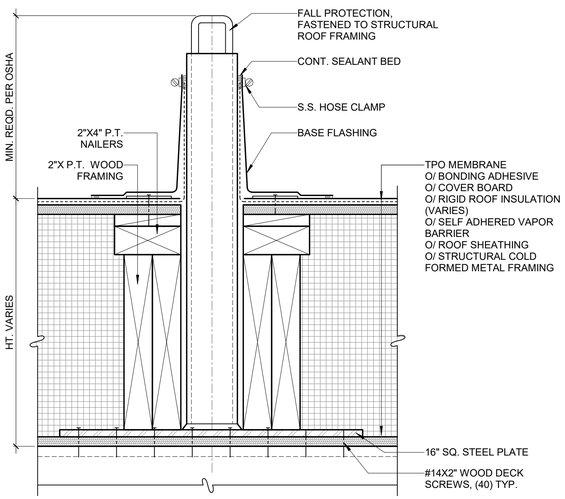
ROOF ACCESS HATCH DETAIL

3 — 1 1/2" = 1'-0"



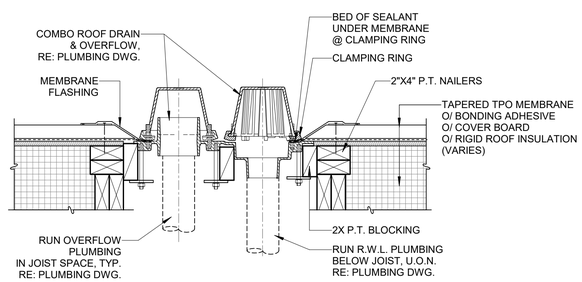
ROOF DETAIL @ FLAGPOLE

4 — 1 1/2" = 1'-0"



FALL PROTECTION DETAIL

5 — 3" = 1'-0"



COMBO ROOF OVERFLOW DRAIN DETAIL

6 — 1 1/2" = 1'-0"

REVISION NO.	DATE	APPROVAL	DESCRIPTION
	12/16/2021		PLAN CHECK SUBMITTAL
	10/12/2023		BID DOCUMENTS
AS-BUILT			REF.

DESIGNED BY: MM | DRAWN BY: LR / RR | DESIGN CHECK BY: MM | DRAWN CHECK BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

EXTERIOR & ROOF DETAILS

B # B-4797

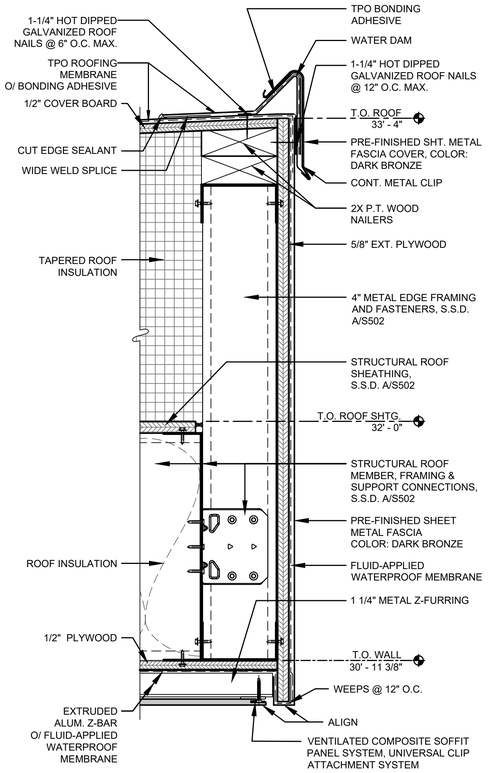
PHASE # REBID #

SHEET 65 OF 236

DWG. NO. A322

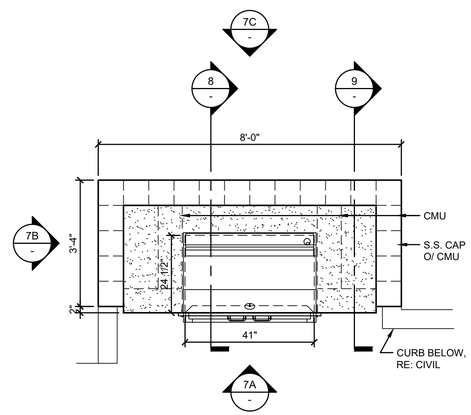
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/12/2023 7:48:00 PM



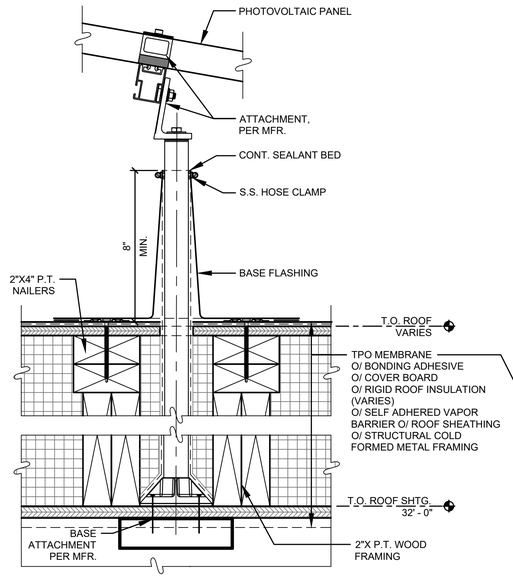
1 TYPICAL ROOF EDGE DETAIL

3" = 1'-0"



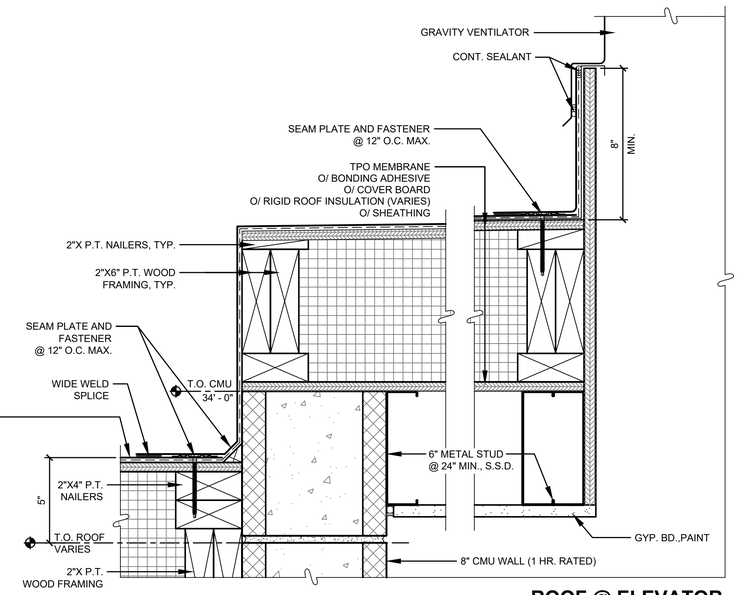
6 ENLARGED BBQ COUNTER PLAN

1/2" = 1'-0"



2 SOLAR PANEL ATTACHMENT DETAIL

3" = 1'-0"

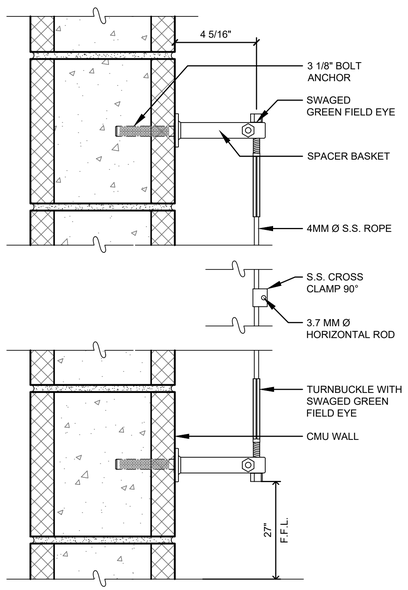


3 ROOF @ ELEVATOR SHAFT DETAIL

3" = 1'-0"

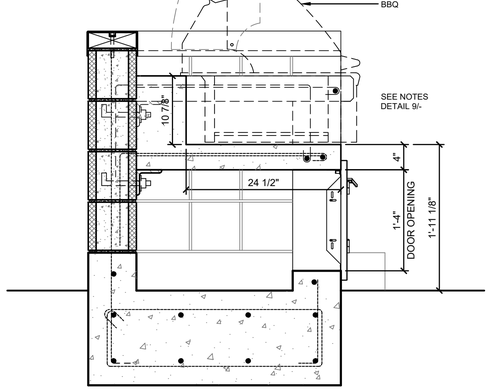
4 ROOF @ ELEVATOR SHAFT DETAIL

3" = 1'-0"



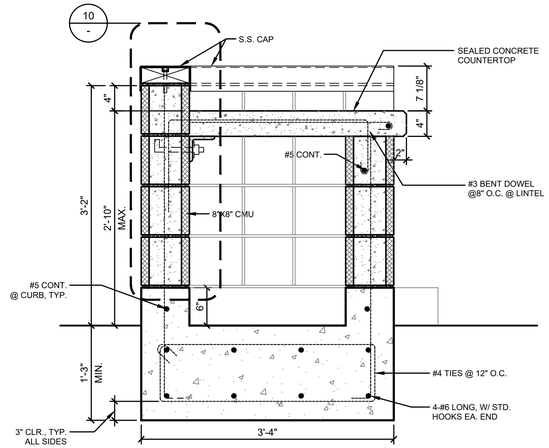
5 WIRE ROPE TRELLIS DETAIL

3" = 1'-0"



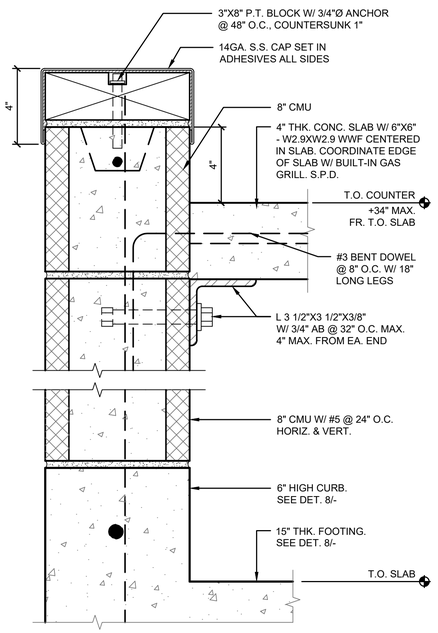
8 SECTION DETAIL @ BBQ COUNTER

1" = 1'-0"



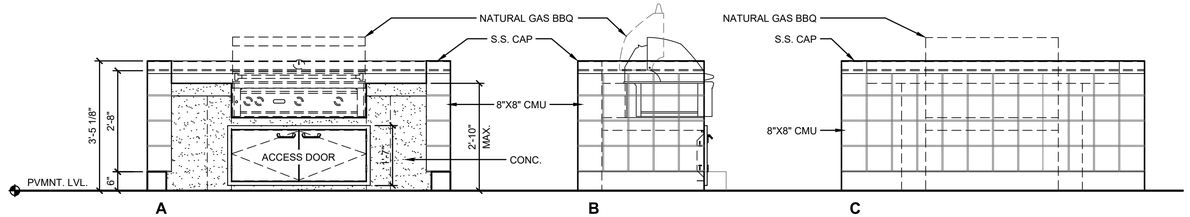
9 SECTION DETAIL @ COUNTERTOP

1" = 1'-0"



10 BBQ COUNTER CAP/CURB DETAIL

3" = 1'-0"



7 BBQ COUNTER ELEVATIONS

1/2" = 1'-0"

Oct 12, 2023 - 8:21pm

NO.	DATE	SHEET	APPROVAL	REVISIONS DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR
AS-BUILT
REF.

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

EXTERIOR DETAILS

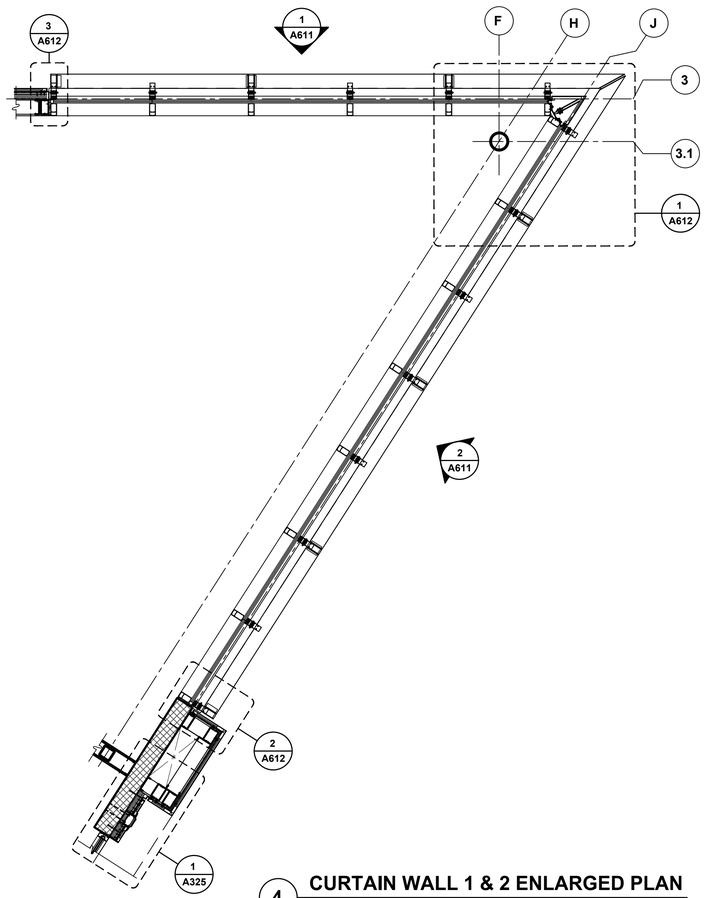
B # B-4797

PHASE # ____ / REBID # ____

SHEET 66 OF 236

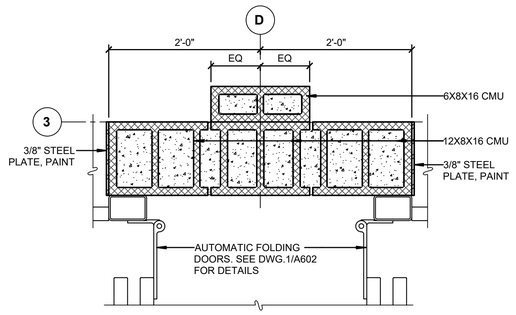
DWG. NO. A323

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



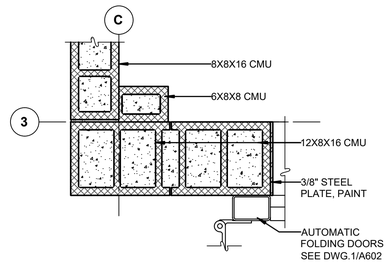
4 CURTAIN WALL 1 & 2 ENLARGED PLAN

3/8" = 1'-0"



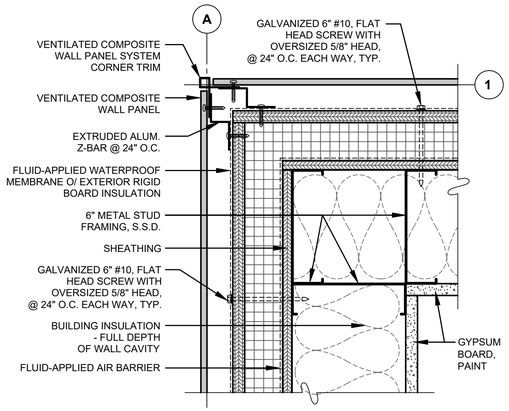
1 TYP. PILASTER WALL DETAIL

1" = 1'-0"



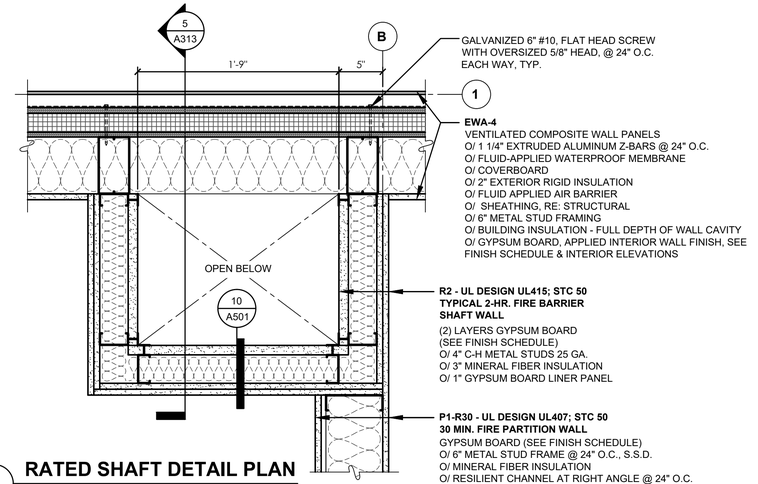
2 CORNER PILASTER WALL DETAIL @ GRID C & 3

1" = 1'-0"



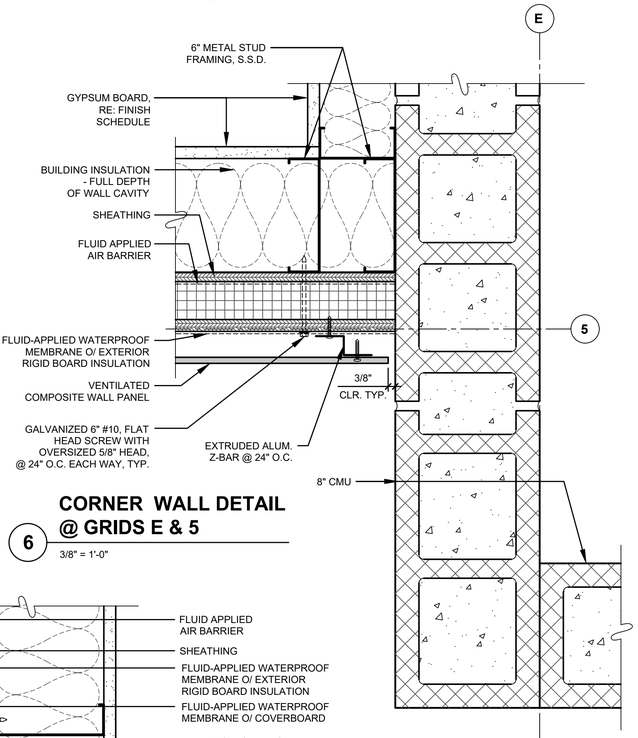
3 TYP. EWA-4 OUTSIDE CORNER DETAIL

1" = 1'-0"



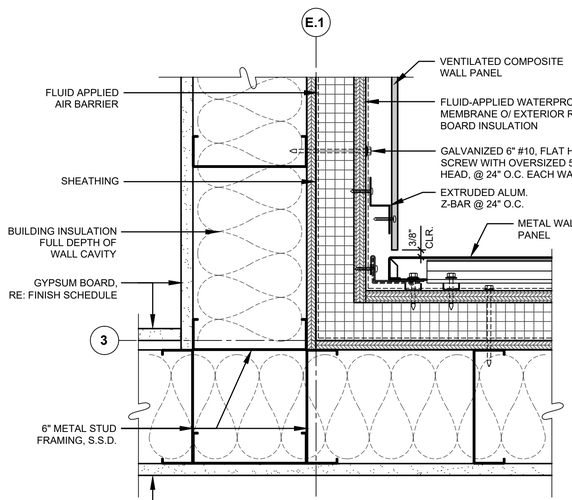
5 RATED SHAFT DETAIL PLAN

3/8" = 1'-0"



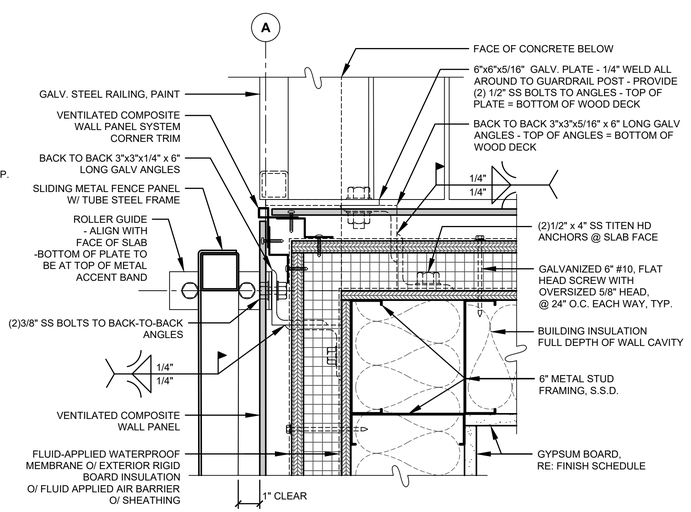
6 CORNER WALL DETAIL @ GRIDS E & 5

3/8" = 1'-0"



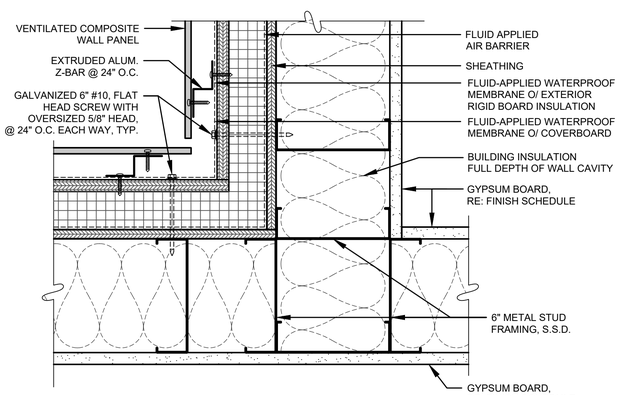
7 CORNER WALL DETAIL @ GRIDS E.1 & 3 SECOND FLOOR

3" = 1'-0"



8 CORNER WALL DETAIL @ GRID A DECK AREA

3" = 1'-0"



9 INSIDE CORNER WALL DETAIL DECK AREA

3" = 1'-0"

NO.	DATE	SHEET	APPROVAL	REVISIONS DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

EXTERIOR DETAILS

B # B-4797

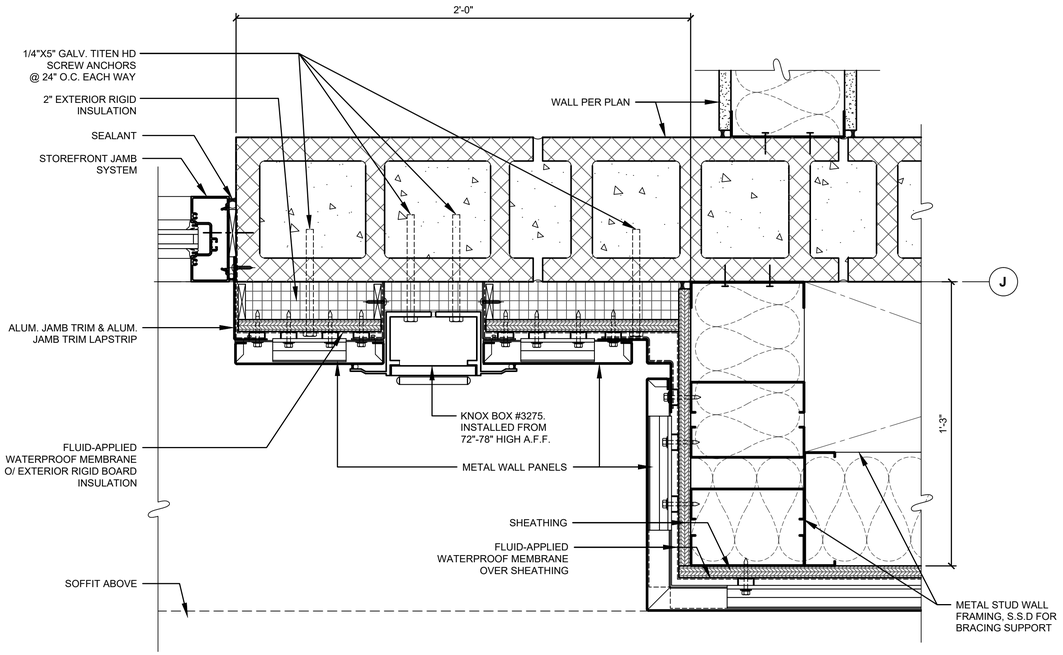
PHASE # ____ / REBID # ____

SHEET 67 OF 236

DWG. NO. A324

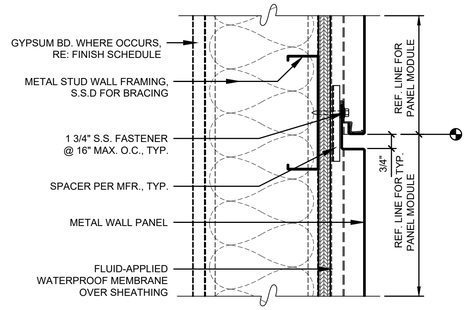
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 12, 2023 - 8:21pm



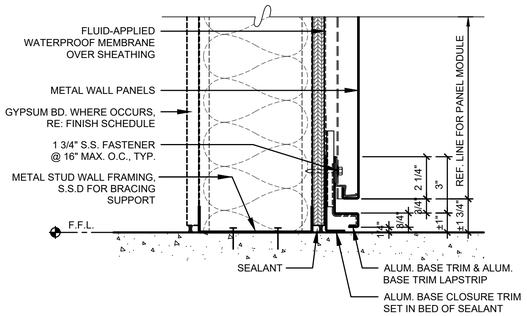
1 ENLARGED EWA-2A & 3A WALL DETAIL

3" = 1'-0"



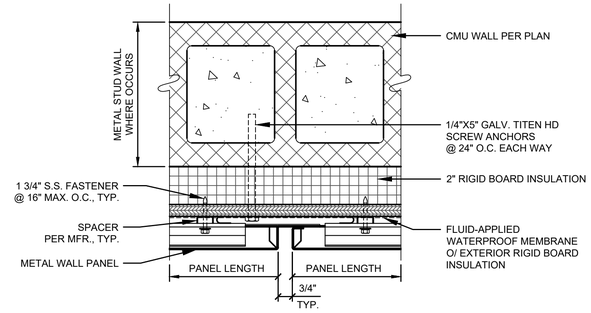
2 METAL WALL PANEL HORIZONTAL JOINT DETAIL (EWA-3A)

3" = 1'-0"



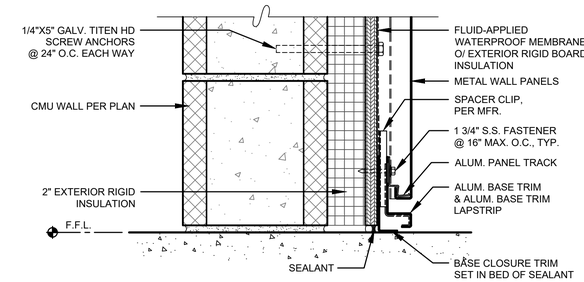
4 METAL WALL PANEL BASE DETAIL (EWA-3A)

3" = 1'-0"



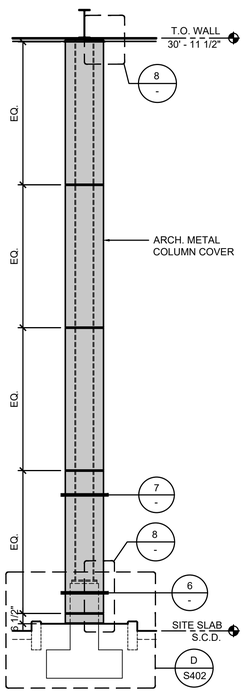
3 METAL WALL PANEL VERTICAL JOINT DETAIL (EWA-2)

3" = 1'-0"



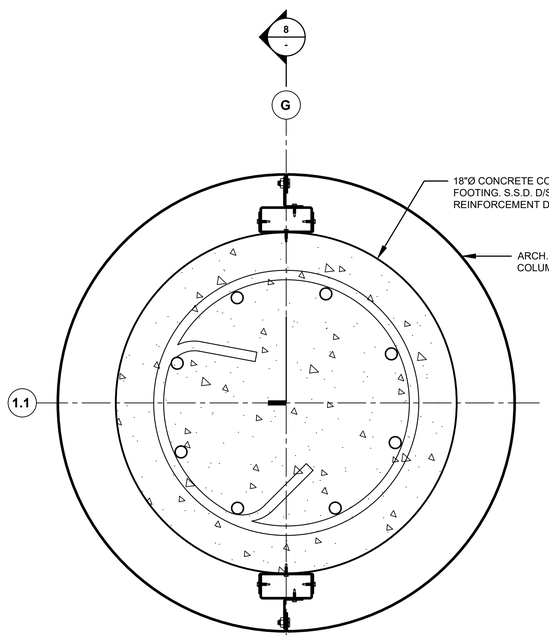
5 METAL WALL PANEL BASE DETAIL (EWA-2A)

3" = 1'-0"



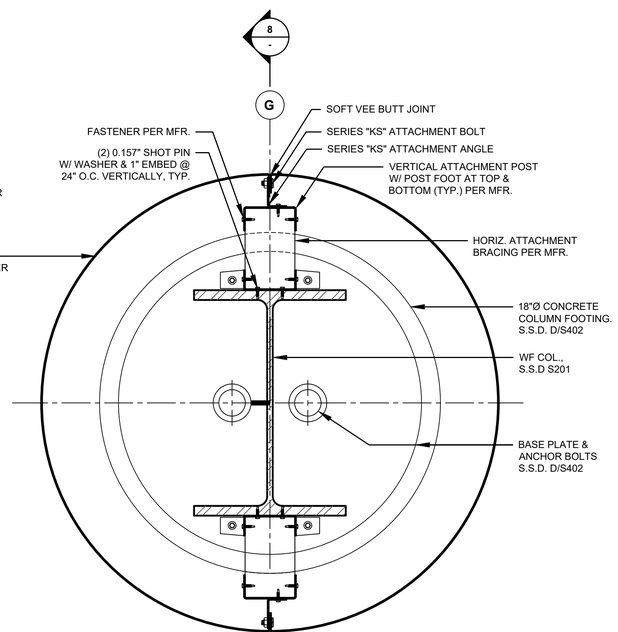
COLUMN ELEV.

1/4" = 1'-0"



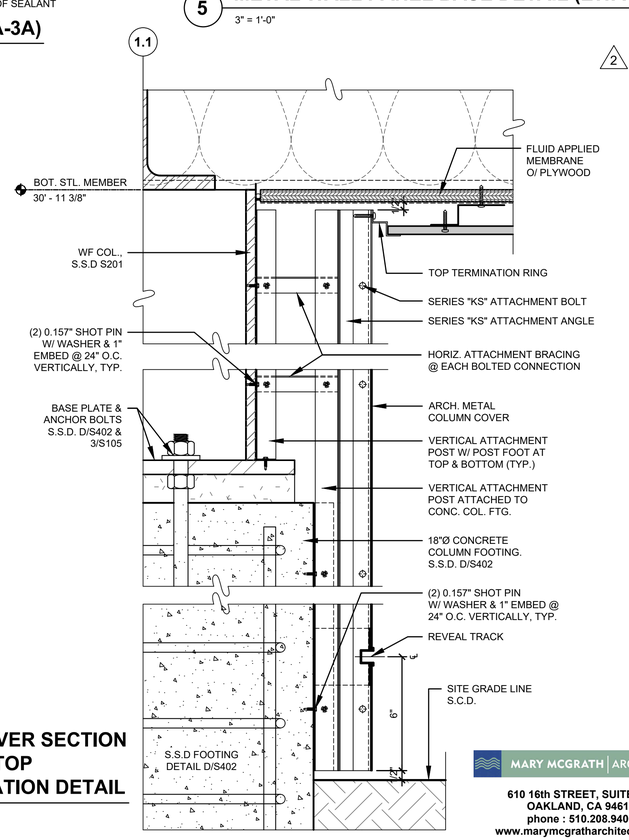
6 COLUMN COVER PLAN @ CONC. FOOTING DETAIL

3" = 1'-0"



7 COLUMN COVER PLAN @ WF COLUMN DETAIL

3" = 1'-0"



8 COL. COVER SECTION BASE & TOP TERMINATION DETAIL

3" = 1'-0"

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

EXTERIOR DETAILS

B # B-4797

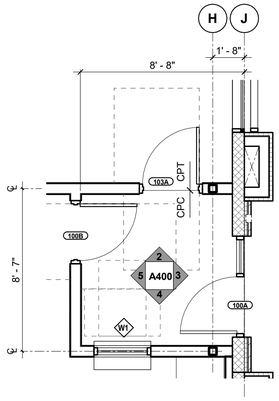
PHASE # ____ / REBID # ____

SHEET 68 OF 236

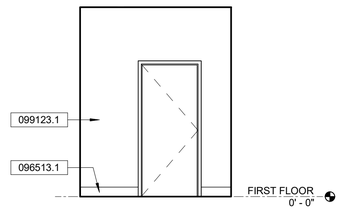
DWG. NO. A325

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

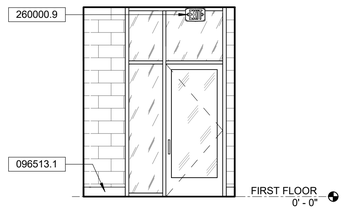
Oct 12, 2023 - 8:22pm



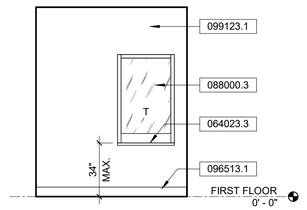
1 100 - LOBBY PLAN
1/4" = 1'-0"



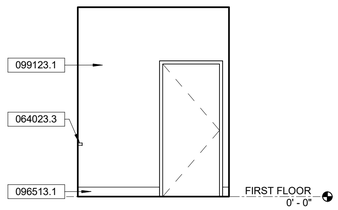
2 100 - LOBBY ELEV.
1/4" = 1'-0"



3 100 - LOBBY ELEV.
1/4" = 1'-0"



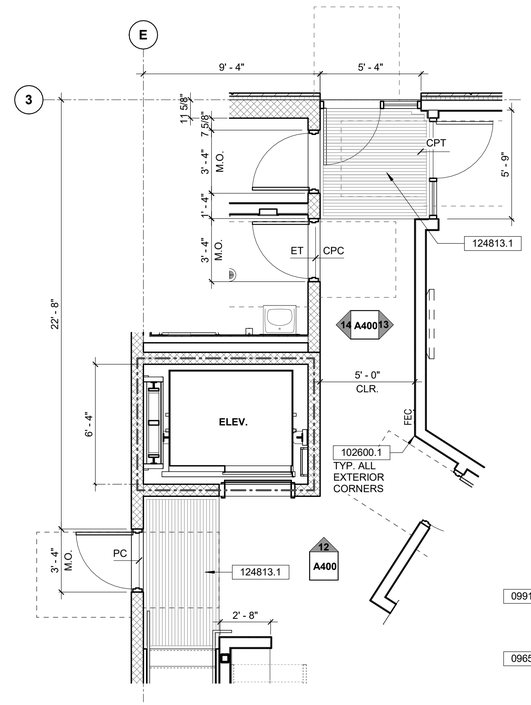
4 100 - LOBBY ELEV.
1/4" = 1'-0"



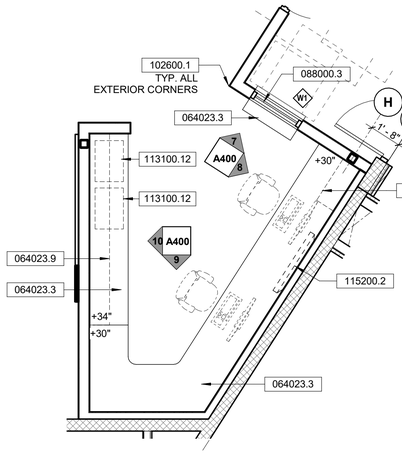
5 100 - LOBBY ELEV.
1/4" = 1'-0"

SPECIFICATION KEYNOTES

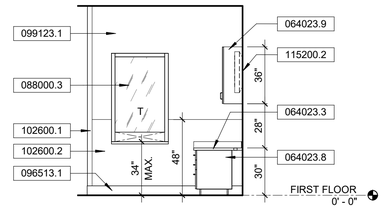
064023.2	ADJUSTABLE SHELVES
064023.3	SOLID SURFACE COUNTERTOP & SPLASH
064023.8	PHENOLIC CASEWORK
064023.9	PHENOLIC UPPER CASEWORK. SEE DWG 1/A510 FOR DETAILS
064023.16	PHENOLIC SHELVING
088000.3	TRANSACTION WINDOW
096513.1	6" RUBBER BASE
096513.2	4" RUBBER BASE @ CABINETS
099123.1	INTERIOR PAINT
099123.2	BLOCK FILL W/ INTERIOR PAINT
101100.1	WHITE MARKER BOARD
102600.1	CORNER WALL GUARD
102600.2	WALL PROTECTION PANELS
104413.1	RECESSED FIRE EXTINGUISHER CABINET
113100.12	PRINTER/COPIER, OWNER FURNISHED
115200.2	RECESS TV MOUNT BRACKET. REFER TO ELECTRICAL DWGS. FOR TV OUTLET W/ DATA. TV/MONITOR IS O.F.C.I.
124813.1	RECESSED ENTRANCE FLOOR MATS & FRAMES
260000.9	EMERGENCY LIGHTING, REFER TO ELEC.



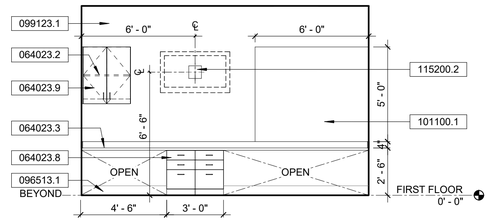
11 102 - HALLWAY 1 PLAN
1/4" = 1'-0"



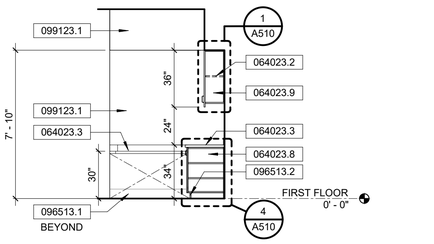
6 101 - STATION OFFICE PLAN
1/4" = 1'-0"



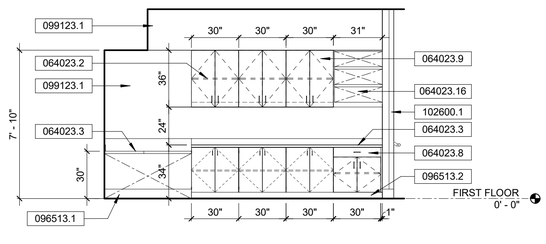
7 101 - STATION OFFICE ELEV.
1/4" = 1'-0"



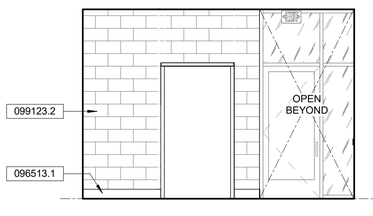
8 101 - STATION OFFICE ELEV.
1/4" = 1'-0"



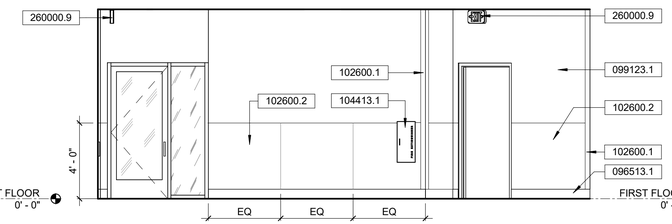
9 101 - STATION OFFICE ELEV.
1/4" = 1'-0"



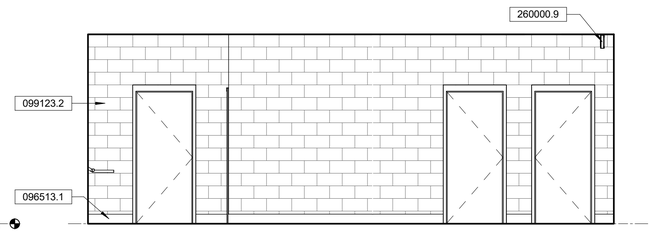
10 101 - STATION OFFICE ELEV.
1/4" = 1'-0"



12 102 - HALLWAY 1 ELEV.
1/4" = 1'-0"



13 102 - HALLWAY 1 ELEV.
1/4" = 1'-0"



14 102 - HALLWAY 1 ELEV.
1/4" = 1'-0"

REVISION NO.	DATE	APPROVAL	DESCRIPTION
	12/16/2021		PLAN CHECK SUBMITTAL
	10/12/2023		BID DOCUMENTS
			AS-BUILT

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR
SHEET
REF.

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

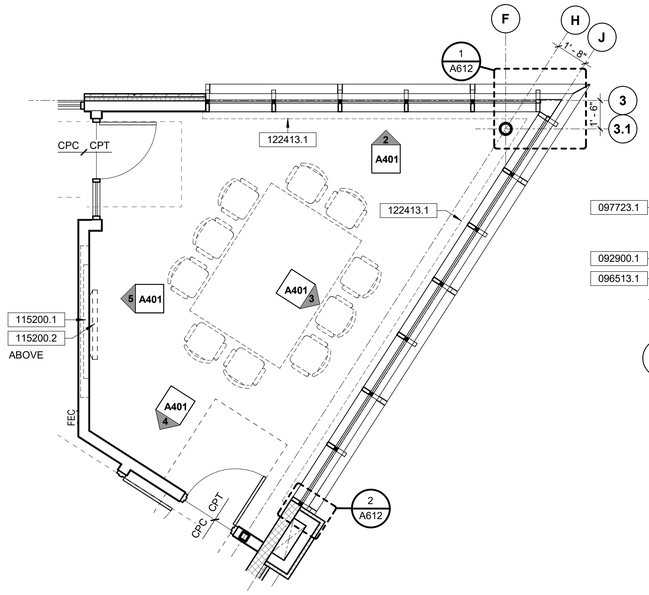
FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ENLARGED PLANS & INTERIOR ELEVATIONS

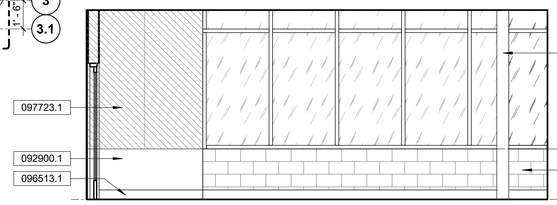
B # B-4797
PHASE # REBID #
SHEET 69 OF 236
DWG. NO. A400

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

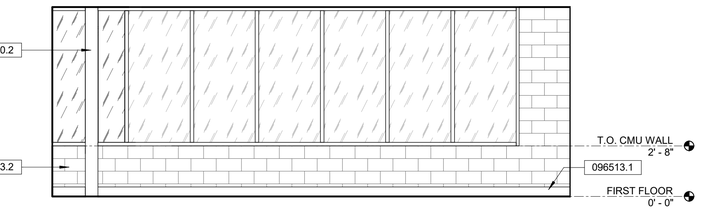
10/12/2023 7:48:06 PM



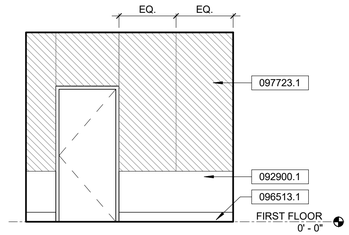
1 103 - CONFERENCE ROOM PLAN
1/4" = 1'-0"



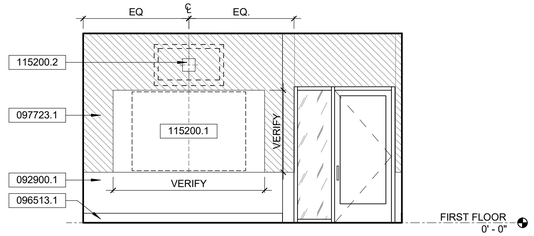
2 103 - CONFERENCE ROOM ELEVATION
1/4" = 1'-0"



3 103 - CONFERENCE ROOM ELEVATION
1/4" = 1'-0"



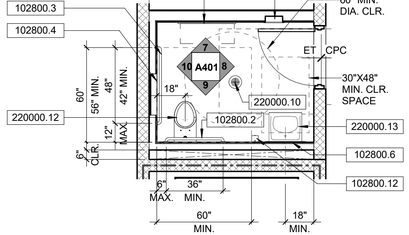
4 103 - CONFERENCE ROOM ELEVATION
1/4" = 1'-0"



5 103 - CONFERENCE ROOM ELEVATION
1/4" = 1'-0"

SPECIFICATION KEYNOTES

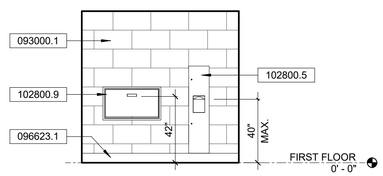
076200.2	SHEET METAL, PRE-FINISHED @ COL.
089000.1	LOUVER & VENTS. SEE MECH. DWG. M120 FOR DIMENSION REQTS. & LOUVER DETAILS ON DWG. A615.
092900.1	GYPSUM BOARD, PAINT
093000.1	12"X24" CERAMIC TILE
096513.1	6" RUBBER BASE
096623.1	6" PRE-CAST EPOXY TERRAZZO BASE
097723.1	FABRIC-WRAPPED PANELS
099123.2	BLOCK FILL W/ INTERIOR PAINT
102600.2	WALL PROTECTION PANELS
102800.2	36" GRAB BAR. PROVIDE BACKING. SEE DETAIL 6/A009
102800.3	48" GRAB BAR. PROVIDE BACKING. SEE DETAIL 6/A009
102800.4	RECESSED SEAT COVER DISPENSER, WASTE RECEPTACLE & TOILET TISSUE DISPENSER
102800.5	RECESSED PAPER TOWEL DISPENSER/WASTE RECEPTACLE
102800.6	S.S. FRAMED MIRROR
102800.9	RECESSED BABY CHANGING STATION
102800.12	AUTOMATIC WALL-MOUNTED FOAM SOAP DISPENSER
102800.13	SURFACE MOUNTED SEAT COVER DISPENSER, WASTE RECEPTACLE & TOILET TISSUE DISPENSER
102800.14	SURFACE MOUNTED PAPER TOWEL DISPENSER/WASTE RECEPTACLE
115200.1	RECESS "SMART BOARD", O.F.C.I. REFER TO ELECTRICAL DWGS. FOR OUTLET W/DATA.
115200.2	RECESS TV MOUNT BRACKET. REFER TO ELECTRICAL DWGS. FOR TV OUTLET W/ DATA. TV/MONITOR IS O.F.C.I.
122413.1	ROLLER WINDOW SHADES (SINGLE)
220000.12	WALL HUNG WATER CLOSET
220000.13	WALL HUNG LAVATORY
265100.1	INTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.



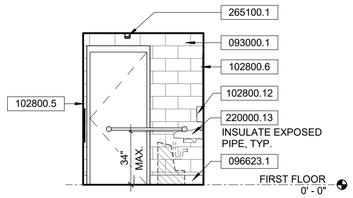
6 104 - ALL GENDER ACCESSIBLE RESTROOM PLAN
1/4" = 1'-0"

NOTE:

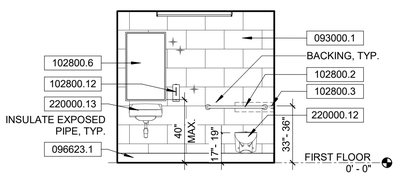
SEE DWG SHEET 1/A008 & A009 FOR ACCESSIBILITY DIMENSION CLEARANCES.



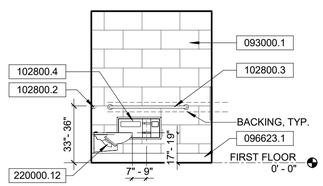
7 104 - ALL GENDER ACCESSIBLE RESTROOM ELEVATION
1/4" = 1'-0"



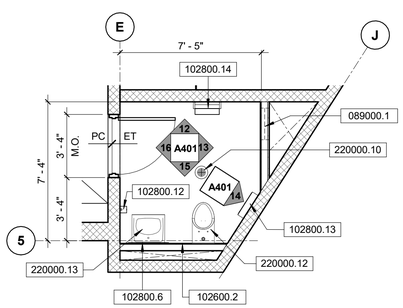
8 104 - ALL GENDER ACCESSIBLE RESTROOM ELEVATION
1/4" = 1'-0"



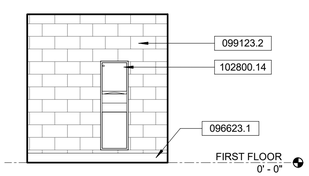
9 104 - ALL GENDER ACCESSIBLE RESTROOM ELEVATION
1/4" = 1'-0"



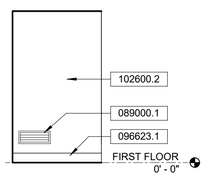
10 104 - ALL GENDER ACCESSIBLE RESTROOM ELEVATION
1/4" = 1'-0"



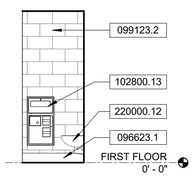
11 106 - FF RESTROOM PLAN
1/4" = 1'-0"



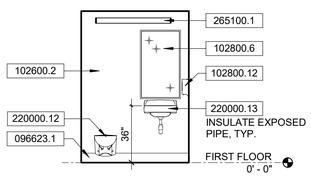
12 106 - FF RESTROOM ELEV.
1/4" = 1'-0"



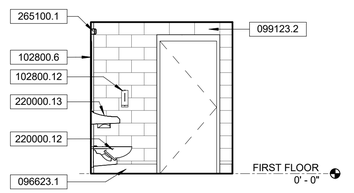
13 106 - FF RESTROOM ELEV.
1/4" = 1'-0"



14 106 - FF RESTROOM ELEV.
1/4" = 1'-0"



15 106 - FF RESTROOM ELEV.
1/4" = 1'-0"



16 106 - FF RESTROOM ELEV.
1/4" = 1'-0"

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISION NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/7/2023			BID DOCUMENTS
AS-BUILT				REF.

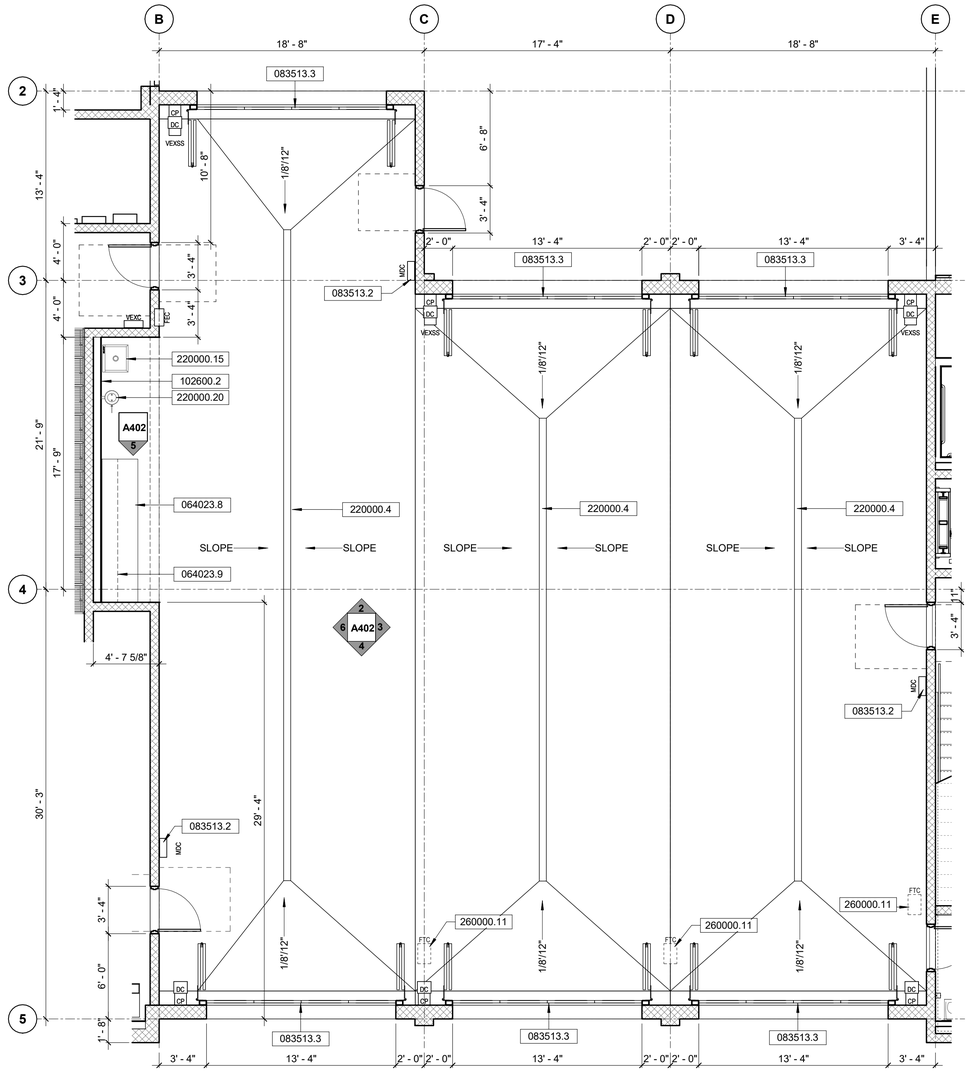
DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

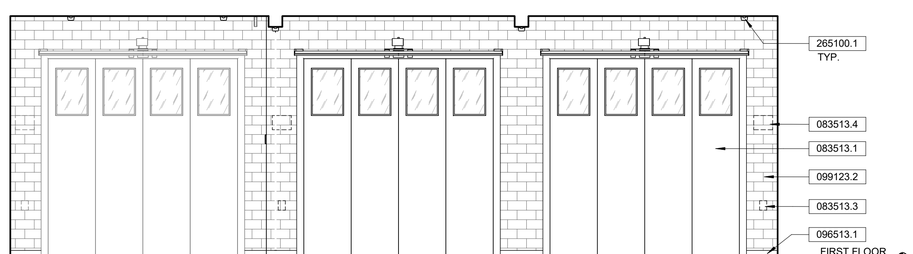
FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
ENLARGED PLANS & INTERIOR ELEVATIONS

B # B-4797
PHASE # REBID #
SHEET 70 OF 236
DWG. NO. A401

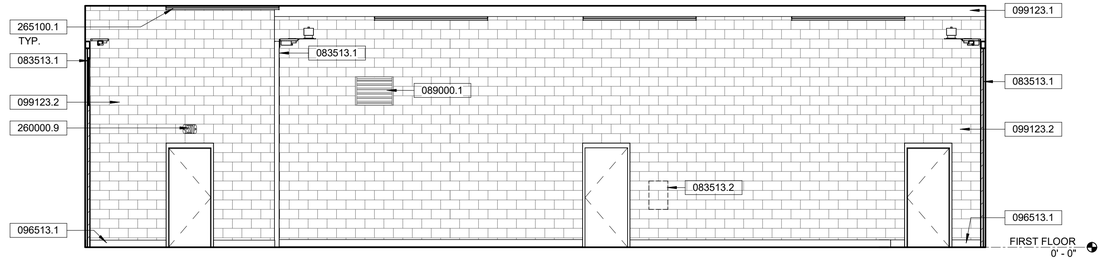
10/12/2023 7:48:12 PM



1 **107-108 - APPARATUS BAY + WORKSHOP PLAN**
3/16" = 1'-0"

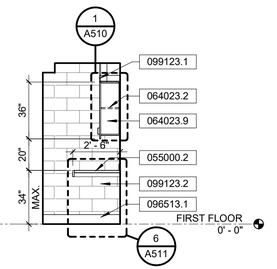


2 **107-108 - APPARATUS BAY + WORKSHOP ELEVATION**
3/16" = 1'-0"

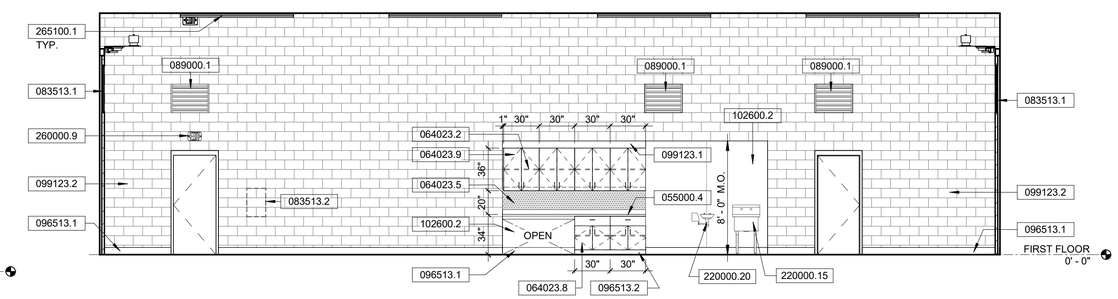


3 **107-108 - APPARATUS BAY + WORKSHOP ELEVATION**
3/16" = 1'-0"

4 **107-108 - APPARATUS BAY + WORKSHOP ELEVATION**
3/16" = 1'-0"



5 **108 - WORKSHOP ALCOVE ELEV.**
1/4" = 1'-0"



6 **107-108 - APPARATUS BAY + WORKSHOP ELEVATION**
3/16" = 1'-0"

SPECIFICATION KEYNOTES

055000.2	STAINLESS STEEL COUNTERTOP & BACKSPLASH
055000.4	MECHANICAL ENCLOSURE SCREEN, PRE-FINISHED
064023.2	ADJUSTABLE SHELVES
064023.5	PEG BOARD, OVER PAINTED GYP. BOARD
064023.8	PHENOLIC CASEWORK
064023.9	PHENOLIC UPPER CASEWORK. SEE DWG 1/A510 FOR DETAILS
083513.1	AUTOMATIC FOLDING DOORS. SEE DOOR SCHEDULE A600 FOR DOOR SIZE AND 1/A602FOR DETAILS.
083513.2	FOLDING DOOR MASTER DOOR CONTROL. REFER TO ELEC.
083513.3	FOLDING DOOR-DOOR CONTROL/DISCONNECT. REFER TO ELEC.
083513.4	FOLDING DOOR-DOOR CONTROL PANEL. REFER TO ELEC.
089000.1	LOUVER & VENTS. SEE MECH. DWG. M120 FOR DIMENSION REQTS. & LOUVER DETAILS ON DWG. A615.
096513.1	6" RUBBER BASE
096513.2	4" RUBBER BASE @ CABINETS
099123.1	INTERIOR PAINT
099123.2	BLOCK FILL W/ INTERIOR PAINT
102600.2	WALL PROTECTION PANELS
220000.4	TRENCH DRAIN, REFER TO PLUMBING DWGS.
220000.15	UTILITY SINK, REFER TO PLUMBING DWGS.
220000.20	EYE WASH, REFER TO PLUMBING DWGS.
260000.9	EMERGENCY LIGHTING, REFER TO ELEC.
260000.11	FUTURE VEHICLE CHARGING STATION
265100.1	INTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/7/2023			BID DOCUMENTS
AS-BUILT				REF.

DESIGNED BY: **MM**
DRAWN BY: **LR / RR**
DESIGN CHECK BY: **MM**
DRAWN CHECK BY: **MM / RR**

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ENLARGED PLANS & INTERIOR ELEVATIONS

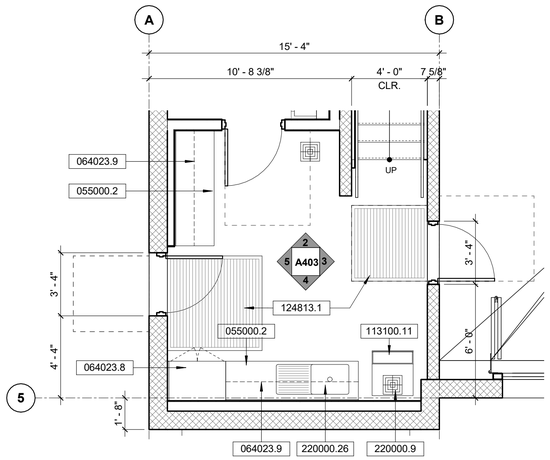
B # **B-4797**
PHASE # REBID #
SHEET **71** OF **236**
DWG. NO. **A402**

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

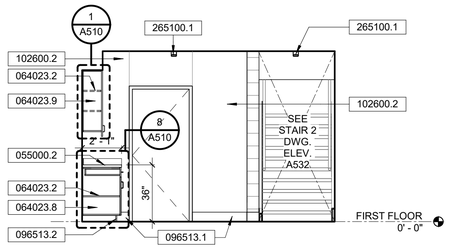
10/12/2023 7:48:19 PM

SPECIFICATION KEYNOTES

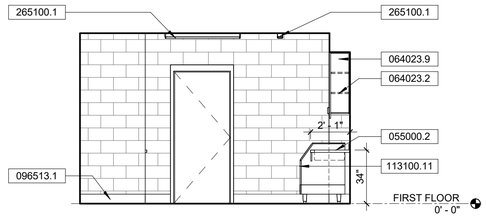
055000.2	STAINLESS STEEL COUNTERTOP & BACKSPLASH
055000.3	STAINLESS STEEL BACKSPLASH, FULL HEIGHT
064023.2	ADJUSTABLE SHELVES
064023.8	PHENOLIC CASEWORK
064023.9	PHENOLIC UPPER CASEWORK. SEE DWG 1/A510 FOR DETAILS
096513.1	6" RUBBER BASE
096513.2	4" RUBBER BASE @ CABINETS
099123.1	INTERIOR PAINT
099123.2	BLOCK FILL W/ INTERIOR PAINT
102600.2	WALL PROTECTION PANELS
102800.1	UTILITY SHELF W/ MOP/BROOM HOLDERS & RAG HOOKS
113100.11	ICE MACHINE
124813.1	RECESSED ENTRANCE FLOOR MATS & FRAMES
220000.7	MOP SINK
220000.9	FLOOR SINK
220000.26	CLEAN-UP SINK W/ DRAIN BOARD, REFER TO PLUMBING DWGS.
260000.9	EMERGENCY LIGHTING, REFER TO ELEC.
265100.1	INTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.



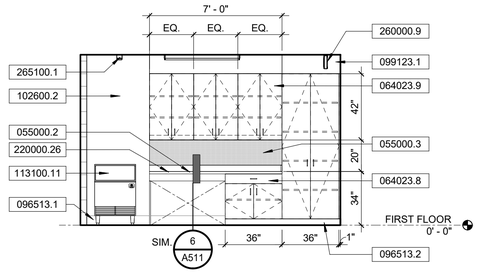
1 109 - APPARATUS BAY SUPPORT PLAN
1/4" = 1'-0"



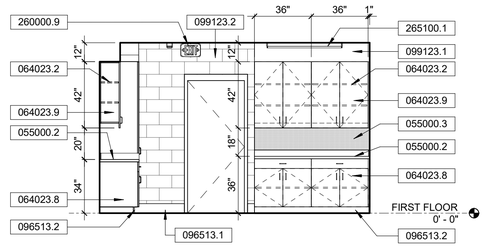
2 109 - APPARATUS BAY SUPPORT ELEV.
1/4" = 1'-0"



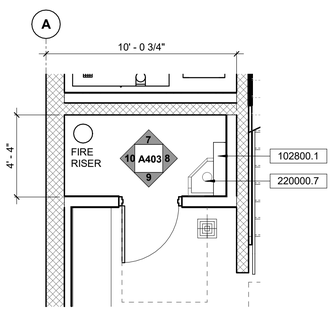
3 109 - APPARATUS BAY SUPPORT ELEV.
1/4" = 1'-0"



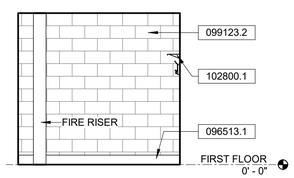
4 109 - APPARATUS BAY SUPPORT ELEV.
1/4" = 1'-0"



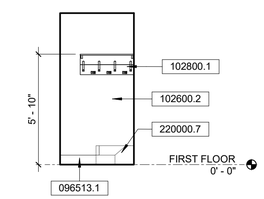
5 109 - APPARATUS BAY SUPPORT ELEV.
1/4" = 1'-0"



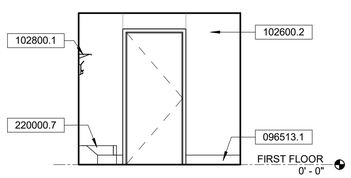
6 110 - JANITOR PLAN
1/4" = 1'-0"



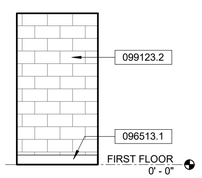
7 110 - JANITOR ELEV.
1/4" = 1'-0"



8 110 - JANITOR ELEV.
1/4" = 1'-0"



9 110 - JANITOR ELEV.
1/4" = 1'-0"



10 110 - JANITOR ELEV.
1/4" = 1'-0"

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISION NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/7/2023			BID DOCUMENTS
AS-BUILT			REF.	

DESIGNED BY: **MM**
DRAWN BY: **LR / RR**
DESIGN CHECK BY: **MM**
DRAWN CHECK BY: **MM / RR**

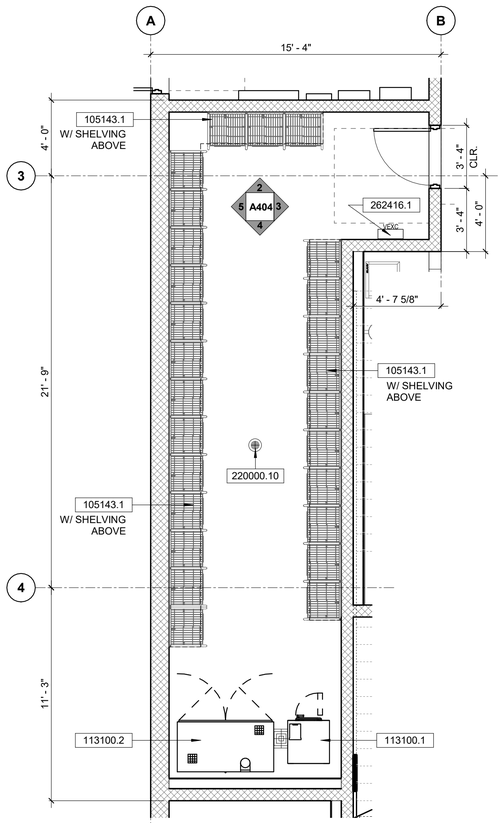
LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ENLARGED PLANS & INTERIOR ELEVATIONS

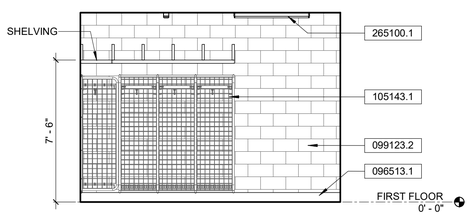
B # **B-4797**
PHASE # REBID #
SHEET **72** OF **236**
DWG. NO. **A403**

10/12/2023 7:48:24 PM



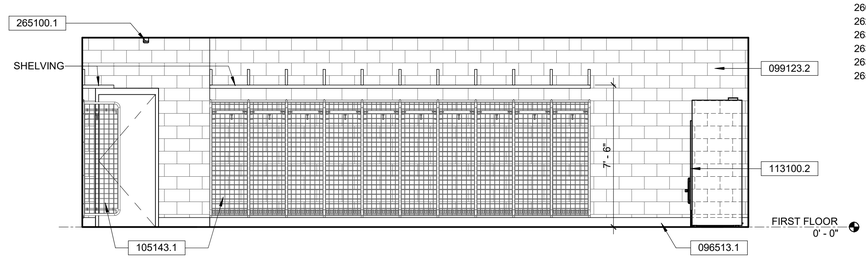
1 111 - TURNOUT GEAR PLAN

1/4" = 1'-0"



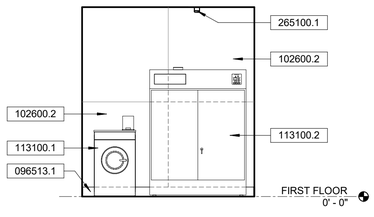
2 111 - TURNOUT GEAR ELEVATION

1/4" = 1'-0"



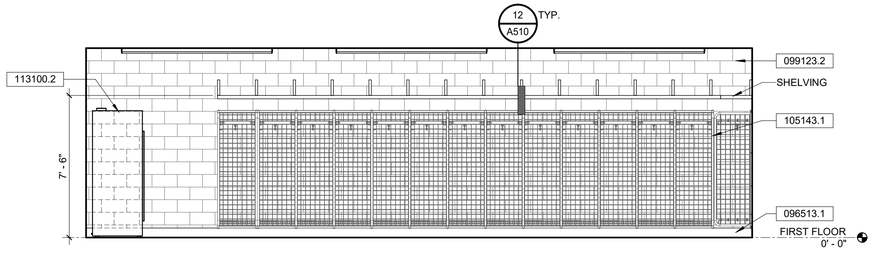
3 111 - TURNOUT GEAR ELEVATION

1/4" = 1'-0"



4 111 - TURNOUT GEAR ELEVATION

1/4" = 1'-0"

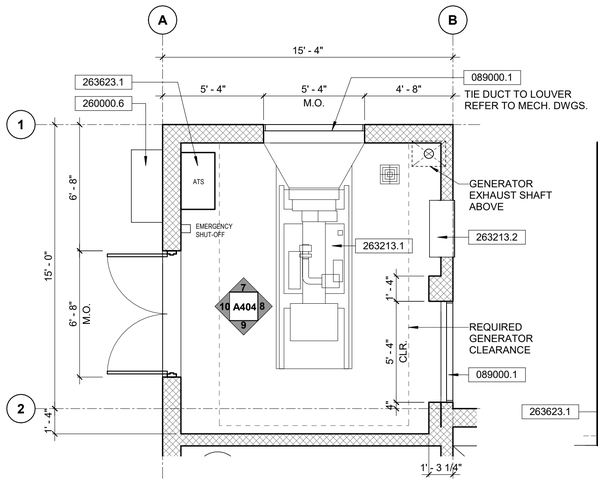


5 111 - TURNOUT GEAR ELEVATION

1/4" = 1'-0"

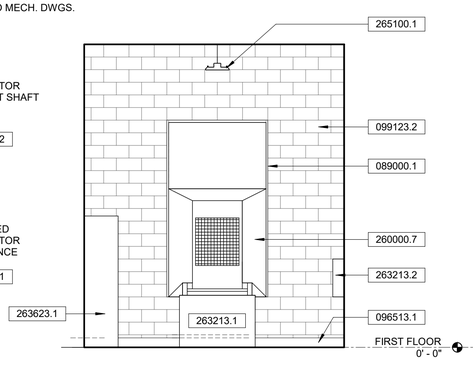
SPECIFICATION KEYNOTES

089000.1	LOUVER & VENTS. SEE MECH. DWG. M120 FOR DIMENSION REQTS. & LOUVER DETAILS ON DWG. A615.
096513.1	6" RUBBER BASE
099123.2	BLOCK FILL W/ INTERIOR PAINT
102600.2	WALL PROTECTION PANELS
105143.1	WIRE MESH STORAGE LOCKERS
113100.1	TURNOUT WASHER
113100.2	HOSE DRYER
220000.10	FLOOR DRAIN. REFER TO PLUMBING DWGS, SLOPE MIN 1/8" PER FT TO DRAIN, TYP.
260000.6	GENERATOR CONNECTION PANEL, REFER TO ELECTRICAL DWGS.
260000.7	GENERATOR, REFER TO ELECTRICAL DWGS.
262416.1	PANEL BOARDS
263213.1	EMERGENCY GENERATOR W/SUBBASE FUEL TANK
263213.2	REMOTE FUELING FILL STATION
263623.1	AUTOMATIC TRANSFER SWITCH
265100.1	INTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.



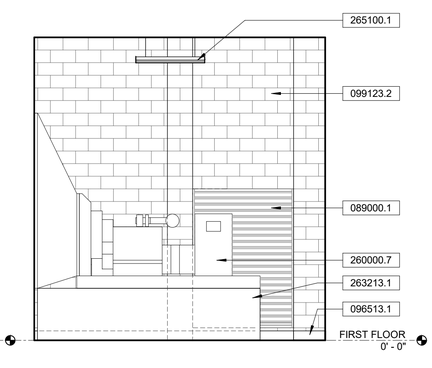
6 113 - GENERATOR ROOM

1/4" = 1'-0"



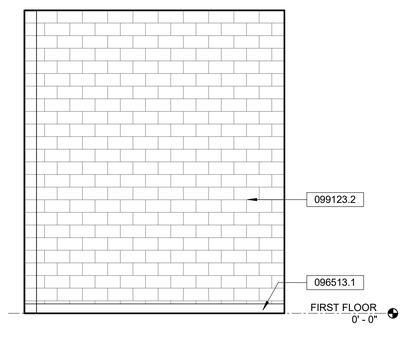
7 113 - GEN. ROOM ELEV.

1/4" = 1'-0"



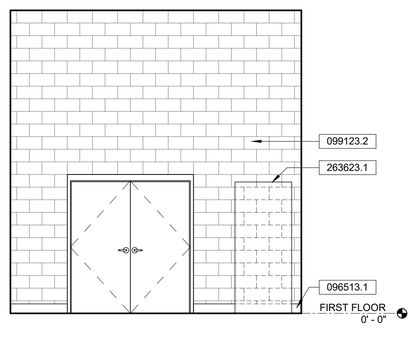
8 113 - GEN. ROOM ELEV.

1/4" = 1'-0"



9 113 - GEN. ROOM ELEV.

1/4" = 1'-0"



10 113 - GEN. ROOM ELEV.

1/4" = 1'-0"

NO.	DATE	SHEET
	12/16/2021	
	10/12/2023	

REVISION

APPROVAL	DESCRIPTION
	PLAN CHECK SUBMITTAL
	BID DOCUMENTS

REF.

AS-BUILT

DESIGNED BY: **MM**

DRAWN BY: **LR / RR**

DESIGN CHECK BY: **MM**

DRAWN CHECK BY: **MM / RR**

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ENLARGED PLANS & INTERIOR ELEVATIONS

B # **B-4797**

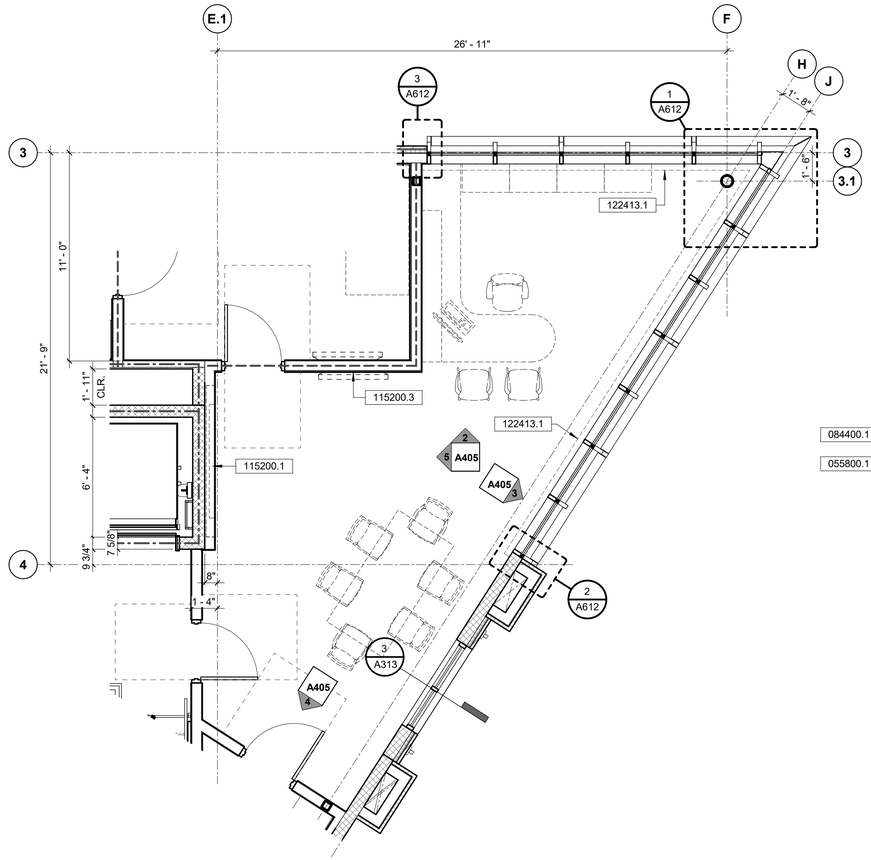
PHASE # REBID #

SHEET **73** OF **236**

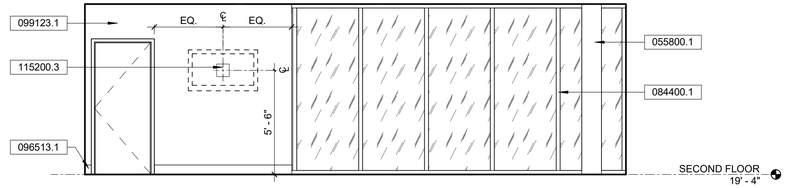
DWG. NO. **A404**

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

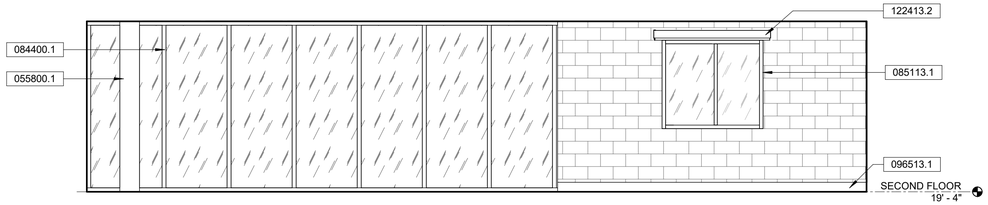
10/12/2023 7:48:48 PM



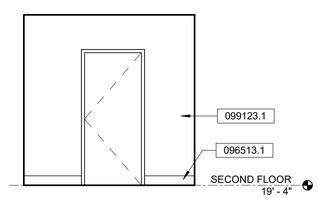
1 201 - BC OFFICE PLAN
1/4" = 1'-0"



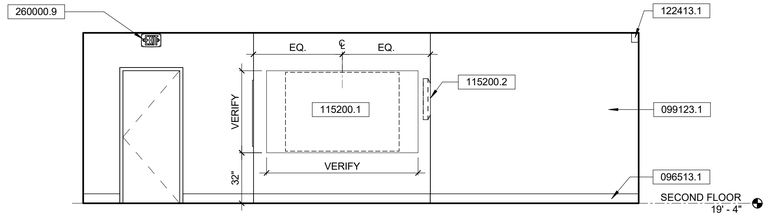
2 201 - BC OFFICE ELEVATION
1/4" = 1'-0"



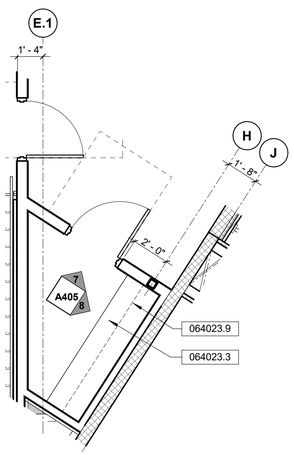
3 201 - BC OFFICE ELEVATION
1/4" = 1'-0"



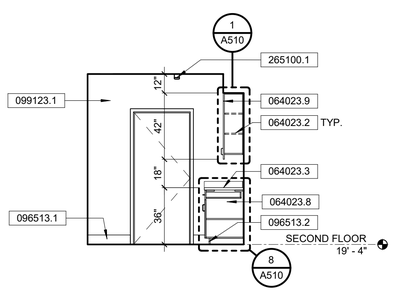
4 201 - BC OFFICE ELEVATION
1/4" = 1'-0"



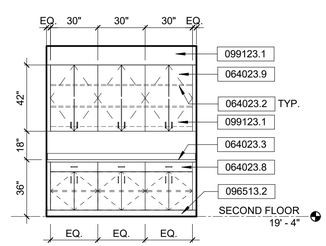
5 201 - BC OFFICE ELEVATION
1/4" = 1'-0"



6 202 - STORAGE PLAN
1/4" = 1'-0"



7 202 - STORAGE ELEV.
1/4" = 1'-0"



8 202 - STORAGE ELEV.
1/4" = 1'-0"

SPECIFICATION KEYNOTES

055800.1	ARCHITECTURAL METALS COLUMN COVER. PROVIDE ALUM. MOLDING TRIM, COL. COLLAR TO RECEIVE EXTERIOR & INTERIOR SOFFIT MATERIAL. COLOR TO MATCH COLUMN.
064023.2	ADJUSTABLE SHELVES
064023.3	SOLID SURFACE COUNTERTOP & SPLASH
064023.8	PHENOLIC CASEWORK
064023.9	PHENOLIC UPPER CASEWORK. SEE DWG 1/A510 FOR DETAILS
084400.1	CURTAINWALL SYSTEM W/ INTEGRAL LOUVERS. SEE DWGS. A610-A613 FOR ELEV. & DETAILS.
085113.1	ALUMINUM CLAD WINDOW. SEE DWG. 1-4/A614 FOR DETAILS.
096513.1	6" RUBBER BASE
096513.2	4" RUBBER BASE @ CABINETS
099123.1	INTERIOR PAINT
115200.1	RECESS "SMART BOARD", O.F.C.I. REFER TO ELECTRICAL DWGS. FOR OUTLET W/DATA.
115200.2	RECESS TV MOUNT BRACKET. REFER TO ELECTRICAL DWGS. FOR TV OUTLET W/ DATA. TV/MONITOR IS O.F.C.I.
115200.3	SURFACE TV MOUNT BRACKET. REFER TO ELECTRICAL DWGS. FOR TV OUTLET W/DATA
122413.1	ROLLER WINDOW SHADES (SINGLE)
122413.2	ROLLER WINDOW SHADES (DOUBLE)
260000.9	EMERGENCY LIGHTING, REFER TO ELEC.
265100.1	INTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ENLARGED PLANS & INTERIOR ELEVATIONS

B # B-4797

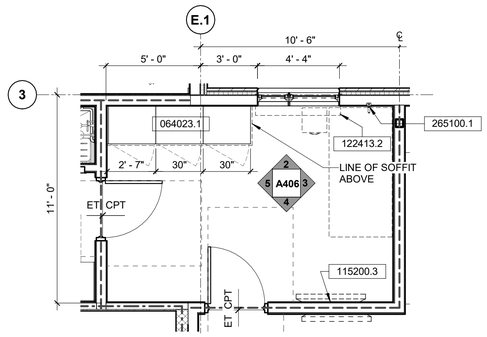
PHASE # ____ REBID # ____

SHEET 74 OF 236

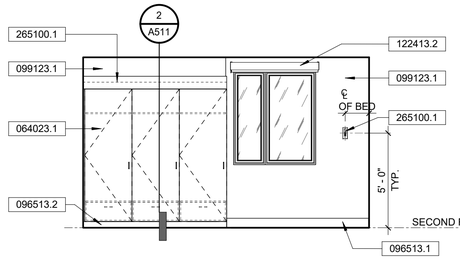
DWG. NO. A405

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

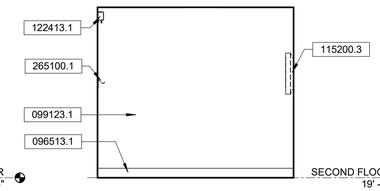
10/12/2023 7:48:53 PM



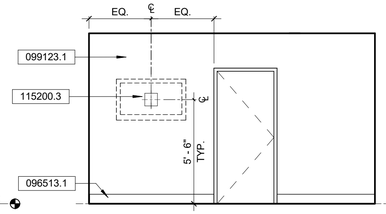
1 203 - BC BUNK PLAN
1/4" = 1'-0"



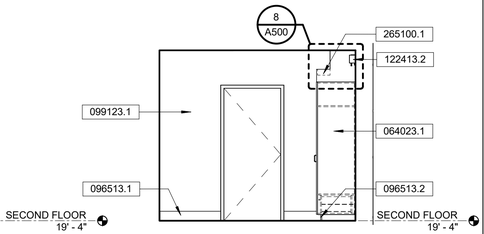
2 203 - BC BUNK ELEVATION
1/4" = 1'-0"



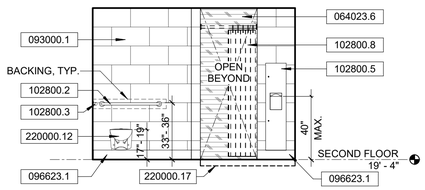
3 203 - BC BUNK ELEVATION
1/4" = 1'-0"



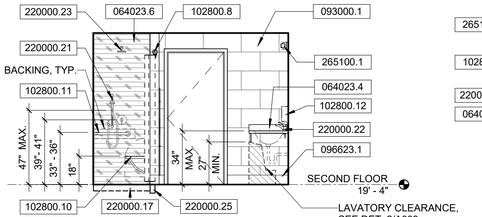
4 203 - BC BUNK ELEVATION
1/4" = 1'-0"



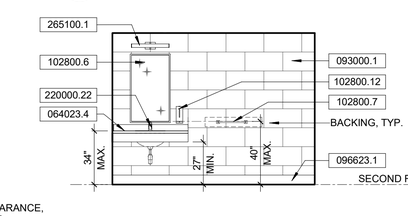
5 203 - BC BUNK ELEVATION
1/4" = 1'-0"



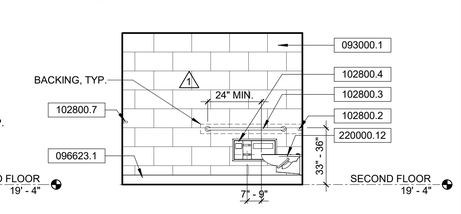
7 204 - BC ACCESSIBLE RESTROOM ELEVATION
1/4" = 1'-0"



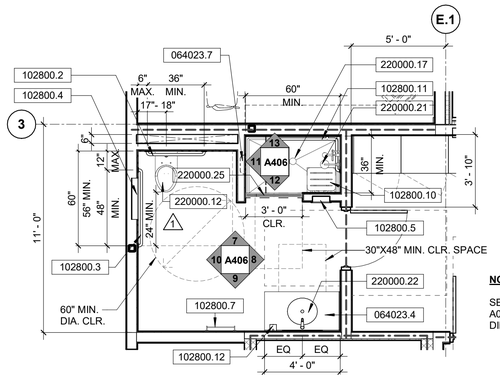
8 204 - BC ACCESSIBLE RESTROOM ELEVATION
1/4" = 1'-0"



9 204 - BC ACCESSIBLE RESTROOM ELEVATION
1/4" = 1'-0"



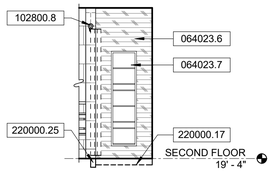
10 204 - BC ACCESSIBLE RESTROOM ELEVATION
1/4" = 1'-0"



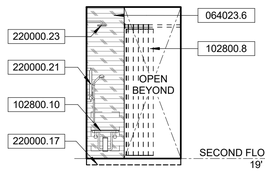
6 204 - BC ACCESSIBLE RESTROOM PLAN
1/4" = 1'-0"

NOTE:

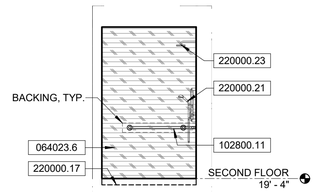
SEE DWG SHEET 1/A008 & A009 FOR ACCESSIBILITY DIMENSION CLEARANCES.



11 204 - BC ACCESSIBLE RESTROOM ELEVATION
1/4" = 1'-0"



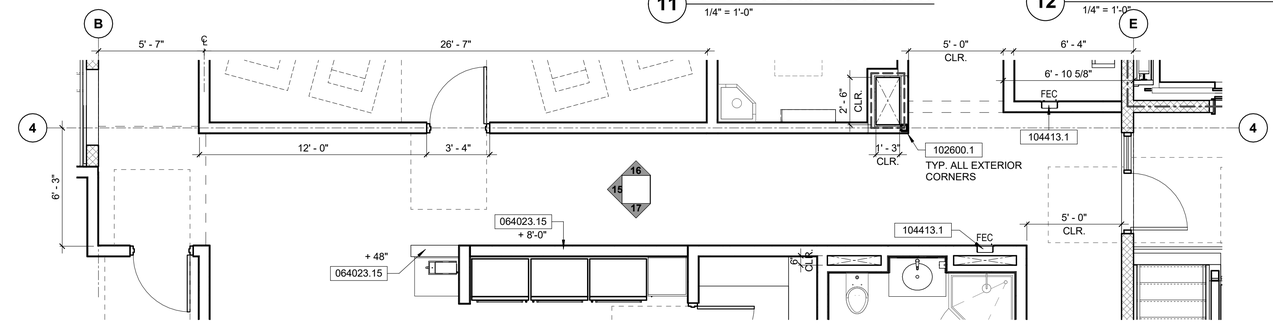
12 204 - BC ACCESSIBLE RESTROOM ELEVATION
1/4" = 1'-0"



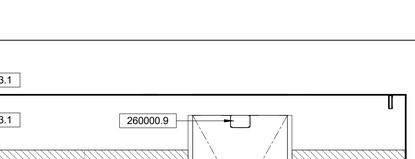
13 204 - BC ACCESSIBLE RESTROOM ELEVATION
1/4" = 1'-0"

SPECIFICATION KEYNOTES

064023.1	VENEER PLYWOOD CABINETRY
064023.4	SOLID SURFACE COUNTERTOP & SPLASH W/ INTEGRAL SINK
064023.6	SOLID SURFACE SHOWER WALL
064023.7	RECESSED SHOWER CADDY
064023.15	WOOD WALL CAP
093000.1	12"X24" CERAMIC TILE
095113.1	ACOUSTICAL PANEL CEILINGS
096513.1	6" RUBBER BASE
096513.2	4" RUBBER BASE @ CABINETS
096623.1	6" PRE-CAST EPOXY TERRAZZO BASE
097723.1	FABRIC-WRAPPED PANELS
099123.1	INTERIOR PAINT
102600.1	CORNER WALL GUARD
102600.2	WALL PROTECTION PANELS
102800.2	36" GRAB BAR. PROVIDE BACKING. SEE DETAIL 6/A009
102800.3	48" GRAB BAR. PROVIDE BACKING. SEE DETAIL 6/A009
102800.4	RECESSED SEAT COVER DISPENSER, WASTE RECEPTACLE & TOILET TISSUE DISPENSER
102800.5	RECESSED PAPER TOWEL DISPENSER/WASTE RECEPTACLE
102800.6	S.S. FRAMED MIRROR
102800.7	TOWEL BAR & HOOK. PROVIDE BACKING
102800.8	HEAVY DUTY SHOWER CURTAIN W/ CONCEALED MOUNTING, SHOWER CURTAIN & SHOWER SURTAIN HOOKS
102800.10	ACCESSIBLE SHOWER SEAT (ADA & CBC COMPLIANT)
102800.11	ACCESSIBLE SHOWER GRAB BAR SET. PROVIDE BACKING
102800.12	AUTOMATIC WALL-MOUNTED FOAM SOAP DISPENSER
104413.1	RECESSED FIRE EXTINGUISHER CABINET
115200.2	RECESS TV MOUNT BRACKET. REFER TO ELECTRICAL DWGS. FOR TV OUTLET W/ DATA. TV/MONITOR IS O.F.C.I.
115200.3	SURFACE TV MOUNT BRACKET. REFER TO ELECTRICAL DWGS. FOR TV OUTLET W/DATA
122413.1	ROLLER WINDOW SHADES (SINGLE)
122413.2	ROLLER WINDOW SHADES (DOUBLE)
220000.12	WALL HUNG WATER CLOSET
220000.17	TERRAZZO ACCESSIBLE SHOWER BASE
220000.21	ACCESSIBLE SHOWER UNIT
220000.22	INTEGRAL SOLID SURFACE SINK, REFER TO PLUMBING DWGS. INSULATE EXPOSED PIPING
220000.23	SHOWER, INSTALL AT 7' AFF, REFER TO PLUMBING DWGS.
220000.25	LINEAR DRAIN, REFER TO PLUMBING DWGS. SEE SECTION DETAIL 2/A504.
260000.9	EMERGENCY LIGHTING, REFER TO ELEC.
265100.1	INTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.

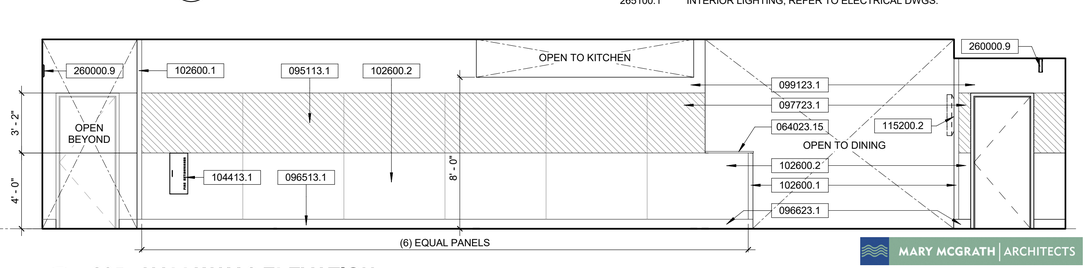


14 205 - HALLWAY 2 PLAN
1/4" = 1'-0"



15 205 - HALLWAY 2 ELEVATION
1/4" = 1'-0"

16 205 - HALLWAY 2 ELEVATION
1/4" = 1'-0"



17 205 - HALLWAY 2 ELEVATION
1/4" = 1'-0"

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

NO.	DATE	REVISION DESCRIPTION	APPROVAL	SHEET
	12/16/2021	PLAN CHECK SUBMITTAL		
1	04/22/2022	PLAN CHECK RE-SUBMITTAL		
	10/12/2023	BID DOCUMENTS		

AS-BUILT | REF.

DESIGNED BY: MM | DRAWN BY: LR / RR | DESIGN CHECK BY: MM | DRAWN CHECK BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ENLARGED PLANS & INTERIOR ELEVATIONS

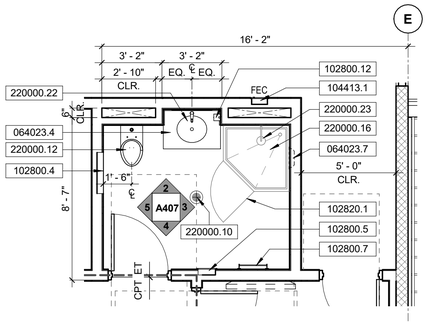
B # B-4797

PHASE # | REBID #

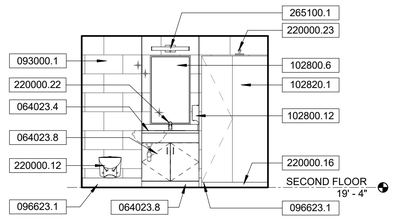
SHEET 75 OF 236

DWG. NO. A406

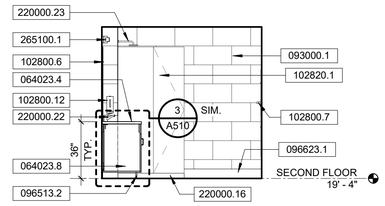
10/12/2023 7:49:03 PM



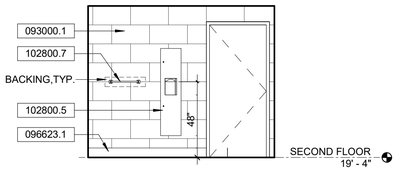
1 207 - CAPT. 2 RESTROOM PLAN
1/4" = 1'-0"



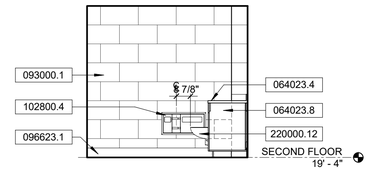
2 207 - CAPT. 2 RESTROOM ELEV.
1/4" = 1'-0"



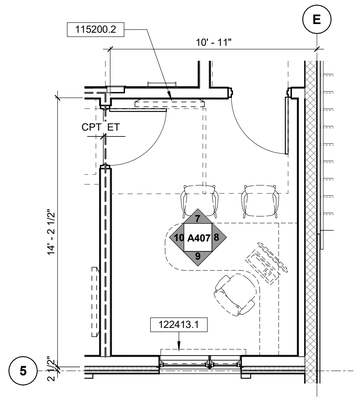
3 207 - CAPT. 2 RESTROOM ELEV.
1/4" = 1'-0"



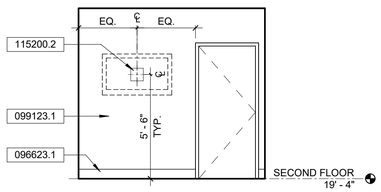
4 207 - CAPT. 2 RESTROOM ELEV.
1/4" = 1'-0"



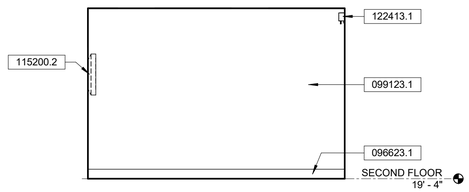
5 207 - CAPT. 2 RESTROOM ELEV.
1/4" = 1'-0"



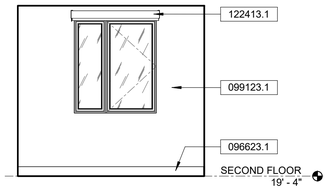
6 208 - CAPT. 2 OFFICE PLAN
1/4" = 1'-0"



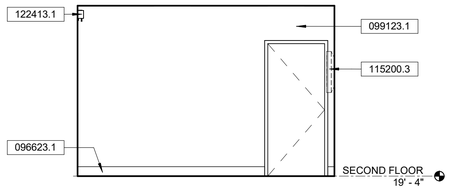
7 208 - CAPT. 2 OFFICE ELEV.
1/4" = 1'-0"



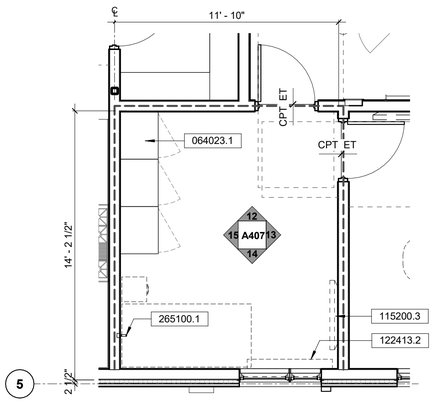
8 208 - CAPT. 2 OFFICE ELEV.
1/4" = 1'-0"



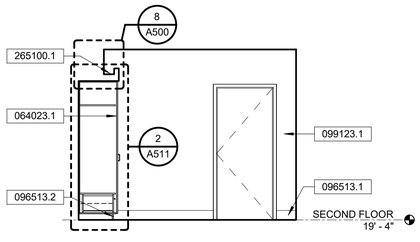
9 208 - CAPT. 2 OFFICE ELEV.
1/4" = 1'-0"



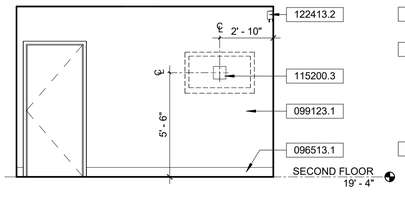
10 208 - CAPT. 2 OFFICE ELEV.
1/4" = 1'-0"



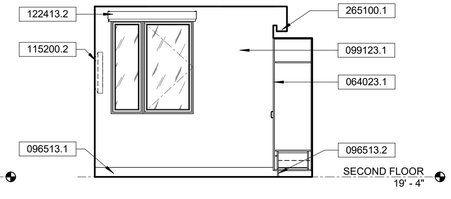
11 209 - CAPT. 2 BUNK PLAN
1/4" = 1'-0"



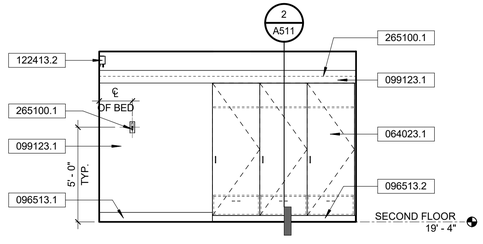
12 209 - CAPT. 2 BUNK ELEV.
1/4" = 1'-0"



13 209 - CAPT. 2 BUNK ELEV.
1/4" = 1'-0"



14 209 - CAPT. 2 BUNK ELEV.
1/4" = 1'-0"



15 209 - CAPT. 2 BUNK ELEV.
1/4" = 1'-0"

SPECIFICATION KEYNOTES

064023.1	VENEER PLYWOOD CABINETRY
064023.4	SOLID SURFACE COUNTERTOP & SPLASH W/ INTEGRAL SINK
064023.7	RECESSED SHOWER CADDY
064023.8	PHENOLIC CASEWORK
093000.1	12"X24" CERAMIC TILE
096513.1	6" RUBBER BASE
096513.2	4" RUBBER BASE @ CABINETS
096623.1	6" PRE-CAST EPOXY TERRAZZO BASE
099123.1	INTERIOR PAINT
102800.4	RECESSED SEAT COVER DISPENSER, WASTE RECEPTACLE & TOILET TISSUE DISPENSER
102800.5	RECESSED PAPER TOWEL DISPENSER/WASTE RECEPTACLE
102800.6	S.S. FRAMED MIRROR
102800.7	TOWEL BAR & HOOK. PROVIDE BACKING
102800.12	AUTOMATIC WALL-MOUNTED FOAM SOAP DISPENSER
102820.1	GLASS SHOWER DOOR AND PANELS
104413.1	RECESSED FIRE EXTINGUISHER CABINET
115200.2	RECESS TV MOUNT BRACKET. REFER TO ELECTRICAL DWGS. FOR TV OUTLET W/ DATA. TV/MONITOR IS O.F.C.I.
115200.3	SURFACE TV MOUNT BRACKET. REFER TO ELECTRICAL DWGS. FOR TV OUTLET W/DATA
122413.1	ROLLER WINDOW SHADES (SINGLE)
122413.2	ROLLER WINDOW SHADES (DOUBLE)
220000.12	WALL HUNG WATER CLOSET
220000.16	TERRAZZO SHOWER BASE
220000.22	INTEGRAL SOLID SURFACE SINK, REFER TO PLUMBING DWGS. INSULATE EXPOSED PIPING
220000.23	SHOWER, INSTALL AT 7' AFF. REFER TO PLUMBING DWGS.
265100.1	INTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/17/2023			BID DOCUMENTS

AS-BUILT REF.

DESIGNED BY: MM | DRAWN BY: LR / RR | DESIGN CHECK BY: MM | DRAWN CHECK BY: MM / RR

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ENLARGED PLANS & INTERIOR ELEVATIONS

B # B-4797

PHASE # ____ REBID # ____

SHEET 76 OF 236

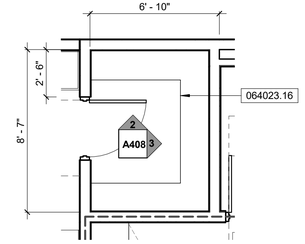
DWG. NO. A407

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

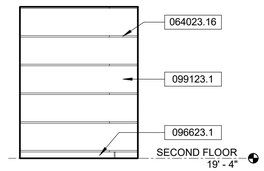
10/12/2023 7:49:10 PM

SPECIFICATION KEYNOTES

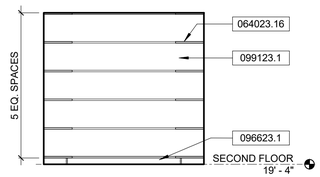
055000.2	STAINLESS STEEL COUNTERTOP & BACKSPLASH
055000.3	STAINLESS STEEL BACKSPLASH, FULL HEIGHT
064023.2	ADJUSTABLE SHELVES
064023.8	PHENOLIC CASEWORK
064023.9	PHENOLIC UPPER CASEWORK. SEE DWG 1/A510 FOR DETAILS
064023.10	OPENING FOR TRASH AND RECYCLING
064023.11	LAZY SUSAN
064023.12	VERTICAL DIVIDERS
064023.13	NO CASEWORK BASE AT TRASH/RECYCLING. SEE CASEWORK SECTION DETAIL 5/A510
064023.14	POT DRAWERS, HEAVY DUTY
064023.16	PHENOLIC SHELVING
096513.2	4" RUBBER BASE @ CABINETS
096623.1	6" PRE-CAST EPOXY TERRAZZO BASE
096623.2	4" PRE-CAST EPOXY TERRAZZO BASE
097723.1	FABRIC-WRAPPED PANELS
099123.1	INTERIOR PAINT
102600.1	CORNER WALL GUARD
102600.2	WALL PROTECTION PANELS
113100.5	DISHWASHER
113100.6	RANGE
113100.7	STAINLESS STEEL VENTILATION RANGE HOOD
113100.8	REFRIGERATOR/FREEZER
113100.9	MICROWAVE, BUILT-IN
113100.10	COFFEE MACHINE WITH WATER CONNECTION, REFER TO PLUMBING DWGS.
115200.2	RECESS TV MOUNT BRACKET. REFER TO ELECTRICAL DWGS. FOR TV OUTLET W/ DATA. TV/MONITOR IS O.F.C.I.
122413.1	ROLLER WINDOW SHADES (SINGLE)
220000.11	KITCHEN SINK
220000.24	ACCESSIBLE KITCHEN SINK



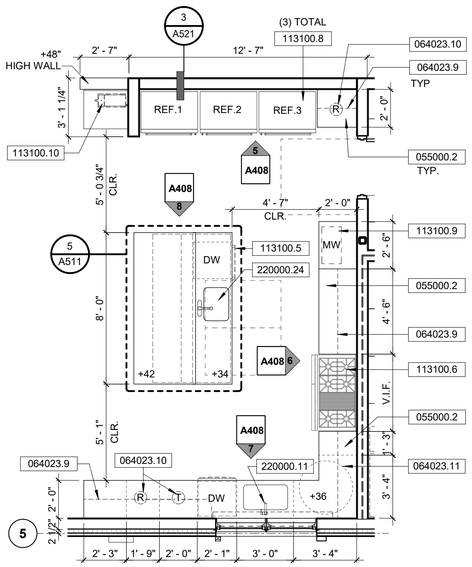
1 **210 - PANTRY PLAN**
1/4" = 1'-0"



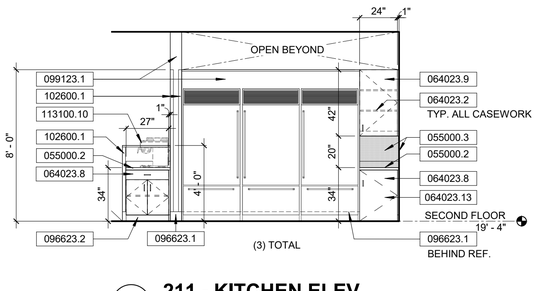
2 **210 - PANTRY ELEV.**
1/4" = 1'-0"



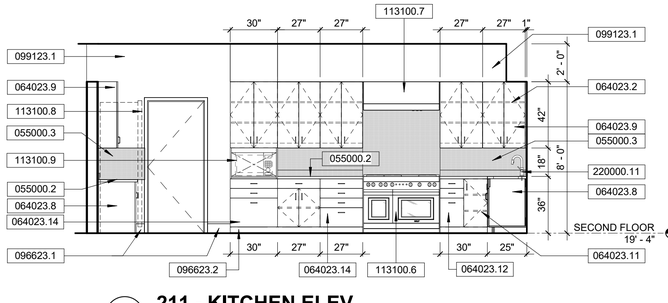
3 **210 - PANTRY ELEV.**
1/4" = 1'-0"



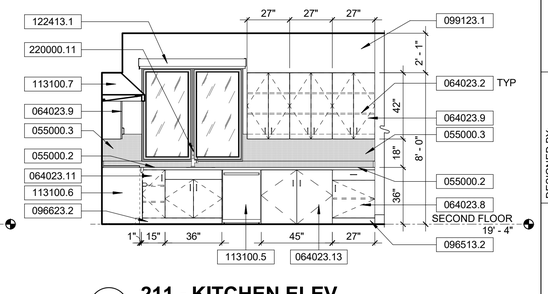
4 **211 - KITCHEN PLAN**
1/4" = 1'-0"



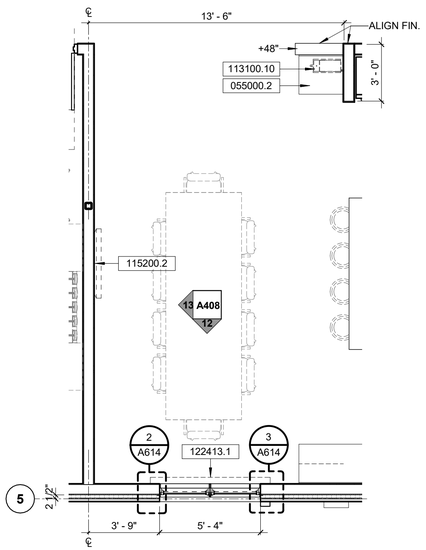
5 **211 - KITCHEN ELEV.**
1/4" = 1'-0"



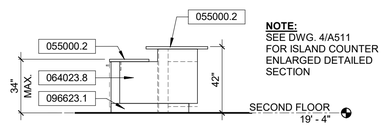
6 **211 - KITCHEN ELEV.**
1/4" = 1'-0"



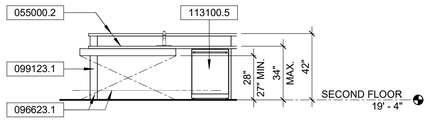
7 **211 - KITCHEN ELEV.**
1/4" = 1'-0"



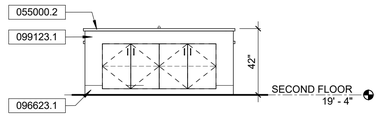
11 **212 - DINING PLAN**
1/4" = 1'-0"



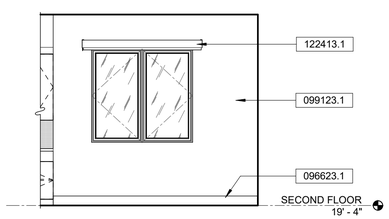
8 **211 - ISLAND COUNTER ELEV.**
1/4" = 1'-0"



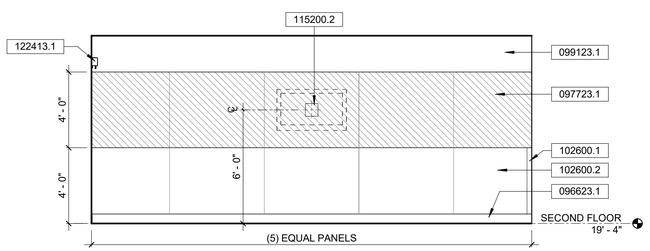
9 **211 - ISLAND COUNTER ELEV.**
1/4" = 1'-0"



10 **211 - ISLAND COUNTER ELEV.**
1/4" = 1'-0"



12 **212 - DINING ELEV.**
1/4" = 1'-0"



13 **212 - DINING ELEV.**
1/4" = 1'-0"

NO.	DATE	REVISION	APPROVAL
	12/16/2021	PLAN CHECK SUBMITTAL	
	10/12/2023	BID DOCUMENTS	

DESIGNED BY: MM | DRAWN BY: LR / RR | DESIGN CHECK BY: MM | DRAWN CHECK BY: MM / RR | SHEET | REF. | AS-BUILT

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ENLARGED PLANS & INTERIOR ELEVATIONS

B # B-4797

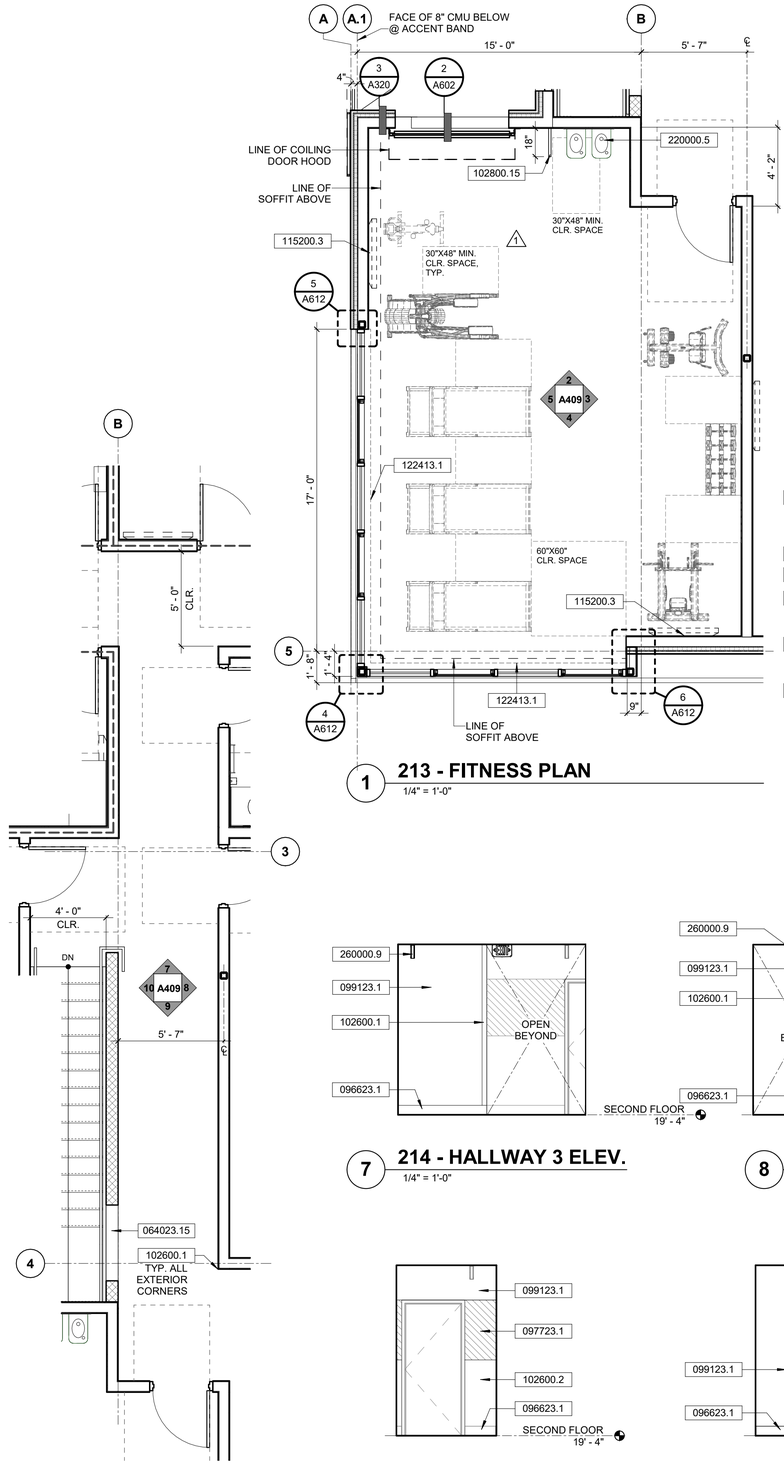
PHASE # ____ REBID # ____

SHEET 77 OF 236

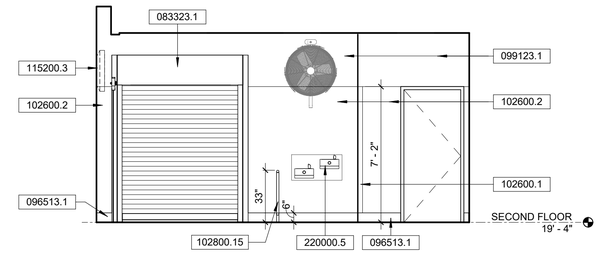
DWG. NO. A408

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

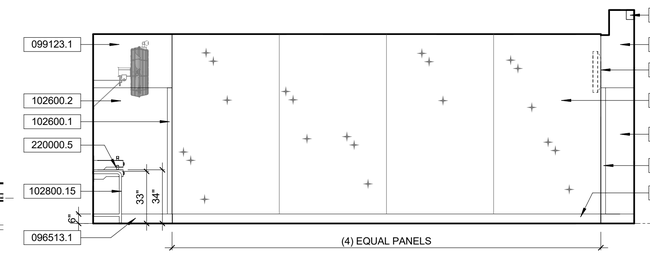
10/12/2023 7:49:19 PM



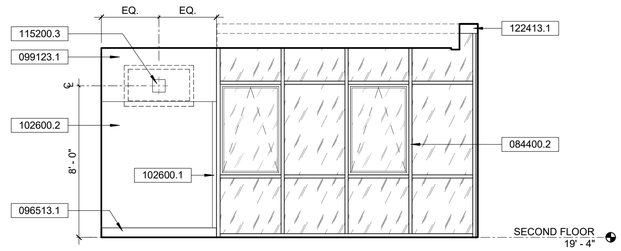
1 213 - FITNESS PLAN
1/4" = 1'-0"



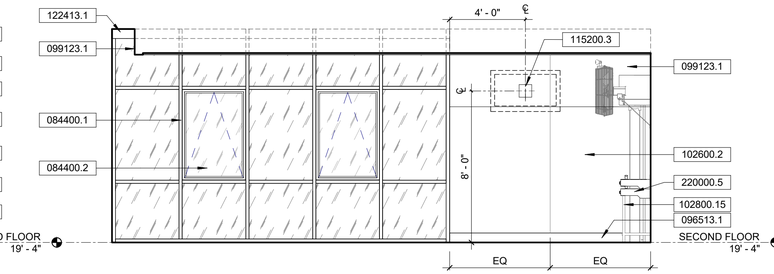
2 213 - FITNESS PLAN ELEV.
1/4" = 1'-0"



3 213 - FITNESS PLAN ELEV.
1/4" = 1'-0"



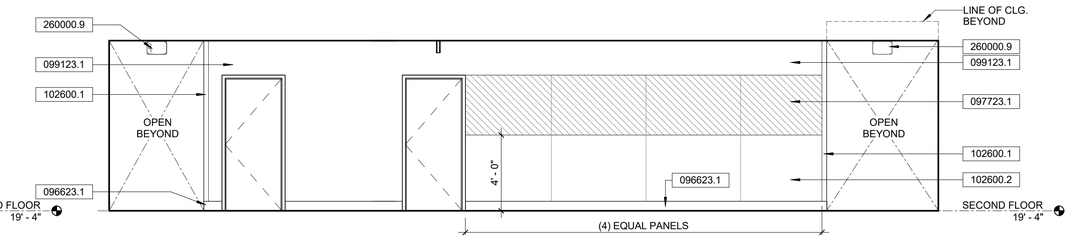
4 213 - FITNESS PLAN ELEV.
1/4" = 1'-0"



5 213 - FITNESS PLAN ELEV.
1/4" = 1'-0"

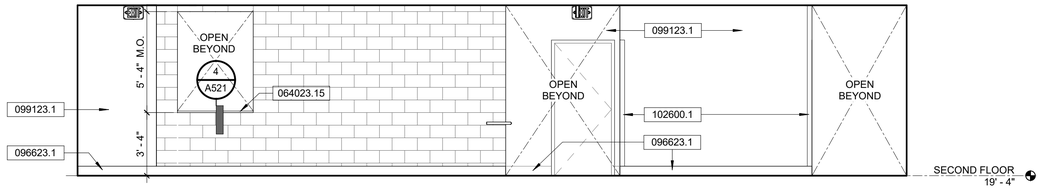
6 214 - HALLWAY 3 PLAN
1/4" = 1'-0"

7 214 - HALLWAY 3 ELEV.
1/4" = 1'-0"



8 214 - HALLWAY 3 ELEV - 8
1/4" = 1'-0"

9 214 - HALLWAY 3 ELEV.
1/4" = 1'-0"



10 214 - HALLWAY 3 ELEV.
1/4" = 1'-0"

SPECIFICATION KEYNOTES

064023.15	WOOD WALL CAP
083323.1	OVERHEAD COILING DOOR
084400.1	CURTAINWALL SYSTEM W/ INTEGRAL LOUVERS. SEE DWGS. A610-A613 FOR ELEV. & DETAILS.
084400.2	CURTAINWALL SYSTEM W/ OPERABLE WINDOW. SEE DWG. 6/A612 & 1/613.
088300.1	MIRROR
096513.1	6" RUBBER BASE
096623.1	6" PRE-CAST EPOXY TERRAZZO BASE
097723.1	FABRIC-WRAPPED PANELS
099123.1	INTERIOR PAINT
102600.1	CORNER WALL GUARD
102600.2	WALL PROTECTION PANELS
102800.15	DRINKING FOUNTAIN GRAB BAR
115200.3	SURFACE TV MOUNT BRACKET. REFER TO ELECTRICAL DWGS. FOR TV OUTLET W/DATA
122413.1	ROLLER WINDOW SHADES (SINGLE)
220000.5	BOTTLE FILLER W/ DRINKING FOUNTAIN, REFER TO PLUMBING DWGS. SEE DETAIL 4/A009
260000.9	EMERGENCY LIGHTING, REFER TO ELEC.

REVISION

NO.	DATE	APPROVAL	DESCRIPTION
	12/16/2021		PLAN CHECK SUBMITTAL
1	04/22/2022		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS
			AS-BUILT

DESIGNED BY: MM | DRAWN BY: LR / RR | DESIGN CHECK BY: MM | DRAWN CHECK BY: MM / RR | REF.

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ENLARGED PLANS & INTERIOR ELEVATIONS

B # B-4797

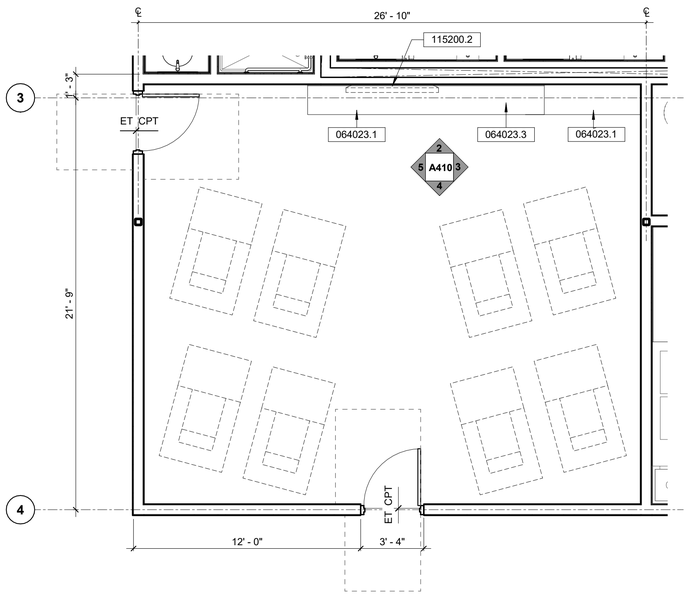
PHASE # ____ REBID # ____

SHEET 78 OF 236

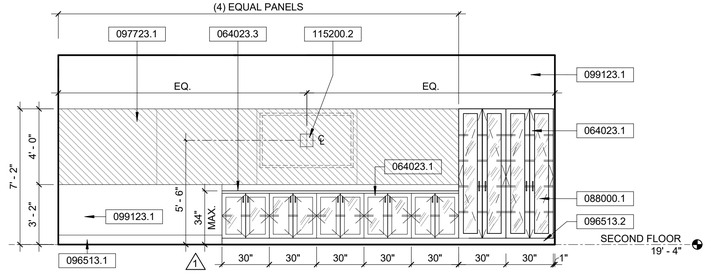
DWG. NO. A409

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

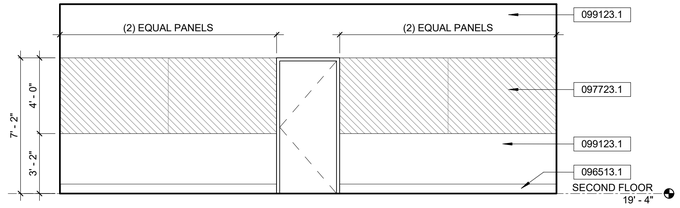
10/12/2023 7:49:28 PM



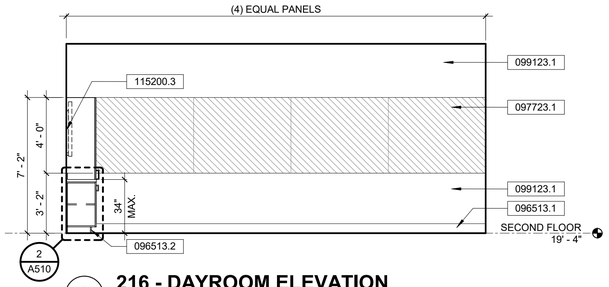
1 216 - DAYROOM PLAN
1/4" = 1'-0"



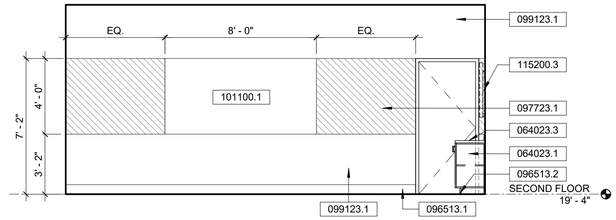
2 216 - DAYROOM ELEVATION
1/4" = 1'-0"



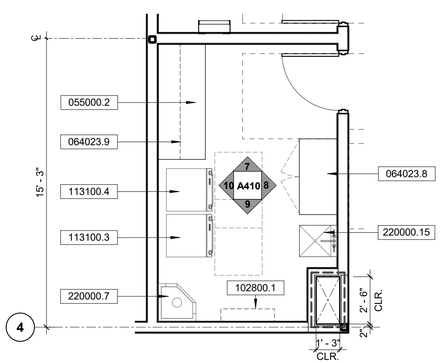
4 216 - DAYROOM ELEVATION
1/4" = 1'-0"



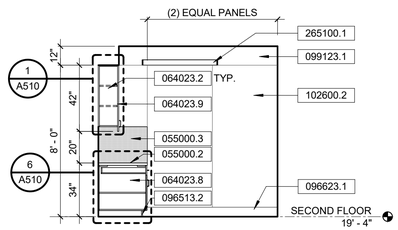
3 216 - DAYROOM ELEVATION
1/4" = 1'-0"



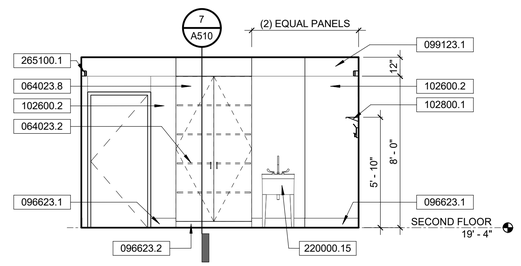
5 216 - DAYROOM ELEV - 5
1/4" = 1'-0"



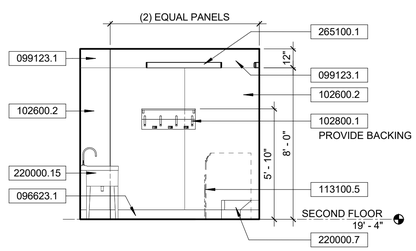
6 217 - LAUNDRY/JAN. PLAN
1/4" = 1'-0"



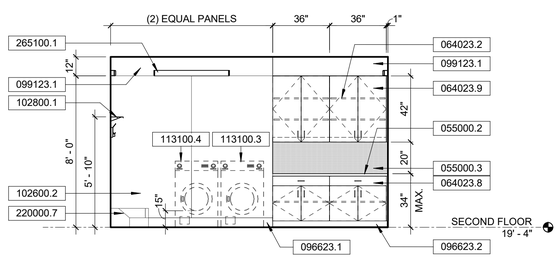
7 217 - LAUNDRY/JAN ELEV.
1/4" = 1'-0"



8 217 - LAUNDRY/JAN ELEV.
1/4" = 1'-0"



9 217 - LAUNDRY/JAN ELEV.
1/4" = 1'-0"



10 217 - LAUNDRY/JAN ELEV.
1/4" = 1'-0"

SPECIFICATION KEYNOTES

055000.2	STAINLESS STEEL COUNTERTOP & BACKSPLASH
055000.3	STAINLESS STEEL BACKSPLASH, FULL HEIGHT
064023.1	VENEER PLYWOOD CABINETRY
064023.2	ADJUSTABLE SHELVES
064023.3	SOLID SURFACE COUNTERTOP & SPLASH
064023.8	PHENOLIC CASEWORK
064023.9	PHENOLIC UPPER CASEWORK. SEE DWG 1/A510 FOR DETAILS
088000.1	GLASS AND GLAZING
096513.1	6" RUBBER BASE
096513.2	4" RUBBER BASE @ CABINETS
096623.1	6" PRE-CAST EPOXY TERRAZZO BASE
096623.2	4" PRE-CAST EPOXY TERRAZZO BASE
097723.1	FABRIC-WRAPPED PANELS
099123.1	INTERIOR PAINT
101100.1	WHITE MARKER BOARD
102600.2	WALL PROTECTION PANELS
102800.1	UTILITY SHELF W/ MOP/BROOM HOLDERS & RAG HOOKS
113100.3	WASHER - RESIDENTIAL
113100.4	DRYER - RESIDENTIAL
113100.5	DISHWASHER
115200.2	RECESS TV MOUNT BRACKET. REFER TO ELECTRICAL DWGS. FOR TV OUTLET W/ DATA. TV/MONITOR IS O.F.C.I.
115200.3	SURFACE TV MOUNT BRACKET. REFER TO ELECTRICAL DWGS. FOR TV OUTLET W/DATA
220000.7	MOP SINK
220000.15	UTILITY SINK, REFER TO PLUMBING DWGS.
265100.1	INTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.

REVISION

NO.	DATE	APPROVAL	DESCRIPTION
	12/16/2021		PLAN CHECK SUBMITTAL
1	04/22/2022		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR
AS-BUILT
REF.

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
ENLARGED PLANS & INTERIOR ELEVATIONS

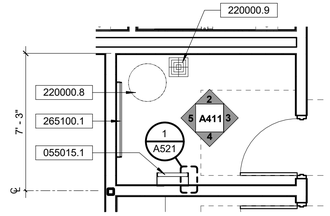
B # B-4797
PHASE # REBID #
SHEET 79 OF 236
DWG. NO. A410

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

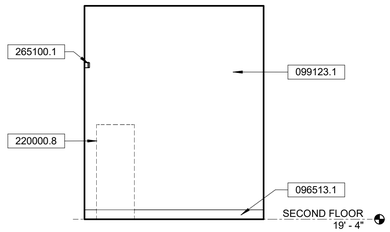
10/12/2023 7:49:33 PM

SPECIFICATION KEYNOTES

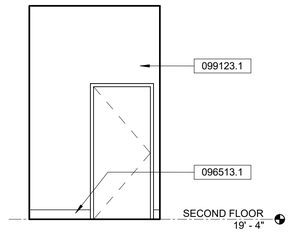
055015.1	ACCESS LADDER
096513.1	6" RUBBER BASE
096623.1	6" PRE-CAST EPOXY TERRAZZO BASE
097723.1	FABRIC-WRAPPED PANELS
099123.1	INTERIOR PAINT
102600.1	CORNER WALL GUARD
102600.2	WALL PROTECTION PANELS
104413.1	RECESSED FIRE EXTINGUISHER CABINET
220000.8	WATER HEATER, REFER TO PLUMBING DWGS.
260000.9	EMERGENCY LIGHTING, REFER TO ELEC.
265100.1	INTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.



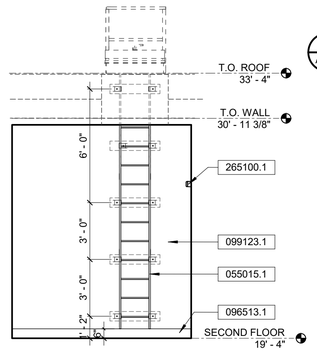
1 **218 - MECH. PLAN**
1/4" = 1'-0"



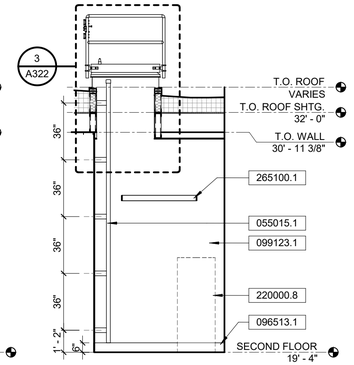
2 **218 - MECH ELEV.**
1/4" = 1'-0"



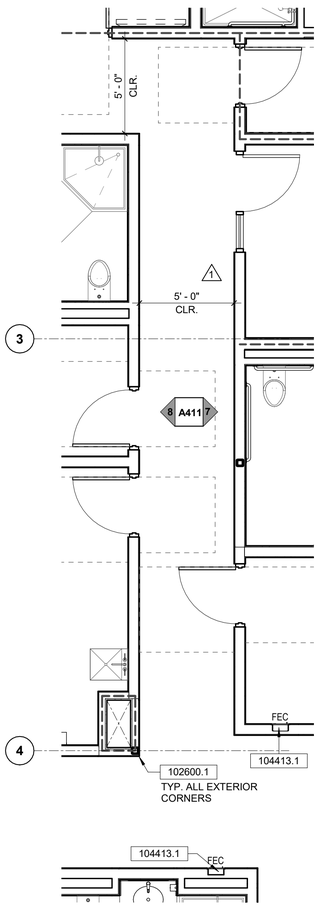
3 **218 - MECH ELEV.**
1/4" = 1'-0"



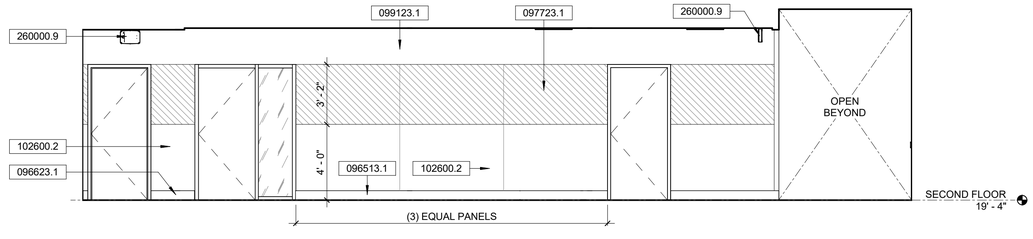
4 **218 - MECH ELEV.**
1/4" = 1'-0"



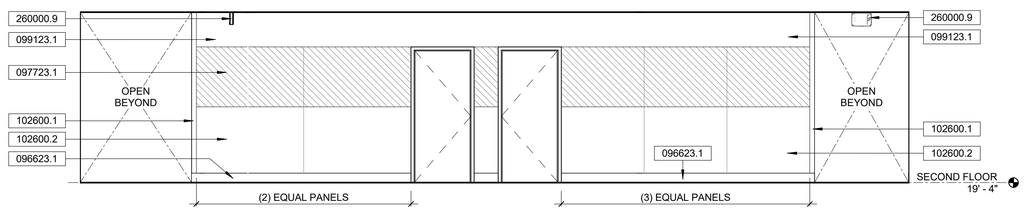
5 **218 - MECH ELEV.**
1/4" = 1'-0"



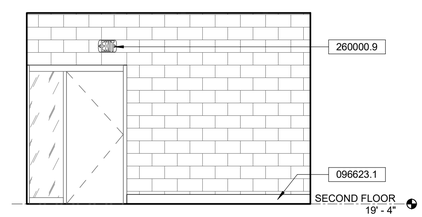
6 **219 - HALLWAY 4 PLAN**
1/4" = 1'-0"



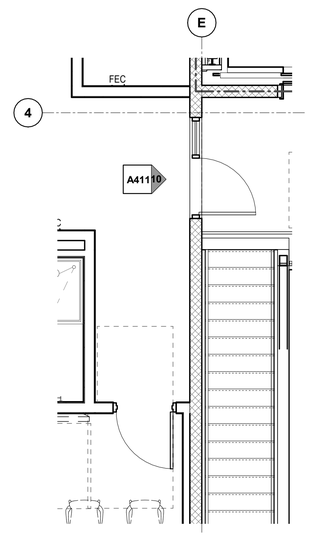
7 **219 - HALLWAY 4 ELEVATION**
1/4" = 1'-0"



8 **219 - HALLWAY 4 ELEVATION**
1/4" = 1'-0"



10 **234 - HALLWAY 6 ELEV.**
1/4" = 1'-0"



9 **234 - HALLWAY 6 PLAN**
1/4" = 1'-0"

REVISION NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: **MM**
DRAWN BY: **LR / RR**
DESIGN CHECK BY: **MM**
DRAWN CHECK BY: **MM / RR**

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

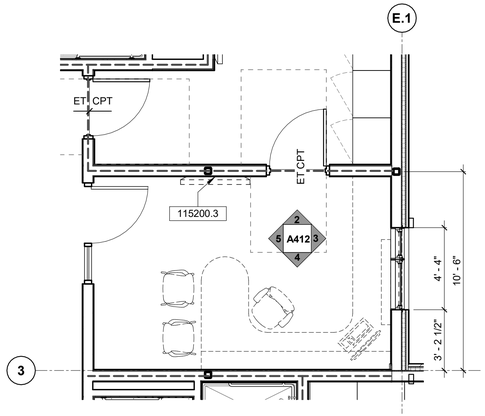
FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ENLARGED PLANS & INTERIOR ELEVATIONS

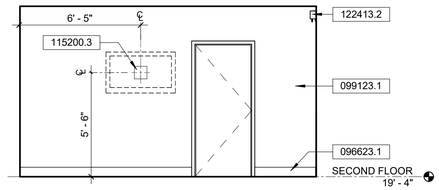
B # **B-4797**
PHASE # ____ REBID # ____
SHEET **80** OF **236**
DWG. NO. **A411**

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

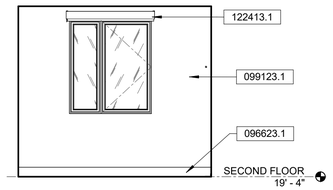
10/12/2023 7:49:38 PM



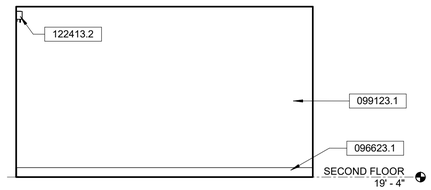
1 220 - CAPT. 1 OFFICE PLAN
1/4" = 1'-0"



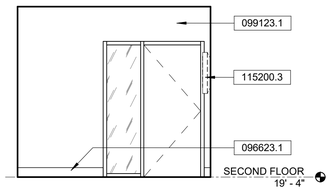
2 220 - CAPT. 1 OFFICE ELEV.
1/4" = 1'-0"



3 220 - CAPT. 1 OFFICE ELEV.
1/4" = 1'-0"



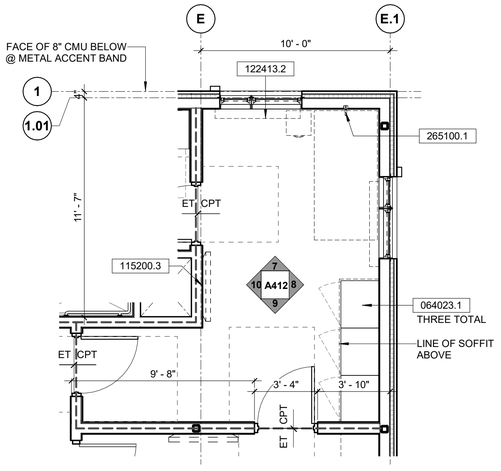
4 220 - CAPT. 1 OFFICE ELEV.
1/4" = 1'-0"



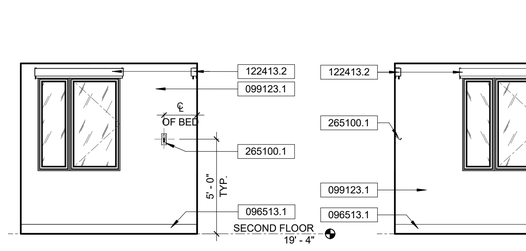
5 220 - CAPT. 1 OFFICE ELEV.
1/4" = 1'-0"

SPECIFICATION KEYNOTES

064023.1	VENEER PLYWOOD CABINETRY
064023.4	SOLID SURFACE COUNTERTOP & SPLASH W/ INTEGRAL SINK
064023.6	SOLID SURFACE SHOWER WALL
064023.7	RECESSED SHOWER CADDY
093000.1	12"X24" CERAMIC TILE
096513.1	6" RUBBER BASE
096513.2	4" RUBBER BASE @ CABINETS
096623.1	6" PRE-CAST EPOXY TERRAZZO BASE
099123.1	INTERIOR PAINT
102600.1	CORNER WALL GUARD
102800.2	36" GRAB BAR. PROVIDE BACKING. SEE DETAIL 6/A009
102800.3	48" GRAB BAR. PROVIDE BACKING. SEE DETAIL 6/A009
102800.4	RECESSED SEAT COVER DISPENSER, WASTE RECEPTACLE & TOILET TISSUE DISPENSER
102800.5	RECESSED PAPER TOWEL DISPENSER/WASTE RECEPTACLE
102800.6	S.S. FRAMED MIRROR
102800.7	TOWEL BAR & HOOK. PROVIDE BACKING
102800.8	HEAVY DUTY SHOWER CURTAIN W/ CONCEALED MOUNTING, SHOWER CURTAIN & SHOWER SURTAIN HOOKS
102800.10	ACCESSIBLE SHOWER SEAT (ADA & CBC COMPLIANT)
102800.11	ACCESSIBLE SHOWER GRAB BAR SET. PROVIDE BACKING
102800.12	AUTOMATIC WALL-MOUNTED FOAM SOAP DISPENSER
115200.3	SURFACE TV MOUNT BRACKET. REFER TO ELECTRICAL DWGS. FOR TV OUTLET W/DATA
122413.1	ROLLER WINDOW SHADES (SINGLE)
122413.2	ROLLER WINDOW SHADES (DOUBLE)
220000.12	WALL HUNG WATER CLOSET
220000.17	TERRAZZO ACCESSIBLE SHOWER BASE
220000.21	ACCESSIBLE SHOWER UNIT
220000.22	INTEGRAL SOLID SURFACE SINK, REFER TO PLUMBING DWGS. INSULATE EXPOSED PIPING
220000.23	SHOWER, INSTALL AT 7" AFF, REFER TO PLUMBING DWGS.
220000.25	LINEAR DRAIN, REFER TO PLUMBING DWGS. SEE SECTION DETAIL 2/A504.
265100.1	INTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.

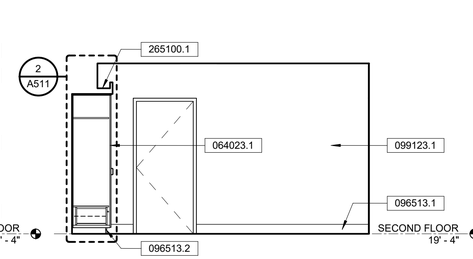


6 221 - CAPT. 1 BUNK PLAN
1/4" = 1'-0"

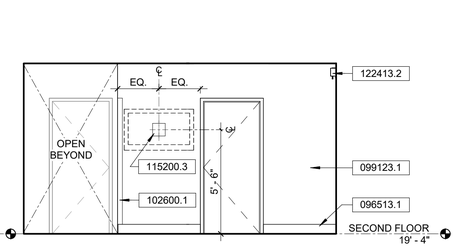


7 221 - CAPT. 1 BUNK ELEV.
1/4" = 1'-0"

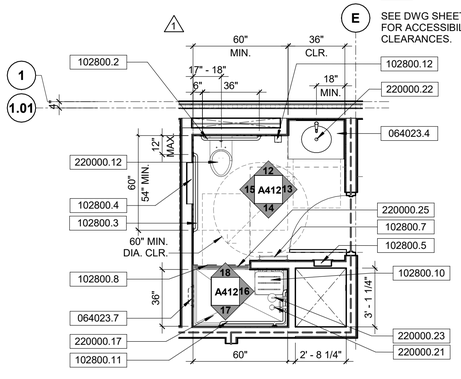
8 221 - CAPT. 1 BUNK ELEV.
1/4" = 1'-0"



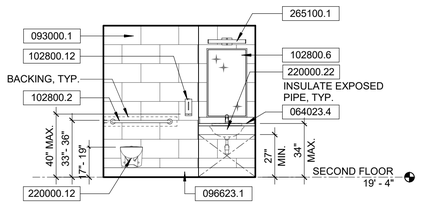
9 221 - CAPT. 1 BUNK ELEV.
1/4" = 1'-0"



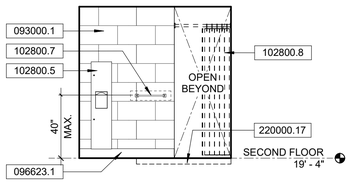
10 221 - CAPT. 1 BUNK ELEV.
1/4" = 1'-0"



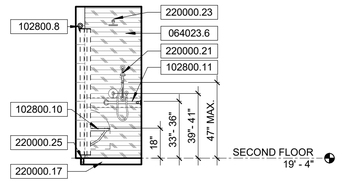
11 222 - CAPT. 1 ACCESSIBLE RESTROOM PLAN
1/4" = 1'-0"



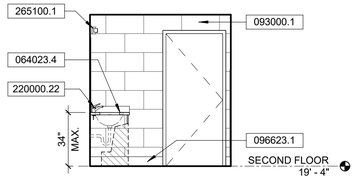
12 222 - CAPT. 1 ACCESSIBLE RESTROOM ELEV.
1/4" = 1'-0"



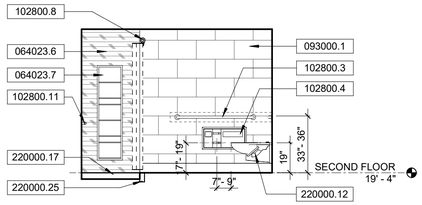
14 222 - CAPT. 1 ACCESSIBLE RESTROOM ELEV.
1/4" = 1'-0"



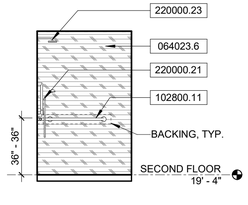
16 222 - CAPT. 1 ACCESSIBLE SHOWER ELEV.
1/4" = 1'-0"



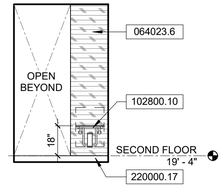
13 222 - CAPT. 1 ACCESSIBLE RESTROOM ELEV.
1/4" = 1'-0"



15 222 - CAPT. 1 ACCESSIBLE RESTROOM ELEV.
1/4" = 1'-0"



17 222 - CAPT. 1 ACCESSIBLE SHOWER ELEV.
1/4" = 1'-0"



18 222 - CAPT. 1 ACCESSIBLE SHOWER ELEV.
1/4" = 1'-0"

REVISION NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

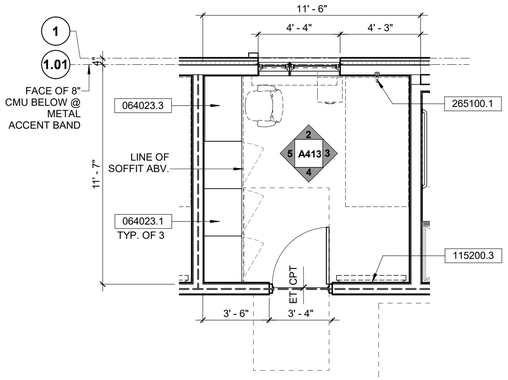
FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ENLARGED PLANS & INTERIOR ELEVATIONS

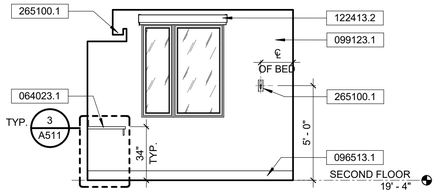
B # B-4797
PHASE # ____ REBID # ____
SHEET 81 OF 236
DWG. NO. A412

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

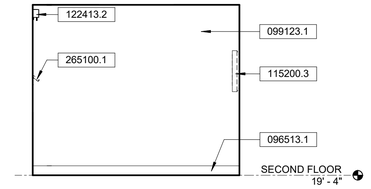
10/12/2023 7:49:48 PM



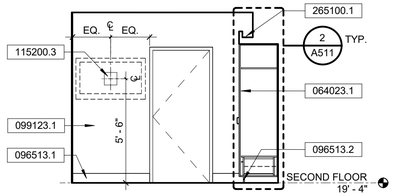
1 223 - FF BUNK PLAN
1/4" = 1'-0"



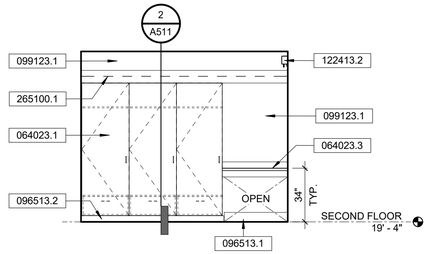
2 223 - FF BUNK ELEV.
1/4" = 1'-0"



3 223 - FF BUNK ELEV.
1/4" = 1'-0"



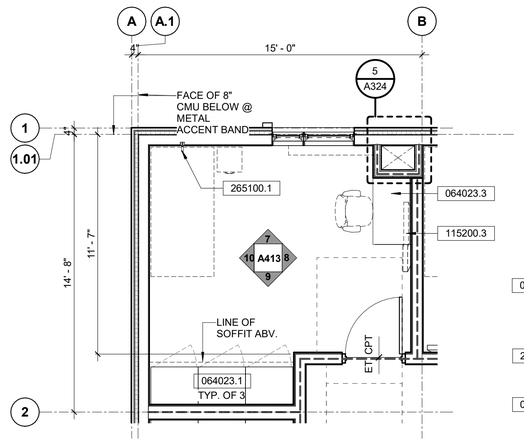
4 223 - FF BUNK ELEV.
1/4" = 1'-0"



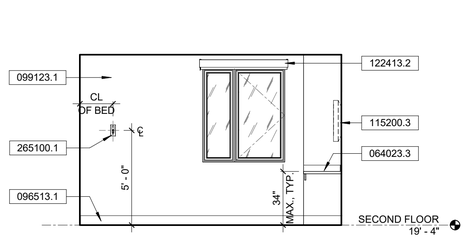
5 223 - FF BUNK ELEV.
1/4" = 1'-0"

SPECIFICATION KEYNOTES

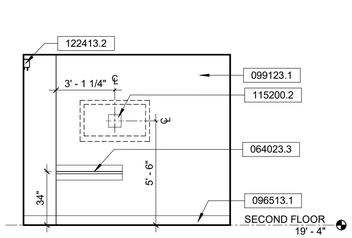
064023.1	VENEER PLYWOOD CABINETRY
064023.3	SOLID SURFACE COUNTERTOP & SPLASH
096513.1	6" RUBBER BASE
096513.2	4" RUBBER BASE @ CABINETS
099123.1	INTERIOR PAINT
115200.2	RECESS TV MOUNT BRACKET. REFER TO ELECTRICAL DWGS. FOR TV OUTLET W/ DATA. TV/MONITOR IS O.F.C.I.
115200.3	SURFACE TV MOUNT BRACKET. REFER TO ELECTRICAL DWGS. FOR TV OUTLET W/DATA
122413.2	ROLLER WINDOW SHADES (DOUBLE)
265100.1	INTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.



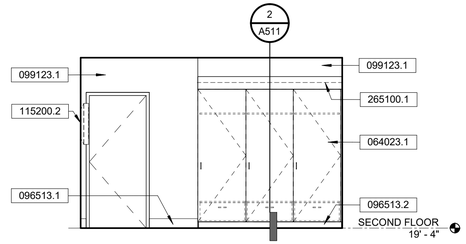
6 227 - FF BUNK PLAN
1/4" = 1'-0"



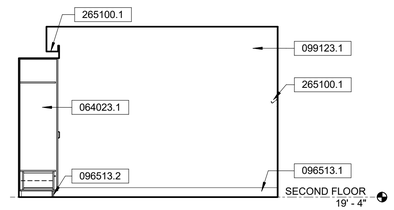
7 227 - FF BUNK ELEV.
1/4" = 1'-0"



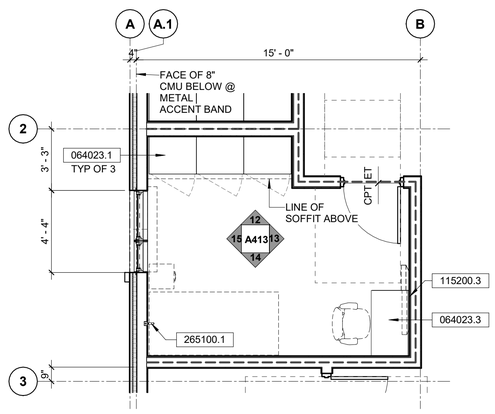
8 227 - FF BUNK ELEV.
1/4" = 1'-0"



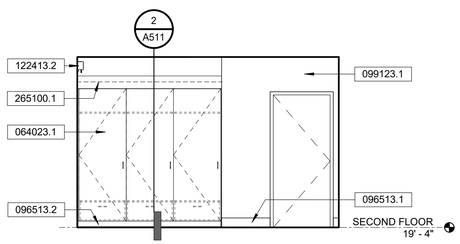
9 227 - FF BUNK ELEV.
1/4" = 1'-0"



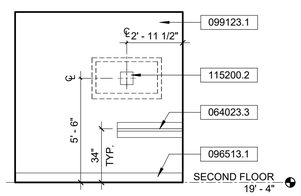
10 227 - FF BUNK ELEV.
1/4" = 1'-0"



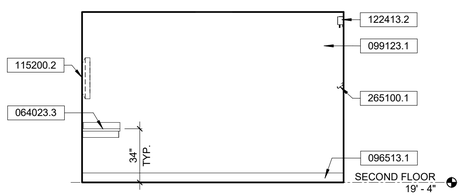
11 228 - TRAINEE RELIEF BUNK PLAN
1/4" = 1'-0"



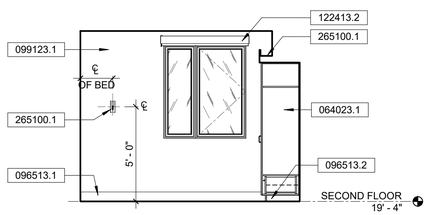
12 228 - TRAINEE RELIEF BUNK ELEV.
1/4" = 1'-0"



13 228 - TRAINEE RELIEF BUNK ELEV.
1/4" = 1'-0"



14 228 - TRAINEE RELIEF BUNK ELEV.
1/4" = 1'-0"



15 228 - TRAINEE RELIEF BUNK ELEV.
1/4" = 1'-0"

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/7/2023			BID DOCUMENTS
				AS-BUILT

REF.

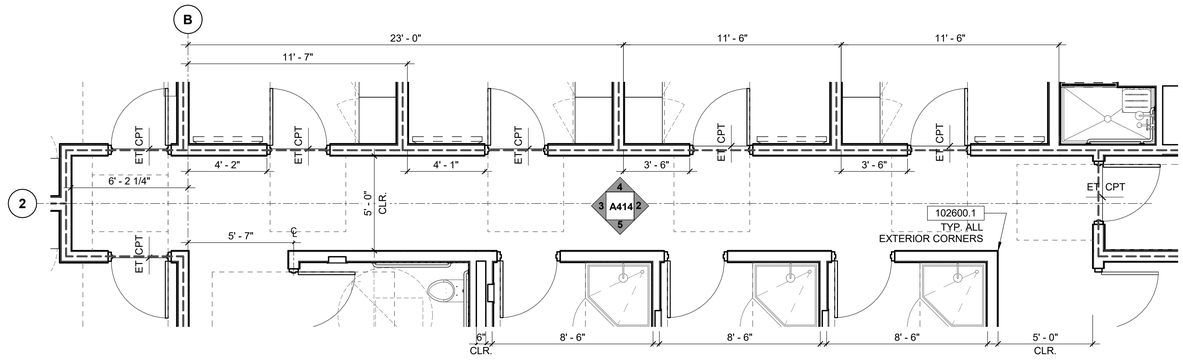
DESIGNED BY: **MM**
DRAWN BY: **LR / RR**
DESIGN CHECK BY: **MM**
DRAWN CHECK BY: **MM / RR**

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

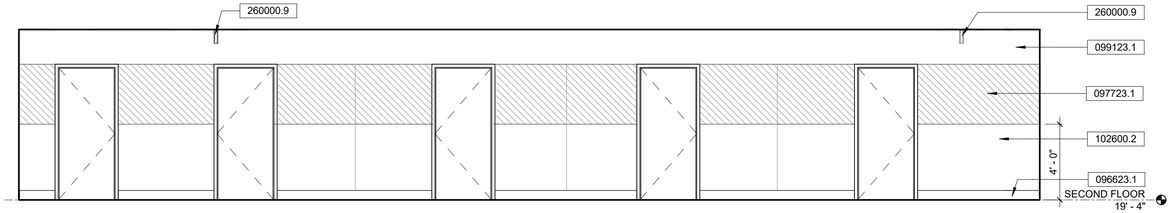
FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
ENLARGED PLANS & INTERIOR ELEVATIONS

B # **B-4797**
PHASE # ____ REBID # ____
SHEET **82** OF **236**
DWG. NO. **A413**

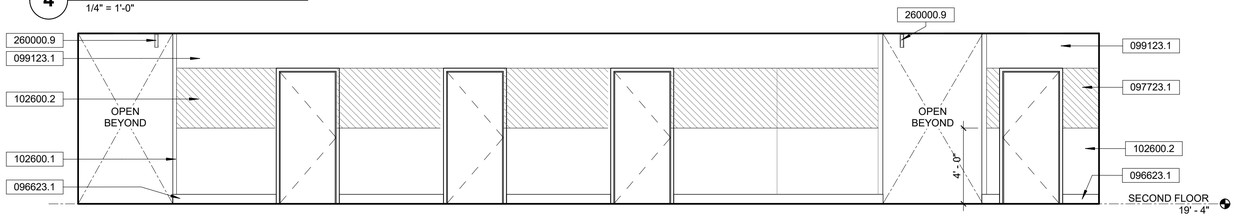
10/12/2023 7:49:55 PM



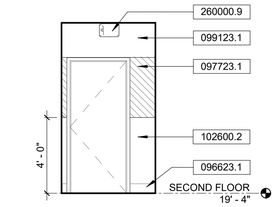
1 229 - HALLWAY 5 PLAN
1/4" = 1'-0"



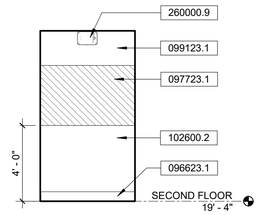
4 229 - HALLWAY 5 ELEV.
1/4" = 1'-0"



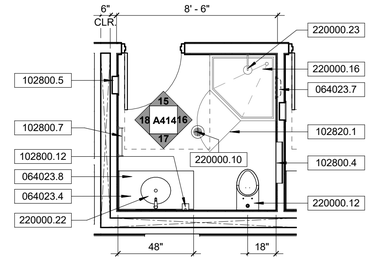
5 229 - HALLWAY 5 ELEV.
1/4" = 1'-0"



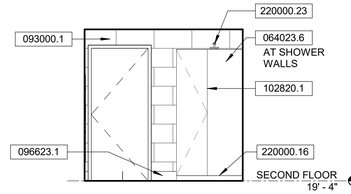
2 229 - HALLWAY 5 ELEV.
1/4" = 1'-0"



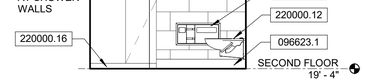
3 229 - HALLWAY 5 ELEV.
1/4" = 1'-0"



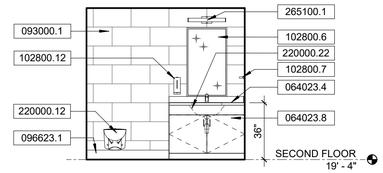
14 231 - FF RESTROOM PLAN
1/4" = 1'-0"



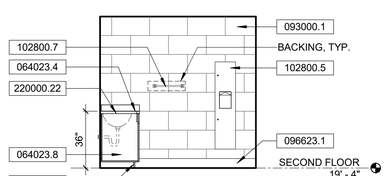
15 231 - FF RESTROOM ELEV.
1/4" = 1'-0"



16 231 - FF RESTROOM ELEV.
1/4" = 1'-0"



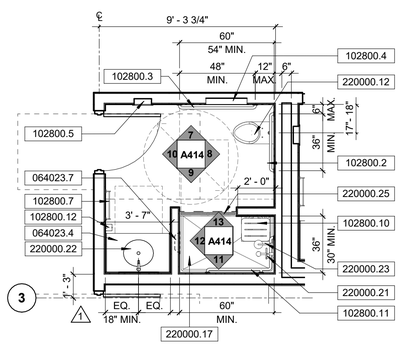
17 231 - FF RESTROOM ELEV.
1/4" = 1'-0"



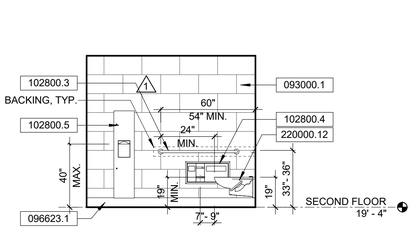
18 231 - FF RESTROOM ELEV.
1/4" = 1'-0"

NOTE:

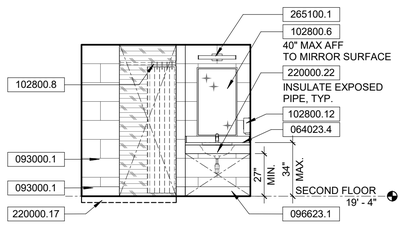
SEE DWG SHEET 1/A008 & A009 FOR ACCESSIBILITY DIMENSION CLEARANCES.



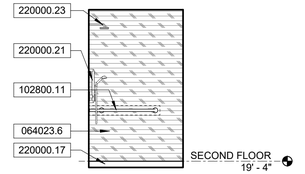
6 230 - FF ACCESSIBLE RESTROOM PLAN
1/4" = 1'-0"



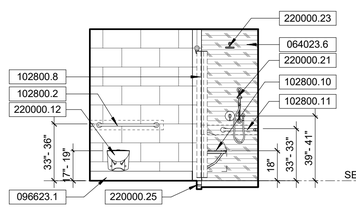
7 230 - FF ACCESSIBLE RESTROOM ELEV.
1/4" = 1'-0"



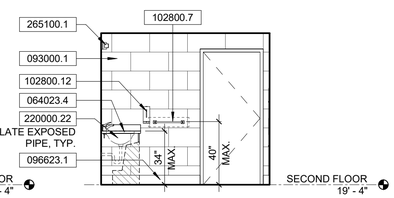
9 230 - FF ACCESSIBLE RESTROOM ELEV.
1/4" = 1'-0"



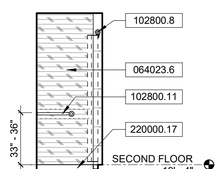
11 230 - FF ACCESSIBLE RESTROOM SHO. ELEV.
1/4" = 1'-0"



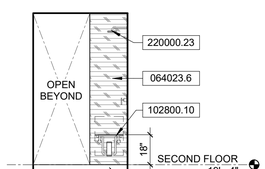
8 230 - FF ACCESSIBLE RESTROOM ELEV.
1/4" = 1'-0"



10 230 - FF ACCESSIBLE RESTROOM ELEV.
1/4" = 1'-0"



12 230 - FF ACCESSIBLE RESTROOM SHO. ELEV.
1/4" = 1'-0"



13 230 - FF ACCESSIBLE RESTROOM SHO. ELEV.
1/4" = 1'-0"

SPECIFICATION KEYNOTES

064023.4	SOLID SURFACE COUNTERTOP & SPLASH W/ INTEGRAL SINK
064023.6	SOLID SURFACE SHOWER WALL
064023.7	RECESSED SHOWER CADDY
064023.8	PHENOLIC CASEWORK
093000.1	12"X24" CERAMIC TILE
096513.2	4" RUBBER BASE @ CABINETS
096623.1	6" PRE-CAST EPOXY TERRAZZO BASE
097723.1	FABRIC-WRAPPED PANELS
099123.1	INTERIOR PAINT
102600.1	CORNER WALL GUARD
102600.2	WALL PROTECTION PANELS
102800.2	36" GRAB BAR. PROVIDE BACKING. SEE DETAIL 6/A009
102800.3	48" GRAB BAR. PROVIDE BACKING. SEE DETAIL 6/A009
102800.4	RECESSED SEAT COVER DISPENSER, WASTE RECEPTACLE & TOILET TISSUE DISPENSER
102800.5	RECESSED PAPER TOWEL DISPENSER/WASTE RECEPTACLE
102800.6	S.S. FRAMED MIRROR
102800.7	TOWEL BAR & HOOK. PROVIDE BACKING
102800.8	HEAVY DUTY SHOWER CURTAIN W/ CONCEALED MOUNTING, SHOWER CURTAIN & SHOWER SURTAIN HOOKS
102800.10	ACCESSIBLE SHOWER SEAT (ADA & CBC COMPLIANT)
102800.11	ACCESSIBLE SHOWER GRAB BAR SET. PROVIDE BACKING
102800.12	AUTOMATIC WALL-MOUNTED FOAM SOAP DISPENSER
102820.1	GLASS SHOWER DOOR AND PANELS
220000.12	WALL HUNG WATER CLOSET
220000.16	TERRAZZO SHOWER BASE
220000.17	TERRAZZO ACCESSIBLE SHOWER BASE
220000.21	ACCESSIBLE SHOWER UNIT
220000.22	INTEGRAL SOLID SURFACE SINK, REFER TO PLUMBING DWGS. INSULATE EXPOSED PIPING
220000.23	SHOWER, INSTALL AT 7' AFF, REFER TO PLUMBING DWGS.
220000.25	LINEAR DRAIN, REFER TO PLUMBING DWGS. SEE SECTION DETAIL 2/A504.
260000.9	EMERGENCY LIGHTING, REFER TO ELEC.
265100.1	INTERIOR LIGHTING, REFER TO ELECTRICAL DWGS.

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ENLARGED PLANS & INTERIOR ELEVATIONS

B # B-4797
PHASE # ____ REBID # ____
SHEET 83 OF 236
DWG. NO. A414

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/12/2023 7:50:04 PM

A. ALL CEILINGS SHALL USE A HEAVY DUTY T-BAR GRID SYSTEM.

B. THE WIDTH OF THE PERIMETER SUPPORTING CLOSURE ANGLE SHALL BE NOT LESS THAN 2 INCHES.

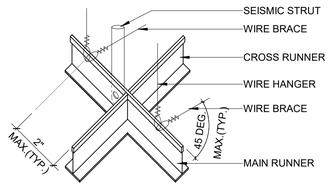
C. IN EACH ORTHOGONAL HORIZONTAL DIRECTION, ONE OF THE THE CEILING GRID SHALL BE ATTACHED TO THE CLOSURE ANGLE.

D. THE OTHER END IN EACH HORIZONTAL DIRECTION SHALL HAVE A 3/4" CLEARANCE FROM THE WALL AND SHALL REST UPON AND BE FREE TO SLIDE ON A CLOSURE ANGLE OR A LISTED ASSEMBLY.

E. CEILING AREAS OVER 1,000 SQ.FT. MUST HAVE HORIZONTAL RESTRAIN WIRES(TYPICALLY RESTRAINT WOULD CONSIST OF FOUR 12 GAUGE WIRES SPLAYED 90° TO EACH OTHER AND SLOPED 45° TO THE HORIZONTAL, SPACED 12": O.C.

F. CEILINGS AREAS OVER 2,500 SQ.FT. MUST HAVE SEISMIC SEPARATION JOINTS OR FULL HEIGHT PARTITIONS.

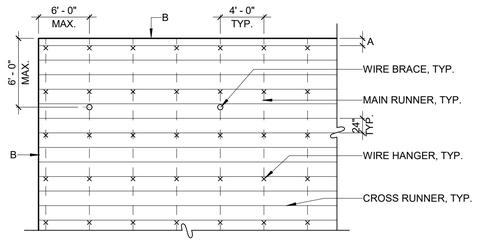
G. CEILINGS WITHOUT RIGID BRACING MUST HAVE 2" OVERSIZE TRIM RINGS FOR SPRINKLERS AND OTHER CEILING PENETRATIONS.



1. PROVIDE SETS OF FOUR 12 GA SPLAYED BRACING WIRES ORIENTED 90° FROM EACH OTHER AT A SPACING NOT MORE THAN 12' X 12' ON CENTER AND AT A SPACING NOT MORE THAN 6' FROM EACH PERIMETER WALL AND VERTICAL CEILING OFFSETS.
2. SEPARATE ALL CEILING HANGING AND BRACING WIRES AT LEAST 6 INCHES FROM ALL UNBRACED PIPES, DUCTS, CONDUITS, ETC.
3. PROVIDE TRAPEZE OR OTHER SUPPLEMENTARY SUPPORT MEMBERS AT OBSTRUCTIONS TO MAINTAIN HANGAR SPACING, PROVIDE ADDITIONAL HANGARS AS REQUIRED AT ALL CEILING BREAKS, SOFFITS OR DISCONTINUOUS AREAS.
4. PROVIDE COMPRESSION STRUT @ EACH BRACING POINT. COMPLIANT WITH ICC REPORT ESR-1308.

1 SEISMIC BRACING - SUSPENDED ACOUSTICAL CEILING PANEL

3" = 1'-0"

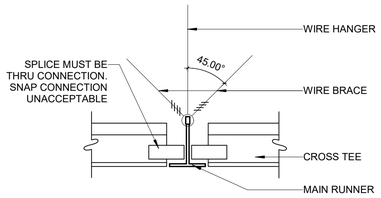


NOTES:

A. 8" MAX FROM FIRST HANGER WIRE TO WALL OR 1/4 OF THE LENGTH OF END RUNNER, WHICHEVER IS LESS.
B. IN EACH ORTHOGONAL HORIZONTAL DIRECTION, ONE OF THE THE CEILING GRID SHALL BE ATTACHED TO THE CLOSURE ANGLE.
C. ALL CEILINGS SHALL USE A HEAVY DUTY T-BAR GRID SYSTEM.

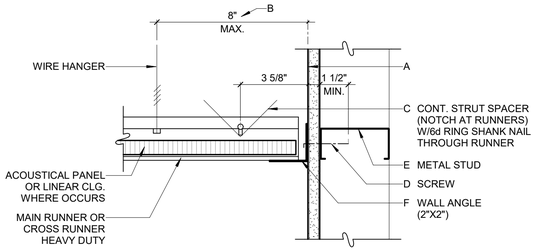
2 SUSPENSION DIAGRAM

3" = 1'-0"



5 WIRE TERMINATION @ SUSPENDED ACOUSTICAL CEILING PANEL

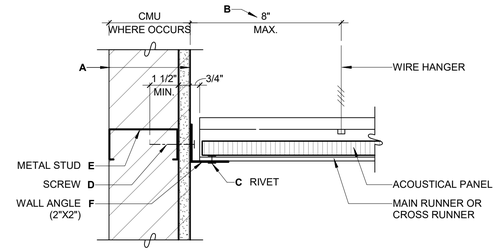
3" = 1'-0"



A. ATTACH PARTITION CONSTRUCTION VARIES, SEE FLOOR PLANS.
B. OR 1/4 OF THE LENGTH OF THE END RUNNER, WHICHEVER IS LESS.
C. HEAD TO FACE CENTRAL LINE OF SPAN OF STRUT.
D. TO STUDS @ PARTITION WITH METAL FRAMING.
E. AT WALL OR AT FRAMING WITH FINISHES
F. 2'X2" FREE TO SLIDE

3 FREE END - ACOUSTICAL CEILING

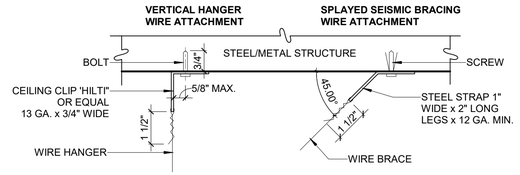
3" = 1'-0"



A. PARTITION CONSTRUCTION VARIES, SEE FLOOR PLANS.
B. OR 1/4 OF THE LENGTH OF THE END RUNNER, WHICHEVER IS LESS.
C. FIX END @ NOT MORE THAN TWO ADJACENT WALLS.
D. TO STUDS @ PARTITION WITH FINISHES.
E. AT PARTITION OR AT FRAMING WITH FINISHES.
F. 2" MIN. HORIZONTAL ANGLE W/ 2".

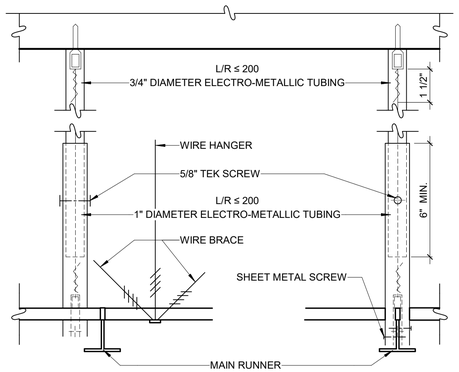
6 FIXED END - ACOUSTICAL CEILING

3" = 1'-0"



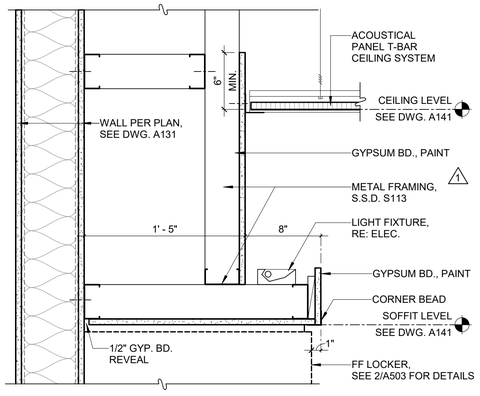
4 WIRE TERMINATION AT STRUCTURE

3" = 1'-0"



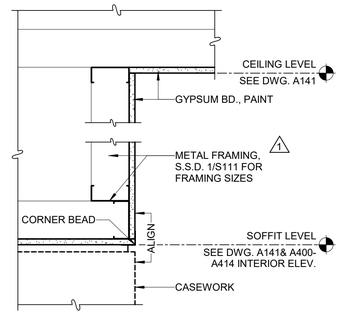
7 COMPRESSION STRUT - ACOUSTICAL CEILING

3" = 1'-0"



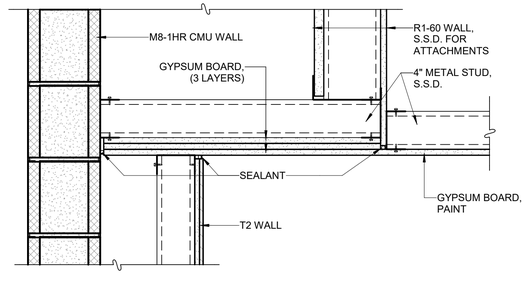
8 COVE LIGHTING DETAIL

1 1/2" = 1'-0"



9 CASEWORK SOFFIT DETAIL

1 1/2" = 1'-0"



10 RATED WALL CHASE & CLG. @ RR 104

1 1/2" = 1'-0"

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: **MM** | DRAWN BY: **LR / RR** | DESIGN CHECK BY: **MM** | DRAWN CHECK BY: **MM / RR**

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

INTERIOR DETAILS - CEILING

B # **B-4797**

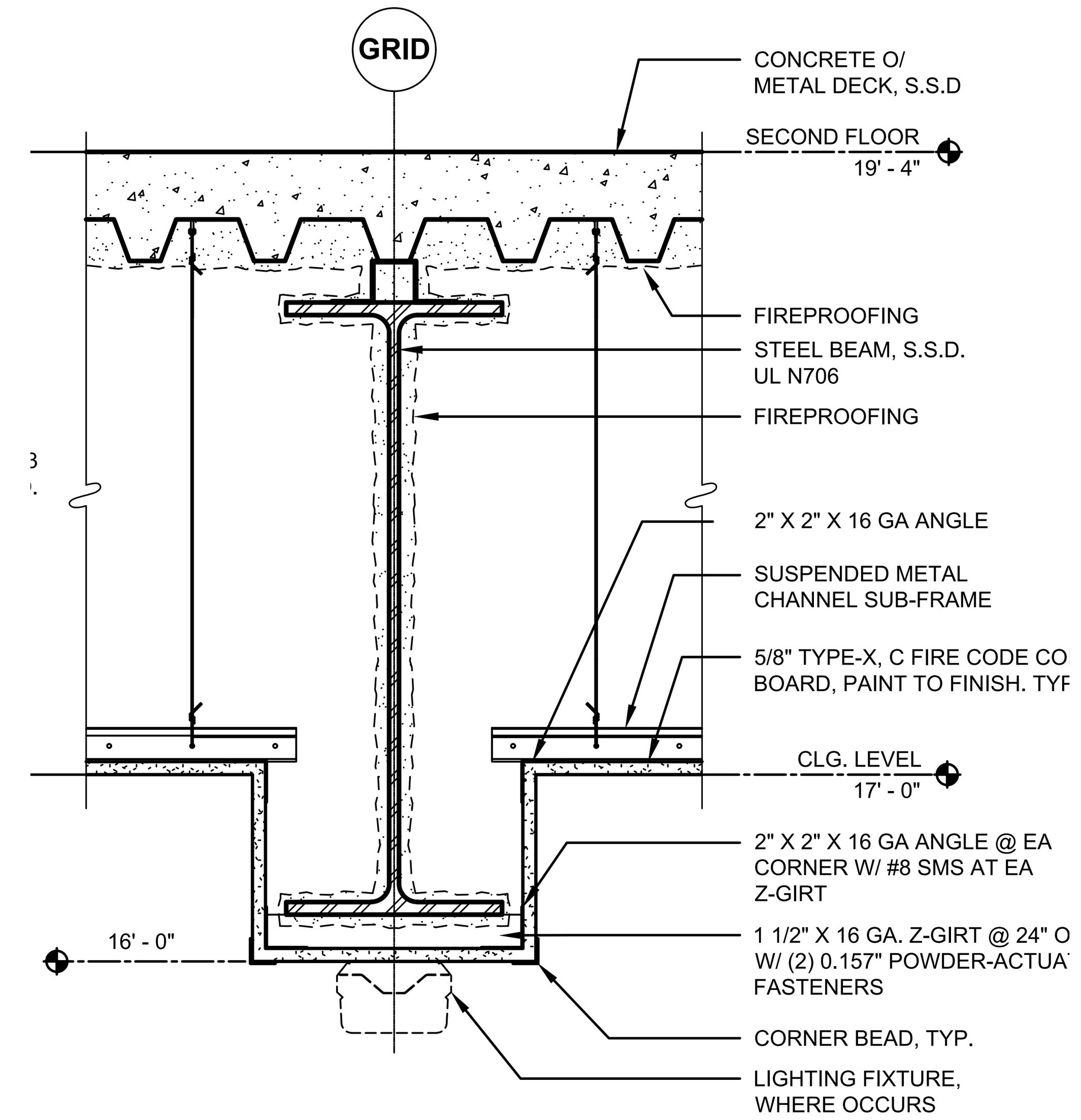
PHASE # ____ REBID # ____

SHEET **84** OF **236**

DWG. NO. **A500**

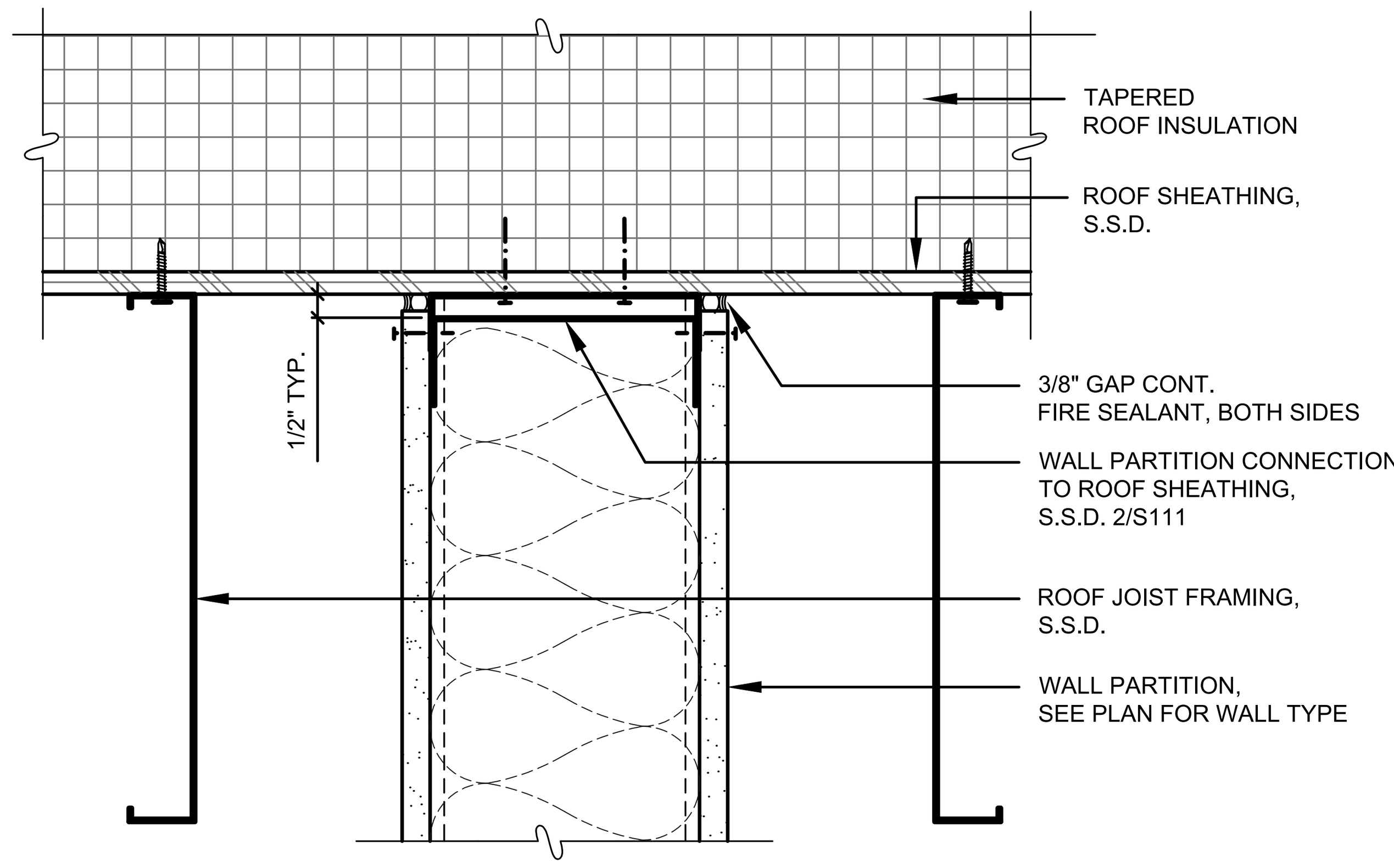
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/12/2023 7:50:06 PM



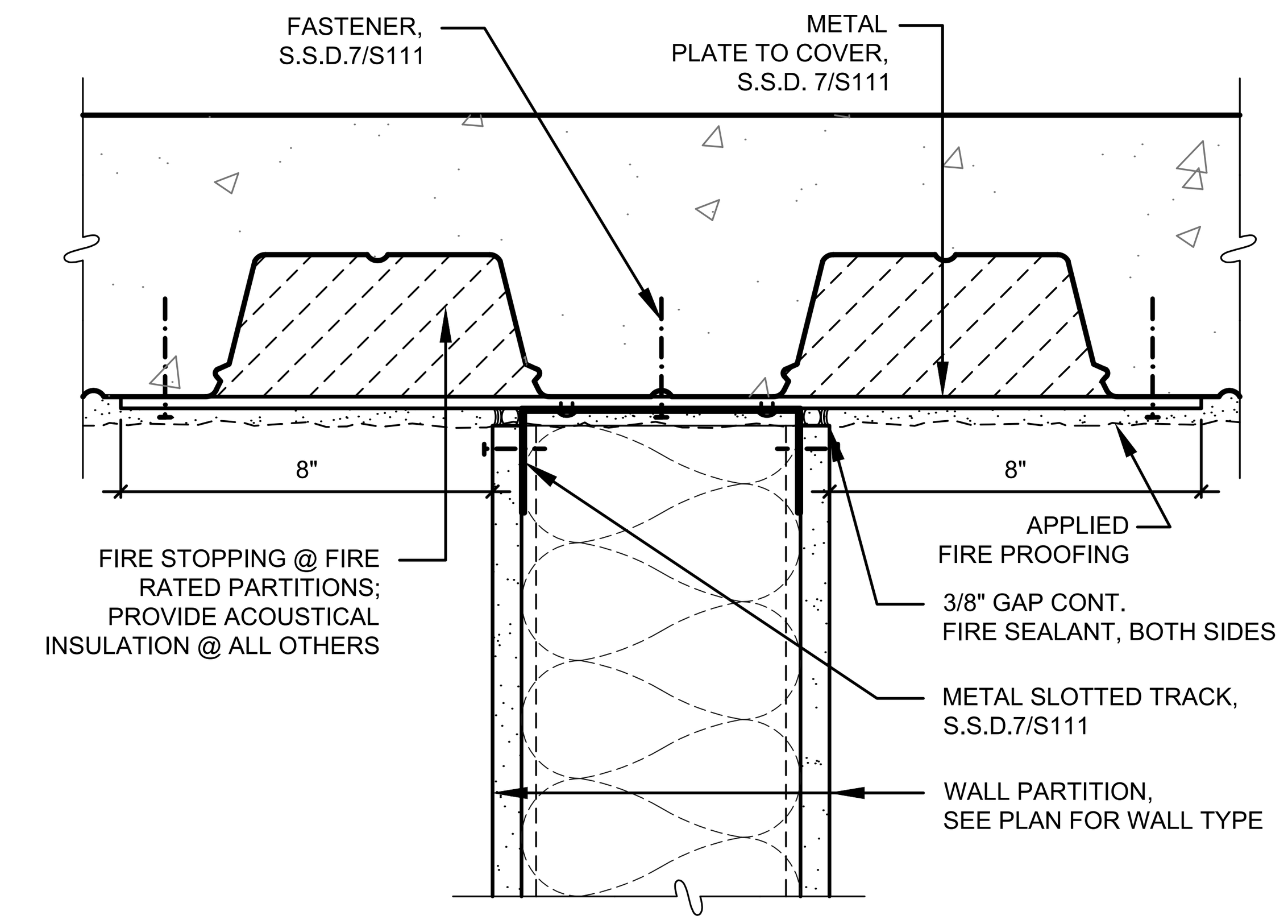
1 FIREPROOFING DETAIL CEILING & BEAM @ APPARATUS BAY

1 1/2" = 1'-0"



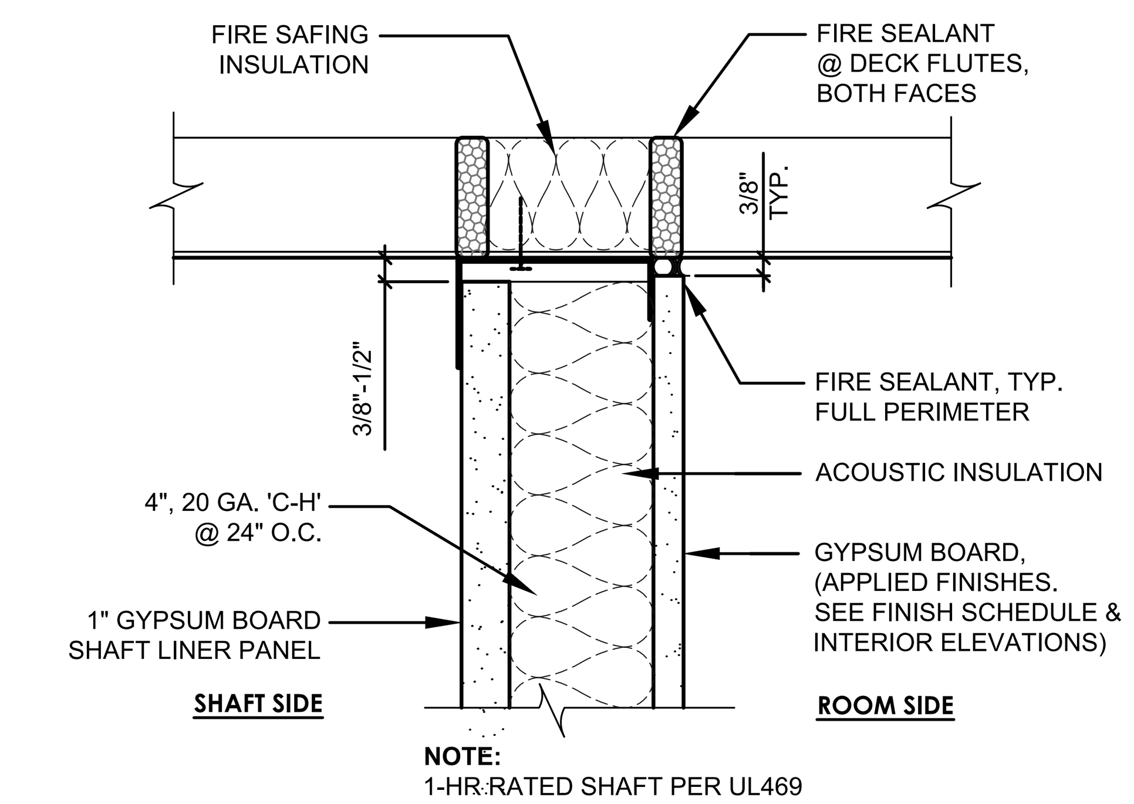
2 PARTITION HEAD DETAIL - PARALLEL TO JOIST

3" = 1'-0"



3 PARTITION HEAD DETAIL - RATED WALL PARALLEL TO FLOOR DECK FLUTES

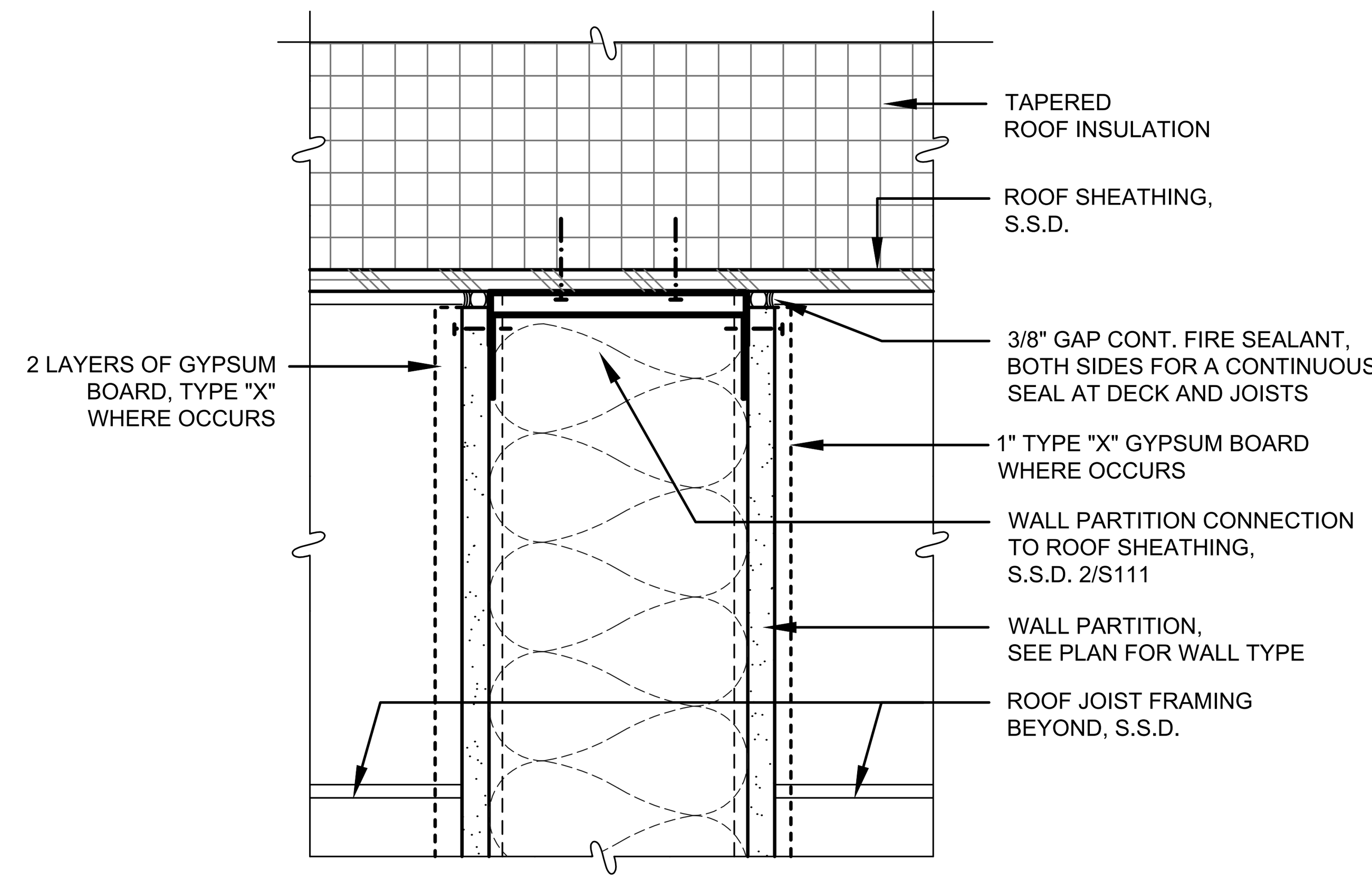
3" = 1'-0"



NOTE:
1-HR RATED SHAFT PER UL469

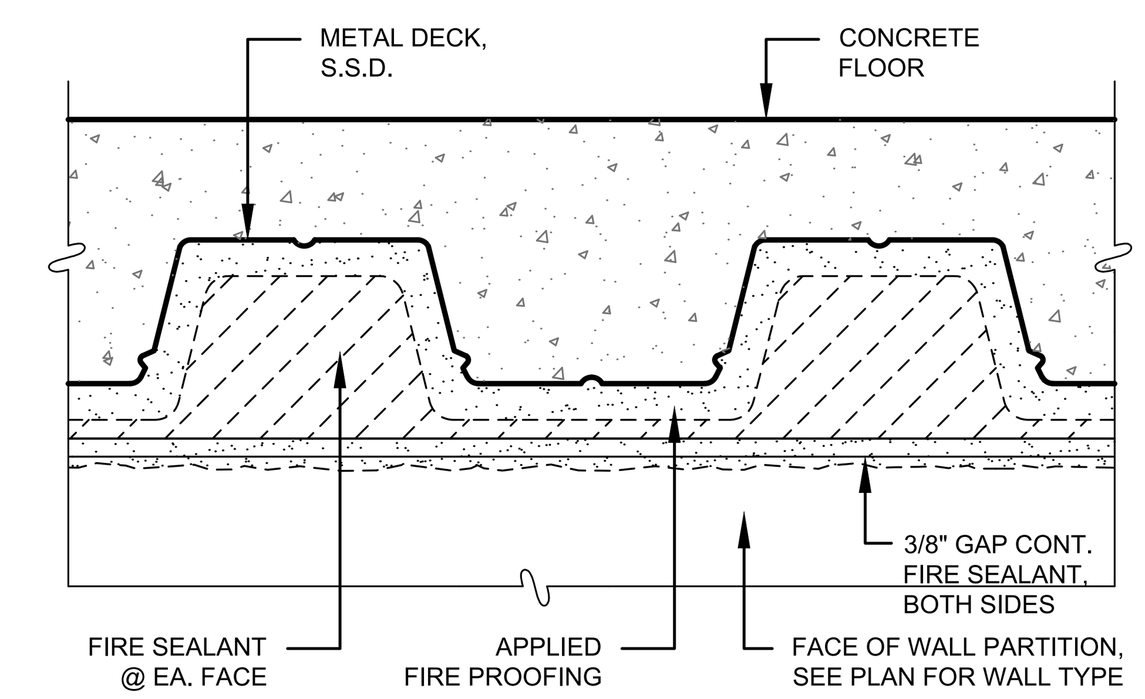
4 1-HR SHAFT WALL HEAD DETAIL

3" = 1'-0"



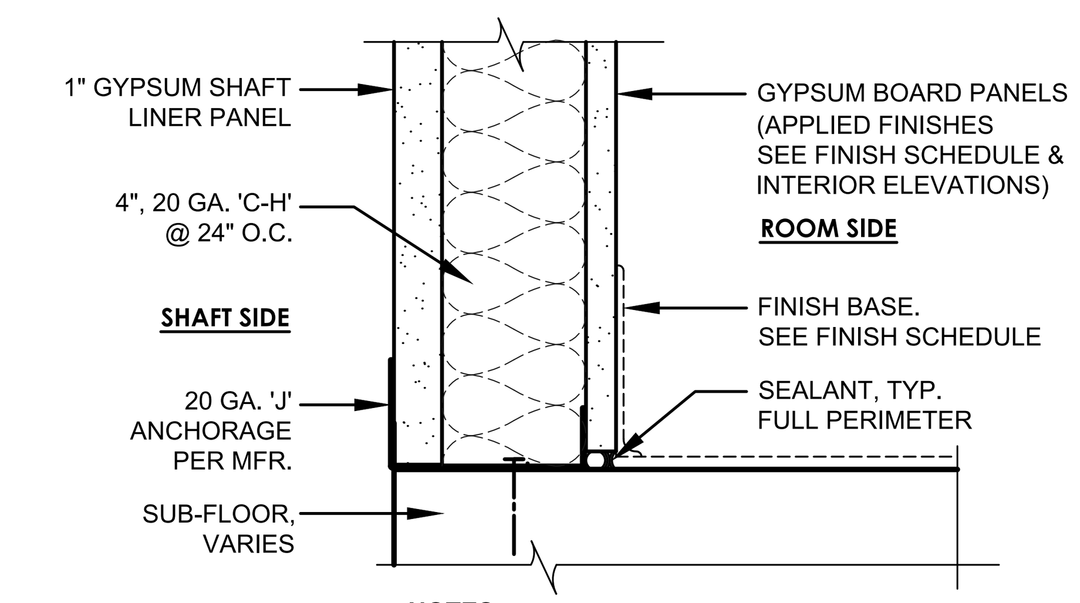
5 PARTITION HEAD DETAIL - PERPENDICULAR TO JOIST

3" = 1'-0"



6 PARTITION HEAD DETAIL - RATED WALL PERPENDICULAR TO FLOOR DECK FLUTES

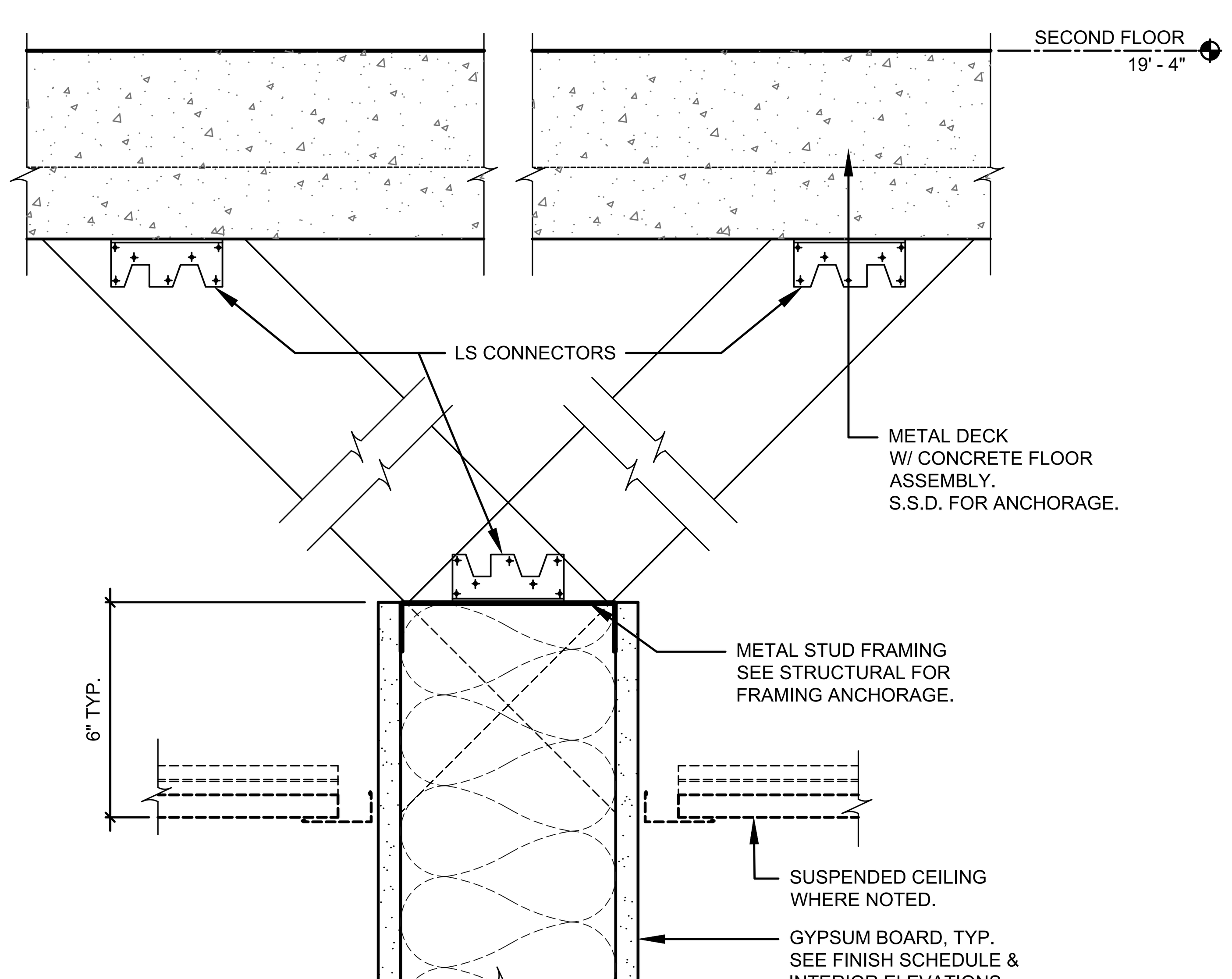
3" = 1'-0"



NOTES:
1-HR. RATED - UL W469; 58 STC SOUND

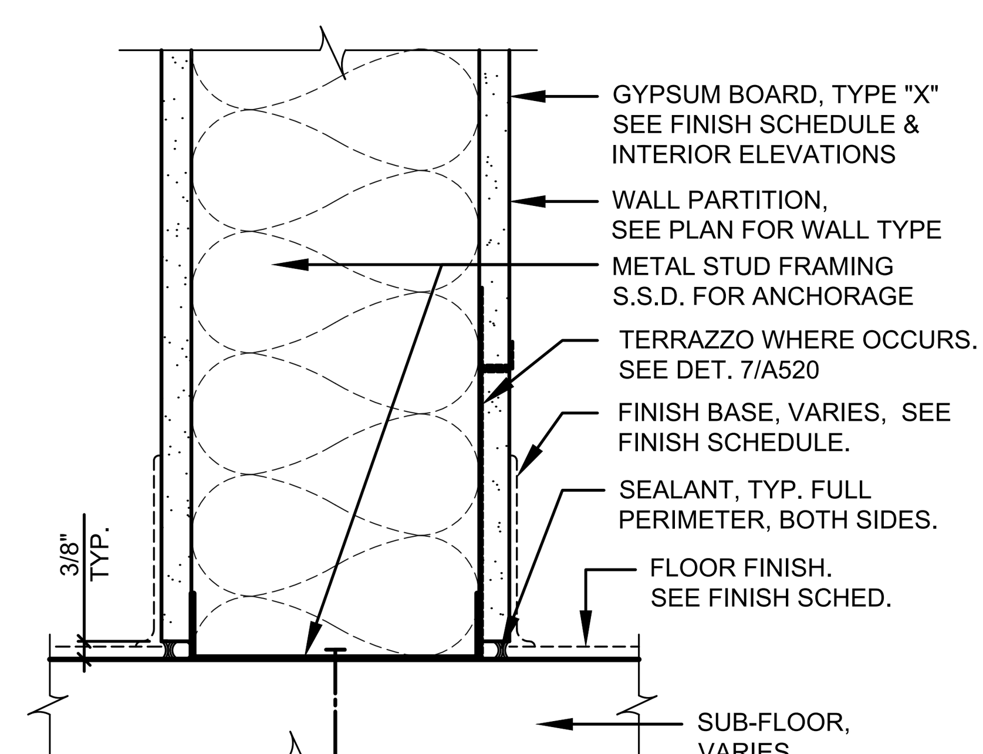
7 1-HR SHAFT WALL BASE DETAIL

3" = 1'-0"



8 PARTITION HEAD DETAIL - NON RATED WALL PERPENDICULAR TO FLUTES

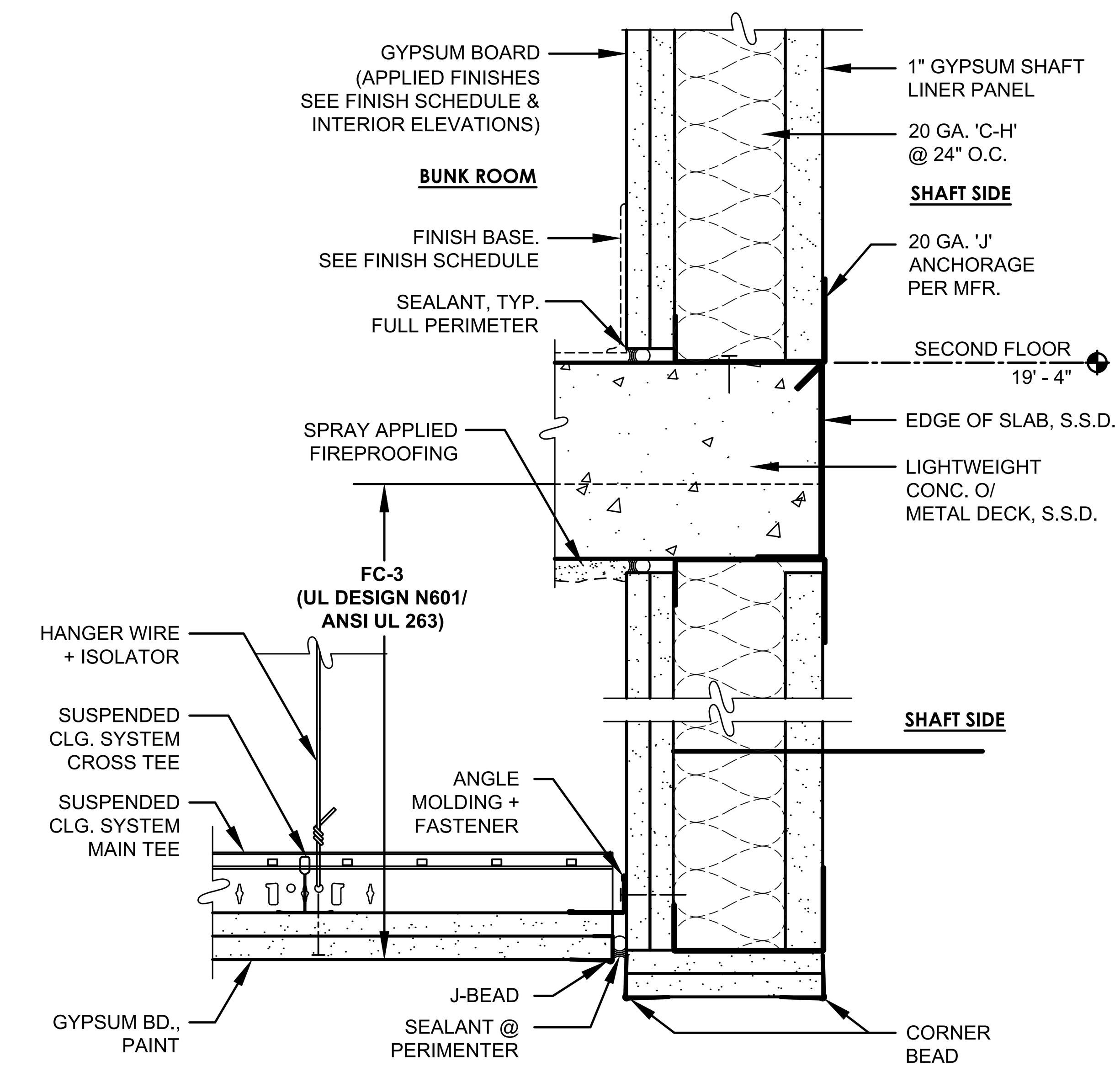
3" = 1'-0"



NOTES:
30 MIN. FIRE SEPARATION - UL W411; 45 TO 49 STC SOUND

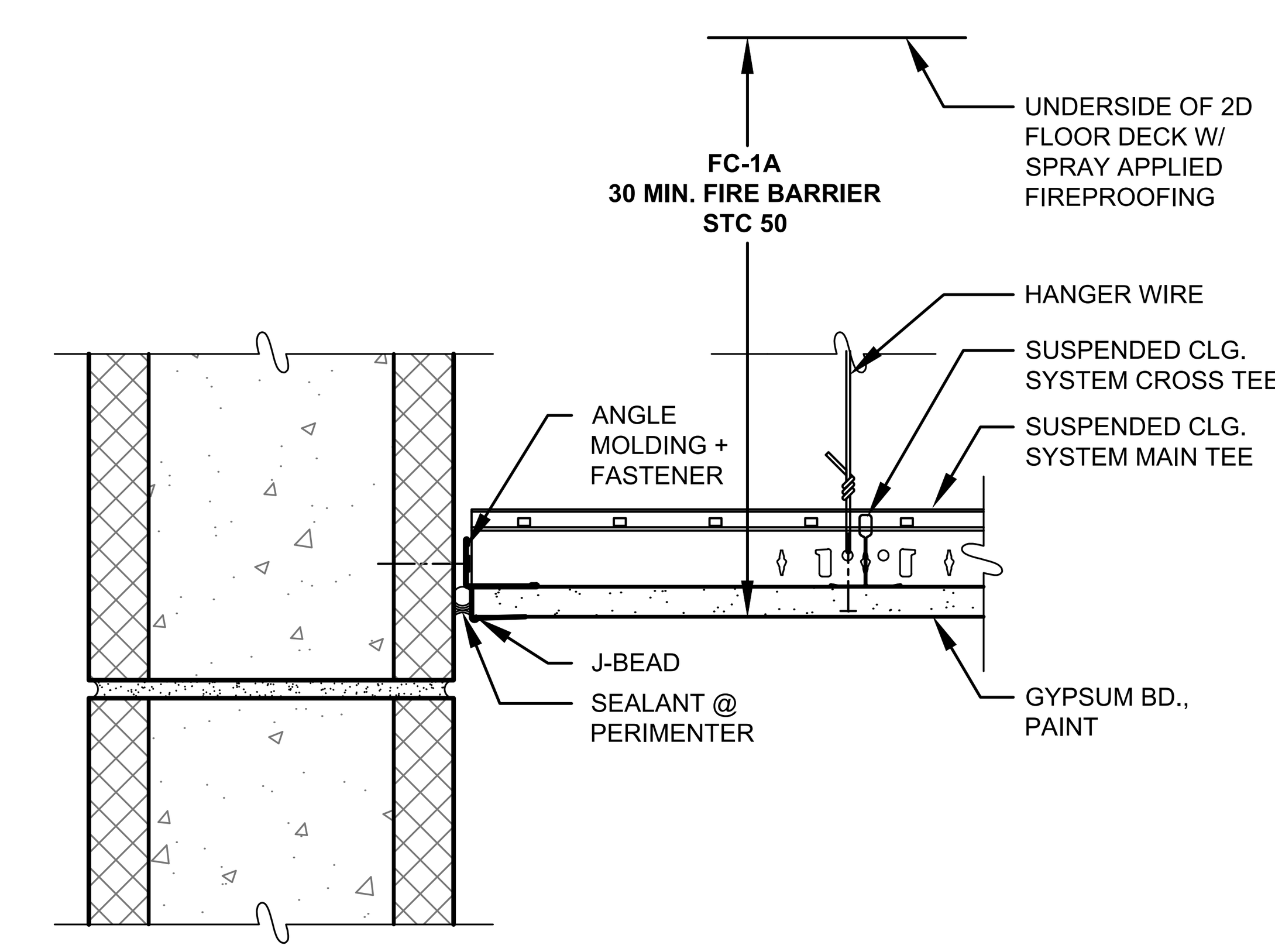
9 TYPICAL METAL STUD WALL PARTITION BASE DETAIL

3" = 1'-0"



10 2 HR. SHAFT WALL & CEILING DETAIL

3" = 1'-0"



11 SUSPENDED GYPSUM CEILING END WALL DETAIL

3" = 1'-0"

MARY MCGRATH | ARCHITECTS

610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/12/2023			BID DOCUMENTS

REVISIONS

AS-BUILT | REF.

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

INTERIOR DETAILS - CEILING, PARTITIONS & SHAFT WALLS DETAILS

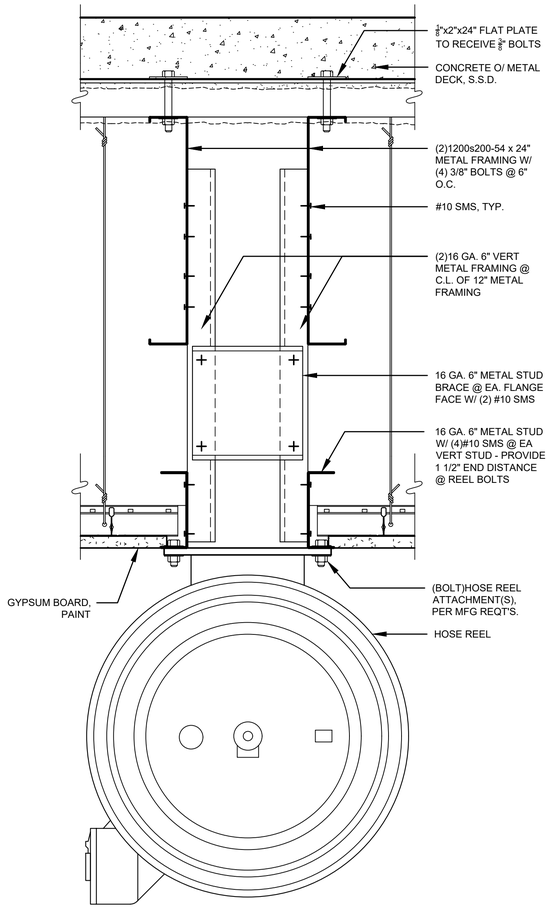
B # B-4797

PHASE # ____ / REBID # ____

SHEET 85 OF 236

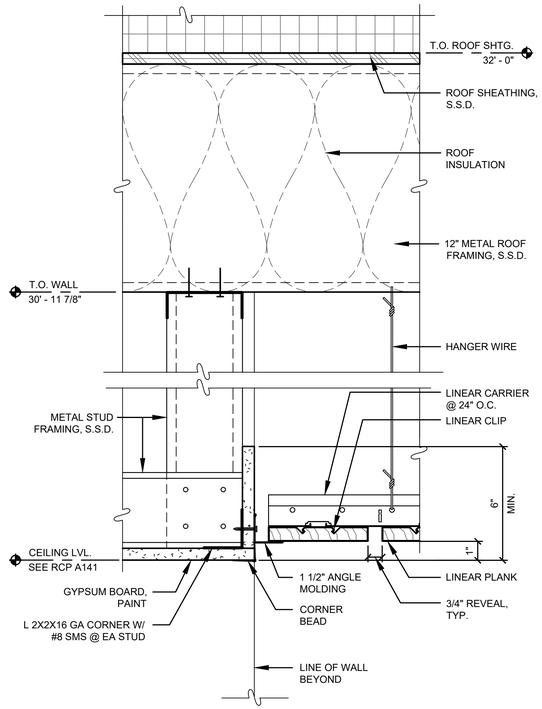
DWG. NO. A501

Oct 12, 2023 - 8:22pm



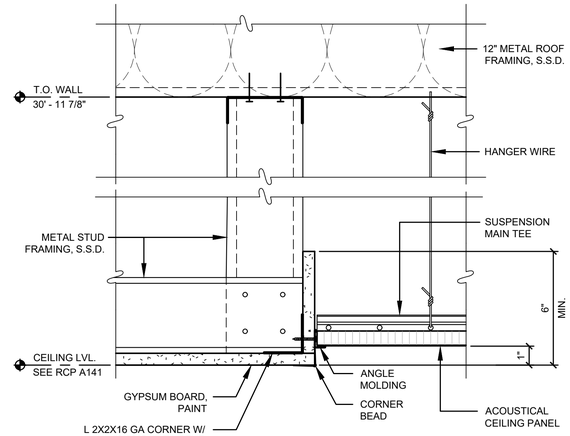
1 HOSE REEL CEILING SUPPORT DETAIL

3" = 1'-0"



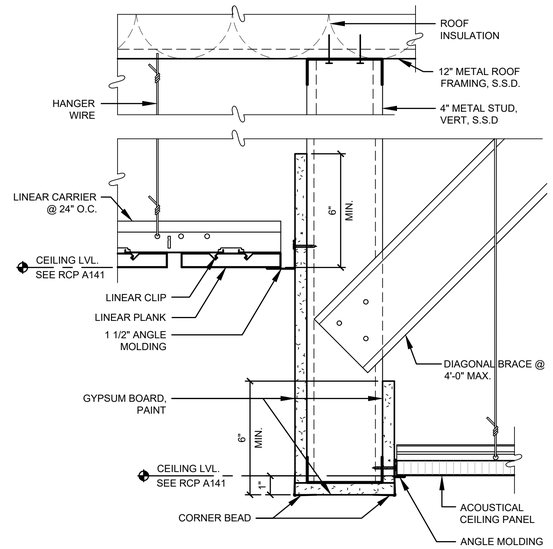
2 TRANSITION CEILING DETAIL - GYPSUM TO WOOD PANELS

3" = 1'-0"



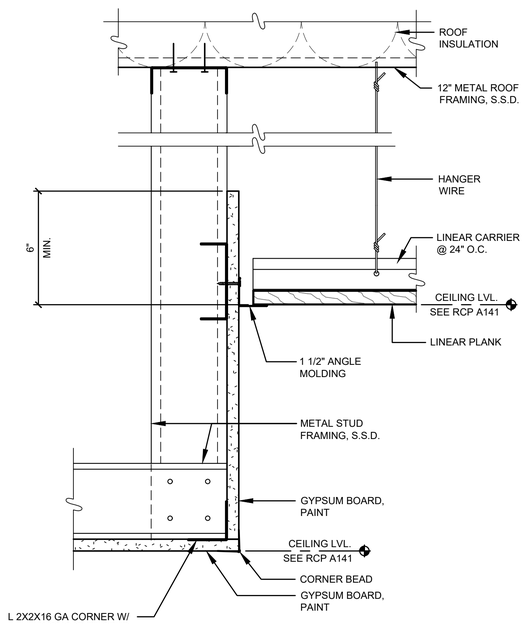
3 TRANSITION CEILING DETAIL - GYPSUM TO ACT

3" = 1'-0"



4 TRANSITION CEILING DETAIL - WOOD PANELS TO ACT

3" = 1'-0"



5 TRANSITION CEILING DETAIL - GYPSUM TO WOOD PANELS

3" = 1'-0"

Oct 12, 2023 - 8:22pm

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

INTERIOR DETAILS - CEILING

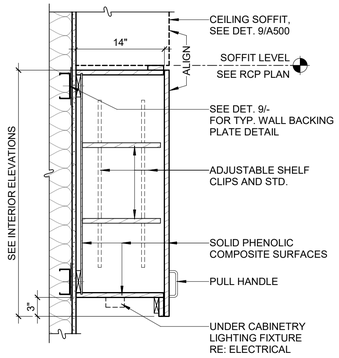
B # B-4797

PHASE # ____ / REBID # ____

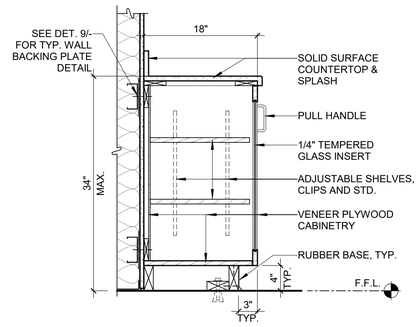
SHEET 86 OF 236

DWG. NO. A502

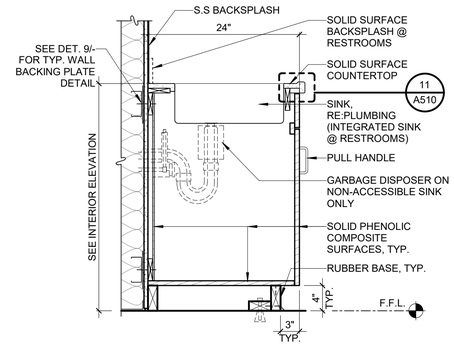
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



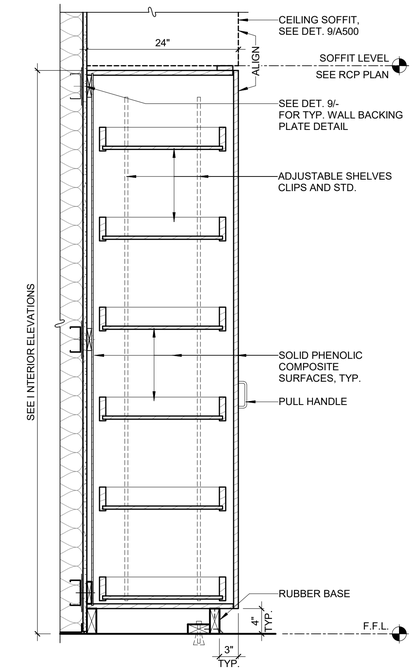
1 UPPER CASEWORK
1" = 1'-0"



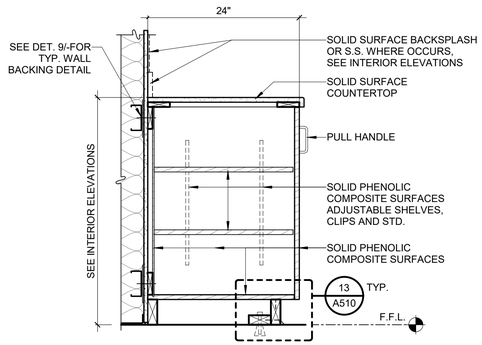
2 BASE CASEWORK W/ GLASS INSERT
1" = 1'-0"



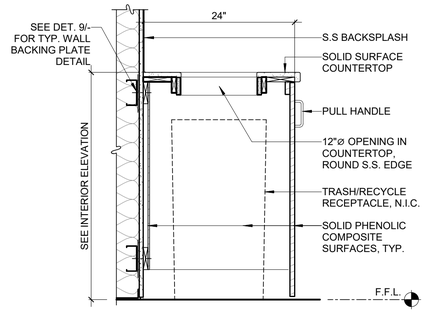
3 BASE CASEWORK - SINK
1" = 1'-0"



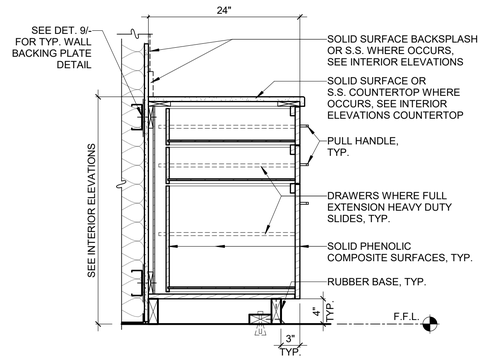
7 CASEWORK - FULL HEIGHT
1" = 1'-0"



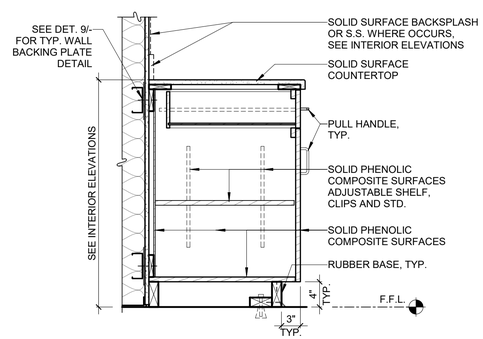
4 BASE CASEWORK
1" = 1'-0"



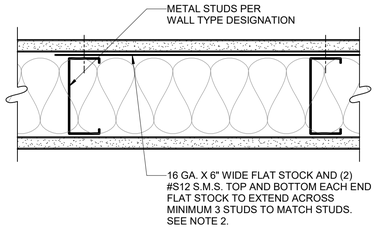
5 BASE CASEWORK - TRASH /RECYCLE
1" = 1'-0"



6 BASE CASEWORK - 3 DRAWERS
1" = 1'-0"

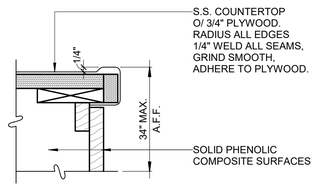


8 BASE CASEWORK & DRAWER
1" = 1'-0"

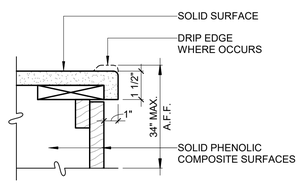


NOTES:
1. APPLY BACKING AT CASEWORK, T.V. GUARD RAILS, GRAB BARS, MIRRORS, DOOR STOPS. TYPICAL LOCATIONS OF WALL MOUNTED EQUIPMENT.
2. ADD HORIZONTAL STUD BLOCKING @ UPPER CABINETS.

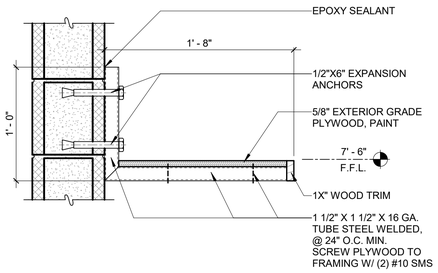
9 TYP. WALL BACKING PLATE DETAIL
3" = 1'-0"



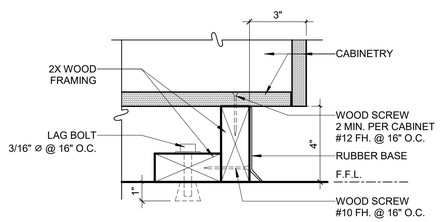
10 S.S. COUNTERTOP EDGE DETAIL
3" = 1'-0"



11 SOLID SURFACE COUNTERTOP EDGE DETAIL
3" = 1'-0"



12 TURNOUT GEAR - SHELVING DETAIL
1 1/2" = 1'-0"



13 BASE ATTACHMENT DETAIL
3" = 1'-0"

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/7/2023			BID DOCUMENTS

REVISION

AS-BUILT | REF.

DESIGNED BY: MM | DRAWN BY: LR / RR | DESIGN CHECK BY: MM | DRAWN CHECK BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

INTERIOR DETAILS - CASEWORK

B # B-4797

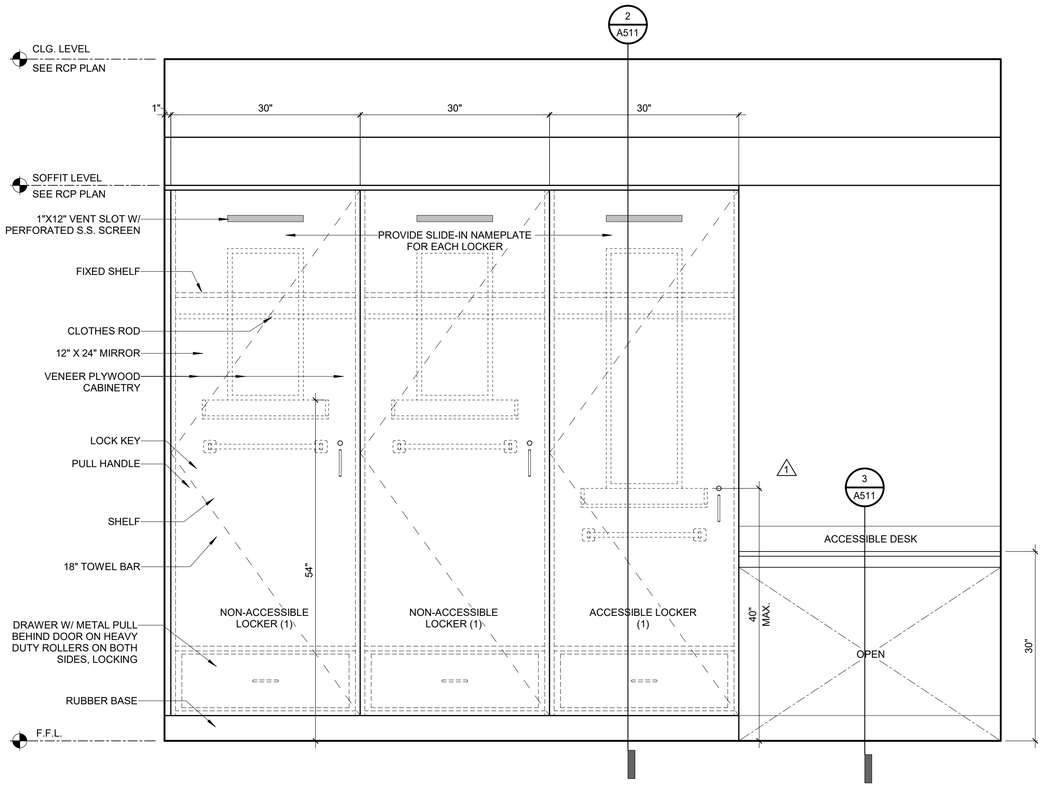
PHASE # ____ REBID # ____

SHEET 87 OF 236

DWG. NO. A510

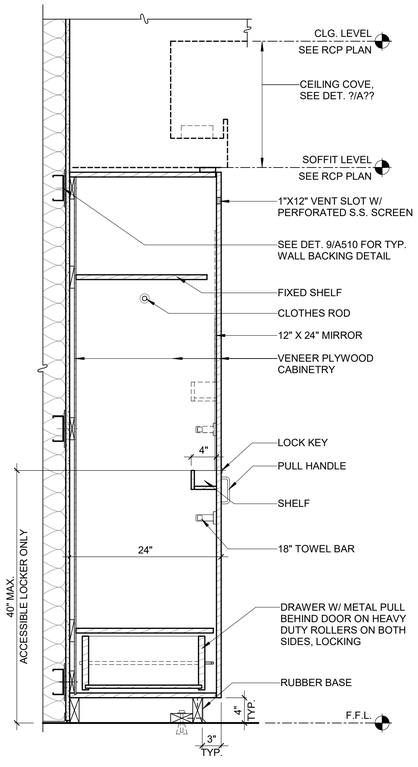
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/12/2023 7:50:09 PM



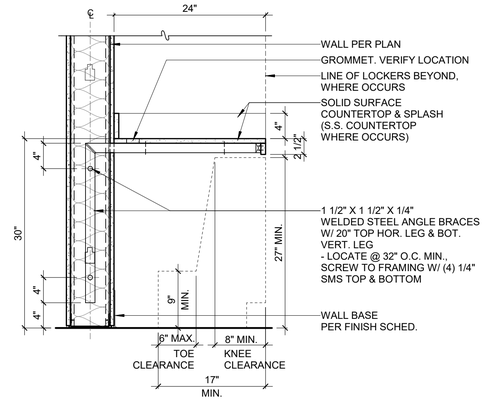
1 TYPICAL FF BUNK LOCKER & DESK ELEVATION

1" = 1'-0"



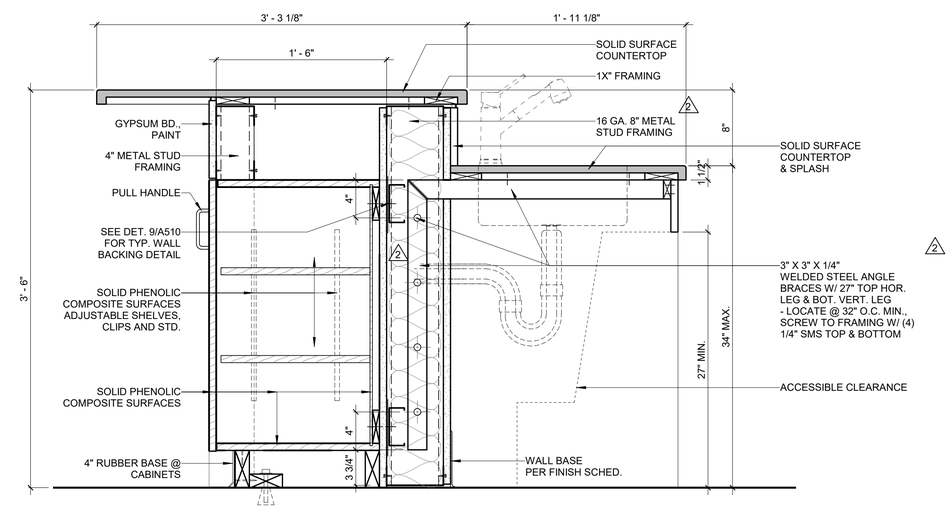
2 TYP. FF BUNK LOCKER SECTION DETAIL

1" = 1'-0"



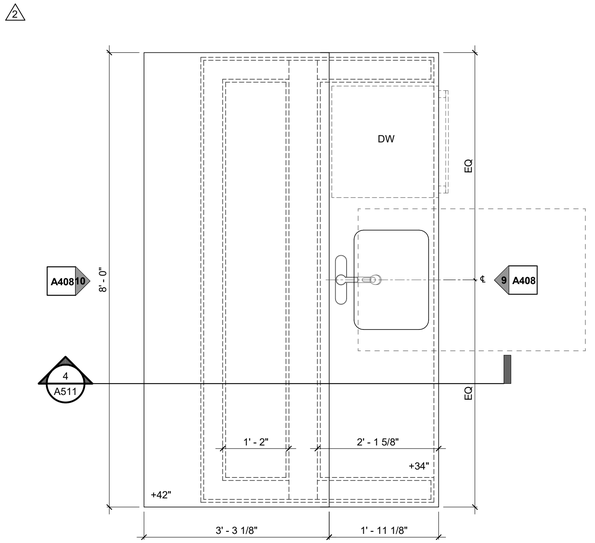
3 DESK SECTION DETAIL

1" = 1'-0"



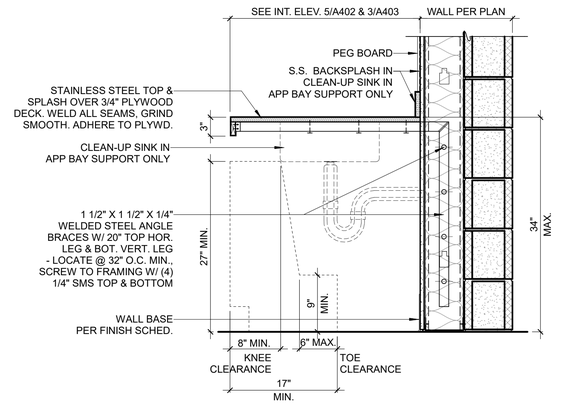
4 KITCHEN - ISLAND SECTION

1 1/2" = 1'-0"



5 ENLARGED KIT. ISLAND COUNTER PLAN

3/4" = 1'-0"



6 DESK SECTION DETAIL

1" = 1'-0"

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION	REF.
	12/16/2021			PLAN CHECK SUBMITTAL	
1	04/22/2022			PLAN CHECK RE-SUBMITTAL	
2	06/15/2023			100% CD'S	
	10/12/2023			BID DOCUMENTS	

DESIGNED BY: MM | DRAWN BY: LR / RR | DESIGN CHECK BY: MM | DRAWN CHECK BY: MM / RR | AS-BUILT

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

INTERIOR DETAILS - CASEWORK

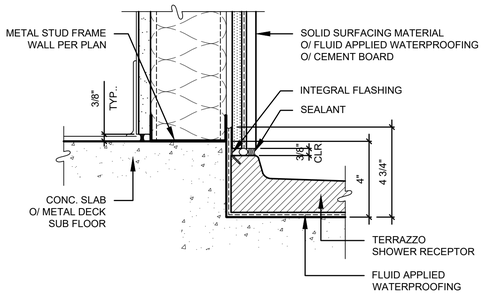
B # B-4797

PHASE # REBID #

SHEET 88 OF 236

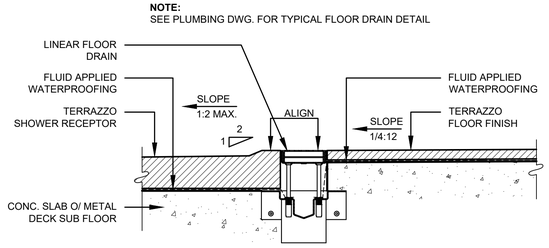
DWG. NO. A511

10/12/2023 7:50:12 PM



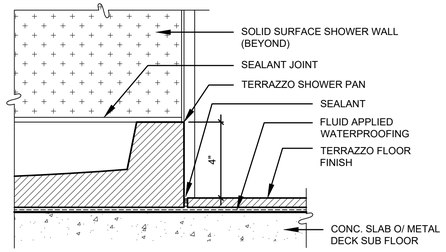
1 ACCESSIBLE SHOWER RECEPTOR DETAIL

3" = 1'-0"



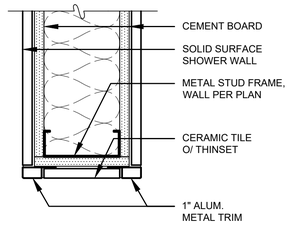
2 ACCESSIBLE SHOWER RECEPTOR LINEAR FLOOR DRAIN DETAIL

3" = 1'-0"



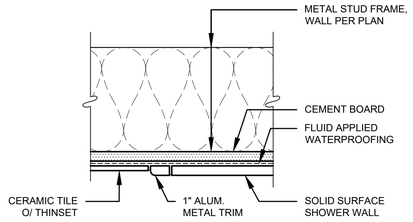
3 SHOWER RECEPTOR DETAIL

3" = 1'-0"



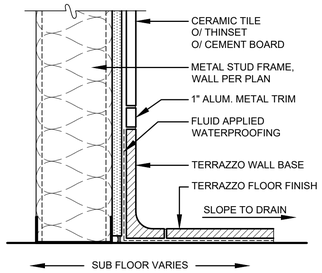
4 WALL TILE TERMINATION PLAN DETAIL

3" = 1'-0"



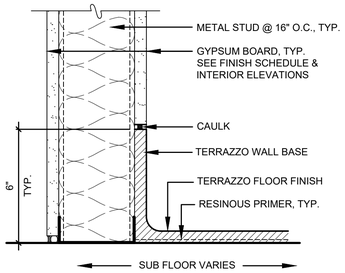
5 TILE & SOLID SURFACE MATERIAL TRANSITION PLAN DETAIL

3" = 1'-0"



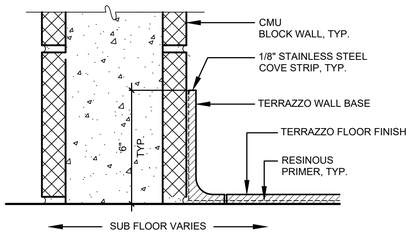
6 WALL TILE - TERRAZZO BASE TRANSITION DETAIL

3" = 1'-0"



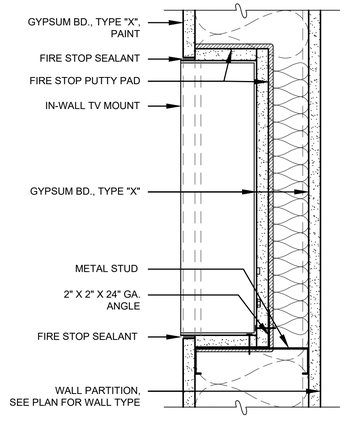
7 TERRAZZO COVE BASE @ METAL STUD GYPSUM WALL

3" = 1'-0"



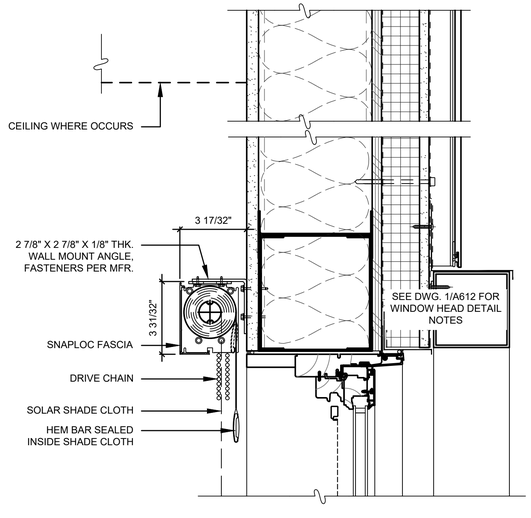
8 TERRAZZO COVE BASE @ MASONRY WALL

3" = 1'-0"



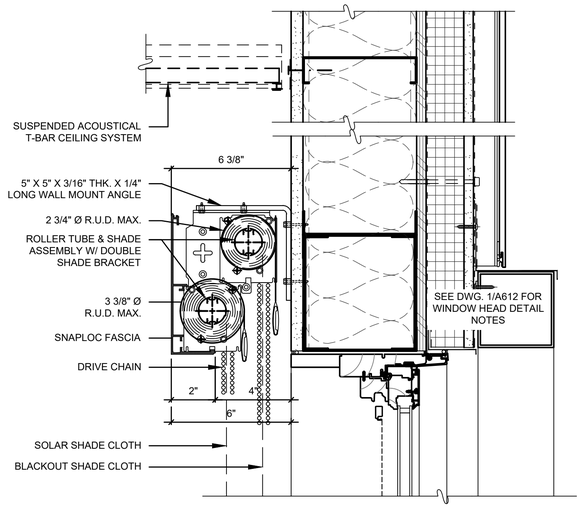
9 IN-WALL TV MOUNT BRACKET @ FIRE RATED WALL DETAIL

3" = 1'-0"



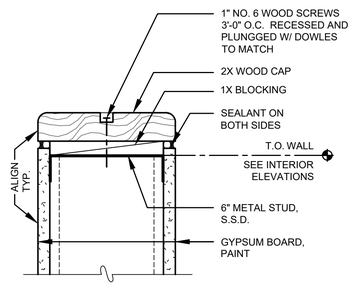
10 SINGLE WINDOW SHADE WALL MOUNTED DETAIL

3" = 1'-0"



11 DOUBLE WINDOW SHADE WALL MOUNTED DETAIL @ BUNK ROOMS ONLY

3" = 1'-0"



12 WALL CAP DETAIL

3" = 1'-0"

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

INTERIOR DETAILS

B # B-4797

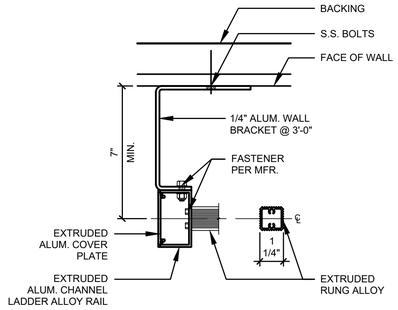
PHASE # ____ / REBID # ____

SHEET 89 OF 236

DWG. NO. A520

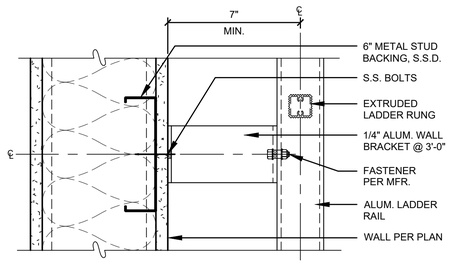
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 12, 2023 - 8:22pm



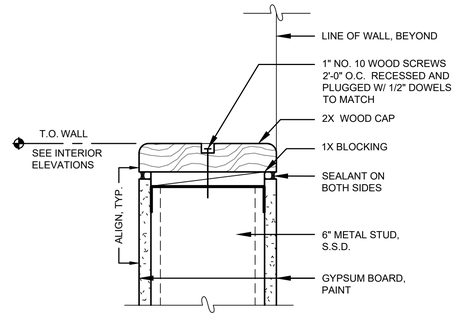
1 MECH. RM. - LADDER PLAN DETAIL

3" = 1'-0"



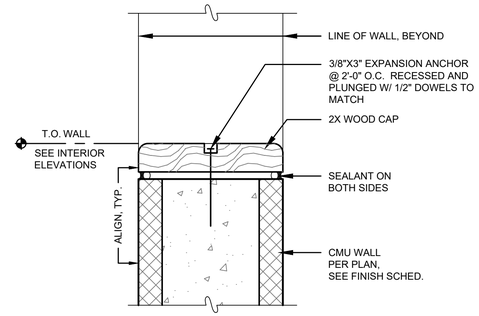
2 MECH. RM. - LADDER SECTION DETAIL

3" = 1'-0"



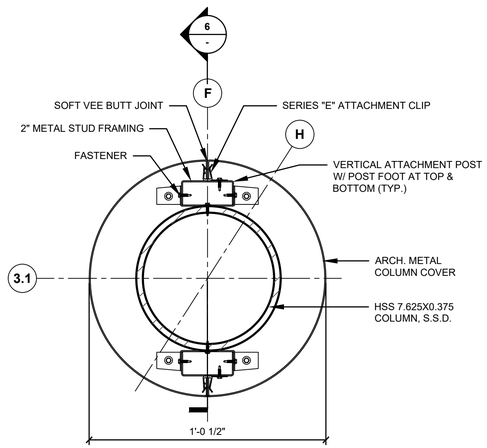
3 WALL CAP @ METAL STUD WALL DETAIL

3" = 1'-0"



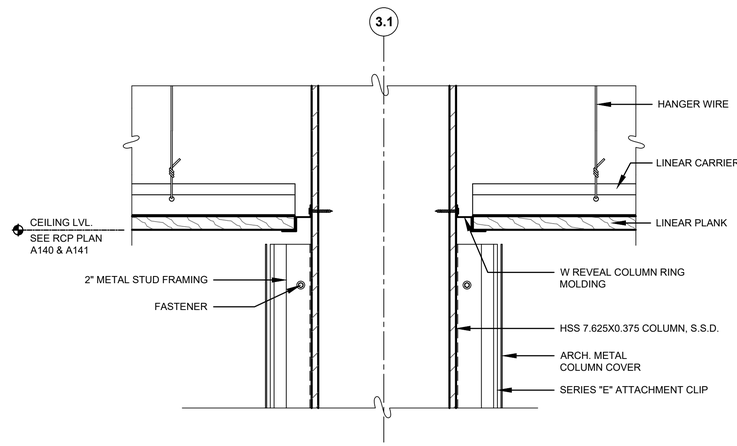
4 WALL CAP @ CMU WALL DETAIL

3" = 1'-0"



5 INT. COL. PLAN DETAIL

3" = 1'-0"



6 INT. COL. SECTION DETAIL

3" = 1'-0"

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/12/2023			BID DOCUMENTS

AS-BUILT

REF.

DESIGNED BY: MM

DRAWN BY: LR / RR / SL

DESIGN CHECKED BY: MM

DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

INTERIOR DETAILS

B # B-4797

PHASE # ___ / REBID # ___

SHEET 90 OF 236

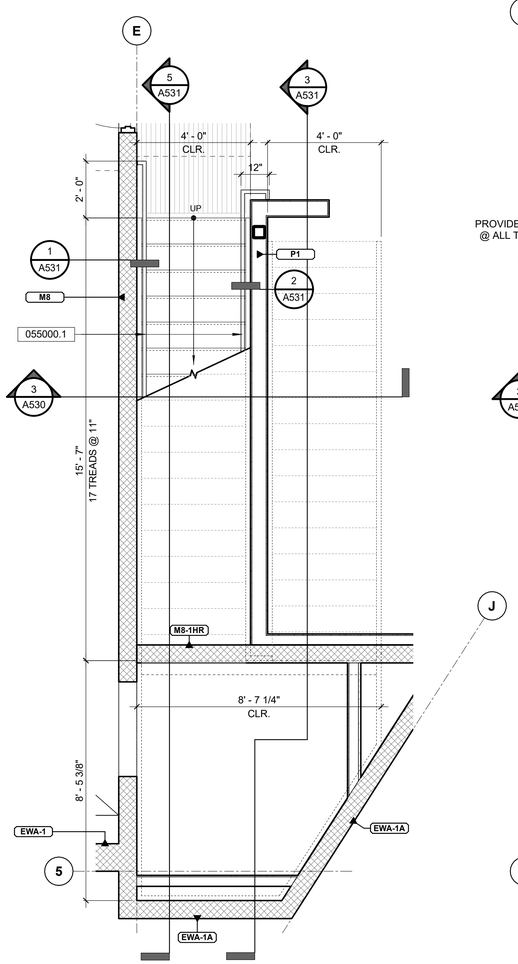
DWG. NO. A521

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

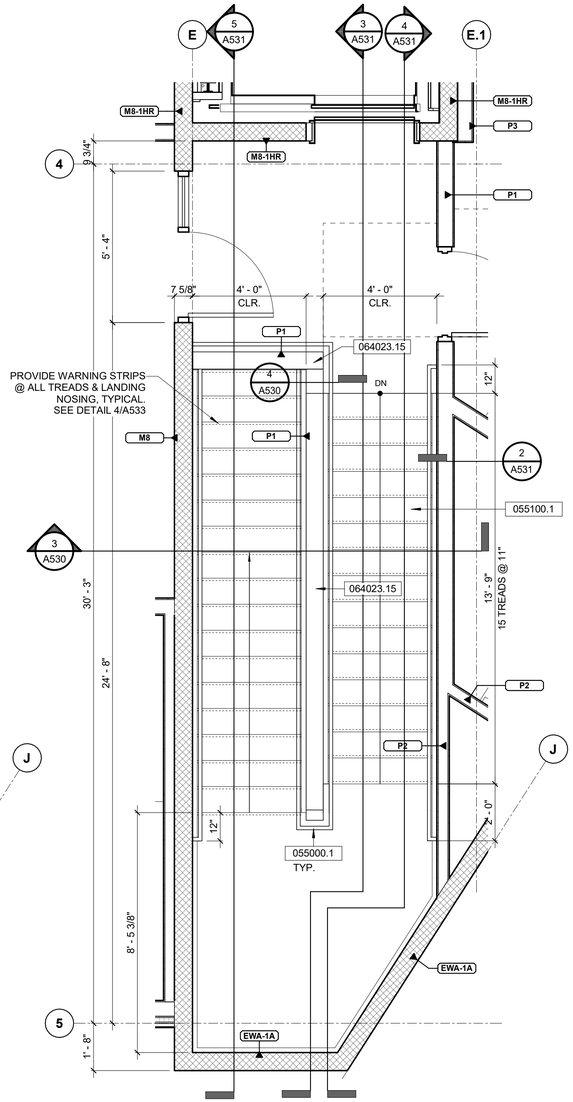
Oct 12, 2023 - 8:22pm

SPECIFICATION KEYNOTES

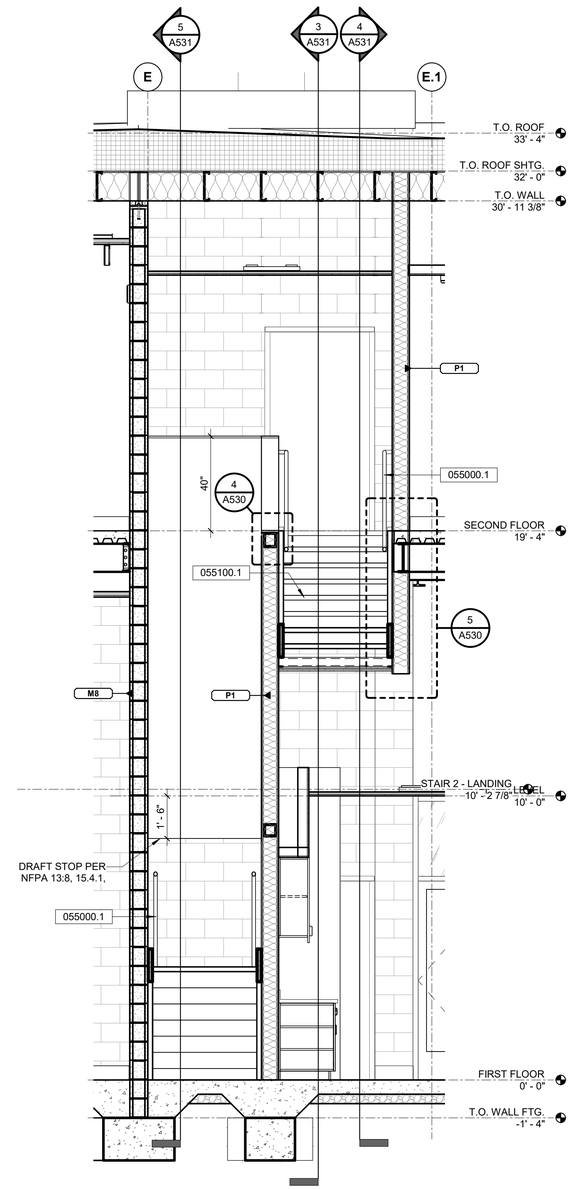
055000.1	METAL HANDRAIL, PAINT
055100.1	METAL STAIR
064023.15	WOOD WALL CAP



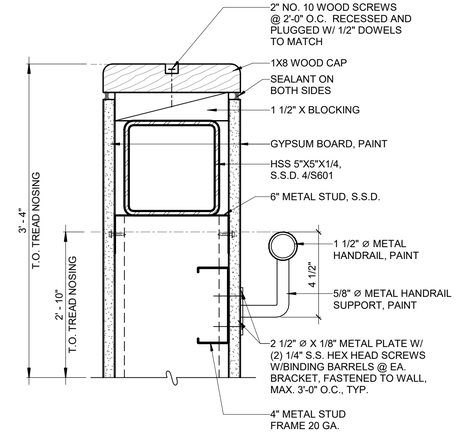
1 **STAIR 1 PLAN - 1ST FLR.**
3/8" = 1'-0"



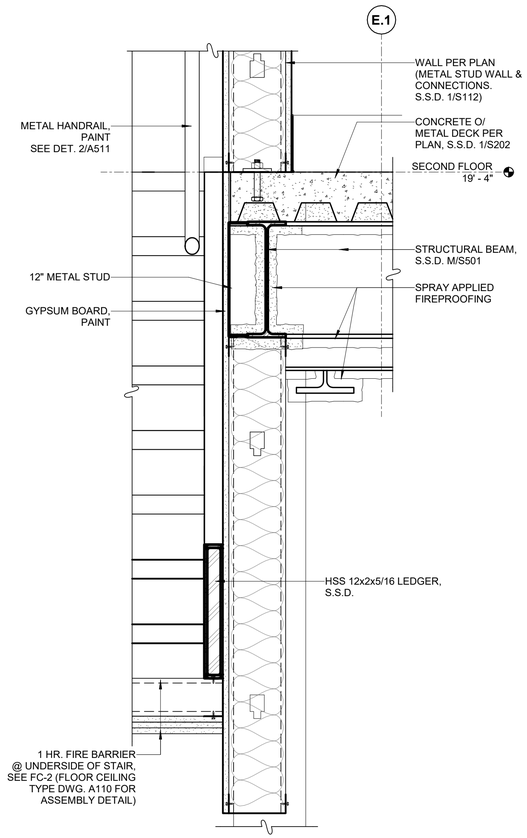
2 **STAIR 1 PLAN - 2ND FLR.**
3/8" = 1'-0"



3 **STAIR 1 - SECTION @ GRID E-E.1**
3/8" = 1'-0"



4 WALL CAP & HANDRAIL DETAIL
3" = 1'-0"



5 **STAIR 1 - WALL DETAIL**
1 1/2" = 1'-0"

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISION NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR
REF.

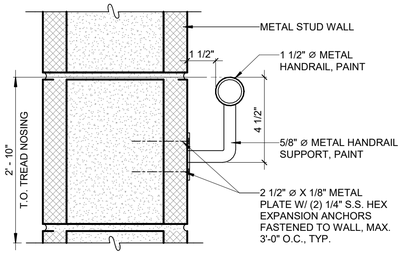
LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

STAIR 1 PLANS & DETAILS

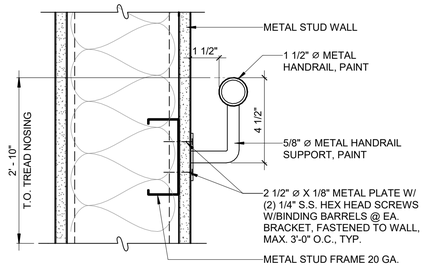
B # B-4797
PHASE # REBID #
SHEET 91 OF 236
DWG. NO. A530

10/12/2023 7:50:16 PM



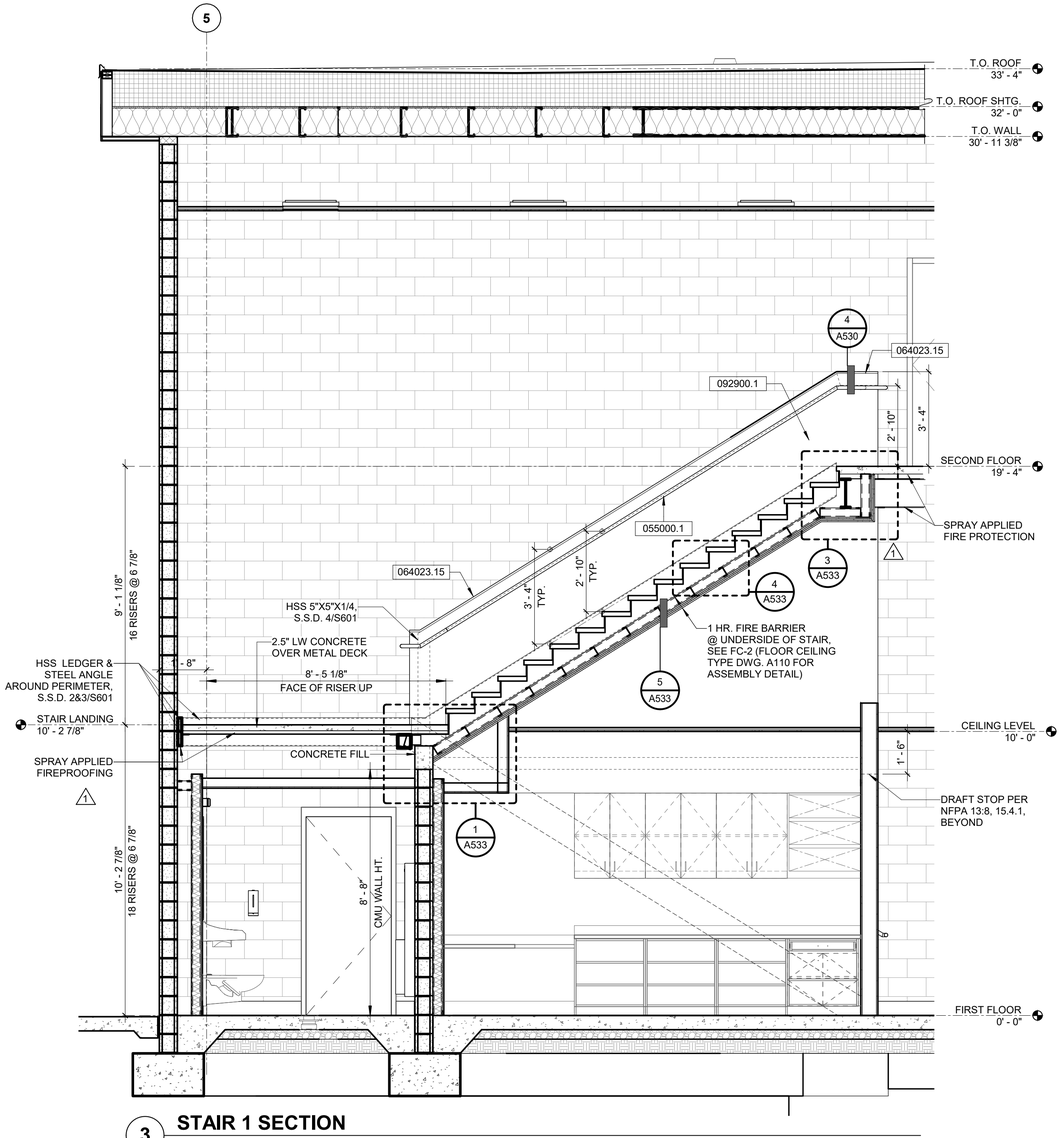
1 HANDRAIL SUPPORT - DETAIL - CMU WALL

3" = 1'-0"



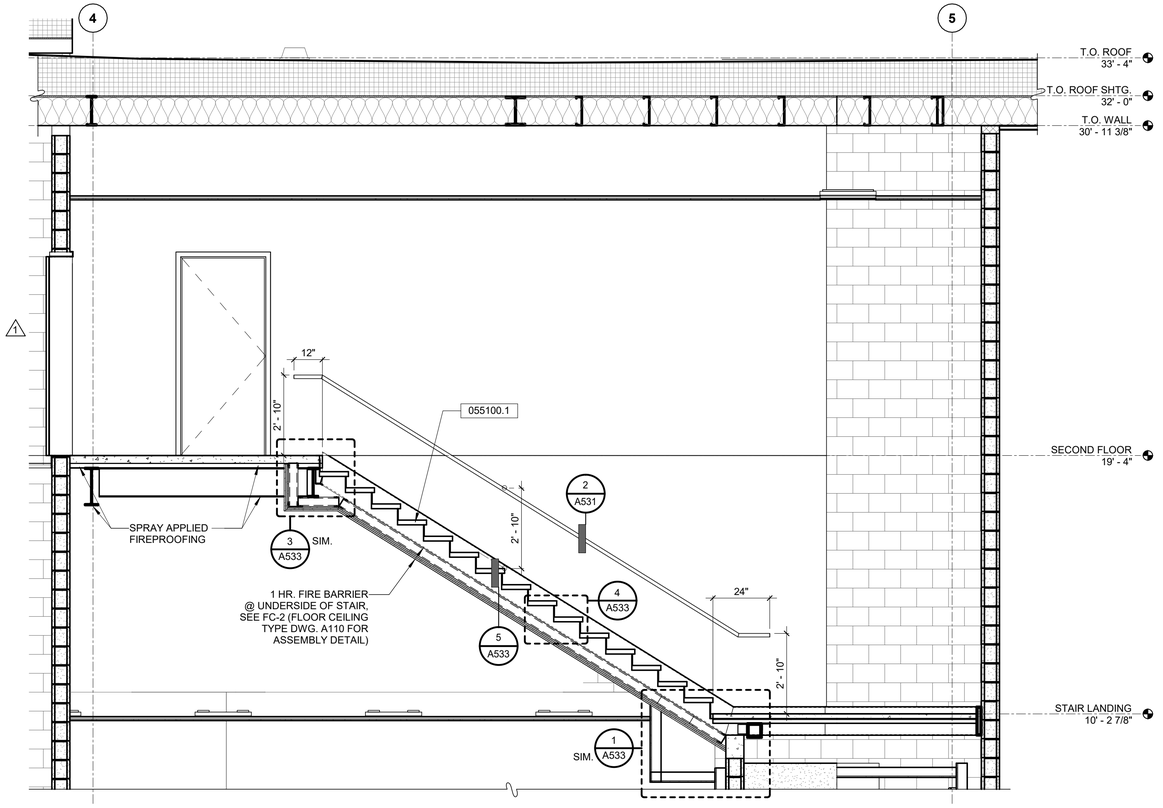
2 HANDRAIL SUPPORT - DETAIL - METAL STUD WALL

3" = 1'-0"



3 STAIR 1 SECTION

3/8" = 1'-0"

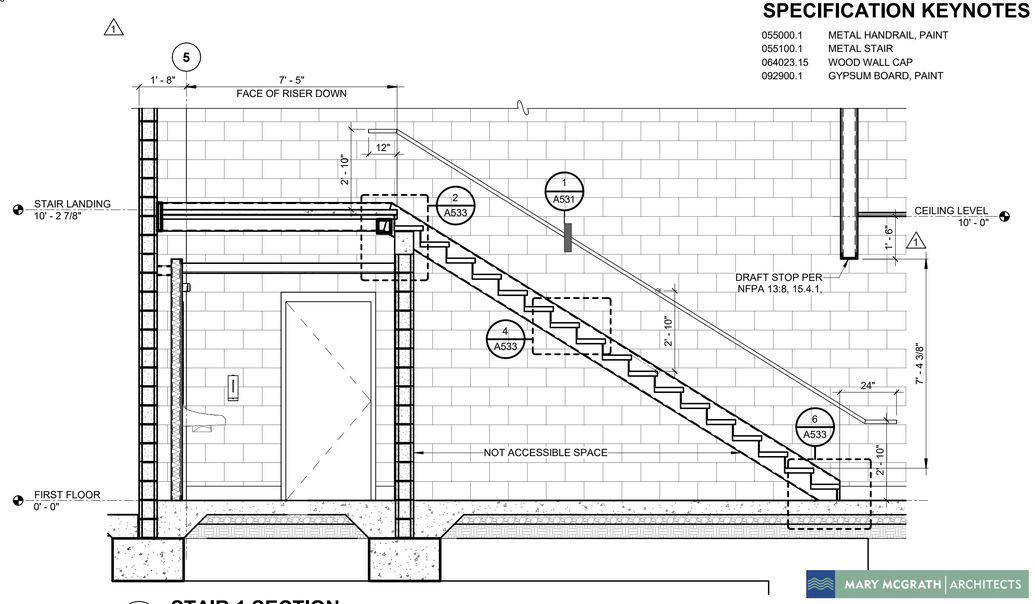


4 STAIR 1 SECTION

3/8" = 1'-0"

SPECIFICATION KEYNOTES

055000.1	METAL HANDRAIL, PAINT
055100.1	METAL STAIR
064023.15	WOOD WALL CAP
092900.1	GYPSUM BOARD, PAINT



5 STAIR 1 SECTION

3/8" = 1'-0"

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
				PLAN CHECK SUBMITTAL
1	12/16/2021			PLAN CHECK RE-SUBMITTAL
	04/22/2022			BID DOCUMENTS
	10/12/2023			
				AS-BUILT
				REF.

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

STAIR 1 SECTIONS & DETAILS

B # B-4797

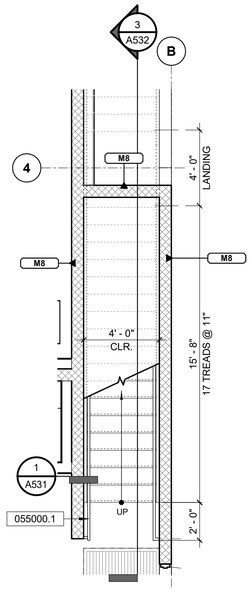
PHASE # ____ REBID # ____

SHEET 92 OF 236

DWG. NO. A531

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/12/2023 7:50:21 PM

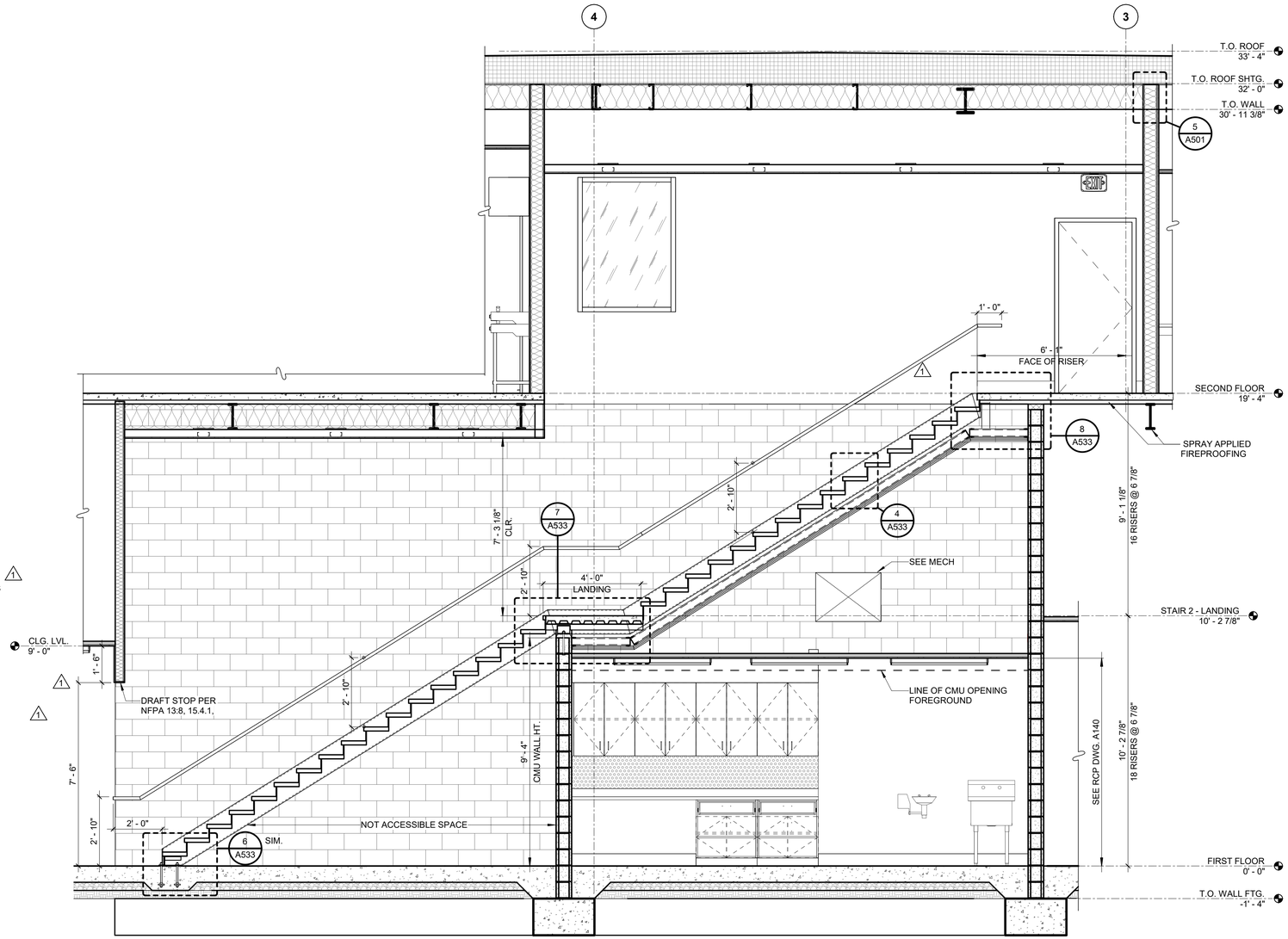


1 STAIR 2 - 1ST FLR. PLAN

1/4" = 1'-0"

2 STAIR 2 - 2ND FLR. PLAN

1/4" = 1'-0"



3 STAIR 2 - LONGITUDINAL SECTION

3/8" = 1'-0"

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
1	12/16/2021			PLAN CHECK SUBMITTAL
2	04/22/2022			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

DESIGNED BY: **MM**
DRAWN BY: **LR / RR**
DESIGN CHECK BY: **MM**
DRAWN CHECK BY: **MM / RR**
AS-BUILT
REF.

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

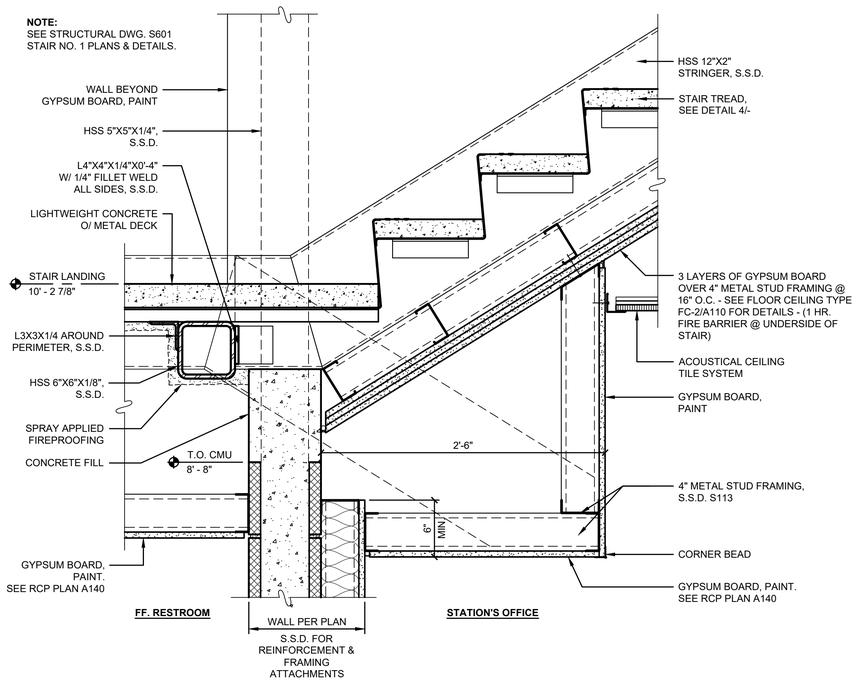
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

STAIR 2 PLANS, SECTIONS & DETAILS

B # **B-4797**
PHASE # ____ REBID # ____
SHEET **93** OF **236**
DWG. NO. **A532**

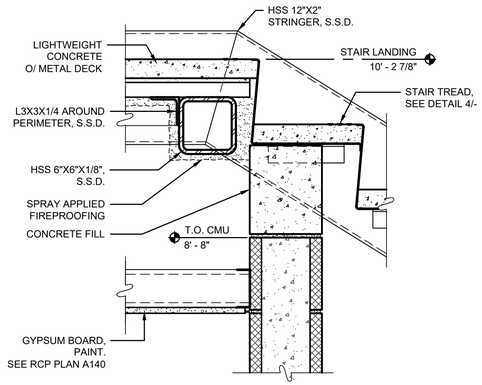
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/12/2023 7:50:26 PM



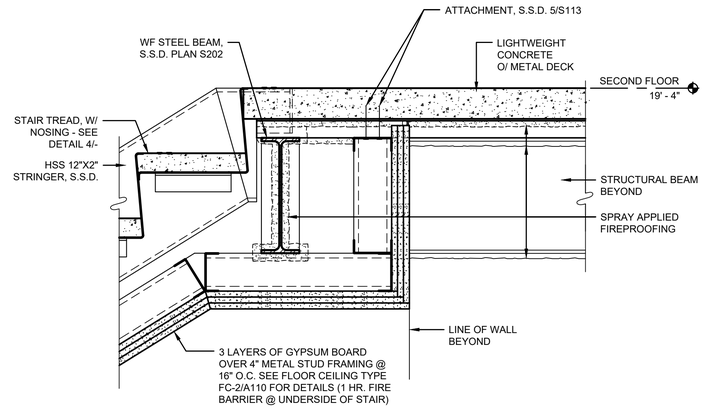
1 STAIR 1 - LANDING & CEILING DETAIL

1 1/2" = 1'-0"



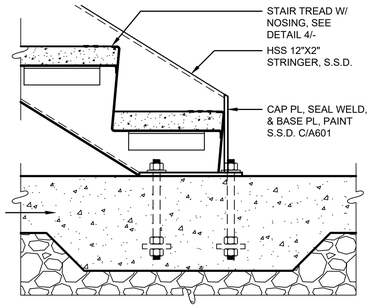
2 STAIR 1 - LANDING DETAIL

1 1/2" = 1'-0"



3 STAIR 1 - 2ND FLR. LEVEL DETAIL

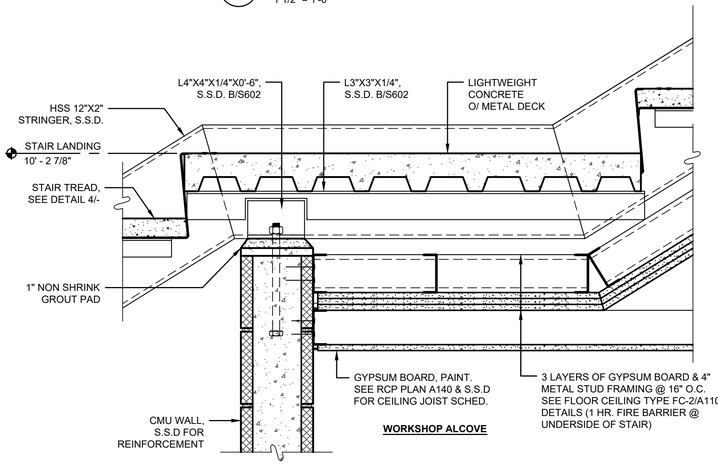
1 1/2" = 1'-0"



6 STAIR 1 - 1ST FLR. DETAIL

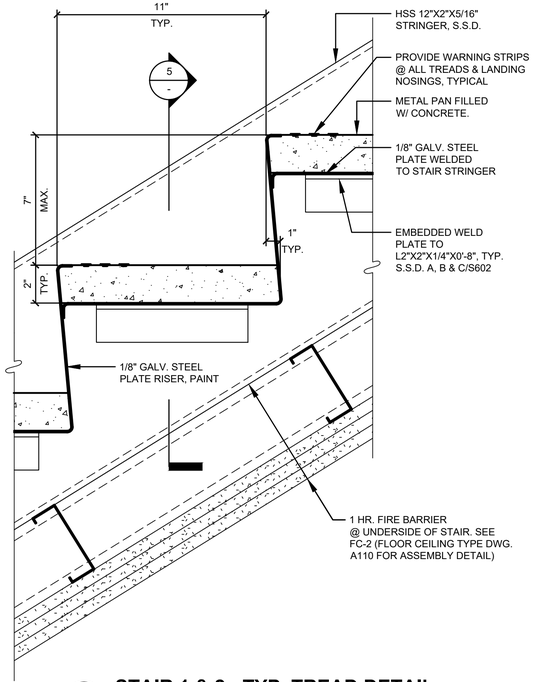
1 1/2" = 1'-0"

SIM. STAIR 2



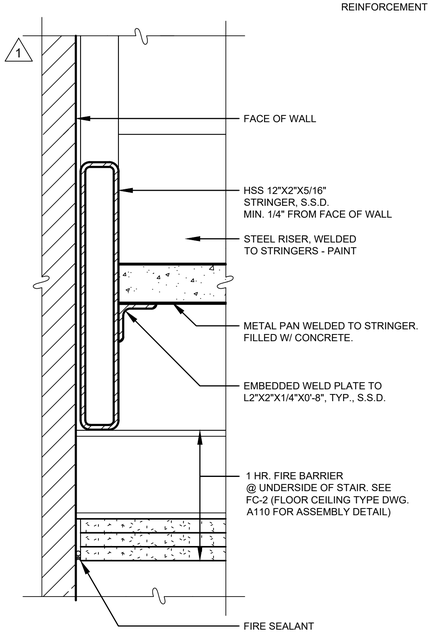
7 STAIR 2 - LANDING DETAIL

1 1/2" = 1'-0"



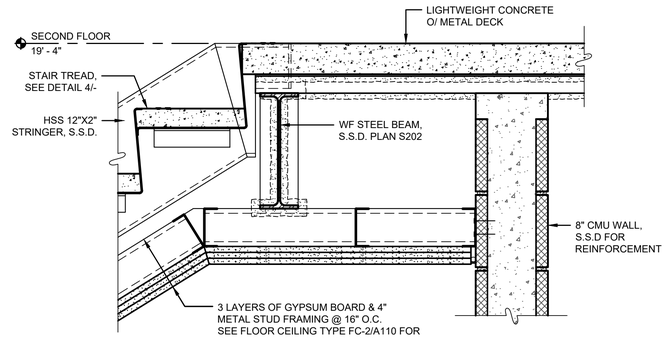
4 STAIR 1 & 2 - TYP. TREAD DETAIL

3" = 1'-0"



5 STAIR 1 & 2 - TYP. STRINGER DETAIL

3" = 1'-0"



8 STAIR 2 - 2ND FLR. LEVEL DETAIL

1 1/2" = 1'-0"

REVISIONS			
NO.	DATE	SHEET APPROVAL	DESCRIPTION
	12/16/2021		PLAN CHECK SUBMITTAL
1	04/22/2022		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS
			AS-BUILT

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR
REF.

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

STAIR DETAILS

B # B-4797

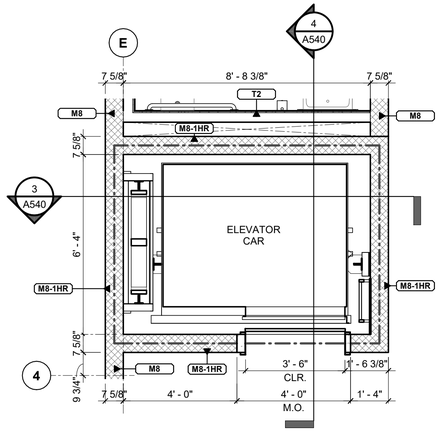
PHASE # ____ / REBID # ____

SHEET 94 OF 236

DWG. NO. A533

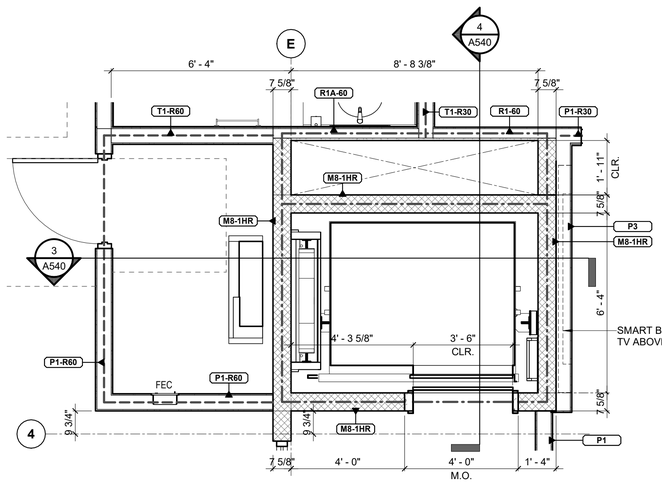
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 12, 2023 - 8:22pm



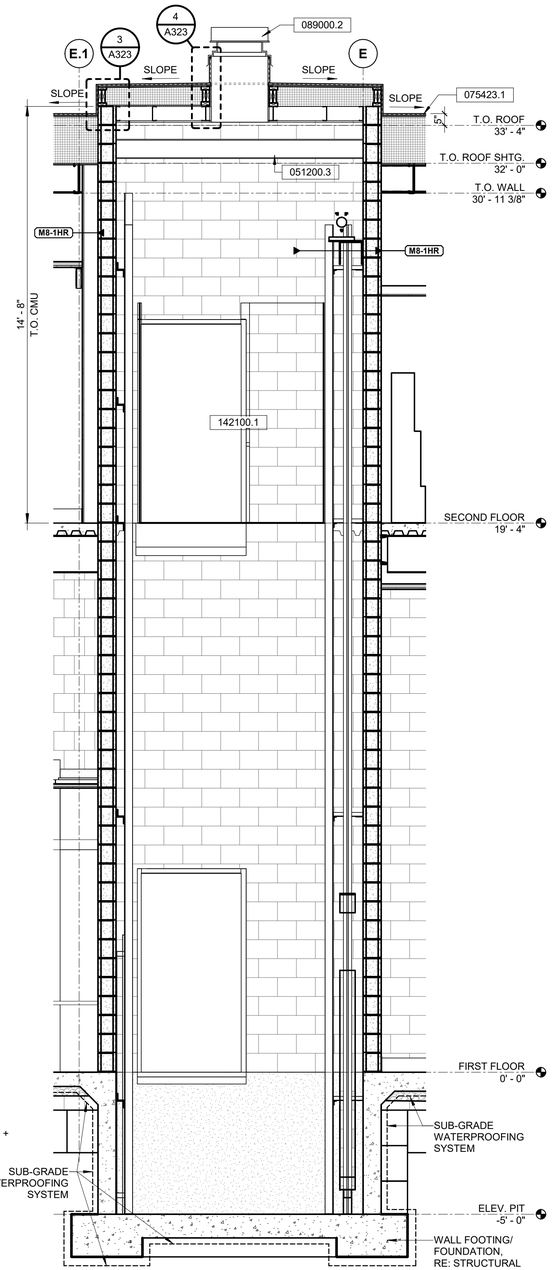
1 1ST FLR. - ELEVATOR PLAN

3/8" = 1'-0"



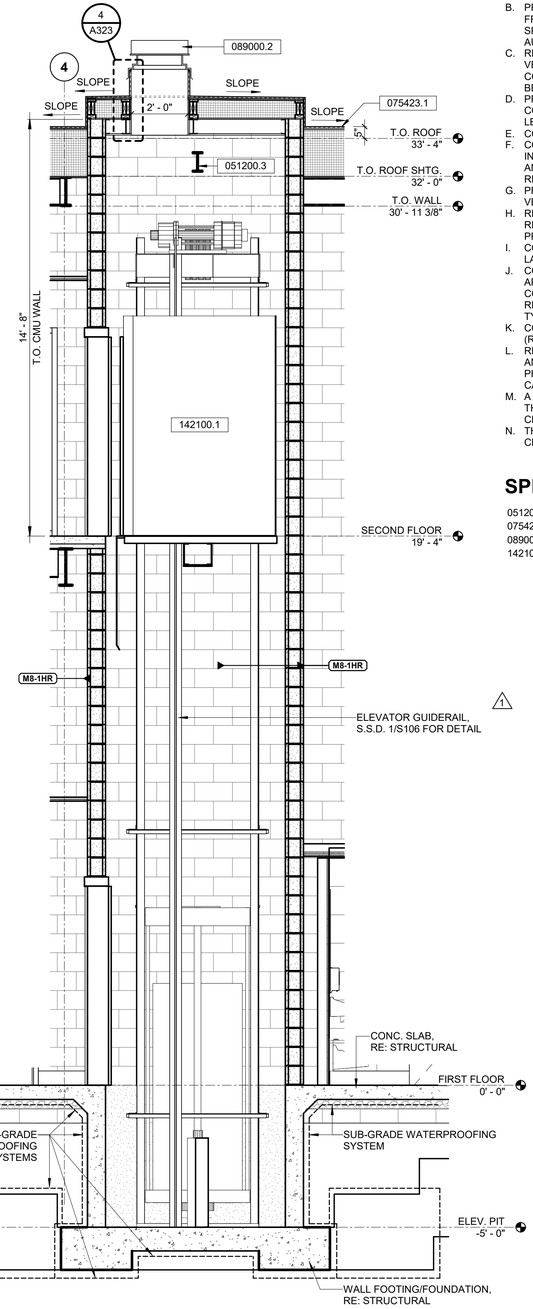
2 2ND FLR. - ELEVATOR & ELEV. MACHINE ROOM PLAN

3/8" = 1'-0"



3 ELEVATOR SECTION

3/8" = 1'-0"



4 ELEVATOR SECTION

3/8" = 1'-0"

GENERAL NOTES:

A. PROVIDE A CLEAR, PLUMB HOISTWAY. VARIATIONS MUST NOT EXCEED 1" (TOLERANCE = -0" + 1").
B. PROVIDE ADEQUATE SUPPORT FOR GUIDE RAIL BRACKETS FROM PIT FLOOR TO THE TOP OF HOISTWAY AND NOT SPANNING FURTHER THAN ALLOWED BY THE GOVERNING CODE AUTHORITY.
C. REFER TO MECHANICAL DRAWINGS FOR HOISTWAY VENTILATION. MAX ALLOWED HUMIDITY IS 95% NON-CONDENSING. HOISTWAY MUST MAINTAIN A TEMPERATURE BETWEEN 41f AND 104f.
D. PROJECTIONS REQUIRING BEVELING IN ACCORDANCE WITH CODE REQUIREMENTS SHALL BE BEVELED AT AN ANGEL NOT LESS THAN 75 DEGREES FROM THE HORIZONTAL.
E. COMPLY WITH ALL OSHA SAFETY REQUIREMENTS.
F. COORDINATE ALL BLOCK OUT / CUTOUT OF OPENINGS TO INSTALL HALL PUSHBUTTONS, SIGNAL FIXTURES, HATCH DUCT AND OPENINGS INTO THE ELEVATOR CONTROL ROOM, REQUIRED LOCATIONS PER MFR.
G. PROVIDE A DRY PIT PER STRUCTURAL DRAWINGS. COORDINATE VERTICAL LOADS FROM RAILS W/ MFR.
H. REFER TO ELECTRICAL DRAWINGS FOR LIGHTING AND POWER REQUIREMENTS FOR THE MACHINE SPACE AND HOISTWAY. PROVIDE A LIGHT SWITCH LOCATED IN THE HOISTWAY.
I. COORDINATE ALL ENTRANCE ATTACHMENT POINTS AT ALL LANDINGS WITH ELEVATOR CONTRACTOR.
J. COORDINATE PIT LADDER LOCATION AS SUPPLIED BY MFR (NOT APPLICABLE TO LU/LA LIFT ELEVATOR SPECIFIED). GC TO COORDINATE ALL PIT, HOISTWAY, AND JOIST BEAM REQUIREMENTS FOR INSTALLATION OF ANY OTHER ELEVATOR TYPE SELECTED.
K. COORDINATE LOCATION OF HOIST BEAM IN SHOP DRAWINGS (RE: NOTE 10).
L. REFER TO ELECTRICAL DRAWINGS FOR REQUIRED SERVICE AND GROUNDING FOR CONTROL CABINET AND DEDICATED PHONE LINE TERMINATING AT THE ELEVATOR CONTROL CABINET.
M. A TWO-WAY COMMUNICATION SYSTEM SHALL BE PROVIDED AT THE ELEVATOR LANDINGS ON EACH ACCESSIBLE FLOOR PER CDC 11B-407.4.1.
N. THE ELEVATOR SHALL COMPLY WITH ALL REQUIREMENTS OF CBC 11B-407.4.1.

SPECIFICATION KEYNOTES

051200.3	STEEL BEAM, REFER TO STRUCTURAL DWGS.
075423.1	TPO ROOFING OVER RIGID TAPERED INSULATION
089000.2	GRAVITY VENTILATOR
142100.1	ELEVATOR

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
				PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REVISION

REF.

DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ELEVATOR PLANS + SECTIONS

B # B-4797

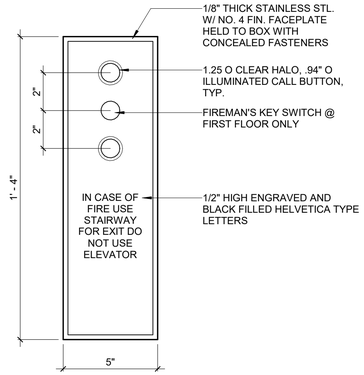
PHASE # ____ REBID # ____

SHEET 95 OF 236

DWG. NO. A540

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/12/2023 7:50:30 PM

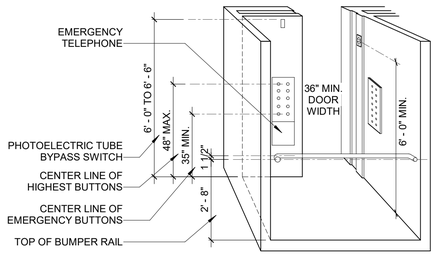


1 ELEVATOR - HALL CALL STATION

3" = 1'-0"

NOTE:

- THE AUTOMATIC DOOR REOPENING DEVICE IS ACTIVATED IF AN OBJECT PASSES THROUGH EITHER LINE A OR B. (LINE A = 5" AFF, LINE B = 29" AFF) LINE A & B REPRESENT THE VERTICAL LOCATION OF THE DOOR REOPENING DEVICE NOT REQUIRING CONTACT.

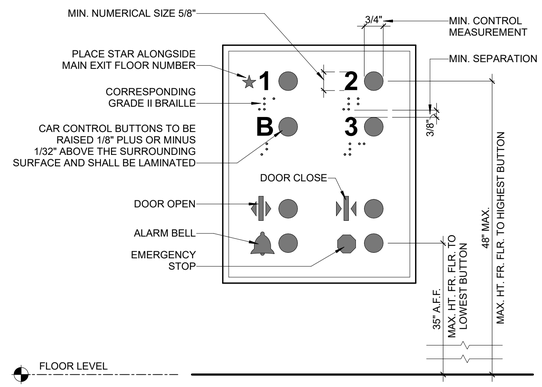


2 ELEVATOR - INTERIOR

3" = 1'-0"

NOTE:

- ELEVATOR CONTROL PANEL SHALL COMPLY W/ CBC 3003.48A & FIG. 30-B
- LETTERS AND NUMERALS SHALL BE RAISED 1/32", UPPER CASE, SANS SERIF OR SIMPLE SERIF TYPE AND SHALL BE ACCOMPANIED WITH GRADE II BRAILLE. RAISED CHARACTERS SHALL BE AT LEAST 5/8" HIGH, BUT NO HIGHER THAN 2" SHALL BE WHITE ON A BLACK BACKGROUND.

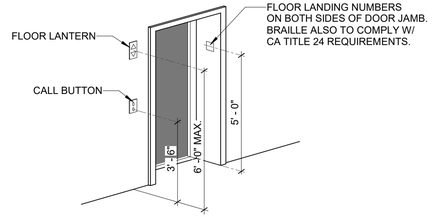


3 ELEVATOR - CONTROL PANEL DIAGRAM

3" = 1'-0"

NOTE:

- ELEVATOR SEISMIC DESIGN (TABLE NO. 2-23J, PART B)
- ELEVATOR CAB AND COUNTERWEIGHT GUIDE RAILS SHALL BE DESIGNED TO RESIST A HORIZONTAL FORCE OF NOT LESS THAN 30% OF THE OPERATING WEIGHTS FOR BUILDINGS WITH AN I-1.0 OR I=1.25 AND 50% OF THE OPERATING WEIGHTS FOR BUILDINGS WITH AN I-1.5. SUPPORTING BRACKETS SHALL BE DESIGNED TO RESIST A HORIZONTAL FORCE OF 50% OF THE OPERATING WEIGHTS FOR BUILDINGS WITH AN I=1.0 TO 1.5. STRUCTURAL DRAWINGS AND ENGINEERING CALCULATIONS OF THE ELEVATOR GUIDE RAILS AND SUPPORTING BRACKETS
- STRUCTURAL SUPPORTS FOR GUIDE RAIL BRACKETS MUST BE DETAILED ON APPROVED STRUCTURAL DRAWINGS.
- BUTTONS SHOULD PROVIDE A MECHANICAL FEEL OF OPERATION PER CHAPTER 30, CALIFORNIA BUILDING CODE, TITLE 24, PART 2.



CODE NOTE:

- PASSENGER ELEVATOR LANDING JAMBS ON ALL ELEVATOR FLOORS SHALL HAVE THE NUMBER OF THE FLOOR ON WHICH THE JAMB IS LOCATED DESIGNATED BY RAISED CHARACTERS THAT ARE A MINIMUM OF 2" IN HEIGHT AND CONFORM TO SECTION 1117B.5.5 AND CONTRACTED GRADE 2 BRAILLE THAT CONFORMS TO SECTION 1117B.5.6, LOCATED 60" ON CENTER FROM THE FLOOR ON THE JAMB PANELS ON BOTH SIDES OF THE DOOR SO THAT THEY ARE VISIBLE FROM WITHIN THE ELEVATOR. ON THE GRADE LEVEL, A RAISED FIVE-POINTED STAR SHALL BE PLACED TO THE LEFT OF THE RAISED CHARACTER. THE OUTSIDE DIAMETER OF THE STAR SHALL BE 2". BRAILLE SHALL BE PLACED BELOW THE CORRESPONDING RAISED CHARACTERS. (1124A.8, 1116B.1.14)

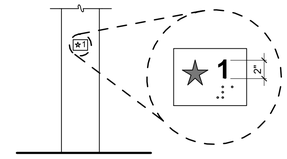
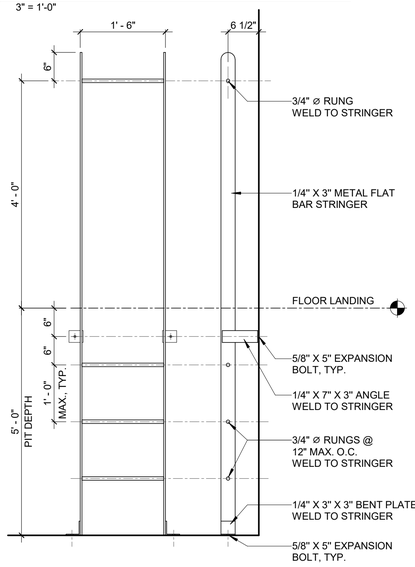


FIGURE 11B-407.2.3.1
FLOOR DESIGNATIONS ON JAMBS
OF ELEVATOR HOISTWAY ENTRANCES

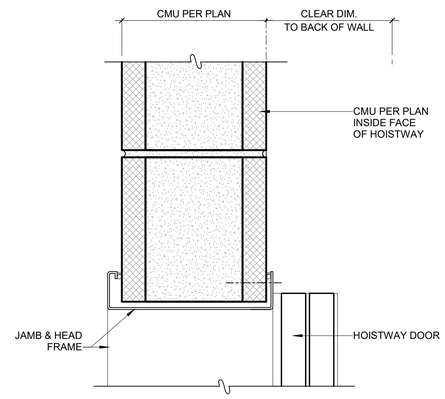
4 ELEVATOR - ENTRY

3" = 1'-0"



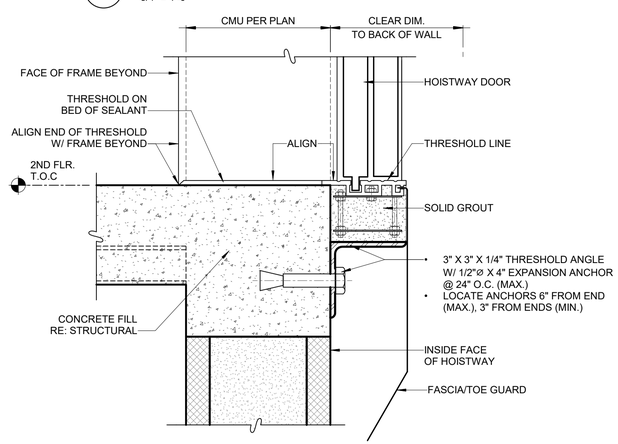
5 ELEV. PIT LADDER DETAILS

3/4" = 1'-0"



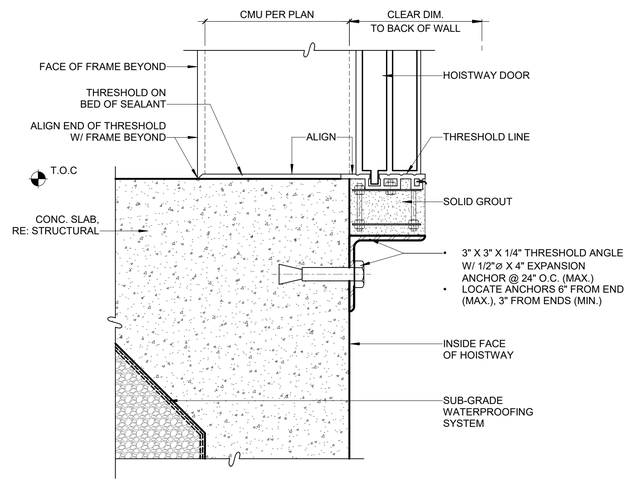
6 ELEVATOR - DOOR HEAD DET. /JAMB SIM.

3" = 1'-0"



7 ELEVATOR - DOOR THRESHOLD DET.

3" = 1'-0"



8 ELEVATOR - DOOR THRESHOLD AT PIT DET.

3" = 1'-0"

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: **MM** | DRAWN BY: **LR / RR** | DESIGN CHECK BY: **MM** | DRAWN CHECK BY: **MM / RR** | REF.

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ELEVATOR DETAILS

B # **B-4797**

PHASE # ____ REBID # ____

SHEET **96** OF **236**

DWG. NO. **A541**

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/12/2023 7:50:33 PM

DOOR SCHEDULE

DOOR MARK	ROOM NAME	DOOR							FRAME			DETAILS			FIRE RATING	HARDWARE GROUP	SIGNAGE	REMARKS
		SIZE						GLAZING/ LOUVER										
		WIDTH	HEIGHT	THICK	TYPE	MAT'L.	FINISH		TYPE	MAT'L	FINISH	HEAD	JAMB	THRESHOLD				
FIRST FLOOR																		
100A	LOBBY	3' - 0"	7' - 0"	1 3/4"	C	AL	FF	T, IG	D	AL	FF	1/A601	1/A601	1/A601	-	A492	AE, DU, ID, EX	3, 5
100B	HALLWAY 1	3' - 0"	7' - 0"	1 3/4"	B	SC	CF	T	B	KD	FF	3/A603	3/A603	3/A603	-	082	AE, DU, ID, EX	3
102A	HALLWAY 1	3' - 0"	7' - 0"	1 3/4"	C	AL	FF	T, IG	D	AL	FF	2/A601	2/A601	2/A601	-	A492	AE, DU, ID, EX	3, 5
102B	APPARATUS BAY	3' - 0"	7' - 0"	1 3/4"	B	HM	FP	T, IG	C	HM	FP	1/A603	1/A603	1/A603	-	082.2	ID	3, 6
103A	CONFERENCE ROOM	3' - 0"	7' - 0"	1 3/4"	B	SC	CF	T	B	KD	FF	3/A603	3/A603	3/A603	-	012.2	ID	6
103B	CONFERENCE ROOM	3' - 0"	7' - 0"	1 3/4"	C	SC	CF	T	E	KD	FF	2/A603	2/A603	2/A603	-	012.2	ID	6
104	ALL GENDER ACCESSIBLE RESTROOM	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	-	022.2	IDT, AG, AE	6, 8
105	STORAGE	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	-	032.2	ID	
106	F.F. RESTROOM	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	-	C	HM	FP	1/A603	1/A603	1/A603	-	020.2	IDT, AG	6, 8
107A	APPARATUS BAY	13' - 4"	14' - 0"	MFR.	E	4FLD	FF	T	MFR	MFR	FF	1/A602	1/A602	1/A602	-	960	-	4
107B	APPARATUS BAY	13' - 4"	14' - 0"	MFR.	E	4FLD	FF	T	MFR	MFR	FF	1/A602	1/A602	1/A602	-	960	-	4
107C	APPARATUS BAY	13' - 4"	14' - 0"	MFR.	E	4FLD	FF	T	MFR	MFR	FF	1/A602	1/A602	1/A602	-	960	-	4
107D	APPARATUS BAY	13' - 4"	14' - 0"	MFR.	E	4FLD	FF	T	MFR	MFR	FF	1/A602	1/A602	1/A602	-	960	-	4
107E	APPARATUS BAY	13' - 4"	14' - 0"	MFR.	E	4FLD	FF	T	MFR	MFR	FF	1/A602	1/A602	1/A602	-	960	-	4
107F	APPARATUS BAY	13' - 4"	14' - 0"	MFR.	E	4FLD	FF	T	MFR	MFR	FF	1/A602	1/A602	1/A602	-	960	-	4
107G	APPARATUS BAY	3' - 0"	7' - 0"	1 3/4"	B	HM	FP	T, IG	C	HM	FP	3/A601	3/A601	3/A601	-	492	EX, ID	3,5, 6
109A	APPARATUS BAY	3' - 0"	7' - 0"	1 3/4"	B	HM	FP	T, IG	C	HM	FP	1/A603	1/A603	1/A603	-	082.2	EX, ID	3,6
109B	APPARATUS BAY SUPPORT	3' - 0"	7' - 0"	1 3/4"	B	HM	FP	T, IG	C	HM	FP	3/A601	3/A601	3/A601	-	493	EX, ID	3, 5, 6
110	JAN.	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	-	A	HM	FP	4/A603	4/A603	4/A603	-	012.2	ID	6, 8
111	TURNOUT GEAR	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	-	C	HM	FP	1/A603	1/A603	1/A603	-	082.2	ID	3, 6
112	MECH./ELEC. ROOM	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	-	C	HM	FP	3/A601	3/A601	3/A601	-	082.2	ID	3, 6
113	GENERATOR ROOM	6' - 4"	7' - 0"	1 3/4"	AA	HM	FP	-	C	HM	FP	3/A601	3/A601	3/A601	-	554	ID	6
SECOND FLOOR																		
201	BC OFFICE	3' - 0"	7' - 0"	1 3/4"	B	SC	CF	T	B	KD	FF	2/A603	2/A603	2/A603	-	032.2	ID	6
202	STORAGE	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	-	031	ID	
203	BC BUNK	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	30 MIN.	122.2	ID	1, 2
204	BC ACCESSIBLE RESTROOM	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	30 MIN.	122.2	IDT, AG, AE	1, 2
205	HALLWAY 2	3' - 0"	7' - 0"	1 3/4"	C	SC	CF	T	E	KD	FF	2/A603 SIM.	2/A603 SIM	2/A603 SIM.	-	082.2	ID	3, 6
206	ELEV. MACHINE ROOM	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	60 MIN.	152	ID	1, 2
207B	CAPT. 2 RESTROOM	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	30 MIN.	122.2	IDT, AG	1, 2
208	CAPT. 2 OFFICE	3' - 0"	7' - 0"	1 3/4"	C	SC	CF	T	B	KD	FF	3/A603	3/A603	3/A603	-	030	ID	6
209	CAPT. 2 BUNK	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	30 MIN.	122.2	ID	1, 2
210	PANTRY	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	-	012.2	ID	6
213A	FITNESS	3' - 0"	7' - 0"	1 3/4"	B	SC	CF	T	B	KD	FF	3/A603	3/A603	3/A603	-	012.2	ID	6
213B	FITNESS	6' - 0"	7' - 0"	MFR.	D	OHCD	FF	LEX	MFR	MFR	FF	2/A602	2/A602	2/A602		960	ID	7
215	COMM.	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	-	072.2	ID	5, 6
216A	DAYROOM	3' - 0"	7' - 0"	1 3/4"	B	SC	CF	T	B	KD	FF	3/A603	3/A603	3/A603	-	010.2	ID	6
216B	DAYROOM	3' - 0"	7' - 0"	1 3/4"	B	SC	CF	T	B	KD	FF	3/A603	3/A603	3/A603	-	010.2	ID	6
217	LAUNDRY/JAN.	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	-	012.2	ID	6
218	MECH.	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	-	012.2	ID	6
220	CAPT. 1 OFFICE	3' - 0"	7' -0"	1 3/4"	C	SC	CF	T	E	KD	FF	2/A603	2/A603	2/A603	-	030.2	ID	6
221A	CAPT. 1 BUNK	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	30 MIN.	122.2	ID	1, 2
221B	CAPT. 1 BUNK	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	30 MIN.	122.2	ID	1, 2
222	CAPT. 1 ACCESSIBLE RESTROOM	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	30 MIN.	122.2	IDT, AG, AE	1, 2
223	FF BUNK	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	30 MIN.	122.2	ID	1, 2
224	FF BUNK	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	30 MIN.	122.2	ID	1, 2
225	FF BUNK	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	30 MIN.	122.2	ID	1, 2
226	FF BUNK	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	30 MIN.	122.2	ID	1, 2
227	FF BUNK	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	30 MIN.	122.2	ID	1, 2
228	TRAINEE RELIEF BUNK	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	30 MIN.	122.2	ID	1, 2
230	FF ADA RR	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	-	020.2	IDT, AG, AE	6
231	FF RR 1	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	-	020.2	IDT, AG	6
232	FF RR 2	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	-	020.2	IDT, AG	6
233	FF RR 3	3' - 0"	7' - 0"	1 3/4"	A	SC	CF	-	B	KD	FF	3/A603	3/A603	3/A603	-	020.2	IDT, AG	6

SITE GATES

TG-1	TRASH ENCLOSURE	12' - 8"	8' - 0"	MFR.	D	OHCD	FF	-	MFR.	MFR.	FF	10C/A105	10B/A105	10A/A105				5
TG-2	TRASH ENCLOSURE	4' - 0"	7' - 0"	1 3/4"	A	HM	FP	-	-	-	FP	9C/A105	9B/A105	9A/A105				5
PG-1	PEDESTRIAN GATE @ LONG BEACH RD.	3' - 0"	6' - 0"									◄	11/A104	►				
PG-2	PEDESTRIAN GATE @ RANDOLPH	3' - 0"	6' - 0"									◄	11/A104	►				

SIGNAGE KEY

AE	ACCESSIBLE ENTRANCE SIGN
DU	"THIS DOOR TO REMAIN UNLOCKED DURING BUSINESS HOURS" POSTED OVER EXIT
ID	ROOM IDENTIFICATION SIGN WITH BRAILLE (VERIFY SCHEDULED ROOM NAME, TYP.)
IDT	TOILET ROOM IDENTIFICATION SIGN WITH BRAILLE
EX	"EXIT" & "EXIT ROUTE" SIGNAGE WITH BRAILLE
AG	ALL GENDER TOILET ROOM DOOR SIGN

DOOR SCHEDULE REMARKS

1. AT FIRE-RATED DOORS: CLOSER, SMOKE SEALS, FULLY RATED ASSEMBLY
2. AUTO DOOR BOTTOM; THRESHOLD
3. PANIC EXIT DEVICE
4. MOTORIZED OPERATION & CONTROL
5. ELECTRIC LOCKING DEVICE; PROXY CARD
6. SEALS @ DOOR FRAME
7. SIGN AT COILING DOOR TO READ "THIS DOOR TO REMAIN OPEN WHEN DECK IS OCCUPIED."
8. DOOR UNDERCUT.

DOOR CODE NOTES

1. THE MAXIMUM FORCE REQUIRED TO PUSH OR PULL OPEN A DOOR SHALL BE NO MORE THAN 5 LBS. MAX. ON INTERIOR HINGED, SLIDING AND FOLDING DOORS AND EXTERIOR HINGED DOORS. FIRE DOORS ARE REQUIRED 15 LBS. MAX.
2. HAND ACTIVATED DOOR OPENING HARDWARE, HANDLES PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING OR TWISTING OF THE WRIST TO OPERATE.
3. HARDWARE SHALL BE CENTERED BETWEEN 34" AND 44" ABOVE FLOOR.
4. SINGLE ACCOMMODATION RESTROOM SHALL BE PROVIDED WITH PRIVACY LATCHES PER CBC 11B-213.2.1.

DOOR - MATERIAL AND FINISH KEY

DOOR FRAME MATERIALS AND TYPES

AL	ALUMINUM
HM	HOLLOW METAL
KD	KNOCK DOWN FRAME
MFR	BY DOOR MANUFACTURER

DOOR MATERIALS AND TYPES

AL	ALUMINUM
HM	HOLLOW METAL
SC	SOLID CORE WOOD
OHRD	OVERHEAD ROLLING DOOR
4FLD	AUTOMATIC FOLDING DOOR

DOORS AND FRAMES - FACING/FINISHES

CF	WOODVENEER W/ CLEAR FINISH BOTH SIDES
FF	FACTORY FINISHED
FP	FACTORY PRIMED & FIELD PAINTED

GLAZING TYPES

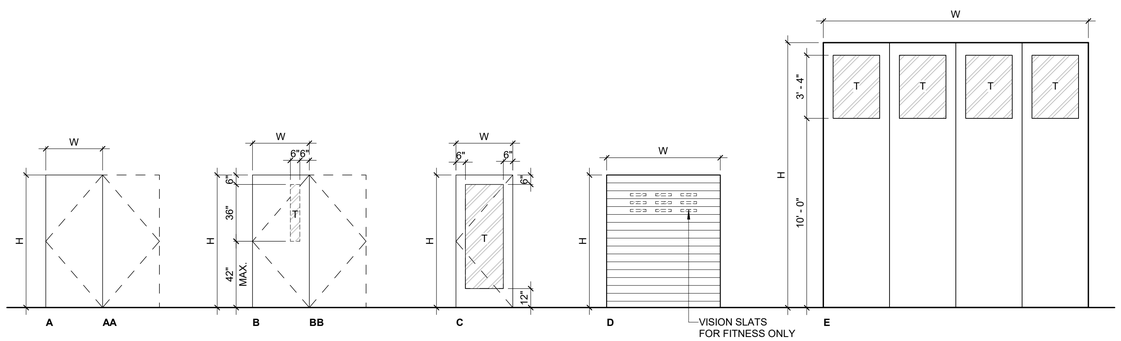
IG	INSULATED GLASS
FS	FIRE-RATED FIRE SAFETY, LAMINATED
T	TEMPERED
LEX	LEXAN VISION SLATS

HARDWARE GROUP TYPE

1-99	SEE SPECIFICATIONS
MFR	BY DOOR MANUFACTURER

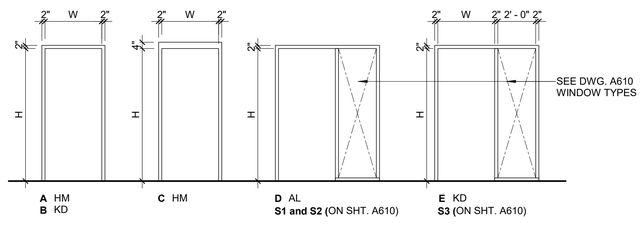
NOTE:

- REFER TO SHEET A610 FOR STOREFRONT FRAME TYPES



DOOR TYPES

1/4" = 1'-0"



FRAME TYPES

1/4" = 1'-0"

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

NO.	DATE	SHEET	APPROVAL	DESCRIPTION	REVISION
	12/16/2021			PLAN CHECK SUBMITTAL	
	10/12/2023			BID DOCUMENTS	
	AS-BUILT				REF.

DESIGNED BY: **MM**
DRAWN BY: **LR / RR**
DESIGN CHECK BY: **MM**
DRAWN CHECK BY: **MM / RR**

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

DOOR SCHEDULE, TYPES AND SIGNAGE

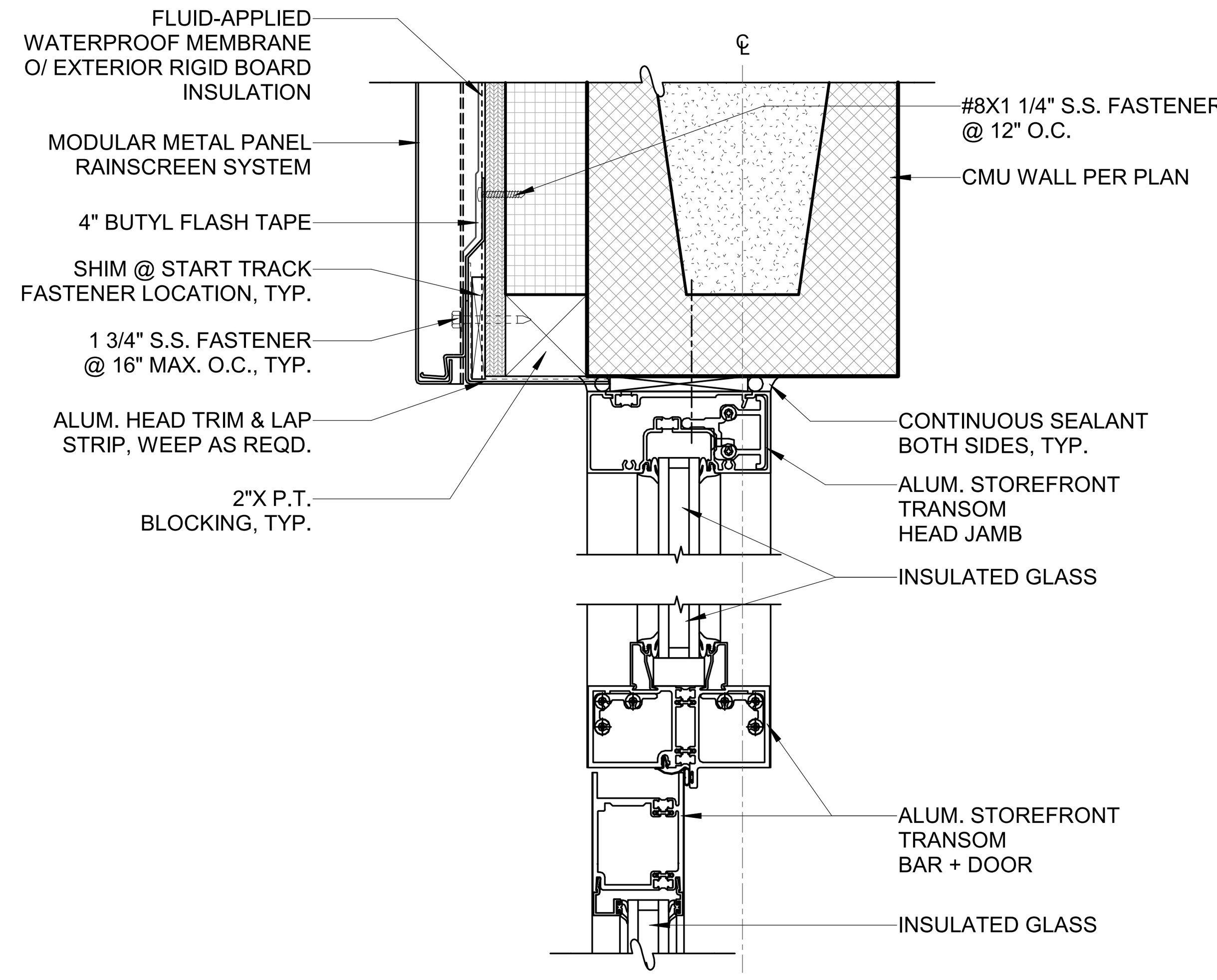
B # **B-4797**

PHASE # ____ REBID # ____

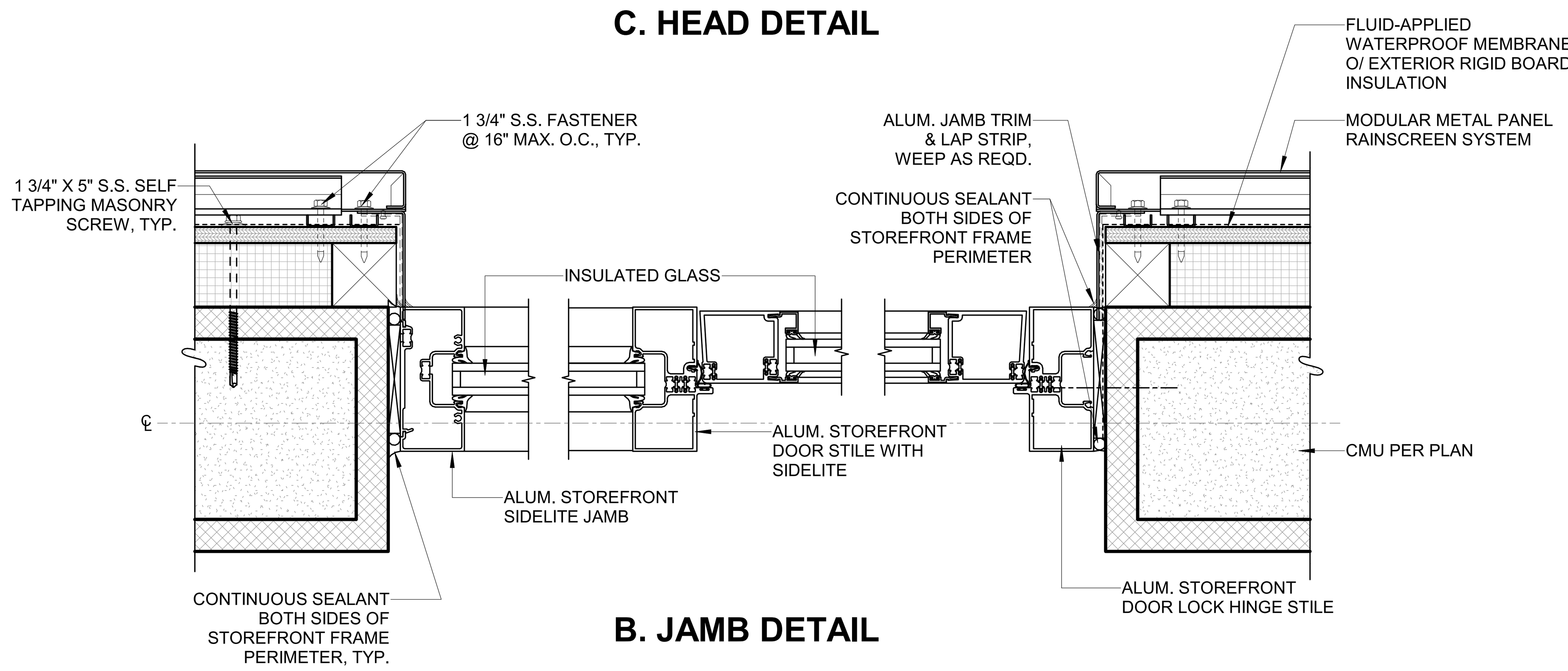
SHEET **97** OF **236**

DWG. NO. **A600**

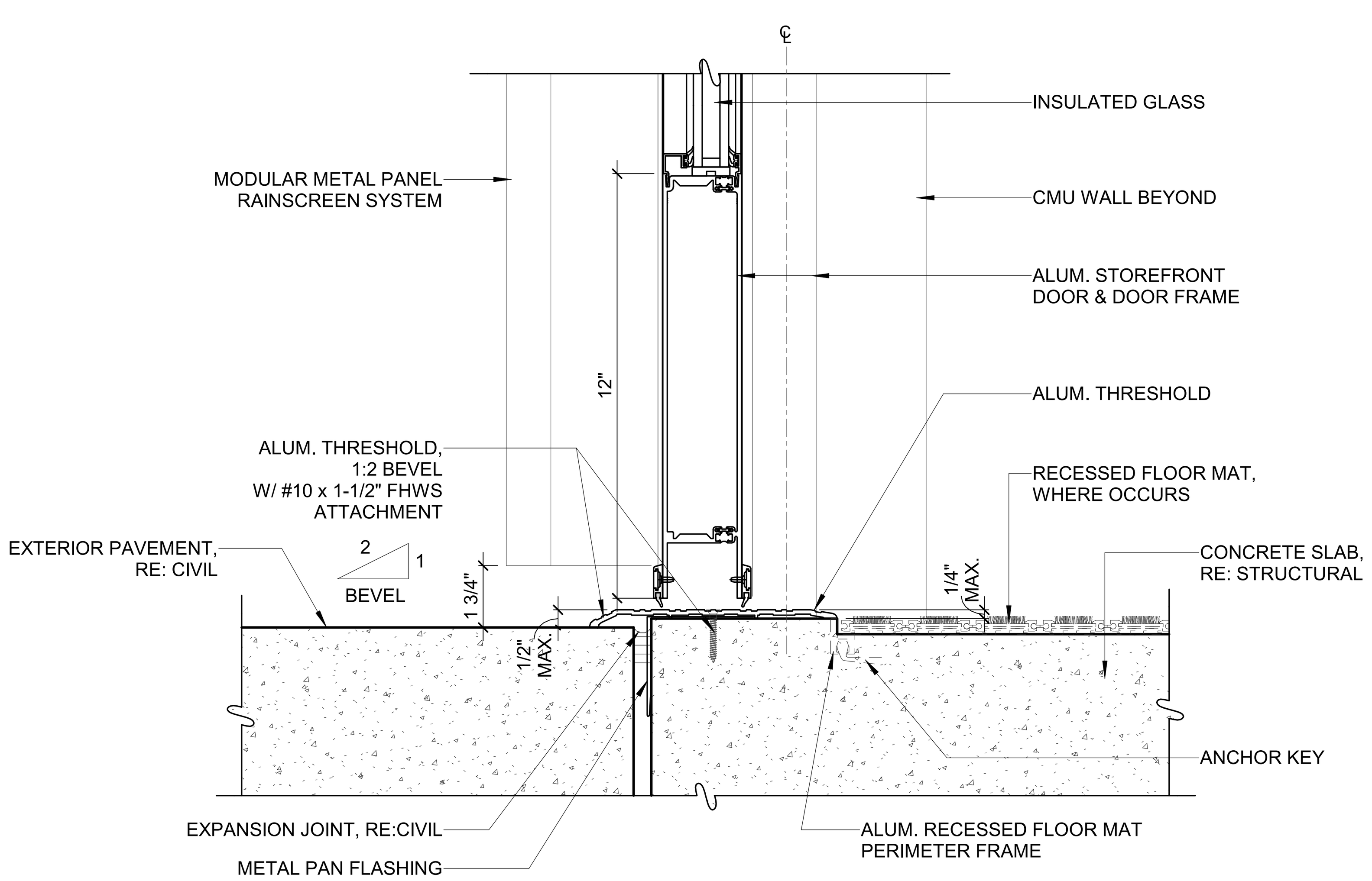
10/12/2023 7:50:35 PM



C. HEAD DETAIL

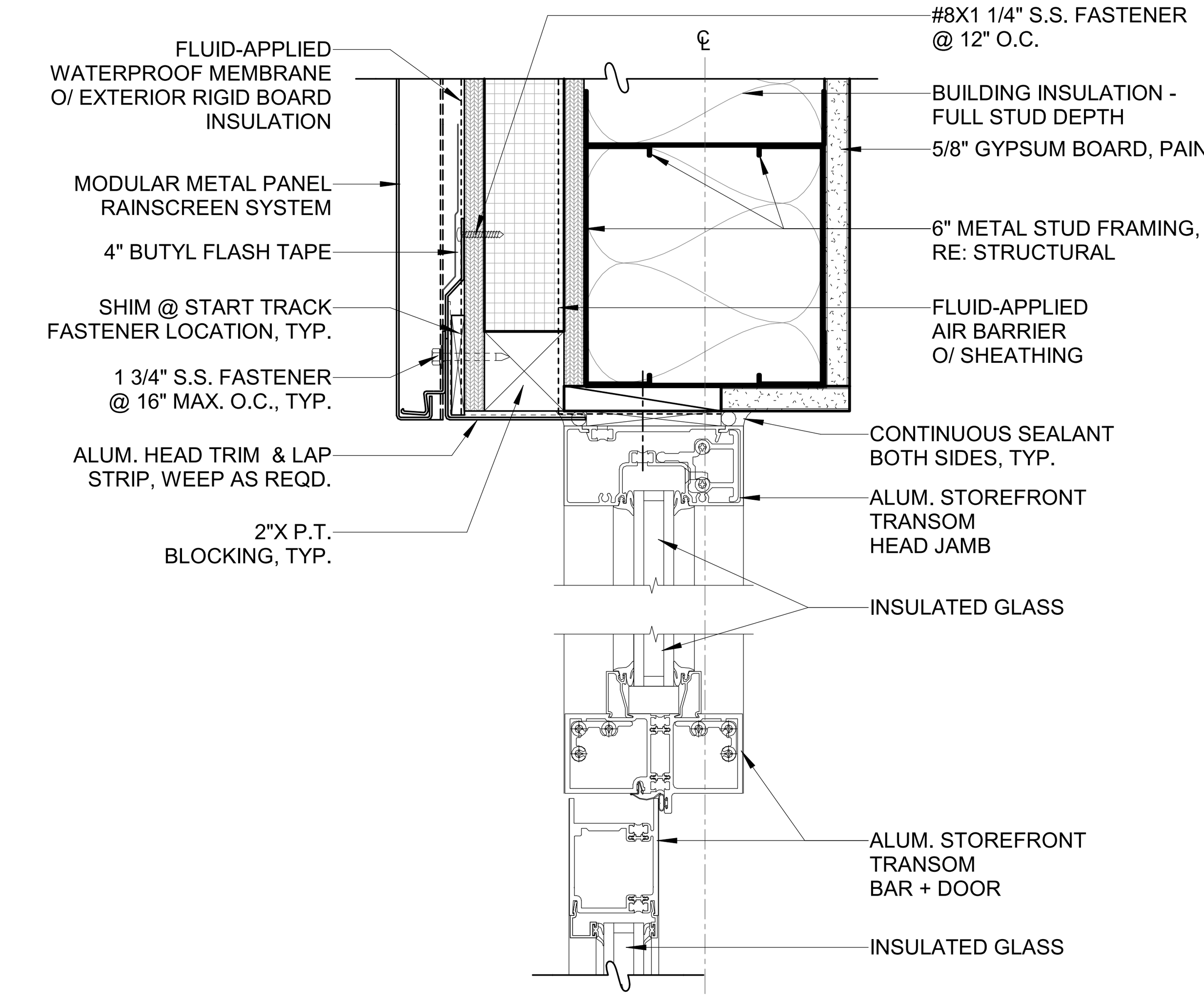


B. JAMB DETAIL

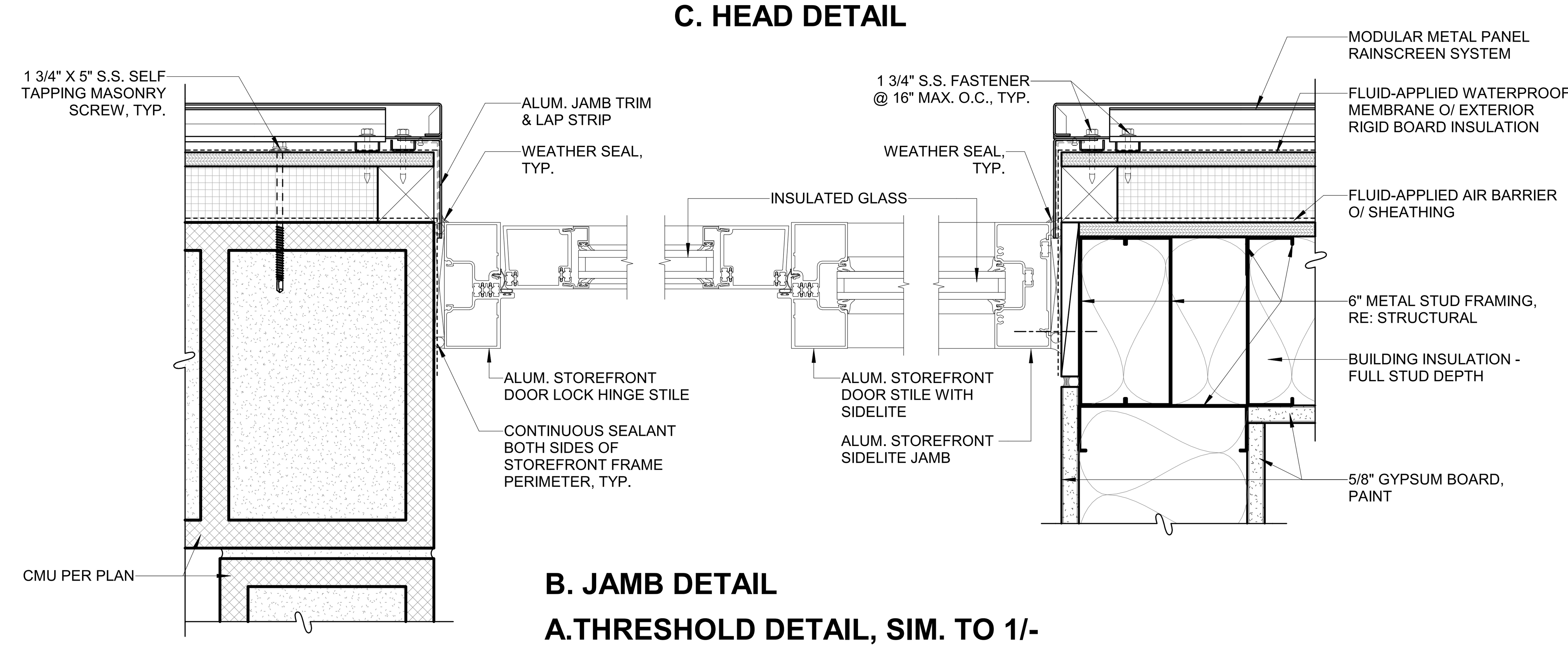


A. THRESHOLD DETAIL

1 EXTERIOR ALUM. STOREFRONT - DOOR 100A DETAILS
3" = 1'-0"



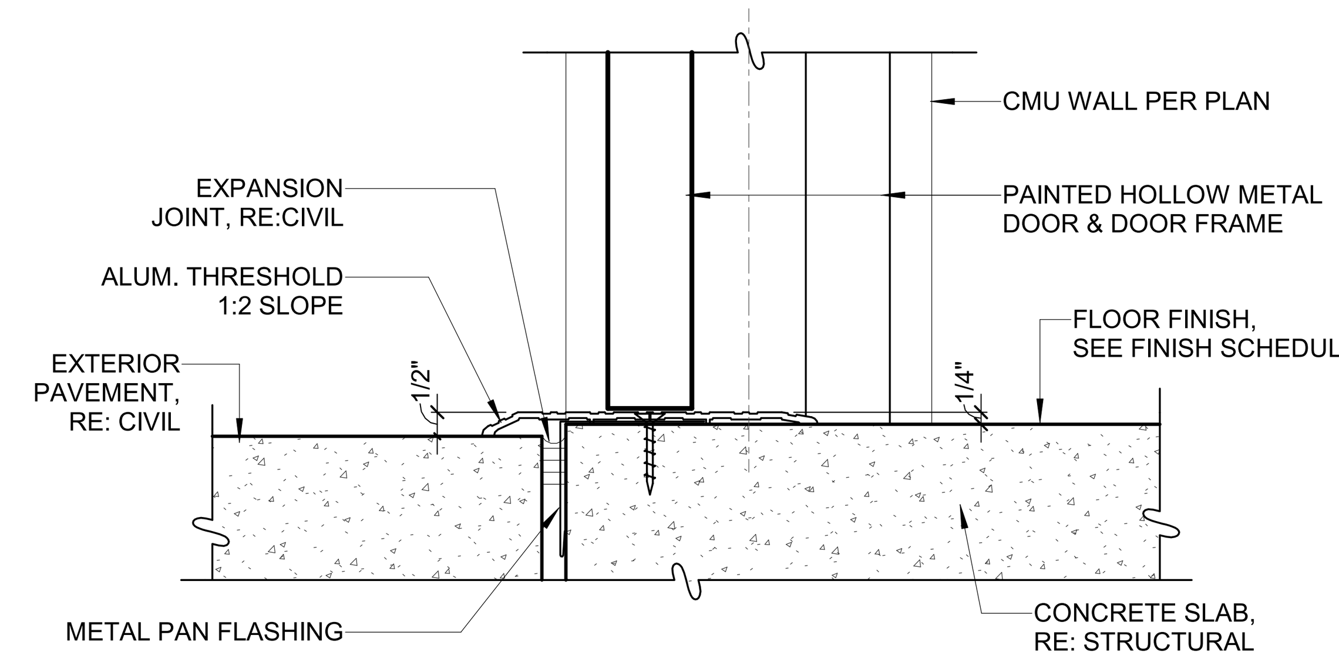
C. HEAD DETAIL



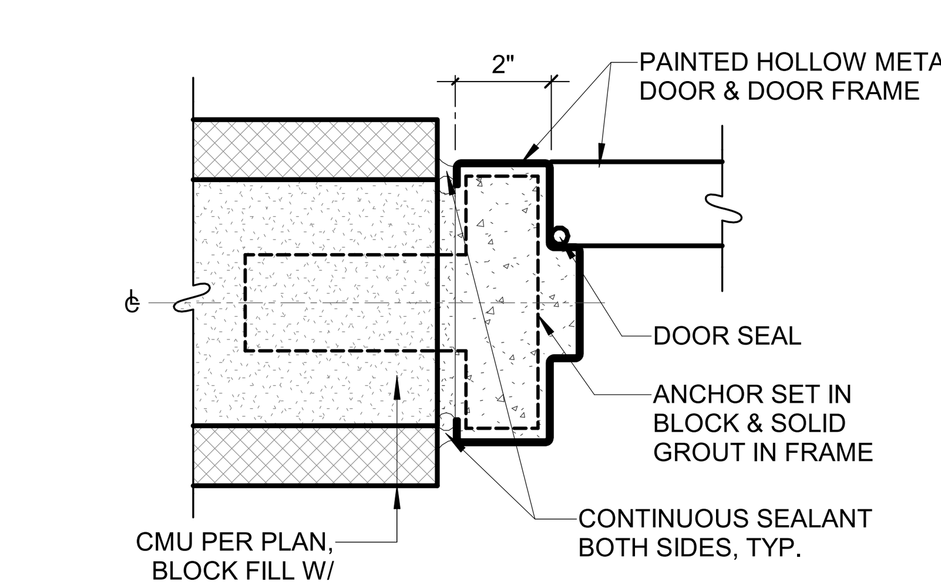
B. JAMB DETAIL

A.THRESHOLD DETAIL, SIM. TO 1/-

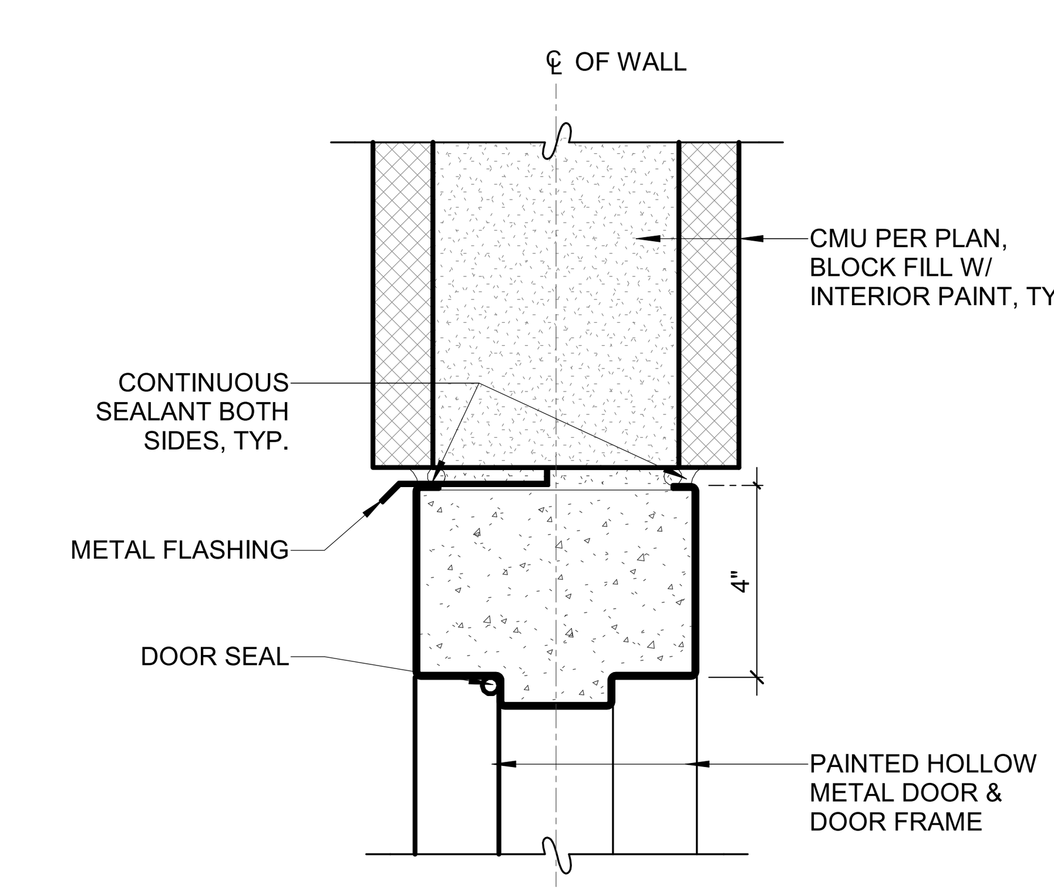
2 EXTERIOR ALUM. STOREFRONT - DOOR 102A DETAILS
3" = 1'-0"



A. THRESHOLD DETAIL



B. JAMB DETAIL



C. HEAD DETAIL

3 EXTERIOR H.M. DOOR DETAILS ON CMU WALL
3" = 1'-0"

REVISION				
NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/12/2023			BID DOCUMENTS

AS-BUILT REF.

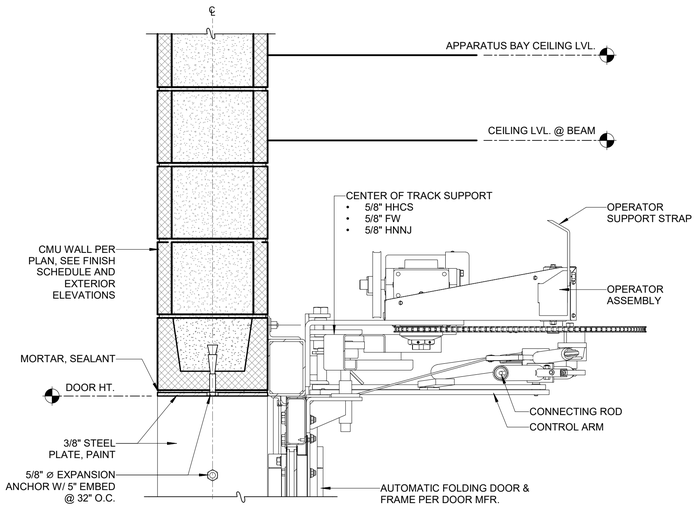
DESIGNED BY: MM
DRAWN BY: LR / RR
DESIGN CHECK BY: MM
DRAWN CHECK BY: MM / RR

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

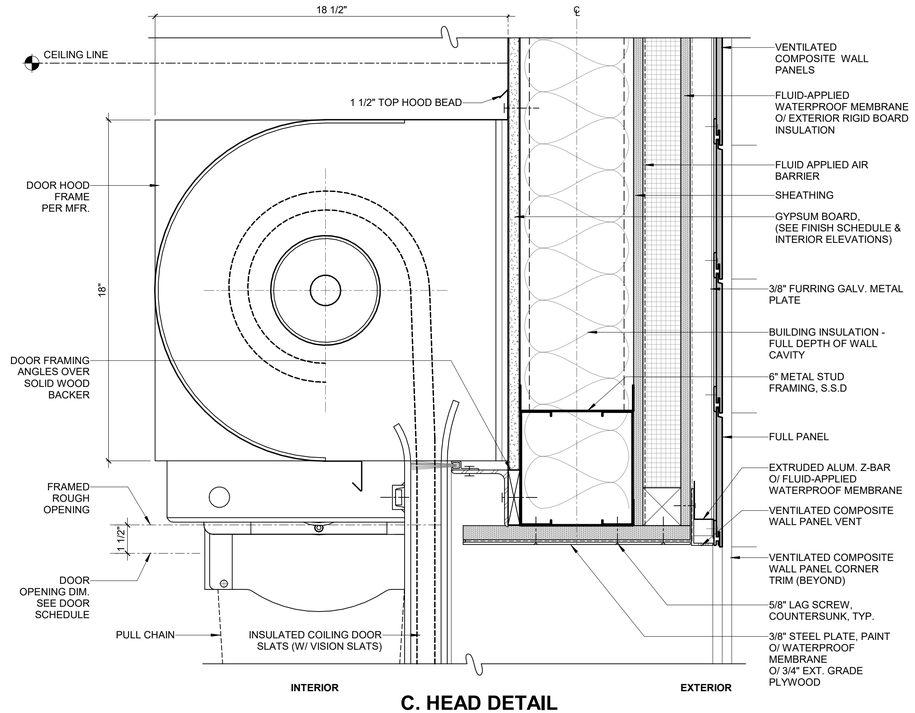
FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
EXTERIOR DOOR DETAILS

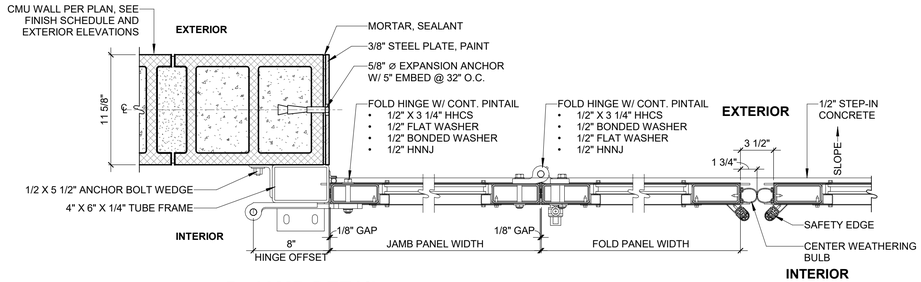
B # B-4797
PHASE # ____ REBID # ____
SHEET 98 OF 236
DWG. NO. A601

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

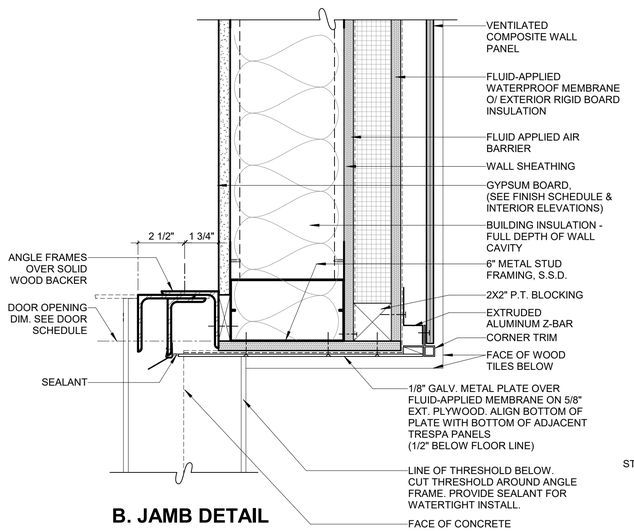


C. HEAD DETAIL

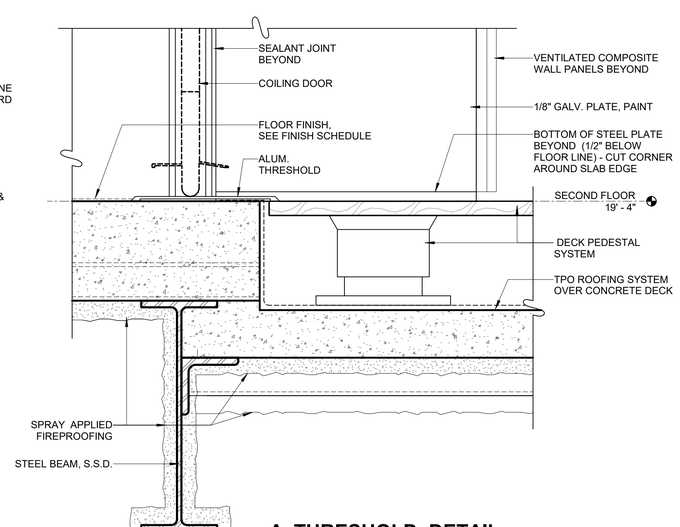




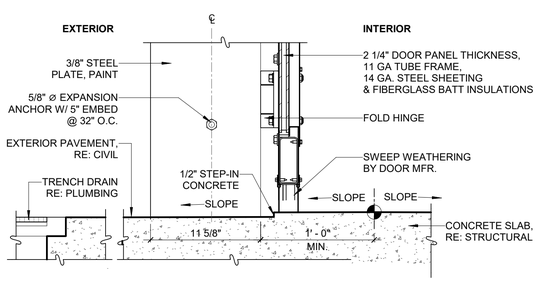
B. JAMB DETAIL



B. JAMB DETAIL



A. THRESHOLD DETAIL



A. THRESHOLD DETAIL

1 EXTERIOR AUTOMATIC FOLDING DOOR

1 1/2" = 1'-0"

2 EXTERIOR OVERHEAD COILING DOOR DETAILS

3" = 1'-0"

REVISION			
NO.	DATE	SHEET	APPROVAL
	12/16/2021		
	10/7/2023		

DESIGNED BY: MM | DRAWN BY: LR / RR | DESIGN CHECK BY: MM | DRAWN CHECK BY: MM / RR | AS-BUILT | REF.

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

EXTERIOR DOOR DETAILS

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

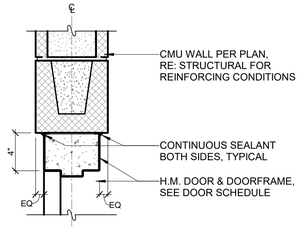
B # B-4797

PHASE # ____ REBID # ____

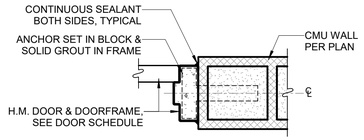
SHEET 99 OF 236

DWG. NO. A602

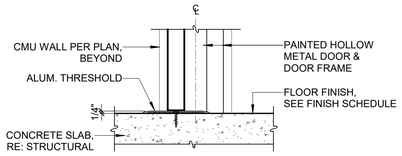
10/12/2023 7:50:40 PM



C. HEAD DETAIL



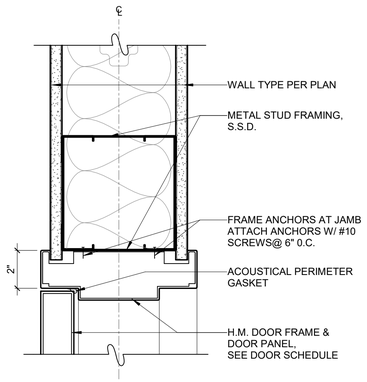
B. JAMB DETAIL



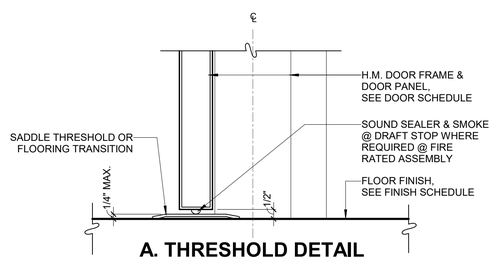
A. THRESHOLD DETAIL

1 INTERIOR H.M. DOOR DETAILS ON CMU WALL

1 1/2" = 1'-0"



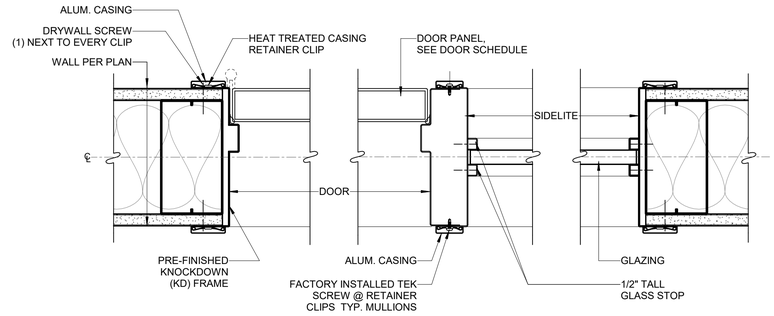
B. HEAD DETAIL (JAMB, SIM.)



A. THRESHOLD DETAIL

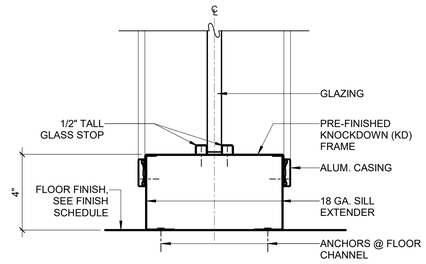
4 INTERIOR H.M. DOOR/FRAME DETAIL

3" = 1'-0"



B. DOOR & SIDELITE JAMB DETAIL (SIDELITE HEAD, SIM.)

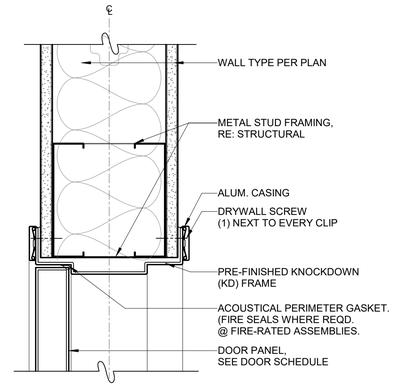
DOOR HEAD & THRESHOLD DETAIL (SEE DETAIL 3/-)



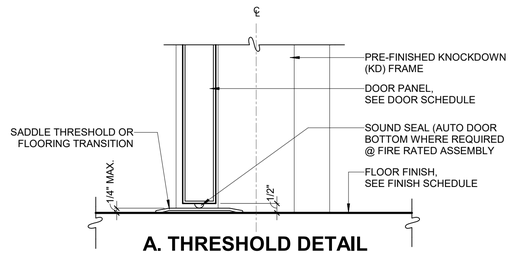
A. SIDELITE THRESHOLD DETAIL

2 INTERIOR KD DOOR W/ SIDELITE DETAILS

3" = 1'-0"



B. HEAD DETAIL (JAMB, SIM.)



A. THRESHOLD DETAIL

3 INTERIOR K.D. DOOR/FRAME DETAIL

3" = 1'-0"

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISION NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/7/2023			BID DOCUMENTS
				AS-BUILT

DESIGNED BY:	DRAWN BY:	DESIGN CHECK BY:	DRAWN CHECK BY:	REF.
MM	LR / RR	MM	MM / RR	

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

INTERIOR DOOR DETAILS

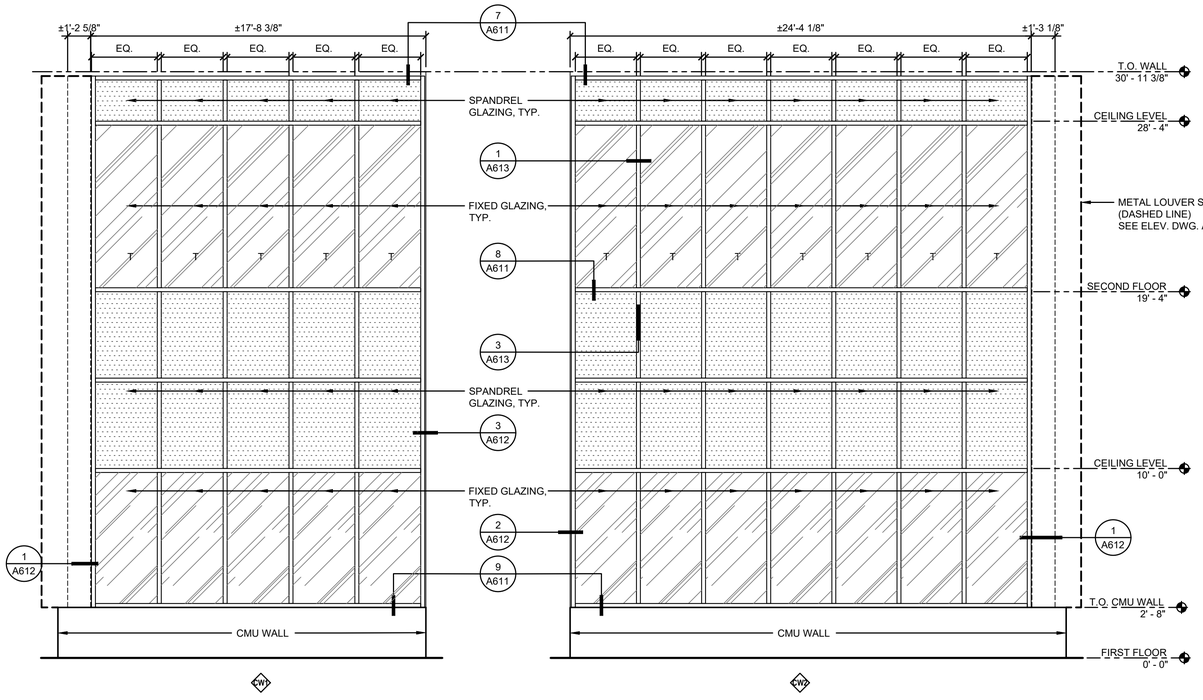
B # B-4797

PHASE # ____ REBID # ____

SHEET 100 OF 236

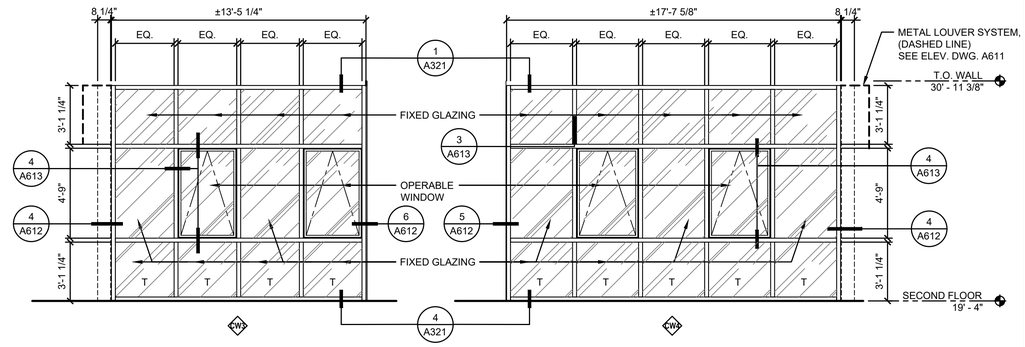
DWG. NO. A603

10/12/2023 7:50:41 PM



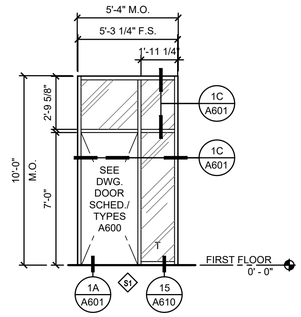
1 CURTAIN WALL - CW1
1/4" = 1'-0"

2 CURTAIN WALL - CW2
1/4" = 1'-0"

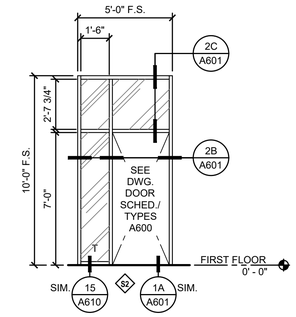


3 CURTAIN WALL - CW3
1/4" = 1'-0"

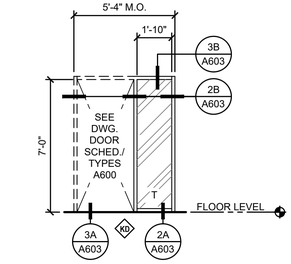
4 CURTAIN WALL - CW4
1/4" = 1'-0"



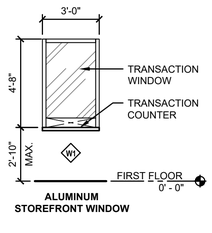
5 STOREFRONT - S1
1/4" = 1'-0"



6 STOREFRONT - S2
1/4" = 1'-0"

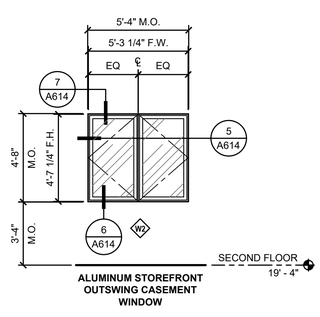


7 KNOCKDOWN - KD
1/4" = 1'-0"



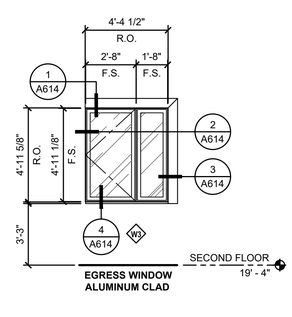
ALUMINUM STOREFRONT WINDOW

8 WINDOW - W1
1/4" = 1'-0"



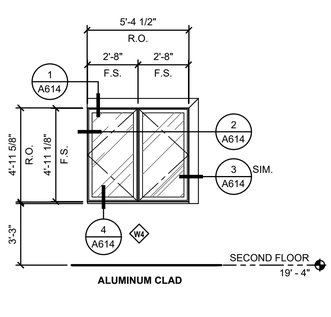
ALUMINUM STOREFRONT OUTSWING CASEMENT WINDOW

9 WINDOW - W2
1/4" = 1'-0"



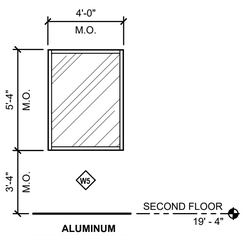
EGRESS WINDOW ALUMINUM CLAD

10 WINDOW - W3
1/4" = 1'-0"



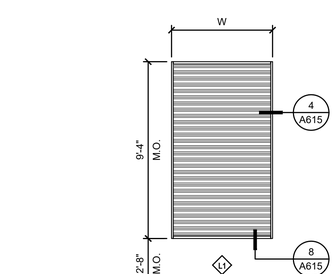
ALUMINUM CLAD

11 WINDOW - W4
1/4" = 1'-0"

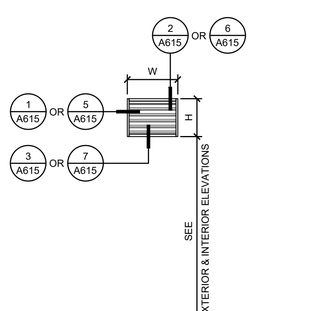


ALUMINUM STOREFRONT WINDOW

12 STOREFRONT - S1
1/4" = 1'-0"



13 LOUVER - L1 & L2
1/4" = 1'-0"



14 LOUVER - L3 & L7
1/4" = 1'-0"

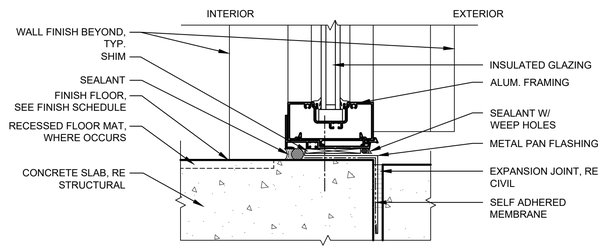
MARK	LOUVER SIZE	
	WIDTH	HEIGHT
L1	5' - 4"	9' - 4"
L2	5' - 4"	7' - 4"
L3	4' - 0"	4' - 0"
L4	3' - 4"	2' - 0"
L5	2' - 8"	2' - 0"
L6	2' - 0"	2' - 0"
L7	1' - 0"	1' - 0"

NOTE:

1. SEE EXTERIOR & INTERIOR ELEVATIONS FOR LOUVER HEIGHT LOCATIONS. 1
2. SEE A615 DWGS. FOR LOUVER DETAILS.

LEGEND:

M.O. MASONRY OPENING
R.O. ROUGH OPENING
F.S. FRAME SIZE
F.W. FRAME WIDTH
F.H. FRAME HEIGHT



15 STOREFRONT SILL DETAIL
3" = 1'-0"

GENERAL NOTES:

A. DIMENSIONS GIVEN ARE FOR ROUGH OPENING. CONTRACTOR TO COORDINATE ACTUAL FRAME SIZE.
B. GLAZING IN THE FOLLOWING LOCATIONS SHOULD BE OF SAFETY GLAZING MATERIAL IN ACCORDANCE WITH SECTION 2406.4 (SEE EXCEPTION):

1. FIXED AND OPERABLE PANELS OF DOOR ASSEMBLIES.
2. FIXED OR OPERABLE PANELS ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE OF GLAZING IS WITHIN A 24" AND OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60# ABOVE THE WALKING SURFACE.
3. INDIVIDUAL FIXED OR OPERABLE PANELS THAT MEET ALL OF THE FOLLOWING CONDITIONS:

a. EXPOSED AREA OF AN INDIVIDUAL PANE IS GREATER THAN 9 S.F..
b. EXPOSED BOTTOM EDGE IS LESS THAN 18" ABOVE THE FLOOR.
c. EXPOSED TOP EDGE IS GREATER THAN 36" ABOVE THE FLOOR.
d. ONE OR MORE WALKING SURFACES ARE WITHIN 36" HORIZONTALLY OF THE PLANE OF THE GLAZING.

REVISIONS			
NO.	DATE	APPROVAL	DESCRIPTION
	12/16/2021		PLAN CHECK SUBMITTAL
1	04/22/2022		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS
			AS-BUILT

REF.

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

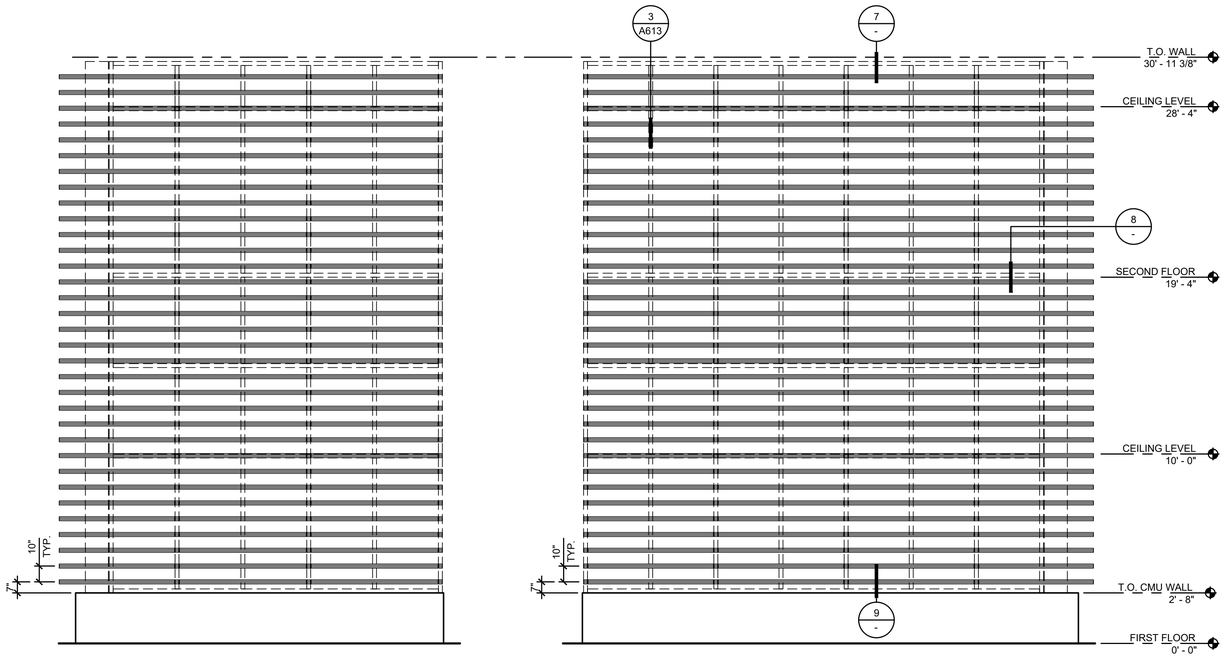
LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
WINDOWS, STOREFRONT TYPES & LOUVER SCHEDULE

B # B-4797
PHASE # ____ / REBID # ____
SHEET 101 OF 236
DWG. NO. A610

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 12, 2023 - 8:22pm

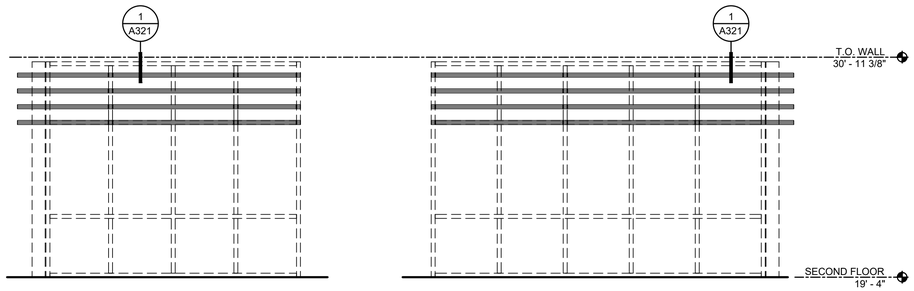


1 SUNSHADE 1 ELEVATION

1/4" = 1'-0"

2 SUNSHADE 2 ELEVATION

1/4" = 1'-0"

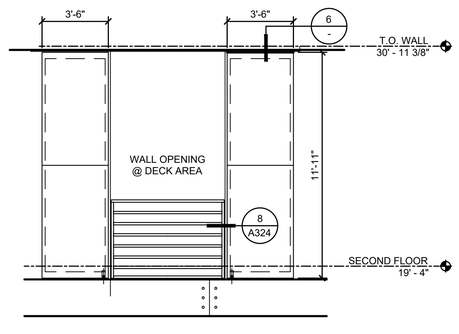


3 SUNSHADE 3 ELEVATION

1/4" = 1'-0"

4 SUNSHADE 4 ELEVATION

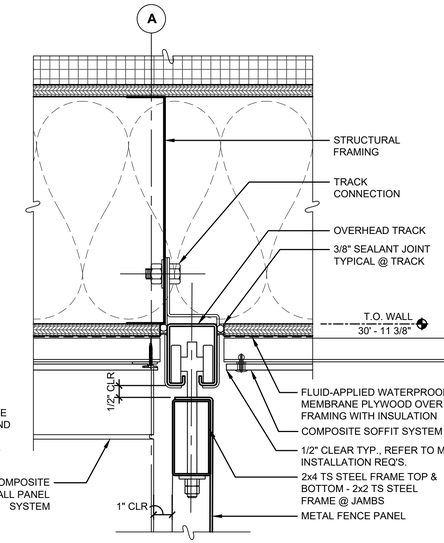
1/4" = 1'-0"



5 SLIDING SCREEN ELEVATION

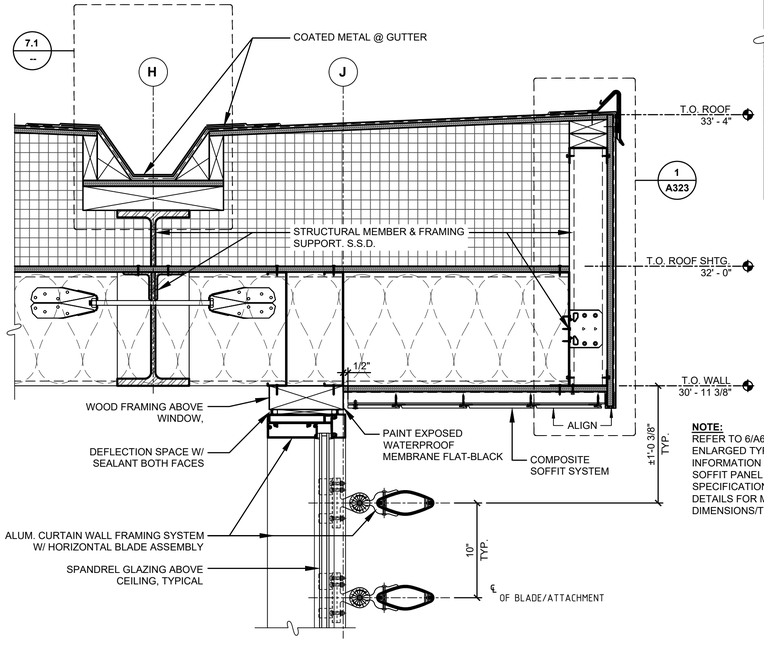
1/4" = 1'-0"

NOTE:
REFER TO 6/A613 & 7/A613 & A614 AND ENLARGED TYPICAL DETAILS FOR MORE INFORMATION ON COMPOSITE WALL AND SOFFIT PANEL SYSTEM. REFER TO SPECIFICATION AND MANUFACTURERS DETAILS FOR MINIMUM DIMENSIONS/TOLERANCES.



6 SLIDING SCREEN TRACK DETAIL

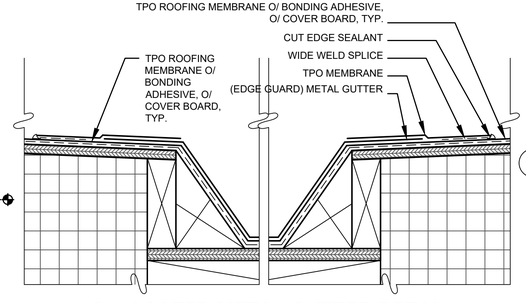
3" = 1'-0"



NOTE:
REFER TO 6/A613 & 7/A613 & A614 AND ENLARGED TYPICAL DETAILS FOR MORE INFORMATION ON COMPOSITE WALL AND SOFFIT PANEL SYSTEM. REFER TO SPECIFICATION AND MANUFACTURERS DETAILS FOR MINIMUM DIMENSIONS/TOLERANCES.

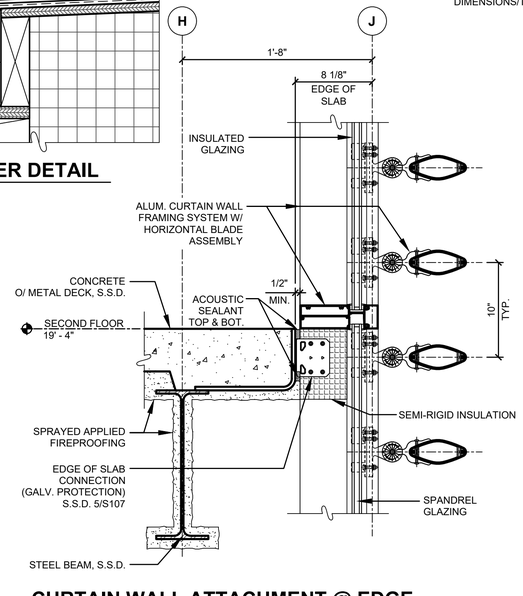
7 CURTAIN WALL WALL HEAD & ROOF DETAIL @ BC OFFICE

1 1/2" = 1'-0"



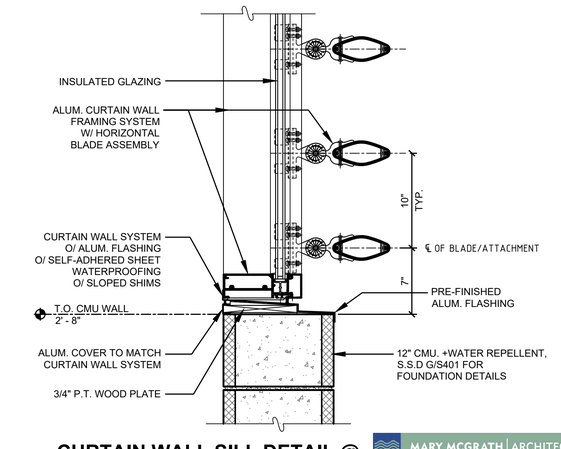
7.1 COATED METAL GUTTER DETAIL

3" = 1'-0"



8 CURTAIN WALL ATTACHMENT @ EDGE OF SLAB DETAIL @ GRID H-J

1 1/2" = 1'-0"



9 CURTAIN WALL SILL DETAIL @ CONF. RM.

1 1/2" = 1'-0"

NO.	DATE	SHEET	APPROVAL	REVISIONS DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/12/2023			BID DOCUMENTS
	AS-BUILT		REF.	

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

CURTAIN WALL & SUNSHADE TYPES, ELEVATIONS AND DETAILS

B # B-4797

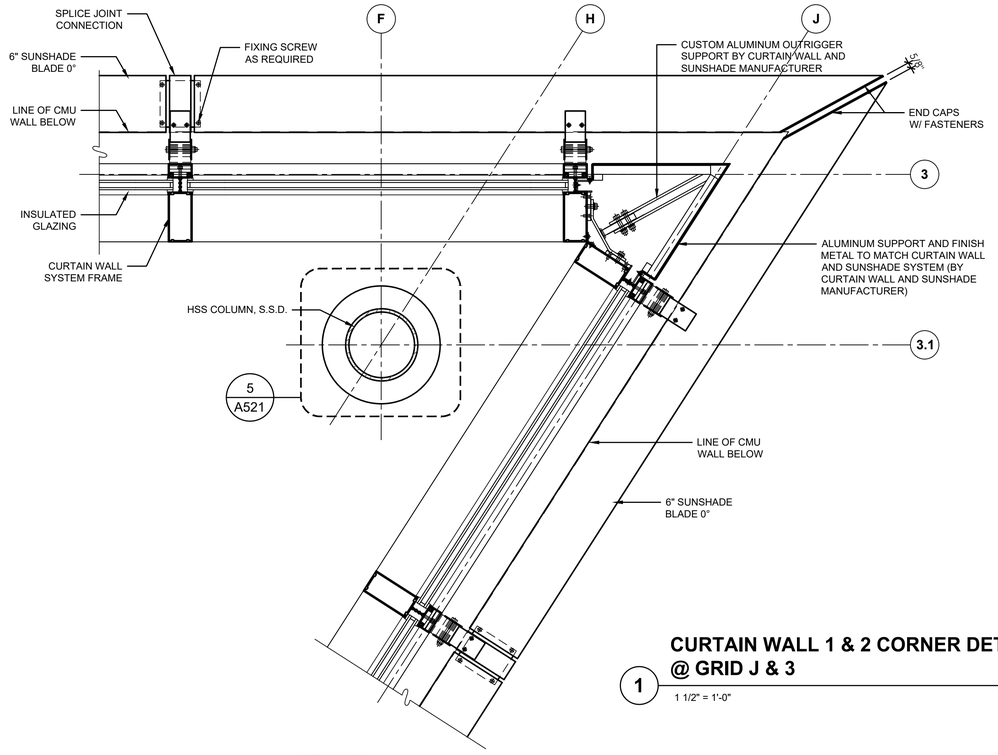
PHASE # ____ / REBID # ____

SHEET 102 OF 236

DWG. NO. A611

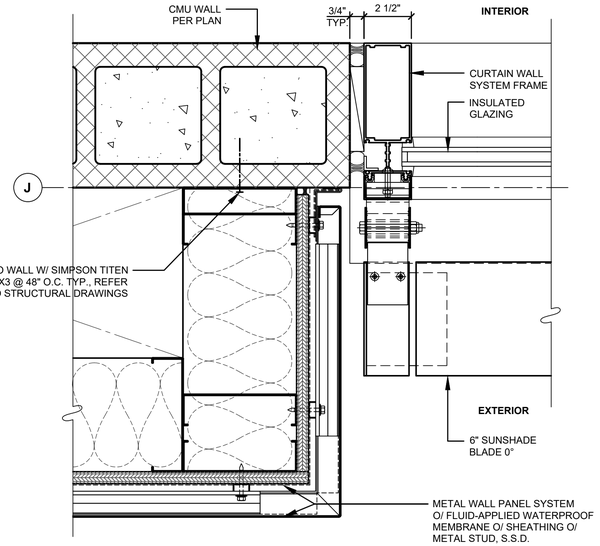
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 12, 2023 - 8:22pm



CURTAIN WALL 1 & 2 CORNER DETAIL @ GRID J & 3

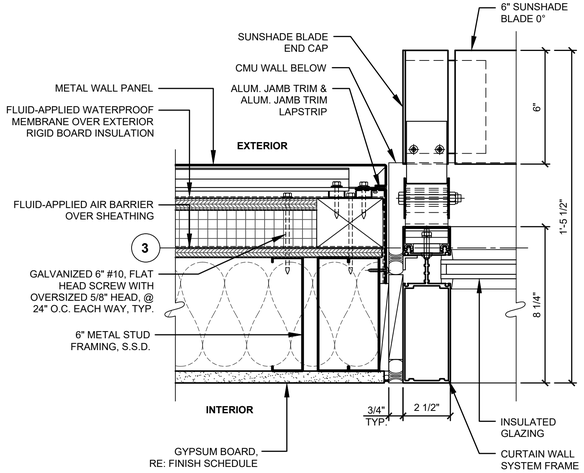
1 1/2" = 1'-0"



CURTAIN WALL 2 END ASSEMBLY DETAIL @ GRID J

2

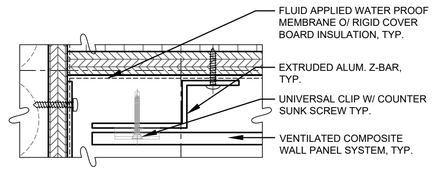
3" = 1'-0"



CURTAIN WALL 1 END ASSEMBLY DETAIL @ GRID 3

3

3" = 1'-0"

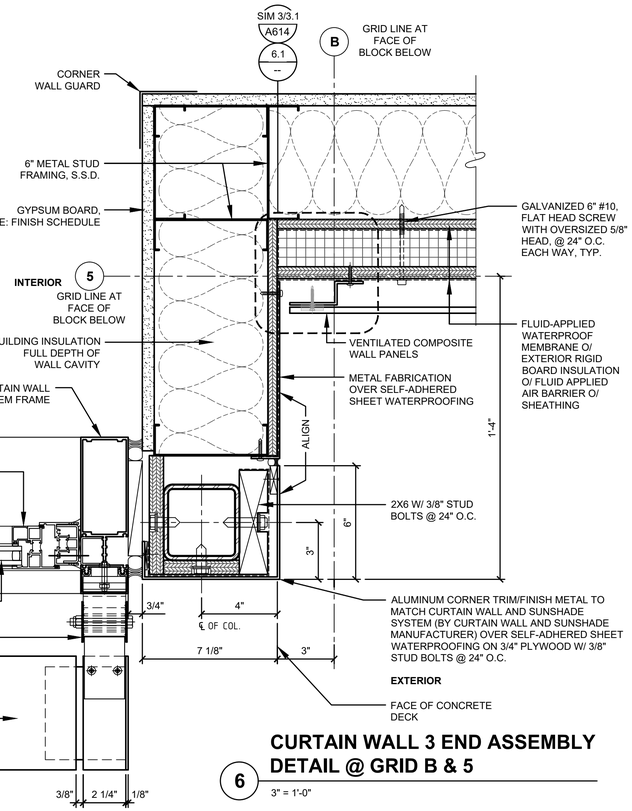


NOTE:
REFER TO 6/A613 & 7/A613 & A614 AND ENLARGED TYPICAL DETAILS FOR MORE INFORMATION ON COMPOSITE WALL PANEL SYSTEM. REFER TO SPECIFICATION AND MANUFACTURERS DETAILS FOR MINIMUM DIMENSIONS/TOLERANCES.

UNIVERSAL CLIP @ TERMINATION OF VENTILATED COMPOSITE WALL PANEL

6.1

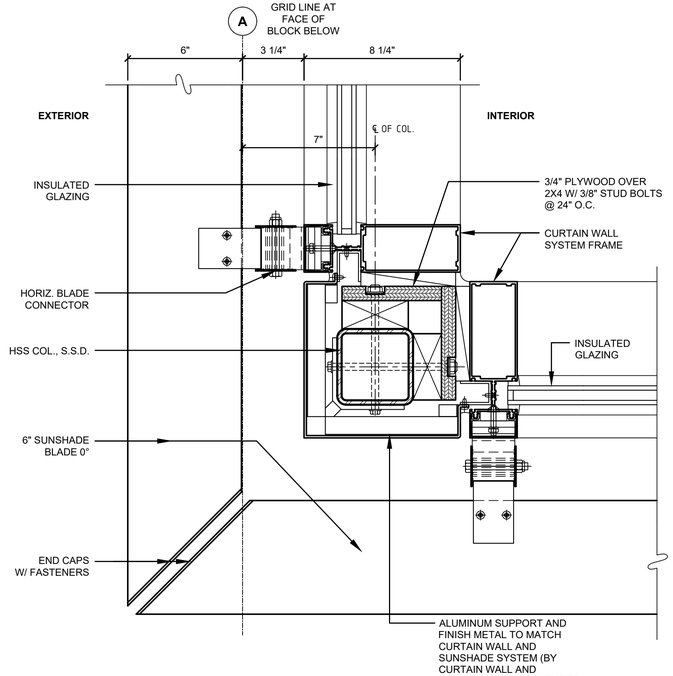
6" = 1'-0"



CURTAIN WALL 3 END ASSEMBLY DETAIL @ GRID B & 5

6

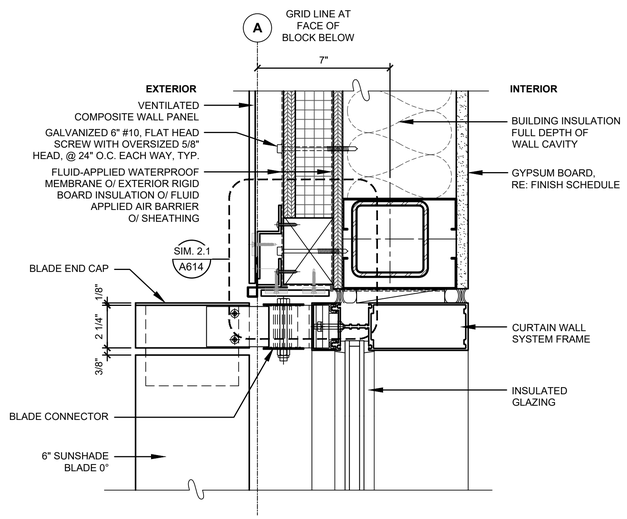
3" = 1'-0"



CURTAIN WALL 3 & 4 CORNER DETAIL @ GRID A & 5

4

3" = 1'-0"



CURTAIN WALL 4 END ASSEMBLY DETAIL @ GRID A

5

3" = 1'-0"

NO.	DATE	SHEET	APPROVAL	REVISIONS DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
CURTAIN WALL & SUNSHADE DETAILS

B # **B-4797**

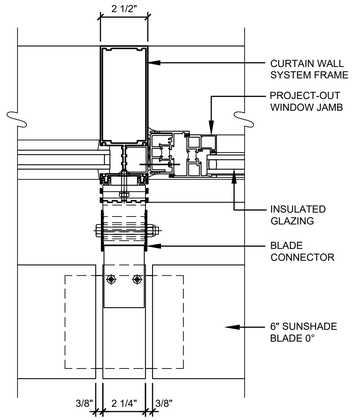
PHASE # ____ / REBID # ____

SHEET **103** OF **236**

DWG. NO. **A612**

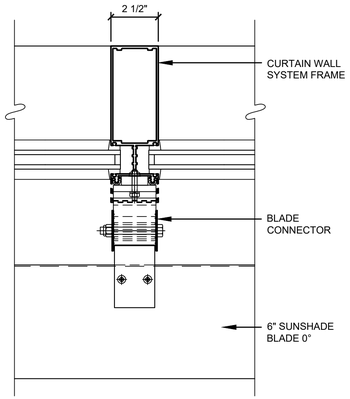
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 12, 2023 - 8:22pm



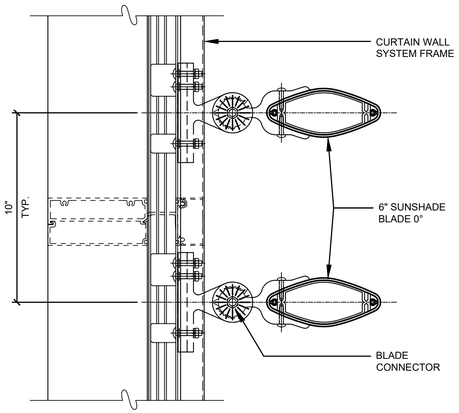
VERTICAL JAMB DETAIL @ SPLICE JOINT CONNECTION

1 — 3" = 1'-0"



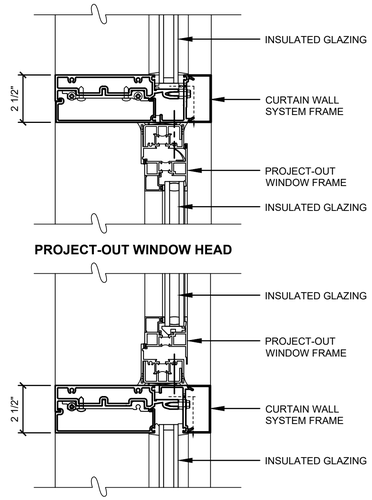
VERTICAL JAMB DETAIL @ FIXED CONNECTION

2 — 3" = 1'-0"



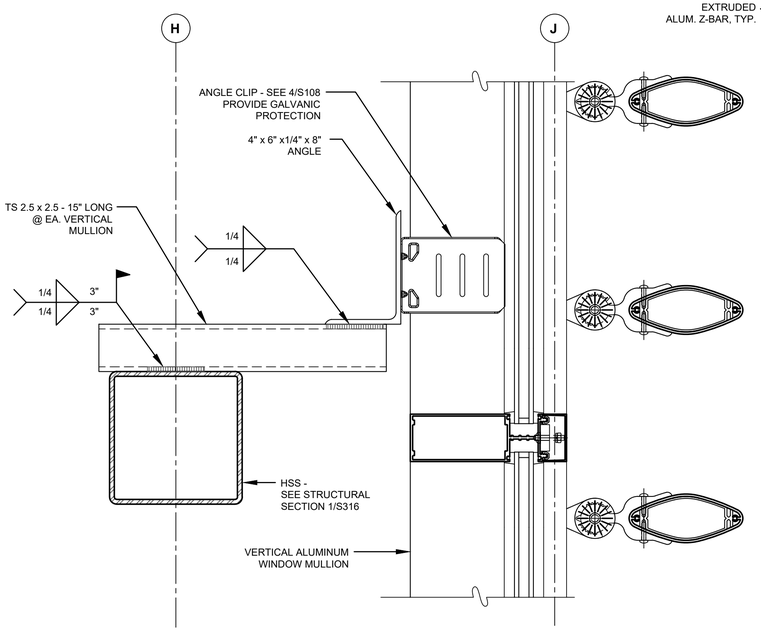
HORIZONTAL SUNSHADE BLADE DETAIL

3 — 3" = 1'-0"



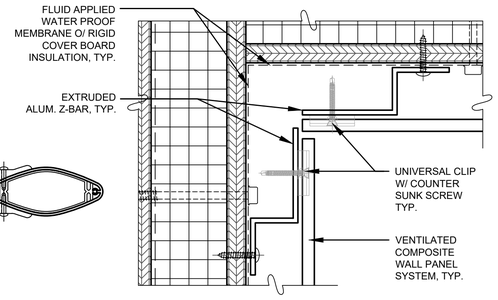
HORIZONTAL CURTAIN WALL JAMB W/ PROJECT OUT WINDOW HEAD & SILL DETAIL

4 — 3" = 1'-0"



CURTAIN WALL MULLION SUPPORT @ CONFERENCE ROOM

5 — 3" = 1'-0"

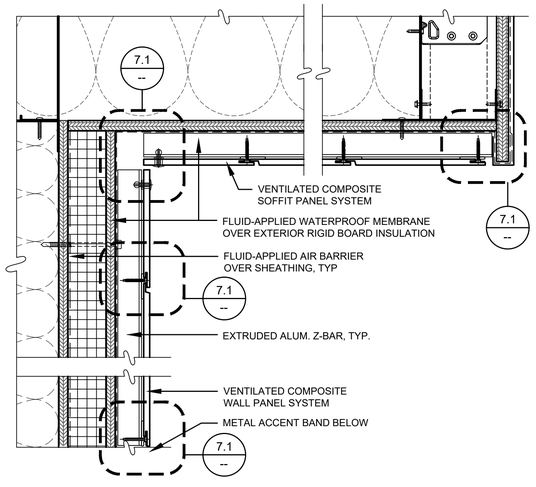


TYPICAL INTERIOR CORNER

6.2 — 6" = 1'-0"

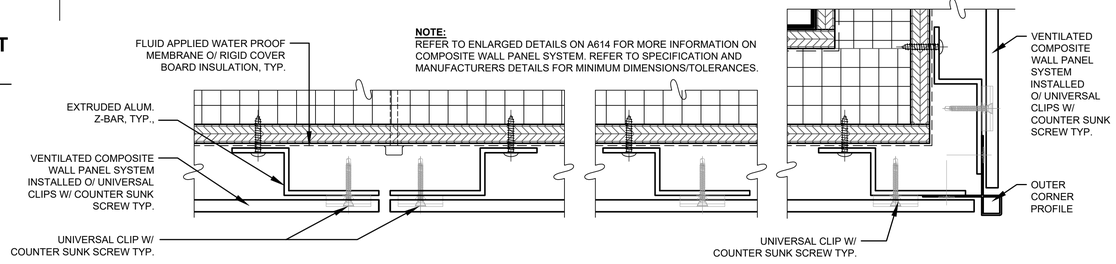
TYPICAL PLAN DETAILS @ VENTILATED SIDING WITH EXTRUDED ALUM. Z-BAR AND UNIVERSAL CLIPS

6 — 3" = 1'-0"



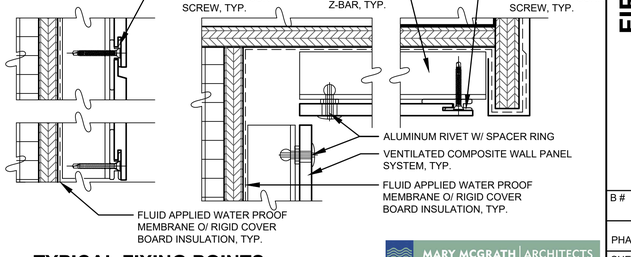
TYP. SECTION DETAILS @ VENTILATED SIDING W/ EXTRUDED ALUM. Z-BAR AND UNIVERSAL CLIPS

7 — 3" = 1'-0"



TYPICAL FIXING POINTS AT VERTICAL JOINTS, CONTINUOUS PANELS, AND EXT. CORNER

6.1 — 6" = 1'-0"



TYPICAL FIXING POINTS: HORIZONTAL JOINTS AND SOFFIT

7.1 — 6" = 1'-0"

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
CURTAIN WALL & SUNSHADE DETAILS

B # B-4797

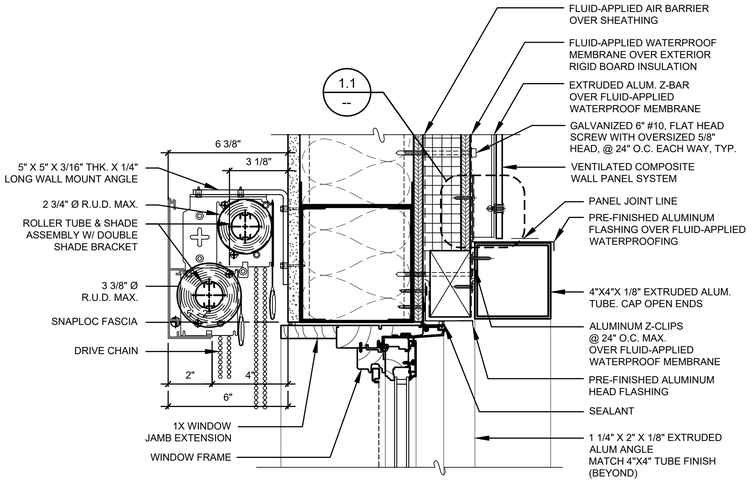
PHASE # ____ / REBID # ____

SHEET 104 OF 236

DWG. NO. A613

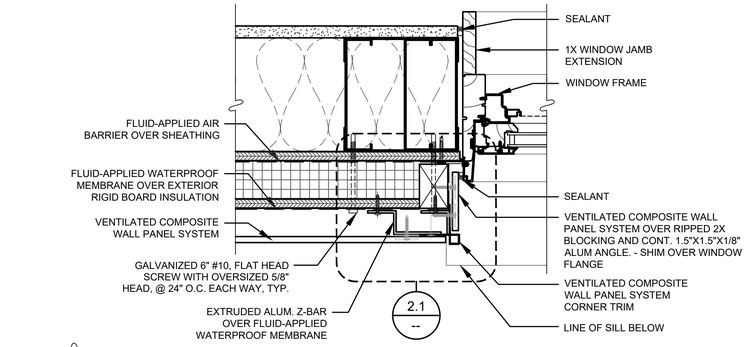
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 12, 2023 - 8:22pm



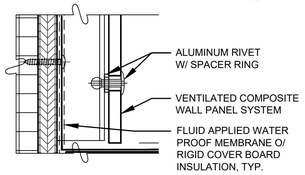
1 ALUM. CLAD WINDOW HEAD DETAIL @ EWA-4

3" = 1'-0"



2 ALUM. CLAD WINDOW JAMB DETAIL @ EWA-4

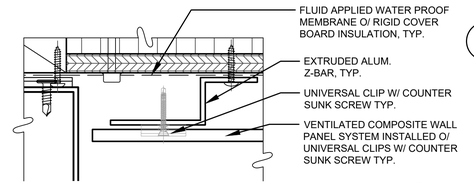
3" = 1'-0"



1.1 ALUMINUM RIVET W/ SPACER RING @ HEAD

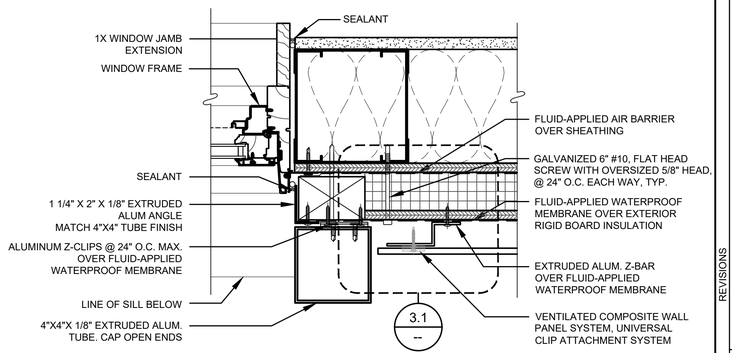
6" = 1'-0"

NOTE:
REFER TO 6/A613 & 7/A613 AND ENLARGED TYPICAL DETAILS FOR MORE INFORMATION ON COMPOSITE WALL PANEL SYSTEM. REFER TO SPECIFICATION AND MANUFACTURERS DETAILS FOR MINIMUM DIMENSIONS/TOLERANCES.



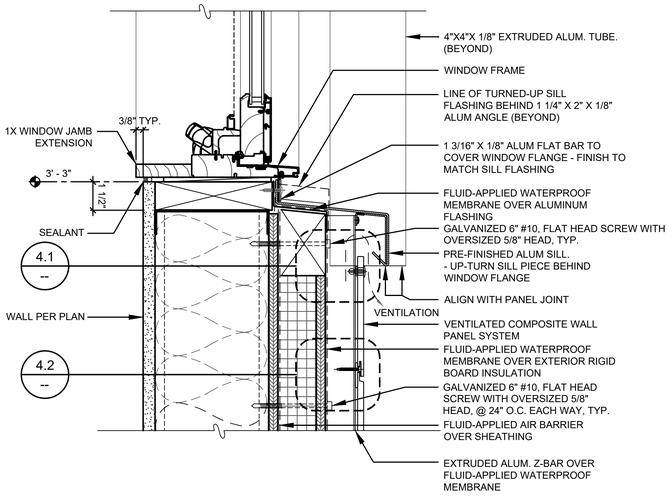
3.1 UNIVERSAL CLIPS @ SIDING TERMINATION

6" = 1'-0"



3 ALUM. CLAD WINDOW JAMB DETAIL @ EWA-4

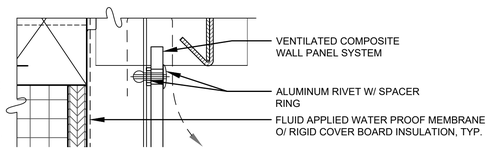
3" = 1'-0"



4 ALUM. CLAD WINDOW SILL DETAIL @ EWA-4

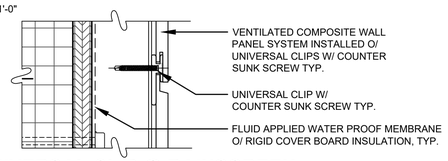
3" = 1'-0"

NOTE:
REFER TO 6/A613 & 7/A613 AND ENLARGED TYPICAL DETAILS FOR MORE INFORMATION ON COMPOSITE WALL PANEL SYSTEM. REFER TO SPECIFICATION AND MANUFACTURERS DETAILS FOR MINIMUM DIMENSIONS/TOLERANCES.



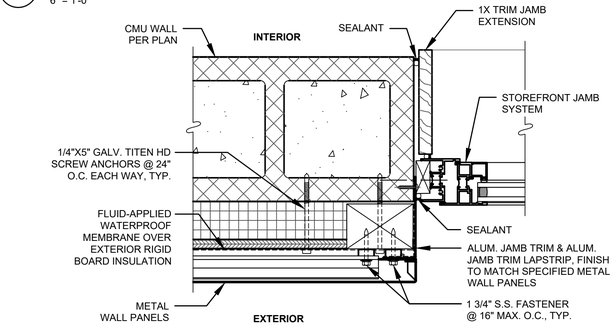
4.1 ALUM. RIVET W/ SPACER RING @ SILL

6" = 1'-0"



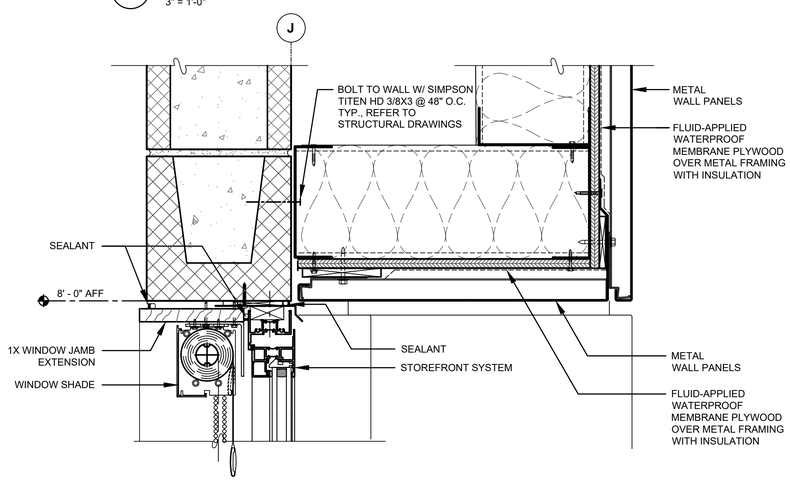
4.2 UNIVERSAL CLIP @ RAINSCREEN

6" = 1'-0"



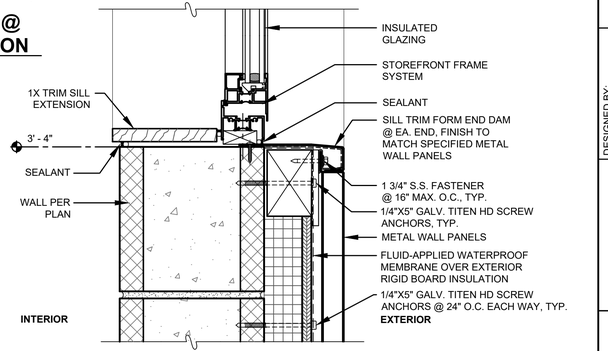
5 ALUM. STOREFRONT WINDOW JAMB DETAIL @ EWA-3

3" = 1'-0"



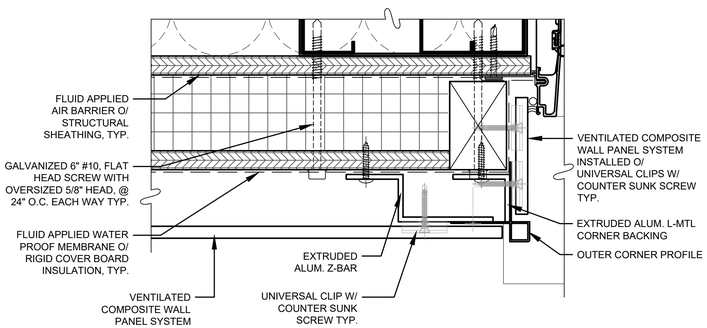
7 ALUM. STOREFRONT WINDOW HEAD DETAIL @ METAL PANEL SYSTEM

3" = 1'-0"



6 ALUM. STOREFRONT WINDOW SILL DETAIL @ EWA-3

3" = 1'-0"



2.1 UNIVERSAL CLIPS AND CORNER PROFILE @ WINDOW JAMB

6" = 1'-0"

NOTE:
REFER TO 6/A613 & 7/A613 AND ENLARGED TYPICAL DETAILS FOR MORE INFORMATION ON COMPOSITE WALL PANEL SYSTEM. REFER TO SPECIFICATION AND MANUFACTURERS DETAILS FOR MINIMUM DIMENSIONS/TOLERANCES.

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ALUM. CLAD WINDOW DETAILS

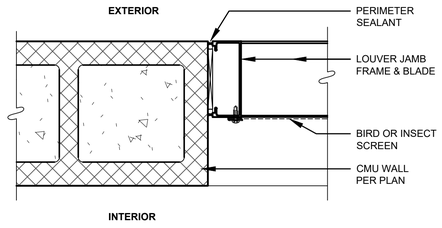
B # B-4797

PHASE # ____ / REBID # ____

SHEET 105 OF 236

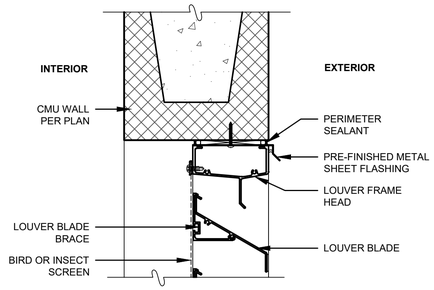
DWG. NO. A614

Oct 12, 2023 - 8:22pm



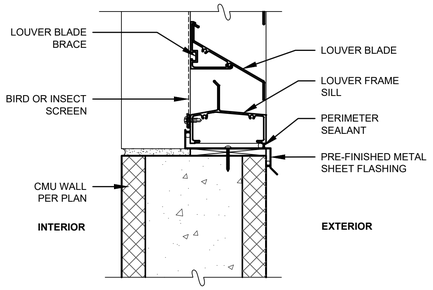
1 LOUVER JAMB DETAIL @ EWA-1 WALL

3" = 1'-0"



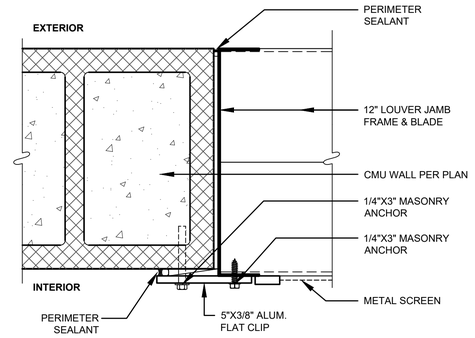
2 LOUVER HEAD DETAIL @ EWA-1 WALL

3" = 1'-0"



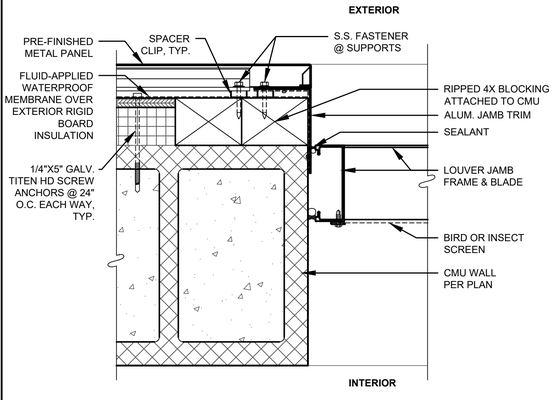
3 LOUVER SILL DETAIL @ EWA-1 WALL

3" = 1'-0"



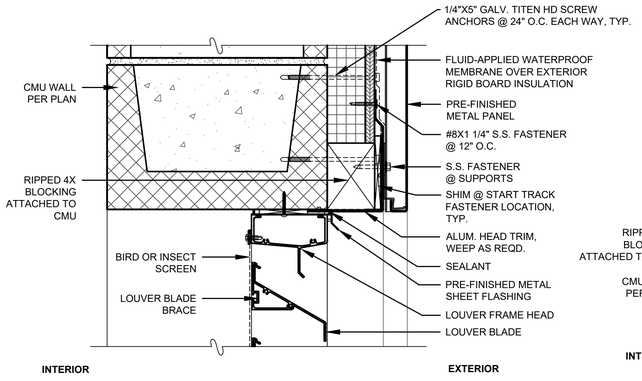
4 LOUVER 1 JAMB DETAIL @ GENERATOR RM.

3" = 1'-0"



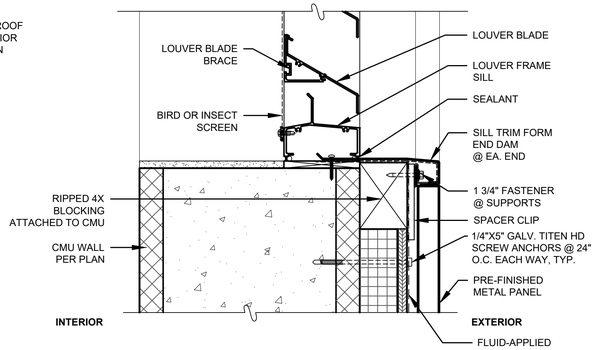
5 LOUVER JAMB DETAIL @ EWA-2 WALL

3" = 1'-0"



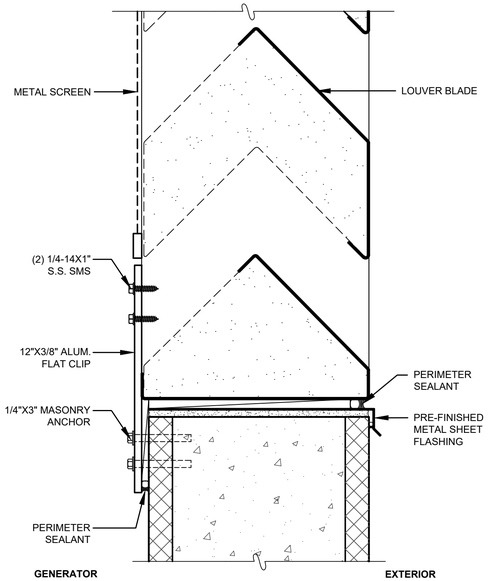
6 LOUVER HEAD DETAIL @ EWA-2 WALL

3" = 1'-0"



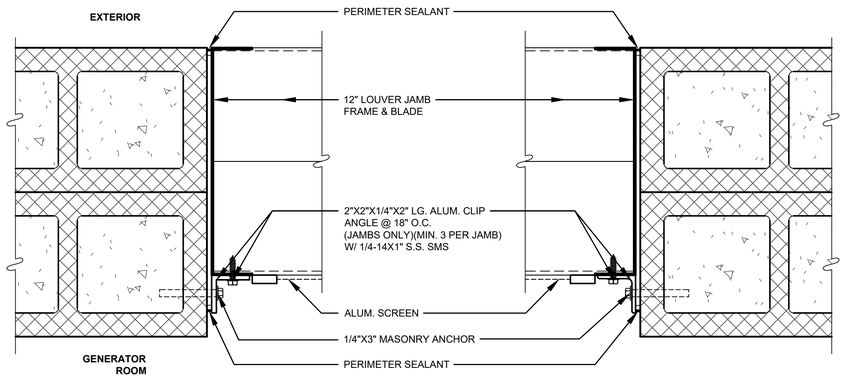
7 LOUVER SILL DETAIL @ EWA-2 WALL

3" = 1'-0"



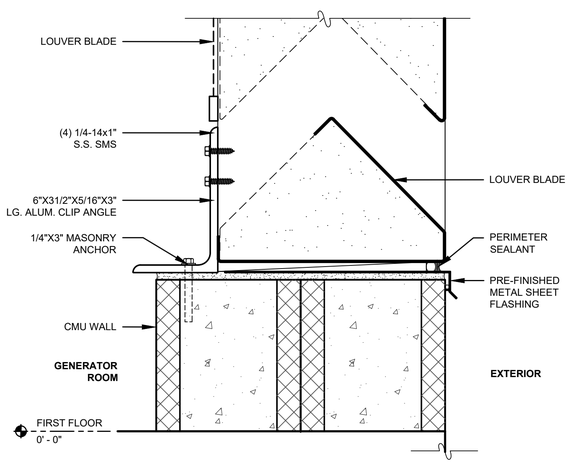
8 LOUVER 1 SILL DETAIL @ GENERATOR RM.

3" = 1'-0"



9 LOUVER 2 JAMB DETAIL @ GENERATOR RM.

3" = 1'-0"



10 LOUVER 2 SILL DETAIL @ GENERATOR RM.

3" = 1'-0"

NO.	DATE	SHEET	APPROVAL	REVISIONS DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/12/2023			BID DOCUMENTS
	AS-BUILT		REF.	

DESIGNED BY: MM
DRAWN BY: LR / RR / SL
DESIGN CHECKED BY: MM
DRAWN CHECKED BY: MM / RR

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

LOUVER DETAILS

B # B-4797

PHASE # ___ / REBID # ___

SHEET 106 OF 236

DWG. NO. A615

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 12, 2023 - 8:22pm

ROOM / AREA FINISH SCHEDULE

RM NO.	ROOM NAME	FLOOR FINISH	FLOOR BASE	WALL NORTH	WALL EAST	WALL SOUTH	WALL WEST	CEILING MAT'L	REMARKS
FIRST FLOOR									
	ELEVATOR	CPT	-	-	-	-	-	-	ALL OTHER FINISHES PER ELEVATOR MFR.
100	LOBBY	CPC	R	GBP	CMUS	GBP	GBP	GYP-1	
101	STATION OFFICE	CPC	R	GBP	GBP	GBP	GBP	ACT-1	
102	HALLWAY 1	CPC	R	GBP	GBP	GBP	CMUP	ACT-1	RECESSED MAT. SEE GENERAL NOTE C.
103	CONFERENCE ROOM	CPT	R	GBP, AWP	CMUS	GBP, AWP	GBP, AWP	WD-1	
104	ALL GENDER ACCESSIBLE RESTROOM	ET	TB	CT	CMU	CT	CT	GYP-1	
105	STORAGE	SC	R	CMUP	CMUP	GBP	CMUP	-	
106	F.F. RESTROOM	ET	TB	CMUP	GBP, WPP	GBP, WPP	CMUP	GYP-1	
107	APPARATUS BAY	CPC	R	CMUP	CMUP	CMUP	CMUP	GYP-1	
108	WORKSHOP ALCOVE	CPC	R	CMUP	-	CMUP	GBP, WPP	GYP-1	6" CONRETE CURB @ CASEWORK
109	APPARATUS BAY SUPPORT	CPC	R	GBP, WPP	CMUP	GBP	CMUP	GYP-1	RECESSED MAT. SEE GENERAL NOTE C.
110	JAN.	SC	R	GBP, WPP	GBP, WPP	GBP, WPP	GBP, WPP	GYP-1	
111	TURNOUT GEAR	SC	R	CMUP	CMUP	GBP, WPP	CMUP	GYP-1	
112	MECH./ELEC. ROOM	SC	R	CMUP	CMUP	CMUP	CMUP	-	
113	GENERATOR ROOM	SC	R	CMUP	CMUP	CMUP	CMUP	GYP-1	
114	ST-1	CPC	-	-	GBP	-	GBP, CMUP	ACT-1	
115	ST-2	CPC	-	-	CMUP	-	GBP, CMUP	GYP-1	
SECOND FLOOR									
114	ST-1	CPC	-	CMUS	GBP,CMUS	-	CMUS	GYP-1	
115	ST-2	CPC	-	-					
201	BC OFFICE	ET	TB	GBP	CMUS	GBP	GBP, CMUS	WD-1	
202	STORAGE	SC	R	GBP	CMUP	GBP	CMUP	GYP-1	
203	BC BUNK	CPT	R	GBP	GBP	GBP	GBP	ACT2	
204	BC ACCESSIBLE RESTROOM	ET	TB	CT, SSM	CT, SSM	CT	CT, SSM	GYP-2	SOLID SURFACE SHOWER WALLS & CEILING
205	HALLWAY 2	ET	TB	GBP, WPP, AWP	GBP,CMUS	GBP, WPP, AWP	GBP, CMUS	WD-1, GYP-1	
206	ELEV. MACHINE ROOM	SC	R	GBP	CMUP	GBP	GBP	GYP-1	
207	CAPT. 2 RESTROOM	ET	TB	CT, SSM	CT, SSM	CT	CT	GYP-2	SOLID SURFACE SHOWER WALLS & CEILING
208	CAPT. 2 OFFICE	ET	TB	GBP	GBP	GBP	GBP	ACT-2	
209	CAPT. 2 BUNK	CPT	R	GBP	GBP	GBP	GBP	ACT-2	
210	PANTRY	ET	R	GBP	GBP	GBP	GBP	GYP-1	
211	KITCHEN	ET	TB	GBP	GBP, SS	GBP, SS	-	WD-1, GYP-1	
212	DINING	ET	TB	-	-	GBP	GBP, WPP, AWP	WD-1	
213	FITNESS	ATHL	R	GBP, WPP	GBP, MIR	GBP	GBP, WPP	ACT-1	
214	HALLWAY 3	ET	TB	GBP, WPP, AWP	GBP, WPP, AWP	GBP, WPP, AWP	GBP, CMUS, WPP, AWP	ACT-1	
215	COMM.	SC	R	GBP	GBP	GBP	GBP	GYP-1	
216	DAYROOM	CPT	R	GBP, AWP	GBP, AWP	GBP, AWP	GBP, AWP	WD-1	
217	LAUNDRY/JAN.	ET	TB	GBP, WPP	GBP, WPP	GBP, WPP	GBP, WPP	GYP-1	
218	MECH.	SC	R	GBP	GBP	GBP	GBP	GYP-1	
219	HALLWAY 4	ET	TB	GBP, WPP, AWP	GBP, WPP, AWP	-	GBP, WPP, AWP	ACT-1	
220	CAPT. 1 OFFICE	ET	TB	GBP	GBP	GBP	GBP	ACT-2	
221	CAPT. 1 BUNK	CPT	R	GBP	GBP	GBP	GBP	ACT-2	
222	CAPT. 1 ACCESSIBLE RESTROOM	ET	TB	CT, SSM	CT, SSM	CT, SSM	CT, SSM	ACT-1	SOLID SURFACE SHOWER WALLS & CEILING
223	FF BUNK	CPT	R	GBP	GBP	GBP	GBP	ACT-2	
224	FF BUNK	CPT	R	GBP	GBP	GBP	GBP	ACT-2	
225	FF BUNK	CPT	R	GBP	GBP	GBP	GBP	ACT-2	
226	FF BUNK	CPT	R	GBP	GBP	GBP	GBP	ACT-2	
227	FF BUNK	CPT	R	GBP	GBP	GBP	GBP	ACT-2	
228	TRAINEE RELIEF BUNK	CPT	R	GBP	GBP	GBP	GBP	ACT-2	
229	HALLWAY 5	ET	TB	GBP, WPP, AWP	GBP, WPP, AWP	GBP, WPP, AWP	GBP, CMUS, WPP, AWP	ACT-1, GYP-1	
230	FF ADA RR	ET	TB	CT	CT, SSM	CT, SSM	CT, SSM	GYP-2	SOLID SURFACE SHOWER WALLS & CEILING
231	FF RR 1	ET	TB	CT	CT, SSM	CT, SSM	CT	GYP-2	SOLID SURFACE SHOWER WALLS & CEILING
232	FF RR 2	ET	TB	CT	CT, SSM	CT, SSM	CT	GYP-2	SOLID SURFACE SHOWER WALLS & CEILING
233	FF RR 3	ET	TB	CT	CT	CT, SSM	CT, SSM	GYP-2	SOLID SURFACE SHOWER WALLS & CEILING
234	HALLWAY 6	ET	TB	-	CMUP	CBP	GBP	WD-1	
235	DECK	-	-	-	-	-	-	-	SEE EXTERIOR ELEVATIONS & BLDG . SECTION DWGS.

GENERAL NOTES

A. REFER TO ENLARGED PLANS AND INTERIOR ELEVATIONS DRAWINGS FOR ADDITIONAL INFORMATION.

B. REFER TO REFLECTED CEILING PLANS A140 AND A141 FOR CEILING HEIGHTS AND ADDITIONAL INFORMATION.

C. PROVIDE NON-SHRINK GROUT LEVELING BED FOR RECESSED ENTRY MATS TO ALIGN THE TOP OF THE MAT WITH THE ADJACENT FLOOR FINISH.

FINISH MATERIAL SCHEDULE

MATERIAL	TYPE	NAME	MANUFACTURER (OR EQUAL)	STYLE & COLOR	REMARKS
ATHL		ATHLETIC RUBBER FLOORING	ECORE ATHLETIC	MONSTER; CHARCOAL ES505	
CPT		CARPET TILE	SHAW CONTRACT GROUP	DESIGN JOURNEY-PLAIN WEAVE TILE; #5T098; TRADITIONAL, 99496	
WD		LINEAR WOOD CEILING	ARMSTRONG WORLD INDUSTRIES	WOODWORK LINEAR VENEERED PLANKS; NATURAL VARIATIONSLIGHT CHERRY	
CMUP & GYP		CONCRETE MASONRY UNIT & GYP. BD. PAINT	DUNN EDWARDS CCORPORATION	DEW346/LRV81 - COLOR: SWAN WHITE; DET 627/LRV46 - COLOR: PEWTER PATTER; DET628/LRV11 - COLOR: CHARCOAL SKETCH	
WPP		WALL PROTECTION PANEL	ACROVYN	ACROVYN 4000; PEARL GRAY #136	
ACT	1	24"X24" ACOUSTICAL CEILING TILE	ARMSTRONG WORLD INDUSTRIES	ARMSTRONG FINE FISSURED TEGULAR LAY-IN;WHITE	
ACT	2	24"X48" ACOUSTICAL CEILING TILE	ARMSTRONG WORLD INDUSTRIES	ARMSTRONG FINE FISSURED SECOND LOOK II TEGULAR LAY-IN; WHITE	
AWP		FABRIC-WRAPPED PANELS	GUIFFORD OF MAINE	ANCHORAGE 2335; ARCHITECT TO SELECTFROM ENTIRE COLOR LINE	
R		RESILIENT BASE	JOHNSONITE	20 CHARCOAL WG	
TB		PRECAST TERRAZZO BASE	-	NTMA EPOXY SERIES 4;	
ET		EPOXY TERRAZZO	-	NTMA EPOXY SERIES 4;	
CPC		COLOR POLISHED CONCRETE	AMERIPOLISH	MIDNIGHT BLACK	
CT		CERAMIC TILE	VOUGE BAY	DURASTONE PORCELAIN TILE; ASH GRAY	
SSM		SOLID SURFACE MATERIAL RESTROOM COUNTERETOP	CORIAN	FLINT	
SSM		SOLID SURFACE MATERIAL SHOWER WALL & INTEGRAL SINK	CORIAN	BISQUE	
CASEWORK		PRE-FINISHED SOLID COMPOSITE PANELS CABINET & SHELVING	TRESPA ATHLON	W 78-01 WILD CHERRY FOR KITCHEN & DAYROOM; E 25-03 ZINC GREY FOR BATHROOMS & OFFICES	
BEDROOM LOCKERS		PLYWOOD VENEER	ROSEBURG	CHERRY VENEER; ALPINE FINISH AL07	

FINISH LEGEND

BASE	
R	RESILIENT BASE
TB	6" PRECAST TERRAZZO BASE
CEILING	
ACT-1	SUSPENDED 2x2 ACOUSTICAL CEILING TILE
ACT-2	SUSPENDED 2x4 ACOUSTICAL CEILING PANEL
BOF	BOTTOM OF FRAMING, PAINTED
EXP	EXPOSED, PAINTED
GYP-1	PAINTED GYPSUM BOARD
GYP-2	PAINTED WATER-RESISTANT GYPSUM BOARD
SSM	SOLID SURFACE MATERIAL
WD-1	SUSPENDED LINEAR CEILING
FLOOR	
ATHL	ATHLETIC RUBBER FLOORING
CPC	COLOR POLISHED CONCRETE
CPT	CARPET TILE
ET	EPOXY TERRAZZO
SC	SEALED CONCRETE
WALL	
AWP	FABRIC-WRAPPED PANELS
CMUP	CONCRETE MASONRY UNIT, PAINT
CMUS	CONCRETE MASONRY UNIT, SEALED
CT	CERAMIC TILE
GBP	GYPSUM BOARD PAINT
MIR	MIRROR
SSM	SOLID SURFACE MATERIAL
WPP	WALL PROTECTION PANEL

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	10/7/2023			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: **MM**
DRAWN BY: **LR / RR**
DESIGN CHECK BY: **MM**
DRAWN CHECK BY: **MM / RR**

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

FINISH SCHEDULE

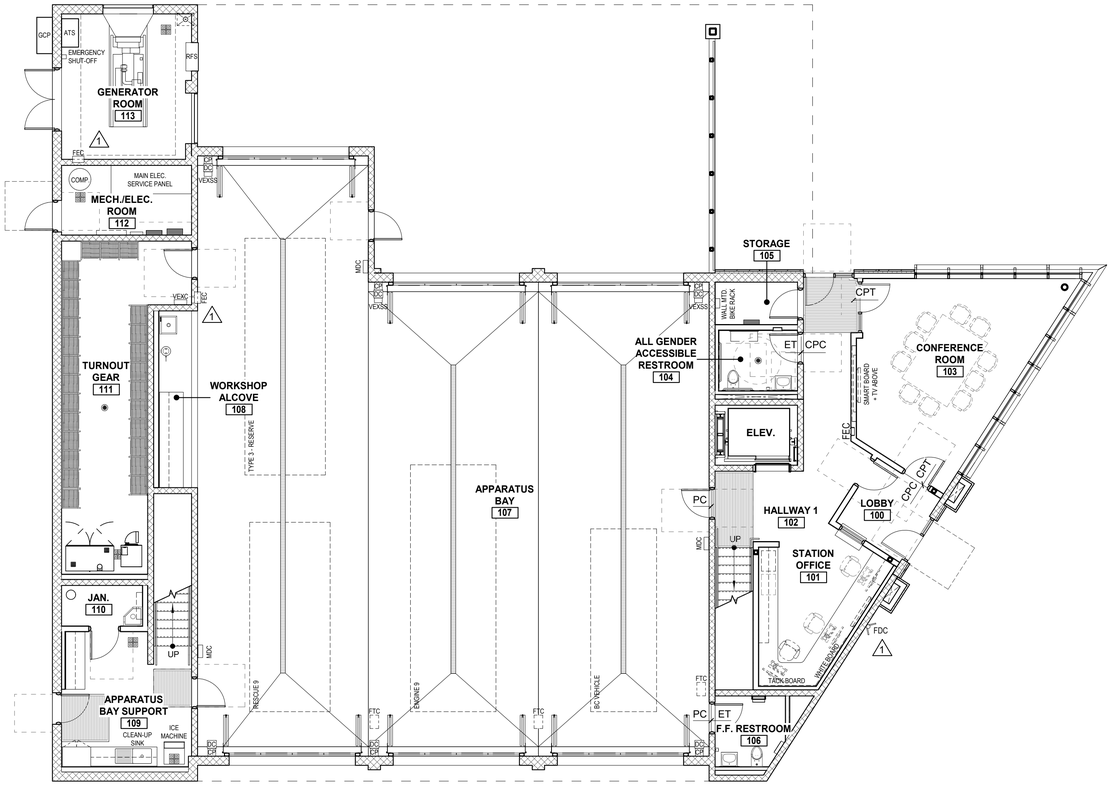
B # **B-4797**

PHASE # REBID #

SHEET **107** OF **236**

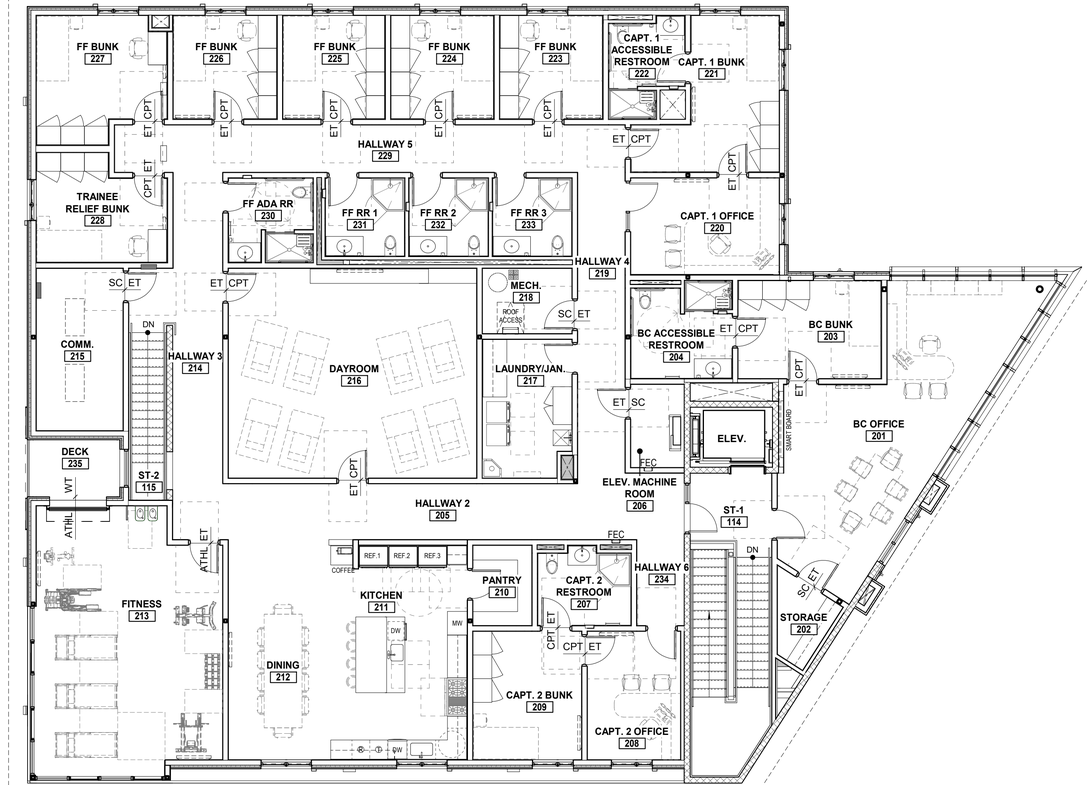
DWG. NO. **A700**

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



1 **FIRST FLOOR FINISH PLAN**

1/8" = 1'-0"



2 **SECOND FLOOR FINISH PLAN**

1/8" = 1'-0"

N

0' 4' 8' 16' 32'

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISION			
NO.	DATE	APPROVAL	DESCRIPTION
	12/16/2021		PLAN CHECK SUBMITTAL
1	04/22/2022		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS

DESIGNED BY: **MM**
DRAWN BY: **LR / RR**
DESIGN CHECK BY: **MM**
DRAWN CHECK BY: **MM / RR**
AS-BUILT
REF.

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

FURNISHING/FINISH PLANS

B # **B-4797**

PHASE # ____ REBID # ____

SHEET **108** OF **236**

DWG. NO. **A701**

10/12/2023 7:50:54 PM

MATERIAL SPECIFICATIONS

GENERAL

ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE GOVERNING CODE. SEE 'PROJECT DATA'

CONSTRUCTION LIABILITY
THE CONSTRUCTION CONTRACTOR AND HIS SUBCONTRACTORS AGREE THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONSTRUCTION CONTRACTOR AND HIS SUBCONTRACTORS WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT LIMITED TO NORMAL WORKING HOURS, AND THE CONSTRUCTION CONTRACTOR AND HIS SUBCONTRACTORS FURTHER AGREE TO DEFEND, INDEMNIFY AND HOLD THE DESIGN PROFESSIONAL HARMLESS FROM ANY LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

CONCRETE & REINFORCING

REINFORCING STEEL
BARS FOR REINFORCING SHALL BE GRADE 60 DEFORMED BARS CONFORMING TO ASTM A706 OR A615. LAP SPLICES SHALL BE IN ACCORDANCE WITH ACI 318, CURRENT EDITION UNLESS NOTED OTHERWISE ON THE PLANS. BARS TO BE WELDED OR FIELD BENT SHALL CONFORM TO ASTM A706.

WELDED WIRE FABRIC - ASTM A 185

CONCRETE
CONCRETE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF ACI 301 & 318. CONCRETE SHALL BE READY-MIXED CONCRETE IN ACCORDANCE WITH ASTM C94.

MAXIMUM WATER-CEMENT RATIO, BY WEIGHT

28 DAY COMPRESSIVE STRENGTH	WATER-CEMENT RATIO
3500 PSI CONCRETE	0.45
3000 PSI CONCRETE	0.50

AVERAGE DRYING SHRINKAGE FOR CONCRETE AFTER 21 DAYS OF DRYING SHALL NOT EXCEED 0.040% IN SUSPENDED SLABS AND 0.048% IN SLABS ON GRADE.

AT THE CONTRACTOR'S OPTION, AN AIR ENTRAINING AGENT CONFORMING TO THE LATEST REVISION OF ASTM SPECIFICATION C260 MAY BE ADDED TO THE CONCRETE TO PROVIDE UP TO A MAXIMUM OF 3% ± 1.5% ENTRAINED AIR. CEMENT SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PORTLAND CEMENT PER ASTM DESIGNATION C150, TYPE II. NO MORE THAN 15% BY WEIGHT OF CEMENT MAY BE REPLACED BY FLY ASH CONFORMING TO ASTM C618, CLASS N OR F.

CONCRETE ELEMENT	MIN 28 DAY COMPRESSIVE STRENGTH	MAX SIZE AGGREGATE (INCHES)	SLUMP (INCHES)
FOOTINGS	3000	1-1/2	3
SLABS ON GRADE	3500	1	4
LW CONCRETE TOPPING SLAB (115 PCF DRY WT)	3000	3/8	4

SLUMP WILL BE MEASURED AT THE TRUCK DISCHARGE. SLUMPS NOTED ABOVE ARE FOR CONCRETE WITHOUT ADMIXTURES TO BE CONSOLIDATED USING VIBRATION. FORMWORK CONSTRAINTS, CONGESTION OF REBAR, AND PUMPING OF CONCRETE MAY REQUIRE INCREASED SLUMP BEYOND THE SLUMP LISTED ABOVE. THE CONTRACTOR SHALL ADJUST THE SLUMP UP TO 8" MAX USING ADMIXTURES AS NECESSARY TO PROVIDE WORKABILITY AND CONSISTENCY TO PERMIT CONCRETE TO BE WORKED READILY INTO FORMS AND AROUND REINFORCEMENT UNDER CONDITIONS OF PLACEMENT TO BE EMPLOYED WITHOUT SEGREGATION OR EXCESSIVE BLEEDING. ALL ADMIXTURES SHALL BE NOTED IN THE SUBMITTED MIX DESIGN AND ARE SUBJECT TO THE ENGINEER'S REVIEW. THE SPECIAL INSPECTOR SHALL BE PROVIDED WITH A BATCH TICKET AND WEIGHT TAG UPON DELIVERY OF EACH LOAD OF CONCRETE.

ALL CONCRETE SHALL BE PLACED WITH MECHANICAL VIBRATION UNLESS NOTED OTHERWISE.

UNDER SLAB MATERIALS
SAND SHALL MEET THE REQUIREMENTS OF ACI 302.1R AND CONTAIN NO MORE THAN 20 PERCENT PASSING THE No. 200 SIEVE. SAND SHALL BE MOIST BUT NOT SATURATED AT THE TIME OF CONCRETE SLAB PLACEMENT.

SLAB MEMBRANE SHALL BE 15 MIL POLYETHYLENE FILM, UNLESS NOTED OTHERWISE. LAP SLAB MEMBRANE PER THE MANUFACTURER'S RECOMMENDATIONS, BUT NO LESS THAN 2 FEET.

GRAVEL SHALL BE 3/4" CLEAN MATERIAL MEETING THE REQUIREMENTS OF ACI 302.1R.

NON-SHRINK GROUT
NON SHRINK GROUT SHALL BE FLOWABLE, WITH A MINIMUM 7 DAY COMPRESSIVE STRENGTH OF 5000 PSI. NON-SHRINK GROUT SHALL BE MASTERFLOW 928 GROUT AS MANUFACTURED BY BASF OR APPROVED EQUAL.

MASONRY

STRUCTURAL MASONRY (CMU)
STRUCTURAL MASONRY (CMU) SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF ACI 530 & 530.1. COMPLIANCE WITH SPECIFIED DESIGN STRENGTH METHOD SHALL BE BY THE UNIT STRENGTH METHOD. AT THE CONTRACTOR'S OPTION, THE PRISM TEST METHOD MAY BE USED TO CONFIRM COMPLIANCE WITH SPECIFIED DESIGN STRENGTH.

MASONRY UNITS SHALL BE OPEN ENDED MEDIUM WEIGHT UNITS CONFORMING TO ASTM DESIGNATION C90. ALL CELLS SHALL BE GROUTED SOLID. F'm = 2000 PSI. WALL REINFORCEMENT SHALL BE RESTRAINED BY MECHANICAL POSITIONERS AT 48" OC, MAX.

MORTAR SHALL CONFORM TO ASTM C270 TYPE S OR M AND SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 1900 PSI AT 28 DAYS. MASONRY CEMENT MAY NOT BE USED IN MORTAR.

GROUT SHALL BE COARSE GROUT CONFORMING TO ASTM C476. THE GROUT SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS. SLUMP SHALL BE 8" TO 10".

POST INSTALLED ANCHORS

ADHESIVE ANCHORING SYSTEMS FOR CONCRETE
ADHESIVE ANCHORING SYSTEMS SHALL BE:
- HILTI HIT-RE 500 V3 (ICC ESR-3814) OR HIT-HY 200 (ICC ESR 3187)
- SIMPSON SET-XP (ICC ESR-2508) OR AT-XP (IAPMO UES ER-263)
- DEWALT\POWERS PURE 110+ (ICC ESR-3298) OR AC100+ GOLD (ICC ESR-2582)
- APPROVED EQUAL.

INSTALLATION OF ANCHORS AND ADHESIVE INCLUDING DRILLING AND CLEANING OF HOLES SHALL BE IN ACCORDANCE WITH THE CURRENT ICC OR IAPMO REPORT. ADHESIVES SHALL BE USED ONLY IN APPLICATIONS PERMITTED BY THE ADHESIVE'S ICC OR IAPMO REPORT. ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS AT TIME OF ANCHOR INSTALLATION.

ADHESIVE ANCHORING SYSTEMS FOR GROUTED CONCRETE BLOCK
ADHESIVE ANCHORING SYSTEMS SHALL BE:
- HILTI HIT HY70 (ICC ESR-2682)
- SIMPSON SET-XP (IAPMO UES ER-265) OR AT-XP (IAPMO UES ER-281)
- DEWALT\POWERS AC100+ GOLD (ICC-ES ESR-3200)
- APPROVED EQUAL

INSTALLATION OF ANCHORS AND ADHESIVE INCLUDING DRILLING AND CLEANING OF HOLES SHALL BE IN ACCORDANCE WITH THE CURRENT ICC OR IAPMO REPORT. ADHESIVES SHALL BE USED ONLY IN APPLICATIONS PERMITTED BY THE ADHESIVE'S ICC OR IAPMO REPORT.

EXPANSION ANCHORS FOR CONCRETE
EXPANSION ANCHORS SHALL BE:
- HILTI KWIK BOLT TZ ANCHORS (ICC ESR-1917),
- SIMPSON STRONG BOLT 2 WEDGE ANCHOR (ICC ESR-3037)
- DEWALT\POWERS POWER-STUD+ SD2 (ICC ESR-2502)
- APPROVED EQUAL.

CONTRACTOR SHALL TORQUE ANCHORS IN ACCORDANCE WITH THE ICC OR IAPMO REPORT. EXPANSION ANCHORS SHALL USE WASHERS SIZED TO PREVENT CRUSHING OF THE ATTACHED MEMBER UNDER THE INSTALLATION TORQUE.

EXPANSION ANCHORS FOR GROUTED CONCRETE BLOCK
EXPANSION ANCHORS SHALL BE:
- HILTI KWIK BOLT 3 WEDGE ANCHORS (ICC ESR-1385)
- SIMPSON STRONG BOLT 2 EXPANSION ANCHOR (IAPMO ER-240)
- DEWALT\POWERS POWER-STUD+ SD1 (ICC ESR-2966)
- APPROVED EQUAL.

CONTRACTOR SHALL TORQUE ANCHORS IN ACCORDANCE WITH THE ICC OR IAPMO REPORT. EXPANSION ANCHORS SHALL USE WASHERS SIZED TO PREVENT CRUSHING OF THE ATTACHED MEMBER UNDER THE INSTALLATION TORQUE.

STRUCTURAL STEEL

STRUCTURAL STEEL AND MISCELLANEOUS IRON
STRUCTURAL STEEL AND MISCELLANEOUS IRON SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE AISC CODE OF STANDARD PRACTICE.

1. WIDE FLANGE AND STRUCTURAL TEE SHAPES SHALL CONFORM TO ASTM A992.
2. CHANNELS AND ANGLES SHALL CONFORM TO ASTM A36.
3. HOLLOW STRUCTURAL SECTIONS SHALL CONFORM TO ASTM A500, GRADE C.
4. STEEL PIPE SHALL CONFORM TO ASTM A53, GRADE B.
5. STRUCTURAL PLATE SHALL CONFORM TO ASTM A36 OR ASTM A572 GR50.
6. RAISED-PATTERN FLOOR PLATE SHALL CONFORM TO ASTM A786.

ALL STRUCTURAL STEEL AND MISCELLANEOUS IRON SHALL RECEIVE SHOP PRIME COAT EXCEPT ON SURFACES RECEIVING WELDS, EMBEDDED IN CONCRETE, OR AT SLIP CRITICAL HIGH STRENGTH BOLTS WHICH SHALL BE TOUCHED UP AFTER CONNECTION IS COMPLETE. STRUCTURAL STEEL AND MISCELLANEOUS IRON WHICH IS TO HAVE SPRAY ON FIREPROOFING SHALL NOT BE PAINTED. STRUCTURAL STEEL PERMANENTLY EXPOSED TO WEATHER SHALL RECEIVE TWO COATS OF SEMI-GLOSS ALKYD ENAMEL COMPATIBLE WITH PRIMER.

METAL DECKING
METAL DECKING SHALL COMPLY W/ THE TYPE, SIZE, THICKNESS & ATTACHMENT SHOWN ON THE PLANS AND SHALL BE SUBSTANTIATED BY AN ICC REPORT. METAL DECKING SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A653, G60 FOR INTERIOR CONDITIONS AND G90 FOR EXTERIOR CONDITIONS.

MACHINE BOLTS, ANCHOR BOLTS AND THREADED RODS
BOLTS, NUTS, WASHERS AND RODS PERMANENTLY EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED.

1. BOLTS SHALL CONFORM TO ASTM A307 GRADE A OR B OR A36.
2. ANCHOR BOLTS AND RODS SHALL CONFORM TO ASTM F1554 GR 36.
3. ALL BOLTS & LAG SCREWS SHALL HAVE STANDARD STEEL WASHERS, U.N.O.
4. NUTS SHALL BE AS SHOWN BELOW AND FINISH SHALL MATCH FASTENER.
5. BOLT HOLES SHALL BE STANDARD SIZE (BOLT DIA + 1/16") TYP, U.N.O.

FASTENER GRADE AND SIZE	NUT CLASS	NUT STYLE
ASTM A36 , ASTM A307A, F1554 1/4" TO 1-1/2"	ASTM A563-A	HEX
ASTM A36 , ASTM A307A, F1554, OVER 1-1/2" TO 4"	ASTM A563-A	HEAVY HEX
ASTM A307B, 1/4" TO 4"	ASTM A563-A	HEAVY HEX

WELDING
ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS PER AWS "STANDARD QUALIFICATION PROCEDURE" TO PERFORM THE TYPE OF WORK REQUIRED. ALL WELDING SHALL BE IN ACCORDANCE WITH THE CURRENT AWS WELDING CODE. ARC WELDING ELECTRODES SHALL BE E70 SERIES FOR A36, A53, A500, A572 & A992 MATERIAL, AND E80 SERIES FOR A706 REINFORCING STEEL.

WELD METAL TOUGHNESS SHALL BE REPORTED ON THE ELECTRODE MANUFACTURER'S CERTIFICATE OF COMPLIANCE. ALL ELECTRODES SHALL BE LOW HYDROGEN WITH A MINIMUM CVN VALUE OF 20 FT-LBS AT -20 DEGREE F. EXCEPTIONS: METAL DECK WELDING, STAIR AND HANDRAIL WELDING, LIGHT GAGE STEEL WELDING.

TACK WELDS, AIR-ARC GOUGING AND FLAME CUTTING SHALL NOT BE PERFORMED WITHOUT ADEQUATE PREHEAT OR INCORPORATION INTO THE FINAL WELD.

THE FILLER METAL MANUFACTURER'S PUBLISHED RECOMMENDATIONS SHALL BE THE BASIS FOR DETERMINING THE ALLOWABLE RANGE OF ESSENTIAL VARIABLES FOR THE PRE QUALIFIED WPS. UNLESS NOTED OTHERWISE ON THE PLANS, BACK-UP BARS FOR CJP WELDS SHALL BE REMOVED FOLLOWED BY BACKGOUGING AND BACKWELDING.

AUTOMATIC END WELDED STUDS
AUTOMATIC END WELDED STUDS SHALL BE NELSON GRANULAR FLUX-FILLED S3L SHEAR CONNECTORS OR CFL FULLY THREADED STUDS (OR APPROVED EQUAL).

1. STUDS SHALL CONFORM TO ASTM A108, GRADES C1010 THROUGH C1020, COLD DRAWN STEEL.
2. HEADED ANCHOR STUDS SHALL BE AWS D1.1 TYPE B.
3. THREADED STUDS SHALL BE AWS D1.1 TYPE A.

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

LIGHT GAGE METAL FRAMING
ALL LIGHT GAGE METAL FRAMING SHALL CONFORM TO ASTM A653. STUDS SHALL HAVE PUNCHED WEBS. STUDS AND JOISTS SHALL HAVE STIFFENED FLANGES W/ 1-5/8" MIN WIDTH UNLESS NOTED OTHERWISE ON THE PLANS.

WOOD FRAMING

PLYWOOD
ALL PLYWOOD SHALL CONFORM TO U.S. PRODUCT STANDARD PS 1-09, AMERICAN PLYWOOD ASSOCIATION. EACH SHEET SHALL BE STAMPED WITH THE PS AND/OR APA GRADEMARK.

ALL PLYWOOD PERMANENTLY EXPOSED TO WEATHER SHALL BE EXTERIOR TYPE PLYWOOD.

ALL UNBLOCKED PLYWOOD EDGES SHALL BE TONGUE-AND-GROOVE OR SUPPORTED WITH PLYWOOD CLEATS OR PLYWOOD CLIPS.

ROOF PLYWOOD:
- 5 PLY EXPOSURE 1, CDX, SPAN RATING 32/16, SPECIES GROUP 2 OR BETTER.
- 5 PLY EXPOSURE 1, STRUCTURAL 1, SPAN RATING 32/16, SPECIES GROUP 1.

WALL PLYWOOD:
- 4 PLY EXPOSURE 1, STRUCTURAL 1, SPAN RATING 32/16, SPECIES GROUP 1.

LIGHT GAGE METAL CONNECTORS
ALL LIGHT GAGE METAL CONNECTORS SHALL BE SIMPSON STRONG TIE CONNECTORS OR APPROVED EQUAL, UNLESS NOTED OTHERWISE ON THE DRAWINGS. CONNECTORS IN CONTACT WITH PRESSURE TREATED LUMBER TO BE HOT DIPPED ZINC-COATED GALVANIZED STEEL IN COMPLIANCE WITH ASTM A653 OR ASTM A123.

GENERAL NOTES

1. CONSIDER GENERAL NOTES AS APPLYING TO ALL DRAWINGS.
2. DO NOT SCALE DRAWINGS. SCALE SHOWN FOR REFERENCE ONLY.
3. THE CONTRACTOR SHALL REFER TO THE PROJECT SPECIFICATIONS IN CONJUNCTION WITH THE STRUCTURAL DRAWINGS.
4. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THE STRUCTURAL WORK WITH THE ARCHITECTURAL, CIVIL, AND MEP CONTRACT DOCUMENTS, AS WELL AS ANY OTHER APPLICABLE TRADES. OMISSIONS OR CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE DRAWINGS, NOTES, AND DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND RESOLVED PRIOR TO BIDDING AND PROCEEDING WITH THE WORK.
5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND REMOVAL OF TEMPORARY BRACING AND CONSTRUCTION SUPPORTS REQUIRED TO COMPLETE THE PROJECT. NO PORTION OF THE STRUCTURE SHALL BE CONSIDERED TO BE SELF SUPPORTING UNTIL THE ENTIRE VERTICAL AND LATERAL LOAD RESISTING SYSTEM IS IN PLACE.
6. THE CONTRACTOR SHALL PROTECT AND SHORE ALL EXCAVATIONS WITH BRACING AND SHORING AS REQUIRED TO MAINTAIN SOIL STABILITY.
7. CONSTRUCT THOSE FEATURES OF THE PROJECT, WHICH MAY NOT BE FULLY SHOWN, IN MANNER SIMILAR TO THAT USED FOR SIMILAR FEATURES.
8. CENTERLINES OF COLUMNS AND FOUNDATIONS COINCIDE WITH GRID LINE INTERSECTIONS, U.N.O.
9. CENTERLINES OF FOUNDATION GRADE BEAMS COINCIDE WITH CENTERLINES OF WALLS, U.N.O.
10. CENTERLINES OF FRAMING MEMBERS COINCIDE WITH COLUMN CENTERLINES, U.N.O.
11. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SHOWING PROPOSED FOUNDATION CONSTRUCTION JOINT LOCATIONS, DETAILS, AND THE PLACEMENT SEQUENCE FOR THE STRUCTURAL ENGINEER'S APPROVAL PRIOR TO PROCEEDING WITH WORK.
12. NO CONSTRUCTION JOINTS WILL BE PERMITTED IN BEAMS, WALLS, AND SLABS UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS OR APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
13. SPLICES SHALL BE ALLOWED ONLY AT LOCATIONS SPECIFICALLY INDICATED ON THE STRUCTURAL DRAWINGS UNLESS APPROVED OTHERWISE BY THE ENGINEER.
14. SEE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS. VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH ARCHITECTURAL DRAWINGS AND MECHANICAL DRAWINGS. NOTIFY STRUCTURAL ENGINEER IMMEDIATELY OF ANY DISCREPANCIES TYPICAL, U.N.O.

SUBMITTALS

SUBMITTALS FOR THE ENGINEERS REVIEW WILL BE REQUIRED AS FOLLOWS:
1. REINFORCING STEEL SHOP DRAWINGS
2. MIX DESIGNS
3. CONCRETE SLAB-ON-GRADE CONTROL JOINT LAYOUT SHOP DRAWING
4. STRUCTURAL MASONRY (CMU) CERTIFICATES OF COMPLIANCE AND GROUT MIX DESIGNS
5. MASONRY CONTROL JOINT SHOP DRAWINGS
6. STRUCTURAL STEEL AND MISCELLANEOUS METALS SHOP DRAWINGS
7. WELDING PROCEDURE SPECIFICATIONS (AND PQR IF APPLICABLE)
8. STEEL DECK SHOP DRAWINGS
9. LIGHT GAGE METAL FRAMING SHOP DRAWINGS

NOTES:
1. CONTRACTOR SHALL ELECTRONICALLY SUBMIT SUBMITTALS FOR REVIEW OR SHALL SUBMIT A MINIMUM OF TWO SETS OF HARD PRINTS FOR REVIEW.
2. THE GENERAL CONTRACTOR SHALL REVIEW EACH SUBMITTAL PRIOR TO FORWARDING TO ARCHITECT AND STRUCTURAL ENGINEER. THE GENERAL CONTRACTOR SHALL VERIFY THAT THE SHOP DRAWING IS COORDINATED AMONG ALL CONSTRUCTION TRADES AND THAT THE ARCHITECT'S AND STRUCTURAL ENGINEER'S COMMENTS FROM ANY PREVIOUS SUBMITTALS ARE ADDRESSED.
3. CONTRACTOR SHALL SUBMIT IN WRITING, ANY REQUEST FOR MODIFICATIONS TO THE PLANS AND SPECIFICATIONS. SHOP DRAWINGS SUBMITTED FOR REVIEW DO NOT CONSTITUTE "IN WRITING" UNLESS IT IS CLEARLY NOTED THAT SPECIFIC CHANGES ARE BEING REQUESTED.
4. REVISIONS FROM PREVIOUS SUBMITTALS SHALL BE CLEARLY MARKED BY CLOUDS.
5. FABRICATION SHALL NOT PROCEED UNTIL SUBMITTALS HAVE BEEN REVIEWED BY THE ENGINEER.

CONTRACTOR'S STATEMENT OF RESPONSIBILTY
EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A SEISMIC OR WIND-FORCE RESISTING SYSTEM OR COMPONENT SHALL ISSUE A WRITTEN STATEMENT OF RESPONSIBILITY IN COMPLIANCE WITH SECTION 1704.4 OF THE CURRENT GOVERNING EDITION OF THE CALIFORNIA BUILDING CODE. THE CONTRACTORS STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION.

PROJECT DESCRIPTION

LEVELS:	2 STORY
FOUNDATION:	CONTINUOUS GRADE BEAMS AND ISOLATED COLUMN FOUNDATIONS & CONCRETE SLAB ON GRADE
FLOOR SYSTEM:	LIGHT WEIGHT CONCRETE OVER STEEL DECK OVER STEEL BEAMS AND GIRDERS
ROOF SYSTEM:	PLYWOOD OVER METAL STUD JOISTS AND STEEL BEAMS
LATERAL FORCE RESISTING SYSTEM:	SPECIAL REINFORCED MASONRY SHEARWALLS & LIGHT FRAME COLD FORMED SHEARWALLS
DIAPHRAGMS:	STEEL DECK AND PLYWOOD DIAPHRAGMS
CHORDS & COLLECTORS:	STEEL BEAMS AND SLAB REINFORCEMENT

PROJECT DATA

1. PLANS AND CALCULATIONS FOR THE STRUCTURAL DESIGN WERE BASED UPON:
   - GOVERNING CODE: 2019 CALIFORNIA BUILDING CODE
   - SOILS REPORT: "GEOTECHINICAL INVESTIGATION REPORT" PROJECT NUMBER: 210377.1 BY TWINING, INC. DATED JULY 1, 2021
2. VERTICAL LOADS:
   FLOOR LIVE LOAD = 50 PSF [REDUCED PER CODE]
   GYM ROOM LIVE LOAD = 100 PSF
   ROOF LIVE LOAD = 20 PSF [REDUCED PER CODE]
   ROOF DEAD LOAD = 23.7 PSF (TYPICAL), 25.5 PSF (@ OVERHANG)
   FLOOR DEAD LOAD = 58.1 PSF (TYPICAL), 59.9 PSF (@ OVERHANG)
3. EARTHQUAKE DESIGN DATA:
   EQUIVALENT LATERAL FORCE PROCEDURE
   $V = \frac{S_{DS}\ I}{R}\ W$
   $S_S = 1.663$; $S_1 = 0.598$
   $S_{DS} = 1.109$; $S_{D1} = 0.679$
   I = 1.5; RISK CATEGORY IV
   SITE CLASS = D; SEISMIC DESIGN CAT = D
   SEISMIC RESISTING SYSTEM: REINFORCED MASONRY SHEARWALL
   R = 5.0 ; $\Omega_o = 2.5$; $C_d = 3.5$

   V = .333 W [LRFD]
4. WIND DESIGN DATA:
   BASIC WIND SPEED = 106 MPH
   RISK CATEGORY IV
   WIND EXPOSURE = C
   INTERNAL PRESSURE COEFFICIENT = +0.18, -0.18
   DESIGN WIND PRESSURE = 25.8 PSF
   WALL COMPONENTS AND CLADDING PRESSURE = +28.9, -38.6 PSF (ZONE 5) [LRFD]
   ROOF COMPONENTS AND CLADDING PRESSURE = +16.0, -46.0 (ZONE 1) PSF [LRFD]

   NOTE: COMPONENTS & CLADDING PRESSURES ABOVE ARE WORST CASE PRESSURES BASED ON 10 SF TRIBUTARY AREA AND MAY BE REDUCED PER ASCE 7. POSITIVE AND NEGATIVE PRESSURES SIGNIFY WIND ACTING TOWARD AND AWAY FROM SURFACES, RESPECTIVELY.
5. FOUNDATION DESIGN CRITERIA:
   BEARING PRESSURES:
   DL + LL 3000 PSF (CONTINUOUS FOOTINGS) & 4000 PSF (SQUARE FOOTINGS)
   TOTAL LOAD 4000 PSF
6. SOLAR PANEL ALLOWANCE:
   THE DESIGN HAS ACCOUNTED FOR FUTURE SOLAR PANELS TO BE LOCATED ON THE ROOFS. HOWEVER A DESIGN OF THE SOLAR PANEL SUPPORT STRUCTURE IS NOT INCLUDED IN THIS CONTRACT.

   MAXIMUM SOLAR PANEL ALLOWANCE = 4 PSF

SHEET INDEX

REGISTERED PROFESSIONAL ENGINEER — DUSTIN G. LEE — No. S6623 EXP. 3/31/25 — STRUCTURAL — STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISION NO.	DATE	SHEET	APPROVAL	DESCRIPTION
1	12/16/2021			PLAN CHECK SUBMITTAL
2	04/22/2022			PLAN CHECK RE-SUBMITTAL
3	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT — MARY C. MCGRATH — C-24435 — REN-08-30-23 — STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807
MATERIAL DATA & PROJECT INFORMATION

B# B-4797
PHASE # ____ REBID # ____
SHEET 109 OF 236
DWG. NO. S001

10/16/2023 8:44:32 AM

TESTING AND SPECIAL INSPECTION

GENERAL

THE OWNER SHALL EMPLOY A SPECIAL INSPECTOR DURING CONSTRUCTION ON THE FOLLOWING TYPES OF WORK.

SPECIAL INSPECTOR
- THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE HIS COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF A PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
- TESTING AND INSPECTIONS WILL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY SELECTED AND EMPLOYED BY THE OWNER AND APPROVED BY THE BUILDING OFFICIAL. PROCEDURAL AND ACCEPTANCE CRITERIA ARE SET FORTH IN THE 2019 CALIFORNIA BUILDING CODE (CBC) SEC. 1704.

DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR
- THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPLICABLE PROJECT DRAWINGS AND SPECIFICATIONS.
- THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE OWNER OR OWNER'S DESIGNATED REPRESENTATIVE, THE ARCHITECT OR PROJECT MANAGER, THE STRUCTURAL ENGINEER OF RECORD, THE CONTRACTOR AND OTHER PERSONS DESIGNATED BY THE OWNER OR OWNER'S REPRESENTATIVE. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN IF UNCORRECTED, TO THE PROPER DESIGN AUTHORITY AND TO THE BUILDING OFFICIAL.
- THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE CBC.

SOILS & FOUNDATIONS

SOILS
- PERIODICALLY INSPECT MATERIALS BELOW FOOTING FOR BEARING CAPACITY.
- PERIODICALLY INSPECT EXCAVATIONS FOR PROPER DEPTH.
- PERIODICALLY PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS.
- CONTINUOUSLY VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL.
- PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY SITE HAS BEEN PREPARED PROPERLY.

FOUNDATIONS

PRIOR TO THE CONTRACTOR REQUESTING A BUILDING DEPARTMENT FOUNDATION INSPECTION, THE SOILS ENGINEER SHALL ADVISE THE BUILDING DEPARTMENT OF THE FOLLOWING IN WRITING:
- THAT THE BUILDING PAD WAS PREPARED IN ACCORDANCE WITH THE SOILS REPORT.
- THAT THE UTILITY TRENCHES HAVE BEEN PROPERLY BACKFILLED AND COMPACTED.
- THAT THE FOUNDATION COMPLY WITH THE SOILS REPORT AND THE APPROVED PLANS.

CONCRETE & REINFORCING

REINFORCING STEEL
- VERIFY THAT MILL CERTIFICATES SHOW REINFORCING STEEL IS IN COMPLIANCE WITH PROJECT SPECIFICATIONS.
- TAKE A 5' LONG SAMPLE OF EACH BAR SIZE FROM EACH HEAT FOR EACH TYPE OF REINFORCING STEEL SHALL BE TESTED FOR ULTIMATE STRENGTH, YIELD STRESS, MODULUS OF ELASTICITY AND PERCENT ELONGATION AT RUPTURE.
- PERIODICALLY INSPECT THE PLACEMENT OF REINFORCING STEEL FOR SHOTCRETE, FOR CONCRETE WHICH IS REQUIRED TO HAVE CONTINUOUS INSPECTION AND FOR MASONRY.
- CONTINUOUSLY INSPECT THE INSTALLATION OF ALL MECHANICAL COUPLING DEVICES.

BOLTS INSTALLED IN CONCRETE
- PERIODICALLY INSPECT INSTALLATION OF BOLTS AND CONTINUOUSLY INSPECT PLACEMENT OF CONCRETE AROUND SUCH BOLTS.

CONCRETE
- CONTINUOUSLY INSPECT THE PLACEMENT OF ALL CONCRETE EXCEPT PERIODIC INSPECTION MAY BE PROVIDED FOR THE PLACEMENT OF CONCRETE FOR FOUNDATIONS WITH f'c EQUAL TO 2500 PSI OR LESS AND NON-STRUCTURAL SLABS ON GRADE.
- SAMPLE CONCRETE: ASTM C172, EXCEPT SLUMP SHALL COMPLY WITH ASTM C94.
- TEST SLUMP: ASTM C143, ONE TEST AT POINT OF TRUCK DISCHARGE FOR 150 CY OR FRACTION THEREOF FOR EACH TYPE OF CONCRETE; ADDITIONAL TESTS REQUIRED WHEN CONCRETE CONSISTENCY SEEMS TO HAVE CHANGED.
- TEST AIR CONTENT: ASTM C173, VOLUMETRIC METHOD FOR LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE, ONE FOR EACH 150 CY PLACED OR FRACTION THEREOF FOR EACH TYPE OF AIR-ENTRAINED CONCRETE.
- TEST CONCRETE TEMPERATURE: TEST HOURLY WHEN AIR TEMPERATURE IS 50 DEGREES F. (10 DEGREES C.) AND BELOW, AND WHEN 85 DEGREES F. (29 DEGREES C.) AND ABOVE; AND EACH TIME A SET OF COMPRESSION TEST SPECIMENS ARE MADE.
- TAKE COMPRESSION TEST SPECIMENS: ASTM C31, TAKE ONE SET OF 3 STANDARD CYLINDERS FOR EACH 150 CY OF CONCRETE OR 5000 SQ. FT. OF SLABS & WALLS OR FRACTION THEREOF FOR EACH TYPE OF CONCRETE TAKEN EACH DAY. MOLD AND STORE CYLINDERS FOR LABORATORY CURED TEST SPECIMENS EXCEPT WHEN FIELD-CURE TEST SPECIMENS ARE REQUIRED.
- TAKE FIELD CURED COMPRESSION TEST SPECIMENS: ASTM C31, TAKE ONE SET OF 3 STANDARD CYLINDERS FOR EACH 150 CY OF CONCRETE OR 5000 SQ. FT . OF SLABS & WALLS OR FRACTION THEREOF FOR EACH TYPE OF CONCRETE PLACED EACH DAY; WHEN THE CONTRACTOR PLANS TO REMOVE FORM WORK, FALSE WORK OR SHORING SOONER THAN 7 DAYS FOR VERTICAL FORM WORK AND 14 DAYS FOR SHORING AND FALSE WORK; OR WHEN POST-TENSIONING IS REQUIRED.
- TEST COMPRESSIVE STRENGTH: ASTM C39; ONE SPECIMEN TESTED AT 7 DAYS, TWO SPECIMENS TESTED AT 28 DAYS.
- TEST DRYING SHRINKAGE: ASTM C157, TAKE 1 SET OF 3 DRYING SHRINKAGE SAMPLES FOR EACH DAY'S POUR OF SLABS ON GRADE, SUSPENDED SLABS, AND POST-TENSIONED CONCRETE SLABS.

NON-SHRINK GROUT
- TAKE TEST SPECIMENS AND CONTINUOUSLY INSPECT THE PLACEMENT OF NON-SHRINK GROUT.

MASONRY

STRUCTURAL MASONRY (LEVEL C INSPECTION)
- VERIFY THAT LETTERS OF CERTIFICATION FOR UNITS AND GROUT ARE IN COMPLIANCE WITH THE PROJECT SPECIFICATIONS AND PROJECT SUBMITTALS.
- PERIODICALLY INSPECT THE PLACING CONCRETE MASONRY UNITS, PROPORTIONS OF SITE-PREPARED MORTAR, CONSTRUCTION OF MORTAR JOINTS, AND LOCATION OF REINFORCEMENT.
- PERIODICALLY INSPECT SIZE OF STRUCTURAL ELEMENTS AND REINFORCEMENT SIZE, GRADE AND TYPE.
- CONTINUOUSLY INSPECT INSTALLATION OF ANCHOR ASSEMBLIES.
- PRIOR TO GROUTING, VERIFY GROUT SPACE IS CLEAN.
- CONTINUOUSLY INSPECT GROUT PLACEMENT.
- TEST GROUT TEMPERATURE HOURLY WHEN AIR TEMPERATURE IS 40 DEGREES F. AND BELOW, AND WHEN 90 DEGREES F. AND ABOVE.
- CONTINUOUSLY INSPECT PREPARATION OF REQUIRED PRISMS.
- TEST 3 PRISMS FOR EACH 5000 SQUARE FEET OF WALL.

POST INSTALLED ANCHORS

POST-INSTALLED ANCHORS *(NON-DSA SECTION)*
- THE SPECIAL INSPECTOR SHALL VERIFY THE INSPECTION REQUIREMENTS WITH THE ICC REPORT FOR EACH ANCHOR TYPE.
- THE SPECIAL INSPECTOR SHALL VERIFY THE INITIAL INSTALLATIONS OF EACH TYPE AND SIZE OF ANCHOR BY CONSTRUCTION PERSONNEL.
- PERIODICALLY INSPECT PLACEMENT OF POST-INSTALLED ANCHORS.
- CONTINUOUSLY INSPECT PLACEMENT OF OVERHEAD (VERTICAL UP) POST-INSTALLED ANCHORS.
- THE SPECIAL INSPECTOR SHALL VERIFY THE FOLLOWING AND RECORD THE INSTALLATION IN THE INSPECTION REPORT:
  1. ANCHOR TYPE, SIZE, AND DIMENSIONS.
  2. HOLE DIMENSIONS AND CLEANLINESS.
  3. ANCHOR SPACING.
  4. EDGE DISTANCE.
  5. ANCHOR EMBEDMENT.
  6. TORQUE VALUE (AS APPLICABLE).
  7. ADHESIVE TYPE AND EXPIRATION (AS APPLICABLE).
  8. ADHESIVE ANCHOR INSTALLER CERTIFICATION (AS APPLICABLE).

STRUCTURAL STEEL

STRUCTURAL STEEL AND MISCELLANEOUS IRON
- VERIFY THAT MILL CERTIFICATES SHOW STRUCTURAL STEEL AND MISCELLANEOUS IRON IS IN COMPLIANCE WITH PROJECT SPECIFICATIONS.

METAL DECK
- VERIFY THAT MILL CERTIFICATES SHOW METAL DECK IS IN COMPLIANCE WITH PROJECT SPECIFICATIONS.
- TAKE COUPON SAMPLES FOR EACH 5000 SQUARE FEET OF EACH TYPE OF METAL DECK WITH A MINIMUM OF ONE SAMPLE FROM EACH LOT.
- TEST EACH SAMPLE OF METAL DECK FOR ULTIMATE STRENGTH AND YIELD STRESS.
- PERIODICALLY INSPECT THE PLACEMENT OF ALL METAL DECK PRIOR TO METAL DECK BEING COVERED.

HIGH STRENGTH BOLTING

PRIOR TO BOLTING OPERATIONS:
- VERIFY THAT MILL CERTIFICATES SHOW THAT BOLTS, NUTS AND WASHERS COMPLY WITH THE PROJECT SPECIFICATIONS
- VERIFY THAT THE METHODS OF TIGHTENING TO BE USED BY THE CONTRACTOR COMPLY WITH AISC "SPECIFICATIONS FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS" - CURRENT EDITION APPROVED BY THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS OF THE ENGINEERING FOUNDATION (RCSC) AND ENDORSED BY AISC.
- PERFORM TENSION CALIBRATION TESTS WITH THE CONTRACTOR'S TOOLS ON 3 BOLT ASSEMBLIES FOR EACH DIAMETER, LENGTH, GRADE, PRODUCTION LOT AND TIGHTENING METHOD TO BE USED ON THE PROJECT INCLUDING PRETENSIONED ANCHOR RODS. TESTS SHALL BE PER RCSC SPECIFICATIONS.
- INSPECT THE FAYING SURFACES OF EACH BOLTED CONNECTION FOR COMPLIANCE WITH RCSC SPECIFICATIONS.

DURING BOLTING OPERATIONS:
- VERIFY THAT ALL PLIES OF CONNECTED MATERIAL HAVE BEEN DRAWN TOGETHER TO A SNUG CONDITION AS DEFINED PER RCSC SPECIFICATIONS BEFORE FINAL TIGHTENING.
- VERIFY PLACEMENT OF MATCH-MARKS OR WRENCH CALIBRATION AS REQUIRED.
- CONTINUOUSLY INSPECT FINAL TIGHTENING OPERATIONS PER RCSC SPECIFICATIONS.

EXCEPTIONS:
- THE SPECIAL INSPECTOR NEED NOT BE PRESENT DURING ALL FINAL TIGHTENING OPERATIONS PROVIDED IT CAN BE VERIFIED THAT PROPER PROCEDURES WERE FOLLOWED (I.E. THE USE OF DTI's, "TWIST-OFF" TYPE BOLTS OR MATCH MARKING).

THREADED ROD COUPLERS
- INSPECT SPLICING OF THREADED RODS
- INSPECT BAR THREAD QUALITY

WELDING
- VERIFY WELDER CERTIFICATIONS, COMPLIANCE WITH WELDING PROCEDURE SPECIFICATIONS AND POR (IF APPLICABLE).
- CONTINUOUSLY INSPECT ALL STRUCTURAL WELDING, INCLUDING WELDING OF REINFORCING STEEL.

EXCEPTIONS:
- SINGLE PASS FILLET WELDS NOT EXCEEDING 5/16" MAY HAVE PERIODIC INSPECTION.
- FLOOR AND ROOF DECK WELDING MAY HAVE PERIODIC INSPECTION.
- WELDED STUDS USED FOR DIAPHRAGM OR COMPOSITE CONSTRUCTION MAY HAVE PERIODIC INSPECTION.
- WELDED SHEET STEEL FOR COLD FORMED STEEL FRAMING MAY HAVE PERIODIC INSPECTION.
- WELDED STAIRS AND RAILING SYSTEMS MAY HAVE PERIODIC INSPECTION.

NONDESTRUCTIVE TESTING:
- MAGNETIC PARTICLE TESTING OF 100% OF WEBS WHERE WELDING OF PLATES HAS OCCURRED IN THE K-AREA.
- ULTRASONIC TESTING OF 100% OF COMPLETE JOINT PENETRATION GROOVE WELDS ON MATERIALS 5/16" THICK AND GREATER.
- MAGNETIC PARTICLE TESTING OF 25% OF COMPLETE JOINT PENETRATION GROOVE WELDS OF BEAM TO COLUMN JOINTS.
- ULTRASONIC TESTING OF 100% OF COMPLETE JOINT PENETRATION GROOVE WELDS ON TEE AND CORNER JOINTS WHERE MATERIAL THICKER THAN 3/4" IS CONNECTED TO BASE METAL THICKER THAN 1-1/2".

EXCEPTION:
- THE RATE OF TESTING FOR ULTRASONIC WELDS MAY BE REDUCED TO 25% IF THE FAILURE RATE MEETS THE REQUIREMENTS OF AISC 341 APPENDIX Q.

AUTOMATIC END – WELDED STUDS
- THE SPECIAL INSPECTOR SHALL VERIFY THE FOLLOWING WITH THE MANUFACTURER'S RECOMMENDATIONS AND PROJECT SPECIFICATIONS. RECORD THE INSTALLATION IN THE INSPECTION REPORT:

1. STUD TYPE, SIZE, AND CLEARANCES TO EDGES AND ADJACENT STUDS.
2. TYPE OF WELDING EQUIPMENT.
3. WELDER'S QUALIFICATIONS.
4. WELDING PROCEDURE.
5. WELD JOINT PREPARATION.

- PERIODICALLY INSPECT INSTALLATION OF STUDS.
- TEST STUDS PER THE REQUIREMENTS OF AWS D1.1, AISC 360, AND THE STUD'S ICC REPORT. PERFORM TORQUE TEST FOR TYPE A STUDS AND BEND TESTS FOR TYPE B STUDS.
- TEST STUDS WITH THE FOLLOWING FREQUENCY:

1. AT THE BEGINNING OF EACH DAY'S WORK, A MINIMUM OF TWO TEST STUD WELDS SHALL BE MADE WITH THE EQUIPMENT TO BE USED TO METAL WHICH IS THE SAME AS ACTUAL WORK PIECE.
2. AT ANY CHANGE IN WELDING SETUP OR PERSONNEL, RETEST TWO STUDS PRIOR TO PRODUCTION WORK.

LIGHT GAGE METAL FRAMING
- VERIFY THAT MILL CERTIFICATES SHOW STRUCTURAL STEEL AND MISCELLANEOUS IRON USED IN FABRICATION OF LIGHT GAGE METAL FRAMING IS IN COMPLIANCE WITH PROJECT SPECIFICATIONS.

LIGHT GAGE METAL FRAMING PLYWOOD DIAPHRAGMS & SHEARWALLS
- PERIODICALLY INSPECT INSTALLATION OF ANY DIAPHRAGMS & SHEARWALLS, PORTION REQUIRING TWO ROW OR THREE ROW FASTENING/SCREWING, DOUBLE SIDED PLYWOOD SHEATHING, OR FASTENING/SCREWING @ 4" OC OR LESS, INCLUDING FASTENING OF PLYWOOD, BOLTING OF ANCHORS & HOLDOWNS, & FASTENING OF STRAPS.

ABBREVIATIONS

ABBREVIATIONS

@	AT
ø	DIAMETER
#	NUMBER
AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
ALT	ALTERNATE
APPROX	APPROXIMATE(LY)
ARCH	ARCHITECT(URAL)
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BN	BOUNDARY NAILING
BOF	BOTTOM OF FOOTING
BOT	BOTTOM
BVC	BEGIN VERTICAL CURVE
C-C	CENTER TO CENTER
CL	CENTERLINE
CF	CUBIC FOOT
CIDH	CAST IN DRILLED HOLE
CIP	CAST IRON PIPE
CJ	CONSTRUCTION JOINT
CJP	COMPLETE JOINT PENETRATION
CLG	CEILING
CLR	CLEAR. CLEARANCE
CMP	CORRUGATED STEEL PIPE
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
COORD	COORDINATE
CSK	COUNTERSINK
CY	CUBIC YARD
DBL	DOUBLE
DCW	DEMAND CRITICAL WELD
DET	DETAIL
DF	DOUGLAS FIR
DIAG	DIAGONAL
Ø	DIAMETER
DIST	DISTANCE
DL	DEAD LOAD
DN	DOWN
DO	DITTO
DWG	DRAWING
(E)	EXISTING
EA	EACH
EC	END HORIZONTAL CURVE
ECR	END CURB RETURN
EL	ELEVATION
ELEV	ELEVATOR
EMB	EMBANKMENT
EN	EDGE NAILING
EQ	EQUAL
EVC	END VERTICAL CURVE
EW	EACH WAY
EXIST	EXISTING
EXP	EXPRESSWAY
FBC	FRAMED BEAM CONNECTION
FG	FINISHED GRADE
FIN	FINISH(ED)
FL	FLOW LINE
FND	FOUNDATION
FOC	FACE OF CONCRETE
FOHC	FREE OF HEART CENTER
FOM	FACE OF MASONRY
FOS	FACE OF STUD(S)
FP	FULL PENETRATION
FS	FAR SIDE
FTG	FOOTING
Ga	GAUGE
GALV	GALVANIZED
GLB	GLUE LAMINATED BEAM
H or HT	HEIGHT
HDR	HEADER
HEX	HEXAGONAL
HGR	HANGER
HORIZ	HORIZONTAL
HS	HIGH STRENGTH
HSB	HIGH STRENGTH BOLT
HSS	HOLLOW STRUCTURAL SECTION
ID	INSIDE DIAMETER
INSP	INSPECTION/INSPECTOR
INSUL	INSULATION
JT	JOINT
KIPS	ONE THOUSAND POUNDS
LBS	POUNDS
LF	LINEAR FOOT
LGS	LIGHT GAUGE STEEL
LL	LIVE LOAD
LLBB	LONG LEGS BACK TO BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION
LOL	LAYOUT LINE
LONGIT	LONGITUDINAL
LS	LAG SCREW(S)
LT	LEFT
LW	LIGHT WEIGHT
MAX	MAXIMUM
MB	MACHINE BOLT(S)
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM, MINUTES
MISC	MISCELLANEOUS
MOD	MODIFIED OR MODIFY
(N)	NEW
NIC	NOT IN CONTRACT
No.	NUMBER
Ø	NOMINAL DIAMETER
NOM	NOMINAL
NS	NEAR SIDE
NTS	NOT TO SCALE
O.C.	ON CENTER
OD	OUTSIDE DIAMETER
OG	ORIGINAL GROUND
OH	OPPOSITE HAND
OPP	OPPOSITE
OWSJ	OPEN WEB STEEL JOIST
PL	STEEL PLATE
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVE OR PORTLAND CEMENT CONCRETE
PCP	PERFORATED CONCRETE PIPE
PCVC	POINT OF COMPOUND VERTICAL CURVE
PDF	POWDER DRIVEN FASTENER
PG	PROFILE GRADE
PI	POINT OF INTERSECTION
PJP	PARTIAL JOINT PENETRATION
P/L	PROPERTY LINE
PL	PLATE
PLY	PLYWOOD
POC	POINT ON HORIZONTAL CURVE
POT	POINT ON TANGENT
POVC	POINT ON VERTICAL CURVE
PRC	POINT OF REVERSE CURVE
PRVC	POINT OF REVERSE VERTICAL CURVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT OR POST TENSION
PTDF	PRESSURE TREATED DOUGLAS FIR
PVC	POLYVINYL CHLORIDE
RAD or R	RADIUS
RCP	REINFORCED CONCRETE PIPE
REINF	REINFORCED, REINFORCING
REQ'D	REQUIRED
REV	REVISION
RS	ROUGH SAWN
RT	RIGHT
RW	RETAINING WALL
RWD	REDWOOD
R/W	RIGHT OF WAY
SAD	SEE ARCHITECTURAL DRAWINGS
SCHED	SCHEDULE
SEC	SECTION
SHT	SHEET
SHTG	SHEATHING
SIM	SIMILAR
SLRS	SEISMIC LOAD RESISTING SYSTEM
SM	SHEET STEEL
SMS	SHEET STEEL SCREW
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
SQFT	SQUARE FOOT
SQYD	SQUARE YARD
STAG	STAGGERED
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
STS	SELF TAPPING SCREW
SYM	SYMMETRICAL
T&G	TONGUE AND GROOVE
TBR	TO BE REMOVED
TEMP	TEMPORARY
TO	TOP OF
TOF	TOP OF FOOTING
TOP	TOP OF PLATE
TOS	TOP OF SLAB OR STEEL
TOW	TOP OF WALL
TRANS	TRANSVERSE
TYP	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VC	VERTICAL CURVE
VERT	VERTICAL
W/	WITH
WF	WIDE FLANGE
WP	WATERPROOF or WORKPOINT
WT	WEIGHT
WWF	WELDED WIRE FABRIC

STRUCTURAL OBSERVATION

REQUIRED OBSERVATION BY THE STRUCTURAL ENGINEER OF RECORD
1. FOUNDATION REINFORCING.
2. CMU CONSTRUCTION PRIOR TO GROUTING.
3. STEEL ERECTION.
4. STEEL DECK PLACEMENT, PRIOR TO CONCRETE TOPPING.
5. PLYWOOD SHEATHING AND NAILING.

.

CONTRACTOR SHALL NOTIFY ENGINEER A MINIMUM OF 2 WORKING DAYS PRIOR TO THE TIME WHEN HIS PRESENCE IS REQUIRED. PLEASE NOTE THAT THESE OBSERVATIONS ARE INDEPENDENT OF INSPECTIONS REQUIRED BY THE BUILDING DEPARTMENT.

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
				REVISION
1	12/16/2021			PLAN CHECK SUBMITTAL
2	04/22/2022			PLAN CHECK RE-SUBMITTAL
3	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: **DGL**
DRAWN BY: **DAA**
DESIGN CHECK BY: **DGL/JPJ**
DRAWN CHECK BY: **DGL/JPJ**

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807
TESTING & SPECIAL INSPECTIONS

B# **B-4797**

PHASE # ____ REBID # ____

SHEET **110** OF **236**

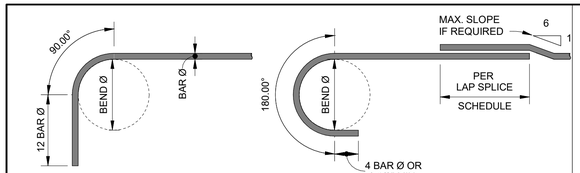
DWG. NO. **S002**

REGISTERED PROFESSIONAL ENGINEER DUSTIN G. LEE No. S6623 EXP. 3/31/25 STRUCTURAL STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

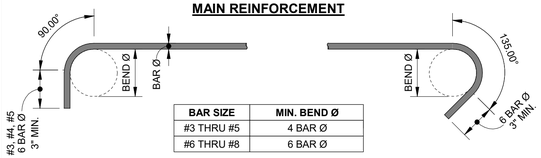
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 8:44:33 AM



BAR SIZE	MIN. BEND Ø
#3 THRU #8	6 BAR Ø
#9 THRU #11	8 BAR Ø

MAIN REINFORCEMENT



BAR SIZE	MIN. BEND Ø
#3 THRU #5	4 BAR Ø
#6 THRU #8	6 BAR Ø

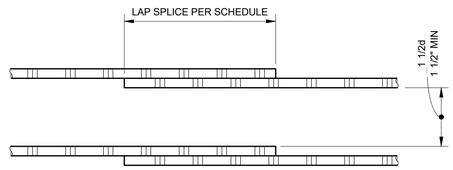
STIRRUPS & TIES

REINFORCING BAR HOOKS — 1 / S101

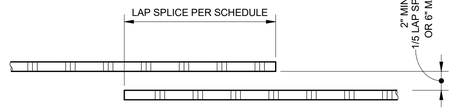
1 1/2" = 1'-0"

MINIMUM LAP SPLICE SCHEDULE			
BAR SIZE	POSITION	LAP SPLICE LENGTH IN INCHES	
		CLASS A	CLASS B
#3	TOP	24	28
	BOTTOM	24	24
#4	TOP	29	38
	BOTTOM	24	29
#5	TOP	36	47
	BOTTOM	28	36
#6	TOP	43	56
	BOTTOM	33	43
#7	TOP	63	81
	BOTTOM	48	63
#8	TOP	72	93
	BOTTOM	55	72
#9	TOP	81	105
	BOTTOM	62	81
#10	TOP	91	118
	BOTTOM	70	91
#11	TOP	101	131
	BOTTOM	78	101

NOTES:
1. LAP SPLICE LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
2. LAP SPLICES SHALL BE CONTACT (CLASS B) FOR CAST-IN-PLACE CONCRETE UNLESS NOTED OTHERWISE.
3. TOP BARS ARE HORIZONTAL BARS WITH 12 INCHES OR MORE OF FRESH CONCRETE BELOW THE BAR.
4. WHEN TWO BARS OF DIFFERENT SIZE ARE SPLICED, USE THE LARGER LAP LENGTH.
5. STAGGER LAP SPLICES WHERE POSSIBLE. WHERE CLASS A SPLICES ARE CALLED OUT ON THE DRAWINGS, STAGGER LAP SPLICES 24 INCHES FOR ADJACENT BARS.
6. LAP SPLICES NOTED ARE FOR NORMAL WEIGHT CONCRETE. LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.3 FOR LIGHTWEIGHT CONCRETE.
7. NO SPLICES ARE ALLOWED FOR #14 AND #18 REINFORCEMENT.
8. BAR DEVELOPMENT LENGTHS EQUAL CLASS A LAP SPLICE LENGTHS.
9. ENTIRE BUNDLED BARS SHALL NOT BE LAP SPLICED. LAP SPLICES OF INDIVIDUAL BARS WITHIN THE BUNDLE SHALL NOT OVERLAP.
10. AT CONTRACTOR'S OPTION, MECHANICAL COUPLERS MAY BE SUBSTITUTED FOR LAP SPLICES. MECHANICAL COUPLERS SHALL HAVE AN ICC REPORT AND SHALL DEVELOP 125% OF THE YIELD STRENGTH OF THE BAR.
11. LAP SPLICES OF REINFORCING BARS IN SHOTCRETE SHALL UTILIZE THE NONCONTACT LAP SPLICE METHOD WITH A MINIMUM CLEARANCE OF 2 INCHES BETWEEN BARS. THE USE OF CONTACT LAP SLICES NECESSARY FOR SUPPORT OF THE REINFORCING IS PERMITTED WHEN APPROVED BY THE BUILDING OFFICIAL.



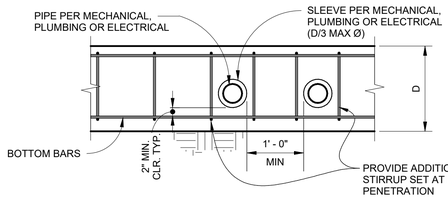
CONTACT SPLICE



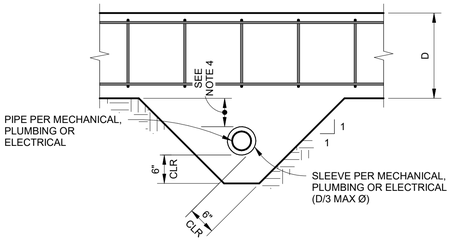
NON - CONTACT SPLICE

LAP SPLICE SCHEDULE FOR CONCRETE — 2 / S101

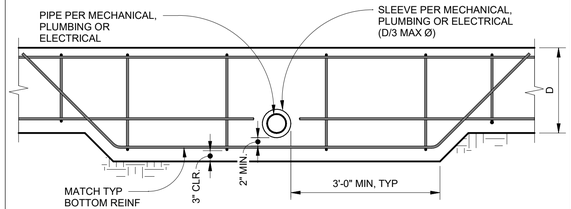
1" = 1'-0"



CLEAR OF TOP & BOTTOM REINFORCING



BELOW BOTTOM REINFORCING



AT BOTTOM REINFORCING

NOTES:
1. SLEEVE ID 2" LARGER THAN PIPE OD OR BELL OD.
2. SEAL VOID BETWEEN PIPE AND SLEEVE WITH ELASTIC WATERPROOF MATERIAL, TYP.
3. DETAIL APPLICABLE TO MAXIMUM 8"Ø SLEEVE.
4. NO FTG EXTENSION REQ'D FOR PIPE DEEPER THAN 12" BELOW FTG (SLEEVE STILL REQ'D).
5. WHERE PENETRATION CONFLICTS WITH REBAR TIE, OMIT TIE & PROVIDE 1 ADDITIONAL TIE EACH SIDE OF SLEEVE.

FOOTING PENETRATIONS — 6 / S101

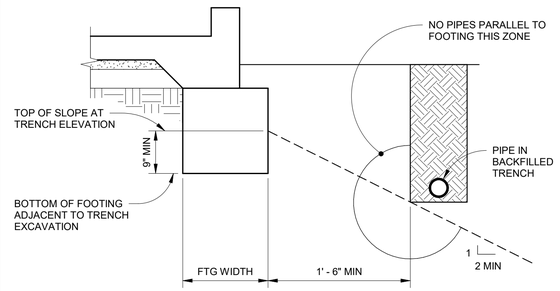
3/4" = 1'-0"

MINIMUM CONCRETE COVER SCHEDULE	
ELEMENT	CLEAR COVER
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER: #5 AND SMALLER #6 AND LARGER	 1 1/2" 2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND: SLABS, WALLS & JOISTS: #11 AND SMALLER #14 AND #18 BEAMS & COLUMNS PRIMARY REINFORCEMENT, TIES, STIRRUPS, & SPIRALS SHELLS & FOLDED PLATE MEMBERS #5 AND SMALLER #6 AND LARGER	 3/4" 1 1/2" 1 1/2" 1/2" 3/4"

NOTES:
1. COVERS NOTED SHALL BE USED UNLESS NOTED OTHERWISE ON THE CONTRACT DOCUMENTS.
2. COVERS NOTED ARE FOR CAST-IN-PLACE, NON-PRESTRESSED MEMBERS.
3. MINIMUM CLEAR COVER FOR BUNDLED BARS SHALL BE THE LESSER OF THE EQUIVALENT DIAMETER OF THE BUNDLE AND 2".

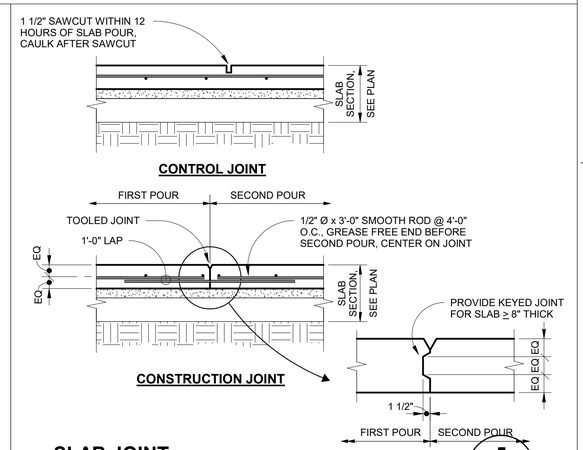
MINIMUM CONCRETE COVER SCHEDULE — 3 / S101

1" = 1'-0"



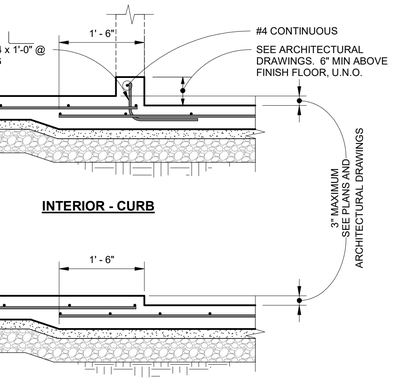
EXCAVATION PARALLEL TO FTG — 4 / S101

3/4" = 1'-0"



SLAB JOINT — 5 / S101

3/4" = 1'-0"

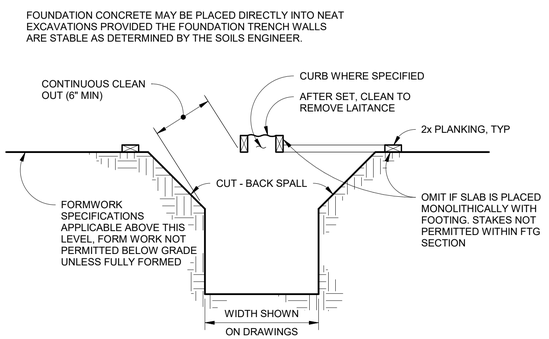


INTERIOR - CURB

INTERIOR - NO CURB

SLAB DEPRESSION — 7 / S101

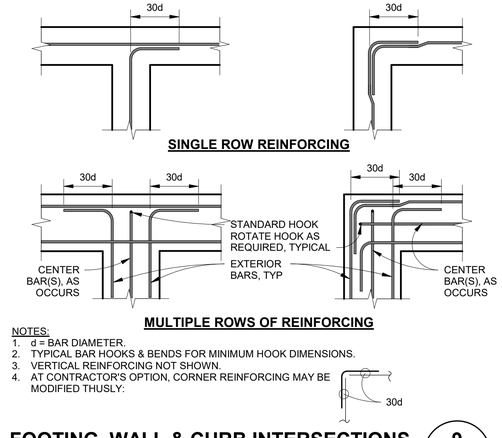
3/4" = 1'-0"



MANDATORY MIN FORMWORK (UNLESS FULLY FORMED)

FORMING DETAIL — 8 / S101

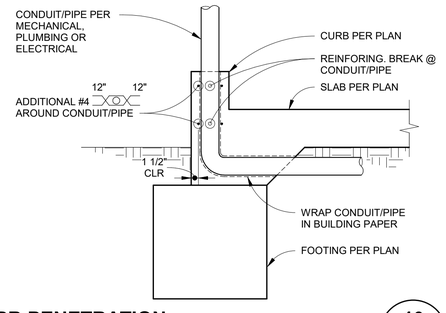
3/4" = 1'-0"



NOTES:
1. d = BAR DIAMETER.
2. TYPICAL BAR HOOKS & BENDS FOR MINIMUM HOOK DIMENSIONS.
3. VERTICAL REINFORCING NOT SHOWN.
4. AT CONTRACTOR'S OPTION, CORNER REINFORCING MAY BE MODIFIED THUSLY:

FOOTING, WALL & CURB INTERSECTIONS — 9 / S101

3/4" = 1'-0"



CURB PENETRATION — 10 / S101

3/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER — DUSTIN G. LEE — No. 58623 EXP. 3/31/25 — STRUCTURAL — STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISION				
NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

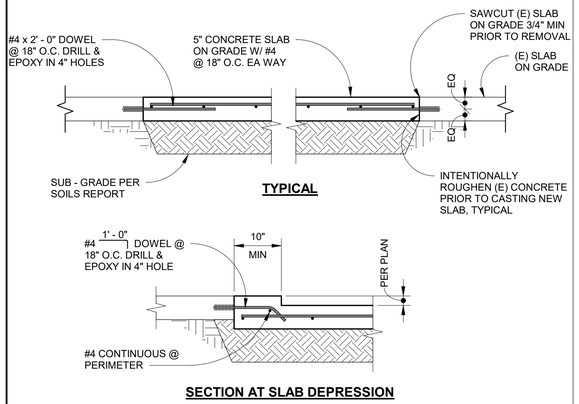
DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT — MARY C. MCGRATH — C-24435 — REN-08-30-23 — STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807
TYPICAL CONCRETE DETAILS No. 1

B# B-4797
PHASE # ____ REBID # ____
SHEET 111 OF 236
DWG. NO. S101

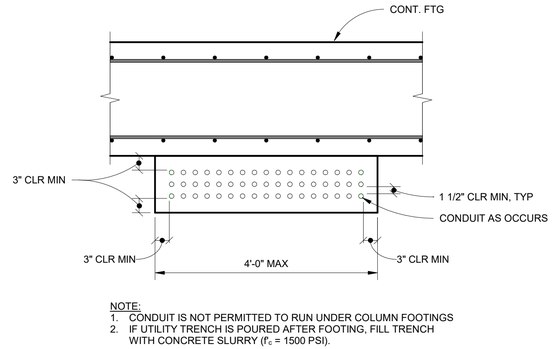
10/16/2023 8:44:35 AM



SLAB INFILL

3/4" = 1'-0"

1 S102

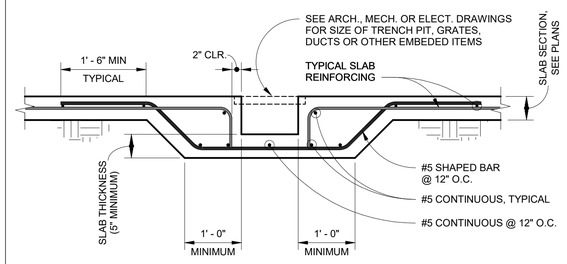


NOTE:
1. CONDUIT IS NOT PERMITTED TO RUN UNDER COLUMN FOOTINGS
2. IF UTILITY TRENCH IS POURED AFTER FOOTING, FILL TRENCH WITH CONCRETE SLURRY (f'_c = 1500 PSI).

CONDUITS UNDER FOOTING

3/4" = 1'-0"

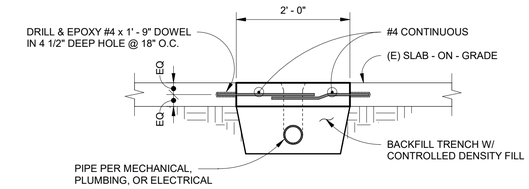
2 S102



SLAB TRENCH / PIT

3/4" = 1'-0"

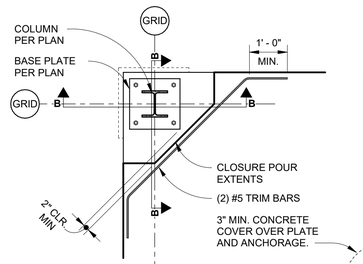
3 S102



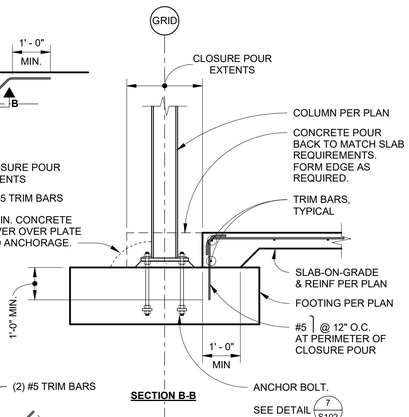
SLAB TRENCH INFILL

3/4" = 1'-0"

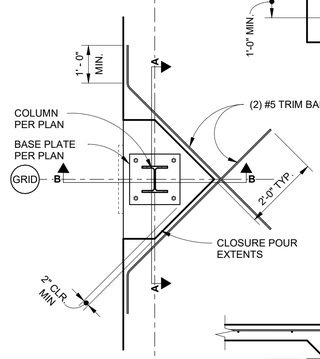
4 S102



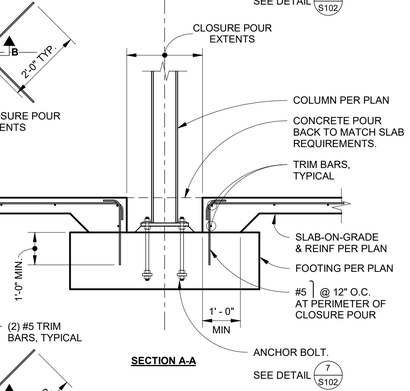
CORNER COLUMN



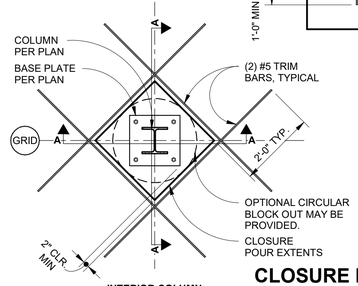
SECTION B-B



EDGE COLUMN



SECTION A-A

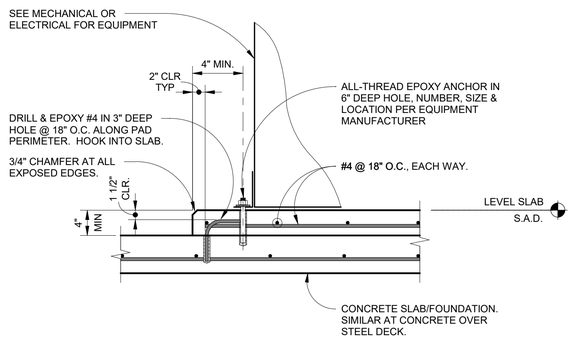


INTERIOR COLUMN

CLOSURE POUR DETAIL

1/2" = 1'-0"

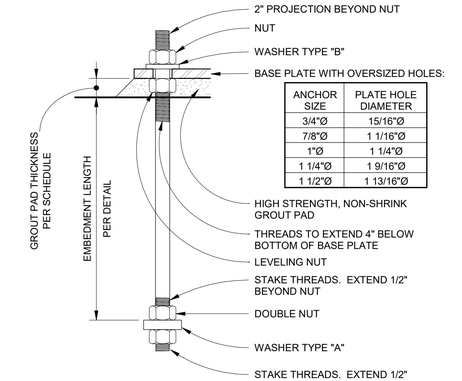
5 S102



HOUSEKEEPING PAD

1" = 1'-0"

6 S102



ANCHOR SIZE	PLATE HOLE DIAMETER
3/4"Ø	15/16"Ø
7/8"Ø	1 1/16"Ø
1"Ø	1 1/4"Ø
1 1/4"Ø	1 9/16"Ø
1 1/2"Ø	1 13/16"Ø

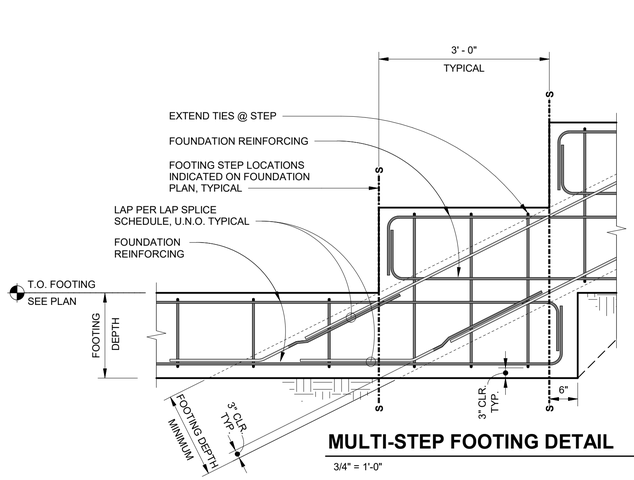
ANCHOR ROD		WASHER [1]		HEX NUT	GROUT PAD THICKNESS
SIZE	MATERIAL	TYPE	SIZE		
3/4"Ø	F1554 GRADE 36	A	3"x1/2"x0'-3" PLATE W/ 13/16"Ø HOLE CENTERED	ASTM A563	1.5"
		B [2]	2"x1/4" PLATE* W/ 13/16"Ø HOLE CENTERED		
1"Ø	F1554 GRADE 36	A	3"x3/4"x0'-3" PLATE W/ 1 1/16"Ø HOLE CENTERED	ASTM A563	1.5"
		B [2]	3"x3/8" PLATE* W/ 1 1/16"Ø HOLE CENTERED		

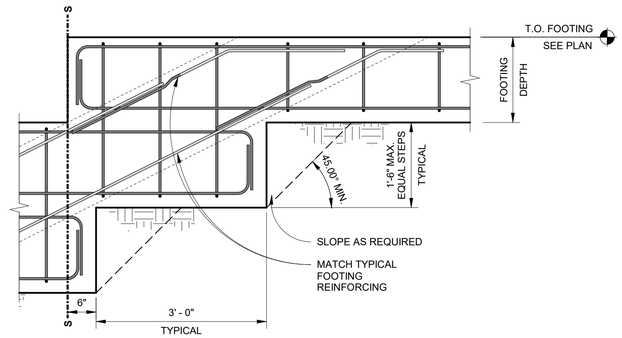
1. CIRCULAR OR SQUARE WASHERS MEETING THE WASHER SIZE ARE ACCEPTABLE.

ANCHOR BOLT

1 1/2" = 1'-0"

7 S102





MULTI-STEP FOOTING DETAIL

3/4" = 1'-0"

8 S102

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
1	12/16/2021			PLAN CHECK SUBMITTAL
2	04/22/2022			PLAN CHECK RE-SUBMITTAL
3	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD. LONG BEACH, CA 90807

TYPICAL CONCRETE DETAILS No. 2

B# B-4797

PHASE # ____ REBID # ____

SHEET 112 OF 236

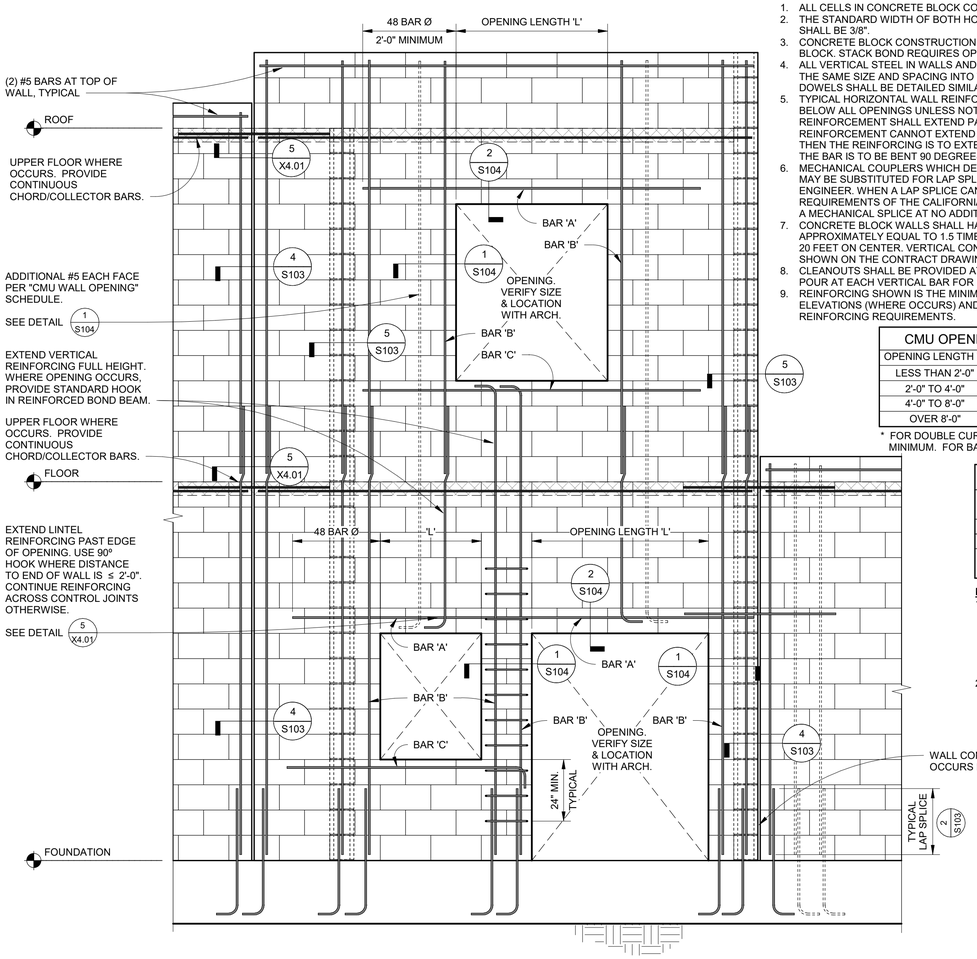
DWG. NO. S102

REGISTERED PROFESSIONAL ENGINEER DUSTIN G. LEE No. 58623 EXP. 3/31/25 STRUCTURAL STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 8:44:37 AM



WALL ELEVATION

1/2" = 1'-0"

1 / S103

REINFORCED STRUCTURAL MASONRY NOTES:

1. ALL CELLS IN CONCRETE BLOCK CONSTRUCTION SHALL BE FULLY GROUTED.
2. THE STANDARD WIDTH OF BOTH HORIZONTAL AND VERTICAL MORTAR JOINTS SHALL BE 3/8".
3. CONCRETE BLOCK CONSTRUCTION SHALL BE RUNNING BOND WITH OPEN ENDED BLOCK. STACK BOND REQUIRES OPEN ENDED BLOCK AT ALL BOND BEAM UNITS.
4. ALL VERTICAL STEEL IN WALLS AND COLUMNS SHALL BE LAPPED WITH DOWELS OF THE SAME SIZE AND SPACING INTO THE FOOTING UNLESS NOTED OTHERWISE. DOWELS SHALL BE DETAILED SIMILAR TO TYPICAL WALL DOWELS.
5. TYPICAL HORIZONTAL WALL REINFORCEMENT SHALL BE INSTALLED ABOVE AND BELOW ALL OPENINGS UNLESS NOTED OTHERWISE ON THE DRAWINGS. REINFORCEMENT SHALL EXTEND PAST OPENINGS 48 BAR DIAMETERS, MINIMUM. IF REINFORCEMENT CANNOT EXTEND A FULL 48 BAR DIAMETERS PAST THE OPENING, THEN THE REINFORCING IS TO EXTEND AS FAR AS POSSIBLE AND THE REST OF THE BAR IS TO BE BENT 90 DEGREES, EITHER UP OR DOWN.
6. MECHANICAL COUPLERS WHICH DEVELOP 125% OF THE BARS' YIELD STRENGTH MAY BE SUBSTITUTED FOR LAP SPLICES UPON SUBMITTAL AND REVIEW BY THE ENGINEER. WHEN A LAP SPLICE CANNOT BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CALIFORNIA BUILDING CODE, THE ENGINEER MAY SPECIFY A MECHANICAL SPLICE AT NO ADDITIONAL COST TO THE OWNER.
7. CONCRETE BLOCK WALLS SHALL HAVE VERTICAL CONTROL JOINTS AT A SPACING APPROXIMATELY EQUAL TO 1.5 TIMES THE WALL HEIGHT BUT NO GREATER THAN 20 FEET ON CENTER. VERTICAL CONTROL JOINTS SHALL BE CONSTRUCTED AS SHOWN ON THE CONTRACT DRAWINGS.
8. CLEANOUTS SHALL BE PROVIDED AT THE BOTTOM COURSE OF EVERY GROUT POUR AT EACH VERTICAL BAR FOR LIFTS EXCEEDING 5'-4" IN HEIGHT.
9. REINFORCING SHOWN IS THE MINIMUM REQUIRED FOR ALL OPENINGS. SEE WALL ELEVATIONS (WHERE OCCURS) AND FRAMING PLANS FOR ADDITIONAL REINFORCING REQUIREMENTS.

CMU OPENING REINFORCEMENT SCHEDULE			
OPENING LENGTH 'L'	BAR 'A'	BAR 'B'	BAR 'C'
LESS THAN 2'-0"	(1) #5 *	(2) #6 *	(1) #5 *
2'-0" TO 4'-0"	(2) #5	(2) #6 *	(1) #5 *
4'-0" TO 8'-0"	(2) #6	(2) #6*	(2) #5
OVER 8'-0"	(2) #6	(2) #6*	(2) #5

* FOR DOUBLE CURTAIN WALLS, PROVIDE BAR EACH FACE MINIMUM. FOR BAR 'A', DOUBLE REINFORCING IN SINGLE LAYER.

ADDITIONAL REINFORCING [1,2]	
OPENING LENGTH 'L'	ADDITIONAL VERTICAL TRIM STEEL EACH SIDE
L < 4' - 0"	NO ADDITIONAL BARS
L ≤ 8' - 0"	(2) ADDITIONAL #5 BARS
L > 8' - 0"	(2) #5 @ 8" O.C. (4) ADDITIONAL TOTAL

NOTES:

1. ADDITIONAL VERTICAL TRIM STEEL NOT REQUIRED WHERE PILASTER, COLUMN, OR RETURN WALL OCCURS ADJACENT TO OPENING (WITHIN 1'-4")
   SEE DETAIL 1/S104
2. FOR OPENINGS FOR ROUND DUCTS 24" Ø MAX, CONSTRUCT SQUARE OPENING W/ MINIMUM (2) COURSES ABOVE & BELOW & GROUT BACK SOLID AROUND DUCT.

LAP SPLICE SCHEDULE		
BAR SIZE	STANDARD LAP LENGTH	REDUCED LAP LENGTH
#3	20"	12"
#4	35"	15"
#5	45"	23"
#6	54"	43"
#7	63"	58"

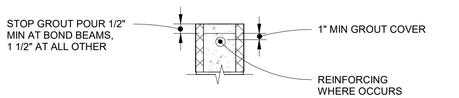
NOTES:

1. LAP SPLICE LOCATION SHALL BE APPROVED BY THE ENGINEER.
2. THE REDUCED LAP LENGTH MAY BE USED WHEN BOTH THE CLEAR COVER & BAR SPACING BETWEEN ADJACENT BARS IS EQUAL TO OR GREATER THAN 3".
3. WHEN TWO BARS OF DIFFERENT SIZE ARE SPLICED, USE LONGER LAP LENGTH.

LAP SPLICE SCHEDULE FOR MASONRY

3/4" = 1'-0"

2 / S103

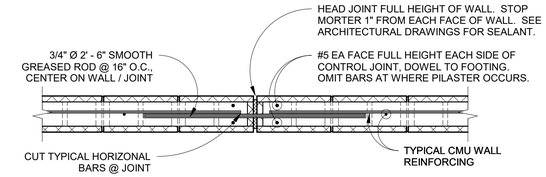


NOTE:
COMPLY WITH THIS DETAIL WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER

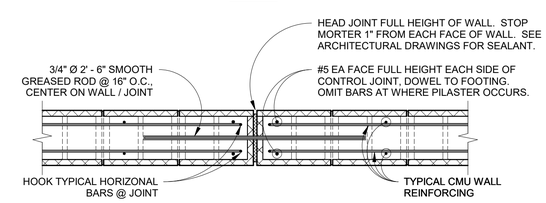
CMU HORIZONTAL CONSTRUCTION JOINT

1" = 1'-0"

3 / S103



8" CMU



12" CMU

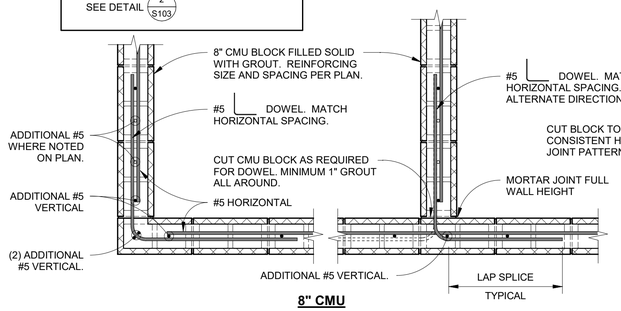
CONTROL JOINT

3/4" = 1'-0"

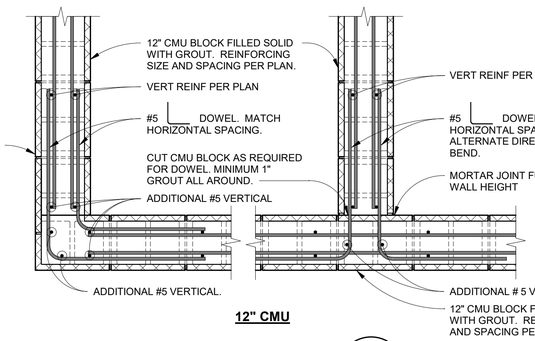
4 / S103

NOTE:

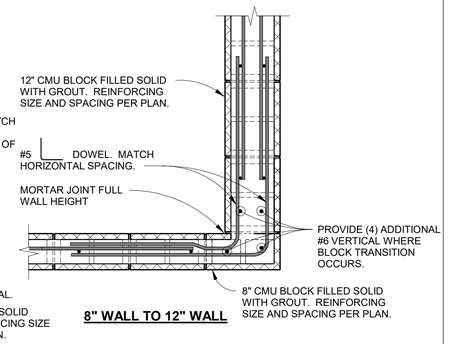
- ALL VERTICAL REINFORCING SHALL BE DOWELED INTO FOOTING WITH STANDARD HOOK.
- FOR LAP SPLICE REQUIREMENTS IN CMU, SEE DETAIL 2/S103



8" CMU



12" CMU

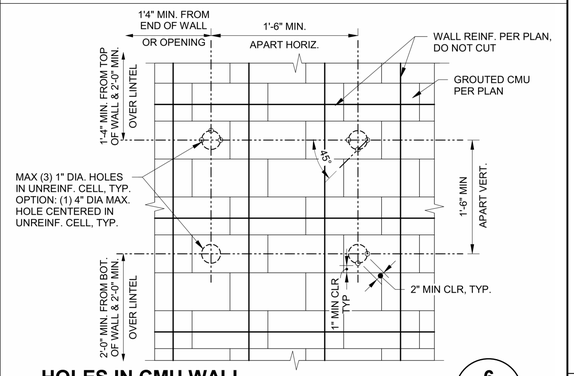


8" WALL TO 12" WALL

WALL CORNERS & INTERSECTIONS

3/4" = 1'-0"

5 / S103



HOLES IN CMU WALL

1" = 1'-0"

6 / S103 (2)

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: DGL | DRAWN BY: DAA | DESIGN CHECK BY: DGL/JPJ | DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD. LONG BEACH, CA 90807

TYPICAL CMU DETAILS No. 1

B# B-4797

PHASE # ____ REBID # ____

SHEET 113 OF 236

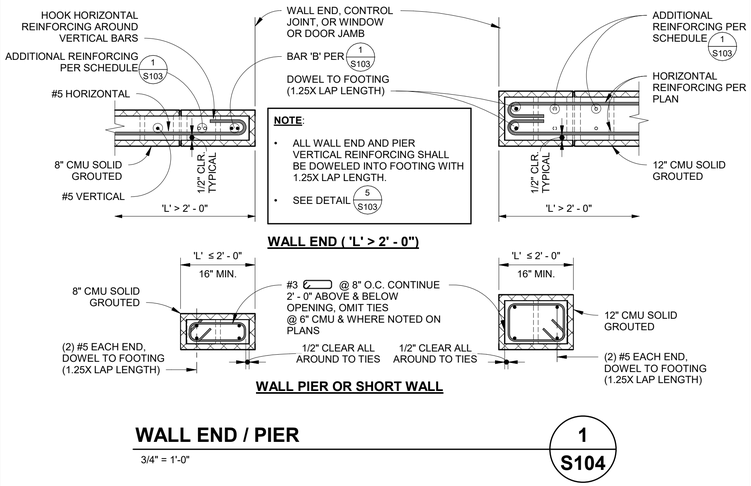
DWG. NO. S103

REGISTERED PROFESSIONAL ENGINEER DUSTIN G. LEE No. S6623 EXP. 3/31/25 STRUCTURAL STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201, Fresno, California 93711
559.320.3200 fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

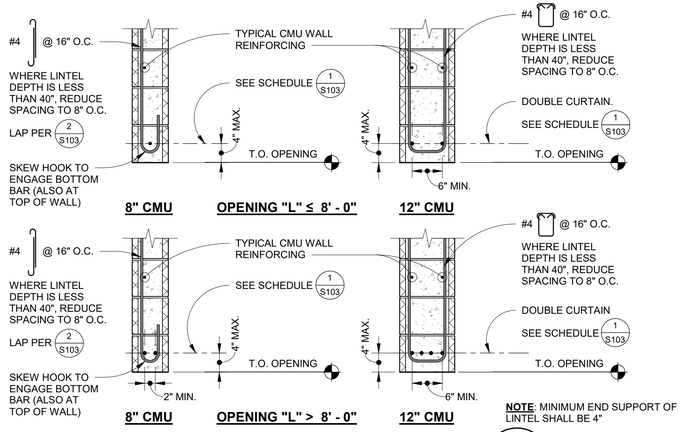
10/16/2023 8:44:39 AM



WALL END / PIER

3/4" = 1'-0"

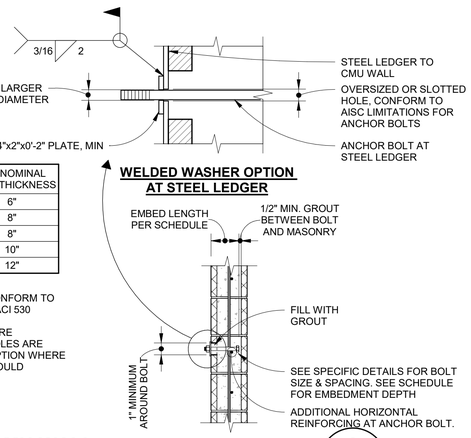
1 / S104



LINTEL

3/4" = 1'-0"

2 / S104



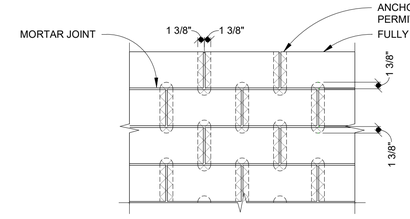
BOLT SIZE	EMBEDMENT	MIN NOMINAL WALL THICKNESS
1/2"Ø	4"	6"
5/8"Ø	5"	8"
3/4"Ø	5"	8"
7/8"Ø	7"	10"
1"Ø	9"	12"

NOTES:
1. BOLT PLACEMENT SHALL CONFORM TO CBC SECTION 2104.2.1 AND ACI 530 SECTION 9.1.6.
2. USE WELDED WASHER WHERE OVERSIZED OR SLOTTED HOLES ARE USED AT CONTRACTOR'S OPTION WHERE STANDARD ROUND HOLE WOULD OTHERWISE BE RQUIRED.

BOLT IN CMU WALL

3/4" = 1'-0"

3 / S104



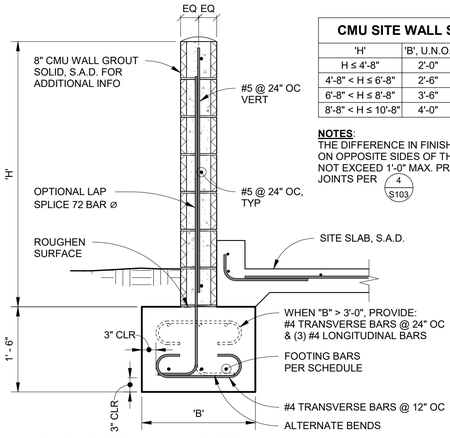
HILTI KWIK-BOLT 3				
ANCHOR DIAMETER (IN)	MINIMUM EMBEDMENT (IN)	ALLOWABLE SHEAR (LB)	ALLOWABLE TENSION (LB)	TEST (2x ALLOWABLE TENSION) (LB)
1/4	2	342	432	432
3/8	2 1/2	1054	626	626
1/2	3 1/2	1853	724	724
5/8	4	2123	1035	1035
3/4	4 3/8	2627	1368	1368

NOTES:
1. TABULATED VALUES BASED ON 80% OF THE ICC REPORT ESR-1385. INSTALLATION SHALL BE IN ACCORDANCE WITH THE ICC REPORT.
2. ANCHORS MUST BE INSTALLED A MINIMUM OF 1 3/8" FROM ANY VERTICAL JOINT.
3. EMBEDMENT DEPTH IS MEASURED FROM OUTSIDE FACE OF CMU.
4. ANCHOR LOCATIONS ARE LIMITED TO ONE PER MASONRY CELL WITH A MINIMUM SPACING OF 8" O.C. THE MINIMUM EDGE DISTANCE IS 12".
5. TENSION TEST 50% OF ANCHORS. IF ANY ANCHOR FAILS, ALL ANCHORS MUST BE TESTED.

EXPANSION ANCHORS IN GROUT FILLED CMU

3/4" = 1'-0"

4 / S104



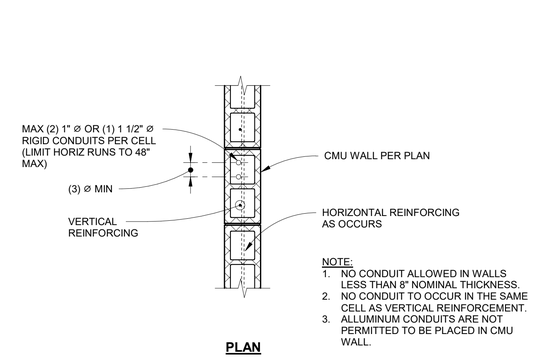
CMU SITE WALL SCHEDULE		
'H'	'B', U.N.O.	FOOTING BARS
H ≤ 4'-8"	2'-0"	(3) #4
4'-8" < H ≤ 6'-8"	2'-6"	(3) #5
6'-8" < H ≤ 8'-8"	3'-6"	(3) #5
8'-8" < H ≤ 10'-8"	4'-0"	(3) #5

NOTES:
THE DIFFERENCE IN FINISHED GRADE ELEVATION ON OPPOSITE SIDES OF THE SITE WALL SHALL NOT EXCEED 1'-0" MAX. PROVIDE CONTROL JOINTS PER 4 S103

CMU SITE WALL DETAIL

3/4" = 1'-0"

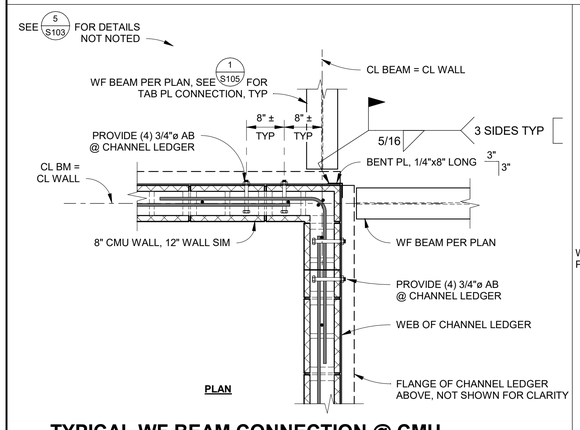
5 / S104



CONDUIT IN CMU WALLS

NO SCALE

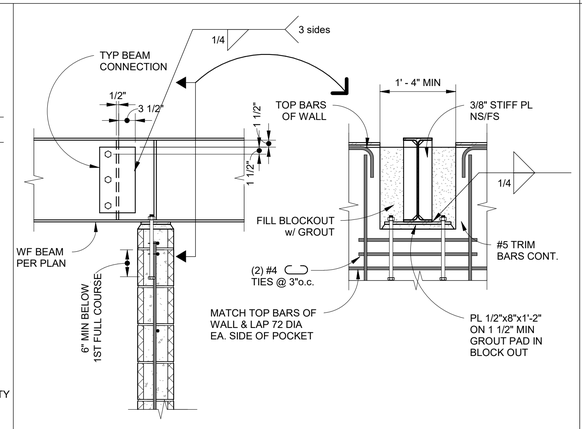
6 / S104



TYPICAL WF BEAM CONNECTION @ CMU WALL CORNER

3/4" = 1'-0"

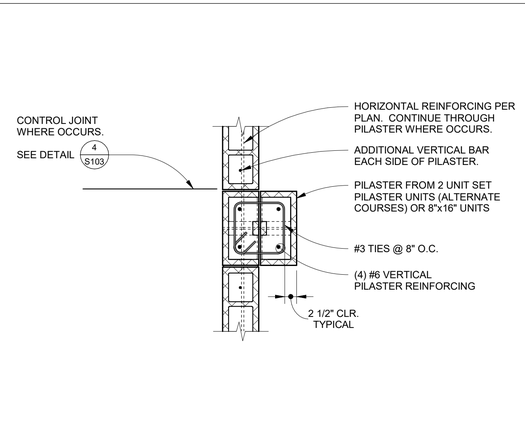
7 / S104



STEEL BEAM AT INTERIOR CMU WALL

3/4" = 1'-0"

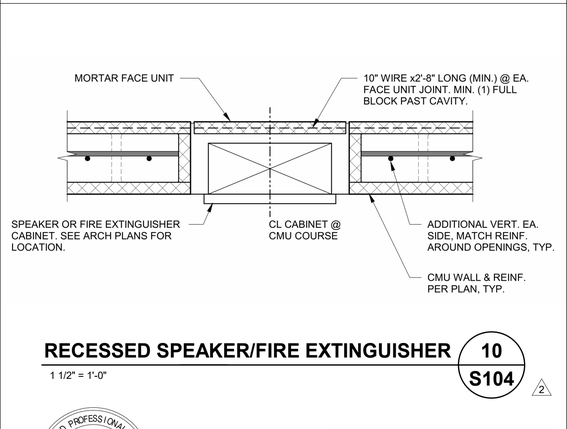
8 / S104



CMU PILASTER

3/4" = 1'-0"

9 / S104



RECESSED SPEAKER/FIRE EXTINGUISHER

1 1/2" = 1'-0"

10 / S104

2

10/16/2023 8:44:42 AM

REVISION			
NO.	DATE	SHEET	APPROVAL
	12/16/2021		PLAN CHECK SUBMITTAL
1	04/22/2022		PLAN CHECK RE-SUBMITTAL
2	06/15/2023		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS
			REF.
			AS-BUILT

DESIGNED BY: DGL | DRAWN BY: DAA | DESIGN CHECK BY: DGL/JPJ | DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD. LONG BEACH, CA 90807

TYPICAL CMU DETAILS No. 2

B# B-4797

PHASE # ____ REBID # ____

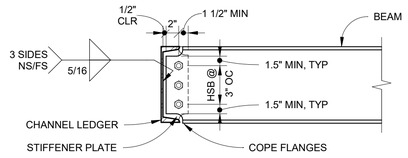
SHEET 114 OF 236

DWG. NO. S104

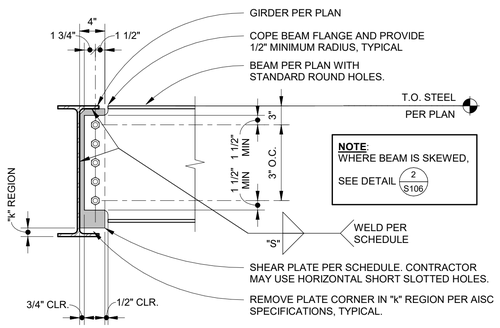
REGISTERED PROFESSIONAL ENGINEER DUSTIN G. LEE No. 58623 EXP. 3/31/25 STRUCTURAL STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Allovial, Suite 201
Fresno, California 93711
559.220.2200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



BOLTED PLATE CONNECTION @ CHANNEL



BEAM DEPTH LESS THAN OR EQUAL TO GIRDER

CONNECTION SCHEDULE

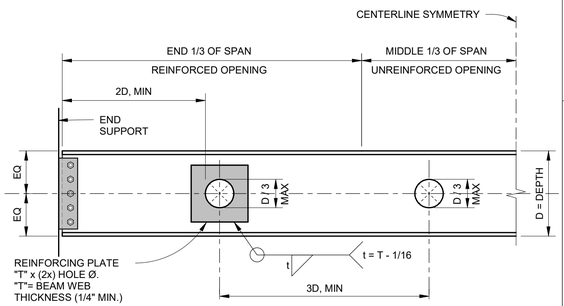
BEAM SIZE	SHEAR PLATE "T" (3)		WELD SIZE "S"	BOLTS (2)	AVAILABLE ALLOWABLE STRENGTH (7) (KIPS)
	MIN. DEPTH	THICKNESS		NO. & SIZE (1,4)	
W8x, C8x	6"	3/8"	5/16	(2) 3/4"Ø	16.7
W10x, C10x	6"	3/8"	5/16	(2) 3/4"Ø	16.7
W12x, C12x	9"	3/8"	5/16	(3) 3/4"Ø	29.4
W14x	9"	3/8"	5/16	(3) 3/4"Ø	29.4
W16x	12"	3/8"	5/16	(4) 3/4"Ø	42.1
W18x	15"	3/8"	5/16	(5) 3/4"Ø	54.5
W21x	18"	3/8"	5/16	(6) 3/4"Ø	66.8
W24x	18"	1/2"	3/8	(6) 3/4"Ø	-

NOTES:
1. FOR SINGLE COLUMN OF BOLTS, UNLESS NOTED OTHERWISE.
2. ALL BOLTS SHALL BE A325N AND ORIENTED IN THE SAME DIRECTION, UNLESS NOTED OTHERWISE. PROVIDE HARDENED WASHERS OVER HORIZONTAL SHORT SLOTTED HOLES.
3. STEEL PLATE SHALL BE ASTM A36, UNLESS NOTED OTHERWISE.
4. WHERE MOMENT CONNECTION OCCURS AT CONNECTING BEAM, SEE 7 S107
5. COPE FLANGES OR LOCATE TAB PLATE TO BE 1/16" MIN. CLEAR OF "k" PER AISC SPECIFICATIONS.
6. AVAILABLE ALLOWABLE STRENGTHS ARE BASED ON TABULATED VALUES FROM "TABLE 10-10a" OF THE AISC STEEL CONSTRUCTION MANUAL (ASD), 15TH EDITION, USING E70XX ELECTRODES.

BEAM CONNECTION

1" = 1'-0"

1 S105

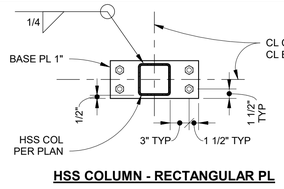


NOTES:
1. HOLES 2" Ø AND LESS SHALL NOT BE TORCH CUT.
2. TORCH CUT HOLES SHALL BE WITHIN 1/4" AMPLITUDE FROM CIRCULAR HOLE DIAMETER. CONTRACTOR SHALL MARK BEAM WITH HOLE OUTLINE PRIOR TO CUTTING.
3. GRIND TORCH CUT HOLES TO REMOVE BURRS.

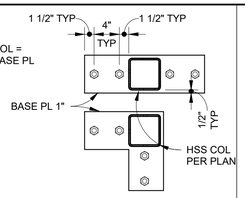
STEEL BEAM PENETRATION

3/4" = 1'-0"

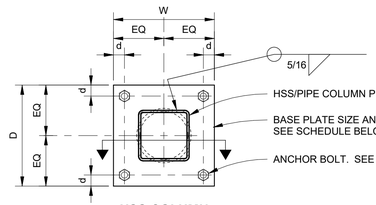
2 S105



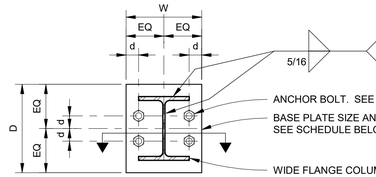
HSS COLUMN - RECTANGULAR PL



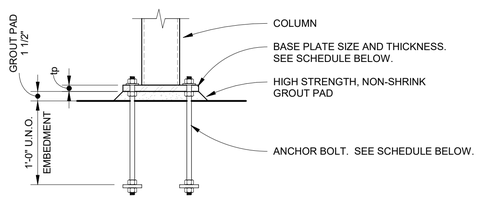
HSS COLUMN @ CMU WALLS



HSS COLUMN



WIDE FLANGE COLUMN



SECTION VIEW

STEEL COLUMN PLATE SCHEDULE (2)

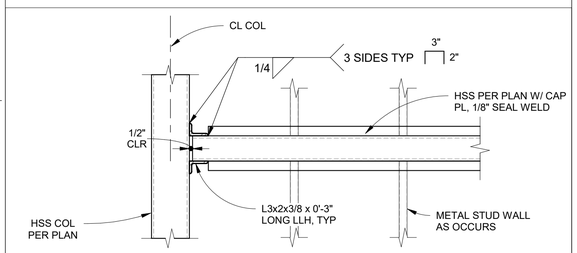
COLUMN	BASE PLATE					ANCHOR BOLT (1)
	D	W	tp	d	GRADE	
HSS4x	10"	10"	3/4"	1 1/2"	A36 (36KSI)	(4) 3/4"Ø
HSS5x	11"	11"	3/4"	1 1/2"	A36 (36KSI)	(4) 3/4"Ø
HSS6x	12"	12"	1"	1 1/2"	A36 (36KSI)	(4) 3/4"Ø
HSS8x	14"	14"	1"	1 1/2"	A36 (36KSI)	(4) 3/4"Ø
W10	14"	14"	1"	2"	A36 (36KSI)	(4) 1"Ø
W12	16"	14"	1"	2"	A36 (36KSI)	(4) 1"Ø

NOTES:
1. FOR ADDITIONAL ANCHOR BOLT REQUIRMENTS, SEE DETAIL 7 S102
2. ALL BASE PLATE SHALL CONFORM TO THESE REQUIREMENTS UNLESS OTHERWISE NOTED.

BASE PLATE DETAIL

1" = 1'-0"

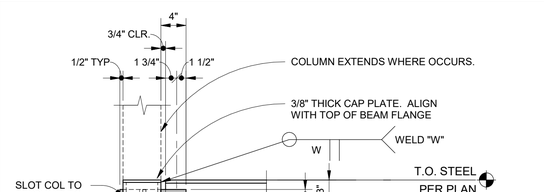
3 S105



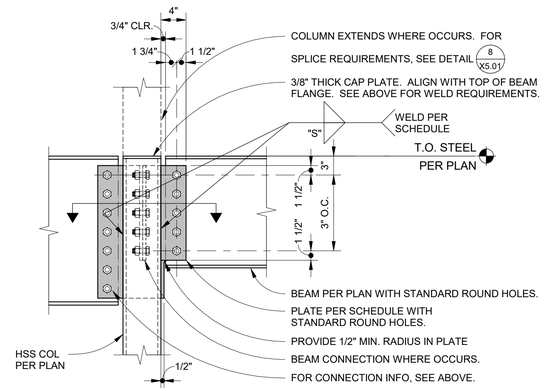
TYPICAL HSS BEAM TO HSS COLUMN CONNECTION

1" = 1'-0"

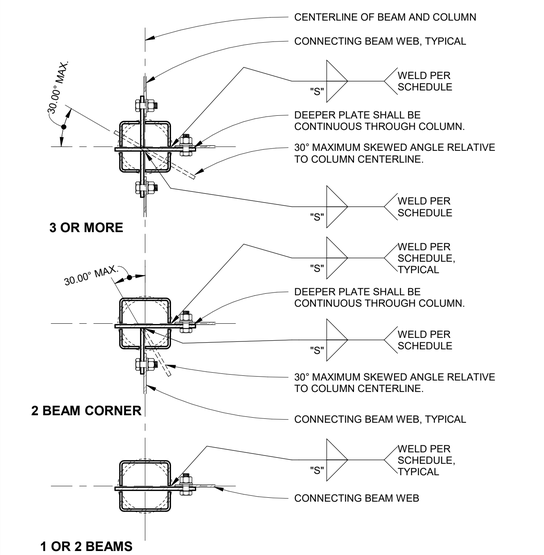
4 S105



WIDE FLANGE BEAM TO HSS/PIPE COLUMN - SINGLE SIDE



WIDE FLANGE BEAM TO HSS/PIPE COLUMN - EACH SIDE

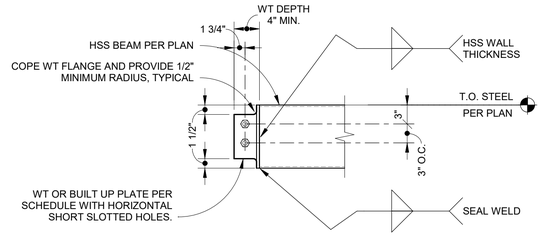


SECTION - MULTIPLE BEAM TO COLUMN

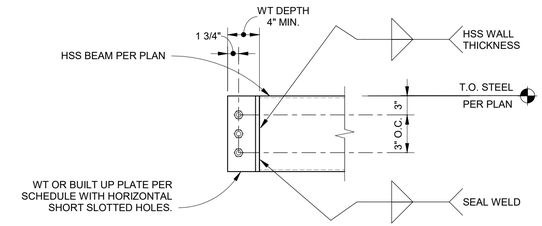
BEAM TO HSS/PIPE COLUMN

1" = 1'-0"

5 S105



BEAM/GIRDER CONNECTION



COLUMN CONNECTION

CONNECTION SCHEDULE

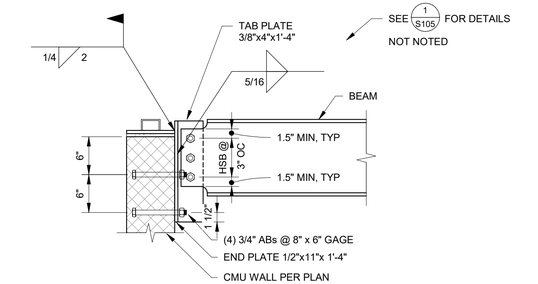
HSS WIDTH	WT OPTION	BUILT UP PLATE OPTION (2) (4)	
	SECTION	TAB PLATE	END PLATE
W ≤ 4"	WT4x14	3/8"	1/2"
4" < W ≤ 6"	WT4x20	3/8"	1/2"
6" < W ≤ 8"	WT5x27	3/8"	1/2"
W > 8"	-	1/2"	1/2"

NOTES:
1. FOR BOLTING REQUIREMENTS, REFER TO DETAIL 1 S105
2. STEEL PLATE SHALL BE ASTM A36, UNLESS NOTED OTHERWISE. AT COLLECTOR CONNECTIONS, PLATE SHALL BE A572 GR. 50.
3. PROVIDE 7/8"Ø A325 SC BOLTS AT ALL COLLECTOR CONNECTIONS PER PLANS.
4. CENTER TAB PLATE ON END PLATE. PROVIDE 5/16" FILLET WELD FROM TAB PLATE TO END PLATE, EACH SIDE.
5. REFER TO THE FOLLOWING DETAILS FOR ADDITIONAL CONNECTION INFORMATION:
   A. FOR BEAM CONNECTION, SEE 1 S105
   B. FOR HSS COLUMN CONNECTION, SEE 5 S105

BEAM CONNECTION

1" = 1'-0"

6 S105



BEAM CONNECTION AT CMU WALL

1" = 1'-0"

7 S105

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REVISION

REF.

DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807

TYPICAL STEEL DETAILS No. 1

B# B-4797

PHASE # ____ REBID # ____

SHEET 115 OF 236

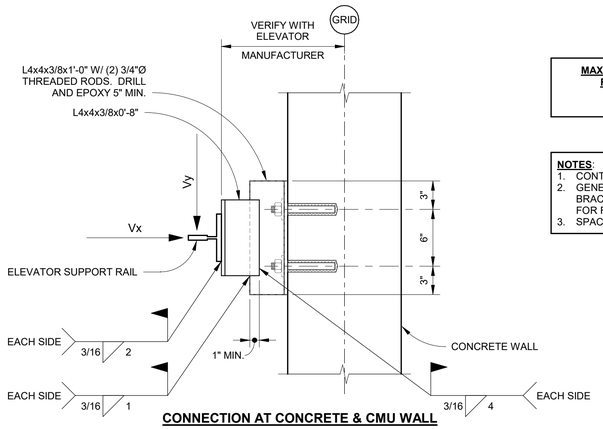
DWG. NO. S105

REGISTERED PROFESSIONAL ENGINEER DUSTIN G. LEE No. 36623 EXP. 3/31/25 STRUCTURAL STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201 Fresno, California 93711
559.320.3200 fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 8:44:45 AM



CONNECTION AT CONCRETE & CMU WALL

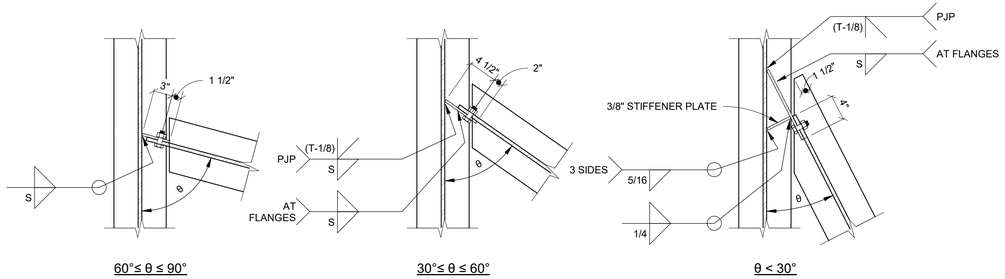
MAXIMUM ELEVATOR RAIL FORCES
Vx = 2,615#
Vy = 1,807#

NOTES:
1. CONTRACTOR TO VERIFY DIMENSIONS PRIOR TO ORDERING MATERIAL.
2. GENERAL CONTRACTOR TO SUBMIT ELEVATOR GUIDERAILS & SUPPORT BRACKET DETAILS TO ARCHITECT/ENGINEER FOR REVIEW.
3. SPACE SUPPORTS PER MANUFACTURER'S RECOMMENDATIONS.

ELEVATOR GUIDE RAIL CONNECTION

1 1/2" = 1'-0"

1 / S106



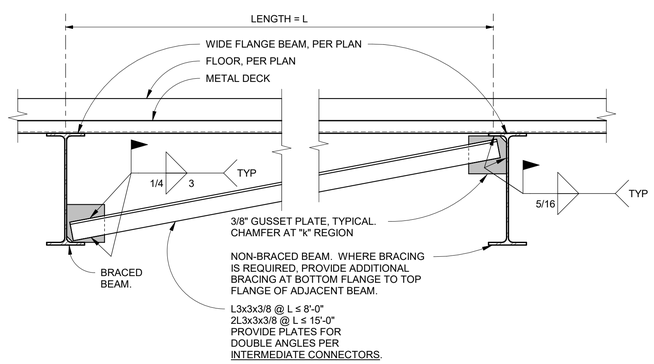
60°≤ θ ≤ 90° | 30°≤ θ ≤ 60° | θ < 30°

NOTES:
1. FOR SHEAR PL, FILLET WELDS, AND BOLTS, SEE 1/S105. USE FULL HEIGHT SHEAR PLATES.
2. FILLET WELDING AT BEAM WEBS SHALL CONFORM TO AWS D1.1 3.9.3. INCREASE WELD SIZES AS REQUIRED BY ROOT OPENING AND SHEAR PLATE END PREP TO MAINTAIN EFFECTIVE THROAT.
3. FOR DIMENSIONS AND SPACING NOT SHOWN, SEE 1/S105.

SKEWED BEAM CONNECTION

1" = 1'-0"

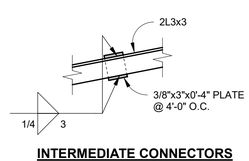
2 / S106



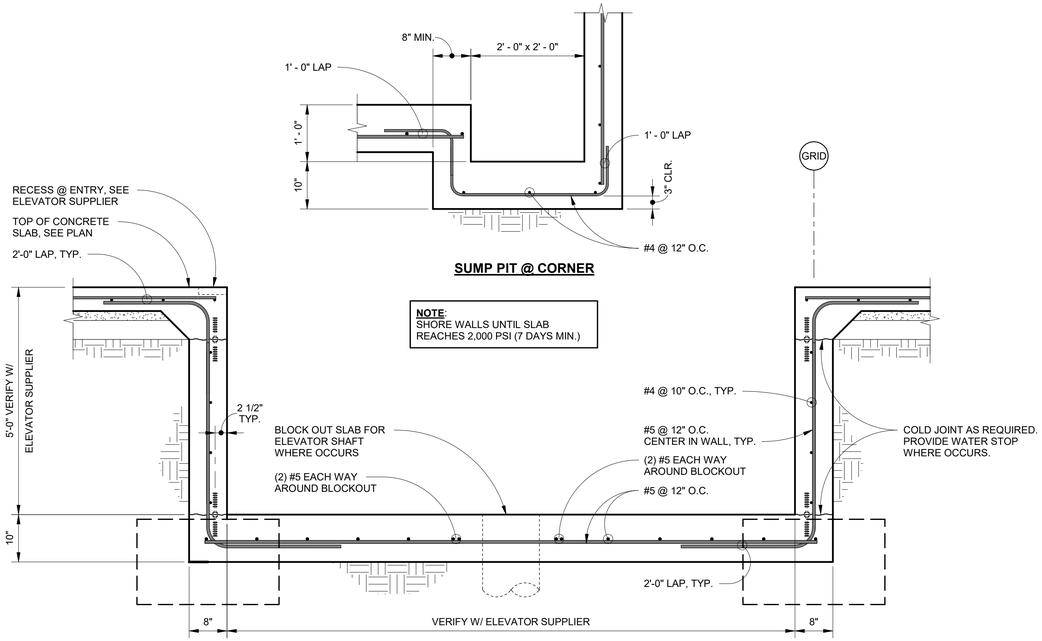
BEAM BRACE

1" = 1'-0"

4 / S106



INTERMEDIATE CONNECTORS



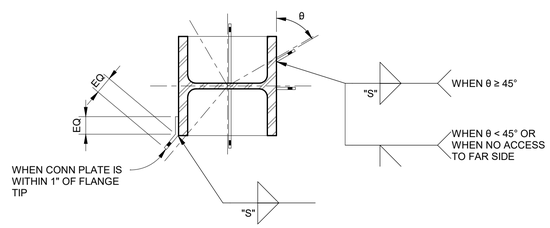
SUMP PIT @ CORNER

NOTE:
SHORE WALLS UNTIL SLAB REACHES 2,000 PSI (7 DAYS MIN.)

ELEVATOR PIT

3/4" = 1'-0"

3 / S106

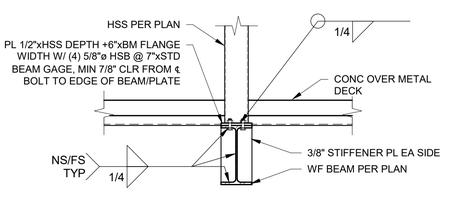


NOTES:
1. SEE BEAM CONNECTION SCHEDULES FOR PLATE THICKNESS AND WELD SIZES.
2. CROP BEAM FLANGES AS REQ'D

SKEWED BEAMS TO COLUMN

1" = 1'-0"

5 / S106



TYPICAL HSS TO WF BEAM

3/4" = 1'-0"

6 / S106

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807

TYPICAL STEEL & ELEVATOR DETAILS

B# B-4797

PHASE # ____ REBID # ____

SHEET 116 OF 236

DWG. NO. S106

REGISTERED PROFESSIONAL ENGINEER
DUSTIN G. LEE
No. S6623
EXP. 3/31/25
STRUCTURAL
STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 8:44:47 AM

STEEL DECK SCHEDULE

TYPE	PRODUCT	ICC REPORT	HEIGHT (INCH)	GAGE	CONCRETE FILL (INCH)	REINFORCING	PROFILE	-Ix MIN (IN ^{4})	+Ix MIN (IN ^{4})	-Sx MIN (IN^3)	+Sx MIN (IN^3)	REMARKS
1	VERCO W2 FORMLOK	ESR 1735P	2	18	3.25 LWC	6x6 W4.0xW4.0 WWF @ MID-DEPTH	5" 7" 1' - 0" 2 1/16" 5" 3' - 0"	N/A	0.555	0.511	0.510	VENTED FLOOR DECK

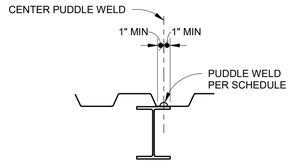
NOTE:
1. METAL DECK SHALL BE CONTINUOUS OVER 3 SPANS WHERE POSSIBLE. CONTRACTOR SHALL DETERMINE SHORING REQUIREMENTS FOR DECK INSTALLATION.
2. METAL DECK SHALL BEAR A MINIMUM OF 2 INCHES AT ENDS AND 4 INCHES AT INTERMEDIATE SUPPORTING MEMBERS.
3. DECK FLUTES SHALL RUN PERPENDICULAR TO SUPPORTING MEMBERS UNLESS SHOWN OTHERWISE.
4. CONCRETE FILL THICKNESS IS MEASURED FROM TOP OF DECK TO TOP OF CONCRETE. CONTRACTOR TO COMPENSATE FOR FRAMING AND DECK DEFLECTION TO MAINTAIN LEVEL.
5. NO CONDUITS SHALL BE RUN WITHIN THE CONCRETE FILL UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS.
6. MECHICAL, ELECTRICAL, OR PLUMBING UTILITIES HUNG FROM STEEL DECK SHALL NOT EXCEED 100# PER HANGER AND SHALL BE SPACED SO THAT THE TOTAL UTILITY WEIGHT DOES NOT EXCEED 5 PSF.
7. PROVIDE BENT PLATE CLOSURES AT ALL DECK EDGES @ CONC FILL LOCATIONS, U.N.O.
8. THE CONTRACTOR SHALL PROTECT STEEL DECK DURING CONSTRUCTION. ANY DECKING WHICH IS FOUND TO BE DAMAGED SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
9. AT WWF SPLICES OVERLAP ADJACENT MATS A MINIMUM OF 14". THERE SHALL BE A MINIMUM OF 2" BETWEEN CROSS WIRES OF THE LAPPED MATS.

METAL DECK SCHEDULE
1" = 1'-0"
1 S107

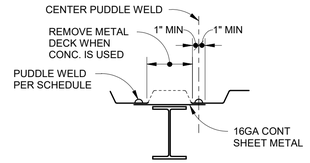
METAL DECK ATTACHMENT (3)

TYPE	TRANSVERSE SUPPORTS (1,2)	PARALLEL SUPPORTS (2)	SIDE SEAMS	REMARKS
1	36/4	PUDDLE WELDS @ 12" O.C.	VERCO SIDELAP CONNECTIONS @ 36" O.C.	

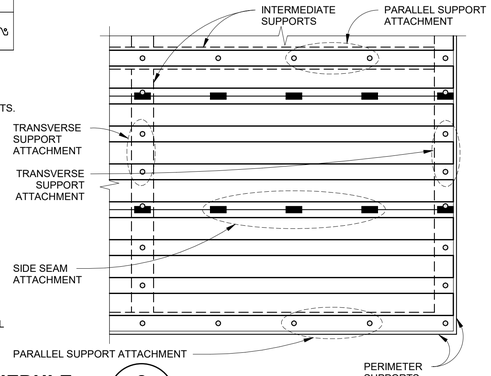
NOTE:
1. WELD DESIGNATION IS AS FOLLOWS:
   A. 36/7/4 DENOTES 36 INCH WIDE DECK, 7 WELDS @ END PANEL SUPPORTS, 4 WELDS @ INTERIOR PANEL SUPPORTS.
   B. 24/4 DENOTS 24 INCH WIDE DECK, 4 WELDS AT ALL PANEL SUPPORTS.
2. PUDDLE WELDS SHALL HAVE 1/2" EFFECTIVE DIAMETER. SEE 3/S107
3. A HEADED STUD WELDED THRU DECK MAY REPLACE A SINGLE DECK WELD.



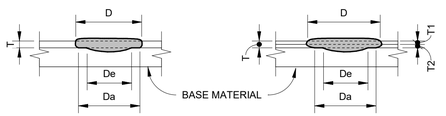
BOTTOM FLUTE AT SUPPORT



BOTTOM FLUTE OUTSIDE SUPPORT



METAL DECK ATTACHMENT SCHEDULE
1" = 1'-0"
2 S107



NOTE:
Da = (D - T)
De = (0.7D - 1.5T)

SINGLE THICKNESS OF SHEET

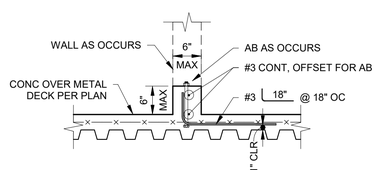
NOTE:
Da = (D - 2T)
De = (0.7D - 1.5T)

DOUBLE THICKNESS OF SHEET

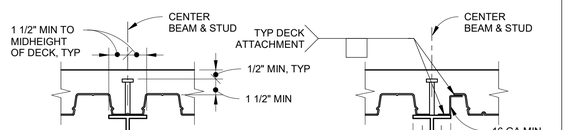
GAGE		VISIBLE WELD SIZE	
(0.0283")	22	3/4" DIA.	(0.774)
(0.0346")	20	3/4" DIA.	(0.788)
(0.0451")	18	7/8" DIA.	(0.811)
(0.0566")	16	7/8" DIA.	(0.836)

NOTE:
BASED ON 1/2" EFFECTIVE WELD
ARC SPOT WELDS PER A.W.S. D1.3/ D1.3M
D = (De + 1.5T)/0.7 VISIBLE DIAMETER
Da = RESULTING AVERAGE DIAMETER
De = EFFECTIVE DIAMETER

ARC SPOT WELDS PER AWS D1.3/D1.3M
12" = 1'-0"
3 S107

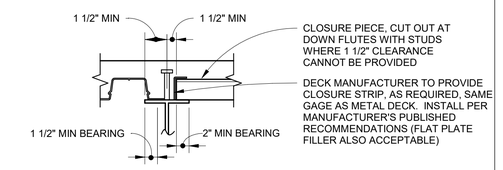


TYPICAL CURB AT METAL DECK
3/4" = 1'-0"
4 S107

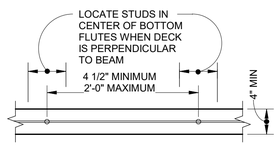


FLUTE CENTERED ON BM

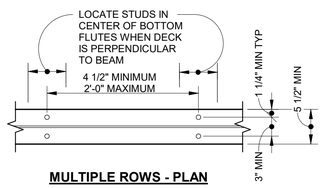
OFF-CENTER FLUTE



CHANGE OF DECK DIRECTION



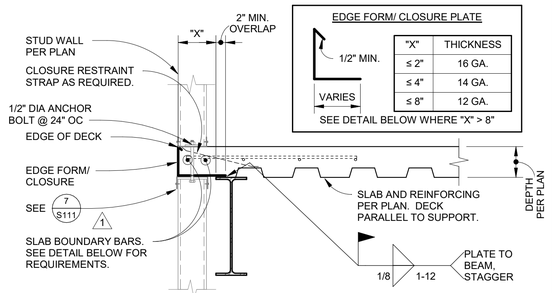
SINGLE ROW - PLAN



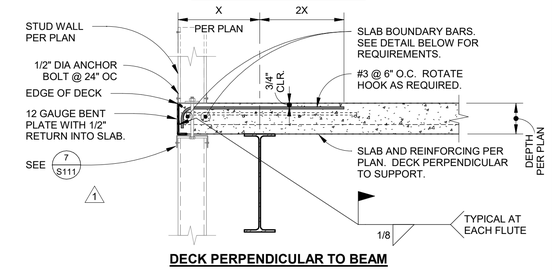
MULTIPLE ROWS - PLAN

NOTES:
1. WELDED STUDS SHALL BE 3/4" DIAMETER, U.N.O.
2. WHERE WELDED STUDS FILL EVERY FLUTE, REMAINING STUDS SHALL BE INSTALLED ON TWO OR MORE ROWS STARTING AT EACH END OF BEAM OR GIRDER.
3. WELDED STUDS ARE EQUALLY SPACED UNLESS OTHERWISE NOTED ON PLANS. IF EQUAL SPACING IS NOT POSSIBLE DUE TO DECK CONFIGURATION, THE STRUCTURAL ENGINEER MUST BE NOTIFIED.
4. DISTANCE FROM END OF BEAM TO CENTERLINE OF FIRST STUD SHALL NOT EXCEED 12" U.N.O.

DECK & WELDED STUD PLACEMENT
1" = 1'-0"
5 S107

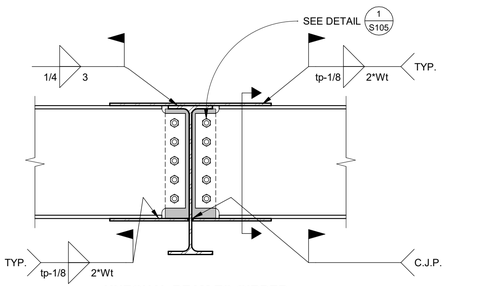


DECK PARALLEL TO BEAM

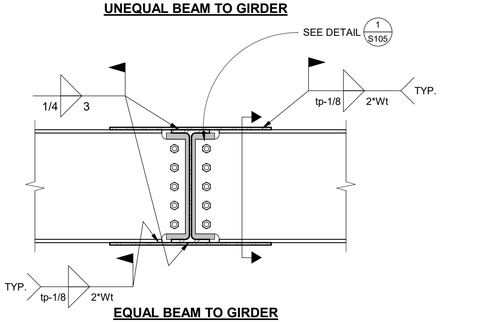


DECK PERPENDICULAR TO BEAM

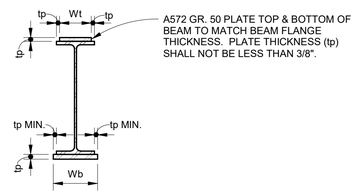
DECK OVERHANG AT CONCRETE FILL
3/4" = 1'-0"
6 S107



UNEQUAL BEAM TO GIRDER



EQUAL BEAM TO GIRDER



SECTION A-A

GRAVITY MOMENT CONNECTION
1" = 1'-0"
7 S107

REVISION

NO.	DATE	DESCRIPTION
	12/16/2021	PLAN CHECK SUBMITTAL
1	04/22/2022	PLAN CHECK RE-SUBMITTAL
2	06/15/2023	PLAN CHECK RE-SUBMITTAL
	10/12/2023	BID DOCUMENTS
		AS-BUILT

DESIGNED BY:	SHEET	APPROVAL	REF.
DGL			
DRAWN BY:			
DAA			
DESIGN CHECK BY:			
DGL/JPJ			
DRAWN CHECK BY:			
DGL/JPJ			

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807

TYPICAL METAL DECK DETAILS No. 1

B# B-4797

PHASE # ____ REBID # ____

SHEET 117 OF 236

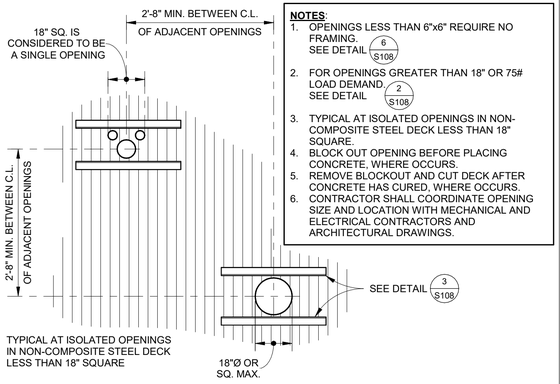
DWG. NO. S107

REGISTERED PROFESSIONAL ENGINEER
DUSTIN G. LEE
No. 58623
EXP. 3/31/25
STRUCTURAL
STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

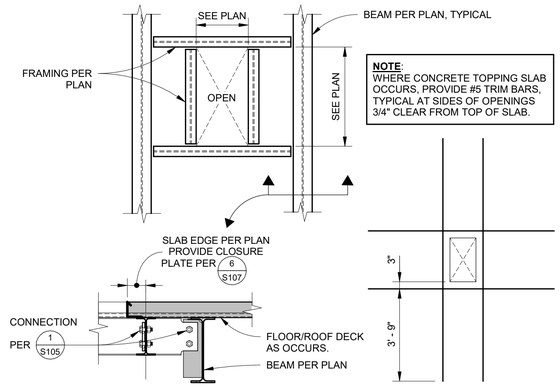
10/16/2023 8:44:50 AM



NOTES:
1. OPENINGS LESS THAN 6"x6" REQUIRE NO FRAMING. SEE DETAIL 6 S108
2. FOR OPENINGS GREATER THAN 18" OR 75# LOAD DEMAND, SEE DETAIL 2 S108
3. TYPICAL AT ISOLATED OPENINGS IN NON-COMPOSITE STEEL DECK LESS THAN 18" SQUARE.
4. BLOCK OUT OPENING BEFORE PLACING CONCRETE, WHERE OCCURS.
5. REMOVE BLOCKOUT AND CUT DECK AFTER CONCRETE HAS CURED, WHERE OCCURS.
6. CONTRACTOR SHALL COORDINATE OPENING SIZE AND LOCATION WITH MECHANICAL AND ELECTRICAL CONTRACTORS AND ARCHITECTURAL DRAWINGS.

DECK PENETRATIONS
12" = 1'-0"

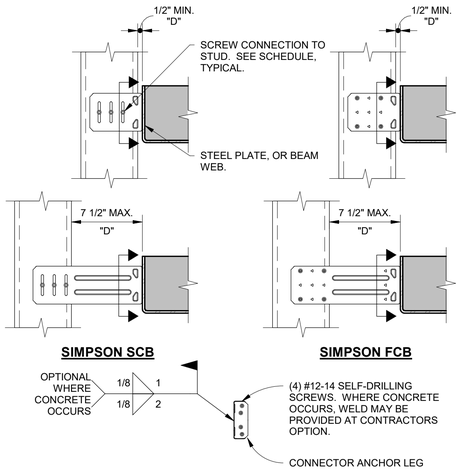
1 S108



NOTE:
WHERE CONCRETE TOPPING SLAB OCCURS, PROVIDE #5 TRIM BARS, TYPICAL AT SIDES OF OPENINGS 3/4" CLEAR FROM TOP OF SLAB.

FRAMED DECK OPENING
3/4" = 1'-0"

2 S108



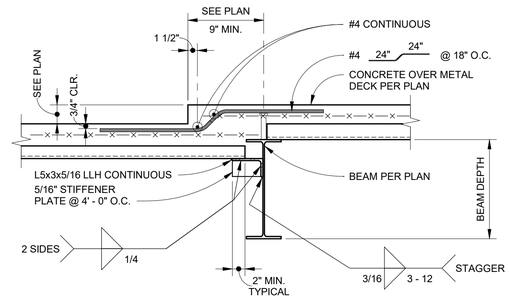
SECTION VIEW

SIMPSON SIDE-CLIP	CONNECTION TO STUD			CAPACITY (LBS) (5)	
	OFFSET "D"		NUMBER OF SCREWS		
	MIN.	MAX.		VERTICAL	LATERAL
SCB43.5	1/2"	1"	2 (1)	---	610
SCB45.5	1/2"	1 1/2"	3 (1)	---	895
SCB47.5	1 1/2"	3 1/2"	3 (1)	---	895
SCB49.5	3 1/2"	5 1/2"	3 (1)	---	895
SCB411.5	5 1/2"	7 1/2"	3 (1)	---	860
FCB43.5	1/2"	1"	4 (2,3)	1120	975
FCB45.5	1/2"	1 1/2"	4 (2,3)	820	975
FCB47.5	1 1/2"	3 1/2"	12 (2)	890	1260
FCB49.5	3 1/2"	5 1/2"	12 (2)	535	1260
FCB411.5 (4)	5 1/2"	7 1/2"	12 (2)	860 (4)	1260 (4)

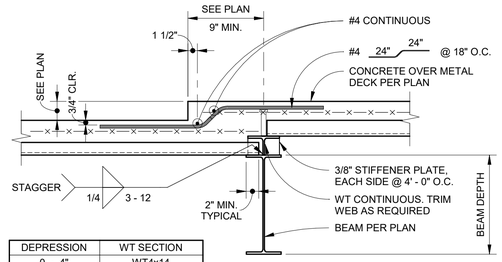
1. SCB SHALL BE INSTALLED WITH #14 SHOULDERED SCREWS PROVIDED BY MANUFACTURER. USE MAXIMUM OF 1 SCREW PER SLOT.
2. FCB SHALL BE INSTALLED WITH #12-14 SELF-DRILLING SCREWS.
3. FOR FCB CONNECTOR, FILL ALL ROUND HOLES WHERE NUMBER OF SCREWS SPECIFIED IN SCHEDULE DOES NOT FILL ALL HOLES.
4. FCB411.5 IS REQUIRED TO BE WELDED TO CONNECTING STEEL STRUCTURE.
5. CONNECTOR CAPACITY IS BASED ON MINIMUM 18 GAUGE STUD.

SIMPSON BYPASS CONNECTOR
1 1/2" = 1'-0"

4 S108



BELOW TOP FLANGE



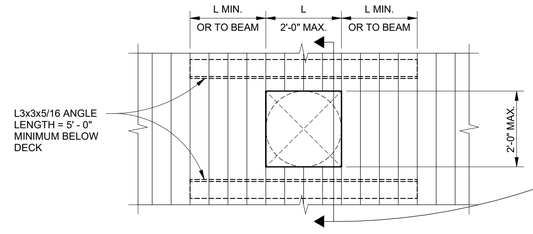
DEPRESSION	WT SECTION
0 - 4"	WT4x14
4" - 8"	WT8x18
8" - 12"	WT12x27.5

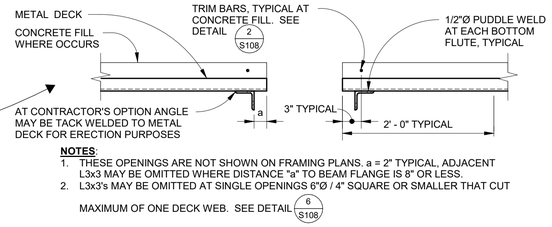
ABOVE TOP FLANGE

NOTES:
1. METAL DECK PERPENDICULAR TO BEAM SHOWN. PARALLEL TO BEAM SIMILAR.
2. WHERE DEPRESSED SLAB IS LOCATED AT MASONRY WALL PROVIDE DROPPED C12x20.7 BOLTED TO WALL w/ (2) ROWS OF 3/4" ABs @ 16" OC, MIN 4 PER SEGMENT.

TYPICAL SLAB DEPRESSION
1" = 1'-0"

5 S108

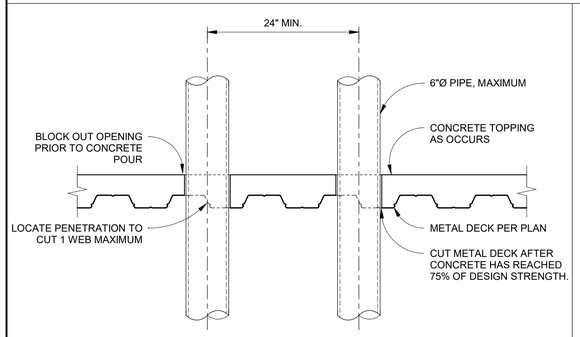




NOTES:
1. THESE OPENINGS ARE NOT SHOWN ON FRAMING PLANS. a = 2" TYPICAL, ADJACENT L3x3 MAY BE OMITTED WHERE DISTANCE "a" TO BEAM FLANGE IS 8" OR LESS.
2. L3x3's MAY BE OMITTED AT SINGLE OPENINGS 6"Ø / 4" SQUARE OR SMALLER THAT CUT MAXIMUM OF ONE DECK WEB. SEE DETAIL 6 S108

DECK PENETRATION REINFORCING
1" = 1'-0"

3 S108

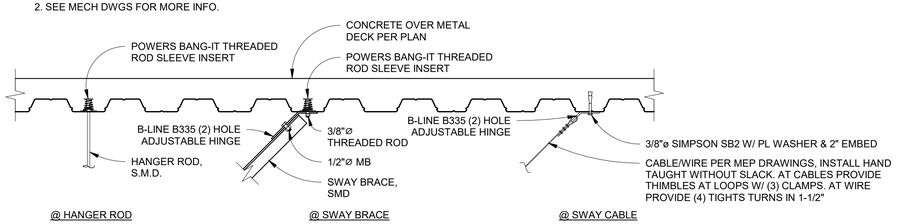


NOTES:
1. SPACE PENETRATIONS PARALLEL TO DECK 3 DIAMETERS MINIMUM.
2. IF ALL REQUIREMENTS NOTED IN THIS DETAIL ARE NOT MET, TYPICAL METAL DECK PENETRATION DETAILS ARE REQUIRED. SEE DETAIL 1 S108

PIPE PENETRATIONS
1" = 1'-0"

6 S108

NOTES:
1. POWERS BANG-IT INSERT CAN BE INSTALLED IN EITHER TOP OR BOTTOM FLUTE.
2. SEE MECH DWGS FOR MORE INFO.



TYPICAL MECHANICAL UNIT ATTACHMENT @ CONCRETE OVER METAL DECK
1" = 1'-0"

7 S108

NO.	DATE	SHEET APPROVAL	REVISION DESCRIPTION
	12/16/2021		PLAN CHECK SUBMITTAL
1	04/22/2022		PLAN CHECK RE-SUBMITTAL
2	06/15/2023		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS
			AS-BUILT

DESIGNED BY: DGL | DRAWN BY: DAA | DESIGN CHECK BY: DGL/JPJ | DRAWN CHECK BY: DGL/JPJ | REF.

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807

TYPICAL METAL DECK DETAILS No. 2

B# B-4797

PHASE # ____ REBID # ____

SHEET 118 OF 236

DWG. NO. S108

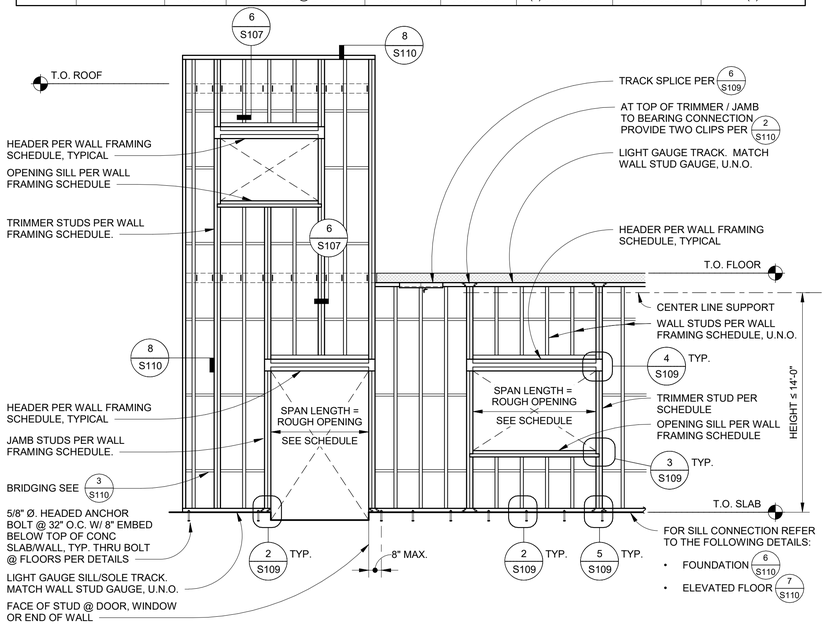
REGISTERED PROFESSIONAL ENGINEER DUSTIN G. LEE No. S6623 EXP. 3/31/25 STRUCTURAL STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 8:44:52 AM

WALL FRAMING SCHEDULE (14)								
LOCATION	SPAN LENGTH	WALL	WALL STUDS	BOX HEADER(15)		JAMB/TRIMMER	OPENING SILL	NO. #10 SMS AT HEADER HANGER
				DBL. JOIST	TRACK			
EXTERIOR	0'-0" TO 4'-0"	6" STUD	600S162-43 @ 16" O.C.	600S162-43	600T150-43	(2) 600S162-43	(2) 600S162-43	(12)
		8" STUD	800S162-43 @ 16" O.C.	800S162-43	800T150-43	(2) 800S162-43	(2) 800S162-43	(12)
	4'-1" TO 8'-0"	6" STUD	600S162-43 @ 16" O.C.	600S162-54	600T150-54	(2) 600S162-54	(2) 600S162-43	(12)
		8" STUD	800S162-43 @ 16" O.C.	1000S162-54	800T150-54	(2) 800S162-54	(2) 800S162-43	(12)
	8'-1" TO 14'-0"	6" STUD	600S162-43 @ 16" O.C.	1000S162-68	600T200-68	(2) 600S200-68	(2) 600S162-54	(16)
		8" STUD	800S162-43 @ 16" O.C.	1200S162-68	800T200-68	(2) 800S200-68	(2) 800S162-54	(16)
INTERIOR	0'-0" TO 4'-0"	4" STUD	362S162-33 @ 24" O.C.	600S162-33	362T150-33	(2) 362S162-43	362S162-43	(8)
		6" STUD	600S162-33 @ 24" O.C.	600S162-33	600T150-33	(2) 600S162-43	600S162-43	(8)
	4'-1" TO 8'-0"	4" STUD	362S162-33 @ 24" O.C.	600S162-33	362T150-43	(2) 362S162-54	362S162-43	(8)
		6" STUD	600S162-33 @ 24" O.C.	600S162-33	600T150-43	(2) 600S162-54	600S162-43	(8)
	8'-1" TO 14'-0"	4" STUD	362S162-33 @ 24" O.C.	600S162-43	362T200-54	(2) 362S200-68	362S162-54	(8)
		6" STUD	600S162-33 @ 24" O.C.	600S162-43	600T200-54	(2) 600S200-68	600S162-54	(8)



STEEL STUD WALL

1/4" = 1'-0"

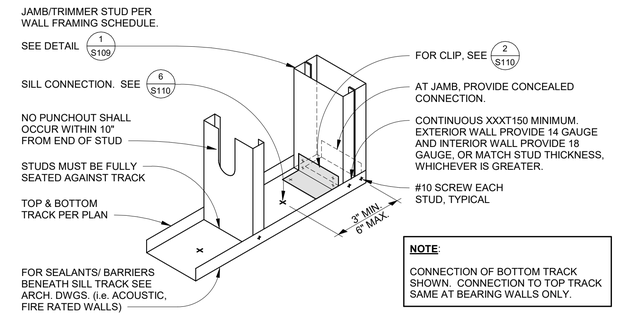
1 S109

NOTES:

1. ALL BEARING & NON-BEARING STEEL STUD WALLS SHALL BE PER WALL FRAMING SCHEDULE UNLESS NOTED OTHERWISE. FOR WALL TYPE AND LOCATION SEE ARCHITECTURAL DRAWINGS.
2. ALL SECTIONS SHALL BE MANUFACTURED IN ACCORDANCE WITH THE LATEST A.I.S.I. SPECIFICATION AND MEET THE FOLLOWING THICKNESS REQUIREMENTS:

MILS/GAUGE SCHEDULE		
MILS	MINIMUM THICKNESS	GAUGE
30	0.0312"	20
33	0.0346"	20
43	0.0451"	18
54	0.0566"	16
68	0.0713"	14
97	0.1017"	12

3. BENT, KINKED, DISTORTED, OR DAMAGED SECTIONS SHALL NOT BE USED.
4. STUDS MAY HAVE FACTORY WEB PUNCHOUTS U.N.O. AT 24" O.C. ALONG CENTERLINE OF WEB WITH A MAXIMUM WIDTH = HALF THE MEMBER DEPTH (d/2) OR 2 1/2" WHICHEVER IS LESS, AND A MAXIMUM LENGTH = 4 1/2". PUNCHOUTS SHALL NOT BE CLOSER THAN 10" FROM SECTION ENDS. SEE ARCHITECTURAL DRAWINGS FOR UNPUNCHED STUD REQUIREMENTS AT ACOUSTICAL WALLS.
5. SECTION PROPERTIES ARE BASED UPON THE "STEEL STUD MANUFACTURERS ASSOCIATION" (SSMA) CATALOG OF PARTICIPATING PRODUCERS. (ICBO 4943P)
6. ALL STUDS AND JAMBS SHALL EXTEND FULL-HEIGHT (SUPPORT TO SUPPORT).
7. FOR SIZES OF OPENINGS AND ELEVATION TO BOTTOM/TOP OF OPENINGS, SEE ARCHITECTURAL PLANS
8. ALL JAMBS, HEADERS AND WINDOW SILLS SHALL BE AS NOTED IN SCHEDULE. TOP OF WALL TRACK AND BOTTOM OF WALL TRACK SHALL MATCH WALL STUD GAUGE WITH 1 1/2" MINIMUM FLANGE.
9. PROVIDE BRIDGING PER DETAIL 3 S110
10. ALL PARAPETS SHALL BE CAPPED WITH A LIGHT GAUGE TRACK MATCHING STUD GAUGE AND THICKNESS.
11. WHERE NON-BEARING WALLS EXTEND TO STRUCTURE, SEE 2 S111 & 7 S111
12. ALL WELDS SHALL BE 1/8" " FILLET MAXIMUM. FOR MATERIALS THINNER THAN 0.15", EFFECTIVE THROAT SHALL NOT BE LESS THAN THINNEST MATERIAL. WELD IN ACCORDANCE WITH "STRUCTURAL WELDING CODE - SHEET STEEL" AWS D1.3.
13. SCREWS SHALL BE THREAD-FORMING OR THREAD-CUTTING, WITH OR WITHOUT A SELF DRILLING POINT. SCREWS SHALL BE INSTALLED AND TIGHTENED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. MINIMUM SPACING IS THREE SCREW DIAMETERS. A MINIMUM OF (3) THREADS SHALL BE ENGAGED.
14. USE LOW PROFILE HEAD SCREWS AT ALL LOCATIONS THAT HAVE GYPSUM BOARD FINISH.
15. USE UNPUNCHED STUDS FOR ALL BOX HEADERS AND JAMB STUDS.
16. WALL STUDS LISTED IN THE WALL FRAMING SCHEDULE SHALL BE USED, UNLESS NOTED OTHERWISE. SEE PLANS AND SPECIFIC DETAILS FOR ADDITIONAL REQUIREMENTS.
17. FOR STUD PENETRATIONS, SEE DETAILS 9 S110 & 5 S110
18. WHERE CLIP ALIGNS WITH STUD KNOCKOUT, REINFORCE PER 3 X7.02
19. SHOT PINS/ POWER ACTUATED FASTENERS (PAF):
    A. ALL SHOT PINS SHALL BE AS MANUFACTURED BY HILTI, INCORP. REFERENCE SHALL BE MADE TO THE LATEST EDITION OF THE HILTI 'PRODUCT TECHNICAL GUIDE' AND THE ICC ES ESR 2269 REPORT FOR ADDITIONAL INFORMATION.
    B. SHOT PINS DRIVEN INTO STEEL BASE MATERIAL SHALL BE XU TYPE WITH P8 WASHERS. LENGTH OF PIN SHALL BE AS REQUIRED TO PENETRATE THROUGH THE STEEL BASE MATERIAL. MINIMUM EDGE DISTANCE TO ANY CONNECTED PART SHALL BE 1/2" AND MINIMUM FASTENER SPACING SHALL BE 2". ENTIRE POINTED END OF PIN MUST PENETRATE THROUGH STEEL LESS THAN 1/2" THICK OR PENETRATE A MINIMUM OF 1/2" INTO STEEL 1/2" THICK OR GREATER. PINS IN STEEL SUBJECT TO WITHDRAW LOADS ARE REQUIRED TO HAVE KNURLED SHANK.
    C. SHOT PINS DRIVEN INTO CONCRETE BASE MATERIAL SHALL BE XU TYPE WITH P8 WASHERS. LENGTH OF PIN SHALL BE AS REQUIRED TO PENETRATE 1 1/2" INTO THE CONCRETE BASE MATERIAL. MINIMUM EDGE DISTANCE TO ANY CONCRETE MATERIAL SHALL BE 3" AND MINIMUM FASTENER SPACING SHALL BE 4".
    D. SHOT PINS DRIVEN INTO CONCRETE BASE MATERIAL THROUGH METAL DECK SHALL BE XU TYPE WITH P8 WASHERS. LENGTH OF PIN SHALL BE AS REQUIRED TO PENETRATE 1" INTO THE CONCRETE THROUGH THE LOW FLUTE. PIN SHALL BE CENTERED IN THE LOW FLUTE AND MINIMUM FASTENER SPACING SHALL BE 4".
    E. WHERE STEEL WASHERS ARE INDICATED ON THE DRAWINGS, PINS SHALL BE XU WITH PREMOUNTED STEEL WASHERS WITH A MINIMUM DIAMETER OF 36mm (1 7/16").



NOTE:

CONNECTION OF BOTTOM TRACK SHOWN. CONNECTION TO TOP TRACK SAME AT BEARING WALLS ONLY.

STUD DETAIL

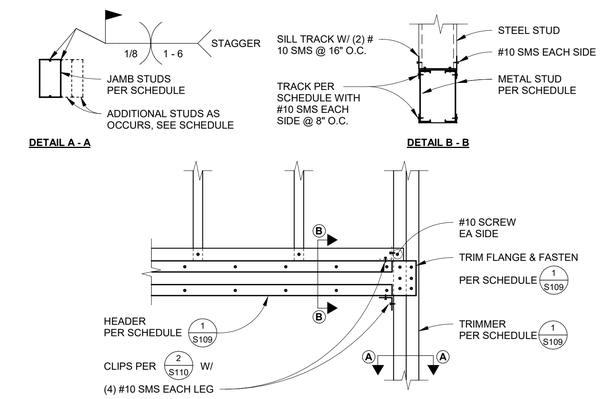
1" = 1'-0"

2 S109

SILL DETAIL

1" = 1'-0"

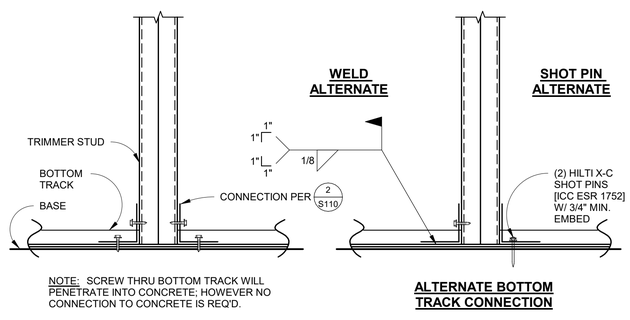
3 S109



HEADER ATTACHMENT

1" = 1'-0"

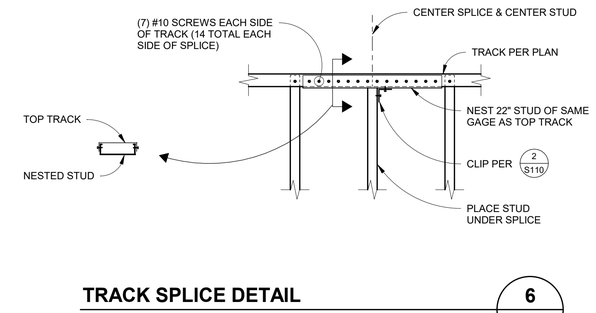
4 S109



TRIMMER STUD AT BOTTOM TRACK

3" = 1'-0"

5 S109



TRACK SPLICE DETAIL

1" = 1'-0"

6 S109

REVISION				
NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: DGL | DRAWN BY: DAA | DESIGN CHECK BY: DGL/JPJ | DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD. LONG BEACH, CA 90807

TYPICAL METAL STUD DETAILS No. 1

B# B-4797

PHASE # ____ REBID # ____

SHEET 119 OF 236

DWG. NO. S109

REGISTERED PROFESSIONAL ENGINEER DUSTIN G. LEE No. S6623 EXP. 3/31/25 STRUCTURAL STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 8:44:55 AM

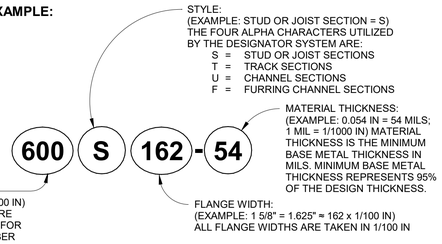
TYPE	STUD MARK	DIMENSIONS IN INCHES		MINIMUM SECTION PROPERTIES		Fy (ksi)
		L	B	Ix in^4	Sx in^3	
LIGHT GAUGE STEEL STUDS						
	600S162-33	0.500	1.625	1.793	0.598	33
	600S162-43	0.500	1.625	2.316	0.772	33
	600S162-54	0.500	1.625	2.860	0.953	50
	600S162-68	0.500	1.625	3.525	1.175	50
	800S162-33 *	0.500	1.625	3.582	0.896	33
	800S162-43	0.500	1.625	4.633	1.158	33
	800S162-54	0.500	1.625	5.736	1.434	50
	800S162-68	0.500	1.625	7.089	1.772	50
	800S200-33 *	0.625	2.000	4.096	1.024	33
	800S200-43	0.625	2.000	5.302	1.325	33
	800S200-54	0.625	2.000	6.573	1.643	50
	800S200-68	0.625	2.000	8.140	2.035	50
	1000S162-43 *	0.500	1.625	8.025	1.605	33
	1000S162-54	0.500	1.625	9.950	1.990	50
	1000S162-68	0.500	1.625	12.325	2.465	50
	1000S200-43 *	0.625	2.000	9.085	1.817	33
	1000S200-54	0.625	2.000	11.278	2.256	50
	1000S200-68	0.625	2.000	13.994	2.799	50
	1000S250-43 *	0.625	2.500	10.203	2.041	33
	1000S250-54	0.625	2.500	12.677	2.535	50
	1000S250-68	0.625	2.500	15.751	3.150	50
	1200S162-54 *	0.500	1.625	15.730	2.622	50
	1200S162-68	0.500	1.625	19.518	3.253	50
	1200S200-54 *	0.625	2.000	17.662	2.944	50
	1200S200-68	0.625	2.000	21.947	3.658	50
	1200S250-54 *	0.625	2.500	19.681	3.280	50
	1200S250-68	0.625	2.500	24.484	4.081	50
	1200S250-97	0.625	2.500	34.016	5.669	50
	1200S300-54 *	0.625	3.000	21.699	3.617	50
	1200S300-68	0.625	3.000	27.020	4.503	50
	1200S300-97	0.625	3.000	37.616	6.269	50
LIGHT GAUGE STEEL TRACKS						
	250T125-33	-	1.250	0.192	0.145	33
	362T125-33	-	1.250	0.438	0.232	33
	362T125-43	-	1.250	0.571	0.302	33
	362T125-54	-	1.250	0.723	0.378	50
	600T125-33	-	1.250	1.428	0.465	33
	600T125-43	-	1.250	1.861	0.604	33
	600T125-54	-	1.250	2.344	0.756	50
	600T125-68	-	1.250	2.969	0.950	50
	800T125-33	-	1.250	2.895	0.711	33
	800T125-43	-	1.250	3.773	0.924	33
	800T125-54	-	1.250	4.745	1.158	50
	800T125-68	-	1.250	5.998	1.454	50
	1000T125-43	-	1.250	6.630	1.305	33
	1000T125-54	-	1.250	8.333	1.634	50
	1000T125-68	-	1.250	10.522	2.053	50
	1200T125-54	-	1.250	13.335	2.186	50
	1200T125-68	-	1.250	16.826	2.747	50

NOTES:
1. ALL SECTIONS SHALL BE MANUFACTURED IN ACCORDANCE WITH THE LATEST A.I.S.I. SPECIFICATION AND SHALL BE ASTM A653.
2. BENT, KINKED, DISTORTED, OR DAMAGED SECTIONS SHALL NOT BE USED.
3. STUDS MAY HAVE 1 1/2"x4" WEB CUTOUTS AT 24" O.C. CUTOUTS SHALL NOT BE CLOSER THAN 12" FROM SECTION ENDS.
4. SECTION PROPERTIES ARE BASED UPON THE "STEEL STUD MANUFACTURERS ASSOCIATION" (SSMA) CATALOG OF PARTICIPATING PRODUCERS. (ICBO 4943P)
5. WHERE POWER ACTUATED FASTERERS OR "SHOT PINS" ARE SPECIFIED, SEE **POWER ACTUATED FASTERS** SPECIFICATION ON SHEET
6. SCREW FASTENERS SHALL MEET THE FOLLOWING REQUIREMENTS:

STEEL TO STEEL FASTENER SIZE	
STEEL THICKNESS 'T'	SCREW TYPE
T < 12 GA.	#10 W/ #2 POINT
12 GA. < T < 1/4"	#10 W/ #3 POINT
1/4" < T < 1/2"	#10 W/ #5 POINT
STEEL TO WOOD FASTENER SIZE	
STEEL THICKNESS 'T'	SCREW TYPE
T < 12 GA.	#10 W/ #3 POINT

7. LIGHT GAUGE SECTIONS ARE DESIGNATED AS FOLLOWS:
   ALL LIGHT GAUGE (SSMA) PRODUCTS HAVE A FOUR PART IDENTIFICATION CODE WHICH IDENTIFIES THE SIZE (BOTH DEPTH AND FLANGE WIDTH), STYLE, AND MATERIAL THICKNESS OF EACH MEMBER

EXAMPLE:

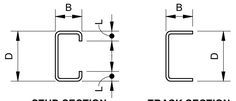


STYLE:
(EXAMPLE: STUD OR JOIST SECTION = S)
THE FOUR ALPHA CHARACTERS UTILIZED BY THE DESIGNATOR SYSTEM ARE:
S = STUD OR JOIST SECTIONS
T = TRACK SECTIONS
U = CHANNEL SECTIONS
F = FURRING CHANNEL SECTIONS

MATERIAL THICKNESS:
(EXAMPLE: 0.054 IN = 54 MILS; 1 MIL = 1/1000 IN) MATERIAL THICKNESS IS THE MINIMUM BASE METAL THICKNESS IN MILS. MINIMUM BASE METAL THICKNESS REPRESENTS 95% OF THE DESIGN THICKNESS.

MEMBER DEPTH:
(EXAMPLE: 6" = 600 x 1/100 IN) ALL MEMBER DEPTHS ARE TAKEN IN 1/100 INCHES. FOR ALL "T" SECTIONS MEMBER DEPTH IS THE INSIDE TO INSIDE DIMENSION.

FLANGE WIDTH:
(EXAMPLE: 1 5/8" = 1.625" ≈ 162 x 1/100 IN) ALL FLANGE WIDTHS ARE TAKEN IN 1/100 IN

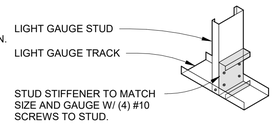


STUD SECTION

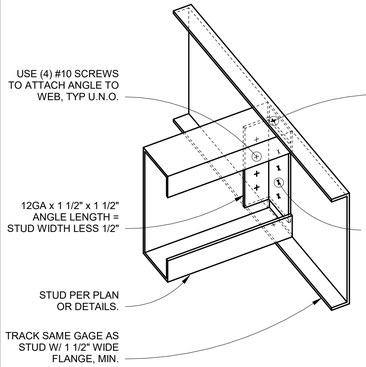
TRACK SECTION

STEEL THICKNESS TABLE		
DESIGNATION THICKNESS (mil)	GAUGE	MIN. THICKNESS (in)
33	20	0.0329
43	18	0.0428
54	16	0.0538
68	14	0.0677
97	12	0.0966

8. WHERE STUD MARK IS FOLLOWED BY (*), WEB STIFFENER IS REQURED EACH END AS SHOWN.

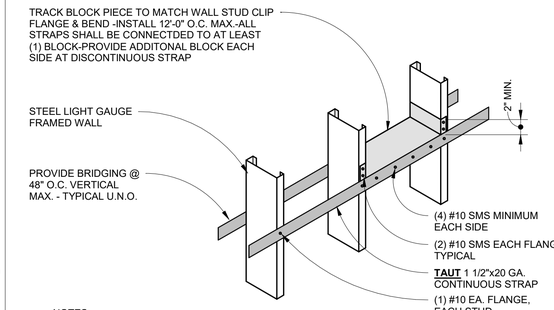


LIGHT GAUGE STEEL PROPERTIES
12" = 1'-0"
1 S110



NOTE:
FASTENERS SHALL BE EQUALLY SPACED W/ 1/2" MINIMUM EDGE DISTANCE.

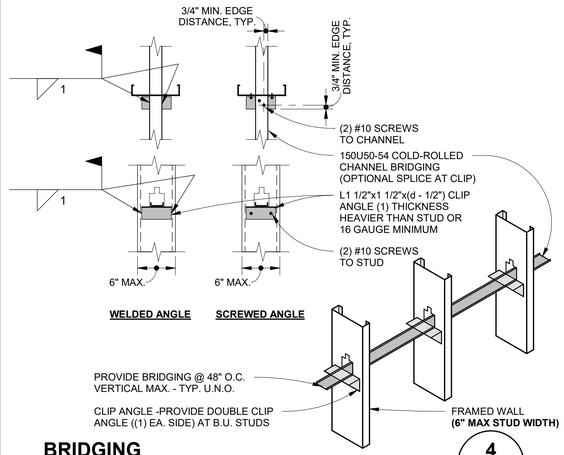
CLIP DETAIL
3" = 1'-0"
2 S110



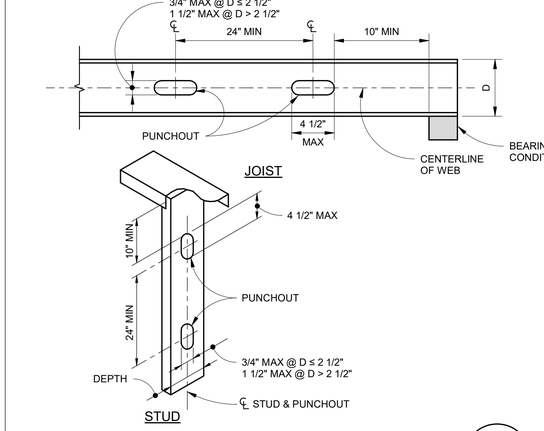
NOTES:
1. PROVIDE BRIDGING ON ALL WALL STUDS.
2. INSTALL ALL BRIDGING PRIOR TO INSTALLATION OF SUPPORTED FRAMING.
3. FOR ADDITIONAL INFORMATION SEE 1/S109
4. FOR ALTERNATE BRIDGING, SEE 4/S110

ALTERNATE BRIDGING NOT ALLOWED ON STUDS GREATER THAN 6" DEEP.

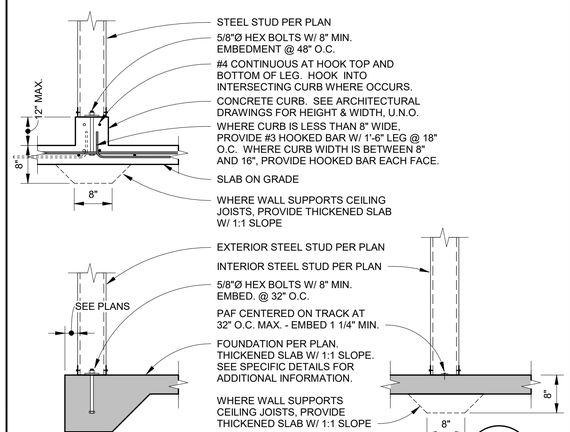
BRIDGING - STRAP AND BLOCKING
1" = 1'-0"
3 S110



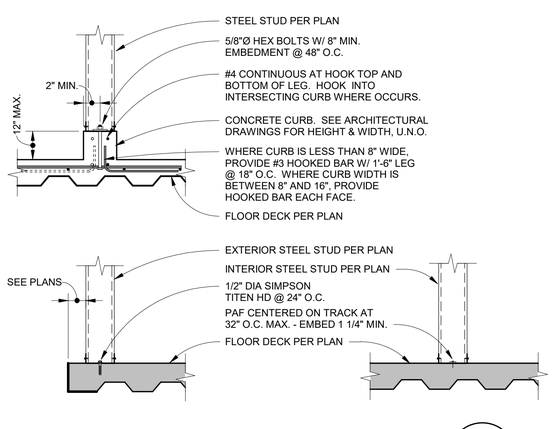
BRIDGING
1" = 1'-0"
4 S110



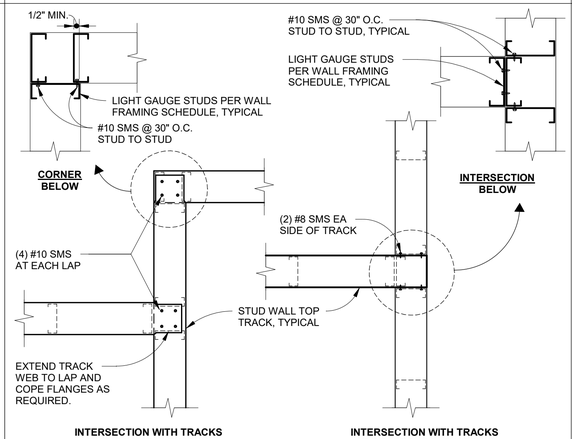
STUD PENETRATION DETAIL
1 1/2" = 1'-0"
5 S110



SILL CONNECTION - SLAB ON GRADE
3/4" = 1'-0"
6 S110

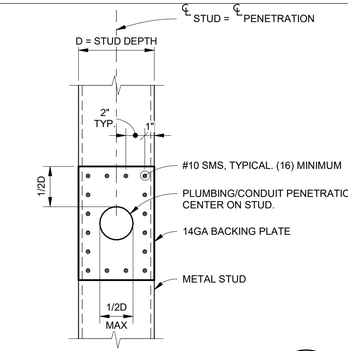


SILL CONNECTION - CONCRETE FLOOR
3/4" = 1'-0"
7 S110



CORNER/INTERSECTION FRAMING
1" = 1'-0"
8 S110

NOTE:
PROVIDE REINFORCING PLATE AT HOLES THAT EXCEED PUNCHOUT SIZE & SPACING.
SEE DETAIL 5/S110



STUD PENETRATION DETAIL
1 1/2" = 1'-0"
9 S110

REVISION

NO.	DATE	APPROVAL	DESCRIPTION
	12/16/2021		PLAN CHECK SUBMITTAL
1	04/22/2022		PLAN CHECK RE-SUBMITTAL
2	06/15/2023		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS
			AS-BUILT

SHEET
REF.

DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807

TYPICAL METAL STUD DETAILS No. 2

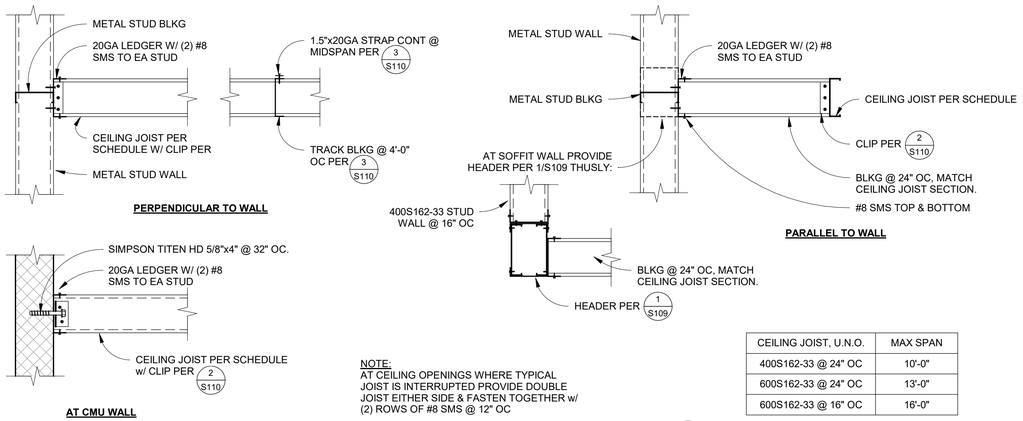
B# B-4797
PHASE # ____ REBID # ____
SHEET 120 OF 236
DWG. NO. S110

REGISTERED PROFESSIONAL ENGINEER DUSTIN G. LEE No. 36623 EXP. 3/31/25 STRUCTURAL STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

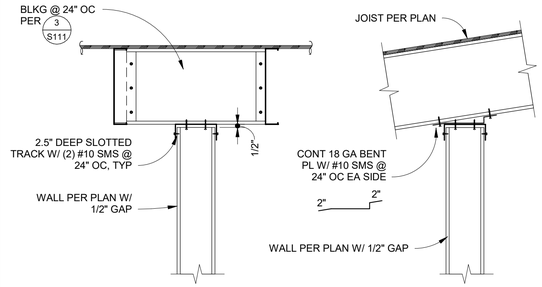
10/16/2023 8:44:58 AM



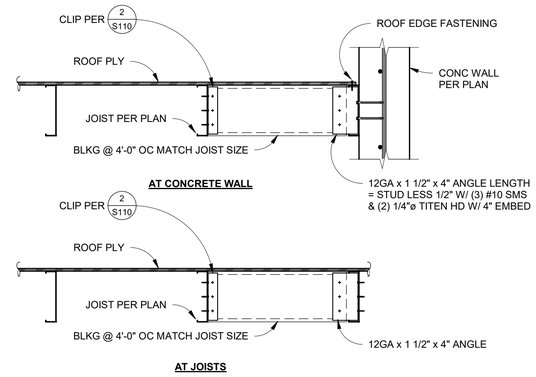
NOTE:
AT CEILING OPENINGS WHERE TYPICAL JOIST IS INTERRUPTED PROVIDE DOUBLE JOIST EITHER SIDE & FASTEN TOGETHER w/ (2) ROWS OF #8 SMS @ 12" OC

CEILING JOIST, U.N.O.	MAX SPAN
400S162-33 @ 24" OC	10'-0"
600S162-33 @ 24" OC	13'-0"
600S162-33 @ 16" OC	16'-0"

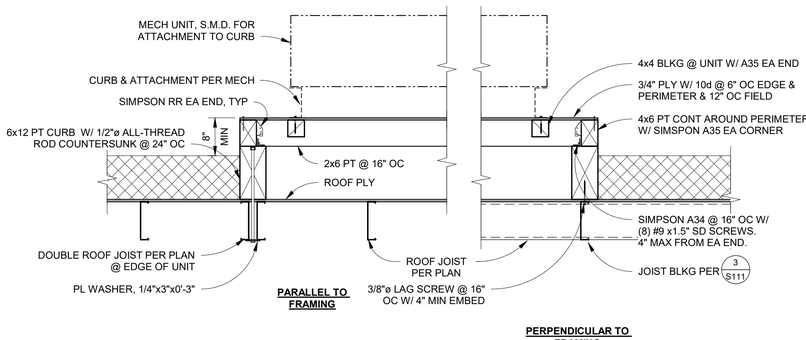
TYPICAL CEILING JOIST DETAIL — 1/S111
1" = 1'-0"



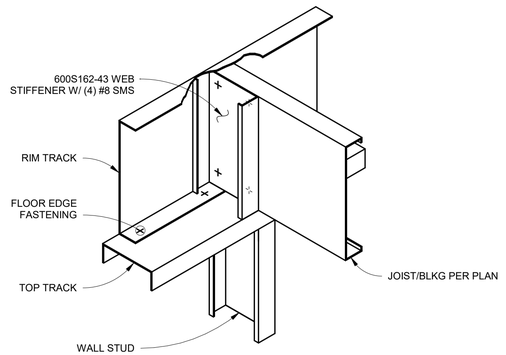
TYPICAL TOP OF PARITION WALL TO METAL STUD JOIST — 2/S111
1" = 1'-0"



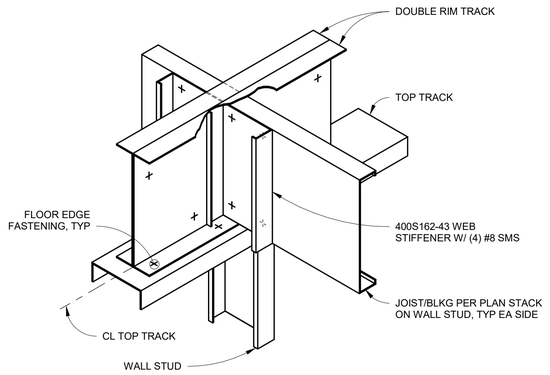
TYPICAL JOIST BLOCKING DETAIL — 3/S111
1" = 1'-0"

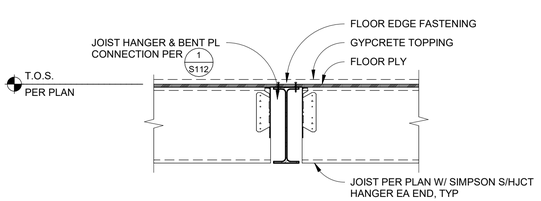


TYPICAL CURB @ MECH UNIT — 4/S111
3/4" = 1'-0"

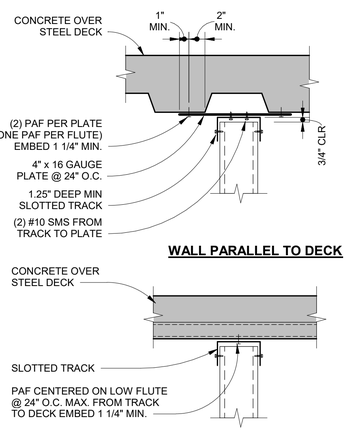


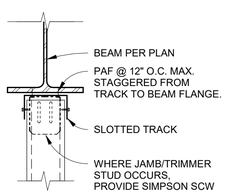
TYPICAL METAL STUD STACK FRAME — 5/S111
1 1/2" = 1'-0"

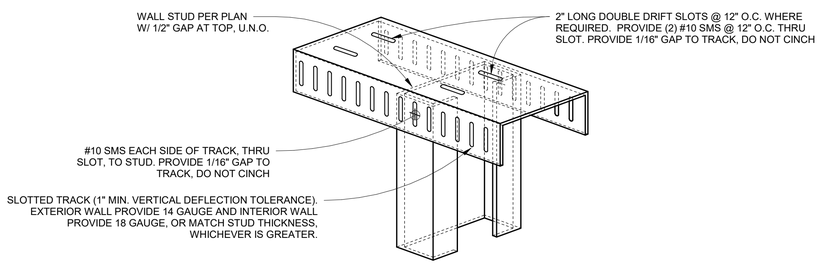




TYPICAL LGS AT WF BEAM PERPENDICULAR — 6/S111
1" = 1'-0"







NOTE:
1. "SLOTTED TRACK" SHALL BE 2 1/2" DEEP STEEL TRACK W/ 1/4" x 1 1/2" VERTICAL SLOTS. AT STUD CONNECTION, PROVIDE #8 9/16" WAFER HEAD SCREW EACH SIDE CENTERED IN SLOT. TOP OF STUD SHALL MAINTAIN 3/4" CLEARANCE FOR MOVEMENT.
2. FOR SEALANTS/BARRIERS ABOVE TOP TRACK SEE ARCH. DWGS. (i.e. ACOUSTIC, FIRE RATED WALLS)
3. FOR SIMPSON SCW PROVIDE (2) #14 SHOULDERED SCREWS. AT STUDS 4" OR LESS, USE SCW3.25. STUDS GREATER THAN 4", USE SCW5.5.

NON-BEARING TOP OF WALL CONNECTION — 7/S111
1 1/2" = 1'-0"

REVISION NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT — MARY C. MCGRATH — C-24435 — REN-08-30-23 — STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807
TYPICAL METAL STUD DETAILS No. 3

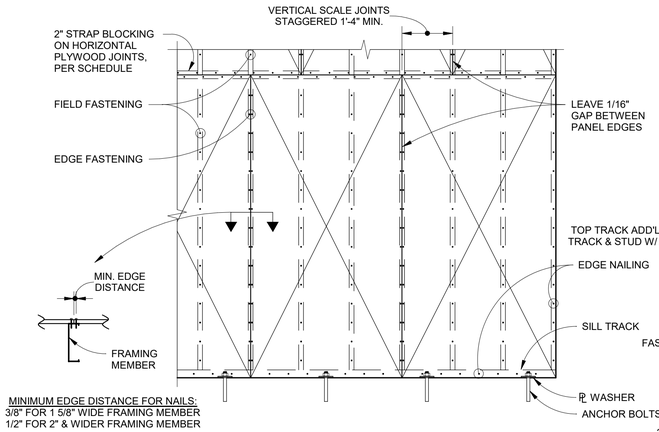
B# B-4797
PHASE # ____ REBID # ____
SHEET 121 OF 236
DWG. NO. S111

REGISTERED PROFESSIONAL ENGINEER — DUSTIN G. LEE — No. S6623 — EXP. 3/31/25 — STRUCTURAL — STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 8:44:59 AM



MINIMUM EDGE DISTANCE FOR NAILS:
3/8" FOR 1 5/8" WIDE FRAMING MEMBER
1/2" FOR 2" & WIDER FRAMING MEMBER

NOTES:

1. HOLDOWN BOLTS SHALL NOT REPLACE ANCHOR BOLTS.
2. RETIGHTEN ALL ANCHOR BOLTS AND HOLDOWN NUTS PRIOR TO CLOSING FRAMING.
3. NO. 8 SCREWS SHALL HAVE A MINIMUM HEAD DIAMETER OF 0.285". NO. 10 SCREWS SHALL HAVE A MINIMUM HEAD DIAMETER OF 0.333.
4. MINIMUM PLYWOOD WIDTH IS 12".
5. UPSET THREAD BOLTS ARE NOT PERMITTED.
6. MINIMUM FRAMING THICKNESS = 18 GAGE, U.N.O.

ELEVATION

SHEARWALL SCHEDULE - STEEL STUD

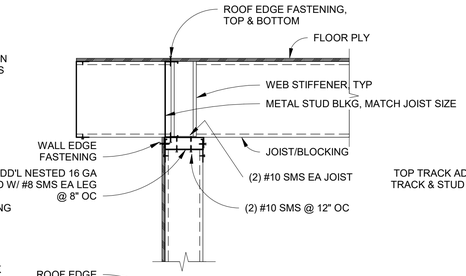
ZONE	ALLOWABLE SHEAR	PLYWOOD	EDGE FASTENING	FIELD FASTENING	BOLTED PLATE CONNECTION	MINIMUM FRAMING THICKNESS	LTP5 SPACING	REMARKS
A	350 PLF	1/2" CDX	No. 10 @ 6" O.C.	No. 10 @ 12" O.C.	AB @ 48" OC	18 GAUGE	24" OC	1, 3
B	530 PLF	1/2" CDX	No. 10 @ 4" O.C.	No. 10 @ 12" O.C.	AB @ 32" OC	18 GAUGE	16" OC	2, 3
C	710 PLF	1/2" CDX	No. 10 @ 3" O.C.	No. 10 @ 12" O.C.	AB @ 24" OC	18 GAUGE	12" OC	2, 3
D	840 PLF	1/2" CDX	No. 10 @ 2" O.C.	No. 10 @ 12" O.C.	AB @ 16" OC	18 GAUGE	8" OC	2, 3

NOTE:

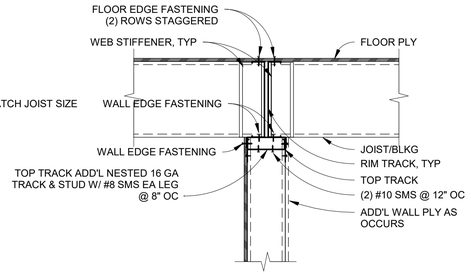
WHEN PLY IS SHOWN BOTH SIDES, OFFSET PANEL JOINTS EACH SIDE OF WALL TO FALL ON DIFFERENT FRAMING MEMBERS. INSTALL 2" OR WIDER FRAMING & BLOCKING AT ALL ADJOINING PANEL EDGES. ANCHOR BOLT & LTP5 SPACING SHOULD BE HALVED.

REMARKS:

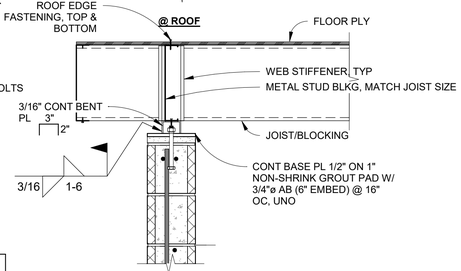
1. INSTALL 1 5/8" OR WIDER FRAMING & BLOCKING AT ALL ADJOINING PANEL EDGES.
2. INSTALL 2" OR WIDER FRAMING & BLOCKING WITH STAGGERED EDGE FASTENING AT ALL ADJOINING PANEL EDGES.
3. PLYWOOD SHALL BE EDGE FASTENED AT ALL PANEL EDGES, TOP TRACKS, SILL TRACKS, HOLDOWN STUDS, POSTS AND BLOCKING LOCATIONS AS WELL AS OTHER LOCATIONS SHOWN IN THE DRAWINGS.



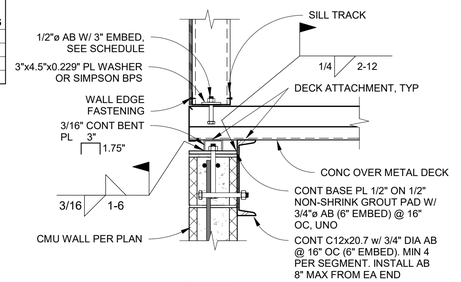
@ ROOF



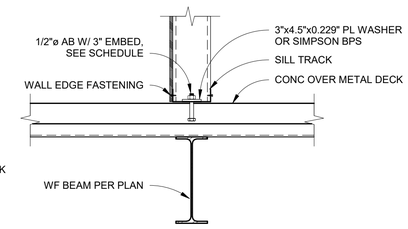
@ ROOF



@ ROOF W/ CMU WALL



@ FLOOR

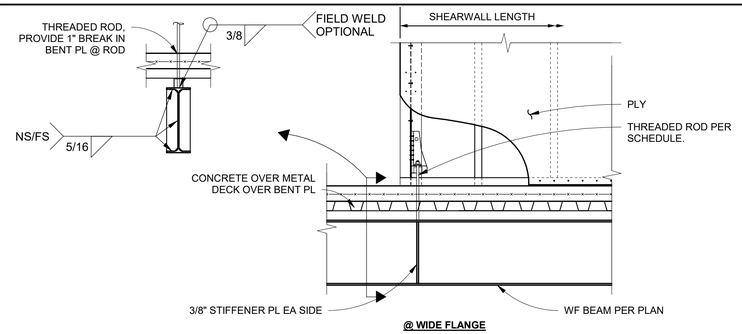


@ FLOOR

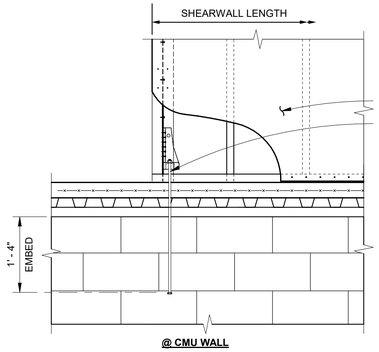
STEEL STUD & PLYWOOD SHEARWALL

1" = 1'-0"

1 / S112



@ WIDE FLANGE



@ CMU WALL

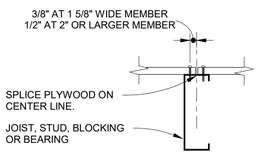
HOLDOWN SCHEDULE - LIGHT GAUGE STEEL

TYPE	DESCRIPTION	No. OF FASTENERS TO POST	THREADED ROD DIAMETER (ASTM F1554 GR-36)	END POST	SERVICE LOAD CAPACITY (LBS)	ANCHOR EMBED	
						de	F
1	SIMPSON S/HDU4	(6) - #14	5/8"	(2) S200-43 MIN.	3,825#	6 1/2"	10"
2	SIMPSON S/HDU6	(12) - #14	5/8"	(2) S200-43 MIN.	6,125#	6 1/2"	10"

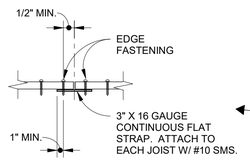
TYPICAL HOLDOWN

3/4" = 1'-0"

2 / S112



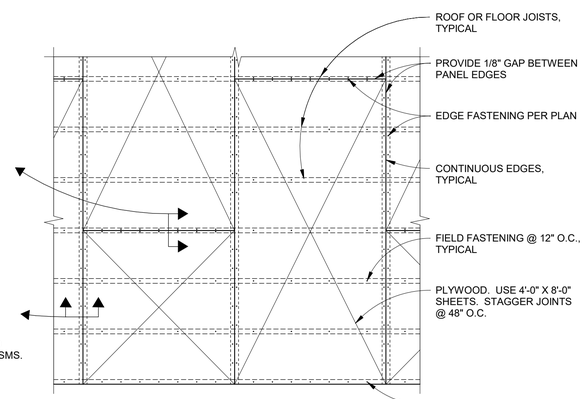
SECTION AT JOIST



SECTION AT BLOCK

NOTES:

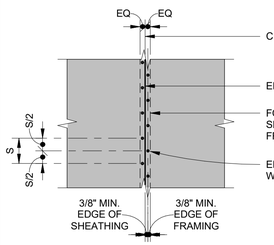
1. PLYWOOD SHEETS ARE TO BE AS LARGE AS POSSIBLE. JOINTS ARE TO BE CENTERED OVER BEARINGS. SHEET SIZE LESS THAN 24" IN DIMENSION ARE NOT PERMITTED. STAGGER ALL END JOINTS OF SHEATHING. OUTSIDE FACE GRAINS TO RUN PERPENDICULAR TO BEARING. BLOCKING ALL JOINTS AND EDGES.
2. MINIMUM FRAMING THICKNESS = 20 GAUGE, U.N.O.
3. PROVIDE MINIMUM #8 SCREWS FOR FRAMING THICKNESS OF 18 GAUGE OR LESS AND MINIMUM #10 SCREWS FOR FRAMING THICKNESS OF MORE THAN 18 GAUGE.



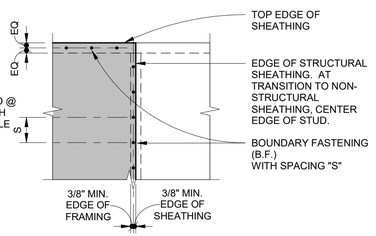
PLYWOOD DIAPHRAGM

1/2" = 1'-0"

4 / S112

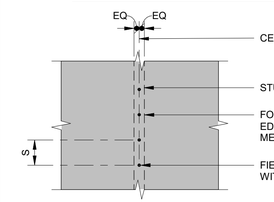


SHEAR PANEL FASTENING AT EDGE/BLOCKING



SHEAR PANEL FASTENING AT BOUNDARY

NOTE: THE FASTENING DESIGNATION 6:6:12 INDICATES (6" O.C. EDGE):(6" O.C. BOUNDARY):(12" O.C. FIELD)



SHEAR PANEL FASTENING AT FIELD/INTERMEDIATE STUD

PLY EDGE/BOUNDARY FASTENING

1" = 1'-0"

5 / S112

REGISTERED PROFESSIONAL ENGINEER — DUSTIN G. LEE — No. 39623 EXP. 3/31/25 — STRUCTURAL — STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

AS-BUILT | REF.

DESIGNED BY: DGL | DRAWN BY: DAA | DESIGN CHECK BY: DGL/JPJ | DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT — MARY C. MCGRATH — C-24435 — REN-08-30-23 — STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807

TYPICAL METAL STUD DETAILS No. 4

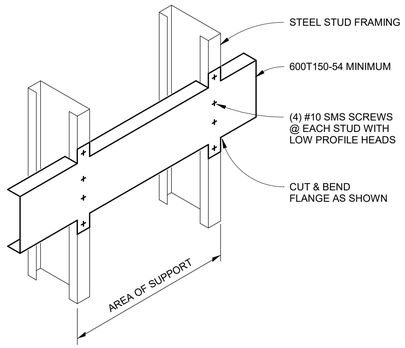
B# B-4797

PHASE # ____ REBID # ____

SHEET 122 OF 236

DWG. NO. S112

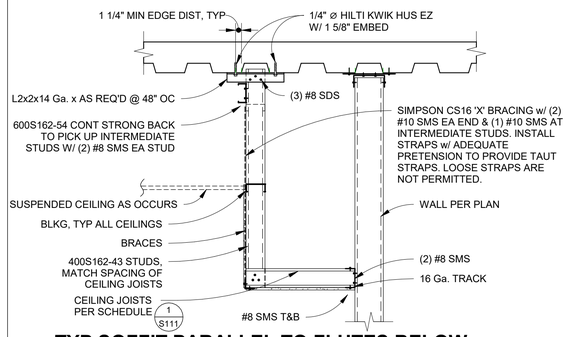
10/16/2023 8:45:02 AM



LIGHT GAUGE BACKING

12" = 1'-0"

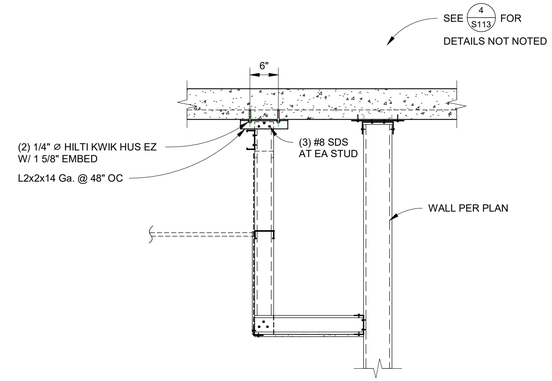
1 / S113



TYP SOFFIT PARALLEL TO FLUTES BELOW CONC DECK

3/4" = 1'-0"

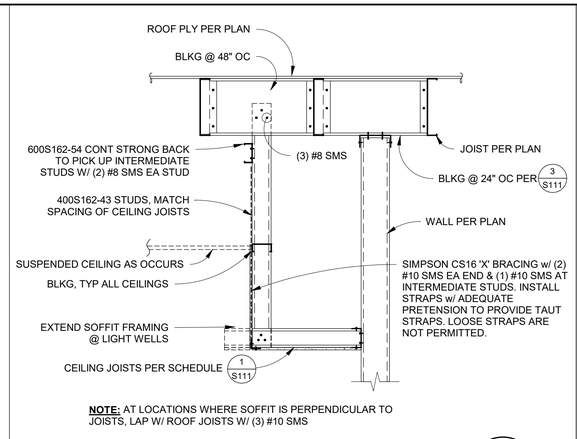
4 / S113



TYP SOFFIT PERP TO FLUTES BELOW CONC DECK

3/4" = 1'-0"

5 / S113

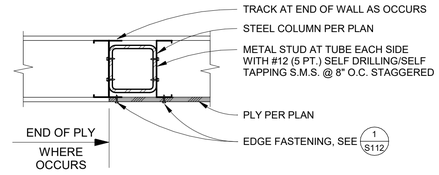


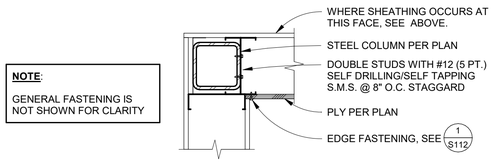
NOTE: AT LOCATIONS WHERE SOFFIT IS PERPENDICULAR TO JOISTS, LAP W/ ROOF JOISTS W/ (3) #10 SMS

TYP SOFFIT @ METAL STUD JOISTS

3/4" = 1'-0"

7 / S113



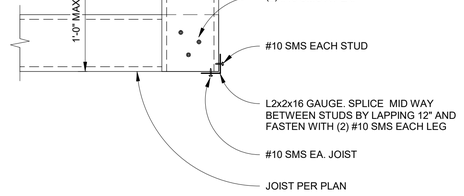


NOTE:
GENERAL FASTENING IS NOT SHOWN FOR CLARITY

HSS FASTENER CONNECTION

1 1/2" = 1'-0"

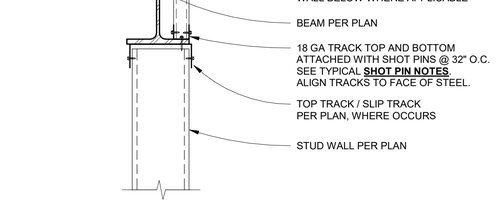
8 / S113



SOFFIT CORNER

1 1/2" = 1'-0"

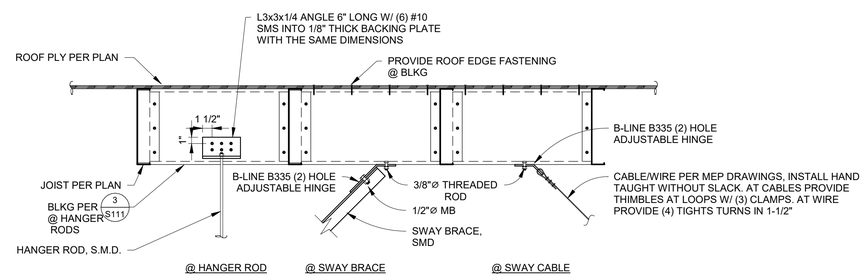
9 / S113



IN-FILL AT STEEL BEAM

1 1/2" = 1'-0"

10 / S113



MEP UNIT ATTACHMENT @ METAL STUD JOISTS

1" = 1'-0"

11 / S113

10/16/2023 8:45:03 AM

REVISION			
NO.	DATE	SHEET	APPROVAL
	12/16/2021		PLAN CHECK SUBMITTAL
1	04/22/2022		PLAN CHECK RE-SUBMITTAL
2	06/15/2023		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS

REF.

AS-BUILT

DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD. LONG BEACH, CA 90807

TYPICAL METAL STUD DETAILS No. 5

B# B-4797

PHASE # ____ REBID # ____

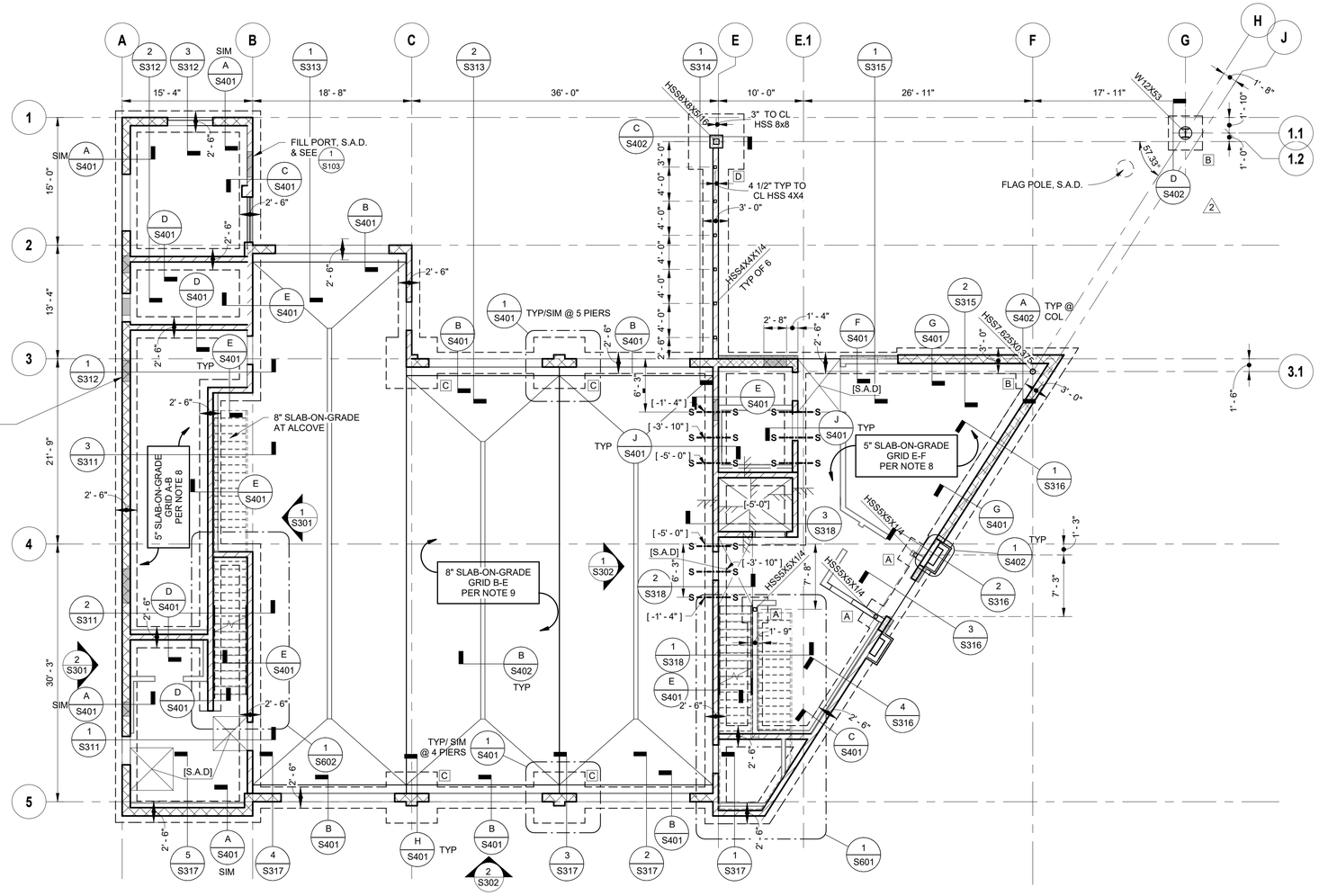
SHEET 123 OF 236

DWG. NO. S113

REGISTERED PROFESSIONAL ENGINEER DUSTIN G. LEE No. 58623 EXP. 3/31/25 STRUCTURAL STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



FOUNDATION PLAN

1/8" = 1'-0"

FOUNDATION PLAN NOTES:

1. REFER TO GENERAL NOTES & SPECIFICATIONS ON SHEET S001 & S002.
2. SEE SHEET S101-S113 FOR TYPICAL DETAILS.
3. TOP OF SLAB & GROUND FLOOR REFERENCE ELEVATION = +[0' - 0"] TYP, U.N.O.
4. FOR DETAILED SOILS INFORMATION AND COMPLETE REQUIREMENTS, REFER TO SOILS REPORT.
5. SEE CIVIL DRAWINGS FOR BUILDING PAD PREPARATION, INCLUDING OVER EXCAVATION AND FILL REQUIREMENTS PER THE SOILS REPORT.
6. CONTRACTOR TO VERIFY ALL DIMENSIONS AND ELEVATIONS SHOWN WITH ARCHITECTURAL DRAWINGS AND INFORM BOTH ARCHITECT AND STRUCTURAL ENGINEER OF ANY CONFLICTING INFORMATION.
7. THE SIZE & LOCATION OF ALL FOOTING AND SLAB PENETRATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO INSTALLATION.
8. 5" SLAB-ON-GRADE SHALL BE:
   GRIDS A-B & E-F: 5" THICK SLAB-ON-GRADE SECTION, AS FOLLOWS: 5" THICK CONCRETE SLAB w/ #4 @ 18" O.C. EACH WAY AT 2" BELOW TOP OF SLAB. PLACE SLAB OVER SLAB MEMBRANE AND 4" OF 3/4" CRUSHED ROCK.
9. 8" SLAB-ON-GRADE SHALL BE:
   GRIDS B-E: 8" THICK SLAB-ON-GRADE SECTION AS FOLLOWS: 8" THICK CONCRETE SLAB w/ #4 @ 18" O.C. EACH WAY TOP & BOTTOM (TOP MAT 2" CLR TO TOP OF SLAB, BOTTOM MAT 2" CLR TO BOTTOM OF SLAB). PLACE SLAB OVER SLAB MEMBRANE AND 4" OF 3/4" CRUSHED ROCK.
10. CONTROL JOINTS ARE TO BE INSTALLED @ 12'-6" O.C. MAX @ 5" SLABS AND 20'-0" O.C. MAX @ 8" SLABS.
11. CONCRETE CONTRACTOR IS RESPONSIBLE FOR THE PLACEMENT OF ALL EMBEDDED ITEMS.
12. ANCHOR BOLTS AND BASE PLATES SHALL NOT BE WET SET.
13. ALL DIMENSIONS ARE TO CENTERLINE OF COLUMNS OR FACE OF MASONRY, TYPICAL UNLESS NOTED OTHERWISE.
14. SEE ARCHITECTURAL DRAWINGS FOR CURB LOCATIONS.
15. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF ELEVATOR PITS.
16. MAXIMUM ELEVATOR WEIGHT = 4000# WITH A CAPACITY OF 2500#. MINIMUM ELEVATOR SUPPORT RAIL WEIGHT = 15 lbs (VERIFY W/ ELEVATOR MNFR). SEE 1/S1.06 FOR SUPPORT RAIL CONNECTIONS @ 8'-0" MAX O.C., VERIFY W/ ELEVATOR MNFR.

19. INDICATES STEP/DEPRESSION (7/S101)
20. [A] INDICATES FOUNDATION TAG. SEE SCHEDULE BELOW.
21. -[0'-2"] INDICATES DEPRESSED SLAB ELEVATION. VERIFY DEPRESSION W/ ARCH, SAD FOR LIMITS OF DEPRESSED AREAS.
22. -[1'-0"] INDICATES TOP OF FOOTING ELEVATION BELOW SLAB. TOP OF FOOTING SHALL BE 1'-4" BELOW SLAB, UNO.
23. INDICATES FOOTING.
24. INDICATES 12" CONCRETE BLOCK WALL. WALL REINFORCEMENT SHALL BE: (2) #6 @ 16" OC VERTICALLY AND (2) #5 @ 24" OC HORIZONTALLY, UNO. SEE S103 FOR ADD'L INFORMATION.
25. INDICATES 8" CONCRETE BLOCK WALL. WALL REINFORCEMENT SHALL BE: (1) #6 @ 16" OC VERTICALLY AND (1) #5 @ 24" OC HORIZONTALLY, UNO. SEE S103 FOR ADD'L INFORMATION.
26. INDICATES METAL STUD WALL, S.A.D. EXTERIOR STUD WALLS SHALL BE 600S162-43 @ 16" OC w/ 5/8" DIA ANCHOR BOLT @ 32" OC. SHEATHE EXTERIOR FACE OF STUD w/ 1/2" CDX PLYWOOD. EDGE/BOUNDARY FASTENING SHALL BE #10 SMS @ 6" OC & FIELD FASTENING SHALL BE #10 SMS @ 12" OC.

FOOTING SCHEDULE

TYPE	LENGTH	WIDTH	DEPTH	REINFORCING		REMARKS
				LONG	TRANS	
A	3' - 0"	3' - 0"	1' - 6"	4 - #6	4 - #6	1, 2
B	4' - 0"	4' - 0"	1' - 6"	5 - #6	5 - #6	1, 2
C	6' - 0"	6' - 0"	1' - 6"	6 - #6	6 - #6	1, 2
D	6' - 6"	6' - 6"	2' - 0"	7 - #6	7 - #6	1, 2

NOTES:
1. RUN CONTINUOUS STEEL THROUGH FOOTING.
2. REINFORCING INDICATES TOP AND BOTTOM MAT.

STRIP FOOTING SCHEDULE

WIDTH	REINFORCING	
	LONGITUDINAL	TIES
1'-9"	2 - #6 TOP & BOTTOM	#4 @ 16" OC
2'-6"	3 - #6 TOP & BOTTOM	#4 @ 16" OC
3'-0"	3 - #6 TOP & BOTTOM	#4 @ 16" OC

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
	AS-BUILT			REF.

DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807

FOUNDATION PLAN

B# B-4797

PHASE # ____ REBID # ____

SHEET 124 OF 236

DWG. NO. S201

REGISTERED PROFESSIONAL ENGINEER DUSTIN G. LEE No. 58623 EXP. 3/31/25 STRUCTURAL STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

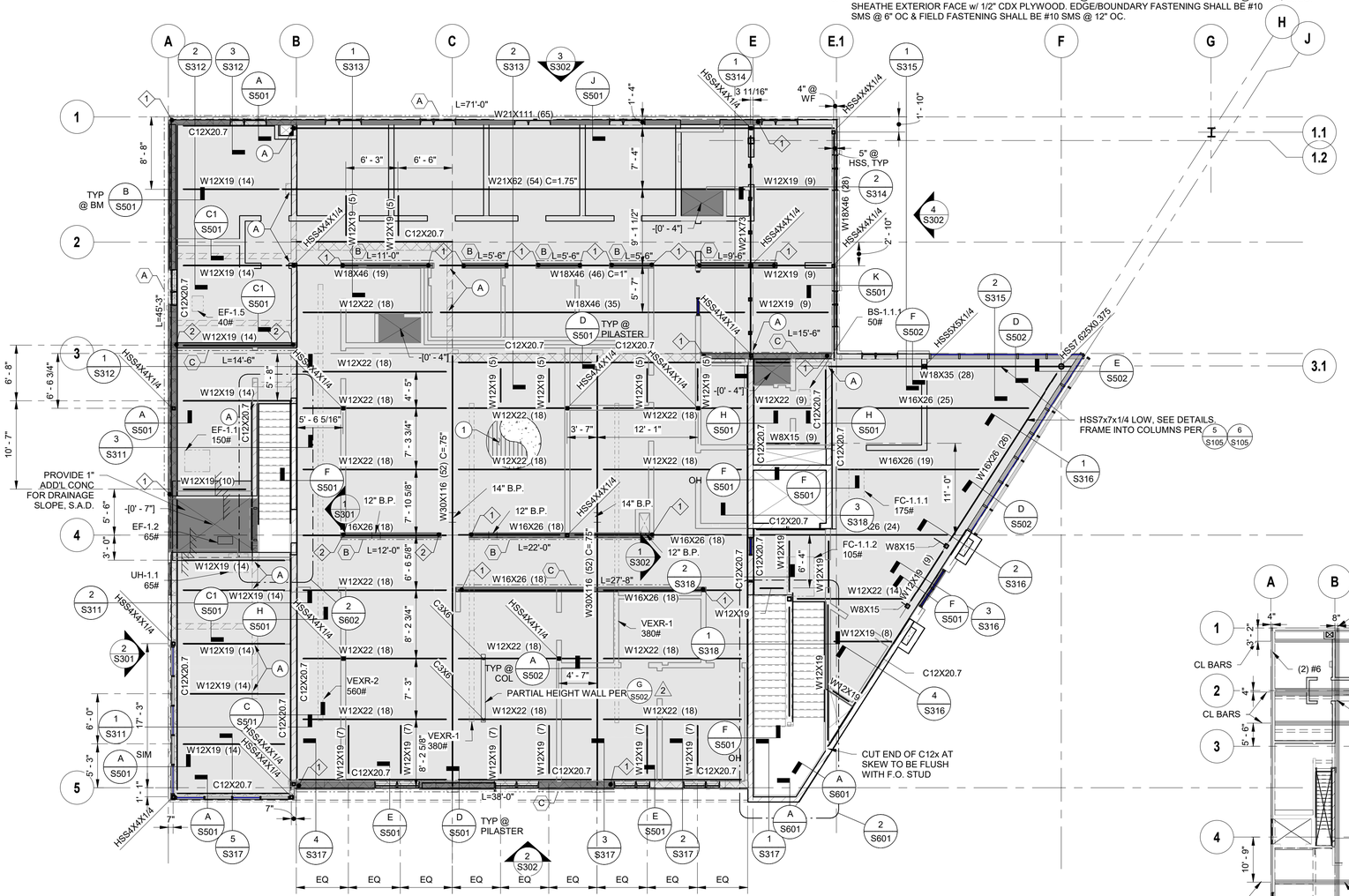
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 8:45:07 AM

FLOOR FRAMING NOTES:

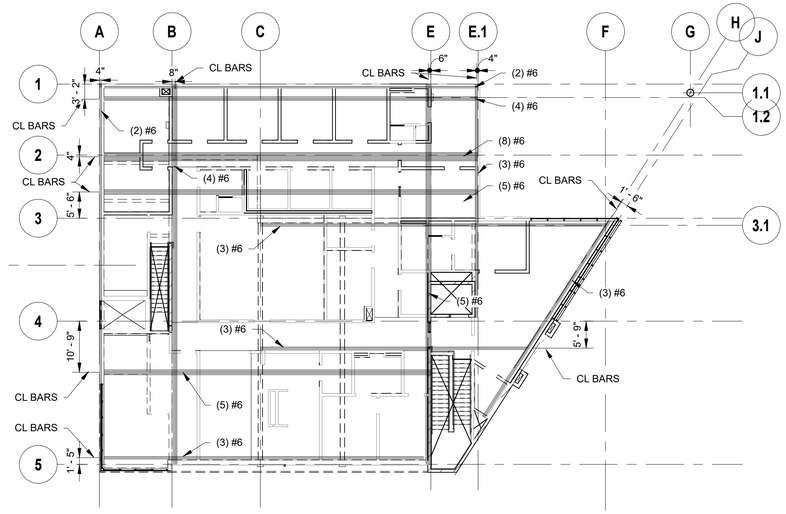
1. REFER TO GENERAL NOTES & SPECIFICATIONS ON SHEET S001-S002.
2. SEE SHEET S101-S113 FOR TYPICAL FRAMING DETAILS.
3. TOP OF STEEL ELEVATION (BOTTOM OF STEEL DECK) = +18'-10.75" W/ RESPECT TO FOUNDATION REFERENCE ELEVATION, TYP U.N.O.
4. SEE ARCHITECTURAL DRAWINGS FOR STAIR LANDING ELEVATIONS.
5. CONTRACTOR TO VERIFY ALL DIMENSIONS & ELEVATIONS SHOWN WITH ARCHITECTURAL DRAWINGS AND INFORM ARCHITECT & STRUCTURAL ENGINEER OF ANY DISCREPANCY.
6. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SIZES, CONDITIONS, MEMBER ELEVATIONS AND DIMENSIONS BEFORE BEGINNING CONSTRUCTION AND/OR ORDERING MATERIALS. ANY CONDITIONS ENCOUNTERED IN THE FIELD THAT CONFLICT WITH THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER IMMEDIATELY.
7. REFER TO ARCHITECTURAL DRAWINGS FOR EDGE OF DECK LOCATIONS.
8. SEE ARCHITECTURAL DRAWINGS FOR SIZE & LOCATION OF DECK PENETRATIONS.
9. NO MECHANICAL EQUIPMENT, DUCTWORK, PIPING, ETC. SHALL BE HUNG FROM STEEL DECK UNLESS APPROVED BY THE STRUCTURAL ENGINEER.
10. EXTERIOR METAL STUD WALL SHALL BE 600S162-43 @ 16" OC w/ 5/8" DIA ANCHOR BOLTS @ 32" OC, U.N.O. SHEATHE EXTERIOR FACE w/ 1/2" CDX PLYWOOD. EDGE/BOUNDARY FASTENING SHALL BE #10 SMS @ 6" OC & FIELD FASTENING SHALL BE #10 SMS @ 12" OC.

11. INDICATES 12" CMU WALL BELOW
12. INDICATES 8" CMU WALL BELOW
13. INDICATES 12" CONCRETE BLOCK WALL. WALL REINFORCEMENT SHALL BE (2) #6 @ 16" OC VERTICALLY AND (2) #5 @ 24" OC HORIZONTALLY, UNO. SEE S103 FOR ADD'L INFORMATION.
14. INDICATES 8" CONCRETE BLOCK WALL. WALL REINFORCEMENT SHALL BE: (1) #6 @ 16" OC VERTICALLY AND (1) #5 @ 24" OC HORIZONTALLY, UNO. SEE S103 FOR ADD'L INFORMATION
15. INDICATES STEP IN TOP OF SLAB ELEVATION
16. -[0'-2"] INDICATES DEPRESSES SLAB ELEVATION. VERIFY DEPRESSION W/ ARCHITECTURAL, SEE ARCHITECTURAL DRAWINGS FOR LIMITS OF DEPRESSED AREAS.
17. INDICATES FLOOR SLAB OPENING, SAD.
18. (1) INDICATES 3.25" LIGHTWEIGHT CONCRETE TOPPING OVER 2" METAL DECK TYPE 1 SEE (1 / S107)
19. C=3/4" INDICATES AMOUNT OF POSITIVE CAMBER IN BEAM.
20. (12) INDICATES No. OF WELDED STUDS. ALL BEAMS TO BE COVERED BY CONCRETE TO HAVE WELDED STUDS @ 12" OC, U.N.O. WHERE BEAMS ARE LOCATED DIRECTLY BELOW DEPRESSED SLABS OMIT WELDED STUDS IN THE DEPRESSED REGION AND PROVIDE 2 ROWS OF WELDED STUDS @ 12" OC EITHER SIDE FOR 4'-0" MIN, TYP.
21. INDICATES NEW MECHANICAL UNITS BELOW SLAB. SEE MECHANICAL DRAWINGS FOR CONNECTIONS TO STRUCTURE.
    600# INDICATES MAXIMUM UNIT WEIGHT.
22. INDICATES EXTENTS OF METAL DECK, S.A.D.
23. INDICATES EXTENTS OF DEPRESSED DECK, S.A.D.
24. (A) INDICATES SHEARWALL CONSTRUCTION NAILING TAG
25. L = X'-X" INDICATES SHEARWALL LENGTH. SEE SCHEDULE (1 / S112)
26. (1) INDICATES HOLDOWN TAG. SEE SCHEDULE.
27. XX" BP INDICATES XX" DIAMETER STEEL BEAM PENETRATION, SEE (2 / S105)
28. (A) INDICATES CMU BEAM POCKET, SEE (8 / S104)



SECOND FLOOR FRAMING PLAN

1/8" = 1'-0"



SECOND FLOOR - COLLECTOR PLAN

1/16" = 1'-0"

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

AS-BUILT | REF.

DESIGNED BY: DGL | DRAWN BY: DAA | DESIGN CHECK BY: DGL/JPJ | DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807

SECOND FLOOR FRAMING PLAN

B# B-4797

PHASE # REBID #

SHEET 125 OF 236

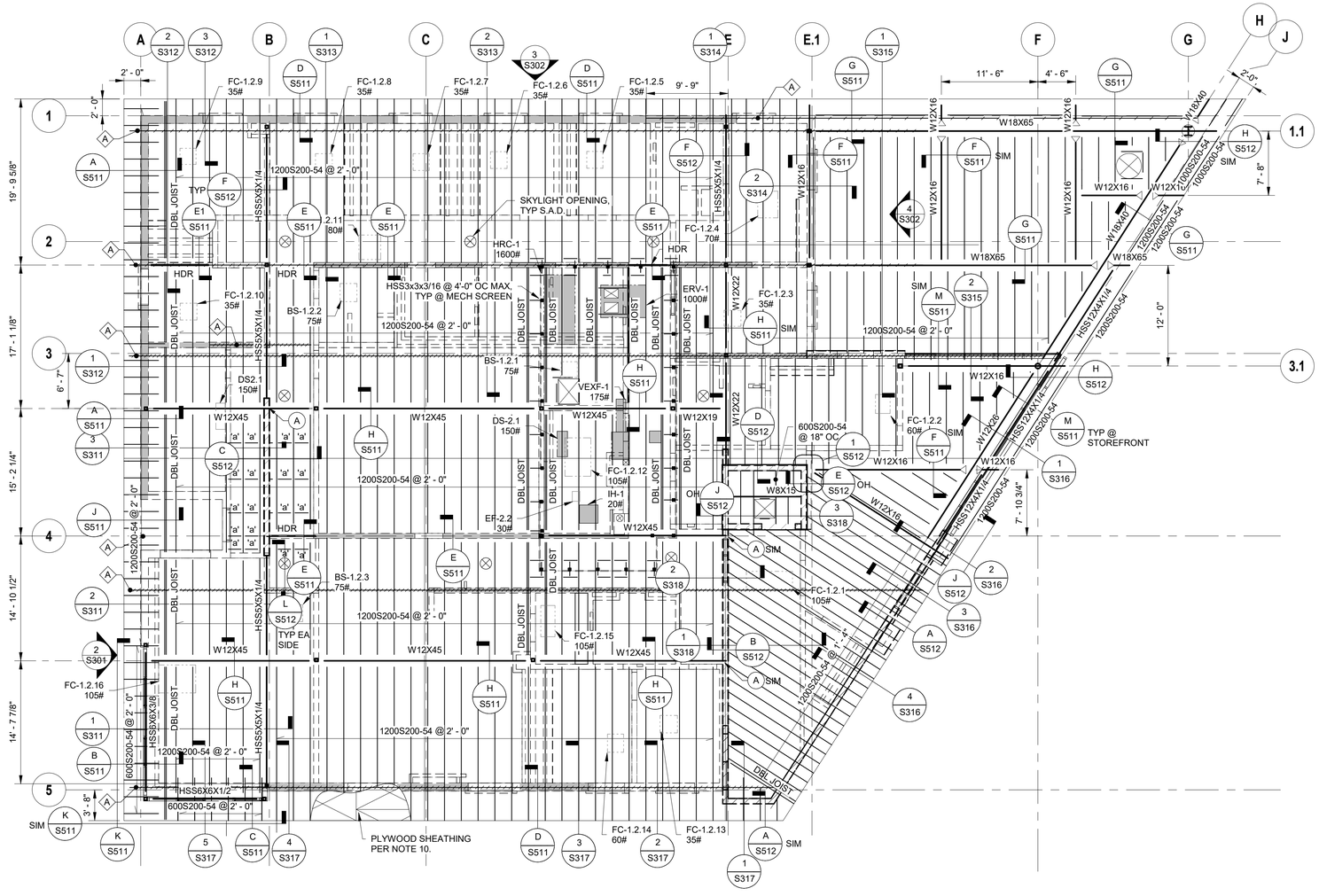
DWG. NO. S202

REGISTERED PROFESSIONAL ENGINEER DUSTIN G. LEE No. S6623 EXP. 3/31/25 STRUCTURAL STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 8:45:14 AM



ROOF FRAMING PLAN

1/8" = 1'-0"

ROOF FRAMING NOTES:

1. REFER TO GENERAL NOTES & SPECIFICATIONS ON SHEET S001 & S002
2. SEE SHEET S103-S113 FOR TYPICAL DETAILS.
3. SEE ARCHITECTURAL DRAWINGS FOR ROOF ELEVATIONS.
4. CONTRACTOR TO VERIFY ALL DIMENSIONS & ELEVATIONS SHOWN WITH ARCHITECTURAL DRAWINGS AND INFORM ARCHITECT & STRUCTURAL ENGINEER OF ANY DISCREPANCY.
5. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SIZES, CONDITIONS, MEMBER ELEVATIONS AND DIMENSIONS BEFORE BEGINNING CONSTRUCTION AND/OR ORDERING MATERIALS. ANY CONDITIONS ENCOUNTERED IN THE FIELD THAT CONFLICT WITH THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER IMMEDIATELY.
6. SEE ARCHITECTURAL DRAWINGS FOR SIZE & LOCATION OF DECK PENETRATIONS.
7. VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH ARCHITECTURAL DRAWINGS AND MECHANICAL DRAWINGS. NOTIFY STRUCTURAL ENGINEER IMMEDIATELY OF ANY DISCREPANCIES TYP, U.N.O.
8. THE SIZE, LOCATIONS AND ORIENTATIONS OF ALL MECHANICAL UNITS, CURBS, SLEEPERS AND OPENINGS SHALL BE VERIFIED WITH THE UNIT SUPPLIERS. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER IMMMEDIATELY.
9. SEE ARCHITECTURAL DRAWINGS FOR EDGE OF ROOF LOCATIONS.
10. ROOF PLYWOOD SHALL CONSIST OF 5/8" CDX PLYWOOD W/ #8 SMS @ 6" OC AT BOUNDARIES AND EDGES AND #8 SMS @ 12" OC FIELD FASTENING. ALL PLYWOOD SHALL BE FULLY BLOCKED TYP, U.N.O.

11. SIMPSON STRAP EXTENTS. SEE PLAN.
12. INDICATES SIMPSON CMST12 W/ (2) #10 SMS STAGGERED @ 7" OC. USE 1200S200-54 BLKG AS REQ'D.
13. INDICATES FRAMED DECK OPENING.
14. GRAVITY MOMENT CONNECTION (7/S107)
15. INDICATES NEW MECHANICAL UNITS ABOVE ROOF. SEE MECHANICAL DRAWINGS FOR CONNECTIONS TO STRUCTURE. 600# INDICATES MAXIMUM UNIT WEIGHT.
16. INDICATES NEW MECHANICAL UNITS BELOW ROOF. SEE MECHANICAL DRAWINGS FOR CONNECTIONS TO STRUCTURE. 600# INDICATES MAXIMUM UNIT WEIGHT.
17. INDICATES 8" CMU WALL BELOW
18. INDICATES METAL STUD WALL BELOW
19. 'a' INDICATES 1200S200-54 BLKG
20. HDR INDICATES METAL STUD BOX BEAM HEADER PER (1/S109)
21. INDICATES CMU BEAM POCKET, SEE (8/S104)

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
	AS-BUILT		REF.	

DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807

ROOF FRAMING PLAN

B# B-4797

PHASE # ____ REBID # ____

SHEET 126 OF 236

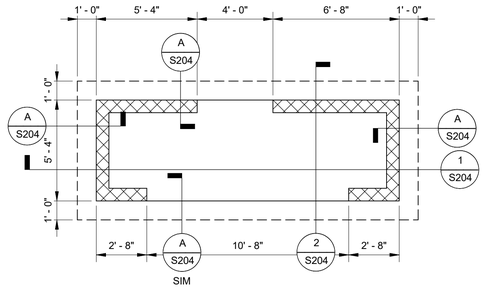
DWG. NO. S203

REGISTERED PROFESSIONAL ENGINEER DUSTIN G. LEE No. 58623 EXP. 3/31/25 STRUCTURAL STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

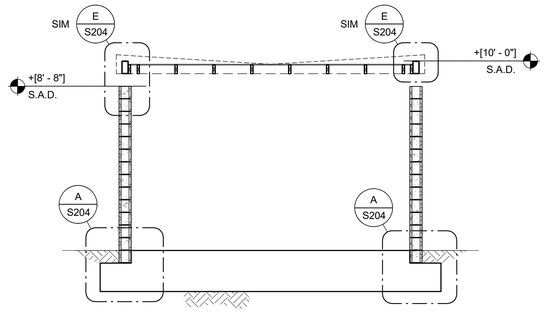
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 8:45:18 AM



FOUNDATION PLAN

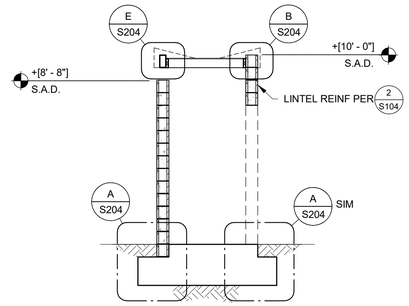
1/4" = 1'-0"



BUILDING SECTION

1/4" = 1'-0"

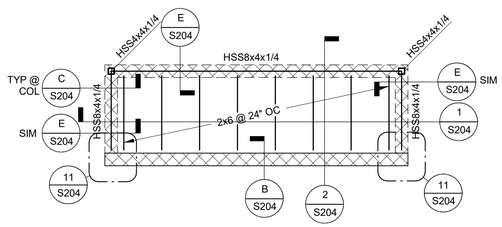
1 S204



BUILDING SECTION

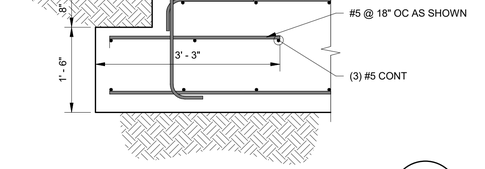
1/4" = 1'-0"

2 S204



ROOF FRAMING PLAN

1/4" = 1'-0"



SECTION

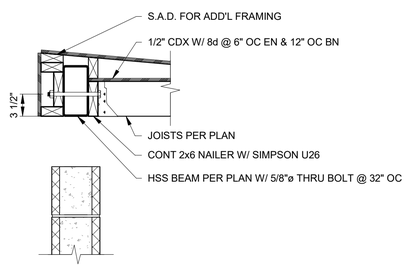
3/4" = 1'-0"

A S204

SECTION

1" = 1'-0"

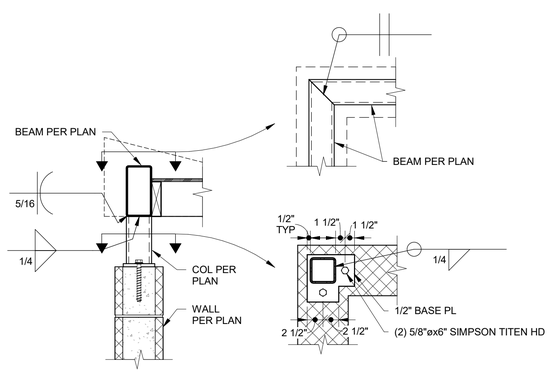
B S204



SECTION

1" = 1'-0"

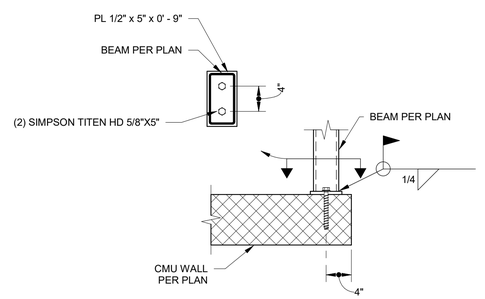
E S204



DETAIL

1" = 1'-0"

C S204



DETAIL

1" = 1'-0"

11 S204

REVISION

NO.	DATE	APPROVAL	DESCRIPTION
	12/16/2021		PLAN CHECK SUBMITTAL
1	04/22/2022		PLAN CHECK RE-SUBMITTAL
2	06/15/2023		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS

SHEET

REF.

AS-BUILT

DESIGNED BY: DGL

DRAWN BY: DAA

DESIGN CHECK BY: DGL/JPJ

DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD. LONG BEACH, CA 90807

TRASH ENCLOSURE PLANS & DETAILS

B# B-4797

PHASE # ____ REBID # ____

SHEET 127 OF 236

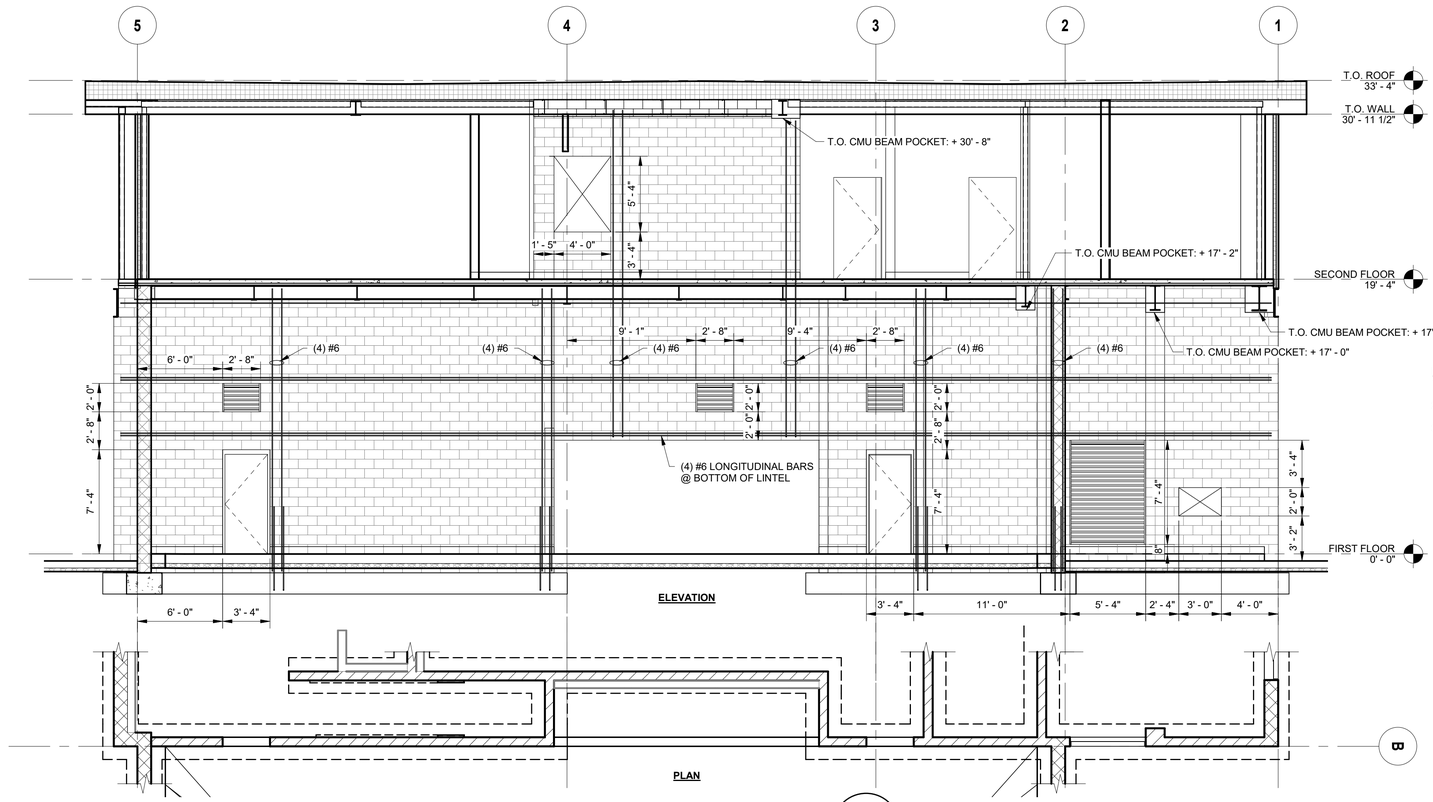
DWG. NO. S204

REGISTERED PROFESSIONAL ENGINEER
DUSTIN G. LEE
No. S6623
EXP. 3/31/25
STRUCTURAL
STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 8:45:20 AM

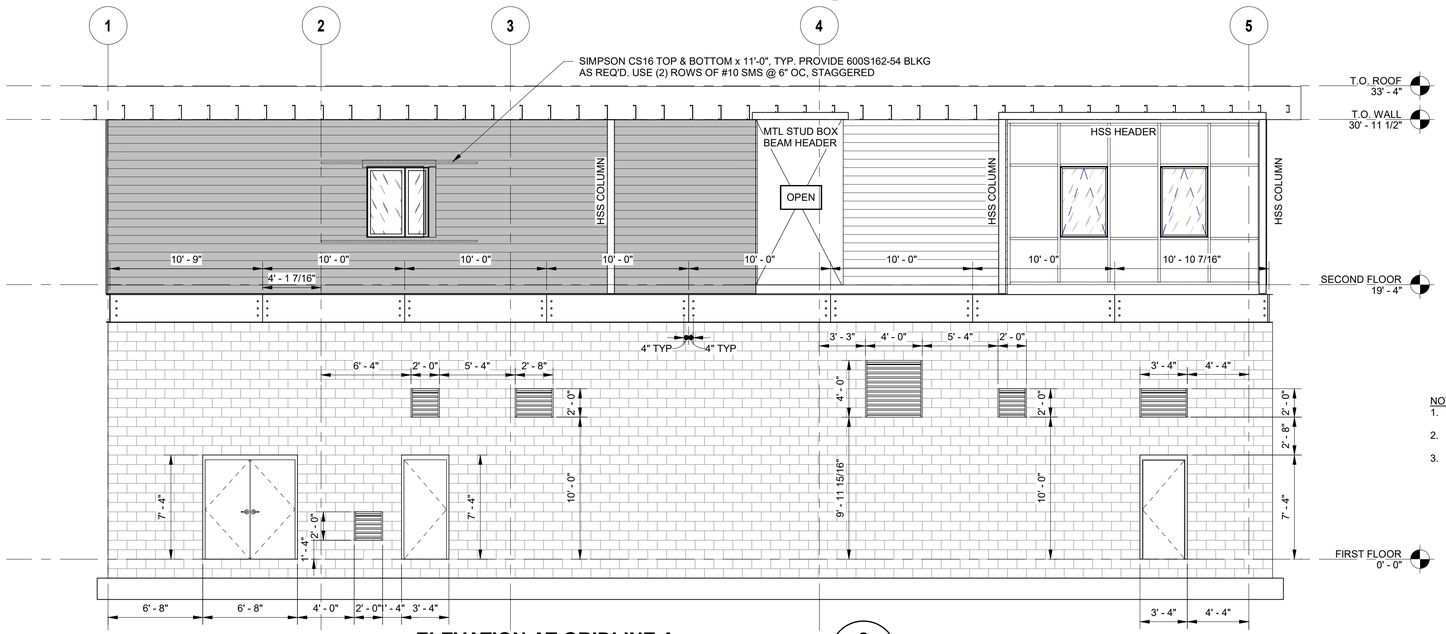


NOTES:
1. TYPICAL HORIZONTAL AND VERTICAL CMU REINFORCEMENT NOT SHOWN, SEE S1.03 & S1.04.
2. TYPICAL CMU OPENING REINFORCEMENT NOT SHOWN, SEE 1/S1.03
3. CONFIRM WALL OPENING LOCATION & SIZES WITH ARCH & MECH DRAWINGS.

ELEVATION AT GRIDLINE B

3/16" = 1'-0"

1 / S301



NOTES:
1. TYPICAL HORIZONTAL AND VERTICAL CMU REINFORCEMENT NOT SHOWN, SEE S1.03 & S1.04.
2. TYPICAL CMU OPENING REINFORCEMENT NOT SHOWN, SEE 1/S1.03
3. CONFIRM WALL OPENING LOCATION & SIZES WITH ARCH & MECH DRAWINGS.

ELEVATION AT GRIDLINE A

3/16" = 1'-0"

2 / S301

10/16/2023 8:45:22 AM

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

AS-BUILT | REF.

DESIGNED BY: DGL | DRAWN BY: DAA | DESIGN CHECK BY: DGL/JPJ | DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807

WALL ELEVATIONS No. 1

B# B-4797

PHASE # ____ REBID # ____

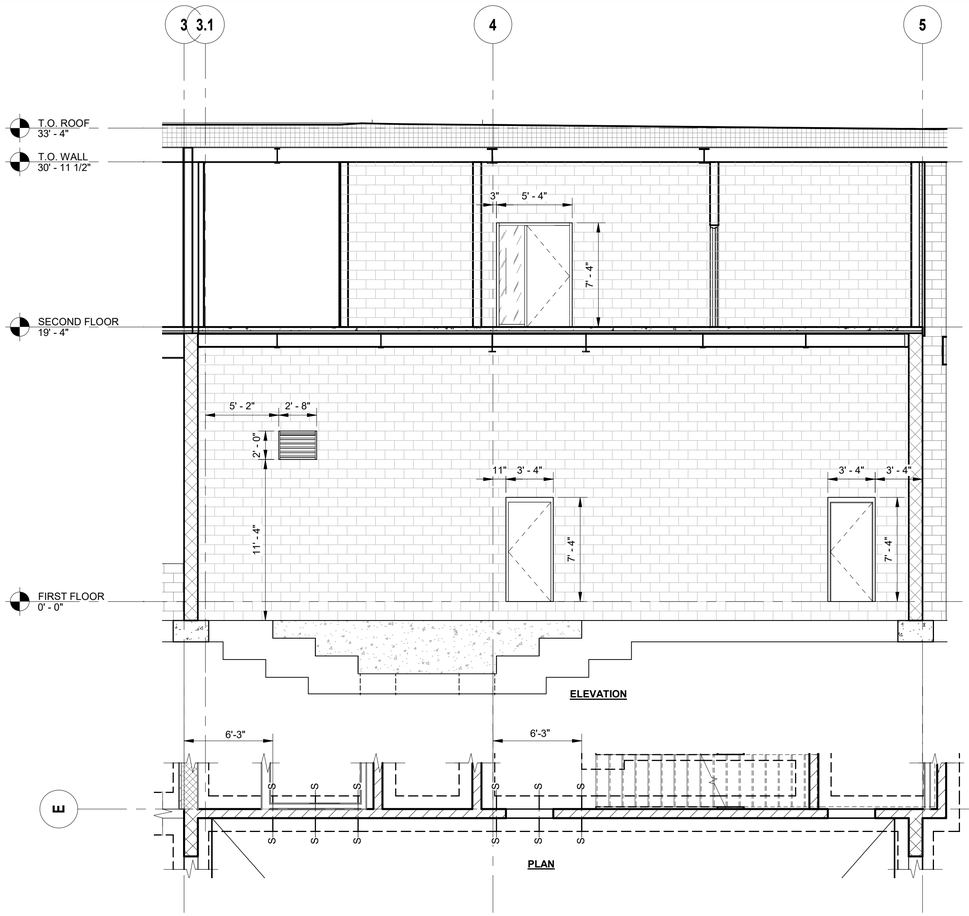
SHEET 128 OF 236

DWG. NO. S301

REGISTERED PROFESSIONAL ENGINEER
DUSTIN G. LEE
No. S6623
EXP. 3/31/25
STRUCTURAL
STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



ELEVATION AT GRIDLINE E

3/16" = 1'-0"

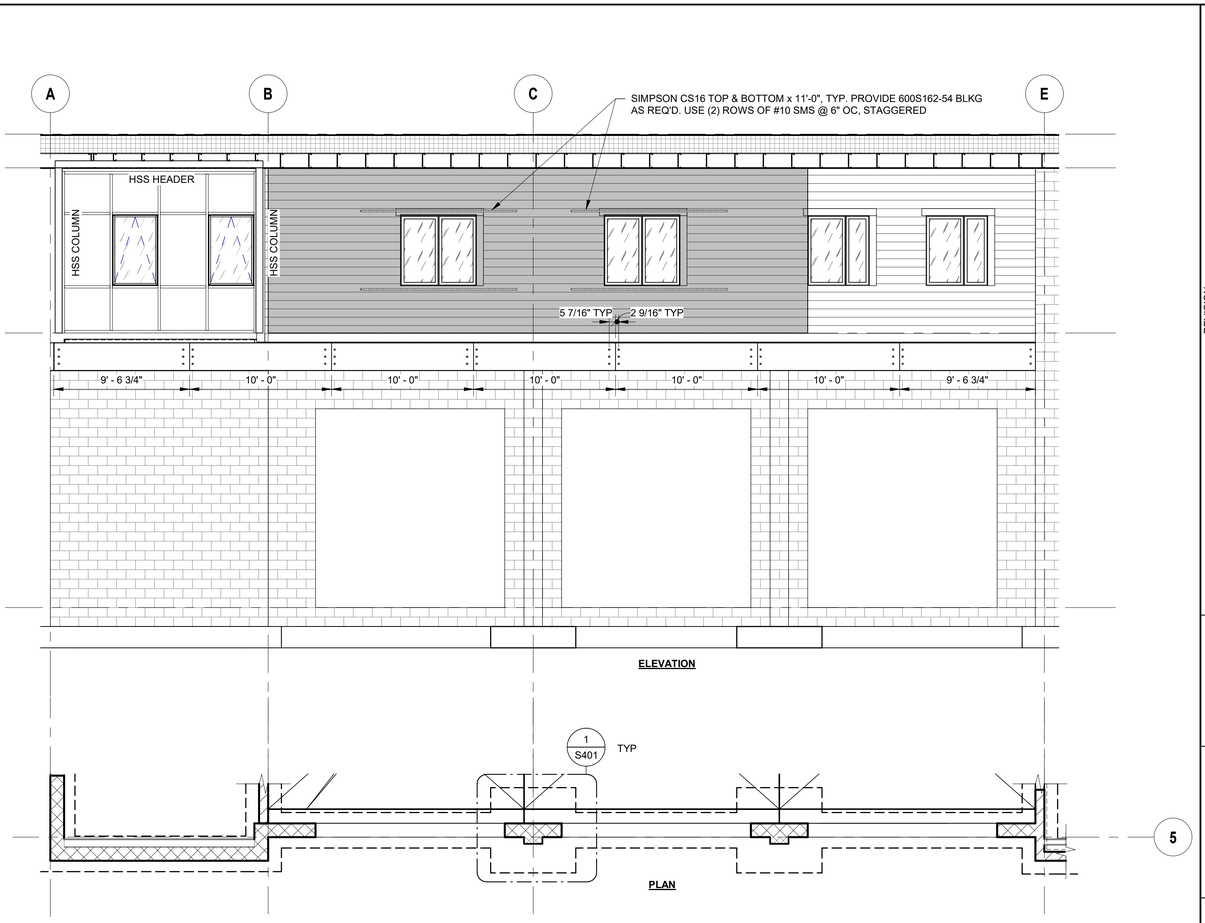
1 / S302

NOTES:
1. TYPICAL HORIZONTAL AND VERTICAL CMU REINFORCEMENT NOT SHOWN, SEE S1.03 & S1.04.
2. TYPICAL CMU OPENING REINFORCEMENT NOT SHOWN, SEE 1/S1.03
3. CONFIRM WALL OPENING LOCATION & SIZES WITH ARCH & MECH DRAWINGS.

GRID 1 ELEVATION

3/16" = 1'-0"

3 / S302

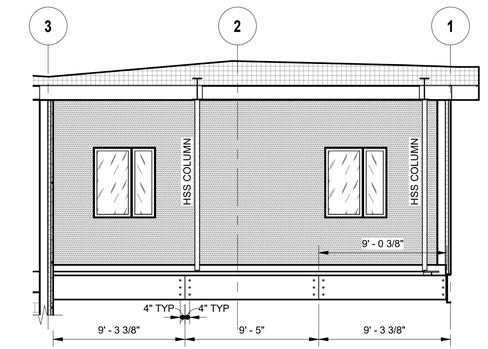


ELEVATION AT GRIDLINE 5

3/16" = 1'-0"

2 / S302

NOTES:
1. TYPICAL HORIZONTAL AND VERTICAL CMU REINFORCEMENT NOT SHOWN, SEE S1.03 & S1.04.
2. TYPICAL CMU OPENING REINFORCEMENT NOT SHOWN, SEE 1/S1.03
3. CONFIRM WALL OPENING LOCATION & SIZES WITH ARCH & MECH DRAWINGS.



GRID E.1 ELEVATION

3/16" = 1'-0"

4 / S302

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD. LONG BEACH, CA 90807

WALL ELEVATIONS No. 2

B# B-4797

PHASE # REBID #

SHEET 129 OF 236

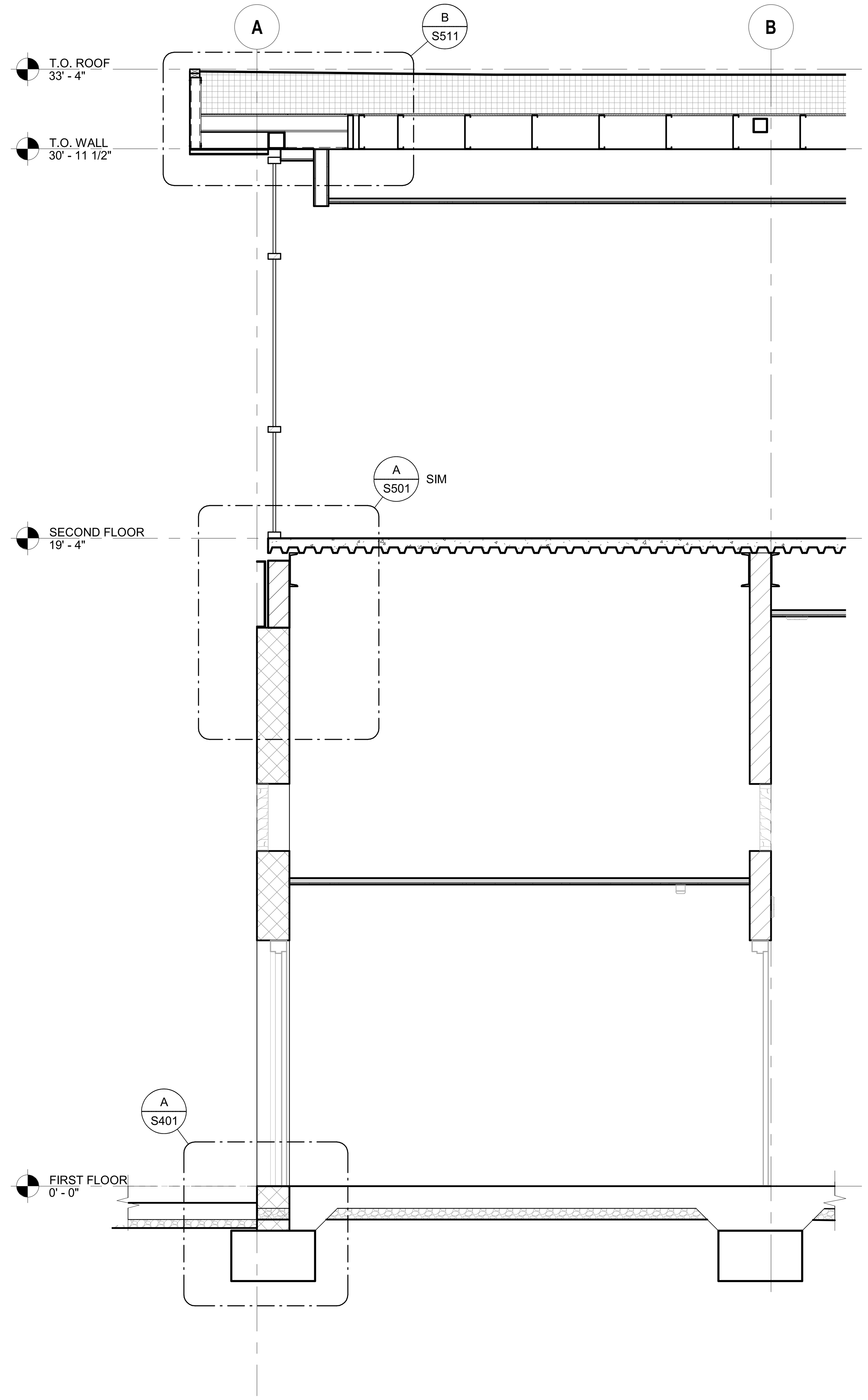
DWG. NO. S302

REGISTERED PROFESSIONAL ENGINEER
DUSTIN G. LEE
No. S6623
EXP. 3/31/25
STRUCTURAL
STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

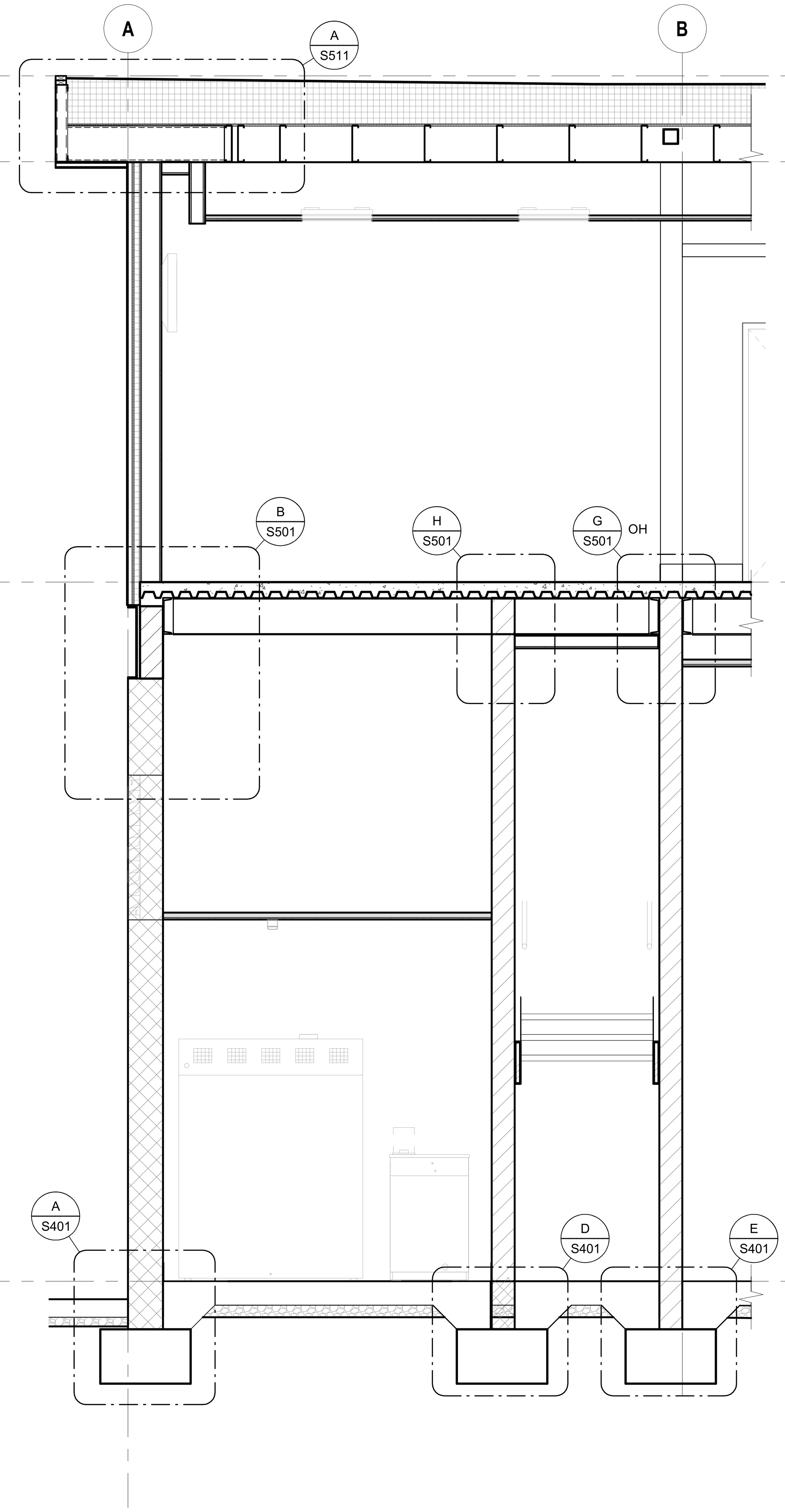
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 8:45:26 AM



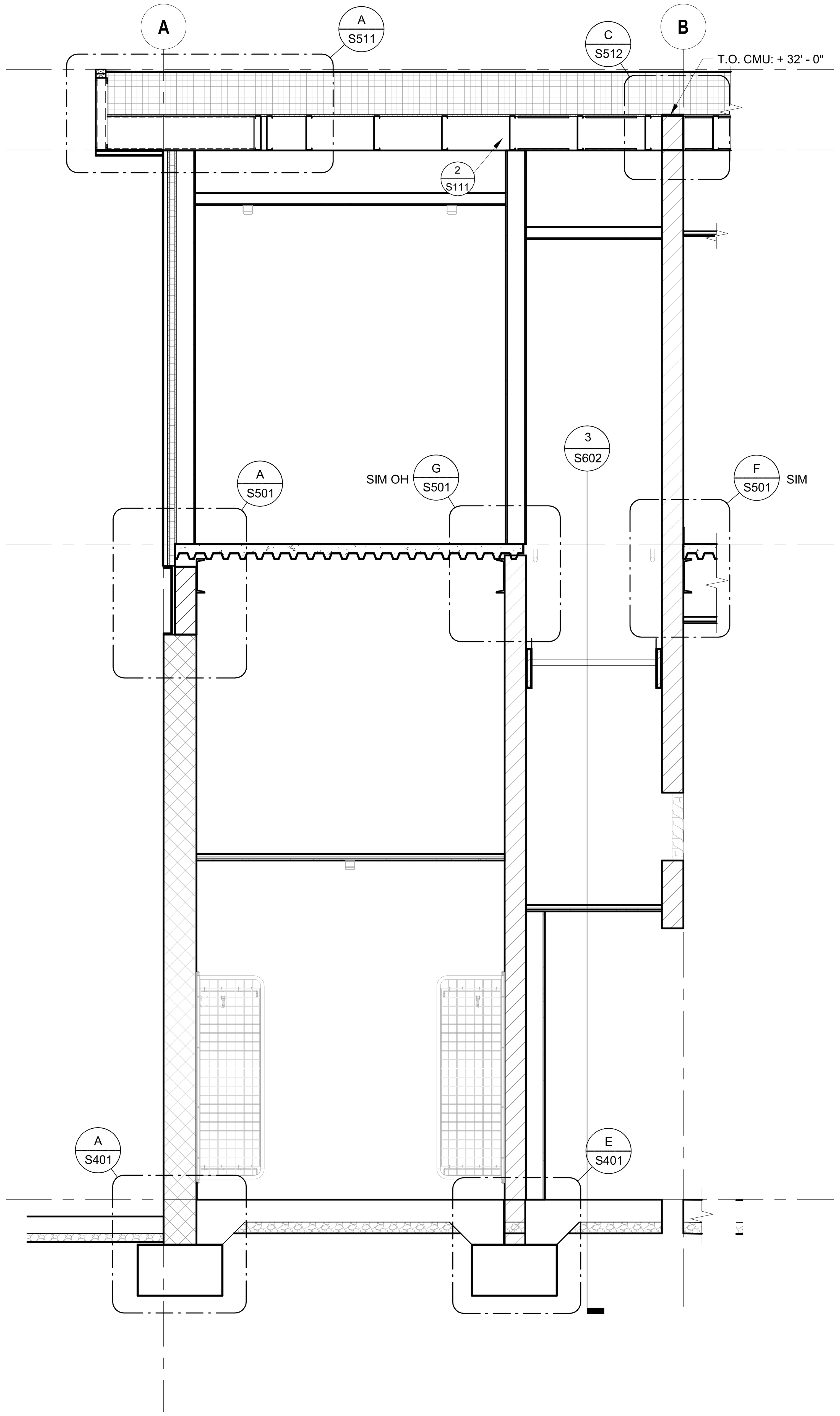
SECTION 1 / S311

3/8" = 1'-0"



SECTION 2 / S311

3/8" = 1'-0"



SECTION 3 / S311

3/8" = 1'-0"

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

AS-BUILT

REF.

DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807
SECTIONS No. 1

B# B-4797

PHASE # ____ REBID # ____

SHEET 130 OF 236

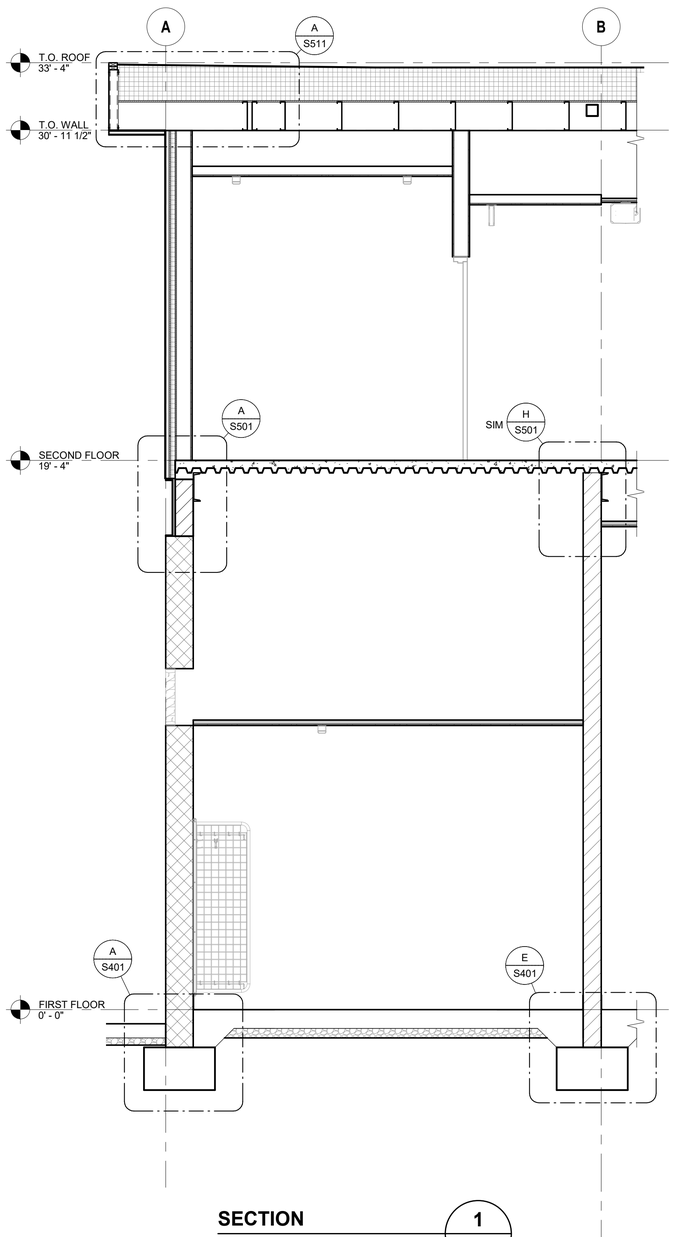
DWG. NO. S311

REGISTERED PROFESSIONAL ENGINEER DUSTIN G. LEE No. S6623 EXP. 3/31/25 STRUCTURAL STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

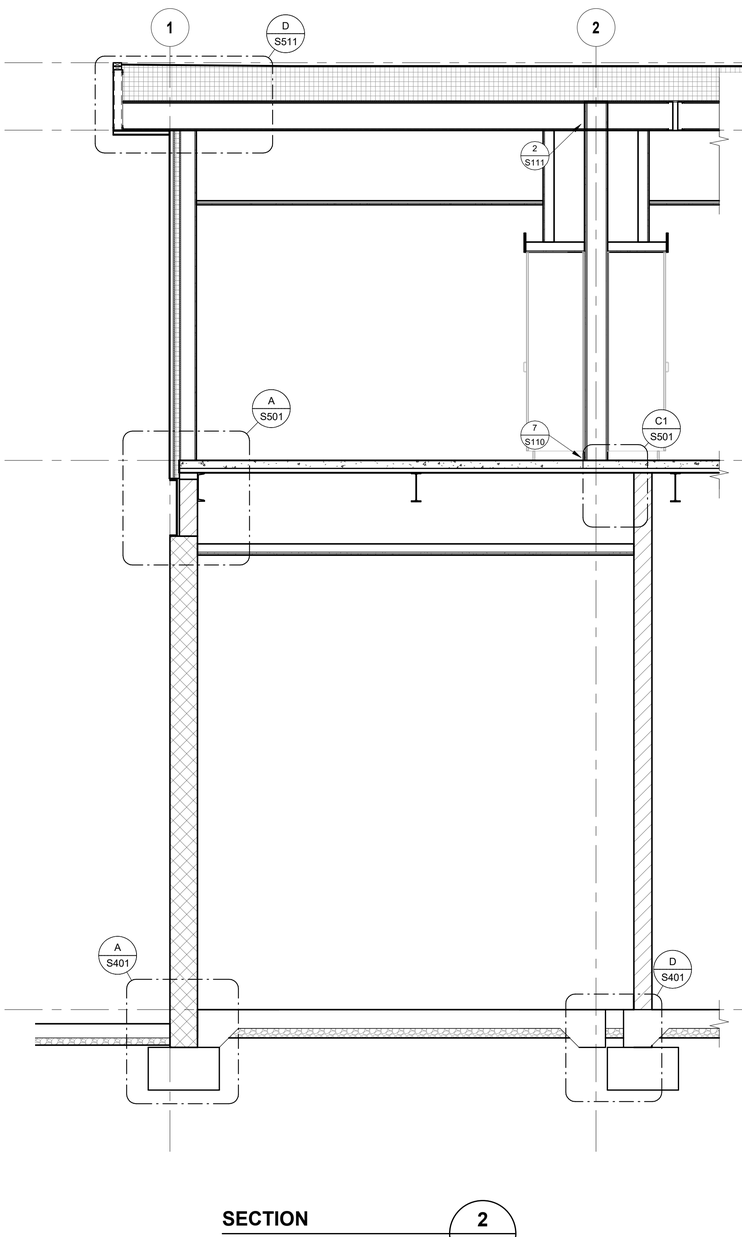
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 8:45:30 AM



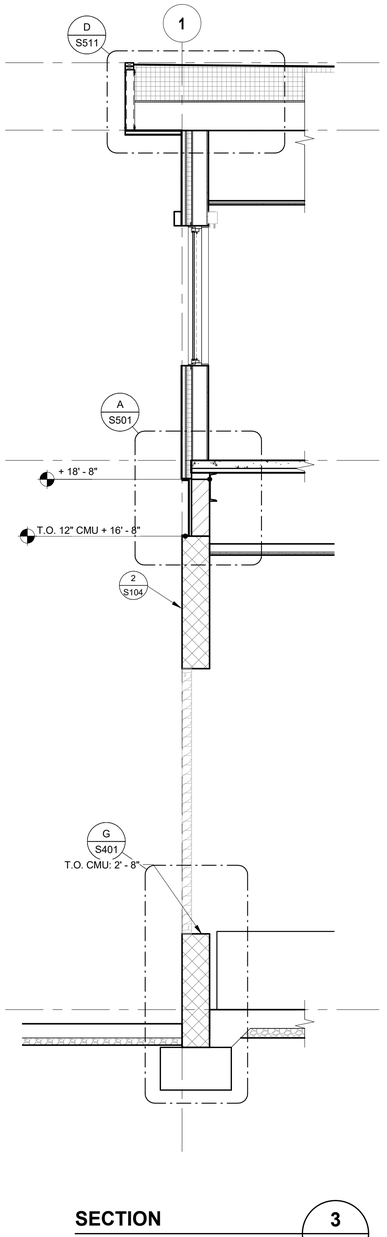
SECTION 1 / S312

3/8" = 1'-0"



SECTION 2 / S312

3/8" = 1'-0"



SECTION 3 / S312

3/8" = 1'-0"

REVISION NO.	DATE	SHEET	APPROVAL	DESCRIPTION
				PLAN CHECK SUBMITTAL
1	12/16/2021			PLAN CHECK RE-SUBMITTAL
2	04/22/2022			PLAN CHECK RE-SUBMITTAL
3	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

REF.

AS-BUILT

DESIGNED BY: **DGL**
DRAWN BY: **DAA**
DESIGN CHECK BY: **DGL/JPJ**
DRAWN CHECK BY: **DGL/JPJ**

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD. LONG BEACH, CA 90807

SECTIONS No. 2

B# **B-4797**

PHASE # ____ REBID # ____

SHEET **131** OF **236**

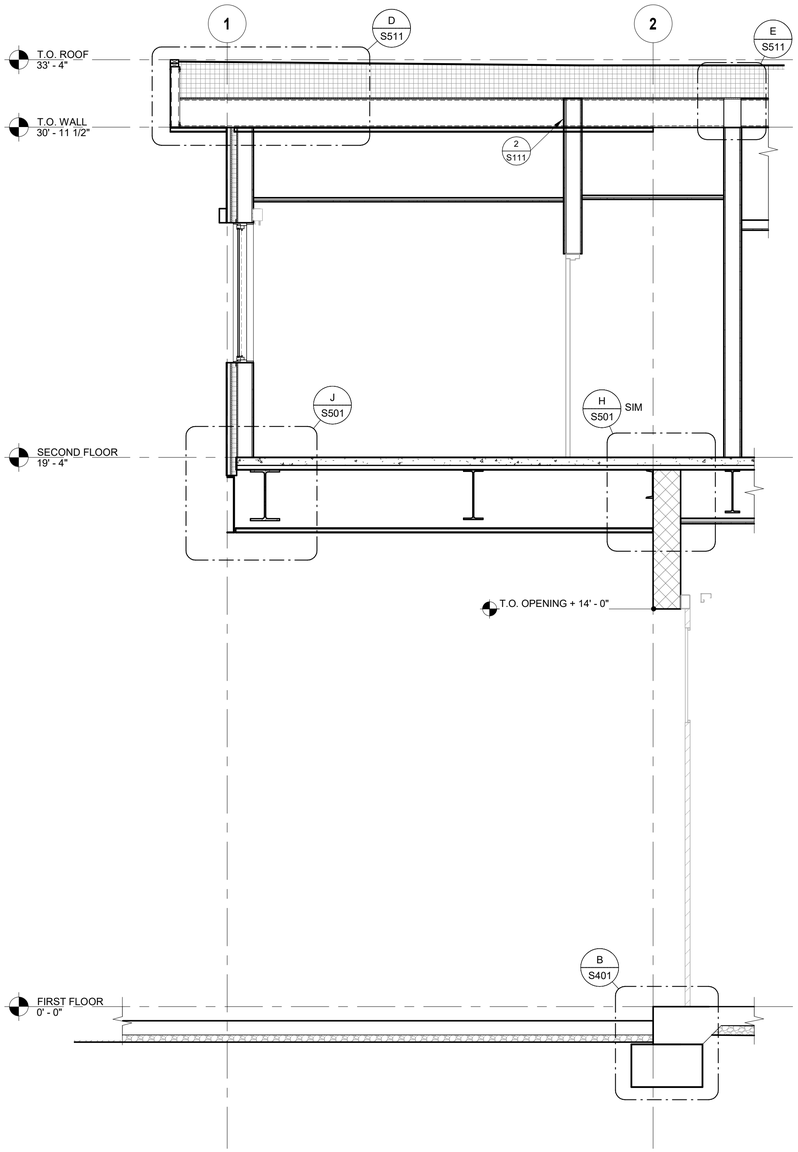
DWG. NO. **S312**

REGISTERED PROFESSIONAL ENGINEER
DUSTIN G. LEE
No. 35623
EXP. 3/31/25
STRUCTURAL
STATE OF CALIFORNIA

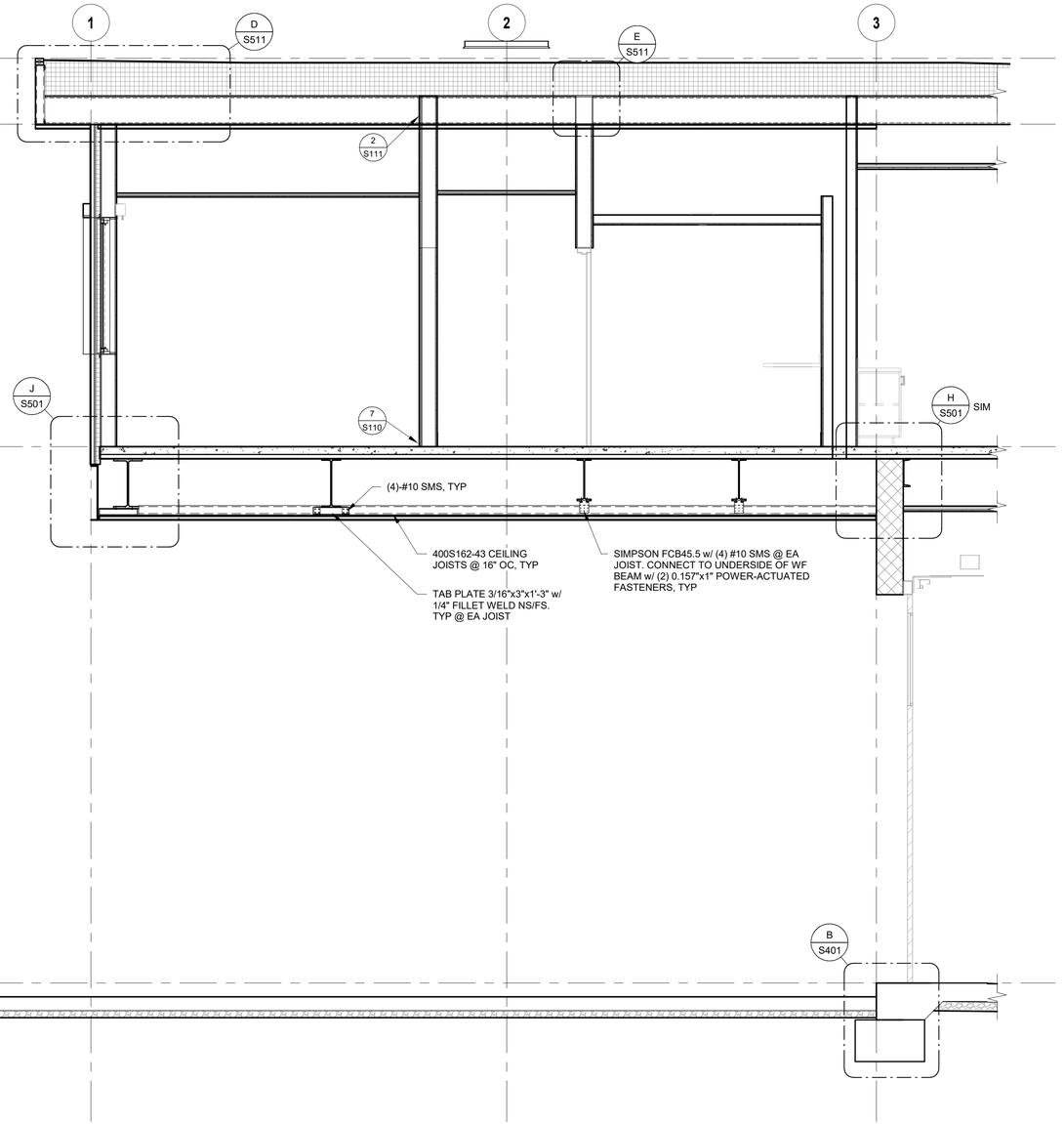
CORNERSTONE
structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 8:45:35 AM



SECTION 1 / S313
3/8" = 1'-0"



SECTION 2 / S313
3/8" = 1'-0"

REVISION			
NO.	DATE	SHEET	APPROVAL
	12/16/2021		
1	04/22/2022		
2	06/15/2023		
	10/12/2023		

DESCRIPTION: PLAN CHECK SUBMITTAL; PLAN CHECK RE-SUBMITTAL; PLAN CHECK RE-SUBMITTAL; BID DOCUMENTS

AS-BUILT | REF.

DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807

SECTIONS No. 3

B# B-4797

PHASE # ____ REBID # ____

SHEET 132 OF 236

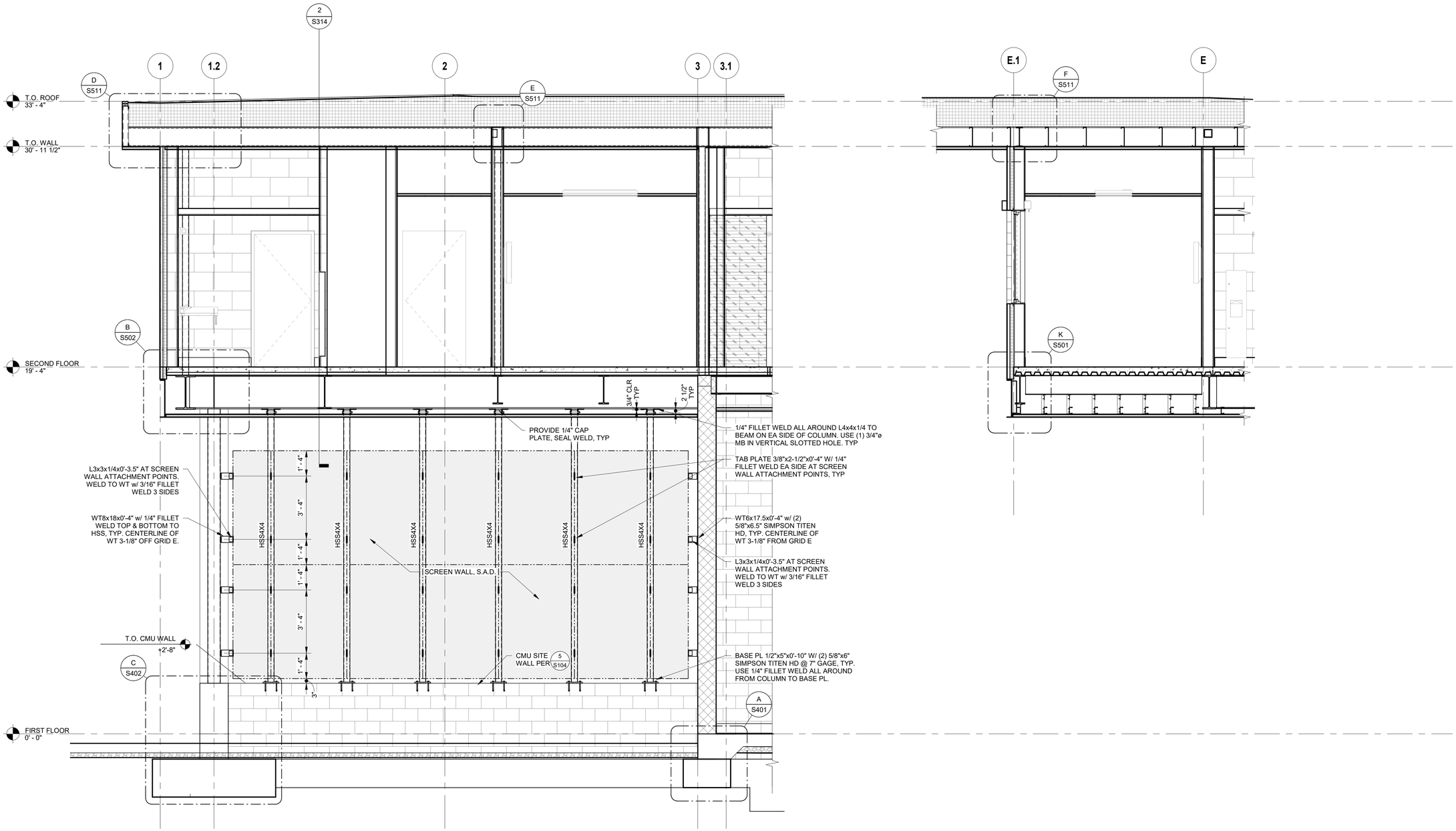
DWG. NO. S313

REGISTERED PROFESSIONAL ENGINEER
DUSTIN G. LEE
No. S6623
EXP. 3/31/25
STRUCTURAL
STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 8:45:37 AM



SECTION 1 / S314
3/8" = 1'-0"

SECTION 2 / S314
3/8" = 1'-0"

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

AS-BUILT | REF.

DESIGNED BY: DGL | DRAWN BY: DAA | DESIGN CHECK BY: DGL/JPJ | DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807

SECTIONS No. 4

B# B-4797

PHASE # ____ REBID # ____

SHEET 133 OF 236

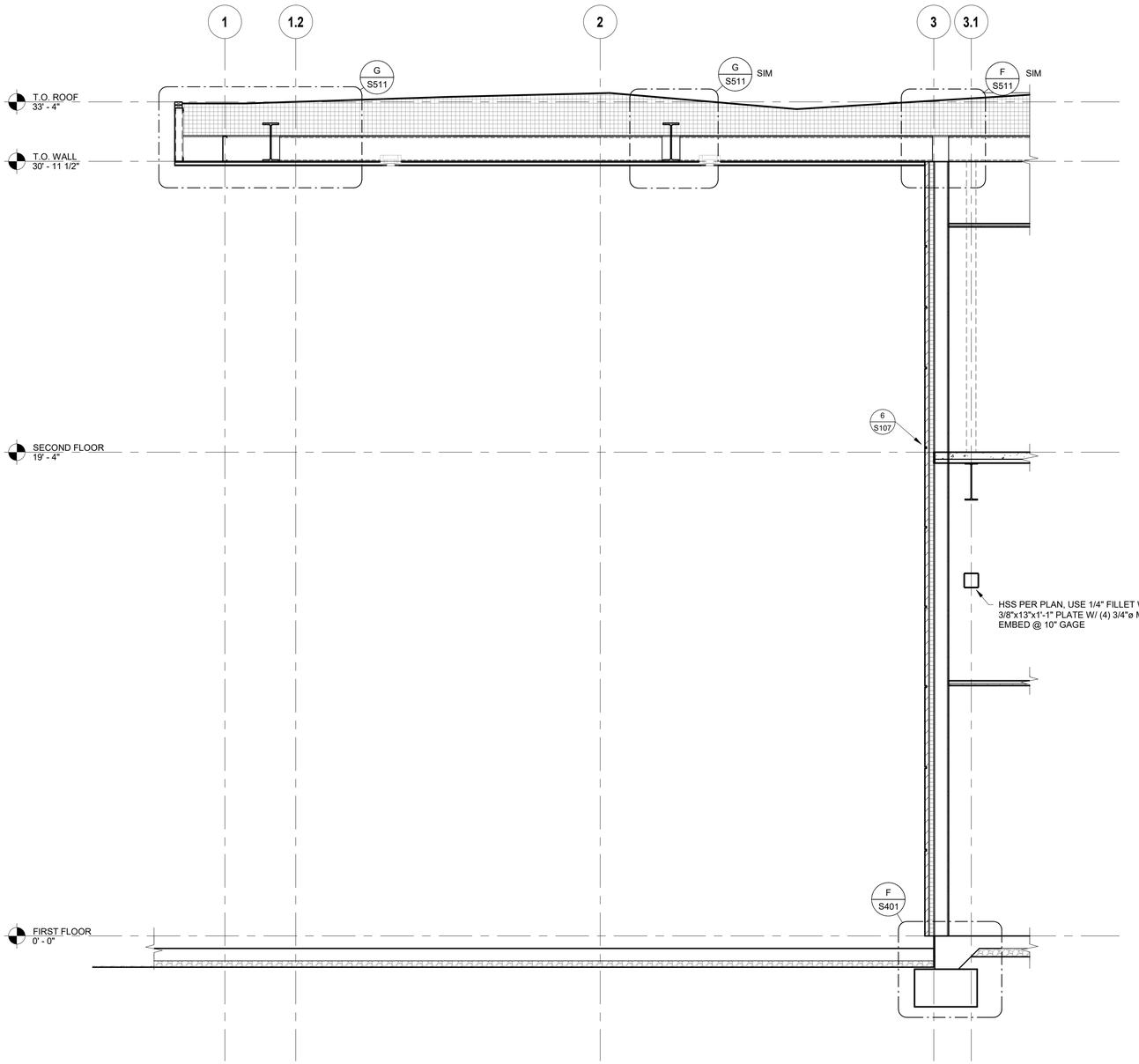
DWG. NO. S314

REGISTERED PROFESSIONAL ENGINEER
JUSTIN G. LEE
No. S6623
EXP. 3/31/25
STRUCTURAL
STATE OF CALIFORNIA

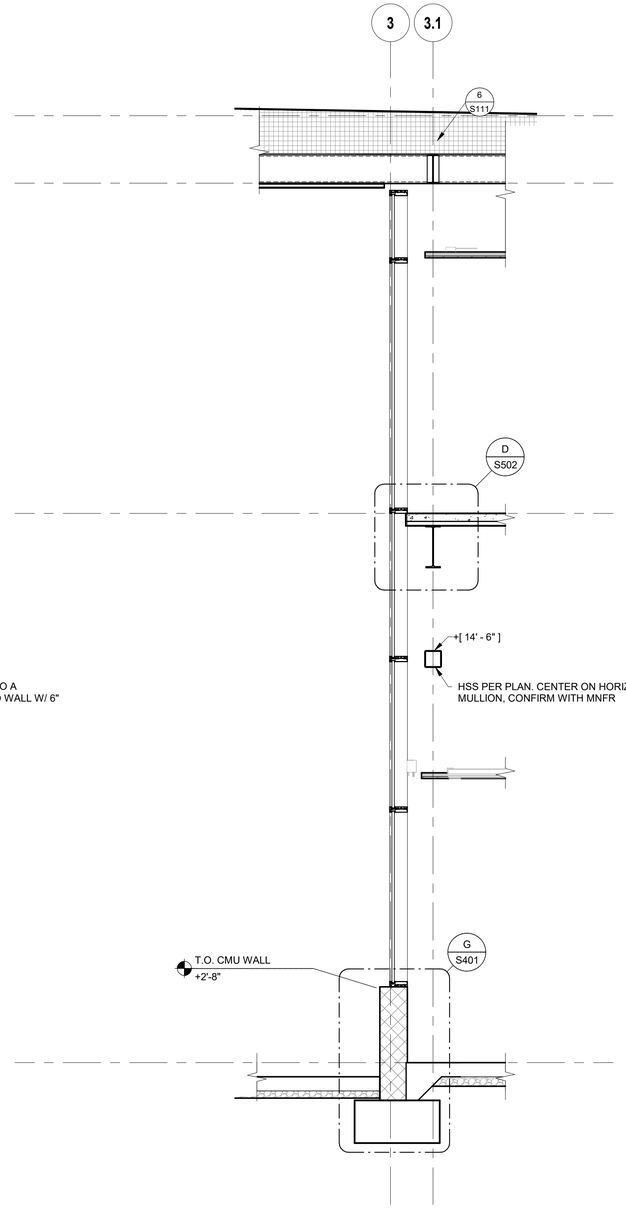
CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 8:45:41 AM



SECTION 1 / S315
3/8" = 1'-0"



SECTION 2 / S315
3/8" = 1'-0"

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
DUSTIN G. LEE
No. S6623
EXP. 3/31/25
STRUCTURAL
STATE OF CALIFORNIA

CORNERSTONE
structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807

SECTIONS No. 5

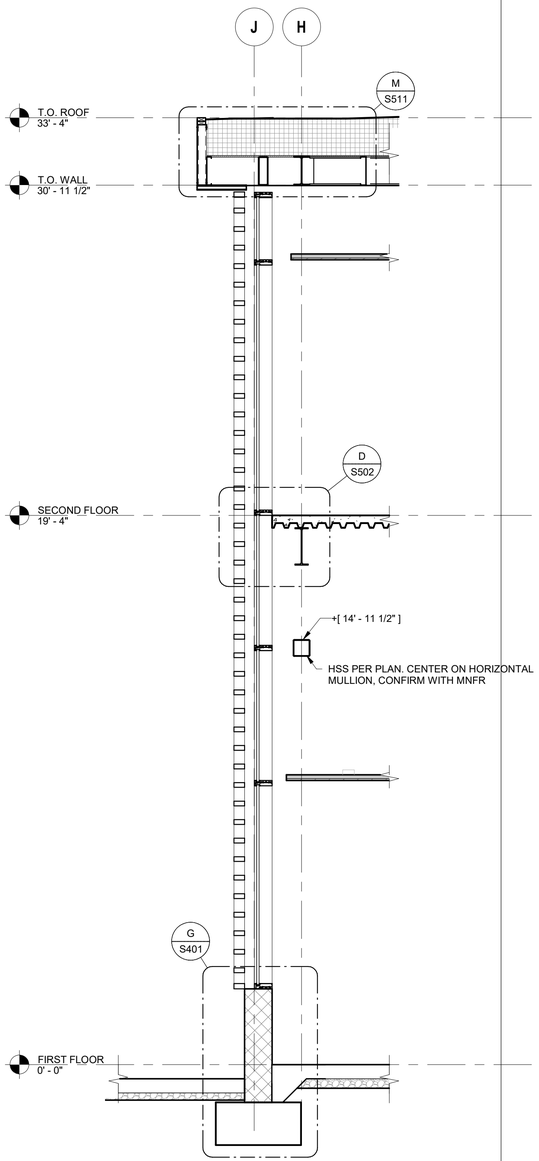
B# B-4797

PHASE # ____ REBID # ____

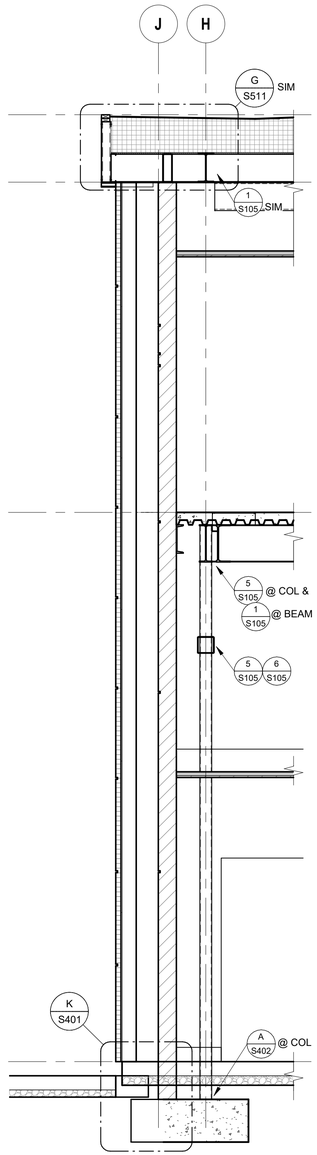
SHEET 134 OF 236

DWG. NO. S315

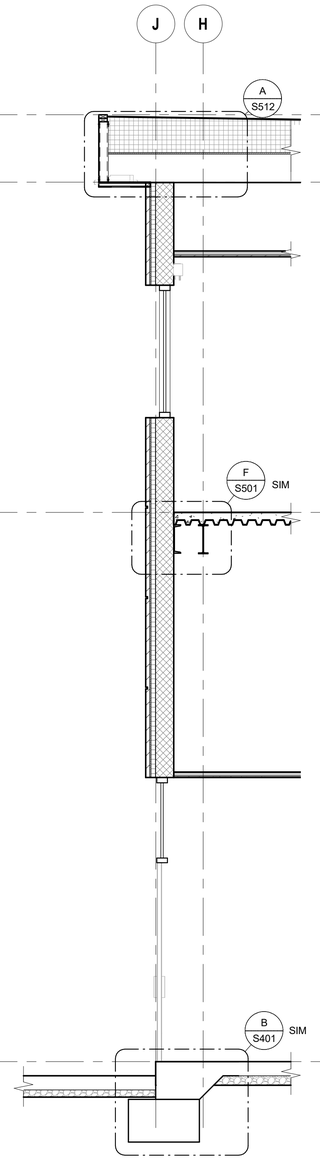
10/16/2023 8:45:42 AM



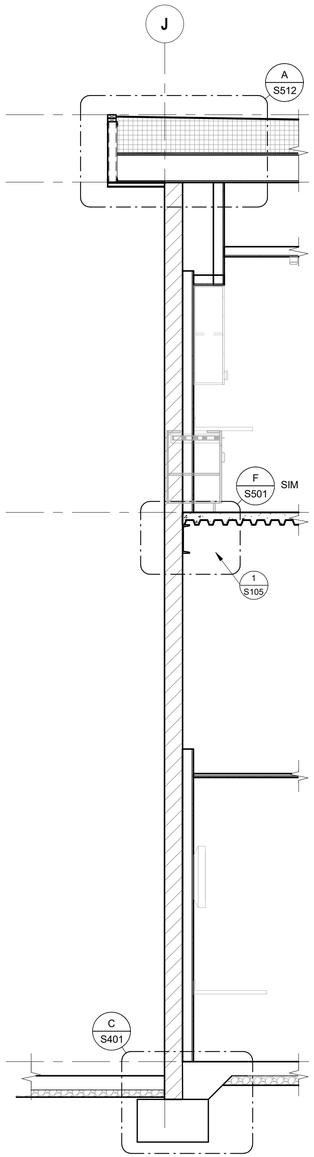
SECTION 1 — 3/8" = 1'-0" — S316



SECTION 2 — 3/8" = 1'-0" — S316



SECTION 3 — 3/8" = 1'-0" — S316



SECTION 4 — 3/8" = 1'-0" — S316

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: **DGL**
DRAWN BY: **DAA**
DESIGN CHECK BY: **DGL/JPJ**
DRAWN CHECK BY: **DGL/JPJ**

LICENSED ARCHITECT — MARY C. MCGRATH — C-24435 — REN-08-30-23 — STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807

SECTIONS No. 6

B# **B-4797**

PHASE # ____ REBID # ____

SHEET **135** OF **236**

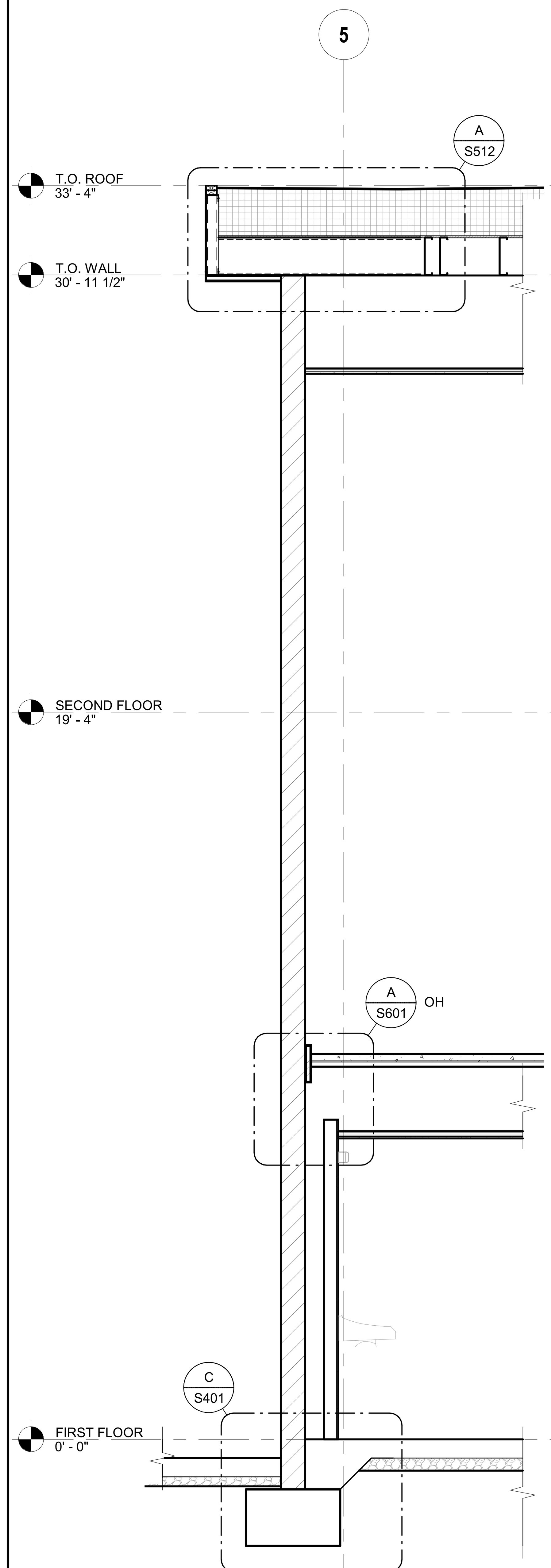
DWG. NO. **S316**

REGISTERED PROFESSIONAL ENGINEER — DUSTIN G. LEE — No. 58623 — EXP. 3/31/25 — STRUCTURAL — STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.2200
fax 559.320.3201

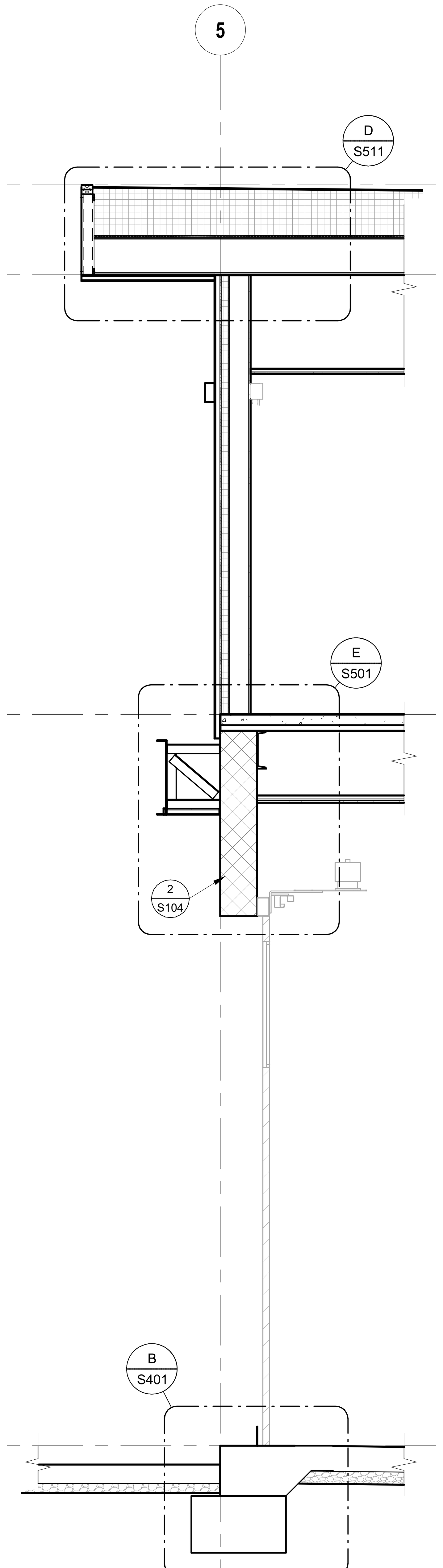
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 8:45:45 AM



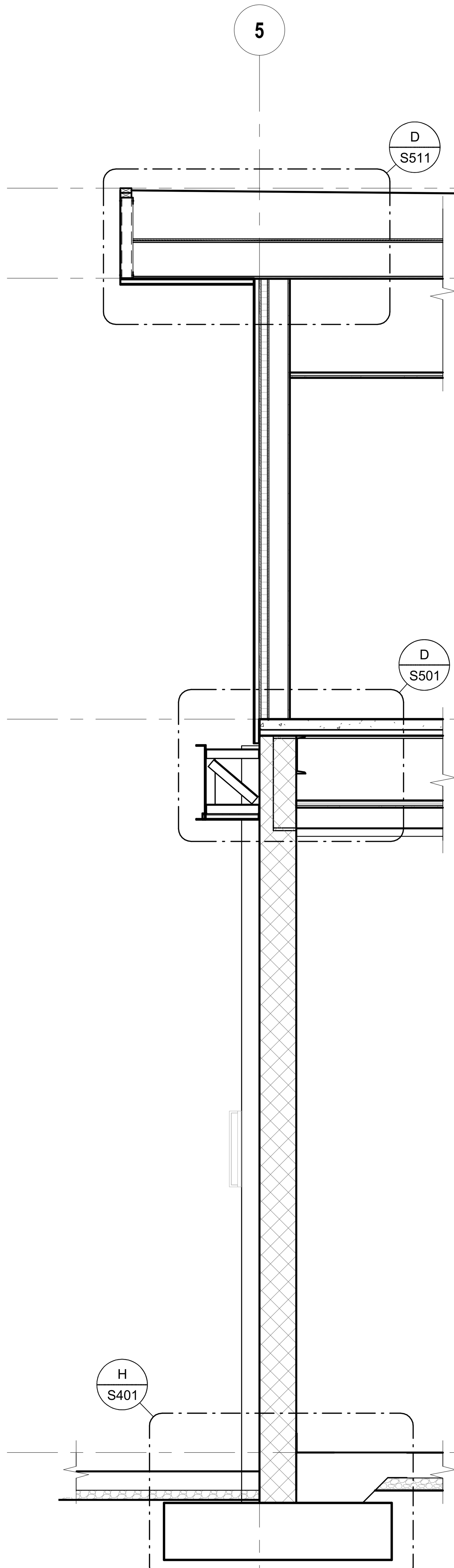
SECTION 1 / S317

3/8" = 1'-0"



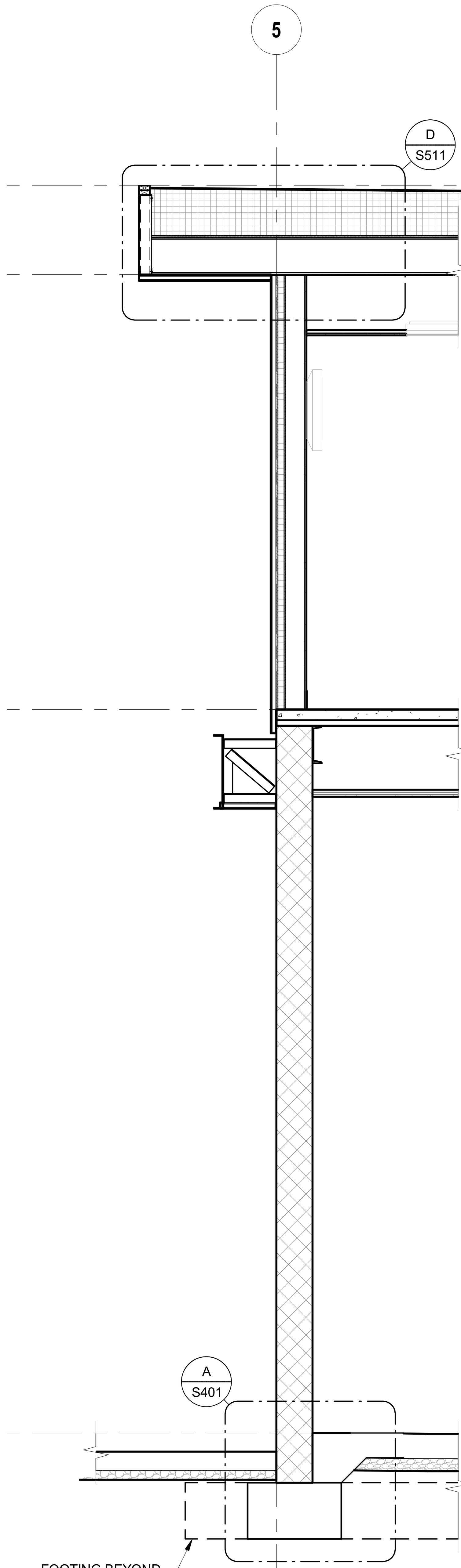
SECTION 2 / S317

3/8" = 1'-0"



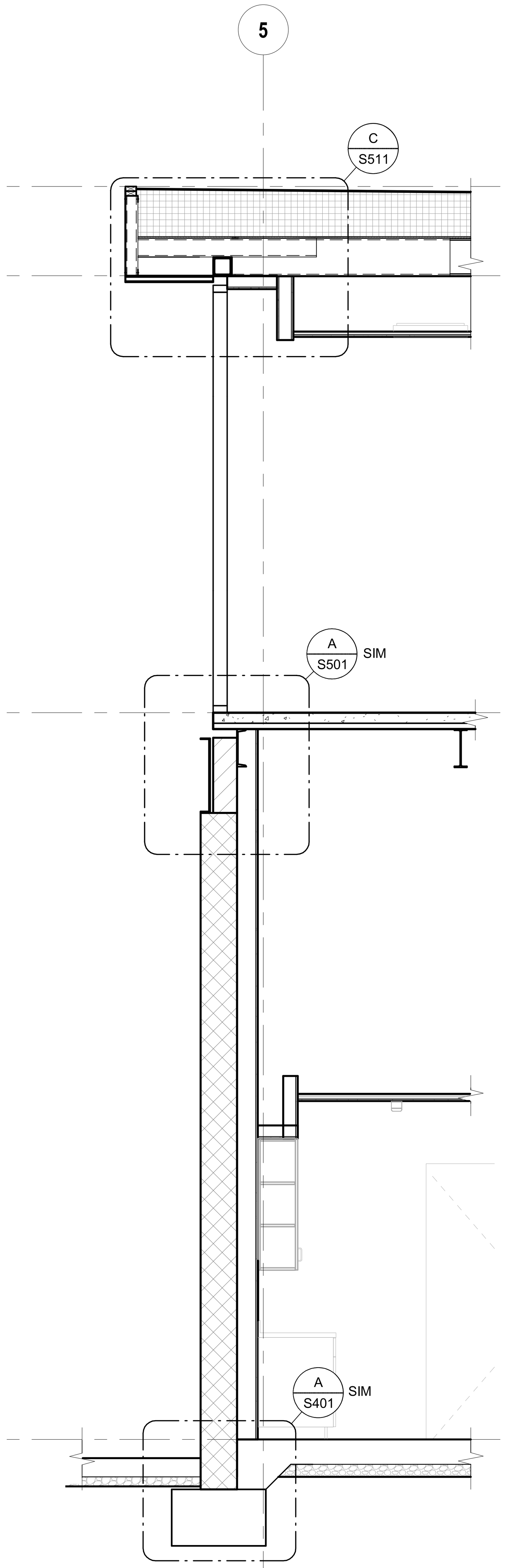
SECTION 3 / S317

3/8" = 1'-0"



SECTION 4 / S317

3/8" = 1'-0"



SECTION 5 / S317

3/8" = 1'-0"

REVISION				
NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

AS-BUILT

REF.

DESIGNED BY: **DGL**
DRAWN BY: **DAA**
DESIGN CHECK BY: **DGL/JPJ**
DRAWN CHECK BY: **DGL/JPJ**

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807
SECTIONS No. 7

REGISTERED PROFESSIONAL ENGINEER
DUSTIN G. LEE
No. S6623
EXP. 3/31/25
STRUCTURAL
STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

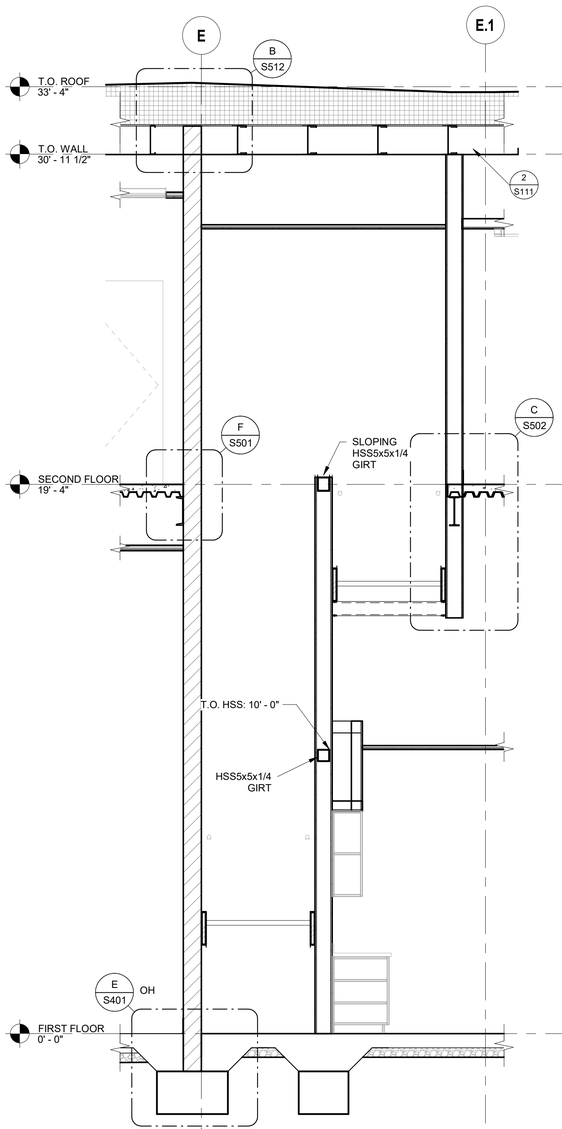
B# B-4797

PHASE # ____ REBID # ____

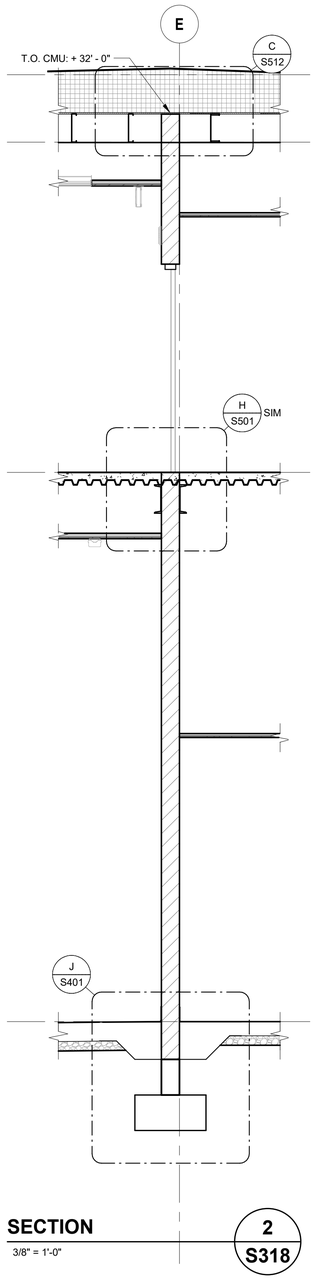
SHEET 136 OF 236

DWG. NO. **S317**

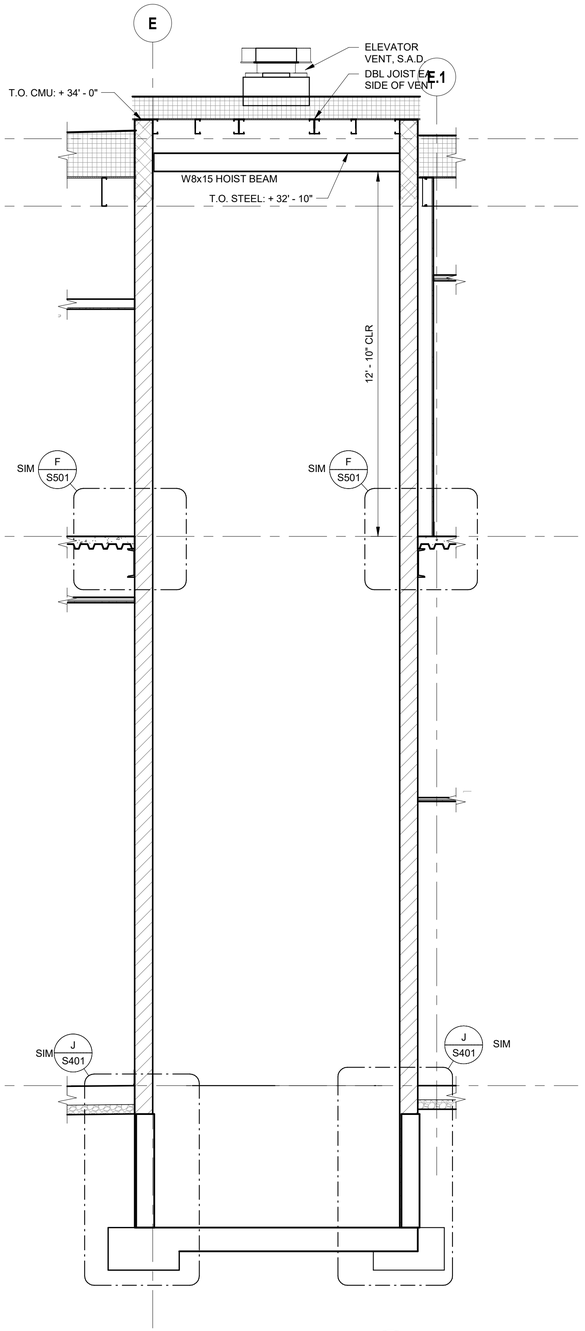
10/16/2023 8:45:48 AM



SECTION 1 — 3/8" = 1'-0" — S318



SECTION 2 — 3/8" = 1'-0" — S318



SECTION 3 — 3/8" = 1'-0" — S318

REVISION				
NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: **DGL**
DRAWN BY: **DAA**
DESIGN CHECK BY: **DGL/JPJ**
DRAWN CHECK BY: **DGL/JPJ**

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
DUSTIN G. LEE
No. S6623
EXP. 3/31/25
STRUCTURAL
STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807

SECTIONS No. 8

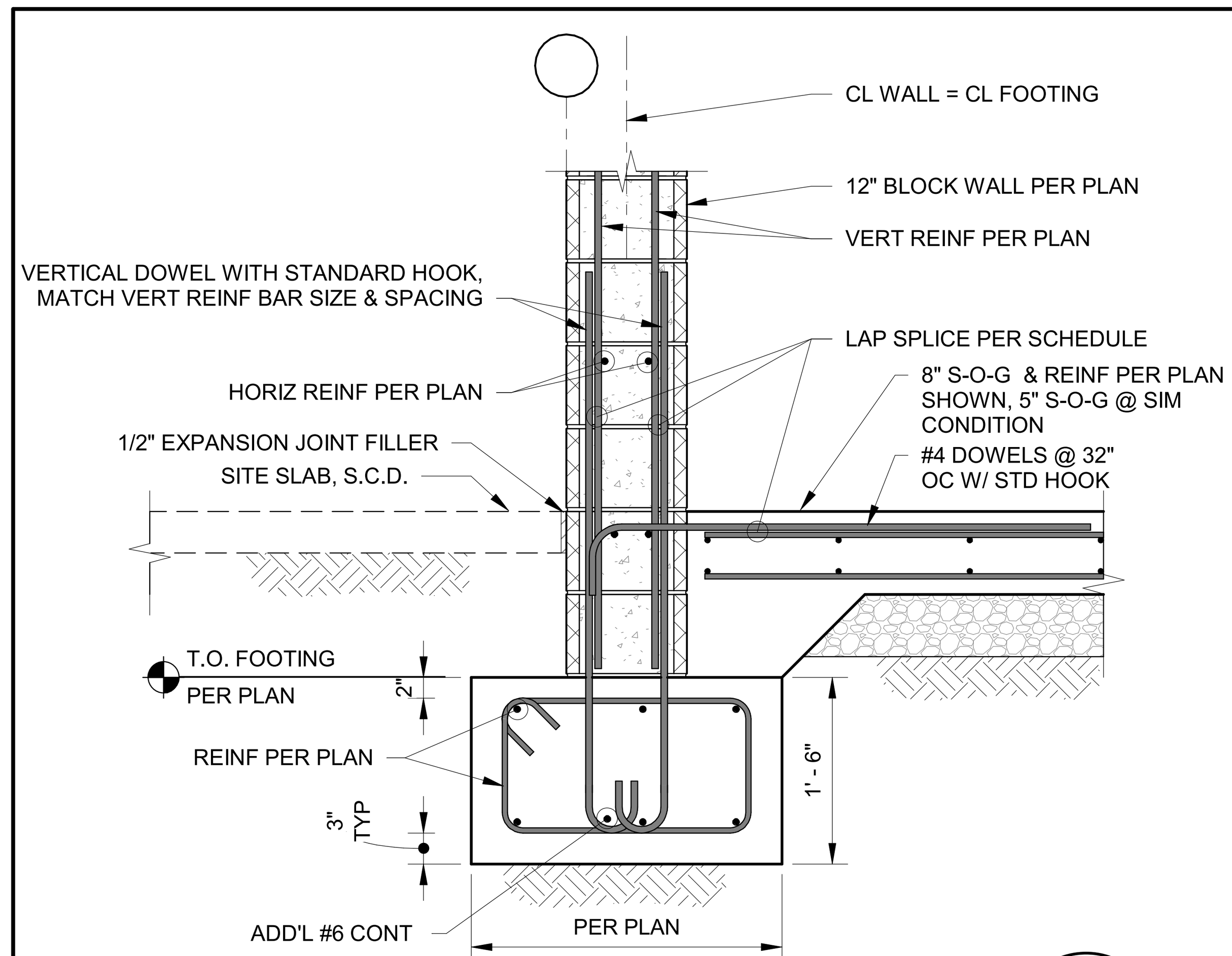
B# B-4797

PHASE # ____ REBID # ____

SHEET 137 OF 236

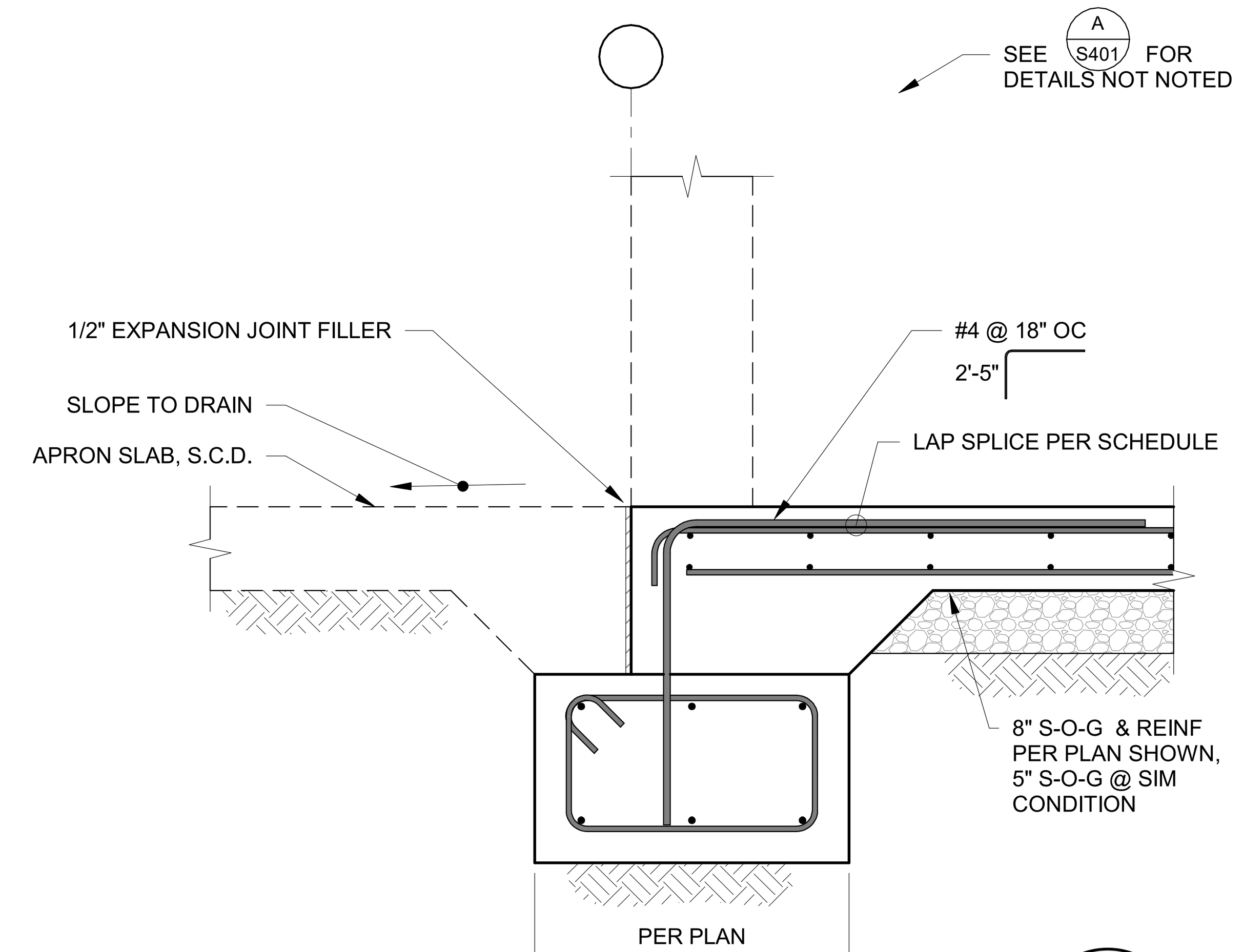
DWG. NO. S318

10/16/2023 8:45:50 AM



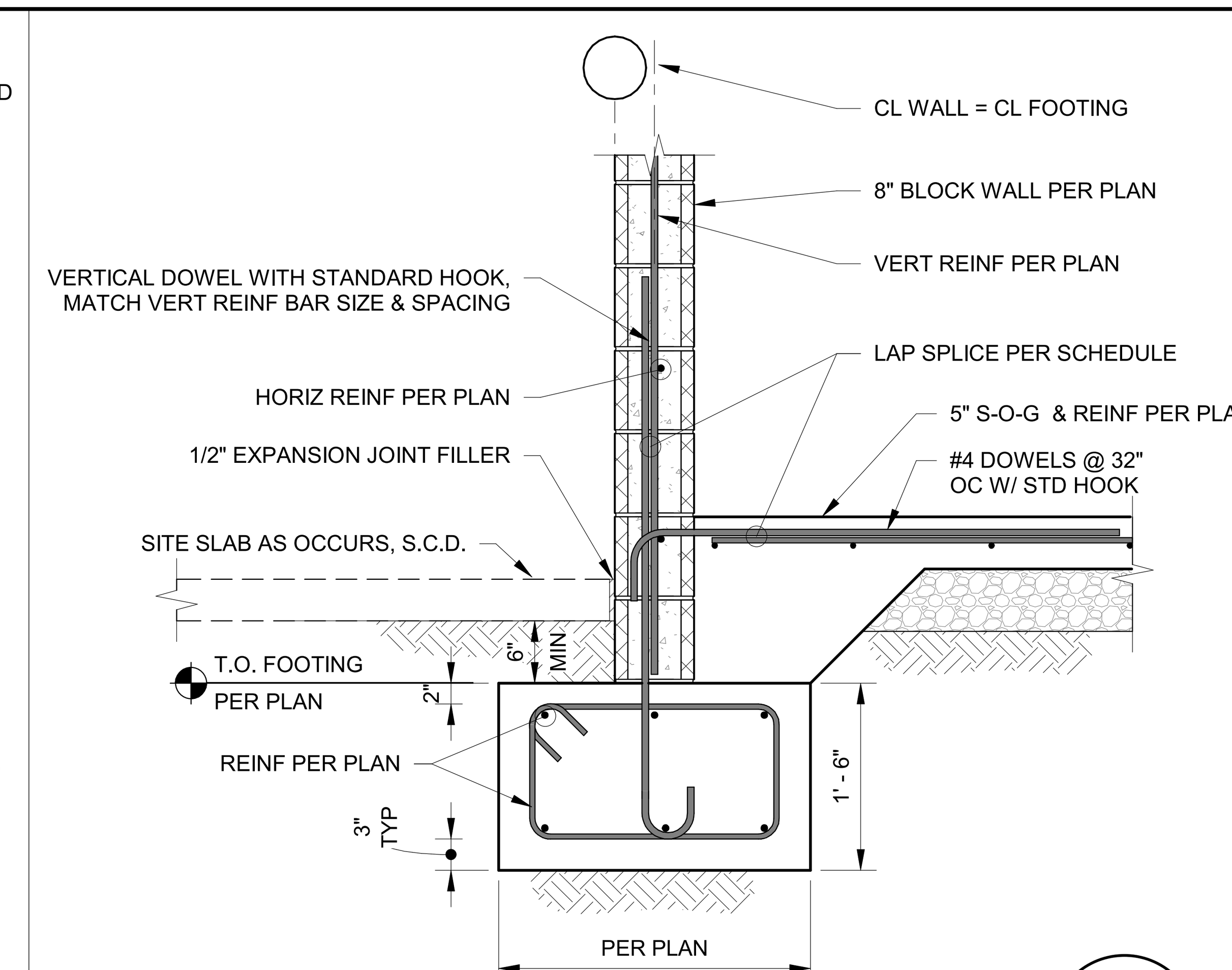
SECTION A / S401

3/4" = 1'-0"



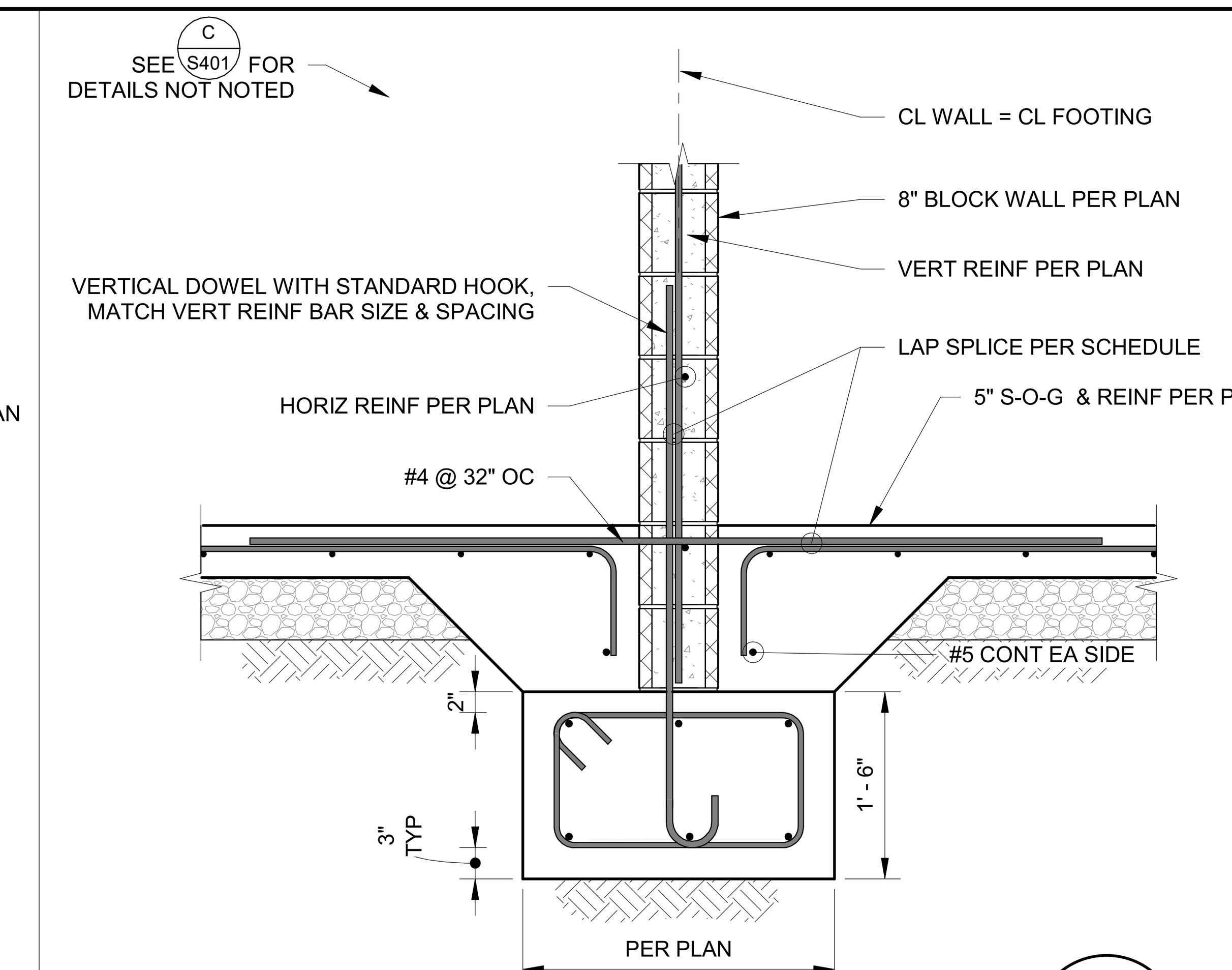
SECTION B / S401

3/4" = 1'-0"



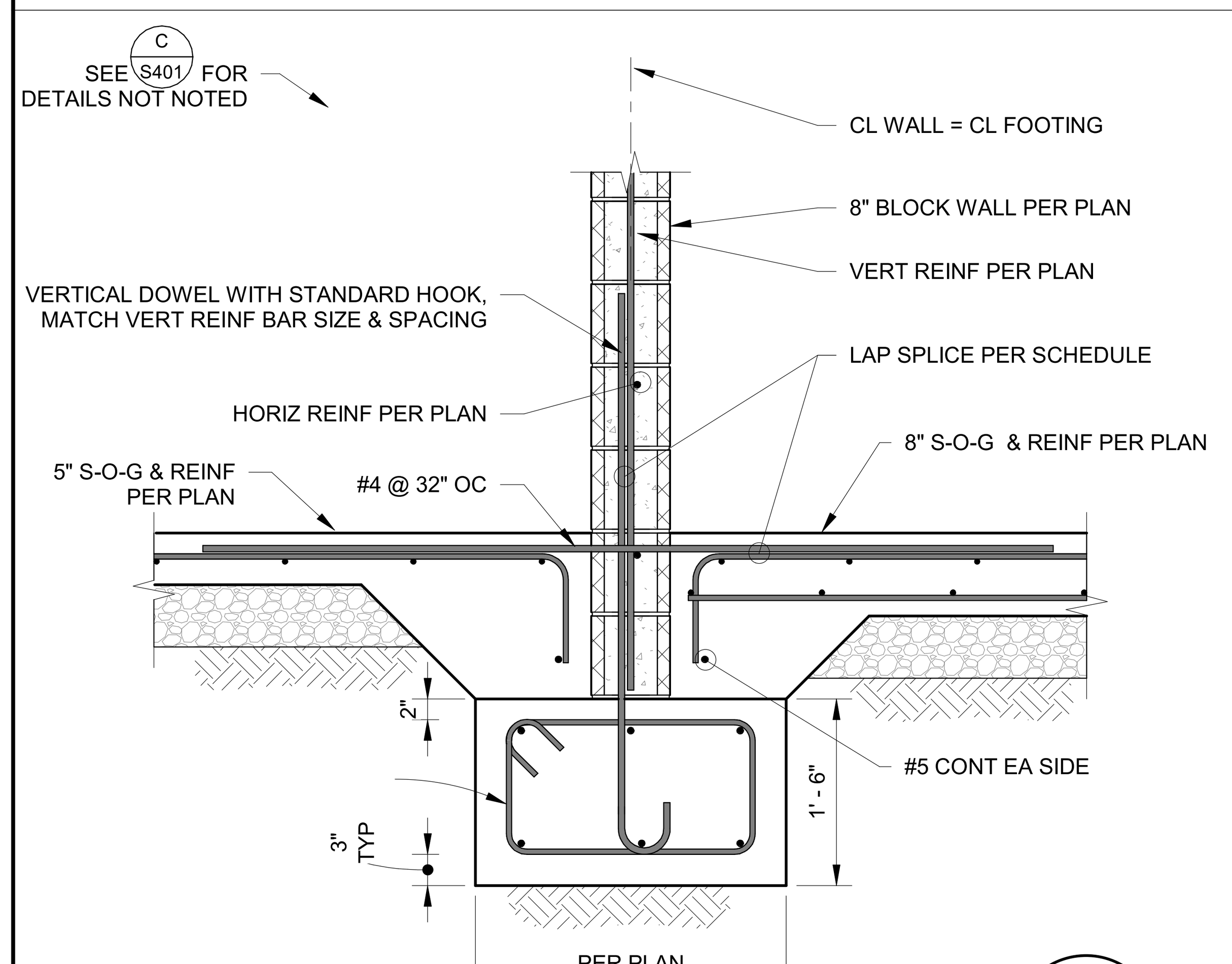
SECTION C / S401

3/4" = 1'-0"



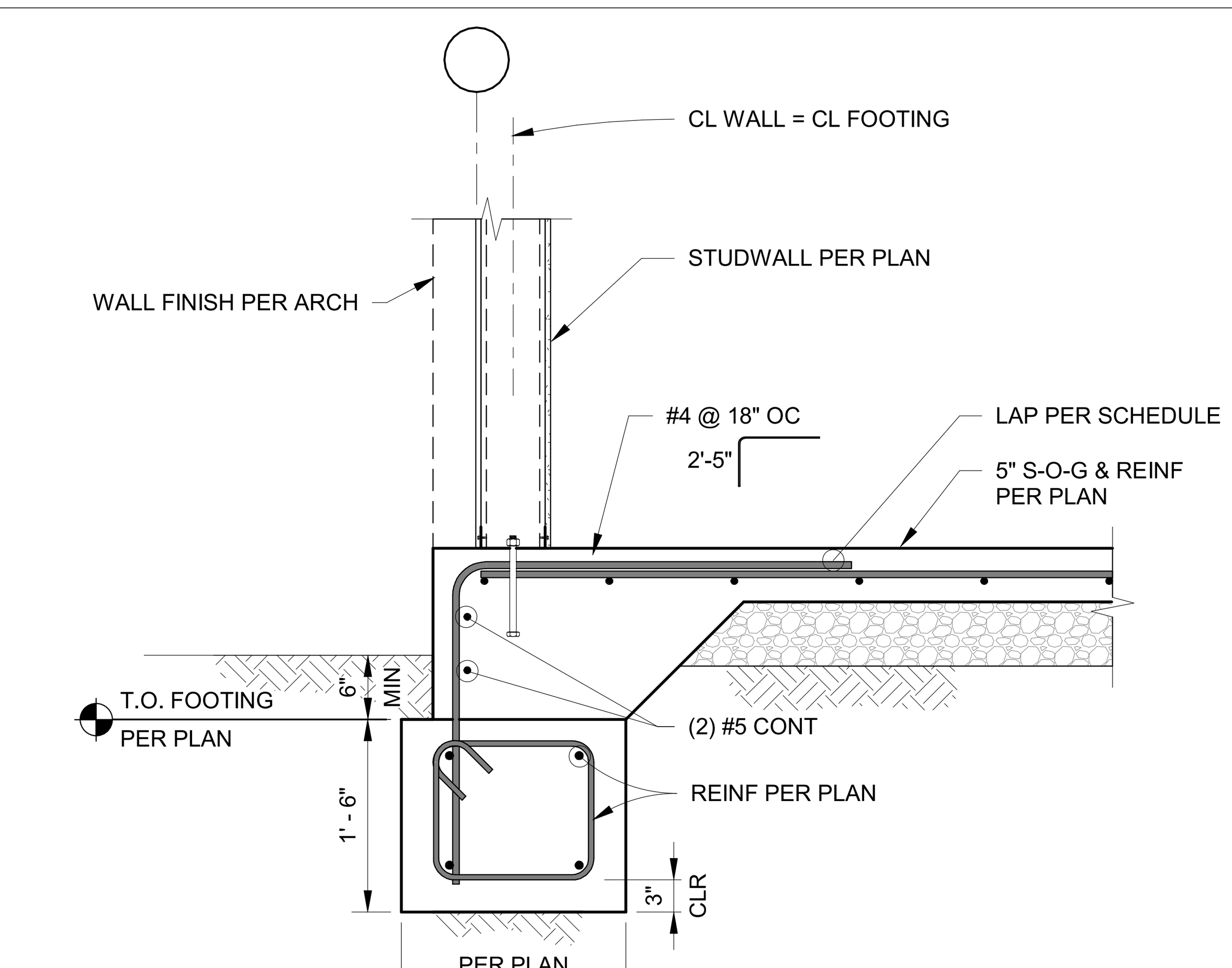
SECTION D / S401

3/4" = 1'-0"



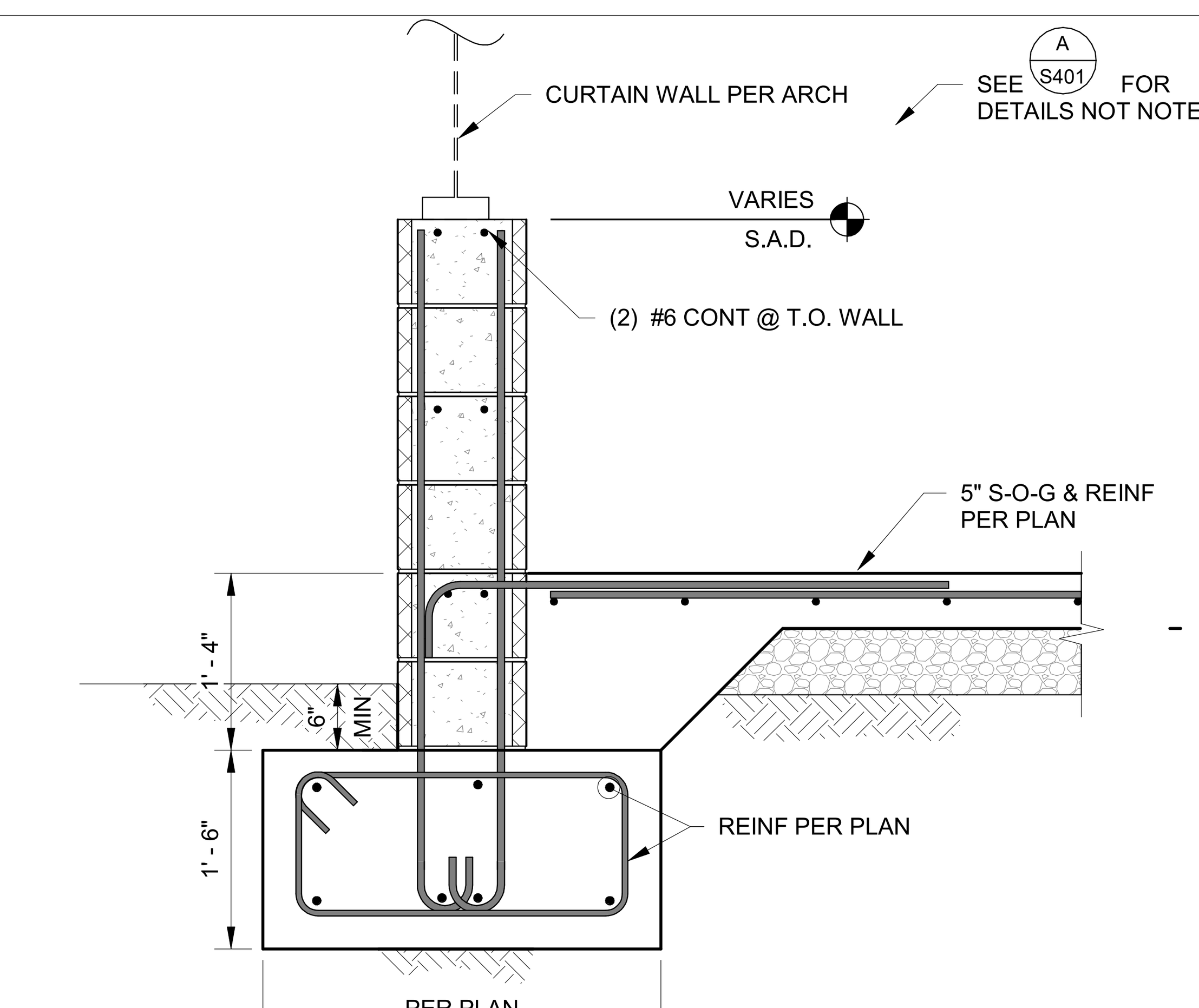
SECTION E / S401

3/4" = 1'-0"



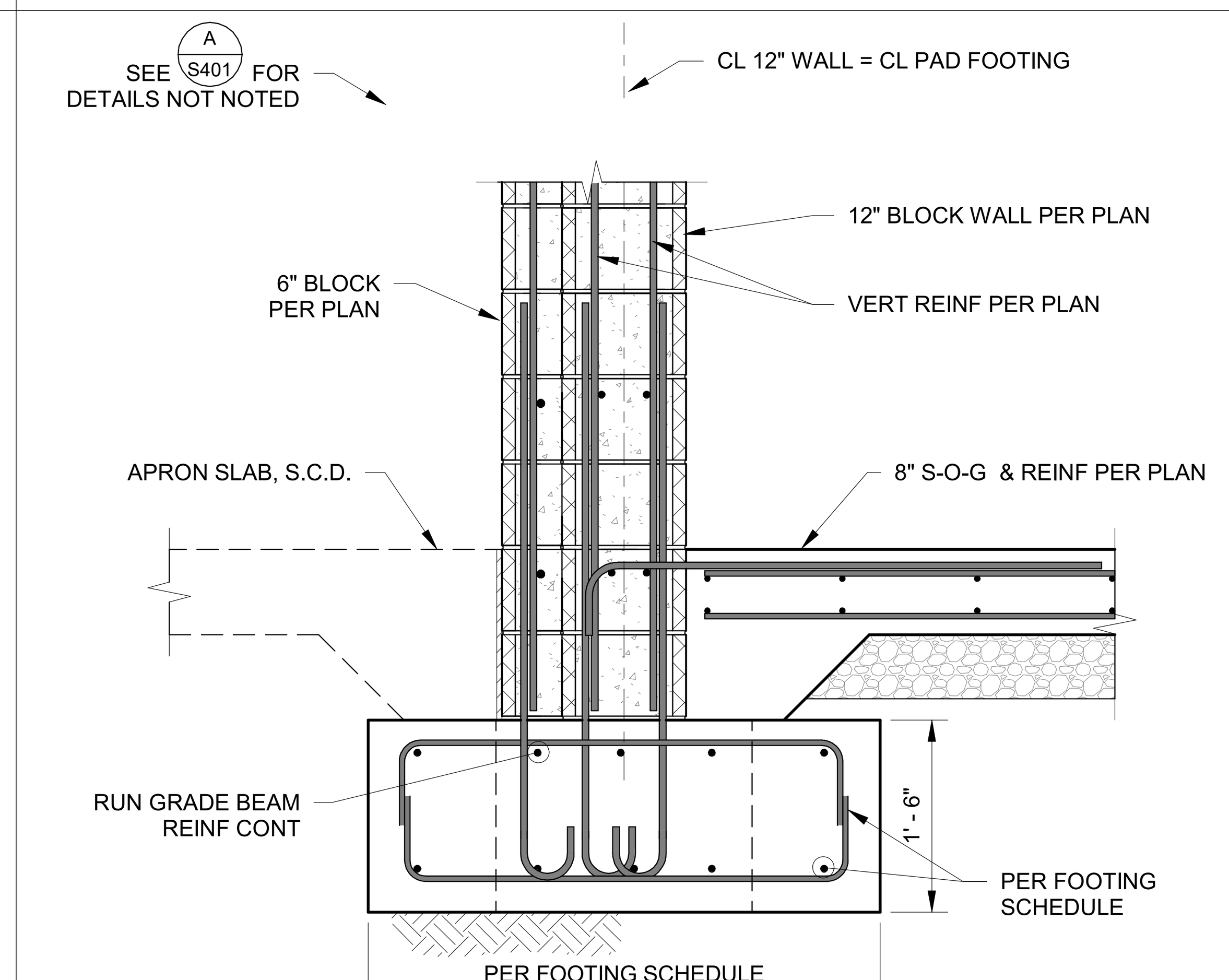
SECTION F / S401

3/4" = 1'-0"



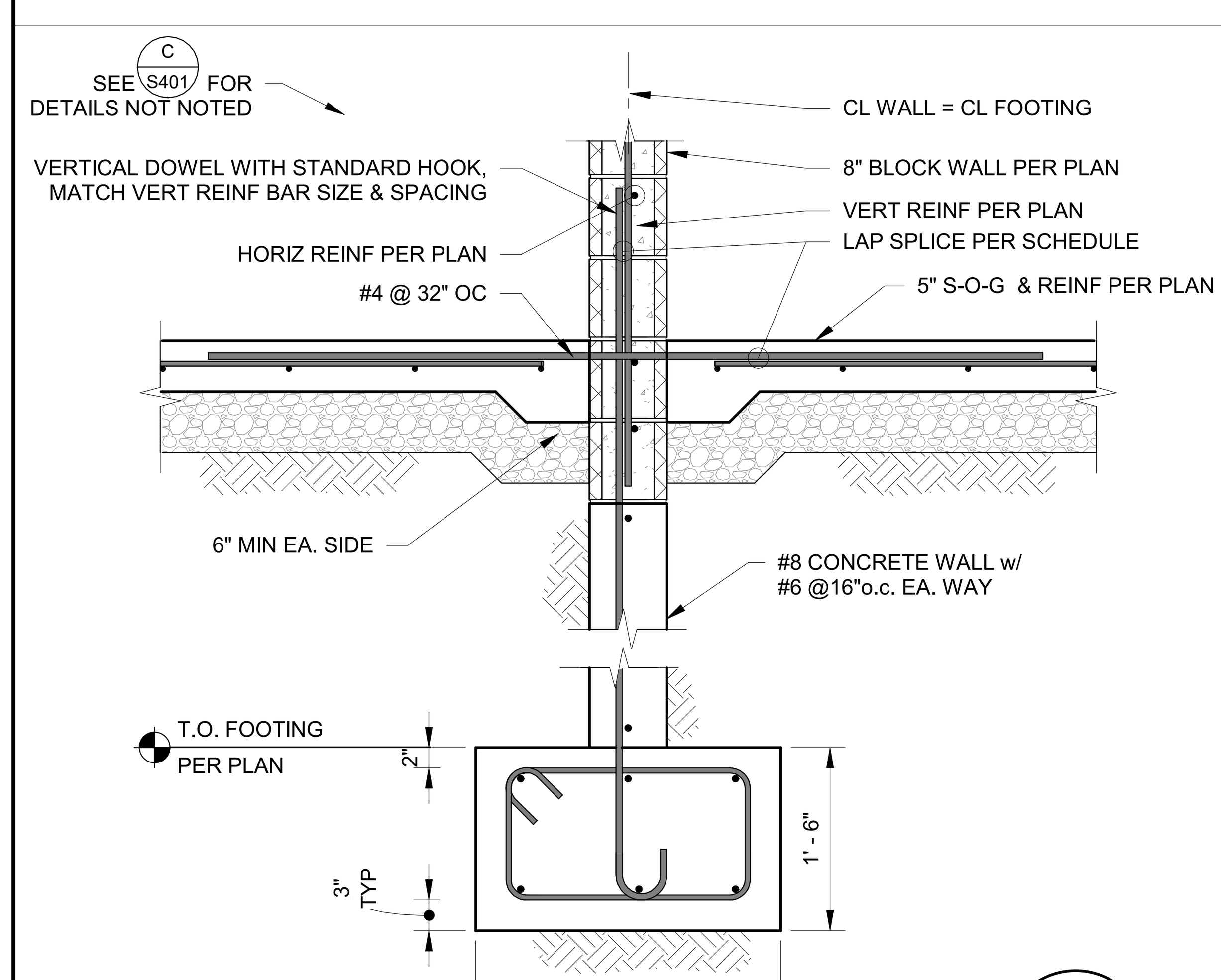
SECTION G / S401

3/4" = 1'-0"



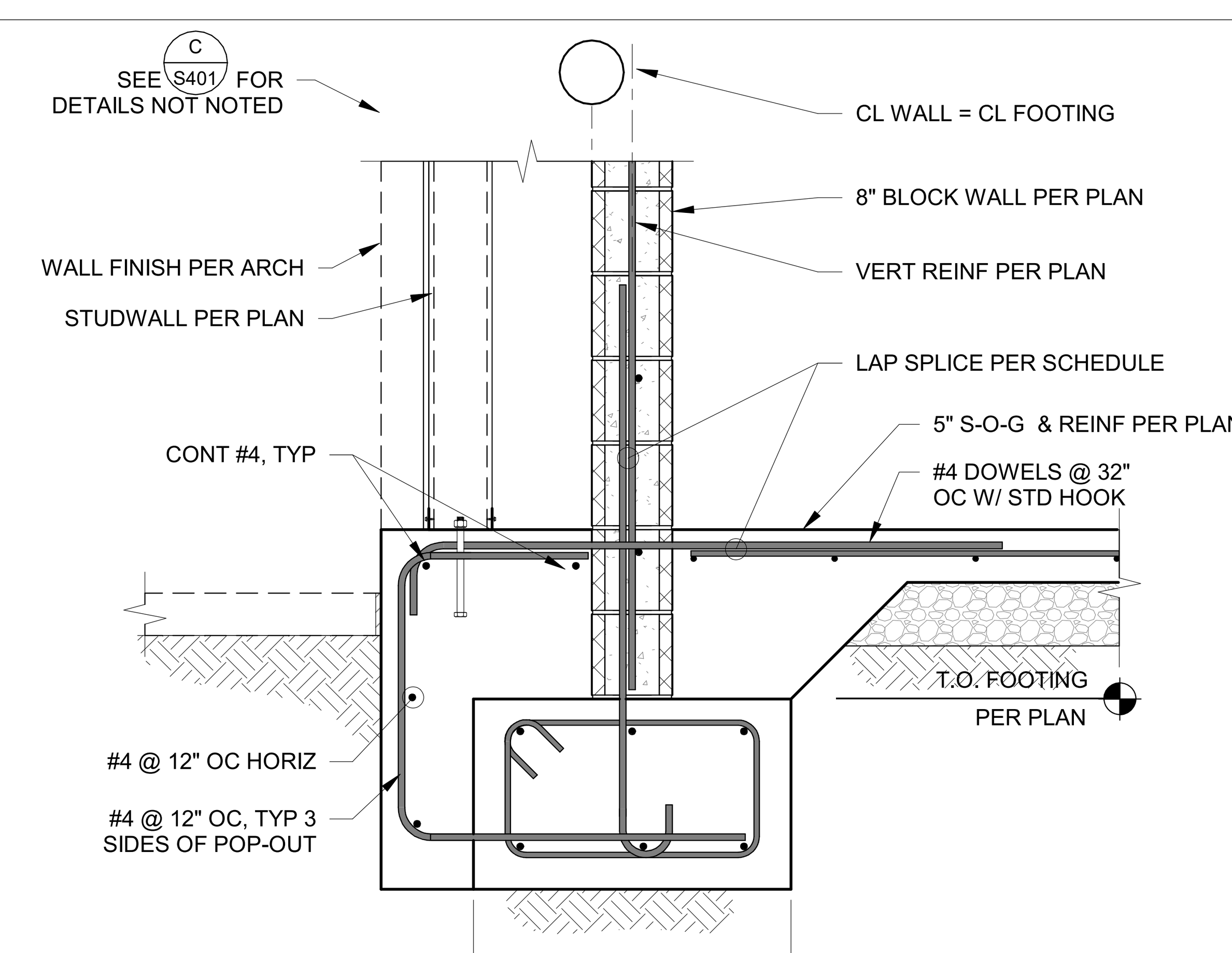
SECTION H / S401

3/4" = 1'-0"



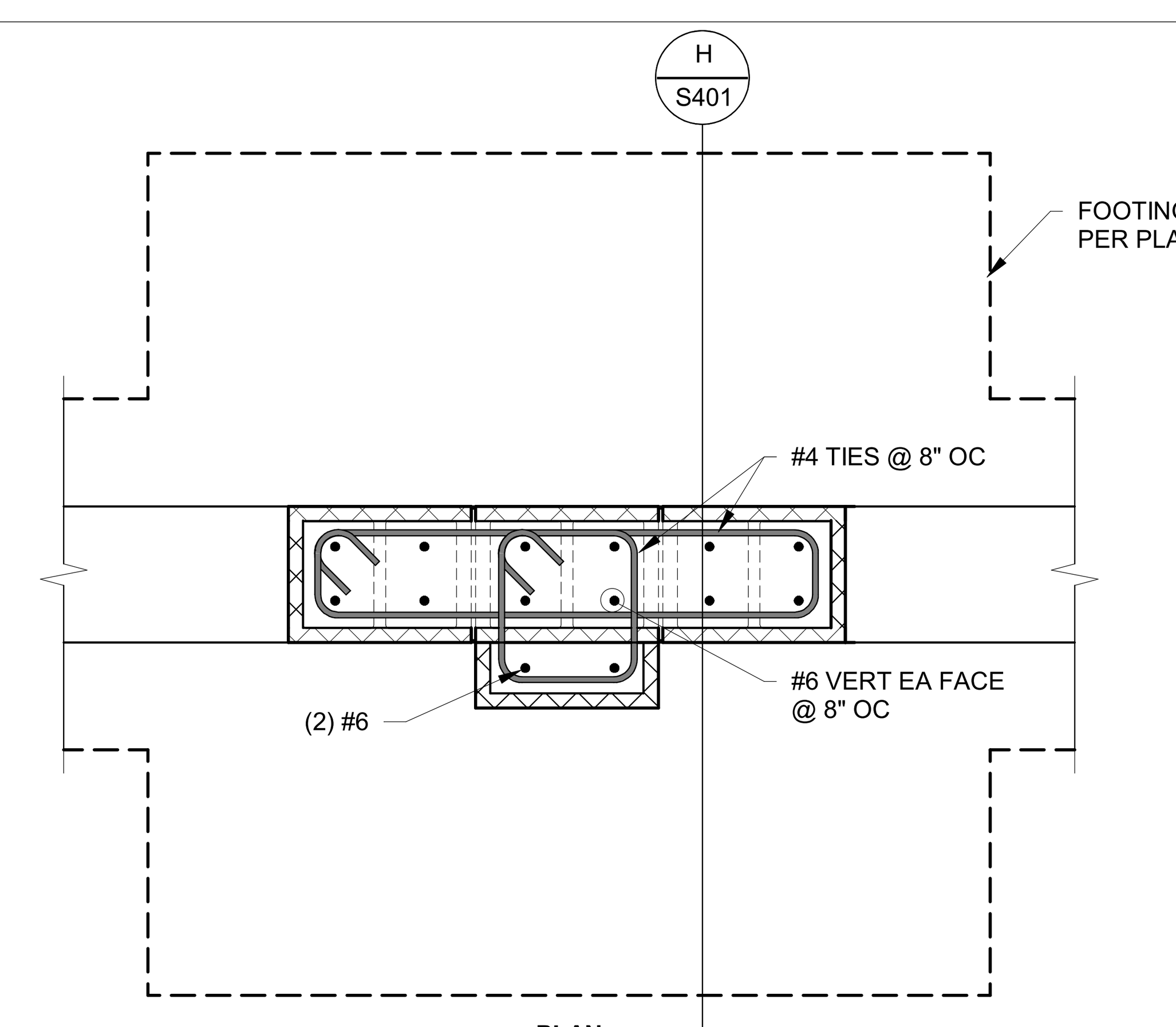
SECTION J / S401

3/4" = 1'-0"



SECTION K / S401

3/4" = 1'-0"



APP BAY PIER REINF 1 / S401

3/4" = 1'-0"

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

REVISION

AS-BUILT

REF.

DESIGNED BY: DGL

DRAWN BY: DAA

DESIGN CHECK BY: DGL/JPJ

DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD. LONG BEACH, CA 90807

FOUNDATION DETAILS No. 1

B# B-4797

PHASE # ____ REBID # ____

SHEET 138 OF 236

DWG. NO. S401

REGISTERED PROFESSIONAL ENGINEER DUSTIN G. LEE No. S6623 EXP. 3/31/25 STRUCTURAL STATE OF CALIFORNIA

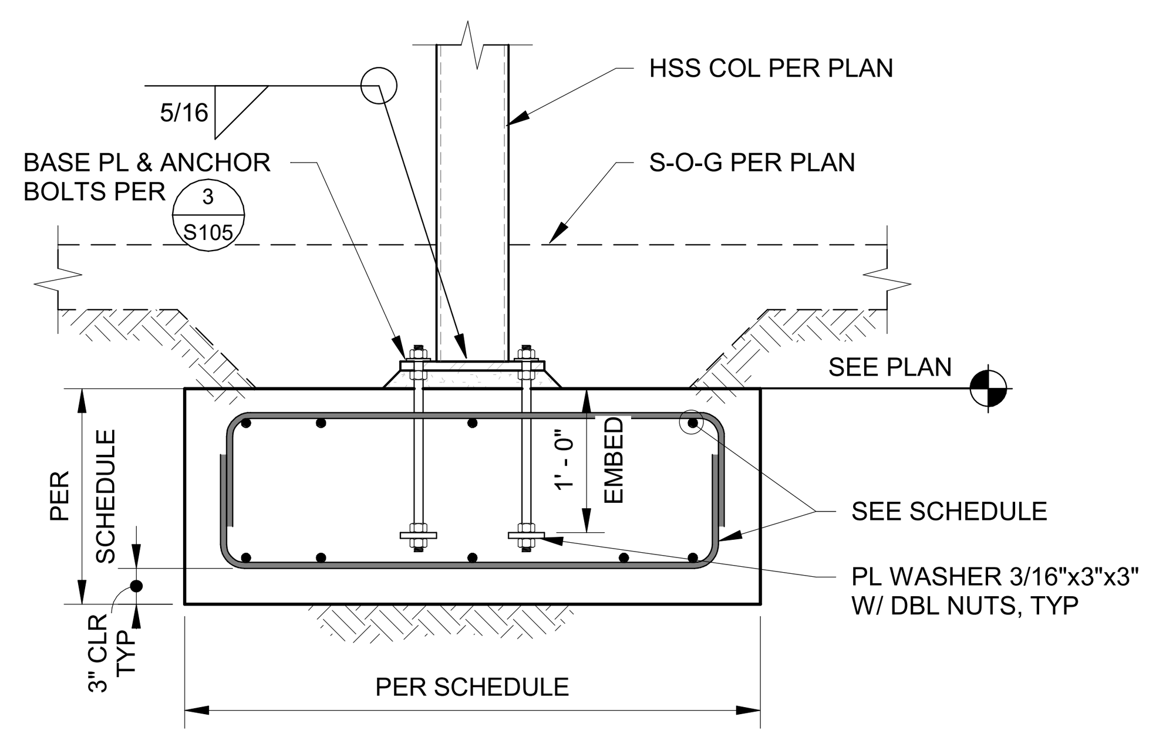
CORNERSTONE structural engineering group

986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

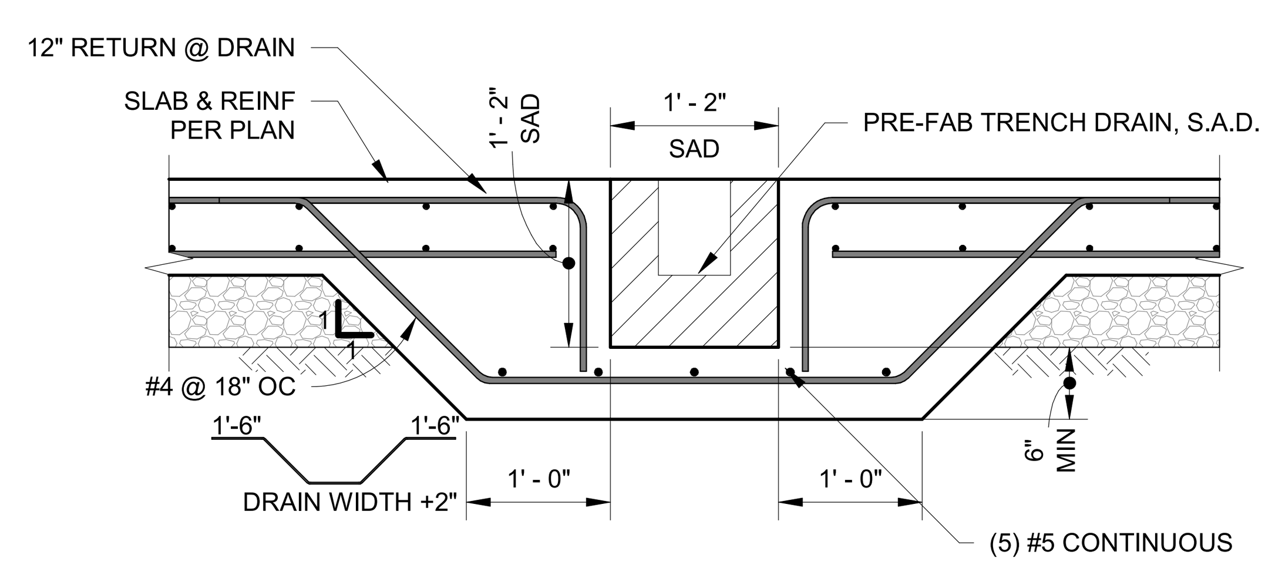
MARY MCGRATH | ARCHITECTS

610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

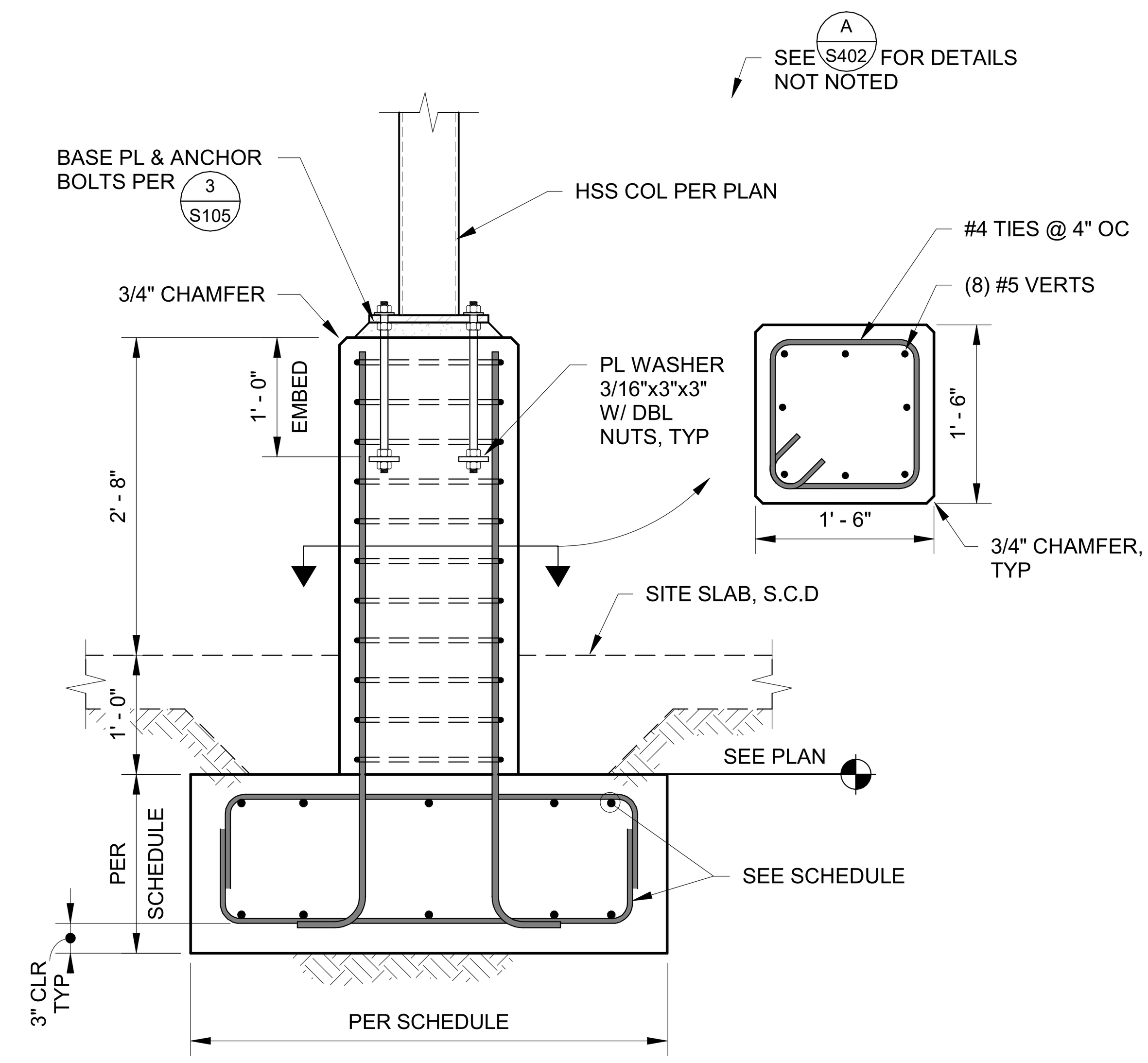
10/16/2023 8:45:52 AM



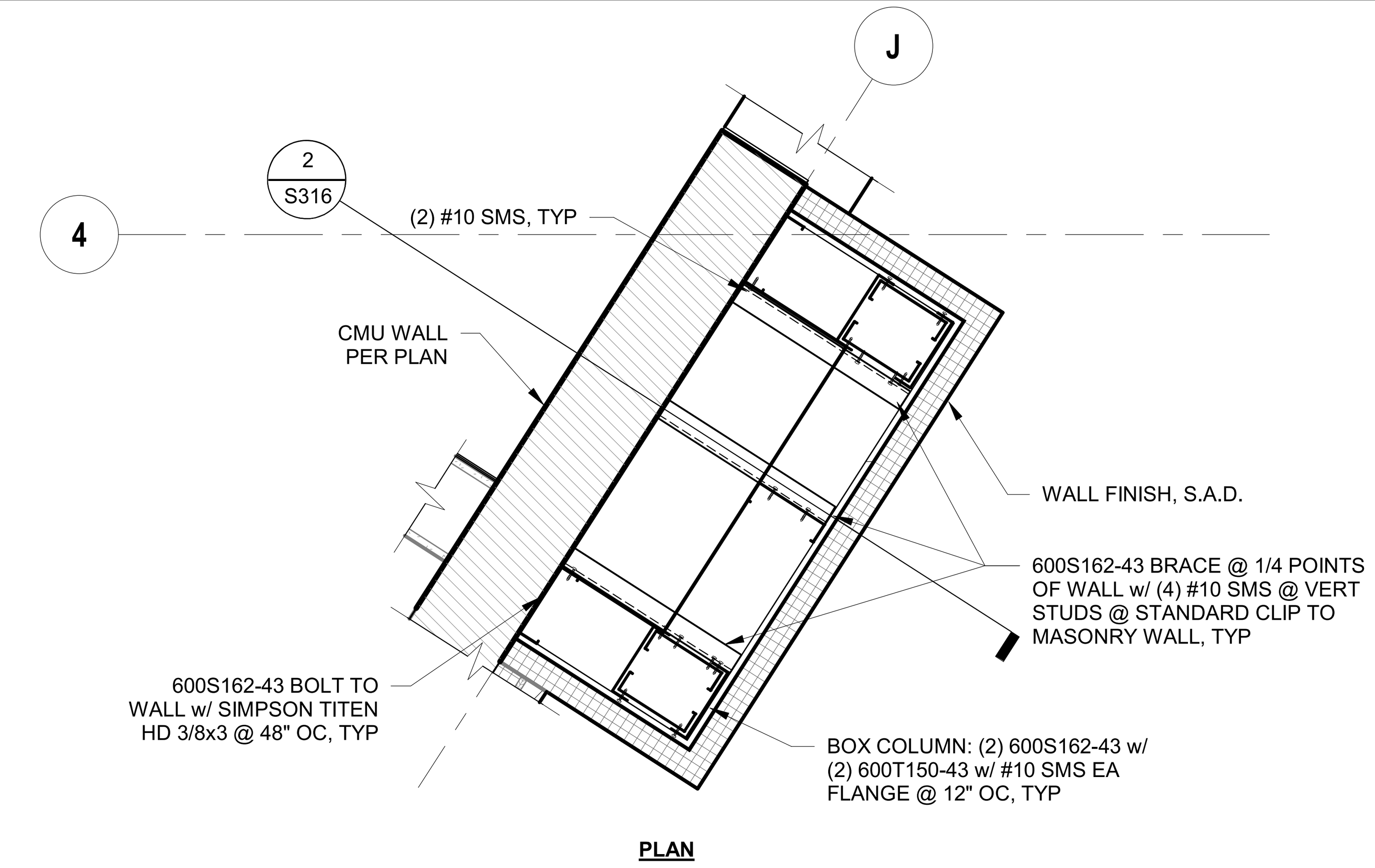
DETAIL A / S402
3/4" = 1'-0"



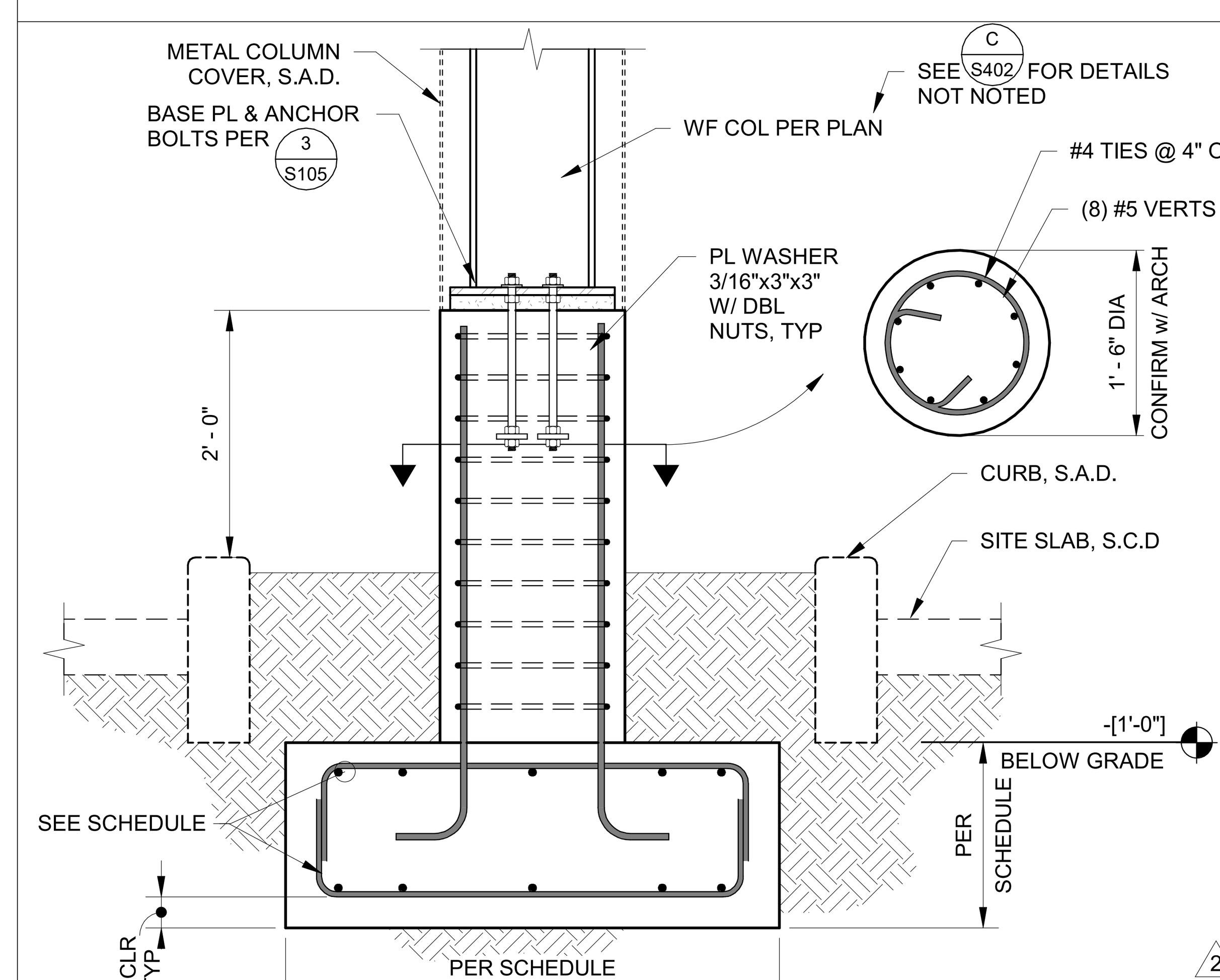
SECTION B / S402
3/4" = 1'-0"



DETAIL C / S402
3/4" = 1'-0"



DETAIL @ METAL STUD ENTRY WALL 1 / S402
1" = 1'-0"



DETAIL D / S402
3/4" = 1'-0"

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

REVISION

AS-BUILT

REF.

DESIGNED BY: **DGL**
DRAWN BY: **DAA**
DESIGN CHECK BY: **DGL/JPJ**
DRAWN CHECK BY: **DGL/JPJ**

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807
FOUNDATION DETAILS No. 2

B# **B-4797**

PHASE # ____ REBID # ____

SHEET **139** OF **236**

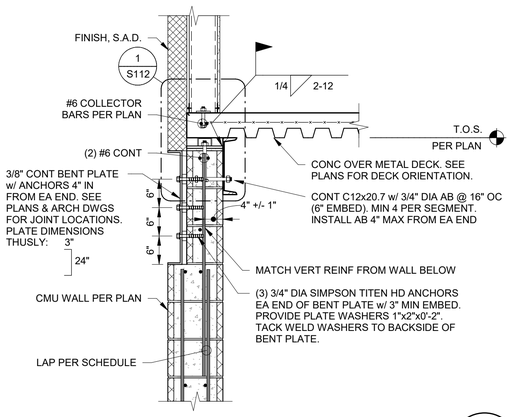
DWG. NO. **S402**

REGISTERED PROFESSIONAL ENGINEER DUSTIN G. LEE No. S6623 EXP. 3/31/25 STRUCTURAL STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

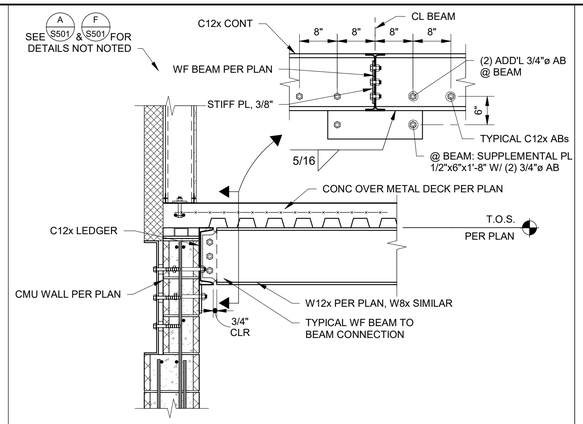
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

10/16/2023 8:45:54 AM



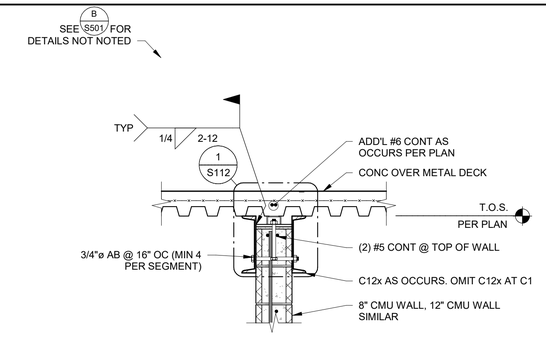
SECTION — A / S501

3/4" = 1'-0"



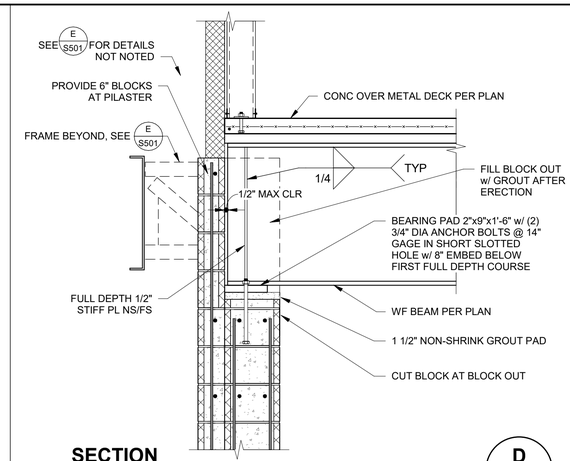
SECTION — B / S501

3/4" = 1'-0"



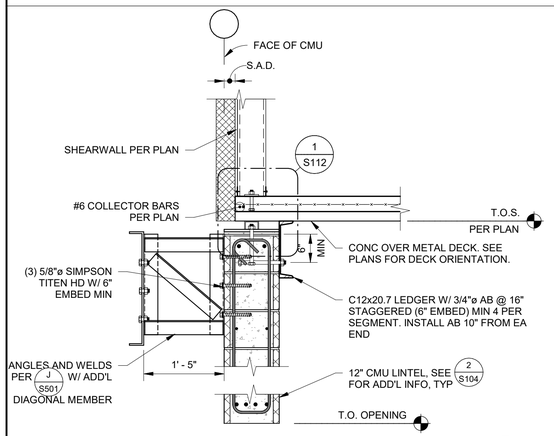
SECTION — C / S501 — C1 / S501

3/4" = 1'-0"



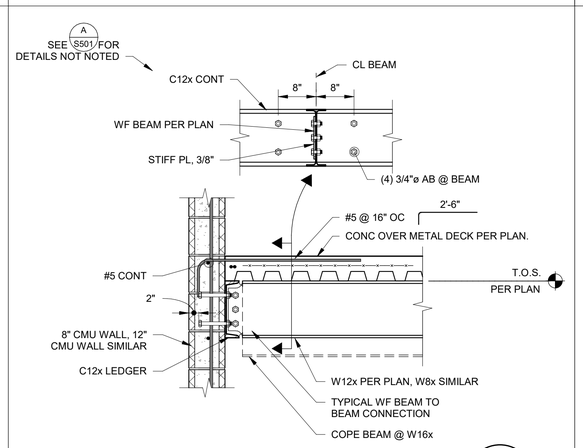
SECTION — D / S501

3/4" = 1'-0"



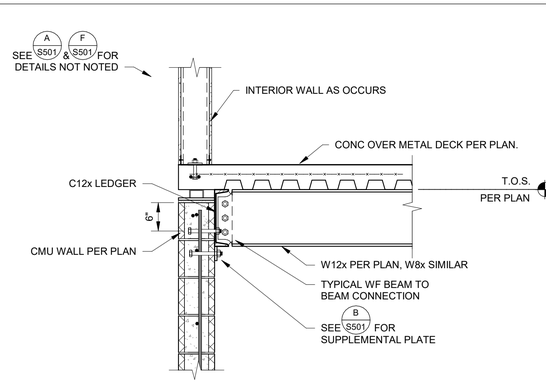
SECTION — E / S501

3/4" = 1'-0"



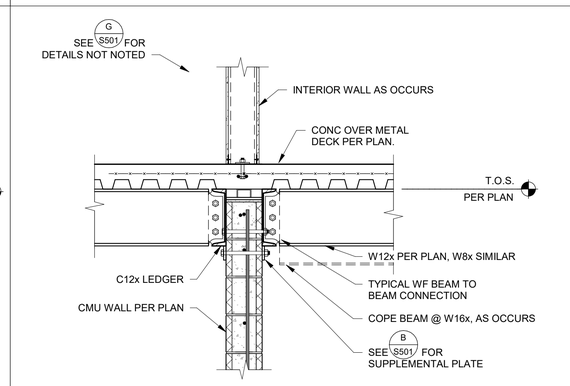
SECTION — F / S501

3/4" = 1'-0"



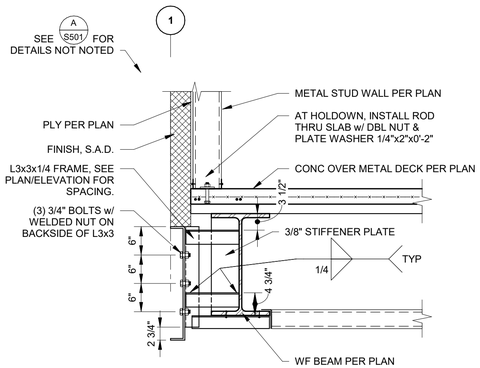
SECTION — G / S501

3/4" = 1'-0"



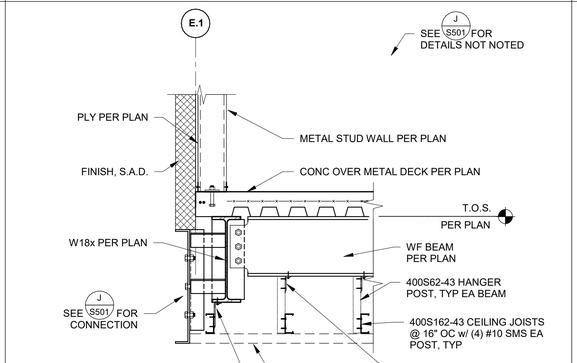
SECTION — H / S501

3/4" = 1'-0"



SECTION — J / S501

3/4" = 1'-0"



SECTION — K / S501

3/4" = 1'-0"

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
1	12/16/2021			PLAN CHECK SUBMITTAL
2	04/22/2022			PLAN CHECK RE-SUBMITTAL
3	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ
REF.

LICENSED ARCHITECT — MARY C. MCGRATH — C-24435 — REN-08-30-23 — STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD. LONG BEACH, CA 90807

FLOOR FRAMING DETAILS No. 1

B# B-4797

PHASE # ____ REBID # ____

SHEET 140 OF 236

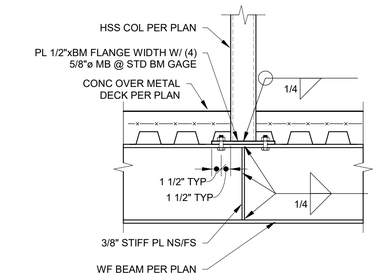
DWG. NO. S501

REGISTERED PROFESSIONAL ENGINEER — DUSTIN G. LEE — No. S6623 — EXP. 3/31/25 — STRUCTURAL — STATE OF CALIFORNIA

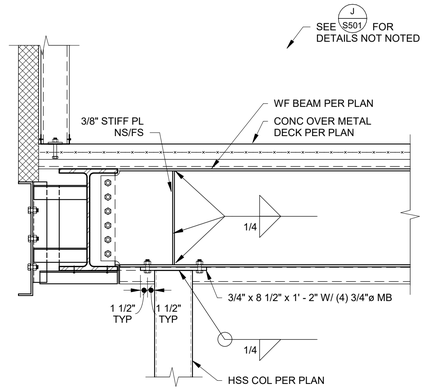
CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

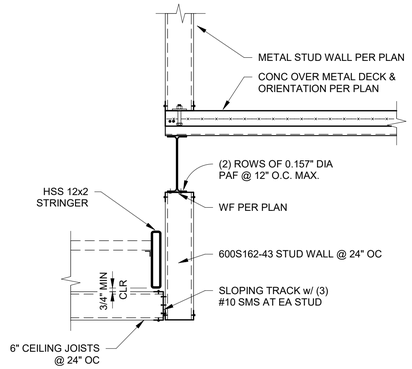
10/16/2023 8:45:56 AM



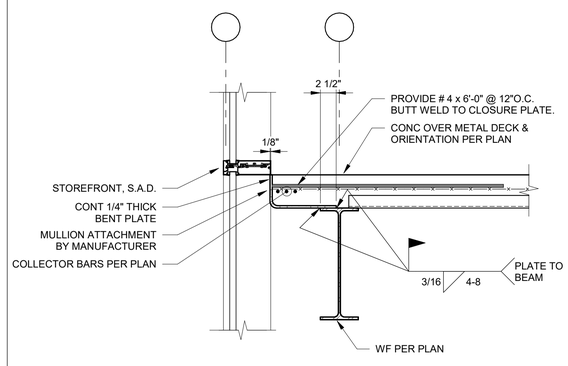
SECTION A
1" = 1'-0"
S502



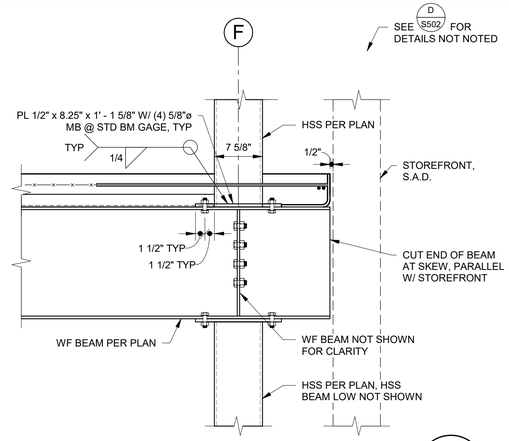
SECTION B
3/4" = 1'-0"
S502



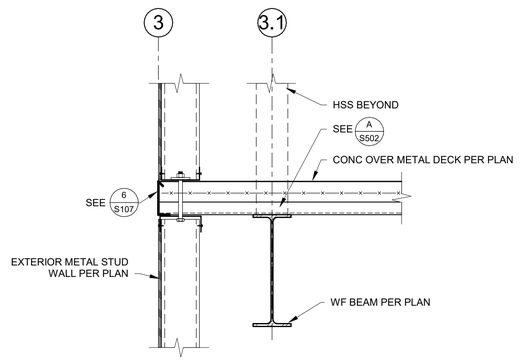
SECTION C
3/4" = 1'-0"
S502



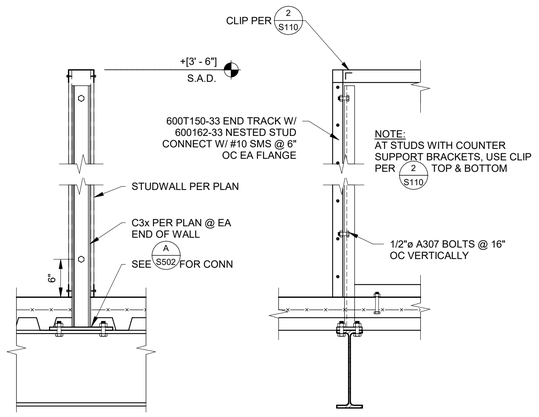
SECTION D
1" = 1'-0"
S502



SECTION E
1" = 1'-0"
S502



SECTION F
1" = 1'-0"
S502



SECTION G
1" = 1'-0"
S502
2

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REVISION

REF.

DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807

FLOOR FRAMING DETAILS No. 2

B# B-4797

PHASE # ____ REBID # ____

SHEET 141 OF 236

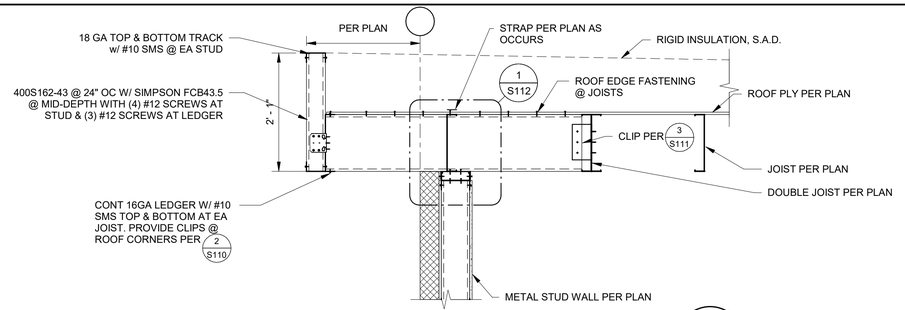
DWG. NO. S502

REGISTERED PROFESSIONAL ENGINEER DUSTIN G. LEE No. S9623 EXP. 3/31/25 STRUCTURAL STATE OF CALIFORNIA

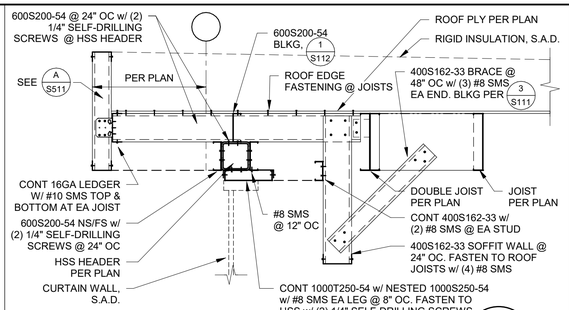
CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

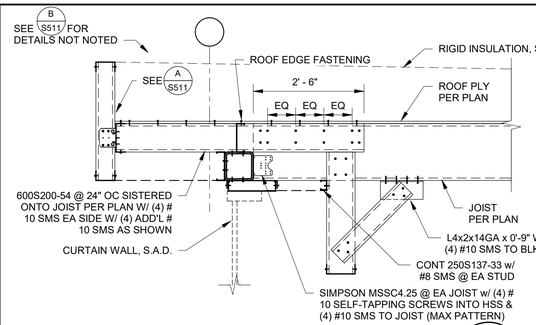
10/16/2023 8:45:56 AM



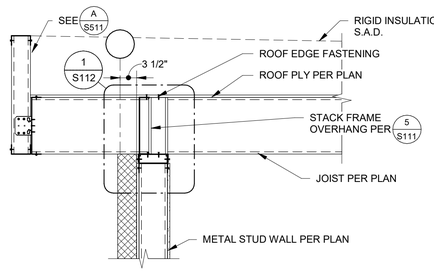
SECTION — 3/4" = 1'-0" — **A S511**



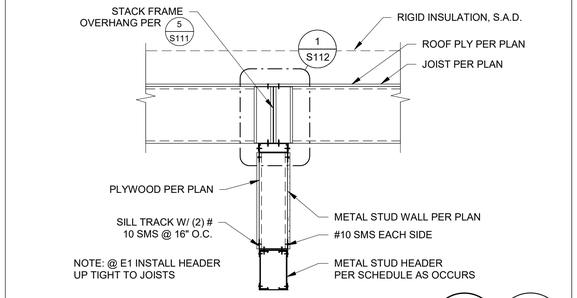
SECTION — 3/4" = 1'-0" — **B S511**



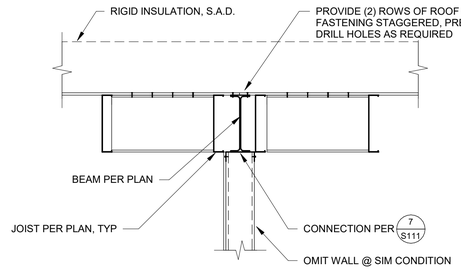
SECTION — 3/4" = 1'-0" — **C S511**



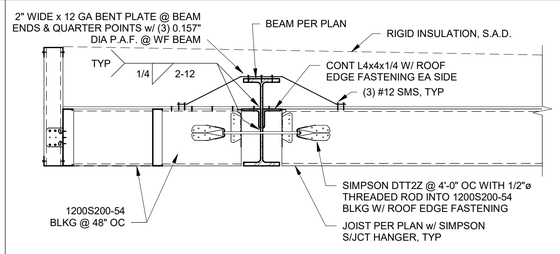
SECTION — 3/4" = 1'-0" — **D S511**



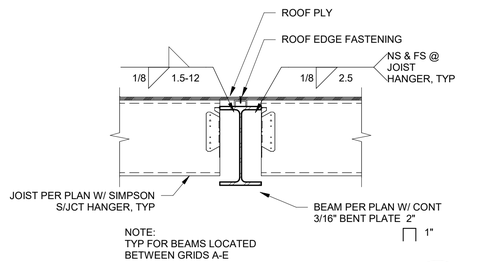
SECTION — 3/4" = 1'-0" — **E S511** **E1 S511**



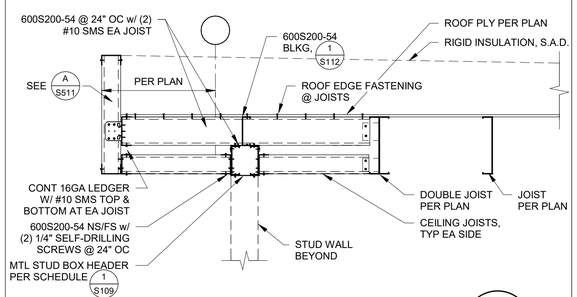
SECTION — 3/4" = 1'-0" — **F S511**



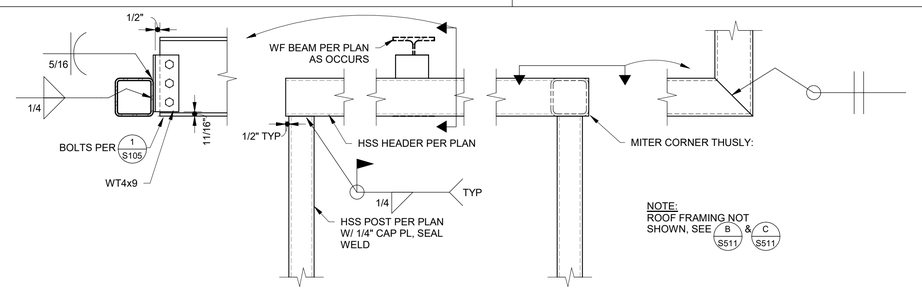
SECTION — 3/4" = 1'-0" — **G S511**



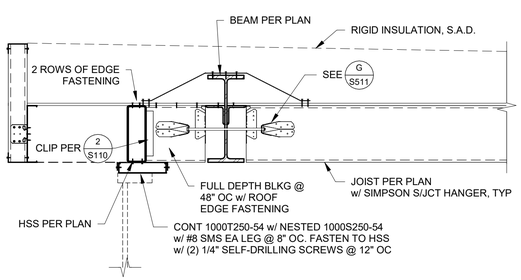
SECTION — 1" = 1'-0" — **H S511**



SECTION — 3/4" = 1'-0" — **J S511**



SECTION — 1" = 1'-0" — **K S511**



SECTION — 3/4" = 1'-0" — **M S511**

10/16/2023 8:45:59 AM

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD. LONG BEACH, CA 90807

ROOF FRAMING DETAILS No. 1

B# B-4797

PHASE # ____ REBID # ____

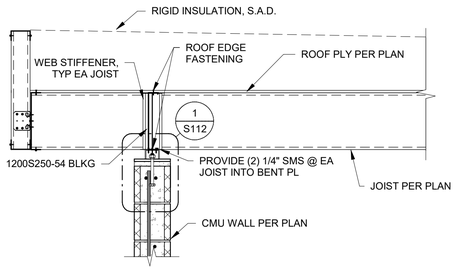
SHEET 142 OF 236

DWG. NO. S511

REGISTERED PROFESSIONAL ENGINEER DUSTIN G. LEE No. S6623 EXP. 3/31/25 STRUCTURAL STATE OF CALIFORNIA

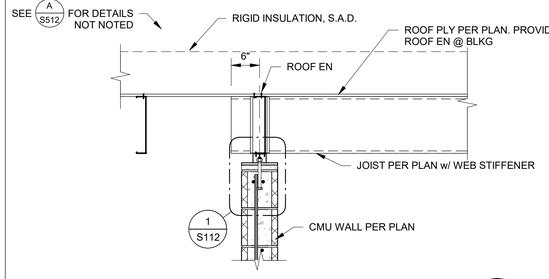
CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



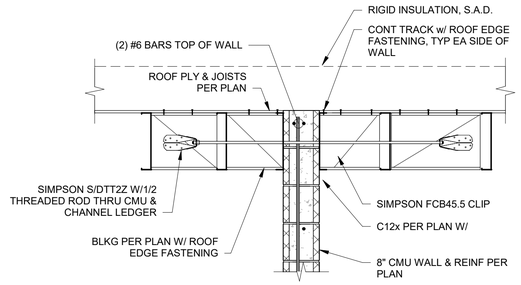
SECTION — A / S512

3/4" = 1'-0"



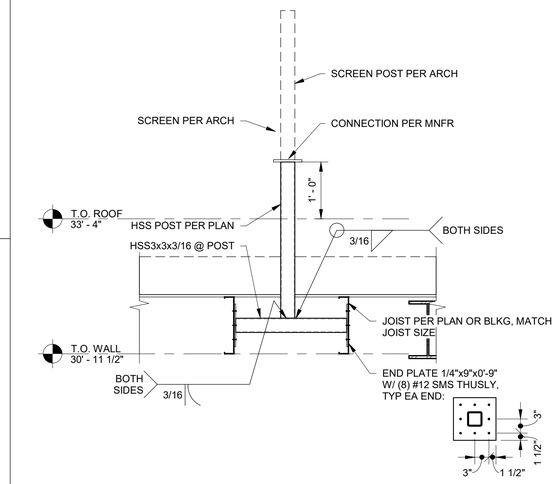
SECTION — B / S512

3/4" = 1'-0"



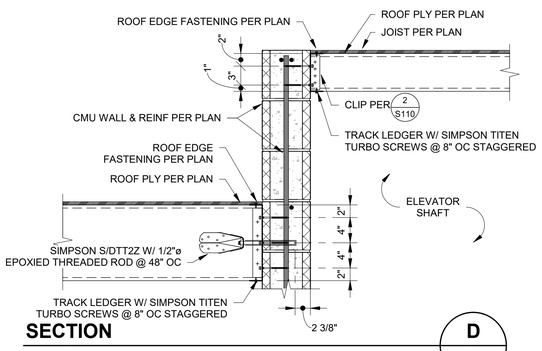
SECTION — C / S512

3/4" = 1'-0"



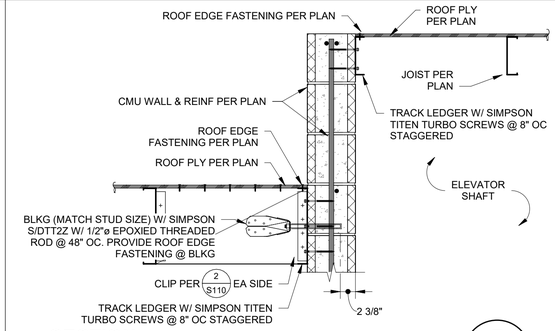
SECTION — G / S512

3/4" = 1'-0"



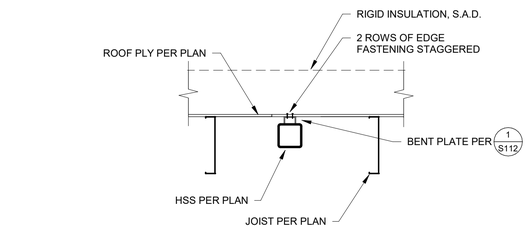
SECTION — D / S512

1" = 1'-0"



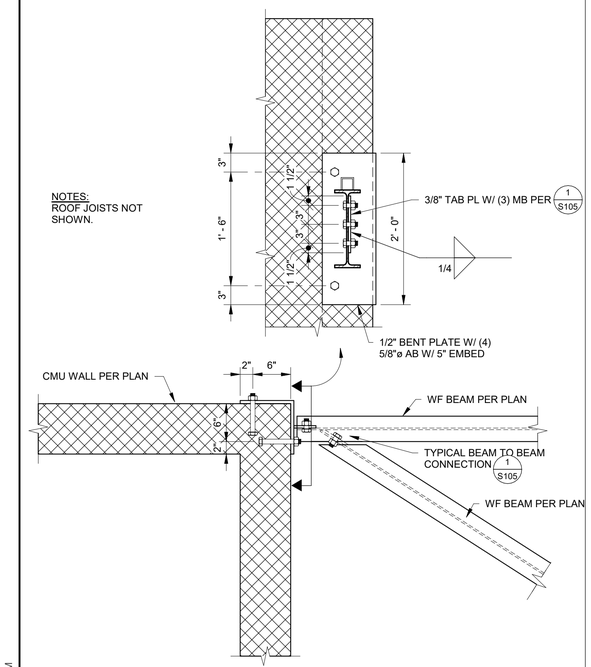
SECTION — E / S512

1" = 1'-0"



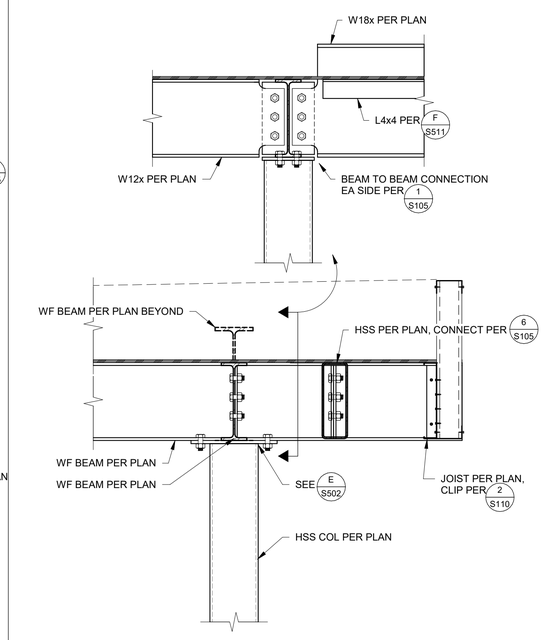
SECTION — F / S512

3/4" = 1'-0"



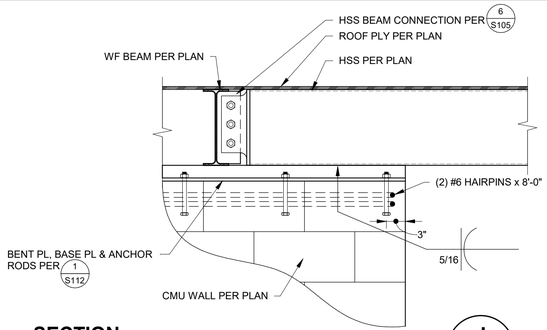
DETAIL — 1 / S512

1" = 1'-0"



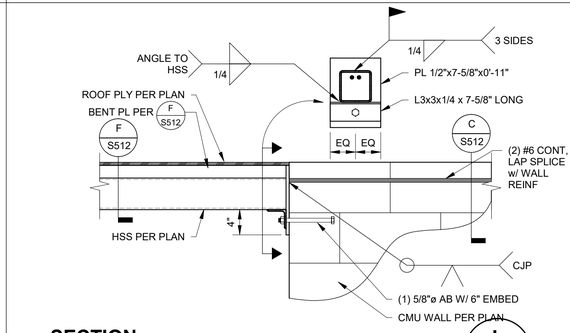
SECTION — H / S512

1" = 1'-0"



SECTION — J / S512

1" = 1'-0"



SECTION — L / S512

1" = 1'-0"

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION	REF.
	12/16/2021			PLAN CHECK SUBMITTAL	
1	04/22/2022			PLAN CHECK RE-SUBMITTAL	
2	06/15/2023			PLAN CHECK RE-SUBMITTAL	
	10/12/2023			BID DOCUMENTS	
					AS-BUILT

DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT — MARY C. MCGRATH — C-24435 — REN-08-30-23 — STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD. LONG BEACH, CA 90807

ROOF FRAMING DETAILS No. 2

B# B-4797

PHASE # ____ REBID # ____

SHEET 143 OF 236

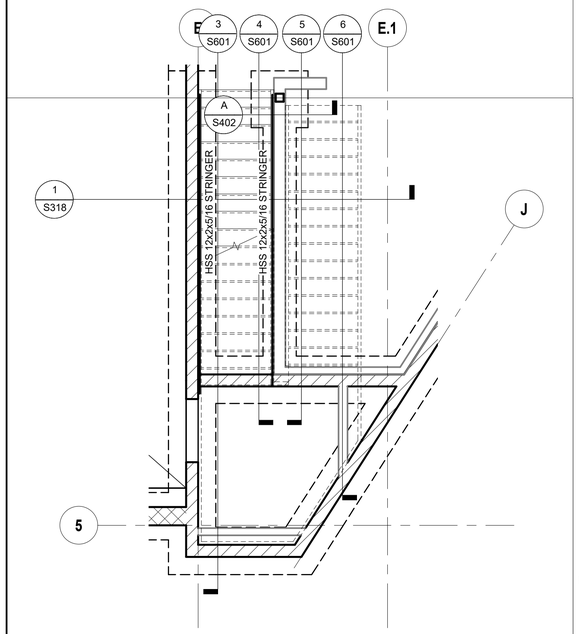
DWG. NO. S512

REGISTERED PROFESSIONAL ENGINEER — DUSTIN G. LEE — No. 58623 — EXP. 3/31/25 — STRUCTURAL — STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

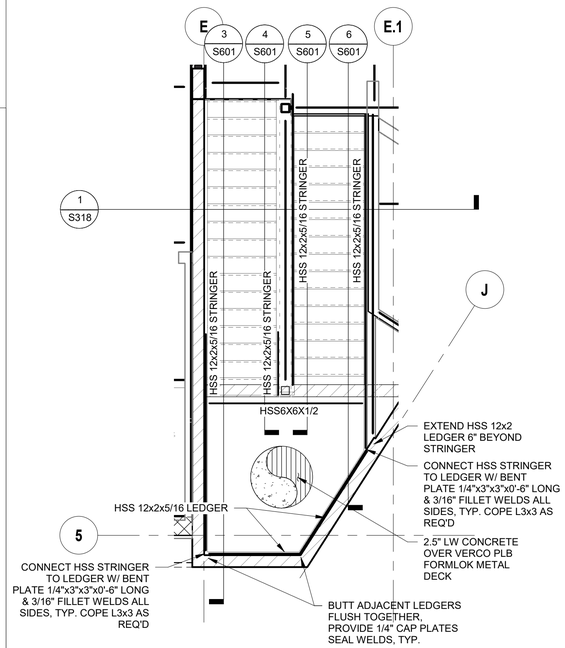
10/16/2023 8:46:02 AM



STAIR 1 - FOUNDATION

1/4" = 1'-0"

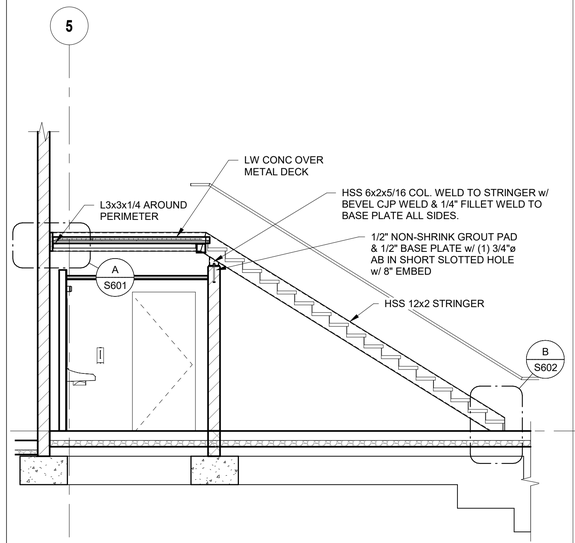
1 S601



STAIR 1 - LANDING & 2ND FLOOR

1/4" = 1'-0"

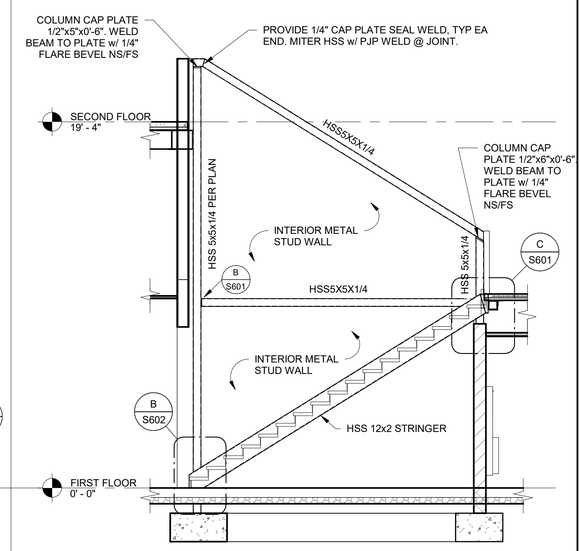
2 S601



LOWER EXTERIOR STRINGER

1/4" = 1'-0"

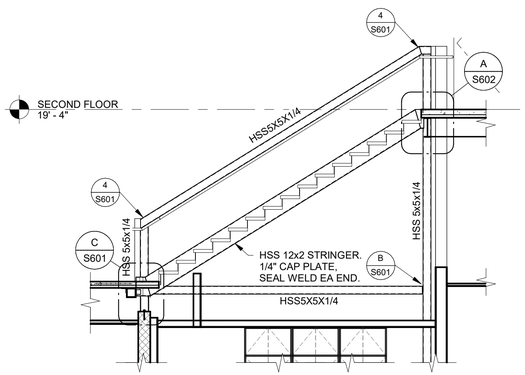
3 S601



LOWER INTERIOR STRINGER

1/4" = 1'-0"

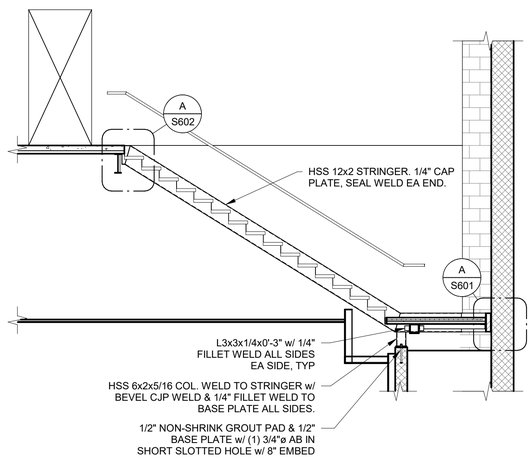
4 S601



UPPER INTERIOR STRINGER

1/4" = 1'-0"

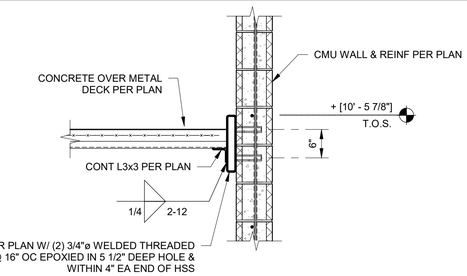
5 S601



UPPER EXTERIOR STRINGER

1/4" = 1'-0"

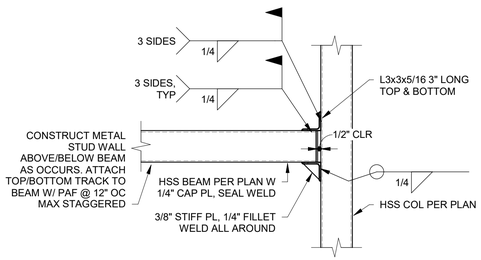
6 S601



SECTION

3/4" = 1'-0"

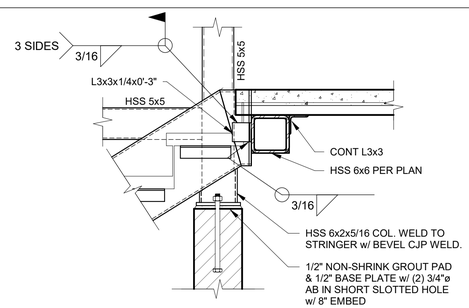
A S601



SECTION

1" = 1'-0"

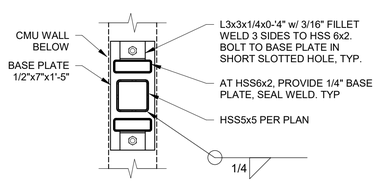
B S601



SECTION AT LANDING

1" = 1'-0"

C S601



BASE PLATE PLAN VIEW

REGISTERED PROFESSIONAL ENGINEER
DUSTIN G. LEE
No. 58623
EXP. 3/31/25
STRUCTURAL
STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: DGL
DRAWN BY: DAA
DESIGN CHECK BY: DGL/JPJ
DRAWN CHECK BY: DGL/JPJ
REF.

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD. LONG BEACH, CA 90807

STAIR No. 1 PLANS & DETAILS

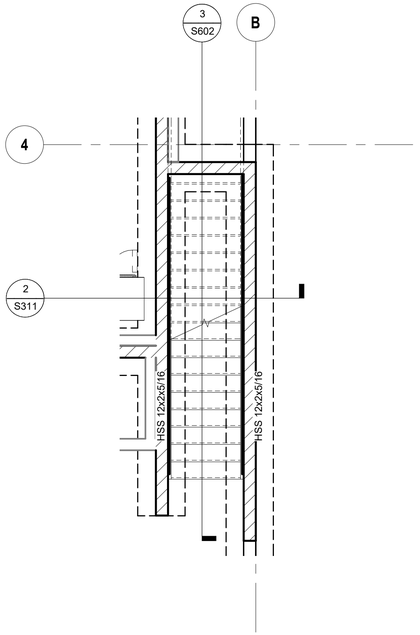
B# B-4797

PHASE # ____ REBID # ____

SHEET 144 OF 236

DWG. NO. S601

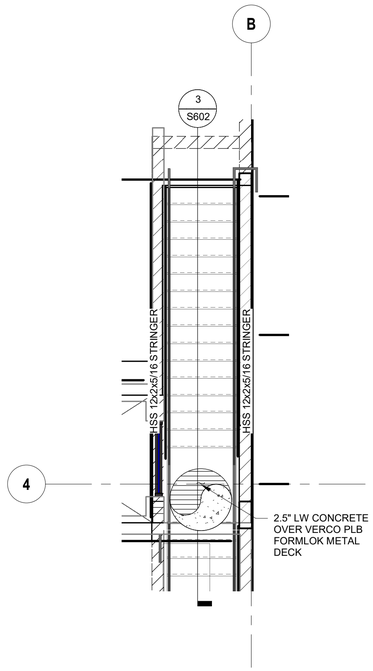
10/16/2023 8:46:06 AM



STAIR 2 - FOUNDATION

1/4" = 1'-0"

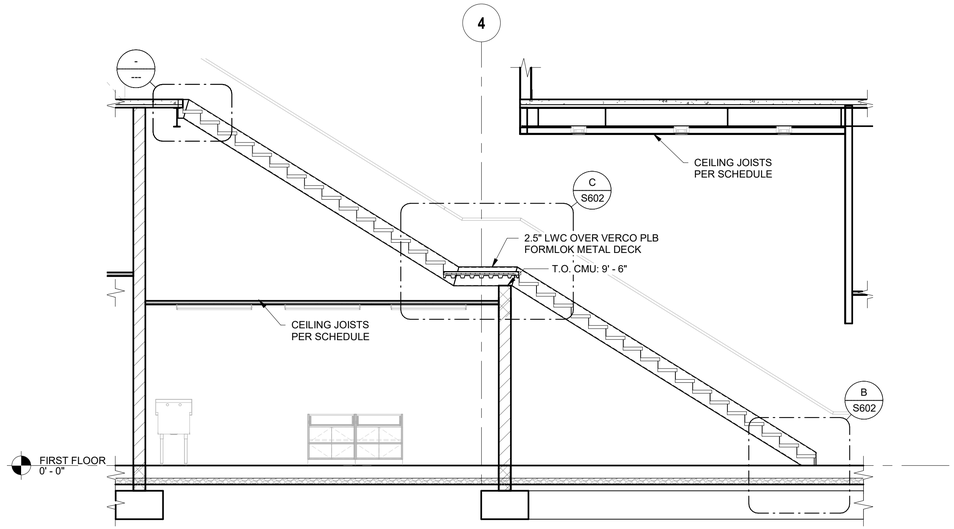
1 S602



STAIR 2 - LANDING & 2ND FLOOR

1/4" = 1'-0"

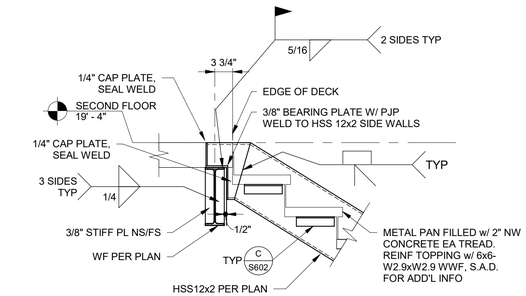
2 S602



STAIR 2 - SECTION

1/4" = 1'-0"

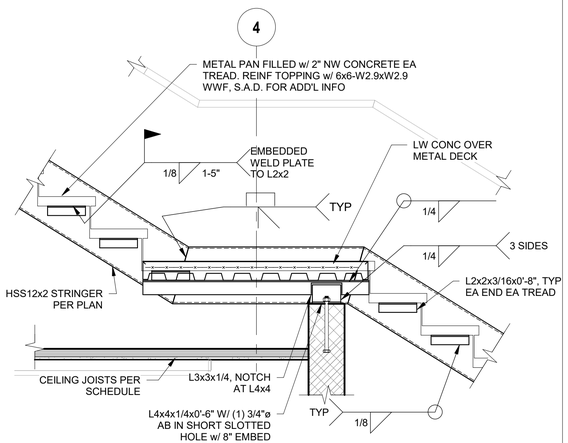
3 S602



SECTION AT FLOOR

3/4" = 1'-0"

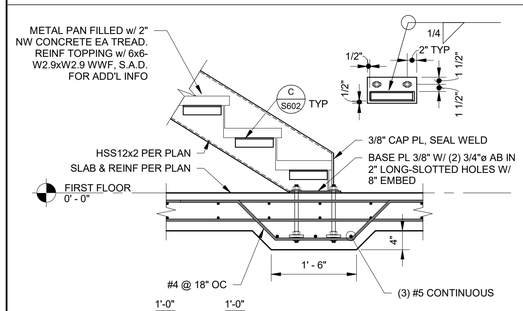
A S602



SECTION AT LANDING

3/4" = 1'-0"

C S602



SECTION AT GROUND

3/4" = 1'-0"

B S602

10/16/2023 8:46:11 AM

REVISION			
NO.	DATE	SHEET	APPROVAL
	12/16/2021		
1	04/22/2022		
2	06/15/2023		
	10/12/2023		

DESCRIPTION: PLAN CHECK SUBMITTAL; PLAN CHECK RE-SUBMITTAL; PLAN CHECK RE-SUBMITTAL; BID DOCUMENTS

AS-BUILT | REF.

DESIGNED BY: DGL | DRAWN BY: DAA | DESIGN CHECK BY: DGL/JPJ | DRAWN CHECK BY: DGL/JPJ

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD. LONG BEACH, CA 90807

STAIR No. 2 PLANS & DETAILS

B# B-4797

PHASE # ____ REBID # ____

SHEET 145 OF 236

DWG. NO. S602

REGISTERED PROFESSIONAL ENGINEER DUSTIN G. LEE No. S6623 EXP. 3/31/25 STRUCTURAL STATE OF CALIFORNIA

CORNERSTONE structural engineering group
986 W. Alluvial, Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

MECHANICAL ABBREVIATIONS

AC	AIR CONDITION, AIR CONDITIONING, AIR CONDITIONED
ABV	ABOVE
AFF	ABOVE FINISHED FLOOR
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
ALUM	ALUMINUM
AMCA	AIR MOVEMENT AND CONTROL ASSOCIATION
AMB	AMBIENT
ARCH	ARCHITECT, ARCHITECTURAL
ARI	AMERICAN REFRIGERATION INSTITUTE
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS
BDD	BACK DRAFT DAMPER
BOD	BASIS OF DESIGN
BEL	BELOW
BHP	BREAK HORSE POWER
BLDG	BUILDING
BTUH	BRITISH THERMAL UNIT PER HOUR
CA	COMBUSTION AIR
CD	CONDENSATE DRAIN
CFD	CEILING FIRE DAMPER
CFM	CUBIC FEET PER MINUTE
CONT	CONTINUATION
CSD	CEILING SMOKE DAMPER
DB	DRY BULB TEMPERATURE
DN	DOWN
DSA	DIVISION OF THE STATE ARCHITECT
(E)	EXISTING
EA	EXHAUST AIR
EC	EVAPORATIVE COOLER
EDB	ENTERING DRY BULB TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EFF	EFFICIENCY
ELEC	ELECTRICAL
ESP	EXTERNAL STATIC PRESSURE
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
FA	FROM ABOVE
FC	FLEXIBLE CONNECTION
FD	FIRE DAMPER
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
FSC	FAN SPEED CONTROLLER
FSD	FIRE/SMOKE DAMPER
GA	GAGE, GAUGE
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
GYP	GYPSUM
HD	HEAD
HP	HORSE POWER
HVI	HOME VENTILATING INSTITUTE
HZ	HERTZ
IDU	INDOOR UNIT
IWC	INCHES OF WATER COLUMN
KW	KILOWATT
LBS	POUNDS
LWT	LEAVING WATER TEMPERATURE
MBH	1000 BRITISH THERMAL UNITS PER HOUR
MCA	MINIMUM CIRCUIT AMPS
MFGR	MANUFACTURE OR MANUFACTURER
MIN	MINIMUM
MUA	MAKE-UP AIR
(N)	NEW
NL	NOT LISTED
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAI	OUTSIDE AIR INTAKE
OBD	OPPOSED BLADE DAMPER
ODU	OUTDOOR UNIT
OSHPD	OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
PD	PRESSURE DROP
PSI	POUNDS PER SQUARE INCH
RA	RETURN AIR
REFRIG	REFRIGERANT, REFRIGERATION
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SEER	SEASONAL ENERGY EFFICIENCY RATION
SHT	SHEET
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SOV	SHUT OFF VALVE
SP	STATIC PRESSURE
SS	STAINLESS STEEL
SSE	STEADY STATE EFFICIENCY
SST	SATURATED SUCTION TEMPERATURE
TEMP	TEMPORARY, TEMPERATURE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
TXV	THERMAL EXPANSION VALVE
UON	UNLESS OTHERWISE NOTED
UTR	UP TO OR UP THROUGH ROOF
VD	VOLUME DAMPER
VEX	VEHICLE EXHAUST SYSTEM
VRF	VARIABLE REFRIGERANT VOLUME
WB	WET BULB TEMPERATURE
WC	WATER COLUMN
WG	WATER GAUGE
WT	WEIGHT EXPRESSED IN POUNDS

PROJECT TEAM LIST

TITLE	NAME	DESK NUMBER	EMAIL ADDRESS
PRINCIPAL IN CHARGE	BRIAN STARRETT	805.540.5358	BSTARRETT@3CENG.COM
PROJECT MANAGER	DENVER STANGER	805.540.5388	DSTANGER@3CENG.COM
MECHANICAL DESIGNER	JAKE HAMILTON	805.540.5384	JHAMILTON@3CENG.COM

SHEET INDEX

CAL GREEN CODE NONRESIDENTIAL MANDATORY MEASURES

5.504.4.1 ADHESIVES, SEALANTS AND CAULKS. ADHESIVES, SEALANTS, AND CAULKS USED ON THE PROJECT SHALL MEET THE REQUIREMENTS OF THE FOLLOWING STANDARDS:
1. ADHESIVES, ADHESIVE BONDING PRIMERS, ADHESIVE PRIMERS, SEALANTS, SEALANT PRIMERS AND CAULKS SHALL COMPLY WITH LOCAL OR REGIONAL AIR POLLUTION CONTROL OR AIR QUALITY MANAGEMENT DISTRICT RULES WHERE APPLICABLE, OR SCAQMD RULE 1168 VOC LIMITS, AS SHOWN IN TABLES 5.504.4.1 AND 5.504.4.2. SUCH PRODUCTS ALSO SHALL COMPLY WITH THE RULE 1168 PROHIBITION ON THE USE OF CERTAIN TOXIC COMPOUNDS (CHLOROFORM, ETHYLENE DICHLORIDE, METHYLENE CHLORIDE, PERCHLOROETHYLENE AND TRICHLOROETHYLENE), EXCEPT FOR AEROSOL PRODUCTS AS SPECIFIED IN SUBSECTION 2, BELOW.
2. AEROSOL ADHESIVES, AND SMALLER UNIT SIZES OF ADHESIVES, AND SEALANT OR CAULKING COMPOUNDS (IN UNITS OF PRODUCT, LESS PACKAGING, WHICH DO NOT WEIGH MORE THAN ONE POUND AND DO NOT CONSIST OF MORE THAN 16 FLUID OUNCES) SHALL COMPLY WITH STATEWIDE VOC STANDARDS AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS, OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94507.

ADHESIVE VOC LIMIT
LESS WATER AND LESS EXEMPT COMPOUNDS IN GRAMS PER LITER

SPECIALTY APPLICATIONS	CURRENT VOC LIMIT
PVC WELDING	510
CPVC WELDING	490
ABS WELDING	325
SPECIAL PURPOSE CONTACT ADHESIVE	250

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.
2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168, HTTP://WWW.ARB.CA.GOV/DRDB/SC/CURHTML/R1168.PDF.

5.504.5.3 FILTERS. IN MECHANICALLY VENTILATED BUILDINGS, PROVIDE REGULARLY OCCUPIED AREAS OF THE BUILDING WITH AIR FILTRATION MEDIA FOR OUTSIDE AND RETURN AIR THAT PROVIDES AT LEAST A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 13. MERV 13 FILTERS SHALL BE INSTALLED PRIOR TO OCCUPANCY, AND RECOMMENDATIONS FOR MAINTENANCE WITH FILTERS OF THE SAME VALUE SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE MANUAL. FILTERS SHALL BE CLEARLY LABELED BY THE MANUFACTURER INDICATING THE MERV RATING.

EXCEPTIONS:
1. EXISTING MECHANICAL EQUIPMENT.

5.504.5.3 FILTERS. IN MECHANICALLY VENTILATED BUILDINGS, PROVIDE REGULARLY OCCUPIED AREAS OF THE BUILDING WITH AIR FILTRATION MEDIA FOR OUTSIDE AND RETURN AIR THAT PROVIDES AT LEAST A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 13. MERV 13 FILTERS SHALL BE INSTALLED PRIOR TO OCCUPANCY, AND RECOMMENDATIONS FOR MAINTENANCE WITH FILTERS OF THE SAME VALUE SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE MANUAL. FILTERS SHALL BE CLEARLY LABELED BY THE MANUFACTURER INDICATING THE MERV RATING.

EXCEPTIONS:
1. EXISTING MECHANICAL EQUIPMENT.

SECTION 5.505 INDOOR MOISTURE CONTROL

5.505.1 INDOOR MOISTURE CONTROL. BUILDINGS SHALL MEET OR EXCEED THE PROVISIONS OF CALIFORNIA BUILDING CODE, CCR, TITLE 24, PART 2, SECTIONS 1202 (VENTILATION) AND CHAPTER 14 (EXTERIOR WALLS). FOR ADDITIONAL MEASURES NOT APPLICABLE TO LOW-RISE RESIDENTIAL OCCUPANCIES, SEE SECTION 5.407.2 OF THIS CODE.

SECTION 5.506 INDOOR AIR QUALITY

5.506.1 OUTSIDE AIR DELIVERY. FOR MECHANICALLY OR NATURALLY VENTILATED SPACES IN BUILDINGS, MEET THE MINIMUM REQUIREMENTS OF SECTION 120.1 (REQUIREMENTS FOR VENTILATION) OF THE 2019 CALIFORNIA ENERGY CODE, OR THE APPLICABLE LOCAL CODE, WHICHEVER IS MORE STRINGENT, AND DIVISION 1, CHAPTER 4 OF CCR, TITLE 8.

5.506.2 CARBON DIOXIDE (CO_2) MONITORING. FOR BUILDINGS OR ADDITIONS EQUIPPED WITH DEMAND CONTROL VENTILATION, CO_2 SENSORS AND VENTILATION CONTROLS SHALL BE SPECIFIED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2019 CALIFORNIA ENERGY CODE, SECTION 120(C)(4).

SECTION 5.508 OUTDOOR AIR QUALITY

5.508.1 OZONE DEPLETION AND GREENHOUSE GAS REDUCTIONS. INSTALLATIONS OF HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT SHALL COMPLY WITH SECTIONS 5.508.1.1 AND 5.508.1.2.

5.508.1.1 CHLOROFLUOROCARBONS (CFCS). INSTALL HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT THAT DO NOT CONTAIN CFCS.

5.508.1.2 HALONS. INSTALL HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT THAT DO NOT CONTAIN HALONS.

SECTION 702.1 INSTALLER TRAINING

HVAC SYSTEM INSTALLERS SHALL BE TRAINED AND CERTIFIED IN THE PROPER INSTALLATION OF HVAC SYSTEMS INCLUDING DUCTS AND EQUIPMENT BY A NATIONALLY OR REGIONALLY RECOGNIZED TRAINING OR CERTIFICATION PROGRAM. UNCERTIFIED PERSONS MAY PERFORM HVAC INSTALLATIONS WHEN UNDER THE DIRECT SUPERVISION AND RESPONSIBILITY OF A PERSON TRAINED AND CERTIFIED TO INSTALL HVAC SYSTEMS OR CONTRACTOR LICENSED TO INSTALL HVAC SYSTEMS. EXAMPLES OF ACCEPTABLE HVAC TRAINING AND CERTIFICATION PROGRAMS INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
1. STATE CERTIFIED APPRENTICESHIP PROGRAMS.
2. PUBLIC UTILITY TRAINING PROGRAMS.
3. TRAINING PROGRAMS SPONSORED BY TRADE, LABOR OR STATE-WIDE ENERGY CONSULTING OR VERIFICATION ORGANIZATIONS.
4. PROGRAMS SPONSORED BY MANUFACTURING ORGANIZATIONS.
5. OTHER PROGRAMS ACCEPTABLE TO THE ENFORCING AGENCY

MECHANICAL TITLE 24 NOTES

1. HVAC EQUIPMENT AND APPLIANCES SHALL MEET THE LATEST REQUIREMENTS OF THE CA ENERGY EFFICIENCY STANDARDS.
2. HVAC SYSTEMS SHALL MEET THE LATEST CONTROL REQUIREMENTS OF THE CA ENERGY EFFICIENCY STANDARDS.
3. DOORS AND WINDOWS SHALL MEET MINIMUM INFILTRATION REQUIREMENTS OF THE CA ENERGY EFFICIENCY STANDARDS.
4. ALL WORK SHALL BE IN ACCORDANCE WITH CITY CODES, CALIFORNIA ENERGY CONSERVATION STANDARDS, TITLE - 24, AND ALL OTHER APPLICABLE CODES.
5. ALL PIPING AND DUCTWORK SHALL BE INSULATED CONSISTENT WITH THE LATEST REQUIREMENTS OF THE CA ENERGY EFFICIENCY STANDARDS.

CAL GREEN CODE NONRESIDENTIAL MANDATORY MEASURES

DIVISION 5.4-MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

5.410.2 COMMISSIONING. FOR NEW BUILDINGS 10,000 SQUARE FEET AND OVER, BUILDING COMMISSIONING SHALL BE INCLUDED IN THE DESIGN AND CONSTRUCTION PROCESSES OF THE BUILDING PROJECT TO VERIFY THAT THE BUILDING SYSTEMS AND COMPONENTS MEET THE OWNER'S OR OWNER REPRESENTATIVE'S PROJECT REQUIREMENTS.

REFER TO THE PROJECT SPECIFICATIONS FOR COMMISSIONING REQUIREMENTS.
5.410.4 TESTING AND ADJUSTING. TESTING AND ADJUSTING OF SYSTEMS SHALL BE REQUIRED FOR NEW BUILDINGS LESS THAN 10,000 SQUARE FEET OR NEW SYSTEMS TO SERVE AN ADDITION OR ALTERATION SUBJECT TO 2019 CGBSC 303.1.
5.410.4.2 SYSTEMS. DEVELOP A WRITTEN PLAN OF PROCEDURES FOR TESTING AND ADJUSTING SYSTEMS. SYSTEMS TO BE INCLUDED FOR TESTING AND ADJUSTING SHALL INCLUDE AT A MINIMUM, AS APPLICABLE TO THE PROJECT:
1. HVAC SYSTEMS AND CONTROLS
2. WATER HEATING SYSTEMS
3. WATER REUSE SYSTEMS
5.410.4.3 PROCEDURES. PERFORM TESTING AND ADJUSTING PROCEDURES IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND APPLICABLE STANDARDS ON EACH SYSTEM.

AT A MINIMUM THE MECHANICAL CONTRACTOR SHALL OBTAIN THE LATEST START-UP CHECK LIST(S) FROM THE EQUIPMENT MANUFACTURER AND PERFORM ALL TESTS AND CHECKS APPLICABLE. AFTER COMPLETION OF THE START-UP CHECK LIST THE MECHANICAL CONTRACTOR SHALL MAKE ADJUSTMENTS TO PUT THE EQUIPMENT IN PEAK WORKING ORDER. MECHANICAL CONTRACTOR SHALL DOCUMENT ALL WORK PERFORMED. CLOSE OUT DOCUMENTATION PROVIDED TO THE GENERAL CONTRACTOR SHALL INCLUDE ALL COMPLETED CHECK LIST(S) AND DOCUMENTATION FOR ANY WORK PERFORMED. THE GENERAL CONTRACTOR SHALL SUBMIT THE CHECK LIST(S) AND WORK DOCUMENTATION TO ENGINEER OF RECORD.

5.410.4.3.1 HVAC BALANCING. IN ADDITION TO TESTING AND ADJUSTING, BEFORE A NEW SPACE-CONDITIONING SYSTEM SERVING A BUILDING OR SPACE IS OPERATED FOR NORMAL USE, THE SYSTEM SHALL BE BALANCED IN ACCORDANCE WITH THE PROCEDURES DEFINED BY THE TESTING ADJUSTING AND BALANCING BUREAU NATIONAL STANDARDS; THE NATIONAL ENVIRONMENTAL BALANCING BUREAU PROCEDURAL STANDARDS; ASSOCIATED AIR BALANCE COUNCIL NATIONAL STANDARDS OR AS APPROVED BY THE BUILDING ENFORCING AGENCY.

SEE SPECIFICATION SECTION 15600 FOR HVAC BALANCING REQUIREMENTS.

5.410.4.4 REPORTING. AFTER COMPLETION OF TESTING, ADJUSTING AND BALANCING, PROVIDE A FINAL REPORT OF TESTING SIGNED BY THE INDIVIDUAL RESPONSIBLE FOR PERFORMING THESE SERVICES.

5.410.4.5 OPERATION AND MAINTENANCE (O&M) MANUAL. PROVIDE THE BUILDING OWNER OR REPRESENTATIVE WITH DETAILED OPERATING AND MAINTENANCE INSTRUCTIONS AND COPIES OF GUARANTIES/WARRANTIES FOR EACH SYSTEM. O&M INSTRUCTIONS SHALL BE CONSISTENT WITH OSHA REQUIREMENTS IN CCR, TITLE 8, SECTION 5142, AND OTHER RELATED REGULATIONS.

5.410.4.5.1 INSPECTIONS AND REPORTS. INCLUDE A COPY OF ALL INSPECTION VERIFICATIONS AND REPORTS REQUIRED BY THE ENFORCING AGENCY.

DIVISION 5.5-ENVIRONMENTAL QUALITY

SECTION 5.504 POLLUTANT CONTROL

5.504.1 TEMPORARY VENTILATION. THE PERMANENT HVAC SYSTEM SHALL ONLY BE USED DURING CONSTRUCTION IF NECESSARY TO CONDITION THE BUILDING WITHIN THE REQUIRED TEMPERATURE RANGE FOR MATERIAL AND EQUIPMENT INSTALLATION. IF THE HVAC SYSTEM IS USED DURING CONSTRUCTION, USE RETURN AIR FILTERS WITH A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 8, BASED ON ASHRAE 52.2-1999, OR AN AVERAGE EFFICIENCY OF 30% BASED ON ASHRAE 52.1-1992. REPLACE ALL FILTERS IMMEDIATELY PRIOR TO OCCUPANCY, OR, IF THE BUILDING IS OCCUPIED DURING ALTERATION, AT THE CONCLUSION OF CONSTRUCTION.

5.504.3 COVERING OF DUCT OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. AT THE TIME OF ROUGH INSTALLATION AND DURING STORAGE ON THE CONSTRUCTION SITE UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY ENTER THE SYSTEM.

MECHANICAL GENERAL NOTES

1. THESE DRAWINGS ARE A GENERAL GRAPHIC PRESENTATION OF THE WORK. DUCTWORK, PIPING, AND EQUIPMENT, AS SHOWN, ARE SCHEMATIC. FABRICATE AND INSTALL BASED ON ACTUAL FIELD MEASUREMENT. COORDINATE WITH OTHER TRADES. ADHERE TO LOCATIONS AS CLOSELY AS POSSIBLE, VARY RUNS OR SHAPE OF DUCTWORK AS REQUIRED TO MEET STRUCTURAL AND OTHER INTERFERENCES AS REQUIRED BY THE ARCHITECT. PROVIDE A COMPLETE SET OF SHOP DRAWINGS REFLECTING ACTUAL DIMENSIONS, ACCESS REQUIREMENTS, AND DETAILS BASED UPON THE ACTUAL EQUIPMENT PROCURED. MAINTAIN AN UP TO DATE SET OF AS-BUILT DRAWINGS AT THE JOB SITE.
2. THE MECHANICAL CONTRACTOR SHALL COORDINATE ALL ITEMS RELATED TO MECHANICAL SYSTEMS WITH THE WORK OF OTHER TRADES BEFORE PROCEEDING WITH PROCURING OR FABRICATION OF EQUIPMENT, DUCTWORK, PIPING ETC. ITEMS TO BE COORDINATED SHALL INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

   GRILLES, REGISTERS AND DIFFUSERS SHALL BE COORDINATED WITH THE REFLECTED CEILING PLAN.

   DUCTWORK LOCATIONS AND POTENTIAL INTERFERENCES WITH STRUCTURAL MEMBERS, FRAMING, FIRE SPRINKLER LINES, PLUMBING WASTE LINES, CABLE TRAYS AND CONDUIT.

   OPENINGS REQUIRED IN WALLS, FLOORS OR CEILINGS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND/OR FRAMING CONTRACTOR PRIOR TO THE START OF CONSTRUCTION TO AVOID REWORK. ANY REWORK REQUIRED SHALL BE AT NO ADDITIONAL COST TO THE OWNER.

   PRIOR TO BIDDING THE PROJECT THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR TO DETERMINE WHO WILL BE RESPONSIBLE FOR PROCURING AND INSTALLING MOTOR STARTERS, CONDUIT FOR LOW VOLTAGE CONTROLS AND LINE VOLTAGE CONTROL DEVICES, SUCH AS SINGLE POLE SWITCHES.

   ACCESS TO VOLUME DAMPERS FOR BALANCING. ACCESS TO ALL EQUIPMENT, AS WELL AS PLATFORM AND CURB LOCATIONS.

   CONSTRUCTION OF PLATFORMS AND SHAPED RUNNERS OR OTHER MEANS TO MOUNT CURBS LEVEL. ALL PLATFORMS AND CURBS SHALL BE LEVEL UNLESS OTHERWISE NOTED OR DETAILED ON THE MECHANICAL PLANS.
3. COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING CODES:

   2019 CALIFORNIA ADMINISTRATIVE CODE (CAC): PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
   2019 CALIFORNIA BUILDING CODE (CBC): PART 2, TITLE 24 CCR
   2019 CALIFORNIA ELECTRICAL CODE (CEC): PART 3, TITLE 24 CCR
   2019 CALIFORNIA MECHANICAL CODE (CMC): PART 4, TITLE 24 CCR
   2019 CALIFORNIA PLUMBING CODE (CPC): PART 5, TITLE 24 CCR
   2019 CALIFORNIA ENERGY CODE (CENC): PART 6, TITLE 24 CCR
   2019 CALIFORNIA FIRE CODE (CFC): PART 9, TITLE 24 CCR
   2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CAL GREEN): PART 11, TITLE 24 CCR

   REPORT DEFICIENCIES WITHIN THIRTY (30) DAYS UPON AUTHORIZATION TO PROCEED.
4. REVIEW ALL DRAWINGS AND SPECIFICATIONS INCLUDING ARCHITECTURAL, STRUCTURAL, CIVIL, MECHANICAL, PLUMBING, AND ELECTRICAL. ANY QUESTIONS SHALL BE BROUGHT UP, IN WRITING, TO THE ATTENTION OF THE ENGINEER BEFORE THE START OF CONSTRUCTION.
5. ALL EQUIPMENT SHALL BE INSTALLED WITH SUFFICIENT ACCESS TO CONTROLS, FILTERS, ELECTRIC MOTORS, ETC. ACCESS CLEARANCE SHALL BE 30" OR AS REQUIRED BY THE EQUIPMENT MANUFACTURER, WHICH EVER IS GREATER. CONTRACTORS SHALL PROVIDE ACCESS PANELS WHERE REQUIRED. WHERE VERTICAL SPACE ALLOWS, INSTALL DUCTWORK THAT IS IN CLOSE PROXIMITY TO MECHANICAL, ELECTRICAL OR ANY OTHER ITEM THAT REQUIRES ACCESS HIGH IN THE SPACE FOR EASE OF ACCESS.
6. HANDLE, STORE AND INSTALL EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS.
7. BRACE AND SUPPORT PIPES, CONDUIT, AND DUCTWORK IN ACCORDANCE TO SMACNA GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL AND PLUMBING PIPING SYSTEM.
8. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF DIFFUSERS, REGISTERS, GRILLES, AND ACCESS PANELS.
9. ALL DUCT DIMENSIONS, AS SHOWN ON MECHANICAL DRAWINGS ARE CLEAR INSIDE DIMENSIONS. INCREASE OUTER DUCT DIMENSION AS REQUIRED TO ACCOUNT FOR THE THICKNESS OF INTERNAL LINING WHERE APPLICABLE.
10. INSULATION AND FLEXIBLE DUCT SHALL COMPLY WITH STATE FIRE MARSHALL CRITERIA AND SHALL NOT EXCEED FLAME SPREAD OF 25 AND SMOKE DEVELOPED OF 50 PER ASTM-84, NFPA-223, AND UL 723.
11. INSULATE PIPING AND DUCTWORK IN ACCORDANCE TO THE GOVERNING CODES.
12. COMMISSION AND START-UP THE MECHANICAL SYSTEMS TO ASSURE A COMPLETE AND OPERATIONAL HVAC SYSTEM IN ACCORDANCE WITH ASHRAE AND NEBB.
13. ALL SQUARE ELBOWS IN SUPPLY DUCTWORK SHALL HAVE TURNING VANES. PROVIDE MANUAL VOLUME DAMPER AT EACH BRANCH DUCT TAKE-OFF SERVING EACH AIR TERMINAL DEVICE. PROVIDE BALANCING DAMPERS FOR EACH MAIN DUCT TAKE-OFF IN ACCORDANCE TO SMACNA IN ORDER TO ASSURE A COMPLETELY BALANCED SYSTEM.
14. CONTROLS AND SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF A ROOM OR AREA TO CONTROL COOLING, HEATING AND VENTILATING EQUIPMENT SHALL BE MOUNTED AT THE HEIGHTS GIVEN BY SECTION 11B-308.1 OF THE 2019 CBC. NOTIFY THE ARCHITECT IMMEDIATELY IF THE MOUNTING HEIGHTS REQUIRED BY THE 2019 CBC CANNOT BE OBTAINED AT THE LOCATION WHERE THE CONTROL DEVICE IS SHOWN ON THE MECHANICAL FLOOR PLANS.
15. DUCT SMOKE DETECTORS WHEN NOT PROVIDED PRE-INSTALLED BY THE EQUIPMENT MANUFACTURER SHALL BE INSTALLED IN THE SUPPLY AIR DUCT OF AIR-MOVING SYSTEMS SUPPLYING AIR IN EXCESS OF 2000 CFM. DETECTORS SHALL BE LOCATED BETWEEN THE SUPPLY AIR DUCT CONNECTION AT THE EQUIPMENT AND THE FIRST BRANCH DUCT OR DIFFUSER. WHERE FIRE-DETECTION OR ALARM SYSTEMS ARE PROVIDED FOR THE BUILDING, ALL SMOKE DETECTORS SHALL BE SUPERVISED BY SUCH SYSTEMS IN AN APPROVED MANNER, AND INSTALLED IN ACCORDANCE WITH NFPA 72 AND THE CALIFORNIA BUILDING AND FIRE CODES.
15. ALL EQUIPMENT SHALL BE LABELED AS TO THE SPACE THEY ARE SERVING.
16. HABITABLE SPACE SHALL BE PROVIDED WITH A HEATING SYSTEM CAPABLE OF MAINTAINING A MINIMUM INDOOR TEMPERATURE OF 68°F AT A POINT 3 FEET ABOVE THE FLOOR PER 2019 CBC 1203.
17. MATERIALS EXPOSED WITHIN ANY SPACE BEING USED AS AN AIR PLENUM SHALL BE NON COMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX NOT GREATER THAN 25 AND A SMOKE DEVELOPED INDEX NOT GREATER THAN 50, WHEN TESTED AS A COMPOSITE PRODUCT IN ACCORDANCE WITH ONE OF THE FOLLOWING TEST METHODS: NFPA 255, METHOD OF TEST OF SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS, ASTM E84, SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS, OR UL 723, TEST FOR SURFACE BURNING CHARACTERISTIC OF BUILDING MATERIALS.
18. ANY MECHANICAL EQUIPMENT THAT PROVIDES POWER TO A ENERGIZED ACCESSORY MUST BE PROVIDED WITH A NAMEPLATE THAT REFLECTS THE ELECTRICAL CHARACTERISTICS OF THE COMPLETE SYSTEM AS INSTALLED WITH THE ENERGIZED ACCESSORY. NO EXCEPTIONS.

REVISIONS

NO	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT				REF:

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

MECHANICAL GENERAL

B# B-4797

PHASE # ____ / REBID # ____

SHEET 146 OF 236

DWG. NO. M000

REGISTERED PROFESSIONAL ENGINEER
BRIAN P. STARRETT
M 34068
EXP. 6/30/24
MECHANICAL
STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN
805.540.3343 WWW.3CENG.COM
1000 Pacific St. San Luis Obispo, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

MECHANICAL LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
Ø	DIA	DIAMETER
		CEILING MOUNTED SUPPLY OR OUTSIDE AIR DIFFUSER
		CEILING MOUNTED RETURN AIR GRILLE
		CEILING MOUNTED EXHAUST AIR GRILLE
		SIDEWALL MOUNTED SUPPLY AIR DIFFUSER, RETURN AIR GRILLE, LOUVER
	24X12, 24X12 FO	RECTANGULAR, FLAT OVAL DUCT
	24X12L, 12ØL	LINED DUCT
		RECTANGULAR SUPPLY / OA, RETURN, EXHAUST / RELIEF DUCT PASSING THROUGH PLAIN OF VIEW
		RECTANGULAR SUPPLY / OA, RETURN, EXHAUST / RELIEF DUCT TURNING DOWN
	12Ø	ROUND DUCT
		ROUND DUCT TURNING DOWN, ROUND DUCT TURNING UP
		90° ELBOW WITH TURNING VAINS
		FLEXIBLE DUCT 60" MAX LENGTH
	FC	FLEXIBLE CONNECTION
	VD	MANUAL VOLUME DAMPER
	CVD	CABLE OPERATED VOLUME DAMPER
FD	FD	FIRE DAMPER
FSD	FSD	COMBINATION FIRE/SMOKE DAMPER
DSD		DUCT MOUNTED SMOKE DETECTOR
FSC EF-X	FSC	FAN SPEED CONTROLLER, SUBSCRIPT INDICATES ASSOCIATED FAN
M		MOTORIZED DAMPER, DAMPER ACTUATOR
S EF-X		SINGLE POLE SWITCH, SUBSCRIPT INDICATES ASSOCIATED FAN
T AC-#		THERMOSTAT, SUBSCRIPT INDICATES UNIT CONTROLLED
TI	TI	TIMER
iTM		iTOUCH MANAGER
VEXSS		VEHICLE EXHAUST SYSTEM SAFETY SWITCH
		WALL CAP
		ROOF JACK
		ROOF CAP
		CEILING EXHAUST FAN
REF — REF		REFRIGERATION LINES
		REFRIGERATION ISOLATION VALVE

ENERGY RECOVERY VENTILATOR SCHEDULE

TAG	MAKE	MODEL	ELECTRICAL			SUPPLY AIR FAN					EXHAUST AIR FAN					ENERGY WHEEL SUMMER CONDITIONS								ENERGY WHEEL WINTER CONDITIONS CONDITIONS								MERV 13 FILTER QUANTITY AND SIZE	WEIGHT LBS	REMARKS [SEE BELOW]	INSTALLATION DETAIL
																OUTSIDE AIR		SUPPLY AIR		RETURN AIR		EXHAUST AIR		OUTSIDE AIR		SUPPLY AIR		RETURN AIR		EXHAUST AIR					
			POWER V/ϕ/HZ	MCA	MOCP	CFM	ESP	RPM	DRIVE	BHP	CFM	ESP	RPM	DRIVE	BHP	DB	WB	DB	WB	DB	WB	DB	WB	DB	WB	DB	WB	DB	WB	DB	WB				
ERV 1	GREENHECK	ERVE-20-30H	208/3/60	12.3	15.0	2025	1.15	1725	BELT	1.48	1650	0.75	1725	BELT	0.73	99.0	71.0	83.3	65.6	75.0	62.5	93.7	69.4	38.0	31.9	59.4	47.8	72.0	55.8	45.4	38.3	(2)20X20X2	1000	1,2,3,4,5, C1,C2	3/M004

GENERAL NOTES APPLICABLE TO ALL UNITS:
A. DISCONNECT PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.

UNIT SPECIFIC NOTES:
1. PROVIDE WITH INSULATED STRUCTURALLY CALCULATED ROOF CURB, TALL ENOUGH TO PROVIDE MIN 8" STANDOFF ABOVE TOP OF ROOF INSULATION FOR ADEQUATE WATERPROOFING.
2. PROVIDE WITH DOWN-TURNED HOODS ON THE INTAKE AND EXHAUST AIR OPENINGS.
3. PROVIDE WITH HINGED ACCESS DOORS.
4. PROVIDE UNIT AND ALL ACCESSORIES TO BE COATED WITH PERMATECTOR FACTORY FINISH.
5. PROVIDE WITH ADDITIONAL 2" OSA FILTER RACK FOR (1) 20x20x2 CITYPLEAT 1000 CARBON FILTER.

CONTROL NOTES:
C1. UNIT SHALL RUN CONTINUOUSLY, 24/7/365. ERV SHALL RUN WHEN THE BUILDING IS OCCUPIED. PROVIDE WITH INTERMATIC MODEL# ST700W STANDARD 7-DAY PROGRAMMABLE TIMER WITH 2-HOUR MANUAL OVERRIDE AND 120V POWER. MECHANICAL TO PROVIDE 24V RELAY. REFER TO DETAIL 3/M-011.
C2. UNIT SHALL HAVE AUTOMATIC SHUT DOWN UPON SMOKE DETECTION PER THE 2019 CMC SECTION 608. REFER TO DETAIL 1/M003.

2

DUCTLESS SPLIT SYSTEM COOLING ONLY SCHEDULE

TAG	MAKE	NOMINAL TONS	REFRIGERANT	ARI PERFORMANCE			INDOOR UNIT							OUTDOOR UNIT						REMARKS SEE BELOW
				COOLING BTUH	EER	SEER [IEER]	MODEL	INSTALLATION TYPE	POWERED BY OUTDOOR UNIT	CFM	WATTS	OPERATING WEIGHT LBS	INSTALLATION DETAIL	MODEL	POWER V/ϕ/HZ	MCA	MOCP	OPERATING WEIGHT LBS	INSTALLATION DETAIL	
DS 2.1	DAIKIN	3.0	R-410A	34,400	9.1	15.9	FTX36NVJU	HIGHWALL	YES	915	64	45	1/M005	RK36NMVJUA	208/1/60	17	20	150	4/M004	C1

GENERAL NOTES APPLICABLE TO ALL UNITS:
A. DISCONNECT PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
B. SIZE REFRIGERATION LINES PER THE MANUFACTURERS REQUIREMENTS FOR TOTAL DEVELOPED LINE LENGTH.
C. PROVIDE WITH CONDENSATE PUMP. PUMP SHALL BE INTERNALLY MOUNTED WITHIN THE INDOOR UNIT AND WIRED TO THE TERMINAL STRIP. NO EXPOSED INSTALLATIONS ALLOWED.

CONTROL NOTES:
C1. PROVIDE WITH MANUFACTURERS MODEL BRC944B2-A08 WIRED CONTROLLER.

EXHAUST FAN SCHEDULE

TAG	MAKE	MODEL	TYPE	FAN					MOTOR		ACCESSORIES						OPERATING WEIGHT LBS	REMARKS SEE BELOW	INSTALLATION DETAIL
				CFM	ESP	RPM	SONES	DRIVE	POWER V/ϕ/HZ	WATTS [HP]	BIRD GUARD	BACKDRAFT DAMPER	ROOF CURB	ROOF JACK	WALL CAP	EAVE ELBOW			
EF 1.1	GREENHECK	BSQ-200-7	IN-LINE	3,500	0.35	728	11.7	BELT	120/1/60	[3/4]	NO	YES	NO	NO	NO	NO	200	C1, C3	5/M006
EF 1.2	GREENHECK	CSP-A1050	IN-LINE	800	0.25	1070	1.5	DIRECT	120/1/60	467	NO	YES	NO	NO	NO	NO	65	C1	2/M006
EF 1.3	GREENHECK	CSP-A390	IN-LINE	300	0.25	1113	1.3	DIRECT	120/1/60	82	NO	YES	NO	NO	NO	NO	30	2, C1	2/M006
EF 1.4	GREENHECK	CSP-A110	IN-LINE	100	0.125	950	0.3	DIRECT	120/1/60	47	NO	YES	NO	NO	NO	NO	20	C1	2/M006
EF 1.5	GREENHECK	CSP-A710	IN-LINE	500	0.25	1080	2.0	DIRECT	120/1/60	298	NO	YES	NO	NO	NO	NO	40	C2	2/M006
EF 2.1	GREENHECK	CUE-070-D	ROOF MOUNTED	200	0.25	1550	4.4	DIRECT	120/1/60	[1/30]	YES	YES	YES	NO	NO	NO	35	1, C2	3/M006
EF 2.2	GREENHECK	CSP-A190	IN-LINE	150	0.25	1400	2.0	DIRECT	120/1/60	51	YES	YES	NO	YES	NO	NO	20	C1	2/M006

GENERAL NOTES APPLICABLE TO ALL UNITS:
A. DISCONNECT PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.

UNIT SPECIFIC NOTES:
1. PROVIDE WITH CURB WITH HEIGHT ADEQUATE TO PROVIDE MIN 8" STANDOFF ABOVE TOP OF ROOF INSULATION FOR ADEQUATE WATERPROOFING.
2. PROVIDE WITH FAN SPEED CONTROLLER.

CONTROL NOTES:
C1. CONTROL WITH SINGLE POLE SWITCH, REFER TO FLOOR PLAN FOR LOCATION. SWITCH PROVIDED AND INSTALLED BY ELECTRICAL.
C2.PROVIDE WITH LINE VOLTAGE THERMOSTAT SET TO ENERGIZE FAN ON A TEMPERATURE RISE ABOVE 80°F.
C3. INTERLOCK FAN WITH THE ACTUATORS AT THE MAKE-UP AIR LOUVERS SO THAT WHEN THE FAN ENERGIZES THE LOUVERS OPEN. INTERLOCK BY ELECTRICAL.

GAS FIRED UNIT HEATER SCHEDULE

TAG	MAKE	MODEL	TYPE	FUEL	GAS CONNCETION	BTUH INPUT	BTUH OUTPUT	AFUE	FLUE SIZE	CA INTAKE SIZE	CFM	INSTALLATION HEIGHT	THROW (FT)	HP	SOUND LEVEL DBA AT 15FT	POWER V/ϕ/HZ	FLA	WEIGHT [LBS]	REMARKS SEE BELOW	INSTALLATION DETAIL
UH 1.1	REZNOR	UDZ 30	SEPARATED COMBUSTION	NG	1/2	30,000	24,600	0.82	4	4	456	7'-4"	27	0.06	40	120/1/60	1.9	65	1,C1	1/M004
UH 1.2	REZNOR	UDZ 125	SEPARATED COMBUSTION	NG	1/2	120,000	99,600	0.83	4	4	1537	14'-5"	53	1/4	55	120/1/60	5.6	125	1,2,C1	1/M004

GENERAL NOTES APPLICABLE TO ALL UNITS:
1. INSTALLATION HEIGHT GIVEN IS TO BOTTOM OF UNIT.
2. DISCONNECT PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.

UNIT SPECIFIC NOTES:
1. PROVIDE WITH MANUFACTURERS HORIZONTAL COMBUSTION AIR/VENT KIT WITH CONCENTRIC ADAPTER.
2. PROVIDE WITH MANUFACTURER'S VERTICAL LOUVER KIT OPTION CD1 FOR HORIZONTAL LEFT/RIGHT AIR DEFLECTION.

CONTROL NOTES:
C1. PROVIDE WITH HONEYWELL MODEL TH8321WF1001 VISION PRO WI-FI CAPABLE PROGRAMMABLE THERMOSTAT.

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	04/22/2022			PLAN CHECK RE-SUBMITTAL
	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT			REF.	

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
MECHANICAL SCHEDULES

REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

B# B-4797
PHASE # ____ / REBID # ____
SHEET

DWG. NO. M001

VARIABLE REFRIGERANT FLOW HEAT RECOVERY BOX SCHEDULE

TAG	MAKE	MODEL	QTY OF PORTS	ELECTRICAL DATA			OPERATING WEIGHT LBS	REMARKS SEE BELOW
				POWER V/ϕ/HZ	MCA	MOCP		
BS 1.1.1	DAIKIN	BSF4Q54TVJ	4	208/1/60	0.4	15	50	NA
BS 1.2.1	DAIKIN	BSF6Q54TVJ	4	208/1/60	0.6	15	75	NA
BS 1.2.2	DAIKIN	BSF6Q54TVJ	4	208/1/60	0.6	15	75	NA
BS 1.2.3	DAIKIN	BSF6Q54TVJ	4	208/1/60	0.6	15	75	NA

GENERAL NOTES APPLICABLE TO ALL UNITS:
A. DISCONNECT PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.

VARIABLE REFRIGERANT FLOW HEAT RECOVERY CONDENSING UNIT SCHEDULE

TAG	MAKE	MODEL	NOMINAL TONS	REFRIGERANT	ELECTRICAL DATA (2) POINT CONNECTION					ARI PERFORMANCE						OPERATING WEIGHT LBS	REMARKS SEE BELOW	INSTALLATION DETAIL
					POWER V/ϕ/HZ	FIRST POINT		SECOND POINT		COOLING CAPACITY BTUH	HEATING CAPACITY BTUH	COOLING EFFICIENCY		HEATING EFFICIENCY				
						MCA	MOCP	MCA	MOCP			EER	IEER	COP AT 47°	COP AT 17°			
HRC 1	DAIKIN	REYQ264AATJA	22	R-410A	208/3/60	36.5	45	47.8	60	252,000	282,000	11.3	21.55	2.2	3.4	1,500	1	4/M004, 5/M004

GENERAL NOTES APPLICABLE TO ALL UNITS:
A. DISCONNECT PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
B. PROVIDE WITH MANUFACTURERS ITOUCH CONTROLLER. REFER TO FLOOR PLAN FOR LOCATION.
C. PROVIDE WITH FACTORY START UP.

UNIT SPECIFIC NOTES:
1. PROVIDE WITH MANUFACTURERS CONNECTION KIT.

VEHICLE EXHAUST SYSTEM

TAG	MAKE	MODEL	QTY	DESCRIPTION	COMMENTS	OPERATING WEIGHT LBS	INSTALLATION DETAIL
VEXF 1	PLYMOVENT	TEV-559	1	EXHAUST FAN, DIRECT DRIVE, EPOXY POWDER COAT FINISH, 208/3/60, 13.0 FLA, TEFC 5 HP MOTOR	PROVIDE 36" OF STRAIGHT DUCT ON THE INLET SIDE OF THE FAN, 48" OF 16Ø DUCT ON THE OUTLET OF THE FAN	200	1/M008
VEXC 1	PLYMOVENT	OS-3	1	EXHAUST FAN CONTROL PANEL, 16X12X6-1/2", AUTOMATIC / MANUAL / STOP MODES. COMPLETE WITH PRESSURE SENSORS FOR FAN ACTIVATION WHEN VEHICLE ENGINE STARTS, MOTOR STARTER AND ADJUSTABLE TIMER	MOUNT CONTROL PANEL ON WALL AT 48" AFF, REFER TO FLOOR PLAN FOR LOCATION. ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT AND LINE VOLTAGE WIRING TO THE CONTROL PANEL AND FROM THE CONTROL PANEL TO THE EXHAUST FAN		NA
VEXH 1	UAS	SFR	1	FILTER HOUSING, SIZE B, 1X1, (1)24X24X2 30% PRE-FILTER, (1)24X24X12 95% FINAL FILTER			1/M008
VEXR 1	PLYMOVENT	STRA-40	2	STRAIGHT RAIL FOR DRIVE THRU APPARATUS BAY, (1) VEHICLE, 38' LONG, (4) RAIL UPRIGHTS. COMPLETE WITH CRAB ASSEMBLY, BALANCER, SADDLE AND HOSE LOOP FOR 20' LONG, 4Ø HOSE	LOCATE 120V 15AMP RECEPTACLE ON LAST RAIL UPRIGHT CLOSEST TO THE ENTRY SIDE OF THE BAY, MAX 48" ABOVE THE RAIL.	380	3/M008
VEXR 2	PLYMOVENT	STRA-55	1	STRAIGHT RAIL FOR DRIVE THRU APPARATUS BAY, (2) VEHICLES, 52.75' LONG, (5) RAIL UPRIGHTS. COMPLETE WITH CRAB ASSEMBLY, BALANCER, SADDLE AND HOSE LOOP FOR 20' LONG, 4Ø HOSE		560	3/M008

VEHICLE EXHAUST SYSTEM MAJOR COMPONENTS ARE LISTED ABOVE. THIS LIST IS PROVIDED FOR COORDINATION BETWEEN THE VARIOUS DISCIPLINES AND DOES NOT REFLECT ALL OF THE COMPONENTS REQUIRED FOR A COMPLETE SYSTEM.

THE VEHICLE EXHAUST SYSTEM (VEX SYSTEM) SHALL BE PROVIDED UNDER THIS CONTRACT BY AN AUTHORIZED PLYMOVENT CONTRACTOR (VEX CONTRACTOR). THE GENERAL CONTRACTOR SHALL DIRECTLY HIRE THE VEX CONTRACTOR TO INSTALL THE VEX SYSTEM. THE GENERAL CONTRACTOR SHALL COOPERATE AND COORDINATE WITH THE VEX CONTRACTOR TO PROVIDE THE SUPPORT INFRASTRUCTURE NECESSARY TO PROVIDE A COMPLETE SYSTEM. VEX CONTRACTOR SHALL PROVIDE A COMPLETE AND OPERATIONAL SYSTEM INCLUDING BUT NOT LIMITED TO ALL SUPPORTS, DUCTING, COMPRESSED AIR TUBING AND FITTINGS, VEHICLE TAILPIPE ADAPTERS AND SYSTEM START-UP.

FOR PRICING AND INSTALLATION CONTACT:
AIR EXCHANGE INC.
STEVE HARRIS
909-923-7952
STEVE.HARRIS@AIREXCHANGE.COM

VARIABLE REFRIGERANT FLOW FAN COIL SCHEDULE

TAG	MAKE	MODEL	NOMINAL TONS	REGRIGERANT	INSTALLATION TYPE	FAN			MINIMUM OAI CFM	ELECTRICAL DATA			ARI PERFORMANCE		OPERATING WEIGHT LBS	REMARKS SEE BELOW	INSTALLATION DETAIL
						CFM	WATTS	ESP		POWER V/ϕ/HZ	MCA	MOCP	NOMINAL COOLING CAPACITY BTUH	NOMINAL HEATING CAPACITY BTUH			
FC 1.1.1	DAIKIN	FXTQ48TAVJUA	4.0	R-410A	MULTI-POS	1520	518	0.5	200	208-230/1/60	6.5	15	48,000	54,000	150	1,3,C1	3/M005
FC 1.1.2	DAIKIN	FXMQ30PBVJU	2.5	R-410A	CONCEALED DUCTED	1100	350	0.5	100	208-230/1/60	2.8	15	30,000	34,000	105	1,2,C1	2/M005
FC 1.2.1	DAIKIN	FXMQ48PBVJU	4.0	R-410A	CEILING CONCEALED	1400	350	0.5	150	208-230/1/60	3.4	15	48,000	54,000	105	1,2,C1	2/M005
FC 1.2.2	DAIKIN	FXMQ07PBVJU	0.6	R-410A	CONCEALED DUCTED	300	90	NA	30	208-230/1/60	0.6	15	7,200	8,500	60	1,2,C1	2/M005
FC 1.2.3	DAIKIN	FXZQ05TAVJU	0.5	R-410A	CEILING CASSETTE	300	50	NA	30	208-230/1/60	0.3	15	5,800	6,500	35	1,4	4/M005
FC 1.2.4	DAIKIN	FXMQ12PBVJU	1.0	R-410A	CONCEALED DUCTED	450	140	0.5	45	208-230/1/60	1.4	15	12,000	13,500	70	1,2,C1	2/M005
FC 1.2.5	DAIKIN	FXZQ05TAVJU	0.5	R-410A	CEILING CASSETTE	300	50	NA	30	208-230/1/60	0.3	15	5,800	6,500	35	1,4	4/M005
FC 1.2.6	DAIKIN	FXZQ05TAVJU	0.5	R-410A	CEILING CASSETTE	300	50	NA	30	208-230/1/60	0.3	15	5,800	6,500	35	1,4	4/M005
FC 1.2.7	DAIKIN	FXZQ05TAVJU	0.5	R-410A	CEILING CASSETTE	300	50	NA	30	208-230/1/60	0.3	15	5,800	6,500	35	1,4	4/M005
FC 1.2.8	DAIKIN	FXZQ05TAVJU	0.5	R-410A	CEILING CASSETTE	300	50	NA	30	208-230/1/60	0.3	15	5,800	6,500	35	1,4	4/M005
FC 1.2.9	DAIKIN	FXZQ05TAVJU	0.5	R-410A	CEILING CASSETTE	300	50	NA	40	208-230/1/60	0.3	15	5,800	6,500	35	1,4	4/M005
FC 1.2.10	DAIKIN	FXZQ05TAVJU	0.5	R-410A	CEILING CASSETTE	300	50	NA	35	208-230/1/60	0.3	15	5,800	6,500	35	1,4	4/M005
FC 1.2.11	DAIKIN	FXMQ24PBVJU	2.0	R-410A	CONCEALED DUCTED	700	350	0.5	150	208-230/1/60	1.8	15	24,000	27,000	80	1,2,C1	2/M005
FC 1.2.12	DAIKIN	FXMQ30PBVJU	2.5	R-410A	CONCEALED DUCTED	1110	350	0.5	200	208-230/1/60	2.8	15	30,000	34,000	105	1,2,C1	2/M005
FC 1.2.13	DAIKIN	FXZQ05TAVJU	0.5	R-410A	CEILING CASSETTE	300	50	NA	30	208-230/1/60	0.3	15	5,800	6,500	35	1,4	4/M005
FC 1.2.14	DAIKIN	FXMQ07PBVJU	0.6	R-410A	CONCEALED DUCTED	300	90	NA	45	208-230/1/60	0.6	15	7,200	8,500	60	1,2,C1	2/M005
FC 1.2.15	DAIKIN	FXTQ36TAVJUA	3.0	R-410A	MULTI-POS	1050	350	0.5	575	208-230/1/60	2.9	15	36,000	40,000	105	1,3,C1	3/M005
FC 1.2.16	DAIKIN	FXMQ36PBVJU	3.0	R-410A	CEILING CONCEALED	1100	350	0.5	250	208-230/1/60	2.9	15	36,000	40,000	105	1,2,C1	2/M005

GENERAL NOTES APPLICABLE TO ALL UNITS:
A. DISCONNECT PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
B. PROVIDE WITH WITH CONDENSATE SAFETY SWITCH.

UNIT SPECIFIC NOTES:
1. PROVIDE WITH MANUFACTURERS 7-DAY PROGRAMMABLE WIRED REMOTE CONTROLLER.
2. PROVIDE WITH MANUFACTURER'S DACA-FXMQ MERV 13 FILTER BOX.
3. CONTRACTOR TO FABRICATE FILTER BOX FOR USE WITH 2" MERV 13 FILTER AS INDICATED ON THE FLOOR PLANS.
4. PROVIDE WITH CONDENSATE PUMP WITH CONDENSATE SAFETY SWITCH. PUMP SHALL BE INTERNALLY MOUNTED WITHIN THE INDOOR UNIT AND WIRED TO THE TERMINAL STRIP. NO EXPOSED INSTALLATIONS ALLOWED.

CONTROL NOTES:
C1. UNIT SHALL HAVE AUTOMATIC SHUT DOWN UPON SMOKE DETECTION PER THE 2019 CMC SECTION 608. REFER TO DETAIL 5/M007.

CIRCULATION FAN SCHEDULE

TAG	MAKE	MODEL	DIAMETER (INCHES)	# OF AIRFOILS	SOUND LEVEL (DBA)	CONTROL	RPM	ELECTRICAL DATA				WEIGHT LBS	REMARKS SEE BELOW
								POWER	HP	FULL LOAD CURRENT	CIRCUIT SIZE (AMPS)		
BAF 1	BIG ASS FANS	AIREYE	20	3	69	VARIABLE SPEED	1220	120/1	0.33	4.6	10.0	35	1,2,3

UNIT SPECIFIC NOTES:
1. PROVIDE WITH MANUFACTURERS WALL MOUNTED SPEED CONTROLLER WITH WIRING CONCEALED IN WALL.
2. PROVIDE WITH WALL MOUNT BRACKET.
3. PROVIDE WITH OPTIONAL AIREYE OCCUPANCY SENSOR THAT TURNS OFF AFTER 5 MINUTES TO PROVIDE ENERGY SAVINGS.
4. VERIFY COLOR REQUIREMENTS WITH ARCHITECT BEFORE PURCHASING FAN.

1

REFRIGERANT CONCENTRATION LIMIT CALCULATION - DS-2.1 SYSTEM

REFRIGERANT	R-410A
POUNDS OF ALLOWABLE REFRIGERANT PER 1000FT^3 OF SPACE	26
PER 2019 CMC 1104.2.1 VOLUME CALCULATIONS	
ROOM VOLUME (FT^3) OF COMBINED VENTILATED SPACES[1]	1570
26LBS/1000FT^3 MAX REFRIGERANT VOLUME	
MAX CHARGE (LBS)	40.8
DS-2.1 CHARGE (LBS)	3.6
PIPING CHARGE (LBS)	1.0
TOTAL SYSTEM CHARGE (LBS)	4.6

REFRIGERANT CONCENTRATION LIMIT CALCULATION - HRC-1 SYSTEM

REFRIGERANT	R-410A
POUNDS OF ALLOWABLE REFRIGERANT PER 1000FT^3 OF SPACE	26
PER 2019 CMC 1104.2.1 VOLUME CALCULATIONS	
ROOM VOLUME (FT^3) OF COMBINED VENTILATED SPACES[1]	73183
26LBS/1000FT^3 MAX REFRIGERANT VOLUME	
MAX CHARGE (LBS)	1902.8
HRC-1 CHARGE (LBS)	51.6
VRF PIPING CHARGE (LBS)	66.4
TOTAL SYSTEM CHARGE (LBS)	118.0

1. EACH ROOM SERVED BY THE VRF SYSTEM IS ALSO SERVED BY A CENTRAL ERV SYSTEM THAT WILL OPERATE AT ALL OCCUPIED HOURS (24/7). THUS EACH ROOM SERVED BY THE VRF IS NOT CONSIDERED A NON-CONNECTING SPACE AND IS INSTEAD CONSIDERED A VENTILATED SPACE. THUS WE CAN USE THE CONNECTED ROOM VOLUMES AS WELL AS THE VOLUME OF THE DUCTWORK WHEN CALCULATING THE SMALLEST VOLUME FOR OUR REFRIGERATION CONCENTRATION LIMIT CALCULATION. VOLUME DISPLAYED IS THE COMBINED VOLUME OF EACH ROOM SERVED BY A VRF FAN COIL.

INTAKE HOOD SCHEDULE

TAG	MAKE	MODEL	THROAT SIZE INCHES	THROAT AREA IN FT^2	CFM	SP	THROAT VELOCITY FPM	ACCESSORIES			WEIGHT LBS	REMARKS SEE BELOW	INSTALLATION DETAIL
								BIRD GUARD	BACKDRAFT DAMPER	ROOF CURB			
IH 1	GREENHECK	GRSI-16	16.25X16.25	1.45	300	0.007	207	YES	YES	YES	20	1	4/M006
IH 2	GREENHECK	GRSI-8	8.25Ø	0.37	150	0.028	405	YES	YES	YES	10	1	4/M006

UNIT SPECIFIC NOTES:
1. CURB HEIGHT TO BE SET TO PROVIDE MIN 8" STANDOFF ABOVE TOP OF ROOF INSULATION FOR ADEQUATE WATERPROOFING.

REVISIONS

NO	DATE	SHEET	APPROVAL	DESCRIPTION
1	12/16/2021			PLAN CHECK SUBMITTAL
2	04/22/2022			PLAN CHECK RE-SUBMITTAL
3	06/15/2023			PLAN CHECK RE-SUBMITTAL
4	10/12/2023			BID DOCUMENTS
AS-BUILT			REF:	

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

MECHANICAL SCHEDULES

B# B-4797

PHASE # ____ / REBID # ____

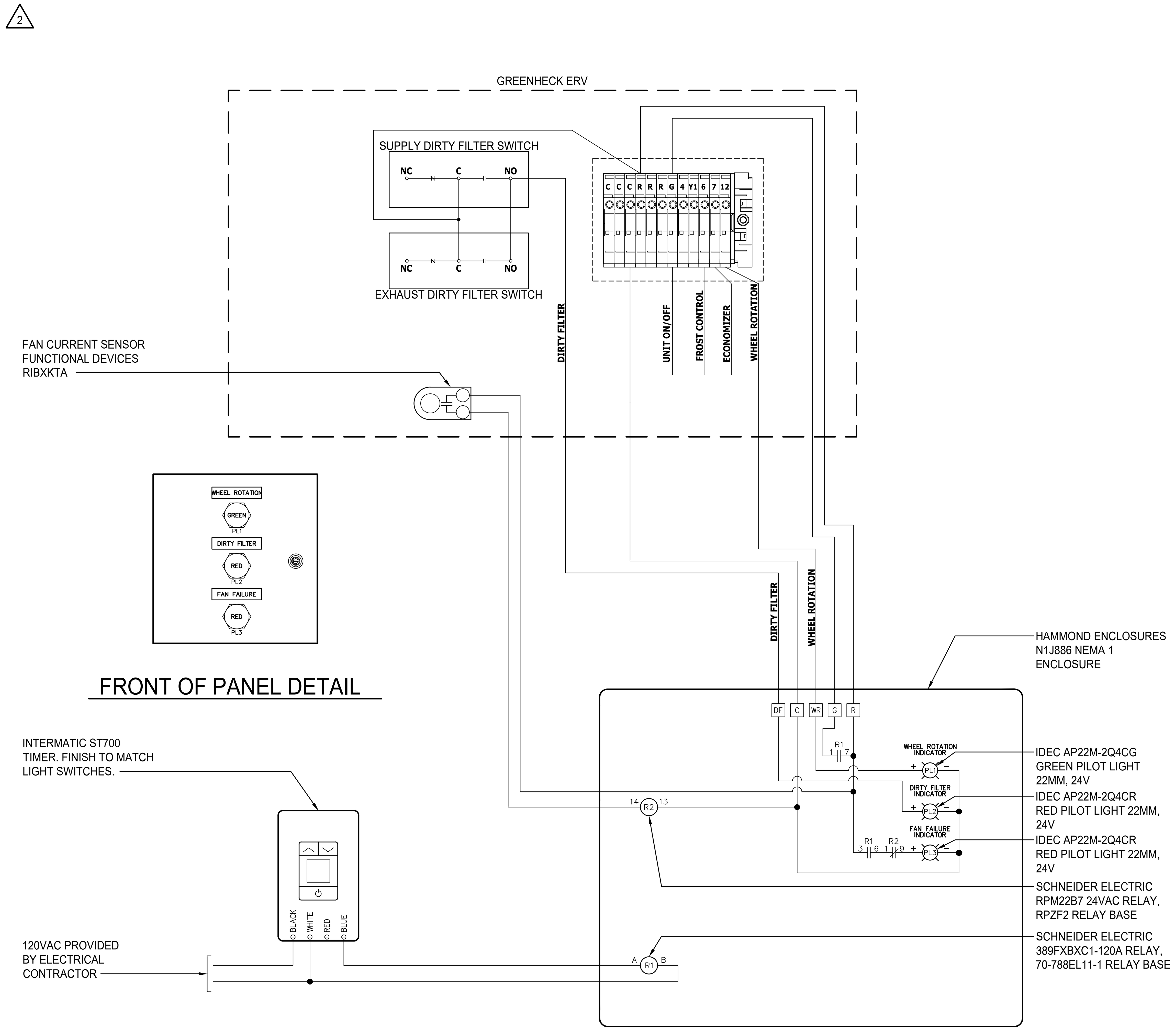
SHEET 148 OF 236

DWG. NO. M002

LICENSED PROFESSIONAL ENGINEER WILLIAM P. STARKEY M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING SMARTER BUILDINGS BY DESIGN
T. 805.540.3343 W. WWW.3CENG.COM
E. 1000 Pacific St. SAN LUIS OBISPO, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



1 ERV CONTROL DETAIL WITH SWITCH
NTS

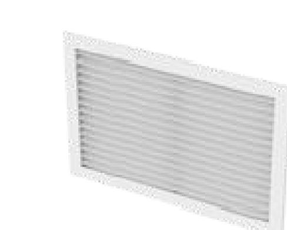
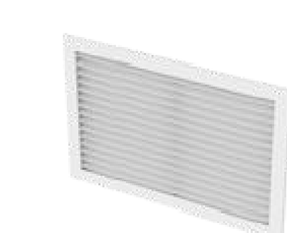
COMMERCIAL GRILLE, REGISTER, DIFFUSER, LOUVER SCHEDULE

FD = FIRE DAMPER
FSD = FIRE/SMOKE DAMPER
OAI = OUTSIDE AIR INTAKE
X"Ø = INLET SIZE (IF APPLICABLE)

FD S1 400 12x12 — CFM; DIFFUSER, GRILLE, LOUVER; NECK SIZE (length x width or length x height); MARK: S = SUPPLY; R = RETURN; E = EXHAUST; T = TRANSFER; L = LOUVER

CEILING SUPPLY DEFLECTION LEGEND (EXCEPT FOR 4-WAY DEFLECTION, SHADING INDICATES ACTIVE SECTION OF DIFFUSER)

4-WAY | 3-WAY | 2-WAY CORNER | 2-WAY OPPOSITE | 1-WAY

TAG	TYPE	MAKE	MODEL	BORDER TYPE		CONSTRUCTION	FINISH	IMAGE	REMARKS	INSTALLATION DETAIL
				GYP BOARD CEILING OR WALL	LAY-IN CEILING					
S1	CEILING SUPPLY	TITUS	TDC	1	3	STEEL	WHITE		MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND FRAMING CONTRACTOR TO INSURE OPENINGS IN HARD CEILINGS AND WALLS ARE CORRECTLY SIZED TO ACCOMMODATE THE SPECIFIED BORDER TYPE. NO EXCEPTIONS	NA
S2	CEILING OR SIDEWALL LINEAR SLOT SUPPLY	PRICE	SDS	DIFFUSER SELECTED TO INTEGRATE WITH ARMSTRONG WOODWORKS LINEAR MODULE ITEM NUMBER 6640W1		ALUMINUM	ANODIZED		SDS WITH SDB PLENUM - 3/4" SLOT WIDTH, 2 SLOT CONFIGURATION	1/M006
S3	SIDEWALL MOUNTED SUPPLY SINGLE DEFLECTION	TITUS	301RL	1	NA	STEEL	WHITE		MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND FRAMING CONTRACTOR TO INSURE OPENINGS IN HARD CEILINGS AND WALLS ARE CORRECTLY SIZED TO ACCOMMODATE THE SPECIFIED BORDER TYPE. NO EXCEPTIONS	NA
R1, E1, T1	CEILING OR SIDEWALL RETURN AND EXHAUST	TITUS	350RL	1	3	STEEL	WHITE		ALL RETURN OR EXHAUST GRILLES MOUNTED IN LAY-IN CEILINGS SHALL HAVE 22X22 NECK SIZE FOR AIR FLOW RANGE 0-1875CFM. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND FRAMING CONTRACTOR TO INSURE OPENINGS IN HARD CEILINGS AND WALLS ARE CORRECTLY SIZED TO ACCOMMODATE THE SPECIFIED BORDER TYPE. NO EXCEPTIONS	NA
E2	CEILING OR SIDEWALL RETURN AND EXHAUST	TITUS	350FL	1	3	ALUMINUM	WHITE		ALL RETURN OR EXHAUST GRILLES MOUNTED IN LAY-IN CEILINGS SHALL HAVE 22X22 NECK SIZE FOR AIR FLOW RANGE 0-1875CFM. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND FRAMING CONTRACTOR TO INSURE OPENINGS IN HARD CEILINGS AND WALLS ARE CORRECTLY SIZED TO ACCOMMODATE THE SPECIFIED BORDER TYPE. NO EXCEPTIONS	NA
L1	4" WALL LOUVER	GREENHECK	ESJ-401	1-1/2" FLANGE		ALUMINUM	PRIMER		PROVIDE WITH BIRD SCREEN WHEN USED FOR OUTSIDE AIR INTAKE OR EXHAUST AIR DISCHARGE. PROVIDE WITH INSECT SCREEN WHEN USED FOR COMBUSTION AIR. PAINT PER ARCHITECTURAL REQUIREMENTS	NA
L2	12" ACOUSTIC LOUVER	IAC ACOUSTICS	LP	FLUSH EXTERIOR PER MANUFACTURER'S INSTALLATION INSTRUCTION		GALVANIZED STEEL	ANODIZED		PROVIDE WITH BIRD SCREEN WHEN USED FOR OUTSIDE AIR INTAKE OR EXHAUST AIR DISCHARGE. PROVIDE WITH INSECT SCREEN WHEN USED FOR COMBUSTION AIR. PAINT PER ARCHITECTURAL REQUIREMENTS	NA

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
1	12/16/2021			PLAN CHECK SUBMITTAL
2	04/22/2022			PLAN CHECK RE-SUBMITTAL
	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT			REF.	

REVISIONS

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

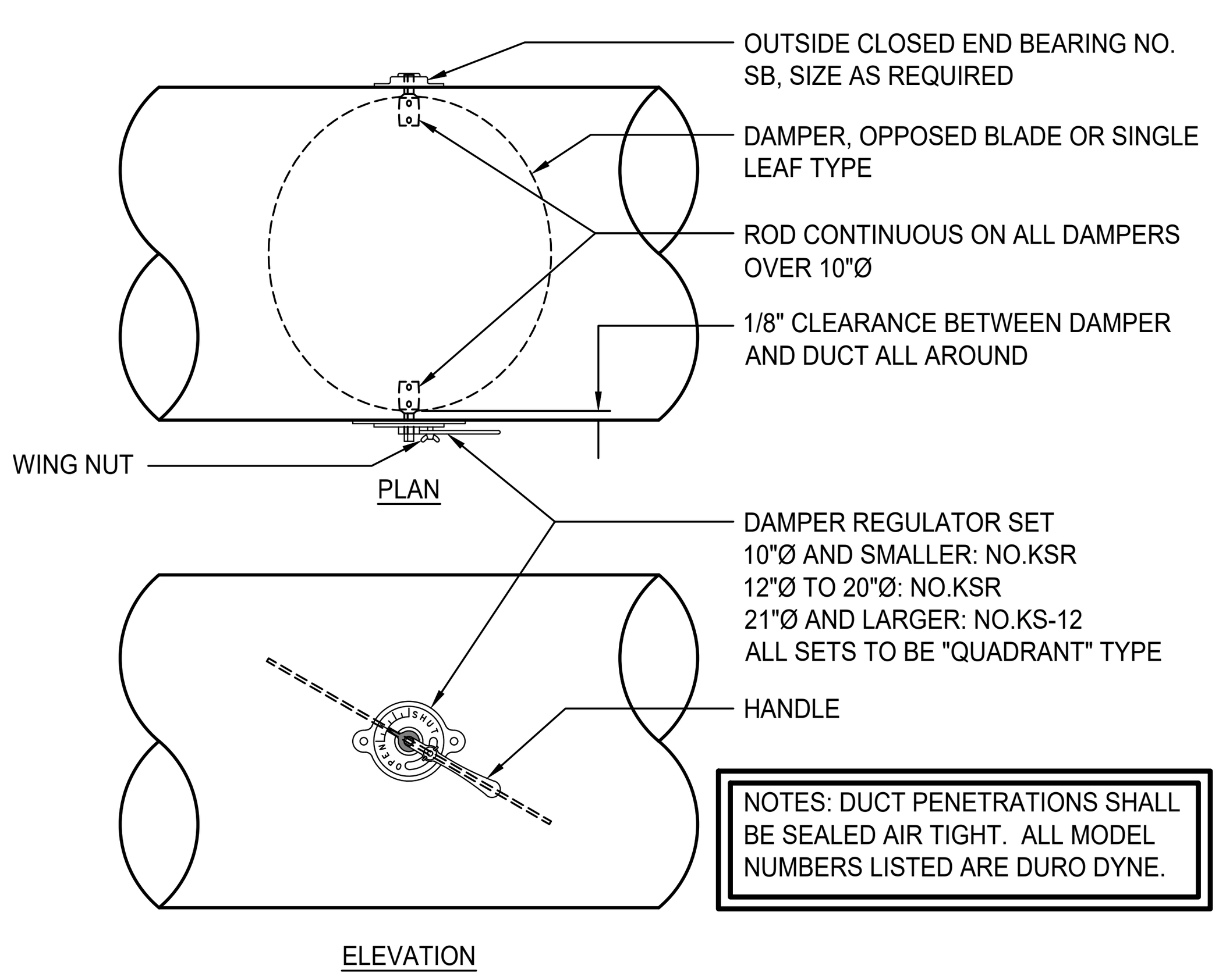
MECHANICAL SCHEDULES

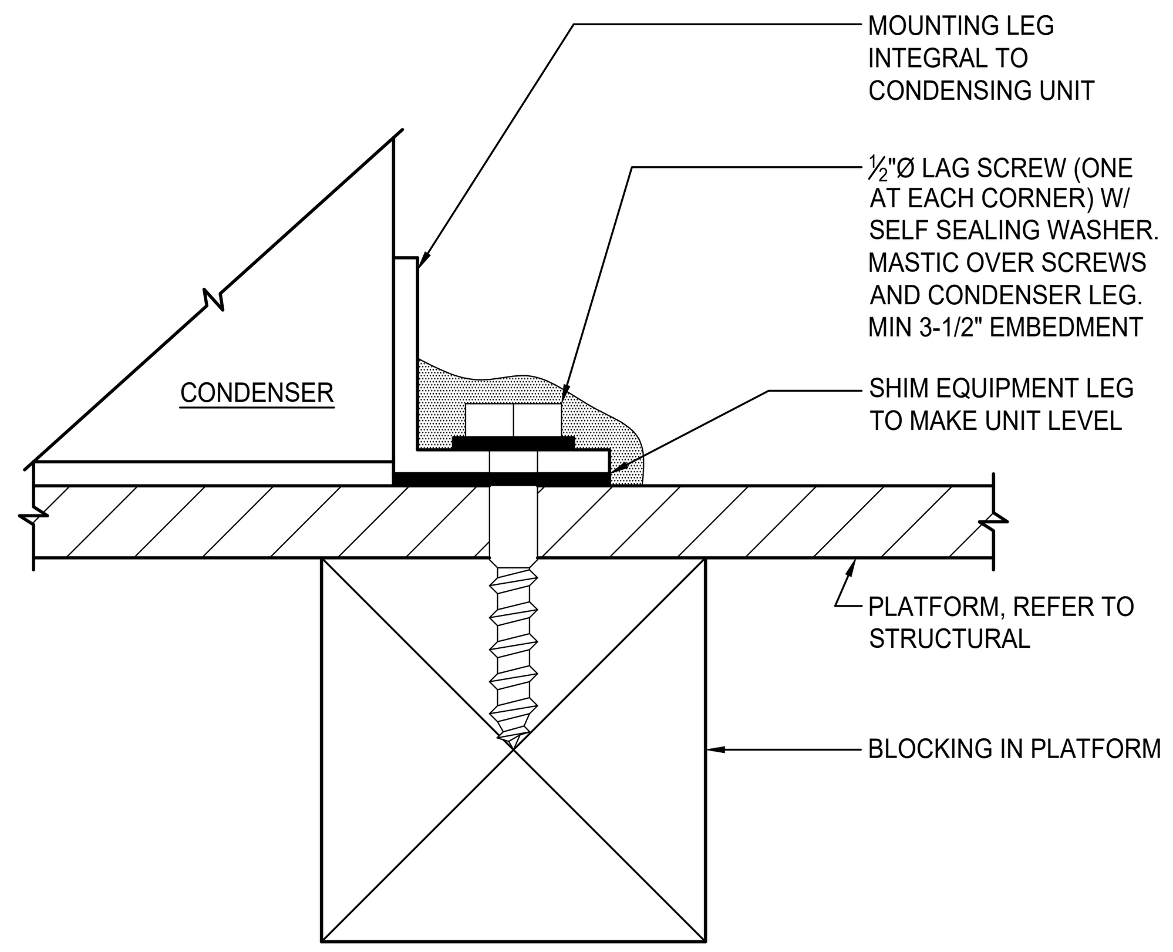
B# B-4797
PHASE # ____ / REBID # ____
SHEET 149 OF 236
DWG. NO. M003

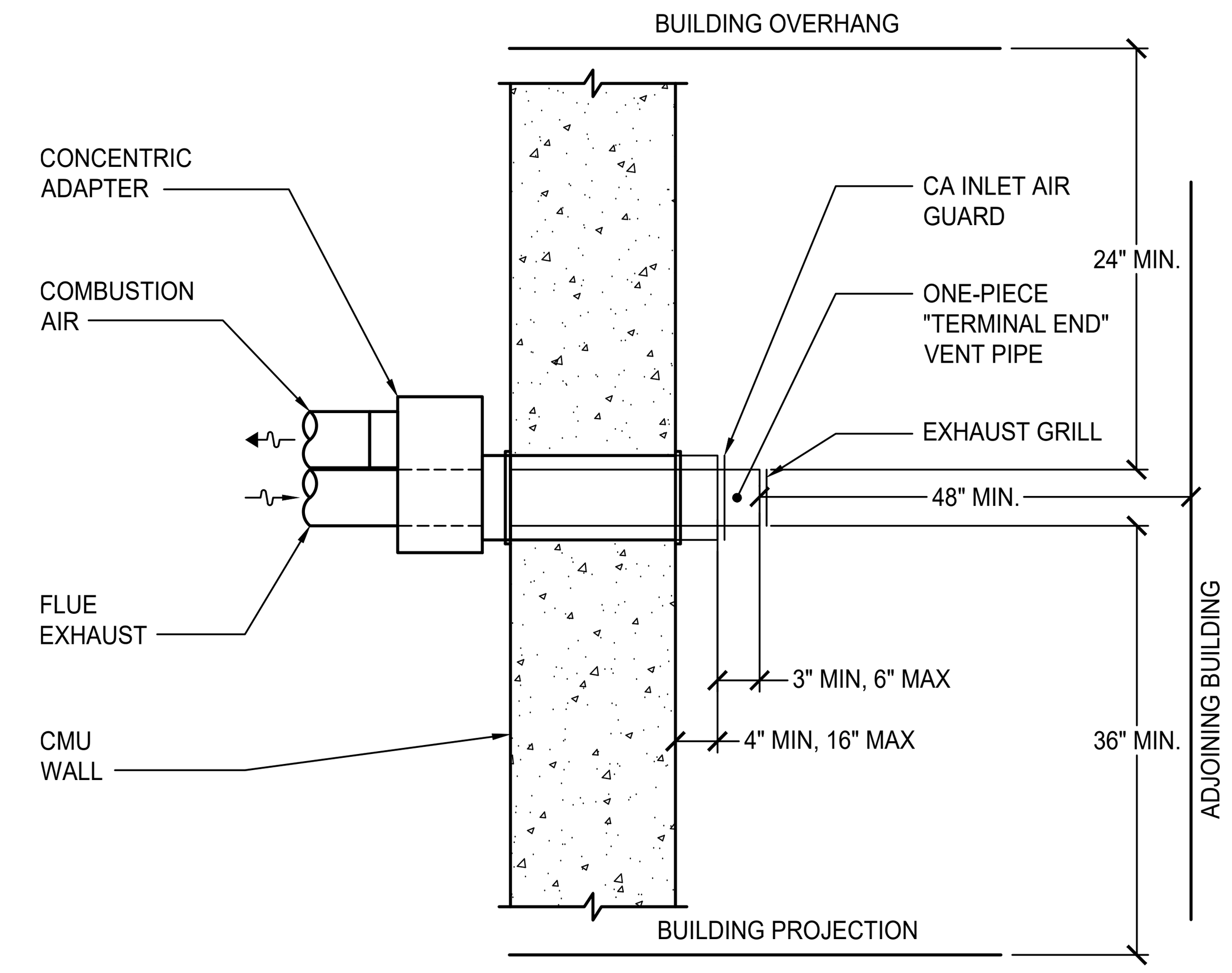
REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



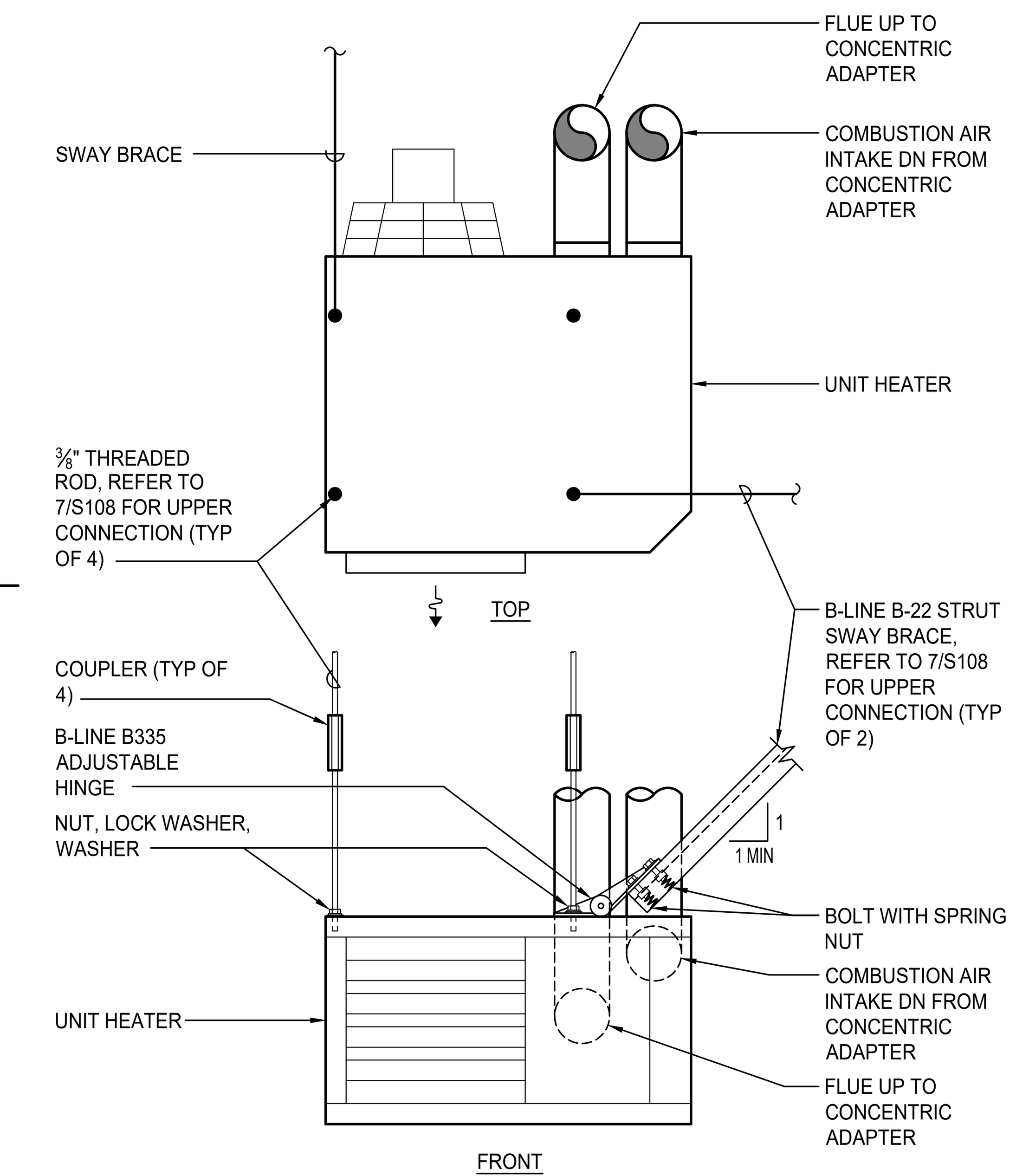


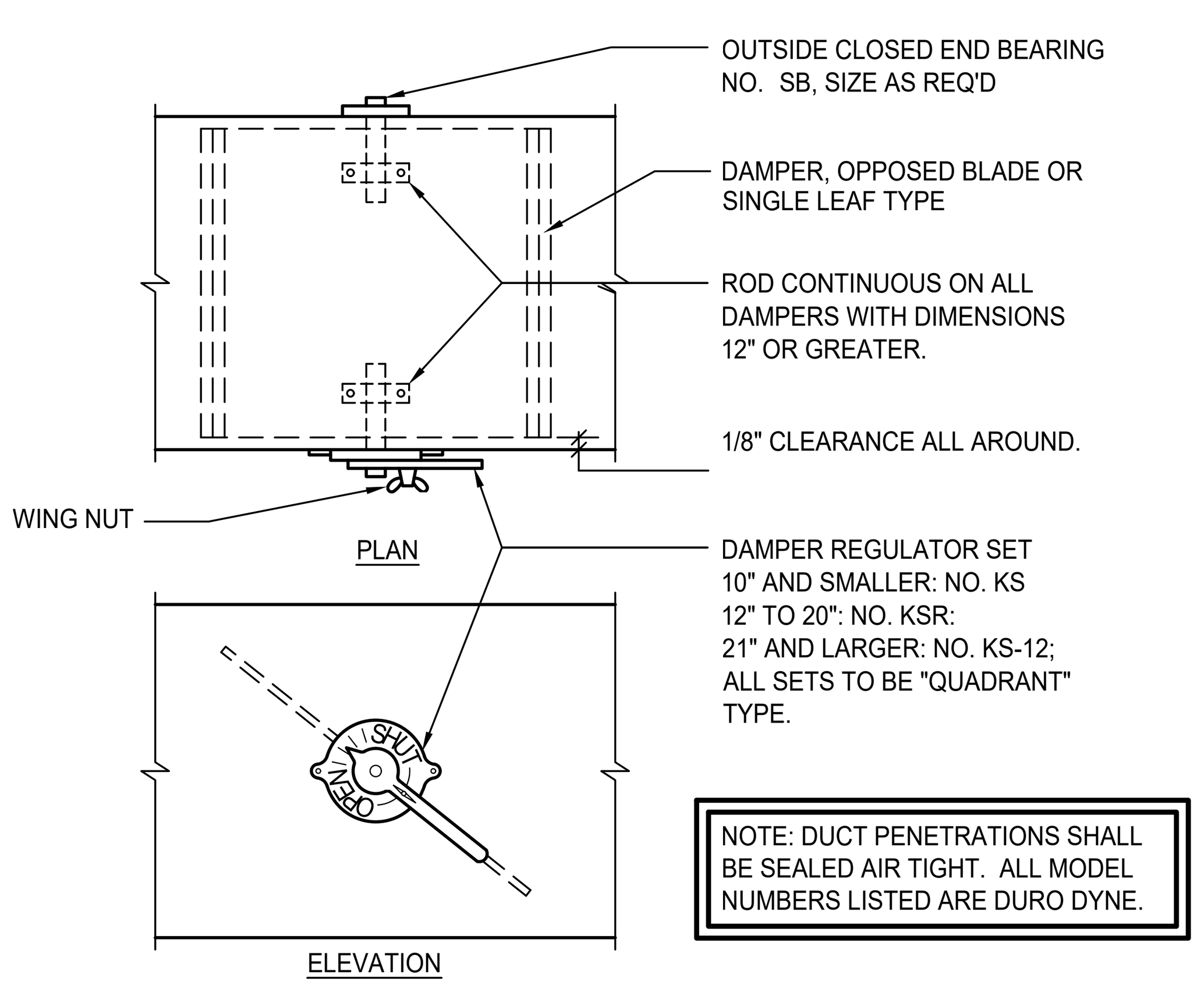


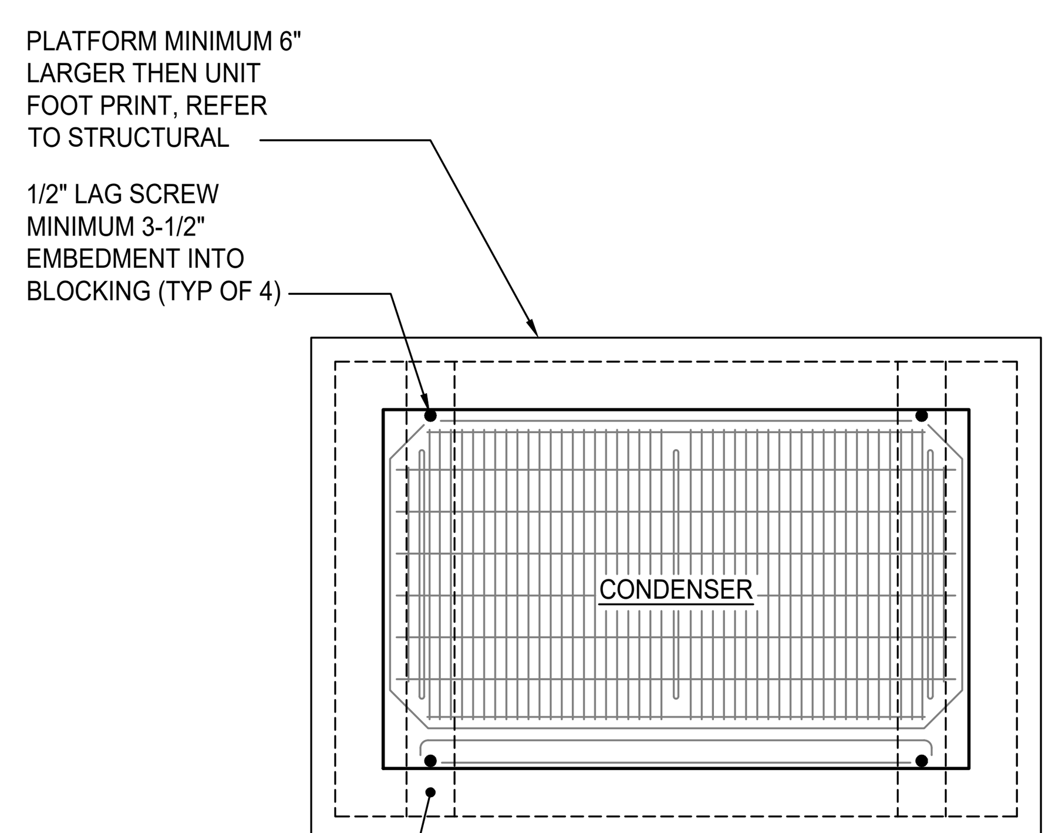
6 ROUND VOLUME DAMPER
NTS

4 CONDENSING UNIT ANCHORAGE - PLATFORM
NTS

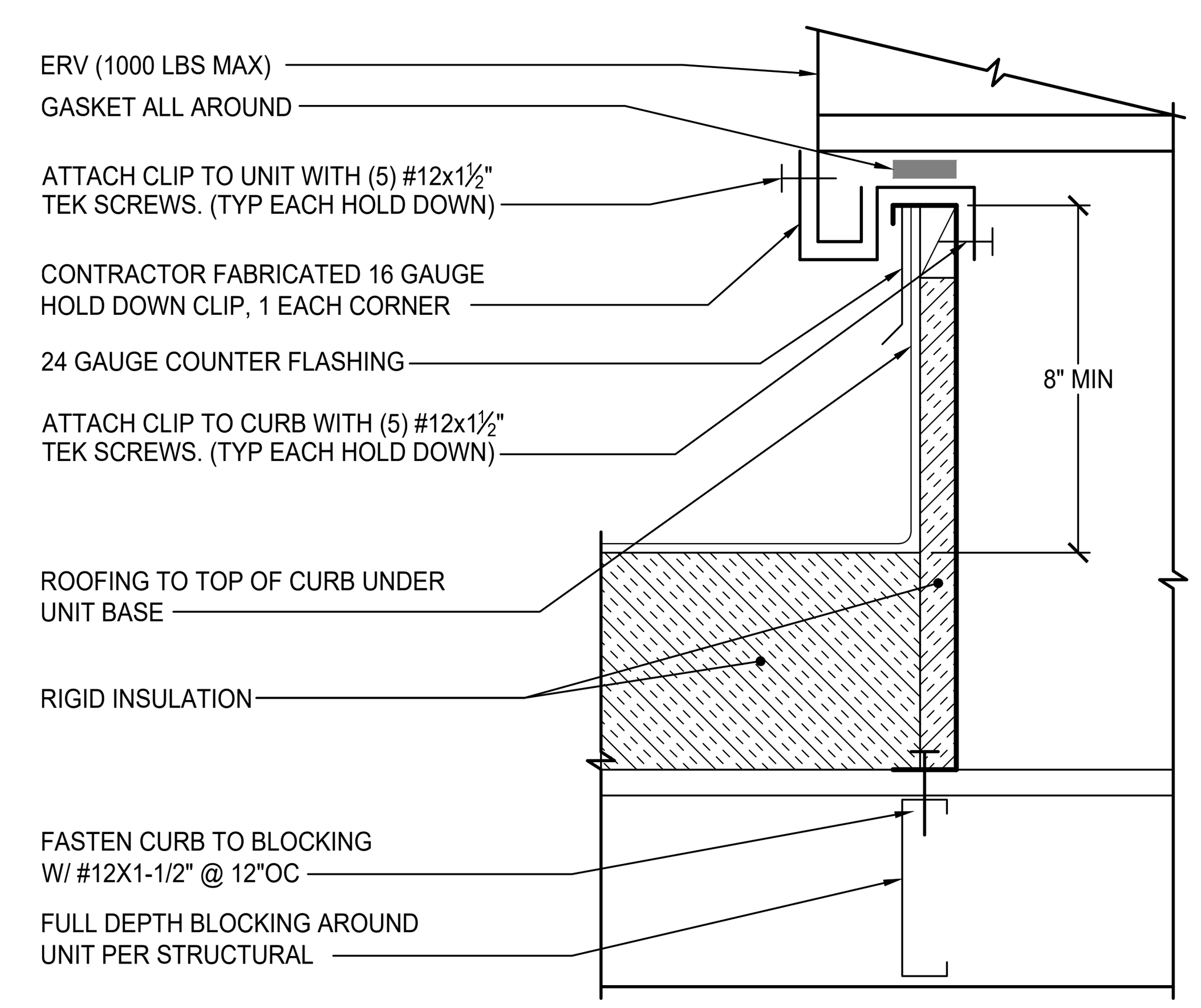
2 THRU-WALL FLUE/INTAKE
NTS







REFER TO ARCHITECTURAL FOR ROOFING AND FLASHING REQUIREMENTS



REFER TO ARCHITECTURAL FOR ROOFING AND FLASHING REQUIREMENTS

7 RECTANGULAR VOLUME DAMPER
NTS

5 HEAT RECOVERY CONDENSER ANCHORAGE
NTS

3 ERV-1 MOUNTING
NTS

1 SUSPENDED UNIT HEATER
NTS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	04/22/2022			PLAN CHECK RE-SUBMITTAL
△	06/15/2023			PLAN CHECK RE-SUBMITTAL
△	10/12/2023			BID DOCUMENTS
AS-BUILT			REF.	

REVISIONS

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

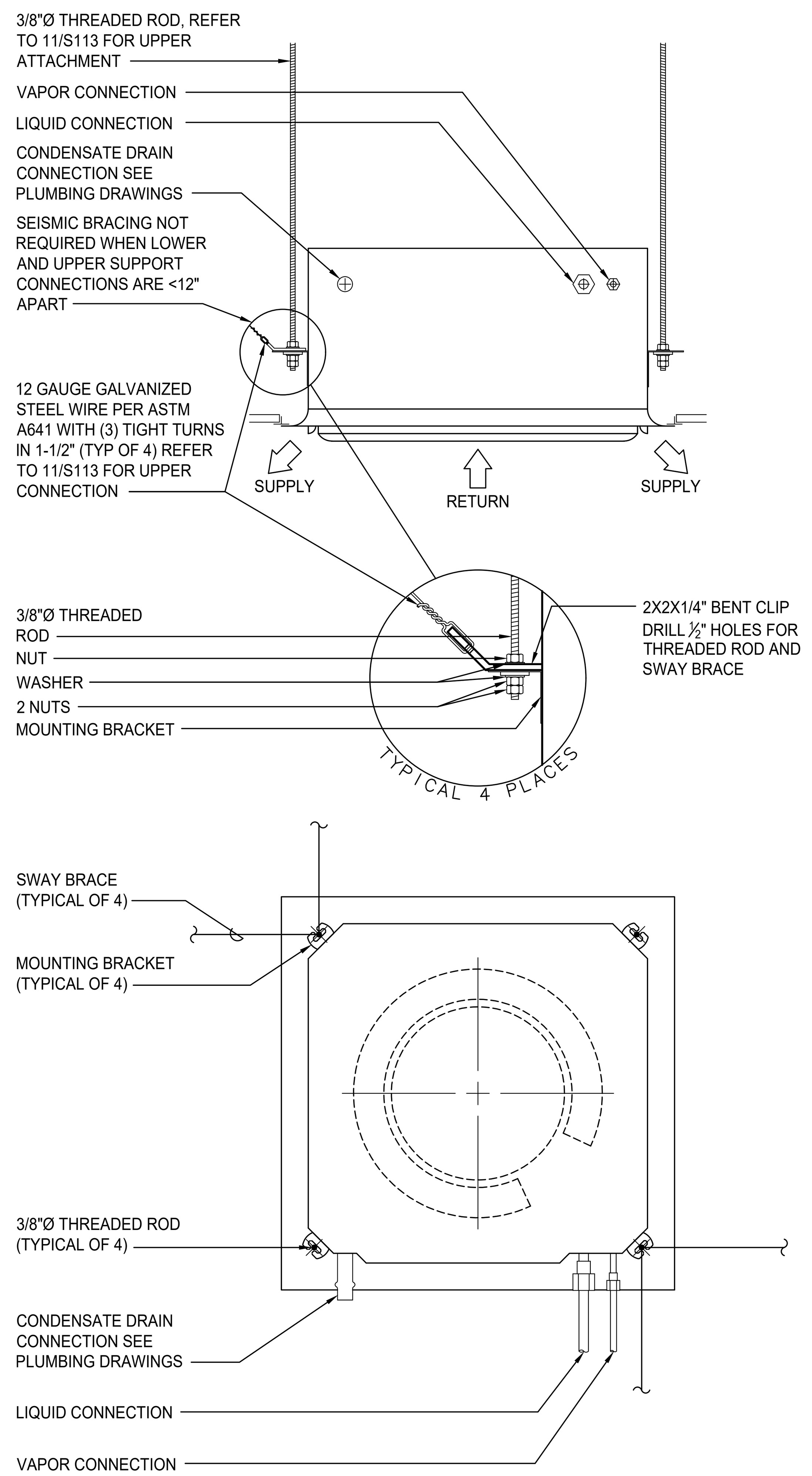
FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
MECHANICAL DETAILS

B# B-4797
PHASE # ____ / REBID # ____
SHEET 150 OF 236
DWG. NO. M004

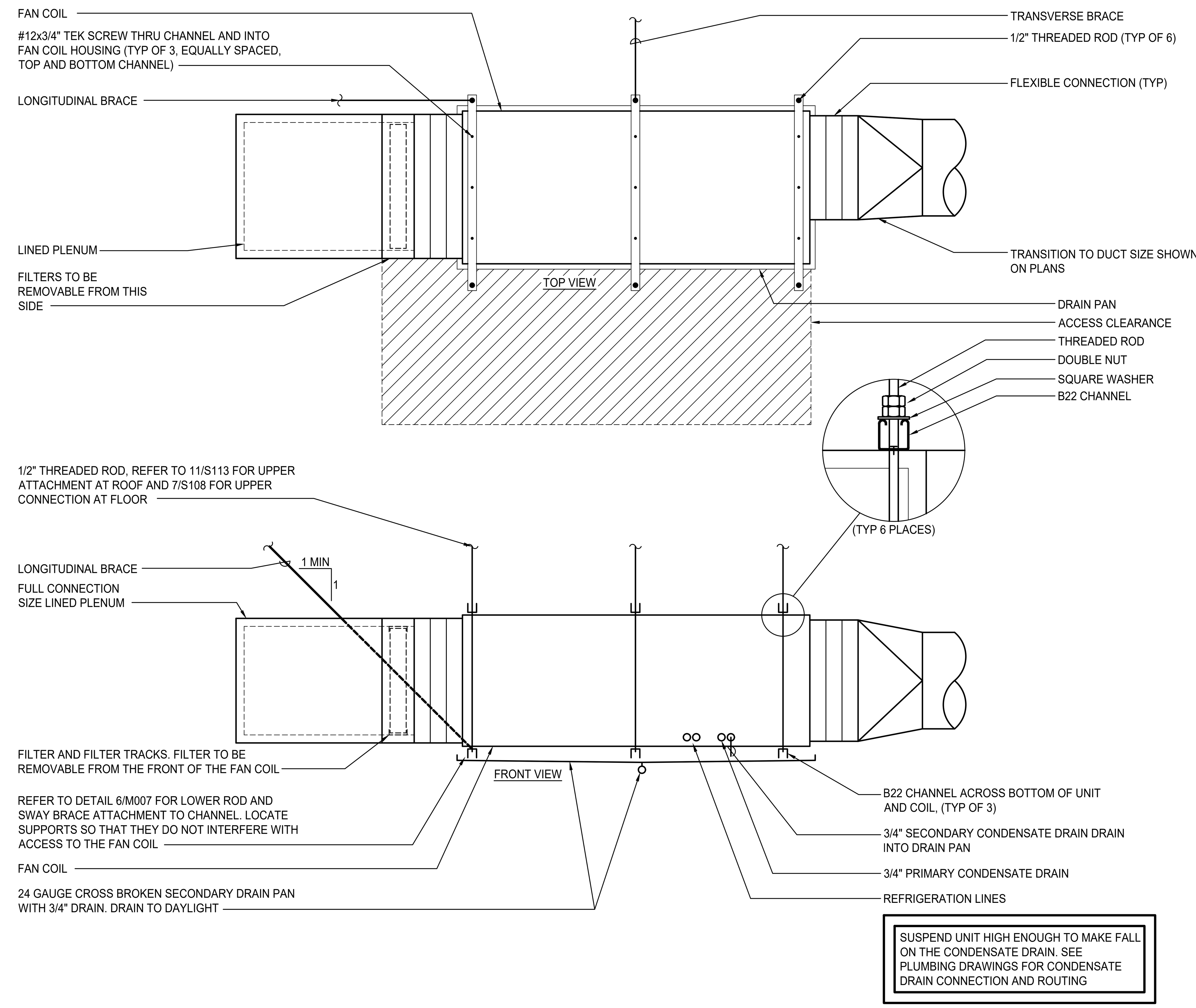
REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN

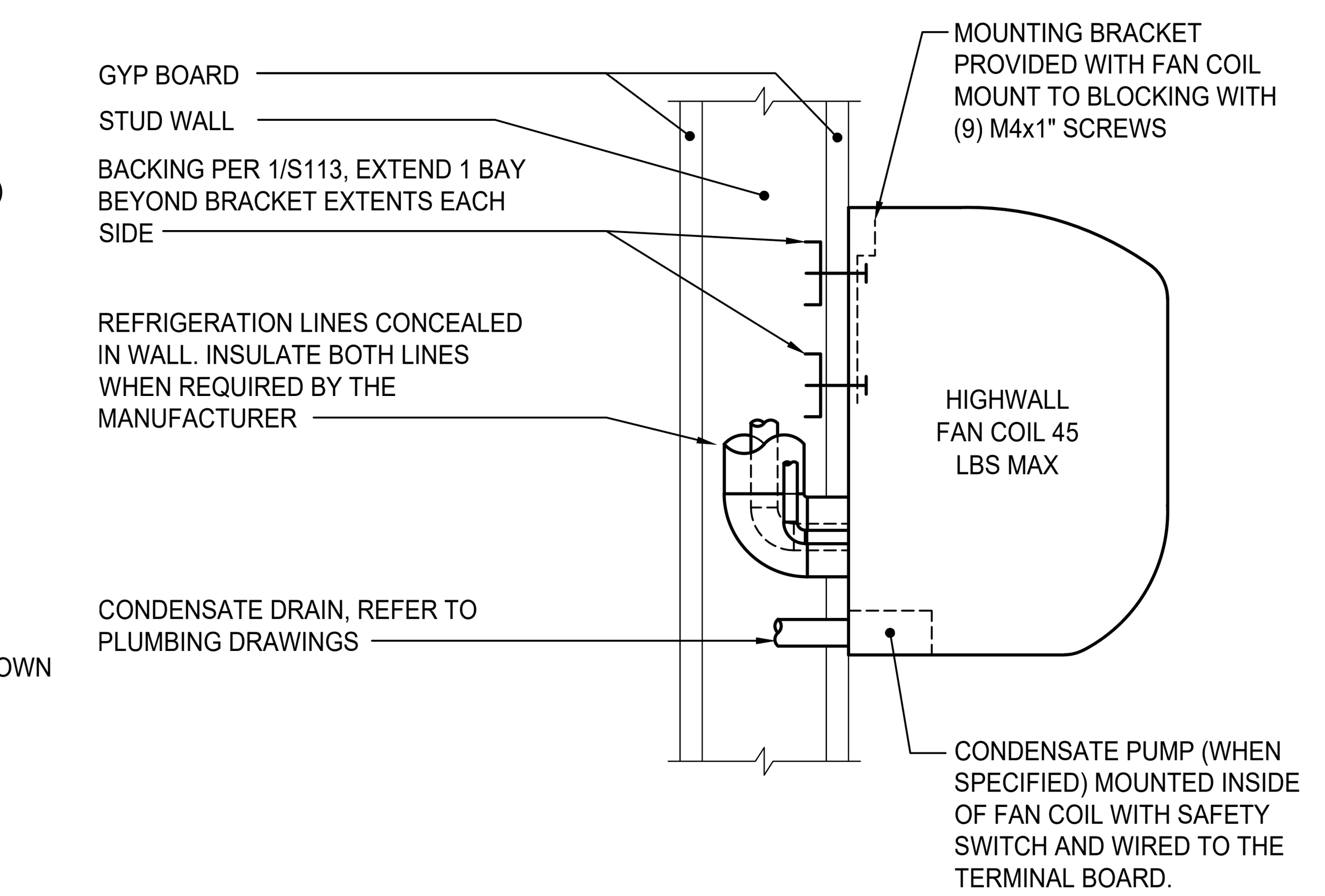
MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



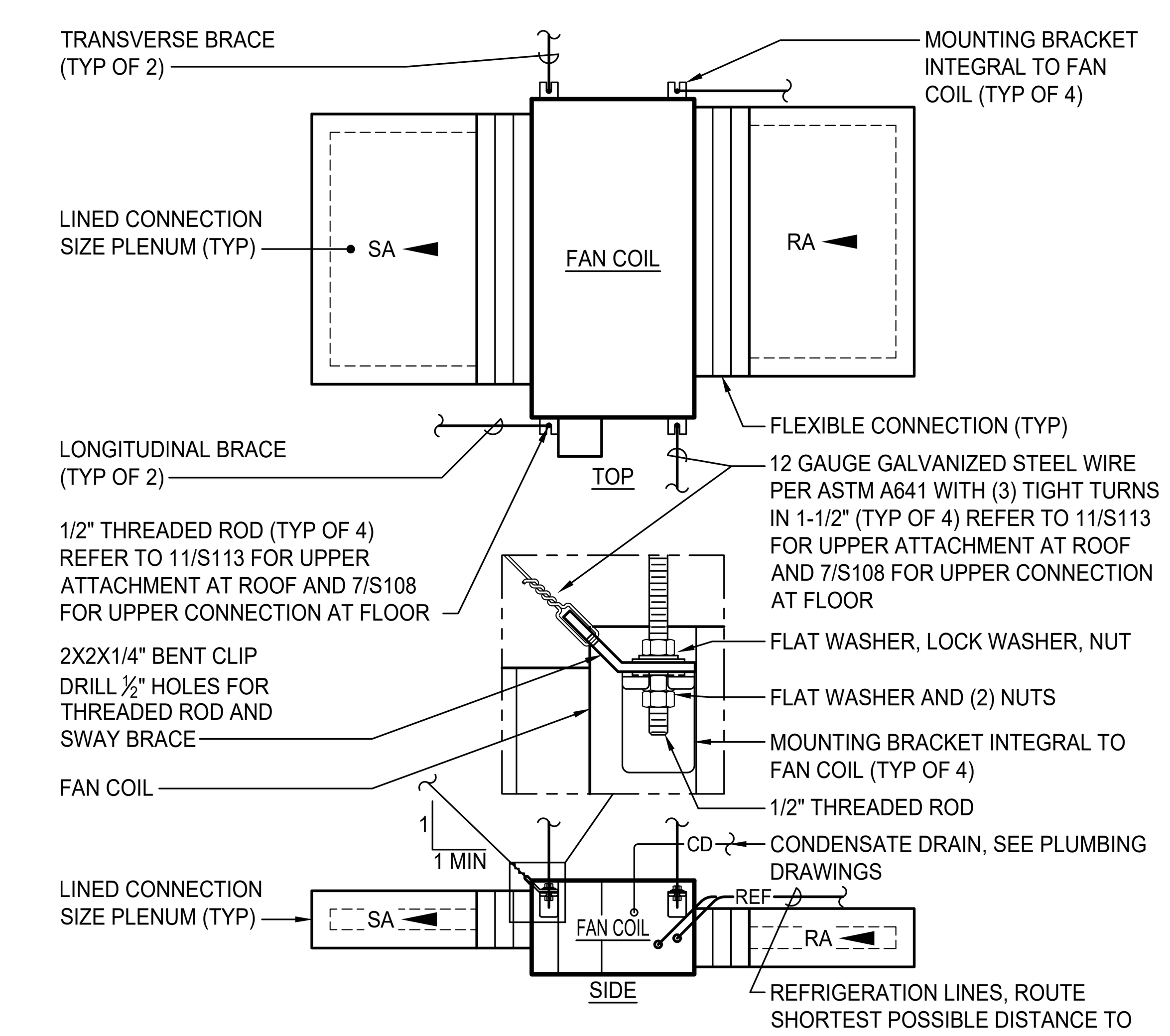
4 CEILING CASSETTE MOUNTING
NTS



3 SUSPENDED HORIZONTAL FAN COIL
NTS



1 HIGH WALL FAN COIL MOUNTING
NTS



2 SUSPENDED FAN COIL
NTS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
	AS-BUILT		REF.	

REVISIONS

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

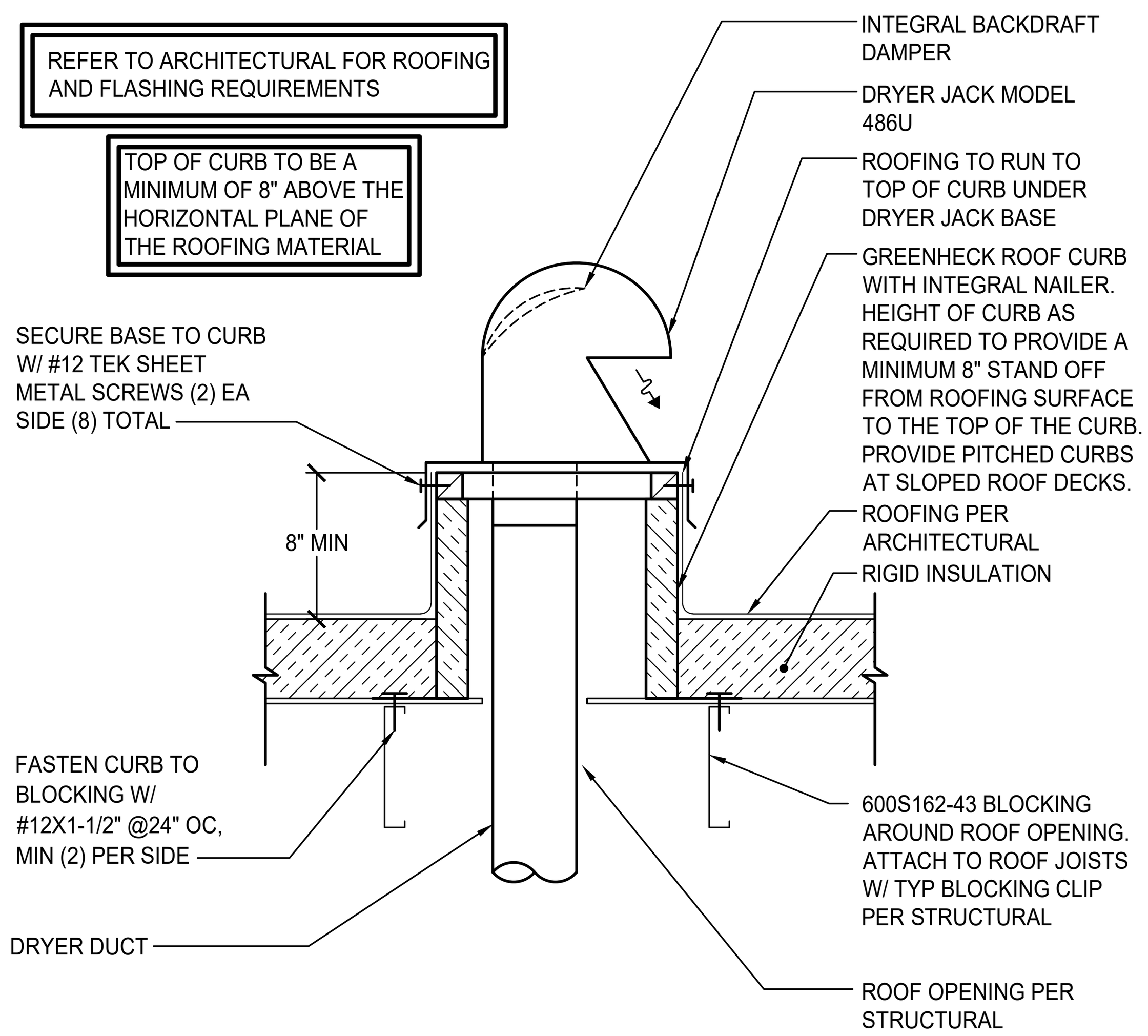
MECHANICAL DETAILS

B# B-4797
PHASE # ____ / REBID # ____
SHEET 151 OF 236
DWG. NO. M005

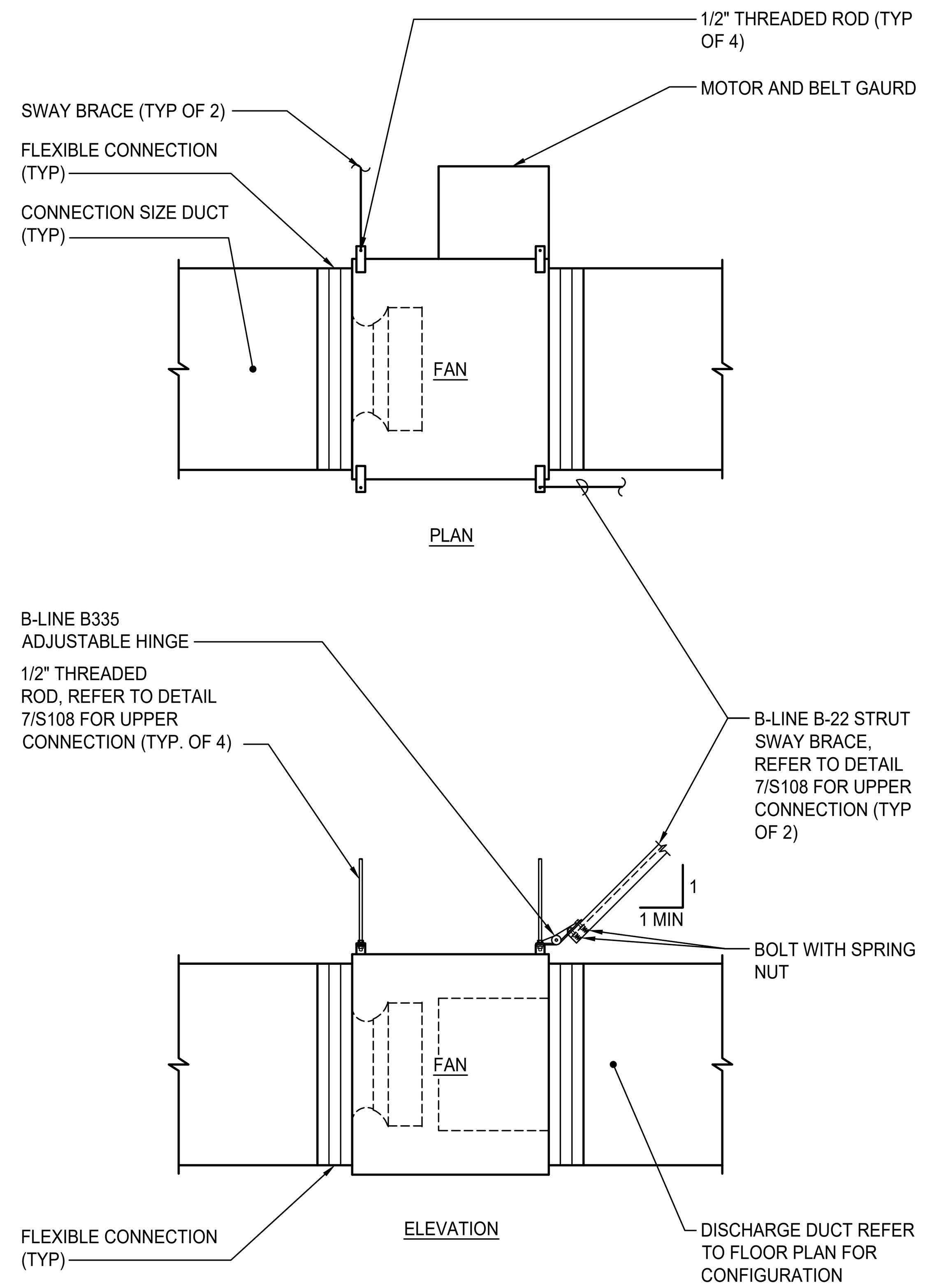
REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

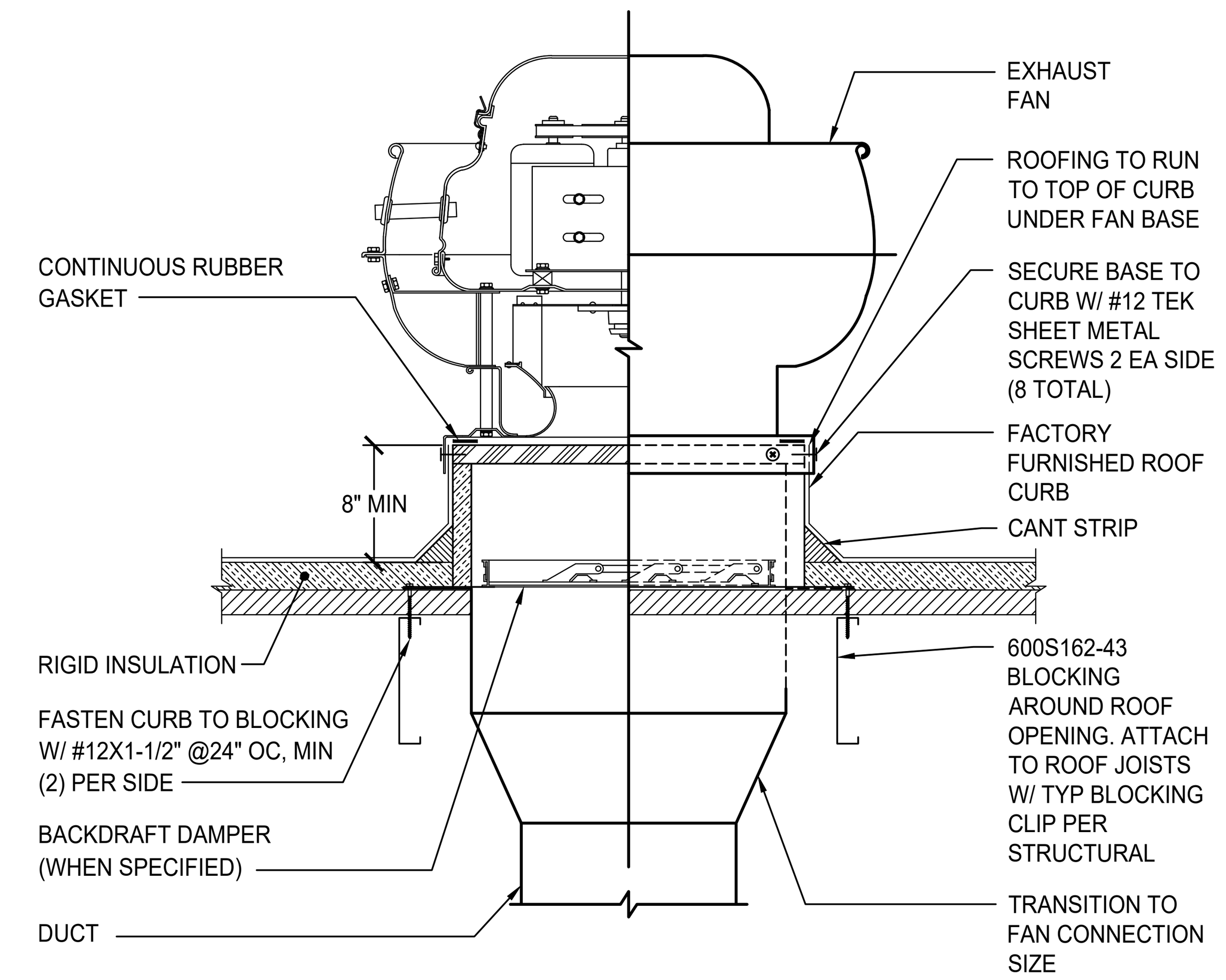
3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

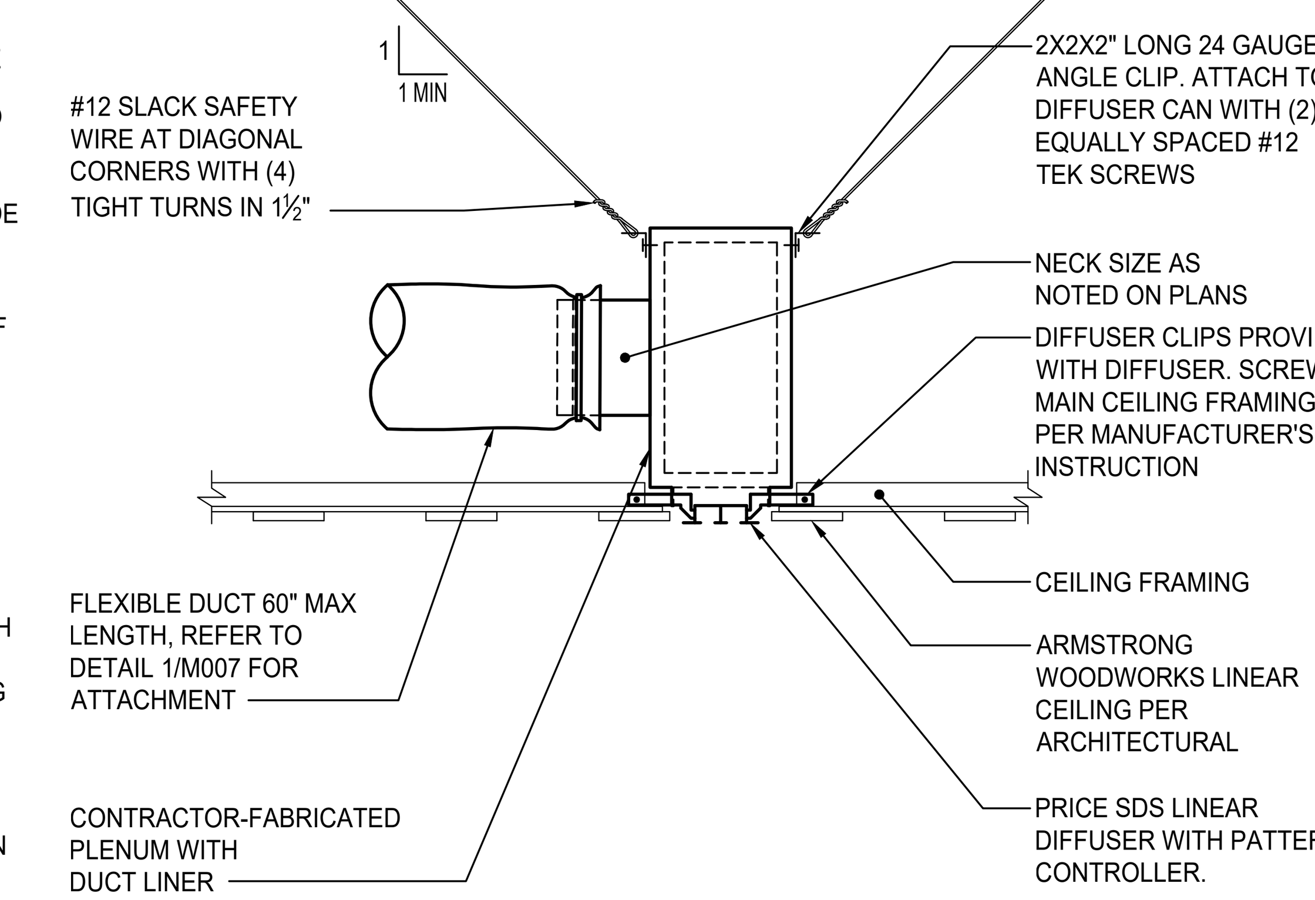


6 DRYER VENT TERMINATION
NTS

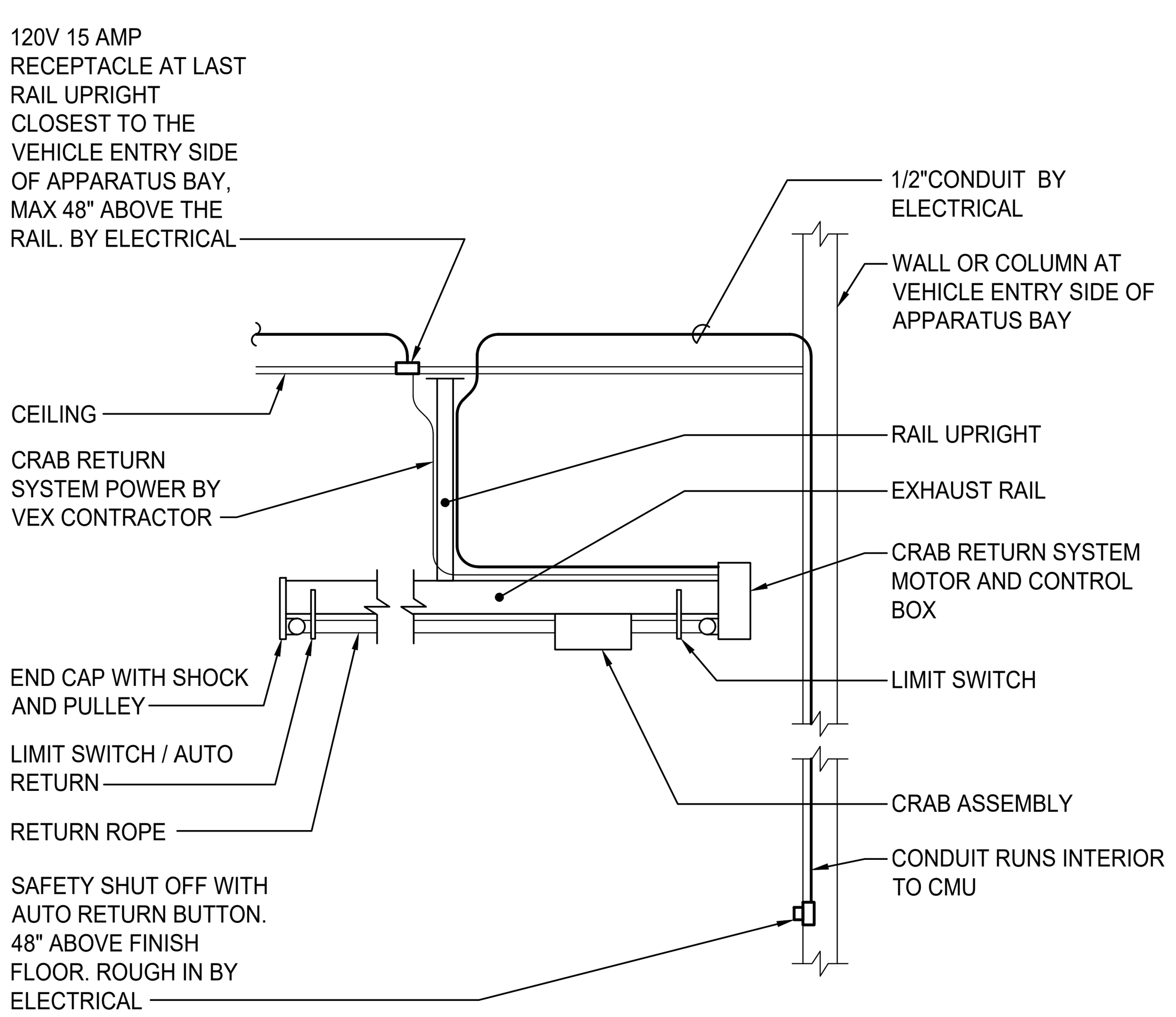




3 EXHAUST FAN INSTALLATION
NTS

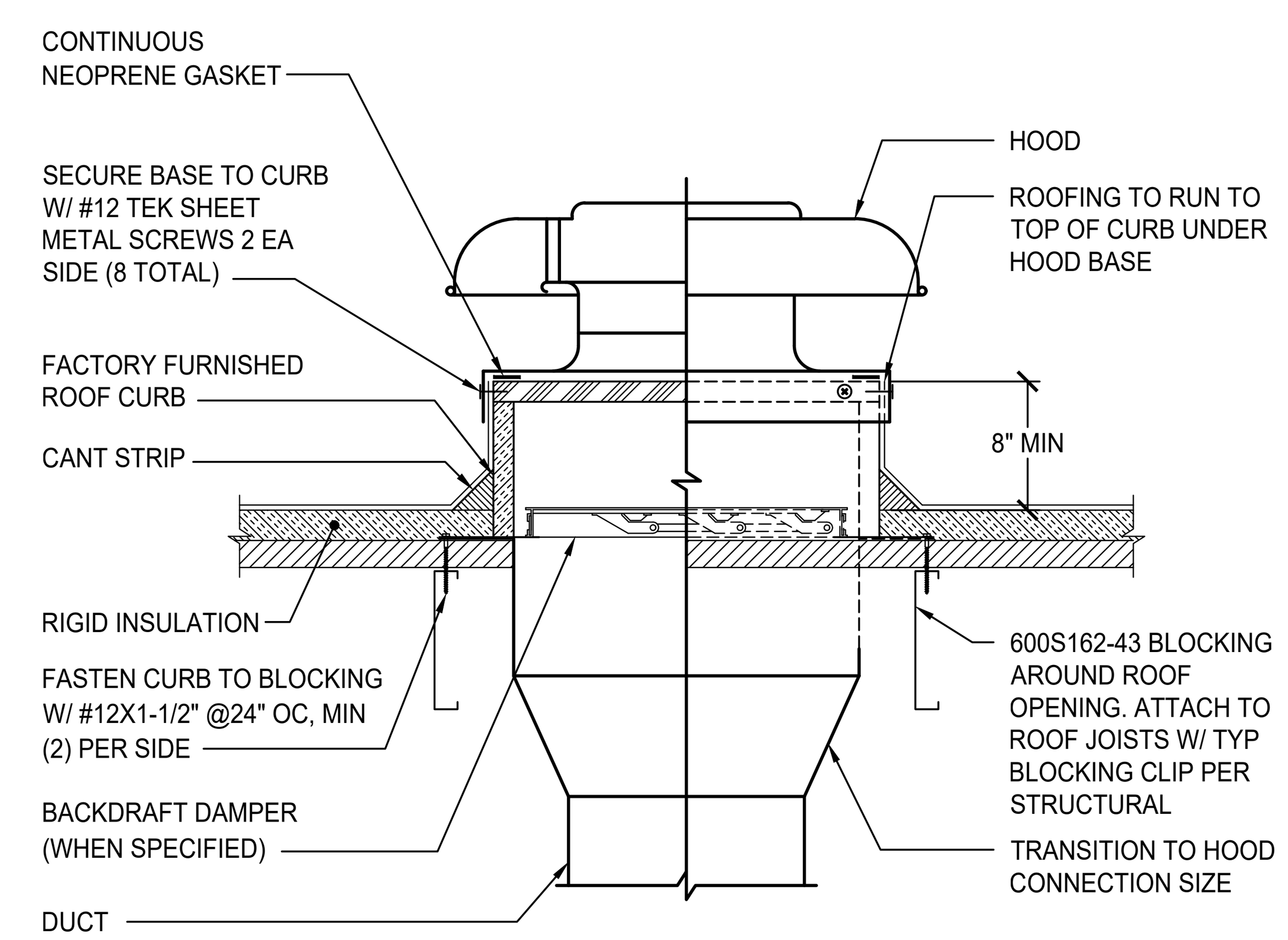


1 LINEAR SLOT DIFFUSER
NTS

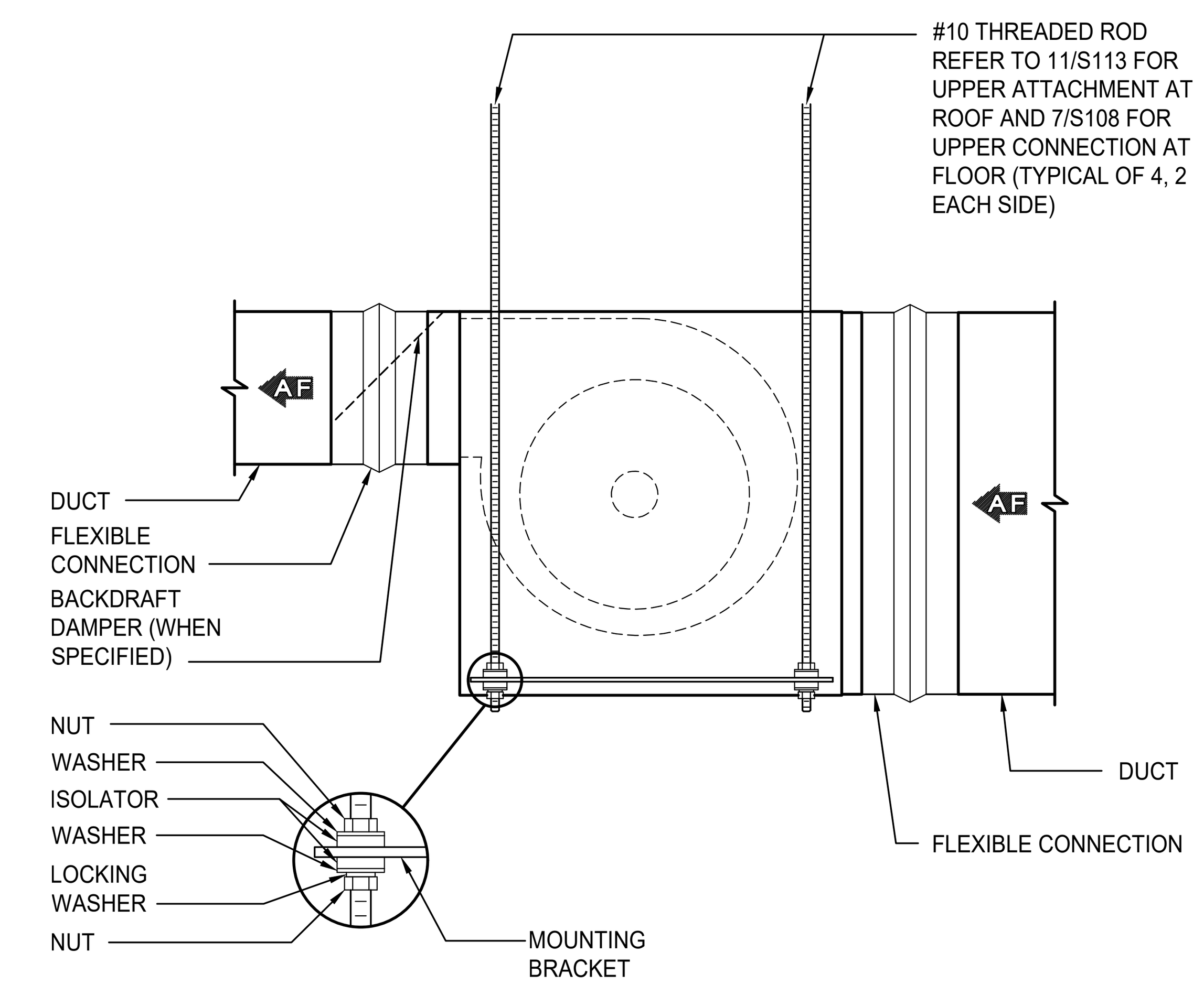


7 VEX AUTO CRAB RETURN
NTS

5 SUSPENDED IN-LINE EXHAUST FAN
NTS



4 INTAKE HOOD INSTALLATION
NTS



2 IN-LINE EXHAUST FAN
NTS

C:\Users\intern\appdata\local\temp\AcPublish_16684\LB FS 9 Mechanical Lead Sheets.dwg bswanson Oct 13,2023-3:01pm

REVISIONS				
NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT				REF.

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

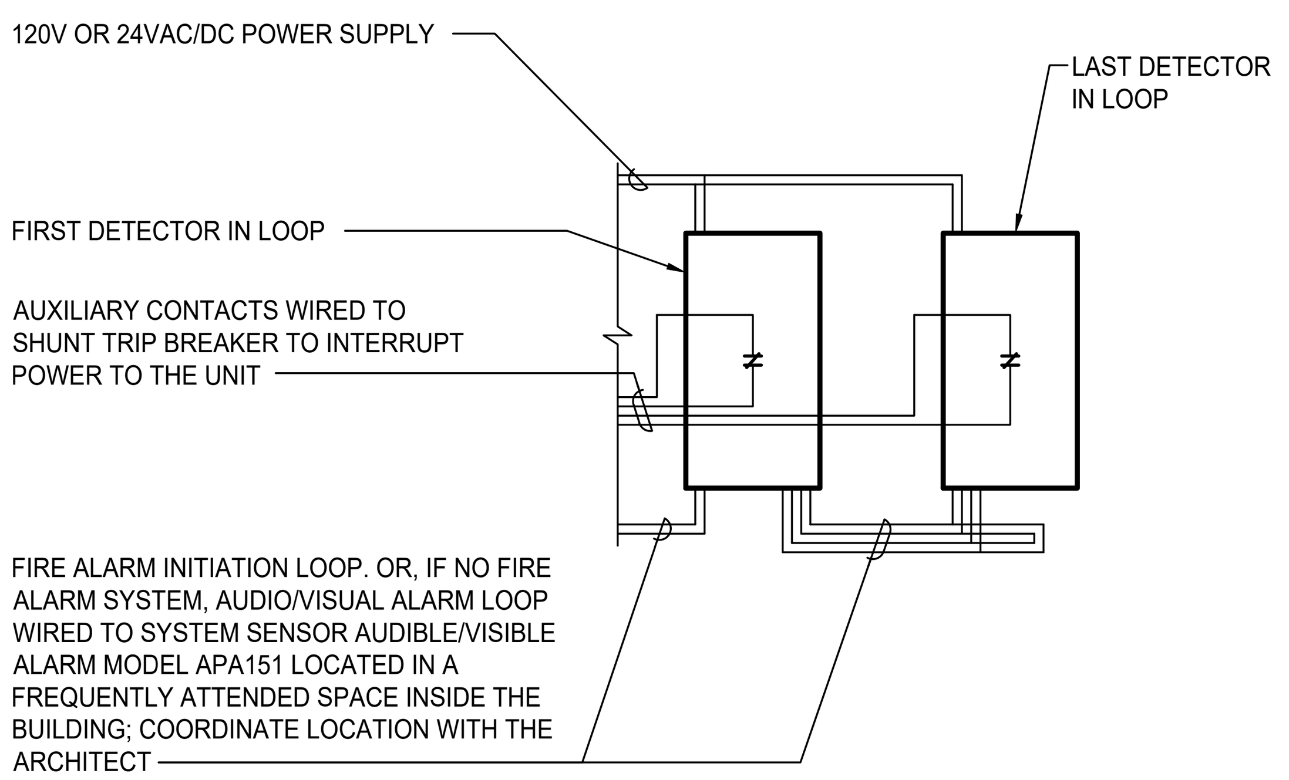
MECHANICAL DETAILS

REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN

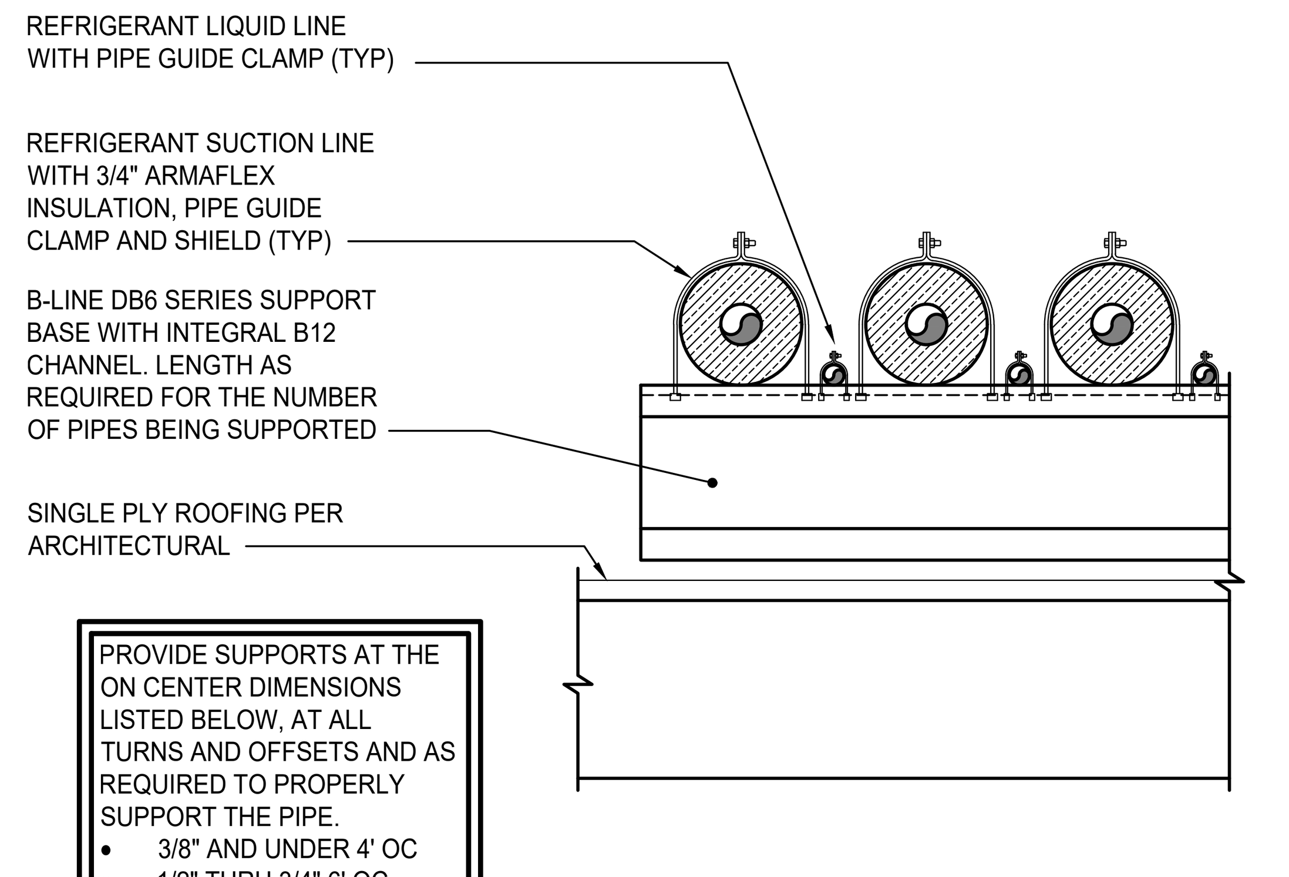
MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

B# B-4797
PHASE # ____ / REBID # ____
SHEET 152 OF 236
DWG. NO. M006



DUCT SMOKE DETECTOR: SYSTEM SENSOR MODEL D4120 WHEN LOCATED INSIDE THE BUILDING, MODEL D4120W WHEN LOCATED OUTSIDE OF THE BUILDING. UL LISTED #S911, FM APPROVED #3029700, CSFM LISTED #3242-1653:207 AND MSFM APPROVED #2202. PROVIDE DETECTORS IN THE SUPPLY AIR DUCTS OF SYSTEMS WITH AIR VOLUMES OF 2000 CFM OR GREATER, OR WHERE A SYSTEM SERVES A COMMON AREA IN CONJUNCTION WITH ANOTHER SYSTEM WITH A COMBINED CFM OF 2000 OR GREATER. UNIT MUST BE INSTALLED IN A LOCATION THAT MEETS THE MANUFACTURERS MOUNTING CRITERIA AND THAT IS ACCESSIBLE FOR MAINTENANCE/TESTING UPON COMPLETION OF CONSTRUCTION. SMOKE DETECTOR PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR. ALL WIRING BY THE ELECTRICAL CONTRACTOR

5 DUCT SMOKE DETECTOR
NTS

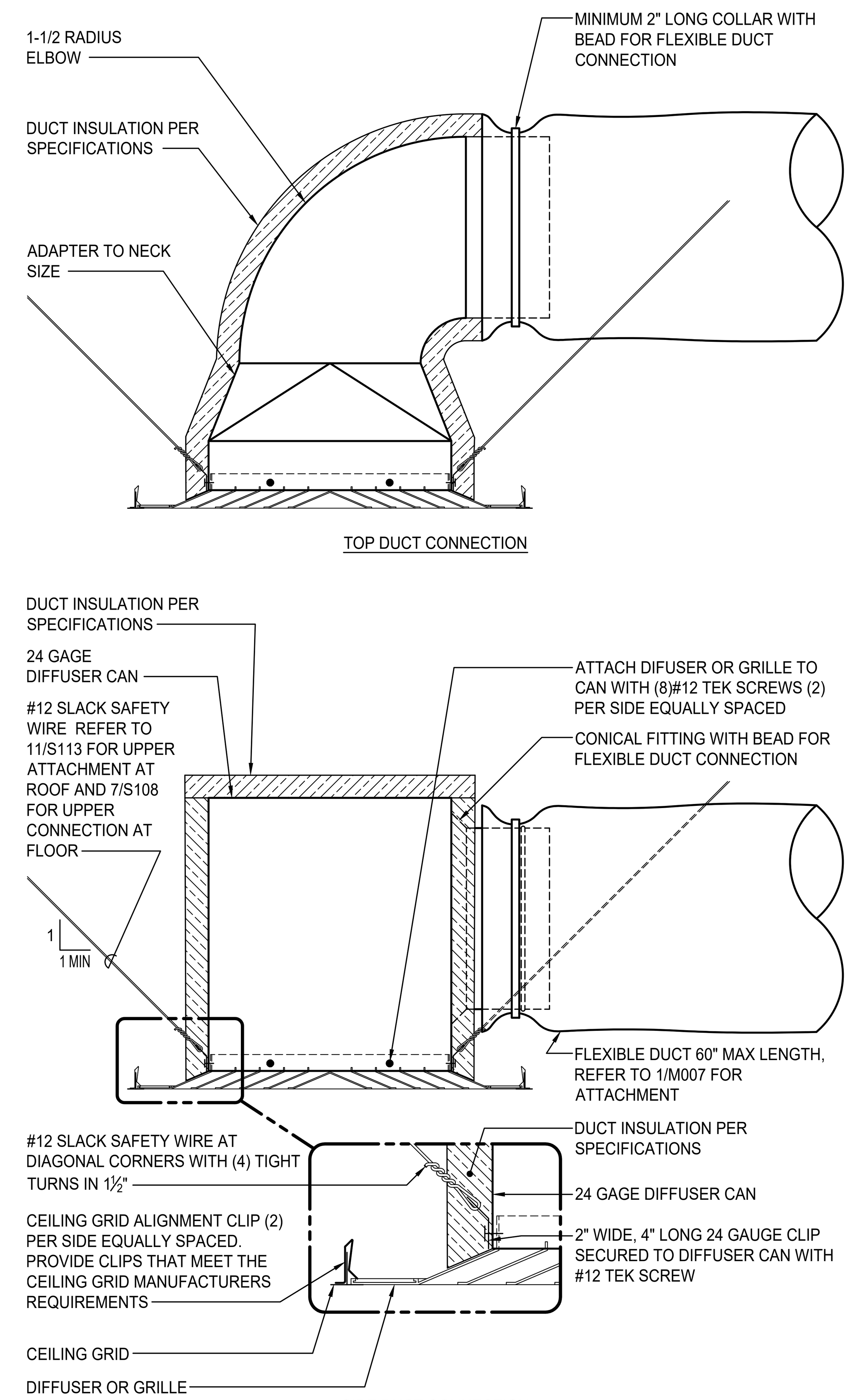


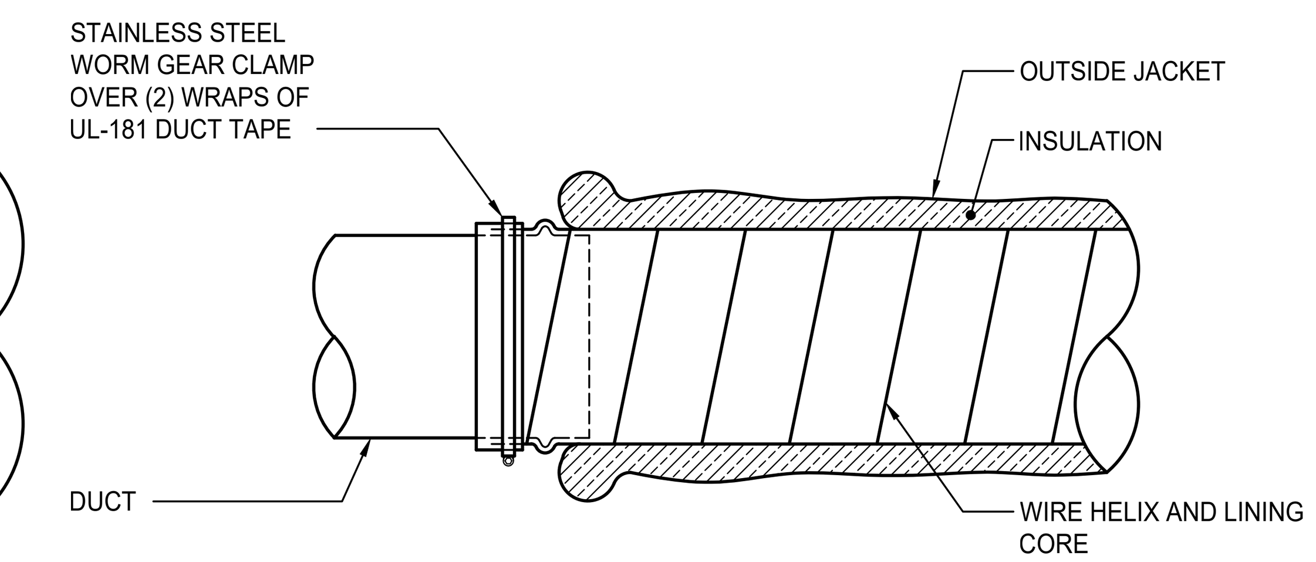
PROVIDE SUPPORTS AT THE ON CENTER DIMENSIONS LISTED BELOW, AT ALL TURNS AND OFFSETS AND AS REQUIRED TO PROPERLY SUPPORT THE PIPE.
- 3/8" AND UNDER 4' OC
- 1/2" THRU 3/4" 6' OC
- 1" THRU 1-1/2" 8' OC

3 PIPE SUPPORT - ROOF
NTS

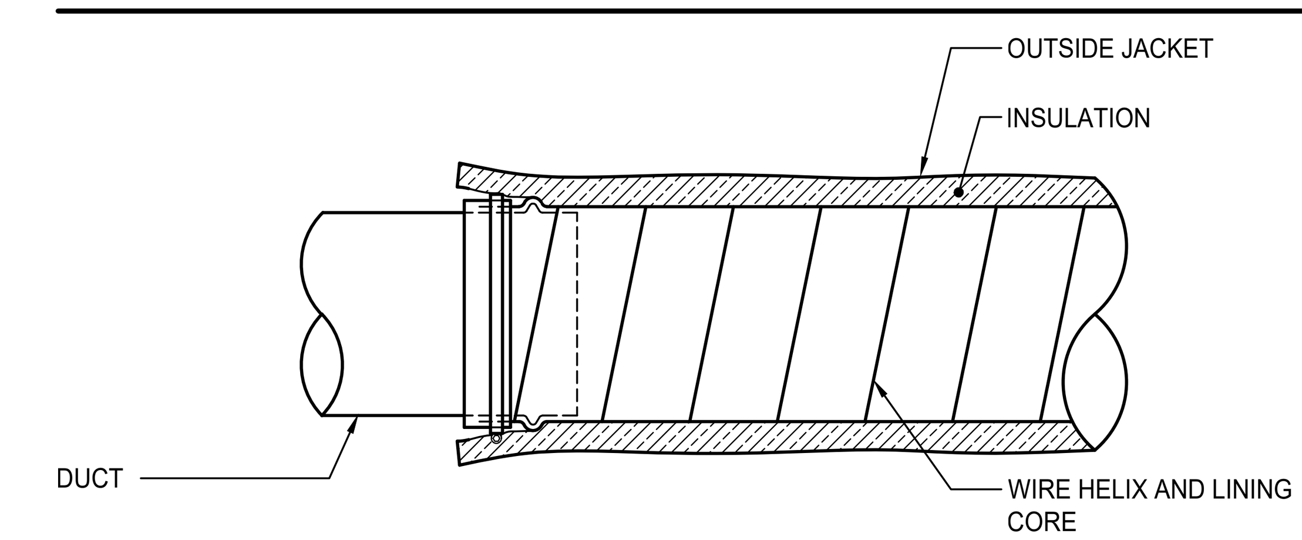
TOP DUCT CONNECTION SHALL BE USED WHERE SPACE PERMITS. ONLY USE SIDE DUCT CONNECTION WHERE VERTICAL CLEARANCE IS LIMITED.

DIFFUSER SUPPORT NOTES ARE APPLICABLE TO BOTH DUCT CONNECTION CONFIGURATIONS

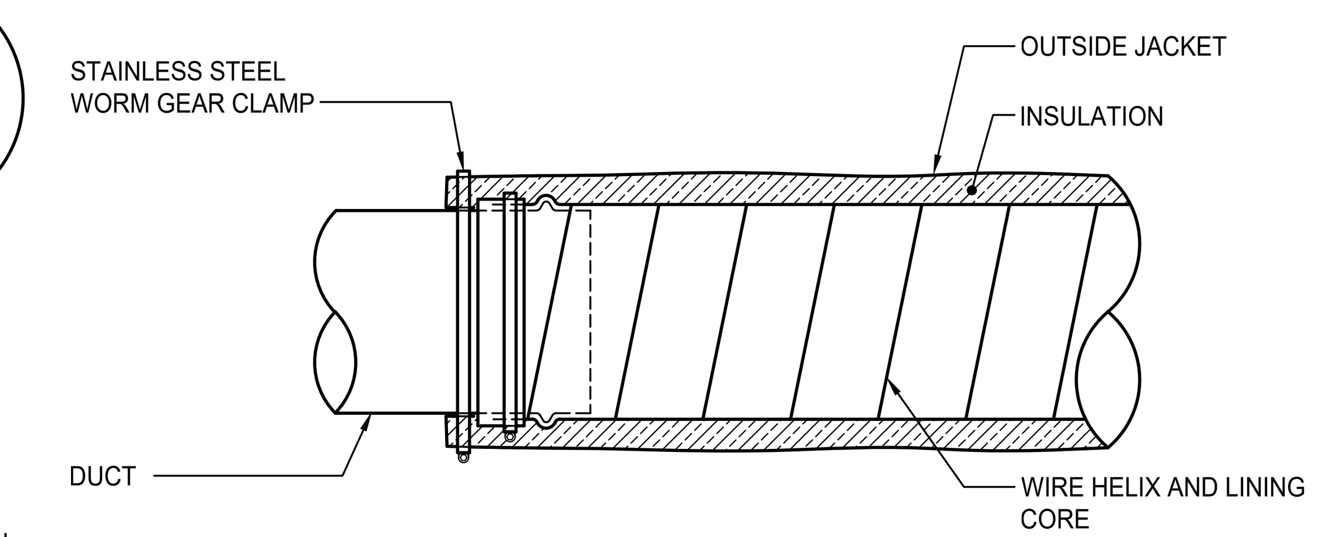




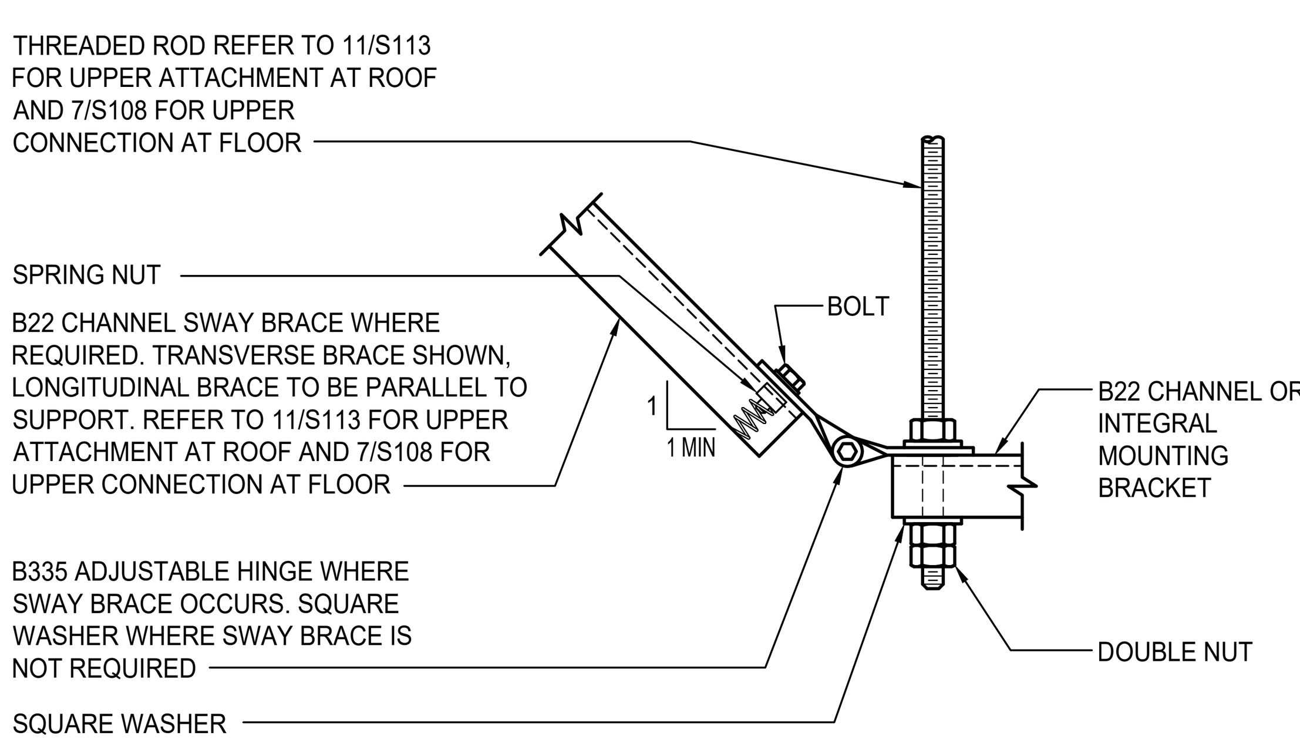
STEP - 1:
FOLD BACK JACKET AND INSULATION. SLIDE AT LEAST 1" OF CORE OVER DUCT AND PAST THE BEAD. SEAL CORE TO DUCT WITH AT LEAST (2) WRAPS OF UL-181 LISTED DUCT TAPE. SECURE CONNECTION WITH A CLAMP PLACED OVER THE CORE AND TAPE PAST THE BEAD.



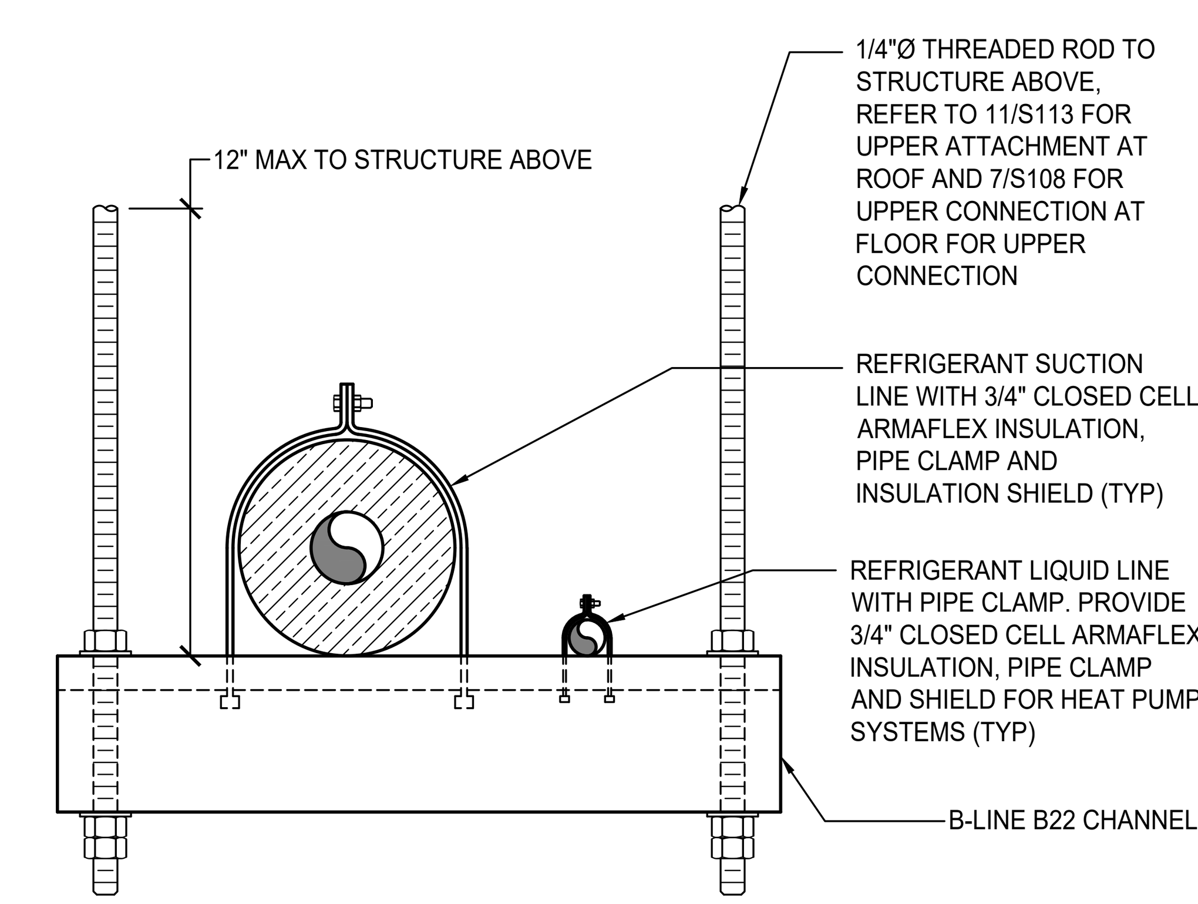
STEP - 2:
PULL THE INSULATION AND JACKET OVER THE TOP OF THE CORE AND THE CLAMP. TUCK THE OUTSIDE JACKET UNDER THE INSULATION.



STEP - 3:
INSTALL A CLAMP AROUND THE ENTIRE FLEXIBLE DUCT ASSEMBLY



6 LOWER SUPPORT CONNECTIONS
NTS



4 PIPE SUPPORT
NTS

2 DIFFUSER OR GRILLE INSTALLATION (LAY-IN CEILING)
NTS

1 FLEXIBLE DUCT CONNECTION
NTS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT			REF.	

REVISIONS

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

MECHANICAL DETAILS

B# B-4797

PHASE # ____ / REBID # ____

SHEET 153 OF 236

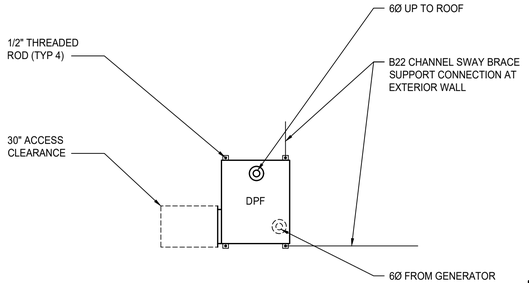
DWG. NO. M007

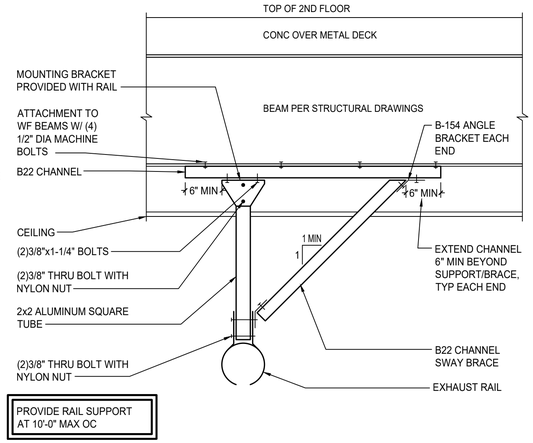
REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

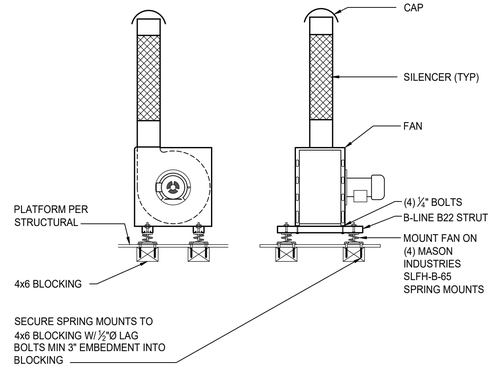
3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

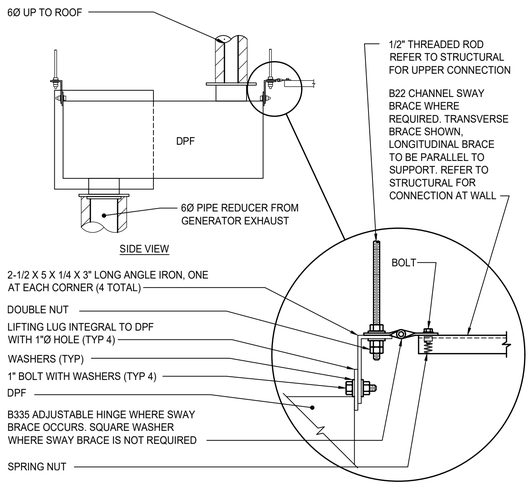
C:\Users\intern\appdata\local\temp\AcPublish_16684\LB FS 9 Mechanical Lead Sheets.dwg bswanson Oct 13,2023-3:01pm





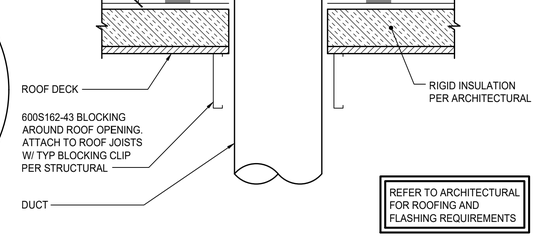


TOP VIEW



6 GENERATOR DPF SUPPORT
NTS

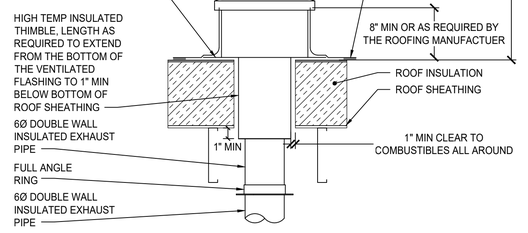
3 VEX STRA RAIL SUPPORT
NTS



4 ROOF CAP
NTS

1 VEHICLE EXHAUST SYSTEM FAN SUPPORT CONNECTION
NTS

ALL COMPONENTS OF THE EXHAUST SYSTEM ARE BY JEREMIAS DWKL+1, UL-103 LISTED FOR USE WITH 1" CLEARANCE TO COMBUSTIBLES.



2 GENERATOR ENGINE EXHAUST TERMINATION
NTS

REVISIONS

NO	DATE	SHEET	APPROVAL	DESCRIPTION
1	12/16/2021			PLAN CHECK SUBMITTAL
2	04/22/2022			PLAN CHECK RE-SUBMITTAL
3	06/15/2023			PLAN CHECK RE-SUBMITTAL
4	10/12/2023			BID DOCUMENTS
AS-BUILT				REF:

DESIGNED BY: DS | DRAWN BY: JH | DESIGN CHECKED BY: BS | DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

MECHANICAL DETAILS

B# B-4797

PHASE # ____ / REBID # ____

SHEET 154 OF 236

DWG. NO. M008

LICENSED PROFESSIONAL ENGINEER BRYAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN
805.540.3343 WWW.3CENG.COM
1000 Pacific St. San Luis Obispo, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

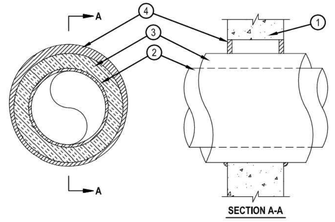
C:\Users\internalprodata\local\temp\Acc\Publish_16684\LB FS 9 Mechanical Lead Sheets.dwg tswanson Oct 13,2023-3:01pm

System No. W-J-5042

WJ 5042

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1, 2 and 3 Hr (See Items 1, 3 and 4)	F Ratings — 1, 2 and 3 Hr (See Items 1, 3 and 4)
T Ratings — 0, 1/2, 1 and 1-1/4 Hr (See Item 3)	FT Ratings — 0, 1/2, 1 and 1-1/4 Hr (See Item 3)
L Rating At Ambient — 4 CFM/Sq Ft	FH Ratings — 1, 2 and 3 Hr (See Items 1, 2 and 4)
L Rating At 400 F — Less Than 1 CFM/Sq Ft	FTH Ratings — 0, 1/2, 1 and 1-1/4 Hr (See Item 3)
	L Rating At Ambient — 4 CFM/Sq Ft
	L Rating At 400 F — Less Than 1 CFM/Sq Ft



SECTION A-A

1. Wall Assembly — Min 3-3/4, 5 and 7-1/4 in. (95, 127 and 184 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete for 1, 2 and 3 h rated assemblies, respectively. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 18-5/8 in. (473 mm).
   See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Through—Penetrants — One metallic pipe or tubing to be installed within the firestop system. Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing may be used:
   A. Steel Pipe — Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing. When the hourly F and FH Ratings of the firestop system are 3 hr, the nom diam of copper tube shall not exceed 4 in. (102 mm).
   D. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe. When the hourly F and FH Ratings of the firestop system are 3 hr, the nom diam of copper tube shall not exceed 4 in. (102 mm).

Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. March 19, 2015

Page: 1 of 2

System No. W-J-5042

WJ 5042

3. Pipe Covering* — Nom 1, 1-1/2 or 2 in. (25, 38 or 51 mm) thick hollow-cylindrical heavy density (min 3.5 pcf or 56 kg/m³) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. For 1 and 2 hr F and FH Ratings, the annular space between insulated penetrant and periphery of opening shall be min 0 in. (point contact) to max 1-7/8 in. (48 mm). For 3 hr F and FH Ratings, the annular space shall be min 0 in. (point contact) to max 1-1/4 in. (32 mm).
   See Pipe and Equipment Covering Materials (BRGU) category in the Building Materials Directory for the names of the manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
   The hourly T, FT and FTH Ratings of the firestop system are 1/2 hr for 1 hr rated walls and 1 hr for 2 hr rated walls. For 3 hr rated walls, the hourly T, FT and FTH Ratings when steel and iron pipes are used are 1 hr. For 3 hr rated walls, the hourly T, FT and FTH Ratings when copper penetrants are used are 1-1/4 hr for 2 in. (51 mm) thick pipe covering and 0 hr for pipe covering thickness less than 2 in. (51 mm).
4. Fill, Void or Cavity Material* — Sealant — For 1 and 2 hr F and FH Rating, min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. For 3 hr F and FH Rating, min 1 in. (25 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point contact location between pipe covering and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe covering/wall interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant
   * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. March 19, 2015

Page: 2 of 2

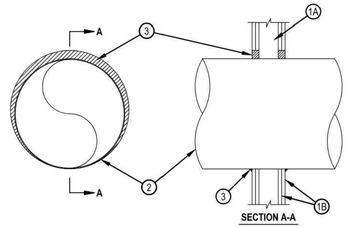
3 INSULATED PIPE THRU CMU WALL
NTS

System No. W-L-7214

WL 7214

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Items 1 and 3)	F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Ratings — 1 and 2 Hr (See Items 1 and 3)
	FTH Rating — 0 Hr



SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire rated wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features.
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced 24 in. (610 mm) OC.
   B. Gypsum Board* — For 1 hr assembly, one layer of min 5/8 in. (16 mm) thick wallboard as required in the individual Wall and Partition Design. For 2 hr assembly, two layers of min 5/8 in. (16 mm) thick wallboard as required in the individual Wall and Partition Design. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls and 21-3/4 in. (552 mm) for steel stud walls.
   The hourly F and FH Ratings of the firestop systems are equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrant — Galv steel duct to be installed concentrically or eccentrically within the firestop system. The annular space between the duct and periphery of opening shall be 0 in. (point contact) and max 1-1/2 in. (38 mm). Duct to be rigidly supported on both sides of wall assembly.
   A. Spiral Wound HVAC Duct — Nom 20 in. (508 mm) diam (or smaller) No. 24 MSG (or heavier) galv steel spiral wound duct.
   B. Sheet Metal Duct — Nom 12 in. (305 mm) diam (or smaller) No. 28 MSG (or heavier) galv sheet steel duct.
3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. and 1-1/4 in. (16 and 32 mm) thickness of fill material applied within annulus, flush with both surfaces of wall assembly for 1 or 2 hr rated walls, respectively. At the point contact location between duct and wallboard, a min 1/2 in. (13 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-S SIL GG Sealant
   *Bearing the UL Classification Mark

Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. January 14, 2014

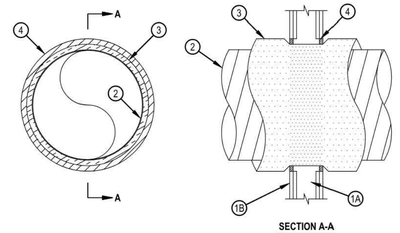
2 UNINSULATED DUCT THRU METAL WALL
NTS

System No. W-L-7153

WL 7153

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 1/2 Hr	FT Rating - 1/2 Hr
	FH Ratings - 1 and 2 Hr (See Item 1)
	FTH Rating - 1/2 Hr



SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing shall consist of channel studs. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Wallboard, Gypsum* — 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory. Max diam of opening is 24 in. (610 mm).
   The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.

Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. November 15, 2017

Page: 1 of 2

System No. W-L-7153

WL 7153

2. Steel Duct — Galv steel duct to be installed concentrically or eccentrically within the firestop system. Duct to be rigidly supported on both sides of wall assembly.
   A. Spiral Wound HVAC Duct — Nom 20 in. (508 mm) diam (or smaller) No. 24 MSG (or heavier) galv steel spiral wound duct.
   B. Sheet Metal Duct — Nom 12 in. (305 mm) diam (or smaller) No. 28 MSG (or heavier) galv sheet steel duct.
3. Duct Insulation* — Nom 1-1/2 in. or 2 in. (38 or 51 mm) thick glass fiber batt or blanket (min 3/4 pcf or 56 kg/m3) jacketed on the outside with a foil-scrim-kraft facing. Longitudinal and transverse joints sealed with aluminum foil tape. During the installation of the fill material, the batt or blanket shall be compressed 50% such that the annular space within the firestop system shall be min 1/4 in. (6 mm) to max 1-1/2 in. (38 mm). See Batts and Blankets - (BKNV) category in the Building Materials Directory for names of manufacturers. Any batt or blanket meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index 50 or less may be used.
4. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall. If voids develop after the fill materials cures, the voids shall be sealed with additional fill material.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. November 15, 2017

Page: 2 of 2

1 INSULATED DUCT THRU METAL WALL
NTS

REVISIONS			
NO.	DATE	SHEET	APPROVAL
	12/16/2021		PLAN CHECK SUBMITTAL
1	04/22/2022		PLAN CHECK RE-SUBMITTAL
2	06/15/2023		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS
	AS-BUILT		REF:

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

MECHANICAL DETAILS

B# B-4797

PHASE # ____ / REBID # ____

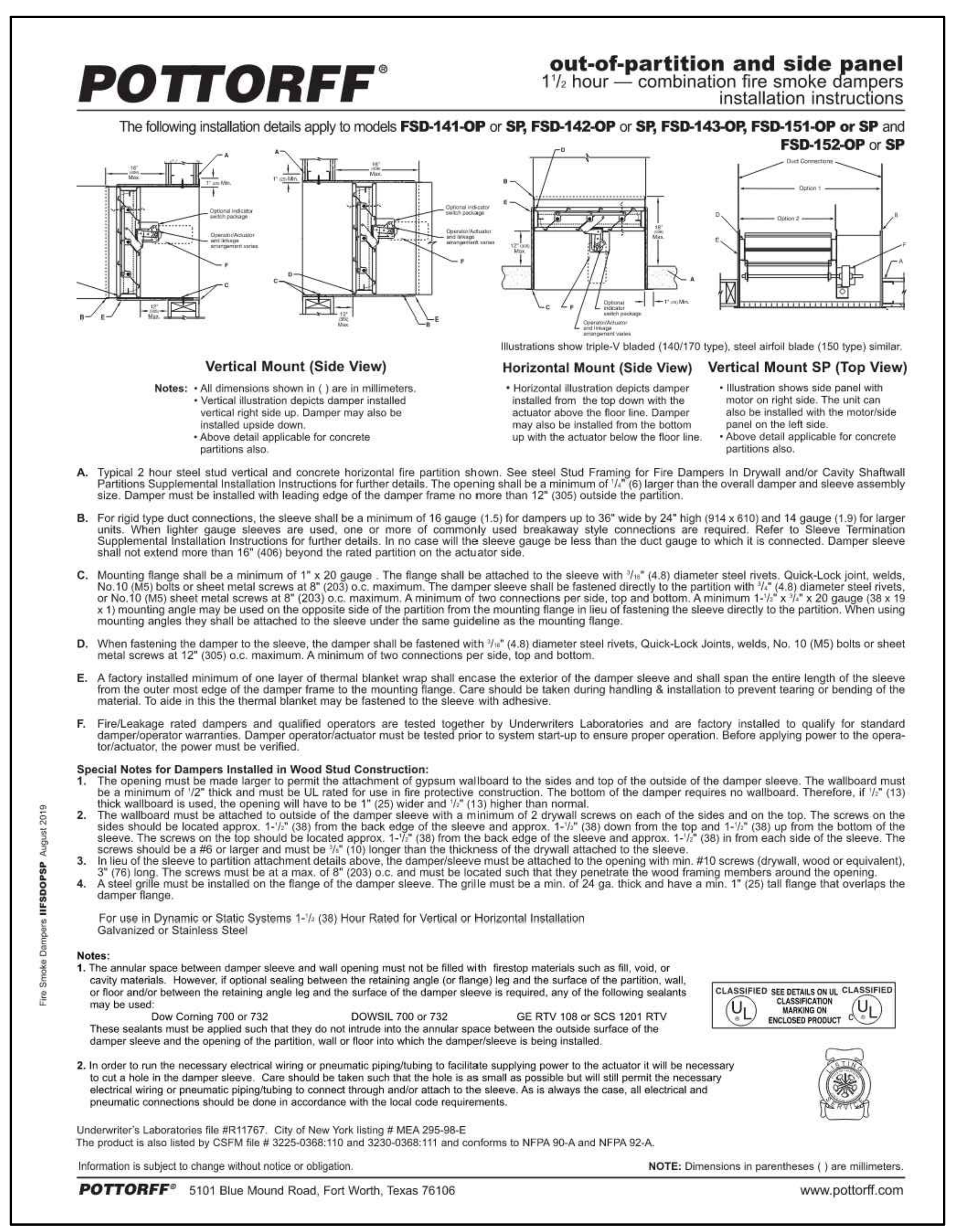
SHEET 155 OF 236

DWG. NO. M009

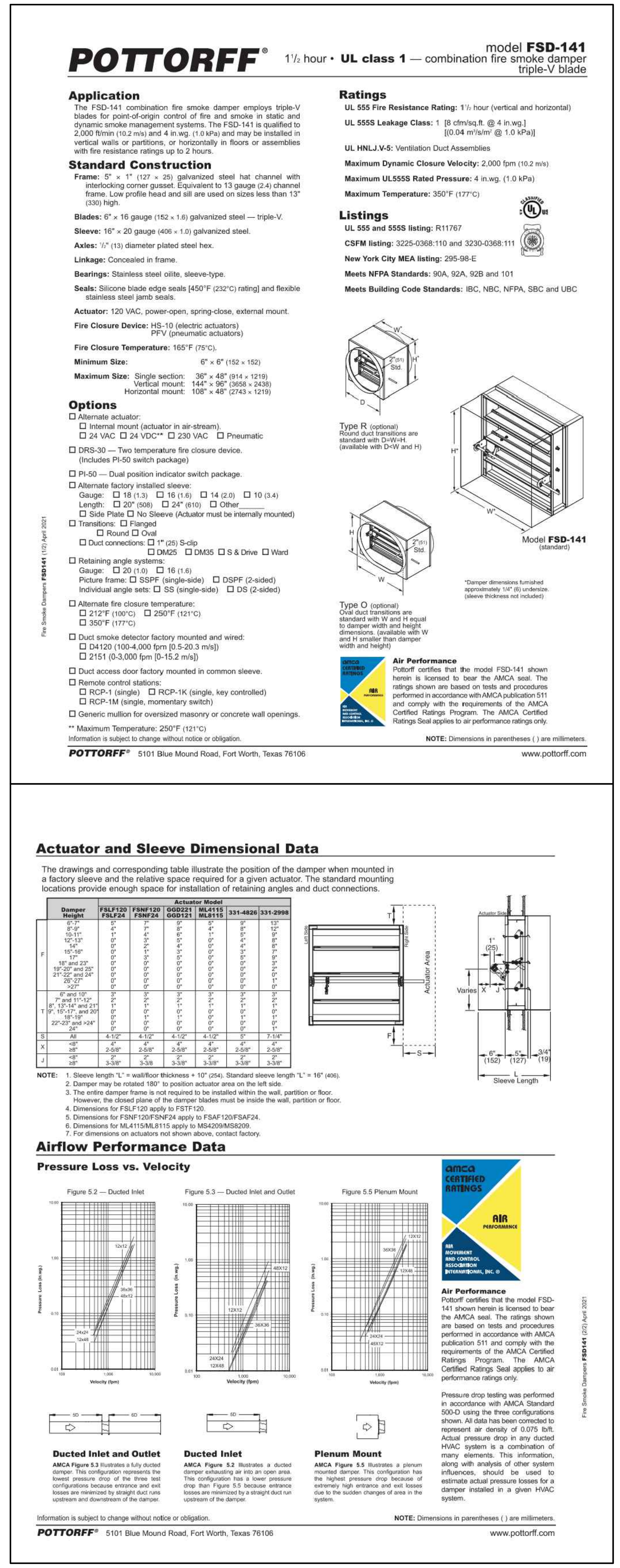
REGISTERED PROFESSIONAL ENGINEER JONATHAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING SMARTER BUILDINGS BY DESIGN

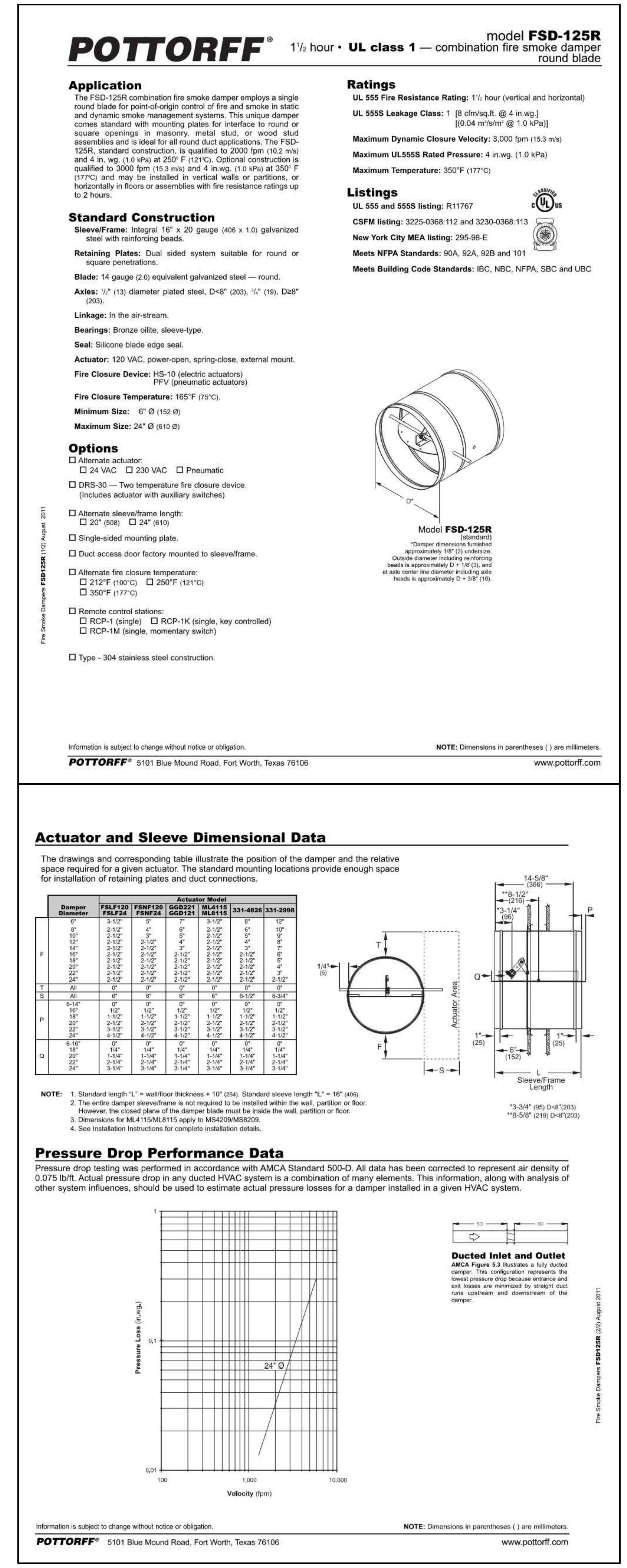
MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



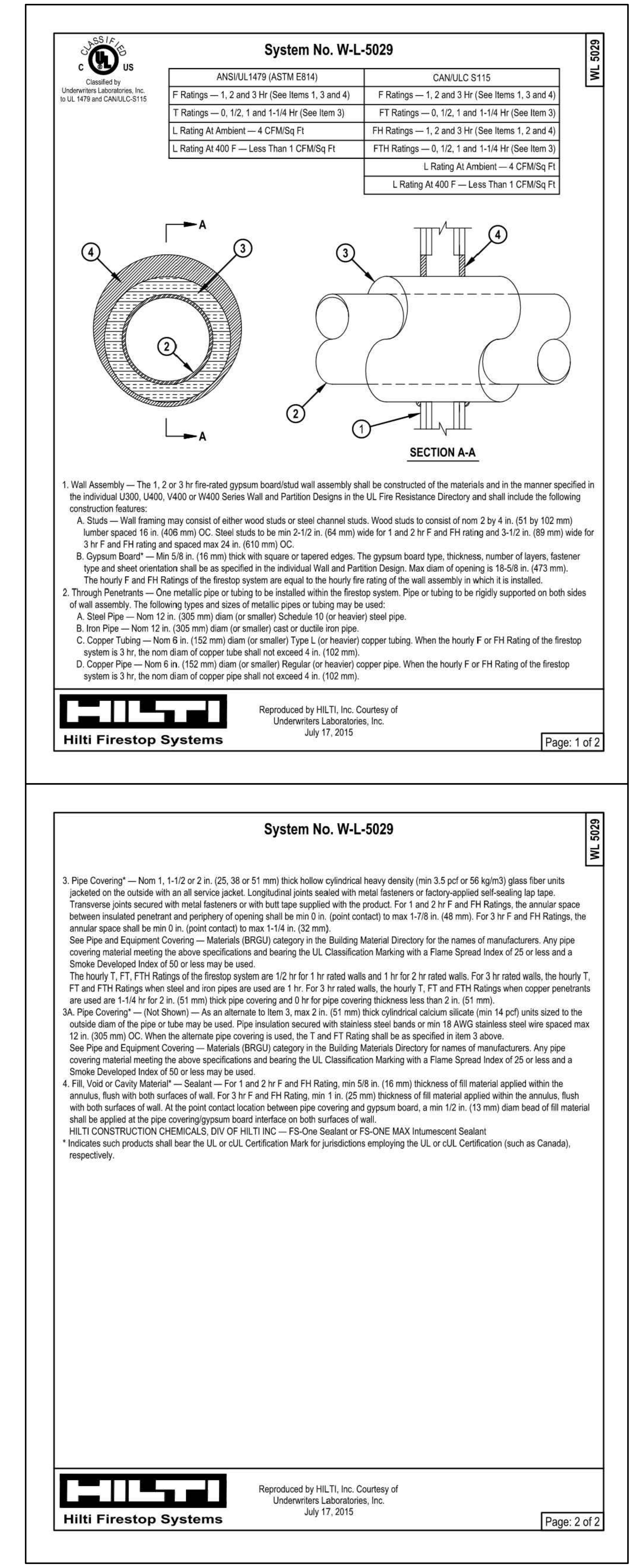
4 FSD SIDE PANEL INSTALLATION
NTS



3 FSD RECTANGULAR
NTS



2 FSD ROUND
NTS



1 INSULATED PIPE THRU METAL WALL
NTS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT			REF.	

REVISIONS

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
MECHANICAL DETAILS

B# B-4797
PHASE # ____ / REBID # ____
SHEET 156 OF 236
DWG. NO. M010

REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN
805. 540. 3363 WWW.3CENG.COM
1500 PALM ST. SAN LUIS OBISPO, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

POTTORFF® flange system breakaway connection installation instructions

Application

Pottorff fire and combination fire smoke dampers are approved for installation with manufactured flange systems by Ductmate, Ward, Nexus, MEZ and TDC or TDF flange system. Connections may be between like systems or mixed. These flange systems permit installation with metal cleats, plastic cleats, or #10 screws; Butyl or Neoprene gasket, and bolted or non-bolted corners.

General Installation

1. Install the manufactured flange system onto the damper sleeve or duct per the manufacturer's instructions.
2. Neoprene or Butyl gasket may be applied to the mating sur faces to seal the two flange systems together.
3. Align the two flange systems together. A 3/8" (9) bolt may be used in the corners to help with alignment and attachment. These bolts do not have to be removed.
4. Install the plastic or metal cleat (Figure 1) or #10 tek screw (Figure 2), approximately equally spaced, per the following schedule.

Width (w) or Height (h)	Cleat or Screw Qty
w or h < 24" (610)	1 per side
24" (610) ≤ [w or h] < 36" (914)	2 per side
36" (914) ≤ [w or h] < 54" (1372)	3 per side
54" (1372) ≤ [w or h] < 72" (1829)	4 per side
w or h ≥ 72" (1829)	5 per side

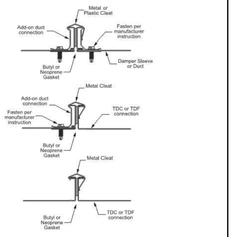


Figure 1 - Installation with Cleats

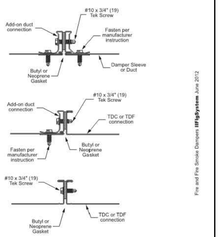
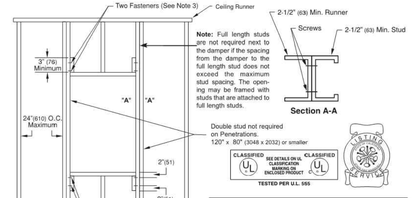


Figure 2 - Installation with #10 Tek Screws

Fire and Fire Smoke Dampers **UFSD0006** July 2019

5 BREAKAWAY CONNECTION
NTS

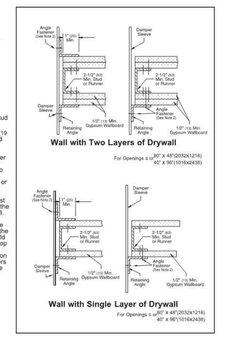
POTTORFF® metal stud framing in drywall partitions
1½ hour — fire and combination fire smoke dampers installation instructions



Note: Full length studs are not required next to the damper if the spacing from the damper to the full length stud does not exceed the maximum stud spacing. The opening may be framed with studs that are attached to full length studs.

Opening Preparation Detail

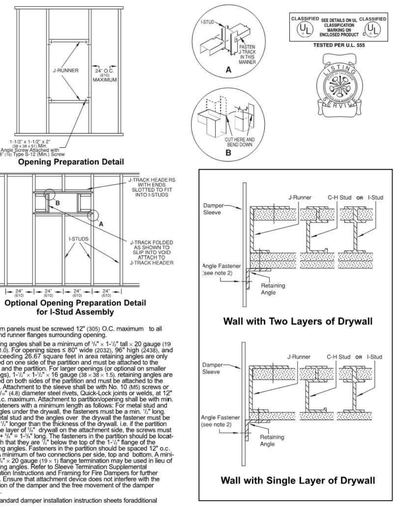
NOTES
1. Gypsum panels must be screwed 12" (305) O.C. maximum to all stud and runner flanges surrounding opening.
2. Mounting angles shall be a minimum of ¼" x 1-½" tall x 20 gauge (19 x 38 x 1.0). For opening sizes ≤ 80" wide (2032), 96" high (2438), and not exceeding 26.67 square feet in area retaining angles are only required on one side of the partition and must be attached to the sleeve and the partition. For larger openings (or optional on smaller openings), 1-½" x 1-½" x 16 gauge (38 x 38 x 1.5), retaining angles are required on both sides of the partition and must be attached to the sleeve. Attachment to the sleeve shall be with No. 10 (M5) screws or bolts, ¼" (4.8) diameter steel rivets, Quick-Lock joints or welds, at 12" (305) o.c. maximum. Attachment to partition/opening shall be with min. #10 fasteners with a minimum length as follows: For wood stud openings, the fasteners must be a min. 1" long. For metal stud and the angles over the drywall the fastener must be a min. ½" longer than the thickness of the drywall, i.e. if the partition has one layer of ½" drywall on the attachment side, the screws must be ½" + ½" = 1" long. The fasteners in the partition should be located such that they are ½" below the top of the retaining angles. Fasteners in the partition should be spaced 12" o.c. max. A minimum of two connections per side, top and bottom. A minimum ¾" x 20 gauge (19 x 1) flange termination may be used in lieu of mounting angles. Refer to Sleeve Termination Supplemental Installation Instructions and Framing for Fire Dampers for further details. Ensure that attachment device does not interfere with the operation of the damper and the free movement of the damper blades.
3. All fasteners to be per UL Classified wall design.
4. See standard damper installation instructions sheets for additional details.
5. For dampers larger then 120" x 80" (3048 x 2032) double vertical studs are required.



Fire and Fire Smoke Dampers **UFSD0008** August 2019

3 DAMPER IN METAL STUD FRAMING DRYWALL
NTS

POTTORFF® metal stud framing in cavity shaftwall partitions
1½ hour — fire and combination fire smoke dampers installation instructions



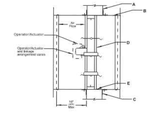
NOTES
1. Gypsum panels must be screwed 12" (305) O.C. maximum to all stud and runner flanges surrounding opening.
2. Mounting angles shall be a minimum of ¼" x 1-½" tall x 20 gauge (19 x 38 x 1.0). For opening sizes ≤ 80" wide (2032), 96" high (2438), and not exceeding 26.67 square feet in area retaining angles are only required on the top side of the opening and must be attached to the sleeve and the partition. For larger openings (or optional on smaller openings), 1-½" x 1-½" x 16 gauge (38 x 38 x 1.5), retaining angles are required on both sides of the partition and must be attached to the sleeve. Attachment to the sleeve shall be with No. 10 (M5) screws or bolts, ¼" (4.8) diameter steel rivets, Quick-Lock joints or welds, at 12" (305) o.c. maximum. Attachment to partition/opening shall be with min. #10 fasteners with a minimum length as follows: For wood stud openings, the fasteners must be a min. ½" long. For metal stud and the angles over the drywall the fastener must be a min. ½" longer than the thickness of the drywall, i.e. if the partition has one layer of ½" drywall on the attachment side, the screws must be ½" + ½" = 1-½" long. The fasteners in the partition should be located such that they are 1" below the top of the 1-½" flange of the retaining angles. Fasteners in the partition should be spaced 12" o.c. max. A minimum of two connections per side, top and bottom. A minimum ¾" x 20 gauge (19 x 1) flange termination may be used in lieu of mounting angles. Refer to Sleeve Termination Supplemental Installation Instructions and Framing for Fire Dampers for further details. Ensure that attachment device does not interfere with the operation of the damper and the free movement of the damper blades.
3. See standard damper installation instruction sheets foradditional details.

Fire and Fire Smoke Dampers **UFSD0008** July 2019

4 DAMPER IN METAL STUD FRAMING SHAFT
NTS

POTTORFF® 1½ hour — combination fire smoke dampers vertical installation instructions

The following installation details apply to models **FSD-141, FSD-142, FSD-143, FSD-151, FSD-151V, FSD-152, FSD-152V, FSD-171** and **FSD-172**



All dimensions shown in ( ) are in millimeters.
Illustration depicts damper installed vertical right side up. Damper may also be installed upside down.

Illustrations show triple-V bladed (140/170 type), steel airfoil blade (150 type) similar.

CLASSIFIED SEE DETAILS ON UL CLASSIFICATION MARKING ON ENCLOSED PRODUCT CLASSIFIED

A. Concrete or masonry fire partition shown. See Wood Stud and/or Steel Stud Framing for Fire Dampers In Drywall and/or Cavity Shaftwall Partitions Supplemental Installation Instructions for further vertical mount installation details. The opening shall be a minimum of 1/4" (6) with a maximum of 1" (19) larger than the overall damper and sleeve assembly size. When openings are larger than ¾" (19), but less than 6" (152) the mounting angles must be a minimum of 16 gauge (1.5) and must be tall enough to overlap the opening by a minimum of 1" (25). Damper must be installed with leading edge of closed blade within the partition.

B. For rigid type duct connections, the sleeve shall be a minimum of 16 gauge (1.5) for dampers up to 36" wide by 24" high (914 x 610) and 14 gauge (1.9) for larger units. When lighter gauge sleeves are used, one or more of commonly used breakaway style connections are required. Refer to Sleeve Termination Supplemental Installation Instructions for further details. In no case will the sleeve gauge be less than the duct gauge to which it is connected. Damper sleeve shall not extend more than 16" (406) beyond the rated partition on the actuator side. The opposite side extension shall be a maximum of 6" (152) unless an access door is installed in the sleeve which then permits the extension to be a maximum of 16" (406).

C. Mounting angles shall be a minimum of ¾" x 1-½" tall x 20 gauge (19 x 38 x 1.9). For opening sizes ≤80" wide (2032), 96" tall (2438) and not exceeding 26.67 square feet (2.48 square meters) mounting angles are required on only one side of the partition and must be attached to the sleeve and the partition. For larger openings (or optional on smaller openings) 1-½" x 1-½" x 16 gauge (38 x 38 x 1.5) mounting angles are required on both sides of the partition and must be attached to the sleeve only. Attachment to the sleeve shall be with a minimum of #10 (M5) screws or bolts, ¼" (4.8) diameter steel rivets, Quick-Lock joints, or welds at 12" (305) o.c. maximum. Attachment to the partition/opening shall be with minimum #10 (M5) fasteners with a minimum length as follows: For metal studs and the angles over the drywall, the fasteners must be a minimum of ½" (12.7) longer than the thickness of the drywall, i.e. if the partition has one layer of ½" (12.7) drywall on the attachment side, the screws must be ½" + ½" = 1" (25) long. For wood stud openings, the minimum length is 1-¼" (38) longer than the thickness of the drywall on the attachment side. For concrete or masonry openings, the anchors must be a minimum of #10 (M5) fasteners screws, bolts or self-tapping masonry screws. Fasteners in the partition should be spaced at 12" (305) o.c. maximum. There must be a minimum of two connections per side on all four sides. A minimum of ¾" x 20 gauge (19 x 1) flange termination may be used in lieu of mounting angles. Refer to Sleeve Termination Supplemental Installation Instructions and Framing for Fire Dampers for further details. Ensure that the attachment device does not interfere with the operation of the damper and the free movement of the damper blades.

Note: If optional sealing between the mounting angle (or flange) leg and the surface of the partition, wall, or floor and/or between the mounting angle leg and the surface of the damper sleeve is required, any of the following sealants may be used: Dow Corning 700 or 732 or DOWSIL 700 or 732 or GE RTV 108 or SCS 1201 RTV These sealants must be applied such that they do not intrude into the annular space between the outside surface of the damper sleeve and the opening of the partition, or floor into which the damper/sleeve is installed. The annular space between damper sleeve and wall opening must not be filled with firestop materials such as fill, void, or cavity materials.

D. When joining multiple sections or fastening the damper to the sleeve, the damper shall be fastened with ¾" (4.8) diameter steel rivets, Quick-Lock Joints, welds or #10 (M5) bolts or sheet metal screws at 8" (203) o.c. maximum. There must be a minimum of two connections per side, top and bottom. For vertical installations >108" wide x 96" high (2743 x 2438), a minimum 14 gauge x 3" wide (1.9 x 127) supplemental steel mullion is required. The mullion must be the same length as the opening/duct height. The mullion must be installed between the damper frames running parallel to the opening/duct height located at the center of the assembly. Supplemental support mullions should be attached to the damper frames using any of the same fasteners indicated previously in this section.

E. A continuous bead of Dow Corning 700 or 732 or DOWSIL 700 or 732 or GE RTV 108 or SCS 1201 RTV silicone rubber sealant shall be applied between the damper and the sleeve and between sections of a multiple damper assembly. Sealant is only required on one side of the damper.

F. Fire/Leakage rated dampers and qualified operators are tested together by Underwriters Laboratories and are factory installed to qualify for standard damper/operator warranties. Damper operator/actuator must be tested prior to system start-up to ensure proper operation. Before applying power to the operator/actuator, the power must be verified.

DUCT SIZES	GALVANIZED STEEL				STAINLESS STEEL
	FSD-141, 142, 143	FSD-151, 152	FSD-171, 172	FSD-171, 172	FSD-141, 142, 143
Maximum Single Section	36" x 48" (914 x 1219)	32" x 48" (813 x 1219)	24" x 24" (610 x 610)	24" x 24" (610 x 610)	36" x 48" (914 x 1219)
Maximum Multiple Section	144" x 96" (3658 x 2438)	144" x 96" (3658 x 2438)	48" x 64" (1219 x 1626)	N/A	72" x 48" or 36" x 96" (1829 x 1219 or 914 x 2438)

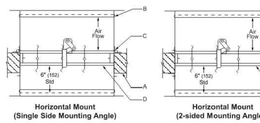
The above information for dampers installed in a vertical fire separation pertains to those where the damper blades are horizontal. However, as an exception, if the dampers are Model FSD-141 and are 6" (152) wide by 6" (152) high, they may be installed with the blades in a vertical orientation. All other installation details are as outlined above except that the mounting angle on the top of the damper sleeve needs only to be a minimum of ½" (19) tall.

Fire Smoke Dampers **UFSD0007** August 2019

2 FSD RECTANGULAR INSTALLATION
NTS

POTTORFF® 1½ hour — combination fire smoke dampers horizontal installation instructions

The following installation details apply to models **CFS-171, CFS-172, FSD-141, FSD-142, FSD-143, FSD-151, FSD-152, FSD-171** and **FSD-172**



CLASSIFIED SEE DETAILS ON UL CLASSIFICATION MARKING ON ENCLOSED PRODUCT CLASSIFIED

Illustration depicts damper installed from the top down with the actuator above the floor line. Damper may also be installed from the bottom up with the actuator below the floor line. Illustrations show triple-V bladed (140/170 type), steel airfoil blade (150 type) similar.

A. Concrete or masonry fire partition shown. The opening shall be a minimum of 1/4" (6) with a maximum of ¾" (19) larger than the overall damper and sleeve assembly size. When openings are larger than ¾" (19), but less than or equal to 6" (152) the mounting angles must be a minimum of 16 gauge (1.5) and must be wide enough to overlap the opening by a minimum of 1" (25). The damper must be installed with leading edge of closed blade within the partition.

B. For rigid type duct connections, the sleeve shall be a minimum of 16 gauge (1.5) for dampers up to 36" wide by 24" high (914 x 610) and a minimum of 14 gauge (1.9) for larger units. When lighter gauge sleeves are used, one or more of commonly used breakaway style connections are required. Refer to Sleeve Termination Supplemental Installation Instructions for further details. In no case will the sleeve gauge be less than the duct gauge to which it is connected. Damper sleeve shall not extend more than 16" (406) beyond the rated partition on the actuator side. The opposite side extension shall be a maximum of 6" (152) unless an access door is installed in the sleeve which then permits the extension to be a maximum of 16" (406).

C. Mounting angles shall be a minimum 1-½" x 1-½" x 16 gauge (38 x 38 x 1.6). Mounting angles are only required on the top side of the opening and must be attached to the sleeve at 6" (152) o.c. maximum, to the partition at 24" (610) o.c. maximum. There must be a minimum of two fasteners per side to both the sleeve and partition on all four sides. Alternately, mounting angles may be installed on both sides of the partition and must be attached only to the sleeve at 12" (305) o.c. maximum, with a minimum of two connections per side on all four sides. Attachment to the sleeve shall be with a minimum of #10 (M5) screws or bolts, ¼" (4.8) diameter steel rivets, Quick-Lock joints, or welds.Attachment to the partition shall be with a minimum of #10 (M5) steel fasteners: anchors, bolts, or self-tapping masonry screws. A minimum ¾" x 20 gauge (19 x 1) flange termination may be used in lieu of mounting angles. Ensure that the attachment device does not interfere with the operation of the damper and the free movement of the damper blades.

Note: If optional sealing between the mounting angle (or flange) leg and the surface of the partition, or floor and/or between the mounting angle leg and the surface of the damper sleeve is required, any of the following sealants may be used: Dow Corning 700 or 732 or DOWSIL 700 or 732 or GE RTV 108 or SCS 1201 RTV These sealants must be applied such that they do not intrude into the annular space between the outside surface of the damper sleeve and the opening of the partition, or floor into which the damper/sleeve is installed. The annular space between damper sleeve and opening must not be filled with firestop materials such as fill, void, or cavity materials.

D. When joining multiple sections or fastening the damper to the sleeve, the damper shall be fastened with minimum ¾" (4.8) diameter steel rivets, Quick-Lock Joints, welds or #10 (M5) bolts or sheet metal screws at 8" (203) o.c. maximum. There must be a minimum of two connections per side, top and bottom. For FSD-151 and 152 installations more than one damper high and three dampers wide, a minimum 14 gauge x 3" (1.9 x 127) supplemental steel mullion is required. The mullion must be the same length as the opening/duct height and must be installed between the damper frames running parallel to the opening/duct height, at the center of the assembly. Support mullions should be attached to the damper frames using the same fasteners indicated previously in this section.

E. A continuous bead of Dow Corning 700 or 732 or DOWSIL 700 or 732 or GE RTV 108 or SCS 1201 RTV silicone rubber sealant shall be applied between the damper and the sleeve and between sections of a multiple damper assembly. Sealant is only required on one side of the damper.

F. Fire/Leakage rated dampers and qualified operators are tested together by Underwriters Laboratories and are factory installed to qualify for standard damper/operator warranties. Damper operator/actuator must be tested prior to system start-up to ensure proper operation. Before applying power to the operator/actuator, the power must be verified.

DUCT SIZES	GALVANIZED STEEL				STAINLESS STEEL
	FSD-141, 142, 143	FSD-151, 152	FSD-171, 172	CFS-171, 172	FSD-141, 142, 143
Maximum Single Section	36" x 48" (914 x 1219)	32" x 48" (813 x 1219)	24" x 24" (610 x 610)	12" x 12" (305 x 305)	36" x 48" (914 x 1219)
Maximum Multiple Section	108" x 48"* (2743 x 1219)	144" x 96"* (3658 x 2438)	N/A	N/A	72" x 48" or 36" x 96"* (1829 x1219 or 914 x 2438)

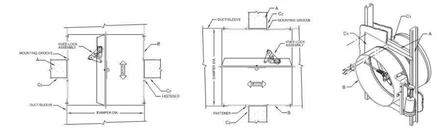
*Individually sleeved dampers can be installed in partitions wider than the maximum U.L. multiple section size using the Support Mullion for Oversized Floor Openings. See Support Mullion for Oversized Floor Openings Installation Instructions for further details.

Fire Smoke Dampers **UFSD0006** August 2019

1 FSD ROUND INSTALLATION
NTS

POTTORFF® 1½ hour — combination fire smoke dampers installation instructions

The following installation details apply to model **FSD-125R**



A. Concrete or masonry fire partition shown in figure 1a and 1b. Wood or steel stud fire partition shown in figure 2. See Wood Stud and/or Steel Stud Framing for Fire Dampers In Drywall and/or Cavity Shaftwall Partitions Supplemental Installation Instructions for further vertical installation details. The square or round opening shall be a minimum ½" (6) larger than the damper sleeve/frame. Damper must be installed with the leading edge of the closed blade within the partition. Damper may be installed with the blade a maximum of 15 degrees from horizontal. For mounting angles that are up to and including 1-½" high, the opening shall be a maximum of ¾" (19) larger than the overall damper and sleeve assembly. When openings are larger than ¾" (19), but less than 6" (152) the mounting angles must be a minimum of 16 gauge (1.5) and must be tall enough to overlap the opening by a minimum of 1" (25).

B. The connecting duct shall not be continuous, and shall terminate at the sleeve/frame using one or more of commonly used break away style connections. Refer to Sleeve Termination Supplemental Installation Instructions for further details. Damper sleeve shall not extend more than 16" (406) beyond the rated partition on the actuator side. The opposite side extension shall be a maximum of 6" (152) unless an access door is installed in the sleeve which then permits the extension to be a maximum of 16" (406).

C1. **Dual Side Mounting Plates - Holding Plate and Guide Plate**
The holding plate (on operator side) must be flush with the partition. Seat the holding plate (see figures 4, 4A and 5) into the mounting groove on operator side of damper and place damper in the partition. Place the guide plate (see figure 4A) around opposite side of damper sleeve and slide forward until it touches the partition. Secure both plates with (min.) #8 (M4) sheet metal screws, bolts or ¼" (3) rivets or rivets per joiner clip minimum. A minimum of three 1" x 1" x 2" x 20 GA. (25 x 25 x 51 x 1) clip angles shall be arranged symmetrically around the damper and fastened to the damper sleeve flush with the guide plate. Fasteners shall be a minimum of #10 (M5) screws, bolts, ¼" (3) rivets or welds. The guide plate shall be attached to the partition with a minimum of four fasteners, at the corners of square plates (for square openings) or equally spaced around the circumference of round plates (for round openings).

For horizontal installation of the damper in a concrete floor, the holding plate must be installed on the top side of the floor opening.

C2. As an alternative to C1, for dampers ≤ 8" (203) in diameter the guide and holding plates must be attached only to the sleeve, with clip angles spaced a maximum of 8" (203) O.C. For dampers > 8" (203) and ≤ 12" (305) in diameter, the clip angles must be spaced a maximum of 4" (102) O.C. The clip angles must be staggered on each side of the partition.

C3. As a further option for round openings either or both plates may be replaced by 1-½" x 1-½" x 20 GA. (38 x 38 x 1) minimum angle rings. The ring shall be fastened to the damper sleeve and not the partition at 8" (203) on center maximum with a minimum of 3 fasteners using #10 (M5) sheet metal screws, bolts, masonry anchors, ¼" (3) diameter rivets of welds.

C4. **Single Side Mounting Plate**
Single side mounting plates can be used for vertical masonry or steel stud partitions. The mounting plate must be 20 GA. (1) minimum, the clamping brackets must be 2" x 1" x ¼" x 14 GA. (51 x 25 x 13 x 2) minimum, and the clamping bolt shall be a ¼" - 20 x 3" (M6 x 76) bolt minimum. Each clamping bracket must be secured to the mounting plate with a minimum of two ¼" (5) diameter rivets or welds. The mounting plate hinges on a ¼" (5) minimum diameter rivet. The mounting plate can be installed on either side of the partition. The mounting plate must be positioned with the retaining bolt and nut facing **AWAY** from the bolt. **The mounting plate may be placed into the mounting groove or placed around the damper sleeve/frame. See Sheet 2 for mounting plate hole diameters.** Tighten clamping bolt to ensure the mounting plate is secured to the damper. The mounting plate must be fastened to the partition at all four corners and for dampers Dx 12" (25) the mounting plate must be fastened 1" (25) from the center each side using a minimum of #10 (M5) screws, concrete anchors, ¼" (3) rivets or welds. Fasteners must be a minimum of ¼" (6) from the edge of the plate and **must engage the steel stud by ½" (13) minimum**.

D. Fire/leakage rated damper and qualified operators are tested together by Underwriters Laboratories and are factory installed to qualify for standard damper/operator warranties. Damper operator/actuator must be tested prior to system start-up to ensure proper operation. Before applying power to the actuator, the power must be verified.

Model - FSD-125R
For Use in Dynamic or Static Systems.
1-1/2 Hour Rated.
Vertical or horizontal mounting.
Galvanized and Stainless Steel construction.

CLASSIFIED SEE DETAILS ON UL CLASSIFICATION MARKING ON ENCLOSED PRODUCT CLASSIFIED

Fire Smoke Dampers **UFSD0001** August 2019

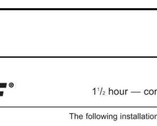
POTTORFF® 1½ hour — combination fire smoke dampers installation instructions

Dual Side Mounting Plates

The following installation details apply to model **FSD-125R**

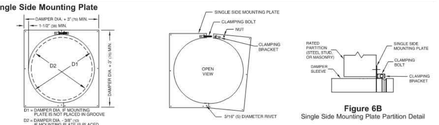
DESCRIPTION

A - FSD-125R Combination Fire Smoke Damper
B - Holding Plate, 20 ga.(1) steel.
(Dual Side Plate Shown, Single Side Plate Similar)
C - Guide Plate, 20 ga. (1) steel. (For Dual Sided Plates Only)
D - Joiner Clip, 20 ga. (1), steel, typical both sides.
(For Dual Sided Plates Only)
E - Rated Partition. (steel stud, wood stud or masonry)
F - ¼" (5) Dia. Steel Pop Rivet, or #10 (M5) x ½" (13) Sheet Metal Screw. (For Dual Sided Plates Only)

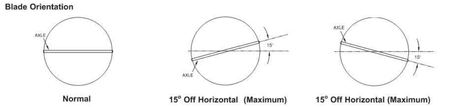


* Note: If wood, opening must be lined with drywall

Single Side Mounting Plate



Blade Orientation



Fire Smoke Dampers **UFSD0002** August 2019

REVISIONS			
NO	DATE	SHEET	DESCRIPTION
	12/16/2021	APPROVAL	PLAN CHECK SUBMITTAL
1	04/22/2022		PLAN CHECK RE-SUBMITTAL
2	06/15/2023		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS
	AS-BUILT		REF:

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

MECHANICAL DETAILS

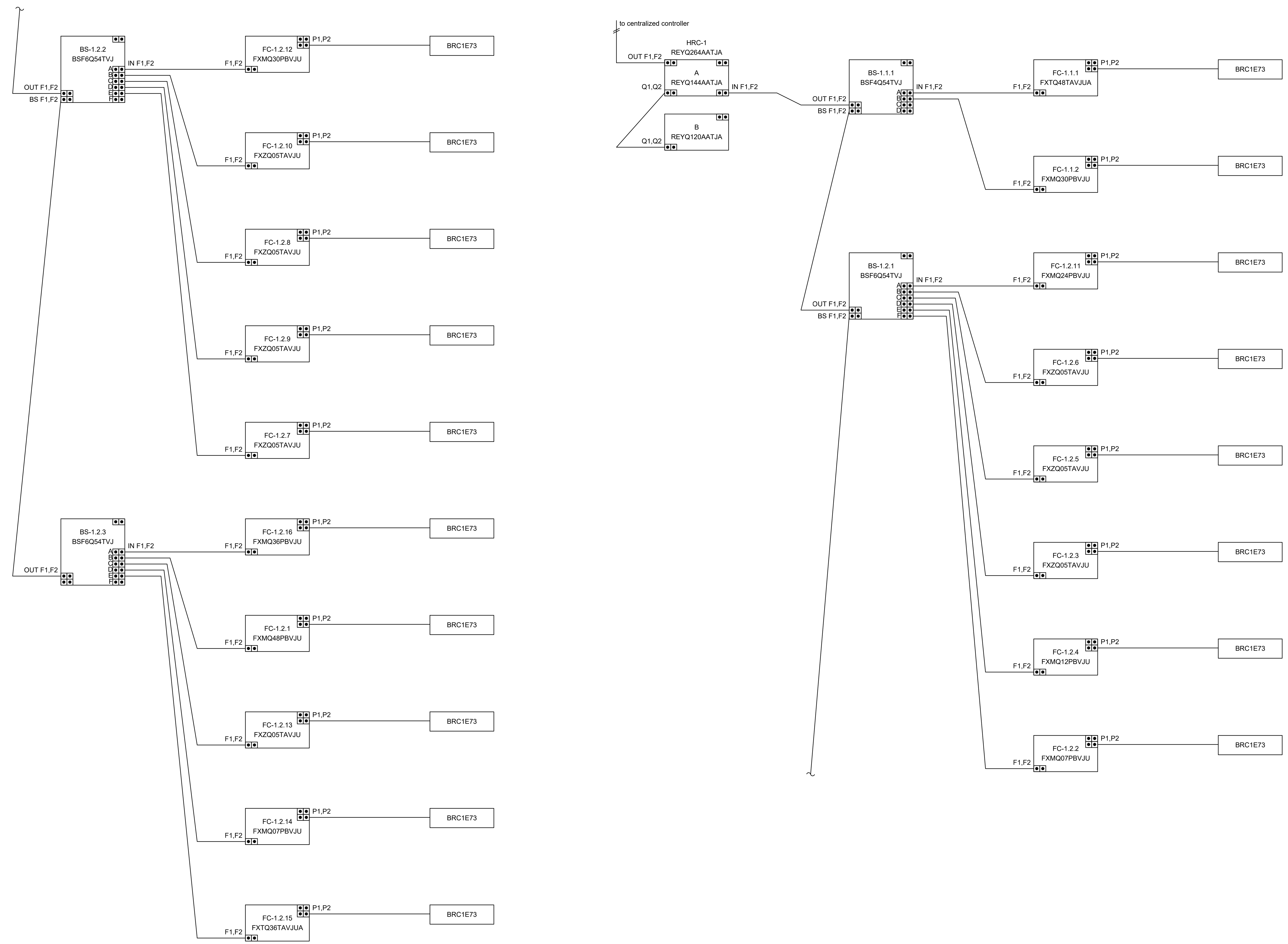
B# B-4797
PHASE # ____ / REBID # ____
SHEET 157 OF 236
DWG. NO. M011

REGISTERED PROFESSIONAL ENGINEER JONATHAN P. STARKEY M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING SMARTER BUILDINGS BY DESIGN
t 805.540.3343 w www.3CENG.COM
1 3300 Peak St. San Luis Obispo, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

C:\Users\intern\appdata\local\temp\AcPublish_16684\LB FS 9 Mechanical Leaf Sheets.dwg bswanson Oct 13,2023-3:01pm



1 HRC-1 VRF SYSTEM CONTROL SCHEMATIC

NTS

C:\Users\intern\appdata\local\temp\AcPublish_16684\LB FS 9 Mechanical Lead Sheets.dwg bswanson Oct 13,2023-3:01pm

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT				REF.

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

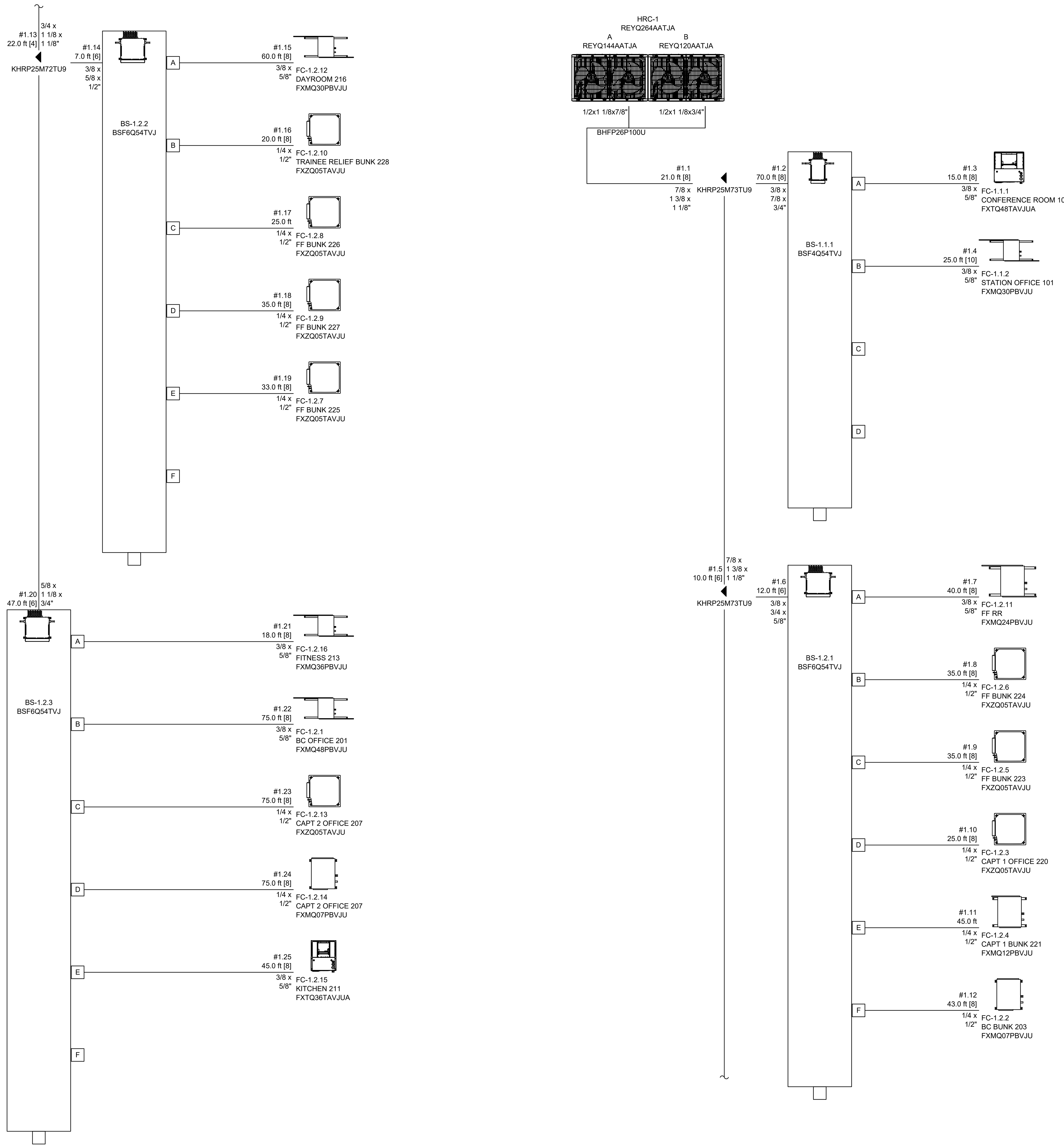
VRF SYSTEM CONTROL SCHEMATIC

REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

B# B-4797
PHASE # ____ / REBID # ___
SHEET 158 OF 236
DWG. NO. M012



1 HRC-1 VRF SYSTEM PIPING SCHEMATIC

NTS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT			REF.	

REVISIONS

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
VRF SYSTEM PIPING SCHEMATIC

B# B-4797
PHASE # ____ / REBID # ____
SHEET 159 OF 236
DWG. NO. M013

REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

KEY NOTES

APPLICABLE TO THIS SHEET ONLY

1	CONTRACTOR FABRICATED FILTER BOX FOR USE WITH 20X20X2" MERV 13 FILTER.
2	TOP OF DIFFUSER TO BE 12' ABOVE APP BAY FINISH FLOOR.
3	PROVIDE WITH GREENHECK BACKDRAFT DAMPER MODEL WDR-53.
4	PROVIDE GREENHECK MOTORIZED DAMPER MODEL VCD-20. INTERLOCK EF-1.1 WITH THE ACTUATORS AT THE MAKE-UP AIR LOUVERS SO THAT WHEN THE FAN ENERGIZES THE LOUVERS OPEN. INTERLOCK BY ELECTRICAL.
5	TURNOUT DRYER. EXHAUST DUCTWORK NOT TO EXCEED 14' AND TWO 90° ELBOWS. ELBOWS TO BE SWEEP TYPE. RIGID SMOOTH EXHAUST DUCT TO BE USED. INSTALL PER MANUFACTURERS INSTALLATION REQUIREMENTS. TURNOUT ROOM WASHER ADJACENT. SEE ARCHITECTURAL.
6	6Ø WALL CAP WITH BACK DRAFT DAMPER. NO SCREENS SHALL BE INSTALLED AT THE DUCT TERMINATION. BOTTOM OF CAP ±10.5'AFF
7	ENGINE EXHAUST COMPONENTS DOWNSTREAM OF THE DPF ARE JEREMIAS DWKL+1, UL-103 LISTED FOR USE WITH 1" CLEARANCE TO COMBUSTIBLES.

HVAC GENERAL NOTES

APPLICABLE TO THIS SHEET ONLY

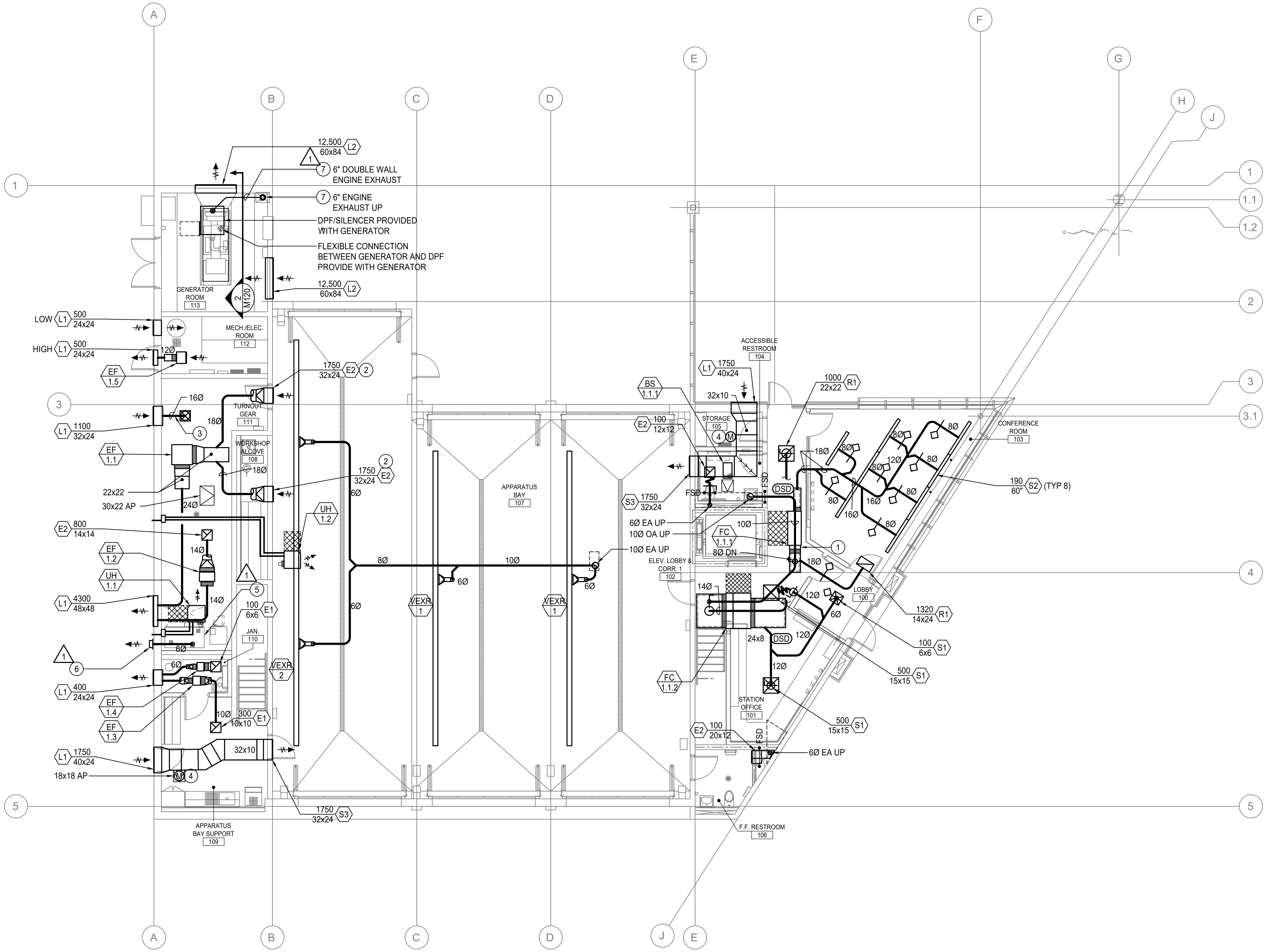
1	VERIFY FINAL THERMOSTAT LOCATIONS WITH OWNER PRIOR TO INSTALLATION. IF OWNER INTENDS TO CHANGE LOCATION OF THERMOSTAT, CONTACT ENGINEER OF RECORD PRIOR TO FINALIZING LOCATION.
2	PROVIDE MANUAL VOLUME DAMPERS IN ALL BRANCH DUCTS TO AIR OUTLETS / INLETS. VOLUME DAMPERS ABOVE HARD LID CEILINGS TO BE CABLE OPERATED UNLESS NOTED OTHERWISE. CABLE TO BE ACCESSED THRU THE FACE OF GRILLE. AFTER BALANCING TUCK CABLE INTO DIFFUSER SO THAT IT IS NOT VISIBLE.

PASSIVE MAKE-UP AIR SCHEDULE

ROOM	DOOR LOUVER MINIMUM FREE AREA FT²	DOOR UNDER CUT
ACCESSIBLE RESTROOM 104	NA	1"
F.F. RESTROOM 106	NA	1"
JAN 110	NA	1"

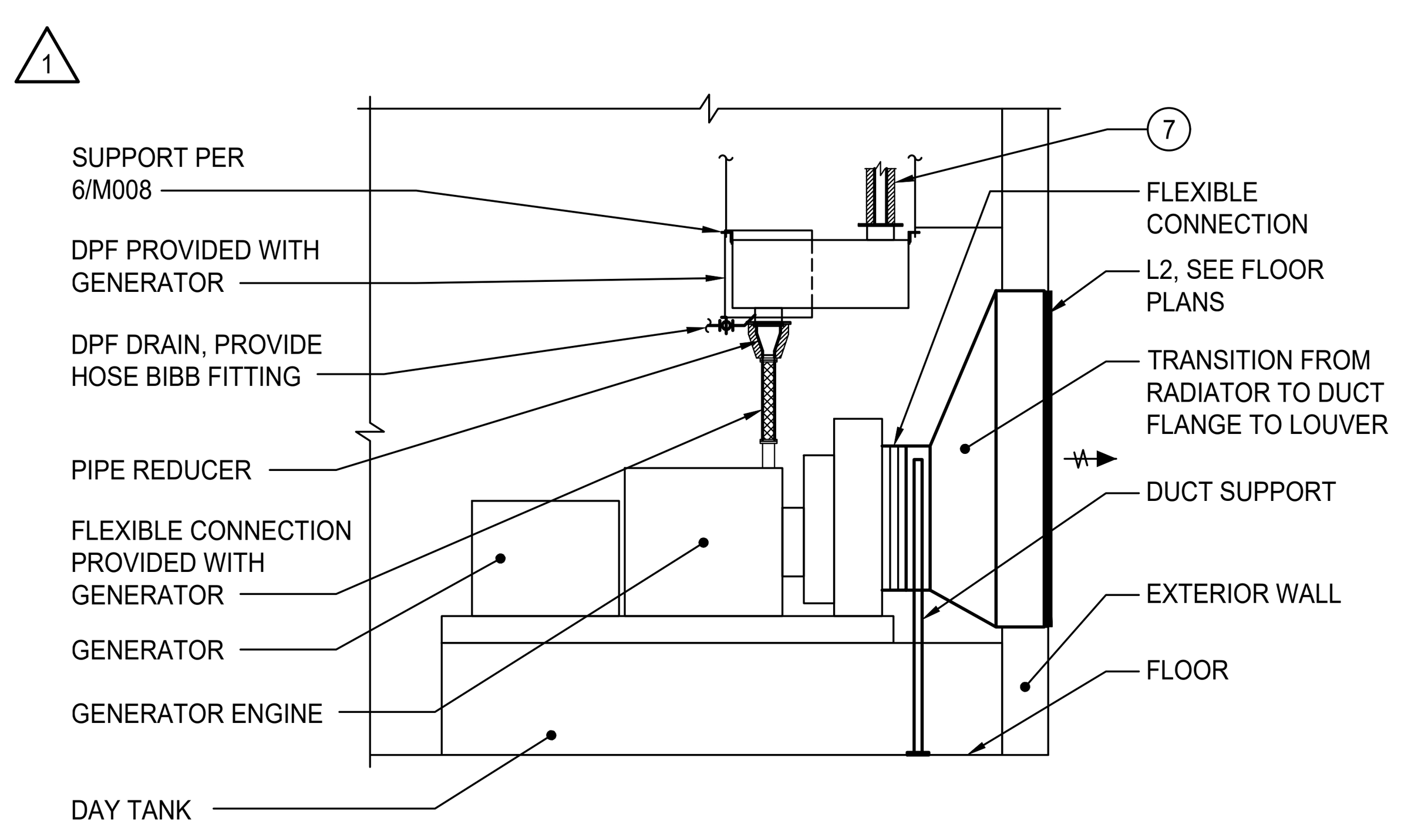
WALL LEGEND

— - — - — - —	1 HR FIRE RATED



1 MECHANICAL FIRST FLOOR PLAN

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



2 GENERATOR ROOM INTERIOR ELEVATION

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

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
1	12/16/2021			PLAN CHECK SUBMITTAL
2	04/22/2022			PLAN CHECK RE-SUBMITTAL
3	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT				REF.

REVISIONS

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

MECHANICAL FIRST FLOOR PLAN

B# B-4797

PHASE # ____ / REBID # ____

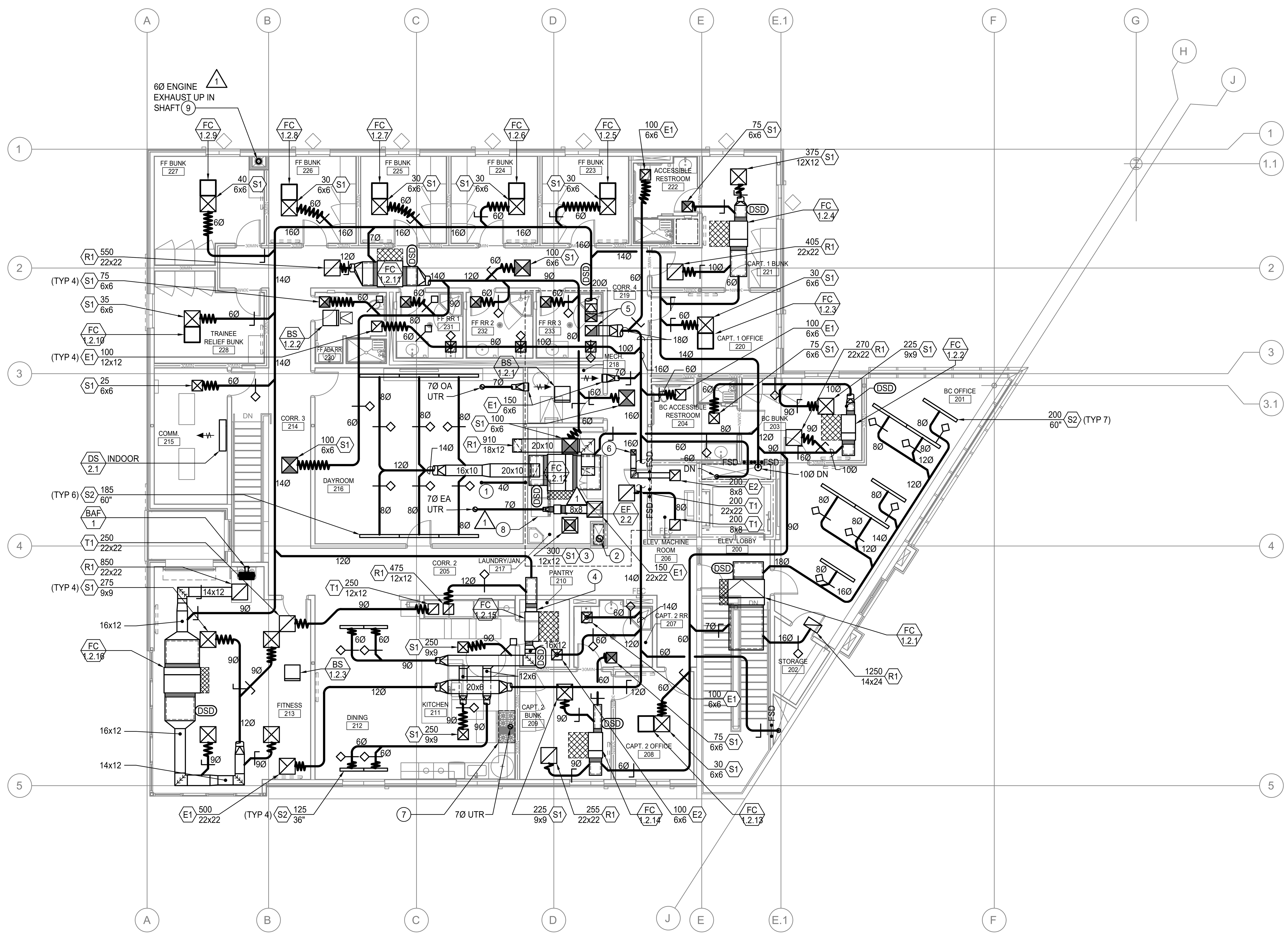
SHEET 160 OF 236

DWG. NO. M120

REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



MECHANICAL SECOND FLOOR PLAN

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

KEY NOTES

APPLICABLE TO THIS SHEET ONLY

1	4Ø DRYER EXHAUST UTR.
2	10Ø EA FROM BELOW AND UTR.
3	12X12 UP TO IH-1 ON ROOF.
4	CONTRACTOR FABRICATED FILTER BOX FOR USE WITH 16X20X2" MERV 13 FILTER.
5	OA/EA FROM ERV-1.
6	8X8 EA UTR.
7	RANGE HOOD, SEE ARCHITECTURAL
8	RESIDENTIAL WASHING MACHINE. RESIDENTIAL DRYER ADJACENT. SEE ARCHITECTURAL.
9	ENGINE EXHAUST COMPONENTS DOWNSTREAM OF THE DPF ARE JEREMIAS DWKL+1, UL-103 LISTED FOR USE WITH 1" CLEARANCE TO COMBUSTIBLES.

HVAC GENERAL NOTES

APPLICABLE TO THIS SHEET ONLY

1	VERIFY FINAL THERMOSTAT LOCATIONS WITH OWNER PRIOR TO INSTALLATION. IF OWNER INTENDS TO CHANGE LOCATION OF THERMOSTAT, CONTACT ENGINEER OF RECORD PRIOR TO FINALIZING LOCATION.
2	PROVIDE MANUAL VOLUME DAMPERS IN ALL BRANCH DUCTS TO AIR OUTLETS / INLETS. VOLUME DAMPERS ABOVE HARD LID CEILINGS TO BE CABLE OPERATED UNLESS NOTED OTHERWISE. CABLE TO BE ACCESSED THRU THE FACE OF GRILLE. AFTER BALANCING TUCK CABLE INTO DIFFUSER SO THAT IT IS NOT VISIBLE.
3	REFER TO DETAIL 1/M009 FOR FIRE STOP AT INSULATED DUCT THRU 1/2 HR FIRE RATED METAL PARTITIONS
4	REFER TO DETAIL 2/M009 FOR FIRE STOP AT UNINSULATED DUCT THRU 1/2 HR FIRE RATED METAL PARTITIONS

WALL LEGEND

	1 HR FIRE RATED
	30 MIN FIRE RATED

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION	REF.
	12/16/2021			PLAN CHECK SUBMITTAL	
	04/22/2022			PLAN CHECK RE-SUBMITTAL	
	06/15/2023			PLAN CHECK RE-SUBMITTAL	
	10/12/2023			BID DOCUMENTS	
AS-BUILT					

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

MECHANICAL SECOND FLOOR PLAN

B# B-4797

PHASE # ____ / REBID # ____

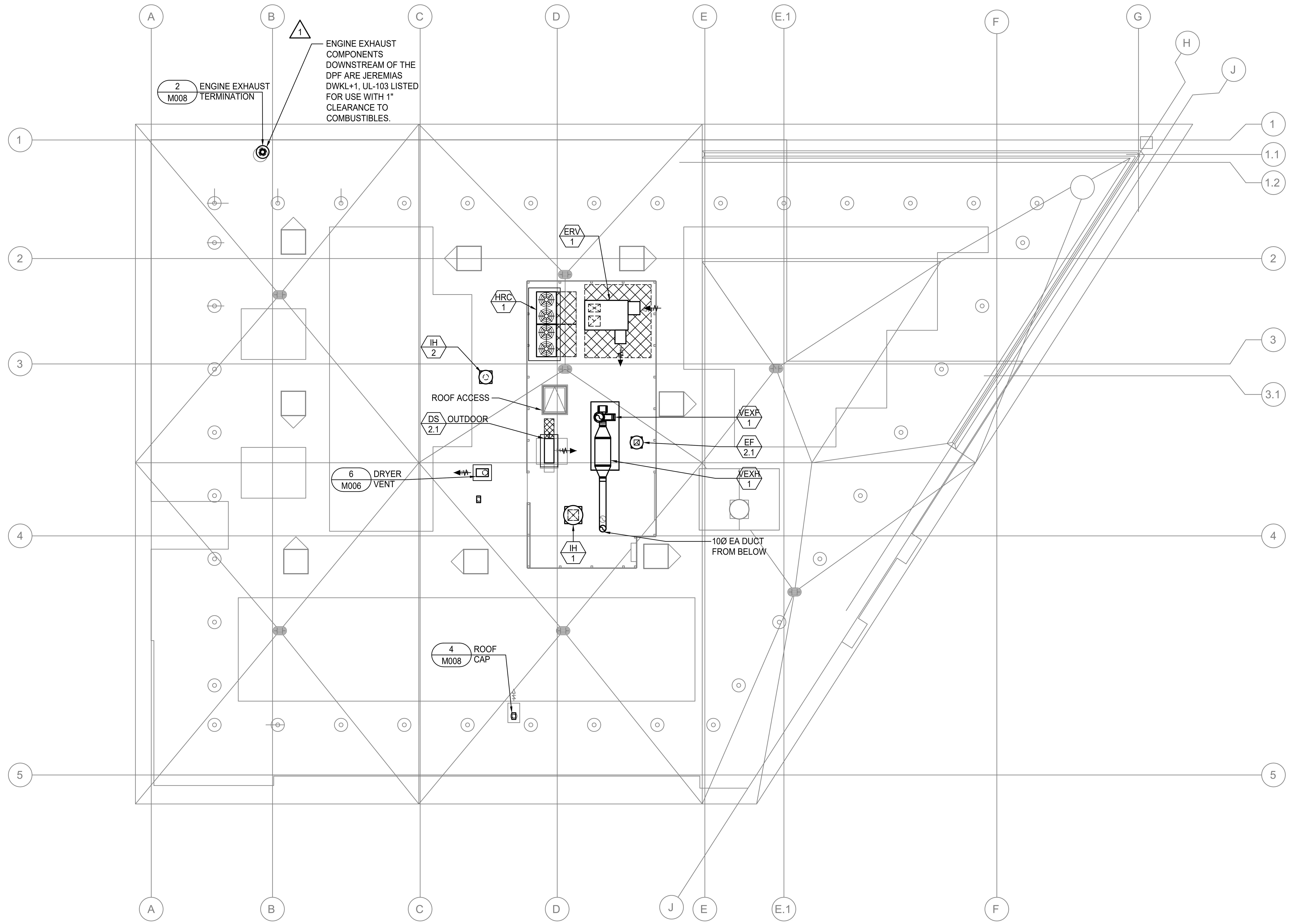
SHEET 161 OF 236

DWG. NO. M130

REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



MECHANICAL ROOF PLAN

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

REVISIONS				
NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT			REF.	

DESIGNED BY: DS

DRAWN BY: JH

DESIGN CHECKED BY: BS

DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

MECHANICAL ROOF PLAN

B# B-4797

PHASE # ____ / REBID # ____

SHEET 162 OF 236

DWG. NO. M140

REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

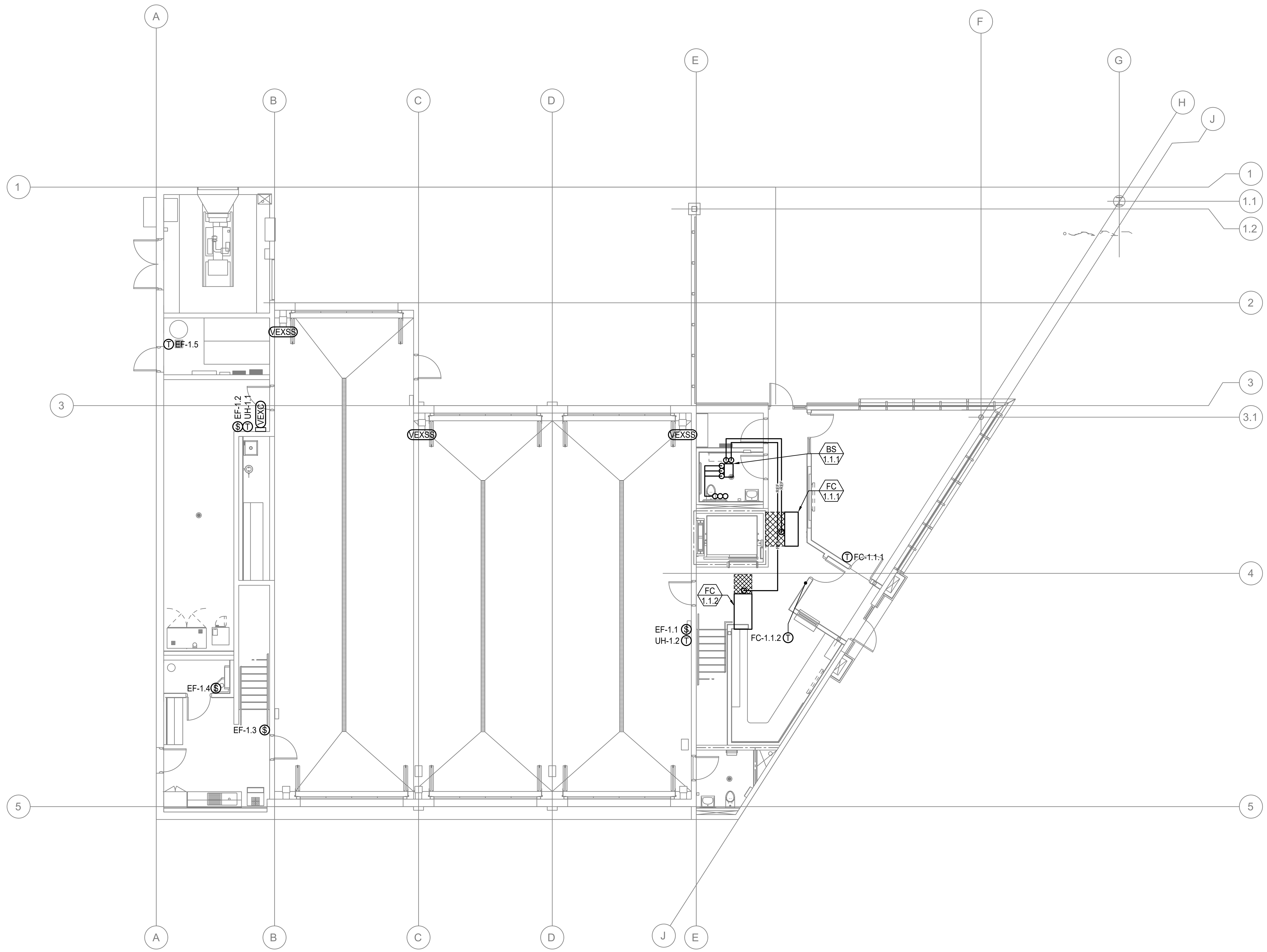
3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN
805. 540. 3363 WWW.3CENG.COM
1500 PALM ST. SAN LUIS OBISPO, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

HVAC GENERAL NOTES

APPLICABLE TO THIS SHEET ONLY

1	VERIFY FINAL THERMOSTAT LOCATIONS WITH OWNER PRIOR TO INSTALLATION. IF OWNER INTENDS TO CHANGE LOCATION OF THERMOSTAT, CONTACT ENGINEER OF RECORD PRIOR TO FINALIZING LOCATION.



MECHANICAL FIRST FLOOR PIPING AND CONTROLS PLAN

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

C:\Users\intern\appdata\local\temp\AcPublish_16684\LB FS 9 Mechanical.dwg bswanson Oct 13,2023-3:02pm

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	04/22/2022			PLAN CHECK RE-SUBMITTAL
	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT				REF.

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

MECHANICAL FIRST FLOOR PIPING AND CONTROLS PLAN

B# B-4797

PHASE # ____ / REBID # ____

SHEET 163 OF 236

DWG. NO. M220

REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN
805. 540. 3363 WWW.3CENG.COM
1500 PALM ST. SAN LUIS OBISPO, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

KEY NOTES

APPLICABLE TO THIS SHEET ONLY

1	VRF SYSTEM CENTRAL CONTROLLER. PROVIDE 120V POWER TO A 24V TRANSFORMER AND A CONNECTION TO THE BUILDING ETHERNET. 120V POWER AND ETHERNET CONNECTION BY ELECTRICAL. 24V TRANSFORMER BY MECHANICAL.

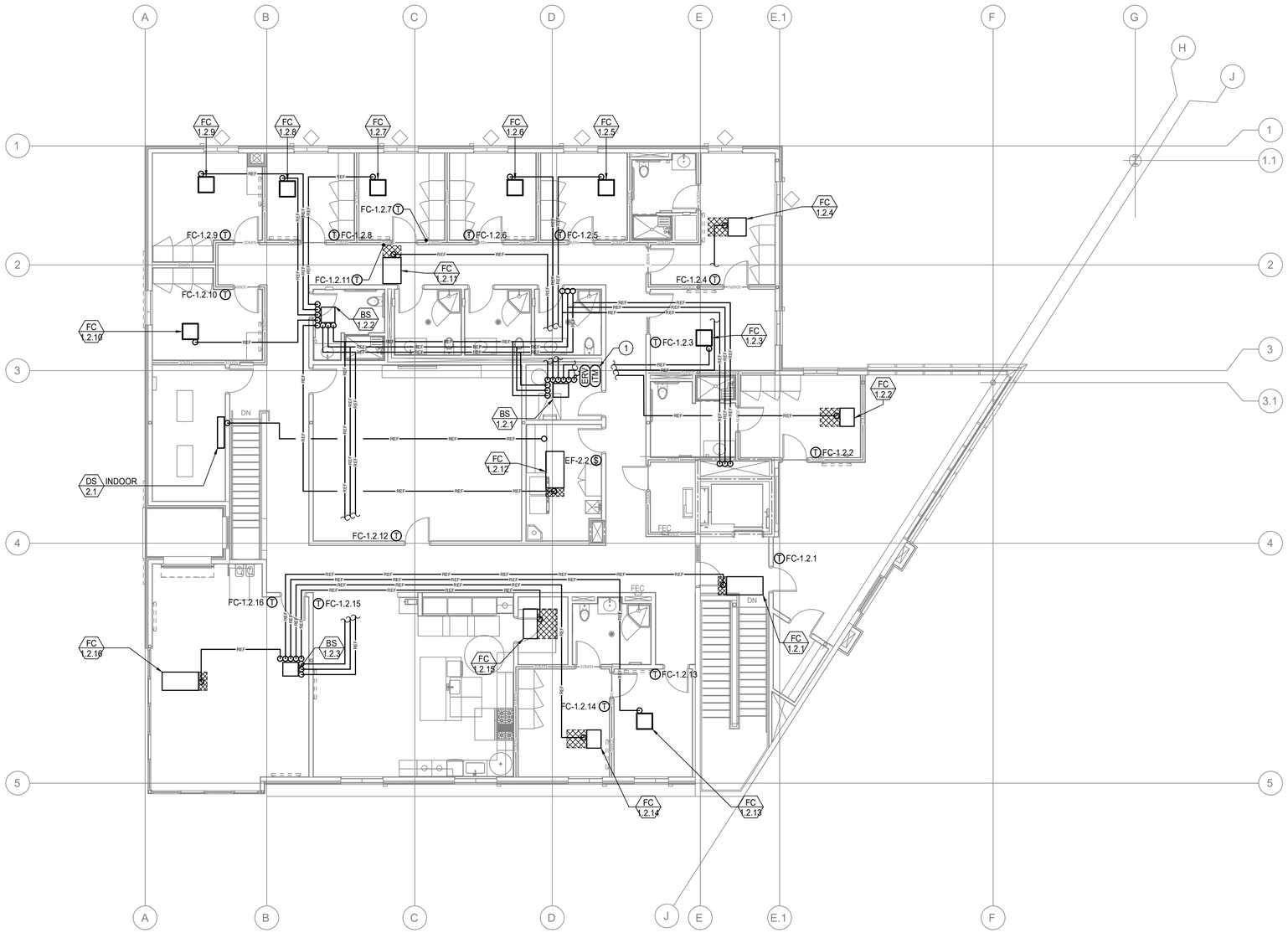
HVAC GENERAL NOTES

APPLICABLE TO THIS SHEET ONLY

1	VERIFY FINAL THERMOSTAT LOCATIONS WITH OWNER PRIOR TO INSTALLATION. IF OWNER INTENDS TO CHANGE LOCATION OF THERMOSTAT, CONTACT ENGINEER OF RECORD PRIOR TO FINALIZING LOCATION.
2	REFER TO DETAIL 3/M009 FOR FIRE STOP AT INSULATED PIPE THRU 1/2 HR FIRE RATED CMU PARTITIONS
3	REFER TO DETAIL 1/M010 FOR FIRE STOP AT INSULATED PIPE THRU 1/2 HR FIRE RATED METAL PARTITIONS

WALL LEGEND

	1 HR FIRE RATED
	30 MIN FIRE RATED



MECHANICAL SECOND FLOOR PIPING AND CONTROLS PLAN

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

REVISIONS			
NO.	DATE	SHEET	APPROVAL
	12/16/2021		PLAN CHECK SUBMITTAL
1	04/22/2022		PLAN CHECK RE-SUBMITTAL
2	06/15/2023		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS
AS-BUILT			REF.

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

MECHANICAL SECOND FLOOR PIPING AND CONTROLS PLAN

B# B-4797

PHASE # ____ / REBID # ____

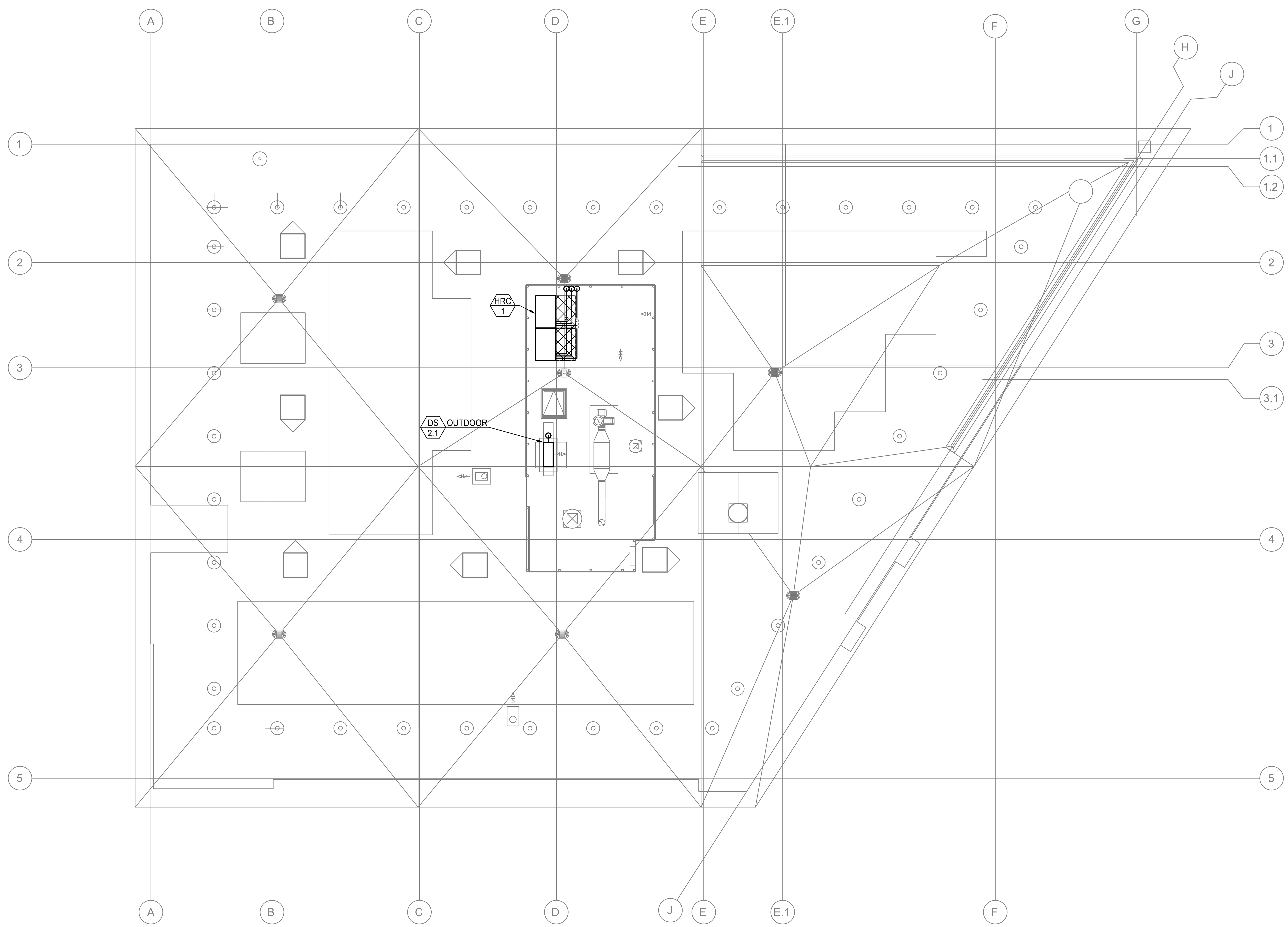
SHEET 164 OF 236

DWG. NO. M230

REGISTERED PROFESSIONAL ENGINEER BRYAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN
805.540.3343 WWW.3CENG.COM
1000 Pacific St. San Luis Obispo, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



MECHANICAL ROOF PIPING PLAN

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

C:\Users\intern\appdata\local\temp\AcPublish_16684\LB FS 9 Mechanical.dwg bswanson Oct 13,2023-3:02pm

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
	AS-BUILT		REF.	

DESIGNED BY: DS

DRAWN BY: JH

DESIGN CHECKED BY: BS

DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

MECHANICAL ROOF PIPING PLAN

REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN
805. 540. 3363 WWW.3CENG.COM
1500 PALM ST. SAN LUIS OBISPO, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

B# B-4797

PHASE # ____ / REBID # ____

SHEET 165 OF 236

DWG. NO. M240

PLUMBING LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
	AAV	AUTOMATIC AIR VENT
		AQUA STAT
		BACK FLOW PREVENTOR
		BALANCING VALVE
		BALL VALVE
	BFV	BUTTERFLY VALVE
		CAP
		CHECKVALVE
	CP	CIRCULATION PUMP
	COTG	CLEAN OUT THROUGH GRADE
Ø	DIA	DIAMETER
ϕ		ELECTRICAL PHASE
	FCO	FLOOR CLEAN OUT
		FLOW SET
		FLEXIBLE PUMP CONNECTION
		FLEXIBLE PIPE CONNECTION
GM	GM	GAS METER
		GAS VALVE
		GATE VALVE
		GLOBE VALVE
	HB	HOSE BIBB
		PIPE REDUCER
		PRESSURE GAGE
		RECESSED HOSE BIBB
		SHUT OFF VALVE IN PIPE DROP OR PIPE RISER
	YB	SHUT OFF VALVE IN YARD BOX
		STRAINER
	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
	TPV	TRAP PRIMER VALVE
		UNION
		PIPE DOWN
		PIPE UP
		PIPE TEE DOWN
		PLUG VALVE ELEVATION VIEW
	PV	PLUG VALVE PLAN VIEW
	POC OR POD	POINT OF CONNECTION OR POINT OF DISCONNECT
	PRV	PRESSURE REDUCING OR REGULATOR VALVE
		REDUCED PRESSURE BACK FLOW PREVENTOR
WM	WM	WATER METER
WCO	WCO	WALL CLEANOUT
	WHA	WATER HAMMER ARRESTOR
A	A	COMPRESSED AIR
CW	CW	COLD WATER
CD	CD	CONDENSATE DRAIN
G	G	GAS (NATURAL OR PROPANE)
HW	HW	HOT WATER
HWR	HWR	HOT WATER RETURN
V	V	SANITARY VENT
SDL	SDL	STORM DRAIN LEADER
SDO	SDO	STORM DRAIN OVERFLOW
TP TP	TP	TRAP PRIMER
PW	PW	PROCESS WASTE
	S/W	WASTE (BELOW GRADE)

CAL GREEN CODE NONRESIDENTIAL MANDATORY MEASURES

SECTION 5.506 INDOOR AIR QUALITY

5.506.1 OUTSIDE AIR DELIVERY. FOR MECHANICALLY OR NATURALLY VENTILATED SPACES IN BUILDINGS, MEET THE MINIMUM REQUIREMENTS OF SECTION 120.1 (REQUIREMENTS FOR VENTILATION) OF THE 2019 CALIFORNIA ENERGY CODE, OR THE APPLICABLE LOCAL CODE, WHICHEVER IS MORE STRINGENT, AND DIVISION 1, CHAPTER 4 OF CCR, TITLE 8.

5.506.2 CARBON DIOXIDE (CO2) MONITORING. FOR BUILDINGS OR ADDITIONS EQUIPPED WITH DEMAND CONTROL VENTILATION, CO2 SENSORS AND VENTILATION CONTROLS SHALL BE SPECIFIED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2019 CALIFORNIA ENERGY CODE, SECTION 120(C)(4).

SECTION 5.508 OUTDOOR AIR QUALITY

5.508.1 OZONE DEPLETION AND GREENHOUSE GAS REDUCTIONS. INSTALLATIONS OF HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT SHALL COMPLY WITH SECTIONS 5.508.1.1 AND 5.508.1.2.

5.508.1.1 CHLOROFLUOROCARBONS (CFCS). INSTALL HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT THAT DO NOT CONTAIN CFCS.

5.508.1.2 HALONS. INSTALL HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT THAT DO NOT CONTAIN HALONS.

SECTION 702.1 INSTALLER TRAINING

HVAC SYSTEM INSTALLERS SHALL BE TRAINED AND CERTIFIED IN THE PROPER INSTALLATION OF HVAC SYSTEMS INCLUDING DUCTS AND EQUIPMENT BY A NATIONALLY OR REGIONALLY RECOGNIZED TRAINING OR CERTIFICATION PROGRAM. UNCERTIFIED PERSONS MAY PERFORM HVAC INSTALLATIONS WHEN UNDER THE DIRECT SUPERVISION AND RESPONSIBILITY OF A PERSON TRAINED AND CERTIFIED TO INSTALL HVAC SYSTEMS OR CONTRACTOR LICENSED TO INSTALL HVAC SYSTEMS. EXAMPLES OF ACCEPTABLE HVAC TRAINING AND CERTIFICATION PROGRAMS INCLUDE BUT ARE NOT
LIMITED TO THE FOLLOWING:
1. STATE CERTIFIED APPRENTICESHIP PROGRAMS.
2. PUBLIC UTILITY TRAINING PROGRAMS.
3. TRAINING PROGRAMS SPONSORED BY TRADE, LABOR OR STATE-WIDE ENERGY CONSULTING OR VERIFICATION ORGANIZATIONS.
4. PROGRAMS SPONSORED BY MANUFACTURING ORGANIZATIONS.
5. OTHER PROGRAMS ACCEPTABLE TO THE ENFORCING AGENCY

PLUMBING ABBREVIATIONS

ABV	ABOVE	HD	HEAD
ADA	AMERICANS WITH DISABILITIES ACT	HP	HORSE POWER
AFF	ABOVE FINISHED FLOOR	HZ	HERTZ
AG	ABOVE GRADE	IE	INVERT ELEVATION
AHJ	AUTHORITY HAVING JURISDICTION	IWC	INCHES OF WATER COLUMN
ALUM	ALUMINUM	KW	KILOWATTS
AMB	AMBIENT	LAV	LAVATORY
AMP	AMPERAGE	LBS	POUNDS
ARCH	ARCHITECT, ARCHITECTURAL	LWT	LEAVING WATER TEMPERATURE
BEL	BELOW	MAX	MAXIMUM
BF	BELOW FLOOR	MBH	1000 BRITISH THERMAL UNITS PER HOUR
BG	BELOW GRADE	MCA	MINIMUM CIRCUIT AMPS
BFP	BACKFLOW PREVENTOR	MECH	MECHANICAL
BLDG	BUILDING	MFGR	MANUFACTURE OR MANUFACTURER
BOD	BASIS OF DESIGN	MIN	MINIMUM
BTUH	BRITISH THERMAL UNIT PER HOUR	MU	MAKE-UP
CA	COMBUSTION AIR	(N)	NEW
CD	CONDENSATE DRAIN	NOM	NOMINAL
CFH	CUBIC FEET PER HOUR	NPS	NOMINAL PIPE SIZE
CONN	CONNECTION	NTS	NOT TO SCALE
CONT	CONTINUATION	OPT	OPERATING
CI	CAST IRON	OSHPD	OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
CP	CHROME PLATED	PD	PRESSURE DROP
DFU	DRAINAGE FIXTURE UNITS	PH	PHASE
DN	DOWN	PSI	POUNDS PER SQUARE INCH
DSA	DIVISION OF THE STATE ARCHITECT	PW	PROCESS WASTE
(E)	EXISTING	RM	ROOM
EC	EVAPORATIVE COOLER	RPM	REVOLUTIONS PER MINUTE
EFF	EFFICIENCY	SDL	STORM DRAIN LEADER
ELEC	ELECTRICAL	SDO	STORM DRAIN OVERFLOW
EQPT	EQUIPMENT	SHT	SHEET
EWT	ENTERING WATER TEMPERATURE	SOV	SHUT OFF VALVE
FA	FROM ABOVE	SS	STAINLESS STEEL
FC	FLEXIBLE CONNECTION	TEMP	TEMPORARY, TEMPERATURE
FLA	FULL LOAD AMPS	TYP	TYPICAL
FLR	FLOOR	UON	UNLESS OTHERWISE NOTED
FPS	FEET PER SECOND	UTR	UP TO OR UP THROUGH ROOF
FR	FROM	V	VENT
FT	FLUSH TANK	VAC	VACUUM
FV	FLUSH VALVE	VTR	VENT THROUGH ROOF
GA	GAGE OR GAUGE	WC	WATER CLOSET
GALV	GALVANIZED	W	WASTE
GPC	GALLONS PER CYCLE	W/	WITH
GPF	GALLONS PER FLUSH	W/O	WITHOUT
GPM	GALLONS PER MINUTE	WSFU	WATER SUPPLY FIXTURE UNIT
GYP	GYPSUM	WT	WEIGHT EXPRESSED IN POUNDS
GW	GREASE WASTE		

CAL GREEN CODE NONRESIDENTIAL MANDATORY MEASURES

5.410.4.5 OPERATION AND MAINTENANCE (O&M) MANUAL. PROVIDE THE BUILDING OWNER OR REPRESENTATIVE WITH DETAILED OPERATING AND MAINTENANCE INSTRUCTIONS AND COPIES OF GUARANTIES/WARRANTIES FOR EACH SYSTEM. O&M INSTRUCTIONS SHALL BE CONSISTENT WITH OSHA REQUIREMENTS IN CCR, TITLE 8, SECTION 5142, AND OTHER RELATED REGULATIONS.

5.410.4.5.1 INSPECTIONS AND REPORTS. INCLUDE A COPY OF ALL INSPECTION VERIFICATIONS AND REPORTS REQUIRED BY THE ENFORCING AGENCY.

DIVISION 5.5-ENVIRONMENTAL QUALITY

SECTION 5.504 POLLUTANT CONTROL

5.504.1 TEMPORARY VENTILATION. THE PERMANENT HVAC SYSTEM SHALL ONLY BE USED DURING CONSTRUCTION IF NECESSARY TO CONDITION THE BUILDING WITHIN THE REQUIRED TEMPERATURE RANGE FOR MATERIAL AND EQUIPMENT INSTALLATION. IF THE HVAC SYSTEM IS USED DURING CONSTRUCTION, USE RETURN AIR FILTERS WITH A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 8, BASED ON ASHRAE 52.2-1999, OR AN AVERAGE EFFICIENCY OF 30% BASED ON ASHRAE 52.1-1992. REPLACE ALL FILTERS IMMEDIATELY PRIOR TO OCCUPANCY, OR, IF THE BUILDING IS OCCUPIED DURING ALTERATION, AT THE CONCLUSION OF CONSTRUCTION.

5.504.3 COVERING OF DUCT OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. AT THE TIME OF ROUGH INSTALLATION AND DURING STORAGE ON THE CONSTRUCTION SITE UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY ENTER THE SYSTEM.

5.504.4.1 ADHESIVES, SEALANTS AND CAULKS. ADHESIVES, SEALANTS, AND CAULKS USED ON THE PROJECT SHALL MEET THE REQUIREMENTS OF THE FOLLOWING STANDARDS:
1. ADHESIVES, ADHESIVE BONDING PRIMERS, ADHESIVE PRIMERS, SEALANTS, SEALANT PRIMERS AND CAULKS SHALL COMPLY WITH LOCAL OR REGIONAL AIR POLLUTION CONTROL OR AIR QUALITY MANAGEMENT DISTRICT RULES WHERE APPLICABLE, OR SCAQMD RULE 1168 VOC LIMITS, AS SHOWN IN TABLES 5.504.4.1 AND 5.504.4.2. SUCH PRODUCTS ALSO SHALL COMPLY WITH THE RULE 1168 PROHIBITION ON THE USE OF CERTAIN TOXIC COMPOUNDS (CHLOROFORM, ETHYLENE DICHLORIDE, METHYLENE CHLORIDE, PERCHLOROETHYLENE AND TRICHLOROETHYLENE), EXCEPT FOR AEROSOL PRODUCTS AS SPECIFIED IN SUBSECTION 2, BELOW.
2. AEROSOL ADHESIVES, AND SMALLER UNIT SIZES OF ADHESIVES, AND SEALANT OR CAULKING COMPOUNDS (IN UNITS OF PRODUCT, LESS PACKAGING, WHICH DO NOT WEIGH MORE THAN ONE POUND AND DO NOT CONSIST OF MORE THAN 16 FLUID OUNCES) SHALL COMPLY WITH STATEWIDE VOC STANDARDS AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS, OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94507.

ADHESIVE VOC LIMIT
LESS WATER AND LESS EXEMPT COMPOUNDS IN GRAMS PER LITER

SPECIALTY APPLICATIONS	CURRENT VOC LIMIT
PVC WELDING	510
CPVC WELDING	490
ABS WELDING	325
SPECIAL PURPOSE CONTACT ADHESIVE	250

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.
2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168, HTTP://WWW.ARB.CA.GOV/DRDB/SC/CURHTML/R1168.PDF.

5.504.5.3 FILTERS. IN MECHANICALLY VENTILATED BUILDINGS, PROVIDE REGULARLY OCCUPIED AREAS OF THE BUILDING WITH AIR FILTRATION MEDIA FOR OUTSIDE AND RETURN AIR THAT PROVIDES AT LEAST A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 13. MERV 13 FILTERS SHALL BE INSTALLED PRIOR TO OCCUPANCY, AND RECOMMENDATIONS FOR MAINTENANCE WITH FILTERS OF THE SAME VALUE SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE MANUAL. FILTERS SHALL BE CLEARLY LABELED BY THE MANUFACTURER INDICATING THE MERV RATING.

EXCEPTIONS:
1. EXISTING MECHANICAL EQUIPMENT.

5.504.5.3 FILTERS. IN MECHANICALLY VENTILATED BUILDINGS, PROVIDE REGULARLY OCCUPIED AREAS OF THE BUILDING WITH AIR FILTRATION MEDIA FOR OUTSIDE AND RETURN AIR THAT PROVIDES AT LEAST A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 13. MERV 13 FILTERS SHALL BE INSTALLED PRIOR TO OCCUPANCY, AND RECOMMENDATIONS FOR MAINTENANCE WITH FILTERS OF THE SAME VALUE SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE MANUAL. FILTERS SHALL BE CLEARLY LABELED BY THE MANUFACTURER INDICATING THE MERV RATING.

EXCEPTIONS:
1. EXISTING MECHANICAL EQUIPMENT.

SECTION 5.505 INDOOR MOISTURE CONTROL

5.505.1 INDOOR MOISTURE CONTROL. BUILDINGS SHALL MEET OR EXCEED THE PROVISIONS OF CALIFORNIA BUILDING CODE, CCR, TITLE 24, PART 2, SECTIONS 1202 (VENTILATION) AND CHAPTER 14 (EXTERIOR WALLS). FOR ADDITIONAL MEASURES NOT APPLICABLE TO LOW-RISE RESIDENTIAL OCCUPANCIES, SEE SECTION 5.407.2 OF THIS CODE.

PROJECT TEAM LIST

TITLE	NAME	DESK NUMBER	EMAIL ADDRESS
PRINCIPAL IN CHARGE	BRIAN STARRETT	805.540.5358	BSTARRETT@3CENG.COM
PROJECT MANAGER	DENVER STANGER	805.540.5388	DSTANGER@3CENG.COM
PLUMBING DESIGNER	RANDY CARMINATI	805.221.0167	RCARMINATI@3CENG.COM

PLUMBING GENERAL NOTES

1	0	COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING CODES: 2019 CALIFORNIA ADMINISTRATIVE CODE (CAC): PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR) 2019 CALIFORNIA BUILDING CODE (CBC): PART 2, TITLE 24 CCR 2019 CALIFORNIA ELECTRICAL CODE (CEC): PART 3, TITLE 24 CCR 2019 CALIFORNIA MECHANICAL CODE (CMC): PART 4, TITLE 24 CCR 2019 CALIFORNIA PLUMBING CODE (CPC): PART 5, TITLE 24 CCR 2019 CALIFORNIA ENERGY CODE (CENC): PART 6, TITLE 24 CCR 2019 CALIFORNIA FIRE CODE (CFC): PART 9, TITLE 24 CCR 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CAL GREEN): PART 11, TITLE 24 CCR REPORT DEFICIENCIES WITHIN THIRTY (30) DAYS UPON AUTHORIZATION TO PROCEED.
2	0	NO PLUMBING SHALL BE INSTALLED UNTIL ALL REQUIRED PLUMBING PLAN CHECK PERMITS AND APPROVALS HAVE BEEN OBTAINED FROM ALL REQUIRED AGENCIES.
3	0	LAVATORY FAUCETS, SINK FAUCETS (NOT INCLUDING SERVICE SINK FAUCETS OR FAUCETS DESIGNATED AS INSTITUTIONAL) SHALL MEET THE FLOW REQUIREMENTS OUTLINED IN THE APPLIANCE EFFICIENCY STANDARDS.
4	0	COORDINATE WITH THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF PLUMBING FIXTURES AND DRAINS.
5	0	PROVIDE ALL TAILPIECES, TRAPS, STOPS, AND SUPPLY PIPES TO LAVATORIES DESIGNED AS ACCESSIBLE, WITH PREFORMED INSULATION JACKET.
6	0	COORDINATE AND SCHEDULE TIMING FOR ALL UTILITY SERVICE CONNECTIONS.
7	0	ALL LINES BELOW SLAB ON GRADE TO BE LOCATED AWAY FROM ALL LOAD BEARING FOOTINGS.
8	0	ALL VENTS THRU ROOF SHALL BE MINIMUM OF 36 INCHES ABOVE AND MECHANICAL VENTILATION AIR INTAKE WITHIN 10 FEET. PROVIDE VANDAL PROOF HOODS ON ALL VENTS THROUGH ROOF.
9	0	CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING OF WALLS, ROOFS, FOOTINGS, FLOORS, INCLUDING ALL SAW CUTTING AND CORE DRILLING. COORDINATE ALL SAW CUTTING AND CORE DRILLING WITH STRUCTURAL DRAWINGS. ANY CUTTING AND DRILLING REQUIRED OF STRUCTURAL ELEMENTS THAT IS NOT SPECIFICALLY SHOWN ON THE PLANS SHALL BE BROUGHT TO THE ARCHITECTS ATTENTION PRIOR TO CUTTING AND DRILLING. CONTRACTOR SHALL SUBMIT PROPOSED LOCATION AND SIZES OF SUCH CUTTING AND DRILLING FOR THE ARCHITECTS AND STRUCTURAL ENGINEERS APPROVAL.
10	0	COORDINATE ALL EQUIPMENT LOCATIONS, PIPE PENETRATIONS AND EQUIPMENT PAD LOCATIONS WITH STRUCTURAL DRAWING PRIOR TO WORK.
11	0	COORDINATE INSTALLATION OF ALL EQUIPMENT AND PIPING WITH OTHER TRADES PRIOR TO INSULATION. ENSURE THAT ALL CONTROL DEVICES, SHUT-OFF VALVES, ETC. ARE ACCESSIBLE FOR MAINTENANCE. WHERE ACCESS PANELS IN FINISHED SPACES, OTHER THAN THAT SHOWN, CONTRACTOR SHALL PROVIDE AND COORDINATE EXACT LOCATION OF PANELS WITH ARCHITECT PRIOR TO INSTALLATION.
12	0	ANY STRUCTURAL FIREPROOFING DAMAGED DURING INSTALLATION OF PLUMBING EQUIPMENT, PIPING, ETC. SHALL BE REPAIRED AT NO COST TO THE OWNER. REPAIRS SHALL BE AS DIRECTED BY THE ARCHITECT.
13	0	ALL PIPING PASSING THROUGH CONCRETE/MASONRY WALLS AND FLOORS ARE TO BE SLEEVED.
14	0	NEW OR REPAIRED POTABLE WATER SYSTEMS SHALL BE DISINFECTED PRIOR TO USE PER 2019 CPC 609.9. THE METHOD TO BE FOLLOWED SHALL BE THAT PRESCRIBED BY THE HEALTH AUTHORITY OR, IN CASE NO METHOD IS PRESCRIBED BY IT, THE FOLLOWING: A) THE PIPE SYSTEM SHALL BE FLUSHED WITH CLEAN, POTABLE WATER UNTIL POTABLE WATER APPEARS AT THE POINTS OF OUTLET. B) THE SYSTEM OR PARTS THEREOF SHALL BE FILLED WITH A WATER-CHLORINE SOLUTION CONTAINING NOT LESS THAN 50 PARTS PER MILLION OF CHLORINE, AND THE SYSTEM OR PART THEREOF SHALL BE VALVED-OFF AND ALLOWED TO STAND FOR 24 HOURS; OR, THE SYSTEM OF PART THEREOF SHALL BE FILLED WITH A WATER-CHLORINE SOLUTION CONTAINING NOT LESS THAN 200 PARTS PER MILLION OF CHLORINE AND ALLOWED TO STAND FOR 3 HOURS. C) FOLLOWING THE ALLOWED STANDING TIME, THE SYSTEM SHALL BE FLUSHED WITH CLEAN, POTABLE WATER UNTIL THE CHLORINE RESIDUAL IN THE WATER COMING FROM THE SYSTEM DOES NOT EXCEED THE CHLORINE RESIDUAL IN THE FLUSHING WATER. D) THE PROCEDURE SHALL BE REPEATED WHERE IT IS SHOWN BY BACTERIOLOGICAL EXAMINATION MADE BY AN APPROVED AGENCY THAT CONTAMINATION PERSISTS IN THE SYSTEM.

PLUMBING TITLE 24 NOTES

1. PROVIDE WATER HEATERS CERTIFIED IN COMPLIANCE WITH CALIFORNIA ENERGY APPLIANCE EFFICIENCY STANDARDS.
2. PROVIDE DOMESTIC HOT WATER PIPING INSULATION IN ACCORDANCE WITH THE CALIFORNIA ENERGY EFFICIENCY STANDARDS AND THE CALIFORNIA PLUMBING CODE. 1

CAL GREEN CODE NONRESIDENTIAL MANDATORY MEASURES

DIVISION 5.4-MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

5.410.2 COMMISSIONING. FOR NEW BUILDINGS 10,000 SQUARE FEET AND OVER, BUILDING COMMISSIONING SHALL BE INCLUDED IN THE DESIGN AND CONSTRUCTION PROCESSES OF THE BUILDING PROJECT TO VERIFY THAT THE BUILDING SYSTEMS AND COMPONENTS MEET THE OWNER'S OR OWNER REPRESENTATIVE'S PROJECT REQUIREMENTS.

REFER TO THE PROJECT SPECIFICATIONS FOR COMMISSIONING REQUIREMENTS.
5.410.4 TESTING AND ADJUSTING. TESTING AND ADJUSTING OF SYSTEMS SHALL BE REQUIRED FOR NEW BUILDINGS LESS THAN 10,000 SQUARE FEET OR NEW SYSTEMS TO SERVE AN ADDITION OR ALTERATION SUBJECT TO 2019 CGBSC 303.1.
5.410.4.2 SYSTEMS. DEVELOP A WRITTEN PLAN OF PROCEDURES FOR TESTING AND ADJUSTING SYSTEMS. SYSTEMS TO BE INCLUDED FOR TESTING AND ADJUSTING SHALL INCLUDE AT A MINIMUM, AS APPLICABLE TO THE PROJECT:
1. HVAC SYSTEMS AND CONTROLS
2. WATER HEATING SYSTEMS
3. WATER REUSE SYSTEMS
5.410.4.3 PROCEDURES. PERFORM TESTING AND ADJUSTING PROCEDURES IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND APPLICABLE STANDARDS ON EACH SYSTEM.

AT A MINIMUM THE MECHANICAL CONTRACTOR SHALL OBTAIN THE LATEST START-UP CHECK LIST(S) FROM THE EQUIPMENT MANUFACTURER AND PERFORM ALL TESTS AND CHECKS APPLICABLE. AFTER COMPLETION OF THE START-UP CHECK LIST THE MECHANICAL CONTRACTOR SHALL MAKE ADJUSTMENTS TO PUT THE EQUIPMENT IN PEAK WORKING ORDER. MECHANICAL CONTRACTOR SHALL DOCUMENT ALL WORK PERFORMED. CLOSE OUT DOCUMENTATION PROVIDED TO THE GENERAL CONTRACTOR SHALL INCLUDE ALL COMPLETED CHECK LIST(S) AND DOCUMENTATION FOR ANY WORK PERFORMED. THE GENERAL CONTRACTOR SHALL SUBMIT THE CHECK LIST(S) AND WORK DOCUMENTATION TO ENGINEER OF RECORD.

5.410.4.3.1 HVAC BALANCING. IN ADDITION TO TESTING AND ADJUSTING, BEFORE A NEW SPACE-CONDITIONING SYSTEM SERVING A BUILDING OR SPACE IS OPERATED FOR NORMAL USE, THE SYSTEM SHALL BE BALANCED IN ACCORDANCE WITH THE PROCEDURES DEFINED BY THE TESTING ADJUSTING AND BALANCING BUREAU NATIONAL STANDARDS; THE NATIONAL ENVIRONMENTAL BALANCING BUREAU PROCEDURAL STANDARDS; ASSOCIATED AIR BALANCE COUNCIL NATIONAL STANDARDS OR AS APPROVED BY THE BUILDING ENFORCING AGENCY.

SEE SPECIFICATION SECTION 15600 FOR HVAC BALANCING REQUIREMENTS.

5.410.4.4 REPORTING. AFTER COMPLETION OF TESTING, ADJUSTING AND BALANCING, PROVIDE A FINAL REPORT OF TESTING SIGNED BY THE INDIVIDUAL RESPONSIBLE FOR PERFORMING THESE SERVICES.

PLUMBING GENERAL NOTES

1. WATER PIPE AND FITTINGS WITH A LEAD CONTENT WHICH EXCEED 0.25% SHALL BE PROHIBITED IN SYSTEMS CONVEYING POTABLE WATER. (CPC 604.2 & CALIFORNIA HEALTH & SAFETY CODE 116875).
2. ALL FIXTURES, EQUIPMENT, PIPING, AND MATERIALS SHALL BE LISTED. (CPC 301.2)
3. ALL PIPING SHALL BE SUPPORTED AT INTERVALS NOT TO EXCEED THOSE SHOWN IN CPC TABLE 313.1.
4. PUBLIC LAVATORIES SHALL HAVE CONTROLS TO LIMIT TO THE WATER TEMPERATURE TO 120°F.
5. ALL SERVICE WATER HEATING EQUIPMENT TO BE IN COMPLIANCE WITH THE MODEL ENERGY CODE REQUIREMENTS AND LABELED.
6. EACH PLUMBING FIXTURE SHALL BE INDEPENDENTLY VALVED PER CODE.
7. INSTALL ALL PLUMBING TO AVOID INTERFERENCE WITH ELECTRICAL AND MECHANICAL EQUIPMENT AND STRUCTURAL FRAMING. NO WATER OR DRAIN LINES PERMITTED OVER OR UNDER ELECTRICAL PANELS.
8. ALL HOSE BIBBS AND JANITORIAL SERVICE SINKS SHALL BE EQUIPPED WITH APPROVED, PROPERLY INSTALLED ATMOSPHERIC TYPE VACUUM BREAKERS. DEVICES SHALL BE ACCESSIBLE FOR TEST AND MAINTENANCE.
9. INSTALLATION OF SOIL OR DRAIN PIPES IN FOOD HANDLING ESTABLISHMENTS WITH COMPLY WITH CPC SECTION 317.0.
10. PLASTIC PIPE AND THE FITTINGS USED FOR PLASTIC PIPE, OTHER THAN THOSE FOR GAS, SHALL MEET THE REQUIREMENTS OF NSF14.
11. THE PREMISE OWNER OR RESPONSIBLE PERSON SHALL HAVE THE BACKFLOW PREVENTION ASSEMBLY TESTED BY A CERTIFIED BACKFLOW ASSEMBLY TESTER AT THE TIME OF INSTALLATION.
12. ALL REQUIRED CLEAN-OUTS SHALL BE INSTALLED AS PER CPC SEC. 707.0 & 719.0.
13. ALL SANITARY WASTE PIPING TO BE A MINIMUM 2% SLOPE.
14. SANITARY WASTE VENTS SHALL RISE VERTICALLY TO A POINT NOT LESS THAN SIX (6) INCHES IN HEIGHT ABOVE THE FLOOD LEVEL RIM OF THE FIXTURE BEFORE BEING CONNECTED TO ANY OTHER VENT.
15. DRAINAGE PIPING SERVING FIXTURES WHICH HAVE FLOODWATER RIMS LOCATED BELOW THE ELEVATION OF THE NEXT UPSTREAM MANHOLE COVER OF THE SEWER SERVING SUCH DRAINAGE PIPING SHALL BE PROTECTED FRIM BACKFLOW OF SEWAGE BY INSTALLING AN APPROVED TYPE BACKWATER VALVE.
16. VENT TERMINALS THAT TERMINATE THROUGH AN OUTSIDE WALL OF A BUILDING SHALL BE LOCATED NOT LESS THAN 10 FEET HORIZONTALLY FROM AN OPERABLE OPENING IN AN ADJACENT BUILDING. THIS SHALL NOT APPLY TO OPERABLE OPENINGS THAT ARE NOT LESS THAN 2 FEET BELOW OR 25 FEET ABOVE THE ELEVATION OF THE VENT TERMINAL. (CPC 509.8.5)
17. INDIRECT WASTES LONGER THAN FIVE (5) FEET MUST BE TRAPPED, AND LONGER THAN FIFTEEN (15) FEET MUST BE TRAPPED AND VENTED INDIRECT WASTES FROM FOOD SERVICE EQUIPMENT MUST DISCHARGE TO RECEPTOR WITH A MINIMUM AIR-GAP OF ONE (1) INCH.
18. PRIMARY CONDENSATE PIPING TO TERMINATE AT TAILPIECE OF LAVATORY/SINK IN THE UNIT IT SERVES, FLOOR SINK OR DEDICATED ROOF TOP RECEPTOR.
19. SECONDARY CONDENSATE PIPING TO TERMINATE AT EXTERIOR OBSERVABLE LOCATION OR INTERIOR OVER LAVATORY/SINK.
20. ROOF DRAINS, OVERFLOW DRAINS, AND RAINWATER PIPING WITHIN THE INTERIOR OF THE BUILDING SHALL BE TESTED IN ACCORDANCE WITH THE PROVISIONS OF THE CPC FOR TESTING DRAIN, WASTE, AND VENT SYSTEMS.
21. ROOF DRAINS AND OVER FLOW PIPING WITHIN THE BUILDING SHALL UTILIZE APPROVED DRAINAGE FITTINGS.
22. ALL EXPOSED GAS PIPING SHALL BE PROTECTED AGAINST CORROSION BY COATING OR WRAPPING WITH AN INSERT MATERIAL APPROVED MATERIAL FOR SUCH APPLICATIONS.
23. ALL EXPOSED GAS PIPING SHALL BE KEPT AT LEAST SIX (6) INCHED ABOVE GRADE.
24. TESTING PROCEDURE OF GAS SYSTEMS SHOULD BE PERFORMED AS PER CPC SEC. 1213.3.
25. THE PREMISE OWNER OR RESPONSIBLE PERSON IS RESPONSIBLE TO COORDINTE WITH LONG BEACH ENERGY RESOURCES DEPARTMENT FOR NEW GAS DEMANDS, METER LOCATION AND TYPE OF PRESSURE AVAILABLE. COORDINATE WITH TENANT FOR PRESSURE REQUIRED AT EACH APPLIANCE.
26. CLEAN-OUTS FOR DRAINS THAT PASS THROUGH A BACKWATER VALVE SHALL BE CLEARLY IDENTIFIED WITH A PERMANENT LABEL STATING "BACKWATER VALVE DOWNSTREAM".
27. PIPING SHALL BE LABELED BY STENCIL OR ADHESIVE MARKERS THAT IDENTIFY THE TYPE OF PLUMBING PIPING SYSTEMS.
28. EACH POTABLE AND NON-POTABLE WATER SYSTEMS SHALL BE IDENTIFIED AND LABELED IN ACCORDANCE WITH CPC SEC. 601.3
    A. POTABLE WATER SYSTEMS SHALL HAVE A GREEN BACKGROUND WITH WHITE LETTERING.
    B. NON-POTABLE WATER SYSTEMS SHALL HAVE A YELLOW BACKGROUND AND BLACK UPPERCASE LETTING, WITH THE WORDS "CAUTION: NON-POTABLE WATER, DO NOT DRINK".
55. BUILDING REVIEW MUST BE APPROVED PRIOR TO OBTAINING SEPARATE MECHANICAL/ELECTRICAL/PLUMBING PERMITS ASSOCIATED WITH THIS PROJECT. PLEASE CONTACT THE PERMIT CENTER AT (562) 570-5237 FOR ANY INFORMATION NEEDED IN REGARDS TO OBTAINING PERMITS.

REVISIONS			
NO	DATE	SHEET	APPROVAL
	12/16/2021		DESCRIPTION: PLAN CHECK SUBMITTAL
1	04/22/2022		PLAN CHECK RE-SUBMITTAL
2	06/15/2023		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS
AS-BUILT			REF:

DESIGNED BY: DS
DRAWN BY: JM
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

PLUMBING GENERAL

B# B-4797

PHASE # ____ / REBID # ____

SHEET 166 OF 236

DWG. NO. P000

REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING SMARTER BUILDINGS BY DESIGN
805.540.3363 WWW.3CENG.COM
1000 PALM ST. SAN LUIS OBISPO, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

C:\Users\interntappdata\local\temp\AcPublish_1668\LB FS 9 Plumbing Lead Sheets.dwg bswanson Oct 13,2023-2:58pm

GAS STORAGE WATER HEATER SCHEDULE

TAG	MAKE	MODEL	CAPACITY		DIMENSIONS Ø X HEIGHT	AIR INTAKE / FLUE EXHAUST CONNECTION SIZE (INCHES)	FUEL		EFFICIENCY	SET TEMP °F	INSTALLATION LOCATION	VENT TYPE	ELECTRICAL DATA		OPTIONAL KITS			OPERATING WEIGHT (LBS)	NOTES (SEE BELOW)	INSTALLATION DETAIL
			STORAGE GALLONS	RECOVERY AT TEMP RISE 60°F, 80°F, 100°F GPH			TYPE	CFH					POWER V/ϕ/HZ	MOCP	LOW PROFILE SIDEWALL VENT KIT	CONCENTRIC VENT KIT	CONDENSATE NEUTRALIZER KIT			
WH 1	AO SMITH	BTH-150(A)	100	297, 223, 178	27-3/4" x 76-1/2"	3 / 3	NG	150	0.98	120	MECH / 117	POWER DIRECT VENT	120/1/60	15	NO	YES	YES	1390	1, 2	7/P004

UNIT SPECIFIC NOTES:
1. PROVIDE WITH DURAVENT POLYPRO COMBUSTION AIR INTAKE AND FLUE DISCHARGE PIPING.
2. 120 VOLT RECEPTACLE PROVIDED BY ELECTRICAL CONTRACTOR.

AIR COMPRESSOR SCHEDULE

TAG	MAKE	MODEL	DIMENSIONS	CFM	PSI	ELECTRICAL			TYPE	INSTALLATION LOCATION	TANK SIZE (GALLONS)	AIR DRYER	OPERATING WEIGHT (LBS)	NOTES (SEE BELOW)	INSTALLATION DETAIL
						HP	VOLTS	PHASE							
AC 1	GARDNER DENVER	VR5-8	35"LX27"WX75"H	17.0	175	5	208	3	RECIRC	YARD STORAGE / 130	80	NA	590	1	2/P003

GENERAL NOTES APPLICABLE TO ALL UNITS:
A. DISCONNECT PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
2. BASIS OF DESIGN IS AS SCHEDULED. MANUFACTURERS LISTED HERE ARE CONSIDERED EQUAL: INGERSOLL RAND, ATLAS COPCO

UNIT SPECIFIC NOTES:
1. PROVIDE WITH ALL ACCESSORIES AND SUPPORT EQUIPMENT PER DETAIL.

CIRCULATION PUMP SCHEDULE

TAG	MAKE	MODEL	MOTOR TYPE	GPM	FEET OF HEAD	INLET WATER TEMP °F	ELECTRICAL DATA			OPERATING WEIGHT (LBS)	NOTES (SEE BELOW)
							POWER V/ϕ/HZ	WATTS	RPM		
CP 1	GRUNDFOS	UP15-18B5	ODP	3	5	105	120/1/60	85	1750	2	1, 2

GENERAL NOTES APPLICABLE TO ALL UNITS:
A. BASIS OF DESIGN IS AS SCHEDULED. MANUFACTURERS LISTED HERE ARE CONSIDERED EQUAL: TACO, GRAINGER

UNIT SPECIFIC NOTES:
1. PROVIDE AQUA-STAT WITH CIRCULATION PUMP SET AT -3 DEGREES OF THE SYSTEM SET POINT.
2. 120 VOLT RECEPTACLE PROVIDED BY ELECTRICAL CONTRACTOR.

EXPANSION TANK SCHEDULE

TAG	MAKE	MODEL	TOTAL VOLUME (GAL.)	HEIGHT (IN.)	DIAMETER (IN.)	WEIGHT (LBS)	OPERATING WEIGHT (LBS)	NOTES (SEE BELOW)
ET 1	AMTROL	ST-5C	2.0	13"	8"	5	2	1, 2

GENERAL NOTES APPLICABLE TO ALL UNITS:
A. BASIS OF DESIGN IS AS SCHEDULED. MANUFACTURERS LISTED HERE ARE CONSIDERED EQUAL: WESSEL, WATTS

UNIT SPECIFIC NOTES:
1. UNIT TO BE INSTALLER PER MANUFACTURER'S INSTALLATION REQUIREMENTS.

WATER & SEWER SIZING TABLE

PIPING SIZED PER 2019 CPC

DOMESTIC WATER SERVICE

TOTAL WATER SUPPLY FIXTURE UNITS			FT/FV	GPM	PIPE SIZE (INCHES)	METER SIZE (INCHES)	INCOMING PSI	REGULATED PSI	PSI/100'
110 (1)			FLUSH VALVE	70.5	2	2	60	Not Regulated	6
MAXIMUM FIXTURE UNITS ALLOWED	PIPE SIZE (INCHES)	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3
	FLUSH VALVES (8 FPS MAX.)	0	0	0	8	26	132	329	666
	FLUSH TANK (8 FPS MAX.)	2	8	20	42	83	254	455	719
	HOT WATER (5 FPS MAX.)	2	8	16	28	46	119	245	406

SEWER LINE

TOTAL DRAINAGE FIXTURE UNITS	PIPE SIZE REQUIRED (INCHES)	PIPE SIZE PROVIDED (INCHES)	BUILDING DRAIN SLOPE	BUILDING SEWER SLOPE
88 (1)	4	4	2%	SEE CIVIL

WATER PIPE SIZING CRITERIA CALCULATION

ELEMENT	PRESSURE (PSI)	PRESSURE (FT H2O)
STATIC PRESSURE IN MAIN	60.0	138.4
LOSS THROUGH METER	4.3	9.9
LOSS THROUGH BACKFLOW PREVENTER	12.0	27.7
PRESSURE LOSS THROUGH PRV	0.0	0.0
OTHER DOWNSTREAM PRESSURE LOSSES	0.0	0.0
PRESSURE LOSS THROUGH ELEVATION HEAD (@0.434 PSI PER FOOT H2O) (IF LOSS IS NEGATIVE, THIS INDICATES FINAL FIXTURE IS LOWER THAN THE MAIN LINE AND THERE IS A GAIN IN PRESSURE)	11.7	27.0
PRESSURE REQUIRED AT FINAL FIXTURE	20.0	46.1
REMAINING PRESSURE FOR FRICTION LOSSES	12.0	27.6
NOMINAL DISTANCE BETWEEN MAIN AND FINAL FIXTURE (FT)	100.0	
TOTAL DEVELOPED LENGTH BETWEEN MAIN AND FINAL FIXTURE (FT) (ACCOUNTING FOR MINOR LOSSES WITH NOMINAL DISTANCE X 1.4)	140.0	
PRESSURE SIZING CRITERIA (PSI LOSS / 100'-0" OF PIPING)	8.0	
PRESSURE SIZING CRITERIA (FT H2O LOSS / 100'-0" OF PIPING)	18.4	
CW VELOCITY SIZING CRITERIA (FT/S)	8.0	
HW VELOCITY SIZING CRITERIA (FT/S)	5.0	
ASSUMED GPM FROM FIXTURE UNIT COUNT	70.5	

WATER IS SIZED BASED ON PSI LOSS / 100'-0" OF PIPING. IF ALLOWABLE PSI LOSS PER 100'-0" OF PIPING IS IN EXCESS OF 8 PSI LOSS PER 100'-0" OF PIPE, SIZING SHALL IS BASED ON 8 PSI LOSS PER 100'-0" OF PIPE. PIPES ARE SIZED SO THAT THE MAX CW VELOCITY OS 8 FT/SEC AND MAX HW VELOCITY IS 5 FT/SEC

(1)

COMMERCIAL PLUMBING FIXTURE SCHEDULE

TAG	FIXTURE	BRANCH SIZE W	BRANCH SIZE V	BRANCH SIZE CW	BRANCH SIZE HW	ELECTRICAL	REMARKS
DF-1	DRINKING FOUNTAIN	2"	1-1/2"	1/2"	NA	NA	HAWS #1117LN WITH #1920, IN-WALL MOUNTED, DUAL HEIGHT, STAINLESS STEEL PUSH BUTTON DRINKING FOUNTAIN WITH BOTTLE FILLER, 36" STAINLESS STEEL PANEL. PROVIDE WITH STOPS AND SUPPLIES, INSTALL PER ADA REQUIREMENTS.
FD-1	FLOOR DRAIN	2"	1-1/2"	NA	NA	NA	WATTS #FD-100-A-2-NH-A5-6-7, 5"Ø, CAST IRON W/ROUND BRONZE STRAINER. PROVIDE WITH VANDAL PROOF SCREWS, HEEL PROOF STRAINER AND TRAP PRIMER CONNECTION
FS-1	FLOOR SINK	2"	1-1/2"	NA	NA	NA	WATTS #FS-730-2-NH-150, 12"X12"X6-1/4" ENAMELED CAST IRON W/HALF GRATE AND DOME STRAINER.
GOB-1	GAS OUTLET BOX	NA	NA	NA	NA	NA	RECESSED, OATEY #38695, 8-1/4"X8-1/4"X3-3/8", PLASTIC BOX W/BRASS VALVE
HB-1	HOSE BIBB	NA	NA	3/4"	NA	NA	RECESSED, WOODFORD #B24-3/4-CH, CHROME PLATED BRASS W/WALL MOUNT WITH VACUUM BREAKER. PROVIDE W/LOOSE TEE KEY
HB-2	HOSE BIBB	NA	NA	1"	NA	NA	ROOF MOUNTED, WOODFORD #RHY2-MS, FREEZELESS W/ VACUUM BREAKER
HB-3	HOSE BIBB	NA	NA	3/4"	NA	NA	WALL MOUNT, WOODFORD #24-3/4-PC, POLISHED CHROME BRASS WITH VACUUM BREAKER. PROVIDE W/LOOSE TEE KEY
IMS-1	ICE MAKER SUPPLY	NA	NA	1/2"	NA	NA	OATEY #38681, 6"X6"X3-3/8" RECESSED IN WALL PLASTIC BOX W/BRASS VALVE
KS-1	KITCHEN SINK	2"	1-1/2"	1/2"	1/2"	120/1/60	INTEGRAL SINGLE BOWL, DEEP DRAWN, STAINLESS STEEL. ELKAY LKGT1041 SINGLE HOLE CHROME PLATED BRASS 1.75 GPM FAUCET WITH PULL OUT. PROVIDE 3/4 HP GARBAGE DISPOSAL
KS-2	ISLAND SINK	2"	1-1/2"	1/2"	1/2"	NA	INTEGRAL SINGLE BOWL, DEEP DRAWN, STAINLESS STEEL. ELKAY LKGT1041 SINGLE HOLE CHROME PLATED BRASS 1.75 GPM FAUCET WITH PULL OUT.
LAV-1	LAVATORY - ADA	2"	1-1/2"	1/2"	1/2"	NA	WALL MOUNTED, SLOAN #SS-3103, 21-1/4" X 18-1/8" VITREOUS CHINA, WHITE. SLOAN FAUCET #EBF-85, 0.35 GPM, SENSOR OPERATED. PROVIDE STOPS, SUPPLIES, C.P. BRASS "P" TRAP, & WATTS WALL SUPPORT #TCA-11. PROVIDE POINT OF USE THERMOSTATIC MIXING VALVE. THERMOSTATIC MIXING VALVE SHALL LIMIT OUTLET TEMPERATURE TO 110°F. INSTALL PER ADA REQUIREMENTS
LAV-2	LAVATORY - ADA	2"	1-1/2"	1/2"	1/2"	NA	COUNTER MOUNT, SLOAN #SS-3002, 9-1/2" X 16-1/2" VITREOUS CHINA, WHITE. T&S BRASS FAUCET #BA-2710-VF05, 0.5 GPM, MANUAL OPERATED. PROVIDE WITH STOPS, SUPPLIES & C.P. BRASS "P" TRAP.
LD-1	LINEAR DRAIN	2"	1-1/2"	NA	NA	NA	FLUSH, QUICK DRAIN #PLD57, 57" DRAIN BODY, AND QUICK DRAIN #1-LINES64, STAINLESS STEEL HEEL PROOF STRAINER. DRAIN BODY UTILIZES LIQUID WATERPROOFING. INSTALL PER ADA REQUIREMENTS
LSB-1	LAUNDRY SUPPLY BOX	2"	1-1/2"	3/4"	3/4"	NA	RECESSED IN WALL W/CONDENSATE DRAIN. OATEY #37609, 5-1/4" X 11" X 3-1/2" PLASTIC BOX W/BRASS VALVES. PROVIDE WITH WATER HAMMER ARRESTORS
LT-1	LAUNDRY TUB	3"	2"	3/4"	3/4"	NA	FREE STANDING, METCRAFT #6350-1, SINGLE BOWL, 24"D X 24"W X 34"T, 14GA STAINLESS STEEL. T&S BRASS FAUCET #B-1141-B-0199-06-WS, 1.5 GPM FAUCET. PROVIDE WITH STOPS, SUPPLIES & "P" TRAP.
MSK-1	MOP SINK	3"	2"	3/4"	3/4"	NA	FLOOR MOUNTED W/ VACUUM BREAKER, ZURN #Z5850-D3, 28"X28"X13" TERRAZZO WITH T&S BRASS FAUCET #B-0665-BSTP-963, PROVIDE WITH DRAIN, RIM GUARD, HOSE, MOP HANGER AND WALL GUARDS
RD-1	COMBO ROOF OVERFLOW DRAIN	3"	NA	NA	NA	NA	FLUSH MOUNTED, WATTS #RD-700-F-W2, 21"L X 13-1/16"W X 5-1/16"T(ABOVE ROOF). CAST IRON BODY WITH DUCTILE IRON DOME AND NO HUB CONNECTIONS. OVERFLOW PROVIDED WITH 2" WATER DAM.
S-1	SINK	3"	2"	1/2"	1/2"	NA	FLOOR MOUNTED, ELKAY #SS81241 SINGLE COMPARTMENT SCULLERY SINK. SINGLE BOWL, 304 STAINLESS STEEL. ZURN Z843G4-XL FAUCET. 2.2 GPM. PROVIDE STOPS, SUPPLIES, C.P. BRASS "P" TRAP
S-2	SINK	3"	2"	1/2"	1/2"	NA	INTEGRAL SINGLE BOWL, DEEP DRAWN, STAINLESS STEEL. PROVIDE FAUCET ZURN Z6922 8" GOOSENECK SPOUT, 1.5 GPM, CHROME PLATED SENSOR FAUCET WITH TEMPERATURE MIXING VALVE, SUPPLY HOSES, STAINLESS SUPPLY HOSE. PROVIDE HAND SPRAY FAUCET ZURN Z812X1-TWM CHROME PLATTED BRASS WALL MOUNTED FAUCET BODY. PROVIDE WITH ELKAY LK25RT DRAIN FITTING WITH LEVER HANDLE.
SH-1	SHOWER - ADA	2"	1-1/2"	1/2"	1/2"	NA	CUSTOM SOLID SURFACE SHOWER WITH INTEGRAL FLOOR DRAIN. POWERS #P905HH10KYW, INCLUDES A PRESSURE BALANCING VALVE, 1.5GPM, SWIVEL SHOWERHEAD, ARM & FLANGE, HAND SHOWER WITH WALL HOOKS, DIVERTER AND INLINE VACUUM BREAKER. INSTALL PER ADA REQUIREMENTS. SEE ARCHITECTURAL PLANS AND DETAIL #2/A504 FOR MORE INFORMATION. OUTLET TEMPERATURE SHALL BE LIMITED TO NO MORE THAN 110° PER CENC 110.3(C)3
SH-2	SHOWER	2"	1-1/2"	1/2"	1/2"	NA	CUSTOM SOLID SURFACE SHOWER WITH FLORESTONE MODEL 400, TERRAZZO SHOWER RECEPTOR. POWERS #P905HH10KYW, INCLUDES PRESSURE BALANCING VALVE, 1.5GPM, SWIVEL SHOWERHEAD, ARM & FLANGE, HAND SHOWER W/ (1) WALL HOOKS, DIVERTER AND INLINE VACUUM BREAKER. SEE ARCHITECTURAL PLANS FOR MORE INFORMATION. OUTLET TEMPERATURE SHALL BE LIMITED TO NO MORE THAN 110° PER CENC 110.3(C)3
TD-1	TRENCH DRAIN	3"	2"	NA	NA	NA	WATTS DEAD LEVEL D PRE-SLOPED TRENCH DRAIN SYSTEM WITH DUCTILE IRON FRAME, UV STABILIZED GLASS-FILLED POLYPROPYLENE CHANNELS WITH INTEGRAL 4" NO HUB BOTTOM OR END OUTLETS, AND DUCTILE IRON GRATING TO SUIT DIN CLASS "D" LOAD RATING. SYSTEM SHALL BE FRAME-ANCHORED, AND INCLUDE END CAPS, FRAME CONNECTORS, GRATE LOCK DOWNS, AND CONSTRUCTION COVERS. WATTS #CB-624D-T CATCH BASIN AND GALVANIZED TRASH BUCKET TO BE INSTALLED AT OUTLETS. ADDITIONAL SYSTEM INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
WC-1	WATER CLOSET - ADA	3"	2"	1-1/4"	NA	NA	WALL MOUNTED, ZURN #Z5615, 1.1 GPF, ELONGATED BOWL WITH OPEN FRONT SEAT AND BATTERY OPERATED SENSOR FLUSH VALVE. PROVIDE WITH JAY R SMITH 00115 CARRIER. INSTALL PER ADA REQUIREMENTS.
WC-2	WATER CLOSET	3"	2"	1-1/4"	NA	NA	WALL MOUNTED, ZURN #Z5615, 1.1 GPF, ELONGATED BOWL WITH OPEN FRONT SEAT AND BATTERY OPERATED SENSOR FLUSH VALVE. PROVIDE WITH JAY R SMITH 00115 CARRIER.
HR-1	HOSE REEL	-	-	-	-	-	HOSE REEL, MODEL #2705 WITH POWER AND AIR HOSE FITTING
QC-1	QUICK CONNECT	-	-	-	-	-	QUICK CONNECT AIR HOSE FITTING
SV-1	SEISMIC VALVE	-	-	-	-	-	PACIFIC SEISMIC PRODUCTS MODEL 314 OR EQUAL, HORIZONTAL, 2" PIPE SIZE, MAX. PRESSURE 60 PSI
EW-1	EMERGENCY EYEWASH	2"	1-1/2"	1/2"	1/2"	-	HAWS #7260BT-7270BT OR EQUAL, WALL HUNG MOUNT EYE / FACE WASH, 11" BOWL, EYE / FACE WASH HEAD, POWDER-COATED CAST IRON 9" DIAMETER FLOOR FLANGE. PROVIDE WITH THERMOSTATIC MIXING VALVE TO LIMIT TEMPERATURE TO 105 DEGREES MAX. WATTS OR EQUAL.
DD-1	DECK DRAIN	2"	-	-	-	-	WATTS #FD-200-FC OR EQUAL, EPOXY COATED CAST IRON WITH FLANGE, WEEPHOLES, ADJUSTABLE ROUND HEEL PROOF NICKEL BRONZE STAINER WITH SURFACE MEMBRANE CLAMP, NO HUB OUTLET.

(1)

FIXTURE TABULATION (WATER)

FIXTURE	ABBREVIATION	QUANTITY	FIXTURE UNIT	TOTAL
WATER CLOSET	WC	9	5	45
ICE MAKER SUPPLY	IMS	3	2	6
ICE MAKER SUPPLY	IMS	1	1	1
CLOTHES WASHER	LSB	2	4	8
DRINKING FOUNTAIN	DF	2	0.5	1
HOSE BIBB	HB	1	2.5	2.5
HOSE BIBB (EACH ADDITIONAL)	HB	6	1	6.0
KITCHEN SINK	KS	2	3	6
LAUNDRY TUB	LT	1	1.5	1.5
LAVATORY	LAV	9	1	9
SHOWER	SH	7	2	14
MOP SINK	MSK	2	3	6
SINK	S	2	2	4
FLOOR DRAIN (EMERGENCY FIXTURE)	FD	0	0	0
TOTAL				110

FIXTURE TABULATION (WASTE)

FIXTURE	ABBREVIATION	QUANTITY	FIXTURE UNIT	TOTAL
WATER CLOSET	WC	9	4	36
CLOTHES WASHER	LSB	2	3	6
DRINKING FOUNTAIN	DF	2	0.5	1
KITCHEN SINK	KS	2	3	6
LAUNDRY TUB	LT	1	2	2
LAVATORY	LAV	9	1	9
SHOWER	SH	7	2	14
MOP SINK	MSK	2	3	6
SINK	S	2	2	4
FLOOR DRAIN (EMERGENCY FIXTURE)	FD	0	0	0
FLOOR SINK	FS	4	1	4
LINEAR DRAIN	LD	0	0	0
TOTAL				88

PIPE MATERIAL LIST

SYSTEM \ MATERIAL		HUBLESS CAST IRON PIPE, & FITTINGS	TYPE 'L' COPPER TUBING	CLEAN TYPE 'L' COPPER TUBING BRAZED FITTINGS	CPVC - PVDF	DWV COPPER TUBING PER ASTM B 306 W/ CAST COPPER ALLOY	BLACK STEEL SCHED. 40 THREADED FITTINGS	VACUUM PRE-INSULATED STAINLESS STEEL	DOUBLE WALL VALEX 30, TUBING	TYPE 'K' COPPER SILVER SOLDER	HUBLESS CAST IRON W/MG COUPLINGS	GALV. STL. SCH. 40 W/C.I. THREADED DWV FITTINGS	POLYETHYLENE (SITE PIPES)	
POTABLE WATER	ABV. GRADE		●											
	BELOW GRADE									●				
NON POTABLE WATER	ABV. GRADE		●											
	BELOW GRADE									●				
NATURAL GAS	ABV. GRADE						●							
	BELOW GRADE												●	
SANITARY DRAINAGE	ABV. GROUND	●												
	BELOW GROUND	●									●			
SANITARY VENT		●										●		
CONDENSATE DRAIN						●								
COMPRESSED AIR			●											
STORM DRAIN	ABV. GROUND	●												
	BELOW GROUND	●												
PROCESSED WASTE		●												

(1)

REGISTERED PROFESSIONAL ENGINEER
BRIAN P. STARRETT
M 34068
EXP. 6/30/24
MECHANICAL
STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN
805. 540. 3363 WWW.3CENG.COM
1500 PALM ST. SAN LUIS OBISPO, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

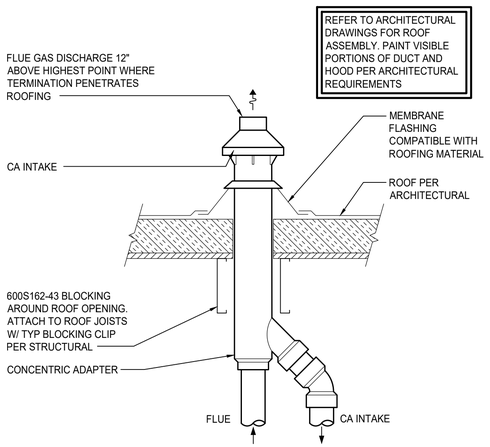
AS-BUILT REF.

DESIGNED BY: DS
DRAWN BY: JM
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

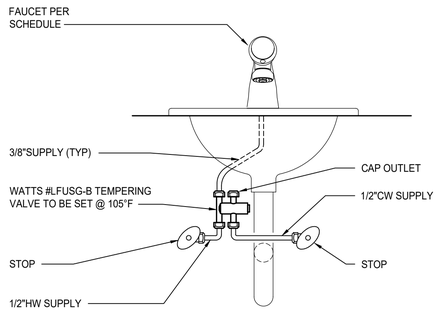
LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN. 08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
PLUMBING SCHEDULES

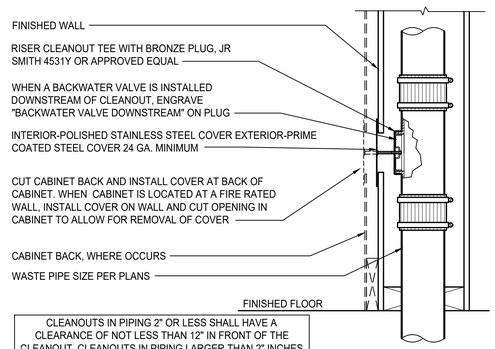
B# B-4797
PHASE # ____ / REBID # ____
SHEET 167 OF 236
DWG. NO. P001



7 CONCENTRIC ROOF TERMINATION
NTS



5 LAVATORY TEMPERING VALVE
NTS

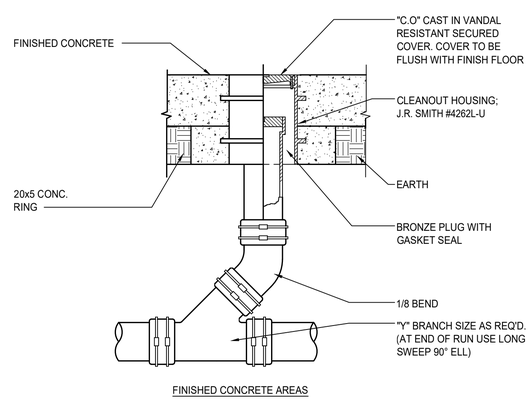


CLEANOUTS IN PIPING 2" OR LESS SHALL HAVE A CLEARANCE OF NOT LESS THAN 12" IN FRONT OF THE CLEANOUT, CLEANOUTS IN PIPING LARGER THAN 2" INCHES SHALL HAVE A CLEARANCE OF NOT LESS THAN 18".

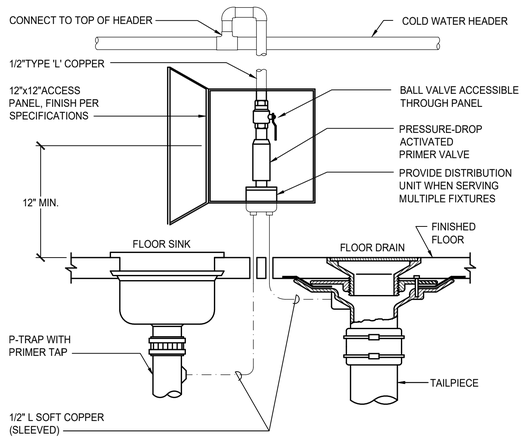
CLEANOUTS: CPC TABLE 707.1

PIPE SIZE	CLEANOUT SIZE
1-1/2" - 2"	1-1/2"
2-1/2" - 3"	2-1/2"
4" & LARGER	3-1/2"

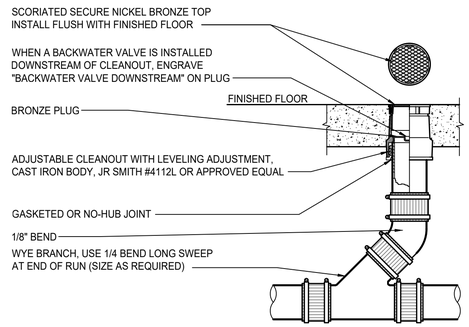
3 WALL CLEANOUT
NTS



1 FLOOR CLEANOUT
NTS



6 TRAP PRIMER
NTS

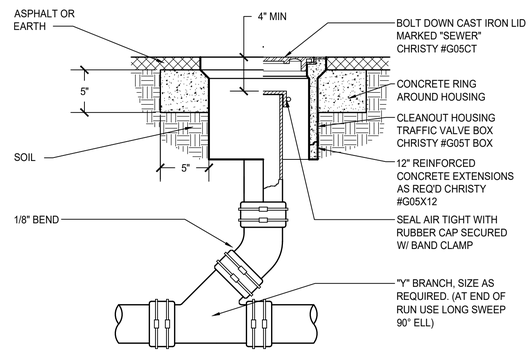


CLEANOUTS IN PIPING 2" OR LESS SHALL HAVE A CLEARANCE OF NOT LESS THAN 18" X 18" IN FRONT OF THE CLEANOUT, CLEANOUTS IN PIPING LARGER THAN 2" INCHES SHALL HAVE A CLEARANCE OF NOT LESS THAN 24" X 24".

CLEANOUTS: CPC TABLE 707.1

PIPE SIZE	CLEANOUT SIZE	THREADS (PER INCH)
1-1/2" - 2"	1-1/2"	11-1/2
2-1/2" - 3"	2-1/2"	8
4" & LARGER	3-1/2"	8

4 FLOOR CLEANOUT
NTS



2 CLEANOUT TO GRADE
NTS

REVISIONS

NO	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
	AS-BUILT			REF:

DESIGNED BY: DS
DRAWN BY: JM
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

PLUMBING DETAILS

B# B-4797

PHASE # ____ / REBID # ____

SHEET 168 OF 236

DWG. NO. P002

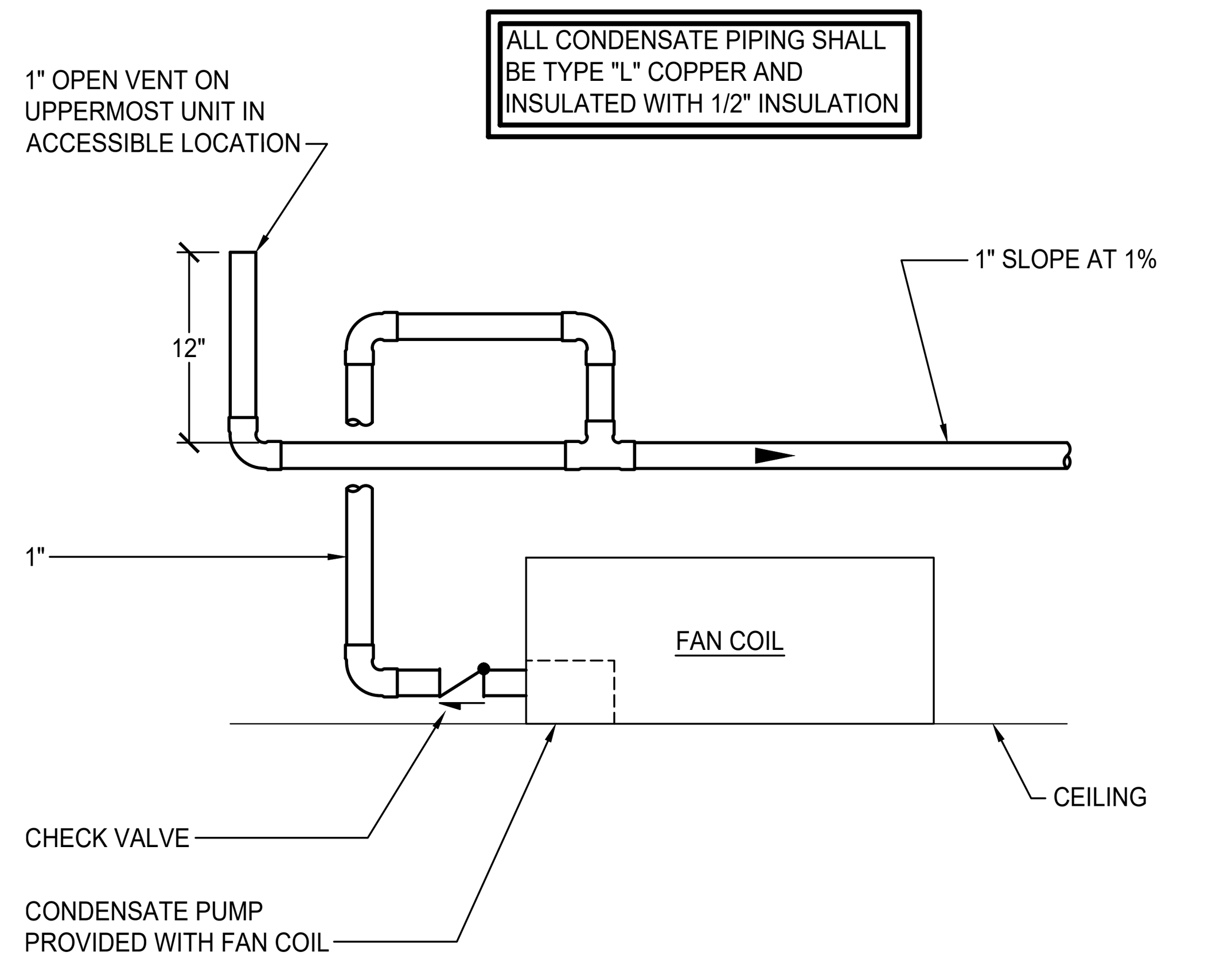
REGISTERED PROFESSIONAL ENGINEER JONATHAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN
805.540.3343 WWW.3CENG.COM
1300 Pacific St. San Luis Obispo, CA 93401

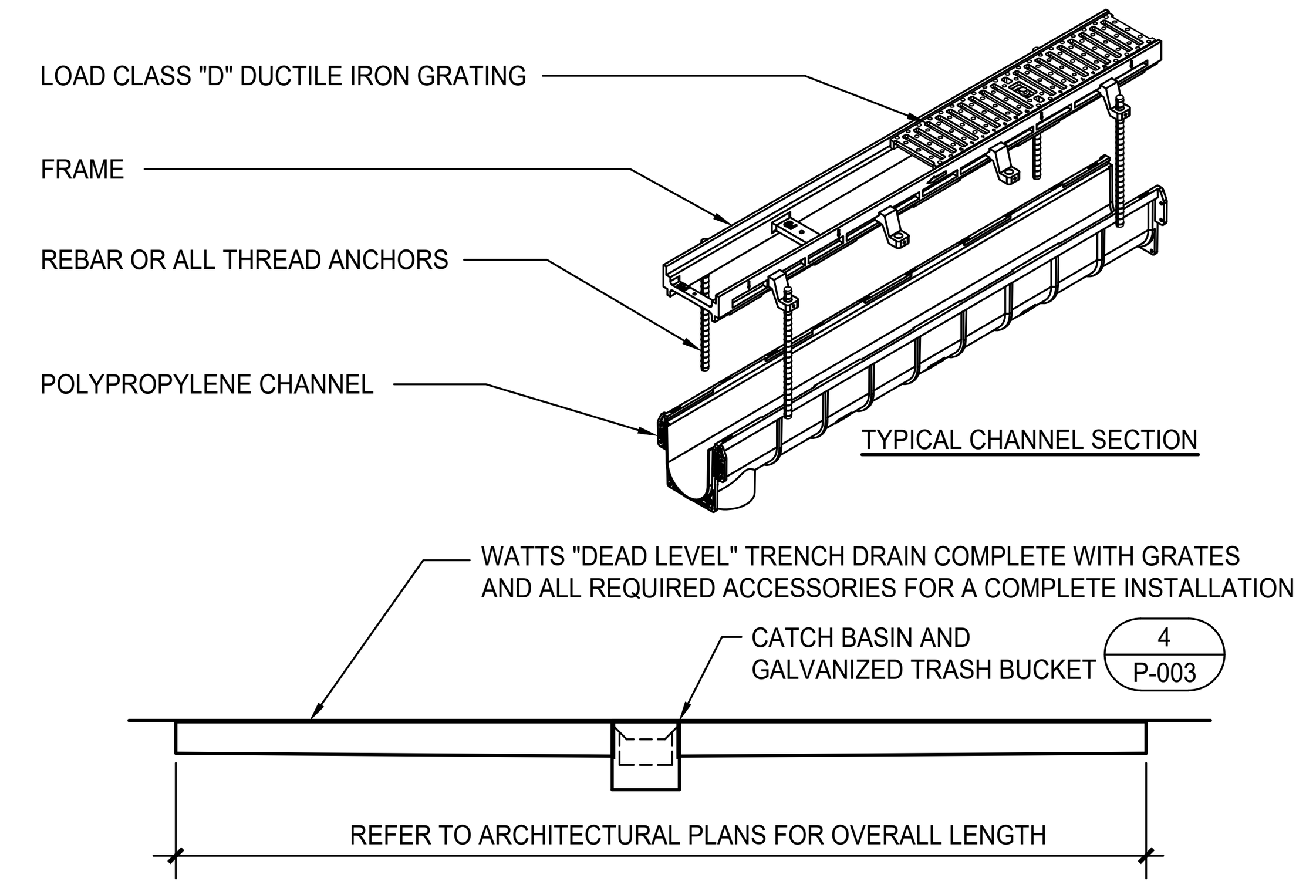
MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

4" TRENCH DRAINS:

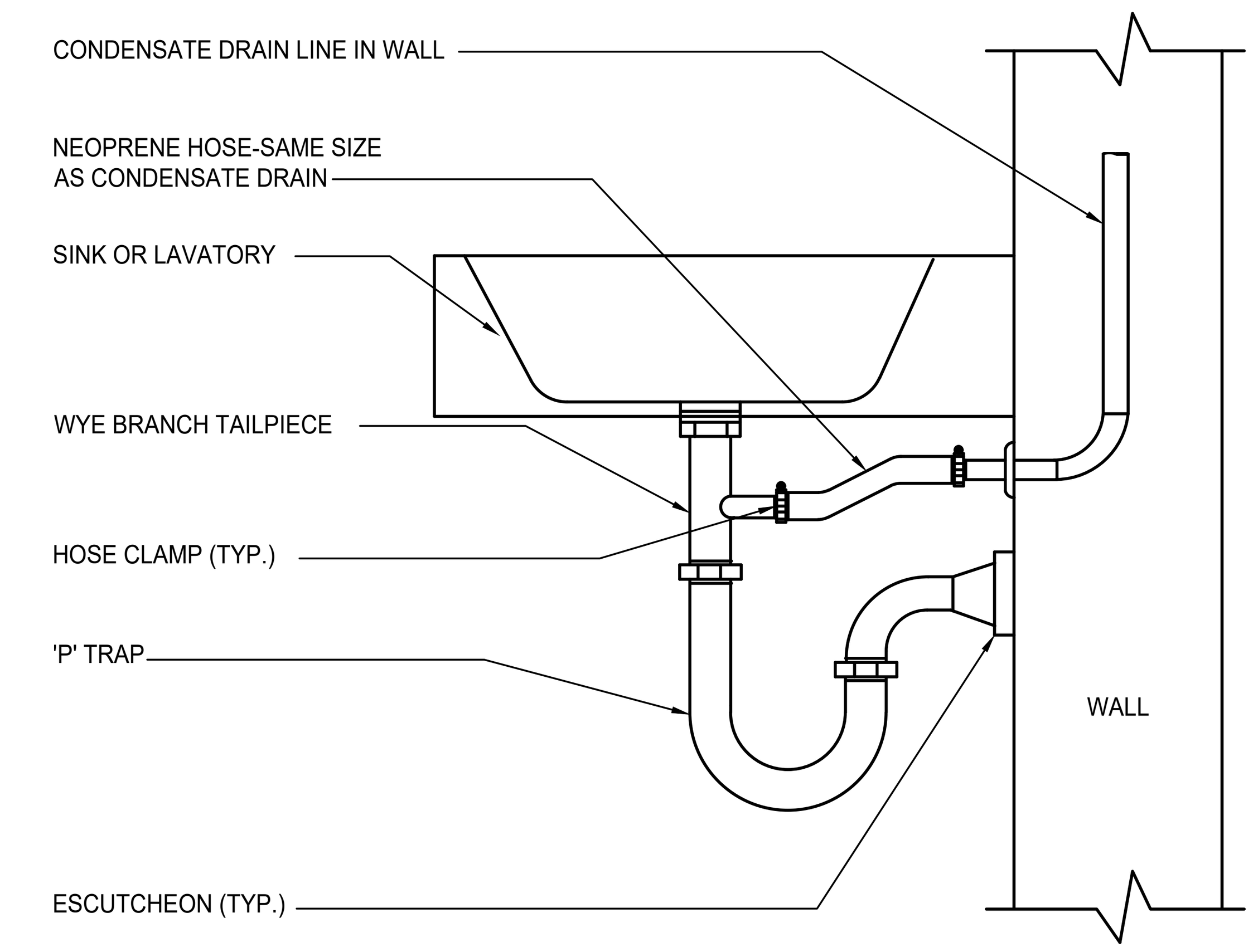
WATTS DEAD LEVEL D PRE-SLOPED TRENCH DRAIN SYSTEM WITH DUCTILE IRON FRAME, UV STABILIZED GLASS-FILLED POLYPROPYLENE CHANNELS AND DUCTILE IRON GRATING TO SUIT DIN CLASS "D" LOAD RATING. SYSTEM SHALL BE FRAME-ANCHORED, AND INCLUDE END CAPS, FRAME CONNECTORS, GRATE LOCKDOWNS, AND CONSTRUCTION COVERS. WATTS CATCH BASIN AND GALVANIZED TRASH BUCKET TO BE INSTALLED AT OUTLETS. ADDITIONAL SYSTEM INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.



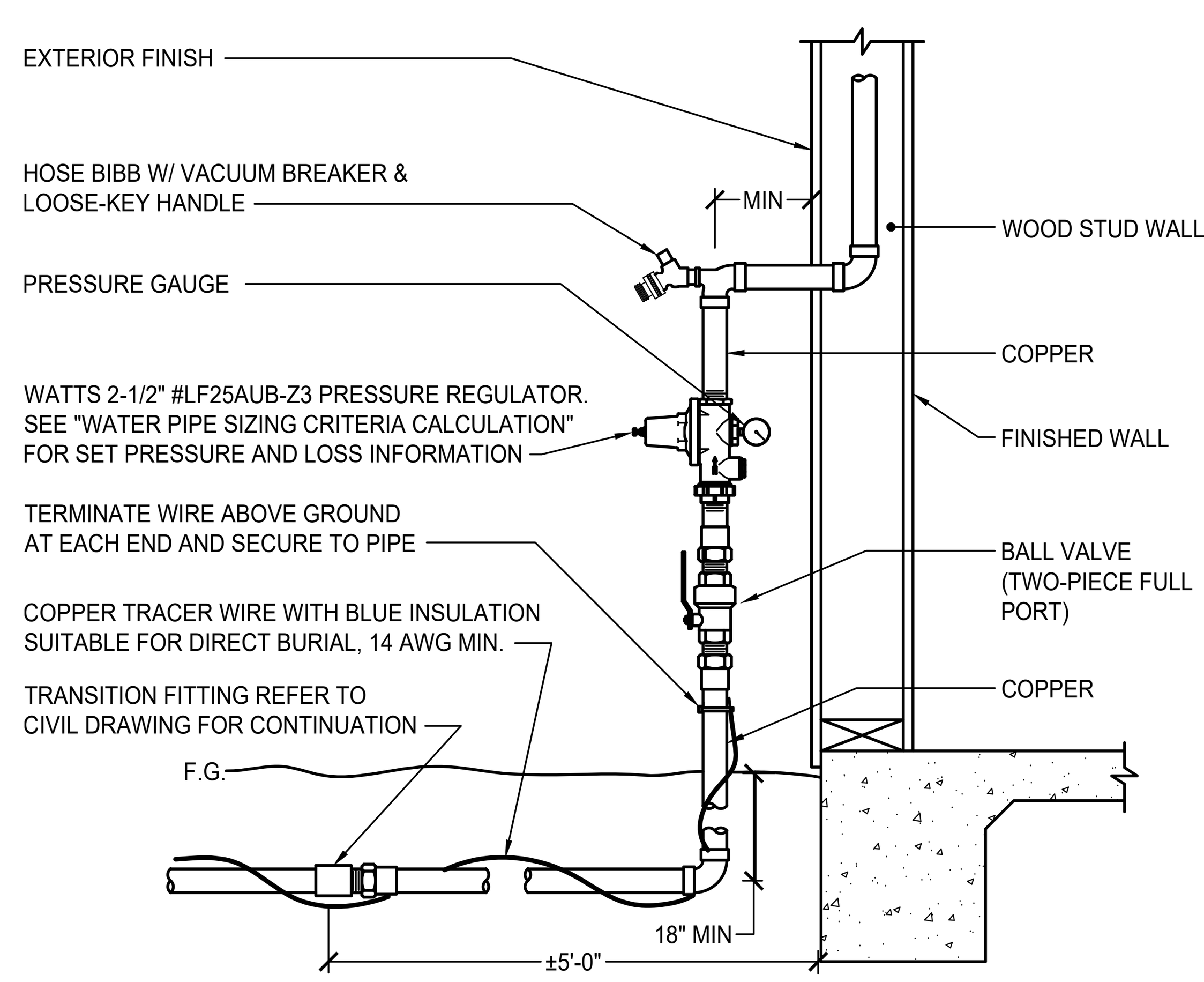
5 FANCOIL CONDENSATE DRAIN
NTS



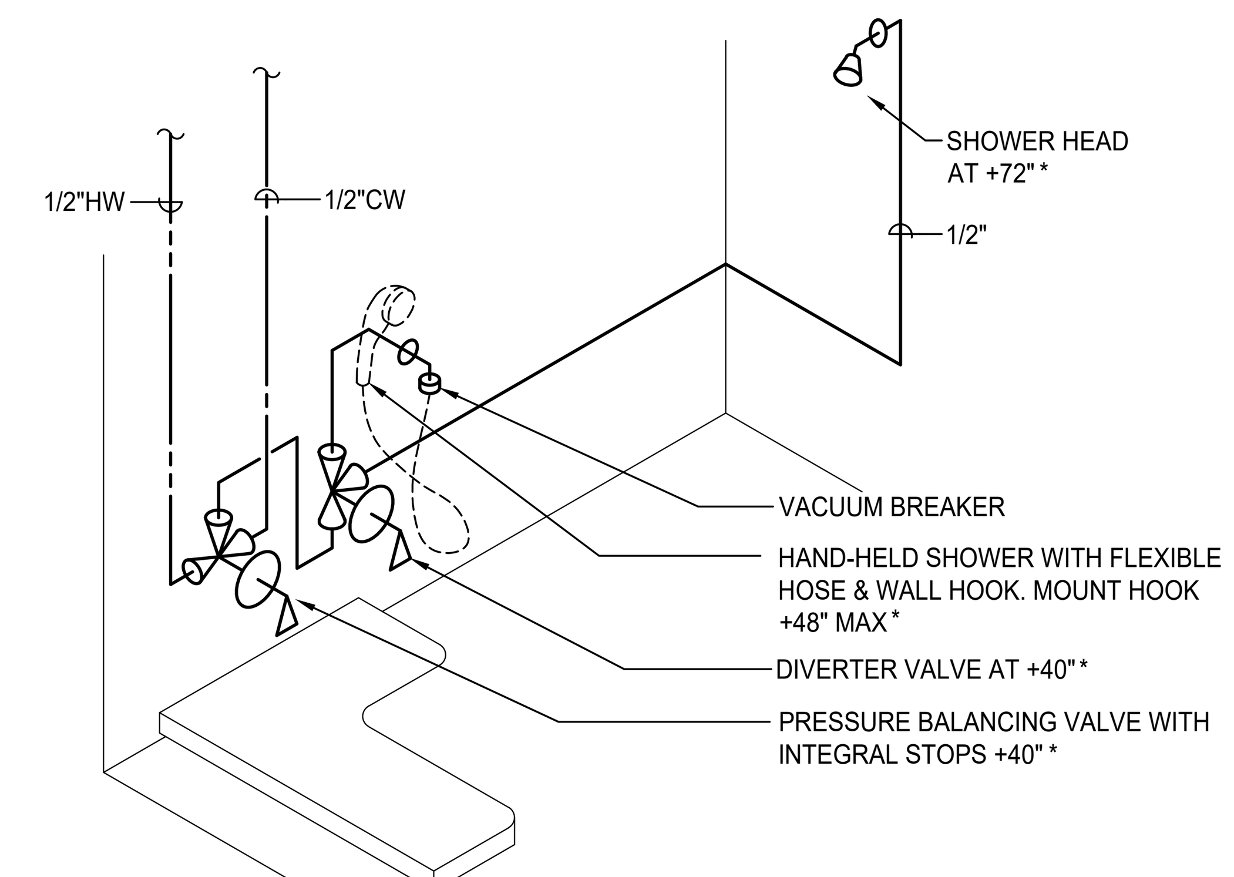
3 TRENCH DRAIN
NTS



1 CONDENSATE TO FIXTURE TAIL PIECE
NTS

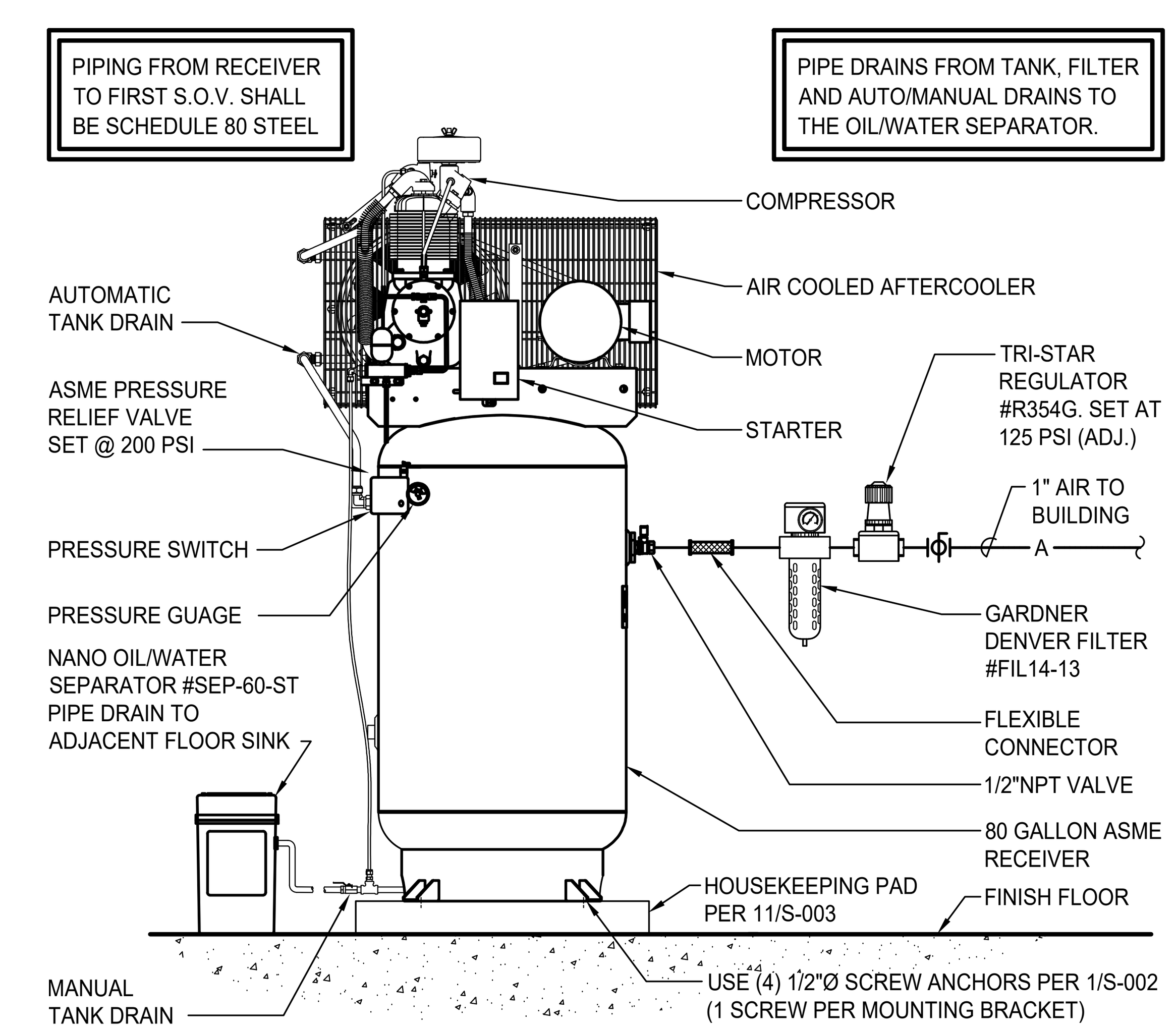


6 BUILDING WATER SUPPLY
NTS



* NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR ADA AND GRAB BAR MOUNTING LOCATION AND REQUIREMENTS. DIMENSIONS ON ARCHITECTURAL PLANS SHALL TAKE PRECEDENCE

4 ADA SHOWER
NTS



2 AIR COMPRESSOR
NTS

C:\Users\intern\appdata\local\temp\AcPublish_16684\LB FS 9 Plumbing Lead Sheets.dwg bswanson Oct 13,2023-2:58pm

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	04/22/2022			PLAN CHECK RE-SUBMITTAL
1	06/15/2023			PLAN CHECK RE-SUBMITTAL
2	10/12/2023			BID DOCUMENTS
AS-BUILT			REF.	

DESIGNED BY: DS
DRAWN BY: JM
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

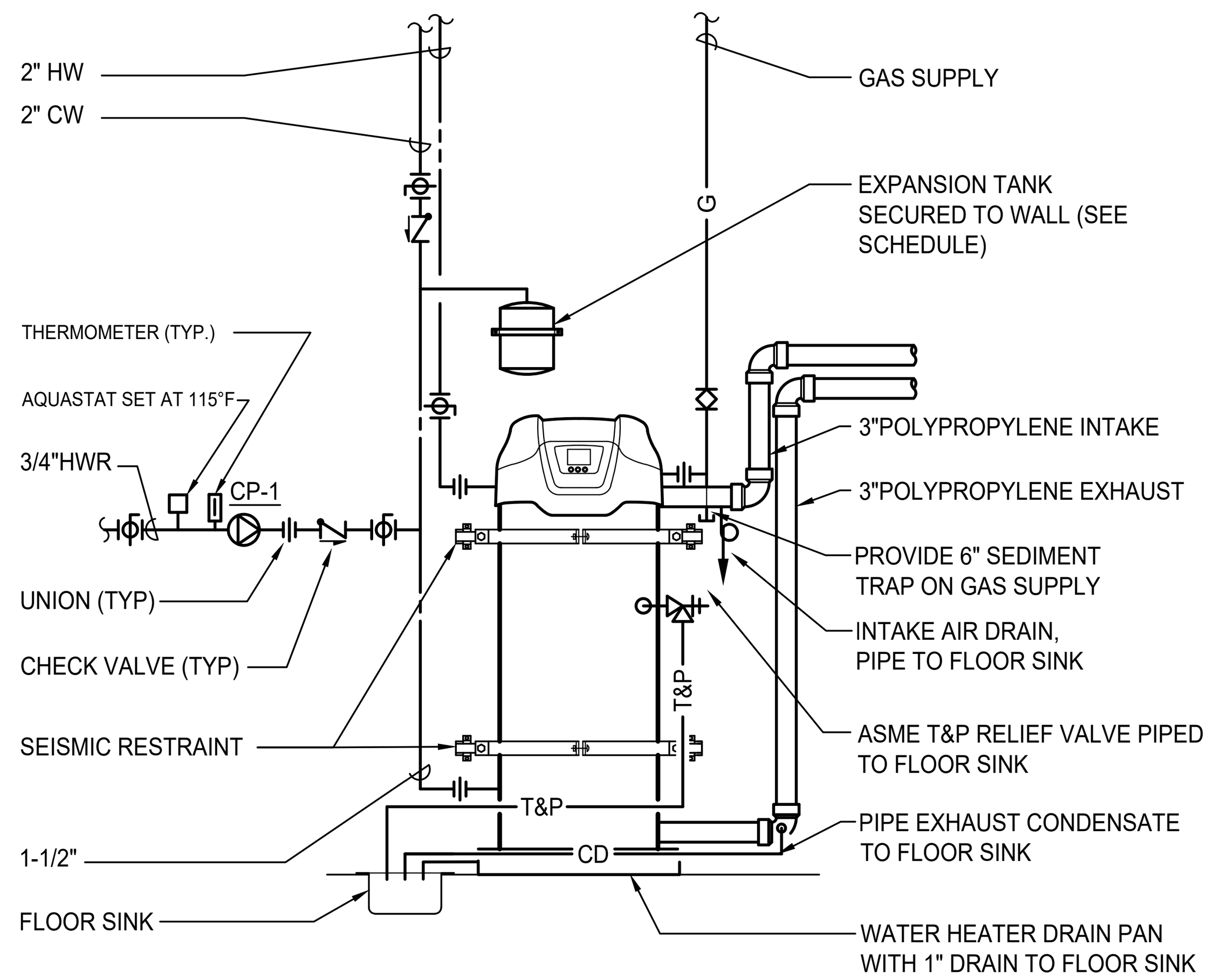
FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
PLUMBING DETAILS

B# B-4797
PHASE # ____ / REBID # ____
SHEET 169 OF 236
DWG. NO. P003

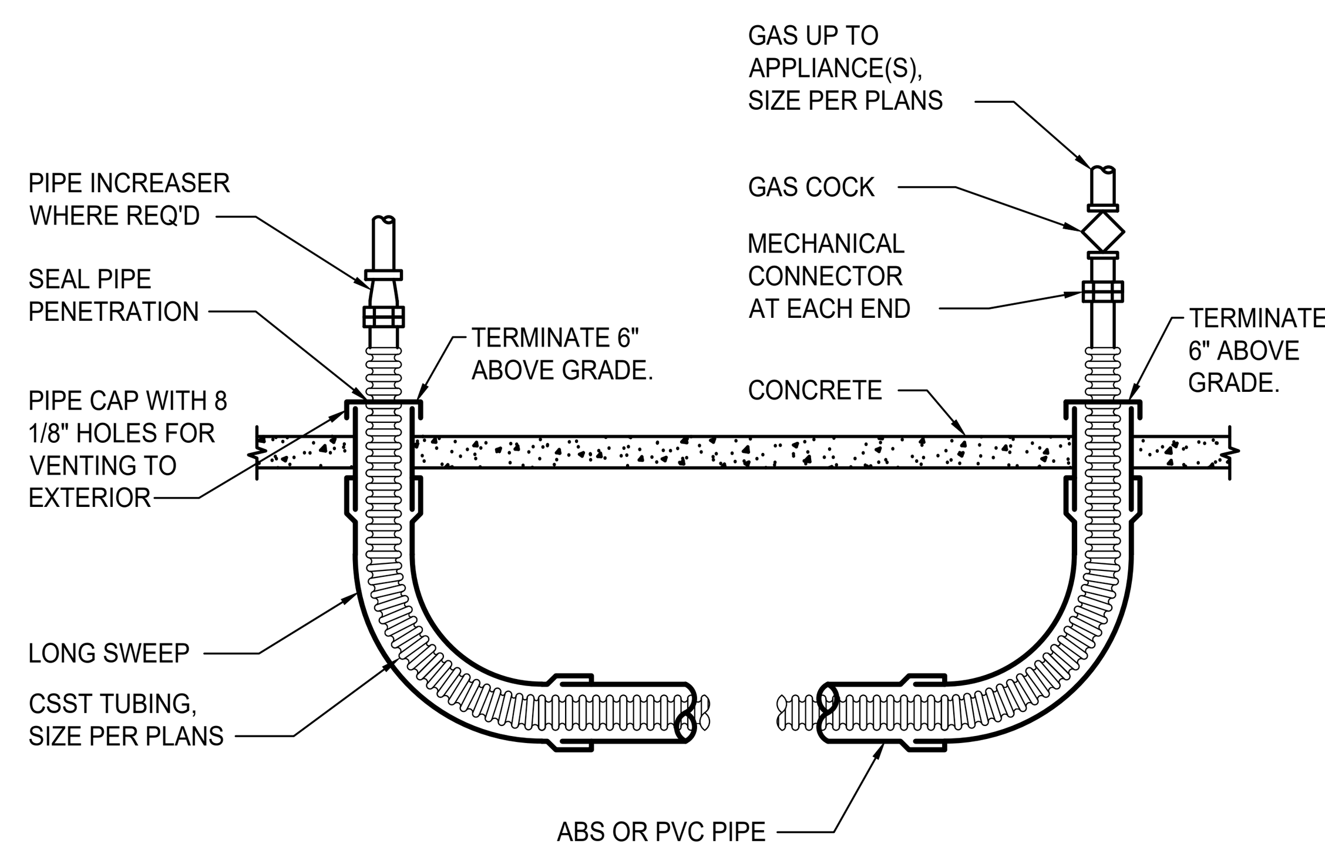
REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN

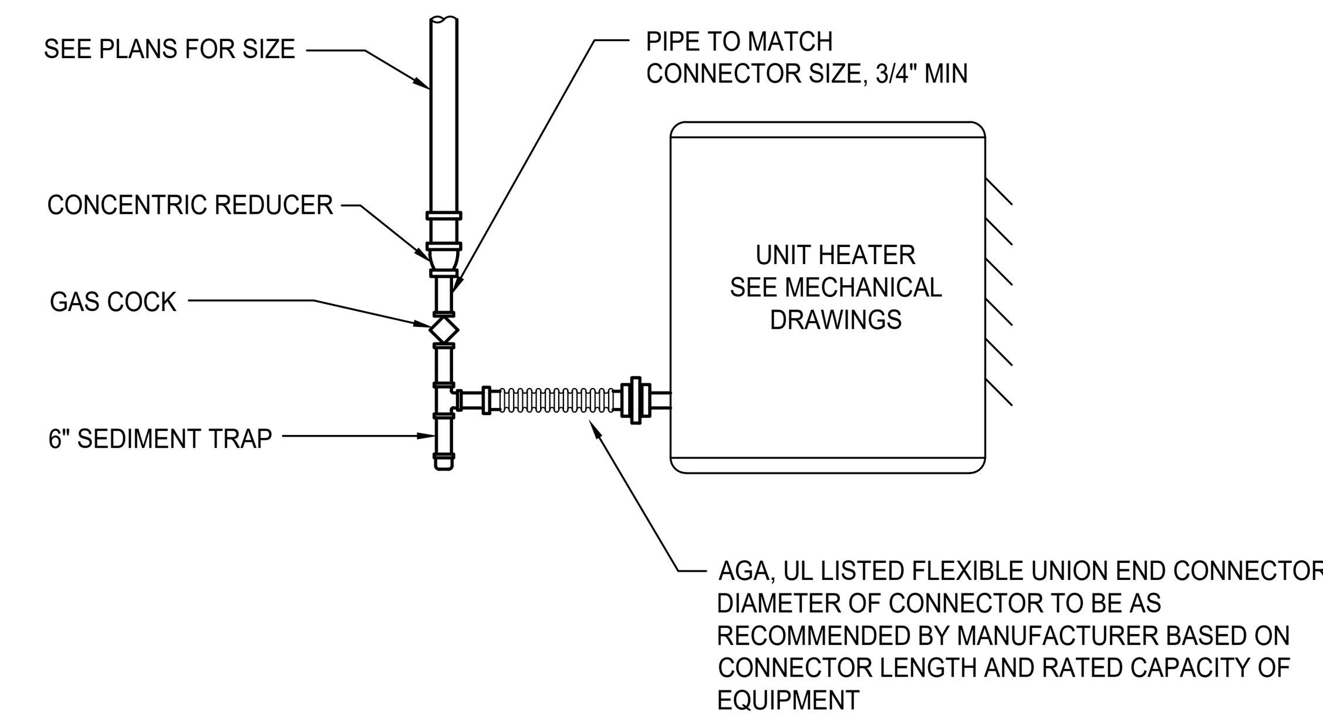
MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



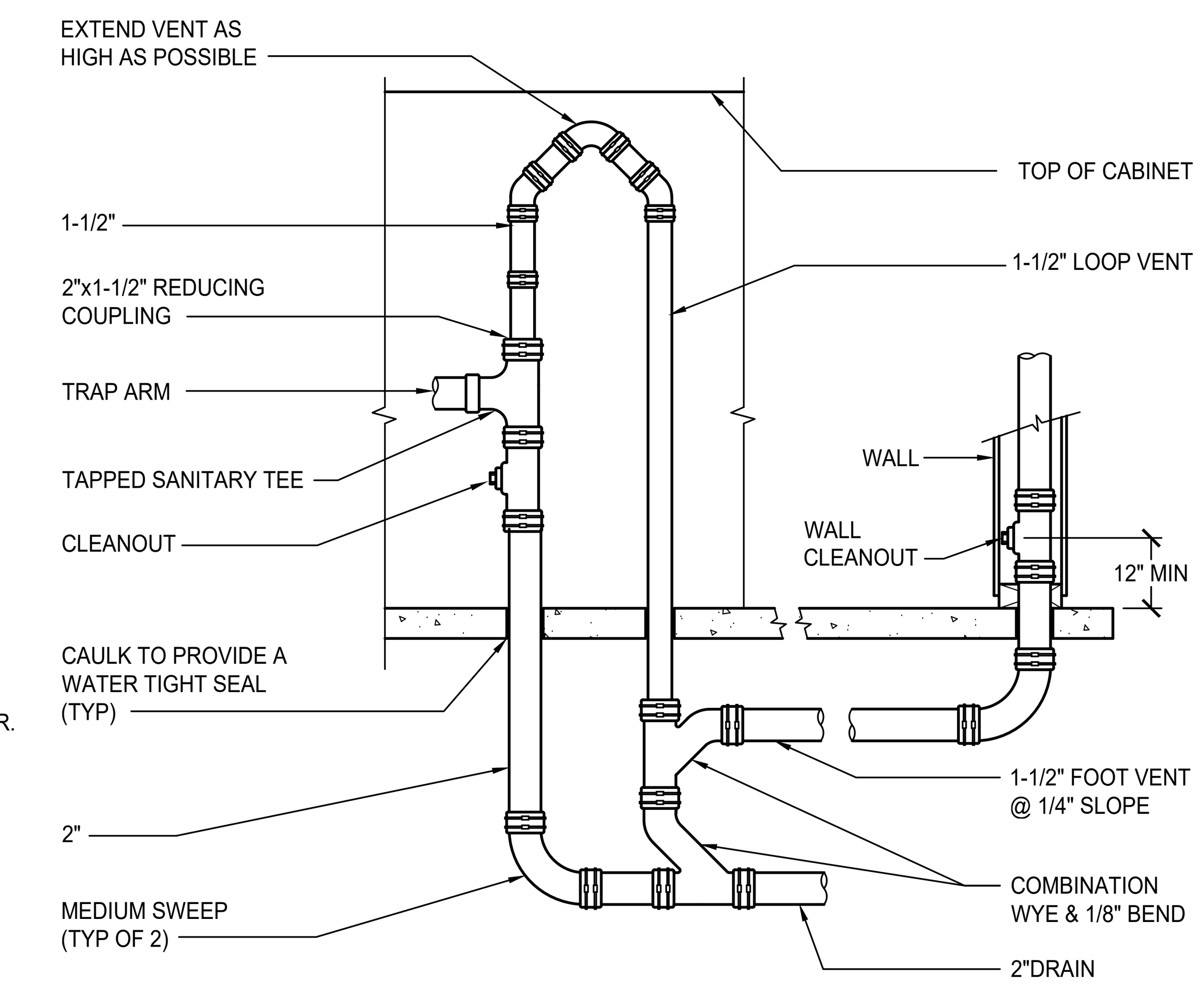
7 WATER HEATER PIPING SCHEMATIC
NTS



5 GAS PIPING UNDER CONC.
NTS



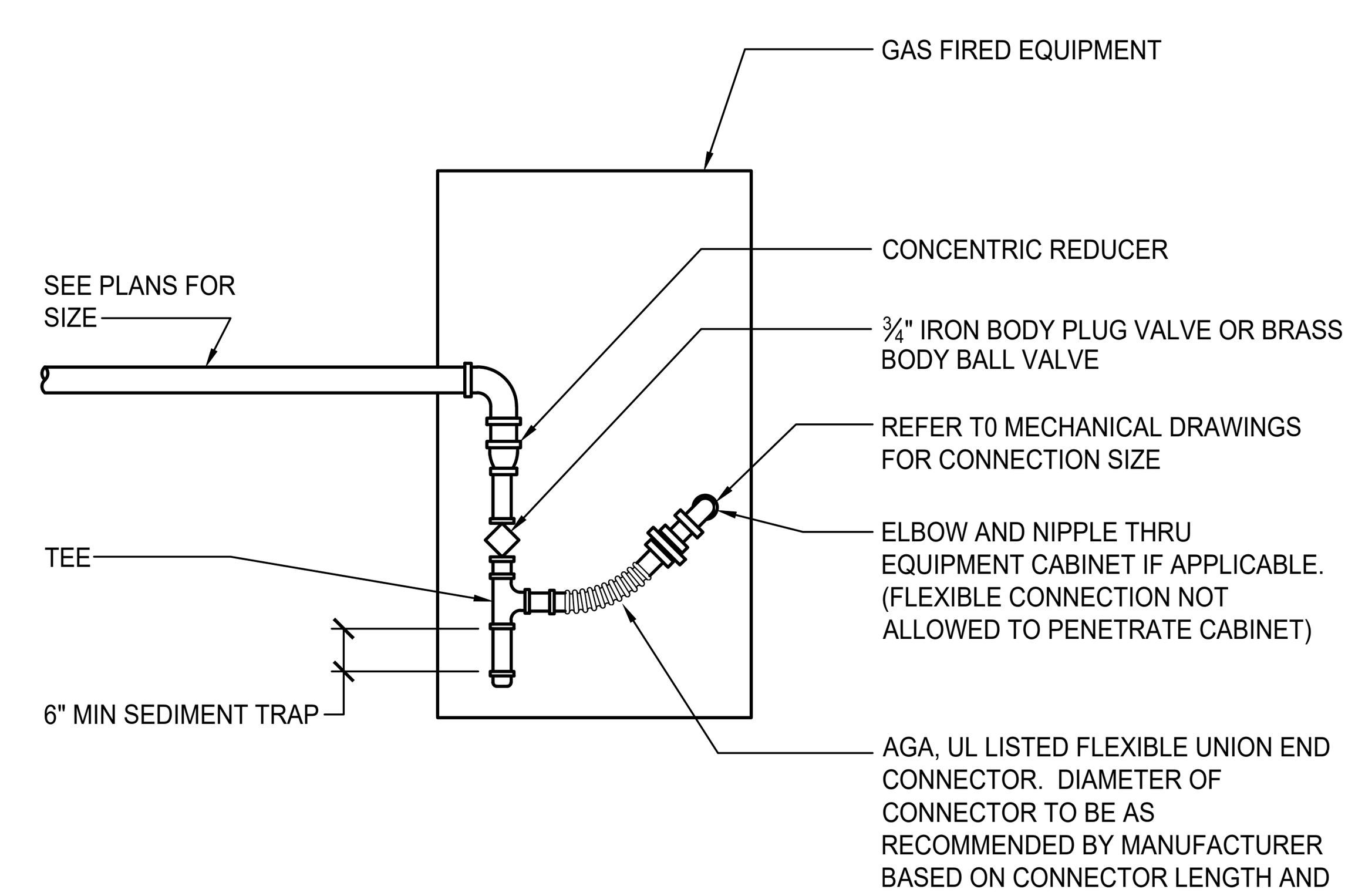
3 UNIT HEATER GAS CONNECTION
NTS



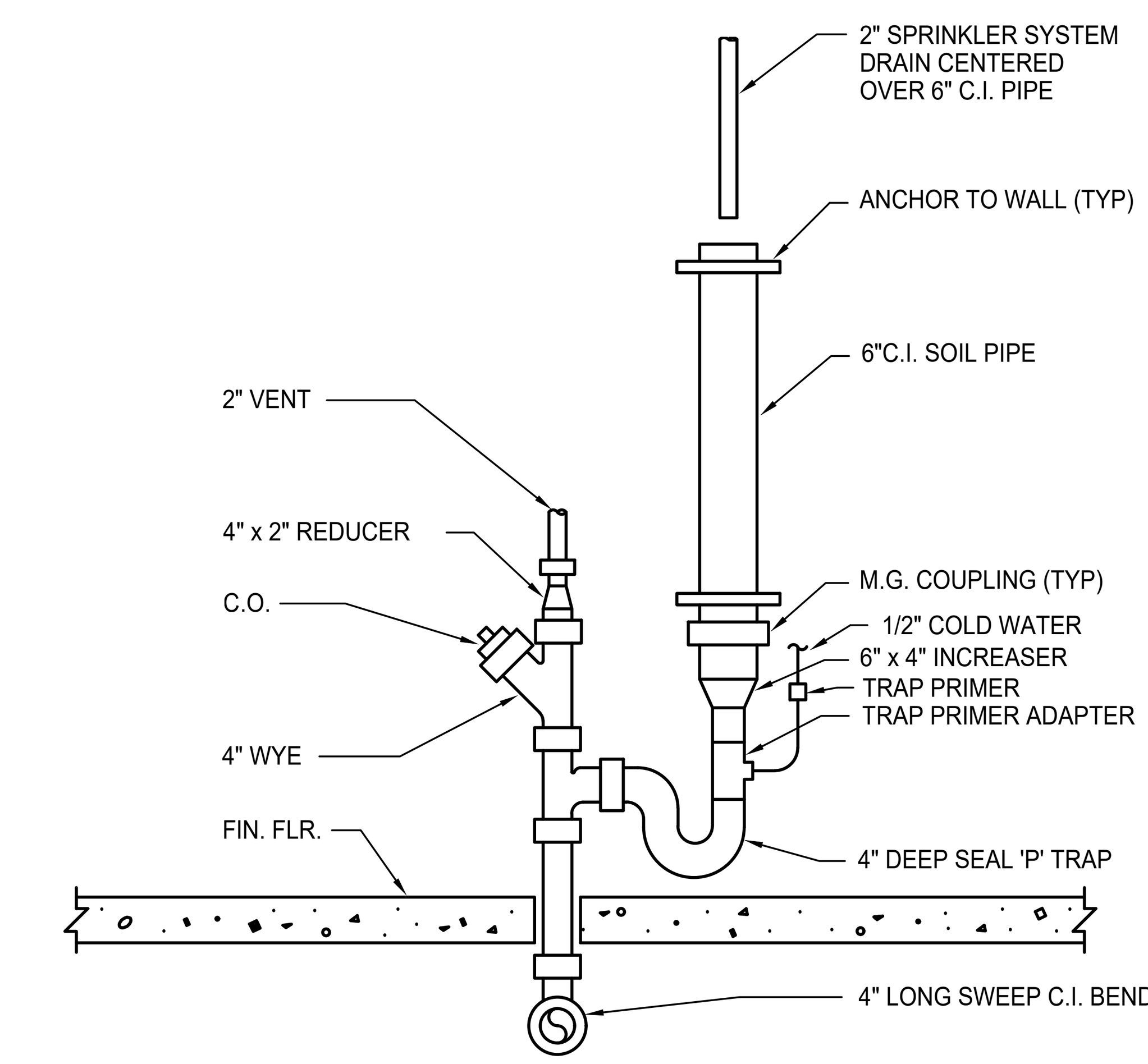
1 ISLAND VENT
NTS

6 NOT USED
NTS

ALL RIGID PIPING SHALL BE SCHEDULE 40 STEEL PIPE



4 GAS CONNECTION DETAIL
NTS



2 STANDPIPE DRAIN
NTS

1

C:\Users\intern\appdata\local\temp\AcPublish_16684\LB FS 9 Plumbing Lead Sheets.dwg bswanson Oct 13,2023-2:58pm

REVISIONS				
NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	04/22/2022			PLAN CHECK RE-SUBMITTAL
1	06/15/2023			PLAN CHECK RE-SUBMITTAL
2	10/12/2023		REF.	BID DOCUMENTS
				AS-BUILT

DESIGNED BY: DS
DRAWN BY: JM
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

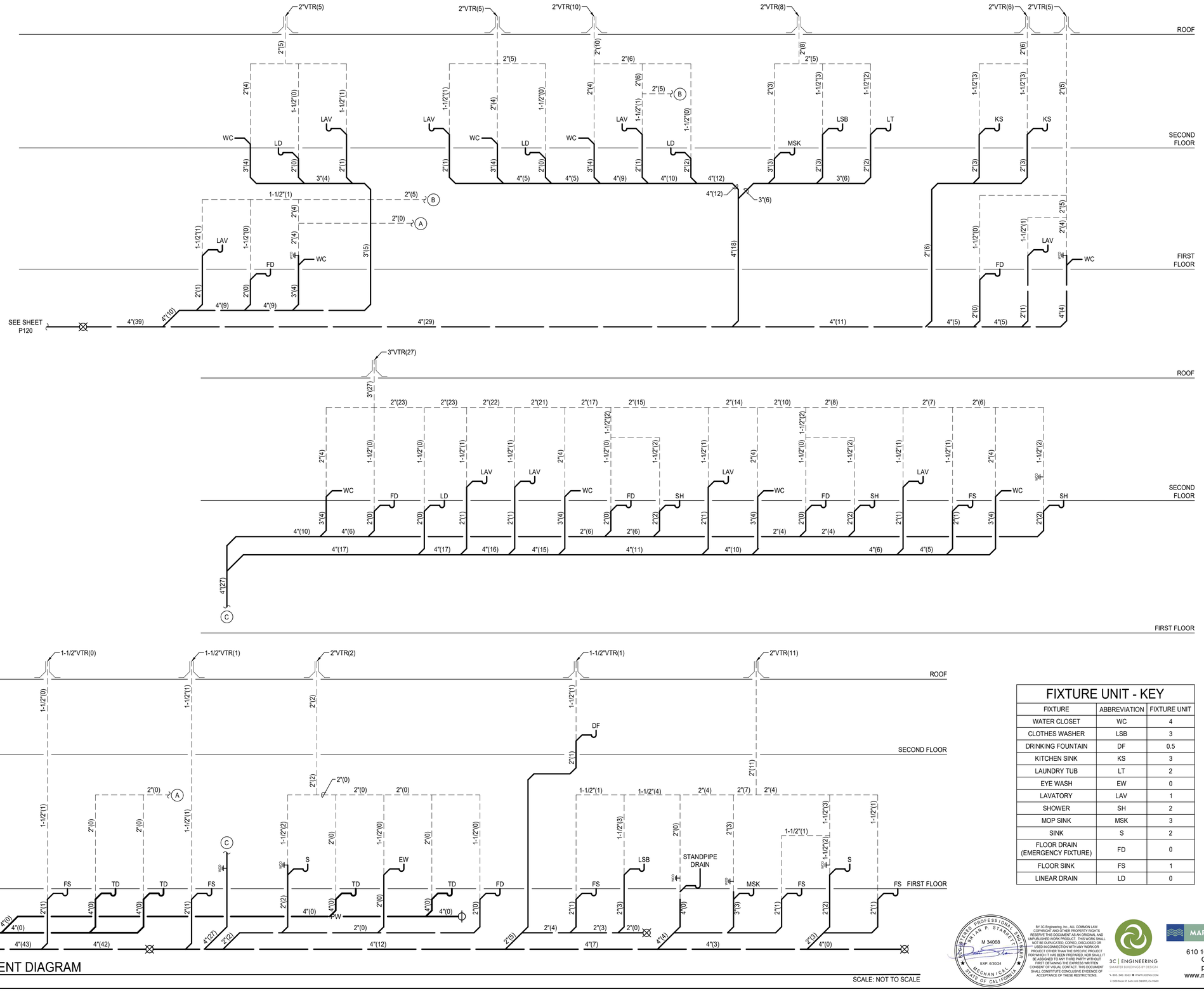
3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

PLUMBING DETAILS

B# B-4797
PHASE # ____ / REBID # ____
SHEET 170 OF 236
DWG. NO. P004



1 WASTE & VENT DIAGRAM

SCALE: NOT TO SCALE

FIXTURE UNIT - KEY		
FIXTURE	ABBREVIATION	FIXTURE UNIT
WATER CLOSET	WC	4
CLOTHES WASHER	LSB	3
DRINKING FOUNTAIN	DF	0.5
KITCHEN SINK	KS	3
LAUNDRY TUB	LT	2
EYE WASH	EW	0
LAVATORY	LAV	1
SHOWER	SH	2
MOP SINK	MSK	3
SINK	S	2
FLOOR DRAIN (EMERGENCY FIXTURE)	FD	0
FLOOR SINK	FS	1
LINEAR DRAIN	LD	0

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
	AS-BUILT			REF:

DESIGNED BY: DS
DRAWN BY: JM
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

PLUMBING DIAGRAMS

B# B-4797

PHASE # ____ / REBID # ____

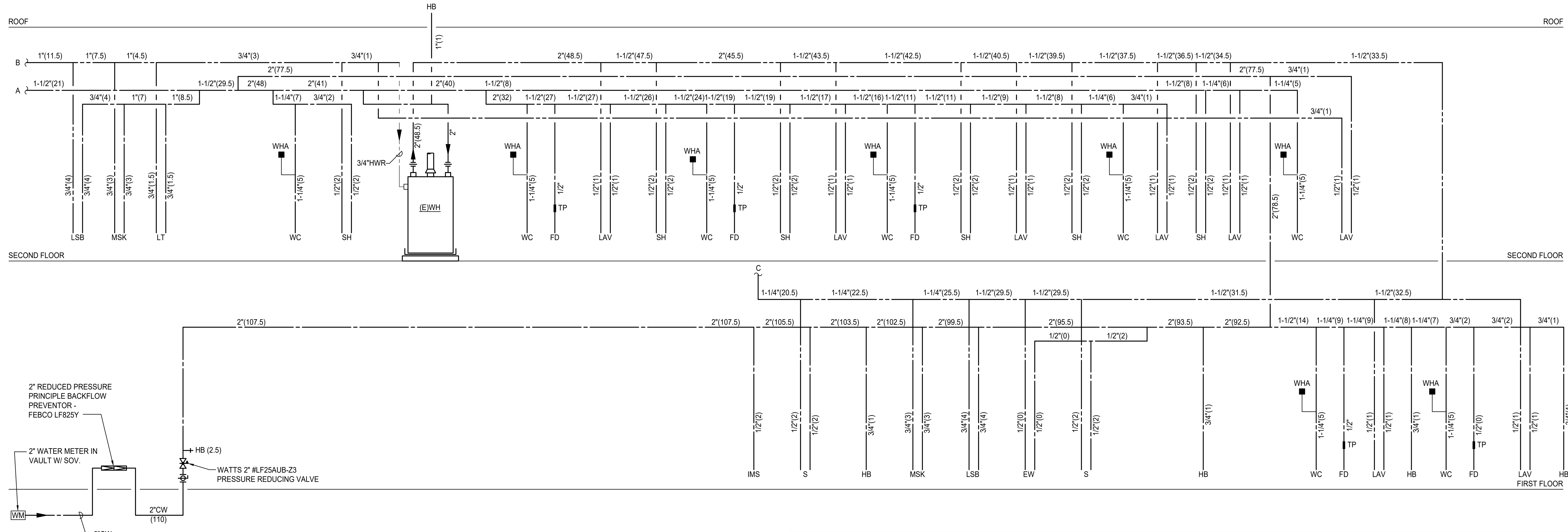
SHEET 171 OF 236

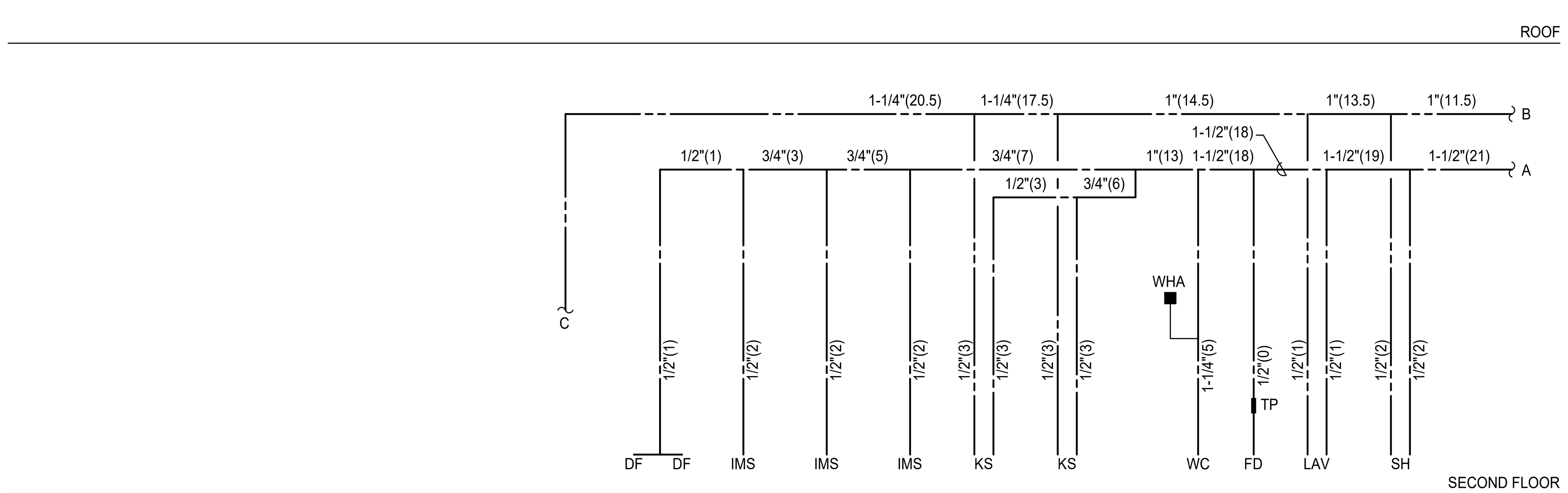
DWG. NO. P005

REGISTERED PROFESSIONAL ENGINEER JONATHAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING SMARTER BUILDINGS BY DESIGN

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



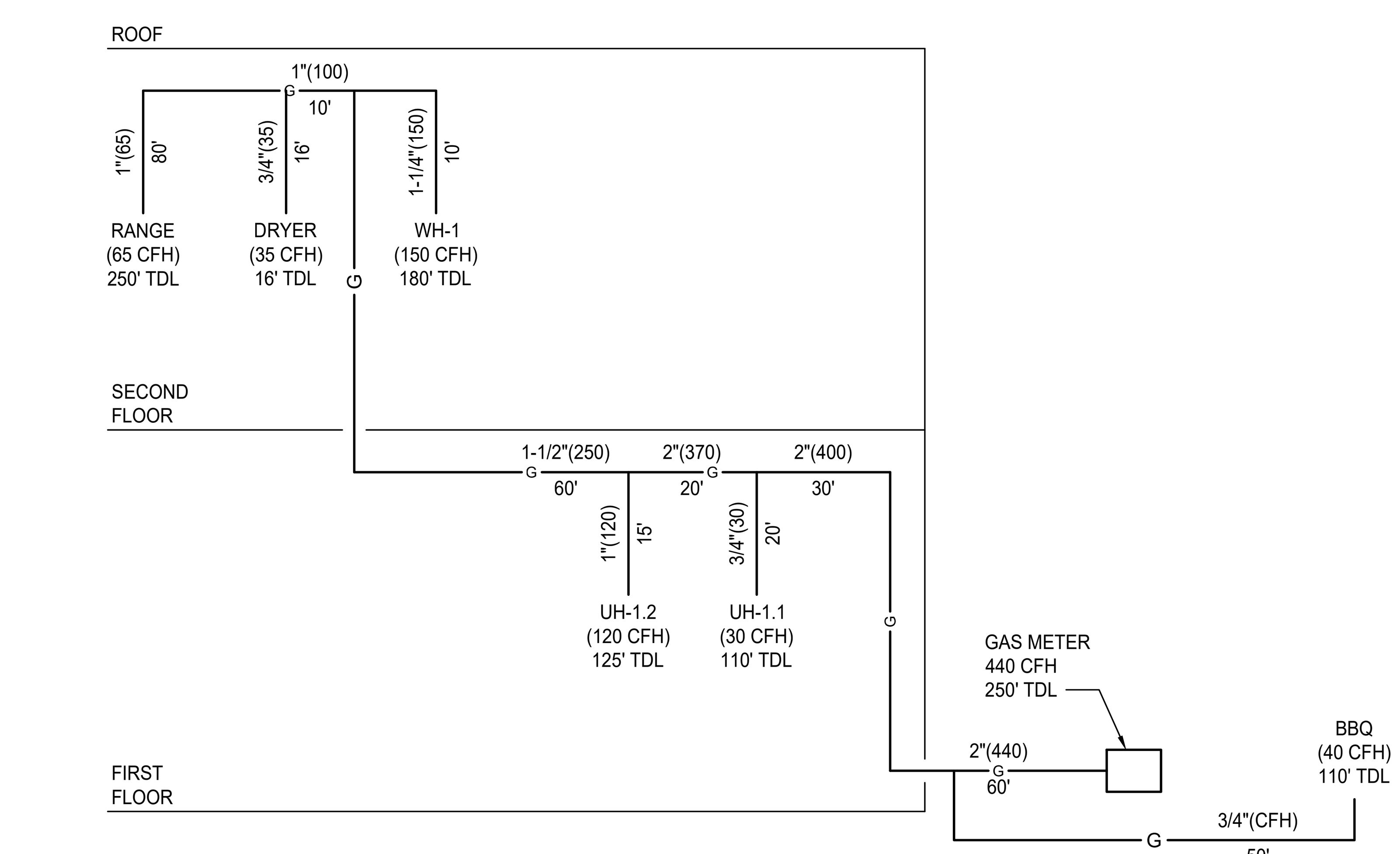


B WATER DIAGRAM

SCALE: NOT TO SCALE

FIXTURE UNIT - KEY

FIXTURE	ABBREVIATION	FIXTURE UNIT
WATER CLOSET	WC	5
ICE MAKER SUPPLY	IMS	2
CLOTHES WASHER	LSB	4
DRINKING FOUNTAIN	DF	0.5
EYE WASH	EX	0
HOSE BIBB	HB	2.5
HOSE BIBB (EACH ADDITIONAL)	HB	1
HOSE BIBB (TRUCK FILL)	HB	0
KITCHEN SINK	KS	3
LAUNDRY TUB	LT	1.5
LAVATORY	LAV	1
SHOWER	SH	2
MOP SINK	MSK	3
BAR SINK	S	1
FLOOR DRAIN (EMERGENCY FIXTURE)	FD	0



LOW PRESSURE NATURAL GAS SIZING

SYSTEM	QUANTITY	CFH'S	CFH
BBQ	1	40	40
UH-1.1	1	30	30
UH-1.2	1	120	120
WH-1	1	150	150
RANGE	1	65	65
DRYER	1	35	35
TOTAL			440
FUEL TYPE			NATURAL GAS
DISTANCE FROM REGULATOR TO FURTHEST APPLIANCE (FT)			240
INLET PRESSURE (PSI)			< 2
PRESSURE DROP (IN. W.C.)			0.5
PIPE SIZE REQUIRED (INCHES)			2"
PIPE SIZE PROVIDED (INCHES)			2"
SIZED IN ACCORDANCE WITH 2019 CPC TABLE 1215.2(1)			

NOTES:
1. CONNECT TO INDIVIDUAL UNITS PER MANUFACTURER SIZING RECOMMENDATIONS.
2. EACH CONNECTION TO EQUIPMENT SHALL BE PROVIDED WITH A MINIMUM 6" SEDIMENT TRAP LOCATED IMMEDIATELY AFTER THE SHUT OFF VALVE.

A GAS DIAGRAM

SCALE: NOT TO SCALE

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
△	04/22/2022			PLAN CHECK RE-SUBMITTAL
△	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT			REF.	

DESIGNED BY: DS
DRAWN BY: JM
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. McGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

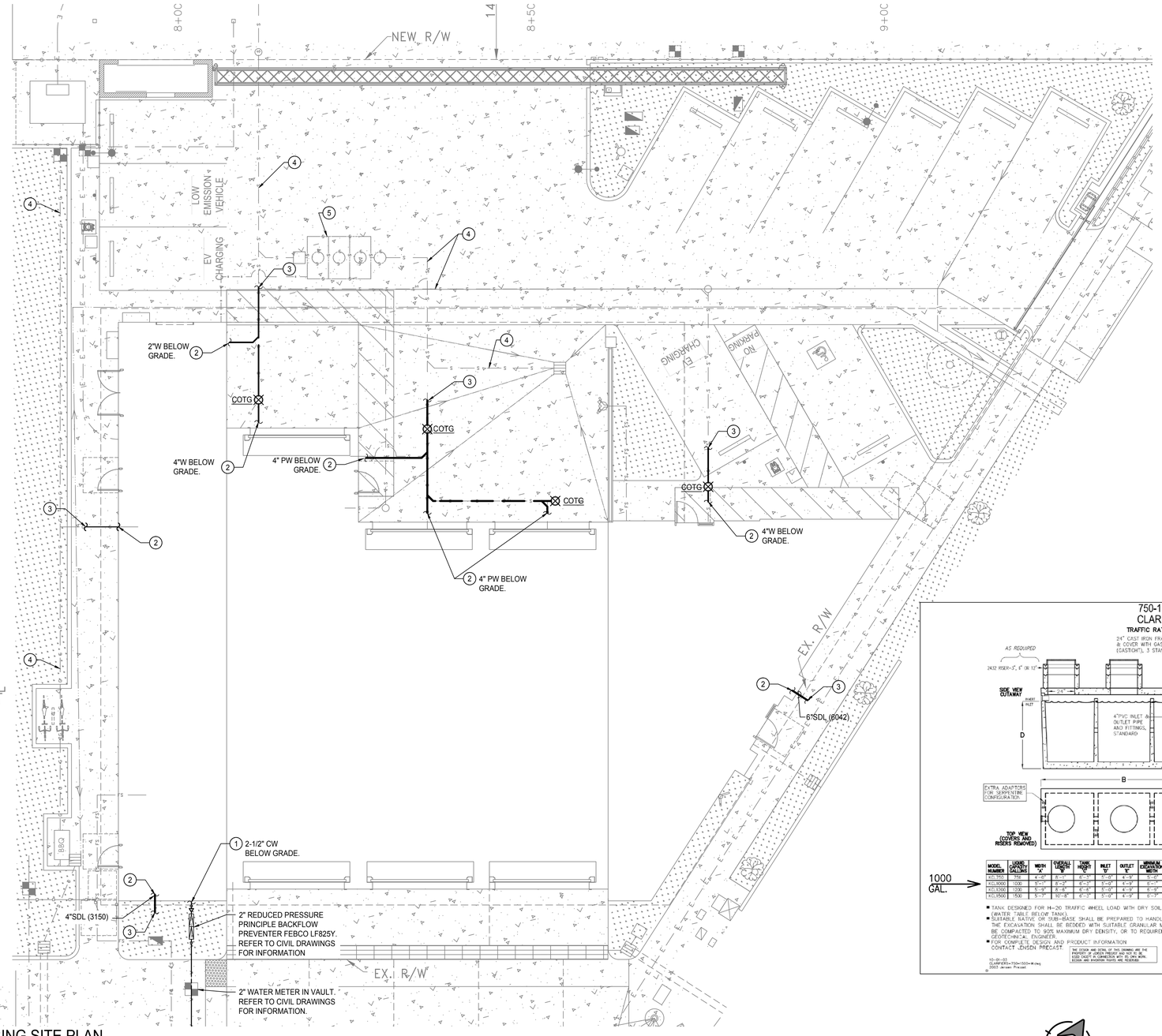
FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

PLUMBING DIAGRAMS

B# B-4797
PHASE # ____ / REBID # ____
SHEET 172 OF 236
DWG. NO. P006

3C | ENGINEERING

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



PLUMBING SITE PLAN

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

KEY NOTES

APPLICABLE TO THIS SHEET ONLY

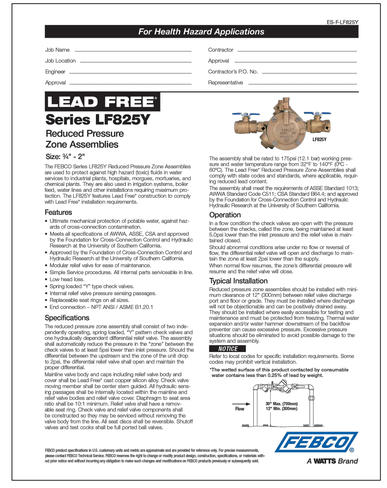
1	REFER TO SHEET P121 FOR CONTINUATION OF PIPING.
2	REFER TO SHEET P120 FOR CONTINUATION OF PIPING.
3	POINT OF CONNECTION. REFER TO CIVIL DRAWINGS FOR CONTINUATION.
4	REFER TO CIVIL DRAWINGS FOR SITE PIPING INFORMATION. SHOWN FOR REFERENCE ONLY.
5	JANSEN 1,000 GALLON SAND/OIL INTERCEPTOR #KCL1000. SAND/OIL INTERCEPTOR SHALL RECEIVE DRAINAGE FROM THE TRENCH DRAINS IN THE APP BAY AND THE AREA DRAIN SERVING WASH DOWN AREA ONLY. REFER TO CIVIL DRAWINGS FOR INFORMATION. SHOWN FOR REFERENCE.

PLUMBING GENERAL NOTES

APPLICABLE TO THIS SHEET ONLY

1	SEE PLUMBING FIXTURE SCHEDULE FOR BRANCH PIPE SIZING.
2	SLOPE SANITARY WASTE PIPING MIN 2% IN DIRECTION OF FLOW.
3	SLOPE VENT PIPING UP TOWARDS VTR MIN 1%.
4	SLOPE CONDENSATE PIPING MIN 1% IN DIRECTION OF FLOW.
5	ALL ROOMS WITH FLOOR DRAINAGE MUST HAVE FLOORS SLOPED TOWARD DRAIN. SEE ARCHITECTURAL PLANS FOR REQUIRED SLOPE.
6	PROVIDE CLEANOUTS IN ALL LOCATIONS SHOWN. COORDINATE ALL WALL CLEANOUTS WITH PLUMBING FIXTURES, CASEWORK, AND ARCHITECTURAL ELEVATIONS. SEE DETAIL 4/P002 FOR SIZING AND CLEARANCES REQUIRED.
7	REFER TO MECHANICAL PLANS FOR LOCATIONS OF MECHANICAL EQUIPMENT AND DUCTWORK. COORDINATE ALL WORK TO FIT IN AVAILABLE SPACE.

MODEL NUMBER	LIQUID CAPACITY (GALLONS)	WIDTH "A"	OVERALL LENGTH "B"	TANK HEIGHT "C"	INLET "D"	OUTLET "E"	MINIMUM EXCAVATION WIDTH	MINIMUM EXCAVATION LENGTH	* DEPTH OF BURY	TANK WEIGHT LBS.
KCL750	750	4'-6"	8'-1"	6'-3"	5'-0"	4'-9"	5'-6"	9'-1"	4" TO 6'-6"	12,500
KCL1000	1000	5'-1"	8'-3"	6'-3"	5'-0"	4'-9"	6'-1"	9'-3"	4" TO 6'-6"	13,000
KCL1500	1500	5'-9"	8'-8"	6'-3"	5'-0"	4'-9"	6'-9"	9'-8"	4" TO 6'-6"	16,500
KCL1500	1500	5'-7"	10'-8"	6'-3"	5'-0"	4'-9"	6'-7"	11'-8"	1' TO 6'	17,300



DESIGNED BY:	DS
DRAWN BY:	JM
DESIGN CHECKED BY:	BS
DRAWN CHECKED BY:	DS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
	04/22/2022			PLAN CHECK RE-SUBMITTAL
	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT			REF.	

REVISIONS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

PLUMBING SITE PLAN

B# B-4797

PHASE # ____ / REBID # ____

SHEET 173 OF 236

DWG. NO. P110

1

REGISTERED PROFESSIONAL ENGINEER BRYAN P. STARKEY M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING SMARTER BUILDINGS BY DESIGN

MARY MCGRATH | ARCHITECTS

610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

S:\Shared\Jobs\ENG Projects\LB FS 9\Engineering\LB FS 9 Plumbing.dwg randyc Oct 16,2023-8:27am

KEY NOTES

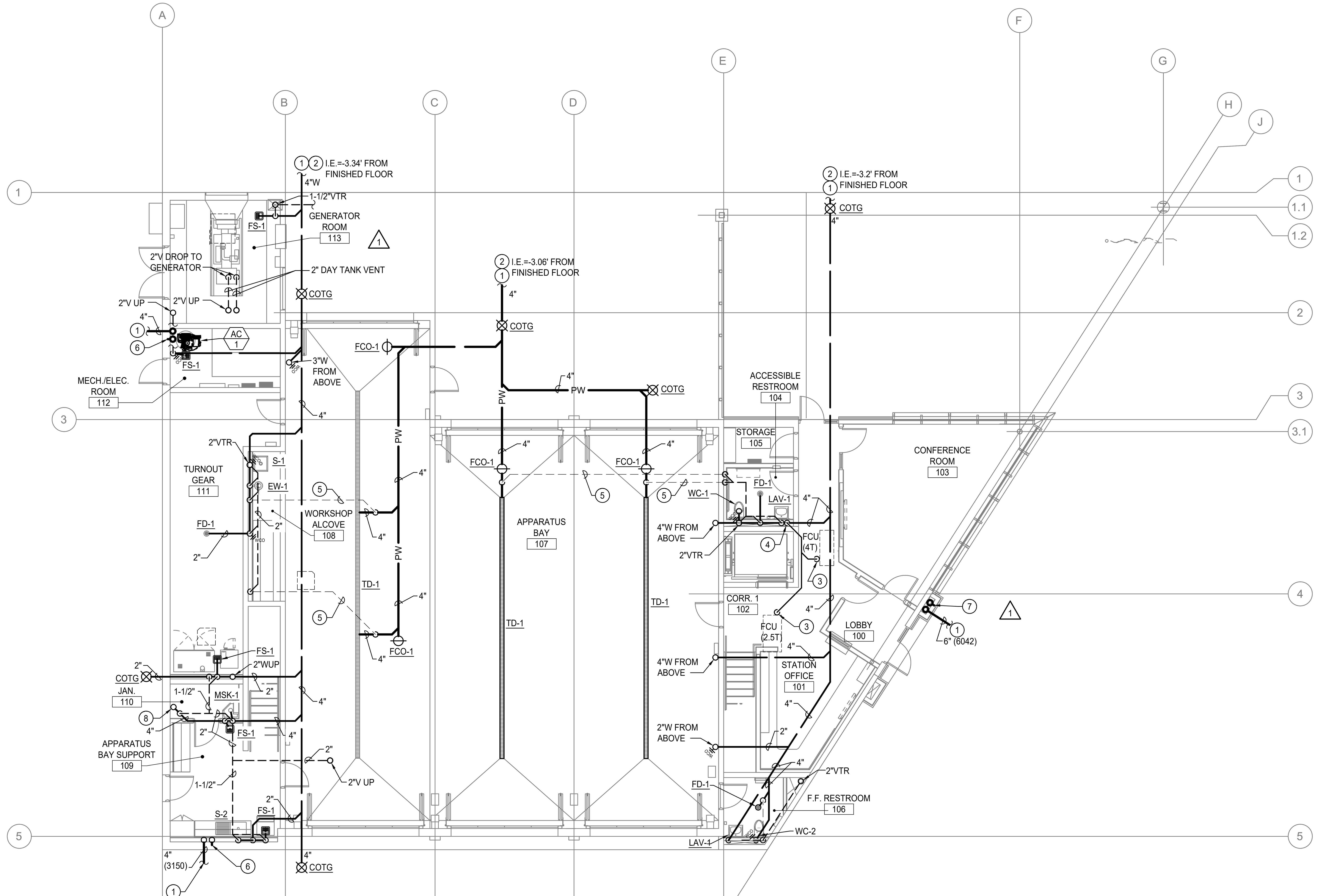
APPLICABLE TO THIS SHEET ONLY

1	REFER TO CIVIL PLANS FOR CONTINUATION OF PIPING.
2	INVERT ELEVATION WHERE THE BUILDING DRAIN AND BUILDING SEWER MEET SHALL BE PER INVERTS SHOWN ON PLAN.
3	3/4" CONDENSATE CONNECTION TO MECHANICAL EQUIPMENT. SEE DETAIL 5/P003 FOR MORE INFORMATION.
4	3/4" CONDENSATE DOWN IN WALL. TERMINATE TO FIXTURE TAILPIECE SEE DETAIL 1/P003 FOR MORE INFORMATION.
5	2" VENT BELOW FLOOR.
6	4" OVERFLOW TO DAYLIGHT TO GRADE WITH DOWNSPOUT COVER AT +18" ABOVE FINISHED GRADE.
7	6" OVERFLOW TO DAYLIGHT TO GRADE WITH DOWNSPOUT COVER AT +18" ABOVE FINISHED GRADE.
8	STANDPIPE DRAIN. COORDINATE EXACT LOCATION WITH FIRE SPRINKLER CONTRACTOR. REFER TO DETAIL 2/P004 FOR MORE INFORMATION.

PLUMBING GENERAL NOTES

APPLICABLE TO THIS SHEET ONLY

1	SEE PLUMBING FIXTURE SCHEDULE FOR BRANCH PIPE SIZING.
2	SLOPE SANITARY WASTE PIPING MIN 2% IN DIRECTION OF FLOW.
3	SLOPE VENT PIPING UP TOWARDS VTR MIN 1%.
4	SLOPE CONDENSATE PIPING MIN 1% IN DIRECTION OF FLOW.
5	ALL ROOMS WITH FLOOR DRAINAGE MUST HAVE FLOORS SLOPED TOWARD DRAIN. SEE ARCHITECTURAL PLANS FOR REQUIRED SLOPE.
6	PROVIDE CLEANOUTS IN ALL LOCATIONS SHOWN. COORDINATE ALL WALL CLEANOUTS WITH PLUMBING FIXTURES, CASEWORK, AND ARCHITECTURAL ELEVATIONS. SEE DETAIL 4/P002 FOR SIZING AND CLEARANCES REQUIRED.
7	REFER TO MECHANICAL PLANS FOR LOCATIONS OF MECHANICAL EQUIPMENT AND DUCTWORK. COORDINATE ALL WORK TO FIT IN AVAILABLE SPACE.



PLUMBING FIRST FLOOR PLAN - WASTE & VENT

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

C:\Users\intern\appdata\local\temp\AcPublish_16684\LB FS 9 Plumbing.dwg bswanson Oct 13,2023-2:58pm

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
1	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT				REF.

REVISIONS

DESIGNED BY: DS
DRAWN BY: JM
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
PLUMBING FIRST FLOOR PLAN - WASTE & VENT

B# B-4797
PHASE # ____ / REBID # ____
SHEET 174 OF 236
DWG. NO. P120

REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN

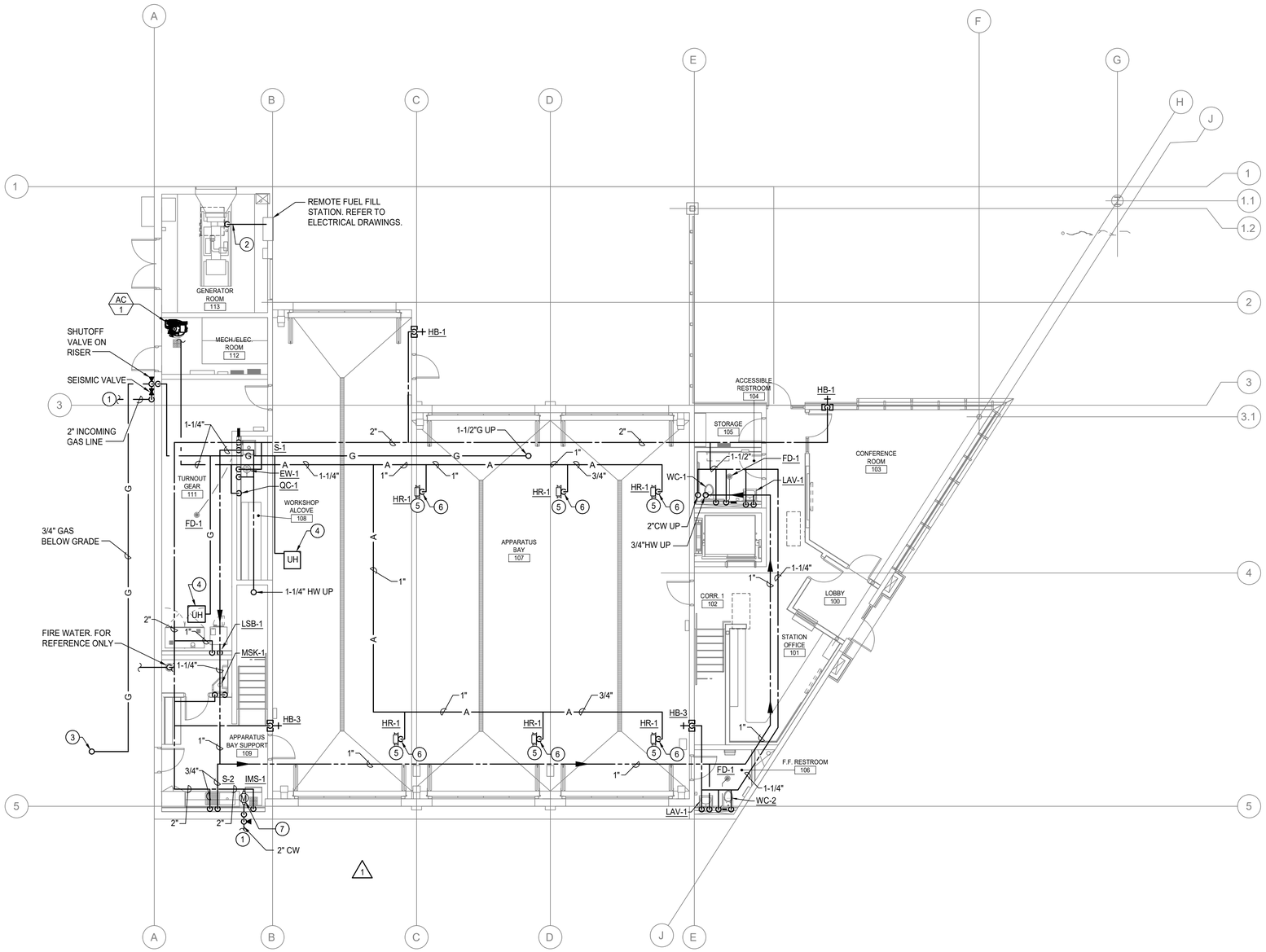
MARY MCGRATH ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

KEY NOTES

	APPLICABLE TO THIS SHEET ONLY
1	REFER TO CIVIL PLANS FOR CONTINUATION OF PIPING.
2	PROVIDE FLEXIBLE DOUBLE CONTAINMENT FUEL OIL PIPING FROM ABOVE GROUND FUEL OIL STORAGE AND REMOTE FUEL FILL STATION. COORDINATE EXACT LOCATION OF REMOTE FILL STATION AND GENERATOR FILL CONNECTION.
3	3/4" GAS FROM BELOW GRADE AND RISE UP WITH SHUT-OFF VALVE FOR BBQ. COORDINATE EXACT LOCATION WITH ARCHITECT.
4	UNIT HEATER. SEE MECHANICAL PLANS FOR INFORMATION.
5	DURO 1400 SERIES AIR HOSE REEL. PROVIDE WITH 50 FEET OF 3/8" HOSE, QUICK CONNECT, AND HOSE STOP.
6	1/2" COMPRESSED AIR TO HOSE REEL. PROVIDE SHUT OFF VALVE EXPOSED BELOW CEILING.
7	PROVIDE SENSUS 2-1/2" DOMESTIC WATER SUB-METER. SUB METERS IN CALIFORNIA ARE REGULATED BY THE CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE, DIVISION OF MEASUREMENTS STANDARDS (A.K.A. WEIGHTS AND MEASURES OR W&M). PLEASE CONTACT W&M AT (562) 622-0412 TO OBTAIN CURRENT LIST OF APPROVED TYPE GAS AND WATER METERS.

PLUMBING GENERAL NOTES

	APPLICABLE TO THIS SHEET ONLY
1	SEE PLUMBING FIXTURE SCHEDULE FOR BRANCH PIPE SIZING.
2	PROVIDE ANGLE STOPS FOR ALL PLUMBING FIXTURE BRANCH PIPING LINES.
3	SEE GAS RISER DIAGRAM ON SHEET P006 FOR SIZING, CALCULATIONS AND EQUIPMENT LOADS.
4	REFER TO MECHANICAL PLANS FOR LOCATIONS OF MECHANICAL EQUIPMENT AND DUCTWORK. COORDINATE ALL WORK TO FIT IN AVAILABLE SPACE.



PLUMBING FIRST FLOOR PLAN - WATER & GAS

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

NO	DATE	SHEET	APPROVAL	REVISIONS DESCRIPTION
1	12/16/2021			PLAN CHECK SUBMITTAL
2	04/22/2022			PLAN CHECK RE-SUBMITTAL
3	06/15/2023			PLAN CHECK RE-SUBMITTAL
4	10/12/2023			BID DOCUMENTS
AS-BUILT				REF:

DESIGNED BY: DS
DRAWN BY: JM
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

PLUMBING FIRST FLOOR PLAN - WATER & GAS

B# B-4797

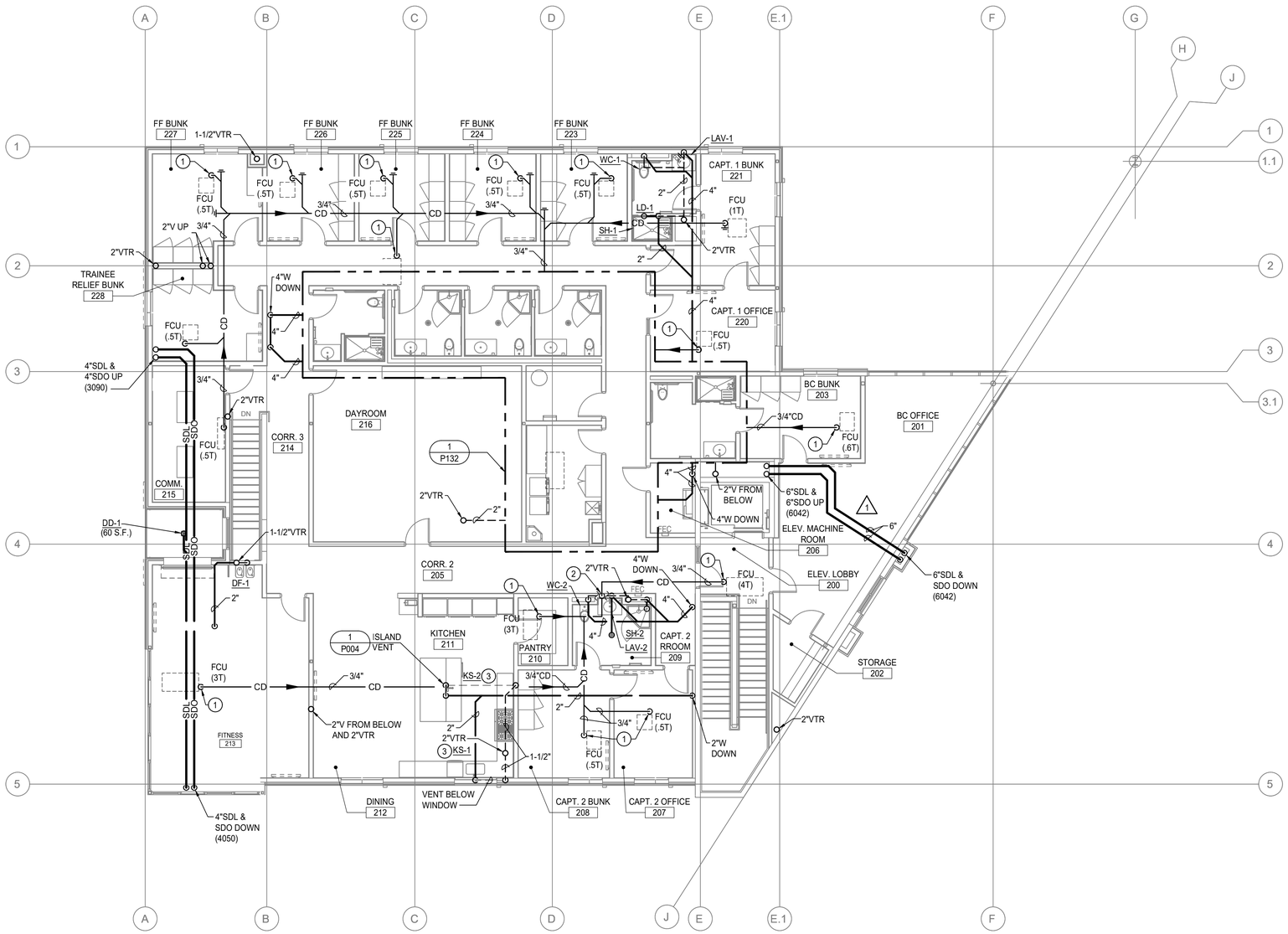
PHASE # ____ / REBID # ____

SHEET 175 OF 236

DWG. NO. P121

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN
805.540.3343 WWW.3CENG.COM
1000 Pacific St. San Luis Obispo, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



KEY NOTES

APPLICABLE TO THIS SHEET ONLY

1	3/4" CONDENSATE CONNECTION TO MECHANICAL EQUIPMENT. SEE DETAIL 5/P003 FOR MORE INFORMATION.
2	3/4" CONDENSATE DOWN IN WALL. TERMINATE TO FIXTURE TAILPIECE SEE DETAIL 1/P003 FOR MORE INFORMATION.
3	PROVIDE DECK MOUNTED AIR GAP FITTING FOR DISHWASHER DRAIN. CONNECT TO GARBAGE DISPOSAL/FIXTURE TAILPIECE.

PLUMBING GENERAL NOTES

APPLICABLE TO THIS SHEET ONLY

1	SEE PLUMBING FIXTURE SCHEDULE FOR BRANCH PIPE SIZING.
2	SLOPE SANITARY WASTE PIPING MIN 2% IN DIRECTION OF FLOW.
3	SLOPE VENT PIPING UP TOWARDS VTR MIN 1%.
4	SLOPE CONDENSATE PIPING MIN 1% IN DIRECTION OF FLOW.
5	ALL ROOMS WITH FLOOR DRAINAGE MUST HAVE FLOORS SLOPED TOWARD DRAIN. SEE ARCHITECTURAL PLANS FOR REQUIRED SLOPE.
6	PROVIDE CLEANOUTS IN ALL LOCATIONS SHOWN. COORDINATE ALL WALL CLEANOUTS WITH PLUMBING FIXTURES, CASEWORK, AND ARCHITECTURAL ELEVATIONS. SEE DETAIL 4/P002 FOR SIZING AND CLEARANCES REQUIRED.
7	REFER TO MECHANICAL PLANS FOR LOCATIONS OF MECHANICAL EQUIPMENT AND DUCTWORK. COORDINATE ALL WORK TO FIT IN AVAILABLE SPACE.
8	ROOF DRAINS HAVE BEEN SIZED PER CPC TABLE 1103.1 USING A RAINFALL RATE OF 3"(IN/H) PER 2019 CPC TABLE D101.1.
9	HORIZONTAL RAIN WATER PIPING HAS BEEN SIZED PER 2019 CPC TABLE 1103.2 USING A RAINFALL RATE OF 2"(IN/H) & 1/4"/FT SLOPE

REVISIONS

NO	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
	AS-BUILT			REF:

DESIGNED BY: DS
DRAWN BY: JM
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

PLUMBING SECOND FLOOR PLAN - WASTE & VENT

B# B-4797

PHASE # ____ / REBID # ____

SHEET 176 OF 236

DWG. NO. P130

PLUMBING SECOND FLOOR PLAN - WASTE & VENT

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

REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN
805.540.3343 WWW.3CENG.COM
1000 PALM ST, SAN LUIS OBISPO, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

C:\Users\internalappdata\local\temp\AcPublish_16684\LB FS 9 Plumbing.dwg bswanson Oct 13,2023-2:58pm

KEY NOTES

APPLICABLE TO THIS SHEET ONLY

1	ISIMET FLA SERIES CONTROLLER "FIRE HOUSE SPECIAL" 120VAC PRIMARY POWER, 24VAC CONTROL POWER, MANUAL AND AUTO (ALARM RESPONSE) SHUT-DOWN, MANUAL KEY OPERATED RESET.
2	1" ISIMET SERIES 300 GAS SOLENOID VALVE FOR GAS SHUT OFF. CONNECT TO ISIMET FLA SERIES UTILITY CONTROLLER.
3	PROVIDE ADDITIONAL HOT WATER STOP BELOW SINK FOR CONNECTION TO DISHWASHER.

PLUMBING GENERAL NOTES

APPLICABLE TO THIS SHEET ONLY

1	SEE PLUMBING FIXTURE SCHEDULE FOR BRANCH PIPE SIZING.
2	PROVIDE ANGLE STOPS FOR ALL PLUMBING FIXTURE BRANCH PIPING LINES.
3	SEE GAS RISER DIAGRAM ON SHEET P006 FOR SIZING, CALCULATIONS AND EQUIPMENT LOADS.
4	REFER TO MECHANICAL PLANS FOR LOCATIONS OF MECHANICAL EQUIPMENT AND DUCTWORK. COORDINATE ALL WORK TO FIT IN AVAILABLE SPACE.

PLUMBING SECOND FLOOR PLAN - WATER & GAS

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

REVISIONS

NO	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
	AS-BUILT			REF:

DESIGNED BY: DS
DRAWN BY: JM
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

PLUMBING SECOND FLOOR PLAN - WATER & GAS

B# B-4797

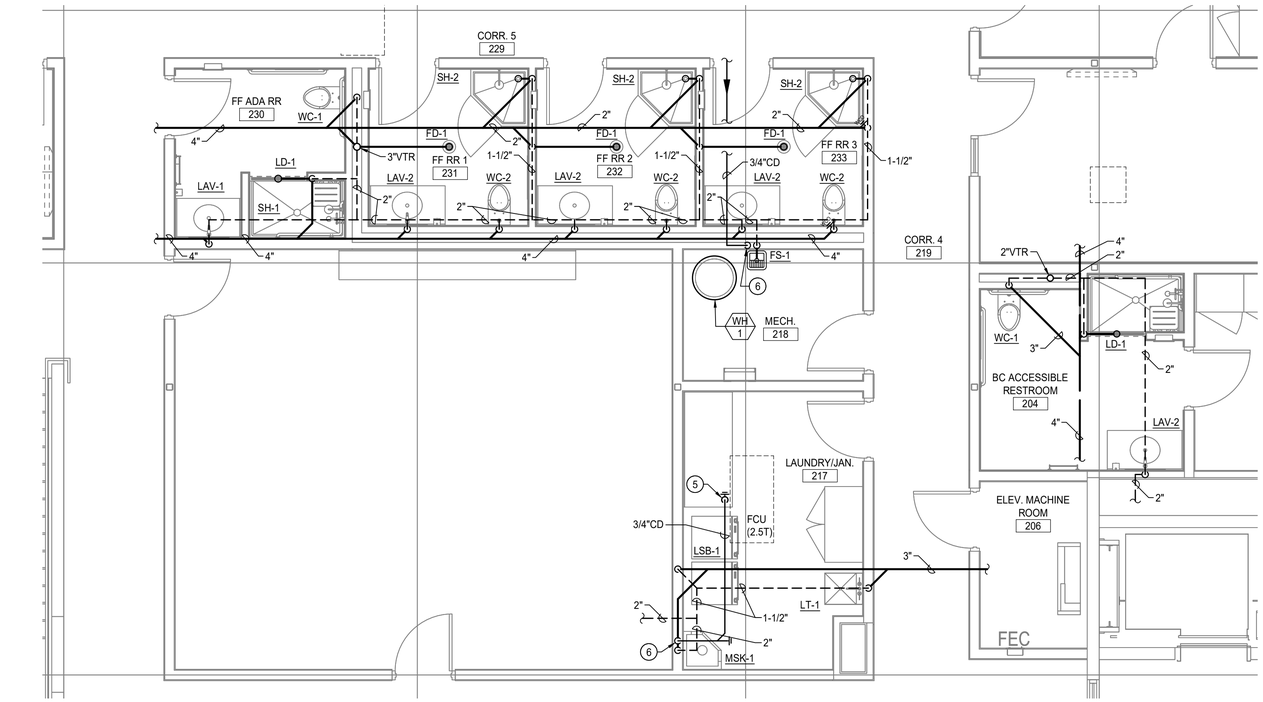
PHASE # ____ / REBID # ____

SHEET 177 OF 236

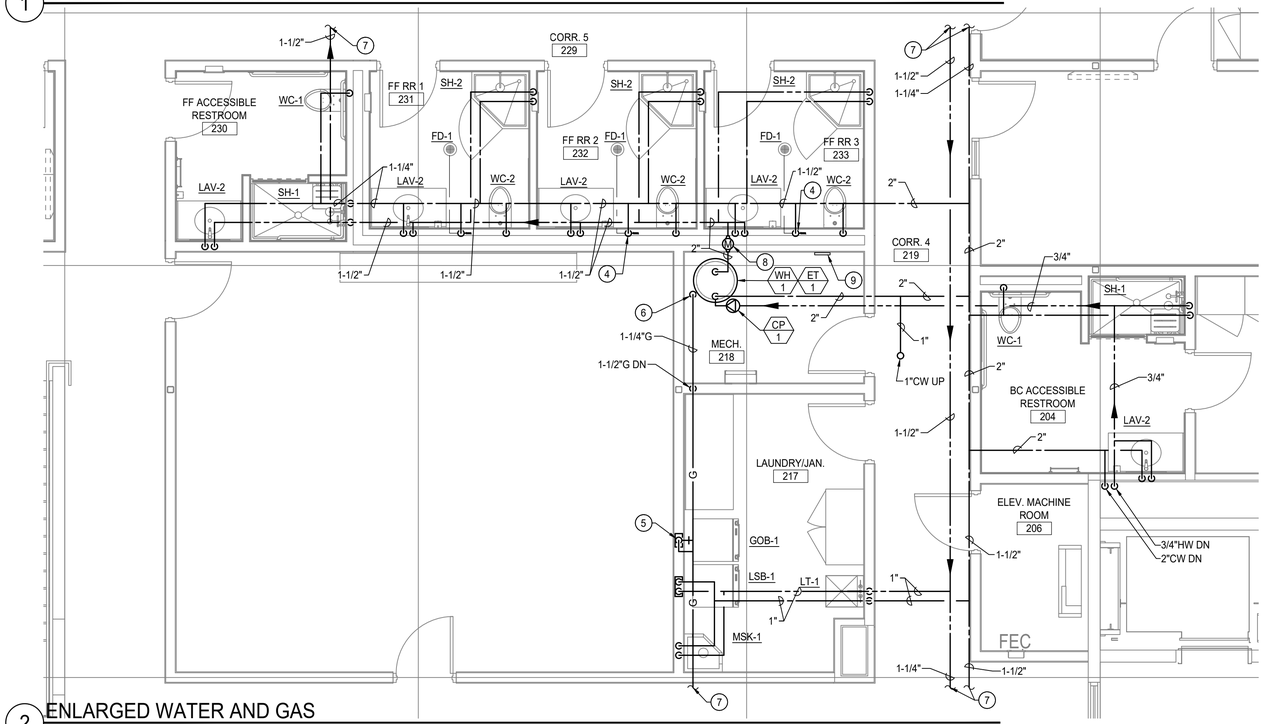
DWG. NO. P131

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN



1 ENLARGED WASTE AND VENT



2 ENLARGED WATER AND GAS

PLUMBING ENLARGED PLANS

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

KEY NOTES - WASTE & VENT

APPLICABLE TO THIS SHEET ONLY

1	3" INTAKE AND 3" EXHAUST UP TO CONCENTRIC VENT TERMINATION THROUGH ROOF.
2	1-1/2" VENT RISE TO ABOVE CEILING.
3	2" VENT RISE TO ABOVE CEILING.
4	1-1/2" VENT FROM BELOW FLOOR AND RISE TO ABOVE CEILING.
5	3/4" CONDENSATE CONNECTION TO MECHANICAL EQUIPMENT. SEE DETAIL 5/P003 FOR MORE INFORMATION.
6	3/4" CONDENSATE DOWN IN WALL. TERMINATE TO FIXTURE WITH 1" AIR GAP.

PLUMBING GENERAL NOTES

APPLICABLE TO THIS SHEET ONLY

1	SEE PLUMBING FIXTURE SCHEDULE FOR BRANCH PIPE SIZING.
2	REFER TO MECHANICAL PLANS FOR LOCATIONS OF MECHANICAL EQUIPMENT AND DUCTWORK. COORDINATE ALL WORK TO FIT IN AVAILABLE SPACE.

KEY NOTES - WATER & GAS

APPLICABLE TO THIS SHEET ONLY

1	NOT USING
2	NOT USING
3	NOT USING
4	1/2" COLD WATER DROP IN WALL TO TRAP PRIMER AND ROUTE TO TRAP.
5	3/4" GAS DROP IN WALL AND CONNECT TO GAS-FIRE APPLIANCE.
6	1-1/4" GAS DROP IN WALL AND CONNECT TO GAS-FIRE APPLIANCE.
7	FOR CONTINUATION SEE SHEET P131.
8	SUB WATER METER ABOVE CEILING. CONNECT SIGNAL WIRING TO BUILDING MANAGEMENT SYSTEM.
9	SUB WATER METER REMOTE DISPLAYS MOUNT AT +48" ABOVE FINISHED FLOOR.

PLUMBING GENERAL NOTES

APPLICABLE TO THIS SHEET ONLY

1	SEE PLUMBING FIXTURE SCHEDULE FOR BRANCH PIPE SIZING.
2	PROVIDE ANGLE STOPS FOR ALL PLUMBING FIXTURE BRANCH PIPING LINES.
3	SEE GAS RISER DIAGRAM ON SHEET P006 FOR SIZING, CALCULATIONS AND EQUIPMENT LOADS.
4	REFER TO MECHANICAL PLANS FOR LOCATIONS OF MECHANICAL EQUIPMENT AND DUCTWORK. COORDINATE ALL WORK TO FIT IN AVAILABLE SPACE.

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
	AS-BUILT			REF:

DESIGNED BY: DS
DRAWN BY: JM
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

PLUMBING ENLARGED PLANS

B# B-4797

PHASE # ____ / REBID # ____

SHEET 178 OF 236

DWG. NO. P132

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN
805.540.3343 WWW.3CENG.COM
1000 Pacific St. San Luis Obispo, CA 93401

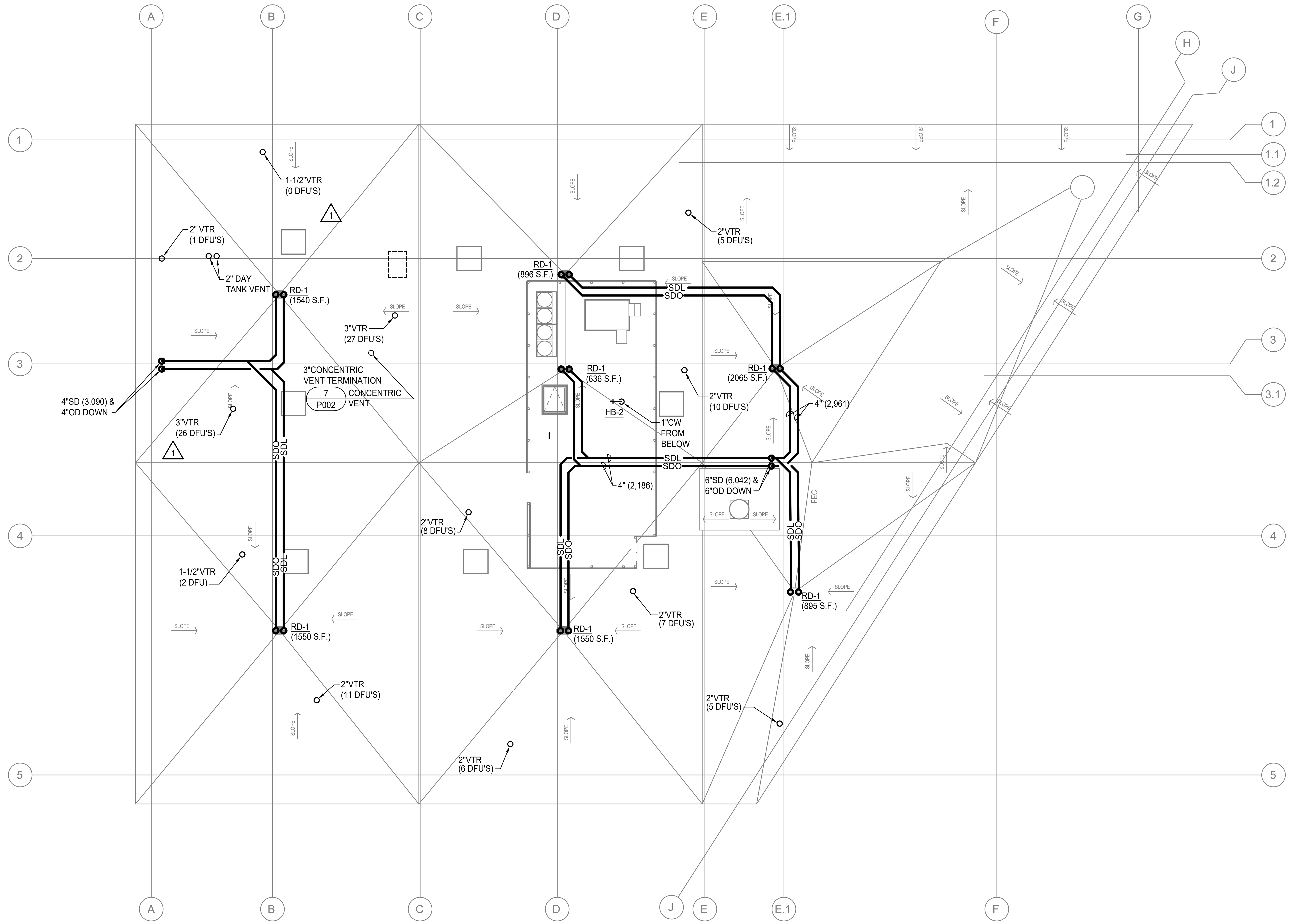
REGISTERED PROFESSIONAL ENGINEER BRYAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

C:\Users\internal\appdata\local\temp\AcPublish_16684\LB FS 9 Plumbing.dwg bswanson Oct 13,2023-2:58pm

PLUMBING GENERAL NOTES

APPLICABLE TO THIS SHEET ONLY

1	SEE PLUMBING FIXTURE SCHEDULE FOR BRANCH PIPE SIZING.
2	SLOPE SANITARY WASTE PIPING MIN 2% IN DIRECTION OF FLOW.
3	PLUMBING VENTS SHALL TERMINATE NOT LESS THAN 6" ABOVE THE ROOF, NOR LESS THAN 12" FROM A VERTICAL SURFACE. MAINTAIN 10'-0" CLEARANCE FROM BUILDING AIR INTAKES.
4	ROOF DRAINS HAVE BEEN SIZED PER CPC TABLE 1103.1 USING A RAINFALL RATE OF 3"(IN/H) PER 2019 CPC TABLE D101.1.
5	HORIZONTAL RAIN WATER PIPING HAS BEEN SIZED PER 2019 CPC TABLE 1103.2 USING A RAINFALL RATE OF 2"(IN/H) & 1/4"/FT SLOPE



PLUMBING ROOF PLAN

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

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS

REVISIONS

AS-BUILT

REF.

DESIGNED BY: DS

DRAWN BY: JM

DESIGN CHECKED BY: BS

DRAWN CHECKED BY: DS

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
PLUMBING ROOF PLAN

B# B-4797

PHASE # ____ / REBID # ____

SHEET 179 OF 236

DWG. NO. P140

REGISTERED PROFESSIONAL ENGINEER
BRIAN P. STARRETT
M 34068
EXP. 6/30/24
MECHANICAL
STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 4 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)

1	2	3	4
Opaque Surfaces & Orientation	**Total Gross Surface Area (ft²)**	**Total Fenestration Area (ft²)**	**Window to Wall Ratio (%)**
North-Facing[1]	3,437 ft²	759 ft²	22.1%
East-Facing[2]	2,756 ft²	854 ft²	31.0%
South-Facing[3]	2,581 ft²	265 ft²	10.3%
West-Facing[4]	2,168 ft²	233 ft²	10.7%
Total	**10,942 ft²**	**2,111 ft²**	**19.3%**
Roof	7,153 ft²	10 ft²	00.1%

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

G3. OPAQUE SURFACE ASSEMBLY SUMMARY

1	2	3	4	5	6	7	8	9	10
Surface Name	**Surface Type**	**Area (ft²)**	**Framing Type**	**Cavity R-Value**	**Continuous R-Value**	**Units**	**Value**	**Description of Assembly Layers**	**Status[1]**
EWA-1A - P4 - 815	ExteriorWall	310	Metal	13	NA	U-Factor	0.187	Concrete - Solid Grout - 115 lb/ft3 - 8 in. Metal framed wall, 16in. OC, 3.5in., R-13 Gypsum Board - 5/8 in.	N
Slab On Grade17	UndergroundFloor	5706	NA	0	NA	F-Factor	0.73	Slab Type = UnheatedSlabOnGrade Insulation Orientation = None Insulation R-Value = R0	N
EWA-2A - 820	ExteriorWall	972	NA	0	NA	U-Factor	0.073	Concrete - Solid Grout - 115 lb/ft3 - 8 in. Metal Insulated Panels - 2 in.	N
EWA-2 - 1225	ExteriorWall	305	NA	0	NA	U-Factor	0.071	Concrete - Solid Grout - 115 lb/ft3 - 12 in. Metal Insulated Panels - 2 in.	N

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 2 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

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

COMPLIES

Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Space Heating	35.02	53.06	-18.04
Space Cooling	64.44	42.05	22.39
Indoor Fans	121.02	37.20	83.82
Heat Rejection	--	--	--
Pumps & Misc.	--	--	--
Domestic Hot Water	4.93	2.27	2.66
Indoor Lighting	35.44	33.66	1.78
ENERGY STANDARDS COMPLIANCE TOTAL	**260.85**	**168.24**	**92.61 (35.5%)**

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

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

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

Miscellaneous Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Receptacle	90.87	90.87	--
Process	11.35	11.35	--
Other Ltg	0.82	0.82	--
Process Motors	4.83	547.57	542.74
COMPLIANCE TOTAL PLUS MISCELLANEOUS COMPONENTS	**368.72**	**818.85**	**-450.1 (-122.1%)**

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

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 5 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

G3. OPAQUE SURFACE ASSEMBLY SUMMARY

1	2	3	4	5	6	7	8	9	10
Surface Name	**Surface Type**	**Area (ft²)**	**Framing Type**	**Cavity R-Value**	**Continuous R-Value**	**Units**	**Value**	**Description of Assembly Layers**	**Status[1]**
EWA-1A - 832	ExteriorWall	1295	NA	0	NA	U-Factor	0.579	Concrete - Solid Grout - 115 lb/ft3 - 8 in.	N
RA-145	Roof	7153	Metal	30	25	U-Factor	0.026	Single Ply Roofing - 1/4 in. Vapor permeable felt - 1/8 in. Extruded Polystyrene - XPS - 5 in. R25.00 Plywood - 1/2 in. Air - Ceiling - 3/4 in. Metal framed roof, 16in. OC, 11.25in., R-30 Gypsum Board - 1/2 in.	N
FCX - Conc Raised Interio59	InteriorFloor	5420	NA	0	NA	U-Factor	0.238	Carpet - 3/4 in. Concrete - 140 lb/ft3 - 4 in.	N
EWA-383	ExteriorWall	253	Metal	19	NA	U-Factor	0.056	Metal Insulated Panels - 2 in. Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Metal framed wall, 16in. OC, 5.5in., R-19 Gypsum Board - 5/8 in.	N
EWA-494	ExteriorWall	3478	Metal	19	12	U-Factor	0.053	Wood shingles - plain and plastic film faced - 3/4 in. Vapor permeable felt - 1/8 in. Cellular polyisocyanurate (unfaced) - 2 in. R12 Plywood - 5/8 in. Metal framed wall, 16in. OC, 5.5in., R-19 Gypsum Board - 5/8 in.	N
FCX - Conc Raised97	ExteriorFloor	1606	NA	0	NA	U-Factor	0.265	Concrete - 140 lb/ft3 - 4 in. Carpet - 3/4 in.	N

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 3 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

C3. ENERGY USE SUMMARY

Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Space Heating	--	5.7	--	219.1	264.9	-45.8
Space Cooling	19.4	8.8	10.6	--	--	--
Indoor Fans	50.9	14.8	36.1	--	--	--
Heat Rejection	--	--	--	--	--	--
Pumps & Misc.	--	--	--	--	--	--
Domestic Hot Water	1.1	--	--	17.1	15.5	1.6
Indoor Lighting	14.7	13.9	0.8	--	--	--
Compliance Total	**86.1**	**43.2**	**42.9**	**236.2**	**280.4**	**-44.2**
Receptacle	36.9	36.9	0.0	9.6	9.6	0.0
Process	5.1	5.1	0.0	--	--	--
Other Ltg	0.3	0.3	0.0	--	--	--
Process Motors	2.0	230.2	-228.2	--	--	--
TOTAL	**130.4**	**315.7**	**-185.3**	**245.8**	**290.0**	**-44.2**

D. EXCEPTIONAL CONDITIONS

The proposed building includes HVAC components that do not meet the mandatory efficiency requirements.

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

The user model includes space(s) that are designed to be served by mechanical cooling systems, but the cooling systems were not included in the simulation model. A cooling system has been modeled for both the proposed and standard cases.

E. HERS VERIFICATION

This Section Does Not Apply

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 1 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

A. GENERAL INFORMATION

1	Project Location (city)	Long Beach	8	Standards Version	Compliance2019
2	CA Zip Code	90807	9	Compliance Software (version)	EnergyPro 8.2
3	Climate Zone	8	10	Weather File	LONG-BEACH_722970_CZ2010.epw
4	Total Conditioned Floor Area in Scope	12,356 ft²	11	Building Orientation (deg)	(N) 0 deg
5	Total Unconditioned Floor Area	375 ft²	12	Permitted Scope of Work	NewComplete
6	Total # of Stories (Habitable Above Grade)	2	13	Building Type(s)	Nonresidential
7	Total # of dwelling units	0	14	Gas Type	NaturalGas

B. PROJECT SUMMARY

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

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

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 6 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

G3. OPAQUE SURFACE ASSEMBLY SUMMARY

1	2	3	4	5	6	7	8	9	10
Surface Name	**Surface Type**	**Area (ft²)**	**Framing Type**	**Cavity R-Value**	**Continuous R-Value**	**Units**	**Value**	**Description of Assembly Layers**	**Status[1]**
EWA-4A111	ExteriorWall	113	Metal	19	12	U-Factor	0.055	Wood shingles - plain and plastic film faced - 3/4 in. Vapor permeable felt - 1/8 in. Cellular polyisocyanurate (unfaced) - 2 in. R12 Plywood - 5/8 in. Metal framed wall, 16in. OC, 5.5in., R-19	N
EWA-1 - 12198	ExteriorWall	5230	NA	0	NA	U-Factor	0.465	Concrete - Solid Grout - 115 lb/ft3 - 12 in.	N
EWA-3A300	ExteriorWall	57	Metal	0	NA	U-Factor	0.071	Metal Insulated Panels - 2 in. Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Metal framed wall, 16in. OC, 3.5in., R-0	N
MA - 8 CMU309	InteriorWall	597	NA	0	NA	U-Factor	0.447	Concrete - Solid Grout - 115 lb/ft3 - 8 in.	N

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

G4. OPAQUE DOOR SUMMARY

1	2	3
Assembly Name	**Overall U-factor**	**Status[1]**
Metal Door202	0.700	N
Metal Rollup267	1.450	N

PROJECT TEAM LIST

TITLE	NAME	DESK NUMBER	EMAIL ADDRESS
PRINCIPAL IN CHARGE	BRIAN STARRETT	805.540.5358	BSTARRETT@3CENG.COM
PROJECT MANAGER	DENVER STANGER	805.540.5388	DSTANGER@3CENG.COM
ENERGY COMPLIANCE	JAKE HAMILTON	805.540.5384	JHAMILTON@3CENG.COM

SHEET INDEX

SHEET NUMBER	SHEET TITLE
T240	NRCC-PRF-01-E
T241	NRCC-PRF-01-E
T242	NRCC-PRF-01-E
T243	NRCC-PRF-01-E
T244	NRCC-ELC-E & NRCC-LTI-E
T245	NRCC-LTI-E
T246	NRCC-LTO-E
T247	NRCC-LTO-E & NRCC-SRA-E
T248	NRCC - PLB-E

REVISIONS

NO	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023		REF:	BID DOCUMENTS
				AS-BUILT

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

NRCC-PRF-01-E

B# B-4797

PHASE # ____ / REBID # ____

SHEET 180 OF 236

DWG. NO. T240

REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING SMARTER BUILDINGS BY DESIGN
t: 805.540.3343 w: WWW.3CENG.COM
e: 1000 Monte St. SAN LUIS OBISPO, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 12 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

H3. EXHAUST FAN SUMMARY

1	2	3	4	5	6	7
System ID	Zone Name	Qty	CFM	Motor BHP	Motor Watts	Total Static Pressure (in H20)
FC-1.2.15 Dining/Kitchen235	29-FC-1.2.15 Dining/Kitchen	1	575	0.325	283.8	2.33
FC-1.2.15 All Other - IND254	30-FC-1.2.15 All Other - IND	1	100	0.040	35.0	1.65
FC-1.2.16 Fire Station -258	31-FC-1.2.16 Fire Station -	1	250	0.141	122.9	2.33
FC-1.1.1. Conference284	32-FC-1.1.1. Conference	1	200	0.113	98.9	2.34
Fire Station - Misc.302	33-Fire Station - Misc.	1	800	0.535	466.7	2.76
Electrical Mechanical310	34-Electrical Mechanical	1	500	0.342	297.8	2.82
Fire Station320	36-Fire Station	1	3,500	0.750	654.0	0.88
Comm. Room337	37-Comm. Room	1	25	0.014	12.0	2.27

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

1	2	3	4	5	6	7	8	9	10	11	12
Name or Item Tag	Equipment Type	Qty	Vol (gal)	Rated Capacity (kBtu/h)	Efficiency	Standby Loss	Pumps				Status[1]
							Qty	GPM	HP	VSD (Y/N)	

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

H5. SYSTEM SPECIAL FEATURES

1	2	3	4	5	6
System Name	Optimum Start	Window Interlocks per §140.4(n)	Evaporative Cooling	Heat Recovery	Other Controls
HRC-1	NA	NA	NA	Yes	LoadPriority
WH-11 - SHW	NA	NA	NA	NA	Fixed Temperature Control, No DDC

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

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 9 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

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

1	2	3	4	5	6	7	8	9	10	11	12
Equipment Name	Equipment Type	Qty	Heating				Cooling				Status[1]
			Total Heating Output (kBtu/h)	Supp Heat Output (kBtu)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency	Economizer Type (if present)	
UH-1.1	Furnace (Other)	1	25	0	AFUE	82.0	0			NA	N
UH-1.2	Furnace (Other)	1	100	0	AFUE	83.0	0			NA	N
DS-2.1	MiniSplitAC (Split1Phase)	1	0	0	NA	Elec. Res.	33	SEER EER	15.900 9.100	NA	N
HRC-1	VRF	1	282	NA	COP	3.40	252	EER	11.30	NA	N

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

H2. FAN SYSTEMS SUMMARY[1]

1	2	3	4	5	6	7	8	9	10	11	12	13
Name or Item Tag	System Type	Design OA	Supply Fan				Return Fan				Economizer Type (if present)	Status[2]
	packaged, DOAS, etc.	CFM	CFM	BHP	Watts	Control	CFM	BHP	Watts	Control		
2-FC-1.1.2 Office-VRF	VRF	0	1110	0.401	349.8	ConstantVolume	NA	NA	NA	NA	NA	N
5-FC-1.2.1 Office-VRF	VRF	0	1400	0.401	349.8	ConstantVolume	NA	NA	NA	NA	NA	N
8-FC-1.2.2 Fire Station - M-VRF	VRF	0	300	0.103	90.0	ConstantVolume	NA	NA	NA	NA	NA	N
10-FC-1.2.3 Office-VRF	VRF	0	300	0.057	50.0	ConstantVolume	NA	NA	NA	NA	NA	N
11-FC-1.2.4 Fire Station - M-VRF	VRF	0	450	0.160	139.9	ConstantVolume	NA	NA	NA	NA	NA	N
13-FC-1.2.5 Fire Station - M-VRF	VRF	0	300	0.057	50.0	ConstantVolume	NA	NA	NA	NA	NA	N
14-FC-1.2.6 Fire Station - M-VRF	VRF	0	300	0.057	50.0	ConstantVolume	NA	NA	NA	NA	NA	N

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 7 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

G5. FENESTRATION ASSEMBLY SUMMARY

1	2	3	4	5	6	7	8	9
Fenestration Assembly Name / Tag or I.D.	Fenestration Type / Product Type / Frame Type	Certification Method[1]	Assembly Method	Area ft²	Overall U-factor	Overall SHGC	Overall VT	Status[2]
Curtain/Storefront	VerticalFenestration CurtainWall N/A	NFRC Rated	SiteBuilt	1749	0.30	0.23	0.32	N
Door Prescriptive	VerticalFenestration GlazedDoor N/A	NFRC Rated	SiteBuilt	42	0.45	0.23	0.54	N
Operable Window	VerticalFenestration OperableWindow N/A	NFRC Rated	Manufactured	320	0.31	0.19	0.44	N
Skylight Double Thermal Break Tinted	Skylight FixedWindow N/A	NFRC Rated	Manufactured	10	0.55	0.60	0.50	N
Curtain/Storefront_Clerestory	VerticalFenestration CurtainWall N/A			NaN	0.30	0.23	0.00	N

[1] Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Center of Glass (COG) values are for the glass-only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix NA6 and are used in the analysis.
[2] Status: N - New, A – Altered, E – Existing

G6. OVERHANG DETAILS

1	2	3	4	5	6
Fenestration Tag/ID	Orientation	Depth(ft.)	Height from Bottom of Sill to Overhang(ft)	Right Extent(ft)	Left Extent(ft)
Window288	North	3.0	3.3	0.0	0.0
Window289	North	3.0	3.3	0.0	0.0
Window290	North	3.0	3.3	0.0	0.0
Window291	North	3.0	3.3	0.0	0.0
Window292	North	3.0	3.3	0.0	0.0
Window294	East	3.0	3.3	0.0	0.0
Window295	East	3.0	3.3	0.0	0.0
Window296	East	3.0	3.3	0.0	0.0

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 13 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

H6. MECHANICAL VENTILATION

1	2	3	4	5	6	7	8	9
Zone Name	Mechanical Ventilation							DCV or Occupant Sensor Controls, or Both
	Ventilation Function	# hotel rooms	# of people	# of bedrooms	Supply OA CFM	Exhaust CFM	Conditioned Area (sf)	
1-FC-1.1.2 Office	Office - Office space	0	2.88	0	86	100	575	NA
	Exhaust - Toilets, public	0	0.78	0	0	200	155	NA
	NA	0	0.00	0	0	0	119	NA
4-FC-1.2.1 Office	Office - Office space	0	4.21	0	126	150	841	NA
	Misc - All others	0	0.07	0	0	0	74	NA
	NA	0	0.00	0	0	200	149	NA
7-FC-1.2.2 Fire Station - M	Misc - All others	0	0.89	0	27	30	178	NA
	Exhaust - Toilets, private	0	0.62	0	0	100	124	NA
9-FC-1.2.3 Office	Office - Office space	0	0.92	0	28	30	184	NA
10-FC-1.2.4 Fire Station - M	Misc - All others	0	1.14	0	34	45	228	NA
	Exhaust - Toilets, private	0	0.54	0	0	100	108	NA
12-FC-1.2.5 Fire Station - M	Misc - All others	0	0.72	0	22	30	144	NA
13-FC-1.2.6 Fire Station - M	Misc - All others	0	0.71	0	21	30	143	NA
14-FC-1.2.7 Fire Station - M	Misc - All others	0	0.71	0	21	30	142	NA
15-FC-1.2.8 Fire Station - M	Misc - All others	0	0.72	0	22	30	145	NA
16-FC-1.2.9 Fire Station - M	Misc - All others	0	1.07	0	32	40	215	NA
17-FC-1.2.10 Fire Station -	Misc - All others	0	0.87	0	26	35	174	NA
18-FC-1.2.11 Corridor	General - Corridors	0	2.68	0	80	150	536	NA
	Exhaust - Toilets, private	0	1.75	0	0	400	351	NA
	Lodging - Laundry rooms, central	0	0.77	0	23	150	153	NA
	NA	0	0.00	0	0	150	76	NA
	General - Corridors	0	0.43	0	13	500	86	NA
	Misc - All others	0	1.12	0	34	300	225	NA

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 10 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

H2. FAN SYSTEMS SUMMARY[1]

1	2	3	4	5	6	7	8	9	10	11	12	13
Name or Item Tag	System Type	Design OA	Supply Fan				Return Fan				Economizer Type (if present)	Status[2]
	packaged, DOAS, etc.	CFM	CFM	BHP	Watts	Control	CFM	BHP	Watts	Control		
15-FC-1.2.7 Fire Station - M-VRF	VRF	0	300	0.057	50.0	ConstantVolume	NA	NA	NA	NA	NA	N
16-FC-1.2.8 Fire Station - M-VRF	VRF	0	300	0.057	50.0	ConstantVolume	NA	NA	NA	NA	NA	N
17-FC-1.2.9 Fire Station - M-VRF	VRF	0	300	0.057	50.0	ConstantVolume	NA	NA	NA	NA	NA	N
18-FC-1.2.10 Fire Station --VRF	VRF	0	300	0.057	50.0	ConstantVolume	NA	NA	NA	NA	NA	N
19-FC-1.2.11 Corridor-VRF	VRF	0	700	0.401	349.8	ConstantVolume	NA	NA	NA	NA	NA	N
26-FC-1.2.12 Break Rooms-VRF	VRF	0	1110	0.401	349.8	ConstantVolume	NA	NA	NA	NA	NA	N
27-FC-1.2.13 Office-VRF	VRF	0	300	0.057	50.0	ConstantVolume	NA	NA	NA	NA	NA	N
28-FC-1.2.14 Fire Station --VRF	VRF	0	300	0.103	90.0	ConstantVolume	NA	NA	NA	NA	NA	N
30-FC-1.2.15 Dining/Kitchen-VRF	VRF	0	1050	0.401	349.8	ConstantVolume	NA	NA	NA	NA	NA	N
32-FC-1.2.16 Fire Station --VRF	VRF	0	1100	0.401	349.8	ConstantVolume	NA	NA	NA	NA	NA	N
33-FC-1.1.1. Conference-VRF	VRF	0	1520	0.594	517.7	ConstantVolume	NA	NA	NA	NA	NA	N
UH-1.1	Furnace	0	450	0.060	52.3	ConstantVolume	NA	NA	NA	NA	NA	N
UH-1.2	Furnace	0	1537	0.250	218.0	ConstantVolume	NA	NA	NA	NA	NA	N
DS-2.1	MiniSplitAC	0	915	0.073	64.0	ConstantVolume	NA	NA	NA	NA	NA	N

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

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 8 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

G6. OVERHANG DETAILS

1	2	3	4	5	6
Fenestration Tag/ID	Orientation	Depth(ft.)	Height from Bottom of Sill to Overhang(ft)	Right Extent(ft)	Left Extent(ft)
Window297	East	3.0	3.3	0.0	0.0
Window298	East	3.0	3.3	0.0	0.0
Window47	North	3.0	3	0.0	0.0
Window48	North	3.0	3	0.0	0.0
Window49	North	3.0	3	0.0	0.0
Window50	North	3.0	3	0.0	0.0
Window52	East	3.0	3	0.0	0.0
Window53	East	3.0	3	0.0	0.0
Window54	East	3.0	3	0.0	0.0
Window55	East	3.0	3	0.0	0.0
Storefront S2 Large271	South	0.3	8.5	0.7	0.7
Storefront S2 Small272	South	0.3	0.6	0.7	0.7
Storefront S2 Small273	South	0.3	0.6	0.7	0.7
Storefront S2 Small274	South	0.3	0.6	0.7	0.7
Storefront S2 Small275	South	0.3	0.6	0.7	0.7
Storefront S2 Small276	South	0.3	0.6	0.7	0.7
Storefront S2 Large278	West	0.3	8.5	0.7	0.7
Storefront S2 Small279	West	0.3	0.6	0.7	0.7
Storefront S2 Small280	West	0.3	0.6	0.7	0.7
Storefront S2 Small281	West	0.3	0.6	0.7	0.7
Storefront S2 Small282	West	0.3	0.6	0.7	0.7
Storefront S2 Small283	West	0.3	0.6	0.7	0.7

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 14 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

H6. MECHANICAL VENTILATION

1	2	3	4	5	6	7	8	9
Zone Name	Mechanical Ventilation							DCV or Occupant Sensor Controls, or Both
	Ventilation Function	# hotel rooms	# of people	# of bedrooms	Supply OA CFM	Exhaust CFM	Conditioned Area (sf)	
	Exhaust - Janitor closets, trash rooms, recycling	0	0.26	0	0	100	51	NA
25-FC-1.2.12 Break Rooms	Misc - All others	0	20.30	0	91	200	609	NA
26-FC-1.2.13 Office	Office - Office space	0	0.81	0	24	30	161	NA
27-FC-1.2.14 Fire Station -	Misc - All others	0	0.90	0	27	45	179	NA
	Exhaust - Toilets, private	0	0.47	0	0	100	95	NA
29-FC-1.2.15 Dining/Kitchen	Exhaust - Kitchenettes	0	3.24	0	0	575	1297	NA
	General - Unoccupied	0	0.31	0	0	100	62	NA
31-FC-1.2.16 Fire Station -	Sports/Entertainment - Health club/weight rooms	0	5.88	0	88	250	588	NA
32-FC-1.1.1. Conference	General - Conference/meeting	0	13.17	0	198	200	395	NA
33-Fire Station - Misc.	Misc - All others	0	2.06	0	771	800	411	NA
36-Fire Station	General - Unoccupied	0	15.93	0	2708	3500	3186	NA
37-Comm. Room	General - Unoccupied	0	0.30	0	0	25	197	NA

Multifamily or Hotel/Motel Occupancy? (if "Yes", see DOMESTIC/SERVICE HOT WATER SYSTEM SUMMARY)	No
Does the Project include Zonal Systems?	Yes

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 11 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

H3. EXHAUST FAN SUMMARY

1	2	3	4	5	6	7
System ID	Zone Name	Qty	CFM	Motor BHP	Motor Watts	Total Static Pressure (in H20)
FC-1.1.2 Office3	1-FC-1.1.2 Office	1	100	0.056	49.0	2.32
FC-1.1.2 Restrooms29	2-FC-1.1.2 Restrooms	1	200	0.080	70.0	1.65
FC-1.2.1 Office41	4-FC-1.2.1 Office	1	150	0.085	74.0	2.33
FC-1.2.1 Electrical Mech72	6-FC-1.2.1 Electrical Mech	1	200	0.033	28.8	0.68
FC-1.2.2 Fire Station - M77	7-FC-1.2.2 Fire Station - M	1	30	0.017	15.0	2.36
FC-1.2.2 Restroom86	8-FC-1.2.2 Restroom	1	100	0.040	35.0	1.65
FC-1.2.3 Office90	9-FC-1.2.3 Office	1	30	0.016	14.0	2.21
FC-1.2.4 Fire Station - M98	10-FC-1.2.4 Fire Station - M	1	45	0.025	22.0	2.31
FC-1.2.4 Restroom108	11-FC-1.2.4 Restroom	1	100	0.040	35.0	1.65
FC-1.2.5 Fire Station - M113	12-FC-1.2.5 Fire Station - M	1	30	0.017	15.0	2.36
FC-1.2.6 Fire Station - M121	13-FC-1.2.6 Fire Station - M	1	30	0.017	15.0	2.36
FC-1.2.7 Fire Station - M129	14-FC-1.2.7 Fire Station - M	1	30	0.017	15.0	2.36
FC-1.2.8 Fire Station - M137	15-FC-1.2.8 Fire Station - M	1	30	0.017	15.0	2.36
FC-1.2.9 Fire Station - M145	16-FC-1.2.9 Fire Station - M	1	40	0.023	20.0	2.36
FC-1.2.10 Fire Station -154	17-FC-1.2.10 Fire Station -	1	35	0.019	17.0	2.30
FC-1.2.11 Corridor162	18-FC-1.2.11 Corridor	1	150	0.085	74.0	2.33
FC-1.2.11 Restroom170	19-FC-1.2.11 Restroom	1	400	0.159	138.9	1.64
FC-1.2.11 Laundry/Jan.180	20-FC-1.2.11 Laundry/Jan.	1	150	0.058	51.0	1.61
FC-1.2.11 Electrical Mec188	21-FC-1.2.11 Electrical Mec	1	150	52.000	40811.8	1429.86
FC-1.2.11 Stairwell - IND192	22-FC-1.2.11 Stairwell - IND	1	500	0.199	173.9	1.65
FC-1.2.11 Fire Station -196	23-FC-1.2.11 Fire Station -	1	300	0.094	82.0	1.29
FC-1.2.11 Janitor Unoccup204	24-FC-1.2.11 Janitor Unoccup	1	100	0.054	47.0	2.22
FC-1.2.12 Break Rooms208	25-FC-1.2.12 Break Rooms	1	200	0.113	98.9	2.34
FC-1.2.13 Office217	26-FC-1.2.13 Office	1	30	0.017	15.0	2.36
FC-1.2.14 Fire Station -224	27-FC-1.2.14 Fire Station -	1	45	0.025	22.0	2.31
FC-1.2.14 Restroom231	28-FC-1.2.14 Restroom	1	100	0.040	35.0	1.65

NO	DATE	SHEET	APPROVAL	REVISIONS
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
	AS-BUILT			REF:

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

NRCC-PRF-01-E

B# B-4797

PHASE # ____ / REBID # ____

SHEET 181 OF 236

DWG. NO. T241

LICENSED PROFESSIONAL ENGINEER JOHN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING SMARTER BUILDINGS BY DESIGN
T: 805.540.3343 W: WWW.3CENG.COM
E: 1000 Monte St. SAN LUIS OBISPO, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

C:\Users\intern\appdata\local\temp\AcPublish_16684\LB FS 9 T24 Sheets dwg tswanson Oct 13,2023-2:08pm

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 15 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

H7. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

1	2	3	4	5	6	7	8	9	10	11	12
System ID	Zone Name	System Type	Rated Capacity (kBtuh)		Airflow (cfm)			Fan			
			Heating	Cooling	Design	Min.	Min. Ratio	BHP	Watts	Cycles	ECM Motor
2-FC-1.1.2 Office-VRF	1-FC-1.1.2 Office	VRF	34.00	30.00	1110	NA	NA	0.401	349.8	☒	☐
5-FC-1.2.1 Office-VRF	4-FC-1.2.1 Office	VRF	54.00	48.00	1400	NA	NA	0.401	349.8	☒	☐
8-FC-1.2.2 Fire Station - M-VRF	7-FC-1.2.2 Fire Station - M	VRF	9.00	8.00	300	NA	NA	0.103	90.0	☒	☐
10-FC-1.2.3 Office-VRF	9-FC-1.2.3 Office	VRF	7.00	6.00	300	NA	NA	0.057	50.0	☒	☐
11-FC-1.2.4 Fire Station - M-VRF	10-FC-1.2.4 Fire Station - M	VRF	14.00	12.00	450	NA	NA	0.160	139.9	☒	☐
13-FC-1.2.5 Fire Station - M-VRF	12-FC-1.2.5 Fire Station - M	VRF	7.00	6.00	300	NA	NA	0.057	50.0	☒	☐
14-FC-1.2.6 Fire Station - M-VRF	13-FC-1.2.6 Fire Station - M	VRF	7.00	6.00	300	NA	NA	0.057	50.0	☒	☐
15-FC-1.2.7 Fire Station - M-VRF	14-FC-1.2.7 Fire Station - M	VRF	7.00	6.00	300	NA	NA	0.057	50.0	☒	☐
16-FC-1.2.8 Fire Station - M-VRF	15-FC-1.2.8 Fire Station - M	VRF	7.00	6.00	300	NA	NA	0.057	50.0	☒	☐
17-FC-1.2.9 Fire Station - M-VRF	16-FC-1.2.9 Fire Station - M	VRF	7.00	6.00	300	NA	NA	0.057	50.0	☒	☐
18-FC-1.2.10 Fire Station --VRF	17-FC-1.2.10 Fire Station -	VRF	7.00	6.00	300	NA	NA	0.057	50.0	☒	☐
19-FC-1.2.11 Corridor-VRF	18-FC-1.2.11 Corridor	VRF	27.00	24.00	700	NA	NA	0.401	349.8	☒	☐
26-FC-1.2.12 Break Rooms-VRF	25-FC-1.2.12 Break Rooms	VRF	34.00	30.00	1110	NA	NA	0.401	349.8	☒	☐
27-FC-1.2.13 Office-VRF	26-FC-1.2.13 Office	VRF	7.00	6.00	300	NA	NA	0.057	50.0	☒	☐
28-FC-1.2.14 Fire Station --VRF	27-FC-1.2.14 Fire Station -	VRF	9.00	8.00	300	NA	NA	0.103	90.0	☒	☐
30-FC-1.2.15 Dining/Kitchen-VRF	29-FC-1.2.15 Dining/Kitchen	VRF	40.00	36.00	1050	NA	NA	0.401	349.8	☒	☐

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 16 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

H7. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

1	2	3	4	5	6	7	8	9	10	11	12
System ID	Zone Name	System Type	Rated Capacity (kBtuh)		Airflow (cfm)			Fan			
			Heating	Cooling	Design	Min.	Min. Ratio	BHP	Watts	Cycles	ECM Motor
32-FC-1.2.16 Fire Station --VRF	31-FC-1.2.16 Fire Station -	VRF	40.00	36.00	1100	NA	NA	0.401	349.8	☒	☐
33-FC-1.1.1. Conference-VRF	32-FC-1.1.1. Conference	VRF	54.00	48.00	1520	NA	NA	0.594	517.7	☒	☐
UH-1.1	33-Fire Station - Misc.	Furnace	25.00	NA	450	NA	NA	0.060	52.3	☒	☐
UH-1.2	36-Fire Station	Furnace	100.00	NA	1537	NA	NA	0.250	218.0	☒	☐
DS-2.1	37-Comm. Room	MiniSplitAC	NA	33.00	915	NA	NA	0.073	64.0	☒	☐

H8. EVAPORATIVE COOLER SUMMARY

This Section Does Not Apply

I1. WATER HEATER EQUIPMENT SUMMARY

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Name	Heater Element Type	Tank Type	Qty	Tank Vol (gal)	Rated Input	Rated Input Unit	Efficiency	Efficiency Unit	Tank Insulation R-value (Int/Ext)	Standby Loss Fraction	Heat Pump Type	1st Hour Rating or Flow Rate (gal)	Tank Location or Ambient Condition
A. O. SMITH BTH 150 3012	Gas	Storage	1	100.00	150	kBtu/h	0.98	Thrml. Eff.	NA	0.007	NA	NA	NA

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 17 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

K1. INDOOR CONDITIONED LIGHTING GENERAL INFO

1	2	3	4	5	6
Occupancy Type [1]	Conditioned Floor Area [2] (ft^2)	Installed Lighting Power (Watts)	Lighting Control Credits (Watts)	Additional (Custom) Allowance	
				Area Category Footnotes (Watts)	Tailored Method (Watts)
Office Area (<250 square feet)	736	358	0	0	0
Restrooms	833	542	0	0	0
Unoccupied-Include in Gross Floor Area	344		0	0	0
Stairwell	86	43	0	0	0
General/Commercial & Industrial Work Area (Low Bay)	276	166	0	0	0
Convention, Conference, Multipurpose and Meeting Area	395	205	0	0	0
All other	5,207	2,611	0	0	0
Office Area (>250 square feet)	1,025	454	0	0	0
Commercial/Industrial Storage (Warehouse)	74	33	0	0	0
Corridor Area	536	169	0	0	0
Laundry Area	153	69	0	0	0
Lounge, Breakroom, or Waiting Area	609	274	0	0	0
Kitchenette or Residential Kitchen	1,297	734	0	0	0
Exercise/Fitness Center and Gymnasium Areas	588	329	0	0	0
Electrical, Mechanical, Telephone Rooms	197	197	0	0	0
Building Totals:	**12,356**	**6,184**	**0**	**0**	**0**

[1] *See Table 140.6-C*
[2] *See NRCC-LTI-01-E for unconditioned spaces*
[3] *Lighting information for existing spaces modeled is not included in the table*

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 18 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

K2. INDOOR CONDITIONED LIGHTING SCHEDULE

1	2	3	4	5	6
Luminaire Schedule (includes all permanent installed lighting in conditioned space, and portable lighting over 0.3 w/ft^2 in offices)		Installed Watts (Conditioned)			
Name or Item Tag	Complete Luminaire Description (i.e., 3-lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per luminaire	How Wattage is Determined	Total Number Luminaires	Installed Watts
A1	A1	41	According to §130.0(c)	4	164
A2	A2	30	According to §130.0(c)	11	328
A3	A3	46	According to §130.0(c)	11	510
A4	A4	19	According to §130.0(c)	24	451
B1	B1	82	According to §130.0(c)	14	1,143
B2	B2	50	According to §130.0(c)	3	150
B3	B3	35	According to §130.0(c)	1	34
C1	C1	20	According to §130.0(c)	3	60
D1	D1	11	According to §130.0(c)	11	116
G10	G10	60	According to §130.0(c)	8	480
G6	G6	36	According to §130.0(c)	4	144
H4	H4	23	According to §130.0(c)	40	912
H8	H8	46	According to §130.0(c)	6	273
P1	P1	41	According to §130.0(c)	4	164

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 19 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

K2. INDOOR CONDITIONED LIGHTING SCHEDULE

1	2	3	4	5	6
Luminaire Schedule (includes all permanent installed lighting in conditioned space, and portable lighting over 0.3 w/ft^2 in offices)		Installed Watts (Conditioned)			
Name or Item Tag	Complete Luminaire Description (i.e., 3-lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per luminaire	How Wattage is Determined	Total Number Luminaires	Installed Watts
P4	P4	49	According to §130.0(c)	4	197
UC22	UC22	12	According to §130.0(c)	1	12
UC40	UC40	20	According to §130.0(c)	7	140
W2	W2	3	According to §130.0(c)	8	24

K3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS

Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per §140.6(a)2 and Table 140.6-A)

1	2	3	4	5	6	7	8	9
Area Description	Primary Function Area (must meet requirements of Table 140.6-A)	Type of Lighting Control	Power Adjustment Factor (PAF)	Luminaire Name or Item Tag	Watts per Luminaires	# of Luminaires	Lighting Controlled (Watts)	Control Credit (Watts)
S-1-FC-1.1.2 Office	Office Area (<250 square feet)	NA	0.00 0.00 0.00 0.00 0.00	A4	37.6	2	38	0
S-1-FC-1.1.2 Office	Office Area (<250 square feet)	NA	0.00 0.00 0.00 0.00 0.00	UC22	12.0	1	12	0
S-1-FC-1.1.2 Office	Office Area (<250 square feet)	NA	0.00 0.00 0.00 0.00	UC40	40.0	2	40	0

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 20 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

K3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS

Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per §140.6(a)2 and Table 140.6-A)

1	2	3	4	5	6	7	8	9
Area Description	Primary Function Area (must meet requirements of Table 140.6-A)	Type of Lighting Control	Power Adjustment Factor (PAF)	Luminaire Name or Item Tag	Watts per Luminaires	# of Luminaires	Lighting Controlled (Watts)	Control Credit (Watts)
			0.00					
S-1-FC-1.1.2 Office	Office Area (<250 square feet)	NA	0.00 0.00 0.00 0.00 0.00	P1	82.0	2	82	0
S-1-FC-1.1.2 Office	Office Area (<250 square feet)	NA	0.00 0.00 0.00 0.00 0.00	D1	10.6	1	11	0
S-1-FC-1.1.2 Office	Office Area (<250 square feet)	NA	0.00 0.00 0.00 0.00 0.00	A4	94.0	5	94	0
S-32-FC-1.1.1. Conference	Convention, Conference, Multipurpose and Meeting Area	NA	0.00 0.00 0.00 0.00 0.00	H4	205.2	9	205	0
S-36-Fire Station	All other	NA	0.00 0.00 0.00 0.00 0.00	B1	1143.8	14	1144	0
S-36-Fire Station	All other	NA	0.00 0.00 0.00 0.00 0.00	C1	60.9	3	61	0
S-36-Fire Station	All other	NA	0.00	UC40	40.0	2	40	0

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 21 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

K3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS

Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per §140.6(a)2 and Table 140.6-A)

1	2	3	4	5	6	7	8	9
Area Description	Primary Function Area (must meet requirements of Table 140.6-A)	Type of Lighting Control	Power Adjustment Factor (PAF)	Luminaire Name or Item Tag	Watts per Luminaires	# of Luminaires	Lighting Controlled (Watts)	Control Credit (Watts)
			0.00 0.00 0.00 0.00					
S-33-Fire Station - Misc.	All other	NA	0.00 0.00 0.00 0.00 0.00	B2	150.0	3	150	0
S-33-Fire Station - Misc.	All other	NA	0.00 0.00 0.00 0.00 0.00	B3	34.5	1	35	0
S-4-FC-1.2.1 Office	Office Area (>250 square feet)	NA	0.00 0.00 0.00 0.00 0.00	H4	296.4	13	296	0
S-4-FC-1.2.1 Office	Office Area (>250 square feet)	NA	0.00 0.00 0.00 0.00 0.00	A4	75.2	4	75	0
S-7-FC-1.2.2 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	A3	46.4	1	46	0
S-7-FC-1.2.2 Fire Station - M	All other	NA	0.00 0.00 0.00	W2	3.0	1	3	0

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 22 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

K3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS

Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per §140.6(a)2 and Table 140.6-A)

1	2	3	4	5	6	7	8	9
Area Description	Primary Function Area (must meet requirements of Table 140.6-A)	Type of Lighting Control	Power Adjustment Factor (PAF)	Luminaire Name or Item Tag	Watts per Luminaires	# of Luminaires	Lighting Controlled (Watts)	Control Credit (Watts)
			0.00 0.00					
S-7-FC-1.2.2 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	G6	36.0	1	36	0
S-9-FC-1.2.3 Office	Office Area (>250 square feet)	NA	0.00 0.00 0.00 0.00 0.00	A1	82.4	2	82	0
S-10-FC-1.2.4 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	A3	92.8	2	93	0
S-10-FC-1.2.4 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	W2	3.0	1	3	0
S-10-FC-1.2.4 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	G6	36.0	1	36	0
S-12-FC-1.2.5 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	A3	46.4	1	46	0

REVISIONS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT				REF.

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
NRCC-PRF-01-E

REGISTERED PROFESSIONAL ENGINEER BRIAN P. STARRETT M 34068 EXP. 6/30/24 MECHANICAL STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

B# B-4797
PHASE # ____ / REBID # ____
SHEET 182 OF 236
DWG. NO. T242

C:\Users\intern\appdata\local\temp\AcPublish_16684\LB FS 9 T24 Sheets.dwg bswanson Oct 13,2023-2:08pm

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 28 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

K4. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROLS

Building Level Controls

1	2
Mandatory Demand Response §110.12(c)	**Shut-Off Controls §130.1(c)**
Required	NA

Area Level Controls (includes all lighting controls installed in conditioned space to meet mandatory requirements per §130.1)

4	5	6	7	8	9	10
Area Description	**Area Category Primary Function Area**	**Area Controls 130.1(a)**	**Multi-Level Controls 130.1(b)**	**Shut-Off Controls 130.1(c)**	**Primary Daylighting 130.1(d)**	**Secondary Daylighting 140.5(d)**
CONFERENCE ROOM	Convention, Conference, Multipurpose and Meeting Area	Required	Required	Required	Required	Required
OFFICES <250 SQFT	Office Area (<250 square feet)	Required	Required	Required	NA	NA
BC OFFICE	Office Area (>250 square feet)	Required	Required	Required	Required	Required
RESTROOMS	Restrooms	Required	Required	Required	NA	NA
FIRE RISER	Unoccupied-Include in Gross Floor Area	Required	Required	Required	NA	NA
BUNKS	All other	Exempt	Required	Exempt	NA	NA
LOBBY	Main Entry Lobby	Required	Required	Required	NA	NA
CORRIDORS	Corridor Area	Required	Required	Required	Required	NA
LAUNDRY	Laundry Area	Required	Required	Required	NA	NA

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 25 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

K3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS

Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per §140.6(a)2 and Table 140.6-A)

1	2	3	4	5	6	7	8	9
Area Description	Primary Function Area (must meet requirements of Table 140.6-A)	Type of Lighting Control	Power Adjustment Factor (PAF)	Luminaire Name or Item Tag	Watts per Luminaires	# of Luminaires	Lighting Controlled (Watts)	Control Credit (Watts)
			0.00					
S-16-FC-1.2.9 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	G6	36.0	1	36	0
S-17-FC-1.2.10 Fire Station -	All other	NA	0.00 0.00 0.00 0.00 0.00	A3	46.4	1	46	0
S-17-FC-1.2.10 Fire Station -	All other	NA	0.00 0.00 0.00 0.00 0.00	W2	3.0	1	3	0
S-17-FC-1.2.10 Fire Station -	All other	NA	0.00 0.00 0.00 0.00 0.00	G6	36.0	1	36	0
S-18-FC-1.2.11 Corridor	Corridor Area	NA	0.00 0.00 0.00 0.00 0.00	A4	169.2	9	169	0
S-25-FC-1.2.12 Break Rooms	Lounge, Breakroom, or Waiting Area	NA	0.00 0.00 0.00 0.00 0.00	H8	273.6	6	274	0

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 23 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

K3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS

Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per §140.6(a)2 and Table 140.6-A)

1	2	3	4	5	6	7	8	9
Area Description	Primary Function Area (must meet requirements of Table 140.6-A)	Type of Lighting Control	Power Adjustment Factor (PAF)	Luminaire Name or Item Tag	Watts per Luminaires	# of Luminaires	Lighting Controlled (Watts)	Control Credit (Watts)
S-12-FC-1.2.5 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	W2	3.0	1	3	0
S-12-FC-1.2.5 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	G10	60.0	1	60	0
S-13-FC-1.2.6 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	A3	46.4	1	46	0
S-13-FC-1.2.6 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	W2	3.0	1	3	0
S-13-FC-1.2.6 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	G10	120.0	2	120	0
S-14-FC-1.2.7 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	A3	46.4	1	46	0
S-14-FC-1.2.7 Fire Station - M	All other	NA	0.00 0.00	W2	3.0	1	3	0

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 29 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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

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

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 26 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

K3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS

Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per §140.6(a)2 and Table 140.6-A)

1	2	3	4	5	6	7	8	9
Area Description	Primary Function Area (must meet requirements of Table 140.6-A)	Type of Lighting Control	Power Adjustment Factor (PAF)	Luminaire Name or Item Tag	Watts per Luminaires	# of Luminaires	Lighting Controlled (Watts)	Control Credit (Watts)
S-26-FC-1.2.13 Office	Office Area (<250 square feet)	NA	0.00 0.00 0.00 0.00 0.00	A1	82.4	2	82	0
S-27-FC-1.2.14 Fire Station -	All other	NA	0.00 0.00 0.00 0.00 0.00	A3	46.4	1	46	0
S-27-FC-1.2.14 Fire Station -	All other	NA	0.00 0.00 0.00 0.00 0.00	G10	60.0	1	60	0
S-29-FC-1.2.15 Dining/Kitchen	Kitchenette or Residential Kitchen	NA	0.00 0.00 0.00 0.00 0.00	D1	106.0	10	106	0
S-29-FC-1.2.15 Dining/Kitchen	Kitchenette or Residential Kitchen	NA	0.00 0.00 0.00 0.00 0.00	UC40	60.0	3	60	0
S-29-FC-1.2.15 Dining/Kitchen	Kitchenette or Residential Kitchen	NA	0.00 0.00 0.00 0.00 0.00	H4	182.4	8	182	0
S-29-FC-1.2.15 Dining/Kitchen	Kitchenette or Residential Kitchen	NA	0.00 0.00	P1	82.0	2	82	0

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 24 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

K3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS

Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per §140.6(a)2 and Table 140.6-A)

1	2	3	4	5	6	7	8	9
Area Description	Primary Function Area (must meet requirements of Table 140.6-A)	Type of Lighting Control	Power Adjustment Factor (PAF)	Luminaire Name or Item Tag	Watts per Luminaires	# of Luminaires	Lighting Controlled (Watts)	Control Credit (Watts)
			0.00 0.00 0.00					
S-14-FC-1.2.7 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	G10	120.0	2	120	0
S-15-FC-1.2.8 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	A3	46.4	1	46	0
S-15-FC-1.2.8 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	W2	3.0	1	3	0
S-15-FC-1.2.8 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	G10	120.0	2	120	0
S-16-FC-1.2.9 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	A3	92.8	2	93	0
S-16-FC-1.2.9 Fire Station - M	All other	NA	0.00 0.00 0.00 0.00 0.00	W2	3.0	1	3	0

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 30 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

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

Building Component	Form/Title
Envelope	NRCA-ENV-02-F - NRFC label verification for fenestration
Indoor Lighting	NRCA-LTI-02-A - Occupancy Sensors and Automatic Time Switch Controls
	NRCA-LTI-03-A - Automatic Daylight Controls
	NRCA-LTI-04-A - Demand Responsive Lighting Controls
Mechanical	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap
	NRCA-MCH-03-A Constant Volume Single Zone HVAC
	NRCA-MCH-20 Multifamily Ventilation

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 27 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

K3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS

Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per §140.6(a)2 and Table 140.6-A)

1	2	3	4	5	6	7	8	9
Area Description	Primary Function Area (must meet requirements of Table 140.6-A)	Type of Lighting Control	Power Adjustment Factor (PAF)	Luminaire Name or Item Tag	Watts per Luminaires	# of Luminaires	Lighting Controlled (Watts)	Control Credit (Watts)
			0.00 0.00 0.00					
S-29-FC-1.2.15 Dining/Kitchen	Kitchenette or Residential Kitchen	NA	0.00 0.00 0.00 0.00 0.00	A4	75.2	4	75	0
S-29-FC-1.2.15 Dining/Kitchen	Kitchenette or Residential Kitchen	NA	0.00 0.00 0.00 0.00 0.00	H4	228.0	10	228	0
S-31-FC-1.2.16 Fire Station -	Exercise/Fitness Center and Gymnasium Areas	NA	0.00 0.00 0.00 0.00 0.00	A2	328.9	11	329	0
S-37-Comm. Room	Electrical, Mechanical, Telephone Rooms	NA	0.00 0.00 0.00 0.00 0.00	P4	197.2	4	197	0

NO	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
				AS-BUILT

REVISIONS

REF:

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

NRCC-PRF-01-E

B# B-4797

PHASE # ____ / REBID # ____

SHEET 183 OF 236

DWG. NO. T243

MECHANICAL
M 34068
EXP. 6/30/24
STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN
805.540.3343 WWW.3CENG.COM
1000 Main St. San Luis Obispo, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-ELC-E
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 5 of 5)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Benjamin Swanson	Documentation Author Signature: Benjamin Swanson
Company: 3C Engineering, Inc.	Signature Date: 2023-06-09
Address: 1500 Palm Street	CEA/ HERS Certification Identification (if applicable): NR19-21-30019
City/State/Zip: San Luis Obispo CA 93401	Phone: 805-540-3363

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: William Thoma	Responsible Designer Signature: [signature]
Company: Thoma Electric, Inc.	Date Signed: 2023-06-09
Address: 3562 Empleo Street	License: E10757
City/State/Zip: San Luis Obispo CA 93401	Phone: 805-543-3850

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-ELC-E
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 2 of 5)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

D. EXCEPTIONAL CONDITIONS

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

E. ADDITIONAL REMARKS

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

F. SERVICE ELECTRICAL METERING

This table includes new or replacement electrical service systems OR equipment to demonstrate compliance with §130.5(a)

01	02	03				04	05	
		Required Metering Capabilities per Table 130.5-A					Field Inspector	
Electrical Service Designation/Description	Rating (kVA)	Instantaneous Demand (kW)	Historical Peak Demand (kW)	Tracking kWh for user-defined period	kWh per rate period	Location of Requirements in Construction Documents	Pass	Fail
MSB	360	⊠	⊠	⊠	☐	E003, SINGLE LINE DIAGRAM	☐	☐

2

Project Name:	LB FS 9	NRCC-PRF-01-E	Page 31 of 31
Project Address:	4101 Long Beach Blvd. Long Beach 90807	Calculation Date/Time:	16:37, Fri, Jun 09, 2023
Input File Name:	230609 LB FS 9 Compliance.cibd19x		

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Benjamin Swanson	Signature: Benjamin Swanson
Company: 3C Engineering, Inc.	
Address: 1500 Palm Street	Signature Date: 2023-06-09
City/State/Zip: San Luis Obispo CA 93401	CEA/ HERS Certification Identification (if applicable): NR19-21-30019
Phone: 805-540-3363	

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Envelope Designer Name: Mary McGrath	Signature: M McGrath	
Company: Mary McGrath Architects		
Address: 1212 Broadway, Suite 401	Date Signed: 6/9/2023	
City/State/Zip: Oakland CA 94612		
Phone: (510) 208-9400	Title: Architect	License #: C24435
Responsible Lighting Designer Name: William Thoma	Signature:	
Company: Thoma Electric, Inc.		
Address: 3562 Empleo Street	Date Signed:	
City/State/Zip: San Luis Obispo CA 93401		
Phone: 805-543-3850	Title:	License #: E10757
Responsible Mechanical Designer Name: Brian Starrett	Signature: [signature]	
Company: 3C Engineering, Inc.		
Address: 1500 Palm St.	Date Signed: 6-9-2023	
City/State/Zip: San Luis Obispo California 93401		
Phone: 805-540-3363	Title:	License #: M34068

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
This document is used to demonstrate compliance with requirements in §110.9, §110.12(c), §130.0, §130.1, §140.6 and §141.0(b)2 for indoor lighting scopes using the prescriptive path.			
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 1 of 9)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

A. GENERAL INFORMATION

01	Project Location (city)		Long Beach			04	Total Conditioned Floor Area (ft^2)		0		
02	Climate Zone		8			05	Total Unconditioned Floor Area (ft^2)		375		
03	Occupancy Types Within Project (select all that apply):					06	# of Stories (Habitable Above Grade)		2		
⊠	Office	☐	Retail	⊠	Warehouse	☐	Hotel/Motel	☐	School	⊠	Support Areas
☐	Parking Garage	☐	High-Rise Residential	☐	Relocatable	☐	Healthcare	☐	Other (Write in)		See Table I

B. PROJECT SCOPE

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

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft^2)	Calculation Method	Area (ft^2)
⊠ New Lighting System	Area Category Method	0	Area Category Method	375
☐ New Lighting System - Parking Garage				
Total Area of Work (ft^2)	0		375	

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-ELC-E
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 3 of 5)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

G. SEPARATION OF ELECTRICAL CIRCUITS FOR ENERGY MONITORING

This table includes entirely new or complete replacement electrical power distribution systems to demonstrate compliance with §130.5(b). Any load types that are not included in the service do not need to be shown.

01	02	03	04	05	
				Field Inspector	
Load Type per Table 130.5-B [1]	Minimum Required Separation of Load per Table 130.5-B	Compliance Method[2]	Location of Requirements in Construction Documents	Pass	Fail
MSB					
Elevators, escalators, moving walkways	All loads in aggregate	Method 2	E003, SINGLE LINE DIAGRAM	☐	☐
Lighting including exit, egress and exterior	All lighting disaggregated by floor, type or area	Method 2	E003, SINGLE LINE DIAGRAM	☐	☐
HVAC systems and components	All HVAC in aggregate and each HVAC load rated at least 50 kVA	Method 2	E003, SINGLE LINE DIAGRAM	☐	☐
Renewable power sources (net or total)	Each group	Method 2	E003, SINGLE LINE DIAGRAM	☐	☐
Charging stations for electrical vehicle	All loads in aggregate	Method 2	E003, SINGLE LINE DIAGRAM	☐	☐

** NOTES: If "Other*" is selected under Compliance Method above, please indicate how compliance has been achieved in the space provided below.*

[1] FOOTNOTES: For each separate load type, up to 10% of the connected load may be of any type.
[2] Method 1: Switchboards/ motor control centers/ panelboard loads disaggregated for each load type.
Method 2: Switchboards/ motor control centers/ panelboard supply other distribution equipment with loads disaggregated for each load type.
Method 3: Branch circuits serve load types individually and provisions for adding future branch circuit monitoring.
Method 4: Complete metering system measures and reports loads by type.
See Chapter 8 of the Nonresidential Compliance Manual for more detail on Compliance Methods.

H. VOLTAGE DROP

This table includes entirely new or complete replacement electrical power distribution systems, or alterations that add, modify or replace both feeders and branch circuits to demonstrate compliance with §130.5(c). For alterations, only the altered circuits must demonstrate compliance per §141.0(b)2Piii

01	02	03	04	05	
				Field Inspector	
Electrical Service Designation/Description	Combined Voltage Drop on Installed Feeder/Branch Circuit Conductors Compliance Method	Location of Voltage Drop Calculations[1]	Sheet Number for Voltage Drop Calculations in Construction Documents	Pass	Fail

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-ELC-E
This document is used to demonstrate compliance with mandatory requirements in §130.5, for electrical systems in newly constructed nonresidential, high-rise residential and hotel/motel occupancies. Additions and alterations to electrical service systems in these occupancies will also use this document to demonstrate compliance per §141.0(a) or §141.0(b)2P for alterations..			
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 1 of 5)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

A. GENERAL INFORMATION

01	Project Location (city)		Long Beach			02	Occupancy Types Within Project:				
⊠	Office	☐	Retail	⊠	Warehouse	☐	Hotel/Motel	☐	School	⊠	Support Areas
☐	Parking Garage	☐	High-Rise Residential	☐	Relocatable	☐	Healthcare Facilities	⊠	Other (write in)		See Table I

B. PROJECT SCOPE

This table includes electrical systems that are within the scope of the permit application.

01		02	03	04	05
Electrical Service Designation/Description		Scope of Work[1]	Rating (kVA)	Utility Provided Metering System Exception to §130.5(a) [2]	System subject to CA Elec Code Article 517 Exception to §130.5(a)and (b)
MSB		New electrical service equipment and meter	360	☐	☐
06	Demand Response Controls	Where required, demand response controls must be specified which are capable of receiving and automatically responding to at least one standards based messaging protocol which enables demand response after receiving a demand response signal. Sections §120.2, §130.1 and §130.3 and compliance documents NRCC-MCH, NRCC-LTI and NRCC-LTS will indicate when demand response controls are required.			

[1] FOOTNOTES: Adding only new feeders and branch circuits triggers Voltage Drop 130.5(c), no other requirements from 130.5 are required.
[2] Applicable if the utility company is providing a metering system that indicates instantaneous kW demand and kWh for a utility-defined period.

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through I. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

01		02		03		04	05
Service Electrical Metering §130.5(a) (See Table F)	AND	Separation for Monitoring §130.5(b) (See Table G)	AND	Voltage Drop §130.5(c) (See Table H)	AND	Controlled Receptacles §130.5(d) (See Table I)	
Yes	AND	Yes	AND	Yes	AND	Yes	COMPLIES

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 2 of 9)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

C. COMPLIANCE RESULTS

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

Lighting in conditioned and unconditioned spaces must not be combined for compliance per §140.6(b)1	Allowed Lighting Power per §140.6(b) (Watts)							Adjusted Lighting Power per §140.6(a) (Watts)				Compliance Results
	01	02	03	04		05		06	07		08	09
	Complete Building §140.6(c)1 (See Table I)	Area Category §140.6(c)2 (See Table I)	Area Category Additional §140.6(c)2G (+) (See Table J)	Tailored §140.6(c)3 (+) (See Table K)	=	**Total Allowed** (Watts)	≥	Total Designed (Watts) (See Table F)	Adjustments PAF Lighting Control Credits §140.6(a)2 (-) (See Table P)	=	**Total Adjusted** (Watts) *Includes Adjustments	**05 must be >= 08 §140.6**
Conditioned					=		≥			=		
Unconditioned		150	0		=	150	≥	149	0	=	149	COMPLIES
Controls Compliance (See Table H for Details)												COMPLIES
Rated Power Reduction Compliance (See Table Q for Details)												

2

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. INDOOR LIGHTING FIXTURE SCHEDULE

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

Designed Wattage: Unconditioned Spaces

01	02	03	04	05	06	07	08	09	10	
									Field Inspector	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per §140.6(a)3	Design Watts	Pass	Fail
P2	P2	No	No	86	Mfr. Spec	1	No	86	☐	☐

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-ELC-E
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 4 of 5)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

H. VOLTAGE DROP

MSB	⊠	Voltage drop less than 5%	☐	Permitted by CA Elec Code (Exception to 130.5(c))*	Attached	E005, PANEL SCHEDULES	☐	☐

** NOTES: If "Permitted by CA Elec Code *" is selected under Compliance Method above, please indicate where the exception applies in the space provided below.*

[1] FOOTNOTES: Voltage drop calculations may be attached to the permit application outside the construction documents if allowed by the Authority Having Jurisdiction. Select "attached" if applicable. If calculations will be the responsibility of the installing contractor, select "Contractor Responsible".

I.CIRCUIT CONTROLS FOR 120-VOLT RECEPTACLES AND CONTROLLED RECEPTACLES

This table includes entirely new or complete replacement electrical power distribution systems to demonstrate compliance with §130.5(d). Both controlled and uncontrolled receptacles must be provided in office areas, lobbies, conference rooms, kitchen areas in office spaces, copy rooms and hotel/motel guest rooms.

01	02	03	04	05	06	
					Field Inspector	
Room name or Description	Location/ Type of Controlled Receptacles	Shut-Off Controls	Permanent Durable Marking Will be Used	Location of Requirements in Construction Documents	Pass	Fail
MSB	Within 6ft of uncontrolled receptacle	Occupancy Sensor	⊠	POWER FLOOR PLANS	☐	☐

** NOTES: If "Other*" is selected under Shut-Off Controls above, please indicate how compliance has been achieved in the space provided below.*

J. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Yes	No	Form/Title	Field Inspector	
			Pass	Fail
●	○	NRCI-ELC-01-E - Must be submitted for all buildings	☐	☐

K. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no Certificates of Acceptance applicable to electrical power distribution requirements.

REGISTERED PROFESSIONAL ENGINEER — BRIAN P. STARRETT — M 34068 — EXP. 6/30/24 — MECHANICAL — STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN
805. 540. 3363 · WWW.3CENG.COM
1500 PALM ST. SAN LUIS OBISPO, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

LICENSED ARCHITECT — MARY C. MCGRATH — C-24435 — REN-08-30-23 — STATE OF CALIFORNIA

REVISIONS			
NO.	DATE	DESCRIPTION	APPROVAL
	12/16/2021	PLAN CHECK SUBMITTAL	
	04/22/2022	PLAN CHECK RE-SUBMITTAL	
	06/15/2023	PLAN CHECK RE-SUBMITTAL	
	10/12/2023	BID DOCUMENTS	
AS-BUILT			

SHEET | REF.

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

NRCC-ELC-E & NRCC-LTI-E

B# B-4797

PHASE # ____ / REBID # ____

SHEET 184 OF 236

DWG. NO. T244

C:\Users\intern\appdata\local\temp\AcPublish_16684\LB FS 9 T24 Sheets.dwg bswanson Oct 13,2023-2:08pm

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 8 of 9)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	6/9/2023

T. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Yes	No	Form/Title	Field Inspector Pass	Field Inspector Fail
●	○	NRCI-LTI-01-E - Must be submitted for all buildings	☐	☐
○	●	NRCI-LTI-02-E- Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐	☐
○	●	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room or a theater to be recognized for compliance.	☐	☐
○	●	NRCI-LTI-05-E- Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.	☐	☐
○	●	NRCI-LTI-06-E- Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.	☐	☐

U. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Yes	No	Form/Title	Field Inspector Pass	Field Inspector Fail
●	○	NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	☐	☐
●	○	NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	☐	☐
●	○	NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	☐	☐
○	●	NRCA-LTI-05-A. - Must be submitted for institutional tuning power adjustment factor (PAF)	☐	☐

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-06-09 16:40:47

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 5 of 9)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	6/9/2023

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

STAIRS & ELEV LOBBY	Stairwell	Manual ON/OFF	Exempt*	Occupancy Sensor	N/A	N/A	No	☐	☐
APP. BAY & APP. SUPPORT	All Other Space Types	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
DAYROOM	Lounge Breakroom or Waiting Area	Manual ON/OFF	Dimmer	Exempt*	N/A	N/A	No	☐	☐
KITCHEN/DINING	Kitchen/ Food Preparation Area	Manual ON/OFF	Dimmer	Exempt*	N/A	N/A	No	☐	☐
PANTRY	All Other Space Types	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
FITNESS	Exercise/Fitness Center GymnasiumArea	Manual ON/OFF	Dimmer	Occupancy Sensor	Included	Included	No	☐	☐
TURNOUT GEAR	Warehouse	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
MECHANICAL	Electrical Mechancial Telephone Room	Manual ON/OFF	Exempt*	Occupancy Sensor	N/A	N/A	No	☐	☐

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-06-09 16:40:47

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 3 of 9)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	6/9/2023

F. INDOOR LIGHTING FIXTURE SCHEDULE

P3	P3	No	No	63	Mfr. Spec	1	No	63	☐ ☐
					Total Designed Watts: UNCONDITIONED SPACES			149	

[1]*FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per §140.6(a)4§ is adjusted to be 75% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.*

[2]*Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c) Wattage used must be the maximum rated for the luminaire, not the lamp.*

G. MODULAR LIGHTING SYSTEMS
This section does not apply to this project.

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

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

Building Level Controls

01	02	03 Field Inspector Pass	03 Field Inspector Fail
Mandatory Demand Response §110.12(c)	Shut-off controls §130.1(c)	☐	☐
Required > 10,000 SF	See Area/Space Level Controls		

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-06-09 16:40:47

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 9 of 9)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	6/9/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Benjamin Swanson	Documentation Author Signature: Benjamin Swanson
Company: 3C Engineering, Inc.	Signature Date: 2023-06-09
Address: 1500 Palm Street	CEA/ HERS Certification Identification (if applicable): NR19-21-30019
City/State/Zip: San Luis Obispo CA 93401	Phone: 805-540-3363

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: William Thoma	Responsible Designer Signature: William Thoma
Company: Thoma Electric, Inc.	Date Signed: 2023-06-09
Address: 3562 Empleo Street	License: E10757
City/State/Zip: San Luis Obispo CA 93401	Phone: 805-543-3850

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-06-09 16:40:47

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 6 of 9)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	6/9/2023

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

*NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.*
EX: Conference 1: Primary/Skylight Daylighting: Exempt because less than 120 watts of general lighting; EXCEPTION 1 to §130.1(d)2

		13
BUNKS	RESIDENTIAL SPACE	Plan Sheet Showing Daylit Zones:
MECH/ELEC., COMM, GENERATOR, ELEV. MACHINE	130.1(c)1 Exception 4: Electrical equipment rooms	
STAIRS & ELEV LOBBY	130.1(b) Enclosed area is over 100sf with connected lighting load of less than 0.5 W/sf	
DAYROOM	RESIDENTIAL SPACE	
KITCHEN/DINING	RESIDENTIAL SPACE	
MECHANICAL	130.1(b) Enclosed area is over 100sf with connected lighting load of less than 0.5 W/sf	

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per §140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per §140.6(c) or adjustments per §140.6(a) are being used .

Unconditioned Spaces

01 Area Description	02 Complete Building or Area Category Primary Function Area	03 Allowed Density (W/ft²)	04 Area (ft²)	05 Allowed Wattage (Watts)	06 Additional Allowance / Adjustment: Area Category	06 Additional Allowance / Adjustment: PAF
Electrical, Mechanical	Electrical Mechancial Telephone Room	0.4	135	54	No	No
Electrical, Mechanical	Electrical Mechancial Telephone Room	0.4	240	96	No	No
		TOTALS:	375	150	See Tables J, or P for detail	

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM
This section does not apply to this project.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-06-09 16:40:47

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 4 of 9)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	6/9/2023

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

Area Level Controls

04 Area Description	05 Complete Building or Area Category Primary Function Area	06 Area Controls §130.1(a)	07 Multi-Level Controls §130.1(b)	08 Shut-Off Controls §130.1(c)	09 Primary/Sky lit Daylighting §130.1(d)	10 Secondary Daylighting §140.6(d)	11 Interlocked Systems §140.6(a)1	12 Field Inspector Pass	12 Field Inspector Fail
CONFERENCE ROOM	Convention, Conference, Multipurpose and Meeting Center Areas	Manual ON/OFF	Dimmer	Occupancy Sensor	Included	Included	No	☐	☐
OFFICES <250 SQFT	Office 250 square feet or less	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
BC OFFICE	Office greater than 250 square feet	Manual ON/OFF	Dimmer	Occupancy Sensor	Included	Included	No	☐	☐
RESTROOMS	Restrooms	Manual ON/OFF	Dimmer	Vacancy	N/A	N/A	No	☐	☐
FIRE RISER	All Other Space Types	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
BUNKS	All Other Space Types	Manual ON/OFF	Dimmer	Exempt*	N/A	N/A	No	☐	☐
LOBBY	Main Entry Lobby	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
CORRIDORS	Corridor Area	Manual ON/OFF	Dimmer	Occupancy Sensor	Included	N/A	No	☐	☐
LAUNDRY	Laundry Area	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
JANITOR	General Commercial Industrial Work AreaLow Bay	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
MECH/ELEC., COMM, GENERATOR, ELEV. MACHINE	Electrical Mechancial Telephone Room	Manual ON/OFF	Dimmer	Exempt*	N/A	N/A	No	☐	☐

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-06-09 16:40:47

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 1 of 10)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	6/9/2023

A. GENERAL INFORMATION

01	Project Location (city)	Long Beach	04	Total Illuminated Hardscape Area (ft²)	8309 (2)
02	Climate Zone	8			
03	Outdoor Lighting Zone per Title 24 Part 1 §10.114 or as designated by Authority Having Jurisdiction (AH):				
☐	LZ-0: Very Low - Undeveloped Parkland	☐ LZ-2: Moderate - Rural Areas	☐	LZ-4: High - Must be reviewed by CA Energy Commission for Approval	
☐	LZ-1: Low - Developed Parkland	☒ LZ-3: Moderately High - Urban Areas			

B. PROJECT SCOPE

This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.7 or §141.0(b)2L for alterations.

My Project Consists of:

01	02			
☒	New Lighting System	Must Comply with Allowances from §140.7		
☐	Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)? ○ Yes ○ No		
03		04	05	
% of Existing Luminaires Being Altered[1]		Sum Total of Luminaires Being Added or Altered	Calculation Method	
☐ < 10%	☐ >= 10% and < 50% ☐ >= 50%			

Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.

[1] *FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.*

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-06-09 16:40:47

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 7 of 9)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	6/9/2023

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE
This section does not apply to this project.

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY
This section does not apply to this project.

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING
This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAMENTAL/SPECIAL EFFECTS
This section does not apply to this project.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE
This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))
This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR ALTERATIONS
This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS
This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)
This section does not apply to this project.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-06-09 16:40:47

REVISIONS			
NO	DATE	SHEET	APPROVAL
	12/16/2021		DESCRIPTION: PLAN CHECK SUBMITTAL
1	04/22/2022		PLAN CHECK RE-SUBMITTAL
2	06/15/2023		PLAN CHECK RE-SUBMITTAL
	10/12/2023		BID DOCUMENTS
	AS-BUILT		REF:

DESIGNED BY: DS | DRAWN BY: JH | DESIGN CHECKED BY: BS | DRAWN CHECKED BY: DS

LICENSED ARCHITECT — MARY C. MCGRATH — C-24435 — REN-08-30-23 — STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

NRCC-LTI-E

B# B-4797

PHASE # ____ / REBID # ____

SHEET 185 OF 236

DWG. NO. T245

REGISTERED PROFESSIONAL ENGINEER — BRIAN P. STARRETT — M 34068 — EXP. 6/30/24 — MECHANICAL — STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN
805.540.3363 WWW.3CENG.COM
1500 PALM ST. SAN LUIS OBISPO, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

C:\Users\internalappdata\localtemp\AcPublish_16684\LB FS 9 T24 Sheets.dwg bswanson Oct 13,2023-2:08pm

STATE OF CALIFORNIA

Outdoor Lighting

NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 7 of 10)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

J. LIGHTING ALLOWANCE: PER APPLICATION

This table includes areas using the wattage allowance per application from Table 140.7-B .

01	02	03	04	05	06	07	08	09	10
		CALCULATED ALLOWANCE (Watts)			DESIGN WATTS				
Area Description	Application per Table 140.7-B[1]	# of Locations	Allowance per Location[2]	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire	# of Luminaires	Design Watts	Additional Allowance (Watts)
MAIN ENTRANCE	Building Entrance/Exit	1	19	19	S8	14.7	2	29.4	19
					S4	10.6	1	10.6	
							Total Design Watts for this Area:	40.0	
								Total Allowance (Watts) All Areas:	19

[1] *FOOTNOTES: Primary entrance applications are only available for senior care facilities, healthcare facilities, police stations, hospitals, fire stations, and emergency vehicle facilities.*
[2] *The Allowance per Location for ATMs is 100W for the first ATM and 35W for each additional per Table 140.7-B .*
[3] *For luminaires indicated in Table F as linear, wattage in column 07 is W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 08 instead of number of luminaires.*

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2023-06-09 16:40:47

STATE OF CALIFORNIA

Outdoor Lighting

NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 4 of 10)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with §140.7 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per §141.0(b)2L only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included).

Designed Wattage:

01	02	03	04	05	06	07	08	09	10

[3] *Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.*
[4] *Compliance with mandatory cutoff requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by §130.2(b)*

G. CUTOFF REQUIREMENTS (BUG)

This section does not apply to this project.

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2023-06-09 16:40:47

STATE OF CALIFORNIA

Outdoor Lighting

NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 2 of 10)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through I. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

Calculations of Total Allowed Lighting Power (Watts) §140.7 or §141.0(b)2L												Compliance Results			
01		02		03		04		05		06		07		08	09
General Hardscape Allowance §140.7(d)1 (See Table I)	+	Per Application §140.7(d)2 (See Table J)	+	Sales Frontage §140.7(d)2 (See Table K)	+	Ornamental §140.7(d)2 (See Table L)	+	Per Specific Area §140.7(d)2 (See Table M)	OR	Existing Power Allowance §141.0(b)2L (See Table N)	=	**Total Allowed** (Watts)	≥	**Total Actual** (Watts)	**07 must be >= 08**
793.98	+	19	+	---	+	---	+	38	OR	---	=	850.98	≥	696.7	COMPLIES
Cutoff Compliance (See Table G for Details)															N/A
Controls Compliance (See Table H for Details)															COMPLIES with Exceptional Conditions

D. EXCEPTIONAL CONDITIONS

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

E. ADDITIONAL REMARKS

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

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2023-06-09 16:40:47

STATE OF CALIFORNIA

Outdoor Lighting

NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 8 of 10)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This table includes areas using the wattage allowance per specific area from Table 140.7-B . More than one specific area allowance may be taken in a single project, if applicable. However, multiple specific area allowances may not be taken for the exact same area on the site.

01	02	03	04	05	06	07	08	09	10
		CALCULATED ALLOWANCE (Watts)			DESIGN WATTS				
Area Description	Specific Area Type per Table 140.7-B	Specific Area (ft^2)[1]	Allowed Density (W/ft^2)	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire	# of Luminaires	Design Watts	Additional Allowance (Watts)
BUILDING FACADE/SIGN LIGHTING	BuildingFacade	403	0.17	68.51	S9	38	1	38	38
							Total Design Watts for this Area:	38	
								Total Allowance (Watts) All Areas:	38

[1] *FOOTNOTES: See Table 140.7-B for rules for calculating the specific areas (ft^2 for these additional lighting allowances.*
[2] *For luminaires indicated in Table F as linear, wattage in column 07 is W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 08 instead of number of luminaires.*

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Yes	No	Form/Title	Field Inspector Pass	Field Inspector Fail
●	○	NRCI-LTO-01-E - Must be submitted for all buildings	☐	☐
●	○	NRCI-LTO-02-E- Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐	☐

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2023-06-09 16:40:47

STATE OF CALIFORNIA

Outdoor Lighting

NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 5 of 10)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

H. OUTDOOR LIGHTING CONTROLS

This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
*When an option having a * is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.*

Mandatory Controls

01	02	03	04	05	
Area Description	Shut-Off §130.2(c)1	Auto-Schedule §130.2(c)2	Motion Sensor §130.2(c)3	Field Inspector Pass	Field Inspector Fail
BUILDING FACADE/SIGN LIGHTING	Photocontrol	Yes	NA: Facade, etc. >=24 ft	☐	☐
WALKWAYS (SCONCES)	Photocontrol	Yes	NA: Wall >=24 ft	☐	☐
WALKWAYS (DOWNLIGHTS)	Photocontrol	Yes	Exempt*	☐	☐
AUTOMOTIVE HARDSCAPE	Photocontrol	Yes	Exempt*	☐	☐

** NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.*
EX: Not permitted by health & safety to be turned off; EXCEPTION 1 to §130.2(c)

WALKWAYS (DOWNLIGHTS)	130.2(c)3: Luminaires with a maximum rated wattage of 40 watts each are not required to have motion sensing controls
AUTOMOTIVE HARDSCAPE	130.2(c)3: Luminaires with a maximum rated wattage of 40 watts each are not required to have motion sensing controls

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2023-06-09 16:40:47

STATE OF CALIFORNIA

Outdoor Lighting

NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 3 of 10)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with §140.7 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per §141.0(b)2L only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included).

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1, 2]	How is Wattage determined	Total number luminaires[2]	Luminaire Status[3]	Excluded per §140.7(a)	Design Watts	Cutoff Req. > 6,200 initial lumen output §130.2(b)[4]	Field Inspector Pass	Field Inspector Fail
S1	S1	☐ Linear	18.5	Mfr. Spec	6	New	☐	111	NA: < 6200 lumens	☐	☐
S2	S2	☐ Linear	18	Mfr. Spec	3	New	☐	54	NA: < 6200 lumens	☐	☐
S3	S3	☐ Linear	35	Mfr. Spec	5	New	☐	175	NA: < 6200 lumens	☐	☐
S4	S4	☐ Linear	10.6	Mfr. Spec	1	New	☐	10.6	NA: < 6200 lumens	☐	☐
S5	S5	☐ Linear	22.5	Mfr. Spec	9	New	☐	202.5	NA: < 6200 lumens	☐	☐
S7	S7	☐ Linear	25.4	Mfr. Spec	3	New	☐	76.2	NA: < 6200 lumens	☐	☐
S8	S8	☐ Linear	14.7	Mfr. Spec	2	New	☐	29.4	NA: < 6200 lumens	☐	☐
S9	S9	☐ Linear	38	Mfr. Spec	1	New	☐	38	NA: < 6200 lumens	☐	☐
							Total Design Watts:	696.7			

* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.
EX: Luminaire is lighting a statue; EXCEPTION 2 to §130.2(b)

[1] *FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c)*
[2] *For linear luminaires, wattage should be indicated as W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.*

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2023-06-09 16:40:47

STATE OF CALIFORNIA

Outdoor Lighting

NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 9 of 10)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Yes	No	Form/Title	Field Inspector Pass	Field Inspector Fail
●	○	NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires.	☐	☐

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2023-06-09 16:40:47

STATE OF CALIFORNIA

Outdoor Lighting

NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 6 of 10)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

I. LIGHTING POWER ALLOWANCE (per §140.7)

This table includes areas using allowance calculations per §140.7. General Hardscape Allowance is per Table 140.7-A while "Use it or lose it" Allowances are per Table 140.7-B . Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance.

01				
☒ General Hardscape Allowance Table I (below)	"Use it or lose it" Allowance (select all that apply) (select all that apply)			
	☒ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L	☒ Per Specific Area Table M

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (LZ 0, 1 & 4)

This section does not apply to this project.

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (LZ 2 & 3)

02	03	04	05	06	07	08	9	10
		Area Wattage Allowance (AWA)			Area Wattage Allowance (AWA)			
Area Description	Surface Type	Illuminated Area (ft^2)	Allowed Density (W/ft^2)	Area Allowance (Watts)	Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	Total General AWA + LWA (Watts)
AUTOMOTIVE HARDSCAPE	Asphalt	7407	0.03	185.175	650	0.4	162.5	347.675
walkway <10' wide (BUILDING WEST)	Asphalt	569	0.03	14.225	183	0.4	45.75	59.975
walkway <10' wide (BUILDING PARKING)	Asphalt	333	0.03	8.325	112	0.4	28	36.325
							Initial Wattage Allowance for Entire Site (Watts):	350
							Total General Hardscape Allowance (Watts):	793.975

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2023-06-09 16:40:47

M 34068
EXP. 6/30/24
MECHANICAL
STATE OF CALIFORNIA

3C | ENGINEERING

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

REVISIONS				
NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
AS-BUILT			REF.	

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT
MARY C. MCGRATH
C-24435
REN-08-30-23
STATE OF CALIFORNIA

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

NRCC-LTO-E

B# B-4797
PHASE # ____ / REBID # ____
SHEET 186 OF 236
DWG. NO. T246

C:\Users\intern\appdata\local\temp\AcPublish_16684\LB FS 9 T24 Sheets.dwg bswanson Oct 13,2023-2:08pm

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-SRA-E
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 2 of 4)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through I. Note: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D, for guidance or see the applicable Table referenced below.

Allocated Solar Zone				Installed PV System				Installed SWH System				Smart Tstat and Alternative EE Measure		
01			02	03			04	05			06	07	08	09
Required Minimum Area (ft²)	<=	Designated Area (ft²)	OR	Required Minimum DC Power Rating (Watts)	<=	Designed DC Power Rating (Watts)	OR	Required Minimum Solar Savings Fraction	<=	Designed/Rated Solar Savings Fraction	OR	JA5 Compliant Thermostat Specified?	Alternative Energy Efficiency Measure	
(See Table F)				(See Table G)				(See Table H)				(See Table I)		COMPLIES
	<=		OR	5951.2	<=	33120	OR		<=		OR			
Location within the construction documents showing the location for inverters and metering equipment and a pathway for the routing of conduit/plumbing to the electrical service/ water heating system per §110.10(c).														

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

E. ADDITIONAL REMARKS
This table is includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. ALLOCATED SOLAR ZONE
This section does not apply to this project.

Registration Number:	Registration Date/Time:	Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601	Report Generated: 2023-06-09 16:44:48

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-SRA-E
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 3 of 4)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

G. PERMANENTLY INSTALLED SOLAR PHOTOVOLTAIC (PV) SYSTEM

This table is completed if the project is installing a PV system to comply with §110.10(b)1B Exception 1.

01	02	03	04	05	
Total Roof Area[1] (ft²)	Required Minimum DC Power Rating (Watts)	Designed System DC Power Rating (Watts)	Location in Construction Documents showing PV System/ Components	Field Inspector	
				Pass	Fail
5951.2	5951.2	33120		☐	☐

[1] *FOOTNOTES: Newly Constructed Projects should report total roof areas; Additions should report newly added roof area.*

H. PERMANENTLY INSTALLED SOLAR HOT WATER SYSTEMS
This section does not apply to this project.

I. SMART THERMOSTATS AND ALTERNATIVE EFFICIENCY MEASURE
This section does not apply to this project.

J. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Yes	No	Form/Title	Field Inspector	
			Pass	Fail
●	○	NRCI-SPV-01-E - Must be submitted for all newly installed Photovoltaic Systems (PV) being used to comply with §110.10(b)1B for high-rise multifamily, Hotel/Motel buildings less than 10 stories and nonresidential buildings less than 4 stories.	☐	☐
○	●	NRCI-STH-01-E - Must be submitted for all newly installed Solar Water Heating systems being used to comply with §110.10(b)1B for high-rise multifamily, Hotel/Motel buildings less than 10 stories and nonresidential buildings less than 4 stories.	☐	☐

K. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE
There are no Certificates of Acceptance applicable to solar ready requirements.

Registration Number:	Registration Date/Time:	Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601	Report Generated: 2023-06-09 16:44:48

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-SRA-E
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 4 of 4)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Benjamin Swanson	Documentation Author Signature: Benjamin Swanson
Company: 3C Engineering, Inc.	Signature Date: 6-9-2023
Address: 1500 Palm Street	CEA/ HERS Certification Identification (if applicable): NR19-21-30019
City/State/Zip: San Luis Obispo CA 93401	Phone: 805-540-3363

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Mary McGrath	Responsible Designer Signature: MMcGrath
Company: Mary McGrath Architects	Date Signed: 2023-06-09
Address: 1212 Broadway, Suite 401	License: C24435
City/State/Zip: Oakland CA 94612	Phone: (510) 208-9400

Registration Number:	Registration Date/Time:	Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601	Report Generated: 2023-06-09 16:44:48

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 10 of 10)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Benjamin Swanson	Documentation Author Signature: Benjamin Swanson
Company: 3C Engineering, Inc.	Signature Date: 6-9-2023
Address: 1500 Palm Street	CEA/ HERS Certification Identification (if applicable): NR19-21-30019
City/State/Zip: San Luis Obispo CA 93401	Phone: 805-540-3363

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: William Thoma	Responsible Designer Signature: William Thoma
Company: Thoma Electric, Inc.	Date Signed: 2023-06-09
Address: 3562 Empleo Street	License: E10757
City/State/Zip: San Luis Obispo CA 93401	Phone: 805-543-3850

Registration Number:	Registration Date/Time:	Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601	Report Generated: 2023-06-09 16:40:47

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-SRA-E
Project Name:	Long Beach Fire Station 9	**Report Page:**	**(Page 1 of 4)**
Project Address:	4101 Long Beach Blvd.	**Date Prepared:**	6/9/2023

This document is used to demonstrate compliance with mandatory requirements in §110.10 for newly constructed buildings which are either high-rise multifamily ten stories or fewer, hotel/motel ten stories or fewer or all other nonresidential buildings three stories or fewer. It is also used to demonstrate compliance with additions to these building types which add more than 2,000 ft² of roof area. Alterations or additions of less than 2,000ft² are not required to comply with §110.10.

A. GENERAL INFORMATION

01	Project Location (city)	Long Beach	04	Building Type	Other nonresidential bldg 3 stories or fewer
02	Climate Zone	8	05	Construction Type	New Construction
03	☐ Roof is designed for vehicle traffic, parking or for heliport				
03a	Plan sheet showing roof design for vehicle traffic, parking or heliport exception:				

B. PROJECT SCOPE

The compliance path the project is using to comply per §110.10(b)1B is indicated below.

My project consists of (check one):

1		
☐	Provide Solar Ready Area no exceptions	The project has allocated a solar zone on the roof plan per requirements in §110.10(b), as documented in Table F.
☒	Exception to Solar Ready Area: Installed Solar Photovoltaic System	The project includes a permanently installed solar electric system having a nameplate DC power rating, measured under Standard Test Conditions, of no less than one watt per square foot of roof area as documented in Table G.
	Exception to Solar Ready Area: Installed Solar Water Heating System	The project is a hotel/motel or high-rise multifamily occupancy and includes a permanently installed domestic solar water-heating system complying with §150.1(c)8Biii and Reference Residential Appendix RA4, as documented in Table H.
	Exception to Solar Ready Area: Smart Thermostat and Alternative Energy Efficiency Measure	The project is a high-rise multifamily occupancy where all thermostats in each dwelling unit comply with §110.12(a) AND at least one additional measure listed in Exception 4 to §110.10(b)1B is installed, as documented in Table I.

Registration Number:	Registration Date/Time:	Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601	Report Generated: 2023-06-09 16:44:48

NO	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
	10/12/2023			BID DOCUMENTS
	AS-BUILT		REF:	

DESIGNED BY: DS
DRAWN BY: JH
DESIGN CHECKED BY: BS
DRAWN CHECKED BY: DS

LICENSED ARCHITECT — MARY C. McGRATH — C-24435 — REN-08-30-23 — STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

NRCC-LTO-E & NRCC-SRA-E

LICENSED PROFESSIONAL ENGINEER — BRIAN P. STARKEY — M 34068 — EXP. 6/30/24 — MECHANICAL — STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN
805.540.3363 ✱ WWW.3CENG.COM
1500 Palm St. SAN LUIS OBISPO, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

B# B-4797

PHASE # ____ / REBID # ____

SHEET 187 OF 236

DWG. NO. T247

STATE OF CALIFORNIA
Domestic Water Heating System
NRCC-PLB-E (Created 10/20) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name: Fire Station 9	Report Page:	Page 6 of 6
Project Address: 4101 Long Beach Blvd.	Date Prepared:	12/14/21

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Jake Hamilton	Documentation Author Signature:	
Company:	3C Engineering, Inc.	Signature Date:	12/14/21
Address:	1500 Palm St	CEA/ HERS Certification Identification (if applicable):	NR19-21-30021
City/State/Zip:	San Luis Obispo / CA / 93401	Phone:	805-540-5384

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

1. **The information provided on this Certificate of Compliance is true and correct.**
2. **I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design Identified on this Certificate of Compliance (responsible designer)**
3. **The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.**
4. **The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.**
5. **I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.**

Responsible Designer Name:	Brian Starrett	Responsible Designer Signature:	
Company :	3C Engineering, Inc.	Date Signed:	12/14/21
Address:	1500 Palm St	License:	M34068
City/State/Zip:	San Luis Obispo / CA / 93401	Phone:	805-540-5358

Table Continued

	Yes	No	Not Applicable	Requirement
01	◉	○	○	Air release valve or vertical pump installation per §110.3(c)4A
02	◉	○	○	Check valve or similar located between recirculation pump and water heating equipment to prevent backflow per §110.3(c)4B
03	◉	○	○	Hose bibb installed between pump and equipment and isolation valve between hose bibb and equipment per §110.3(c)4C
04	◉	○	○	Isolation valves on both sides of the pump per §110.3(c)4D
05	◉	○	○	Cold water and recirculation loop piping shall not be connected to the hot water storage tank drain port per §110.3(c)4E
06	◉	○	○	Check valve installed on cold water supply between hot water system and next closest tee on cold water supply per §110.3(c)4F
07	○	○	◉	For central systems serving multiple dwelling units, design includes two or more recirculation loops serving separate dwelling units per §150.1(c)8Bii unless building has ≤ 8 dwelling units.
Mandatory Pipe Insulation All Occupancies				
12	☑			For systems serving nonresidential spaces, pipe insulation for the following applications is specified to comply with Table 120.3-A (see below) per §120.3: - Recirculating system piping, including supply and return piping of the water heater - The first 8 ft of hot and cold outlet piping for a nonrecirculating storage system - Pipes that are externally heated
13	☑			Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service per §120.3(b) and §150.0(j)3

TABLE 120.3-A PIPE INSULATION THICKNESS

Fluid Temperature Range (°F)	Conductivity Range (Btu-in per hour per ft² per °F)	Insulation Mean Rating Temp (°F)	Nominal Pipe Diameter (in)		
			<1	1 to < 1.5	1.5 to < 4
			Minimum Insulation Required		
105-140	0.22-0.28	100	**1.0 in or R-7.7**	**1.5 in or R-12.5**	**1.5 in or R-11**

H. DOMESTIC HOT WATER SYSTEM CONTROLS

Table Instructions: Complete the following table to demonstrate compliance with controls requirements in §110.3 for all occupancies. For high-rise residential and hotel/motel occupancies, compliance is demonstrated with requirements in §150.1(c)8.

	Yes	No	Not Applicable	Requirement

Table Continued

Table Continued

01	◉	○	○	Construction documents require manufacturer certification that service water-heating systems are equipped with automatic temperature controls capable of adjusting temperature settings per §110.3(a)
02	○	○	◉	Systems with capacity > 167,000 BTUH equipped with outlet temperature controls per §110.3(c)1 unless covered by California Plumbing Code Section 613.0.
03	◉	○	○	Controls for circulating pumps or electrical heat trace systems are capable of automatically turning off the system per §110.3(c)2 unless system serves healthcare facility.
04	○	○	◉	For recirculation systems serving multiple dwelling units, design includes automatic pump controls per §150.1(c)8Bii, or §150.2 for additions or alterations
05	○	○	◉	For recirculation systems serving individual dwelling units, design includes manual on/off controls as specified in Reference Appendix RA 4.4.9 per §150.1(c)8.
06	○	○	◉	For replacement single heat pump water heaters serving individual dwelling units in climate zones 1-15, design includes communication interface that meets demand responsive control requirements of §110.12(a) per §150.2(b)1Hii.

I. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

YES	NO	Form/Title	Field Inspector Pass	Fail
◉		NRCI-PLB-01-E - Must be submitted for all buildings	☐	☐
○	◉	NRCI-PLB-02-E - Must be submitted for high-rise residential and hotel/ motel central hot water distribution systems to be recognized for compliance.	☐	☐
○	◉	NRCI-PLB-03-E - Must be submitted for high-rise residential and hotel/ motel single dwelling unit hot water distribution systems to be recognized for compliance.	☐	☐

J. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no Certificates of Acceptance applicable to service water heating requirements.

K. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be completed by a HERS Rater and provided to the building inspector during construction. The final documents must be created by a HERS Providers registry, but drafts can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCV/

YES	NO	Form/Title	Field Inspector Pass	Fail
○	◉	NRCV-PLB-21-H High-rise Residential Central Hot Water Distribution HERS Verification	☐	☐
○	◉	NRCV-PLB-22-H High-rise Residential Individual Dwelling Unit Hot Water Distribution HERS Verification	☐	☐

This document is used to demonstrate compliance for nonresidential occupancies with requirements in §110.1, §110.3, §120.3, and §140.5, and with requirements in §141.0 for additions and alterations, for domestic water heating scopes using the prescriptive path. For high-rise residential and hotel/motel occupancies, compliance is demonstrated with requirements in §110.1, §110.3, §120.3, §150.0 and §150.1(c)8, and with requirements in §150.2 for additions and alterations.

A. GENERAL INFORMATION

01	Project Location (city)	Long Beach	02	Climate Zone	8
03	Occupancy Types Within Project (select all that apply):				

☑ Nonresidential ☐ High-Rise Residential ☐ Hotel/ Motel
☐ State Building ☐ Healthcare Facility ☑ Other (Write In): Fire Station

B. PROJECT SCOPE

Table Instructions: Include any domestic water heating systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive paths outlined in §140.5, §150.1(c)8, and §141.0(b), or §141.0(b)2N for additions or alterations. Solar water heating systems should be documented on the NRCC-SRA compliance document. Combined hydronic water heating systems should be documented on the NRCC-MCH compliance document.

01	02	03	
My project consists of (check all that apply):	System Type[1,2]	System Components	
☑ New System (DHW system being installed for the first time in newly constructed building)	Central System (serving nonresidential spaces)	☑ Equipment	☑ Distribution ☑ Controls
☐ System Alteration (equipment, distribution or controls)		☐ Equipment	☐ Distribution ☐ Controls

[1] *FOOTNOTE: Point of use water heaters, or other non-central systems used to serve nonresidential spaces, are considered individual systems.*
[2] *Dwelling units refers to hotel/ motel guest rooms and units in a high-rise residential occupancy.*

C. COMPLIANCE RESULTS

Table Instructions: Table C will indicate if the project data input into the compliance document is compliant with water heating 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
Domestic Hot Water Equipment	Distribution Systems	Controls	**Compliance Results**
(See Table F)	(See Table G)	(See Table H)	
Yes	Yes	Yes	**COMPLIES**

D. EXCEPTIONAL CONDITIONS

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

No exceptional conditions apply to this project.

E. ADDITIONAL REMARKS

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

F. DOMESTIC HOT WATER EQUIPMENT

Table Instructions: Complete the following table to demonstrate compliance with mandatory equipment requirements in §110.1 and §110.3. For high-rise residential and hotel/ motel occupancies, compliance with prescriptive requirements in §150.1(c)8 must also be demonstrated and with §150.2 for addition and alteration scopes.

Equipment Schedule: Central Systems

07	08	09	10	11	12	13	14	15
Name or Item Tag	Equipment Type	Volume (gal)	Rated Input Capacity (Btu/h)	Rated Efficiency (%)	Minimum Efficiency Required (%)	Efficiency Unit	Designed Standby Loss[1]	Maximum Standby Loss[1]
WH-1	Gas Storage Water Heater	100	150,000	98	80	Et	1,288	5,687.50

[1] *FOOTNOTE: For gas water heaters/ boilers, standby loss is in BTUH. For electric storage water heaters, standby loss is in %/hr.*

Water Heating Equipment All Occupancies

	Yes	No	Not Applicable	Requirement
18	○	○	◉	Unfired storage tank insulation shall have Internal + External ≥ R-16 OR External ≥ R-12. Label required per §110.3(c)3
19	○	○	◉	New state buildings 60% of energy for service water heating from site solar energy or recovered energy per §110.3(c)5
20	○	○	◉	Isolation valves for instantaneous water heater with input rating > 6.8 kBTUH or 2 kW has been specified per §110.3(c)6

G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM

Table Instructions: Complete the following table to demonstrate compliance for nonresidential occupancies with distribution requirements in §120.3 and §140.5. For high-rise residential and hotel/motel occupancies, compliance is demonstrated with requirements in §110.3(c), §120.3, §150.0, §150.1.

Recirculation Loops in Central Systems Serving Dwelling Units or Nonresidential Spaces

Table Continued

NO	DATE	SHEET	APPROVAL	REVISIONS DESCRIPTION
	12/16/2021			PLAN CHECK SUBMITTAL
1	04/22/2022			PLAN CHECK RE-SUBMITTAL
2	06/15/2023			PLAN CHECK RE-SUBMITTAL
3	10/12/2023			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: DS | DRAWN BY: JH | DESIGN CHECKED BY: BS | DRAWN CHECKED BY: DS | REF:

LICENSED ARCHITECT MARY C. MCGRATH C-24435 REN-08-30-23 STATE OF CALIFORNIA

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

NRCC - PLB-E

B# B-4797

PHASE # ____ / REBID # ____

SHEET 188 OF 236

DWG. NO. T248

BRIAN P. STARRETT — MECHANICAL — M 34068 — EXP. 6/30/24 — STATE OF CALIFORNIA

3C | ENGINEERING
SMARTER BUILDINGS BY DESIGN
T: 805.540.3343 ✱ WWW.3CENG.COM
1500 PALM ST. SAN LUIS OBISPO, CA 93401

MARY MCGRATH | ARCHITECTS
610 16TH STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

C:\Users\interm\appdata\local\temp\AcPublish_16864\LB FS 9 T24 Sheets.dwg bswanson Oct 13,2023-2:08pm

GENERAL NOTES

1. CODE COMPLIANCE: ALL WORK SHALL CONFORM TO AND BE PERFORMED IN ACCORDANCE WITH CODES, STANDARDS, AND ORDINANCES AS SET FORTH BY THE AUTHORITIES HAVING JURISDICTION AND THEIR LATEST ADOPTED EDITIONS (IN EFFECT AT TIME OF BUILDING PERMIT APPLICATION) OF THE FOLLOWING PUBLICATIONS:

   A. ALL WORK SHALL COMPLY WITH 2019 CALIFORNIA ELECTRIC COD AND 2019 CALIFORNIA ENERGY CODE.

   B. AMERICANS WITH DISABILITIES ACT (ADA).

2. SAFETY: THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL EQUIPMENT IN A SAFE AND RESPONSIBLE MANNER. KEEP DEAD FRONT EQUIPMENT IN PLACE WHILE EQUIPMENT IS ENERGIZED. CONDUCT ALL CONSTRUCTION OPERATIONS IN A SAFE MANNER FOR EMPLOYEES AS WELL AS OTHER WORKPERSONS OR ANYONE VISITING THE JOB SITE. PROVIDE BARRIERS, FLAGS, TAPE, ETC. AS REQUIRED FOR SAFETY. THE CONTRACTOR SHALL HOLD ALL PARTIES HARMLESS OF NEGLIGENT SAFETY PRACTICES, WHICH MAY CAUSE INJURY TO OTHERS ON OR NEAR THE JOB SITE.

3. FIRE RATED ASSEMBLIES SHALL MAINTAIN RATINGS AS SPECIFIED IN THE CALIFORNIA BUILDING CODE CHAPTER 7. CONTRACTOR SHALL PROVIDE AND INSTALL PHYSICAL ENCLOSURE AROUND FIXTURES, PANELS, ETC. AS REQUIRED. ALL ASSEMBLIES TO BE PENETRATED SHALL BE INSTALLED WITH APPLICABLE THROUGH-PENETRATION FIRESTOP SYSTEM AS DETERMINED BY UL CLASSIFICATION. BEFORE CONSTRUCTION, VERIFY AND COMPLY WITH REQUIREMENTS OF LOCAL AUTHORITY HAVING JURISDICTION.

4. MOUNTING HEIGHTS SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:

   +15" AFF: RECEPTACLES, TELEPHONE, TV & DATA OUTLETS. (MEASURED BOTTOM OF OUTLET BOX)
   +46" AFF: OUTLET ABOVE COUNTER (MEAUSRED TOP OF OUTLET BOX)
   +48" AFF: LIGHT SWITCHES. (MEASURED TOP OF OUTLET BOX)
   +48" AFF: FIRE ALARM MANUAL PULL STATIONS, T-STATS. (MEASURED TOP OF OUTLET BOX)
   THE LOWER OF +80" AFF TO BOTTOM OF LENS, OR 6" BELOW CEILING: FIRE ALARM VISUALS.

   BEFORE ROUGH-IN, VERIFY ALL MOUNTING HEIGHTS AND EXACT LOCATIONS FOR ALL EQUIPMENT ELECTRICAL CONNECTIONS, STUB-UPS, RECEPTACLES, OUTLETS, ETC. WITH ARCHITECT OR OWNER. PLACE DEVICES LOCATED ABOVE COUNTERS, SHELVING, ETC. AND IN BATHROOMS SO AS NOT TO CONFLICT WITH EDGES OF WAINSCOTING, COUNTER SPLASH, SHELVING, ETC. ARCHITECTURAL SHEETS SHALL GOVERN.

5. LABEL PANELS, CABINETS, BACKBOARDS, MAIN DEVICES, SAFETY SWITCHES, CONTACTORS AND OTHER SPECIFICALLY DESIGNATED EQUIPMENT SHOWN ON PLANS. USE ENGRAVED LAMINATED PLASTIC NAMEPLATES ATTACHED BY SCREWS OR RIVETS. FOR FEEDERS, NEATLY AND INDELIBLY LABEL CONDUIT DESTINATIONS ON BOTH VISIBLE ENDS OF CONDUIT RUNS WHERE CONDUITS TERMINATE AT DESIGNATED ENCLOSURES, STRUCTURES OR EQUIPMENT (INCLUDING PULL AND SPLICE BOXES).

6. EQUIPMENT ANCHORAGE NOTE
   ALL MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE ANCHORED OR BRACED TO MEET THE HORIZONTAL AND VERTICAL FORCES PRESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26, AND ASCE 7-15 CHAPTERS 13, 26, AND 30 AND 2019 CEC 110.3(B)

   THE ATTACHMENT OF THE FOLLOWING ITEMS SHALL BE DESIGNED TO RESIST THE FORCES PRESCRIBED ABOVE, BUT NEED NOT BE DETAILED ON THE PLANS PER 2019 CBC SECTION 1616A.1.18:

   A. FURNITURE(EXCEPT STORAGE CABINETS AS NOTED IN 2019 CBC TABLE 13.5-1)
   B. TEMPORARY OR MOVABLE EQUIPMENT WITH EXCEPTIONS NOTED IN 2019 CBC SECTION 1616A.1.18 ITEM 2.
   C. ARCHITECTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS IN SEISMIC DESIGN CATEGORIES D, E, OR F
      THAT MEET ALL OF THE CRITERIA LISTED IN 2019 SECTION 1616A.1.18 ITEM 3.
   D. EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUPPORTED BY VIBRATION ISOLATORS.
   E. EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL

   FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE MECHANICAL/ELECTRICAL ENGINEER.

   PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

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

7. PROVIDE SWITCH AND RECEPTACLE HEIGHTS PER STATE OF CALIFORNIA ACCESSIBLE REQUIREMENTS.

8. ELECTRICAL RECEPTACLE HEIGHT: ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUITS OF 30 AMPERES OR LESS AND COMMUNICATION SYSTEM RECEPTACLES SHALL BE LOCATED NO MORE THAN 48 INCHES MEARED FROM THE TOP OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING NOR LESS THAN 15 INCHES MEARED FROM THE BOTTOM OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING TO THE LEVEL OF THE FINISHED FLOOR OR WORKING PLATFORM. IF THE REACH IS OVER A PHYSICAL BARRIER OR AN OBSTRUCTION (FOR EXAMPLE, A KITCHEN BASE CABINET) BETWEEN 20 AND 25 INCHES IN DEPTH, THE MAXIMUM HEIGHT MEASURED AT THE BOX IS REDUCED TO 44 INCHES FOR FORWARD APPROACH, OR 46 INCHES FOR SIDE APPROACHED, PROVIDED THE OBSTRUCTION IS NO MORE THAN 24 INCHES IN DEPTH. OBSTRUCTIONS SHALL BE NOT EXTENDED MORE THAN 25 INCHES FROM THE WALL BENEATH THE RECEPTACLE. [CBC1117B.6.5.2, CBC1136A.1]

9. SWITCH AND CONTROL HEIGHT - CONTROLS OR SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF THE ROOM OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS, APPLIANCES, ALARMS OR COOLING, HEATING AND VENTILATING EQUIPMENT SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE OUTLET BOX NOR LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE RECEPTACLE OUTLET BOX TO THE LEVEL OF THE FINISHED FLOOR OR WORKING PLATFORM. IF THE REACH IS OVER A PHYSICAL BARRIER OR AN OBSTRUCTION (FOR EXAMPLE, A KITCHEN BASE CABINET) BETWEEN 20 AND 25 INCHES IN DEPTH, THE MAXIMUM HEIGHT MEASURED AT THE BOX IS REDUCE TO 44 INCHES FOR FORWARD APPROACH, OR 46 INCHES FOR SIDE APPROACHED, PROVIDED THE OBSTRUCTION IS NO MORE THAN 24 INCHES IN DEPTH. OBSTURCTIONS SHALL NOT EXTEND MORE THAN 25 INCHES FROM THE WALL BENEATH THE CONTROL [CBC1117B.6.5.1, CBC1136A.2]

10. THE ISSUANCE OF A PERMIT SHALL NOT PREVENT THE BUILDING OFFICIAL FROM REQUIRING THE CORRECTION OF ERRORS ON THESE PLANS OR FROM PREVENTING ANY VIOLATION OF THE CODES ADOPTED BY THE CITY, RELEVANT LAWS, ORDINANCES, RULES AND/OR REGULATIONS.

11. WHERE THE BUILDING PROPERTY IS LOCATED IN A FLOOD ZONE AREA, ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED ONE FOOT ABOVE THE FLOOD BASE ELEVATION.

12. ALL INSTALLED MATERIALS AND EQUIPMENT SHALL BE LISTED U.L. NRTL, OR LISTED AND APPROVED BY A CITY OF LONG BEACH APPROVED TESTING LABORATORY

13. NO PIPING, DUCTS OR EQUIPMENT FOREIGN TO ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE LOCATED WITHIN THE DEDICATED SPACE ABOVE THE ELECTRICAL EQUIPMENT. (CEC 110.26(F))

14. PROVIDE AND MAINTAIN REQUIRED WORK SPACE, ADEQUATE ILLUMINATION, ACCESS TO WORK SPACE AND HEAD ROOM ABOUT ELECTRICAL EQUIPMENT (CEC 110.26)

15. GIVE SOUTHERN CALIFORNIA EDISON (SCE) WRITTEN NOTICE OF THE EXTENT AND NATURE OF ANY MATERIAL CHANGE IN THE SIZE, CHARACTER, OR EXTENT OF THE UTILIZING EQUIPMENT OR OPERATIONS FOR WHICH SCE IS SUPPLYING ELECTRIC SERVICE BEFORE MAKING ANY SUCH CHANGE.

RATED WALLS/ASSEMBLIES NOTES

1. FOR FIRE RATED WALL/CEILING PENETRATION AND/OR MEMBRANE PENETRATION, COMPLETE NRTL CLASSIFICATION SHEETS SHALL BE PROVIDED TO THE INSPECTOR AT THE TIME OF INSPECTION

2. IN FIRE-RESISTANCE RATED WALLS, DETAIL THROUGH PENETRATIONS AND MEMBRANE PENETRATION PER CBC 714.4 AS NOTED BELOW:
   A. STEEL, FERROUS OR COPPER PIPES MAY PENETRATE FIRE-RESISTANCE RATED WALLS, PROVIDED THE OPENING IS PROTECTED AS FOLLOWS: (CBC 714.4.1)
      i. ITEM PENETRATING CONCRETE OR MASONRY WALLS IS A MAXIMUM 6 INCHES NOMINAL DIAMETER AND THE AREA OF THE OPENING THROUGH THE WALL DOES NOT EXCEED 144 SQUARE INCHES, CONCRETE, GROUT OR MORTAR IS PERMITTED WHERE IT IS INSTALLED THE FULL THICKNESS OF THE WALL OR THE THICKNESS REQUIRED TO MAINTAIN THE F IRE-RESISTANCE RATING; OR
      ii. WHEN THE ANNULAR SPACE IS PROTECTED WITH MATERIAL THAT MEETS ASTM E 119 OR UL 263.
   B. PENETRATIONS SHALL BE FIRE-STOPPED BY A SYSTEM INSTALLED AS TESTED IN ACCORDANCE WITH ASTM E 814 OR UL 1479, AND SHALL HAVE AN F RATING OF NOT LESS THAN THE REQUIRED FIRE-RESISTANCE RATING OF THE WALL PENETRATED. (CBC 714.4.1.2)
   C. MEMBRANE PENETRATIONS OF MAXIMUM 2-HOUR FIRE-RESISTANCE RATED WALLS BY STEEL ELECTRICAL BOXES ARE PERMITTED, PROVIDED THAT EACH DOES NOT ESCEED 16 SQUARE INCHES IN AREA AND THE TOTAL AREA OF SUCH OPENING DOES NOT EXCEED 100 SQUARE INCHES FOR ANY 100 SQUARE FEET OF WALL AREA, AND THE SPACE BETWEEN THE WALL MEMBRANE AND THE BOX DOES NOT EXCEED $\frac{1}{8}$ INCH. ADDITIONALLY, OUTLET BOXES ON OPPOSITE SIDES OF THE WALL SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24 INCHES (CBC 714.4.2 EXCEPTION 1).
   D. MEMBRANE PENETRATIONS BY LISTED ELECTRICAL BOXES OF ANY MATERIAL ARE PERMITTED, PROVIDED SUCH BOXES HAVE BEEN TESTED FOR USE IN FIRE-RESISTANCE RATED ASSEMBLIES, AND THE SPACE BETWEEN THE WALL MEMBRANE AND THE BOX DOES NOT EXCEED 1/8 INCH UNLESS LISTED OTHERWISE. ADDITIONALLY, OUTLET BOXES ON OPPOSED SIDES OF THE WALL SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24 INCHES. (CBC 714.4.2 EXCEPTION 2)
   E. A FIRE SPRINKLER SHALL BE PERMITTED TO BE UNPROTECTED PROVIDED SUCH SPACE IS COVERED BY A METAL ESCUTCHEON PLATE. (CBC 714.4.2 EXCEPTION 5)
   F. WHERE WALLS ARE PENETRATED BY OTHER MATERIALS OR OPENINGS LARGER THAN THOSE MENTIONED ABOVE, THEY MUST BE QUALIFIED BY TEST IN ACCORDANCE WITH CBC 714.4.2 EXCEPTION 2.

2. IN FIRE-RESISTANCE HORIZONTAL ASSEMBLIES , DETAIL THROUGH PENETRATIONS AND MEMBRANE PENETRATION PER CBC 714.5 AS NOTED BELOW:
   A. STEEL, FERROUS OR COPPER CONDUITS MAY PENETRATE FIRE-RESISTANCE RATED FLOOR ASSEMBLY WHEN THE ANNULAR SPACE IS PROTECTED WITH MATERIAL THAT MEETS ASTM E 119 OR UL 263 (CBC 714.5.1 EXCEPTION 1)
   B. PENETRATING ITEMS, AS NOTED ABOVE, WITH A MAXIMUM 6 INCHES NOMINAL DIAMETER SHALL NOT BE LIMITED TO THE PENETRATION OF A SINGLE FIRE-RESISTANCE RATED FLOOR ASSEMBLY, PROVIDED THAT THE AREA OF THE OPENINGS DOES NOT EXCEED 144 SQUARE INCHES IN ANY 100 SQUARE FEET OF FLOOR AREA. (CBC 714.4.1.1 EXCEPTION 1)
   C. PENETRATIONS SHALL BE FIRE-STOPPED BY A SYSTEM INSTALLED AS TESTED IN ACCORDANCE WITH ASTM E 814 OR UL 1479. THE SYSTEM SHALL HAVE AN F RATING AND T RATING OF NOT LESS THAN 1-HOUR BUT NOT LESS THAN THE REQUIRED FIRE-RESISTANCE RATING OF THE FLOOR PENETRATED (CBC 714.5.1)
   D. MEMBRANE PENETRATIONS BY LISTED ELECTRICAL OUTLET BOXES ARE PERMITTED PROVIDED SUCH BOXES HAVE BEEN TESTED FOR USE IN FIRE-RESISTANCE RATED ASSEMBLIES, AND THE SPACE BETWEEN THE CEILING MEMBRANE AND THE BOX DOES NOT EXCEED 1/8 INCHESUNLESS LISTED OTHERWISE. (CBC 714.5.2 EXCEPTION 4)
   E. A FIRE SPRINKLER SHALL BE PERMITTED TO BE UNPROTECTED PROVIDED SUCH SPACE IS COVERED BY A METAL ESCUTCHEON PLATE. (CBC 714.5.2 EXCEPTION 5)

3. JOINTS INSTALLED IN OR BETWEEN FIRE-RESISTANCE RATED WALL, FLOOR OR FLOOR/CEILING ASSEMBLIES AND ROOFS OR ROOF/CEILING ASSEMBLIES SHALL BE PROTECTED AN APPROVED FIRE-RESISTANT JOINT SYSTEM WITH A FIRE-RESISTANCE RATING NOT LESS THAN THAT OF THE ASSEMBLY IN WHICH IT IS INSTALLED. PROVIDE DETAILS (CBC 7145.1)

4. FIRE DOORS AND FIRE-PROTECTION RATED GLAZING SHALL BEAR LABELS AS REQURIED BY CBC 716.2.9 AND 716.3.5.

5. FIRE DAMPERS SHALL BE THE MINIMUM FIRE PROTECTION RATING SPECIFIED IN CBC TABLE 717.3.2.1 FOR THE TYPE OF PENETRATION (CBC 717.3.2.1)

6. PROVIDE DAMPERS, SMOKE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS AND CEILING RADIATION DAMPERS SHALL BE PROVIDE AS PRESCRIBED IN CBC 717.

SMOKE ALARM AND CARBON MONOXIDE SYSTEMS NOTES

1. SINGLE OR MULTIPLE SMOKE ALARMS SHALL BE INSTALLED AND MAINTAINED IN GROUPS R-3, REGARDLESS OF OCCUPANT LOAD AT ALL OF THE FOLLOWING LOCATIONS PER CRC 2016 R314.

   A. IN EACH SLEEPING ROOM
   B. OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS.
   C. SMOKE ALARMS SHALL BE INSTALLED NO LESS THAN 3 FEET HORIZONTALLY FROM THE DOOR OR OPENING OF A BATHROOM THAT CONTAINS A BATHTUB OR SHOWER UNLESS THIS WOULD PREVENT PLACEMENT OF A SMAKE ALARM REQUIRED BY SECTION R14.3
   D. SMOKE ALARMS SHALL BE INSTALLED ACCORDING TO CBC 907.2.11.8 AND CRC R314.3.3.

2. THE SMOKE ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT ACTIVATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT. THE ALARM SHALL BE CLEARLY AUDIBLE IN ALL BEDROOMS OVER BACKGROUND NOISE LEVELS WITH ALL INTERVENING DOORS CLOSED (CBC 907.2.11.5)

3. SMOKE ALARMS SHALL BE TESTED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. SMOKE ALARMS THAT NO LONGER FUNCTION SHALL BE REPLACED.

4. CARBON MONOXIDE ALARMS SHALL BE INSTALLED IN NEW DWELLING UNITS WHICH HAVE FUEL-BURNING APPLIANCES INSTALLED (CBC 915.1.2)

5. CARBON MONOXIDE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING WHERE SUCH WIRING IS SERVED FROM A COMMERCIAL SOURCE AND SHALL BE EQUIPPED WITH A BATTERY BACKUP. WIRING SHALL BE PERMANENT AND WITHOUT A DISCONNECTING SWITCH OTHER THAN A REQUIRED FOR OVERCURRENT PROTECTION (CBC 915.4.1)

6. REQUIRED CARBON MONOXIDE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS (CBC 915.2)

   A. OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS.

7. INTERCONNECTION: WHERE MORE THAN ONE CARBON MONOXIDE ALARM IS REQUIRED TO BE INSTALLED WITHIN A DWELLING UNIT OR WITHIN A SLEEPING UNIT IN GROUP R OCCUPANCIES, THE ALARMS SHALL BE INTERCONNECTED IN A MANNER THAT ACTIVATION OF ONE ALARM SHALL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT (CBC 915.4.4)

POWER FLOOR PLAN

A. FUSING: ALL FUSIBLE SAFETY DISCONNECT SWITCHES SHALL BE PROVIDED WITH DUAL-ELEMENT TIME DELAY TYPE FUSES SIZED AND RATED PER EQUIPMENT MANUFACTURERS' RECOMMENDATIONS. VERIFY WITH EQUIPMENT NAMEPLATE BEFORE INSTALLATION.

B. INSTALL SEPARATE NEUTRALS FOR EACH 120V BRANCH CIRCUIT.

C. MOTOR OVERLOAD PROTECTION: WHERE REQUIRED BY NEC ARTICLE 430 PART C AND NOT SHOWN ON PLAN OR PROVIDED INTEGRAL WITH EQUIPMENT, PROVIDE AND INSTALL THERMAL OVERLOAD PROTECTION FOR ALL MOTORS.

D. SPARE CONDUIT FOR RECESSED PANELS: PROVIDE (1) 3/4" SPARE CONDUIT STUB UP TO ACCESSIBLE ABOVE CEILING SPACE AND/OR ACCESSIBLE SPACE BELOW FOR EVERY (3) SPARE BREAKER SPACES AS INDICATED ON PANEL SCHEDULES.

E. DEVICE LOCATIONS SHOWN ARE SCHEMATIC AND APPROXIMATE. EXACT LOCATIONS SHALL BE FIELD VERIFIED DURING ROUGH-IN WITH ARCHITECTURAL ELEVATIONS, CASEWORK SHOP DRAWINGS, FURNITURE, ETC. AND SHALL BE COORDINATED WITH OTHER TRADES TO AVOID CONFLICT WITH OTHER EQUIPMENT.

F. ELECTRICAL AND COMMUNICATIONS OUTLETS SHOWN IN THE SAME LOCATION, SHALL BE MOUNTED ON OPPOSITE SIDES OF THE SAME STUD. COORDINATE BETWEEN ELECTRICAL AND COMMUNICATIONS PLANS.

G. ALL NEW OUTLETS MUST BE TAMPER PROOF.

H. ALL 15 AND 20AMPERE RECEPTACLES FOR BOTH DAMP AND WET LOCATIONS REQUIRED TO BE LISTED WEATHER-RESISTANT (WR) TYPE PER CEC 406.9.

TYPICAL R2 OCCUPANCY SPACES NOTES

1. REFER TO ARCHITECTURAL CODE SHEETS A005 AND A006 FOR LOCATION OF TYPE R2 OCCUPANCY SPACES.

2. ARC-FAULT CIRCUIT -INTERRUPTER PROTECTION SHALL BE PROVIDED AS REQUIRED IN 210.12 (A), (B), AND (C). THE ARC-FAULT CIRCUIT INTERRUPTER SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION.

3. ALL ELECTRICAL OUTLETS INSTALLED IN BATHROOMS, GARAGES, BASEMENTS, CRAWL SPACES, OUTDOORS, KITCHEN COUNTERS, AND AT WET BAR SINKS SHALL HAVE GROUND-FAULT CIRCUIT-INTERRUPTER PROTECTION IN COMPLIANCE WITH NEC Art. 210-8, CONSISTING OF 125 VOLT, SINGLE-PHASE, 15- AND 20-AMPERE RECEPTACLES.

4. ALL RECEPTACLE APPLIANCE EQUIPMENT SHOWN ON PLANS MUST BE COORDINATED WITH ARCHITECT ELEVATION AND MANUFACTURER'S REQUIREMENTS PRIOR TO ROUGH-IN.

5. EACH MULTI-WIRE BRANCH SHALL BE PROVIDED WITH A MEANS THAT WILL SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE POINT WHERE BRANCH CIRCUIT ORIGINATES (ARTICLE CEC 210.4)

6. ALL BATHROOM RECEPTACLE OUTLETS SHALL BE SUPPLIED BY A MINIMUM OF ONE 20-AMPERE BRANCH CIRCUIT, SUCH CIRCUITS SHALL HAVE NO OTHER OUTLETS. THIS DEDICATED CIRCUIT MAY SERVICE MORE THAN ONE BATHROOM. NEC ART. 210-52(d). RECEPTACLES SHALL BE ADJACENT TO AND WITHIN 36" OF THE OUTSIDE EDGE OF EACH BASIN.

7. ALL 125V, 15AMPS AND 20AMP RECEPTACLE SHALL BE TAMPER-RESISTANT PER CEC 406.12.

8. RECESSED LUMINAIRES INSTALLED IN AREAS TO RECEIVE INSULATION SHALL BE "IC" LUMINARIES AND ARE CERTIFIED AND LABELED AS AIRTIGHT TO THE STANDARDS PRESCRIBED BY THE RESIDENTIAL ENERGY CODE.

9. RECESSED LIGHT FIXTURES INSTALLED IN A FIRE RATED ASSEMBLY SHALL BE INSTALLED PER THE APPROVED LISTING OR PROTECTED BY AN APPROVED METHOD.

10. BATHROOM RECEPTACLES MUST BE ON A 20 AMP, CIRCUIT (OR CIRCUITS) WITH NO OTHER OUTLETS.

11. CEILING-SUSPENDED (PADDLE) FANS (IF SHOWN) SHALL BE SUPPORTED INDEPENDENTLY OF AN OUTLET BOX OR BY LISTED OUTLET BOX OR OUTLET BOX SYSTEMS IDENTIFIED FOR THE USE AND INSTALLED IN ACCORDANCE WITH CEC 314-27(D), CEC 422-18. PROVIDE BOX FOR FUTURE PADDLE FAN IN BEDROOMS IF NOT SHOWN ON PLANS.

12. ALL LUMINAIRES AND LAMPHOLDERS SHALL BE LISTED CEC 410-6.

13. HIGH EFFICACY LUMINAIRES OTHER THAN OUTDOOR HID LIGHTING CONTAIN ONLY HIGH EFFICACY LAMPS AS OUTLINED IN TABLE 150-C OF THE RESIDENTIAL ENERGY CODE AND NOT CONTAIN A MEDIUM SCREW BASE SOCKET.

14. LIGHTS IN BATHROOMS, GARAGES, LAUNDRY ROOMS, AND UTILITY ROOMS MUST BE HIGH EFFICACY, CONTROLLED BY A DIMMER OR CONTROLLED BY A MANUAL-ON OCCUPANT SENSOR.

15. PROVIDE A 120V RECEPTACLE AND LIGHT NEAR THE FAU WITH A LIGHT SWITCH LOCATED IN THE ATTIC ACCESS.

16. PUSH BOTTOM AT FRONT DOOR SHALL BE +/-12" FROM DOOR JAMB. VERIFY LOCATION WITH DOOR TRIM.

17. EACH MULTIWIRE BRANCH CIRCUIT SHALL BE PROVIDED WITH A MEANS THAT WILL SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTOR AT THE POINT WHERE THE BRANCH CIRCUIT ORIGINATES. CEC 210 4(B)

18. STEEL ELECTRICAL BOXES LESS THAN OR EQUAL TO 16 SQUARE INCHES CAN PENETRATE MEMBRANES OF WALLS WITH UP TO A 2 HOUR RATING PROVIDED THEY ARE SEPARATED FROM SUCH PENETRATIONS ON THE OPPOSITE SIDE OF THE WALL BY EITHER 24 INCHES, A DISTANCE EQUAL TO THE DEPTH OF THE WALL IF FILLED WITH CELLULOSE LOOSEFILL/ROCKWOOL/MINERAL WOOL, SOLID FIRE BLOCKING, OR LISTED PUTTY PADS (CBC 714.3.2)

19. PENETRATIONS OF FIRE-RESISTIVE WALLS, FLOOR-CEILINGS SHALL BE PROTECTED AS REQUIRED IN CBC SECTIONS 714.3 & 714.4.

20. IN BATHROOMS, GARAGES, LAUNDRY ROOMS, AND UTILITY ROOMS AT LEAST ONE LUMINAIRE IN EACH OF THESE SPACES SHALL BE CONTROLLED BY A VACANCY SENSOR. (CEC 150.0)

ROOF PLAN NOTES

A. PROVIDE SEALTITE POWER & CONTROL CONNECTIONS TO ALL AC UNITS.

B. ALL EQUIPMENT SHOWN ABOVE ROOF IS NEMA 3R.

C. VERIFY EXACT EQUIPMENT LOCATIONS AND POINTS OF CONNECTION WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.

D. CONDUIT SHOWN IS ROUTED IN CEILING SPACE BELOW ROOF DECK.

E. NO ROOF MOUNT CONDUIT IS ALLOWED UNLESS OTHERWISE NOTED.

F. FUSE DISCONNECT SWITCHES PER EQUIPMENT NAMEPLATE RATING.

G. ALL ROOF PENETRATIONS SHALL BE MADE WITH ROOF JACKS, SEAL ALL PENETRATIONS WITH MASTIC.

LIGHTING FLOOR PLAN

A. NIGHT LIGHT "NL" DESIGNATED LUMINAIRES IN INTERIOR LOCATIONS SHALL HAVE ONE BALLAST CONTINUOUSLY ENERGIZED. LUMINAIRES IN EXTERIOR LOCATIONS SHALL BE AUTOMATICALLY CONTROLLED TO BE ON FROM DUSK TO DAWN.

B. LIGHTING FIXTURE LOCATIONS SHOWN ARE SCHEMATIC. REFER TO ARCHITECTURAL PLANS (REFLECTED CEILING, ELEVATIONS, ETC.) FOR EXACT LOCATIONS AND MOUNTING HEIGHTS PRIOR TO ROUGH-IN.

C. REFER TO ARCHITECT'S REFLECTED CEILING PLAN(S) FOR CEILING HEIGHTS, TYPES, FINISHES, ETC. IN EACH AREA. VERIFY FLANGE TYPES, TRIM KITS, STEM LENGTHS, ETC. FOR ALL FIXTURES PRIOR TO SUBMITTALS.

D. CONFIRM LOCATION OF ALL DOORS SWINGS WITH ARCHITECTURAL PLANS PRIOR TO ROUGH-IN OF SWITCHES.

E. PROVIDE UNSWITCHED HOT LEG OF ROOM LIGHTING BRANCH CIRCUIT TO EACH BATTERY POWERED EMERGENCY LIGHT AND EXIT SIGN FOR CONTINUOUS CHARGING.

WIRE DEVICES

PROVIDE WHITE DECORA STYLE OUTLETS WITH WHITE COVER PLATES IN LIVING AREA AND STAINLESS IN APPARATUS BAY, SUPPORT AREA (IE. SHOP AND TURNOUT) AND KITCHEN.

CONDUIT SYSTEMS NOTES

CONDUIT SYSTEMS USED ON THIS PROJECT SHALL BE AS FOLLOWS

1. PVC SCHEDULE 40 - underground/below slab with GRS elbows and risers tape wrapped).
2. ELECTRICAL METALLIC CONDUIT (EMT) - above grade/slab in building construction and where exposed above 8'-0" aff.
3. GALVANIZED RIGID STEEL (GRS) - where exposed below 8'-0" aff. and/or where subject to physical damage.
4. FLEXIBLE STEEL CONDUIT - above ceilings and/or concealed in building construction (seal tight flex required in exterior locations).
6. MC CABLE NOT ALLOWED.

REFER TO SECTION 260533 & 260500 OF SPECIFICATIONS FOR ADDITIONAL INFORMATION. CONDUITS SHALL BE MINIMUM 3/4" UNLESS OTHERWISE NOTED. CONDUIT SIZES, WHERE NOT NOTED ON THE DRAWINGS, SHALL BE SIZED FOR MAXIMUM 40% FILL PER CEC 310-6.

ADDITIONAL CONDUIT REQUIREMENTS.

- ROUTE CONDUIT(S) BELOW GRADE OR ABOVE CEILING SO THAT WALL OUTLETS, DEVICES, AND CONDUITS IN ALL EXPOSED BRICK WALL LOCATIONS SHALL BE RECESSED MOUNTED INSIDE BRICK. LOCATE DEVICES AT CELL WITH REINFORCEMENT CENTER AT BRICK AND/OR ONE CELL OVER AWAY FROM JAMB. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR CMU WALL LOCATIONS SECTIONS, AND DETAILS.
- REFER TO ELECTRICAL DETAILS FOR METAL PIPE PENETRATION THRU FIRE RATED WALL. PENETRATION OF FIRE-RESISTIVE WALLS AND FLOOR CEILINGS SHALL BE PROTECTED AS REQUIRED IN CBC SECTION 714.
- REFER TO ELECTRICAL DETAIL FOR DEVICE INSTALLATION FOR FIRE RATED WALLS.
- NO CONDUITS OR PIPING IN ANY SPACE SHALL BE EXPOSED AT THE CEILING AND WALL (COORDINATE WITH ALL DISCIPLINES PRIOR TO CONSTRUCTION). LOCATE ALL CONDUIT WITHIN WALLS
- RACEWAY SEALS. CONDUITS OR RACEWAYS THROUGH WHICH MOSITURE MAY CONTACT LIVE PARTS SHALL BE SEALED OR PLUGGED AT EITHER OR BOTH ENDS.

CONDUCTORS AND CABLES

REFER TO SPECIFICATIONS 26 0519 FOR ADDITIONAL INFORMATION.

1. WIRE CONNECTORS SHALL BE MINIMUM 75 DEGREE CENTIGRADE RATED AND PROPERLY SIZED FOR THE NUMBER OF CONDUCTORS BEING CONNECTED, TERMINATED, SPLICED, ETC. ALL ABOVE GRADE CONNECTORS SHALL BE SOLDERLESS LUG OR PLASTIC WIRE NUT TYPE, SCREW ON, PRESSURE CABLE TYPE (WIRE UT OR SPRING NUT TYPE) 600 VOLT, 105 DEGREE C, WITH SKIRT TO COVER ALL PORTIONS OF STRIPPED WIRES. CONNECTOR SHALL BE U.L. RATED FOR NUMBER AND SIZE OF CONDUCTORS BEING JOINED TOGETHER AS SPLICED.

2. WIRES AND CABLES FOR LINE VOLTAGE SYSTEM AND CONTROLS. WIRE AND CABLE SHALL BE COPPER, 600 VOLT RATED THROUGH OUT. CONDUCTORS 14AWG OT 10AWG, SOLID OR STRANDED. CONDUCTORS 8 AWG AND LARGER, STRANDED

3. ALL CONDUCTORS SHALL BE COPPER UNLESS OTHERWISE NOTED. MINIMUM SIZE FOR INDIVIDUAL CONDUCTORS SHALL BE #12 AWG UNLESS OTHERWISE NOTED ON PANEL SCHEDULE OR PLANS. SIZE #8 AWG AND LARGER SHALL BE STRANDED CONDUCTOR. INDIVIDUAL CONDUCTORS SHALL BE INSULATED WITH TYPE, XHHW, THW, THHN/THWN 600 VOLT INSULATION UNLESS OTHERWISE NOTED.

4. PROPER INSULATION TYPE SHALL BE USED FOR THE PROPER ENVIRONMENTAL APPLICATION (I.E. WATERPROOF, WET LOCATION, PLENUM TEMPERATURE RATED). ALL CONDUCTORS, WIRING CABLE WHERE INSTALLED BELOW FLOOR, SLAB OR UNDERGROUND SHALL BE CONSIDERED WET LOCATIONS, AND SHALL BE RATED ACCORDINGLY. NON WATERPROOF CABLING IS NOT ALLOWED IN ANY BELOW GRADE OR WET APPLICATION.

5. GROUP THE COMMON NEUTRAL CONDUCTOR FOR MULTIPLE CIRCUITS WITH ITS ASSOCIATED UNGROUNDED CONDUCTORS WHEN CONTAINED IN THE SAME ENCLOSURE. CEC 200.4(B)

6. THE BRANCH CIRCUIT SERVING EMERGENCY LIGHTING AND POWER CIRCUITS SHALL NOT BE PART OF A MULTIWIRE BRANCH CIRCUIT. CEC 700.19.

ELECTRICAL SHEET INDEX

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	06/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS

AS-BUILT

REF.

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA NO. 10757 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
ELECTRICAL GENERAL NOTES

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

B # B-4797

PHASE # ____ / REBID # ____

SHEET 189 OF 236

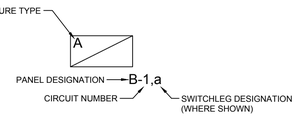
DWG. NO. E001

ABBREVIATIONS

A	AMPERE
AB	AMP BREAKER
ABAND	ABANDONED
ABV	ABOVE
AC	ALTERNATING CURRENT
AC-#	AIR CONDITIONER
ADJ	ADJACENT
AF	AMP FUSE, AMP FRAME
AFF	ABOVE FINISH FLOOR
AFG	BOVE FINISH GRADE
AIC	AMPERES INTERRUPTING CAPACITY
AI	ALUMINUM
AS	AMP SWITCH RATING
ATS	AUTOMATIC TIME SWITCH
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIBLE/AUDIO VISUAL
AWG	AMERICAN WIRE GAGE
BFG	BELOW FINISH GRADE
BIL	BASIC IMPULSE LEVEL
BLDG	BUILDING
C	CONDUIT
-C-	CATV CONDUIT
CAB'T	CABINET
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER, CODE BLUE
CBC	CA. BUILDING CODE
CEC	CA. ELECTRICAL CODE
	CA. ENERGY COMMISSION
CF	COMPACT FLUORESCENT
CFC	CALIFORNIA FIRE CODE
CLG	CEILING
CL	CENTER LINE
CKT	CIRCUIT
CNTR	CONTRACTOR
C.O.	CONDUIT ONLY (W/PULLROPE)
COND	CONDUIT, CONDUCTOR
CR	CRITICAL BRANCH
CSFM	CALIFORNIA SFM
CT	CURRENT TRANSFORMER
Cu	COPPER
CU-#	CONDENSING UNIT
D	DEPTH
DC	DIRECT CURRENT
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DISC	DISCONNECT
DIST	DISTRIBUTION
DPST	DOUBLE POLE SINGLE THROW
DW	DISHWASHER
EM	EMERGENCY
(E)	EXISTING
EA	EACH
EB	ELECTRONIC BALLAST
EC	ELECTRICAL CONTRACTOR
EC-#	EVAPORATIVE COOLER
EF-#	EXHAUST FAN
EL	EVENING LIGHT
ELEC	ELECTRICAL
EM	EMERG BATTERY BACKUP
	EMERGENCY BALLAST
EMERG	EMERGENCY
EOL	END OF LINE
EQUIP'T	EQUIPMENT
ES	ENERGY SAVING
(EXN)	(E) IN (N) LOCATION
(EXR)	(E) TO BE (R)
EXT	EXTERIOR
F	FLUORESCENT
(F)	FUTURE
F-#	FURNACE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FAT	FIRE ALARM TERMINAL
FAU	FORCED AIR UNIT
FBO	FURNISHED BY OTHERS
FC-#	FAN COIL
FLA	FULL LOAD AMPS
FLR	FLOOR
FLUOR	FLUORESCENT
FS	FUSIBLE SWITCH
FVNR	FULL VOLTAGE NON-REVERSING
G	GROUNDING CONDUCTOR
GC	GENERAL CONTRACTOR
GD	GARBAGE DISPOSAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL
GWS	GANG WITH SWITCH
H	HEIGHT, HIGH
HACR	HEATING, AC & REFRIG
HID	HIGH INTENSITY DISCHARGE
HO	HIGH OUTPUT
HOA	HAND-OFF-AUTO
hp	HORSEPOWER
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM
IC	INTERCOM
ID	IDENTIFICATION
IDF	INTERMEDIATE DISTRIBUTION FRAME
IF	INSIDE FROST
IG	ISOLATED GROUND
J-BOX	JUNCTION BOX
k	QUANTITY 1000
kVA	KILOVOLTAMPS
kW	KILOWATT
LC	LIGHTING CONTACTOR
LPS	LOW PRESSURE SODIUM
LRA	LOCKED ROTOR AMPS
LS	LIFE SAFETY BRANCH
LT	LIGHT
LTG	LIGHTING
LV	LOW VOLTAGE
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CKT AMPS
MCB	MAIN CIRCUIT BREAKER
MCTB	MAIN CATV TERMINAL BOARD
MCTC	MAIN CATV TERMINAL CABINET
MDF	MAIN DISTRIBUTION FRAME
MECH	MECHANICAL
MFR	MANUFACTURER
MFS	MAIN FUSIBLE SWITCH
MH	METAL HALIDE
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OCP
MPOE	MINIMUM POINT OF ENTRY
MSB	MAIN SWITCHBOARD
MT	MOUNT
MT HT	MOUNTING HEIGHT
MTS	MANUAL TRANSFER SWITCH
MTTB	MAIN TELEPHONE TERMINAL BOARD
MTTC	MAIN TELEPHONE TERMINAL CABINET
MW	MICROWAVE
N	NEUTRAL (GROUNDED CONDUCTOR)
(N)	NEW
NAR	NEMA 3R
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NAT'L ELEC MANUFACTURER'S ASSOC
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NPF	NORMAL POWER FACTOR
NTS	NOT TO SCALE
OC	ON CENTER
OCP	OVERCURRENT PROTECTION
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OSA	OFFICE of the STATE ARCHITECT
OSHPD	OFFICE of STATEWIDE HEALTH PLANNING & DEVELOPMENT
OVLD	OVERLOAD
P	POLE
PA	PUBLIC ADDRESS
PB	PULLBOX
PC	PULL CHAIN
PC	PHOTOCELL
PC	PLUMBING CONTRACTOR
ph	PHASE
PNL	PANEL
POC	POINT OF CONNECTION
-PP-	POWER PRIMARY
-PS-	POWER SECONDARY
PV	PHOTOVOLTAIC
(R)	RELOCATE(D)
RECEPT	RECEPTACLE
REF	REFRIGERATOR
REQ'D	REQUIRED
RLA	RATED LOAD AMPS
RM	ROOM
RMC	RIGID METAL CONDUIT
RMV	REMOVE
RPLC	REPLACE
RS	RAPID START
SC	SIGNAL CABINET
SCC	SHORT CKT CURRENT
SFM	STATE FIRE MARSHAL
SHT	SHEET
SL	SLIMLINE, SWITCH LEG
SPEC	SPECIFICATION
SPST	SINGLE POLE SINGLE THROW
SQ	SQUARE
STRG	STORAGE
SURF	SURFACE
SVC	SERVICE
SW	SWITCH
T	TRANSFORMER, TERMINAL
-T-	TELEPHONE CONDUIT
(TBR)	TO BE REMOVED
TC	TIME CLOCK
TEL	TELEPHONE
TELCO	TELEPHONE COMPANY
TS	TIME SWITCH
TSO	TIME SWITCH OVERRIDE
TSP	TWISTED SHIELDED PAIR
TTB	TELEPHONE TERMINAL BOARD
TTC	TELEPHONE TERMINAL CABINET
TX	TRANSFORMER
TYP	TYPICAL
TYP SIM	TYPICAL SIMILAR
UC	UNDERCABINET, UNDERCOUNTER
UG	UNDERGROUND
UGPS	UNDERGROUND PULL SECTION
UL	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
USA	UG SVC ALERT 800-642-2444
V	VOLT
VA	VOLT AMPERES
VAC	VOLT ALTERNATING CURRENT
VHO	VERY HIGH OUTPUT
VOLT	VOLTAGE
VR	VANDAL-RESISTANT
W	WIDTH, WATT, WIRE
WH-#	WATER HEATER
WP	WEATHERPROOF (NEMA 3R)
XFMR	TRANSFORMER
+48	INDICATES MOUNTING HEIGHT AFF

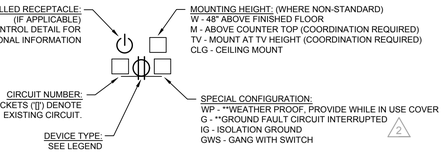
CIRCUITING LEGEND

LIGHTING PLAN



- PROVIDE ALL BRANCH CIRCUIT WIRING FROM FIXTURES TO PANEL(S) AS DESCRIBED BY CIRCUIT NUMBERS SHOWN.
- PROVIDE ALL WIRING BETWEEN FIXTURES AND CONTROL DEVICES AS DESCRIBED IN REFERENCE NOTES AND/OR SHOWN BY SWITCHLEG DESIGNATIONS.
- EXIT AND EMERGENCY LIGHT FIXTURES SHALL BE CONNECTED TO AN UNSWITCHED BRANCH CIRCUIT CONDUCTOR.
- HOME RUN CONDUITS SHALL BE 3/4"C., MAX OF (3) BRANCH CIRCUITS PER CONDUIT.
- PROVIDE ALL BRANCH CIRCUIT WIRING FROM MECH. EQUIPMENT TO PANELS.

POWER PLAN



- PROVIDE ALL BRANCH CIRCUIT WIRING FROM DEVICES TO PANEL(S) PER DESIGNATIONS/CIRCUIT NUMBERS.
- EACH BRANCH CIRCUIT SHALL HAVE A SEPARATE NEUTRAL AS INDICATED ON PANEL SCHEDULES.
- HOME RUN CONDUITS SHALL BE 3/4"C, MAX OF (3) BRANCH CIRCUITS PER CONDUIT.
- INCREASE HOME RUN CONDUIT SIZE TO 1"C FOR (4) BRANCH CIRCUITS OR MORE.
- (**) DENOTES SPECIAL DEVICE/NAMEPLATE REQUIREMENTS.

NOTE: THE INTENT OF THE DRAWINGS IS TO SHOW FIXTURE / DEVICE LOCATIONS AND PANEL DESIGNATIONS. ALL BRANCH CIRCUIT WIRING, MEETING THE CRITERIA NOTED ABOVE, WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. LIGHTING AND POWER PLANS SHOW AN ABOVE CEILING JUNCTION BOX / HOME RUN WITH CIRCUIT NUMBERS BY FIXTURES / DEVICES. PROVIDE ALL BRANCH CIRCUITING AS REQUIRED FOR A COMPLETE INSTALLATION. DOCUMENT ALL BRANCH CIRCUITING ON AS-BUILT DRAWINGS ACCURATELY REFLECTING THE INSTALLATION.

1

LEGEND

NOTE: INTERPRET IN CONTEXT

CONDUIT/WIRE

- NEW
- UNDERGROUND
- NEW POWER HOMERUN (3 HOTS & NEUT SHOWN)
- ISOLATED GROUND
- EXISTING TO REMAIN
- (E) POWER HOMERUN
- WIRE LINE- CONTINUES
- CONDUIT STUB (W/MARKER)
- VERTICAL CONDUIT RUN
- CONDUIT SEAL
- FLEXIBLE CONNECTION
- LOW VOLTAGE
- SURFACEMOUNT RACEWAY
- INDICATES LINE CONTINUES
- CORD W/PLUG

MISCELLANEOUS

- MOTOR
- THERMOSTAT
- CIRCUIT BREAKER
- FUSIBLE SWITCH
- GROUND
- PHASE
- CLOCK
- CLOCK/SPEAKER COMBINATION
- WALL MOUNTED CLOCK
- PUSHBUTTON
- FLUSHMOUNT PANEL
- SURFACEMOUNT PANEL
- FLUSHMOUNT CABINET
- SURFACEMOUNT CABINET
- DAMPER MOTOR
- HUMIDISTAT
- MAGNETIC CONTACTOR
- COMBINATION STARTER
- SAFETY DISCONNECT
- JUNCTION BOX

LIGHT FIXTURES

- CEILING SURFACEMOUNT
- WALL SURFACEMOUNT
- PENDANT MOUNT
- RECESSED DOWNLIGHT
- RECESSED WALLWASH
- RECESSED
- SURFACE
- STRIP UON
- TRACK LIGHT
- DIRECTIONAL FLOOD
- EMERGENCY FIXTURE
- POLE LIGHT
- POLE LIGHT- DECORATIVE
- UPLIGHT- FLUSH IN GRADE
- BOLLARD
- TANDEM-WIRED LAMPS
- UNDERCABINET LIGHT
- WALL SURFACE MOUNT LINEAR TYPE
- PENDANT LINEAR
- RECESSED WALL MOUNT
- WALL-PACK
- EXIT LIGHT- WALL
- EXIT LIGHT- CEILING (ARROW INDICATES DIRECTION)
- A — LETTER ADJACENT INDICATES FIXTURE TYPE
- LED COVE & UNDERCABINET LIGHT PER FIXTURE SCHEDULE

1

1

POWER LEGEND

- 20A SINGLE RECEPTACLE
- 20A DUPLEX RECEPTACLE
- 20A DUPLEX- HALF SWITCHED
- 20A SWITCHED RECEPTACLE
- 20 DOUBLE DUPLEX RECEPTACLE
- CLG — 20A CEILING MOUNTED OUTLET
- GFCI — 20A (GFCI) GROUND FAULT CURRENT INTERRUPTER DEVICE
- M — 20A MOUNT ABOVE COUNTER PER ADA.
- W — MOUNT AT +48" MEASURED TO TOP OF BOX.
- WR — NEMA 3R COVER (BELL # 1503 OR ENGINEER APROVED EQUAL)
- 208V 1Ø RECEPTACLE
- FLOOR MOUNT 208V, 1Ø RECEPTACLE
- WP — WHILE-IN USE NEMA 3R COVER (TAYMAC #MX4280S OR ENGINEER APROVED EQUAL UNLESS OTHERWISE NOTED)
- FLOOR MOUNTED OUTLET
- 20A "CONTROLLED" DUPLEX RECEPTACLE PER 2019 CA ENERGY CODE REQUIREMENTS 130-5 "CIRCUIT CONTROLS FOR 120V RECEPTACLES"
- 20A (1)CONTROLLED DUPLEX RECEPTACLE AND (1) DUPLEX RECEPTACLE
- DUPLEX RECEPTACLE. REMOVE BREAK-OFF TAB. TOP OUTLET IS CONTROLLED AND BOTTOM OUTLET IS UN-CONTROLLED. CONTROLLED OUTLET SHALL HAVE A PERMANENT MARKING TO DIFFERENTIATE THEM FROM UNCONTROLLED OUTLET PER 2019 CA ENERGY CODE REQUIREMENTS.
- GWS — GANG WITH SWITCH
- U — 20AMP DUPLEX OUTLET WITH TYPE A AND TYPE C USB CHARGER
- TV — TELEVISION OUTLET. VERIFY MOUNTING HEIGHT PRIOR TO ROUGH-IN.
- DROP CORD RECEPTACLE
- COMBINATION POWER/DATA FLOOR BOX. PROVIDE 4-GANG FLOOR BOX (WIREMOLD EVOLUTION SERIES OR EQUAL), SINGLE DUPLEX OUTLET, (2)COMMUNICATION OUTLETS, AND SPARE SPACE. CONTRACTOR TO PROVIDE ALL ACCESSORIES FOR A WORKING SYSTEM.
- DISCONNECT FUSE OR NON FUSED
- GROUND BAR
- SD — 120V COMBINATION SMOKE ALARM AND CARBON MONOXIDE WITH BATTERY BACK-UP MOUNTED AT CEILING. ALL ALARM MUST BE INTERCONNECTED SO THAT ALL DETECTORS SOUND AN ALARM WHEN SMOKE IS DETECTED BY ANY ONE OF THE DETECTORS ANYWHERE. (KIDDE #P3010CU)

NOTE: PROVIDE ALL OUTLETS WITH TAMPERPROOF DEVICE WITH A MINIMUM 20AMP RATED DEVICE

RECEPTACLES AT DAMP AND WET LOCATION

A. ALL 15 AND 20AMPERE RECEPTACLES FOR BOTH DAMP AND WET LOCATIONS REQUIRED TO BE LISTED WEATHER-RESISTANT (WR) TYPE PER CEC 406.9 (A) AND (B)

B. CEC 406.9(A) RECEPTACLES IN DAMP LOCATIONS: RECEPTACLES INSTALLED OUTDOORS IN A LOCATION PROTECTED FROM THE WEATHER OR IN OTHER DAMP LOCATIONS SHALL BE AN ENCLOSURE FOR THE RECEPTACLE THAT IS WEATHERPROOF WHEN THE RECEPTACLE IS COVERED (ATTACHMENT PLUG CAP NOT INSERTED AND RECEPTACLE COVERS CLOSE)

C. CEC 406.9(B) RECEPTACLES OF 15 AND 20AMP, 125 AND 250 VOLTS INSTALLED IN A WET LOCATION SHALL HAVE AN ENCLOSURE THAT IS WEATHERPROOF WHETHER OR NOT THE ATTACHMENT PLUG CAP IS INSERTED. AN OUTLET BOX HOOD INSTALLED FOR THIS PURPOSE SHALL BE LISTED AND SHALL BE IDENTIFIED AS "EXTRA-DUTY" OTHER LISTED PRODUCTS, ENCLOSURES, OR ASSEMBLIES PROVIDING WEATHERPROOF PROTECTION THAT DO NOT UTILIZE AN OUTLET BOX HOOD NEED TO BE MARKED "EXTRA DUTY"

EXCEPTION: 15 AND 20AMP, 125 THROUGH 250 VOLT RECEPTACLES INSTALLED IN A WET LOCATION AND SUBJECT TO ROUTINE HIGH-PRESSURE SPRAY WASHING SHALL BE PERMITTED TO HAVE AN ENCLOSURE THAT IS WEATHERPROOF WHEN THE ATTACHMENT PLUG IS REMOVED.

LIGHTING CONTROL SYMBOLS

- $ — SINGLE POLE SINGLE THROW (SPST) SWITCH
- $2 — DOUBLE POLE SINGLE THROW (DPST) SWITCH
- $3 — 3-WAY SWITCH
- $4 — 4-WAY SWITCH
- $T — TIMER SWITCH
- $P — W/ PILOT LIGHT
- $K — KEY OPERATED
- $T — W/ THERMO OVERLOAD
- $F/L — CEILING FAN/LIGHT CONTROL (LUTRON MAESTRO #MA-LFQHW)
- $TS — 15 MINUTE MAX INTERVAL TIMER (SENSOR SWITCH #PTS 15) UON.
- $OS DT — WALL SWITCH OCCUPANCY SENSOR, SINGLE BUTTON, DUAL TECHNOLOGY (SENSOR SWITCH #WSD-PDT)
- $OS o,b — WALL SWITCH OCCUPANCY SENSOR, 2-BUTTON, DUAL TECHNOLOGY (SENSOR SWITCH #WSD PDT 2P)
- $OS — WALL SWITCH OCCUPANCY SENSOR, 2-BUTTON, PASSIVE INFRARED (SENSOR SWITCH #WSX)
- $D — 0-10V DIMMING WALL SWITCH(SYNERGY #ISD BC) PHASE DIMMING WALL SWITCH (SYNERGY #ISD ADEZ)
- $D,OS — 0-10V WALL DIMMING OCCUPANCY WALL SWITCH (ACUITY #WSX D BC)
- $VA — VACANCY SENSOR WALL SWITCH (ACUITY #SSD VA 120)
- $3 — DUAL LEVEL SWITCHING
- $nD — nLIGHT SINGLE CHANNEL WITH DIMMING CONTROLS (nLIGHT NPODM DX)
- $n2D — nLIGHT 2 CHANNELS WITH DIMMING CONTROLS (nLIGHT NPODM 2P DX)
- $n4D — nLIGHT 4 CHANNELS WITH DIMMING CONTROLS (nLIGHT NPODM 4P DX)
- $nOSD — nLIGHT 1-POLE WALL SWITCH OCCUPANCY SENSOR, DUAL TECHNOLOGY, LOW VOLTAGE, DIMMING CONTROL (#nWSX PDT LV DX)
- nOS — CEILING MOUNTED OCCUPANCY SENSOR EXTENDED RANGE 360 DEGREES LINE VOLTAGE, DUAL TECHNOLOGY. (SENSOR SWITCH #CMR PDT 10)
- nOS LV — CEILING MOUNTED OCCUPANCY SENSOR 360 DEGREES LOW VOLTAGE, DUAL TECHNOLOGY. (SENSOR SWITCH #CM PDT 10)
- PP — LINE VOLTAGE POWER PACK (ACUITY PP20)
- nBB — nLIGHT 8 PORT BRIDGE (#nBRG 8). FURNISH WITH POWER SUPPLY #PS 150.
- NEP — nLIGHT ENABLE FIXTURE. FIXTURE WILL HAVE INTEGRAL POWER PACK.
- nWP — nLIGHT GRAPHIC TOUCH SCREEN (#nPOD GFX). FURNISH WITH POWER SUPPLY #PS 150.
- nADR — nLIGHT OPEN ADR INTERFACE MODULE. RECEIVES POWER DEMAND INFORMATION FROM UTILITY DRAS. SUPPORTS UP TO 5nLIGHT GATEWAYS. INCLUDE POWER SUPPLY
- nECY — nLIGHT ECLYPSE DIGITAL TIME CLOCK AND NETWORK CONTROLLER; MAX 1500 nLIGHT NETWORK DEVICES; POWER SUPPLY (120VAC), AND TOUCH SCREEN (NGWY2 GFX WITH PS 150 POWER SUPPLY) INTERFACE INCLUDED; BACNET INTERFACING MOUNTED IN NEMA 1 ENCLOSURE.
- nOS PC — nLIGHT LOW VOLTAGE DUAL TECHNOLOGY CEILING MOUNT 360° OCCUPANCY SENSOR WITH DAYLIGHT HARVESTING (#nCM PDT 10 ADC) PROGRAM SENSOR TO PROVIDE SEPARATE CONTROL FOR PRIMARY AND SECONDARY DAYLIT ZONES (AS APPLICABLE). GENERAL LIGHTING POWER IN ASSOCIATED DAYLIT ZONE SHALL BE REDUCE BY A MINIMUM OF 65%
- nOS C — nLIGHT LOW VOLTAGE DUAL TECHNOLOGY CEILING MOUNT 360° OCCUPANCY SENSOR (#nCM PDT 10). "C" DENOTES CORNER MOUNT.
- nPC — nLIGHT AUTOMATIC DIMMING CONTROL PHOTOCELL (#nCM ADCX). SINGLE ZONE CONTROL. PROGRAM TO PROVIDE DIMMING CONTROL FOR DAYLIT ZONE. GENERAL LIGHTING POWER IN ASSOCIATED DAYLIT ZONE SHALL BE REDUCED BY A MINIMUM OF 65%.
- nOS H — nLIGHT HIGH BAY 360 DEGREE SENSOR. PIR OCCUPANCY DETECTION. (nCM 6)
- nSP — nLIGHT DIMMING POWERPACK TO DIMM FIXTURES (nSP5 PCD). COORDINATE DIMMING TYPE WITH LIGHT FIXTURE. REFER TO MANFUFACTURER WIRING DIAGRAM.
- nPP — nLIGHT 0-10V DIMMING POWERPACK TO DIMM FIXTURES (nPP16D) REFER TO MANFUFACTURER WIRING DIAGRAM.
- nPP (ER) — nLIGHT 0-10V DIMMING EMERGENCY POWERPACK TO DIMM FIXTURES (nPP16D ER) REFER TO MANFUFACTURER WIRING DIAGRAM.
- nPP T24 — nLIGHT POWER PACK FOR CONTROLLED RECEPTACLES (nPP20 PL). REFER TO MANUFACTURER WIRING DIAGRAM.
- LIGHTING POWER BRANCH CIRCUIT
- – –CS– — CONTROL CABLE, CAT 5 LOW VOLTAGE PER SYSTEM REQUIREMENTS ABOVE T-BAR CEILING.
- – –LV– — LOW VOLTAGE PER MANUFACTURER'S REQUIREMENTS IN 1/2" CONDUIT

CONVENTIONS

- X — NUMBERED SHEET NOTES: REFERS TO NOTES ON SAME SHEET AS REFERENCE
- 3103 — FEEDER SCHEDULE DESIGNATION (EXAMPLE: 3103 = 310 AMPERE, 600V, 3 CURRENT CARRYING CONDUCTORS. PREFIXES: 'M' INDICATES MEDIUM VOLTAGE, 'CO14' INDICATES CONDUIT ONLY, QUANTITY (1) AND SIZE (4"))
- Z / X — DETAIL REFERENCE: Z = DETAIL DESIGNATION, X = SHEET NUMBER REFERENCE
- Y / X — MECHANICAL SYSTEMS TAG (REFER TO MECHANICAL SHEETS) Y = UNIT TYPE, X = UNIT NUMBER

1

NO.	DATE	REVISION / APPROVAL	DESCRIPTION
	SHEET		
1	12/16/21		PLAN CHECK SUBMITTAL
2	04/22/22		PLAN CHECK RE-SUBMITTAL
3	06/15/23		PLAN CHECK RE-SUBMITTAL
4	10/12/23		BID DOCUMENTS
			REF.
			AS-BUILT

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER — WILLIAM A. THOMA — NO. 40161 — ELECTRICAL — STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ELECTRICAL LEGEND AND ABBREVIATIONS

B # B-4797

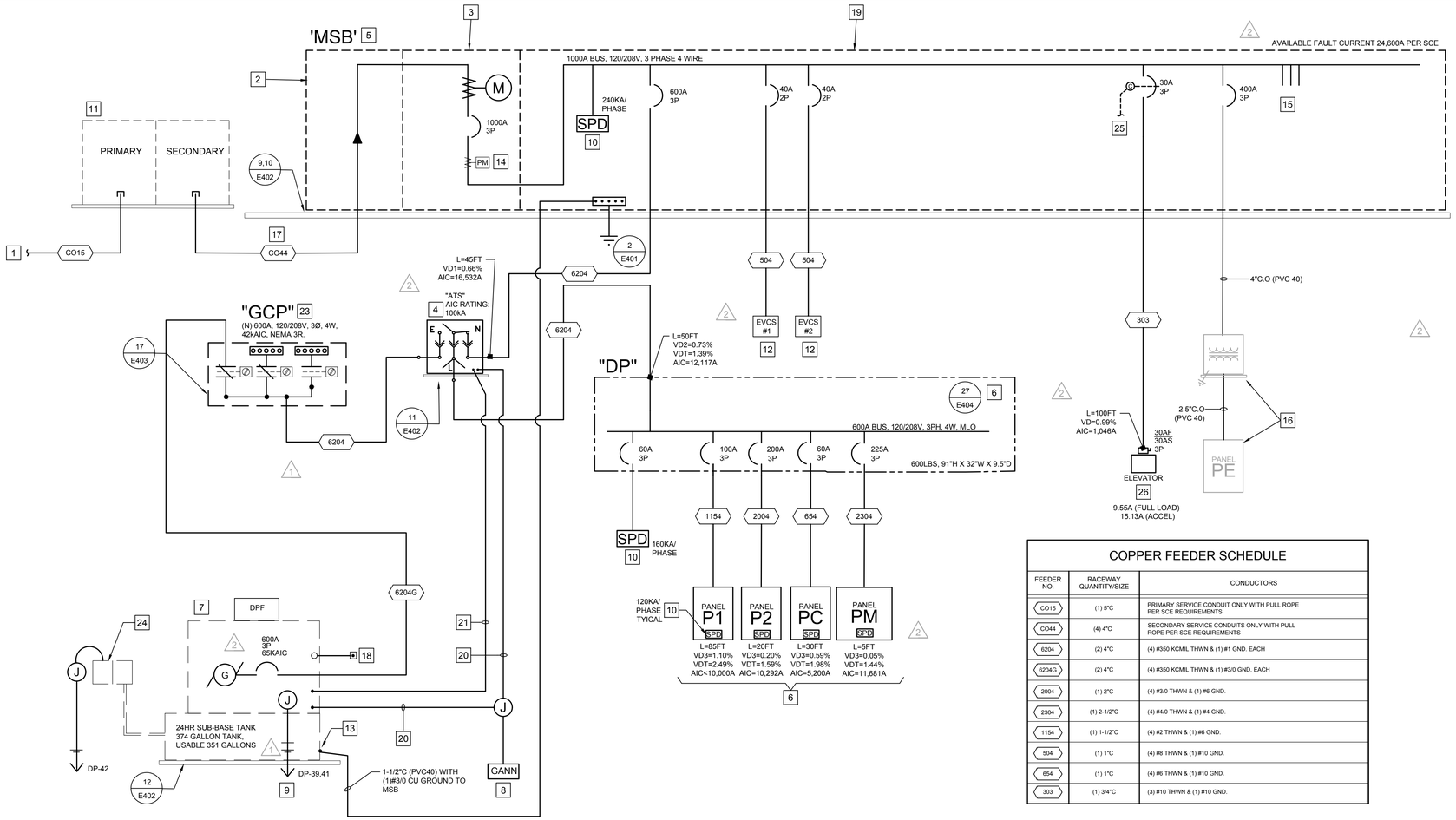
PHASE # ____ / REBID # ____

SHEET 190 OF 236

DWG. NO. E002

THOMA ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



COPPER FEEDER SCHEDULE

FEEDER NO.	RACEWAY QUANTITY/SIZE	CONDUCTORS
CO15	(1) 5"C	PRIMARY SERVICE CONDUIT ONLY WITH PULL ROPE PER SCE REQUIREMENTS
CO44	(4) 4"C	SECONDARY SERVICE CONDUITS ONLY WITH PULL ROPE PER SCE REQUIREMENTS
6204	(2) 4"C	(4) #350 KCMIL THWN & (1) #1 GND. EACH
6204G	(2) 4"C	(4) #350 KCMIL THWN & (1) #3/0 GND. EACH
2004	(1) 2"C	(4) #3/0 THWN & (1) #6 GND.
2304	(1) 2-1/2"C	(4) #4/0 THWN & (1) #4 GND.
1154	(1) 1-1/2"C	(4) #2 THWN & (1) #6 GND.
504	(1) 1"C	(4) #8 THWN & (1) #10 GND.
654	(1) 1"C	(4) #6 THWN & (1) #10 GND.
303	(1) 3/4"C	(3) #10 THWN & (1) #10 GND.

SINGLE LINE DIAGRAM

GENERATOR POWER SYSTEM

A. A PERMANENT PLAQUE SHALL BE PLACED AT THE NORMAL SERVICE EQUIPMENT DENOTING THE TYPE & LOCATION OF THE ON-SITE EMERGENCY STANDBY POWER GENERATOR (CEC 700-7A, 701-7A, 702-7A) THE PLAQUE SHALL IDENTIFY THE CONNECTION OF THE GROUNDING ELECTRODE CONDUCTOR WHEN THAT CONNECTION IS AT A LOCATION REMOTE FROM THE GENERATOR. (CEC 700-7B, 701-7B, 702-7B).

B. WIRING FROM AN EMERGENCY SOURCE OR EMERGENCY SOURCE DISTRIBUTION OVERCURRENT PROTECTION TO EMERGENCY LOADS SHALL BE KEPT ENTIRELY INDEPENDENT OF ALL OTHER WIRING AND EQUIPMENT AND SHALL BE IDENTIFIED BY PERMANENT MARKING, EXCEPT AS NOTED IN (1) THROUGH (5), PER CEC 700-10(B).

C. THE FOLLOWING EQUIPMENT SHALL BE UL LISTED AS INDICATED:

- STATIONARY GENERATORS 600V OR LESS IN NON-HAZARDOUS LOCATIONS - (UL2200)
- NON EMERGENCY UNINTERRUPTIBLE POWER SYSTEMS (UPS) - (UL1778)
- EMERGENCY RATED UNINTERRUPTIBLE POWER SYSTEMS (UPS) - (UL924)
- EMERGENCY LIGHTING AND POWER EQUIPMENT (UL 924)
- TRANSFER SWITCH EQUIPMENT (UL 1008)
- EMERGENCY RATED LOW LEVEL PATH MARKING AND LIGHTING SYSTEMS - (UL1994)

D. GENERAL INSTALLATIONS ARE REQUIRED TO COMPLY WITH THE CURRENTLY ADOPTED EDITIONS OF NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS 30, 37, 110. IF BATTERY EQUIPMENT IN THE GENERATOR PROJECT, IT IS REQUIRED TO COMPLY NFPA 111. THE LEVEL OF COMPLIANCE MUST BE IN ACCORDANCE WITH THE GENERATOR'S FUNCTION AS AN EMERGENCY POWER SYSTEM OR A STANDBY POWER SYSTEM AS DEFINED BY THE CALIFORNIA FIRE CODE. PLAN SUBMITTALS ARE REQUIRED TO INCLUDE ALL SPECIFICATIONS OF THE EQUIPMENT TO BE INSTALLED ALONG WITH THE ELECTRICAL PLANS AND LOAD CALCULATIONS. ALL EQUIPMENT MUST LISTED. TESTING AND ACCEPTANCE CRITERIA ARE STRICTLY OBSERVED. INSTALLATION AND ACCEPTANCE TEST REPORTS IN ACCORDANCE WITH APPLICABLE NFPA STANDARDS ARE REQUIRED TO BE PROVIDED TO THE FIRE DISTRICT. WORKING CLEARANCES AND CLEARANCES TO THE BUILDING BASED ON THE FUEL CAPACITY MUST BE OBSERVE. AQMD PERMITS ARE REQUIRED WITH THE PLAN CHECK SUBMITTALS. DUAL FUEL GENERATORS MAY BE REQUIRED BY AQMD FOR TESTING PURPOSES. THE GENERATOR OPERATION MUST BE MONITORED REMOTELY B A QUALIFIED ALARM SUPERVISING STATION. A SEPARATE SUBMITTAL IS REQUIRED FOR THE ALARM CONNECTION.

E. PRELIMINARY ATS SETTING AR AS FOLLOWS.
START TIME DELAY: 3 SECONDS
RETRANSFER TIME DELAY: 5 MINUTES
STOP TIME DELAY: THE FINAL ATS SETTINGS SHALL BE DETERMINED BY TESTING COMPANY.

SINGLE LINE DIAGRAM NOTES

A. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT AND COORDINATE WITH THE SERVING UTILITY TO ENSURE ALL SERVING UTILITY REQUIREMENTS ARE MET.

B. SERVICE ENTRANCE EQUIPMENT SHALL BE IN ACCORDANCE WITH THE SERVING ELECTRIC UTILITY COMPANY'S REQUIREMENTS.

C. ALL CONDUCTORS SHALL BE COPPER WITH TYPE [THHN/THWN] INSULATION UNLESS OTHERWISE NOTED. UNDERGROUND CONDUCTORS SHALL BE LISTED FOR WET LOCATION.

D. ALL SWITCHES, CIRCUIT BREAKERS AND OTHER EQUIPMENT, AS SPECIFIED, SHALL HAVE TERMINATION PROVISIONS LISTED AND IDENTIFIED FOR USE WITH 75 DEG. CONDUCTORS, AND ALL FEEDER CONDUCTORS, AND CONDUITS, ARE SIZE BASED ON USE OF 75 DEG. C COPPER WIRES TYPE THWN/THHN.

E. ALL INSTALLED MATERIALS AND EQUIPMENT SHALL BE LISTED BY UNDERWRITERS LABORATORY (U.L.) OR LISTED NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL) APPROVED BY A CITY OF LONG BEACH BUILDING DEPARTMENT.

F. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR SUPPLYING SWITCHGEAR SIZED TO FIT IN THE AVAILABLE SPACE . REFER TO ARCHITECTURAL PLANS FOR DIMENSIONAL INFORMATION NOT SHOWN ON THE ELECTRICAL PLANS. CONTRACTOR SHALL SUBMIT A 1/4" SCALE DRAWING OF ALL SWITCHGEAR, AND TERMINATION CABINETS ON FLOOR PLAN WITH SUBMITTAL.

G. ALL BOXES AND ENCLOSURES (INCLUDING TRANSFER SWITCHES, GENERATORS, AND POWER PANELS) FOR EMERGENCY CIRCUITS SHALL BE PERMANENTLY MARKED SO THEY WILL BE READILY IDENTIFIED AS A COMPONENT OF AN EMERGENCY CIRCUIT OR SYSTEM, PER NEC 700-9(A).

H. PROVIDE TEMPORARY CONSTRUCTION POWER TO CONSTRUCTION SITE.

I. DESIGN SHOWN IS BASED ON SQUARD D PRODUCT. ENGINEER-APPROVED EQUAL ALTERNATE PRODUCT WILL BE ACCEPTABLE.

J. EMERGENCY LIGHTING SYSTEM (GENERATOR AND AUTOMATIC TRANSFER) AND EXIT LIGHTS SHALL BE CHECKED AND APPROVED BY THE FIRE DEPARTMENT BEFORE THE APPROVAL OF THE FINAL PLANS.

K. IN ACCORDANCE WITH CEC 110.16. PROVIDE ARC FLASH PROTECTION WARNING LABELS ON EACH SWITCHBOARD. PANELBOARD, AND TRANSFORMER. LABELS SHALL BE PER ANSI Z535.4 GUIDLINES. (SEE DETAIL 1/E401).

L. SERIES RATED PANELBOARDS ARE NOT PERMITTED. ALL PANELS ARE BOLT-ON BREAKERS. LOAD CENTERS ARE NOT PERMITTED.

M. PER CALIFORNIA TITLE 24 SECTION 130.5, WIRIING PROVISIONS HAVE BEEN MADE FOR DISAGGREGATION OF THE ELECTRICAL CIRCUITS, THE OPTIONAL METERING HAS NOT BEEN PROVIDED FOR THIS PROJECT.

N. REFER TO PANEL SCHEDULES FOR INDIVIDUAL BRANCH CIRCUIT VOLTAGE DROP.

O. BRANCH CIRCUIT/FEEDER DISTANCE IS SHOWN FOR REFERENCE ONLY AS THE BASIS OF VOLTAGE DROP CALCULATIONS. CONDUCTOR DISTANCE AS INDICATED SHALL NOT BE USED FOR BIDDING/CONSTRUCTION PURPOSES. SHOULD THE FEEDER DISTANCE EXCEED THE LENGTH NOTED PER INSTALLATION CONDITIONS, NOTIFY THE ENGINEER OF RECORD. TYPICAL.

P. PROVIDE COMPLETE SHORT CIRCUIT AND COORDINATION STUDY PER SPECIFICATION 26 05 73. ELECTRICAL SERVICE EQUIPMENT SHALL BE LEGIBLY-MARKED IN THE FIELD WITH THE MAXIMUM AVAILABLE FAULT CURRENT. (AFC) THE FIELD MARKING(S) SHALL INCLUDE THE DATE THE FAULT CURRENT CALCULATION WAS PERFORMED AND BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED PER CEC 100.24.

Q. PROVIDE ARC FLASH HAZARD ANALYSIS PER SPECIFICATION 26 05 73. ELECTRICAL EQUIPMENT LIKELY TO REQUIRED EXAMINATION, ADJUSTMENT, SERVICING OR MAINTEANCE WHILE ENERGIZED SHALL BE FIELD OR FACTORY-MARKED TO WARN QUALIFIED PERSON OF POTENTIAL ELECTRICAL ARC FLASH HAZARDS. PROVIDE ARC-FLASH LABELING COMPLIANT WITH CEC 110.16

R. NO PIPING, DUCTS OR EQUIPMENT FOREIGN TO ELECTRICAL EQUIPMENT SHAL LBE PERMITTED TO BE LOCATED WITH THE DEDICATED SPACE ABOVE THE ELECTRICAL PANELBOARDS (CEC 110.26(F)

REFERENCE NOTES

1. NEW PRIMARY CONDUIT PER SOUTHERN CALIFORNIA EDISON (SCE) REQUIREMENTS.
2. (SCE) APPROVED UNDERGROUND PULL SECTION.
3. METER AND MAIN BREAKER SECTION.
4. FLOOR MOUNT AUTOMATIC-TRANSFER SWITCH THREE POLE SOLID NEUTRAL WITH BY-PASS ISOLATION SWITCH (600AMP, 120/208V, 3Ø, 4 WIRE, NEMA 3R). CUMMINS #BTPCC SERIES.
5. THREE-SECTION MAIN SWITCHBOARD "MSB". (1000 AMP MAIN , 120/208 VOLT, 3Ø, 4-WIRE, NEMA 1).
6. BRANCH CIRCUIT PANELBOARD (TYPICAL). REFER TO PANEL SCHEDULE FOR ADDITIONAL BREAKERS AND LOADS. (SQUARE D I-LINE FOR "DP" AND "NQ" FOR THE REST OF THE PANELS).
7. LEGALLY REQUIRED-STANDBY GENERATOR (CEC 701) DIESEL GENERATOR . 150KW/187.50KVA, 120/208V, 3Ø, 4W, WITH NO ENCLOSURE WITH 24 HOUR UL142 SUB-BASE TANK AT 100% LOAD. PROVIDE GENERATOR WITH A PASSIVE DIESEL PARTICULATE FILTER (DPF). PROVIDE LEVEL 1 SYSTEM SAFETY INDICATION AND SHUTDOWN PER NFPA 110 TABLE 5.6.5.2 FOR THE LEVEL OF EPS BEING INSTALLED AND PER CEC 700.12, SHALL BE AVAILABLE WITHIN THE TIME REQUIRED FOR THE APPLICATION BUT NOT TO EXCEED 10 SECONDS. (BOD: CUMMINS C150D6D). PROVIDE SUB-BASE TANK WITH OVERFILL PREVENTION VALVE AT 95%/CRITICAL HIGH LEVEL SWITCH ALARM AT 90%/CRITICAL LOW LEVEL SWITCH ALARM AT 40% LEAK DETECTION/ALARM. SUB-BASE TANK SHOWN ON PLANS IS CUSTOM TO FIT IN THE GENERATOR ROOM. DIMENSION 140.06" L X 48.09"W X 28"H. TANK VENDOR TO PROVIDE VENTING FROM THE EAST SIDE, CLOSEST TO THE GENERATOR EXHAUST SHAFT, TO AVOID CONFLICT BETWEEN TANK CONNECTION TO RADIATOR EXHAUST DISCHARGE.

DEFERRED SUBMITTAL NOTE: SEPARATE PERMIT IS REQUIRED FROM THE CITY OF LONG BEACH FIRE DEPARTMENT FOR ENGINE GENERATOR INSTALLATIONS. PLEASE SUBMIT FOR PERMIT REVIEW AND APPROVAL.

8. REMOTE GENERATOR ANNUNICATOR PANEL. (BOD: CUMMINS POWERCOMMAND 1.1)
9. PROVIDE BRANCH CIRCUIT(S) FOR BLOCK HEATER AND BATTERY CHARGER, ETC. VERIFY REQUIREMENTS WITH GENERATOR SUPPLIER / MANUFACTURER.
10. SURGE PROTECTIVE DEVICE "SPD". PROVIDE INTEGRAL WITH "MSB" AND PANELBOARD WITH INTERNAL DISCONNECT. PROVIDE KV/PHASE SHOWN ON SINGLE LINE DIAGRAM.
11. TRANSFORMER PAD PER (SCE) REQUIREMENTS.
12. LEVEL 2 EV CHARGER PER ELECTRICAL SITE PLAN. PROVIDE 11"X17" PULL BOX WITH 1" CONDUIT (PVC 40) WITH (2)#8 THWN AND (1)#10 CU GROUND. PROVIDE CHARGE POINT (6FT) SINGLE PORT BOLLARD MOUNTED EV CHARGERS, (CT4001I-GW1), POWER MANAGEMENT KIT (CT4000-PMGMT), BOLLARD CONCRETE MOUNTING KIT (CT4001-CCM), COMMERCIAL SERVICE PLAN (CPCLD-COMMERCIAL-5), INSTALLATION AND VALIDATION (CT4000-INSTALLVALID), 5 YEAR OF ASSURE COVERAGE(CT4000-ASSURE5). INSTALL PER MANUFACTURER REQUIREMENTS AND PROVIDE ALL ACCESSORIES AND CONCRETE BASE FOR A FULLY WORKING SYSTEM. SEE SPECIFICATION SHEETS ON SHEET E406. ELECTRICAL INPUT: 30AMP CURRENT INPUT, 40AMP INPUT POWER CONNECTION, 40AMP 2POLE BREAKER (NON GFCI TYPE). PROIVDE 3-WIRE, TWO HOTS AND GROUND.
13. PROVIDE GROUND CABLE FROM "MSB" GROUND BAR. BOND GROUND CABLE TO GENERATOR GROUND BUS, METALLIC BASE FRAME AND HOUSING. (NOTE: GENERATOR IS NOT DESIGNED AS A SEPARATELY DERIVED SYSTEM. NO NEUTRAL TO GROUND BONDING JUMPER IS INSTALLED AT GENSET).
14. PROVIDE CUSTOMER METERING PER ENERGY CODE SECTION 130.5(A). PROVIDE FEATURES FOR INSTANTANEOUS KW DEMAND AND RESETTABLE KWH.
15. BUS SPACE. REFER TO PANEL SCHEDULE.
16. FUTURE STEP-UP TRANSFORMER AND PANELBOARD FOR FUTURE ELECTRIC FIRE TRUCK VEHICLE CHARGER. REFER TO ELECTRICAL SITE PLAN SHEET E111 FOR CONDUIT STUB REQUIREMENTS. INSTALLATION OF THESE EQUIPMENT WILL REQUIRE SEPARATE PERMIT UNDER FUTURE APPLICATION NUMBER
17. SECONDARY SERVICE CONDUITS PER (SCE) REQUIREMENTS.
18. REMOTE EMERGENCY SHUT-OFF FOR GENERATOR. PROVIDED BY MANUFACTURER, EC TO PROVIDE ROUGH-IN BOX AND 3/4"C CONDUITS TO GENERATOR. COORDINATE WITH MANUFACTURER FOR TERMINATION POINT WITHIN THE GENERATOR AND WIRE REQUIREMENTS. PROVIDE ENGRAVED PLACARD (RED ON WHITE) "GENERATOR EMERGENCY SHUT-OFF".
19. DISTRIBUTION SECTION IN SWITCHGEAR.
20. 3/4"C (CONTROL WIRING) PER MANUFACTURER REQUIREMENTS.
21. 3/4"C (START/STOP CONTROL WIRING) PER MANUFACTURER REQUIREMENTS.
22. (NOT USE)
23. WALL MOUNTED NEW PORTABLE GENERATOR CONNECTION PANEL (GCP), TRIPLESWITCH 3-WAY MANUAL TRANSFER SWITCH TO ALLOW FOR CONNECTIONS TO PORTABLE GENERATOR AND LOAD BANK PER CEC 700.3(F). (ESL POWER SYSTEM, INC. #MSD 600C 600C 600C 208 3 1 1X C. OR APPROVED EQUAL). ALL FIELD WIRING TERMINATION SHALL BE TORQUE AS REQUIRED PER THE INSTRUCTIONS ON THE POWER DISTRIBUTION BLOCK, CIRCUIT BREAKER AND GROUND LUG. PRIOR TO ENERGIZING, THE CONTRACTOR SHALL PERFORM FIELD TESTING PER MANUFACTURE'S RECOMMENDATION. PROVIDE SPECIAL SEISMIC CERTIFICATION EXCLUSIVELY ON THE BASIS OF APPROVED SHAKE TABLE TESTING, AND ALSO CERTIFIED BY IBC. MANUAL TRANSFER SWITCH MANUFACTURER SHALL PROVIDE A COMPLETE FACTORY ASSEMBLED, WIRED AND TESTED MANUAL TRANSFER SWITCH.
24. SURFACE MOUNTED REMOTE FILL STATION. (PRYCO #REMOTE FILL STATION). LOCKABLE, WEATHERPROOF, DUAL-DOOR ENCLOSURE. DESIGN TO FILL THE GENERATOR SUB-BASE TANK FRO THE EXTERIOR WALL. PROVIDE 120V CONNECTION TO THE LEFT SIDE ELECTRICAL COMPARTMENT. IT HOUSES CONTROL COMPONENTS, SUCH AS, ALARMS, AND SWITCHES. THE DUAL-DOOR DESIGN ALLOWS THE ELECTRICAL COMPONENTS TO BE TOTAL ISOLATED FROM THE FUELING AREA. THE FUELING COMPARTMENT IS LOCATED BEHIND THE RIGHT DOOR. IT FEATURES A 2" OR 3" CAMLOCK CONNECTOR, A CHECK VALVE AND MANUAL SHUT-OFF VALVE. THIS COMPARTMENT IS DESIGN WITH A 7-1/2 GALLON CONTAINMENT SUMP WITH A DRAIN CONNECTION. WHEN THE TANK BEING FILLED REACHES A 90% SET POINT, A WARNING LIGHT COMES ON AN AN ALARM HORN SOUNDS. IF FILLING CONTINUES, A SECOND LIGHT COMES ON AT 95% CAPACITY AND AN ALARM HORN AGAIN SOUNDS. AT THIS TIME, AN OPTIONAL SOLENOID VALVE WILL CLOSE ALLOWING NO MORE FUEL TO ENTER THE TANK. A SILENCE SWITCH AND REMOTE CONTACT OUTPUTS ARE STANDARDS.
25. SHUNT TRIP BREAKER FOR ELEVATOR UNIT. (BREAKER SIZE TO BE DETERMINED BY APPROVED GENERATOR SUBMITTAL SUBMITTAL)
26. OTIS GEN3 ELEVATOR. REFER TO APPROVED SHOP DRAWINGS SUBMITTAL FOR ANY ROUGH-IN REQUIREMENTS. (SEE DIAGRAM 32 AND 33 ON SHEET E405)
27. (NOT USED)

NO.	DATE	REVISION
	12/16/21	PLAN CHECK SUBMITTAL
2	04/22/22	PLAN CHECK RE-SUBMITTAL
	06/15/23	PLAN CHECK RE-SUBMITTAL
2	10/12/23	BID DOCUMENTS

DESIGNED BY: CJ | DRAWN BY: TR | DESIGN CHECK BY: CJ/JT | DRAWN CHECK BY: CJ/TR | AS-BUILT | REF.

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA NO. 40787 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
SINGLE LINE DIAGRAM

B # **B-4797**

PHASE # ____ / REBID # ____

SHEET 191 OF 236

DWG. NO. E003

THOMA ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

EXIT SIGN LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NO.	VOLTAGE	MAX. VA.	LAMPING	MOUNTING	DESCRIPTION
X1	ISOLITE	ELT EM G 1W AG WH XX	120/277	5	LED	REFER TO PLANS	EDGE-LIT EXIT SIGN ONE SIDED. VERIFY CHEVRON DIRECTION PER PLAN. PROVIDE WITH 90 MINUTE BATTERY BACK UP
X2	ISOLITE	ELT EM G 2W AG WH XX	120/277	5	LED	SURFACE	EDGE-LIT EXIT SIGN DOUBLE SIDE. VERIFY CHEVRON DIRECTION PER PLAN. PROVIDE WITH 90 MINUTE BATTERY BACK UP
X3	ISOLITE	EDC EM G S AB UN SD	120/277	5	LED	SURFACE	ECONOMICAL DIE-CAST EXIT (APP BAY). PROVIDE WITH 90 MINUTE BATTERY PACK UP.

LIGHTING CONTROL PANEL SCHEDULE

"LCP" (ACUITY #ARP INTENC08 NLT 8SPR MVOLT HLK SM DTC
8 SWITCHING RELAY NEMA 1 ENCLOSURE
LOCATED IN MECH/ELEC 112 CONNECT TO PANEL PM-42

FLUSH ___
SURFACE X

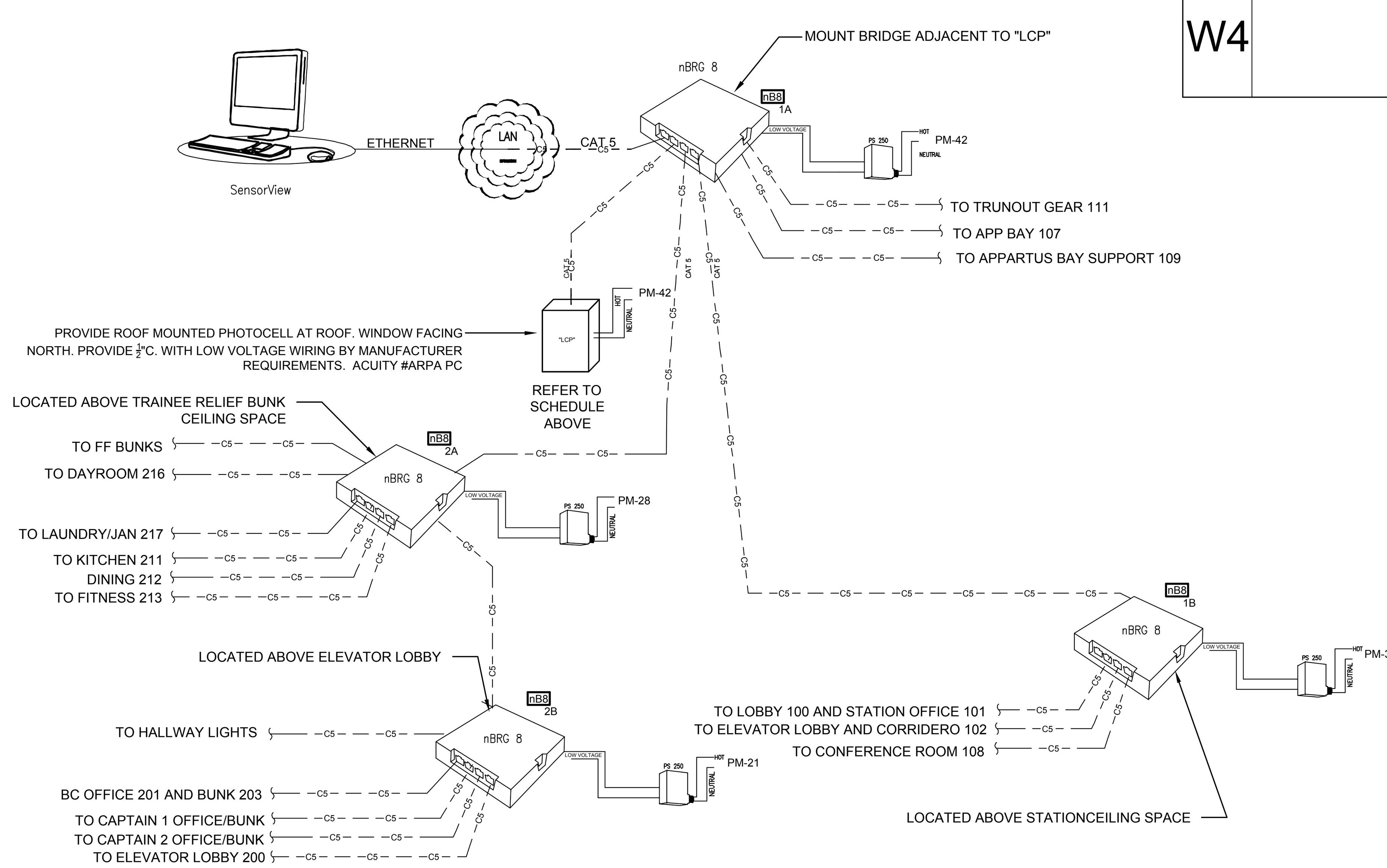
RELAY NO.	BRANCH CIRCUIT NO.	LOAD DESCRIPTION	CONTROL	NOTES
r1	PM-40	SITE	TIMECLOCK	1
r2	PM-40	EXTERIOR BUILDING	TIMECLOCK	1
r3	PM-40	EXTERIOR REAR CANOPY DOWNLIGHT	TIMECLOCK	2
r4	PM-40	APP BAY REAR CANOPY	TIMECLOCK	2
r5	PM-40	SIGN/FLAG	TIMECLOCK	2,3
r6	PM-38	APP BAY 107	WALL NLIGHT SWITCH	
r7	PM-38	WORKSHOP WALL	WALL NLIGHT SWITCH	
r8	PM-38	WORKSHOP UNDERCABINET	WALL NLIGHT SWITCH	

LIGHTING CONTROL SCHEDULE NOTES:

GENERAL NOTES:

- LOW VOLTAGE RELAYS ARE CAPABLE OF LIGHTING CONTROL OVERRIDE.
- THE WIRING FOR THE EMERGENCY SYSTEM SHALL BE INSTALLED IN ACCORD WITH CEC 700.9.
- PROVIDE LOW VOLTAGE WALL SWITCHES WITH CUSTOM ENGRAVED BUTTON LABELS AS DIRECTED BY THE OWNER.
- VERIFY EACH RELAY'S FUNCTIONAL PROGRAMMING WITH OWNER.
- PROGRAM SYSTEM TIME FUNCTIONS, SCENE PROGRAMMING, AND KEY PAD LABELS AS DIRECTED BY OWNER.
- PROVIDE SYSTEM TRAINING TO OWNER PER DIVISION 26 SPECIFICATIONS.
- PROVIDE A COMPLETE SHOP DRAWINGS.
- ALL EXTERIOR LIGHTS MUST EXTEND 0-10V WIRING TO "LCP" AND BETWEEN FIXTURES

1. PROGRAM RELAY FOR PHOTOCELL 'ON' AT DUSK WITH PROGRAMMED RELAY TO DIM FIXTURES DOWN TO 50% LATE NIGHT AND PHOTOCELL "OFF" AT DAWN.
2. PROGRAM RELAY FOR PHOTOCELL "ON" AT DUSK AND PHOTOCELL "OFF" AT DAWN
3. PER CEnC SECTION 130.3. PROVIDE A DIMMER SWITCH FOR MONUMENT SIGN ADJACENT TO "LCP". LABEL SWITCH, "MONUMENT SIGN".



1 E-004 EXTERIOR LIGHTING CONTROL DIAGRAM

INTERIOR LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NO.	VOLTAGE	MAX. VA.	LAMPING	MOUNTING	DESCRIPTION
P1	SONNEMAN	2575.01	120	41	LED 30K	6FT ADJUSTABLE CORD PENDANT	DINING ROOM AND LOBBY PENDANT. LED FLAT PANEL ELV DIMMING, WHITE FINISH
P2	LITHONIA	MSL 10000 SBL MVOLT GZ10 35K 80CRI E10WLCP LAQZU CS1W WH ZACVHM100	MVOLT	86	LED 35K	PENDANT	4FT LED LOW BAY PENDANT AT GENERATOR ROOM. PROVIDE WITH BATTERY BACK UP
P3	LITHONIA	BLWP8 80L ADP EZ1 LP835 E10WLCP	MVOLT	63	LED 35K	PENDANT	8FT LED WRAP WITH EMERGENCY BATTERY BACK AND ADJUSTABLE AIRCRAFT CABLE GRIPPER KIT AND POWER FEED KIT (72")
P4	LITHONIA	BLWP4 60L ADP EZ1 LP835	MVOLT	49.31	LED 35K	PENDANT	4FT LED WRAP WITH EMERGENCY BATTERY BACK AND ADJUSTABLE AIRCRAFT CABLE GRIPPER KIT AND POWER FEED KIT (72")
G6	ECONSENSE	L35 I (1)48" + (2)12" 06 30 90 120	MVOLT	36	LED 30K	COVE	6FT COVE LIGHTING BEDROOM 0-10V AT 0% 90CRI
G 10	ECONSENSE	L35 I (2)48" + (2)12" 06 30 90 120	MVOLT	60	LED 30K	COVE	10FT COVE LIGHTING BEDROOM 0-10V AT 0% DIMMING 90CRI
H4	MARK LIGHTING	S4LS LLP 4FT 80CRI 35K 600LMF DARK LVRD MVOLT	MVOLT	22.78	LED 35K	SURFACE	4' LED 0-10V AT 0% DIMMING EDGE VIEW DIRECT LENS PROVIDE "E10WLCP" FOR (EM) FIXTURES
H8	MARK LIGHTING	S4LS LLP 8FT 90CRI 30K 600LMF DARK LVRD MVOLT	MVOLT	45.56	LED 30K	WOOD PANEL	8' CONTINUOUS LED 0-10V AT 0% DIMMING DAYROOM 90CRI
W1	TECH LIGHTING	700BCALD X LED830	120	20	LED 30K	ABOVE MIRROR	26" RESTROOM WALL SCONCE
W2	ASTRO	1215063	120	3	LED 27K	WALL	MATT BLACK FINISH BEDROOM READING LIGHT
W3	LITHONIA	WL2 22L GZ1 LP835	MVOLT	12.2	LED 35K	WALL	2FT LED WALL BRACKET
W4	LITHONIA	WL4 40L GZ10 LP835	MVOLT	39.5	LED 35K	WALL	4FT LED WALL BRACKET

LIGHTING CONTROLS SEQUENCE OF OPERATIONS

SPACE	LIGHTING CONTROL SEQUENCE
HALLWAYS, LOBBIES	• LIGHTS WILL BE ON 24/7 • OCCUPANCY: LIGHTS AUTOMATICALLY TURN ON TO 100% WHEN THE USER ENTERS THE ROOM AND 15 MINUTES AFTER SPACE HAS BEEN VACATED, THE LIGHTS WILL AUTOMATICALLY GO TO 50%. • LOW VOLTAGE DIMMER WILL ALLOW OCCUPANT TO CONTROL EACH ZONE. WALL STATION SHALL HAVE ONE BUTTON PER ZONE AS CALLED OUT ON PLAN. • EMERGENCY LIGHTING SHALL TURN ON WHEN NORMAL POWER SHUTS OFF. • LIGHTS IN DAYLIGHT ZONES (WHERE NOTED ON PLANS) WILL AUTOMATICALLY DIM A MINIMUM OF 65% WHEN AVAILABLE DAYLIGHT IS 150% OF DESIGN ILLUMINATION.
APP. BAY SUPPORT AREAS, VESTIBULES, COMM. ROOM, PUBLIC RESTROOM, EXERCISE ROOM	• OCCUPANCY: USER MANUALLY TURNS ON LIGHTS UPON ENTRY. 15 MINUTES AFTER THE ROOM HAS BEEN VACATED, THE LIGHTS WILL AUTOMATICALLY TURN OFF. • NUMBER OF ZONES OF LIGHTING CONTROL AS NOTED ON PLANS. • MANUAL DIMMER WILL ALLOW OCCUPANT TO CONTROL EACH ZONE. • LIGHTS IN DAYLIGHT ZONES (WHERE NOTED ON PLANS) WILL AUTOMATICALLY DIM TO A MINIMUM OF 65% WHEN AVAILABLE DAYLIGHT IS 150% OF DESIGN ILLUMINATION.
OFFICES 250SF OR SMALLER	• LIGHTS WILL BE TURNED ON MANUALLY BY OCCUPANT. • NUMBER OF ZONES OF LIGHTING CONTROL AS NOTED ON PLANS. • MANUAL DIMMER WILL ALLOW OCCUPANT TO CONTROL EACH ZONE. • LIGHTS IN DAYLIGHT ZONES (WHERE NOTED ON PLANS) WILL AUTOMATICALLY DIM TO A MINIMUM OF 65% WHEN AVAILABLE DAYLIGHT IS 150% OF DESIGN ILLUMINATION. • LIGHTS WILL SHUT-OFF WHEN SPACES ARE UNOCCUPIED VIA OCCUPANCY SENSOR. • SENSOR TURNS ON CONTROLLED RECEPTACLES AND TURNS OFF WHEN SPACE IS UNOCCUPPIED • PARTIAL ON OCCUPANT SENSOR CAPABLE OF AUTOMATICALLY ACTIVATING BETWEEN 50-70 PERCENT OF CONTROLLED LIGHTING POWER OR VACANCY SENSOR, WHERE ALL LIGHT RESPONDS TO A MANUAL ON INPUT ONLY.
APP BAY	• SWITCH LEG "a" - LIGHTS TURNED ON MANUALLY BY OCCUPANT. LOW VOLTAGE DIMMER WILL ALLOW OCCUPANCY TO CONTROL ZONE. OCCUPANCY WILL TURN OFF AT 15 MINUTES AFTER SPACE HAS BEEN VACATED. • SWITCH LEG "b" OCCUPANCY: LIGHTS AUTOMATICALLY TURN ON TO 100% WHEN THE USER ENTERS THE ROOM AND 15 MINUTES AFTER SPACE HAS BEEN VACATED, THE LIGHTS WILL AUTOMATICALLY GO TO 25%. LOW VOLTAGE DIMMER WILL ALLOW OCCUPANT TO CONTROL ZONE. • EMERGENCY LIGHTING SHALL TURN ON WHEN NORMAL POWER SHUTS OFF. • LIGHTS IN DAYLIGHT ZONES (WHERE NOTED ON PLANS) WILL AUTOMATICALLY DIM A MINIMUM OF 65% WHEN AVAILABLE DAYLIGHT IS 150% OF DESIGN ILLUMINATION.
EXTERIOR	• EXTERIOR LIGHTS WILL TURN ON AS PROGRAMMED VIA TIME-CLOCK • EMERGENCY LIGHTING SHALL TURN ON WHEN NORMAL POWER SHUTS OFF. • SEE LCP PANEL SCHEDULE ON DIAGRAM 1 ON THIS SHEET
LIVING SPACES: DORM, KITCHEN, DAYROOM, DINING, LAUNDRY, RESTROOM	• LIGHTS WILL BE TURNED ON MANUALLY BY OCCUPANT • BATHROOMS, LAUNDRY ROOM, AT LEAST ONE LUMINAIRE ARE CONTROLLED BY VACANCY SWITCH. • EXHAUST FANS ARE SWITCHED SEPARATELY FROM LIGHTING SYSTEMS. • UNDERCABINET LIGHTING IS SWITCHED SEPARELY FROM OTHER LIGHTING SYSTEM. • MANUAL DIMMER WILL ALLOW OCCUPANT TO CONTROL EACH ZONE.
UTILITY 123	• LIGHTS WILL TURNED ON AND OFF MANUALLY BY OCCUPANT • EMERGENCY LIGHTING SHALL TURN ON WHEN NORMAL POWER SHUTS OFF. • THIS IS THE ELECTRICAL ROOM FOR THE BUILDING AND NOT REQUIRED AN OCCUPANCY SENSOR PER CEC.

INTERIOR LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NO.	VOLTAGE	MAX. VA.	LAMPING	MOUNTING	DESCRIPTION
A1	MARK LIGHTING	WHSPR 2X4 80CRI 35K 4800LM MIN1 MVOLT SWC	MVOLT	41.2	LED 35K	RECESSED T-BAR CEILING	2'X4' TROFFER OFFICE 0-10V @1% DIMMING
A2	MARK LIGHTING	WHSPR 2X2 80CRI 35K 3300LM MIN1 MVOLT SWC	MVOLT	29.86	LED 35K	RECESSED T-BAR CEILING	2'X2' TROFFER FITNESS 0-10V @1% DIMMING 90CRI
A3	LITHONIA	EPANL LED 2X4 4800L 80 CRI 30K MIN1 MVOLT	MVOLT	46.44	LED 30K	RECESSED T-BAR CEILING	2'X4' TROFFER BUNKROOM 0-10V @1% DIMMING 90CRI
A4	LITHONIA	EPANL LED 2X2 200LM 80CRI 35K MIN1 MVOLT	MVOLT	18.77	LED 35K	RECESSED T-BAR CEILING	2'X2' TROFFER HALLWAY 0-10V @1% DIMMING PROVIDE "E10WCP" FOR (EM) FIXTURES
B1	LITHONIA	BLWP8 100L ADP EZ1 LP835 MSD7ADCX	MVOLT	81.73	LED 35K	SURFACE	8FT LED WRAPAROUND 0-10V DIMMING , PROVIDE "E10WLCP" FOR (EM) FIXTURES AND PIR INTEGRAL OCCUPANCY SENSOR
B2	LITHONIA	BLWP8 60L ADP EZ1 LP835	MVOLT	50	LED 35K	SURFACE	8FT LED WRAPAROUND 0-10V DIMMING @1% DIMMING
B3	LITHONIA	BLWP4 40L ADP EZ1 LP835	MVOLT	34.54	LED 35K	SURFACE	4FT LED WRAPAROUND 0-10V @1% DIMMING
C1	LITHONIA	CLX L48 3000LM SEF FDL MVOLT 35K 80CRI EZ1 LP835	MVOLT	20.32	LED 35K	SURFACE	4FT LED STRIP LIGHT FLAT DIFFUSED LENSE 0-10V DIMMING. PROVIDE "E10WLCP" FOR (EM) FIXTURES
D1	LITHONIA	LDN4 35/10 LS4 AR LSS MVOLT GZ1	MVOLT	10.58	LED 35K	RECESSED	4" SQUARE DOWNLIGHT 0-10V DIMMING. PROVIDE "E10WCP" FOR (EM) FIXTURES
D2	LITHONIA	LDN4 30/07 LS4 AR LSS MVOLT GZ1	MVOLT	8.6	LED 30K	RECESSED	4" SQUARE DOWNLIGHT 0-10V DIMMING.

UNDERCABINET FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NO.	VOLTAGE	MAX VA	LAMPING	MOUNTING	DESCRIPTION
UC 22	KELVIX	UNI CAB UC22	MVOLT	12	LED 3500K	UNDER CABINET	22" UNDERCABINET 0-10V DIMMING
UC 40	KELVIX	UNI CAB UC40	MVOLT	20	LED 3500K	UNDER CABINET	40" UNDERCABINET 0-10V DIMMING

NOTE: REFER TO PHOTOMETRIC SITE PLAN SHEET E201 FOR EXTERIOR FIXTURE SCHEDULE

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	06/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS

AS-BUILT REF.

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA NO. 10757 ELECTRICAL STATE OF CALIFORNIA
EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
FIXTURE SCHEDULE

THOMA ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

B # B-4797
PHASE # ____ / REBID # ____
SHEET 192 OF 236
DWG. NO. E004

(N) PANEL PC

BUS RATING: 100 120/208V, 3PH, 4W
MAIN: 60 MAIN LUG ONLY
SPACES: 24 FULL SIZE BOLT-ON CB SPACES
AIC RATING: 10 KAIC PANEL (1)

SURFACE MOUNT, NEMA 1
LOCATION: COMM 215
WITH EQUIPMENT GND BUS
38"H X 20"WX5.75"D, 95LBS

CKT %VD	DIST (FT)	NOTES	LOAD TYPE	CKT	DESCRIPTION	TRIP	POLES	COND SIZE	CONNECTED VA PHASE A	PHASE B	PHASE C	COND SIZE	POLES	TRIP	DESCRIPTION	CKT	LOAD TYPE	NOTES	DIST (FT)	CKT %VD
1.58%	90		M	1	DUCTLESS SPLIT "DS-2.1"	25	2	10	1768 / 500			12	1	20	TELEPHONE COMPANY	2	N		15	0.21%
2.52%	90		M	3	"			12		1768 / 500		12	1	20	CATV COMPANY	4	N		15	0.21%
0.34%	25		L	5	LIGHTS	20	1	12			500	12	1	20	CONVENIENCE	6	R		25	
0.48%	35		N	7	ACCESS CONTROL PANEL	20	1	12	500 / 1500			12	1	20	RACK 1A	8	N		20	0.83%
				9	SPARE	20	1			1500		12	1	20	RACK 1B	10	N		20	0.83%
				11	SPARE	20	1				1500	12	1	20	RACK 2A	12	N		30	1.24%
				13	SPARE				1500			12	1	20	RACK 2B	14	N		30	1.24%
				15	SPARE										SPACE	16				
				17	SPARE										SPACE	18				
				19	SPD	30	3	10							SPACE	20				
				21	"			10							SPACE	22				
				23	"			10							SPACE	24				

	PHASE A	PHASE B	PHASE C
CON:	5768	3768	2000
25%:	0	0	125
SUB:	0	0	0
TOT:	5768	3768	2125
AMPS	48	31	18

VOLTAGE DROP AT PANEL = 1.22%
BRANCH CIRCUIT VD TO BE <= 3.78%
TO MAINTAIN LESS THAN 5% VD TOTAL

LOAD (VA)		LOAD TYPE LEGEND
0	R	RECEPTACLE
500	L	LIGHTING (125% OF CONNECTED LOAD CEC 215.2)
3536	M	MECHANICAL
0	K	KITCHEN APPLIANCE
7500	N	NON-CONTINUOUS MISC.
0	C	CONTINUOUS MISC. (125% OF CONNECTED LOAD CEC 215.2)

(N) PANEL PM

BUS RATING: 225 120/208V, 3PH, 4W
MAIN: 225 MAIN LUG ONLY
SPACES: 54 FULL SIZE BOLT-ON CB SPACES
AIC RATING: 22 KAIC PANEL (1)

SURFACE MOUNT, NEMA 1
LOCATION: MECH/ELEC ROOM 112
WITH EQUIPMENT GND BUS
44"H X 20"WX5.75"D, 110LBS

CKT %VD	DIST (FT)	NOTES	LOAD TYPE	CKT	DESCRIPTION	TRIP	POLES	COND SIZE	CONNECTED VA PHASE A	PHASE B	PHASE C	COND SIZE	POLES	TRIP	DESCRIPTION	CKT	LOAD TYPE	NOTES	DIST (FT)	CKT %VD
0.45%	25		M	1	AIR COMPRESSRO, "AC-1" (ELECTRICAL ROOM)	30	3	10	2100 / 1608			12	3	20	ENERGY RECOVERY VENTILATOR 'ERV-1" (ROOF)	2	M		95	2.10%
0.52%	25		M	3	"			10		2100 / 1608		12			"	4	M		95	2.42%
0.52%	25		M	5	"			10			2100 / 1608	12			"	6	M		95	2.42%
1.21%	90		M	7	VEHICLE EXHAUST SYSTEM, "VEXF-1" (ROOM)	30	3	10	1560 / 4380			8	3	45	HEAT RECOVERY CONDENSING UNIT "HRC-1" POC #1	8	M		85	2.01%
1.40%	90		M	9	"			10		1560 / 4380		8			"	10	M		85	2.32%
1.40%	90		M	11	"			10			1560 / 4380	8			"	12	M		85	2.32%
				13	SPACE				5736			6	3	60	HEAT RECOVERY CONDENSING UNIT "HRC-1" POC #2	14	C		90	1.76%
				15	SPACE					5736		6				16	C		90	2.03%
4.95%	120		N	17	MOTORIZED GATE - ALLEY	20	1	12			1500 / 5736	6				18	C		90	2.03%
5.98%	145		N	19	MOTORIZED GATE - LONG BEACH BLVD	20	1	12	1500				1	20	SPARE	20				
0.22%	80		M	21	VEF CONTROL PANEL AND ITM IN MECH 218	20	1	12		100 / 731		12	1	20	(2ND FLOOR) HALL, RESTROOM, MECH, LAUNDRY	22	L	5	110	2.21%
	70		M	23	SMOKE DUCT/SMOKE FIRE DAMPERS	20	1	12			780	12	1	20	(2ND FLOOR) CAPTAIN 1 & 2 BUNKS, OFFICES, RESTROOMS	24	L	5	105	2.25%
	80		M	25	FAN COILES AND BRANCH SELECTOR (FIRST FLOOR)	15	2	12	745			12	1	20	(2ND FLOOR) DAYROOM, FITNESS, KITCHEN, PANTRY	26	L	5	95	1.95%
	80		M	27	"			12		656		12	1	20	(2ND FLOOR) BUNK	28	L	5	70	1.26%
	75		M	29	FAN COILES AND BRANCH SELECTOR (SECOND FLOOR)	15	2	12			500	12	1	20	(1ST FLOOR) ELEVATOR EQUIPMENT ROOM	30	L		110	1.51%
	75		M	31	"			12	500			12	1	20	ELEVATOR PIT	32	L		100	1.38%
0.40%	35		M	33	EXHAUST FAN, "EF-1.1" (TURNOUT)	15	2	12		725 / 550		12	1	20	(1ST FLOOR) OFFICE ADMIN	34	L		110	1.66%
0.40%	35		M	35	"			12			725 / 540	12	1	20	(1ST FLOOR) APP BAY SUPPORT AREA	36	L		50	0.74%
0.35%	55		M	37	UNIT HEATER (TURNOUT)	20	1	12	230 / 1303			12	1	20	(1ST FLOOR) APP BAY	38	L		65	2.33%
0.74%	75		M	39	PLYMOVENT RECEPTACLE ON LAST RAIL UPRIGHT CLOSET TO	20	1	12		360 / 740		12	1	20	SITE AND BUILDING LIGHTING	40	L		145	2.95%
1.03%	75		M	41	WATER HEATER "WH-1" AND CIRC PUMP "CP-1"	20	1	12			500 / 300	12	1	20	LIGHTING CONTROL PANEL "LCP"	42	L		15	0.12%
				43	SPACE										SPACE	44				
				45	SPACE										SPACE	46				
				47	SPACE										SPACE	48				
		9		49	SPD	30	3	10							SPACE	50				
				51	"			10							SPACE	52				
				53	"			10							SPACE	54				

	PHASE A	PHASE B	PHASE C
CON:	19662	19246	20229
25%:	2071	2103	1964
SUB:	0	0	0
TOT:	21733	21349	22193
AMPS	181	178	185

VOLTAGE DROP AT PANEL = 0.49%
BRANCH CIRCUIT VD TO BE <= 4.51%
TO MAINTAIN LESS THAN 5% VD TOTAL

LOAD (VA)		LOAD TYPE LEGEND
0	R	RECEPTACLE
7345	L	LIGHTING (125% OF CONNECTED LOAD CEC 215.2)
31584	M	MECHANICAL
0	K	KITCHEN APPLIANCE
3000	N	NON-CONTINUOUS MISC.
17208	C	CONTINUOUS MISC. (125% OF CONNECTED LOAD CEC 215.2)

(N) PANEL DP

BUS RATING: 600 120/208V, 3PH, 4W
MAIN: 600 MAIN LUG ONLY
SPACES: 42 FULL SIZE BOLT-ON CB SPACES
AIC RATING: 22 KAIC PANEL (1)

SURFACE MOUNT, NEMA 1
LOCATION: MECH/ELEC ROOM 112
WITH EQUIPMENT GND BUS

CKT %VD	DIST (FT)	NOTES	LOAD TYPE	CKT	DESCRIPTION	TRIP	POLES	COND SIZE	CONNECTED VA PHASE A	PHASE B	PHASE C	COND SIZE	POLES	TRIP	DESCRIPTION	CKT	LOAD TYPE	NOTES	DIST (FT)	CKT %VD
	85	7		1	PANEL P1	100	3		6540 / 5768				3	60	PANEL PC	2		7	40	
	85			3	"					4900 / 3768					"	4			40	
	85			5	"						6420 / 2125				"	6			40	
	4	7		7	PANEL P2	200	3		14820 / 21733				3	225	PANEL PM	8		7	15	
	40			9	"					15100 / 21249					"	10			15	
	40			11	"						14080 / 22193				"	12			15	
1.05%	65	3	N	13	DRYER CABINET (TURNOUT GEAR)	35	3	8	3000				3	60	SPD	14		7		
1.22%	65		N	15	"			8		3000					"	16				
1.22%	65		N	17	"			8			3000				"	18				
1.03%	50	9	N	19	FOLDING DOOR OPERATOR CONTROL PANEL (NORTH)	20	3	12	1500 / 1080			12	1	20	APP BAY	20	R		70	2.08%
1.19%	50		N	21	"			12		1500 / 1080		12	1	20	APP BAY	22	R		70	2.08%
1.19%	50		N	23	"			12			1500 / 900	12	1	20	GENERATOR, ELECTRICAL ROOM, TURNOUT	24	R		30	0.74%
2.06%	100	9	N	25	FOLDING DOOR OPERATOR CONTROL PANEL (SOUTH)	20	3	12	1500 / 1500			12	1	20	WORKSHOP ALCOVE COUNTER	26	R		40	1.65%
2.38%	100		N	27	"			12		1500 / 1500		12	1	20	WORKSHOP ALCOVE COUNTER	28	R		40	1.65%
2.38%	100		N	29	"			12			1500 / 1500	12	1	20	WORKSHOP ALCOVE COUNTER	30	R		40	1.65%
				31	SPACE				2000			10	2	30	30 AMP OUTLET WORKSHOP	32	N	6	45	0.89%
0.99%	100		R	33	WESTNET END POINT OUTLETS	20	1	12		360 / 2000		10			"	34	N		45	0.89%
2.48%	60	3	N	35	WASHER EXTRACTOR (TURNOUT GEAR)	20	1	12			1500 / 1000	12	1	20	WESTNET POWER MODULE OUTLET - APP BAY SUPPORT	36	R		75	2.06%
				37	SPARE	20	1		900			12	1	20	APP BAY SUPPORT, JAN	38	R		65	1.61%
1.44%	35		N	39	GENERATOR - BATTERY CHARGER	20	1	12		1500 / 1500		12	1	20	ICE MACHINE	40	N		60	2.48%
1.44%	35		N	41	GENERATOR - HEATER	20	1	12			1500 / 500	12	1	20	REMOTE FILL STATION	42	N		40	0.55%

	PHASE A	PHASE B	PHASE C
CON:	60341	58957	57718
25%:	0	0	0
SUB:	0	0	0
TOT:	60341	58957	57718
AMPS	503	491	481

VOLTAGE DROP AT PANEL = 0.44%
BRANCH CIRCUIT VD TO BE <= 4.56%
TO MAINTAIN LESS THAN 5% VD TOTAL

LOAD (VA)		LOAD TYPE LEGEND
9820	R	RECEPTACLE
0	L	LIGHTING (125% OF CONNECTED LOAD CEC 215.2)
0	M	MECHANICAL
0	K	KITCHEN APPLIANCE
28500	N	NON-CONTINUOUS MISC.
0	C	CONTINUOUS MISC. (125% OF CONNECTED LOAD CEC 215.2)

(N) PANEL P1

BUS RATING: 100 120/208V, 3PH, 4W
MAIN: 100 MAIN LUG ONLY
SPACES: 30 FULL SIZE BOLT-ON CB SPACES
AIC RATING: 10 KAIC PANEL (1)

SURFACE MOUNT, NEMA 1
LOCATION: FR 105
WITH EQUIPMENT GND BUS
38"H X 20"WX5.75"D, 95LBS

CKT %VD	DIST (FT)	NOTES	LOAD TYPE	CKT	DESCRIPTION	TRIP	POLES	COND SIZE	CONNECTED VA PHASE A	PHASE B	PHASE C	COND SIZE	POLES	TRIP	DESCRIPTION	CKT	LOAD TYPE	NOTES	DIST (FT)	CKT %VD
0.17%	20	2	N	1	FIRE ALARM	20	1	12	300 / 720			12	1	20	CONFERENCE ROOM	2	R		45	0.89%
0.07%	25		N	3	FIRE SPRINKLER BELL	20	1	12		100 / 720		12	1	20	CONFERENCE ROOM	4	R		45	0.89%
1.55%	60	6	N	5	APP BAY CORD DROP (REAR WEST)	20	1	10			1500 / 900	12	1	20	CONFERNECE ROOM (CONTROLLED)	6	R		45	1.11%
1.16%	45	6	N	7	APP BAY CORD DROP (REAR MIDDLE)	20	1	10	1500 / 540			12	1	20	STATION OFFICE EAST	8	R		55	0.82%
0.78%	30	6	N	9	APP BAY CORD DROP (REAR EAST)	20	1	10		1500 / 360		12	1	20	STATION OFFICE WEST	10	R		55	0.54%
2.33%	90	6	N	11	APP BAY CORD DROP (REAR WEST)	20	1	10			1500 / 720	12	1	20	STATION (CONTROLLED)	12	R		55	1.09%
1.94%	75	6	N	13	APP BAY CORD DROP (REAR MIDDLE)	20	1	10	1500 / 1080			12	1	20	STATION OFFICE	14	R		55	1.63%
1.55%	60	6	N	15	APP BAY CORD DROP (REAR EAST)	20	1	10		1500 / 720		12	1	20	FIRE RISER, ALL GENGER RR, HALL (CONVENIENCE)	16	R		30	0.59%
1.11%	45	6	R	17	APP BAY SERVICE REEL (REAR)	20	1	12			900 / 900	12	1	20	ELEVATOR LOBBY, LOBBY, FF RESTROOM	18	R		45	1.11%
1.98%	80	6	R	19	APP BAY SERVICE REEL (FRONT)	20	1	12	900				1	20	SPARE	20				
				21	SPARE	20	1						1	20	SPARE	22				
				23	SPARE	20	1						1	20	SPARE	24				
		9		25	SPD	30	3	10							SPACE	26				
				27	"			10							SPACE	28				
				29	"			10							SPACE	30				

	PHASE A	PHASE B	PHASE C
CON:	6540	4900	6420
25%:	0	0	0
SUB:	0	0	0
TOT:	6540	4900	6420
AMPS	55	41	54

VOLTAGE DROP AT PANEL = 1.41%
BRANCH CIRCUIT VD TO BE <= 3.59%
TO MAINTAIN LESS THAN 5% VD TOTAL

LOAD (VA)		LOAD TYPE LEGEND
8460	R	RECEPTACLE
0	L	LIGHTING (125% OF CONNECTED LOAD CEC 215.2)
0	M	MECHANICAL
0	K	KITCHEN APPLIANCE
9400	N	NON-CONTINUOUS MISC.
0	C	CONTINUOUS MISC. (125% OF CONNECTED LOAD CEC 215.2)

(N) PANEL P2

BUS RATING: 200 120/208V, 3PH, 4W
MAIN: 200 MAIN LUG ONLY
SPACES: 54 FULL SIZE BOLT ON CB SPACES
AIC RATING: 22 KAIC PANEL (1)

FLUSH MOUNT, NEMA 1
LOCATION: SECOND FLOOR
WITH EQUIPMENT GND BUS
44"H X 20"WX5.75"D, 110LBS

CKT %VD	DIST (FT)	NOTES	LOAD TYPE	CKT	DESCRIPTION	TRIP	POLES	COND SIZE	CONNECTED VA PHASE A	PHASE B	PHASE C	COND SIZE	POLES	TRIP	DESCRIPTION	CKT	LOAD TYPE	NOTES	DIST (FT)	CKT %VD
2.10%	85	5	R	1	CAPT1 BUNK 221	20	1	12	900 / 360				1	20	ROOF	2	R		95	
1.86%	75	5	R	3	FF BUNK 223	20	1	12		900 / 1080			1	20	CAPTAIN 1 OFFICE	4	K	5	85	
1.49%	60	5	R	5	FF BUNK 224	20	1	12			900 / 900	12	1	20	CAPTAIN 1 OFFICE -CONTROLLED	6	K	5	85	2.10%
1.24%	50	5	R	7	FF BUNK 225	20	1	12	900 / 1080			12	1	20	BC OFFICE, STORAGE 202	8	K	5	130	3.86%
0.99%	40	5	R	9	FF BUNK 226	20	1	12		900 / 720		12	1	20	BC OFFICE	10	K	5	130	2.57%
0.74%	30	5	R	11	FF BUNK 227	20	1	12			900 / 720	12	1	20	CAPTAIN 2 OFFICE	12	K	5	130	2.57%
0.62%	25	5	R	13	TRAINEE RELIEF BUNK 228	20	1	12	900 / 720			12	1	20	CAPTAIN 2 OFFICE -CONTROLLED	14	K	5	130	2.57%
2.72%	110	5	R	15	BC BUNK 203	20	1	12		900 / 1500		12	1	20	ELEVATOR EQUIPMENT	16	N		105	4.33%
1.56%	105	5	R	17	RESTROOM 204, 233, 222	20	1	12			540 / 1500	12	1	20	LAUNDRY - WASHER	18	N	5	85	3.51%
0.99%	50	5	R	19	RESTROOM 230, 231, 232	20	1	12	720 / 1000			12	1	20	LAUNDRY - DRYER	20	N	5	85	2.34%
1.93%	65	5	R	21	DAYROOM	20	1	12		1080 / 720		12	1	20	LAUNDRY ROOM, MECH (CONVENIENCE)	22	K	5	85	1.68%
1.36%	55	5	R	23	DAYROOM (NORTH WALL)	20	1	12			900 / 500	12	1	20	WESTNET OUTLET	24	K	5	115	1.58%
3.56%	90	5	R	25	CORRIDOR	20	1	12	1440 / 900			12	1	20	BC OFFICE CONTROLLED	26	K	5	130	3.22%
1.38%	100	5	N	27	SMOKE ALARM/CARBON MONOXIDE	20	1	12		500 / 1000		12	1	20	REFRIDGERATOR	28	K	5	90	2.48%
2.28%	115	5	R	29	CAPT 2 BUNK 209	20	1	12			720 / 1000	12	1	20	REFRIDGERATOR	30	K	5	90	2.48%
1.73%	70	5	R	31	FITNESS 213	20	1	12	900 / 1000			12	1	20	REFRIDGERATOR	32	K	5	90	2.48%
1.93%	70	5	N	33	FITNESS 213 - EQUIPMENT	20	1	12		1000 / 1500		12	1	20	COFFEE COUNTER	34	K	5	85	3.51%
1.93%	70	5	N	35	FITNESS 213 - EQUIPMENT	20	1	12			1000 / 1500	12	1	20	ISLAND DISHWASHER	36	K	5	95	3.92%
1.93%	70	5	N	37	FITNESS 213 - EQUIPMENT	20	1	12	1000 / 1500			12	1	20	APPLIANCE COUNTER	38	K	5	105	4.33%
1.98%	80	5	R	39	DINING AREA WEST WALL AND FITNESS EAST WALL	20	1	12		900 / 1500		12	1	20	APPLIANCE COUNTER	40	K	5	105	4.33%
				41	SPACE						1500	12	1	20	APPLIANCE COUNTER	42	K	5	110	4.54%
				43	SPACE				1500			12	1	20	DISPOSAL	44	K	5	110	4.54%
				45	SPACE					900		12	1	20	GAS RANGE, ROOF HOOD FAN, HOOD LIGHT	46	K	5	110	2.72%
				47	SPACE						1500	12	1	20	DISHWASHER	48	K	5	110	4.54%
		9		49	SPD	30	3	10							SPACE	50				
				51	"			10							SPACE	52				
				53	"			10							SPACE	54				

	PHASE A	PHASE B	PHASE C
CON:	14820	15100	14080
25%:	0	0	0
SUB:	0	0	0
TOT:	14820	15100	14080
AMPS	124	126	117

VOLTAGE DROP AT PANEL = 0.7%
BRANCH CIRCUIT VD TO BE <= 4.3%
TO MAINTAIN LESS THAN 5% VD TOTAL

LOAD (VA)		LOAD TYPE LEGEND
14760	R	RECEPTACLE
0	L	LIGHTING (125% OF CONNECTED LOAD CEC 215.2)
0	M	MECHANICAL
21740	K	KITCHEN APPLIANCE
7500	N	NON-CONTINUOUS MISC.
0	C	CONTINUOUS MISC. (125% OF CONNECTED LOAD CEC 215.2)

MSB

BUS RATING: 1000A, 120/208V, 3PH, 4W
NEMA 3R
AIC RATING: 42K (1)

	DISTRIBUTION				CONNECTED VA (AMPS) %VD			
CKT NO	PANEL/LOAD	TRIP	POLES	COND SIZE	PHASE A	PHASE B	PHASE C	CALC TYPE
1 (NOTE 7)	PANEL DP	600	3		57341 (477.8A)	55957 (466.3A)	54718 (456.0A)	
2 (NOTE 7)	ELEVATOR	40	3		2000 (16.7A)	2000 (16.7A)	2000 (16.7A)	
3 (NOTE 7,10)	FUTURE PE	400	3		45000 (375.0A)	45000 (375.0A)	45000 (375.0A)	
4 (NOTE 7)	EV #1	40	2		3328 (27.7A)	3328 (27.7A)	0	
5 (NOTE 7)	EV #2	40	2		0	3328 (27.7A)	3328 (27.7A)	
6	SPACE				0	0	0	
7	SPACE				0	0	0	
8	SPD	60	3		0	0	0	
9 (NOTE 8)	SOLAR SYSTEM	100	3		0	0	0	
				KVA (AMPS):	107.67 (897.2A)	109.61 (913.4A)	105.05 (875.4A)	

Total KVA 322.33
Total Amps 895

VD CALCULATION TYPE
CON CONNECTED LOAD
CB 80% OF BREAKER RATING

PANEL SCHEDULE NOTES

1. ROUTE BRANCH CIRCUIT THROUGH EXTERIOR LIGHTING CONTROLS. SEE CONTROL DIAGRAM.
2. PROVIDE RED HANDLE AND LOCKING DEVICE ON THIS CIRCUIT BREAKER TO MEET 2016 NFPA 72, SECTION 10.6.5.2, AND 2016 CFC/CBC SECTION 907 REQUIREMENTS.
3. VERIFY LOAD, CB AND CONDUCTOR SIZE WITH EQUIPMENT.
4. SEE SINGLE LINE DIAGRAM FOR CONDUCTOR SIZE.
5. "AFCI" BREAKER REQUIRED.
6. "GFCI" BREAKER REQUIRED.
7. REFER TO SINGLE LINE DIAGRAM FOR CONDUCTOR SIZE AND VOLTAGE DROP.
8. DEFERRED APPROVAL. REFER TO DIAGRAM ON SHEET E304 FOR REQUIREMENTS.
9. PROVIDE LOCKABLE BREAKER
10. VA BASED ON (4)27KVA FAST DC CHARGER TIMES 1.25% FOR CONTINOUS LOAD.

AIC RATING AT PANEL SCHEDULES AND SWITCHGEAR ARE FOR REFERENCE ONLY. PROVIDE COMPLETE SHORT CIRCUIT AND COORDINATION STUDY:

AVAILABLE FAULT CURRENT IS 24,600 AMPS AT THE "MSB". REFER TO 29/E404 FOR SCE SHORT CIRCUIT LETTER.

CONFIRM THROUGH APPROVED POWER SYSTEM DUTY THAT NO SWITCHGEAR AND PANEL BOARDS ARE SUBJECT TO CONDITION WHERE THE AVAILABLE FAULT CURRENT IS ABOVE THE DEVICES RATED DUTY. EQUIPMENT IS TO BE FULLY RATED SERIES RATING OF DEVICES TO ACHIEVE DUTY IS NOT ACCEPTABLE. APPROVED SUBMITTAL

PANELBOARDS TO BE MANUFACTURERED TO ACCEPT FUTURE BRANCH CIRCUITING POWER MONITORING (SCHNIEIDER ELECTRIC #BCPM) IN ORDER TO COMPLY TO 2019 CEnC SECTION 130.5(B).

LOAD SUMMARY

BUILDING AREA

FIRE STATION (S-2 OCCUPANCY) = 3,476 SF
FIRE STATION (B OCCUPANCY) = 2,057 SF
FIRE STATION (R-2 OCCUPANCY) = 6,034 SF

TOTAL RESIDENTIAL SQUARE FOOTAGE =====> 6,034 SF

DWELLING UNITS 3VA/SF (CEC TABLE 220.12): 6,034 X 3VA/SF ================>>>> 18.102 KVA
(SUBJECT TO TABLE 220.42 DEMAND FACTOR)
SMALL APPLIANCES LOADS (CEC 220.52A)==================================>>>> 4.500 KVA
(SUBJECT TO TABLE 220.42 DEMAND FACTOR)
SMALL APPLIANCE CIRCUIT (X2) (1500VA/EA)
ISLAND APPLIANCE (1500VA)

LAUNDRY CIRCUIT LOAD (CEC 220.52B) ==================================>>>> 3.000 KVA
(SUBJECT TO TABLE 220.42 DEMAND FACTOR) 25.602 KVA
WASHER (1500VA)
DRYER (1500VA)

TOTAL LOAD SUBJECT TO TABLE 220.42 DEMAND FACTORS =================>>>> 25.602 KVA
1ST 3000KVA @ 100% ==> 3000VA
REMAINDER AT 35% ===> 7911VA
TOTAL DEMAND LOAD ===>>>> 10.911 KVA

APPLIANCE LOADS (CEC 220.53) ===>>>> 9.900 KVA
REFRIGERATOR (X3) (1000VA/EA)
COFFEE (1500VA)
ISLAND DISHWASHER (1500VA)
DISPOSAL (1500VA)
DISHWASHER (1500VA)
GAS RANGE / HOOD (900VA)
TOTAL DEMAND LOAD (75% FOR 4 OR MORE) =================================>>>> 7.425 KVA
18.336 KVA

TOTAL DEMAND FOR RESIDENTIAL LOADS IN PANEL PM & P2 = 18,336VA 48AMP @120/208V, 3-PHASE

GENERATOR LOAD SUMMARY - PANEL "DP ":

RESIDENTIAL DEMAND LOAD ==============================> 18.336 KVA
NON-RESIDENTIAL MECH / LTNG LOADS (PANEL PM) ==========> 63.143 KVA
NON-RESIDENTIAL RECEPTACLE LOADS (PANEL P2) ==========> 12.380 KVA
PANEL PC ==> 11.661 KVA
PANEL P1 ==> 17.860 KVA
NON-RESIDENTIAL LOADS (PANEL DP) ======================> 38.320 KVA

TOTAL "DP" DEMAND LOAD: 161.700 KVA
449AMPS @ 120/208V, 3-PHASE

"MSB" LOAD SUMMARY

PANEL DP ==================================> 161.700 KVA
ELEVATOR LOAD ==============================> 6.000 KVA
FUTURE ELECTRIC FIRE TRUCK CHARGER ======> 102.000 KVA
FUTURE ELECTRIC VEHICLE CHARGERS ========> 13.312 KVA

TOTAL "MSB" DEMAND LOAD: 283.012 KVA
786AMPS @ 120/208V, 3-PHASE

REVISION				
NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	06/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS

AS-BUILT
REF.

DESIGNED BY: **CJ**
DRAWN BY: **TR**
DESIGN CHECK BY: **CJ/JT**
DRAWN CHECK BY: **CJ/TR**

REGISTERED PROFESSIONAL ENGINEER
WILLIAM A. THOMA
NO. 10757
ELECTRICAL
STATE OF CALIFORNIA

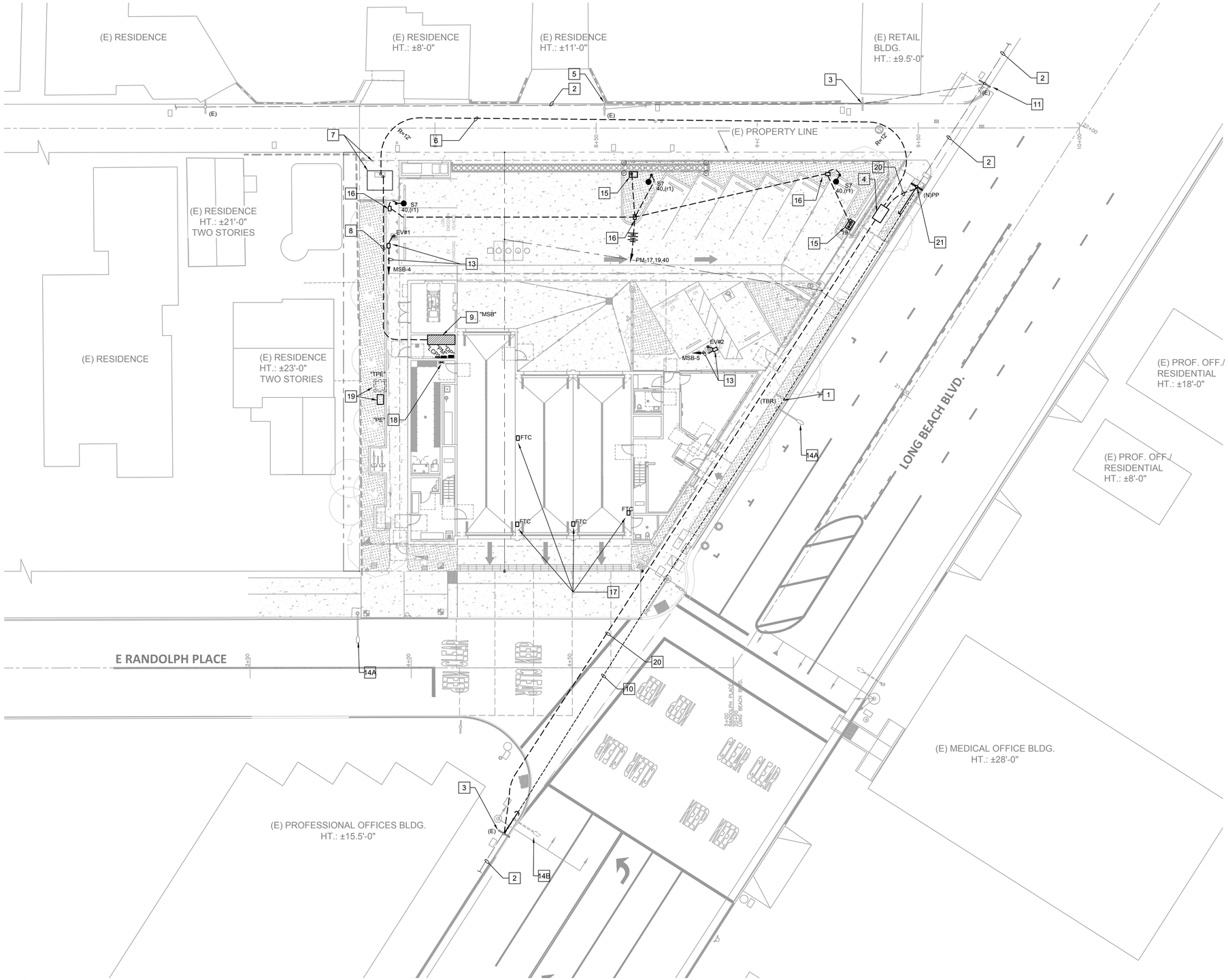
EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
PANEL SCHEDULES

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

B # B-4797
PHASE # ____ / REBID # ____



ELECTRICAL SITE PLAN

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

NORTH

REFERENCE NOTES

1. EXISTING UTILITY POLE WITH TRANSFORMER TO BE REMOVED. ASSUMED THIS POLE MOUNTED TRANSFORMER FED THE EXISTING BUILDING.
2. EXISTING OVERHEAD LINES.
3. EXISTING JOINT UTILITY POLE WITH NEW GUY WIRE.
4. NEW SCE PULL BOX ASSUMED 3'X5' PULL BOX.
5. EXISTING UTILITY POLE WITH POLE MOUNTED TRANSFORMER.
6. (1)5"PRIMARY SERVICE CONDUIT PER SCE REQUIREMENTS.
7. 74"X94" PADMOUNT TRANSFORMER AND PROTECTIVE BOLLARDS PER SCE REQUIREMENTS.
8. (4)4"SECONDARY SERVICE CONDUITS PER SCE REQUIREMENTS.
9. NEW MAIN SWITCHBOARD, (1000A, 120/208V, 3PH, 4-WIRE, NEMA 1).
10. EXISTING OVERHEAD LINE TO BE RELOCATED UNDERGROUND.
11. EXISTING SCE POLE TO BE REPLACE WITH NEW TALLER SCE POLE.
12. NEW UNDERGROUND SCE CONDUIT.
13. 11"X17" PULL BOX FLUSH IN GRADE AND CONDUIT PER "MSB" FOR EV CONNECTION. REFER TO SINGLE LINE DIAGRAM. LABEL LID "ELECTRICAL". CONNECT TO ELECTRICAL CAR CHARGING STATION. PROVIDE 24" DEEP X 15" SQUARE CONCRETE BASE. COORDINATE WITH MANUFACTURER FOR ANCHOR BOLT REQUIREMENTS PRIOR TO ROUGH-IN.
14. EXISTING STREET LIGHT
    A - TO REMAIN
    B - TO BE REMOVED
15. CONNECT TO MOTORIZED GATE PER MANUFACTURER REQUIREMENTS.
16. PROVIDE 11"X17" PULL BOX FLUSH IN GRADE. STAMP LID "ELECTRICAL".
17. PROVIDE 11"X17" TRAFFIC RATED PULL BOX WITH 1-1/4"C.O. TO "PE" FOR FUTURE FLOOR MOUNTED ELECTRIC FIRE TRUCK CHARGER. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN. (BOD: 25KW FAS DC MOBILE CHARGER BY HELIOX)
18. FUTURE ELECTRIC FIRE TRUCK PANEL "PE". STUB ALL CONDUITS. PROVIDE WALL GUTTER AT +24"AFF.
19. FUTURE LOCATION OF STEP DOWN TRANSFORMER FOR ELECTRIC FIRE TRUCK. STUB CONDUIT(S) TO 2'X3' PULL BOX FLUSH IN GRADE BETWEEN "MSB" TO PULL BOX AND "PULL BOX TO " FUTURE PANEL "PE" LOCATION.
20. 1-5" PRIMARY SERVICE CONDUIT PER SCE REQUIREMENTS. RISE TO POWER POLE PER SCE REQUIREMENTS.
21. NEW UTILITY POLE AND GUY WIRE PER SCE REQUIREMENTS.

GENERAL NOTES

A. UTILITY COMPANY CONTACTS: BEFORE CONSTRUCTION, COORDINATE & VERIFY ALL UTILITY COMPANY REQUIREMENTS:

SOUTHERN CALIFORNIA EDISION (POWER)
BEHNAM (BEN) AFSARI (TRAFFIC SIGNAL)
562-233-0732, BEHNAM.1.AFSARI@SCE.COM

DUSTIN BELOT (FIRE STATION)
562-981-8236, DUSTIN.BELOT@SCE.COM

B. TRENCHING AND BACKFILLING FOR ALL CONDUIT SYSTEMS SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. ALL CONDUITS SHALL HAVE MINIMUM COVER REQUIREMENTS AS SPECIFIED IN CEC 300-5. MORE STRINGENT DEPTH REQUIREMENTS MAY BE IMPOSED BY UTILITY COMPANY AND / OR THIS SPECIFICATION. JOINT TRENCHING MAY BE UTILIZED WHERE PRACTICABLE AND WERE PERMITTED BY THIS SPECIFICATION.

C. LOCATIONS OF EXISTING UNDERGROUND (UG) UTILITY SYSTEMS SHALL BE DETERMINED BY CALLING UNDERGROUND SERVICE ALERT (USA). WHEN PLANNING UNDERGROUND WORK, AND BEFORE YOU DIG, CONTACT UNDERGROUND SERVICE ALERT (USA) AT LEAST 48 HOURS PRIOR TO EXCAVATION (WEEKENDS EXCLUDED) FOR THE LOCATION OF UNDERGROUND GAS AND ELECTRIC LINES OR EQUIPMENT.

D. MAINTAIN REQUIRED CLEARANCES FROM ALL SANITARY SEWER, WATER AND STORM DRAIN PIPING. REFER TO CIVIL PLANS FOR EXACT LOCATIONS AND DEPTHS OF PIPING.

E. ALL SITE UTILITY WORK SHALL BE INSTALLED PER THE UTILITY COMPANY ISSUED CONSTRUCTION DRAWINGS AND SPECIFICATIONS SPECIFIC TO THIS PROJECT. ANY UTILITY WORK PERFORMED WITHOUT PRIOR UTILITY COMPANY APPROVAL SHALL BE DONE AT THE CONTRACTOR'S RISK.

F. ALL CONDUCTORS TO BE LISTED FOR WET LOCATIONS AND SHALL BE RATED ACCORDINGLY.

G. ALL UNDERGROUND CONDUITS SHALL BE A MINIMUM $\frac{3}{4}$"C. (PVC 40) UNLESS OTHERWISE NOTED.

H. ALL SITE BRANCH CIRCUITS ARE 3/4"C (PVC 40) WITH (2)#10 THWN AND (1)#10 CU GROUND.

N

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

GRAPHIC SCALE 0 1 2 3

NO.	DATE	APPROVAL	DESCRIPTION REVISION
	12/16/21		PLAN CHECK SUBMITTAL
1	04/22/22		PLAN CHECK RE-SUBMITTAL
2	08/15/23		PLAN CHECK RE-SUBMITTAL
	10/12/23		BID DOCUMENTS
			AS-BUILT

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR
REF.

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA NO. 16787 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ELECTRICAL SITE PLAN

B # B-4797

PHASE # ____ / REBID # ____

SHEET 194 OF 236

DWG. NO. E111

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

2019 CALGREEN NON-RESIDENTIAL MANDATORY MEASURES:

1. SITE WAS DESIGNED BASED ON LIGHTING ZONE 3.
2. DISTANCES SHOWN ARE BASED ON THE WORST CASE SCENARIO (CLOSEST TO THE PROPERTY LINE) FOR THAT FIXTURE TYPE.
3. FIXTURE TYPE "S9" IS BEING USED FOR SIGN LIGHTING AND THEREFORE EXEMPT PER EXCEPTION 2 CEnC SECTION 130.2(b) EXCEPTION 1.
4. FIXTURE TYPES "S1", "S2", "S3", "S4", "S5" AND "S8" ARE LOCATED UNDER A CANOPY / ROOF OVERHANG.

TABLE 5.106.8 [N]
MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT AND GLARE (BUG) RATINGS[1,2]

ALLOWABLE RATING	LIGHTING ZONE LZ0	LIGHTING ZONE LZ1	LIGHTING ZONE LZ2	LIGHTING ZONE LZ3	LIGHTING ZONE LZ4
Maximum Allowable Backlight Rating (B)					
Luminaire greater than 2 mounting heights (MH) from property line	N/A	No Limit	No Limit	No Limit	No Limit
Luminaire back hemisphere is 1 — 2 MH from property line	N/A	B2	B3	B4	B4
Luminaire back hemisphere is 0.5 — 1 MH from property line	N/A	B1	B2	B3	B3
Luminaire back hemisphere is less than 0.5 MH from property line	N/A	B0	B0	B1	B2
Maximum Allowable Uplight Rating (U)					
For area lighting[3]	N/A	U0	U0	U0	U0
For all other outdoor lighting, including decorative luminaires	N/A	U1	U2	U3	U4
Maximum Allowable Glare Rating (G)					
Luminaire greater than 2 MH from property line	N/A	G1	G2	G3	G4
Luminaire front hemisphere is 1 — 2 MH from property line	N/A	G0	G1	G1	G2
Luminaire front hemisphere is 0.5 — 1 MH from property line	N/A	G0	G0	G1	G1
Luminaire front hemisphere is less than 0.5 MH from property line	N/A	G0	G0	G0	G1

⟨X⟩ = SHOWN AS WORST CASE SCENARIO

⟨1⟩ FIXTURE S1

LIGHTING ZONE	LZ3		
MIN. DISTANCE FROM PROP. LINE	39'-6"		
MOUNTING HEIGHT	8'-0"		
BUG	B	U	G
ALLOWED	NO LIMIT	3	3
PROPOSED	0	0	0

⟨2⟩ FIXTURE S2

LIGHTING ZONE	LZ3		
MIN. DISTANCE FROM PROP. LINE	15'-1"		
MOUNTING HEIGHT	9'-0"		
BUG	B	U	G
ALLOWED	4	3	1
PROPOSED	1	0	0

⟨3⟩ FIXTURE S3

LIGHTING ZONE	LZ3		
MIN. DISTANCE FROM PROP. LINE	54'-1"		
MOUNTING HEIGHT	18'-0"		
BUG	B	U	G
ALLOWED	NO LIMIT	3	3
PROPOSED	2	0	1

⟨4⟩ FIXTURE S4

LIGHTING ZONE	LZ3		
MIN. DISTANCE FROM PROP. LINE	40'-11"		
MOUNTING HEIGHT	9'-0"		
BUG	B	U	G
ALLOWED	NO LIMIT	3	3
PROPOSED	0	0	0

⟨5⟩ FIXTURE S5

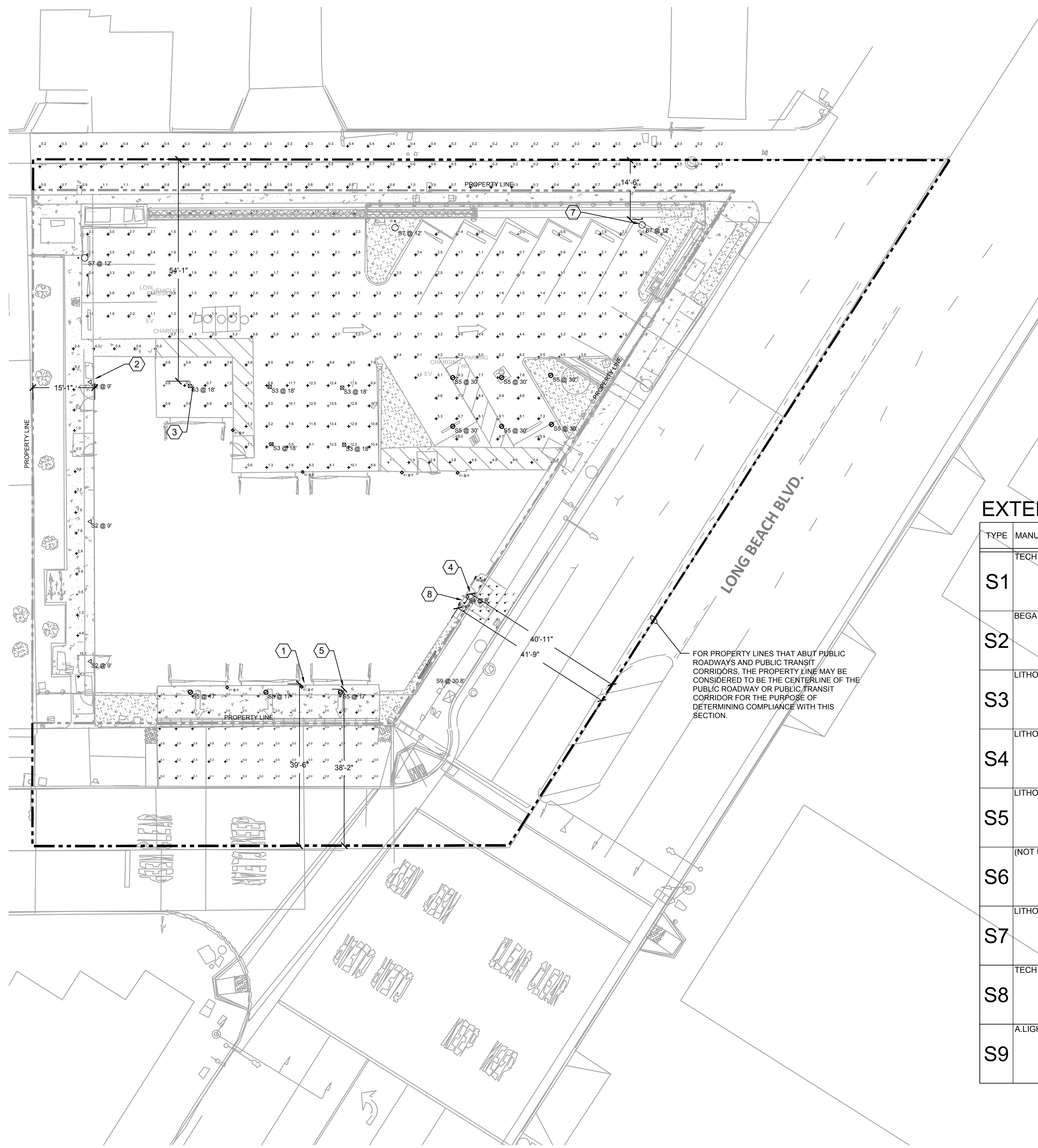
LIGHTING ZONE	LZ3		
MIN. DISTANCE FROM PROP. LINE	38'-2"		
MOUNTING HEIGHT	30'-0"		
BUG	B	U	G
ALLOWED	4	3	1
PROPOSED	0	0	0

⟨7⟩ FIXTURE S7

LIGHTING ZONE	LZ3		
MIN. DISTANCE FROM PROP. LINE	11'-5"		
MOUNTING HEIGHT	12'-0"		
BUG	B	U	G
ALLOWED	4	3	1
PROPOSED	1	1	1

⟨8⟩ FIXTURE S8

LIGHTING ZONE	LZ3		
MIN. DISTANCE FROM PROP. LINE	41'-9"		
MOUNTING HEIGHT	8'-0"		
BUG	B	U	G
ALLOWED	NO LIMIT	3	3
PROPOSED	0	0	0



PHOTOMETRIC SITE PLAN

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

NORTH

Statistics

Description	Symbol	Avg	Max	Min	Avg/Min	Max/Min
ALLEY	+	0.5 fc	1.1 fc	0.2 fc	5.5:1	2.5:1

EXTERIOR LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NO.	VOLTAGE	MAX. VA.	LAMPING	MOUNTING	DESCRIPTION
S1	TECH LIGHTING	7000WWND16 B LED930K	MVOLT	18.52	LED 30K	WALL	EXTERIOR WALL SCONCE
S2	BEGA	24 219 K3	MVOLT	18	LED 30K	WALL	EXTERIOR WALL PACK
S3	LITHONIA	CNY LED P1 30K MVOLT	MVOLT	35	LED 30K	SURFACE	LED SURFACE LIGHT APP BAY REAR CANOPY
S4	LITHONIA	LDN4 30/10 L04AR LSS	MVOLT	10.58	LED 30K	RECESSED	4" LED DOWNLIGHTING PROVIDE EMERGENCY BATTERY PACK "E10WCP" FOR (EM) FIXTURES
S5	LITHONIA	LDN6 30/20 L06AR LSS	MVOLT	22.52	LED 30K	RECESSED	6" LED DOWNLIGHT PROVIDE EMERGENCY BATTERY PACK "E10WCP" FOR (EM) FIXTURES
S6	(NOT USED)						
S7	LITHONIA	RAD1 LED P1 40K ASY HS	MVOLT	25.41	LED 30K	CONCRETE BASE	12FT LED POLE LIGHT ASYMMETRIC DISTRIBUTION WITH HOUSE SIDE SHIELD
S8	TECH LIGHTING	7000WNTE 9 Z LED 930K	MVOLT	14.65	LED 30K	WALL	EXTERIOR ENTRY DOOR WALL SCONCE 9" TALL
S9	A.LIGHT	D5 8FT LS 30K	MVOLT	38	LED 30K	WALL	8FT SIGN LIGHTING

REVISION

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	06/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS

AS-BUILT

REF.

DESIGNED BY: **CJ**

DRAWN BY: **TR**

DESIGN CHECK BY: **CJ/JT**

DRAWN CHECK BY: **CJ/TR**

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA NO. 10757 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
PHOTOMETRIC SITE PLAN

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

B # B-4797

PHASE # ____ / REBID # ____

SHEET 195 OF 236

DWG. NO. E112

LITHONIA LIGHTING®

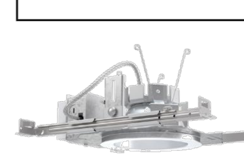
FEATURES & SPECIFICATIONS

INTENDED USE — Typical applications include corridors, lobbies, conference rooms and private offices.
CONSTRUCTION — Galvanized steel mounting/plaster frame; galvanized steel junction box with bottom-hinged access covers and spring latches. Reflectors are retained by torsion springs.
Vertically adjustable mounting brackets with commercial bar hangers provide 3-3/4" total adjustment.
Two combination ½"-3/4" and four ½" knockouts for straight-through conduit runs. Capacity: 8 (4 in, 4 out). No. 12 AWG conductors, rated for 90°C.
Accommodates 12"-24" joist spacing.
Passive cooling thermal management for 25°C standard; high ambient (40°C) option available. Light engine and drivers are accessible from above or below ceiling.
Max ceiling thickness 1-1/2".
OPTICS — LEDs are binned to a 3-step SDCM; 80 CRI minimum. 90 CRI optional.
LED light source concealed with diffusing optical lens.
General illumination lighting with 1.0 S/MH and 55° cutoff to source and source image.
Self-flanged anodized reflectors in specular, semi-specular, or matte diffuse finishes. Also available in white and black painted reflectors.
ELECTRICAL — Multi-volt (120-277V, 50/60Hz) 0-10V dimming drivers mounted to junction box, 10% or 1% minimum dimming level available.
0-10V dimming fixture requires two (2) additional low-voltage wires to be pulled.
70% lumen maintenance at 60,000 hours.
LISTINGS — Certified to US and Canadian safety standards. Wet location standard (covered ceiling). IP55 rated. ENERGY STAR® certified product.
BUY AMERICAN — Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.
WARRANTY — 5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions
Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

Catalog Number	
Notes	
Type	

LDN6

6" Open and WallWash LED
Non-IC
New Construction Downlight



Buy American | nLIGHT | WET LOCATION | DIMMABLE LED | TITLE 20 battery pack | ENERGY STAR | A+ CAPABLE

A+ Capable options indicated by this color background.

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative. **Example:** LDN6 35/15 LO6AR LSS MVOLT EZ10

LDN6

Series	Color temperature	Lumens[1]		Aperture/Trim Color		Finish	Voltage
LDN6 6" round	27/ 2700K 30/ 3000K 35/ 3500K 40/ 4000K 50/ 5000K	05 500 lumens 07 750 lumens 10 1000 lumens 15 1500 lumens 20 2000 lumens	25 2500 lumens 30 3000 lumens 40 4000 lumens 50 5000 lumens	LO6 Downlight LW6 Wallwash	AR Clear WR[2] White BR[2] Black	LSS Semi-specular LD Matte diffuse LS Specular	MVOLT Multi-volt 120 120V 277 277V 347[3] 347V

Driver		Options			
GZ10	0-10V driver dims to 10%	SF[4]	Single fuse	N80[8]	nLight™ Lumen Compensation
GZ1	0-10V driver dims to 1%	TRW[5]	White painted flange	JOT[13]	Wireless room control with "Just One Touch" pairing
D10	Minimum dimming 10% driver for use with JOT	TRBL[5]	Black painted flange	NPS80EZ[7]	nLight® dimming pack controls 0-10V eldoLED drivers (EZ10, EZ1).
D1	Minimum dimming 1% driver for use with JOT	EL[6]	Emergency battery pack with integral test switch. 10W Constant Power, Not Certified in CA Title 20 MAEDBS	NPS80EZER[7]	nLight® dimming pack controls 0-10V eldoLED drivers (EZ10, EZ1). ER controls fixtures on emergency circuit.
EZ10	0-10V eldoLED driver with smooth and flicker-free deep dimming performance down to 10%	ELR[6]	Emergency battery pack with remote test switch. 10W Constant Power, Not Certified in CA Title 20 MAEDBS	HAO[11]	High ambient option
EZ1	0-10V eldoLED driver with smooth and flicker-free deep dimming performance down to 1%	ELSD[6]	Emergency battery pack with self-diagnostics, integral test switch. 10W Constant Power, Not Certified in CA Title 20 MAEDBS	CP[12]	Chicago Plenum
EDAB	eldoLED DALI SOLDRIVE dim to dark	ELRSD[6]	Emergency battery pack with self-diagnostics, remote test switch. 10W Constant Power, Not Certified in CA Title 20 MAEDBS	RRL__	RELOC®-ready luminaire connectors enable a simple and consistent factory installed option across all ABL luminaire brands. Available only in RRLA, RRLB, RRLAE, and RRLC12S. Refer to RRL spec sheet on www.acuitybrands.com for the RELOC product specifications.
		E10WCP[6]	Emergency battery pack, 10W Constant Power with integral test switch. Certified in CA Title 20 MAEDB	NLTAIR2[9,10]	nLight® Air enabled
		E10WCPR[6]	Emergency battery pack, 10W Constant Power with remote test switch. Certified in CA Title 20 MAEDB	NLTAIRER2[9,10]	nLight® AIR Dimming Pack Wireless Controls. Controls fixtures on emergency circuit, not available with battery pack options
		NPP16D[7]	nLight® network power/relay pack with 0-10V dimming for non-eldoLED drivers (GZ10, GZ1).	NLTAIREM2[9,10]	nLight® AIR Dimming Pack Wireless Controls. UL924 Emergency Operation, via power interrupt detection. Available with battery pack options.
		NPP16DER[7]	nLight® network power/relay pack with 0-10V dimming for non-eldoLED drivers (GZ10, GZ1). ER controls fixtures on emergency circuit.	BAA	Buy America(n) Act Compliant
				90CRI	High CRI (90+)

Accessories: *Order as separate catalog number.*

PS1055CP	FMC Power Sentry batterypack, T20 compliant, field installable, 10w constant power
EAC ISSM 375	Compact interruptible emergency AC power system
EAC ISSM 125	Compact interruptible emergency AC power system
GRA68 JZ	Oversized trim ring with 8" outside diameter[1]

Notes
1. Overall height varies based on lumen package; refer to dimensional chart on page 3.
2. Not available with finishes.
3. Not available with emergency options.
4. Must specify voltage 120V or 277V.
5. Available with clear (AR) reflector only.
6. 12.5" of plenum depth or top access required for battery pack maintenance.
7. Specify voltage. ER for use with generator supply EM power. Will require an emergency hot feed and normal hot feed.
8. Fixture begins at 80% light level. Must be specified with NPS80EZ or NPS80EZ ER. Only available with EZ10 and EZ1 drivers.
9. Not available with CP, NPS80EZ, NPS80EZER, NPP16D, NPP16DER or N80 options.
10. NLTAIR2, NLTAIRER2 and NLTAIREM2 not recommended for metal ceiling installations.
11. Fixture height is 6.5" for all lumen packages with HAO.
12. Must specify voltage for 3000lm and above. 5000lm with marked spacing 24 L x 24 W x 14 H. Not available with emergency battery pack option.
13. Must specify D10 or D1 driver. Not available with nLight options. Not available with CP. Not recommended for metal ceiling installation. Not for use with emergency backup power systems other than battery packs.

FIXTURE TYPE S5

LITHONIA LIGHTING®

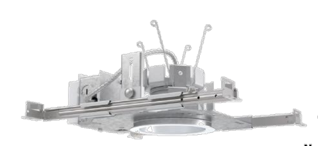
FEATURES & SPECIFICATIONS

INTENDED USE — Typical applications include corridors, lobbies, conference rooms and private offices.
CONSTRUCTION — Galvanized steel mounting/plaster frame; galvanized steel junction box with bottom-hinged access covers and spring latches. Reflectors are retained by torsion springs.
Vertically adjustable mounting brackets with commercial bar hangers provide 3-3/4" total adjustment.
Two combination 1/2"-3/4" and four 1/2" knockouts for straight-through conduit runs. Capacity: 8 (4 in, 4 out). No. 12 AWG conductors, rated for 90°C.
Accommodates 12"-24" joist spacing.
Passive cooling thermal management for 25°C standard; high ambient (40°C) option available. Light engine and drivers are accessible from above or below ceiling.
Max ceiling thickness 1-1/2".
OPTICS — LEDs are binned to a 3-step SDCM; 80 CRI minimum. 90 CRI optional.
LED light source concealed with diffusing optical lens.
General illumination lighting with 1.0 S/MH and 55° cutoff to source and source image.
Self-flanged anodized reflectors in specular, semi-specular, or matte diffuse finishes. Also available in white and black painted reflectors.
ELECTRICAL — Multi-volt (120-277V, 50/60Hz) 0-10V dimming drivers mounted to junction box, 10% or 1% minimum dimming level available.
0-10V dimming fixture requires two (2) additional low-voltage wires to be pulled.
70% lumen maintenance at 60,000 hours.
LISTINGS — Certified to US and Canadian safety standards. Wet location standard (covered ceiling). IP55 rated. ENERGY STAR® certified product.
BUY AMERICAN — Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT.
Please refer to www.acuitybrands.com/buy-american for additional information.
WARRANTY — 5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions
Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

Catalog Number	
Notes	
Type	

LDN4

4" Open and WallWash LED
Non-IC
New Construction Downlight



Buy American | nLIGHT | WET LOCATION | DIMMABLE LED | TITLE 20 battery pack | ENERGY STAR | A+ CAPABLE

A+ Capable options indicated by this color background.

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative. **Example:** LDN4 35/15 LO4AR LSS MVOLT EZ1

LDN4

Series	Color temperature	Lumens[1]		Aperture/Trim Color		Finish	Voltage
LDN4 4" round	27/ 2700K 30/ 3000K 35/ 3500K 40/ 4000K 50/ 5000K	05 500 lumens 07 750 lumens 10 1000 lumens 15 1500 lumens	20 2000 lumens 25 2500 lumens 30 3000 lumens 40 4000 lumens	LO4 Downlight LW4 Wallwash	AR Clear WR[2] White BR[2] Black	LSS Semi-specular LD Matte diffuse LS Specular	MVOLT Multi-volt 120 120V 277 277V 347[3] 347V

Driver		Options			
GZ10	0-10V driver dims to 10%	SF[4]	Single fuse	N80[8]	nLight™ Lumen Compensation
GZ1	0-10V driver dims to 1%	TRW[6]	White painted flange	JOT[13]	Wireless room control with "Just One Touch" pairing
EZ10	0-10V eldoLED driver with smooth and flicker-free deep dimming performance down to 10%	TRBL[6]	Black painted flange	NPS80EZ[7,10]	nLight® dimming pack controls 0-10V eldoLED drivers (EZ10, EZ1).
EZ1	0-10V eldoLED driver with smooth and flicker-free deep dimming performance down to 1%	EL[5]	Emergency battery pack with integral test switch. 10W Constant Power, Not Certified in CA Title 20 MAEDBS	NPS80EZER[7,10]	nLight® dimming pack controls 0-10V eldoLED drivers (EZ10, EZ1). ER controls fixtures on emergency circuit.
D10	Minimum dimming 10% driver for use with JOT	ELR[5]	Emergency battery pack with remote test switch. 10W Constant Power, Not Certified in CA Title 20 MAEDBS	HAO[11]	High ambient option (40°C)
D1	Minimum dimming 1% driver for use with JOT	ELSD[5]	Emergency battery pack with self-diagnostics, 10W Constant Power, integral test switch. Not Certified in CA Title 20 MAEDBS	CP[12]	Chicago Plenum
EDAB	eldoLED DALI SOLDRIVE dim to dark	ELRSD[5]	Emergency battery pack with self-diagnostics, 10W Constant Power, remote test switch. Not Certified in CA Title 20 MAEDBS	RRL__	RELOC®-ready luminaire connectors enable a simple and consistent factory installed option across all ABL luminaire brands. Available only in RRLA, RRLB, RRLAE, and RRLC12S.
		E10WCP[5]	Emergency battery pack, 10W Constant Power with integral test switch. Certified in CA Title 20 MAEDBS	NLTAIR2[8,9]	nLight® Air enabled
		E10WCPR[5]	Emergency battery pack, 10W Constant Power with remote test switch. Certified in CA Title 20 MAEDBS	NLTAIRER2[8,10]	nLight® AIR Dimming Pack Wireless Controls. Controls fixtures on emergency circuit, not available with battery pack options
		NPP16D[7,10]	nLight® network power/relay pack with 0-10V dimming for non-eldoLED drivers (GZ10, GZ1).	NLTAIREM2[8,10]	nLight® AIR Dimming Pack Wireless Controls. UL924 Emergency Operation, via power interrupt detection. Available with battery pack options.
		NPP16DER[7,10]	nLight® network power/relay pack with 0-10V dimming for non-eldoLED drivers (GZ10, GZ1). ER controls fixtures on emergency circuit.	BAA	Buy America(n) Act Compliant
				90CRI	High CRI (90+)

Notes
1. Overall height varies based on lumen package; refer to dimensional chart on page 3.
2. Not available with finishes.
3. Not available with emergency options.
4. Must specify voltage 120V or 277V.
5. 12.5" of plenum depth or top access required for battery pack maintenance.
6. Available with clear (AR) reflector only.
7. Specify voltage. ER for use with generator supply EM power. Will require an emergency hot feed and normal hot feed.
8. Fixture begins at 80% light level. Must be specified with NPS80EZ or NPS80EZ ER. Only available with EZ10 and EZ1 drivers.
9. Not available with CP, NPS80EZ, NPS80EZER, NPP16D, NPP16DER or N80 options.
10. NLTAIR2, NLTAIRER2 and NLTAIREM2 not recommended for metal ceiling installations.
11. Fixture height is 5-11/16" for all lumen packages with HAO.
12. Must specify voltage for 3000lm. Not available with emergency battery pack option.
13. Must specify D10 or D1 driver. Not available with nLight options. Not available with CP. Not recommended for metal ceiling installation. Not for use with emergency backup power systems other than battery packs.

FIXTURE TYPE S4

CNY LED

LED Canopy/Ceiling Luminaire

LED | cULus LISTED | 5 YEAR warranty | WET LOCATION | TITLE 24 | DLC PREMIUM | DLC

Catalog Number	
Notes	
Type	

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

	CNY LED P0/P1/P2
Width:	10"
Height:	4.7"
Depth:	10"
Weight:	6.5lbs

Introduction

The CNY LED canopy luminaires are energy efficient and budget friendly, perfect for replacing up to 250W metal halide luminaires while saving up to 80% energy costs. Quick mount mechanism significantly reduces the installation time. An LED array and translucent lens create uniform and visually comfortable illumination. CNY LED luminaires are DLC Premium listed and deliver quick payback!

Ordering Information **EXAMPLE:** CNY LED P1 50K MVOLT DDB

CNY LED

Series	Performance Package	Color Temperature[2]	Voltage	Finish
CNY LED	P0 3,500 lumens[1] P1 4,500 lumens[1] P2 6,600 lumens	40K 4000K[1] 50K 5000K	MVOLT 120-277V[3]	DDB Dark bronze WH White[1]

Accessories *Ordered and shipped separately.*
CNYBCP 14 Inch x 14 Inch Beauty Cover Plate

NOTES
1. WH finish is only available in CNY P0 and P1 packages, and with 40K (4000K) color temperature only.
2. Correlated color temperature (CCT) shown is nominal per ANSI C78, 377-2008.
3. MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).

FEATURES & SPECIFICATIONS

INTENDED USE
CNY LED luminaires are ideal, energy-efficient replacements for up to 250W MH canopy or ceiling luminaires. The CNY LED provides years of maintenance-free illumination for schools, malls, offices, parking areas, covered walkways and loading docks.

CONSTRUCTION
Cast-aluminum, corrosion-resistant housing with polyester powder paint for lasting durability. Castings are sealed with a one-piece gasket. Rated for outdoor installations, -40°C minimum ambient. Frosted lens is designed for uniform light distribution.

ELECTRICAL
Includes an MVOLT (120-277V) driver. LEDs maintain 70% of light output at 50,000 or more hours of service life (L70/50,000 hours). CNY is CRI 80.

INSTALLATION
Mounts to a recessed junction box or surface mount with three conduit entry points. Can be pendant mounted with ¾ NPT pendant stem provided by others. Quick mount mechanism significantly reduces installation time - no need to open the luminaire for installation.

LISTINGS
UL Listed to U.S. and Canadian safety standards for wet locations.
Tested in accordance with IESNA LM-79 and LM-80 standards.
DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified. Can be used to comply with California Title 24 Part 6 High Efficacy LED light Source Requirements.

WARRANTY
Five-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

FIXTURE TYPE S3

LED wall luminaires - symmetrical light distribution **BEGA**

Type:
BEGA Product:
Project:
Modified:

Application
LED wall luminaires with symmetrical light distribution designed for general illumination of pathways, plazas and building entrances.

Materials
Luminaire housing constructed of die-cast marine grade, copper free (≤0.3% copper content) A360.0 aluminum alloy
Matte safety glass
Reflector made of pure anodized aluminum
Silicone applied robotically to casting, plasma treated for increased adhesion
High temperature silicone gasket
Mechanically captive stainless steel fasteners
NRTL listed to North American Standards, suitable for wet locations
Protection class IP65
Weight: 8.2 lbs

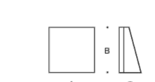
Electrical

Operating voltage	120-277VAC
Minimum start temperature	-30°C
LED module wattage	14.9W
System wattage	17.4W
Controllability	0-10V dimmable
Color rendering index	Ra > 80
Luminaire lumens	1,706 lumens (3000K)
Lifetime at Ta = 15°C	185,000 h (L70)
Lifetime at Ta = 50°C	155,000 h (L70)

LED color temperature
☐ 4000K - Product number + **K4**
☐ 3500K - Product number + **K35**
☐ 3000K - Product number + **K3**

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish
All BEGA standard finishes are matte, textured polyester powder coat with minimum 3 mil thickness.
Available colors ☐ Black (BLK) ☐ White (WHT) ☐ RAL:
☐ Bronze (BRZ) ☐ Silver (SLV) ☐ CUS:



LED wall luminaire · symmetrical light distribution

	LED	A	B	C
24219	14.9W	11	11	5⅝

FIXTURE TYPE S2

WINDFALL 16 WALL SCONCE

TECH LIGHTING

Modern, crisp lines and a slim profile combine in the handsome Windfall 16 LED outdoor fixture. Indirect light bounces off the smooth, matte finish of the back plate to create a gentle glow for wayfinding in outdoor corridors and walkways.

Outstanding protection against the elements:
• Powder coat finishes
• Stainless Steel mounting hardware
• Impact-resistant, UV stabilized frosted acrylic lensing

SPECIFICATIONS

DELIVERED LUMENS	250
WATTS	18.5
VOLTAGE	120V-277V Universal
DIMMING	ELV, Triac and 0-10V
LIGHT DISTRIBUTION	Symmetric
MOUNTING OPTIONS	Wall
CCT	3000K
CRI	90
COLOR BINNING	3-Step
BUG RATING	N/A
DARK SKY	Non-compliant
WET LISTED	IP65
GENERAL LISTING	ETL, ADA
CALIFORNIA TITLE 24	Can be used to comply with CEC 2019 Title 24 Part 6 for outdoor use. Registration with CEC Appliance Database not required.
START TEMP	-30°C
FIELD SERVICEABLE LED	Yes
CONSTRUCTION	Aluminum
HARDWARE	Stainless Steel
FINISH	Powder Coat
LED LIFETIME	L70; >60,000 hours
WARRANTY*	5 years

*Visit techlighting.com for specific warranty limitations and details.

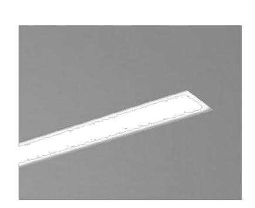
WINDFALL 16
shown in black

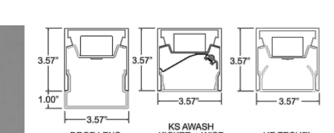
ORDERING INFORMATION

PRODUCT	LENGTH	FINISH	LAMP
700OWWND	16 16"	B BLACK	-LED930 LED 90 CRI, 3000K, 120-277V UNV

FIXTURE TYPE S1

D5 | SPECIFICATION GUIDE





ORDERING CODE

D5

PROJECT INFO DATE
TYPE QUANTITY

BASELINE PERFORMANCE (80 CRI - 4000K)

OUTPUT	OPTICS	NOMINAL LUMEN OUTPUT	INPUT WATTS	EFFICACY
High (LH)	HE Tech™	762 lm/ft	9.5 W/ft	80 lm/W
	WISP (Asymmetric)	665 lm/ft	9.5 W/ft	70 lm/W
	Drop Lens	692 lm/ft	9.5 W/ft	73 lm/W
	Louvers	527 lm/ft	9.5 W/ft	55 lm/W
Standard (LS)	HE Tech™	408 lm/ft	4.5 W/ft	90 lm/W
	WISP (Asymmetric)	333 lm/ft	4.5 W/ft	70 lm/W
	Drop Lens	370 lm/ft	4.5 W/ft	82 lm/W
	Louvers	282 lm/ft	4.5 W/ft	62 lm/W

Custom tuned output available from 25% to 125% of high output. Please consult factory for custom lumen output and wattage. *Flat Blade Louver calculated using the aluminum finish.

MOUNTING OPTIONS

(G) Flush Gyp / Hard Lid | (XP) Trim Flange | (T) T-Bar 9/16 | (X) T-Bar 15/16 | (N) T-Bar 9/16 Slot

D5

SERIES	LENGTH OR PATTERN TYPE	OUTPUT	LED CCT	VOLTAGE	DIRECT OPTICS
D5	_ Nominal Length* M_ Exact Length** PL_ "L" Shape*** PU_ "U" Shape*** PR_ Rectangle / Square*** CP Custom Pattern****	LS LED Standard Output LH LED High Output C_ LED Custom Output*	27 2700K 30 3000K 35 3500K 40 4000K	U Universal 120V - 277V 3 347V	HE HE Tech™ KS Awash Kicker + WISP DL 1" Drop Lens* LV Flat Blade Louvers** PFW Polycarbonate Flush WISP
	*Specify in feet to the nearest foot (i.e. 12) **Specify in inches to the nearest 1/8 (i.e. M180.125) ***Specify in inches to the nearest 1/8 (See Pattern Guide for configurations) ****Contact Design Assist	*Available from 25% to 125% of LED High Output			*Not available with wet location. **Aluminum Standard. Not available with wet location.

MOUNTING	FINISH*	DIMMING	EMERGENCY
G Flush Gyp / Mud Over Flange RG 1" Regressed Gyp / Mud Over Flange XP 1/2" Trim Flange T T-Bar 9/16" X T-Bar 15/16" N T-Bar 9/16 Slot T4 4" On Center Standard T-Bar 9/16" N4 4" On Center Slot T-Bar 9/16"*	T Titanium W White B Black O_ Other**	D Standard 0-10V* D1 HiLume Ecosystems 1% (LDE1) D2 ELV 5% dimming** D3 DMX 0.1% dim-to-dark D4 DALI dim-to-off NAIR nLight ®AIR (dim-to-off) NWIR nLight ®Wired (dim-to-off) DO Other Dimming	EC Emergency - circuited* E_ Emergency - battery**
*Housing slightly regressed	*RG, XP mounting types only **Specify RAL#	*1% Dimming standard unless otherwise specified. **Reference Lutron LTEA4 driver for compatible dimmers.	*Not available on fixtures < 4' length. Smallest EM circuit is 2'ft. If entire fixture is on EM circuit, no need to call out EC in part number. **Factory-installed emergency battery pack. Specify desired quantity of batteries. Not available on fixtures <4' length. Not available for 347V. See technical data for more information.

SENSORS	OPTIONS
OC Occupancy Sensor - Ceiling PC Photocell / Daylight Sensor - Ceiling OF Occupancy Sensor - Fixture PF Photocell / Daylight Sensor - Fixture OPC Occupancy & daylight Sensor - Ceiling OPF Occupancy & daylight Sensor - Fixture	MRL_ 2" LED Downlight Module* M Multi-Circuit** R Right Endcap Feed L Left Endcap Feed N New York City Code K Natatorium Application*** Q Wet Location**** CRI 90+ CP Chicago Plenum MRI MRI
Sensor will be matched to dimming input.	*Specify required quantity, see LED Module Addendum for additional ordering details. **Submit multi-circuiting requirements ***Not compatible with Drop Lens or Flat Blade Louvers Optics. Special hardware is utilized for this rating. ****Wet location suitable in full coverage and/or mullion mounted applications (direct to sky not recommended); not suitable for extreme weather applications. Refer to Wet Location brochure and contact Design Assist for more information. Not compatible with Drop Lens or Flat Blade Louvers Optics.

HE Tech lens | WET Location | 5Y Warranty | eldoLED Drivers | nLIGHT Controls | Sensors | cULus Certified

FIXTURE TYPE S9

NATE 9 WALL SCONCE

TECH LIGHTING

Inspired by the profile of modern lever door hardware, the sleek Nate outdoor wall sconce reflects LED light off the wall to create a perfect grazing light effect on architectural surfaces-either indoors or outside. Cleverly hidden hardware ensures a clean look. Available in two sizes and two finishes.

Outstanding protection against the elements:
• Powder coat finishes
• Stainless Steel mounting hardware
• Impact-resistant, UV stabilized frosted acrylic lensing

SPECIFICATIONS

DELIVERED LUMENS	30
WATTS	6
VOLTAGE	120V
DIMMING	ELV
LIGHT DISTRIBUTION	Symmetric
MOUNTING OPTIONS	Wall (Up or Down)
CCT	3000K
CRI	90
COLOR BINNING	3-Step
BUG RATING	N/A
DARK SKY	Compliant
WET LISTED	IP65
GENERAL LISTING	ETL, ADA
CALIFORNIA TITLE 24	Can be used to comply with CEC 2019 Title 24 Part 6 for outdoor use. Registration with CEC Appliance Database not required.
START TEMP	-30°C
FIELD SERVICEABLE LED	Yes
CONSTRUCTION	Aluminum
HARDWARE	Stainless Steel
FINISH	Powder Coat
LED LIFETIME	L70; >60,000 hours
WARRANTY*	5 years
WEIGHT	2 lbs.

* Visit techlighting.com for specific warranty limitations and details.

NATE 09
shown in bronze

NATE 09
shown in silver

ORDERING INFORMATION

PRODUCT	SIZE	FINISH	LAMP
700OWNTE	9 9"	Z BRONZE I SILVER	-LED930 LED 90CRI, 3000K, 120V

FIXTURE TYPE S8

Radean Arm Mount

LED Area Luminaire

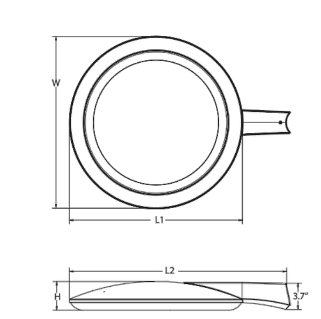
NIGHTTIME FRIENDLY | DLC | DLC PREMIUM | ida | Buy American

Catalog Number	
Notes	
Type	

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

EPA:	0.75 ft² (0.05 m²)
Length: L1	24" (61cm)
L2	30" (60.96 cm)
Width:	24" (61cm)
Height:	4" (10.2cm)
Weight (max):	29lbs (13.15Kg)



Introduction

The RADEAN arm mount luminaire is the perfect choice for pedestrian applications where daytime aesthetics and visual comfort are needed. Adding architectural flair to any space, the RADEAN's low-profile shape and smooth curves blend in while adding a touch of elegance.
Perfect for campuses, parks, pedestrian malls, courtyards and pathways, the RADEAN arm mount is the Architect's choice to provide beautiful aesthetics both day and night.

Ordering Information **EXAMPLE:** RAD1 LED P3 30K SYM MVOLT RPA PE DNAXD

RAD1 LED

Series	Performance package	Color temperature	Distribution	Voltage		Mounting
RAD1 LED	P1 3,000 Lumens P2 5,000 Lumens P3 7,000 Lumens P4 11,000 Lumens P5 16,000 Lumens	27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K 5000K	SYM Symmetric type V ASY Asymmetric type IV PATH Pathway type III	MVOLT[1] 120[1] 208[1] 240[1]	277[1] 347 480	SPA Square pole mounting (includes adapter) RPA Round pole mounting WBA Wall bracket

Control options	Other options		Finish (required)	
Shipped installed NLTAIR2 nLight AIR 2.0 enabled[2] PIR Bi-level motion sensor (100% to 30%)[2,3,4,5,6] PE Button photocell[2,5] FAO Field adjustable output[2,5,7]	SF Single Fuse[1] DF Double Fuse[1] L90 Left rotated optics R90 Right rotated optics	**Shipped separately** HS Houseside shield[8]	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White	DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

FIXTURE TYPE S7

REVISION				
NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	06/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS

REF.
AS-BUILT

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA NO. 10757 ELECTRICAL STATE OF CALIFORNIA
EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
EXTERIOR LIGHTNG CUTSHEET

B # B-4797
PHASE # ____ / REBID # ____
SHEET 196 OF 236
DWG. NO. E113

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 16, 2023 - 11:54am - CReyes - K:\ENG\2021\21-8070\21-8070_E113_EXTERIOR LIGHTING CUTSHEETS.dwg

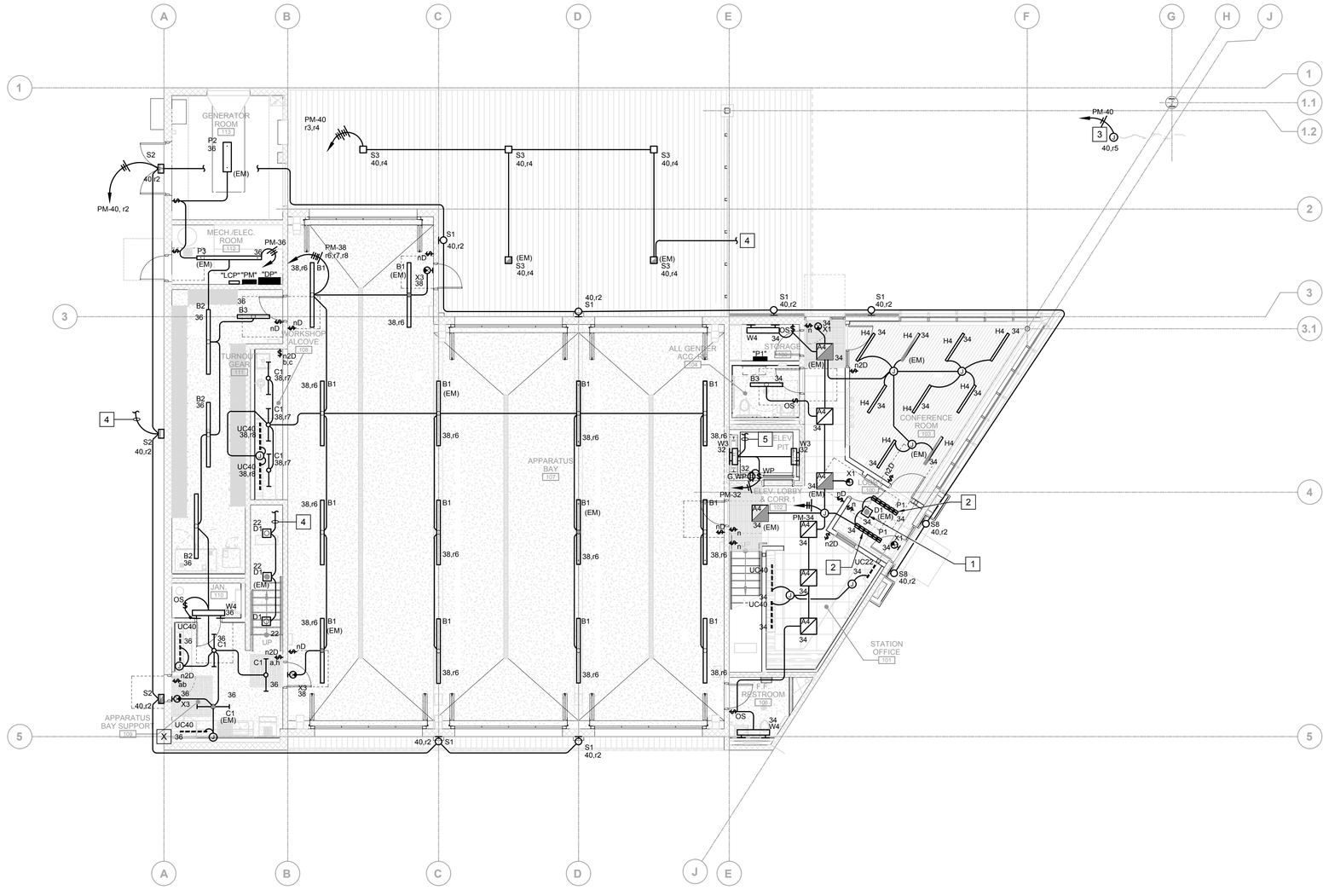
BRANCH CIRCUIT:

CONNECT ALL LIGHTS SHOWN AT SITE, EXTERIOR BUILDING AND FIRST AND SECOND FLOOR SPACE TO PANEL "PM" EXCEPT IN COMM. ROOM 215.

BRANCH CIRCUIT DENOTING, RELAY NUMBER rX. HOME BRANCH CIRCUIT THROUGH LIGHTING CONTROL PANEL, "LCP". REFER TO PANEL SCHEDULE ON SHEET E004.

REFERENCE NOTES

1. THIS LIGHT ONLY TURNS ON DURING EMERGENCY. PROVIDE A CONTINUOUS HOT TO CHARGE THE BATTERY.
2. PROVIDE HORIZONTAL BRACING SYSTEM FOR LOBBY PENDANT FIXTURE. PROVIDE EYE-BOLT, LONGITUDINAL CABLE FROM WALL TO WALL, AND CABLE LOCKS. REFER TO DETAIL 29/E404.
3. PROVIDE 120V CONNECTION TO INTEGRAL LIGHTING FIXTURE ABOVE FLAG.
4. UP TO SECOND FLOOR LIGHTING.
5. UP TO UPPER LEVEL ELEVATOR LIGHTING.



N

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

GRAPHIC SCALE 0 1 2 3

FIRST FLOOR LIGHTING PLAN

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

NORTH

REVISION NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	08/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: **CJ**
DRAWN BY: **TR**
DESIGN CHECK BY: **CJ/JT**
DRAWN CHECK BY: **CJ/TR**
REF.

REGISTERED PROFESSIONAL ENGINEER — WILLIAM A. THOMA — NO. 40161 — ELECTRICAL — STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

FIRST FLOOR LIGHTING PLAN

B # **B-4797**

PHASE # ____ / REBID # ____

SHEET 197 OF **230**

DWG. NO. E211 2

THOMA ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

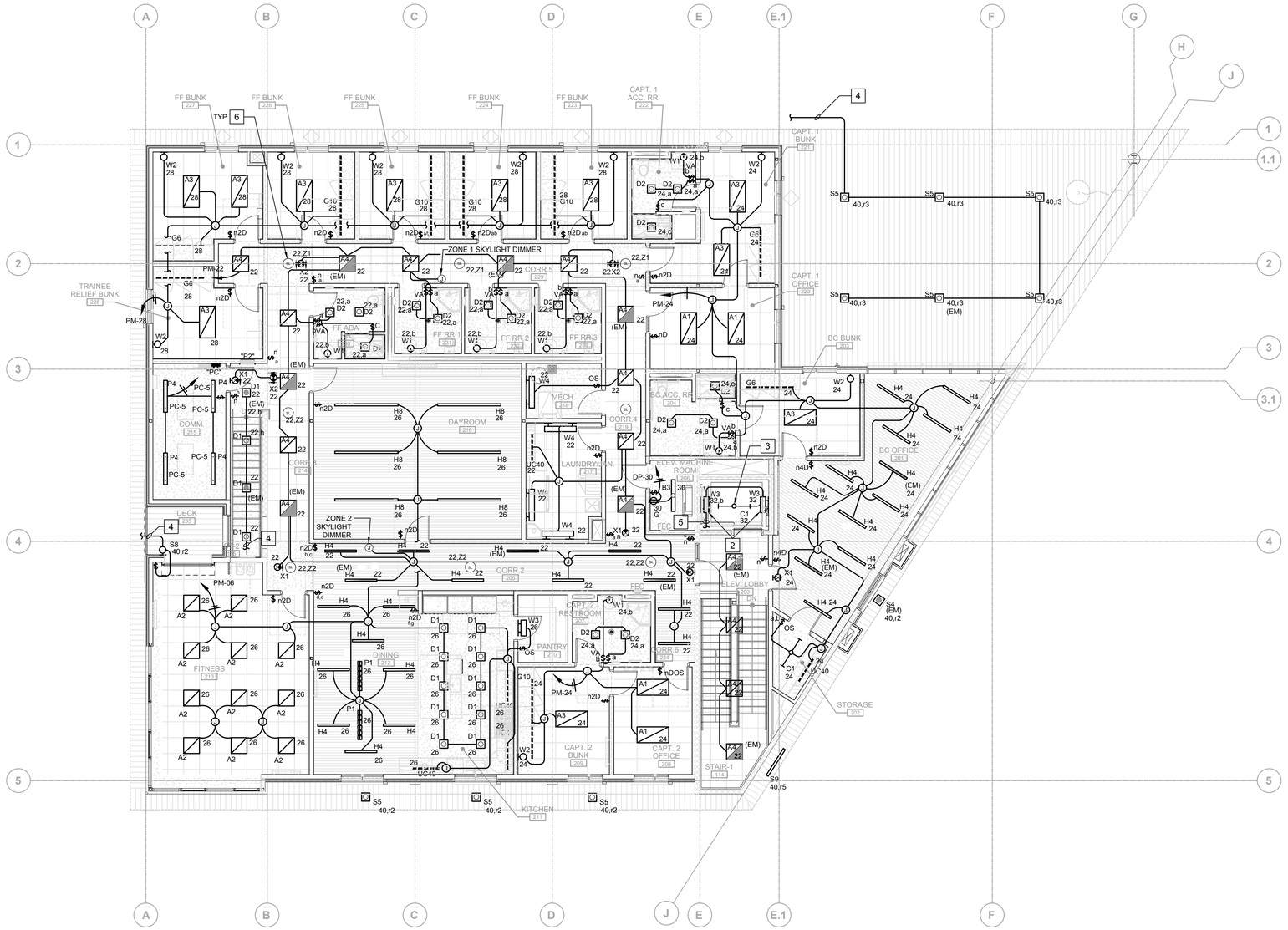
BRANCH CIRCUIT:

CONNECT ALL LIGHTS SHOWN AT SITE, EXTERIOR BUILDING AND FIRST AND SECOND FLOOR SPACE TO PANEL "PM" EXCEPT IN COMM ROOM 215.

BRANCH CIRCUIT DENOTING, RELAY NUMBER rX. HOME BRANCH CIRCUIT THROUGH LIGHTING CONTROL PANEL, "LCP". REFER TO PANEL SCHEDULE ON SHEET E004.

REFERENCE NOTES

1. PROVIDE 120V CONNECTION TO DIMMER CONTROL AT SKYLIGHT PER MANUFACTURER REQUIREMENT. CONNECT TO NEAREST LIGHTING BRANCH CIRCUIT. PROVIDE ONE ZONE FOR CORRIDOR 5 AND ONE ZONE FOR CORRIDOR 2, 3 AND 4. DIMMER SWITCH FURNISHED BY MANUFACTURER EC TO INSTALL. REFER TO SPEC SECTION 086200 FOR DELIVERY ZONE CONTROL. PROVIDE A COMPLETE WORKING SYSTEM.
2. WALL MOUNT LIGHTS AT HOISTWAY. PROVIDE SWITCH AND LOCATE PER MANUFACTURER REQUIREMENTS.
3. MOUNT AT TOP OF HOISTWAY. PROVIDE SWITCH AND LOCATED PER MANUFACTURER REQUIREMENTS.
4. DOWN TO FIRST FLOOR LIGHTING.
5. DOWN TO ELEVATOR PIT LIGHTING.



SECOND FLOOR LIGHTING PLAN

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

NORTH

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

GRAPHIC SCALE 0 1 2 3

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	08/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT

REVISION

REF.

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA NO. 40181 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

SECOND FLOOR LIGHTING PLAN

B # B-4797

PHASE # ____ / REBID # ____

SHEET 198 OF 236

DWG. NO. E212 2

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

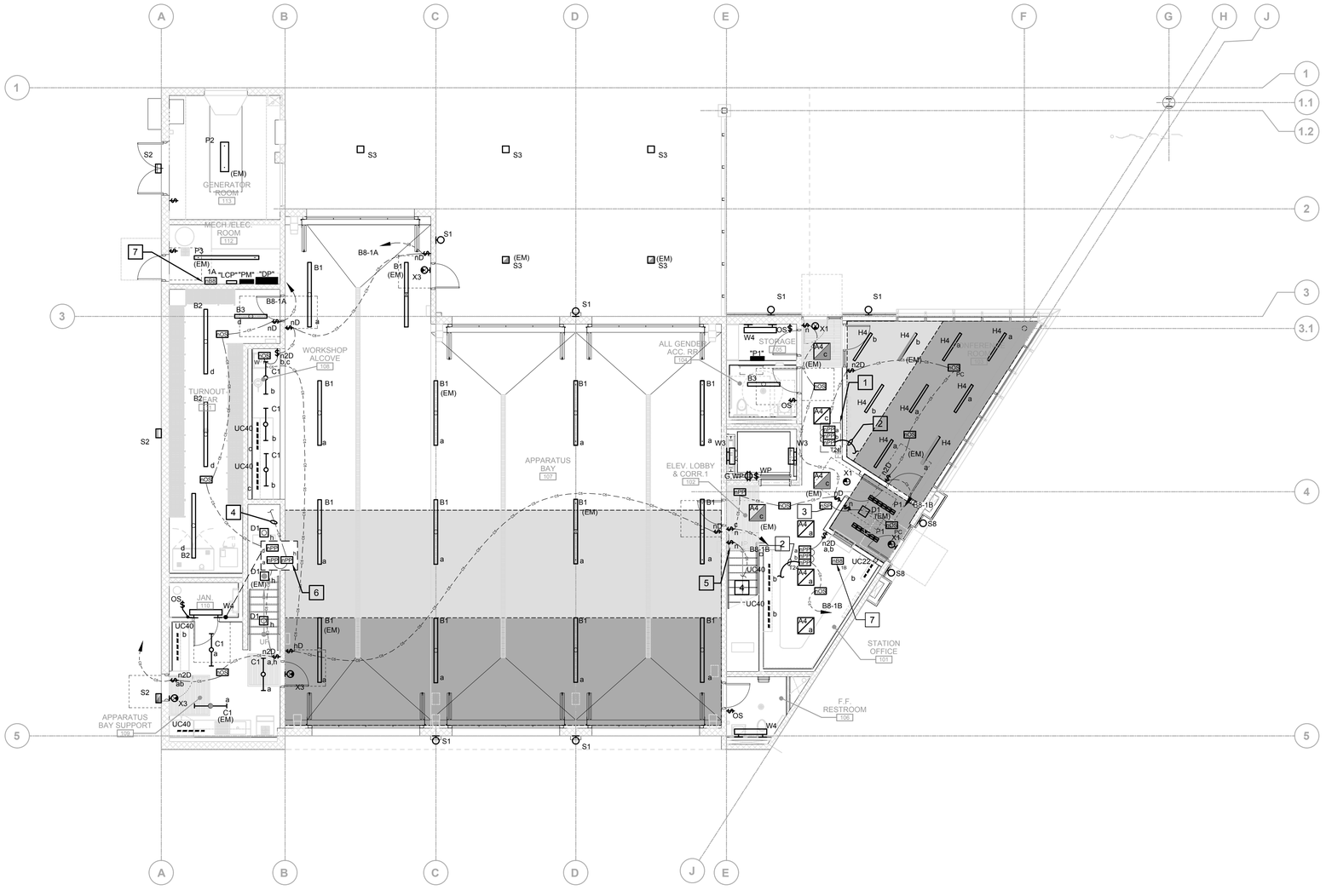
LIGHTING CONTROL NOTES:

QUANTITY AND LOCATION OF ALL SENSORS ARE SHOWN FOR DESIGN INTENT. LIGHTING CONTROL MANUFACTURER SHALL SUBMIT COMPLETE SHOP DRAWING SHOWING PREFERRED LOCATION AND QUANTITY OF SENSORS REQUIRED FOR OPTIMUM SYSTEM PERFORMANCE.

PROVIDE OCCUPANCY SENSOR, WALL OR CEILING MOUNTED AS SHOWN ON THIS PLAN WITH TYPE AND MODEL THAT CAN ACCOMMODATE THE SPACE REQUIREMENT FOR THE ROOM OR AREA.

REFERENCE NOTES

1. POWER PACK FOR CONFERENCE ROOM 103 LIGHTS.
2. DOWN TO CONTROLLED RECEPTACLE. REFER TO POWER PLAN IN THIS ROOM FOR CONTINUATION.
3. POWER PACK FOR LOBBY 100 LIGHTS.
4. UP TO nLIGHT SWITCH. (SEE SHEET E2.14 FOR CONTINUATION).
5. nLIGHT SWITCH FOR STAIR LIGHTING.
6. POWER PACK FOR FOR STAIR LIGHTING.
7. NLIGHT BRIDGE. MOUNT ABOVE ACCESSIBLE CEILING SPACE. REFER TO DIAGRAM ON SHEET E004. PROVIDE 120V CONNECTION PER MANUFACTURER TO THE SAME LIGHTING CIRCUIT IN THE SAME ROOM.



DAYLIT ZONE LEGEND

PRIMARY DAYLIT ZONE

SECONDARY DAYLIT ZONE

N

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

GRAPHIC SCALE 0 1 2 3

FIRST FLOOR LIGHTING CONTROLS PLAN

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

NORTH

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	08/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR
REF.

REGISTERED PROFESSIONAL ENGINEER — WILLIAM A. THOMA — No. 40181 — ELECTRICAL — STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
FIRST FLOOR LIGHTING CONTROLS PLAN

B # B-4797

PHASE # ____ / REBID # ____

SHEET 199 OF 236

DWG. NO. E213

THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

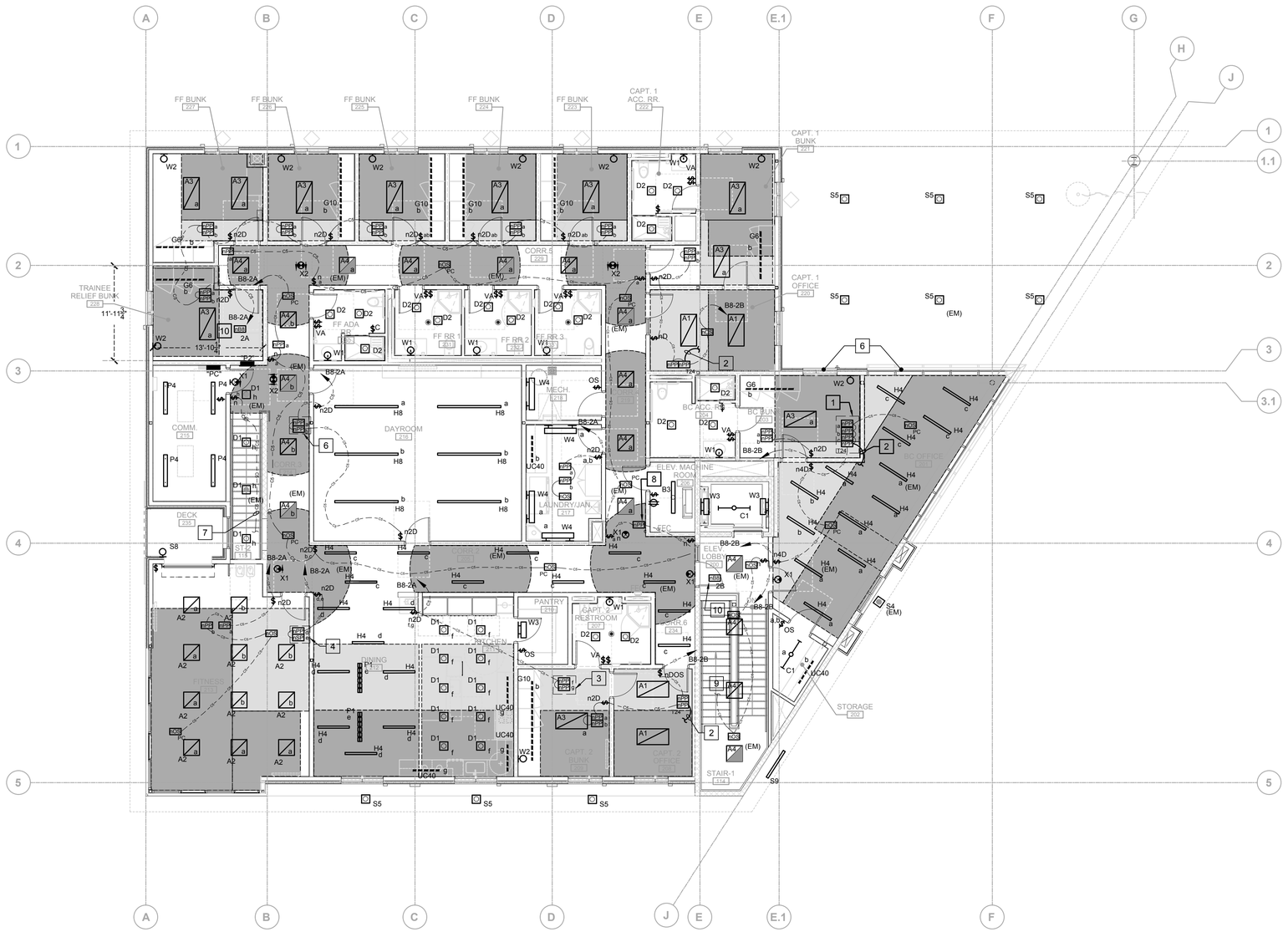
LIGHTING CONTROL NOTES:

QUANTITY AND LOCATION OF ALL SENSORS ARE SHOWN FOR DESIGN INTENT. LIGHTING CONTROL MANUFACTURER SHALL SUBMIT COMPLETE SHOP DRAWING SHOWING PREFERRED LOCATION AND QUANTITY OF SENSORS REQUIRED FOR OPTIMUM SYSTEM PERFORMANCE.

PROVIDE OCCUPANCY SENSOR, WALL OR CEILING MOUNTED AS SHOWN ON THIS PLAN WITH TYPE AND MODEL THAT CAN ACCOMMODATE THE SPACE REQUIREMENT FOR THE ROOM OR AREA.

REFERENCE NOTES

1. POWER PACK FOR BC OFFICE 201 LIGHTS.
2. DOWN TO CONTROLLED RECEPTACLE. REFER TO POWER PLAN IN THIS ROOM FOR CONTINUATION.
3. POWER PACKS FOR KITCHEN 211 LIGHTS.
4. POWER PACKS FOR DINING 212 LIGHTS.
5. POWER PACKS FOR DAYROOM 216 LIGHTS.
6. DAYLIT ZONE EXEMPT PER CODE EXCEPTION 2 TO SECTION 130.1(d).
7. DOWN TO nLIGHT POWER PACK (SEE SHEET E213 FOR CONTINUATION).
8. POWER PACK FOR H4 FIXTURE AT CORRIDOR.
9. DOWN TO nLIGHT SWITCH. (SEE SHEET E213 FOR CONTINUATION)
10. nLIGHT BRIDGE. MOUNT ABOVE ACCESSIBLE CEILING SPACE. REFER TO DIAGRAM ON SHEET E004. PROVIDE 120V CONNECTION PER MANUFACTURER TO THE SAME LIGHTING CIRCUIT IN THE SAME ROOM.



DAYLIT ZONE LEGEND

PRIMARY DAYLIT ZONE

SECONDARY DAYLIT ZONE

SECOND FLOOR LIGHTING CONTROLS PLAN

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

NORTH

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

GRAPHIC SCALE 0 1 2 3

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	08/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS

REVISION

AS-BUILT

REF.

DESIGNED BY: CJ

DRAWN BY: TR

DESIGN CHECK BY: CJ/JT

DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA No. 40167 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

SECOND FLOOR LIGHTING CONTROLS PLAN

B # B-4797

PHASE # ____ / REBID # ____

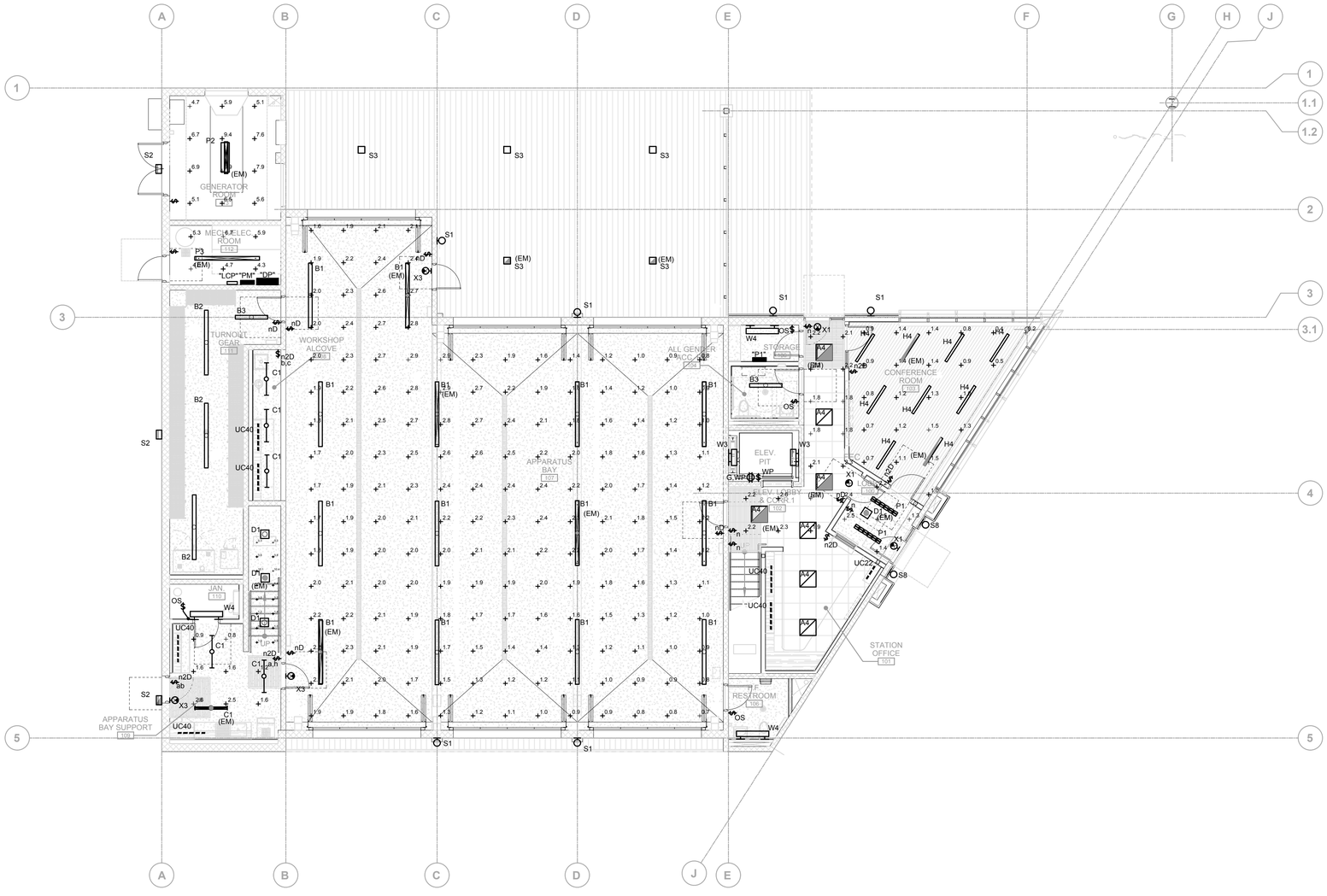
SHEET 200 OF 236

DWG. NO. E214

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 16, 2023 - 11:55am - CReyes - K:\ENG\2021\21-807021-8070_E214_SECOND FLOOR LIGHTING CONTROLS PLAN.dwg



STATISTICS

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	UG
APP BAY	+	1.8 fc	2.9 fc	0.7 fc	4.1:1	2.6:1	1.2
APPARATUSS BAY SUPPORT	+	1.6 fc	2.5 fc	0.9 fc	2.8:1	1.8:1	1.9
BC OFFICE	+	1.0 fc	1.5 fc	0.3 fc	5.0:1	3.3:1	1.9
CONFERENCE ROOM	+	0.6 fc	1.3 fc	0.2 fc	6.5:1	3.0:1	1.9
GENERATOR ROOM	+	6.8 fc	9.9 fc	4.7 fc	2.1:1	1.4:1	1.6
HALLWAY 1	+	2.2 fc	2.7 fc	1.8 fc	1.5:1	1.2:1	1.4
LOBBY	+	2.1 fc	2.2 fc	2.0 fc	1.1:1	1.1:1	1.1
LOBBY 100	+	2.0 fc	2.5 fc	1.3 fc	1.9:1	1.5:1	2.0
MECH/ELEC ROOM	+	5.2 fc	6.1 fc	4.5 fc	1.4:1	1.2:1	1.3
STAIR	+	3.4 fc	10.4 fc	0.3 fc	34.7:1	11.3:1	12.2
STAIR 2 -DOWN	+	0.4 fc	0.7 fc	0.2 fc	3.5:1	2.0:1	-1.0
STAIRS 2 -UP	+	0.8 fc	1.0 fc	0.5 fc	2.0:1	1.6:1	-1.0
STAIRS DOWN 1ST LEVEL	+	1.4 fc	2.0 fc	0.9 fc	2.2:1	1.6:1	-1.0
2ND FLOOR CORRIDOR	+	1.6 fc	4.0 fc	0.4 fc	10.0:1	4.0:1	-1.0

N

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

GRAPHIC SCALE 0 1 2 3

FIRST FLOOR EMERGENCY LIGHTING PHOTOMETRIC PLAN

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

NORTH

REVISION			
NO.	DATE	SHEET	APPROVAL
	12/16/21		
1	04/22/22		
2	08/15/23		
	10/12/23		

DESCRIPTION: PLAN CHECK SUBMITTAL; PLAN CHECK RE-SUBMITTAL; PLAN CHECK RE-SUBMITTAL; BID DOCUMENTS

AS-BUILT REF.

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER — WILLIAM A. THOMA — NO. 40181 — ELECTRICAL — STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
FIRST FLOOR EMERGENCY LIGHTING PHOTOMETRIC PLAN

B # B-4797

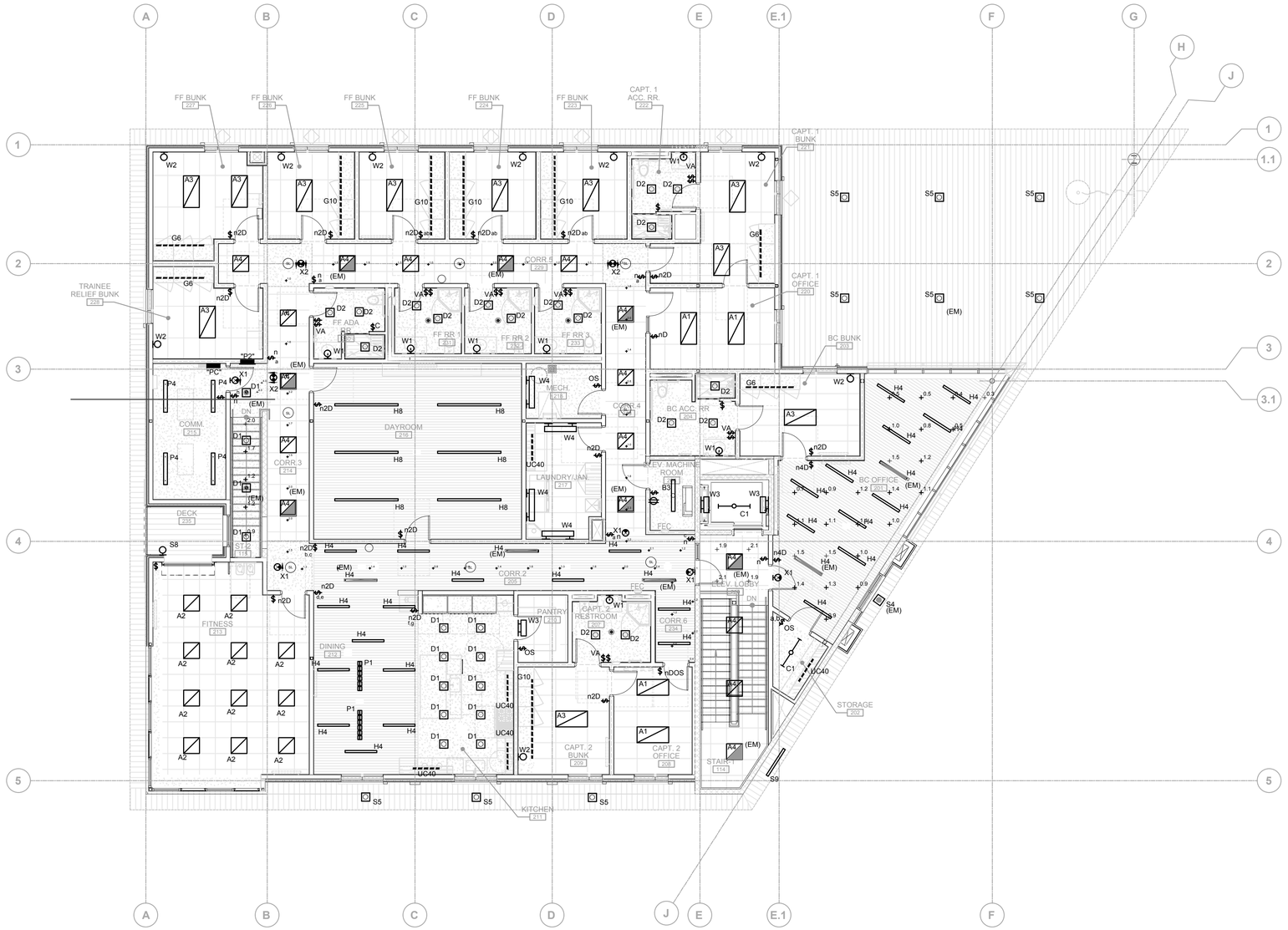
PHASE # ____ / REBID # ____

SHEET 201 OF 236

DWG. NO. E215 2

THOMA ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



STATISTICS

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	UG
APP BAY	+	1.8 fc	2.9 fc	0.7 fc	4.1:1	2.6:1	1.2
APPARATUSS BAY SUPPORT	+	1.6 fc	2.5 fc	0.9 fc	2.8:1	1.8:1	1.9
BC OFFICE	+	1.0 fc	1.5 fc	0.3 fc	5.0:1	3.3:1	1.9
CONFERENCE ROOM	+	0.6 fc	1.3 fc	0.2 fc	6.5:1	3.0:1	1.9
GENERATOR ROOM	+	6.8 fc	9.9 fc	4.7 fc	2.1:1	1.4:1	1.6
HALLWAY 1	+	2.2 fc	2.7 fc	1.8 fc	1.5:1	1.2:1	1.4
LOBBY	+	2.1 fc	2.2 fc	2.0 fc	1.1:1	1.1:1	1.1
LOBBY 100	+	2.0 fc	2.5 fc	1.3 fc	1.9:1	1.5:1	2.0
MECH/ELEC ROOM	+	5.2 fc	6.1 fc	4.5 fc	1.4:1	1.2:1	1.3
STAIR	+	3.4 fc	10.4 fc	0.3 fc	34.7:1	11.3:1	12.2
STAIR 2 -DOWN	+	0.4 fc	0.7 fc	0.2 fc	3.5:1	2.0:1	-1.0
STAIRS 2 -UP	+	0.8 fc	1.0 fc	0.5 fc	2.0:1	1.6:1	-1.0
STAIRS DOWN 1ST LEVEL	+	1.4 fc	2.0 fc	0.9 fc	2.2:1	1.6:1	-1.0
2ND FLOOR CORRIDOR	+	1.6 fc	4.0 fc	0.4 fc	10.0:1	4.0:1	-1.0

SECOND FLOOR EMERGENCY LIGHTING PHOTOMETRIC PLAN

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

NORTH

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	08/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS

REVISION

AS-BUILT

REF.

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA NO. 40787 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
SECOND FLOOR EMERGENCY LIGHTING PHOTOMETRIC PLAN

B # **B-4797**

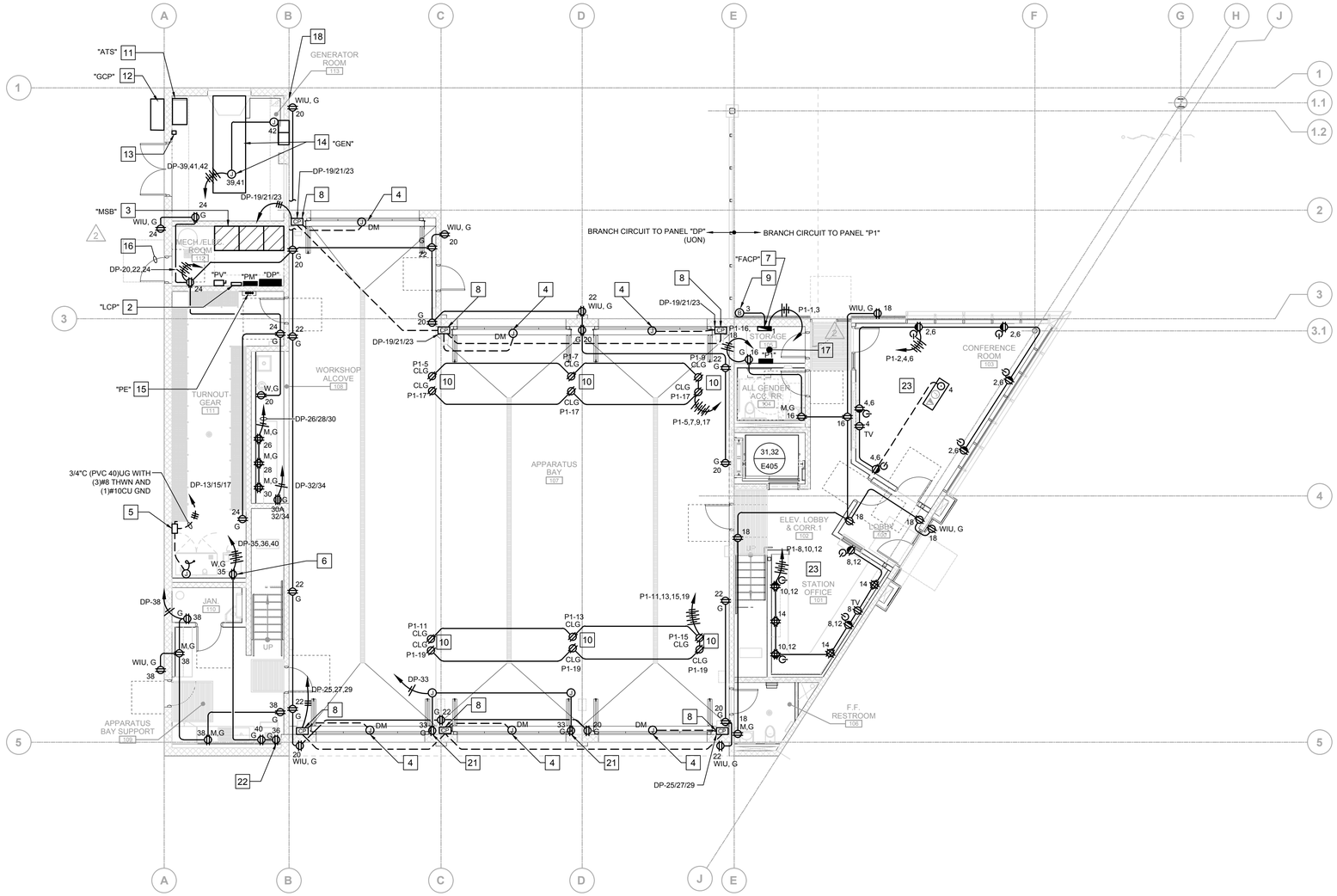
PHASE # ____ / REBID # ____

SHEET 202 OF 236

DWG. NO. E216 /2

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



FIRST FLOOR POWER PLAN

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

NORTH

REFERENCE NOTES

1. DISTRIBUTION PANEL, "DP". REFER TO SINGLE LINE DIAGRAM.
2. LIGHTING CONTROL PANEL, "LCP".
3. MAIN SWITCHBOARD, "MSB" PER SINGLE LINE DIAGRAM.
4. DOOR MOTOR, VERIFY EXACT LOCATION WITH INSTALLER PRIOR TO ROUGH-IN.
5. CONNECT TO DRYER CABINET, VERIFY EXACT POINT OF CONNECTION.
6. CONNECT WASHER EXTRACTOR, VERIFY EXACT POINT OF CONNECTION PRIOR TO ROUGH-IN.
7. FIRE SPRINKLER MONITORING AND ALARM PANEL "FACP."
8. CONNECT TO OVERHEAD DOOR OPERATOR CONTROL PANEL. PROVIDE FUSE DISCONNECT ADJACENT TO CONTROL PANEL PER MANUFACTURER REQUIREMENTS. COORDINATE WITH MANUFACTURER ALL ELECTRICAL AND CONTROL REQUIREMENTS PRIOR TO ROUGH-IN. (DISCONNECT IS NOT SHOWN)
9. PROVIDE 120V CONNECTION TO SPRINKLER BELL FURNISHED BY FIRE ALARM CONTRACTOR EC TO CONNECT.
10. CEILING MOUNT TWIST LOCK RECEPTACLE FOR CORD DROP FOR APPARATUS TRUCK TRICKLE CHARGE AND DROP LIGHT CORD. PROVIDE CORD REEL WITH CAGED INDUSTRIAL DROP LIGHT WITH TAP PLUG. (DUROHOSEREEL #2503-BC). REFER TO PLUMBING PLANS FOR COMBO HOSE REEL AND CORD REEL DROP (FURNISHED AND INSTALL BY PLUMBING CONTRACTOR). MOUNT THE CORD REEL LIGHT ADJACENT TO COMBO REEL. COORDINATE CORD LENGTH WITH LONG BEACH FIRE DEPARTMENT REPRESENTATIVE. PROVIDE HOOK TO HANG CORD/RECEPTACLE ASSEMBLY. CONFIRM LOCATION OF OUTLET AND CORD REEL WITH CITY AND WITH VEHICLE EXHAUST SYSTEM RAIL PRIOR TO INSTALLATION.
11. AUTOMATIC TRANSFER SWITCH, "ATS" PER SINGE LINE DIAGRAM.
12. GENERATOR CONNECTION PANEL, "GCP" PER SINGLE LINE DIAGRAM.
13. REMOTE GENERATOR EMERGENCY POWER SHUT-OFF FOR GENERATOR PER SINGE LINE DIAGRAM.
14. GENERATOR PER SINGLE LINE DIAGRAM. PROVIDE CONNECTION TO BATTERY CHARGER AND BLOCK HEATER.
15. FUTURE ELECTRIC FIRE TRUCK PANEL "PE".
16. THIS DOOR AT ELECTRICAL ROOM WILL HAVE PANIC HARDWARE PER (110.26(C)(3)).
17. WORKING SPACE ABOUT ELECTRICAL EQUIPMENT SHALL NOT BE USED FOR STORAGE (110.25(B). TYPICAL.
18. SURFACE MOUNT REMOTE FILL STATION. REFER TO SINGLE LINE DIAGRAM. PROVIDE 120V CONNECTION. TO THE ELECTRICAL CABINET SIDE. PLUMBING TO PROVIDE FUEL PIPE TO SUB-BASE TANK PER MANUFACTURER REQUIREMENTS.
20. CONNECTION TO ELECTRONIC WATER COMBI CONTROLLER FOR HOLDING LAVATORY. COORDINATE EXACT LOCATION PRIOR TO ROUGH-IN.
21. PROVIDE RECEPTACLE FOR CONNECTION TO ALERTING END POINT COORDINATE EXACT LOCATION AND HEIGHT WITH WESTNET PRIOR TO ROUGH-IN.
22. PROVIDE RECEPTACLE FOR CONNECTION TO POWER MODULE/UPS. COORDINATE EXACT LOCATION WITH WESTNET PRIOR TO INSTALLATION. PROVIDE DEDICATED CIRCUIT.
23. ROUTE BRANCH CIRCUIT TO POWER PACK FOR CONTROLLED RECEPTACLES IN THIS ROOM.

NO.	DATE	SHEET	APPROVAL	REVISION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	08/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR
REF.

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA NO. 40161 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
FIRST FLOOR POWER PLAN

B # B-4797

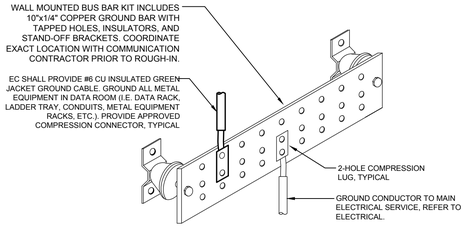
PHASE # ____ / REBID # ____
SHEET 203 OF 236

DWG. NO. E221 2

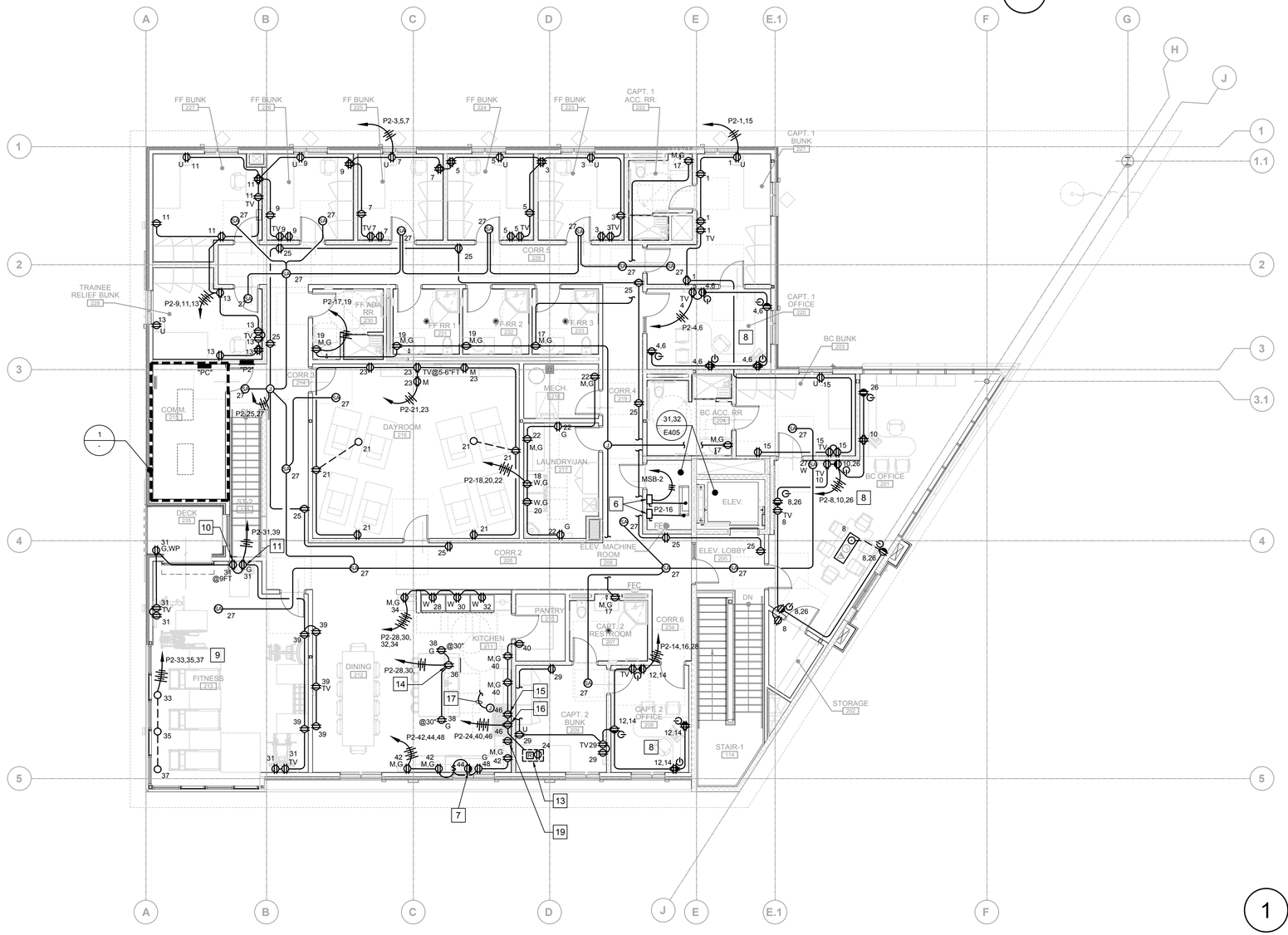
thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 16, 2023 - 11:55am - CReyes - K:\ENG\2021\21-8070\21-8070_E221_FIRST FLOOR POWER PLAN.dwg



2 GROUND BAR DETAIL AT TELECOM RM



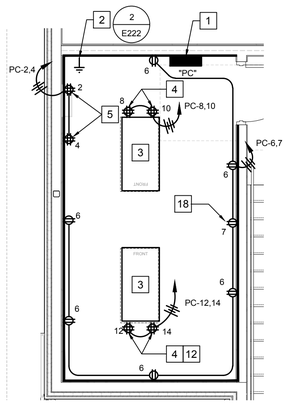
SECOND FLOOR POWER PLAN

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

NORTH

REFERENCE NOTES

1. MAIN COMMUNICATION BACKBOARD. "MCTB". MAIN COMMUNICATION TERMINAL BOARD "MCTB" WITH GROUND BAR. PROVIDE 8'H X 3/4" FIRE RETARDANT BACKBOARD AT FOUR WALLS SHOWN.
2. PROVIDE A GROUND BAR WITH 3/4" UNDERGROUND CONDUIT TO "MSB".
3. PROVIDE 19"W X7'H 4-POST COMMUNICATION RACK FLOOR MOUNTED SYSTEM PER CITY LONG BEACH TELCOMMUNICATION STANDARD. (SEISMIC SUPPORTS AS REQUIRE).
4. PROVIDE DEDICCATED CIRCUIT DOUBLE DUPLEX LEFT AND RIGHT SIDE OF THE 4-POST RACK. OUTLET MUST BE SUSPENDED ABOVE THE REAR OF EACH 4-POST RACK - NOT ATTACHED TO THE RACK. THE PLACEMENT OF THE OUTLET AND THEIR CONDUITS SHALL NOT BLOCK OR INTERFERE WITH STRUCTURED CABLING OR THE RACK'S EQUIPMENT MOUNTING AREA (RAILS) ON EITHER SIDE OF RACK.
5. DEDICATED CIRCUIT FOR CATV/TELEPHONE UTILITY COMPANY. VERIFY MOUNTING HEIGHT PRIOR TO ROUGH-IN.
6. PROVIDE 3PHASE CONNECTION TO ELEVATOR AND 120V CONNECTION TO ELEVATOR CAB. REFER TO SINGLE LINE DIAGRAM FOR 3 PHASE CONNECTION TO "MSB".
7. PROVIDE SWITCHED RECEPTACLE BELOW SINK AND GANG SWITCH WITH RECEPTACLE ABOVE COUNTER. PROVIDE TWO DEDICATED CIRCUIT FOR DISPOSAL AND DISHWASHER (PROVIDE DUPLEX EACH).
8. ROUTE BRANCH CIRCUIT TO POWER PACK FOR CONTROLLED RECEPTACLES IN THIS ROOM.
9. PROPOSED (3) DEDICATED CIRCUITS EXERCISE EQUIPMENT. VERIFY OUTLET LOCATIONS FOR EXERCISE EQUIPMENT WITH OWNER PRIOR TO ROUGH-IN. ROUTE BRANCH UNDERGROUND AT FITNESS BUILDING.\
10. CONNECTION TO WALL FAN PER MECHANICAL PLANS.
11. CONNECTION TO DRINKING FOUNTAIN. COORDINATE WITH PLUMBING PLANS.
12. CONNECTION TO ALERTING POWER MODULE/UPS AT RACK. PROVIDE 5.0 OHM EARTH GROUND AND GROUND BAR REQUIRED. COORDINATE WITH WESTNET PLANS FOR REQUIREMENTS.
13. PROVIDE RECEPTACLE FOR APPLIANCE CONTROLLER DEVICE MOUNTED IN ACCESSIBLE AREA LOCATED NEXT TO GAS VALVE. PROVIDE DEDICATED CIRCUIT. PROVIDE RELAY FOR AC POWER TO TURN OFF OVEN/RANGE POWER CIRCUIT. COORDINATE EXACT LOCATION WITH WESTNET PRIOR TO INSTALLATION.
14. CONNECTION TO DISHWASHER.
15. PROVIDE CONNECTION FOR KITCHEN LIGHT. COORDINATE EXACT LOCATION PRIOR TO ROUGH-IN.
16. PROVIDE CONNECTION FOR COOKING RANGE. COORDINATE REQUIREMENTS AND LOCATION WITH MANUFACTURER PRIOR TO ROUGH-IN. ROUTE BRANCH CIRCUIT THROUGH RELAY PER FIRE ALERTING REQUIREMENTS. REFER TO WESTNET PLANS.
17. UP TO ROOF MOUNTED EXHAUST FAN FOR KITCHEN HOOD FAN. CONNECT PER MANUFACTURER REQUIREMENTS. SEE ROOF PLAN FOR CONTINUATION.
18. CONNECTION TO ACCESS CONTROL PANEL. VERIFY EXACT LOCATION WITH OWNER'S VENDOR PRIOR TO ROUGH-IN.
19. PROVIDE RECEPTACLE FOR CONNECTION TO APPLIANCE CONTROLLER DEVICE AND APPLIANCE CONTROLLER RESET BUTTON. COORDINATE EXACT LOCATION AND HEIGHT WITH WESTNET PRIOR TO ROUGH-IN.



1 ENLARGED PLAN AT COMM. [215]

SCALE:

N

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

GRAPHIC SCALE 0 1 2 3

NO.	DATE	SHEET	APPROVAL	DESCRIPTION REVISION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	08/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT

REF.

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA NO. 40181 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

SECOND FLOOR POWER PLAN

B # B-4797

PHASE # ____ / REBID # ____

SHEET 204 OF 236

DWG. NO. E222 2

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaselec.com

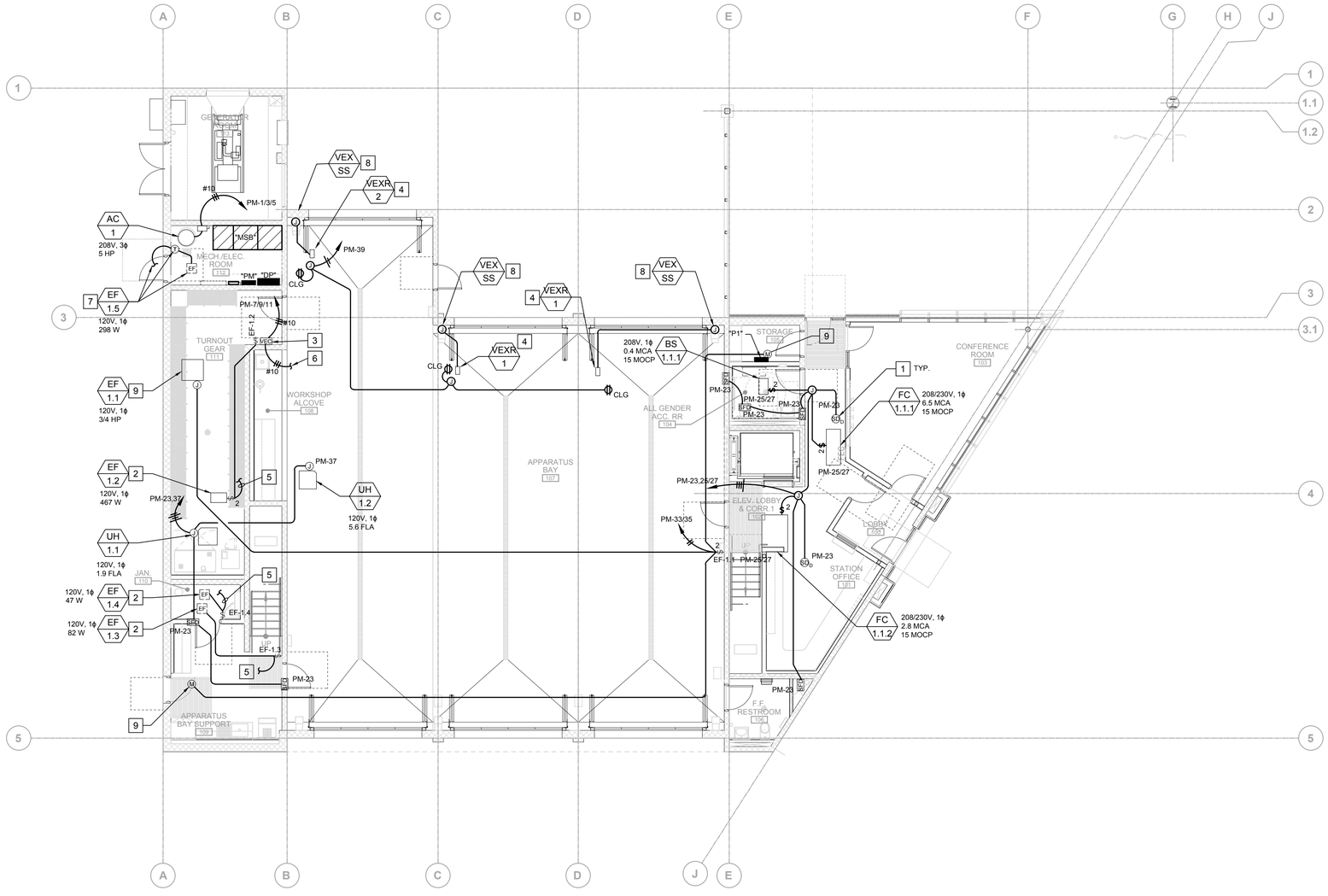
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

BRANCH CIRCUIT:

ALL MECHANICAL UNITS SHOWN ON FIRST FLOOR ARE CONNECTED TO PANEL "PM1"

REFERENCE NOTES

1. PROVIDE 120V AND FIRE ALARM CONNECTION TO SMOKE DUCT DETECTORS PER MECHANICAL PLANS. (TYPICAL)
2. EXHAUST FAN, CONNECT TO SINGLE POLE SWITCH. PROVIDE AND INSTALL SINGLE POLE SWITCH PER MECHANICAL.
3. VEHICLE EXHAUST FAN CONTROL PANEL, PROVIDE CONNECTION TO CONTROL PANEL PER MECHANICAL PLANS.
4. PROVIDE CONNECTION TO RECEPTACLE AT PLYMOVENT PER MECHANICAL PLANS.
5. TO LIGHTING BRANCH CIRCUIT IN THIS ROOM. REFER TO LIGHTING PLAN.
6. 3-PHASE BRANCH CIRCUIT UP TO ROOF MOUNTED VEHICLE EXHAUST FAN, "VEXF-1". REFER TO SHEET E303 FOR CONTINUATION.
7. CONNECT TO LINE VOLTAGE THERMOSTAT OF EXHAUST FAN. EXTEND BRANCH CIRCUIT TO LIGHTING CIRCUIT IN THE ROOM.
8. PROVIDE ROUGH-IN FOR VEHICLE EXHAUST SAFETY SHUT OFF WITH AUTO RETURN. PROVIDE 1-GANG RECESSED BOX AND 1/2"C.O. (EMT) WITH PULL STRING TO CRAB RETURN SYSTEM MOTOR AND CONTROL BOX LOCATED END OF EXHAUST RAIL. REFER TO MECHANICAL PLANS. COORDINATE WITH MECHANICAL CONTRACTOR AND MANUFACTURER FOR ROUGH-IN. MOUNT SWITCH BOX AT 48" AFF MEASURED FROM TOP OF BOX.
9. EXHAUST FAN, CONNECT TO SINGLE POLE SWITCH. PROVIDE AND INSTALL SINGLE POLE SWITCH. INTERLOCK WITH ACTUATORS AT THE MAKE-UP AIR LOUVERS PER MECHANICAL.



FIRST FLOOR MECHANICAL/PLUMBING CONNECTION PLAN

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

NORTH

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

GRAPHIC SCALE 0 1 2 3

NO.	DATE	SHEET	APPROVAL	DESCRIPTION REVISION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	08/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR
REF.

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA NO. 40787 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

FIRST FLOOR MECHANICAL/PLUMBING CONNECTION PLAN

B # B-4797

PHASE # ____ / REBID # ____

SHEET 205 OF 236

DWG. NO. E301

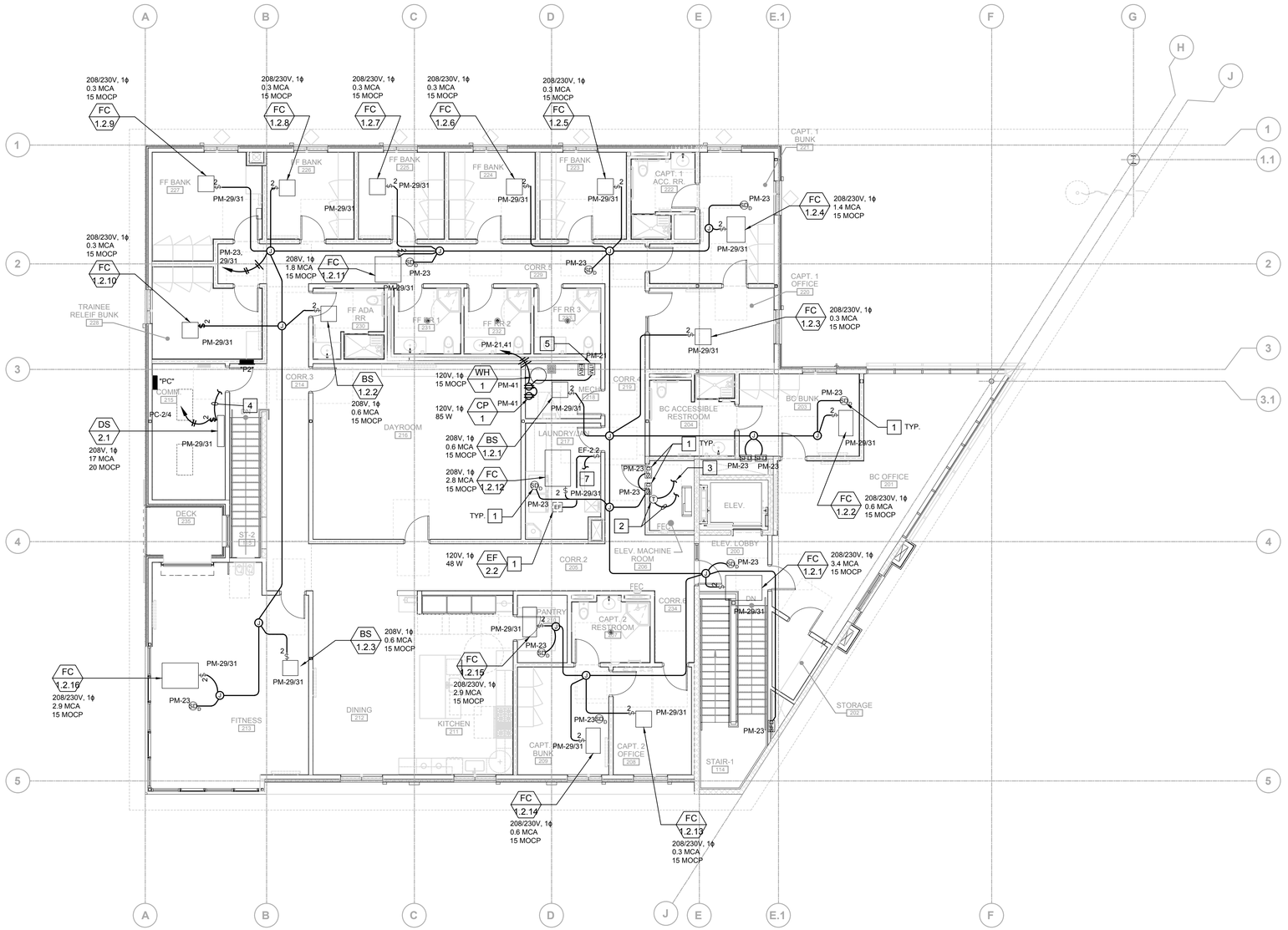
thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 16, 2023 - 11:58am - CKoyes - K:\ENG\2021\21-8070\21-8070_E301_FIRST FLOOR MECHANICAL PLAN.dwg

☐ REFERENCE NOTES

1. PROVIDE 120V AND FIRE ALARM CONNECTION TO SMOKE DUCT DETECTORS AND SMOKE FIRE DAMPERS PER MECHANICAL PLANS. (TYPICAL)
2. CONNECT TO LINE VOLTAGE THERMOSTAT FOR ROOF EXHAUST FAN, "EF-2.1". EXTEND BRANCH CIRCUIT TO LIGHTING CIRCUIT IN THIS ROOM.
3. BRANCH CIRCUIT UP TO ROOF MOUNTED EXHAUST FAN, 'EF-2.1". REFER TO SHEET E303 FOR CONTINUATION.
4. BRANCH CIRCUIT UP TO ROOF MOUNTED OUTDOOR UNIT. REFER TO SHEET E303 FOR CONTINUATION. OUTDOOR UNIT POWERS INDOOR UNIT.
5. PROVIDE CONNECTION TO CONTROLS. COORDINATE WITH MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
6. EXHAUST FAN, CONNECT TO SINGLE POLE SWITCH. PROVIDE AND INSTALL SINGLE POLE SWITCH PER MECHANICAL.
7. EXTEND BRANCH CIRCUIT TO LIGHTING CIRCUIT IN THIS ROOM.



SECOND FLOOR MECHANICAL/PLUMBING CONNECTION PLAN

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

NORTH

N

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

GRAPHIC SCALE 0 1 2 3

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	08/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR
REF.

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA NO. 401681 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

SECOND FLOOR MECHANICAL/PLUMBING CONNECTION PLAN

B # B-4797

PHASE # ____ / REBID # ____

SHEET 206 OF 236

DWG. NO. E302

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

☐ REFERENCE NOTES

1. PROPOSED SOLAR DISCONNECT IN GROUND LEVEL ELECTRICAL ROOM.
2. SOLAR READY ZONES.
3. PROPOSED LOCATION OF ROOF MOUTNED SOLAR INVERTER .
4. MAIN SWITCHBOARD, "MSB".
5. BRANCH CIRCUIT DOWN TO INDOOR UNIT AND SECOND FLOOR COMM ROOM. OUTDOOR UNIT POWERS INDOOR UNIT. REFER TO SHEET E302 FOR CONTINUATION.
6. BRANCH CIRCUIT DOWN TO LINE VOLTAGE THERMOSTAT IN ELEVATOR EQUIPMENT ROOM. REFER TO SHEET E302 FOR CONTINUATION.
7. BRANCH CIRCUIT DOWN TO VEHICLE EXHAUST FAN CONTROL PANEL LOCATED IN TURNOUT ROOM.

ELECTRICAL ROOF PLAN

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

NORTH

N

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

GRAPHIC SCALE 0 1 2 3

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	08/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT

REVISION

REF.

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER
WILLIAM A. THOMA
NO. 40787
ELECTRICAL
STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ELECTRICAL ROOF PLAN

B # B-4797

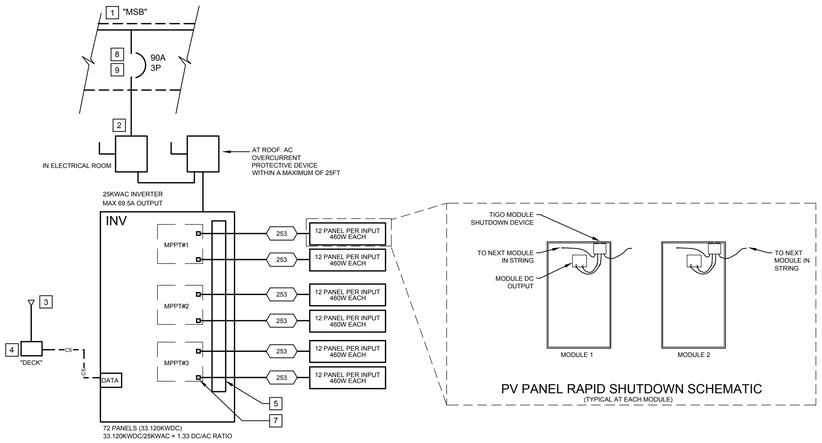
PHASE # ___ / REBID # ___

SHEET 207 OF 236

DWG. NO. E303

THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



☐ REFERENCE NOTES DETAIL 1

1. (N) METERED MAIN ELECTRICAL SERVICE, "MSB" (1000A, 120/208V, 3PH, 4W. ADD BREAKER AS SHOWN.
2. PROVIDE DISCONNECTING MEANS FOR AC DISCONNECT PER SOUTHERN CALIFORNIA ELECTRIC (SCE) REQUIREMENTS.
3. DATA OUTLET FOR INVERTER INTERCONNECTION TO FACILITY LOCAL AREA NETWORK. PROVIDE CAT6 PATCH CABLE FROM OUTLET TO INVERTER.
4. "DECK" EQUIPMENT AND PRODUCTION MONITORING DEVICE. INTERFACE WITH INVERTERS PER MANUFACTURER.
5. SOLECTRIA RAPID-SHUTDOWN READY WIRE BOX WITH RAPID SHUTDOWN COMMUNICATOR INTERNAL TO INVERTER.
6. MODULE LEVEL SHUTDOWN PROVIDED VIA TIGO SHUTDOWN DEVICE
7. 20A FUSE TYPICAL AT EACH MPPT INPUT.
8. PHOTOVOLTAIC SYSTEM AND BREAKER SHALL BE PROVIDED AT THE END OF THE BUS AND SIZED PER CEC 705.12(B)(2)(3)(B).
9. CIRCUIT BREAKER SHALL BE CAPABLE OF BACK FEED.

33.12 KWDC SOLAR ELECTRIC SYSTEM PHOTOVOLTAIC SYSTEM SUMMARY

DEFERRED SUBMITTAL

MODULE MODEL: PHONO SOLAR
MODULE MAX POWER (P/MAX): 460W MODULE QTY: 72 BIFACIAL TWIN PLUS
MODULE SERIES #PS460M5FG-24TH

INVERTER MODEL: (1)YASKAWA SOLECTRIA 25KVA 208V 3PH (#PVI 25TL-208)

ROOF MATERIAL = METAL (TYPICAL)

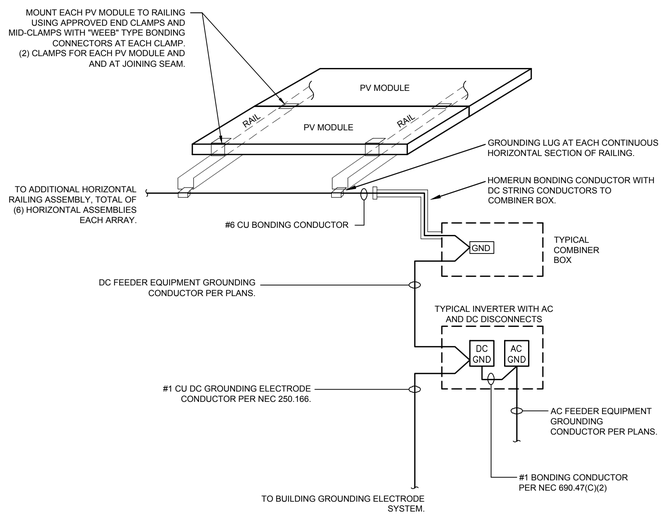
ELECTRICAL UTILITY COMPANY: SOUTHERN CALIFORNIA EDISON (SCE)
MAIN SERVICE AMPERAGE: 1000AMP, 120/208V 4W 3PH

SOLAR PHOTOVOLTAIC SYSTEM PERFORMANCE SPECIFICATIONS

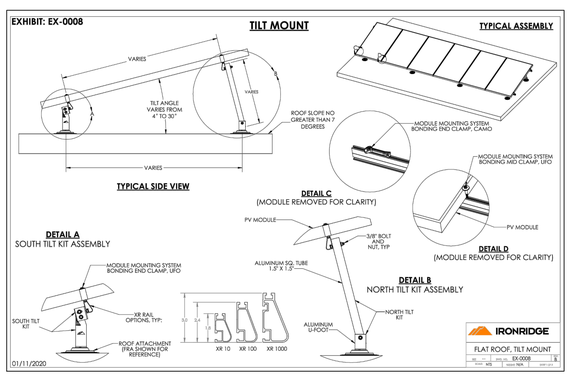
(DEFERRED APPROVAL).

1. PV PANEL SIZE, LAYOUT AND QUANTITIES SHOWN ARE DIAGRAMMATIC. CONTRACTOR SHALL COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE MODULE PANEL, CONDUITS, CABLING COMBINER, INVERTER AND ASSOCIATED SUPPORT SYSTEM FOR A COMPLETE TURNKEY PV SYSTEM COMPLYING WITH DESIGN REQUIREMENTS.
2. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2019 CBC, 2019 CFC AND 2019 CEC WITH SPECIAL EMPHASIS ON ARTICLE 690. MOREOVER, COMPLIANCE WITH DSA INTERPRETATION OF REGULATIONS DOCUMENT IR 16-8 SHALL BE REQUIRED.
3. ROOFTOP MOUNTED PHOTOVOLTAIC PANELS AND MODULES SHALL BE TESTED , LISTED AND IDENTIFIED UL 1703 .
4. ALL ELECTRICAL EQUIPMENT SHALL BE LISTED BY A RECOGNIZED ELECTRICAL TESTING LABORATORY.
5. ALL DC MATERIALS (FUSES, EQUIPMENT, CONNECTORS, WIRES, ETC.) TO BE UL LISTED FOR 600VDC OR 1000VDC WHERE APPLICABLE.
6. MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR ALL COMPONENTS OF THE SOLAR PV SYSTEM SHALL BE KEPT ON THE PROJECT SITE AND MADE AVAILABLE UPON REQUEST OF THE INSPECTOR.
7. CONTRACTOR SHALL NEVER LEAVE A MODULE UNSUPPORTED OR UNSECURED. THE CONTRACTOR IS RESPONSIBLE FOR ALL MATERIAL HANDLING ON THE JOBSITE. MODULES SHALL BE SECURED WITH A MINIMUM (4) POINTS OF CONTACT.
8. SOLAR SYSTEM SHALL NOT COVER ANY PLUMBING OR MECHANICAL VENTS.
9. PHOTOVOLTAIC MODULES SHALL MAINTAIN 4 FEET CLEAR FROM ALL ROOF EDGES, PER CSFM INSTALLATION GUIDELINES AND CFC REQUIREMENTS.
10. ALL PV MODULES AND ASSOCIATED EQUIPMENT AND WIRING SHALL BE PROTECTED FROM ANY PHYSICAL DAMAGE.
11. ALL HARDWARE ON THE ROOF SHALL BE STAINLESS STEEL, IN COMBINATION WITH ALUMINUM FITTINGS AND RAILINGS, UNLESS OTHERWISE NOTED.
12. CONTRACTOR SHALL SUPPLY AND INSTALL FASTENING HARDWARE PER STRUCTURAL DRAWINGS AND PV MOUNTING SYSTEM MANUFACTURER'S RECOMMENDATIONS.
13. SEPARATION DISTANCE FROM ROOF TO BOTTOM OF PV PANELS SHALL BE A MINIMUM OF 4".
14. ALL SHARP EDGES AND FASTENER TIPS SHALL BE COVERED OR CRIMPED OVER AS TO NOT PROVIDE A SHARP EDGE WHERE EMERGENCY RESPONDERS OR ANY OTHER INDIVIDUAL ACCESSING THE ROOFTOP MAY BE INJURED.
15. LIVE PARTS OF PV SOURCE CIRCUITS AND PV OUTPUT CIRCUITS OVER 150V TO GROUND SHALL NOT BE ACCESSIBLE TO OTHER THAN QUALIFIED PERSONS WHILE ENERGIZED.
16. INVERTER SHALL BE EQUIPPED W/ INTEGRATED GFDI, THUS PROVIDING GROUND FAULT PROTECTION.
12. RACKING SYSTEM SHALL BE LISTED TO UL 2703.
13. MODULES AND SUPPORT STRUCTURES SHALL BE GROUNDED. ALL METALLIC COMPONENTS OF THE SOLAR PHOTOVOLTAIC SYSTEM (AC AND DC SYSTEMS INCLUDED) SHALL BE GROUNDED AND BONDED PER CEC ARTICLES 250 AND 690. PV MODULES SHALL BE GROUNDED TO MOUNTING RAILS USING MODULE LUGS OR RACKING INTEGRATED GROUNDING CLAMPS. ALL OTHER EXPOSED METAL PARTS SHALL BE GROUNDED USING UL LISTED LAY-IN LUGS. PROVIDE BONDING STRAPS BETWEEN INDIVIDUAL RAILS JOINING TO FORM A MULTI-PIECE RAILING SYSTEM. EACH RAILING SYSTEM SHALL BE BONDED TO THE GROUNDING SYSTEM WITH A MINIMUM #6 COPPER CONDUCTOR.
14. GROUNDING LUGS SHALL BE SPECIFIED AND LOCATED ACCORDING TO THE PHOTOVOLTAIC PANEL MANUFACTURER'S REQUIREMENTS.
15. PER CEC 250.92, NON-CURRENT CARRYING METAL PARTS OF EQUIPMENT SHALL BE EFFECTIVELY BONDED TOGETHER. BOND BOTH ENDS OF RACEWAYS.
16. COPPER BONDING CONDUCTORS SHALL BE KEPT CLEAR OF CONTACT FROM RACKING SYSTEM AND ALL OTHER ALUMINUM MATERIALS TO AVOID CATHODIC CORROSION.
17. EQUIPMENT GROUNDING CONDUCTOR REQUIRED IN RACEWAYS SHALL BE SIZED PER CEC 250.166.
18. ALL CONDUCTORS SHALL BE COPPER AND 90 DEG RATED. ALL WIRING IN CONDUIT SHALL BE THHN/THWN-2. ALL EXPOSED OR HOMERUN WIRING SHALL BE PV WIRE/USE-2/RHW-2. BARE COPPER SHALL BE PERMITTED FOR GROUND WHERE USED WITHIN THE ARRAY FOOTPRINT.
19. ALL EXPOSED CABLES, SUCH AS MODULE LEADS, SHALL BE SECURED WITH UV RATED PLASTIC OR OTHER APPROVED SUNLIGHT RESISTANT MEANS WITH A 25 YEAR LIFE.
20. ALL EXPOSED CONDUIT SHALL BE PAINTED TO MATCH BUILDING SURFACE. ANY EXPOSED CONDUIT SHALL BE APPROVED BY OWNER IN ADVANCE OF INSTALLATION.
21. ALL EXTERIOR CONDUIT, FITTINGS, AND BOXES SHALL BE UL LISTED RAIN TIGHT AND SHALL BE APPROVED FOR WET LOCATIONS PER CEC 314.15.
22. ROOFTOP PENETRATIONS SHALL BE COMPLETED AND SEALED PER CODE BY A LICENSED CONTRACTOR AND IN ACCORDANCE WITH THE ROOFING MANUFACTURER'S REQUIREMENTS TO MAINTAIN THE ROOF WARRANTY AND ROOF FIRE RATING (AS APPLICABLE).
23. ROOF ATTACHMENTS AND STAND-OFFS SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS, AND ATTACHED TO THE ROOF STRUCTURE PER STRUCTURAL REQUIREMENTS AND AS OTHERWISE DESCRIBED IN THESE CONSTRUCTION DOCUMENTS. COPIES OF MANUFACTURER'S MOUNTING DETAILS AND INSTRUCTIONS SHALL BE PRESENTED TO THE AUTHORITY HAVING JURISDICTION PRIOR TO INSTALLATION.
24. ROOF ATTACHMENTS SHALL BE MADE WITH APPROVED SEALANT. COORDINATE WITH ARCHITECT FOR ROOF PENETRATION SEALING REQUIREMENTS.
25. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SIGNAGE TO ALL ELECTRIC BOXES, JUNCTION BOXES, PULL BOXES, DC DISCONNECTS, CONDUITS RUNS, AC DISCONNECTS, SUB PANELS, INVERTERS, AND MAIN SERVICES PER CEC ARTICLE 690.
26. SIGNS OR DIRECTORIES SHALL BE ATTACHED TO THE ELECTRICAL EQUIPMENT OR LOCATED ADJACENT TO THE IDENTIFIED EQUIPMENT. ANY EXISTING SIGNAGE ASSOCIATED WITH PREVIOUS SOLAR SYSTEM INSTALLATIONS SHALL BE DEMOLISHED.
27. SIGNS SHALL BE OF A SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT.
28. ANY PLAQUES WILL BE METAL OR PLASTIC WITH ENGRAVED OR MACHINE PRINTED LETTERS, OR ELECTRO-PLATING, IN A RED BACKGROUND WITH WHITE LETTERING, A MINIMUM OF 3/8" HEIGHT.
29. PHOTOVOLTAIC SYSTEM SHALL BE MONITORED VIA APPROVED WEB-BASED PERFORMANCE MONITORING SYSTEM, PER CALIFORNIA COLLOBARATIVE FOR HIGH PERFORMANCE SCHOOLS (CHPS) "BEST PRACTICES MANUAL, 2009 CRITERIA", SECTION EE2.1. MONITORING SYSTEM INTEGRAL WITH INVERTER SHALL BE ACCEPTED, INCLUDE ALL NECESSARY HARDWARE, SOFTWARE AND LICENSING (MINIMUM 1 YEAR), CABLING AND CONNECTIONS FOR A COMPLETE AND OPERATIONAL WEB-BASED PERFORMANCE MONITORING SYSTEM, INTERFACE WITH DISTRICT'S ETHERNET SYSTEM. PROVIDE 1 DAY OF TRAINING AND MANUFACTURER'S SUBSCRIPTION INFORMATION TO THE DISTRICT.
30. CONTRACTOR SHALL SUBMIT SCE NET ENERGY METERING (NEM2) INTERCONNECTION APPLICATION AND PAPER WORK. MOREOVER, CONTRACTOR SHALL NOTIFY AND OBTAIN APPROVAL FROM LOCAL UTILITY PRIOR TO USE AND ACTIVATION OF ANY SOLAR PV INSTALLATION. CONTRACTOR SHALL COORDINATE ALL INSPECTIONS, TESTING COMMISSIONING, AND ACCEPTANCE WITH THE OWNER, UTILITY COMPANY, AND INSPECTOR OF RECORD AS NEEDED.
31. START UP, COMMISSIONING AND TRAINING: THE CONTRACTOR SHALL BE RESPONSIBLE FOR START UP AND COMMISSIONING OF THE SOLAR PHOTOVOLTAIC SYSTEM, AS REQUIRED TO SATISFY THE SYSTEM COMPONENTS SHOWN ON THESE CONSTRUCTION DOCUMENTS, AND TO SATISFY DSA AUTHORITIES AND INSPECTOR(S). REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS RELATED TO COMMISSIONING. PROVIDE TRAINING FOR THE SYSTEM'S OPERATION, MAINTENANCE, AND PORGRAMMING, SPECIFIC TO THE INSTALLED EQUIPMENT AND SYSTEMS.
32. CONDUIT RACEWAYS SHALL BE PROVIDED WITH EXPANSION FITTINGS TO COMPENSATE FOR THERMAL EXPANSION AND CONTRACTION. CEC 300.7(b), 352.44
33. THE DISTANCE BETWEEN INVERTER AND DOWNSTREAM AC OVERCURRENT PROTECTIVE DEVICE SHALL BE A MAXIMUM OF 25FT.
34. CITY OF LONG BEACH BUILDING DEPARTMENT STRUCTURAL REVIEW IS REQUIRED FOR PLAN CHECK APPROVAL.
35. INSPECTION IS REQUIRED FOR ROOF CONNECTION MOUNTING ASSEMBLIES PRIOR TO INSTALLING SOLAR MODULE. CITY OF LONG BEACH PLAN SUBMITTAL REQUIREMENTS.
36. THERE WILL BE NO MORE THAN ONE GROUND CONNECTION TO THE DC GROUNDED CONDUCTOR OF THE PHOTOVOLTAIC SYSTEM. CITY OF LONG BEACH PLAN SUBMITTAL REQUIREMENTS.
37. THE INSTALLATION PV SYSTEM SHALL BE SUBMITTED UNDER A SPEARATE PERMIT APPLICATION.

1 SOLAR SYSTEM SINGLE LINE DIAGRAM



2 PV GROUND/BOND DETAIL



@FLAT ROOF PROVIDE 15 DEGREE TILT ANGLE

3 TYPICAL FLAT ROOF TILT MOUNT

NO.	DATE	SHEET	REVISION
	12/16/21		APPROVAL
	04/22/22		PLAN CHECK SUBMITTAL
1	08/15/23		PLAN CHECK RE-SUBMITTAL
2	10/12/23		PLAN CHECK RE-SUBMITTAL
			BID DOCUMENTS
			AS-BUILT

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR
REF.

REGISTERED PROFESSIONAL ENGINEER
WILLIAM A. THOMA
NO. 40787
ELECTRICAL
STATE OF CALIFORNIA
EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
SOLAR SYSTEM SINGLE LINE DIAGRAM

B # **B-4797**

PHASE # ____ / REBID # ____

SHEET 208 OF 236

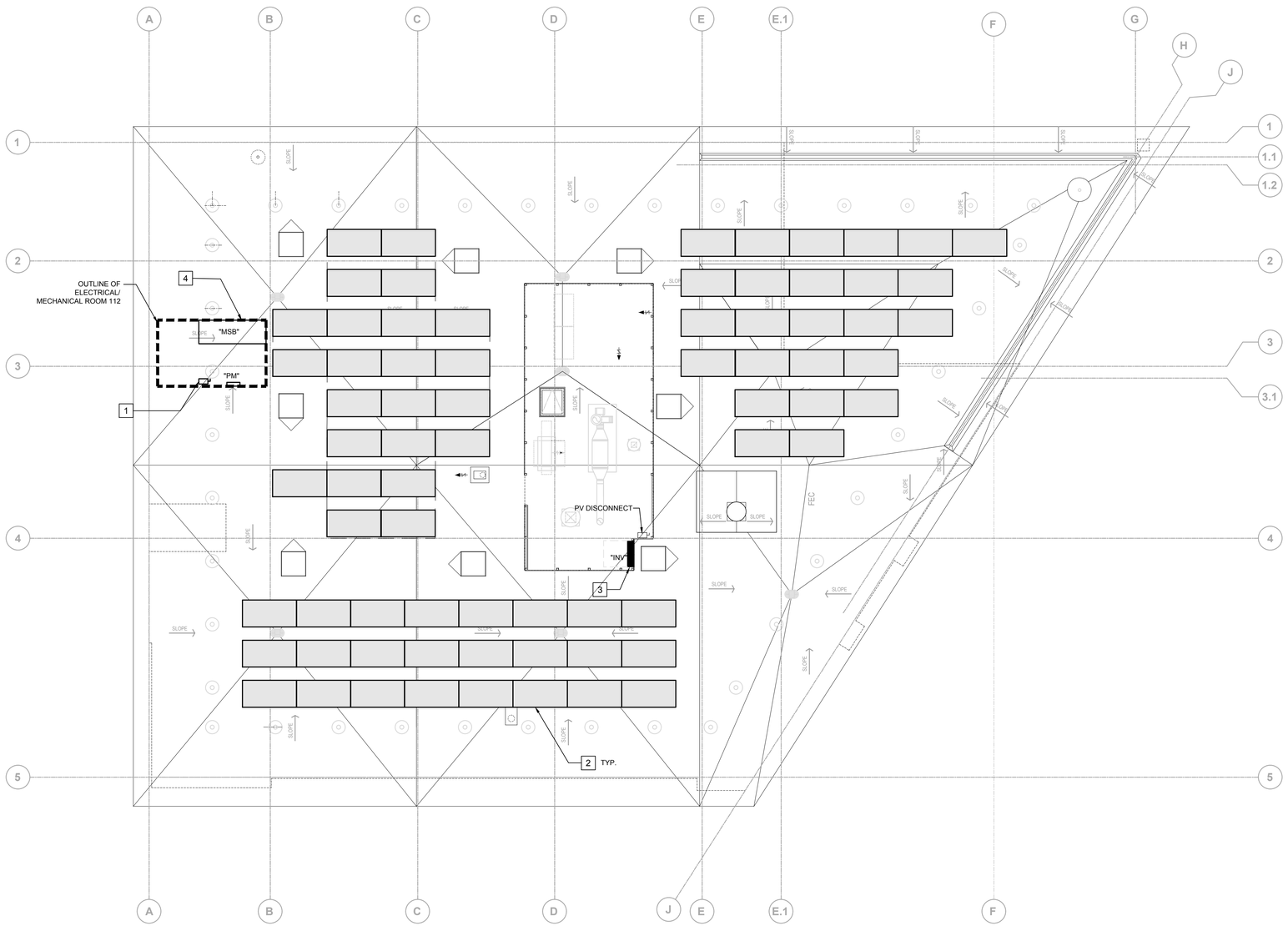
DWG. NO. E304

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

☐ REFERENCE NOTES

1. SOLAR DISCONNECT IN GROUND LEVEL ELECTRICAL ROOM PER SINGLE LINE DIAGRAM.
2. PROPOSED LOCATION OF SOLAR PANELS. TYPICAL. (DEFERRED APPROVAL). REFER TO TO SHEET E304 FOR ADDITIONAL INFORMATION.
3. INVERTER. REFER TO SOLAR SINGLE LINE DIAGRAM ON SHEET E304.
4. MAIN SWITCHBOARD, "MSB".
5. BRANCH CIRCUIT DOWN TO INDOOR UNIT AND SECOND FLOOR COMM ROOM. OUTDOOR UNIT POWERS INDOOR UNIT. REFER TO SHEET E302 FOR CONTINUATION.
6. BRANCH CIRCUIT DOWN TO LINE VOLTAGE THERMOSTAT IN ELEVATOR EQUIPMENT ROOM. REFER TO SHEET E302 FOR CONTINUATION.
7. BRANCH CIRCUIT DOWN TO VEHICLE EXHAUST FAN CONTROL PANEL LOCATED IN TURNOUT ROOM.



SOLAR ROOF PLAN

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

NORTH

N

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

GRAPHIC SCALE 0 1 2 3

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	08/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR
REF.

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA No. 40787 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

SOLAR ROOF PLAN

B # B-4797

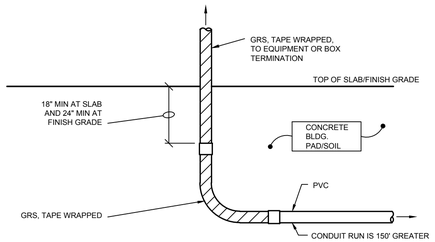
PHASE # ___ / REBID # ___

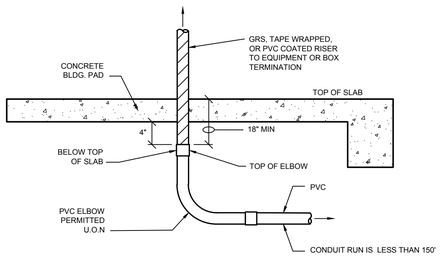
SHEET 209 OF 236

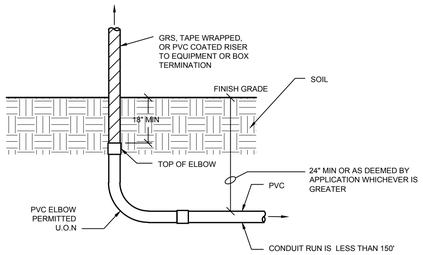
DWG. NO. E305

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com





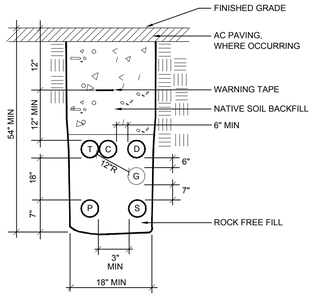


NOTES:

UNDERGROUND CONDUITS AND TRANSITION TO ABOVE GRADE/SLAB SHALL BE AS FOLLOWS:

1. PVC ELBOWS ALLOWED IF TOP OF ELBOW IS MINIMUM 18" BFG OR BELOW TOP OF SLAB, OTHERWISE GRS, TAPE WRAPPED, ELBOWS ARE REQUIRED.
2. GRS ELBOWS ARE REQUIRED IF CONDUIT RUN IS 150' GREATER.
3. GRS RISERS ARE REQUIRED FROM ELBOW BELOW GRADE TO EQUIPMENT (DEVICE, OUTLET, PANEL, CABINET, ETC.) ABOVE GRADE.
4. GRS ELBOWS/RISERS TO BE TAPED WRAPPED (1/2" LAPPED) TO 3" ABOVE FINISH GRADE OR TOP OF SLAB.

6 UNDERGROUND CONDUITS & TRANSITION TO ABOVE GRADE/SLAB
NTS

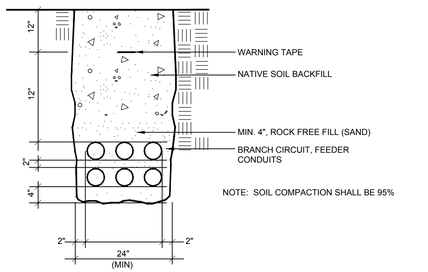


REFERNCE ONLY. COORDINATE UTILITY TRENCH DETAILS WITH UTILITY COMPANIES. DO NOT TRENCH NON-UTILITY CONDUITS IN THE TRENCH

LEGEND

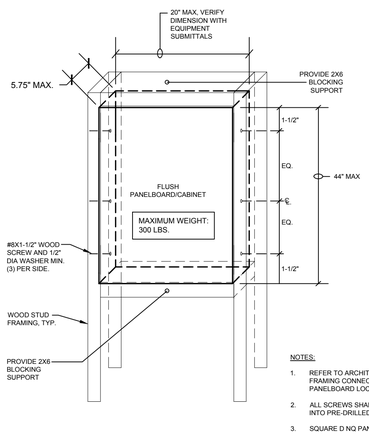
- (P) PRIMARY
- (S) SECONDARY
- (T) TELEPHONE
- (C) CABLE TV
- (G) GAS, WHERE OCCURRING

3 TYPICAL UTILITY TRENCH DETAIL
NTS



NOTE: SOIL COMPACTION SHALL BE 95%

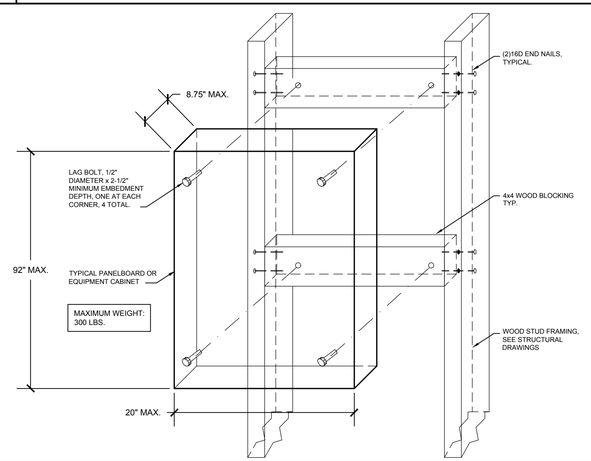
4 TYPICAL BRANCH CIRCUIT TRENCH DETAIL
NTS



NOTES:

1. REFER TO ARCHITECTURAL FOR FRAMING CONNECTION DETAILS AT PANELBOARD LOCATION.
2. ALL SCREWS SHALL BE INSTALLED INTO PRE-DRILLED LEAD HOLES
3. SQUARE D NQ PANEL OSP-0016-10

7 TYP. FLUSH MOUNTED PANEL/CABINET MOUNTING DETAIL
NTS



5 TYP. SURFACE MOUNTED PANEL/CABINET MOUNTING DETAIL
NTS

WARNING
ARC FLASH HAZARD

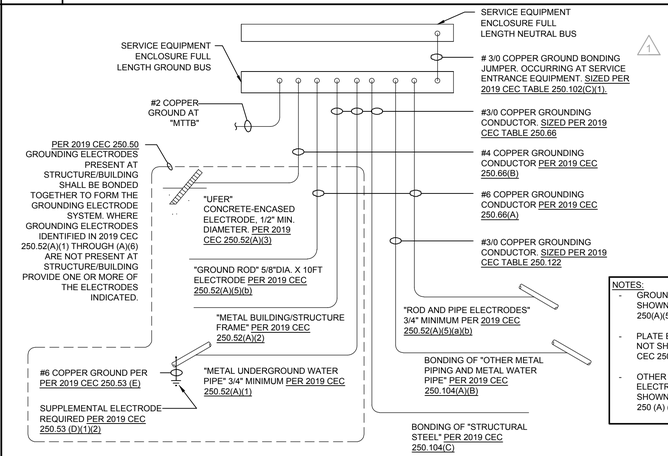
LINE SIDE of MAIN	FLASH PROTECTION BOUNDARY:	40 inches
	HAZARD RISK CATEGORY:	CLASS 2
	INCIDENT ENERGY RANGE:	4 - 8 cal/cm²
LOAD SIDE of MAIN	FLASH PROTECTION BOUNDARY:	20 inches
	HAZARD RISK CATEGORY:	CLASS 0
	INCIDENT ENERGY RANGE:	0 - 2 cal/cm²

PSE TQS#: #####.# Date Issued: April 2004 Study Rev. :0

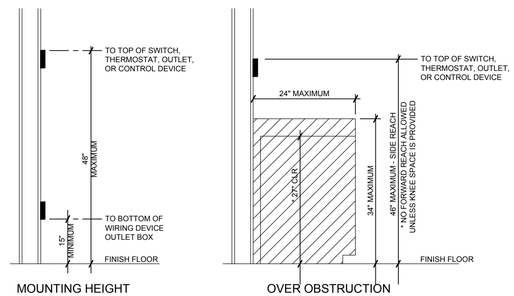
LOCATION: BUS NAME PROTECTIVE DEVICE: UPSTREAM DEVICE

NOTE:
IN ACCORDANCE WITH CEC 110.16. PROVIDE ARC FLASH PROTECTION WARNING LABELS ON EACH SWITCHBOARD, PANELBOARD, AND TRANSFORMER. LABELS SHALL BE PER ANSI Z535.4 GUIDELINES PER THE ABOVE EXAMPLE.

1 TYPICAL ARC FLASH SIGNAGE
NTS



2 TYPICAL GROUND/BOND DETAIL
NTS



2A TYPICAL DEVICE ADA MOUNTING HEIGHTS
NTS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	06/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS

REVISION

AS-BUILT

REF.

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ELECTRICAL DETAILS

B # B-4797

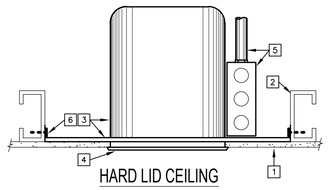
PHASE # ____ / REBID # ____

SHEET 210 OF 236

DWG. NO. E401

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

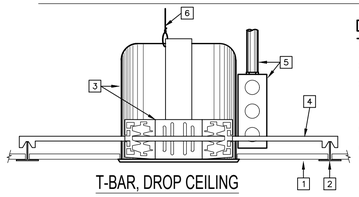
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



HARD LID CEILING

☐ REFERENCE NOTES

1. CEILING FINISH MATERIAL, SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR TYPE AND DEPTH.
2. PROVIDE STEEL FRAMING ABOVE AS REQUIRED TO MATCH CEILING FRAMING, SEE FRAMING PLANS FOR REQUIRED FRAMING.
3. RECESSED HOUSING WITH EXPANDABLE MOUNTING BARS.
4. FIXTURE TRIM
5. OUTLET BOX / BRANCH CIRCUIT
6. ATTACH EXPANDABLE MOUNTING BARS WITH #10 X 1" SMS, PROVIDE A MINIMUM OF (4) PER MOUNTING BAR.

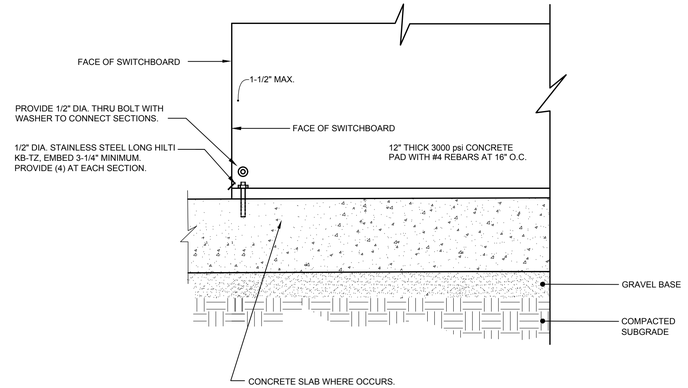


T-BAR, DROP CEILING

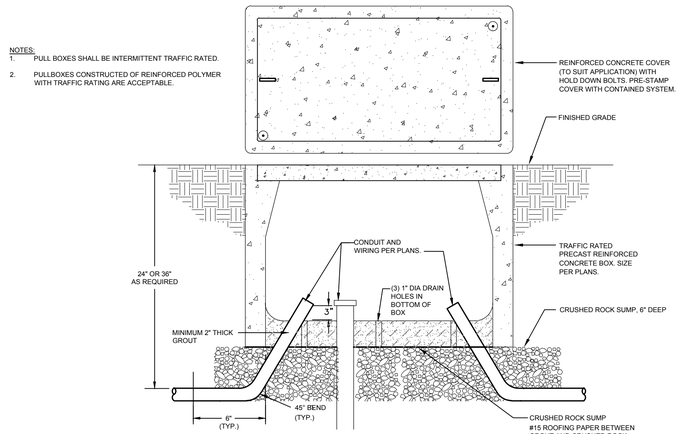
☐ REFERENCE NOTES

1. CEILING MATERIAL
2. T-BAR CEILING RUNNER.
3. RECESSED LIGHT HOUSING WITH QUICK MOUNTING BRACKET ON BOTH SIDES.
4. T-BAR FIXTURE HANGING BAR.
5. OUTLET BOX / BRANCH CIRCUIT
6. #12 LIGHT FIXTURE SUPPORT WIRE (MIN. 2 PER FIXTURE), CONNECT TO FIXTURE WITH MINIMUM OF 4 TIGHT TURNS AND TO STRUCTURE ABOVE PER ARCHITECTURAL ATTACHEMENT DETAILS, REFER TO 5/A-921.

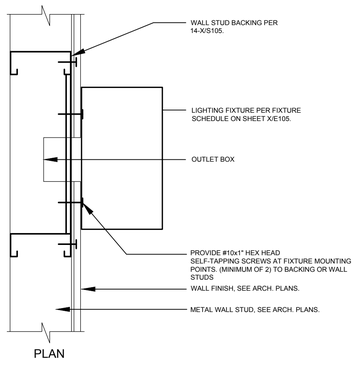
13 RECESSED DOWNLIGHT MOUNTING DETAIL
NTS



10 SWITCHBOARD MOUNTING DETAIL
NTS

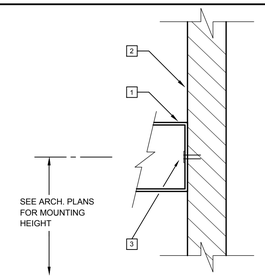


8 TYPICAL PULL BOX DETAIL
NTS



PLAN

AT STUD WALL



PLAN

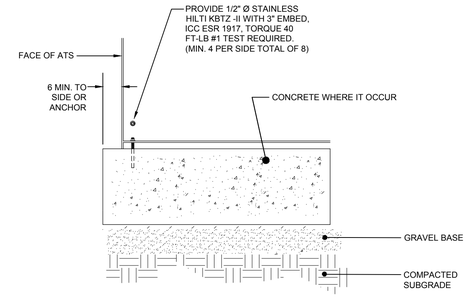
AT CMU WALL

☐ REFERENCE NOTES

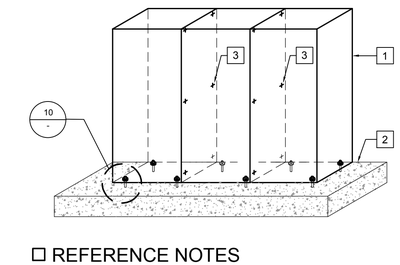
1. SMALL SURFACE MOUNTED LIGHT FIXTURE. (20 LBS. OR LESS)
2. CONCRETE MASONRY WALL.
3. 3/8" DIA. HILTI KB3 , PER ICC ESR-2302. PROVIDE MINIMUM 2-1/2" EMBEDMENT.

NOTE:
FLUSH MOUNTED OUTLET BOX IS NOT SHOWN FOR CLARIFICATION.

14 TYPICAL SURFACE MOUNT FIXTURE DETAIL
NTS



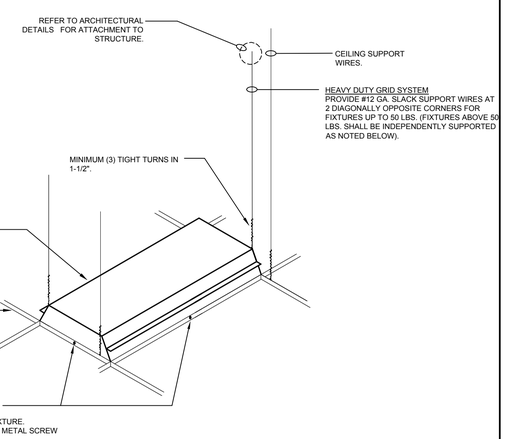
11 ATS MOUNTING DETAIL
NTS



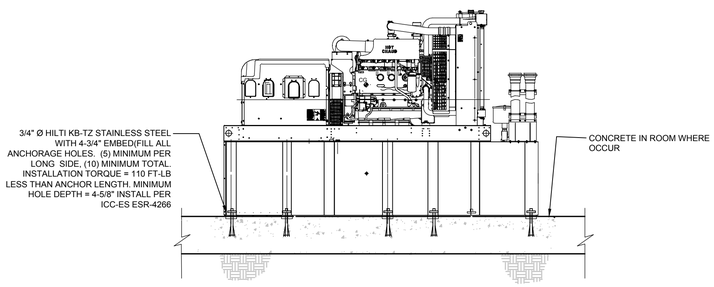
☐ REFERENCE NOTES

1. ELECTRICAL DISTRIBUTION EQUIPMENT OR CABINET.
2. CONCRETE SLAB WHERE OCCURS
3. MINIMUM 3/8" THRU-BOLT SECTION TO SECTION. (TYPICAL)

9 MSB MOUNTING DETAIL
NTS



15 LAY-IN BAR FIXTURE MOUNTING DETAIL
NTS



*HILTI KWIK-BOLT-BOLT TZ STAINLESS STEEL, ICC-ES ESR-1917
*REFER TO STRUCTURAL PLANS FOR THE GENERATOR PAD REQUIREMENTS (THICKNESS, CONCRETE STRENGTH 4000PSI, & REINFORCING)

GENERATOR BASE DIMENSION: 140.06"L X 48.09"W X 83.3"H
GENERATOR WEIGHT = 3,064 LBS
SUB-BASE TANK WEIGHT = 3,969 LBS

12 GENERATOR MOUNTING CROSS SECTION MOUNTING DETAIL
NTS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	06/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT

REVISION

REF:

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER
WILLIAM A. THOMA
NO. 40161
ELECTRICAL
STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ELECTRICAL DETAILS

B # B-4797

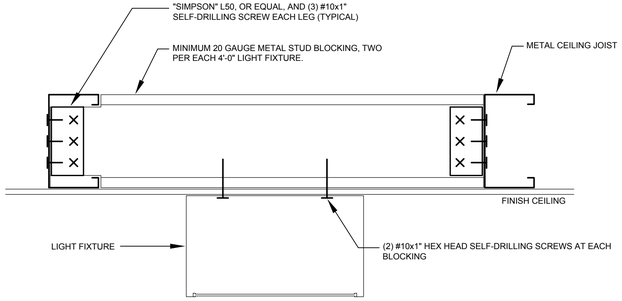
PHASE # ____ / REBID # ____

SHEET 211 OF 236

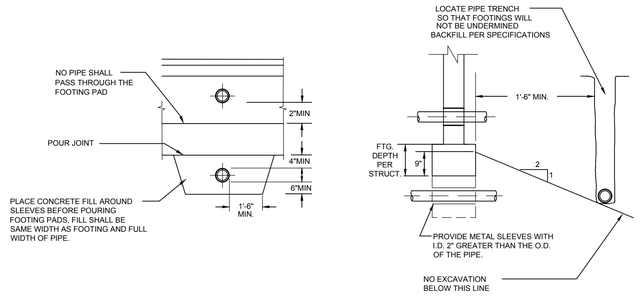
DWG. NO. E402

THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

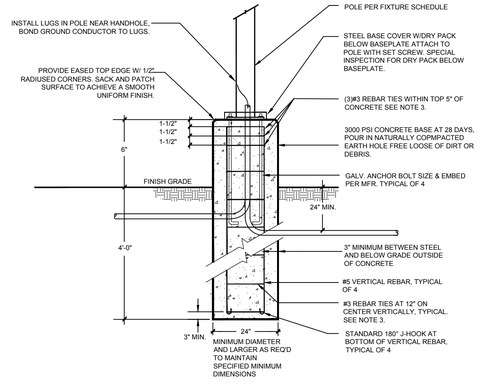
MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



21 TYP. SURFACE MOUNT LIGHT FIXTURE MOUNTING
NTS



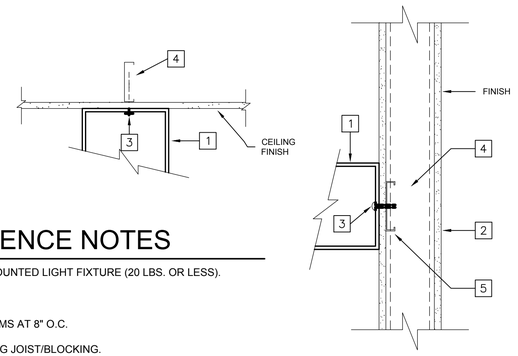
18 TYPICAL CONDUIT NEAR/THRU FOOTING DETAIL
NTS



NOTES

1. GALV. ANCHOR BOLTS & TEMPLATE FURNISHED BY EC; BOLTS INSTALLED AND CONCRETE BASE FURNISHED AND INSTALLED WITH REBAR BY GC
2. CONDUIT SHALL BE 3/4" MINIMUM SIZE AND MINIMUM 24" BELOW FINISH GRADE
3. TIES SHALL HAVE AT EACH END A 135 DEGREE HOOK BEND WITH A SIX-BAR DIAMETER BUT NOT LESS THAN 3 INCH EXTENSION THAT ENGAGES THE LONGITUDINAL REINFORCEMENT AND PROJECTS INTO THE INTERIOR OF THE STIRRUP OR HOOP.
4. ADD #6 SOLID UFER GROUND TO EACH BASE. LOCATE AT 11"X17" PULL BOX NEXT TO EACH LIGHT POLE.

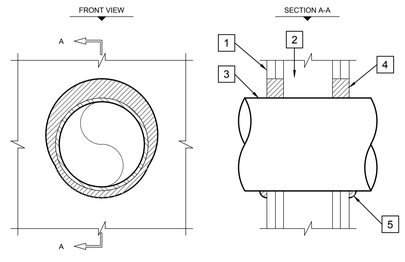
16 TYPICAL POLE MOUNTING DETAIL
NTS



☐ REFERENCE NOTES

1. SMALL SURFACE MOUNTED LIGHT FIXTURE (20 LBS. OR LESS).
2. METAL STUD.
3. FASTENER: (2)#12 SMS AT 8" O.C.
4. METAL STUD CEILING JOIST/BLOCKING.
5. 1/8" THICK x 8"H STEEL BACKER PLATE. WELDED TO STUDS OR ATTACHED WITH (2) #12 S.M.S. AT EACH STUD. EXTEND BACKER (1) STUD BEYOND EACH END OF LUMINAIRE.

22 TYPICAL SURFACE LIGHT FIXTURE MOUNTING DETAIL AT METAL STUD
NTS



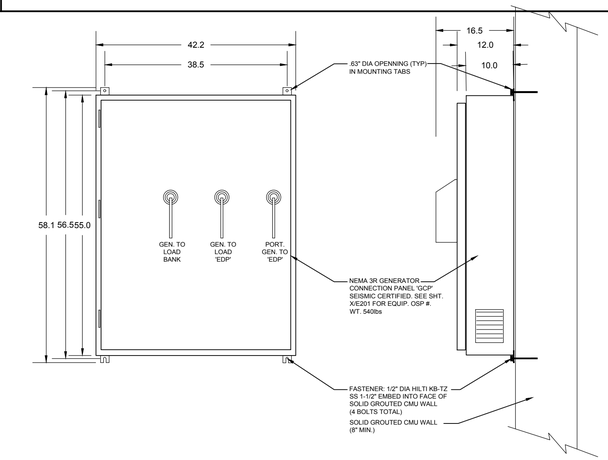
☐ REFERENCE NOTES

1. GYPSUM WALL ASSEMBLY (UL/cUL CLASSIFIED U300, U400, OR V400 SERIES) (1-HR. OR 2-HR. FIRE-RATING) (2-HR. SHOWN).
2. (NOT SHOWN). WOOD STUDS TO CONSIST OF NOMINAL 2" x 4" LUMBER. STEEL STUDS TO BE MINIMUM 2-1/2" WIDE.
3. PENETRATING ITEM TO BE ONE OF THE FOLLOWING:
   - A. MAXIMUM 30" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
   - B. MAXIMUM 30" NOMINAL DIAMETER CAST IRON OR DUCTILE IRON PIPE.
   - C. MAXIMUM 6" NOMINAL DIAMETER COPPER PIPE OR TUBING.
   - D. MAXIMUM 6" NOMINAL DIAMETER STEEL CONDUIT.
   - E. MAXIMUM 4" NOMINAL DIAMETER EMT.
4. HILTI CP 606 FLEXIBLE FIRESTOP SEALANT:
   - A. MINIMUM 5/8" DEPTH OF SEALANT FOR A 1-HR. FIRE-RATING.
   - B. MINIMUM 1-1/4" DEPTH OF SEALANT FOR A 2-HR. FIRE-RATING.
5. MINIMUM 1/2" BEAD HILTI CP 606 FLEXIBLE FIRESTOP SEALANT APPLIED AT POINT OF CONTACT.

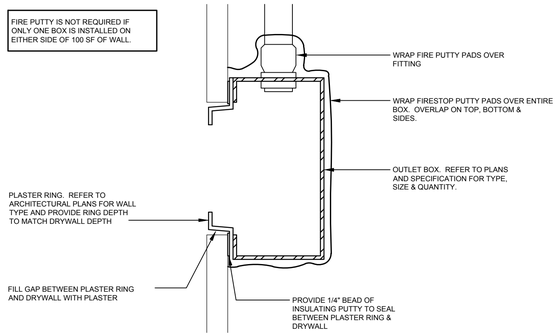
NOTES:
1. MAXIMUM DIAMETER OF OPENING = 32".
2. ANNULAR SPACE IN 1-HR. WALLS = MINIMUM 0", MAXIMUM 1".
3. ANNULAR SPACE IN 2-HR. WALLS = MINIMUM 0", MAXIMUM 2".
4. PENETRANT MAY BE INSTALLED AT AN ANGLE NOT GREATER THAN 45° FROM PERPENDICULAR.

F-RATING = 1-HR. OR 2-HR.
T-RATING = 0-HR.
L-RATING AT AMBIENT = LESS THAN 1 CFM/SQ FT.
L-RATING AT 400°F = LESS THAN 1 CFM/SQ FT.

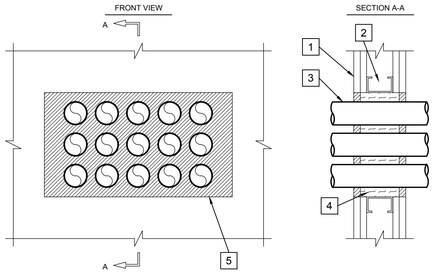
19 METAL PIPE THROUGH 1HR OR 2HR GYPSUM WALL ASSEMBLY
NTS



17 "GCP" MOUNTING DETAIL
NTS



23 TYPICAL DEVICE INSTALLATION - RATED WALLS
NTS



☐ REFERENCE NOTES

1. GYPSUM WALL ASSEMBLY (UL/ULC CLASSIFIED U300 OR U400 SERIES) (1-HR. OR 2-HR. FIRE-RATING) (2-HR. SHOWN).
2. WOOD STUDS TO CONSIST OF NOMINAL 2" x 4" LUMBER. STEEL STUDS TO BE MINIMUM 2-1/2" WIDE. OPENING TO BE "FRAMED-OUT".
3. ONE OR MORE MAXIMUM 2" NOMINAL DIAMETER EMT OR STEEL CONDUIT.
4. MINIMUM 2-1/2" OR 2-3/4" THICKNESS MINERAL WOOL (MINIMUM 4 PCF DENSITY) TIGHTLY PACKED FOR 1-HR. OR 2-HR. FIRE-RATING, RESPECTIVELY.
5. MINIMUM 5/8" DEPTH HILTI FS-ONE INTUMESCENT FIRESTOP SEALANT.

NOTES:
1. MAXIMUM SIZE OF OPENING = 18" x 10". MAXIMUM WIDTH BETWEEN WOOD STUD WALLS IS LIMITED TO 14-1/2".
2. ANNULAR SPACE BETWEEN PIPES AND PERIPHERY OF OPENING = MINIMUM 1/2", MAXIMUM 2-3/8".
3. ANNULAR SPACE BETWEEN PIPES = MINIMUM 1/2", MAXIMUM 5/8".
4. EMT OR STEEL CONDUIT MAY BE INSTALLED AT AN ANGLE NOT GREATER THAN 45° FROM PERPENDICULAR.

F-RATING = 1-HR. OR 2-HR.
T-RATING = 1/2-HR.

20 MULTIPLE METAL PIPE THROUGH 1HR OR 2HR GYPSUM WALL ASSEMBLY
NTS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	06/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT

REVISION REF.

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER
WILLIAM A. THOMA
NO. 401617
ELECTRICAL
STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ELECTRICAL DETAILS

B # B-4797

PHASE # ____ / REBID # ____

SHEET 212 OF 236

DWG. NO. E403

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Date of Response: 3/31/2022

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

Response to Letter of Request for Short Circuit Current Value for Panel Sizing and Protection Coordination

Disclaimer:

SCE provides the information contained in this letter on an "as is" basis without warranty of any kind, either express or implied. This disclaimer of liability applies to any claim or cause of action for damages or injuries occurring as a result of any error, omission, deletion or defect in the content of the information provided, including, but not limited to, negligence, breach of contract, or tort. Under no circumstances shall SCE or any of its parent or affiliate companies, employees, directors or shareholders be liable to any party for (i) any direct, indirect, special, punitive, incidental, exemplary, consequential, or any other damages arising in any way out of the availability, use or reliance on the information provided; or (ii) any claim attributable to errors, omissions or other inaccuracies in the information provided herein.

The values provided below are maximum Short Circuit values, based on current distribution system conditions. Utility distribution systems are dynamic, and the electrical characteristics of the system can vary significantly due to abnormal conditions, upgrades, modifications, and temporary or permanent reconfigurations. Therefore, the Short Circuit values provided above are subject to change frequently and without notice. SCE does not guarantee to hold the system parameters represented in this information constant. Consequently, SCE recommends that all electrical work on the service panel main breaker should be done in a de-energized condition to eliminate arc flash hazard at this location.

To: Customer: Mary McGrath Architects Phone: N/A
Address: 1212 Broadway, Suite 700 Fax: N/A
City, Zip: Long Beach, CA 90802 Email: N/A

From: Southern California Edison (SCE) - Engineering &Technical Services - Field Engineering

Engineer: Danielle Chanes Phone: (310)-608-5050
Address: 1924 E Cashdan St Fax: N/A
City, Zip: Compton, CA 90220 Email: danielle.chanes@sce.com

Subject: Southern California Edison's Contribution to Short Circuit Current at the Point-of-Connection of the SCE's Service Conductors to the Customer's Service Entrance Facilities (see disclaimer above)

Project: Name: Mary McGrath Architects
Address: 4101 Long Beach Blvd
City, Zip: Long Beach, CA 90807
Structure #: 5755671

Date of Response: 3/31/2022

(1) The voltage and service configuration to be utilized for this project will be 208 volts 3 phase 4 wire, to serve your 1000 Ampere main switchboard

(2) SCE's contribution to Short Circuit Current, **at the time of calculation**, is approximately 12,400 Amperes (3-phase) and 15,500 Amperes (phase-ground). **The 3-phase X/R =** 1.53 **and the phase-ground X/R =** 1.62.

Service Conductors: 2 runs of 700 Size (☒ Al ☐ Cu)

Distance from Transformer: 65 feet

Transformer: 300 kVA, 3 phase, %Z = 2.7

☐**Existing Transformer** ☒**New Transformer**

Comments:

(3) SCE's **maximum** contribution to Short Circuit Current is approximately 24,600 Amperes (3-phase), and 26,400 Amperes (phase-ground). These maximum Short Circuit Current values are based on SCE's largest transformer capable of serving your 1,000 Ampere main service switchboard (at 100% rating).

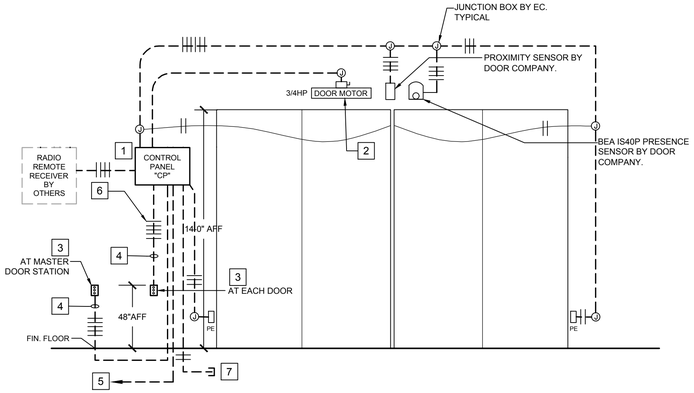
Service Conductors: 3 runs of 700 Size (☒ Al ☐ Cu)

Distance from Transformer: 65 feet

Transformer: 300 kVA, 3 phase, %Z = 2.7

Comments:

29 SOUTHER CALIFORNIA EDISON SHORT CIRCUIT LETTER
NTS

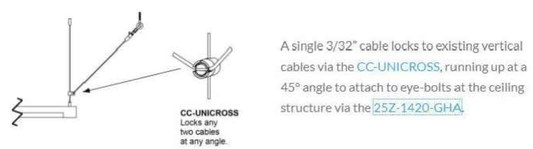


☐ REFERENCE NOTES

1. DOOR SYSTEM CONTROL PANEL "CP" WITH INTEGRAL POWER DISCONNECT SWITCH. (SURFACE MOUNT)
2. CONNECT TO DOOR MOTOR. PROVIDE 208V 3PH BRANCH CIRCUITS. REFER TO FLOOR PLAN. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
3. FLUSH 1-GANG BOX FOR UP/DOWN/STOP CONTROL STATION FURNISHED BY MANUFACTURER EC TO INSTALL. REFER TO COMMUNICATION PLAN FOR LOCATION.
4. 3/4"C (WITH (5)#18 AWG. TO MASTER CONTROL STATION "MDC". (SEE COMMUNICATION PLAN)
5. 3/4"C BRANCH CIRCUIT CONDUIT TO PANEL PER PLANS.
6. TICK MARK DENOTES MININUM #16 AWG CABLES.
7. STUB 3/4'C TO EXTERIOR FLOOR LOOP MODULE BY DOOR MANUFCTURER. PROVIDE FLOOR LOOP WIRE.

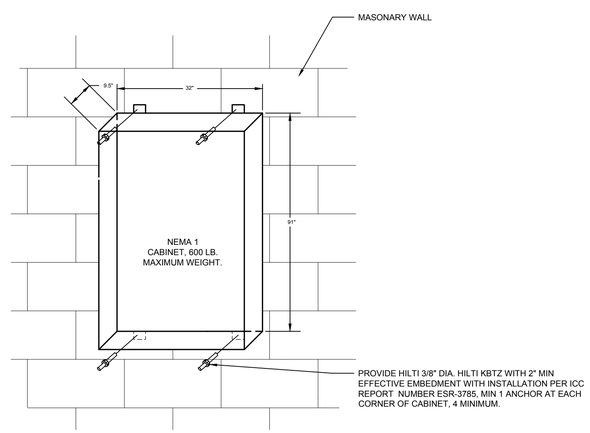
NOTE:
- INFORMATION SHOWN IS FOR REFERENCE AND BIDDING PURPOSES ONLY. COORDINATE/VERIFY EXACT BOX REQUIREMENTS AND LOCATIONS WITH THE DOOR INSTALLER AND APPROVED SHOP DRAWINGS PRIOR TO ROUGH-IN. ALL BOXES TO BE FLUSH MOUNTED AND CONDUITS CONCEALED IN BUILDING CONSTRUCTION.
- THE ELECTRICAL CONTRACTOR SHALL BEAR FULL COSTS AND RESPONSIBILITIES FOR ANY CONFLICTS AS RESULT FOR NON-COORDINATION WITH DOOR INSTALLER.
- ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING PER MANUFACTURER REQUIREMENTS.
- MOTOR, 24VAC CONTROL AND 12VDC WIRING SHOULD BE ALL IN SEPARATE CONDUIT RUNS.
- ALL CONDUIT HUBS MUST HAVE NEMA 4 RATING.
- FUSED DISCONNECT TO BE PROVIDED BY EC, FUSES TO BE OF TIME DELAY TYPE WITH MAXIMUM RATING AS INDICATED.
- ALL CONDUITS SHOWN ARE MINIMUM ¾"C (UON) ON PLANS

24 TYPICAL BI-FOLDING DOOR
NTS



DESIGNED BASED ON GRIPLOCKSYSTEM.COM

30 LIGHTING SEISMIC BRACING
NTS



27 TYP. PANELBOARD MOUNTING DETAIL AT CONCRETE WALL
NTS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION	REVISION
	12/16/21			PLAN CHECK SUBMITTAL	
1	04/22/22			PLAN CHECK RE-SUBMITTAL	
2	06/15/23			PLAN CHECK RE-SUBMITTAL	
	10/12/23			BID DOCUMENTS	
				AS-BUILT	REF.

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER
WILLIAM A. THOMA
NO. 40787
ELECTRICAL
STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
ELECTRICAL DETAILS

B # B-4797
PHASE # ____ / REBID # ____
SHEET 213 OF 236
DWG. NO. E404

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 16, 2023 - 11:58am - CKoyle - K:\ENG\2021\21-807021-8070_E401-E404_ELECTRICAL DETAILS.dwg

Safety and Operational Ratings

Station Enclosure Rating	Type 3R per UL 50E
Safety and Compliance	UL and cUL listed; complies with UL 2594, UL 2231-1, UL 2231-2, and NEC Article 625
Station Surge Protection	6 kV @ 3,000A. In geographic areas subject to frequent thunder storms, supplemental surge protection at the service panel is recommended.
EMC Compliance	FCC Part 15 Class A
Operating Temperature	-40°C to 50°C (-40°F to 122°F)
Non-Operating Temperature	-40°C to 60°C (-40°F to 140°F)
Terminal Block Temperature Rating	105°C (221°F)
Operating Humidity	Up to 85% @ 50°C (122°F) non-condensing
Non-Operating Humidity	Up to 95% @ 50°C (122°F) non-condensing
Network	All stations include integral LTE modem and will be automatically configured to operate as gateway or non-gateway as needed

ChargePoint, Inc.
240 East Hacienda Avenue
Campbell, CA 95008-6617 USA

+1.408.841.4500 or
+1.877.370.3802 US and Canada toll-free

chargepoint.com

Contact Us

Visit chargepoint.com

Call +1.408.705.1992

Email sales@chargepoint.com

Listed by Underwriters Laboratories Inc.

General Specifications

Electrical Input

Electrical Input	Single Port (AC Voltage 208 / 240V AC)			Dual Port (AC Voltage 208 / 240V AC)		
	Input Current	Input Power Connection	Required Service Panel Breaker	Input Current	Input Power Connection	Required Service Panel Breaker
Standard	30A	One 40A branch circuit	40A dual pole (non-GFCI type)	30A x 2	Two independent 40A branch circuits	40A dual pole (non-GFCI type) x 2
Standard Power Share	n/a	n/a	n/a	32A	One 40A branch circuit	40A dual pole (non-GFCI type)
Power Select 24A	24A	One 30A branch circuit	30A dual pole (non-GFCI type)	24A x 2	Two independent 30A branch circuits	30A dual pole (non-GFCI type) x 2
Power Select 24A Power Share	n/a	n/a	n/a	24A	One 30A branch circuit	30A dual pole (non-GFCI type)
Power Select 16A	16A	One 20A branch circuit	20A dual pole (non-GFCI type)	16A x 2	Two independent 20A branch circuits	20A dual pole (non-GFCI type)
Power Select 16A Power Share	n/a	n/a	n/a	16A	One 20A branch circuit	20A dual pole (non-GFCI type)
Service Panel GFCI	Do not provide external GFCI as it may conflict with internal GFCI (CCID)					
Wiring – Standard	3-wire (L1, L2, Earth)			5-wire (L1, L1, L2, L2, Earth)		
Wiring – Power Share	n/a			3-wire (L1, L2, Earth)		
Station Power	8 W typical (standby), 15 W maximum (operation)					

Electrical Output

Electrical Output	Single Port (AC Voltage 208 / 240V AC)	Dual Port (AC Voltage 208 / 240V AC)
Standard	7.2 kW (240V AC @ 30A)	7.2 kW (240V AC @ 30A) x 2
Standard Power Share	n/a	7.2 kW (240V AC @ 30A) x 1 or 3.8 kW (240V AC @ 16A) x 2

Order Code Examples

If ordering this…	…the order code is
1830 mm (6 ft) Dual Port Bollard Networked Station with Concrete Mounting Kit	CT4021-GW1 CT4001-CCM
ChargePoint Commercial Service Plan, 3 Year Subscription	CPCLD-COMMERCIAL-3
ChargePoint Station Installation and Validation	CT4000-INSTALLVALID
3 Years of Assure Coverage	CT4000-ASSURE3
1830 mm (6 ft) Single Port Wall Mount Networked Station	CT4013-GW1
ChargePoint Commercial Service Plan, 5 Year Subscription	CPCLD-COMMERCIAL-5
5 Years of Assure Coverage	CT4000-ASSURE5
Station Activation and Configuration	CPSUPPORT-ACTIVE

chargepoint

CT4000 Level 2 Commercial Charging Station

Specifications and Ordering Information

CT4021

Power Select 24A	5.8 kW (240V AC @ 24A)	5.8 kW (240V AC @ 24A) x 2
Power Select 24A Power Share	n/a	5.8 kW (240V AC @ 24A) x 1 Or 2.9 kW (240V AC @ 12A) x 2
Power Select 16A	3.8 kW (240V AC @ 16A)	3.8 kW (240V AC @ 16A) x 2
Power Select 16A Power Share	n/a	3.8 kW (240V AC @ 16A) x 1 Or 1.9 kW (240V AC @ 8A) x 2

Functional Interfaces

	Single Port (AC Voltage 208 / 240V AC)	Dual Port (AC Voltage 208 / 240V AC)
Connector Types	SAE J1772™	SAE J1772™ x 2
Cable Length — 1.8 m (6 ft) Cable Management	5.5 m (18 ft)	5.5 m (18 ft) x 2
Cable Length — 2.4 m (8 ft) Cable Management	n/a	7 m (23 ft)
Overhead Cable Management System	Yes	
LCD Display	145 mm (5.7 in) full color, 640 x 480, 30 fps full motion video, active matrix, UV protected	
Card Reader	ISO 15693, ISO 14443, NFC	
Locking Holster	Yes	Yes x 2

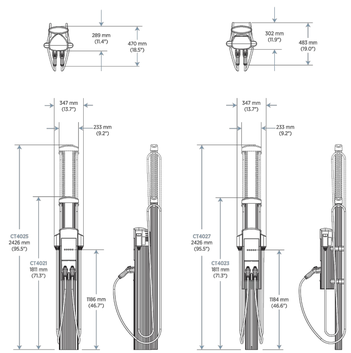
Safety and Connectivity Features

Ground Fault Detection	20 mA CCID with auto retry
Open Safety Ground Detection	Continuously monitors presence of safety (green wire) ground connection
Plug-Out Detection	Power terminated per SAE J1772™ specifications
Power Measurement Accuracy	+/- 2% from 2% to full scale (30A)
Power Report/Store Interval	15 minute, aligned to hour. Vehicle to grid connected and responsive to TOU signals
Local Area Network	2.4 GHz WiFi (802.11 b/g/n)
Wide Area Network	LTE Category 4

Architectural Drawings (Dimensions)

CT4021 1830 mm (6')
CT4025 2440 mm (8')
Bollard

CT4023 1830 mm (6')
CT4027 2440 mm (8')
Wall Mount



Ordering Information

The order codes below represent specific product configurations. Other product options are available. Please contact ChargePoint Sales for information and order codes.

Specify model number followed by the applicable code(s).
The order code sequence is: **Model-Options**. **Software**, **Services** and **Misc** are ordered as separate line items.

Hardware

Description		Order Code
Model	1830 mm (6 ft) Single Port Bollard Mount	CT4011-GW1
	1830 mm (6 ft) Dual Port Bollard Mount	CT4021-GW1
	1830 mm (6 ft) Single Port Wall Mount	CT4013-GW1
	1830 mm (6 ft) Dual Port Wall Mount	CT4023-GW1
	2440 mm (8 ft) Dual Port Bollard Mount	CT4025-GW1
	2440 mm (8 ft) Dual Port Wall Mount	CT4027-GW1
Included	Integral Modem – North America	-GW1
Misc	Power Management Kit Bollard Concrete Mounting Kit	CT4000-PMGMT
	Bollard Concrete Mounting Kit	CT4001-CCM

*Note: ALLL CT4000 stations include Integral Modem -GW1.

Software & Services

Description	Order Code
ChargePoint Commercial Service Plan	CPCLD-COMMERCIAL-n*
ChargePoint Enterprise Plan	CPCLD-ENTERPRISE-n*
ChargePoint Assure	CT4000-ASSUREn*
Station Activation and Configuration	CPSUPPORT-ACTIVE
ChargePoint Station Installation and Validation	CT4000-INSTALLVALID

Note: All CT4000 stations require a network service plan per port.

*Substitute *n* for desired years (1, 2, 3, 4 or 5 years)

NO.	DATE	SHEET	APPROVAL	REVISION DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	06/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR
REF:

REGISTERED PROFESSIONAL ENGINEER
WILLIAM A. THOMA
NO. 40787
ELECTRICAL
STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807

ELECTRIC CHARGING STATION
SPECIFICATION SHEETS

B # **B-4797**

PHASE # ____ / REBID # ____

SHEET 214 OF 236

DWG. NO. E405

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 10 of 10)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Documentation Author Signature:
William Thoma	
Company:	Signature Date: 2023-08-10
Thoma Electric, Inc	
Address:	CEA/ HERS Certification Identification (if applicable):
3852 Empleo, Suite C	E10757
City/State/Zip:	Phone:
San Luis Obispo CA 93401	805-543-3850

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Responsible Designer Signature:
William Thoma	
Company:	Date Signed:
Thoma Electric, Inc.	2023-08-10
Address:	License:
3562 Empleo Street	E10757
City/State/Zip:	Phone:
San Luis Obispo CA 93401	805-543-3850

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2023-08-10 17:03:47

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 7 of 10)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

J. LIGHTING ALLOWANCE: PER APPLICATION

This table includes areas using the wattage allowance per application from Table 140.7-B .

01	02	03	04	05	06	07	08	09	10
		CALCULATED ALLOWANCE (Watts)			DESIGN WATTS				
Area Description	Application per Table 140.7-B[1]	# of Locations	Allowance per Location[2]	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire	# of Luminaires	Design Watts	Additional Allowance (Watts)
MAIN ENTRANCE	Building Entrance/Exit	1	19	19	58	14.7	2	29.4	19
					54	10.6	1	10.6	
							Total Design Watts for this Area:	40.0	
								Total Allowance (Watts) All Areas:	19

[1] *FOOTNOTES: Primary entrance applications are only available for senior care facilities, healthcare facilities, police stations, hospitals, fire stations, and emergency vehicle facilities.*
[2] *The Allowance per Location for ATMs is 100W for the first ATM and 35W for each additional per Table 140.7-B .*
[3] *For luminaires indicated in Table F as linear, wattage in column 07 is W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 08 instead of number of luminaires.*

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2023-08-10 17:03:47

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 8 of 10)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This table includes areas using the wattage allowance per specific area from Table 140.7-B . More than one specific area allowance may be taken in a single project, if applicable. However, multiple specific area allowances may not be taken for the exact same area on the site.

01	02	03	04	05	06	07	08	09	10
		CALCULATED ALLOWANCE (Watts)			DESIGN WATTS				
Area Description	Specific Area Type per Table 140.7-B	Specific Area (ft^2)[1]	Allowed Density (W/ft^2)	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire	# of Luminaires	Design Watts	Additional Allowance (Watts)
BUILDING FACADE/SIGN LIGHTING	BuildingFacade	403	0.17	68.5	59	38	1	38	38
							Total Design Watts for this Area:	38	
								Total Allowance (Watts) All Areas:	38

[1] *FOOTNOTES: See Table 140.7-B for rules for calculating the specific areas (ft^2) for these additional lighting allowances.*
[2] *For luminaires indicated in Table F as linear, wattage in column 07 is W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 08 instead of number of luminaires.*

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Form/Title	Field Inspector Pass	Field Inspector Fail
NRCI-LTO-01-E - Must be submitted for all buildings	☐	☐
NRCI-LTO-02-E- Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐	☐

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2023-08-10 17:03:47

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 9 of 10)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified	Field Inspector Pass	Field Inspector Fail
NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires.	☐	☐	

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2023-08-10 17:03:47

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 4 of 10)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with §140.7 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per §141.0(b)2I, only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included).

Designed Wattage:

01	02	03	04	05	06	07	08	09	10

[1] *Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.*
[4] *Compliance with mandatory cutoff requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by §130.2(b)*

G. CUTOFF REQUIREMENTS (BUG)

This section does not apply to this project.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2023-08-10 17:03:47

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 5 of 10)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

H. OUTDOOR LIGHTING CONTROLS

This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
*When an option having a * is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show 'DOES NOT COMPLY" if the notes are left blank.*

Mandatory Controls

01	02	03	04	05	
Area Description	Shut-Off §130.2(c)1	Auto-Schedule §130.2(c)2	Motion Sensor §130.2(c)3	Field Inspector	
				Pass	Fail
BUILDING FACADE/SIGN LIGHTING	Photocontrol	Yes	NA: Facade, etc. >=24 ft	☐	☐
WALKWAYS (SCONCES)	Photocontrol	Yes	NA: Wall >=24 ft	☐	☐
WALKWAYS (DOWNLIGHTS)	Photocontrol	Yes	Exempt*	☐	☐
AUTOMOTIVE HARDSCAPE	Photocontrol	Yes	Exempt*	☐	☐

** NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.*
EX: Not permitted by health & safety to be turned off; EXCEPTION 1 to §130.2(c)

WALKWAYS (DOWNLIGHTS)	§130.2(c)3: Luminaires with a maximum rated wattage of 40 watts each are not required to have motion sensing controls
AUTOMOTIVE HARDSCAPE	§130.2(c)3: Luminaires with a maximum rated wattage of 40 watts each are not required to have motion sensing controls

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2023-08-10 17:03:47

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 6 of 10)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

I. LIGHTING POWER ALLOWANCE (per §140.7)

This table includes areas using allowance calculations per §140.7. General Hardscape Allowance is per Table 140.7-A while "Use it or lose it" Allowances are per Table 140.7-B , indicator which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance.

	01			
	☒ General Hardscape Allowance Table I (below)	"Use it or lose it" Allowance (select all that apply) (select all that apply)		
		☒ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L	☒ Per Specific Area Table M
Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (LZ 0, 1 & 4)					
Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (LZ 2 & 3)					

02	03	04	05	06	07	08	09	10
		Area Wattage Allowance (AWA)			Area Wattage Allowance (AWA)			
Area Description	Surface Type	Illuminated Area (ft^2)	Allowed Density (W/ft^2)	Area Allowance (Watts)	Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	Total General AWA + LWA (Watts)
AUTOMOTIVE HARDSCAPE	Asphalt	7407	0.025	185.2	650	0.2	162.5	348
walkway <10' wide (BUILDING WEST)	Asphalt	569	0.025	14.2	183	0.2	45.8	60
walkway <10' wide (BUILDING PARKING)	Asphalt	333	0.025	8.3	112	0.2	28	36
						Initial Wattage Allowance for Entire Site (Watts):		350
						Total General Hardscape Allowance (Watts):		794

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2023-08-10 17:03:47

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 1 of 10)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

A. GENERAL INFORMATION

01	Project Location (city)	Long Beach	04	Total Illuminated Hardscape Area (ft^2)	8309
02	Climate Zone	8			
03	Outdoor Lighting Zone per Title 24 Part 1 §10-114 or as designated by Authority Having Jurisdiction (AHJ):				
☐	LZ-0: Very Low - Undeveloped Parkland	☐ LZ-2: Moderate - Rural Areas		☐ LZ-4: High - Must be reviewed by CA Energy Commission for Approval	
☐	LZ-1: Low - Developed Parkland	☒ LZ-3: Moderately High - Urban Areas			

B. PROJECT SCOPE

This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.7 or §141.0(b)2I. for alterations.

My Project Consists of:

01	02
☒ New Lighting System	Must Comply with Allowances from §140.7
☐ Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)? ○ Yes ○ No

03	04	05
% of Existing Luminaires Being Altered[1]	Sum Total of Luminaires Being Added or Altered	Calculation Method
☐ < 10% ☐ >= 10% and < 50% ☐ >= 50%		

Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.

[1] *FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.*

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2023-08-10 17:03:47

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 2 of 10)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through I. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

Calculations of Total Allowed Lighting Power (Watts) §140.7 or §141.0(b)2L										Compliance Results		
01		02		03		04		05		06	07	08	09
General Hardscape Allowance §140.7(d)1 (See Table I)	+	Per Application §140.7(d)2 (See Table J)	+	Sales Frontage §140.7(d)2 (See Table K)	+	Ornamental §140.7(d)2 (See Table L)	+	Per Specific Area §140.7(d)2 (See Table M)	OR	Existing Power Allowance §141.0(b)2I. (See Table N)	=	Total Allowed (Watts)	≥	Total Actual (Watts)	07 must be >= 08
793.98	+	19	+	----	+	----	+	38	OR	----	=	850.98	≥	696.7	COMPLIES
										Cutoff Compliance (See Table G for Details)					N/A
										Controls Compliance (See Table H for Details)					COMPLIES with Exceptional Conditions

D. EXCEPTIONAL CONDITIONS

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

E. ADDITIONAL REMARKS

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

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2023-08-10 17:03:47

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 3 of 10)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with §140.7 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per §141.0(b)2I, only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included).

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1, 3]	How is Wattage determined	Total number luminaires[2]	Luminaire Status[1]	Excluded per §140.7(a)	Design Watts	Cutoff Req.:> 6,200 initial lumen output §130.2(b)[4]	Field Inspector Pass	Field Inspector Fail
S1	S1	☐ Linear	18.5	Mfr. Spec	6	New	☐	111	NA: < 6200 lumens	☐	☐
S2	S2	☐ Linear	18	Mfr. Spec	3	New	☐	54	NA: < 6200 lumens	☐	☐
S3	S3	☐ Linear	35	Mfr. Spec	5	New	☐	175	NA: < 6200 lumens	☐	☐
S4	S4	☐ Linear	10.6	Mfr. Spec	1	New	☐	10.6	NA: < 6200 lumens	☐	☐
S5	S5	☐ Linear	22.5	Mfr. Spec	9	New	☐	202.5	NA: < 6200 lumens	☐	☐
S7	S7	☐ Linear	25.4	Mfr. Spec	3	New	☐	76.2	NA: < 6200 lumens	☐	☐
S8	S8	☐ Linear	14.7	Mfr. Spec	2	New	☐	29.4	NA: < 6200 lumens	☐	☐
S9	S9	☐ Linear	38	Mfr. Spec	1	New	☐	38	NA: < 6200 lumens	☐	☐
							Total Design Watts:	696.7			

** NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.*
EX: Luminaire is lighting a statue; EXCEPTION 2 to §130.2(b)

[1] *FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c)*
[3] *For linear luminaires, wattage should be indicated as W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.*

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2023-08-10 17:03:47

NO.	DATE	SHEET	REVISION
	12/10/21		APPROVAL
1	04/22/22		DESCRIPTION
2	08/15/23		PLAN CHECK SUBMITTAL
	10/12/23		PLAN CHECK RE-SUBMITTAL
			PLAN CHECK RE-SUBMITTAL
			BID DOCUMENTS
			REF:
			AS-BUILT

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA No. 10151 ELECTRICAL STATE OF CALIFORNIA
EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
OUTDOOR LIGHTING - T24 COMPLIANCE FORMS

B # B-4797
PHASE # ___ / REBID # ___
SHEET 215 OF 236
DWG. NO. E501 2

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 16, 2023 - 11:58am - CReyes - K:\ENG\2021\21-8070\21-8070_E501-E503_ TITLE 24 COMPLIANCE FORMS .dwg

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 10 of 11)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

U. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection have been changed by the permit applicant, an explanation should be included in Table E, Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified	Field Inspector	
		Pass	Fail
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	☐	☐	
NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	☐	☐	
NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	☐	☐	

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-08-10 17:03:47

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 7 of 11)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

FC-1.2.1 Electrical, Mechanical	Electrical Mechancial Telephone Room	0.4	149	59.6	No	No
FC-1.2.2 Fire Station - Misc.	All Other Space Types	0.4	178	71.2	No	No
FC-1.2.2 Restroom	Restrooms	0.65	124	80.6	No	No
FC-1.2.3 Office	Office greater than 250 square feet	0.65	184	119.6	No	No
FC-1.2.4 Fire Station - Misc.	All Other Space Types	0.4	228	91.2	No	No
FC-1.2.4 Restroom	Restrooms	0.65	108	70.2	No	No
FC-1.2.5 Fire Station - Misc.	All Other Space Types	0.4	144	57.6	No	No
FC-1.2.6 Fire Station - Misc.	All Other Space Types	0.4	143	57.2	No	No
FC-1.2.7 Fire Station - Misc.	All Other Space Types	0.4	142	56.8	No	No
FC-1.2.8 Fire Station - Misc.	All Other Space Types	0.4	145	58	No	No
FC-1.2.9 Fire Station - Misc.	All Other Space Types	0.4	215	86	No	No
FC-1.2.10 Fire Station - Misc.	All Other Space Types	0.4	174	69.6	No	No
FC-1.2.11 Corridor	Corridor Area	0.6	536	321.6	No	No
FC-1.2.11 Restroom	Restrooms	0.65	351	228.2	No	No
FC-1.2.11 Laundry/Jan.	Laundry Area	0.45	153	68.9	No	No
FC-1.2.11 Electrical, Mechanical	Electrical Mechancial Telephone Room	0.4	76	30.4	No	No
FC-1.2.11 Stairwell	Stairwell	0.5	86	43	No	No
FC-1.2.11 Fire Station - Misc.	General Commercial Industrial Work AreaLow Bay	0.6	225	135	No	No
FC-1.2.11 Janitor Unoccupied	General Commercial Industrial Work AreaLow Bay	0.6	51	30.6	No	No
FC-1.2.12 Break Rooms	Lounge Breakroom or Waiting Area	0.65	609	395.8	No	No
FC-1.2.13 Office	Office 250 square feet or less	0.7	161	112.7	No	No
FC-1.2.14 Fire Station - Misc.	All Other Space Types	0.4	179	71.6	No	No
FC-1.2.14 Restroom	Restrooms	0.65	95	61.8	No	No
FC-1.2.15 Dining/Kitchen	Kitchen/ Food Preparation Area	0.95	1,297	1,232.1	No	No
FC-1.2.15 All Other	All Other Space Types	0.4	62	24.8	No	No
FC-1.2.16 Fire Station - Misc.	Exercise/Fitness Center GymnasiumArea	0.5	588	294	No	No

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-08-10 17:03:47

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 4 of 11)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

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

Building Level Controls

01	02	03	
		Field Inspector	
		Pass	Fail
Mandatory Demand Response §110.12(c)	Shut-off controls §130.1(c)	☐	☐
Required > 10,000 SF	See Area/Space Level Controls		

Area Level Controls

04	05	06	07	08	09	10	11	12	
								Field Inspector	
Area Description	Complete Building or Area Category Primary Function Area §130.1(a)	Area Controls §130.1(a)	Multi-Level Controls §130.1(b)	Shut-Off Controls §130.1(c)	Primary/Sky lit Daylighting §130.1(d)	Secondary Daylighting §140.6(a)	Interlocked Systems §140.6(a)1	Pass	Fail
CONFERENCE ROOM	Convention, Conference, Multipurpose and Meeting Center Areas	Manual ON/OFF	Dimmer	Occupancy Sensor	Included	Included	No	☐	☐
OFFICES <250 SQFT	Office 250 square feet or less	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
BC OFFICE	Office greater than 250 square feet	Manual ON/OFF	Dimmer	Occupancy Sensor	Included	Included	No	☐	☐
RESTROOMS	Restrooms	Manual ON/OFF	Dimmer	Vacancy	N/A	N/A	No	☐	☐
FIRE RISER	All Other Space Types	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
BUNKS	All Other Space Types	Manual ON/OFF	Dimmer	Exempt*	N/A	N/A	No	☐	☐
LOBBY	Main Entry Lobby	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-08-10 17:03:47

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 1 of 11)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

This document is used to demonstrate compliance with requirements in §110.9, §110.12(c), §130.0, §130.1, §140.6 and §141.0(b)2 for indoor lighting scopes using the prescriptive path.

A. GENERAL INFORMATION

01	Project Location (city)	Long Beach	04	Total Conditioned Floor Area (ft²)	12,356
02	Climate Zone	8	05	Total Unconditioned Floor Area (ft²)	375
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	2

● Convention Center ● Gymnasium ● Office ● Support Areas ● Warehouse ● : See Table I

B. PROJECT SCOPE

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

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☒ New Lighting System	Area Category Method	12356	Area Category Method	375
☐ New Lighting System - Parking Garage				
Total Area of Work (ft²)	12356		375	

C. COMPLIANCE RESULTS

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

Lighting in conditioned and unconditioned spaces must not be combined for compliance per §140.6(b)1	Allowed Lighting Power per §140.6(b) (Watts)						Adjusted Lighting Power per §140.6(a) (Watts)						Compliance Results
	01	02	03	04	05		06	07		08			09
	Complete Building §140.6(c)1	Area Category §140.6(c)2	Area Category Additional §140.6(c)2G (+)	Tailored §140.6(c)3 (+)	**Total Allowed** (Watts)		Total Designed (Watts)	Adjustments PAF Lighting Control Credits §140.6(a)2 (-)		**Total Adjusted** (Watts) *Includes Adjustments			**05 must be >= 08** §140.6
	(See Table I)	(See Table I)	(See Table J)	(See Table K)			(See Table F)	(See Table P)					
Conditioned		6,864.7	0		=	6,865	6,187	0	=	6187			COMPLIES
Unconditioned		150	0		=	150	149	0	=	149			COMPLIES

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-08-10 17:03:47

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 11 of 11)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Documentation Author Signature:
William Thoma	
Company: Thoma Electric, Inc	Signature Date: 2023-08-10
Address: 3852 Empleo, Suite C	CEA/ HERS Certification Identification (if applicable): E10757
City/State/Zip: San Luis Obispo CA 93401	Phone: 805-543-3850

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Responsible Designer Signature:
William Thoma	
Company: Thoma Electric, Inc.	Date Signed: 2023-08-10
Address: 3562 Empleo Street	License: E10757
City/State/Zip: San Luis Obispo CA 93401	Phone: 805-543-3850

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-08-10 17:03:47

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 8 of 11)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

FC-1.1.1. Conference	Convention, Conference, Multipurpose and Meeting Center Areas	0.85	395	335.8	No	No
Fire Station - Misc.	All Other Space Types	0.4	411	164.4	No	No
Fire Station	All Other Space Types	0.4	3,186	1,274.4	No	No
Comm. Room	Electrical Mechancial Telephone Room	0.4	197	78.8	No	No
			TOTALS:	12,356	6,864.7	See Tables J, or P for detail

Unconditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area Category	PAF
Electrical, Mechanical	Electrical Mechancial Telephone Room	0.4	135	54	No	No
Electrical, Mechanical	Electrical Mechancial Telephone Room	0.4	240	96	No	No
			TOTALS:	375	150	See Tables J, or P for detail

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This section does not apply to this project.

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAMENTAL/SPECIAL EFFECTS

This section does not apply to this project.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-08-10 17:03:47

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 5 of 11)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

CORRIDORS	Corridor Area	Manual ON/OFF	Dimmer	Occupancy Sensor	Included	N/A	No	☐	☐
LAUNDRY	Laundry Area	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
JANITOR	General Commercial Industrial Work AreaLow Bay	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
MECH/ELEC., COMM, GENERATOR, ELEV. MACHINE	Electrical Mechancial Telephone Room	Manual ON/OFF	Dimmer	Exempt*	N/A	N/A	No	☐	☐
STAIRS & ELEV LOBBY	Stairwell	Manual ON/OFF	Exempt*	Occupancy Sensor	N/A	N/A	No	☐	☐
APP. BAY & APP. SUPPORT	All Other Space Types	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
DAYROOM	Lounge Breakroom or Waiting Area	Manual ON/OFF	Dimmer	Exempt*	N/A	N/A	No	☐	☐
KITCHEN/DINING	Kitchen/ Food Preparation Area	Manual ON/OFF	Dimmer	Exempt*	N/A	N/A	No	☐	☐
PANTRY	All Other Space Types	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
FITNESS	Exercise/Fitness Center GymnasiumArea	Manual ON/OFF	Dimmer	Occupancy Sensor	Included	Included	No	☐	☐
TURNOUT GEAR	Warehouse	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
MECHANICAL	Electrical Mechancial Telephone Room	Manual ON/OFF	Exempt*	Occupancy Sensor	N/A	N/A	No	☐	☐

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-08-10 17:03:47

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 2 of 11)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

C. COMPLIANCE RESULTS

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

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with 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. INDOOR LIGHTING FIXTURE SCHEDULE

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

Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10	
										Field Inspector
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per §140.6(a)3	Design Watts	Pass	Fail
A1	A1	No	No	41.2	Mfr. Spec	4	No	164.8	☐	☐
A2	A2	No	No	29.9	Mfr. Spec	11	No	328.9	☐	☐
A3	A3	No	No	46.4	Mfr. Spec	11	No	510.4	☐	☐
A4	A4	No	No	18.8	Mfr. Spec	24	No	451.2	☐	☐
B1	B1	No	No	81.7	Mfr. Spec	14	No	1,143.8	☐	☐
B2	B2	No	No	50	Mfr. Spec	3	No	150	☐	☐
B3	B3	No	No	34.5	Mfr. Spec	3	No	103.5	☐	☐
C1	C1	No	No	20.3	Mfr. Spec	1	Yes	---	☐	☐
C1	C1	No	No	20.3	Mfr. Spec	7	No	142.1	☐	☐
D1	D1	No	No	10.6	Mfr. Spec	18	No	190.8	☐	☐
D2	D2	No	No	8.6	Mfr. Spec	17	No	146.2	☐	☐
G10	G10	No	No	60	Mfr. Spec	8	No	480	☐	☐

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-08-10 17:03:47

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 6 of 11)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR ALTERATIONS

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

T. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E, Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Form/Title	Field Inspector	
	Pass	Fail
NRCI-LTI-01-E - Must be submitted for all buildings	☐	☐

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-08-10 17:03:47

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 9 of 11)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

*NOTES: Controls with a * require a note in the space below explaining how compliance is achieved. EX: Conference 2: Primary/Skylight Daylighting: Exempt because less than 120 watts of general lighting; EXCEPTION 1 to §130.1(d)2*		13
		Plan Sheet Showing Daylit Zones:
BUNKS	RESIDENTIAL SPACE	
MECH/ELEC., COMM, GENERATOR, ELEV. MACHINE	130.1(c)1 Exception 4: Electrical equipment rooms	
STAIRS & ELEV LOBBY	130.1(b) Enclosed area is over 100sf with connected lighting load of less than 0.5 W/sf	
DAYROOM	RESIDENTIAL SPACE	
KITCHEN/DINING	RESIDENTIAL SPACE	
MECHANICAL	130.1(b) Enclosed area is over 100sf with connected lighting load of less than 0.5 W/sf	

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per §140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per §140.6(c) or adjustments per §140.6(a) are being used .

Conditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area Category	PAF
FC-1.1.2 Office	Office 250 square feet or less	0.7	575	402.5	No	No
FC-1.1.2 Restrooms	Restrooms	0.65	155	100.8	No	No
FC-1.1.2 Unoccupied	All Other Space Types	0	119	0	No	No
FC-1.2.1 Office	Office greater than 250 square feet	0.65	841	546.6	No	No
FC-1.2.1 Commercial/Industrical Storage	Commercial Industrial Storage Area	0.45	74	33.3	No	No

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-08-10 17:03:47

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

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Long Beach Fire Station 9	Report Page:	(Page 3 of 11)
Project Address:	4101 Long Beach Blvd.	Date Prepared:	8/10/2023

F. INDOOR LIGHTING FIXTURE SCHEDULE

G6	G6	No	No	36	Mfr. Spec	4	No	144	☐	☐
H4	H4	No	No	22.8	Mfr. Spec	40	No	912	☐	☐
H8	H8	No	No	45.6	Mfr. Spec	6	No	273.6	☐	☐
P1	P1	No	No	41	Mfr. Spec	4	No	164	☐	☐
P4	P4	No	No	49.3	Mfr. Spec	4	No	197.2	☐	☐
UC22	UC22	No	No	12	Mfr. Spec	1	No	12	☐	☐
UC40	UC40	No	No	20	Mfr. Spec	11	No	220	☐	☐
W1	W1	No	No	20	Mfr. Spec	7	No	140	☐	☐
W2	W2	No	No	3	Mfr. Spec	8	No	24	☐	☐
W3	W3	No	No	12.2	Mfr. Spec	2	Yes	---	☐	☐
W3	W3	No	No	12.2	Mfr. Spec	1	No	12.2	☐	☐
W4	W4	No	No	39.5	Mfr. Spec	7	No	276.5	☐	☐
							Total Designed Watts: CONDITIONED SPACES		6,187	

Designed Wattage: Unconditioned Spaces

01	02	03	04	05	06	07	08	09	10	
										Field Inspector
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per §140.6(a)3	Design Watts	Pass	Fail
P2	P2	No	No	86	Mfr. Spec	1	No	86	☐	☐
P3	P3	No	No	63	Mfr. Spec	1	No	63	☐	☐
							Total Designed Watts: UNCONDITIONED SPACES		149	

[1]*FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per §140.6(a)4B is adjusted to be 75% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.*

[2]*Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c) Wattage used must be the maximum rated for the luminaire, not the lamp.*

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-08-10 17:03:47

NO.	DATE	REVISION
	12/16/21	PLAN CHECK SUBMITTAL
2	04/22/22	PLAN CHECK RE-SUBMITTAL
	08/15/23	PLAN CHECK RE-SUBMITTAL
	10/12/23	BID DOCUMENTS

SHEET APPROVAL

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

REF:

AS-BUILT

REGISTERED PROFESSIONAL ENGINEER
WILLIAM A. THOMA
NO. 40787
ELECTRICAL
STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
INDOOR LIGHTING - T24 COMPLIANCE FORMS

B # B-4797

PHASE # ____ / REBID # ____

SHEET 216 OF 236

DWG. NO. E502 /2

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

Oct 16, 2023 - 11:56am - CReyes - K:\ENG\2021\21-807\21-807b_ES01~ES03_ TITLE 24 COMPLIANCE FORMS.dwg

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SRA-E
Project Name:	Long Beach Fire Station 9	Report Page: (Page 4 of 5)
Project Address:	4101 Long Beach Blvd,	Date Prepared: 8/10/2023

ZONE 3	E-303 ELECTRICAL ROOF PLAN	Low/Slope	No	Yes	Yes	Yes	Yes	80	781	COMPLIES
							Total Designated Solar Zone Area (ft²):		2261	

Interconnection Pathways

Location in construction documents showing the location for inverters and metering equipment and a pathway for the routing of conduit/ plumbing to the electrical service/ water heating system per §110.10(c).

TOOTNOTE: This field is used to document how the percentage of annual solar access was determined per §110.10(b)1B. Solar access is the ratio of solar insolation including shade to the solar insolation without shade. Shading from obstructions located on the roof or any other part of the building shall not be included in the determination of annual solar access.

G. PERMANENTLY INSTALLED SOLAR PHOTOVOLTAIC (PV) SYSTEM

This section does not apply to this project.

H. PERMANENTLY INSTALLED SOLAR HOT WATER SYSTEMS

This section does not apply to this project.

I. SMART THERMOSTATS AND ALTERNATIVE EFFICIENCY MEASURE

This section does not apply to this project.

J. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

There are no NRCI forms required for this project.

K. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no Certificates of Acceptance applicable to solar ready requirements.

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SRA-E
Project Name:	Long Beach Fire Station 9	Report Page: (Page 1 of 5)
Project Address:	4101 Long Beach Blvd,	Date Prepared: 8/10/2023

This document is used to demonstrate compliance with mandatory requirements in §110.10 for newly constructed buildings which are either high-rise multifamily ten stories or fewer, hotel/motel ten stories or fewer or all other nonresidential buildings three sotries or fewer. It is also used to demonstrate compliance with additions to these building types which add more than 2,000 ft² of roof area. Alterations or additions of less than 2,000 ft² are not required to comply with §110.10.

A. GENERAL INFORMATION

01	Project Location (city)	Long Beach	04	Building Type	Other nonresidential bldg 3 stories or fewer
02	Climate Zone	8	05	Construction Type	New Construction
03	☐ Roof is designed for vehicle traffic, parking or for heliport				
03a	Plan sheet showing roof design for vehicle traffic, parking or heliport exception:				

B. PROJECT SCOPE

The compliance path the project is using to comply per §110.10(b)1B is indicated below.

My project consists of (check one):

		1
☒	Provide Solar Ready Area no exceptions	The project has allocated a solar zone on the roof plan per requirements in §110.10(b), as documented in Table F.
☐	Exception to Solar Ready Area: Installed Solar Photovoltaic System	The project includes a permanently installed solar electric system having a nameplate DC power rating, measured under Standard Test Conditions, of no less than one watt per square foot of roof area as documented in Table G.
	Exception to Solar Ready Area: Installed Solar Water Heating System	The project is a hotel/motel or high-rise multifamily occupancy and includes a permanently installed domestic solar water-heating system complying with §150.1(c)8Bii and Reference Residential Appendix RA4, as documented in Table H.
	Exception to Solar Ready Area: Smart Thermostat and Alternative Energy Efficiency Measure	The project is a high-rise multifamily occupancy where all thermostats in each dwelling unit comply with §110.12(a) AND at least one additional measure listed in Exception 4 to §110.10(b)1B is installed, as documented in Table I.

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SRA-E
Project Name:	Long Beach Fire Station 9	Report Page: (Page 5 of 5)
Project Address:	4101 Long Beach Blvd,	Date Prepared: 8/10/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: William Thoma	Documentation Author Signature:
Company: Thoma Electric, Inc	Signature Date: 2023-08-10
Address: 3852 Empleo, Suite C	CEA/ HERS Certification Identification (if applicable): E10757
City/State/Zip: San Luis Obispo CA 93401	Phone: 805-543-3850

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Mary McGrath	Responsible Designer Signature:
Company: Mary McGrath Architects	Date Signed: 2023-08-10
Address: 1212 Broadway, Suite 401	License: C24435
City/State/Zip: Oakland CA 94612	Phone: (510) 208-9400

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SRA-E
Project Name:	Long Beach Fire Station 9	Report Page: (Page 2 of 5)
Project Address:	4101 Long Beach Blvd,	Date Prepared: 8/10/2023

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through I. Note: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance or see the applicable Table referenced below.

Allocated Solar Zone				Installed PV System				Installed SWH System				Smart Tstat and Alternative EE Measure			
01		02		03		04		05		06		07	08	09	
Required Minimum Area (ft²)	>=	Designated Area (ft²)	OR	Required Minimum DC Power Rating (Watts)	>=	Designed DC Power Rating (Watts)	OR	Required Minimum Solar Savings Fraction	>=	Designed/Rated Solar Savings Fraction	OR	JAS Compliant Thermostat Specified?	Alternative Energy Efficiency Measure		
(See Table F)				(See Table G)				(See Table H)				(See Table I)			
946.8	>=	2261	OR		>=		OR		>=		OR				COMPLIES
				Location within the construction documents showing the location for inverters and metering equipment and a pathway for the routing of conduit/plumbing to the electrical service/ water heating system per §110.10(c).											COMPLIES

D. EXCEPTIONAL CONDITIONS

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

E. ADDITIONAL REMARKS

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

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SRA-E
Project Name:	Long Beach Fire Station 9	Report Page: (Page 3 of 5)
Project Address:	4101 Long Beach Blvd,	Date Prepared: 8/10/2023

F. ALLOCATED SOLAR ZONE

This table is completed if the project is designating a solar zone to comply with §110.10(b)1B. New construction consider the total roof area; Additions consider newly added roof area. This table demonstrates that the project has designated the minimum area required for the Allocated Solar Zone, and also that the requirements for Solar Zone Subareas have been met. Each subarea must be shown on a roof plan or documented in construction documents. The solar zones must also comply with fire code requirements, including, but not limited to, setback and pathway requirements. Requirements for interconnection pathways must also be included in construction documents, and the location is specified in this table.

Required Minimum Solar Zone

01	02	03	04	05	06			07	08
Minimum Solar Zone Area Calculation Method	Total New or Added Roof Area (ft²)	Total New or Added Roof Area Covered with Skylights (ft²)	Minimum Solar Zone Based on Total or Added Roof Area (0.15 x (Roof-Sky(t)) (ft²)	Method/ Tools Used to Determine Annual Solar Access for Potential Zones[1]	Potential Solar Zone Areas: Roof areas with >= 70% Solar Access			Minimum Solar Zone Based on Potential Zone (0.5 x (Total Potential Zone)) (ft²)	Required Minimum Solar Zone Area (ft²)
					Low-Sloped Area (<= 2:12 pitch) (ft²)	Steep-Sloped Area (> 2:12 pitch) Oriented 90 ° - 300 ° (ft²)	Total Potential Solar Zone Area (ft²)		
Total New or Added Roof Area	6322	9.8	946.83						946.83

Designated Solar Zone Subareas

09	10	11	12	13	14	15	16	17	18	19
Subarea Name or Tag	Building Plan Reference	Roof or Overhang Slope (Low <= 2:12 pitch) (Steep > 2:12 pitch)	Is Steep-Sloped Roof or Overhang between 90 and 300 degrees?	Subarea Complies with Title 24, Part 9	Solar Zone Subarea Free of Obstructions per §110.10(b)3A	Subarea is Required Distance from Potential Obstructions per §110.10(b)3 B	Is the Smallest Dimension 5 feet or greater?	Min. Area Required per Subarea (ft²)	Designated Area (ft²)	Subarea Complies?
ZONE 1	E-303 ELECTRICAL ROOF PLAN	LowSlope	No	Yes	Yes	Yes	Yes	80	725	COMPLIES
ZONE 2	E-303 ELECTRICAL ROOF PLAN	LowSlope	No	Yes	Yes	Yes	Yes	80	755	COMPLIES

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
Project Name:	Long Beach Fire Station 9	Report Page: (Page 4 of 6)
Project Address:	4101 Long Beach Blvd,	Date Prepared: 8/10/2023

H. VOLTAGE DROP

This table includes entirely new or complete replacement electrical power distribution systems, or alterations that add, modify or replace both feeders and branch circuits to demonstrate compliance with §130.5(c). For alterations, only the altered circuits must demonstrate compliance per §141.0(b)2Pii

01	02		03	04	05	
Electrical Service Designation/Description	Combined Voltage Drop on Installed Feeder/Branch Circuit Conductors Compliance Method			Location of Voltage Drop Calculations[1]	Sheet Number for Voltage Drop Calculations in Construction Documents	Field Inspector
						Pass / Fail
MSB	☒	Voltage drop less than 5%	☐ Permitted by CA Elec Code ([Exception to 130.5(c)]*	Attached	E005, PANEL SCHEDULES	☐ / ☐

** NOTES: If "Permitted by CA Elec Code "* is selected under Compliance Method above, please indicate where the exception applies in the space provided below.*

[1] FOOTNOTES: Voltage drop calculations may be attached to the permit application outside the construction documents if allowed by the Authority Having Jurisdiction. Select "attached" if applicable. If calculations will be the responsibility of the installing contractor, select "Contractor Responsible".

I.CIRCUIT CONTROLS FOR 120-VOLT RECEPTACLES AND CONTROLLED RECEPTACLES

This table includes entirely new or complete replacement electrical power distribution systems to demonstrate compliance with §130.5(d). Both controlled and uncontrolled receptacles must be provided in office areas, lobbies, conference rooms, kitchen areas in office spaces, copy rooms and hotel/motel guest rooms.

01	02	03	04	05	06	
Room name or Description	Location/ Type of Controlled Receptacles	Shut-Off Controls	Permanent Durable Marking Will be Used	Location of Requirements in Construction Documents	Field Inspector	
					Pass	Fail
MSB	Within 6ft of uncontrolled receptacle	Occupancy Sensor	☒	POWER FLOOR PLANS	☐	☐

** NOTES: If "Other*" is selected under Shut-Off Controls above, please indicate how compliance has been achieved in the space provided below.*

J. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Form/Title	Field Inspector	
	Pass	Fail
NRCI-ELC-01-E - Must be submitted for all buildings	☐	☐

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
Project Name:	Long Beach Fire Station 9	Report Page: (Page 5 of 6)
Project Address:	4101 Long Beach Blvd,	Date Prepared: 8/10/2023

K. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no Certificates of Acceptance applicable to electrical power distribution requirements.

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
Project Name:	Long Beach Fire Station 9	Report Page: (Page 1 of 6)
Project Address:	4101 Long Beach Blvd,	Date Prepared: 8/10/2023

This document is used to demonstrate compliance with mandatory requirements in §130.5, for electrical systems in newly constructed nonresidential, high-rise residential and hotel/motel occupancies. Additions and alterations to electrical service systems in these occupancies will also use this document to demonstrate compliance per §141.0(a) or §141.0(b)2P. for alterations..

A. GENERAL INFORMATION

01	Project Location (city)	Long Beach
02	Occupancy Types Within Project:	

● Convention Center ● Gymnasium ● Office ● Support Areas ● Warehouse ● : See Table I

B. PROJECT SCOPE

This table includes electrical systems that are within the scope of the permit application.

01	02	03	04	05
Electrical Service Designation/Description	Scope of Work[1]	Rating (kVA)	Utility Provided Metering System Exception to §130.5(a) [2]	System subject to CA Elec Code Article 517 Exception to §130.5(a)and (b)
MSB	New electrical service equipment and meter	360	☐	☐
06 Demand Response Controls	Where required, demand response controls must be specified which are capable of receiving and automatically responding to at least one standards based messaging protocol which enables demand response after receiving a demand response signal. Sections §120.2, §130.1 and §130.3 and compliance documents NRCC-MCH, NRCC-LTI and NRCC-LTS will indicate when demand response controls are required.			

[1] FOOTNOTES: Adding only new feeders and branch circuits triggers Voltage Drop 130.5(c). no other requirements from 130.5 are required.
[2] Applicable if the utility company is providing a metering system that indicates instantaneous kW demand and kWh for a utility-defined period.

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through I. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

01		02		03		04		05
Service Electrical Metering §130.5(a) (See Table F)	AND	Separation for Monitoring §130.5(b) (See Table G)	AND	Voltage Drop §130.5(c) (See Table H)	AND	Controlled Receptacles §130.5(d) (See Table I)		
Yes	AND	Yes	AND	Yes	AND	Yes		COMPLIES

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
Project Name:	Long Beach Fire Station 9	Report Page: (Page 2 of 6)
Project Address:	4101 Long Beach Blvd,	Date Prepared: 8/10/2023

D. EXCEPTIONAL CONDITIONS

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

E. ADDITIONAL REMARKS

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

F. SERVICE ELECTRICAL METERING

This table includes new or replacement electrical service systems OR equipment to demonstrate compliance with §130.5(a)

01	02	03				04	05	
Electrical Service Designation/Description	Rating (kVA)	Required Metering Capabilities per Table 130.5-A				Location of Requirements in Construction Documents	Field Inspector	
		Instantaneous Demand (kW)	Historical Peak Demand (kW)	Tracking kWh for user-defined period	kWh per rate period		Pass	Fail
MSB	360	☒	☒	☒	☐	E003, SINGLE LINE DIAGRAM	☐	☐

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
Project Name:	Long Beach Fire Station 9	Report Page: (Page 6 of 6)
Project Address:	4101 Long Beach Blvd,	Date Prepared: 8/10/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: William Thoma	Documentation Author Signature:
Company: Thoma Electric, Inc	Signature Date: 2023-08-10
Address: 3852 Empleo, Suite C	CEA/ HERS Certification Identification (if applicable): E10757
City/State/Zip: San Luis Obispo CA 93401	Phone: 805-543-3850

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: William Thoma	Responsible Designer Signature:
Company: Thoma Electric, Inc.	Date Signed: 2023-08-10
Address: 3562 Empleo Street	License: E10757
City/State/Zip: San Luis Obispo CA 93401	Phone: 805-543-3850

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
Project Name:	Long Beach Fire Station 9	Report Page: (Page 3 of 6)
Project Address:	4101 Long Beach Blvd,	Date Prepared: 8/10/2023

G. SEPARATION OF ELECTRICAL CIRCUITS FOR ENERGY MONITORING

This table includes entirely new or complete replacement electrical power distribution systems to demonstrate compliance with §130.5(b). Any load types that are not included in the service do not need to be shown.

01	02	03	04	05	
Load Type per Table 130.5-B[1]	Minimum Required Separation of Load per Table 130.5-B	Compliance Method[2]	Location of Requirements in Construction Documents	Field Inspector	
				Pass	Fail
MSB					
Elevators, escalators, moving walkways	All loads in aggregate	NA: System subject to CA Elec Code Article 517	E003, SINGLE LINE DIAGRAM	☐	☐
Lighting including exit, egress and exterior	All lighting disaggregated by floor, type or area	NA: System subject to CA Elec Code Article 517	E003, SINGLE LINE DIAGRAM	☐	☐
HVAC systems and components	All HVAC in aggregate and each HVAC load rated at least 50 kVA	NA: System subject to CA Elec Code Article 517	E003, SINGLE LINE DIAGRAM	☐	☐
Renewable power sources (net or total)	Each group	NA: System subject to CA Elec Code Article 517	E003, SINGLE LINE DIAGRAM	☐	☐
Charging stations for electrical vehicle	All loads in aggregate	NA: System subject to CA Elec Code Article 517	E003, SINGLE LINE DIAGRAM	☐	☐

** NOTES: If "Other*" is selected under Compliance Method above, please indicate how compliance has been achieved in the space provided below.*

[1] FOOTNOTES: For each separate load type, up to 10% of the connected load may be of any type.
[2] Method 1: Switchboards/ motor control centers/ panelboard loads disaggregated for each load type.
Method 2: Switchboards/ motor control centers/ panelboard supply other distribution equipment with loads disaggregated for each load type.
Method 3: Branch circuits serve load types individually and provisions for adding future branch circuit monitoring.
Method 4: Complete metering system measures and reports loads by type.
See Chapter 8 of the Nonresidential Compliance Manual for more detail on Compliance Methods.

NO.	DATE	REVISION
		SHEET APPROVAL DESCRIPTION
1	12/16/21	PLAN CHECK SUBMITTAL
2	04/22/22	PLAN CHECK RE-SUBMITTAL
3	08/15/23	PLAN CHECK RE-SUBMITTAL
	10/12/23	BID DOCUMENTS
		REF:
		AS-BUILT

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA NO. 40787 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
ELECTRICAL POWER DISTRIBUTION AND SOLAR READY AREAS - T24 COMPLIANCE FORMS

B # B-4797

PHASE # ____ / REBID # ____

SHEET 217 OF 236

DWG. NO. E503 2

THOMA ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

GENERAL NOTES

1. CODE COMPLIANCE: ALL WORK SHALL CONFORM TO AND BE PERFORMED IN ACCORDANCE WITH CODES, STANDARDS, AND ORDINANCES AS SET FORTH BY THE AUTHORITIES HAVING JURISDICTION AND THEIR LATEST ADOPTED EDITIONS (IN EFFECT AT TIME OF BUILDING PERMIT APPLICATION) OF THE FOLLOWING PUBLICATIONS:

   A. CALIFORNIA CODE OF REGULATIONS TITLE 24; INCLUDES 2019 CALIFORNIA ELECTRICAL CODE, 2019 CALIFORNIA FIRE CODE, 2019 CALIFORNIA BUILDING CODE, ETC. WITH LOCAL AMENDMENTS AS APPLICABLE.
   B. AMERICANS WITH DISABILITIES ACT (ADA).

2. SAFETY: THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL EQUIPMENT IN A SAFE AND RESPONSIBLE MANNER. KEEP DEAD FRONT EQUIPMENT IN PLACE WHILE EQUIPMENT IS ENERGIZED. CONDUCT ALL CONSTRUCTION OPERATIONS IN A SAFE MANNER FOR EMPLOYEES AS WELL AS OTHER WORKPERSONS OR ANYONE VISITING THE JOB SITE. PROVIDE BARRIERS, FLAGS, TAPE, ETC. AS REQUIRED FOR SAFETY. THE CONTRACTOR SHALL HOLD ALL PARTIES HARMLESS OF NEGLIGENT SAFETY PRACTICES, WHICH MAY CAUSE INJURY TO OTHERS ON OR NEAR THE JOB SITE.

3. FIRE RATED ASSEMBLIES SHALL MAINTAIN RATINGS AS SPECIFIED IN THE CALIFORNIA BUILDING CODE CHAPTER 7. CONTRACTOR SHALL PROVIDE AND INSTALL PHYSICAL ENCLOSURE AROUND FIXTURES, PANELS, ETC. AS REQUIRED. ALL ASSEMBLIES TO BE PENETRATED SHALL BE INSTALLED WITH APPLICABLE THROUGH-PENETRATION FIRESTOP SYSTEM AS DETERMINED BY UL CLASSIFICATION. BEFORE CONSTRUCTION, VERIFY AND COMPLY WITH REQUIREMENTS OF LOCAL AUTHORITY HAVING JURISDICTION.

4. MOUNTING HEIGHTS SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:

   +15" AFF: RECEPTACLES, TELEPHONE, TV & DATA OUTLETS. (MEASURED BOTTOM OF OUTLET BOX)
   +46" AFF: OUTLET ABOVE COUNTER (MEAUSRED TOP OF OUTLET BOX)
   +48" AFF: LIGHT SWITCHES. (MEASURED TOP OF OUTLET BOX)
   +48" AFF: FIRE ALARM MANUAL PULL STATIONS, T-STATS. (MEASURED TOP OF OUTLET BOX)
   THE LOWER OF +80" AFF TO BOTTOM OF LENS, OR 6" BELOW CEILING: FIRE ALARM VISUALS.

   ELECTRICAL SWITCHES: CONTROLS AND SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF THE ROOM OR AREA TO CONTROL LIGHT AND RECEPTACLE OUTLETS, APPLIANCES OR COOLING, HEATING AND VENTILATING EQUIPMENT, SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE OUTLET BOX NOR LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE OUTLET BOX TO THE LEVEL OF THE FINISH FLOOR OR WORKING PLATFORM. [CBC 11B-308.1.1]

   ELECTRICAL RECEPTACLE OUTLETS: ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUITS OF 30 AMPERES OR LESS AND COMMUNICATION SYSTEM RECEPTACLES SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING NOR LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING TO THE LEVEL OF THE FINISH FLOOR OR WORKING PLATFORM [CBC 11B-308.1.2]

   CONTROLS AND OPERATING MECHANISMS SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 11B-309.

   BEFORE ROUGH-IN, VERIFY ALL MOUNTING HEIGHTS AND EXACT LOCATIONS FOR ALL EQUIPMENT ELECTRICAL CONNECTIONS, STUB-UPS, RECEPTACLES, OUTLETS, ETC. WITH ARCHITECT OR OWNER. PLACE DEVICES LOCATED ABOVE COUNTERS, SHELVING, ETC. AND IN BATHROOMS SO AS NOT TO CONFLICT WITH EDGES OF WAINSCOTING, COUNTER SPLASH, SHELVING, ETC. ARCHITECTURAL SHEETS SHALL GOVERN.

5. LABEL PANELS, CABINETS, BACKBOARDS, MAIN DEVICES, SAFETY SWITCHES, CONTACTORS AND OTHER SPECIFICALLY DESIGNATED EQUIPMENT SHOWN ON PLANS. USE ENGRAVED LAMINATED PLASTIC NAMEPLATES ATTACHED BY SCREWS OR RIVETS. FOR FEEDERS, NEATLY AND INDELIBLY LABEL CONDUIT DESTINATIONS ON BOTH VISIBLE ENDS OF CONDUIT RUNS WHERE CONDUITS TERMINATE AT DESIGNATED ENCLOSURES, STRUCTURES OR EQUIPMENT (INCLUDING PULL AND SPLICE BOXES).

6. EQUIPMENT ANCHORAGE NOTE
   ALL MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE ANCHORED OR BRACED TO MEET THE HORIZONTAL AND VERTICAL FORCES PRESCRIBED IN THE 2016 CBC, SECTION 1614A.1.13 AND ASCE 7-05 SECTIONS 13.3, 13.4 & 13.6.

   THE ATTACHMENT OF THE FOLLOWING ITEMS SHALL BE DESIGNED TO RESIST THE FORCES PRESCRIBED ABOVE, BUT NEED NOT BE DETAILED ON THE PLANS:

   A. EQUIPMENT WEIGHING LESS THAN 400 POUNDS SUPPORTED DIRECTLY ON THE FLOOR OR ROOF.
   B. FURNITURE REQUIRED TO BE ATTACHED IN ACCORDANCE WITH PART 2, TITLE 24, C.C.R..
   C. TEMPORARY OR MOVABLE EQUIPMENT.
   D. EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUPPORTED BY VIBRATION ISOLATORS.
   E. EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

   FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE MECHANICAL/ELECTRICAL ENGINEER.

   PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

   PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO RESIST THE FORCES PRESCRIBED IN ASCE 7-05 SECTION 13.3 AS DEFINED IN ASCE 7-05 SECTION 13.6.8, 13.6.7, AND 13.6.5.5, ITEM 6, RESPECTIVELY.

FIRE STATION ALERTING SYSTEM (FSAS)

A. INSTALLATION OF THE WESTNET FIRE STATION ALERTING SYSTEM EQUIPMENT IS UNDER THE GENERAL CONTRACTOR.

B. ALL EQUIPMENT IDENTIFIED IN WESTNET PLANS SHEET ARE TO FOLLOW INSTALLATION REQUIREMENTS PER WESTNET AND TO BE PROVIDED BY THE SELECTED SUBCONTRACTOR. SELECTED SUBCONTRACTOR SHOULD BE ABLE TO PURCHASE ALL THE EQUIPMENT NOTED FROM USDD.

C. ALL INFRASTRUCTURE, CONDUIT, ELECTRICAL BOXES AND ENCLOSURES SHALL BE PROVIDED AND PERFORMED BY ELECTRICAL CONTRACTOR. COORDINATE WITH BID ALTERNATE SELECTED SUBCONTRACTOR FOR ALL ROUGH-IN AND INSTALLATION DETAILS.

D. SELECTED SUB CONTRACTOR SHALL PROVIDE AND RUN ALL FSAS REQUIRED WIRE AND PERFORM THE FINAL SYSTEM AND PERIPHERAL EQUIPMENT HOOK-UP AND CONNECTIONS AND A FINAL WALK THRU TEST AND VERIFICATION OF ALL SYSTEM COMPONENTS AND OPERATIONS.

E. FIRE STATION ALERTING PLANS ARE DIAGRAMMATIC AND FOR BIDDING PURPOSES ONLY. VERIFY EXACT LOCATION AND MOUNTING HEIGHT WITH SELECTED SUBCONTRACTOR PRIOR TO ROUGH-IN.

F. SELECTED SUBCONTRACTOR NEEDS TO BE WESTNET CERTIFIED IN ORDER TO INSTALL THE EQUIPMENTS IDENTIFIED.

WIRE DEVICES

PROVIDE WHITE DECORA STYLE OUTLETS WITH WHITE COVER PLATES IN LIVING AREA AND STAINLESS IN APPARATUS BAY, SUPPORT AREA (IE. SHOP AND TURNOUT) AND KITCHEN.

2-WAY COMMUNICATION

A TWO AY COMMUNICATION SYSTEM COMPLY WITH SECTION CBC 1009.8.1 SHALL BE PROVIDED AT THE LANDING SERVING EACH ELEVATOR ONE EACH ACCESSIBLE FLOOR THAT IS ONE OR MORE STORIES ABOVE OR BELOW THE LEVEL OF EXIT DISCHARGE.

TWO COMMUNICATION SYSTEMS SHALL PROVIDE COMMUNICATION BETWEEN EACH REQUIRED LOCATION AND THE FIRE COMMAND CENTER OR A CENTRAL CONTROL POINT LOCATION AND CENTRAL CONTROL POINT IS NOT A CONSTANTLY ATTENDED LOCATION, A TWO-WAY COMMUNICATION SYSTEM SHALL HAVE A TIMED AUTOMATIC TELEPHONE DIAL-OUT CAPABILITY TO A MONITORING LOCATION OR 9-1-1. THE TWO-WAY COMMUNICATION SYSTEM SHALL INCLUDE BOTH AUDIBLE AND VISIBLE SIGNALS.

FIRE SPRINKLER AND ALARM SYSTEM NOTES

FIRE SPRINKLER MONITORING ALARM SYSTEM IS A DEFERRED APPROVAL. FULL DESIGN-BUILD SHOP DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR AND BE SUBMITTED TO THE ARCHITECT AND ENGINEER FOR REVIEW, UPON FAVORABLE REVIEW BY THE ARCHITECT AND ENGINEER, SHOP DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE LOCAL FIRE AUTHORITY FOR APPROVAL. INSTALLATION OF THE FIRE ALARM SYSTEM SHALL NOT BEGIN UNTIL THE LOCAL FIRE AUTHORITY HAS APPROVED THE SHOP DRAWINGS.

CONDUIT SYSTEMS NOTES

CONDUIT SYSTEMS USED ON THIS PROJECT SHALL BE AS FOLLOWS

1. PVC SCHEDULE 40 - underground/below slab with GRS elbows and risers tape wrapped).
2. ELECTRICAL METALLIC CONDUIT (EMT) - above grade/slab in building construction and where exposed above 8'-0" aff.
3. GALVANIZED RIGID STEEL (GRS) - where exposed below 8'-0" aff. and/or where subject to physical damage.
4. FLEXIBLE STEEL CONDUIT - above ceilings and/or concealed in building construction (seal tight flex required in exterior locations).

REFER TO SECTION 260533 & 260500 OF SPECIFICATIONS FOR ADDITIONAL INFORMATION. CONDUITS SHALL BE MINIMUM 1/2" UNLESS OTHERWISE NOTED, 3/4" FOR ALL HOME RUN CONDUITS AND WHERE ROUTED BELOW SLAB OR UNDERGROUND. CONDUIT SIZES, WHERE NOT NOTED ON THE DRAWINGS, SHALL BE SIZED FOR MAXIMUM 40% FILL PER CEC 310-6.

ADDITIONAL CONDUIT REQUIREMENTS.

- ROUTE CONDUIT(S) BELOW GRADE OR ABOVE CEILING SO THAT WALL OUTLETS, DEVICES, AND CONDUITS IN ALL EXPOSED BRICK WALL LOCATIONS SHALL BE RECESSED MOUNTED INSIDE BRICK. LOCATE DEVICES AT CELL WITH REINFORCEMENT CENTER AT BRICK AND/OR ONE CELL OVER AWAY FROM JAMB. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR CMU WALL LOCATIONS SECTIONS, AND DETAILS.
- REFER TO ELECTRICAL DETAILS FOR METAL PIPE PENETRATION THRU FIRE RATED WALL. PENETRATION OF FIRE-RESISTIVE WALLS AND FLOOR CEILINGS SHALL BE PROTECTED AS REQUIRED IN CBC SECTION 714.
- NO CONDUITS OR PIPING IN ANY SPACE SHALL BE EXPOSED AT THE CEILING AND WALL (COORDINATE WITH ALL DISCIPLINES PRIOR TO CONSTRUCTION). LOCATE ALL CONDUIT WITHIN WALLS

COMMUNICATION NOTES

A. TELEVISION PREWIRE: REMOVE ALL EXISTING COAX FROM EXISTING OUTLET LOCATION AND PROVIDE NEW COAX. EACH TELEVISION OUTLET (EXISTING AND NEW) SHOWN ON THE PLANS SHALL HAVE AN RG6U (WITH QUAD SHIELD) COAXIAL CABLE HOMERUN PREWIRED TO ELECTRICAL ROOM TELEPHONE BACKBOARD. LABEL AND LEAVE 10FEET ADEQUATE SLACK FOR UTILITY (CHARTER) CONNECTION.

B. DEVICE LOCATIONS SHOWN ARE SCHEMATIC AND APPROXIMATE. EXACT LOCATIONS SHALL BE FIELD VERIFIED DURING ROUGH-IN WITH ARCHITECTURAL ELEVATIONS, CASEWORK SHOP DRAWINGS, FURNITURE, ETC. AND SHALL BE COORDINATED WITH OTHER TRADES TO AVOID CONFLICT WITH OTHER EQUIPMENT.

C. ELECTRICAL AND COMMUNICATIONS OUTLETS SHOWN IN THE SAME LOCATION, SHALL BE MOUNTED ON OPPOSITE SIDES OF THE SAME STUD. COORDINATE BETWEEN ELECTRICAL AND COMMUNICATIONS PLANS.

D. ANY CABLES RUNNING UNDERGROUND MUST BE RATED WET LOCATION RATED.

E. CONTRACTOR MUST INSTALL AND COMPLY TELECOMMUNICATION SCOPE PER CITY OF LONG BEACH TECHNOLOGY AND INNOVATION INFRASTRUCTURE SPECIFICATION

F. REFER TO ARCHITECTURAL PLANS FOR LOCATION OF RATED WALLS.

COMMUNICATIONS LEGEND

SYMBOL	DESCRIPTION	MOUNTING	ROUGH-IN	DEVICE/CABLES (CITY APPROVED VENDOR)
M	DATA/VOICE	FLUSH MOUNT PER PLAN "M" DENOTE MOUNT ABOVE COUNTER PER ADA	SINGLE GANG P-RING (NOT A BOX) AND 3/4" EMT OR FLEX CONDUIT TO ACCESSIBLE FROM THE CEILING WITH PULL ROPE IN EACH CONDUIT. CONDUITS ARE NOT TO BE SHARED WITH ANY OTHER DROP LOCATION.	DEVICE, JACKS, ALL CABLING AND PLATE PER DETAIL 1/ET002.
	DATA ONLY			
W 911	WALL PHONE OR 911 EXTERIOR PHONE	FLUSH AT +48" AFF FROM TOP OF BOX	SINGLE GANG P-RING (NOT A BOX) AND 3/4" EMT OR FLEX CONDUIT TO ACCESSIBLE FROM THE CEILING WITH PULL ROPE IN EACH CONDUIT. CONDUITS ARE NOT TO BE SHARED WITH ANY OTHER DROP LOCATION.	DEVICE, JACKS, ALL CABLING AND PLATE PER DETAIL 1/ET002.
TV	TV OUTLET OR SERVE SMART BOARD WITH DATA	FLUSH AT COORDINATE MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO ROUGH-IN	BOX, RING AND EMT CONDUIT TO ABOVE T-BAR CEILING (UON)	DEVICE, JACKS, ALL CABLING AND PLATE PER DETAIL 1/ET002.
AP	WIRELESS ACCESS POINT "WAP	A. CITY TO FURNISHED AND INSTALL WIRELESS ACCESS POINT AND CAT6 CABLES. B. HEIGHT AND PLACEMENT LOCATION TO PROVIDED BY THE CITY OF LONG BEACH TELECOMMUNICATION. B. THE CITY OF LONG BEACH WILL PROVIDE A HEAT-MAP AND SPECIFIC LOCATION OF THE ACCESS POINT TO BE INSTALLED.	SINGLE GANG P-RING (NOT A BOX) AND 3/4" EMT OR FLEX CONDUIT TO ACCESSIBLE FROM THE CEILING WITH PULL ROPE IN EACH CONDUIT. CONDUITS ARE NOT TO BE SHARED WITH ANY OTHER DROP LOCATION.	ENSURE PROPER AND SECURE MOUNTING OF THE WAP DEVICE AND ALL HARDWARE. ENSURE THAT CORRECT COPPER CABLING IS USED FOR EITHER INDOOR (ISP) OR OUTDOOR (OSP) INSTALLATION. 1. DUAL CAT6A COMMSCOPE SYSTIMAX CABLING DROPS ARE TO BE PROVIDED - REFER TO THE COMM SCOPE APPENDIX FOR PART NUMBER. 2. THE CABLE SHALL BE 20FT LOOPED AND THEN TERMINATED ON SYSTIMAX ORANGE INSERTS (CATEGORY 6A) AND INSTALLED WITH WHITE SMB. 3. LOCATION SHALL BE MARK WITH A SMALL STILL ON THE T-BAR.
J	COMBINATION POWER/DATA FLOOR BOX	FLOOR BOX (WIREMOLD EVOLUTION SERIES OR EQUAL), SINGLE DUPLEX OUTLET, (2)COMMUNICATION OUTLETS, AND SPARE SPACE.	SINGLE DUPLEX OUTLET, (2)COMMUNICATION OUTLETS, AND SPARE SPACE. CONTRACTOR TO PROVIDE ALL ACCESSORIES FOR A WORKING SYSTEM. PROVIDE CONDUIT RACEWAY AS SHOWN ON PLANS. COMMUNICATION DEVICES AND WIRES BY OWNER'S VENDOR.	

CONTRACTOR MUST INSTALL AND COMPLY TELECOMMUNICATION SCOPE PER CITY OF LONG BEACH TECHNOLOGY AND INNOVATION INFRASTRUCTURE SPECIFICATION

DOOR ACCESS (5/ET002, 13/ET003)

CR — CARD READER. PROVIDE 1-GANG BOX WITH 1/2"C TO ACCESSIBLE CEILING SPACE. COORDINATE WITH CITY VENDOR PRIOR TO ROUGH-IN.

DC — DOOR CONTACT. COORDINATE WITH OWNER'S VENDOR PRIOR TO ROUGH-IN.

SECURITY CAMERA (3/ET002)

CAM — CCTV CAMERA. PROVIDE 2-GANG BOX AND 3/4"C.O. WITH PULL STRING TO ACCESSIBLE CEILING SPACE FOR LOW VOLTAGE WIRING BY CITY VENDOR. COORDINATE WITH VENDOR FOR EXACT LOCATION PRIOR TO ROUGH-IN.

CITY APPROVED COMMUNICATION VENDOR/ CONTRACTOR

THE TELECOMMUNICATIONS CONTRACTOR MUST BE A CERTIFIED COMM SCOPE SYSTIMAX INSTALLER FOR HTE PRODUCTS AND /OR SYSTEM BEING SUPPLIED AND MUST BE ABLE TO DEMONSTRATE ACTIVE COMMSCOPE PARTNER CERTIFICATION INCLUDING CURRENT COMPLETION OF COMM SCOPE'S DESIGN AND ENGINEERING COURSE (SP3321) AND INSTALLATION AND MAINTENANCE COURSE (SP3361). A CURRENT AND VALID COPY OF CERTIFICATION OF AUTHORIZATION DOCUMENTS MUST BE SUBMITTED WITH THE QUOTE IN ORDER FOR SUCH QUOTE TO BE VALID. THE TELECOMMUNICATIONS CONTRACTOR IS RESPONSIBLE FOR WORKMANSHIP AND INSTALLATION PRACTICES IN ACCORDANCE WITH SAID CERTIFICATION. AT LEAST (1) FOR EVERY (3) MEMBERS OF THE COPPER INSTALLATION AND TERMINATION CREW MUST BE CERTIFIED TO A TECHNICIAN LEVEL OF TRAINING BY THE PRODUCT MANUFACTURER OR BICSI. AT LEAST (1) FOR EVERY (5) MEMBERS OF THE OPTICAL FIBER INSTALLATION AND TERMINATION CREW MUST BE CERTIFIED BY CORNING OR OTHER APPROVED ORGANIZATIONS IN OPTICAL FIBER INSTALLATION AND TERMINATION PRACTICES.

EC TO PROVIDE ROUGH-IN ONLY. CITY APPROVED VENDOR WILL INSTALL PLATES, DEVICES, AND CABLES.

ABBREVIATIONS

A	AMPERE
AB	AMP BREAKER
ABAND	ABANDONED
ABV	ABOVE
AC	ALTERNATING CURRENT
AC-#	AIR CONDITIONER
ADJ	ADJACENT
AF	AMP FUSE, AMP FRAME
AFF	ABOVE FINISH FLOOR
AFG	BOVE FINISH GRADE
AIC	AMPERES INTERRUPTING CAPACITY
AI	ALUMINUM
AS	AMP SWITCH RATING
ATS	AUTOMATIC TIME SWITCH
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIBLE/AUDIO VISUAL
AWG	AMERICAN WIRE GAGE
BFG	BELOW FINISH GRADE
BIL	BASIC IMPULSE LEVEL
BLDG	BUILDING
C	CONDUIT
-C-	CATV CONDUIT
CAB'T	CABINET
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER, CODE BLUE
CBC	CA. BUILDING CODE
CEC	CA. ELECTRICAL CODE CA. ENERGY COMMISSION
CF	COMPACT FLUORESCENT
CFC	CALIFORNIA FIRE CODE
CLG	CEILING
CL	CENTER LINE
CKT	CIRCUIT
CNT'R	CONTRACTOR
C.O.	CONDUIT ONLY (W/PULLROPE)
COND	CONDUIT, CONDUCTOR
CR	CRITICAL BRANCH
CSFM	CALIFORNIA SFM
CT	CURRENT TRANSFORMER
Cu	COPPER
CU-#	CONDENSING UNIT
D	DEPTH
DC	DIRECT CURRENT
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DISC	DISCONNECT
DIST	DISTRIBUTION
DPST	DOUBLE POLE SINGLE THROW
DW	DISHWASHER
EM	EMERGENCY
(E)	EXISTING
EA	EACH
EB	ELECTRONIC BALLAST
EC	ELECTRICAL CONTRACTOR
EC-#	EVAPORATIVE COOLER
EF-#	EXHAUST FAN
EL	EVENING LIGHT
ELEC	ELECTRICAL
EM	EMERG BATTERY BACKUP EMERGENCY BALLAST
EMERG	EMERGENCY
EOL	END OF LINE
EQUIP'T	EQUIPMENT
ES	ENERGY SAVING
(EXN)	(E) IN (N) LOCATION
(EXR)	(E) TO BE (R)
EXT	EXTERIOR
F	FLUORESCENT
(F)	FUTURE
F-#	FURNACE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FAT	FIRE ALARM TERMINAL
FAU	FORCED AIR UNIT
FBO	FURNISHED BY OTHERS
FC-#	FAN COIL
FLA	FULL LOAD AMPS
FLR	FLOOR
FLUOR	FLUORESCENT
FS	FUSIBLE SWITCH
FVNR	FULL VOLTAGE NON-REVERSING
G	GROUNDING CONDUCTOR
GC	GENERAL CONTRACTOR
GD	GARBAGE DISPOSAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL
GWS	GANG WITH SWITCH
H	HEIGHT, HIGH
HACR	HEATING, AC & REFRIG
HID	HIGH INTENSITY DISCHARGE
HO	HIGH OUTPUT
HOA	HAND-OFF-AUTO
hp	HORSEPOWER
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM
IC	INTERCOM
ID	IDENTIFICATION
IDF	INTERMEDIATE DISTRIBUTION FRAME
IF	INSIDE FROST
IG	ISOLATED GROUND
J-BOX	JUNCTION BOX
k	QUANTITY 1000
kVA	KILOVOLTAMPS
kW	KILOWATT
LC	LIGHTING CONTACTOR
LPS	LOW PRESSURE SODIUM
LRA	LOCKED ROTOR AMPS
LS	LIFE SAFETY BRANCH
LT	LIGHT
LTG	LIGHTING
LV	LOW VOLTAGE
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CKT AMPS
MCB	MAIN CIRCUIT BREAKER
MCTB	MAIN CATV TERMINAL BOARD
MCTC	MAIN CATV TERMINAL CABINET
MDF	MAIN DISTRIBUTION FRAME
MECH	MECHANICAL
MFR	MANUFACTURER
MFS	MAIN FUSIBLE SWITCH
MH	METAL HALIDE
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OCP
MPOE	MINIMUM POINT OF ENTRY
MSB	MAIN SWITCHBOARD
MT	MOUNT
MT HT	MOUNTING HEIGHT
MTS	MANUAL TRANSFER SWITCH
MTTB	MAIN TELEPHONE TERMINAL BOARD
MTTC	MAIN TELEPHONE TERMINAL CABINET
MW	MICROWAVE
N	NEUTRAL (GROUNDED CONDUCTOR)
(N)	NEW
N3R	NEMA 3R
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NAT'L ELEC MANUFACTURER'S ASSOC
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NPF	NORMAL POWER FACTOR
NTS	NOT TO SCALE
OC	ON CENTER
OCP	OVERCURRENT PROTECTION
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OSA	OFFICE of the STATE ARCHITECT
OSHPD	OFFICE of STATEWIDE HEALTH PLANNING & DEVELOPMENT
OVLD	OVERLOAD
P	POLE
PA	PUBLIC ADDRESS
PB	PULLBOX
PC	PULL CHAIN
PC	PHOTOCELL
PC	PLUMBING CONTRACTOR
ph	PHASE
PNL	PANEL
POC	POINT OF CONNECTION
-PP-	POWER PRIMARY
-PS-	POWER SECONDARY
PV	PHOTOVOLTAIC
(R)	RELOCATE(D)
RECEPT	RECEPTACLE
REF	REFRIGERATOR
REQ'D	REQUIRED
RLA	RATED LOAD AMPS
RM	ROOM
RMC	RIGID METAL CONDUIT
RMV	REMOVE
RPLC	REPLACE
RS	RAPID START
SC	SIGNAL CABINET
SCC	SHORT CKT CURRENT
SFM	STATE FIRE MARSHAL
SHT	SHEET
SL	SLIMLINE, SWITCH LEG
SPEC	SPECIFICATION
SPST	SINGLE POLE SINGLE THROW
SQ	SQUARE
STR'G	STORAGE
SURF	SURFACE
SVC	SERVICE
SW	SWITCH
T	TRANSFORMER, TERMINAL
-T-	TELEPHONE CONDUIT
(TBR)	TO BE REMOVED
TC	TIME CLOCK
TEL	TELEPHONE
TELCO	TELEPHONE COMPANY
TS	TIME SWITCH
TSO	TIME SWITCH OVERRIDE
TSP	TWISTED SHIELDED PAIR
TTB	TELEPHONE TERMINAL BOARD
TTC	TELEPHONE TERMINAL CABINET
TX	TRANSFORMER
TYP	TYPICAL
TYP SIM	TYPICAL SIMILAR
UC	UNDERCABINET, UNDERCOUNTER
UG	UNDERGROUND
UGPS	UNDERGROUND PULL SECTION
UL	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
USA	UG SVC ALERT 800-642-2444
V	VOLT
VA	VOLT AMPERES
VAC	VOLT ALTERNATING CURRENT
VHO	VERY HIGH OUTPUT
VOLT	VOLTAGE
VR	VANDAL-RESISTANT
W	WIDTH, WATT, WIRE
WH-#	WATER HEATER
WP	WEATHERPROOF (NEMA 3R)
XFMR	TRANSFORMER
+48	INDICATES MOUNTING HEIGHT AFF

FIRE ALARM

- FIRE ALARM CONTROL PANEL
- RPS — REMOTE POWER SUPPLY
- H — HORN- AUDIBLE DEVICE
- V — VISUAL- VISUAL DEVICE
- AV — AUDIBLE/VISUAL
- SV — SPEAKER/VISUAL
- F — FLOW SWITCH
- T — TAMPER SWITCH
- P — MANUAL PULL STATION
- SD — SMOKE DETECTOR
- SD D — DUCT SMOKE DETECTOR
- SD CO — SMOKE DETECTOR WITH CO
- SD V — SMOKE DETECTOR WITH VISUAL
- SFD — SMOKE FIRE DAMPER
- H — HEAT DETECTOR
- B — BELL
- END OF LINE RESISTOR
- C — CHIME

CONVENTIONS

- X — NUMBERED SHEET NOTES: REFERS TO NOTES ON SAME SHEET AS REFERENCE
- 3103 — FEEDER SCHEDULE DESIGNATION (EXAMPLE: 3103 = 310 AMPERE, 600V, 3 CURRENT CARRYING CONDUCTORS, PREFIXES: 'M' INDICATES MEDIUM VOLTAGE, 'CO14' INDICATES CONDUIT ONLY, QUANTITY (1) AND SIZE (4"))
- Z/X — DETAIL REFERENCE: Z = DETAIL DESIGNATION, X = SHEET NUMBER REFERENCE
- Y/X — MECHANICAL SYSTEMS TAG (REFER TO MECHANICAL SHEETS) Y = UNIT TYPE, X = UNIT NUMBER

COMMUNICATION SHEET INDEX

THOMA ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	06/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS

REVISION — REF. — AS-BUILT

DESIGNED BY: CJ — DRAWN BY: TR — DESIGN CHECK BY: CJ/JT — DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA NO. 10757 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

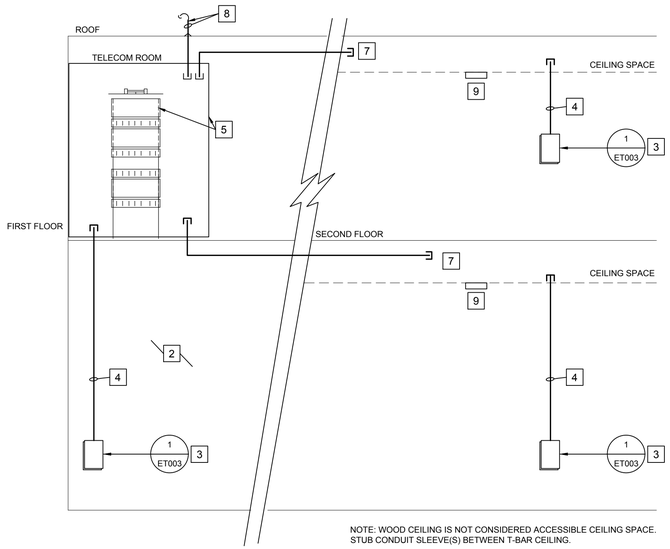
FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
COMMUNICATION GENERAL NOTES AND LEGEND

B # B-4797

PHASE # ____ / REBID # ____

SHEET 218 OF 236

DWG. NO. ET001



NOTE: WOOD CEILING IS NOT CONSIDERED ACCESSIBLE CEILING SPACE. STUB CONDUIT SLEEVE(S) BETWEEN T-BAR CEILING.

☐ REFERENCE NOTES

1. UNDERGROUND CONDUIT TO NEW GYM, EXTERIOR CABINET AND CONDUIT TO ELECTRICAL ROOM FOR DATA AND TV COAX CABLE. ALL CABLES RUNNING TO NEW GYM MUST BE UNDERGROUND AND WEATHERPROOF RATED CABLES.
2. NEW OUTLETS AT FIRST FLOOR APP BAY LEFT OF GRID "C".
3. TYPICAL VOICE/DATA AND TV OUTLET WHERE SHOWN ON PLANS.
4. 3/4" CONDUIT STUBS TO ACCESSIBLE CEILING SPACE FOR LOW VOLTAGE WIRING. (TYPICAL)
5. NEW IDF (4-POST RACK) AND BACKBOARD AT NEW TELECOM ROOM. LABEL EACH CAT6 AND PROVIDE ADEQUATE SLACK PER CITY LONG BEACH IT STANDARDS.
6. PREWIRE EACH OUTLET WITH (1) RG-6 COAX TO "MTTB". LEAVE ADEQUATE SLACK (MINIMUM 10') FOR EACH CABLE AND LABEL BY LOCATION FOR TERMINATION BY THE UTILITY COMPANY.
7. EMT SLEEVE CONDUIT STUBS TO ACCESSIBLE CEILING SPACE AS SHOWN ON PLANS.
8. EMT CONDUIT AND ROOF MOUNTED WEATHERHEAD PER PLAN. COORDINATE WITH CHARTER COMMUNICATION FOR NEW SERVICE DROP IN ELECTRICAL ROOM.
9. WIRELESS ACCESS POINT (WAP) AS SHOWN ON PLAN. PROVIDE AND INSTALL PER CITY OF LONG BEACH IT STANDARDS.

GENERAL NOTES

MINIMUM REQUIREMENTS:

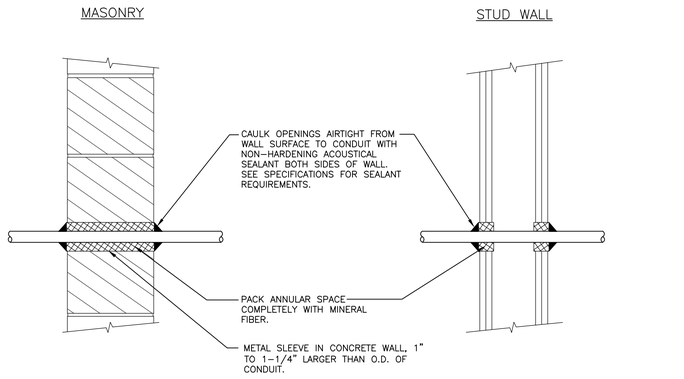
- THE SCOPE OF WORK COVERED BY THE CITY OF LONG BEACH TELECOMMUNICATION STANDARDS DOCUMENTATION IS TO FURNISH AND AND INSTALL THE STRUCTURED CABLING SYSTEMS AND PATHWAYS AND SPACE SYSTEMS FOR (CITY OF LONG BEACH). THIS WORK WILL PROVIDE FOR THE STRUCTURED CABLING SYSTEM (SCS) FOR ALL VOICE AND DATA SYSTEMS. WORK ON THIS PROJECT WILL COMMENCE AFTER THE AWARD OF THE BID TO A SUCCESSFUL BIDDER.

- MINIMUM NETWORK DROP REQUIREMENTS
  1. THE STANDARD 2 DROP LOCATION (CAT6 CABLES) IN A SINGLE-GANG P-RING (NOT A BOX).
  2. EACH DROP REQUIRES A 3/4" EMT CONDUIT OR FLEX CONDUIT ACCESSIBLE FROM THE CEILING WITH PULL ROPE IN EACH CONDUIT.
  3. PROVIDE 2 DROP (CAT6 CABLES) AT EXISTING TELEPHONE OUTLETS AS SHOWN ON PLANS. RE-USE EXISTING CONDUIT.

CABLE INFRASTRUCTURE WIRING BACKBONE:

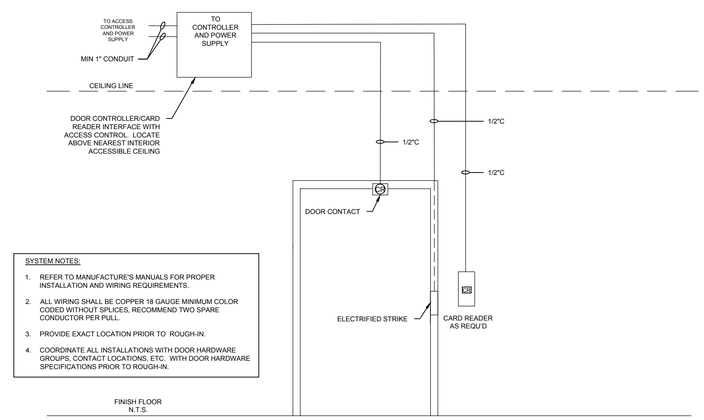
- THE CABLE CONTRACTORS MUST BE SYSTIMAX APPROVED AND CERTIFIED.
- CABLE MUST BE CERTIFIED SYSTIMAX CAT6E SOLUTION ONLY.
- CONTACT INFORMATION:
  CITY OF LONG BEACH, TECHNOLOGY AND INNOVATION DEPARTMENT
  INFRASTRUCTURE SERVICES BUREAU, TELECOMMUNICATIONS DIVISION
  411 W. OCEAN BLVD., 7TH FLOOR, LONG BEACH, CA 90802
  (562)570-6774

9 FIRE STATION BUILDING - VOICE DATA CATV WIRING DIAGRAM

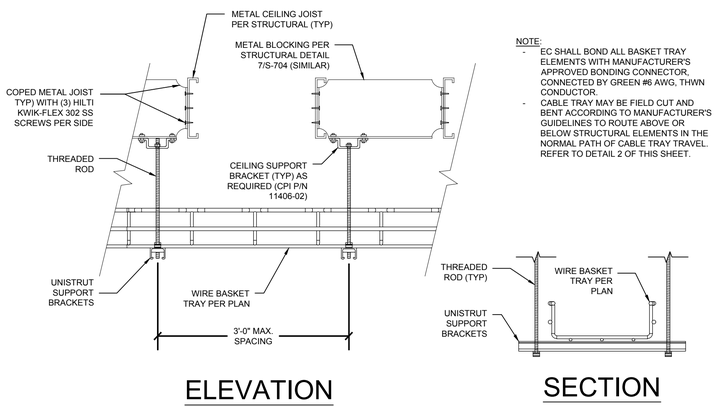


NOTE:
– NO MULTIPLE CONDUIT PENETRATIONS ALLOWED. PACK AND CAULK EVERY CONDUIT INDIVIDUALLY.

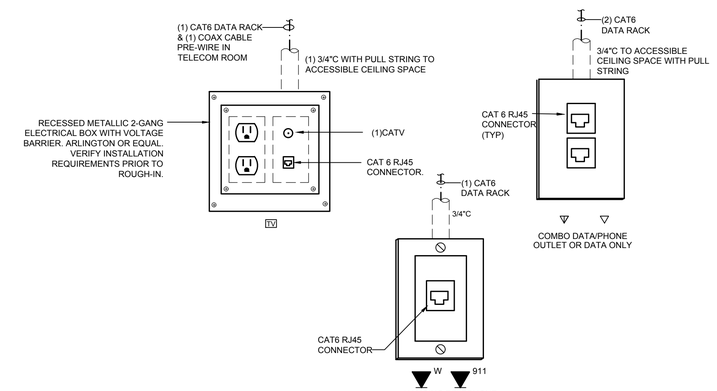
4 SEALED CONDUIT PENETRATION



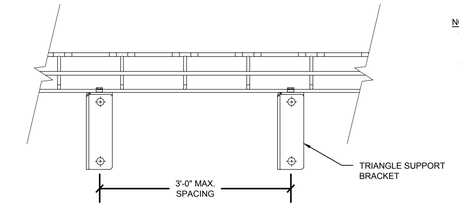
5 TYPICAL SINGLE DOOR ACCESS CONTROL DIAGRAM



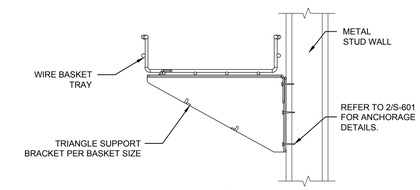
6 CEILING MOUNT WIRE BASKET



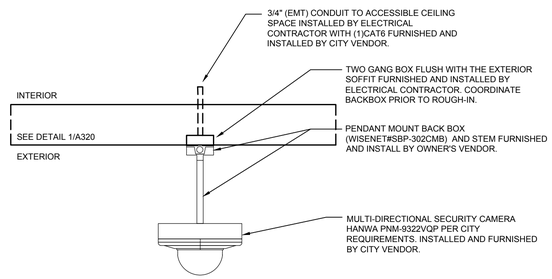
1 ELEVATION OF COMMUNICATION SYSTEM OUTLETS



NOTE:
- EC SHALL BOND ALL BASKET TRAY ELEMENTS WITH MANUFACTURER'S APPROVED BONDING CONNECTOR, CONNECTED BY GREEN #6 AWG, THWN CONDUCTOR.
- CABLE TRAY MAY BE FIELD CUT AND BENT ACCORDING TO MANUFACTURER'S GUIDELINES TO ROUTE ABOVE OR BELOW STRUCTURAL ELEMENTS IN THE NORMAL PATH OF CABLE TRAY TRAVEL. REFER TO DETAIL 2 OF THIS SHEET.



2 WALL MOUNT WIRE BASKET



3 SECURITY CAMERA MOUNTING DETAIL

NO.	DATE	APPROVAL	SHEET	REVISION DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	08/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR
REF.

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA NO. 40787 ELECTRICAL STATE OF CALIFORNIA
EXPIRES: 06/30/25
THOMA #21-8070

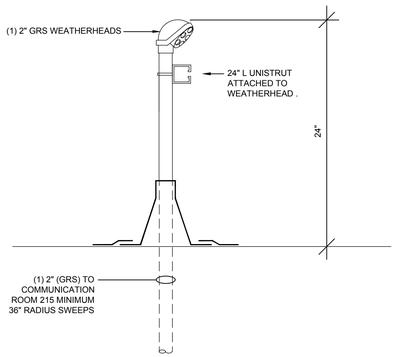
FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
COMMUNICATION DETAIL

B # B-4797
PHASE # ____ / REBID # ____
SHEET 219 OF 236
DWG. NO. ET002

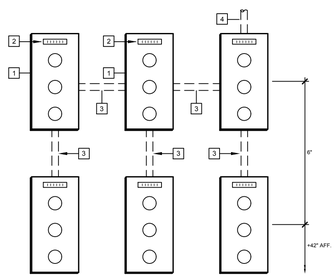
thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

13 NOT USED



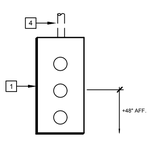
14 ROOF MOUNTED WEATHER MOUNTING DETAIL



MASTER DOOR CONTROL STATION

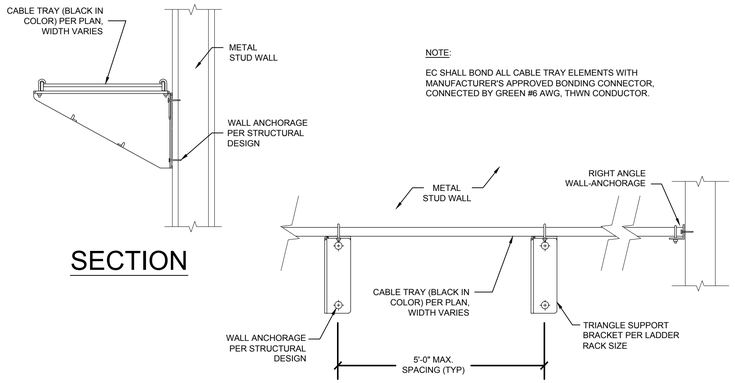
☐ REFERENCE NOTES

1. PUSH-BUTTON STATION BY FOLDING DOOR CONTRACTOR. PROVIDE FLUSH BOX/RING AS REQUIRED. (VERIFY) TYPICAL.
2. AT MASTER CONTROL STATION, PROVIDE ENGRAVED PLATE INDICATING DOOR CONTROLLED. TYPICAL.
3. INTERCONNECT BOXES WITH 3/4" CONDUIT (LV CONTROL BY DOOR CONTRACTOR).
4. CONDUIT TO CONTROL OUTLET AT DOOR MOTOR. SEE FLOOR PLAN. (LV CONTROL BY DOOR CONTRACTOR).



AT EACH DOOR

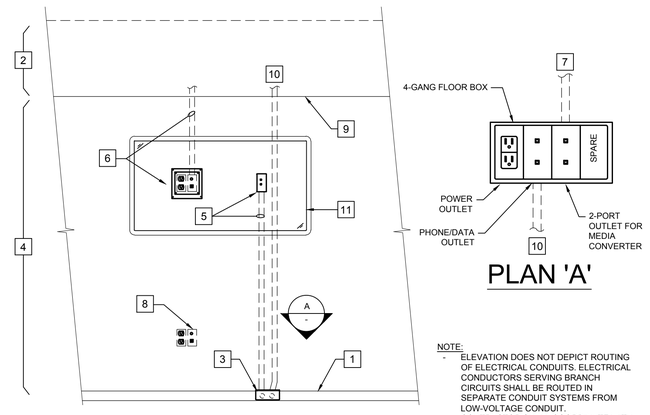
15 ELEVATION OF DOOR CONTROL STATIONS



SECTION

ELEVATION

11 WALL MOUNT LADDER TRAY



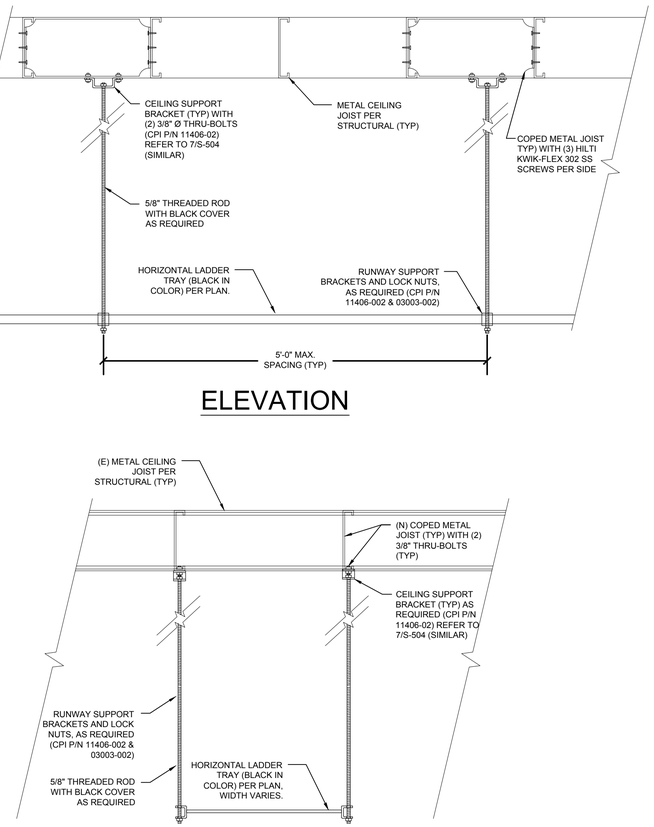
PLAN 'A'

NOTE:
- ELEVATION DOES NOT DEPICT ROUTING OF ELECTRICAL CONDUITS. ELECTRICAL CONDUCTORS SERVING BRANCH CIRCUITS SHALL BE ROUTED IN SEPARATE CONDUIT SYSTEMS FROM LOW-VOLTAGE CONDUIT.
- CONTRACTOR SHALL COORDINATE WITH TELEVISION MOUNTING HARDWARE TO AVOID CONFLICTS FOR DEVICES BEHIND TELEVISION.

☐ REFERENCE NOTES

1. FINISHED FLOOR WITH POWER AND PHONE/DATA OUTLET COMBO MOUNTED AT FLOOR POSITION (SEE ELECTRICAL FLOORPLAN FOR EXACT LOCATION).
2. ACCESSIBLE CEILING SPACE
3. 4-GANG POWER/DATA OUTLET COMBINATION MOUNTED AT FLOOR POSITION (SEE ELECTRICAL FLOOR PLAN FOR EXACT LOCATION).
4. FINISHED WALL, REFER TO ARCHITECTURAL ELEVATIONS FOR DEVICE MOUNTING HEIGHTS. COORDINATE WITH OWNER PRIOR TO ROUGH-IN.
5. SINGLE GANG DATA RECEPTACLE MOUNTED BEHIND TELEVISION WITH (2) CAT6 CABLES IN 1-1/4" CONDUIT. TERMINATE AND TEST CABLE IN CHASE DOWN TO FLOOR-BOX FOR OWNER SUPPLIED MEDIA CONVERTER. COORDINATE MOUNTING HEIGHT AND LOCATION WITH OWNER PRIOR TO ROUGH-IN.
6. COMBINATION RECEPTACLE AND TELEVISION OUTLET AT TV HEIGHT AND CONDUIT STUB TO ACCESSIBLE CEILING SPACE AS OCCURING PER PLAN. SEE DETAIL 1/ET003. FOR INSTALLATION REQUIREMENTS.
7. 1-1/4" CONDUIT CHASE FROM 2-PORT DATA OUTLET FOR MEDIA CONVERTER IN FLOOR-BOX UP TO MATCHING DATA OUTLET BEHIND TELEVISION.
8. PHONE/DATA OUTLET AND ASSOCIATED CONDUIT STUB TO ACCESSIBLE CEILING SPACE AS OCCURRING PER PLAN. SEE DETAIL 1/ET003 FOR INSTALLATION REQUIREMENTS.
9. T-BAR OR FINISH CEILING.
10. 3/4" CONDUIT FROM FLOOR-BOX TO ACCESSIBLE CEILING SPACE FOR STATION CABLING ,
11. TV OR SMART TV PER ARCHITECTURAL PLANS.

12 RECESSED MEDIA LAYOUT



ELEVATION

SECTION

10 CEILING MOUNT LADDER TRAY

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	08/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT

REVISION

REF.

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA NO. 40787 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
COMMUNICATION DETAIL

B # B-4797

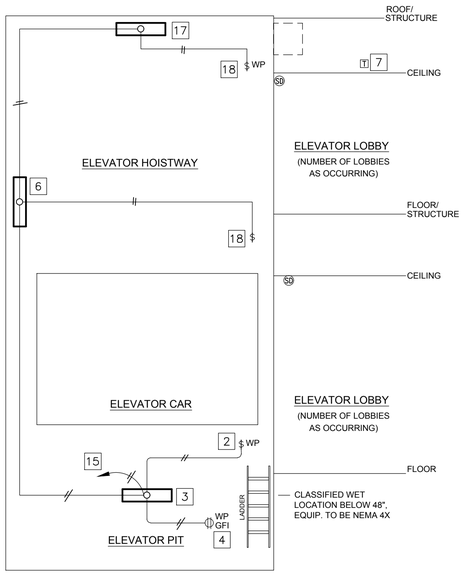
PHASE # ____ / REBID # ____

SHEET 220 OF 236

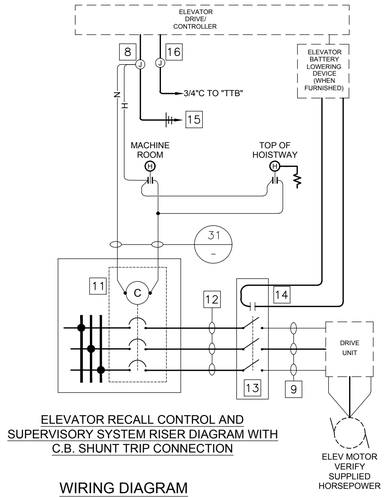
DWG. NO. ET003

THOMA ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

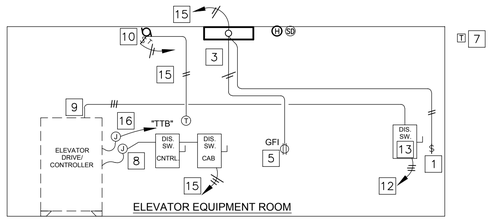


SHAFT SECTION / ELEVATION DIAGRAM



ELEVATOR RECALL CONTROL AND
SUPERVISORY SYSTEM RISER DIAGRAM WITH
C.B. SHUNT TRIP CONNECTION

WIRING DIAGRAM



EQUIPMENT ROOM SECTION / ELEVATION DIAGRAM

SEE DETAIL 16 ON THIS SHEET FOR FIRE ALARM SYSTEM EQUIPMENT AND INTERCONNECTIONS ASSOCIATED WITH THE OPERATION AND CONTROL OF THE ELEVATOR.

INFORMATION SHOWN IS FOR REFERENCE AND BIDDING PURPOSES ONLY. ELECTRICAL CONTRACTO TO INSTALL PER APPROVED ELEVATOR SHOP DRAWINGS AND CODES.

ELEV. DETAIL -GENERAL NOTES

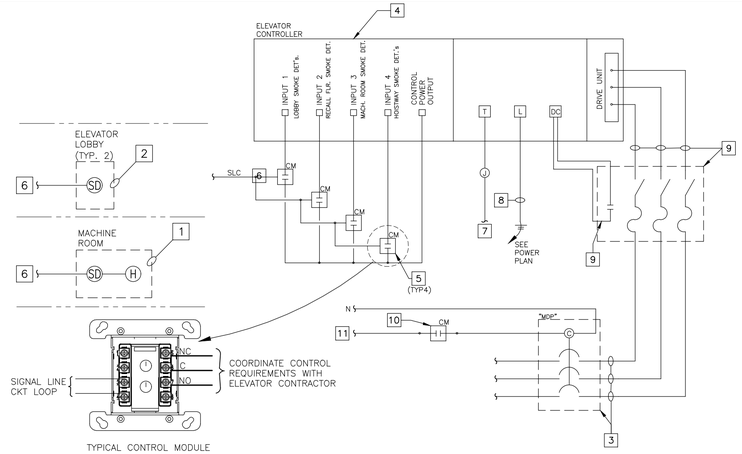
- THE INSTALLATION SHALL BE IN ACCORD WITH CEC ARTICLE 620 AND ANSI A17.1. ELEVATOR CODE.
- SEE LIGHTING AND POWER FLOOR PLANS FOR ADDITIONAL REQUIREMENTS.
- PROVIDE WIREGUARD(S) ON ALL LIGHTING FIXTURES IN ELEVATOR MACHINE ROOM(S) AND ELEVATOR PIT(S).
- NO CONDUIT, WIRING, DUCTS OR PIPING FOREIGN TO THE OPERATION OF THE ELEVATOR ARE ALLOWED IN ELEVATOR MACHINE ROOMS.
- ELEVATOR HOIST WAY AND MACHINE ROOM DETAILS ARE NOT PROJECT SPECIFIC.
- VERIFY ALL REQUIREMENTS AND ELEVATOR OPTION REQUIREMENTS WITH ELEVATOR SUPPLIER PRIOR TO INSTALLATION.
- VERIFY ALL OSHA REQUIREMENTS PRIOR TO CONSTRUCTION.
- FIELD COORDINATE WITH OTHER TRADES AND ENSURE THAT THE ELECTRICAL EQUIPMENT WITHIN THE ELEVATOR EQUIPMENT ROOM IS LOCATED IN COMPLIANCE WITH CEC 620-5.

☐ REFERENCE NOTES

1. ELEVATOR EQUIPMENT ROOM LIGHT SWITCH LOCATED WITHIN 18" OF THE STRIKE SIDE OF THE DOOR. (CEC 620-23B)
2. MOUNT SWITCH 18" MINIMUM TO 36" MAXIMUM ABOVE SILL IN HOIST WAY. (CEC 620-24B)
3. 120V FIXTURE CONNECTED TO LINE SIDE OF ROOM BRANCH CIRCUIT, PRIOR TO GFI RECEPTACLE. REFER TO LIGHTING PLAN AND LUMINAIRE SCHEDULE. PROVIDE ILUMINATION OF CONTROL ROOM OF NOT LESS THAN 200 LUX (19FC) AS MEASURED AT FLOOR LEVEL)PS
4. WP/GFI RECEPTACLE PER CEC 620-24.
5. GFI RECEPTACLE PER CEC 620-23.
6. PROVIDE HOISTWAY LIGHTING (1 FOOT-CANDLE, MEASURED ON TOP OF CAR) FOR ENTIRE LENGTH OF HOISTWAY. HOISTWAY LIGHT SWITCH LOCATED 3'-0" ABOVE TOP LANDING COORDINATE WITH OTIS. REFER TO LIGHTING PLAN AND FIXTURE SCHEDULE.
7. AT PROJECT LOCATIONS THAT REQUIRE A VALVE TO CONTROL THE FIRE SPRINKLER HEAD(S) SERVING THE ELEVATOR MACHINE ROOM OR THE ELEVATOR HOISTWAY, CONNECT THE VALVE TAMPER SWITCH TO A SUPERVISED CIRCUIT OF THE FIRE ALARM CONTROL PANEL.
8. (2) DEDICATED 12O VOLT CONTROL BRANCH CIRCUITS CONNECTED THROUGH DIS. SW. WITH LOCK-OFF DEVICE LOCATED IN EQUIPMENT ROOM. CONNECT (1) CIRCUIT TO ELEVATOR DRIVE UNIT CONTROLLER & SHUNT TRIP DEVICE AND (1) CIRCUIT TO ELEVATOR CAR LIGHT & RECEPTACLE FEED POINT. (CEC 620-22).
9. POWER FEEDER FROM FUSED DISCONNECT SWITCH TO ELEVATOR DRIVE UNIT. REFER TO SINGLE LINE DIAGRAM OR PANEL SCHEDULE FOR CONDUCTOR/CONDUIT REQUIREMENTS.
10. CONNECT TO 120 VOLT ROOM EXHAUST FAN AND LINE VOLTAGE THERMOSTAT. COORDINATE WITH DIVISION 15 REQUIREMENTS.
11. ELEVATOR DRIVE UNIT DISTRIBUTION CIRCUIT BREAKER WITH 120VAC SHUNT-TRIP MODULE.
12. FEEDER FROM SWITCHBOARD OR BRANCH PANEL. REFER TO SINGLE LINE DIAGRAM OR PANEL SCHEDULE FOR CONDUCTOR/CONDUIT REQUIREMENTS.
13. FUSED DISCONNECT SWITCH, HEAVY DUTY, LOCKABLE, IN MACHINE ROOM PER NEC 620-51. MOUNT AT A READILY ACCESSIBLE LOCATION ON THE STRIKE SIDE FOR THE DOOR. REFER TO SINGLE LINE DIAGRAM FOR SIZE/CONDUCTOR/CONDUIT REQUIREMENT.
14. TO BATTERY LOWERING DEVICE. COORDINATE WITH ELEVATOR SUPPLIER.
15. DEDICATED 120 VOLT BRANCH CIRCUIT. SEE POWER PLANS FOR BRANCH CIRCUIT DESIGNATIONS.
16. DEDICATED TELEPHONE LINES TO MAIN TELEPHONE TERMINAL BACKBOARD. CONNECT TO ELEVATOR CONTROLLER.
17. INSTALL A PERMANENT LIGHT FIXTURE AT THE TOP OF THE HOISTWAY (MACHINE SPACE) OF NOT LESS THAN 200-LUX (19FC) AS MEASURED AT THE LEVEL OF THE STANDING SURFACE ON THE CAR WHEN THE ELEVATOR IS AT THE TOP LANDING. LIGHT SWITCH IS TO BE LOCATED IN THE HOISTWAY PER THE OTIS LAYOUT. REFER TO LIGHTING PLAN AND FIXTURE SCHEDULE.
18. HOISTWAY LIGHT SWITCH LOCATED 3'-0" ABOVE TOP LANDING COORDINATE WTIH OTIS PRIOR TO ROUGH-IN.

18 ELECTRICAL AND COMMUNICATION CONNECTIONS AT ELEVATOR

NTS



TYPICAL CONTROL MODULE

GENERAL NOTES

- THE INSTALLATION SHALL BE IN ACCORDANCE WITH NEC ARTICLE 620 AND ANSI A17.1. ELEVATOR CODE.
- SEE LIGHTING AND POWER FLOOR PLANS FOR FURTHER REQUIREMENTS.
- VERIFY ALL OPERATIONAL REQUIREMENTS WITH ELEVATOR CONTRACTOR PRIOR TO INSTALLATION.
- VERIFY ALL OSHA REQUIREMENTS PRIOR TO CONSTRUCTION.
- FIELD COORDINATE WITH OTHER TRADES AND ENSURE THAT THE ELECTRICAL EQUIPMENT WITHIN THE ELEVATOR EQUIPMENT ROOM IS LOCATED IN COMPLIANCE WITH NEC ARTICLE 620-5.
- COORDINATE WORK WITH FIRE ALARM SHOP DRAWINGS.

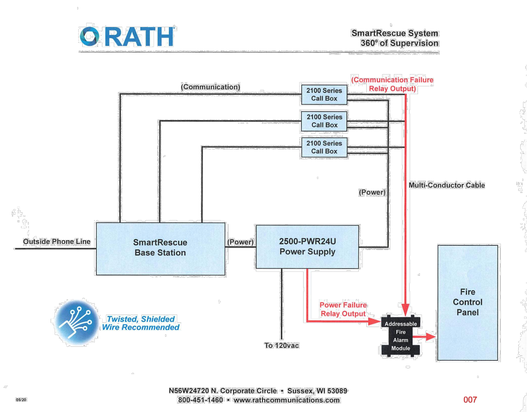
☐ REFERENCE NOTES

1. LOCATE HEAT AND SMOKE DETECTORS WITHIN SPECIFIED DISTANCE OF SPRINKLER HEAD. HEAT DETECTOR ACTIVATION AT ELEVATOR MACHINE ROOM SHALL TRIP ELEVATOR FEEDER BREAKER VIA BREAKER SHUNT TRIP DEVICE. SMOKE DETECTOR AT ELEVATOR MACHINE ROOM SHALL ACTIVATE PHASE 1 RECALL.
2. ACTIVATION OF LOBBY SMOKE DETECTOR SHALL ACTIVATE PHASE 1 RECALL.
3. ELEVATOR MOTOR SHUNT TRIP BREAKER. REFER TO SINGLE LINE DIAGRAM FOR CONDUIT/CONDUCTOR REQUIREMENTS.
4. ELEVATOR DRIVE AND CONTROLLER BY ELEVATOR CONTRACTOR.
5. ADDRESSABLE OUTPUT CONTROL MODULE. PROVIDE (1) FOR EACH PHASE 1 RECALL:
   1. ELEVATOR LOBBY #1 SMOKE DETECTOR
   2. ELEVATOR LOBBY #2 SMOKE BEAM DETECTOR
   3. UPPER ELEVATOR SHAFT SMOKE DETECTOR
   4. ELEVATOR MACHINE ROOM SMOKE DETECTOR

   PROVIDE (1)1/2"C, COORDINATE WITH ELEVATOR CONTRACTOR FOR CONDUCTOR AND TERMINATION REQUIREMENTS.
6. TO FACP. REFER TO FIRE ALARM RISER AND FLOOR PLAN.
7. PROVIDE DEDICATED TELEPHONE LINE TO 'MTTB'. CONNECT AT ELEVATOR CONTROLLER.
8. PROVIDE DEDICATED 20A, 120V CIRCUIT FOR ELEVATOR CAR LIGHTS AND CONTROLLER. PROVIDE MEANS TO DISCONNECT THE CIRCUITS WITHIN THE ELEVATOR EQUIPMENT ROOM. COORDINATE CONNECTION WITH ELEVATOR CONTRACTOR.
9. PROVIDE LOCKABLE AND FUSIBLE, HEAVY DUTY RATED DISCONNECT SWITCH IN ELEVATOR MACHINE ROOM. DISCONNECT SHALL HAVE AUXILIARY CONTACT FOR BATTERY LOWERING DEVICE BYPASS CONTROL. BATTERY LOWERING DEVICE SHALL NOT BE ACTIVATED WHEN DISCONNECT IS IN THE OPEN POSITION. PROVIDE WIRING TO MOTOR CONTROLLER. REFER TO SINGLE LINE DIAGRAM FOR CONDUIT AND CONDUCTOR REQUIREMENTS. PROVIDE CONTROL WIRING TO BATTERY LOWERING DEVICE. COORDINATE WITH ELEVATOR CONTRACTOR FOR REQUIREMENTS.
10. ADDRESSABLE OUTPUT CONTROL MODULE. MODULE SHALL BE ACTIVATED ONLY WHEN HEAT DETECTOR IN UPPER SHAFT OR ELEVATOR EQUIPMENT ROOM HAS BEEN ACTIVATED. CONNECT TO BREAKER SHUNT TRIP AS INDICATED.
11. CONNECT TO BRANCH CIRCUIT SERVING ELEVATOR CONTROLLER.

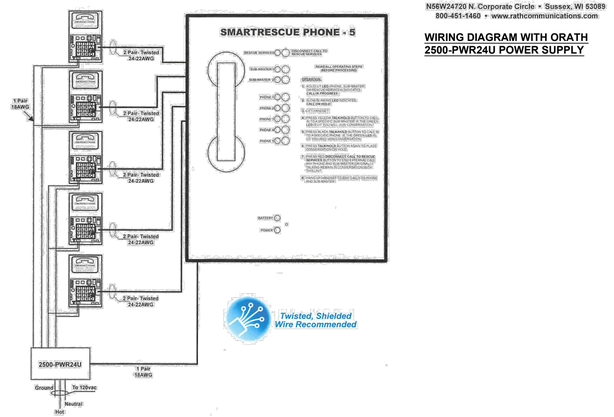
16 ELEVATOR RECAL CONTROL AND SUPERVISORY SYSTEM RISER DIAGRAM

NTS



19 SMART RESCUE SYSTEM FIRE ALARM WIRING DIAGRAM

NTS



N56W24720 N. Corporate Circle • Sussex, WI 53089
800-451-1460 • www.rathcommunications.com

WIRING DIAGRAM WITH ORATH 2500-PWR24U POWER SUPPLY

17 2-WAY COMMUNICATION WIRING DIAGRAM

NTS

NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	06/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT

REVISION

REF.

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER
WILLIAM A. THOMA
NO. 40187
ELECTRICAL
STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
COMMUNICATION DETAILS

B # **B-4797**

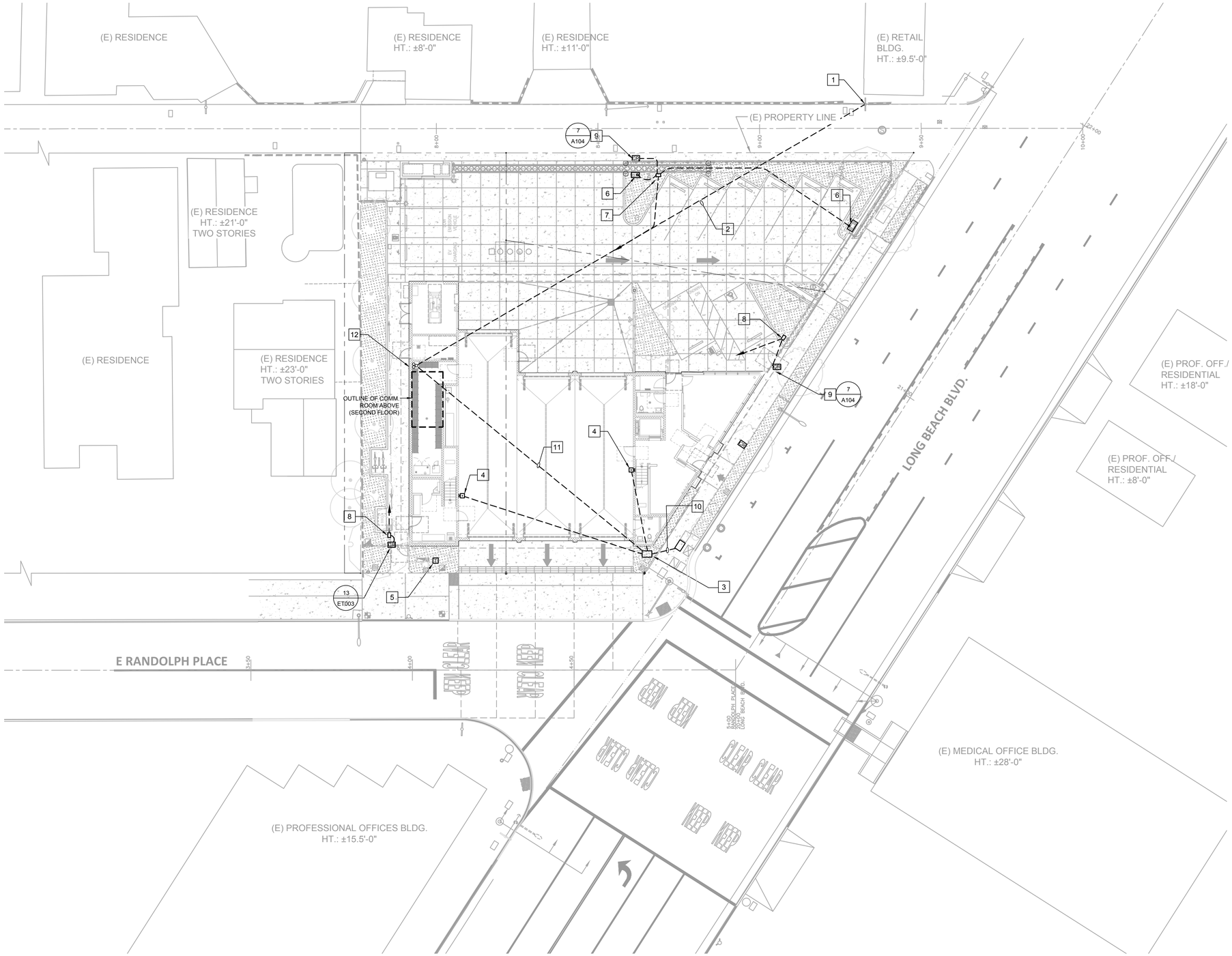
PHASE # ____ / REBID # ____

SHEET 221 OF 236

DWG. NO. ET004

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



COMMUNICATIONS SITE PLAN

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

NORTH

REFERENCE NOTES

1. EXISTING JOINT UTILITY POLE.
2. (1) 4" TELEPHONE SERVICE CONDUIT AND (1)2" CATV SERVICE CONDUIT PER UTILITY REQUIREMENTS. STUB CONDUITS TO SECOND FLOOR COMMUNICATION ROOM.
3. PROVIDE 24"X36" PULL BOX FLUSH IN GRADE PER CITY REQUIREMENTS.
4. PRE-EMPT PUSH BUTTON FURNISHED AND INSTALL BY TRAFFIC SIGNAL CONTRACTOR. EC TO PROVIDE 5S BOX, 1-1/4" CONDUIT WITH PULL STRING, AND 120V POWER. MOUNT SAME HEIGHT AS SWITCH. EXTEND 120V BRANCH CIRCUIT TO THE NEAREST RECEPTACLE. COORDINATE ROUGH-IN REQUIREMENT WITH TRAFFIC SIGNAL CONTRACTOR PRIOR TO ROUGH-IN.
5. PROVIDE FIRE CONNECTION AT FIRE SPRINKLER DOUBLE DETECTOR CHECK/PIV. COORDINATE WITH CIVIL FOR EXACT LOCATION.
6. MOTORIZED GATE.
7. PROVIDE 11"X17" PULL BOX BOX FLUSH IN GRADE, LABEL LID "SIGNAL". PROVIDE 1"C.O. (PVC 40) WITH PULL STRINGS TO EACH MOTORIZED GATES FOR LOW VOLTAGE WIRING BY GATE INSTALLER. HOMERU(1)"C (PVC 40) TO DOOR ACCESS CONTROL PANEL AND (1)1-1/4"C (PVC 40) TELECOM ROOM BACKBOARD LOCATED IN SECOND FLOOR COMM ROOM FOR LOW VOLTAGE WIRING BY CITY IT VENDOR. PROVIDE (2)1"C (PVC 40) TO STEEL POSTED MOUNTED CARD READER/INTERCOM.
8. PROVIDE 11"X17" PULL BOX. STAMP LID "SIGNAL". HOMERUN (1)1"C.(PVC 40) TO DOOR ACCESS CONTROL PANEL AND (1)1-1/4"C (PVC 40) TO TELECOM ROOM BACKBOARD IN SECOND FLOOR COMM ROOM FOR LOW VOLTAGE WIRING BY CITY IT VENDOR. PROVIDE (2)1"C (PVC 40) TO STEEL POSTED MOUNTED CARD READER/INTERCOM.
9. PROVIDE 2-1"C.O. (PVC 40) TO STEEL POST MOUNTED CARD READER AND VOIP INTERCOM (HIGH AND LOW) FOR LOW VOLTAGE WIRING BY GATE CONTRACTOR AND CITY IT VENDOR.
10. PROVIDE 3" CONDUIT BETWEEN PULL BOXES FOR LOW VOLTAGE WIRING BY TRAFFIC SIGNAL PLANS AND CITY VENDOR INSTALLED FIBER.
11. PROVIDE 3"CONDUIT TO SECOND FLOOR COMMUNICAITON ROOM.
12. COORDINATE WITH STRUCTURAL ENGINEER FOR ROUTING OF CONDUITS.

GENERAL NOTES

A. UTILITY COMPANY CONTACTS: BEFORE CONSTRUCTION, COORDINATE & VERIFY ALL UTILITY COMPANY REQUIREMENTS:

B. TRENCHING AND BACKFILLING FOR ALL CONDUIT SYSTEMS SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. ALL CONDUITS SHALL HAVE MINIMUM COVER REQUIREMENTS AS SPECIFIED IN CEC 300-5. MORE STRINGENT DEPTH REQUIREMENTS MAY BE IMPOSED BY UTILITY COMPANY AND / OR THIS SPECIFICATION. JOINT TRENCHING MAY BE UTILIZED WHERE PRACTICABLE AND WERE PERMITTED BY THIS SPECIFICATION.

C. LOCATIONS OF EXISTING UNDERGROUND (UG) UTILITY SYSTEMS SHALL BE DETERMINED BY CALLING UNDERGROUND SERVICE ALERT (USA). WHEN PLANNING UNDERGROUND WORK, AND BEFORE YOU DIG, CONTACT UNDERGROUND SERVICE ALERT (USA) AT LEAST 48 HOURS PRIOR TO EXCAVATION (WEEKENDS EXCLUDED) FOR THE LOCATION OF UNDERGROUND GAS AND ELECTRIC LINES OR EQUIPMENT.

D. MAINTAIN REQUIRED CLEARANCES FROM ALL SANITARY SEWER, WATER AND STORM DRAIN PIPING. REFER TO CIVIL PLANS FOR EXACT LOCATIONS AND DEPTHS OF PIPING.

E. ALL SITE UTILITY WORK SHALL BE INSTALLED PER THE UTILITY COMPANY ISSUED CONSTRUCTION DRAWINGS AND SPECIFICATIONS SPECIFIC TO THIS PROJECT. ANY UTILITY WORK PERFORMED WITHOUT PRIOR UTILITY COMPANY APPROVAL SHALL BE DONE AT THE CONTRACTOR'S RISK.

F. ALL CONDUCTORS TO BE LISTED FOR WET LOCATIONS AND SHALL BE RATED ACCORDINGLY.

G. ALL UNDERGROUND CONDUITS SHALL BE A MINIMUM ¾"C. (PVC 40) UNLESS OTHERWISE NOTED.

UTILITY CONTACT:

FRONTIER COMMUNICATION (TEL)
ARIEL FATALLA
714-813-5270, ARIEL.FATALLA@FTR.COM

CHARTER COMMUNICATION (CATV)
JUAN GUARDADO
562-824-0406, JUAN.GUARDADO@CHARTER.COM

N

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

GRAPHIC SCALE 0 1 2 3

NO.	DATE	SHEET	APPROVAL	DESCRIPTION REVISION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	08/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT
				REF.

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR

REGISTERED PROFESSIONAL ENGINEER
WILLIAM A. THOMA
NO. 40161
ELECTRICAL
STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
COMMUNICATION SITE PLAN

B # B-4797

PHASE # ____ / REBID # ____

SHEET 222 OF 236

DWG. NO. ET111

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaselec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

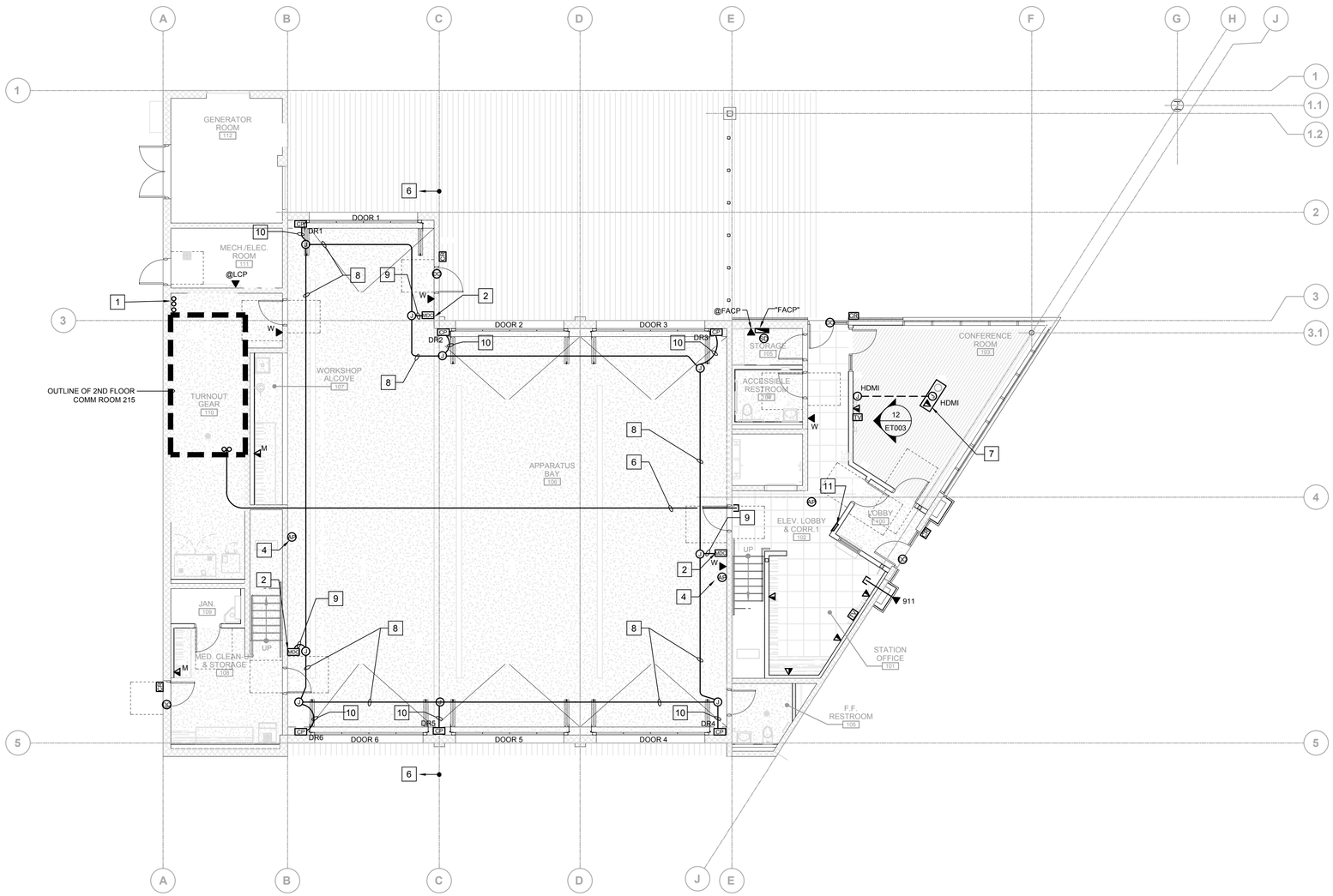
Oct 16, 2023 - 12:01pm - CReyes - K:\ENG\2021\21-8070\21-8070_ET111_COMMUNICATIONS SITE PLAN.dwg

CONDUIT SLEEVES:

COORDINATE ROUTING OF CONDUIT SLEEVES FOR LOW VOLTAGE WIRING.

REFERENCE NOTES

1. TELEPHONE/CATV/FIBER SERVICE CONDUITS (GRS). ROUTE UP TO SECOND FLOOR COMMUNICATION ROOM.
2. MAIN DOOR CONTROL TO CONTROL ALL DOORS. PROVIDE (6) 1-GANG BOXES TWO ROWS OF THREE.
3. PROPOSED LOCATION OF TRAFFIC PRE-EMPT BUTTON. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
4. MOUNT NO HIGHER THAN 9FT AFF. MINIMUM 12" ABOVE DOOR HEIGHT.
5. HOMERUN ALL COMMUNICATION CONDUIT LEFT OF GRID C DIRECT TO COMM ROOM.
6. STUB (2)4" CONDUIT SLEEVES ABOVE T-BAR CEILING FROM SECOND FLOOR COMM. ROOM.
7. 4-GANG FLOOR BOX. (WIREMOLD EVOLUTION SERIES). PROVIDE ALL ACCESSORIES FOR WORKING SYSTEM.
8. 1-1/4"C.O. BETWEEN JUNCTION BOXES FOR DOOR WIRING. (TYPICAL)
9. 1"C.O. DOWN TO MASTER DOOR CONTROL FOR DOOR WIRING. (TYPICAL).
10. ¾"C.O. DOWN TO DOOR CONTROLLER
11. PROVIDE AND INSTALL 2-WAY COMMUNICATION MASTER STATION. (RATH COMMUNICATION 2500-205FM OR APPROVED EQUAL). PROVIDE 3/4"C TO ACCESSIBLE CEILING SPACE AND 3/4"C (EMT) TO SECOND FLOOR REMOTE 2-WAY COMMUNICATION PHONE LOCATED AT SECOND FLOOR ELEVATOR LOBBY 200. PROVIDE FIRE ALARM CONNECTION (ADDRESSABLE FIRE ALARM MODULE) FOR POWER AND COMMUNICATION FAILURE. CITY IT TO PROVIDE 2-PAIR TWISTED 24-22 AWG WIRE BETWEEN THE MASTER STATION AND REMOTE, AND TELEPHONE LINE PER MANUFACTURER INSTALLATION REQUIREMENTS. BACK BOX (15.62"H X 12"W X 3"D). REFER TO WIRING DIAGRAMS 17 AND 19 ON SHEET ET004.



FIRST FLOOR COMMUNICATIONS PLAN

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

NORTH

NO.	DATE	SHEET	APPROVAL	DESCRIPTION REVISION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	08/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR
REF.

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA NO. 40181 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9
4101 LONG BEACH BLVD., LONG BEACH, CA 90807
FIRST FLOOR COMMUNICATION PLAN

B # B-4797

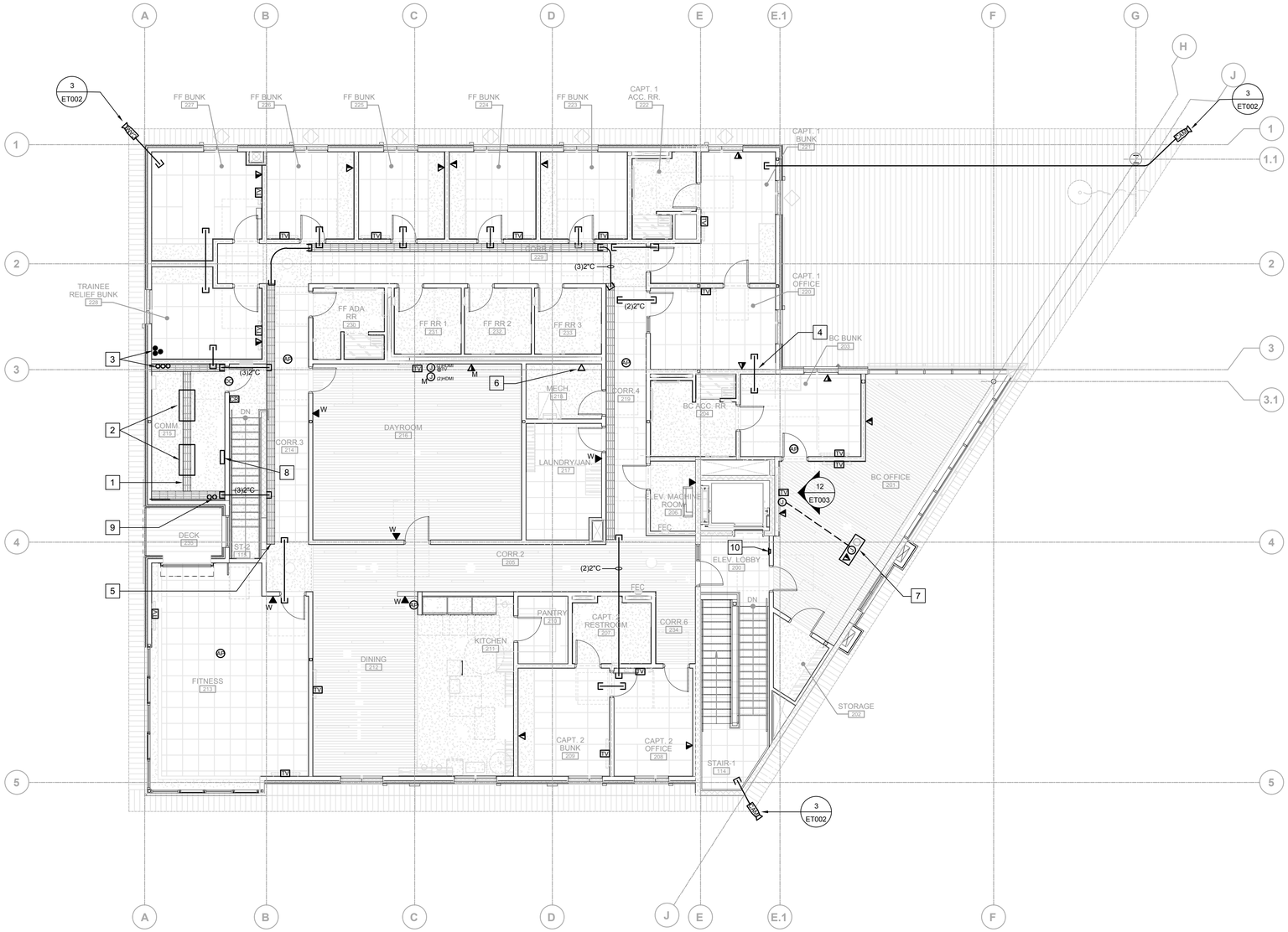
PHASE # ___ / REBID # ___

SHEET 223 OF 236

DWG. NO. ET211

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com



SECOND FLOOR COMMUNICATIONS PLAN

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

NORTH

REFERENCE NOTES

1. PROVIDE 18" LADDER TRAY AS SHOWN (CHATSWORTH #10250-712 BLACK). PERIMETER TRAY SHALL BE SUPPORTED FROM WALL BRACKETS (CHATSWORTH #1746-712) OR END WALL BRACKETS (CHATSWORTH #11421-712) AND MOUNTED TO THE TOP OF EACH RACK.. VERIFY MOUNTING HEIGHT WITH COUNTY PRIOR TO ROUGH-IN. PROVIDE WALL MOUNTED RACK WHERE UTILITY CONDUITS ARE SHOWN.
2. PROVIDE NEW 4-POST RACK AND ALL MOUNTING ACCESSORIES, UPS, PDU, ETC PER CITY OF LONG BEACH TELECOMMUNICATION STANDARDS.
3. PROVIDE CATV/TELEPHONE. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
4. 1" CONDUIT SLEEVES (EMT) BETWEEN ACCESSIBLE CEILING SPACE. (UON) (TYPICAL)
5. PROVIDE (N) 12" WIDE CABLE-TRAY MOUNTED ABOVE T-BAR CEILING AS SHOWN. ROUTE ALL LOW-VOLTAGE CABLING THROUGH CABLE TRAY. (TYPICAL)
6. PROVIDE INTERNET CONNECTION FOR ITM PER MECHANICAL PLANS AND REMOTE WATER METER REMOTE DISPLAY PER PLUMBING PLANS. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
7. 4-GANG FLOOR BOX. (WIREMOLD EVOLUTION SERIES). PROVIDE ALL ACCESSORIES FOR WORKING SYSTEM.
8. ACCESS CONTROL PANEL, "ACP". COORDINATE EXACT LOCATION WITH OWNER'S VENDOR PRIOR TO ROUGH-IN.
9. (2) 2" CONDUIT TO ROOF MOUNTED WEATHERHEAD, REFER TO SHEET ET213 FOR LOCATION. VERIFY WITH CITY FOR EXACT LOCATION OF STUBS PRIOR TO ROUGH-IN.
10. PROVIDE 2-WAY COMMUNICATION REMOTE STATION (RATH COMMUNICATION SMART RESCUE SYSTEM CALL BOX #2100-958NSR OR APPROVED EQUAL). PROVIDE 3/4"C (EMT) DOWN TO MASTER CONTROL STATION AT FIRST FLOOR. CITY IT VENDOR TO PROVIDE 2-PAIR TWISTED PAIR. REFER TO WIRING DIAGRAMS 17 & 19 SHEET ET004.

NO.	DATE	SHEET	APPROVAL	DESCRIPTION REVISION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	08/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR
REF.

REGISTERED PROFESSIONAL ENGINEER WILLIAM A. THOMA NO. 40161 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

SECOND FLOOR COMMUNICATION PLAN

B # B-4797

PHASE # ____ / REBID # ____

SHEET 224 OF 236

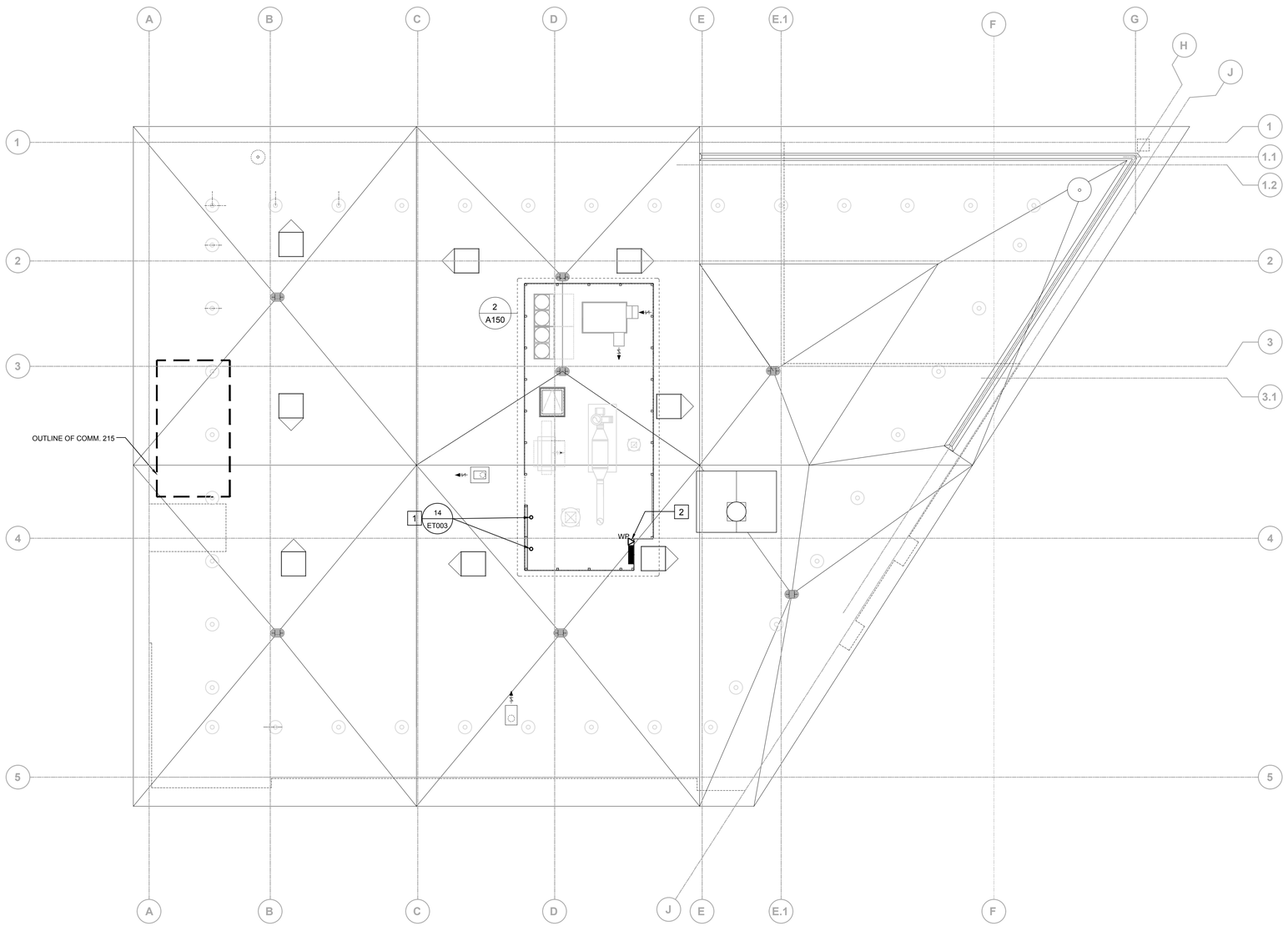
DWG. NO. ET212

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

☐ REFERENCE NOTES

1. VERIFY EXACT LOCATION WITH CITY PRIOR TO ROUGH-IN.
2. DATA OUTLET WITH WHILE-IN USE COVER FOR INVERTER INTERCONNECTION TO FACILITY LOCAL AREA NETWORK. PROVIDE CAT6 PATCH CABLE FROM OUTLET TO INVERTER.



COMMUNICATION ROOF PLAN

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

NORTH

N

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

GRAPHIC SCALE 0 1 2 3

REVISION				
NO.	DATE	SHEET	APPROVAL	DESCRIPTION
	12/16/21			PLAN CHECK SUBMITTAL
1	04/22/22			PLAN CHECK RE-SUBMITTAL
2	08/15/23			PLAN CHECK RE-SUBMITTAL
	10/12/23			BID DOCUMENTS
				AS-BUILT

DESIGNED BY: CJ
DRAWN BY: TR
DESIGN CHECK BY: CJ/JT
DRAWN CHECK BY: CJ/TR
REF.

REGISTERED PROFESSIONAL ENGINEER
WILLIAM A. THOMA
No. 401621
ELECTRICAL
STATE OF CALIFORNIA

EXPIRES: 06/30/25
THOMA #21-8070

FIRE STATION 9

4101 LONG BEACH BLVD., LONG BEACH, CA 90807

COMMUNICATION ROOF PLAN

B # B-4797

PHASE # ___ / REBID # ___

SHEET 225 OF 236

DWG. NO. ET213

thoma ENGINEERING
THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

MARY MCGRATH | ARCHITECTS
610 16th STREET, SUITE 219
OAKLAND, CA 94612
phone : 510.208.9400
www.marymcgratharchitects.com

LONG BEACH FIRE DEPARTMENT
FIRE STATION No. 9

LONG BEACH, CALIFORNIA

DRAWING INDEX

SHEET NO.	SHEET CONTENTS	11/29/21	11/30/21	08/08/22	08/15/23			
220 - AS0.0	COVER SHEET	●	●	●	●			
221 - AS0.1	ALERT SYSTEM DEVICE SCHEDULE	●	●	●	●			
222 - AS1.1	ALERT SYSTEM DEVICE PLAN - FIRST FLOOR	●	●	●	●			
223 - AS1.2	ALERT SYSTEM DEVICE PLAN - SECOND FLOOR	●	●	●	●			
224 - AS3.1	ALERT SYSTEM CONDUIT PLAN - FIRST FLOOR	●	●	●	●			
225 - AS3.2	ALERT SYSTEM CONDUIT PLAN - SECOND FLOOR	●	●	●	●			
226 - AS4.1	ALERT SYSTEM DEVICE DETAILS	●	●	●	●			
227 - AS4.2	ALERT SYSTEM DEVICE DETAILS	●	●	●	●			
228 - AS4.3	ALERT SYSTEM DEVICE DETAILS	●	●	●	●			
229 - AS4.4	ALERT SYSTEM DEVICE DETAILS	●	●	●	●			
230 - AS4.5	ALERT SYSTEM DEVICE DETAILS	●	●	●	●			

WESTNET®
15542 CHEMICAL LANE
HUNTINGTON BEACH, CA 92649
TEL: (714) 548-3500 FAX (714) 901-5610
www.FirstInAlerting.com

REV	REVISION	DATE	BY
1	DEVICE LAYOUTS	11.17.21	MAC
2	LAYOUTS REVISIONS	11.23.21	MAC
3	INSTALL LAYOUTS	11.29.21	MAC
4	INSTALL LAYOUTS	11.30.21	MAC
5	BACKGROUND REVISIONS	04.13.22	MAC
6	DEVICE REVISIONS	06.06.22	MAC
7	INSTALLATION LAYOUTS	08.15.23	MAC

BID DOCUMENTS 10.12.23

FIRST-IN ALERT SYSTEM

PROJECT NAME:
FIRE STATION No. 9
LONG BEACH FIRE DEPARTMENT
LONG BEACH, CALIFORNIA

NOTE:
THIS SHEET IS NOT TO SCALE.

PROJECT START DATE:
DRAWN BY: MAC
SCALE: NO SCALE
TITLE: COVER

SHEET
226-AS0.0

SYMBOL	MODEL NAME	MODEL NUMBER	DETAIL SHEET NUMBER	MOUNTING	CONDUIT - PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR	ADDITIONAL NOTES / COMMENTS
MCU	MASTER CONTROL UNIT	FIN-ETH	AS4.1	LOCATE WITHIN 6'-0" OF RADIO UNIT, IN CLOSET, CABINET, DISPATCH CENTER, OR I.T. EQUIPMENT RACK	1 1/2" C. STUBBED INTO ACCESSIBLE CEILING SPACE. REFER TO CONDUIT LAYOUT FOR SPECIFIC SYSTEM REQUIREMENTS.	IF MOUNTED IN MCU CABINET, A 4-11/16" JUNCTION BOX MOUNTED AT +6'-0" TO CENTER WILL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.. IF MCU IS MOUNTED IN I.T. RACK, NO WALL ROUGH IS REQUIRED. COORDINATE FINAL LOCATION WITH WESTNET.
CR	CONTROL REMOTE	SCR26-24VC5 (SMART STATION)	AS4.1	LOCATED NEAR MCU AND / OR ABOVE CEILING IF CONTROLLING EQUIPMENT	3/4" C. STUBBED INTO ACCESSIBLE CEILING SPACE (IF APPLICABLE). RE: ADDITIONAL NOTES/COMMENTS FOR INSTRUCTION. REFER TO CONDUIT LAYOUT FOR SPECIFIC SYSTEM REQUIREMENTS.	CONTROL REMOTE HAS DRY CONTACTS, RATED AT 24 VOLTS - IF USED FOR EQUIPMENT CONTROL, A 12"X12"X6" HINGED COVER JUCTION BOX WILL BE FURNISHED BY WESTNET AND INSTALLED BY ELECTRICIAN MECHANICALLY HELD CONTACTOR(S) - (24V COIL) - WILL BE NEEDED FOR CONTROLLED DEVICE(S). ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL NECCESSARY POWER FOR CONTROLLED DEVICES. COORDINATE WITH DESIGNATED TRADE / SUPPLIER FOR FINAL LOCATION.
TIM	TELEPHONE INTERFACE MODULE	SPMTI	AS4.1	LOCATED NEAR MCU	3/4" CONDUIT SLEEVE TO TELEPHONE OR COMM. ROOM	PAGING UNIT REQUIRES ANALOG DRY CONTACTS FROM TELEPHONE SYSTEM, PROVIDED BY CUSTOMER. COORDINATE WITH OTHER TRADES / WESTNET
RIU	RADIO ISOLATION UNIT	FINISO1P (SINGLE CHANNEL) FINISO4P (FOUR CHANNEL)	AS4.1	LOCATE WITHIN 6'-0" OF RADIO UNIT, IN CLOSET, CABINET, DISPATCH CENTER, OR I.T. EQUIPMENT RACK	NOT APPLICABLE	REQUIRES #6 THHN GREEN STRANDED TO BUILDING STEEL WITH 10' EXCESS COIL AT RIU/MCU LOCATION
PM UPS	POWER MODULE AND UPS	SPC100028V	AS4.2	SURFACE WALL MOUNT OR LOCATED ABOVE ACCESSIBLE CEILING - VERIFY WITH DRAWINGS.	1" C. STUBBED INTO ACCESSIBLE CEILING SPACE. REFER TO CONDUIT LAYOUT FOR SPECIFIC SYSTEM REQUIREMENTS.	UNIT REQUIRES 120V RECEPTACLE @ 7'-0" TO CENTER AND DEEP 4 SQUARE, SINGLE GANG BOX MOUNTED AT +6'-6" TO CENTER FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.. MINIMUM WORKING CLEARANCE SPACE REQUIRED FOR EQUIPMENT MOUNTING IS 3'-0" SQUARE.
SC	SATELLIGHT CONTROLLER	SSATKIT-A (ACOUSTIC CEILING) SSATKIT-H (HARD CEILING) SSATKIT-90 (0-90 DEGREES)	AS4.2	CEILING MOUNT OR WALL MOUNTED - VERIFY WITH DRAWINGS	3/4" C. - ONLY REQUIRED IN SHEETROCK CEILINGS AND/OR EXPOSED AREAS. REFER TO CONDUIT LAYOUT FOR SPECIFIC SYSTEM REQUIREMENTS.	ELECTRICAL CONTRACTOR TO INSTALL HOFFMAN BOX - PART #43050, CAT #A-SE8X10X4 - APPLIES TO SHEETROCK CEILINGS AND/OR EXPOSED AREAS. BOX MUST BE RECESSED 1/4" IN SHEET ROCK. IF MOUNTED ON WALL OR IN EXPOSED AREAS, MOUNT AT A MAXIMUM HEIGHT OF 15'-0". COORDINATE FINAL LOCATION WITH TRADES / WESTNET. - HOFFMAN BOX FURNISHED BY WESTNET DEVICES LOCATED IN ACOUSTICAL CEILINGS DO NOT REQUIRE BACK BOX
S	SATELLIGHT SPEAKER	SSATKIT-A (ACOUSTIC CEILING) SSATKIT-H (HARD CEILING) SSATKIT-90 (0-90 DEGREES)	AS4.2	CEILING MOUNT OR WALL MOUNTED - VERIFY WITH DRAWINGS	3/4" C. - ONLY REQUIRED IN SHEETROCK CEILINGS AND/OR EXPOSED AREAS. REFER TO CONDUIT LAYOUT FOR SPECIFIC SYSTEM REQUIREMENTS.	ELECTRICAL CONTRACTOR TO INSTALL HOFFMAN BOX - PART #43050, CAT #A-SE8X10X4 - APPLIES TO SHEETROCK CEILINGS AND/OR EXPOSED AREAS. BOX MUST BE RECESSED 1/4" IN SHEET ROCK. IF MOUNTED ON WALL OR IN EXPOSED AREAS, MOUNT AT A MAXIMUM HEIGHT OF 15'-0". COORDINATE FINAL LOCATION WITH TRADES / WESTNET. - HOFFMAN BOX FURNISHED BY WESTNET DEVICES LOCATED IN ACOUSTICAL CEILINGS DO NOT REQUIRE BACK BOX
DR	DORM REMOTE	SDRM38V-FM	AS4.3	FLUSH WALL MOUNTED	3/4" C. STUBBED INTO ACCESSIBLE CEILING. REFER TO CONDUIT LAYOUT FOR SPECIFIC SYSTEM REQUIREMENTS.	ELECTRICAL CONTRACTOR TO INSTALL HOFFMAN BOX - PART #43050, CAT #A-SE8X10X4 - MOUNTED AT +48" TO CENTER OF BOX. MUST BE MOUNTED 2'-0" FROM HEAD OF BED. IF LOCATED BY DOORJAMBS AND/OR SWITCHES, MUST HAVE 18" OF CLEARANCE FOR EQUIPMENT HOUSING. BOX MUST BE RECESSED 1/4" FROM SHEETROCK SURFACE - HOFFMAN BOX FURNISHED BY WESTNET
DL	DORM LIGHT	SDRM38V-FM (REMOTE/LIGHT KIT)	AS4.3	CEILING MOUNTED	3/4" C. TO DORM REMOTE - ONLY REQUIRED IN SHEETROCK CEILINGS. REFER TO CONDUIT LAYOUT FOR SPECIFIC SYSTEM REQUIREMENTS.	IF MOUNTED IN SHEETROCK CEILING - A CUSTOM BUILT BACK BOX WILL BE FURNISHED BY WESTNET. DORM LIGHT IS TO BE MOUNTED AT FOOT OF BED, TOWARDS CENTER OF THE ROOM. COORDINATE FINAL LOCATION WITH TRADES / WESTNET. DEVICES MOUNTED IN ACOUSTICAL CEILINGS DO NOT REQUIRE BACK BOX
HPS HPA AMP	HIGH-POWER PAGING AMPLIFIER AND SPEAKER	SPHA150	AS4.4	CEILING MOUNT OR WALL MOUNTED - VERIFY WITH DRAWINGS.	3/4" C. IN EXPOSED AREAS. RE: ADDITONAL NOTES/COMMENTS FOR INSTRUCTION. REFER TO CONDUIT LAYOUT FOR SPECIFIC SYSTEM REQUIREMENTS.	IF MOUNTED ON EXTERIOR WALL, ELECTRICAL CONTRACTOR TO FURNISH A SINGLE GANG WEATHERPROOF BOX MOUNTED AT +15'-0" AFF MINIMUM. FURNISH A 3/4" C. SLEEVE TO A 4 SQUARE SINGLE GANG RING BOX MOUNTED ON INSIDE AT ACCESSIBLE HEIGHT. IF MOUNTED IN EXPOSED AREAS, FURNISH A 4 SQUARE BOX MOUNTED AT +15'-0" AFF MINIMUM - 20'-0" MAXIMUM HPA DEVICES MUST BE FREE FROM OBSTRUCTION - STRUT RACK MAY BE REQUIRED - COORDINATE FINAL LOCATION WITH TRADES / WESTNET.
	OUTSIDE SATELLIGHT OUTSIDE SPEAKER	SSAT35C-OS	AS4.4	CONTROL MOUNTED ABOVE ACCESSIBLE CEILING - SPEAKER MOUNTED ON EXTERIOR WALL	3/4" C. RE: ADDITONAL NOTES/COMMENTS FOR INSTRUCTION. REFER TO CONDUIT LAYOUT FOR SPECIFIC SYSTEM REQUIREMENTS.	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL A STANDARD SINGLE GANG WEATHERPROOF BOX FOR OUTSIDE SPEAKER MOUNTED AT A MINIMUM OF 10'-0" AFF. FURNISH A 3/4"C. TO A 4 SQUARE BOX MOUNTED IN ACCESSIBLE CEILING SPACE. COORDINATE FINAL LOCATION WITH TRADES / WESTNET.
TT	TURNOUT TIMER	SSTTMR	N/A	WALL MOUNTED	3/4" C. - ONLY REQUIRED IN EXPOSED AREAS. REFER TO CONDUIT LAYOUT FOR SPECIFIC SYSTEM REQUIREMENTS.	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL A DEEP 4 SQUARE SINGLE GANG BOX WALL MOUNTED AT 10' AFF. MAX. - KEEP CLEAR OF OBTRUCTIONS LOCATION WITH TRADES / WESTNET
DB	DOORBELL	SDBS	AS4.5	WALL MOUNTED	3/4" C. STUBBED INTO ACCESSIBLE CEILING. REFER TO CONDUIT LAYOUT FOR SPECIFIC SYSTEM REQUIREMENTS.	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL A DEEP SINGLE GANG BOX MOUNTED AT +48" CENTER OF BOX. COORDINATE FINAL LOCATION WITH TRADES / WESTNET.
ES	EMERGENCY SWITCH	SSETS	AS4.5	WALL MOUNTED	3/4" C. STUBBED INTO ACCESSIBLE CEILING. REFER TO CONDUIT LAYOUT FOR SPECIFIC SYSTEM REQUIREMENTS.	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL A DEEP SINGLE GANG BOX MOUNTED AT +48" CENTER OF BOX. COORDINATE FINAL LOCATION WITH TRADES / WESTNET.
SW	SPEAKER SWITCH	SSPK-SW	AS4.5	WALL MOUNTED	3/4" C. STUBBED INTO ACCESSIBLE CEILING. REFER TO CONDUIT LAYOUT FOR SPECIFIC SYSTEM REQUIREMENTS.	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL A DEEP SINGLE GANG BOX MOUNTED AT +48" CENTER OF BOX. COORDINATE FINAL LOCATION WITH TRADES / WESTNET.

ALERT SYSTEM - DEVICE SCHEDULE

WESTNET®
15542 CHEMICAL LANE
HUNTINGTON BEACH, CA 92649
TEL: (714) 548-3500 FAX (714) 901-5610
www.FirstInAlerting.com

REV	REVISION	DATE	BY
1	DEVICE LAYOUTS	11.17.21	MAC
2	LAYOUTS REVISIONS	11.23.21	MAC
3	INSTALL LAYOUTS	11.29.21	MAC
4	INSTALL LAYOUTS	11.30.21	MAC
5	BACKGROUND REVISIONS	04.13.22	MAC
6	DEVICE REVISIONS	06.06.22	MAC
7	INSTALLATION LAYOUTS	08.15.23	MAC
	BID DOCUMENTS	10.12.23	

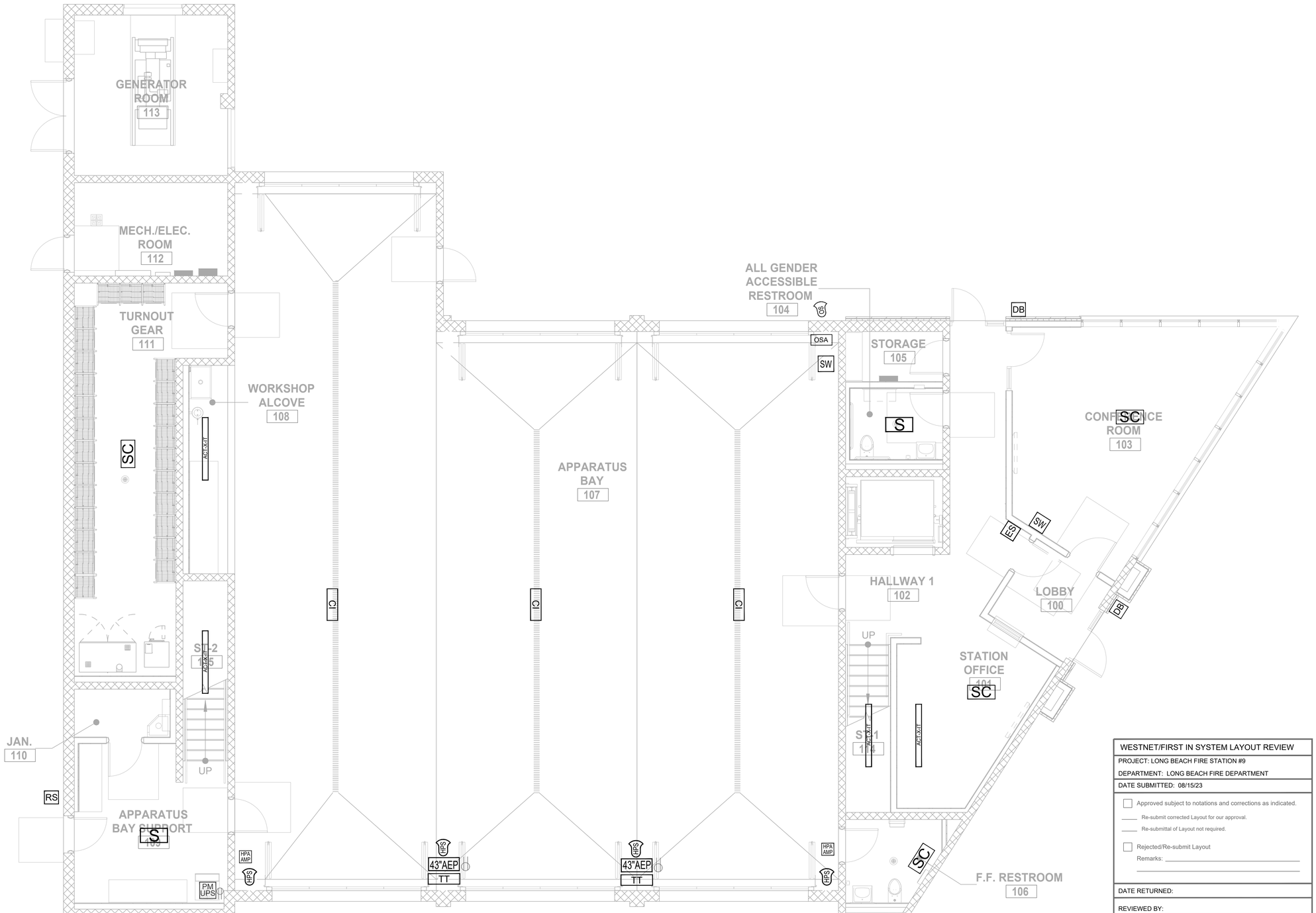
FIRST-IN ALERT SYSTEM

PROJECT NAME:
FIRE STATION No. 9
LONG BEACH FIRE DEPARTMENT
LONG BEACH, CALIFORNIA

NOTE:
THIS SHEET IS NOT TO SCALE.

PROJECT START DATE:
DRAWN BY: MAC
SCALE: NO SCALE
TITLE: DEVICE SCHEDULE

SHEET
227 -AS0.1



FIRST-IN FIRE STATION ALERTING
SYMBOL LEGEND

MCU	MASTER CONTROL UNIT
TIM	TELEPHONE INTERFACE MODULE
CR	CONTROL REMOTE
RIU	RADIO ISOLATION UNIT
AUX	AUXILLIARY MODULE
PM/UPS	POWER MODULE WITH UPS - BLACK (DEDICATED 120V CIRCUIT REQUIRED)
PM/UPS	POWER MODULE WITH UPS - BLUE (DEDICATED 120V CIRCUIT REQUIRED)
ACD	APPLIANCE CONTROLLER DEVICE (DEDICATED 120V CIRCUIT REQUIRED)
RS	APPLIANCE RESET SWITCH
SC	SATELLIGHT CONTROLLER
S	SATELLIGHT
DR	DORM REMOTE
DL	DORM LIGHT
HPS	HIGH-POWERED AMPLIFIED SPEAKER
HPA/AMP	HIGH-POWERED AMPLIFIER MODULE
DB	DOORBELL BUTTON
ES	EMERGENCY SWITCH
SW	SPEAKER SWITCH
VC	VOLUME CONTROL
TT	TURNOUT TIMER - MEDIUM
CI	COMPANY INDICATOR
AC-EXIT	ACTIVE - X- IT STRIP

GENERAL NOTES

1. DEVICES ARE TYPICAL AND FOR REFERENCE ONLY.
2. ALL BACK BOXES & CONDUITS ARE TO BE FLUSH MOUNTED UNLESS OTHERWISE SPECIFIED FOR NEW CONSTRUCTION.
3. DEVICES LOCATED IN ACOUSTICAL CEILINGS DO NOT REQUIRE BACKBOXES
4. DEVICES LOCATED IN ACOUSTICAL CEILINGS REQUIRE ACOUSTICAL WESTNET MOUNTING KIT (SSATKIT-A)
5. DEVICES ONLY LOCATED IN SHEETROCK OR EXPOSED CEILINGS REQUIRE HOFFMAN BRAND 8X10X4 BACKBOX
6. DEVICES ONLY LOCATED IN SHEETROCK OR EXPOSED CEILINGS REQUIRE APPROPRIATE WESTNET MOUNTING KIT (SURFACE MOUNT OR FLUSH MOUNT) FOR NEW CONSTRUCTION.
7. LOCATIONS OF DEVICES DETERMINED AT INSTALLATION BY INSTALLER FOR NEW CONSTRUCTION.
8. SEE ARCHITECTURAL SPECIFICATION FOR ALL ROUGH-IN AND INSTALLATION DETAILS FOR NEW CONSTRUCTION.
9. INSTALLER TO VERIFY WALL AND CEILING TYPE TO DETERMINE NEED FOR FLUSH OR SURFACE MOUNT INSTALLATION OF EQUIPMENT SPECIFIED FOR NEW CONSTRUCTION.
10. ALL WIRING AND DEVICES TO BE INSTALLED BY WESTNET.
11. ALL PENETRATION TO EXTERIOR DEVICES MUST BE WEATHERPROOF AND FIRE CAULKED FOR CONSTRUCTION BY OTHERS.
12. DEVICES LOCATED IN BATHROOM/SHOWER AREAS MUST BE VISIBLE FROM SHOWERS. INSTALLER TO FIELD VERIFY DEVICE LOCATION. (TYPICAL)
13. ALL DEVICES MUST BE KEPT CLEAR OF OBSTRUCTIONS & CEILING FAN BLADES.
14. IN ACOUSTICAL CEILING (T-BAR), WIRE CABLING IS FREE WIRE (NOT IN CONDUIT).
15. IN GYPSUM BOARD CEILING (SHEET ROCK / HARD LID), WIRE CABLING IN IN 3/4" CONDUIT UNLESS CONDUIT SIZE OTHERWISE NOTED.
16. IN EXPOSED AREAS ONLY 8X10X4 HOFFMAN BACK BOX MOUNTED AT +10'-0" A.F.F. MAX. WITH OPEN FACE DOWN IN CENTER OF ROOM WITH 3/4" CONDUIT TO ACCESSIBLE CEILING SPACE, KEEP CLEAR OF OBSTRUCTIONS.
17. AN INDIVIDUAL GAS CONTROL VALVE IS REQUIRED FOR EACH COOKING APPLIANCE WITH A RESET SWITCH WITHIN 6'-0" FT. OF EACH COOKING APPLIANCE.
18. A 5 OHM EARTH GROUND MUST BE CONNECTED TO THE RADIO ISOLATION UNIT IN THE COMMUNICATION RACK.
19. THE RADIO RECEIVING THE DISPATCH INFORMATION SHALL BE LOCATED WITHIN 6'-0" FT. OF THE RADIO ISOLATION UNIT.
20. INSTALLER TO PROVIDE ONE ADDITIONAL UNCONNECTED BLUE CAT5 CABLE WITH RJ45 CONNECTORS ON BOTH ENDS BETWEEN THE MCU LOCATION AND EACH ALERTING END POINT FOR NETWORK CONNECTIVITY.

WESTNET/FIRST IN SYSTEM LAYOUT REVIEW

PROJECT: LONG BEACH FIRE STATION #9

DEPARTMENT: LONG BEACH FIRE DEPARTMENT

DATE SUBMITTED: 08/15/23

- ☐ Approved subject to notations and corrections as indicated.
- ____ Re-submit corrected Layout for our approval.
- ____ Re-submittal of Layout not required.
- ☐ Rejected/Re-submit Layout

Remarks: _____

DATE RETURNED:

REVIEWED BY: _____

DEPT TITLE:

This serves to Certify that this Layout submittal(s) have been reviewed for accuracy and compliance with the general conformance of the design and layout(only) with the Department Contact and/or Contract Documents.

ONLY AFTER APPROVAL OF LAYOUT WILL SUBMITTAL INFORMATION AND QUOTES BE AVAILABLE.

Westnet, Inc.
15542 Chemical Lane
Huntington Beach, CA 92649
Phone: (714) 548-3500
Fax: (714) 901-5610
www.FirstInAlerting.com

ALERT SYSTEM - LAYOUT PLAN
SCALE: N.T.S.

WESTNET®
15542 CHEMICAL LANE
HUNTINGTON BEACH, CA 92649
TEL: (714) 548-3500 FAX (714) 901-5610
www.FirstInAlerting.com

REV	REVISION	DATE	BY
1	DEVICE LAYOUTS	11.17.21	MAC
2	LAYOUTS REVISIONS	11.23.21	MAC
3	INSTALL LAYOUTS	11.29.21	MAC
4	INSTALL LAYOUTS	11.30.21	MAC
5	BACKGROUND REVISIONS	04.13.22	MAC
6	DEVICE REVISIONS	06.06.22	MAC
7	INSTALLATION LAYOUTS	08.15.23	MAC
	BID DOCUMENTS	10.12.23	

FIRST-IN

ALERT SYSTEM

PROJECT NAME:
FIRE STATION No. 9
LONG BEACH FIRE DEPARTMENT
LONG BEACH, CALIFORNIA

NOTE:
THIS SHEET IS NOT TO SCALE.

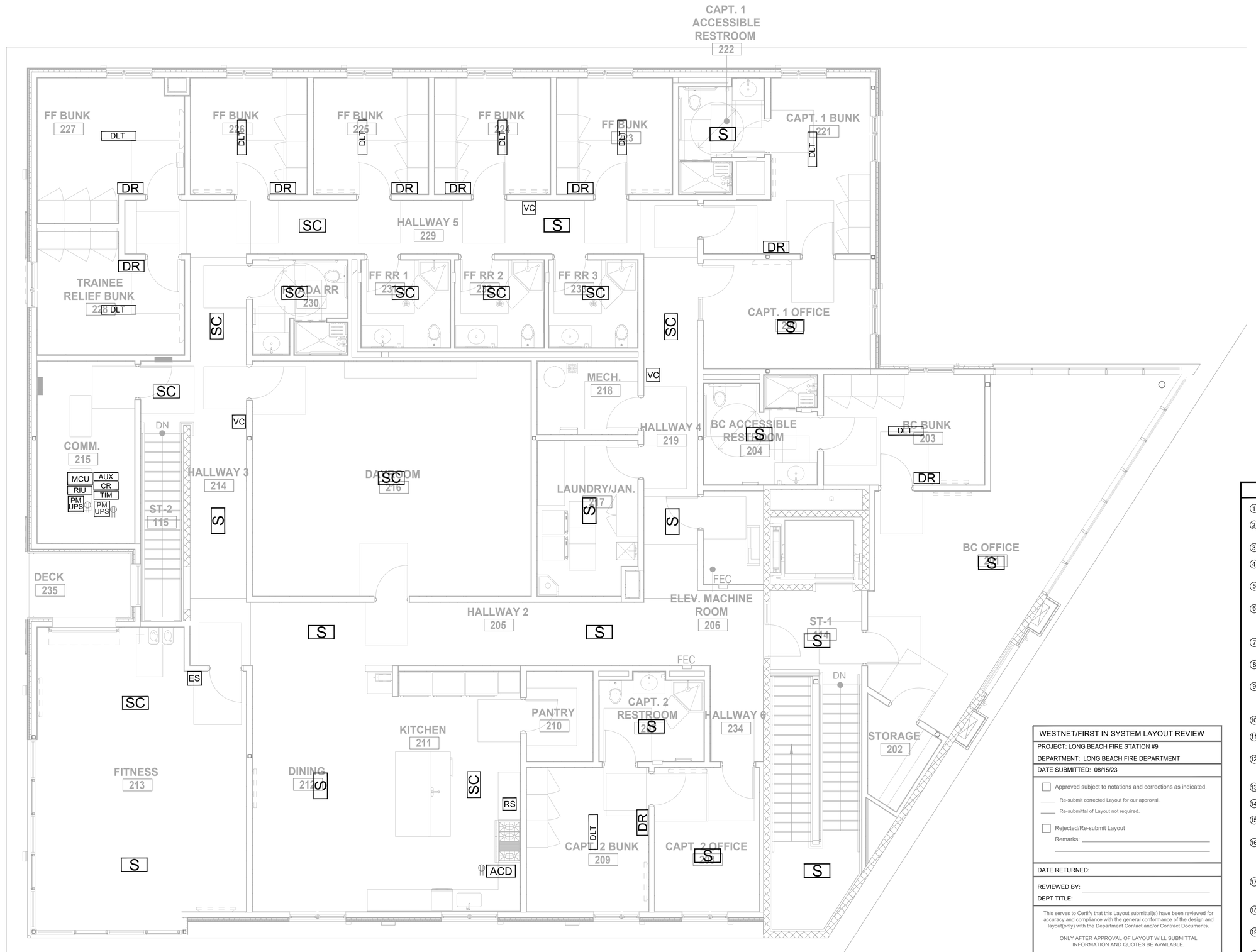
PROJECT START DATE:

DRAWN BY: MAC

SCALE: N.T.S.

TITLE: DEVICE PLAN-FIRST FLOOR

SHEET
228-AS1.1



FIRST-IN FIRE STATION ALERTING
SYMBOL LEGEND

MCU	MASTER CONTROL UNIT
TIM	TELEPHONE INTERFACE MODULE
CR	CONTROL REMOTE
RIU	RADIO ISOLATION UNIT
AUX	AUXILLIARY MODULE
PM UPS	POWER MODULE WITH UPS - BLACK (DEDICATED 120V CIRCUIT REQUIRED)
PM UPS	POWER MODULE WITH UPS - BLUE (DEDICATED 120V CIRCUIT REQUIRED)
ACD	APPLIANCE CONTROLLER DEVICE (DEDICATED 120V CIRCUIT REQUIRED)
RS	APPLIANCE RESET SWITCH
SC	SATELLIGHT CONTROLLER
S	SATELLIGHT
DR	DORM REMOTE
DL	DORM LIGHT
HPS	HIGH-POWERED AMPLIFIED SPEAKER
HPA AMP	HIGH-POWERED AMPLIFIER MODULE
DB	DOORBELL BUTTON
ES	EMERGENCY SWITCH
SW	SPEAKER SWITCH
VC	VOLUME CONTROL
TT	TURNOUT TIMER - MEDIUM
CI	COMPANY INDICATOR
ACTIVE	ACTIVE - X- IT STRIP

GENERAL NOTES

1. DEVICES ARE TYPICAL AND FOR REFERENCE ONLY.
2. ALL BACK BOXES & CONDUITS ARE TO BE FLUSH MOUNTED UNLESS OTHERWISE SPECIFIED FOR NEW CONSTRUCTION.
3. DEVICES LOCATED IN ACOUSTICAL CEILINGS DO NOT REQUIRE BACKBOXES
4. DEVICES LOCATED IN ACOUSTICAL CEILINGS REQUIRE ACOUSTICAL WESTNET MOUNTING KIT (SSATKIT-A)
5. DEVICES ONLY LOCATED IN SHEETROCK OR EXPOSED CEILINGS REQUIRE HOFFMAN BRAND 8X10X4 BACKBOX.
6. DEVICES ONLY LOCATED IN SHEETROCK OR EXPOSED CEILINGS REQUIRE APPROPRIATE WESTNET MOUNTING KIT (SURFACE MOUNT OR FLUSH MOUNT) FOR NEW CONSTRUCTION.
7. LOCATIONS OF DEVICES DETERMINED AT INSTALLATION BY INSTALLER FOR NEW CONSTRUCTION.
8. SEE ARCHITECTURAL SPECIFICATION FOR ALL ROUGH-IN AND INSTALLATION DETAILS FOR NEW CONSTRUCTION.
9. INSTALLER TO VERIFY WALL AND CEILING TYPE TO DETERMINE NEED FOR FLUSH OR SURFACE MOUNT INSTALLATION OF EQUIPMENT SPECIFIED FOR NEW CONSTRUCTION.
10. ALL WIRING AND DEVICES TO BE INSTALLED BY WESTNET.
11. ALL PENETRATION TO EXTERIOR DEVICES MUST BE WEATHERPROOF AND FIRE CAULKED FOR CONSTRUCTION BY OTHERS.
12. DEVICES LOCATED IN BATHROOM/SHOWER AREAS MUST BE VISIBLE FROM SHOWERS. INSTALLER TO FIELD VERIFY DEVICE LOCATION. (TYPICAL)
13. ALL DEVICES MUST BE KEPT CLEAR OF OBSTRUCTIONS & CEILING FAN BLADES.
14. IN ACOUSTICAL CEILING (T-BAR), WIRE CABLING IS FREE WIRE (NOT IN CONDUIT).
15. IN GYPSUM BOARD CEILING (SHEET ROCK / HARD LID), WIRE CABLING IN IN 3/4" CONDUIT UNLESS CONDUIT SIZE OTHERWISE NOTED.
16. IN EXPOSED AREAS ONLY 8X10X4 HOFFMAN BACK BOX MOUNTED AT +10'-0" A.F.F. MAX. WITH OPEN FACE DOWN IN CENTER OF ROOM WITH 3/4" CONDUIT TO ACCESSIBLE CEILING SPACE, KEEP CLEAR OF OBSTRUCTIONS.
17. AN INDIVIDUAL GAS CONTROL VALVE IS REQUIRED FOR EACH COOKING APPLIANCE WITH A RESET SWITCH WITHIN 6'-0" FT. OF EACH COOKING APPLIANCE.
18. A 5 OHM EARTH GROUND MUST BE CONNECTED TO THE RADIO ISOLATION UNIT IN THE COMMUNICATION RACK.
19. THE RADIO RECEIVING THE DISPATCH INFORMATION SHALL BE LOCATED WITHIN 6'-0" FT. OF THE RADIO ISOLATION UNIT.
20. INSTALLER TO PROVIDE ONE ADDITIONAL UNCONNECTED BLUE CAT5 CABLE WITH RJ45 CONNECTORS ON BOTH ENDS BETWEEN THE MCU LOCATION AND EACH ALERTING END POINT FOR NETWORK CONNECTIVITY.

WESTNET/FIRST IN SYSTEM LAYOUT REVIEW

PROJECT: LONG BEACH FIRE STATION #9

DEPARTMENT: LONG BEACH FIRE DEPARTMENT

DATE SUBMITTED: 08/15/23

☐ Approved subject to notations and corrections as indicated.

____ Re-submit corrected Layout for our approval.

____ Re-submittal of Layout not required.

☐ Rejected/Re-submit Layout

Remarks: _____

DATE RETURNED:

REVIEWED BY: _____

DEPT TITLE:

This serves to Certify that this Layout submittal(s) have been reviewed for accuracy and compliance with the general conformance of the design and layout(only) with the Department Contact and/or Contract Documents.

ONLY AFTER APPROVAL OF LAYOUT WILL SUBMITTAL INFORMATION AND QUOTES BE AVAILABLE.

Westnet, Inc.
15542 Chemical Lane
Huntington Beach, CA 92649
Phone: (714) 548-3500
Fax: (714) 901-5610
www.FirstInAlerting.com

ALERT SYSTEM - LAYOUT PLAN

SCALE: N.T.S.

WESTNET®
15542 CHEMICAL LANE
HUNTINGTON BEACH, CA 92649
TEL: (714) 548-3500 FAX (714) 901-5610
www.FirstInAlerting.com

REV	REVISION	DATE	BY
1	DEVICE LAYOUTS	11.17.21	MAC
2	LAYOUTS REVISIONS	11.23.21	MAC
3	INSTALL LAYOUTS	11.29.21	MAC
4	INSTALL LAYOUTS	11.30.21	MAC
5	BACKGROUND REVISIONS	04.13.22	MAC
6	DEVICE REVISIONS	06.06.22	MAC
7	INSTALLATION LAYOUTS	08.15.23	MAC
	BID DOCUMENTS	10.12.23	

ALERT SYSTEM

PROJECT NAME:
FIRE STATION No. 9
LONG BEACH FIRE DEPARTMENT
LONG BEACH, CALIFORNIA

NOTE:
THIS SHEET IS NOT TO SCALE.

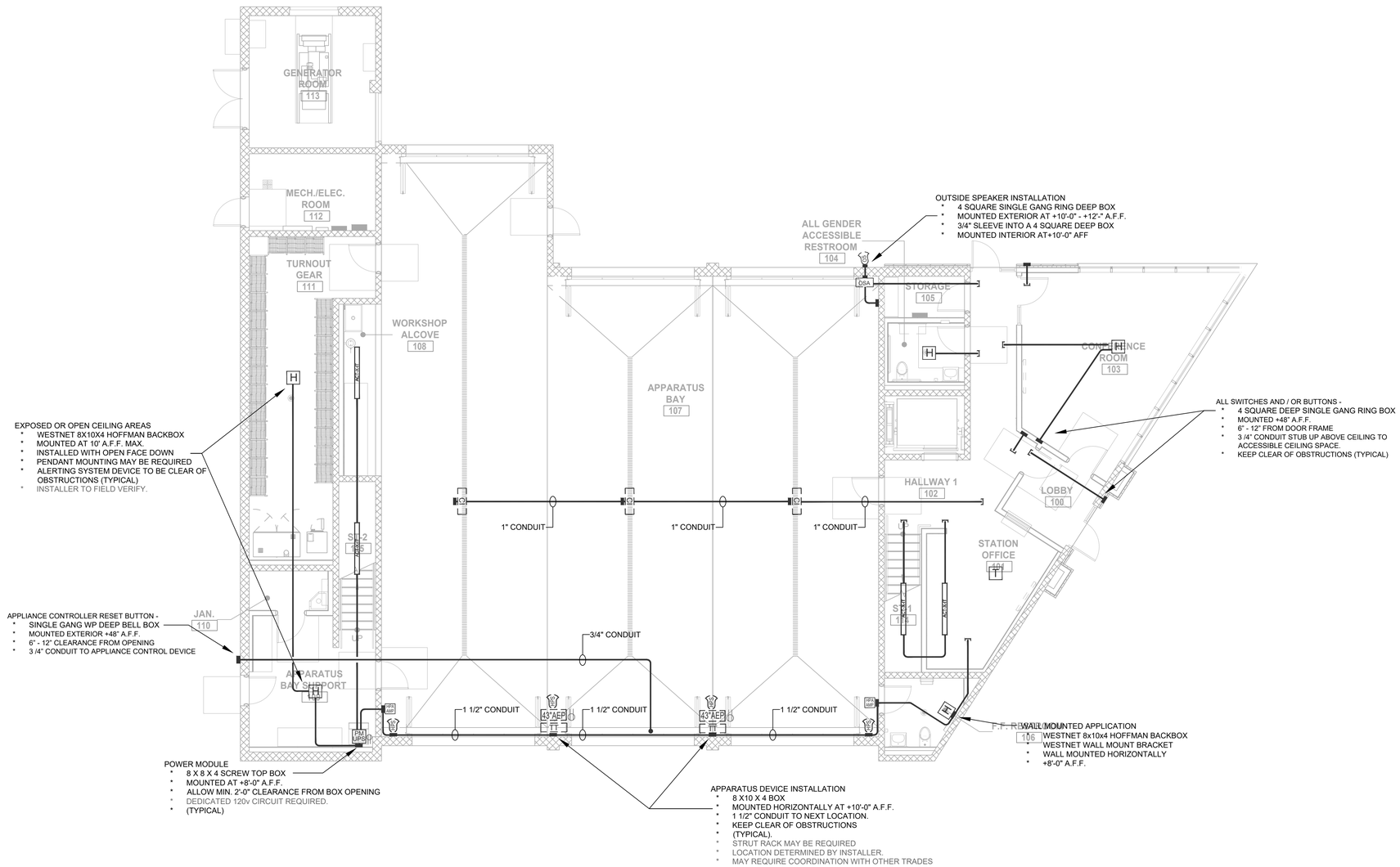
PROJECT START DATE:

DRAWN BY: MAC

SCALE: N.T.S.

TITLE: DEVICE PLAN-SECOND FLOOR

SHEET
229-AS1.2



FIRST-IN FIRE STATION ALERTING
SYMBOL LEGEND

MCU	MASTER CONTROL UNIT
DLSP	DATA LINE SURGE PROTECTOR
TIM	TELEPHONE INTERFACE MODULE
CR	CONTROL REMOTE
RIU	RADIO ISOLATION UNIT
AUX	AUXILLIARY MODULE
PM UPS	POWER HUB-SPOKE & UPS BLACK (DEDICATED 120V CIRCUIT REQUIRED) 8 X 10 X 4 HOFFMAN BACKBOX
PM UPS	POWER DUAL MODE & UPS -BLUE (DEDICATED 120V CIRCUIT REQUIRED) 8 X 10 X 4 HOFFMAN BACKBOX
ACD	APPLIANCE CONTROL DEVICE (DEDICATED 120V CIRCUIT REQUIRED) 8 X 10 X 4 HOFFMAN BACKBOX
	HIGH POWERED SPEAKER OR OUTSIDE SPEAKER 4 SQUARE BACKBOX REQUIRED
OSA	OUTSIDE SPEAKER AUDIO MODULE 8 X 10 X 4 HOFFMAN BACKBOX
HPA AMP	HIGH-POWERED AMPLIFIER DEVICE 8 X 10 X 4 HOFFMAN BACKBOX
AEP	ALERTING END POINT (DEDICATED 120V CIRCUIT REQUIRED) 4 SQUARE BACKBOX REQUIRED
T	TURNOUT TIMER 4 SQUARE BACKBOX REQUIRED
D	COMPANY INDICATOR 4 SQUARE BACKBOX REQUIRED
BK BX DR	DORM REMOTE BACKBOX 8X10X4 HOFFMAN BOX
DLT	DORM LITE ACOUSTIC CEILING MOUNT KIT
SMOKE	ACTIVE - X- IT STRIP SINGLE GANG BOX LOCATED AT END OF DEVICE
H	8 X 10 X 4 HOFFMAN BACKBOX PROVIDED BY WESTNET
T	ACOUSTIC CEILING KIT

GENERAL NOTES

1. DEVICES ARE TYPICAL AND FOR REFERENCE ONLY.
2. ALL BACK BOXES & CONDUITS ARE TO BE FLUSH MOUNTED UNLESS OTHERWISE SPECIFIED FOR NEW CONSTRUCTION.
3. DEVICES LOCATED IN ACOUSTICAL CEILINGS DO NOT REQUIRE BACKBOXES
4. DEVICES LOCATED IN ACOUSTICAL CEILINGS REQUIRE ACOUSTICAL WESTNET MOUNTING KIT (SSATKIT-A)
5. DEVICES ONLY LOCATED IN SHEETROCK OR EXPOSED CEILINGS REQUIRE HOFFMAN BRAND 8X10X4 BACKBOX
6. DEVICES ONLY LOCATED IN SHEETROCK OR EXPOSED CEILINGS REQUIRE APPROPRIATE WESTNET MOUNTING KIT (SURFACE MOUNT OR FLUSH MOUNT) FOR NEW CONSTRUCTION.
7. LOCATIONS OF DEVICES DETERMINED AT INSTALLATION BY INSTALLER FOR NEW CONSTRUCTION.
8. SEE ARCHITECTURAL SPECIFICATION FOR ALL ROUGH-IN AND INSTALLATION DETAILS FOR NEW CONSTRUCTION.
9. INSTALLER TO VERIFY WALL AND CEILING TYPE TO DETERMINE NEED FOR FLUSH OR SURFACE MOUNT INSTALLATION OF EQUIPMENT SPECIFIED FOR NEW CONSTRUCTION.
10. ALL WIRING AND DEVICES TO BE INSTALLED BY WESTNET.
11. ALL PENETRATION TO EXTERIOR DEVICES MUST BE WEATHERPROOF AND FIRE CAULKED FOR CONSTRUCTION BY OTHERS.
12. DEVICES LOCATED IN BATHROOM/SHOWER AREAS MUST BE VISIBLE FROM SHOWERS. INSTALLER TO FIELD VERIFY DEVICE LOCATION. (TYPICAL)
13. ALL DEVICES MUST BE KEPT CLEAR OF OBSTRUCTIONS & CEILING FAN BLADES.
14. IN ACOUSTICAL CEILING (T-BAR), WIRE CABLING IS FREE WIRE (NOT IN CONDUIT).
15. IN GYPSUM BOARD CEILING (SHEET ROCK / HARD LID), WIRE CABLING IN IN 3/4" CONDUIT UNLESS CONDUIT SIZE OTHERWISE NOTED.
16. IN EXPOSED AREAS ONLY 8X10X4 HOFFMAN BACK BOX MOUNTED AT +10'-0" A.F.F. MAX WITH OPEN FACE DOWN IN CENTER OF ROOM WITH 3/4" CONDUIT TO ACCESSIBLE CEILING SPACE. KEEP CLEAR OF OBSTRUCTIONS.
17. AN INDIVIDUAL GAS CONTROL VALVE IS REQUIRED FOR EACH COOKING APPLIANCE WITH A RESET SWITCH WITHIN 6'-0" FT. OF EACH COOKING APPLIANCE.
18. A 5 OHM EARTH GROUND MUST BE CONNECTED TO THE RADIO ISOLATION UNIT IN THE COMMUNICATION RACK.
19. THE RADIO RECEIVING THE DISPATCH INFORMATION SHALL BE LOCATED WITHIN 6'-0" FT. OF THE RADIO ISOLATION UNIT.
20. INSTALLER TO PROVIDE ONE ADDITIONAL UNCONNECTED BLUE CAT5 CABLE WITH RJ45 CONNECTORS ON BOTH ENDS BETWEEN THE MCU LOCATION AND EACH ALERTING END POINT FOR NETWORK CONNECTIVITY.

THE WESTNET ALERTING SYSTEM IS NOT PERMITTED IN UNDERGROUND RACEWAYS

ALERT SYSTEM - CONDUIT LAYOUT
SCALE: N.T.S.

WESTNET®
15542 CHEMICAL LANE
HUNTINGTON BEACH, CA 92649
TEL: (714) 548-3500 FAX (714) 901-5510
www.FirstInAlerting.com

REV	REVISION	DATE	BY
1	DEVICE LAYOUTS	11.17.21	MAC
2	LAYOUTS REVISIONS	11.23.21	MAC
3	INSTALL LAYOUTS	11.29.21	MAC
4	INSTALL LAYOUTS	11.30.21	MAC
5	BACKGROUND REVISIONS	04.13.22	MAC
6	DEVICE REVISIONS	06.06.22	MAC
7	INSTALLATION LAYOUTS	08.15.23	MAC
	BID DOCUMENTS	10.12.23	

FIRST-IN

ALERT SYSTEM

PROJECT NAME:
FIRE STATION No. 9
LONG BEACH FIRE DEPARTMENT
LONG BEACH, CALIFORNIA

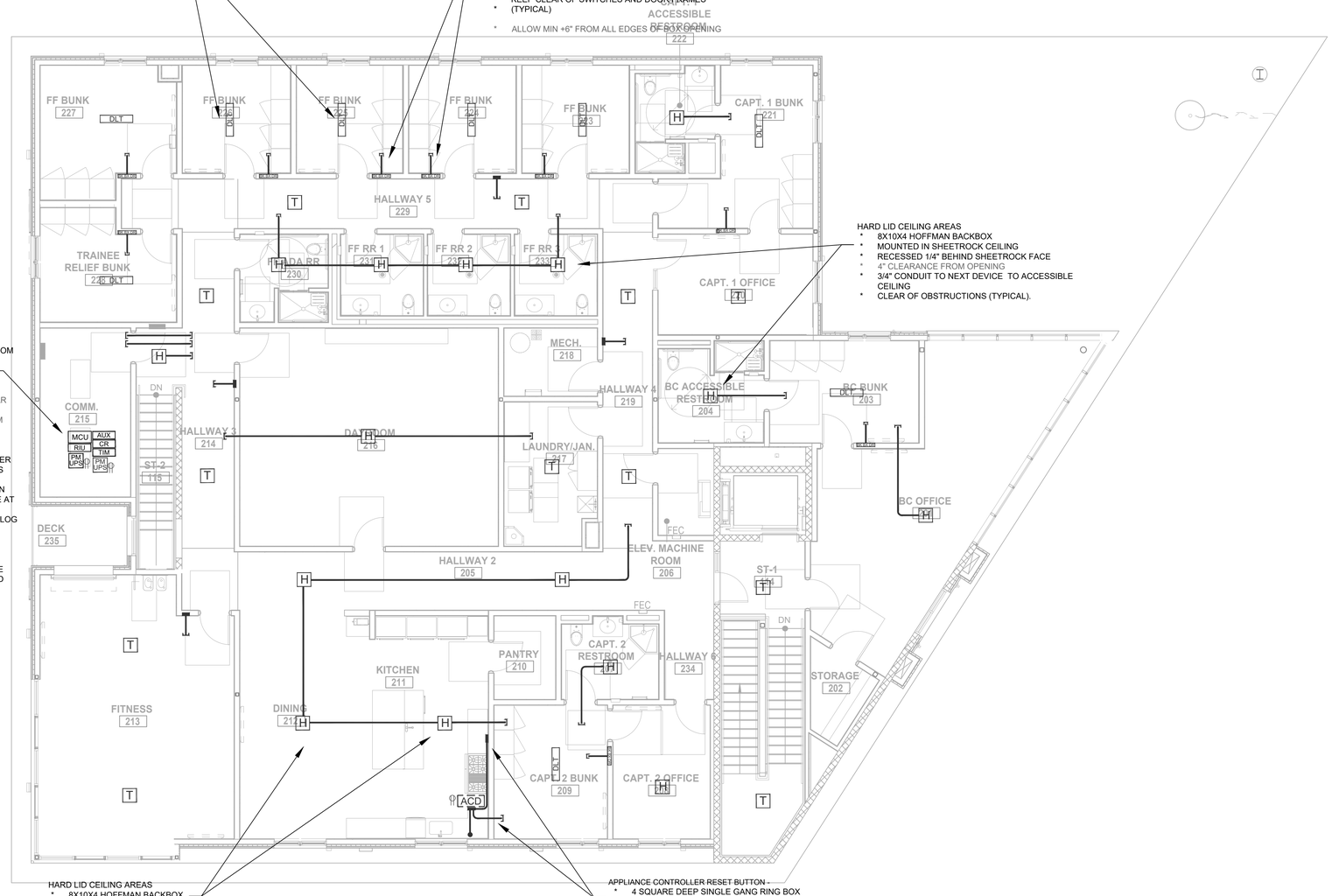
NOTE:
THIS SHEET IS NOT TO SCALE.

PROJECT START DATE:
DRAWN BY: MAC
SCALE: N.T.S.
TITLE: CONDUIT PLAN-FIRST FLOOR
SHEET
230-AS3.1

DORM LIGHTS - TILE CEILING
- LOCATION DETERMINED BY INSTALLER
- MOUNTED IN CENTER OF ROOM AT FOOT OF BED
- 3/4" CONDUIT TO DORM REMOTE.
- KEEP CLEAR OF CEILING FANS OR OBSTRUCTIONS (TYPICAL)

DORM REMOTES INSTALLATION
- 8X10X4 HOFFMAN BACK BOX
- MOUNTED HORIZONTALLY +48" A.F.F.
- 3/4" CONDUIT TO ACCESSIBLE CEILING
- RECESSED 1/4" BEHIND SHEETROCK FACE
- KEEP CLEAR OF SWITCHES AND DOOR FRAMES
- (TYPICAL)
- ALLOW MIN +6" FROM ALL EDGES OF BOX OPENING

CORE EQUIPMENT INSTALLATION
- MCU TO BE LOCATED WITHIN 6 FEET FROM DISPATCH RADIO.
- 4 SQUARE SINGLE GANG RING BOX MOUNTED AT +8'-0" AFF
- DEDICATED 120v CIRCUIT REQUIRED
- 5.0 OHM EARTH GROUND & GROUND BAR REQUIRED (SUPPLIED BY OTHERS).
- (2) - 2" CONDUIT SLEEVES TO OUT FROM DATA ROOM TO ACCESSIBLE CEILING
- RIU TO BE CONNECTED TO RADIO.
- TELEPHONE INTERFACE MODULE CONNECTS TO PHONE SYSTEM. IN ORDER TO INSTALL THE TIM, PHONE SYSTEM IS VOIP OR ANALOG.
- WESTNET REQUIRES THAT THE STATION PROVIDE STANDARD RINGING VOLTAGE AT THE POINT OF CONNECTION.
- VOIP LINES WILL REQUIRE AN ATA (ANALOG TELEPHONE ADAPTOR). ATA SUPPLIED BY OTHERS. OWNER REQUIRED TO VERIFY. IF NECESSARY, SELECT THE ATA, AS THIS IS PAIRED TO MATCH YOUR PHONE SWITCH AND IS PROVIDED/CONFIGURED BY TELEPHONE SYSTEM TECHNICIAN.



HARD LID CEILING AREAS
- 8X10X4 HOFFMAN BACKBOX
- MOUNTED IN SHEETROCK CEILING
- RECESSED 1/4" BEHIND SHEETROCK FACE
- 4" CLEARANCE FROM OPENING
- 3/4" CONDUIT TO NEXT DEVICE TO ACCESSIBLE CEILING
- CLEAR OF OBSTRUCTIONS (TYPICAL).

HARD LID CEILING AREAS
- 8X10X4 HOFFMAN BACKBOX
- MOUNTED IN SHEETROCK CEILING
- RECESSED 1/4" BEHIND SHEETROCK FACE
- 4" CLEARANCE FROM OPENING
- 3/4" CONDUIT TO NEXT DEVICE TO ACCESSIBLE CEILING
- CLEAR OF OBSTRUCTIONS (TYPICAL).

SATELLIGHT MUST BE VISIBLE FROM INSIDE SHOWERS (TYPICAL).

APPLIANCE CONTROLLER RESET BUTTON -
- 4 SQUARE DEEP SINGLE GANG RING BOX
- MOUNTED +48" A.F.F.
- 6" - 12" CLEARANCE FROM OPENING
- 3 /4" CONDUIT TO APPLIANCE CONTROL DEVICE

APPLIANCE CONTROLLER DEVICE
- MOUNTED IN ACCESSIBLE AREA LOCATED NEXT TO GAS VALVE.
- DEDICATED 120v CIRCUIT REQUIRED
- THE APPLIANCE CONTROLLER CONTROLS TWO OUTPUTS
  - ** GAS
  - ** STOVE'S AC POWER.
- THE RELAY FOR THE AC POWER SHOULD SHOULD HAVE A COIL CONTROL VOLTAGE RATING OF 24 V AC.
- OVEN / RANGES & BBQ MUST USE A SEPARATE GAS VALVE.
- A RELAY (BY OTHERS) SHALL BE USED TO CONTROL 120V POWER FOR THE OVEN / RANGES APPLIANCE IN THE KITCHEN.
- STOVE WITH ELECTRONIC IGNITION EQUIPMENT WILL REQUIRE DISCONNECTION OF THE ELECTRICAL POWER DURING THE PERIOD OF THAT THE NATURAL GAS IS NOT AVAILABLE.
- GAS SOLENOID VALVE MUST BE ASCO BRAND NORMALLY CLOSED 24V AC 60 HZ MODEL 8215G30, 8215B050, OR 8215B060. VALVE MUST BE INSTALLED HORIZONTALLY.
- NO OTHER VALVE IS COMPATIBLE WITH THIS SYSTEM.

FIRST-IN FIRE STATION ALERTING
SYMBOL LEGEND

MCU	MASTER CONTROL UNIT
DLSP	DATA LINE SURGE PROTECTOR
TIM	TELEPHONE INTERFACE MODULE
CR	CONTROL REMOTE
RIU	RADIO ISOLATION UNIT
AUX	AUXILLIARY MODULE
PM UPS	POWER HUB-SPOKE & UPS BLACK (DEDICATED 120V CIRCUIT REQUIRED) 8 X 10 X 4 HOFFMAN BACKBOX
PM UPS	POWER DUAL MODE & UPS -BLUE (DEDICATED 120V CIRCUIT REQUIRED) 8 X 10 X 4 HOFFMAN BACKBOX
ACD	APPLIANCE CONTROL DEVICE (DEDICATED 120V CIRCUIT REQUIRED) 8 X 10 X 4 HOFFMAN BACKBOX
	HIGH POWERED SPEAKER OR OUTSIDE SPEAKER 4 SQUARE BACKBOX REQUIRED
OSA	OUTSIDE SPEAKER AUDIO MODULE 8 X 10 X 4 HOFFMAN BACKBOX
HPA AMP	HIGH-POWERED AMPLIFIER DEVICE 8 X 10 X 4 HOFFMAN BACKBOX
AeP	ALERTING END POINT (DEDICATED 120V CIRCUIT REQUIRED) 4 SQUARE BACKBOX REQUIRED
T	TURNOUT TIMER 4 SQUARE BACKBOX REQUIRED
C	COMPANY INDICATOR 4 SQUARE BACKBOX REQUIRED
8X 8X DR	DORM REMOTE BACKBOX 8X10X4 HOFFMAN BOX
DLT	DORM LITE ACOUSTIC CEILING MOUNT KIT
	ACTIVE - X- IT STRIP SINGLE GANG BOX LOCATED AT END OF DEVICE
H	8 X 10 X 4 HOFFMAN BACKBOX PROVIDED BY WESTNET
T	ACOUSTIC CEILING KIT

GENERAL NOTES
1. DEVICES ARE TYPICAL AND FOR REFERENCE ONLY.
2. ALL BACK BOXES & CONDUITS ARE TO BE FLUSH MOUNTED UNLESS OTHERWISE SPECIFIED FOR NEW CONSTRUCTION.
3. DEVICES LOCATED IN ACOUSTICAL CEILINGS DO NOT REQUIRE BACKBOXES
4. DEVICES LOCATED IN ACOUSTICAL CEILINGS REQUIRE ACOUSTICAL WESTNET MOUNTING KIT (SSATKIT-A)
5. DEVICES ONLY LOCATED IN SHEETROCK OR EXPOSED CEILINGS REQUIRE HOFFMAN BRAND 8X10X4 BACKBOX
6. DEVICES ONLY LOCATED IN SHEETROCK OR EXPOSED CEILINGS REQUIRE APPROPRIATE WESTNET MOUNTING KIT (SURFACE MOUNT OR FLUSH MOUNT) FOR NEW CONSTRUCTION.
7. LOCATIONS OF DEVICES DETERMINED AT INSTALLATION BY INSTALLER FOR NEW CONSTRUCTION.
8. SEE ARCHITECTURAL SPECIFICATION FOR ALL ROUGH-IN AND INSTALLATION DETAILS FOR NEW CONSTRUCTION.
9. INSTALLER TO VERIFY WALL AND CEILING TYPE TO DETERMINE NEED FOR FLUSH OR SURFACE MOUNT INSTALLATION OF EQUIPMENT SPECIFIED FOR NEW CONSTRUCTION.
10. ALL WIRING AND DEVICES TO BE INSTALLED BY WESTNET.
11. ALL PENETRATION TO EXTERIOR DEVICES MUST BE WEATHERPROOF AND FIRE CAULKED FOR CONSTRUCTION BY OTHERS.
12. DEVICES LOCATED IN BATHROOM/SHOWER AREAS MUST BE VISIBLE FROM SHOWERS. INSTALLER TO FIELD VERIFY DEVICE LOCATION. (TYPICAL)
13. ALL DEVICES MUST BE KEPT CLEAR OF OBSTRUCTIONS & CEILING FAN BLADES.
14. IN ACOUSTICAL CEILING (T-BAR), WIRE CABLING IS FREE WIRE (NOT IN CONDUIT).
15. IN GYPSUM BOARD CEILING (SHEET ROCK / HARD LID), WIRE CABLING IN IN 3/4" CONDUIT UNLESS CONDUIT SIZE OTHERWISE NOTED.
16. IN EXPOSED AREAS ONLY 8X10X4 HOFFMAN BACK BOX MOUNTED AT +10'-0" A.F.F. MAX. WITH OPEN FACE DOWN IN CENTER OF ROOM WITH 3/4" CONDUIT TO ACCESSIBLE CEILING SPACE, KEEP CLEAR OF OBSTRUCTIONS.
17. AN INDIVIDUAL GAS CONTROL VALVE IS REQUIRED FOR EACH COOKING APPLIANCE WITH A RESET SWITCH WITHIN 6'-0" FT. OF EACH COOKING APPLIANCE.
18. A 5 OHM EARTH GROUND MUST BE CONNECTED TO THE RADIO ISOLATION UNIT IN THE COMMUNICATION RACK.
19. THE RADIO RECEIVING THE DISPATCH INFORMATION SHALL BE LOCATED WITHIN 6'-0" FT. OF THE RADIO ISOLATION UNIT.
20. INSTALLER TO PROVIDE ONE ADDITIONAL UNCONNECTED BLUE CAT5 CABLE WITH RJ45 CONNECTORS ON BOTH ENDS BETWEEN THE MCU LOCATION AND EACH ALERTING END POINT FOR NETWORK CONNECTIVITY.

ALERT SYSTEM - CONDUIT PLAN
SCALE: N.T.S.

WESTNET®
15542 CHEMICAL LANE
HUNTINGTON BEACH, CA 92649
TEL: (714) 548-3500 FAX (714) 901-5510
www.FirstInAlerting.com

REV	REVISION	DATE	BY
1	DEVICE LAYOUTS	11.17.21	MAC
2	LAYOUTS REVISIONS	11.23.21	MAC
3	INSTALL LAYOUTS	11.29.21	MAC
4	INSTALL LAYOUTS	11.30.21	MAC
5	BACKGROUND REVISIONS	04.13.22	MAC
6	DEVICE REVISIONS	06.06.22	MAC
7	INSTALLATION LAYOUTS	08.15.23	MAC
	BID DOCUMENTS	10.12.23	

FIRST-IN

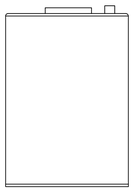
ALERT SYSTEM

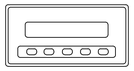
PROJECT NAME:
FIRE STATION No. 9
LONG BEACH FIRE DEPARTMENT
LONG BEACH, CALIFORNIA

NOTE:
THIS SHEET IS NOT TO SCALE.

PROJECT START DATE:
DRAWN BY: MAC
SCALE: N.T.S.
TITLE: CONDUIT PLAN-SECOND FLOOR

SHEET
231 -AS3.2

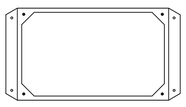




01 MASTER CONTROL UNIT - MCU
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS.

MCU MASTER CONTROL UNIT

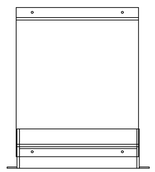
- THE MASTER CONTROL UNIT IS THE COMMAND CENTER OF THE SMART STATION NETWORK.
- THE MASTER CONTROL UNIT SHALL ACCEPT ALARM INPUTS FROM UP TO (4) RADIOS, DEDICATED PHONE LINES, POTS TELEPHONE LINES, SERIAL DATA LINES, AS WELL AS TCP/IP ETHERNET NETWORKS.
- THE MASTER CONTROL UNIT SUPPORTS THE FULL ZIR COMMAND SET.
- THE MASTER CONTROL UNIT SHALL MEET THE NFPA REQUIREMENT 1221 FOR SUPERVISED COMMUNICATIONS FOR ALERTING WITH THE DISPATCH CENTER.
- ALARM AUDIO LEVELS SHALL BE CONTROLLABLE OVER A (30) DECIBAL RANGE IN (1) DECIBAL INCREMENTS.
- RADIO AUDIO LEVELS SHALL BE CONTROLLABLE OVER A (30) DECIBAL RANGE IN (1) DECIBAL INCREMENTS.
- THE ENTIRE FIRE STATION ALERTING LEVEL SHALL BE AUTOMATICALLY REDUCED AT NIGHT AND RETURNED TO NORMAL LEVELS IN THE MORNING AUTOMATICALLY.
- OUTSIDE SPEAKERS SHALL BE AUTOMATICALLY TURNED OFF AT NIGHT AND TURNED BACK ON IN THE MORNING AUTOMATICALLY.
- PRIMARY PROGRAMMING SHALL BE ACCOMPLISHED FROM THE FRONT PANEL, WHILE SECONDARY PROGRAMMING IS ACCOMPLISHED WITH THE SMART STATION SERVICE VIA COMPUTER.
- FRONT PANEL PROGRAMMING SHALL BE LIMITED TO PLACING THE STATION ON RADIO WATCH OR REMOVING THE STATION FROM RADIO WATCH.
- THE MASTER CONTROL UNIT SHALL BE POWERED FROM AN "ON-LINE" UPS FOR UNINTERRUPTIBLE ALERTING SERVICE.



02 CONTROL REMOTE - CR
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS.

CR CONTROL REMOTE

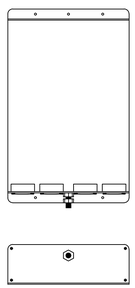
- WHEN THE ALARM SYSTEM TRIGGERS, THE CONTROL REMOTE CAN OPEN BAY DOORS, TURN ON BAY LIGHTS, OPEN GATES, SENSE DOOR TROUBLE, AND/OR SENSE INPUTS FROM CO DETECTORS IN APPARATUS BAYS.
- PROVIDES (8), DOUBLE POLE, DOUBLE THROW (DPDT) RELAYS UNDER SOFTWARE CONTROL OF THE MASTER CONTROL UNIT.
- PROVIDE (4) REMOTE SENSING INPUTS TO COLLECT DATA RELEVANT TO THE CONTROL FUNCTIONS.
- ENABLES THE MASTER CONTROL UNIT TO OPERATE FIRE STATION ALERTING EQUIPMENT THAT IS NOT SMART STATION COMPATIBLE.
- ALL RELAYS SHALL BE ZONE, TIME DELAY AND TIME OF DAY CONTROLLABLE IN ANY COMBINATION NECESSARY.
- SHALL PROVIDE CONTROL AND SENSE CAPABILITY THROUGHOUT THE NETWORK AT ANY LOCATION.
- RELAYS SHALL BE RATED AT (5) AMPS AT (24) VOLTS DC OR AC.
- MECHANICAL LIFE OF THE RELAY CONTACTS SHALL BE A MINIMUM OF (5) MILLION OPERATIONS.
- RELAYS SHALL BE USED TO CONTROL THE OVEN/RANGES IN THR KITCHEN, OPERATION OF EACH APPARATUS BAY DOOR INDEPENDANTLY, AND CONNECTION OF CARBON MONOXIDE SENSORS TO THE SYSTEM. COORDINATE ALL ELECTRICAL CONTACTS AND RELAYS REQUIRED FOR LINE VOLTAGE CIRCUITS TO INTERFACE WITH CONTROL REMOTE DEVICES.
- WESTNET ALERT SYSTEM PROVIDES ONLY DRY CONTACTS RATED AT 24 VOLTS MAX., NO VOLTAGE IS SUPPLIED



03 STATION PAGING MODULE - PAG
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS.

TIM TELEPHONE INTERFACE MODULE

- SHALL BE UTILIZED FOR PAGING PERSONNEL WITHIN THE FIRE STATION.
- SHALL INTEGRATE THE FIRE STATION TELEPHONE SYSTEM INTO ALL AUDIO UNITS, SUCH AS COMBINATION SPEAKER/LED LIGHT DEVICES, PROGRAMMABLE SPEAKER/RED GLOW LIGHT DEVICES AND HIGH POWER AMPLIFIERS.
- REQUIRES CONDUIT SLEEVE TO STATION TELE/COMM ROOM



04 RADIO ISOLATION UNIT - RIU
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS.

RIU RADIO ISOLATION UNIT

- SURGE PROTECTION DEVICE CONNECTED TO RADIO ANTENNAS EXTEND GROUND WIRE FROM UNIT TO LIGHTING PROTECTION SYSTEM.

ALERTING SYSTEM OVERVIEW PLEASE READ

Most contractors are unfamiliar with what the Alerting System is and the capabilities of the system. The overall function of the alerting system is to reduce the response time of the received calls from 15 to 45 seconds using visual and audio alerts for dispatched units. This system is installed as a large communication loop utilizing CAT 5 cabling with very limited connections to the existing building.

There are several common questions that are generally asked during the rough in stages for our system:

Does the back box specified need to be a Hoffman Brand - Part #43050 - Cat #A-SE8X10X4 for Dorm Remotes (DR) and Satellite Controllers (SC)? YES, the mounting flanges for these devices specifically made for this type of box. This eliminates re-tapping of the box and quicker installation time.

Can power receptacles be relocated? YES, at a maximum of six (6) feet from plan indication.

Can conduit differ from plans? NO, the routing of the conduit is very specific and is the link from device to device creating the over all communication loop.

There is a spacing conflict with the Dorm Remote (DR), Thermostat, Light Switch, and Telephone location next next to the door jamb. Can this be relocated? YES, this can be moved away from the door jamb, generally between the light switch and thermostat is most common, for the occupants to monitor their dispatched calls. Refer to notes on AS.01. The mounting flange will require 18" space between light switch and next device for the horizontally mounted Hoffman back box.

Can devices be relocated? YES, but at a maximum of six (6) feet. Please keep in mind of equal spacing of devices for an even audio and visual coverage; this is important when announcing dispatched calls. Also, the cabling is pre-manufactured and is designated for that device. Relocation of devices at more than six (6) feet from indicated location will need approval by Westnet.

How is the Hoffman Brand - Part #43050 - Cat #A-SE8X10X4 boxes to be mounted? For Dorm Remotes (DR), the back box is to mount horizontally, 10" wide and 8" tall, recessed 1/8" into the sheetrock wall, at 48" to centerline, above finished floor. The mounting flange covers the back box opening and pulls flush against the sheetrock.

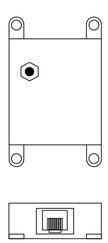
For Satellite Controllers (SC), that is to be mounted into sheetrock ceilings, the back box will run, the 10" side, with the length of the room, in the center, free from obstructions, avoiding other trades, recessed 1/8" into sheetrock, and mounted at a maximum of 15' above finished floor. Back boxes installed in open areas will be mounted at a maximum of 15' above finished surface, free from obstructions, avoiding other trades, recessed 1/8" into sheetrock, and mounted at a maximum of 15' above finished floor. Back boxes installed in open areas will be mounted at a maximum of 15' above finished surface, free from obstructions, with length of room, and visible from all points in the rooms. Westnet does not assume the responsibility for poor installation of back boxes. Refer to notes on AS.01.

What is the function of the Control Remote (CR)? This device can perform multiple functions, opening apparatus bay doors, gates, shutting off equipment, kitchen stoves, appliances, corridor lighting, etc. Any equipment that shows to be connected that are to be controlled by the CR will need a control voltage of 24 Volts that is NOT supplied by Westnet. The terminal rating is a maximum of 24V on the CR.

What is the MCU? This is the brains of the system. Received calls go thru this device and are announced throughout the system. This is most commonly the only connection that is made to the existing communications. This is to be located within six (6) feet of the dispatch radio in watch room or communication center of station.

These are just a few of the issues that you may have questions about. There is to be no alteration of the system without the approval of Westnet. Most information can be found on AS.01.

If there are more questions or concerns about the rough in for installation, please call 1-800-807-1700



DATA LINE SURGE SUPPRESSOR - DLSP

- SHALL BE UTILIZED FOR SURGE PROTECTION OF THE LAN FEED FROM SWITCH
- SHALL BE GROUNDED TO 5 OHM GROUND PLATE
- SHALL BE LOCATED WITHIN 6 FEET OF MCU

WESTNET®
15542 CHEMICAL LANE
HUNTINGTON BEACH, CA 92649
TEL: (714) 548-3500 FAX (714) 901-5610
www.FirstInAlerting.com

REV	REVISION	DATE	BY
1	DEVICE LAYOUTS	11.17.21	MAC
2	LAYOUTS REVISIONS	11.23.21	MAC
3	INSTALL LAYOUTS	11.29.21	MAC
4	INSTALL LAYOUTS	11.30.21	MAC
5	BACKGROUND REVISIONS	04.13.22	MAC
6	DEVICE REVISIONS	06.06.22	MAC
7	INSTALLATION LAYOUTS	08.15.23	MAC
	BID DOCUMENTS	10.12.23	

FIRST-IN

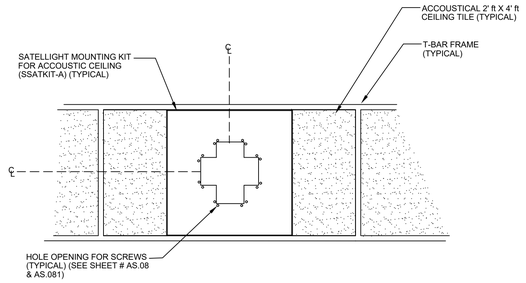
ALERT SYSTEM

PROJECT NAME:
FIRE STATION No. 9
LONG BEACH FIRE DEPARTMENT
LONG BEACH, CALIFORNIA

NOTE:
THIS SHEET IS NOT TO SCALE.

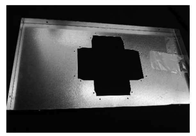
PROJECT START DATE:
DRAWN BY: MAC
SCALE: N.T.S.
TITLE: AS DEVICE DETAILS

SHEET
232 -AS4.1



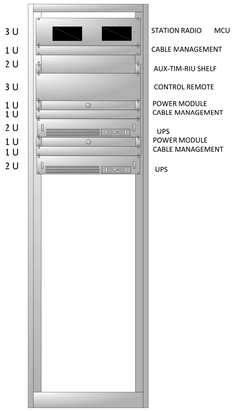
ID 929 **SSATKIT-A**

Satellight Mounting Kit - Acoustic Ceiling (A-Kit)



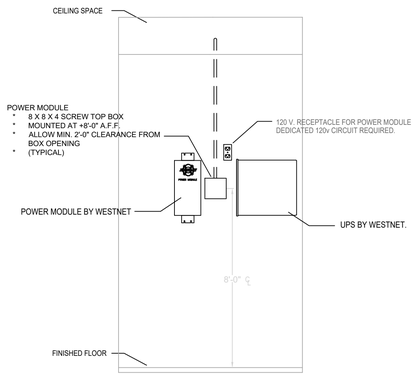
Note:
Kit used for mounting on drop-tile ceilings. Compatible products include:
1. Satellight Controllers 2. Satellights 3. Dorm lights

03 TYPICAL T-BAR PANEL INSTALLATION
N.T.S.



TYPICAL

01 SMART STATION RACK DIAGRAM
N.T.S.



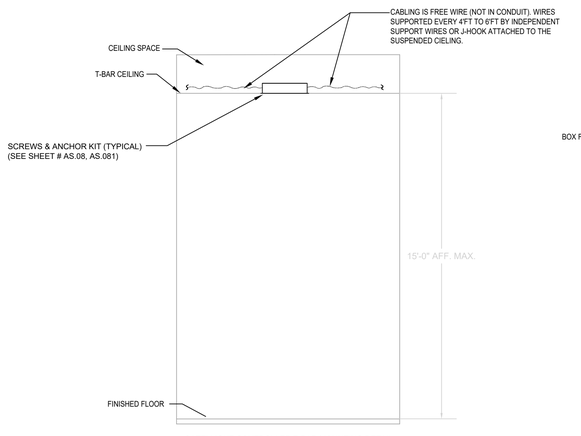
PM/UPS MOUNTING DETAIL

PROVIDE A MINIMUM CLEARANCE OF
3'-0" SQUARE FOR PM/UPS MOUNTING

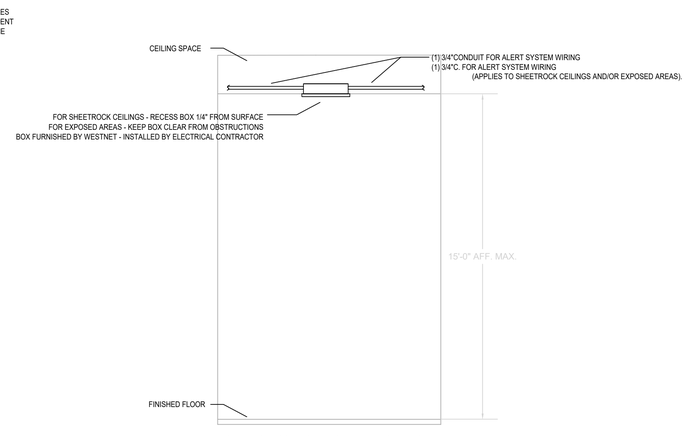
PM UPS

POWER MODULE AND UPS

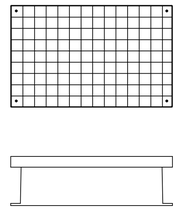
- POWER MODULES SHALL SUPPLY THE SMART STATION CAT 5 PRIMARY ALARM NETWORK WITH 24 VOLTS DC OUTPUT.
- THE POWER MODULE SHALL BE CENTERED TO THE FIRE STATION RADIO, THE PRINTER, MASTER CONTROL UNIT, AND THE DATA TERMINAL CONTROL UNIT IF THE FIRE STATION IS ETHERNET DISPATCHED.
- SHALL SUPPLY SYNTHESIZED 110-VAC POWER THAT IS PROTECTED FROM THE POWER GRID BY AN ON-LINE CONVERTER.
- SHALL SENSE POWER LOSS AND NOTIFY THE MASTER CONTROL UNIT OF ANY OUTAGE.
- LED STATUS INDICATORS SHALL SHOW FIRE PERSONEL THE MODULE POWER STATUS.
- STANDARD AGC POWER FUSES SHALL BE CHANGEABLE BY FIRE STATION PERSONNEL.
- EACH POWER SUPPLY SHALL BE ACCOMPANIED BY AN UNINTERRUPTIBLE POWER SUPPLY WITH CAPACITY TO RUN THE SYSTEM AT FULL OPERATION FOR (60) MINUTES.



SATELLIGHT CONTROLLER T-BAR MOUNTING DETAIL



SATELLIGHT CONTROLLER COUNDUIT MOUNTING DETAIL



03 SATELLIGHT CONTROLLER - SC
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS.

SATELLIGHT SPEAKER - S
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS.

SC

SATELLIGHT CONTROLLER

- SHALL OPERATE ON A CAT 5 SMART STATION PRIMARY ALARM NETWORK, WHICH IS DRIVEN FROM THE MCU.
- OPERATE INDEPENDANTLY OR DRIVE UP TO (3) OR (4) DEVICES DEPENDING UPON THE LOCATION IN THE FIRE STATION.
- AUDIO OUTPUT SHALL BE CONTROLLED BY SOFTWARE FROM THE MASTER CONTROL UNIT.
- AUDIO OUTPUT SHALL BE ADJUSTABLE ACROSS A (90) DECIBAL RANGE.
- SHALL BE CAPABLE OF INTELLEGENT SENSING AND CONTROL OF FIRE STATION SYSTEMS AND EQUIPMENT. CONTROLLER SHALL UTILIZE BI-DIRECTIONAL DATA THROUGHOUT THE SMART STATION NETWORK AND EXTEND CAPABILITY TO THE FIRE DEPARTMENT DIPATCH CENTER.
- SHALL BE MOUNTED IN THE CEILING TO PROVIDE ALARM COVERAGE THROUGHOUT THE STATION.
- ACOUSTICAL CEILING MOUNTING SECURES THE DEVICE TO THE T-BAR RAILS AND THE SUPERSTRUCTURE OF THE BUILDING.
- DRYWALL AND PLASTER CEILING MOUNTING HARDWARE SHALL UTILIZE METAL HARDWARE THAT IS COLOR-MATCHED TO THE LAMP ASSEMBLY.

S

SATELLIGHT, SPEAKER/LED LIGHT

- SHALL OPERATE ON A CAT 5 ALARM SUBNETWORK, WHICH IS DRIVEN FROM A DEVICE CONTROLLER.
- AUDIO OUTPUT FROM THE DEVICES SHALL BE SET BY THE SOFTWARE FROM THE CONTROLLER.
- AUDIO OUTPUT SHALL BE ADJUSTABLE ACROSS A (90) DECIBLE RANGE.
- THE LIGHTING OUTPUT SHALL INCREASE AUTOMATICALLY DURING THE FIRST FEW SECONDS OF THE ALARM SEQUENCE.
- SHALL BE MOUNTED IN CEILING TO PROVIDE ALARM COVERAGE THROUGHOUT THE STATION.
- ACOUSTICAL CEILING MOUNTING SECURES THE DEVICE TO THE T-BAR RAILS AND THE SUPERSTRUCTURE OF THE BUILDING.
- DRYWALL AND PLASTER CEILING MOUNTING HARDWARE INSTALLS DEVICES INTO THESE CEILINGS.

WESTNET®
15542 CHEMICAL LANE
HUNTINGTON BEACH, CA 92649
TEL: (714) 548-3500 FAX (714) 901-5610
www.FirstInAlerting.com

REV	REVISION	DATE	BY
1	DEVICE LAYOUTS	11.17.21	MAC
2	LAYOUTS REVISIONS	11.23.21	MAC
3	INSTALL LAYOUTS	11.29.21	MAC
4	INSTALL LAYOUTS	11.30.21	MAC
5	BACKGROUND REVISIONS	04.13.22	MAC
6	DEVICE REVISIONS	06.06.22	MAC
7	INSTALLATION LAYOUTS	08.15.22	MAC
	BID DOCUMENTS	10.12.23	

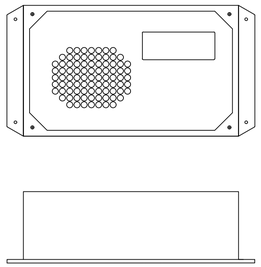
FIRST-IN ALERT SYSTEM

PROJECT NAME:
FIRE STATION No. 9
LONG BEACH FIRE DEPARTMENT
LONG BEACH, CALIFORNIA

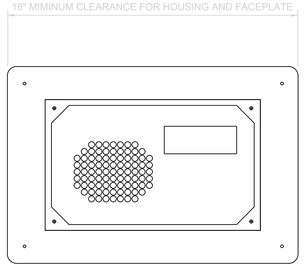
NOTE:
THIS SHEET IS NOT TO SCALE.

PROJECT START DATE:
DRAWN BY: MAC
SCALE: N.T.S.
TITLE: AS DEVICE DETAILS

SHEET
233-AS4.2



01 DORM REMOTE - DR
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS.

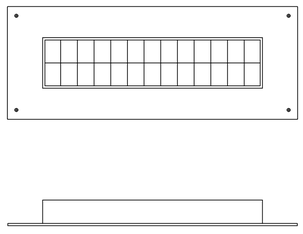


DORM REMOTE WITH ATTACHED FACEPLATE

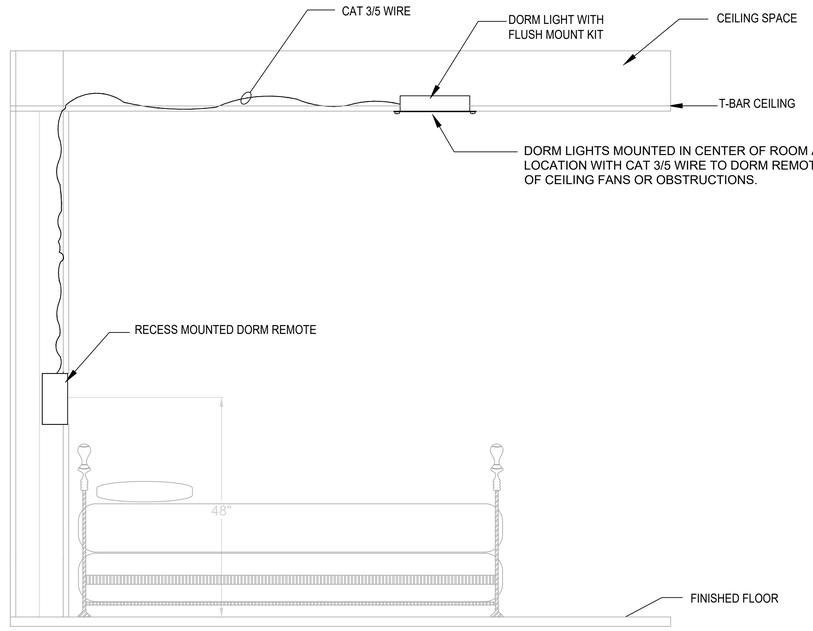
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS.

DR DORM REMOTE WITH LIGHT

- SPEAKER/LIGHT DEVICES SHALL BE FIREFIGHTER PROGRAMMED TO ACTIVATE ON ALL ALARMS STARTING AT SHIFT CHANGE.
- THE DEVICE AUDIO SHALL BE ADJUSTED OVER A (60) DECIBLE RANGE IN (1) DECIBLE INCREMENTS TO AID IN THE REDUCTION OF AUDIBLE SHOCK THAT OCCURS WHEN THE FIREFIGHTER AWAKENS TO AN ALARM.
- THE LIGHTING SHALL INCREASE DURING THE FIRST FEW SECONDS OF THE ALARM SEQUENCE TO REDUCE OPTICAL SHOCK UPON AWAKENING.
- THE LIGHT OUTPUT SHALL BE ADJUSTABLE BY EACH FIREFIGHTER.
- THE TWO-LINE DISPLAY SHALL BE USED FOR DISPLAYING TEXT MESSAGING.
- THE DEVICE SHALL OPERATE UP TO (4) COMBINATION SPEAKER/LED LIGHT DEVICES FOR ZONE CONTROLLED SLEEP AREAS.
- THE DEVICE SHALL BE DESIGNED TO BE WALL OR ROOM DIVIDER MOUNTED AT (2) FEET ABOVE THE HEIGHT OF THE BED TO PROVIDE ILLUMINATION FOR THE BED AND THE FLOOR.
- THE DEVICE CAN BE SURFACE MOUNTED.
- ALL CONNECTIONS SHALL BE MODULAR PLUGS ENABLING RELOCATION OF DORM REMOTE WITH MINIMUM EFFORT.



02 DORM LIGHT - DL
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS.



DORM REMOTE / DORM LIGHT MOUNTING DETAIL

WESTNET®
15542 CHEMICAL LANE
HUNTINGTON BEACH, CA 92649
TEL: (714) 548-3500 FAX (714) 901-5610
www.FirstInAlerting.com

REV	REVISION	DATE	BY
1	DEVICE LAYOUTS	11.17.21	MAC
2	LAYOUTS REVISIONS	11.23.21	MAC
3	INSTALL LAYOUTS	11.29.21	MAC
4	INSTALL LAYOUTS	11.30.21	MAC
5	BACKGROUND REVISIONS	04.13.22	MAC
6	DEVICE REVISIONS	06.06.22	MAC
7	INSTALLATION LAYOUTS	08.15.22	MAC
	BID DOCUMENTS	10.12.23	

FIRST-IN

ALERT SYSTEM

PROJECT NAME:
FIRE STATION No. 9
LONG BEACH FIRE DEPARTMENT
LONG BEACH, CALIFORNIA

NOTE:
THIS SHEET IS NOT TO SCALE.

PROJECT START DATE:
DRAWN BY: MAC
SCALE: N.T.S.
TITLE: AS DEVICE DETAILS

SHEET
234-AS4.3

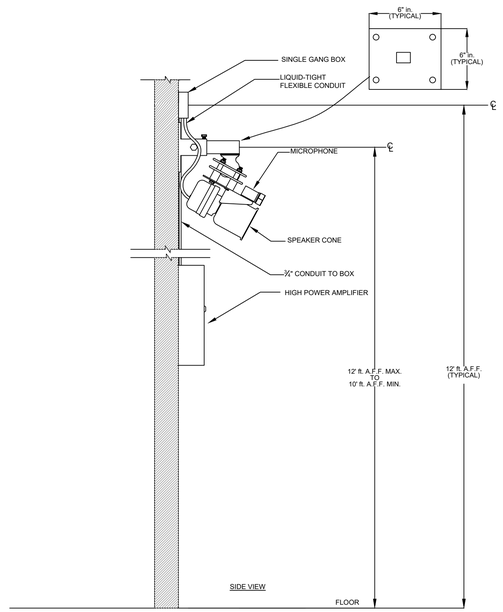
HPS
HPA
AMP

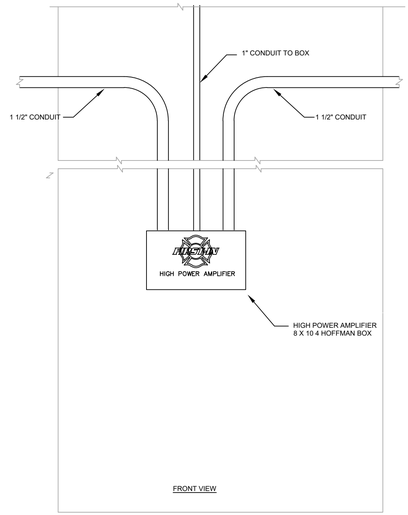
HIGH POWER PAGING AMPLIFIER & SPEAKER

- HIGH POWER AMPLIFIERS SHALL PROVIDE DYNAMIC CONTROL OF THE FIRE ALARM SOUND LEVEL IN HIGH NOISE AREA OF THE FIRE STATION.
- AMPLIFIERS SHALL BE USED THROUGHOUT THE APPARATUS BAYS, AND ALONG THE PERIMETER OF EACH STATION
- INCREASED VOLUME SHALL PROVIDE AUDIBLE DISPATCH IN HIGH NOISE LEVEL AREAS.
- AN AMBIENT NOISE DETECTOR SHALL SENSE SOUND LEVELS AND CONTROL THE OUTPUT POWER FROM (0) TO (128) DECIBALS.
- MAXIMUM OUTPUT POWER SHALL BE SET BY SERVICE SOFTWARE.
- A BUILT IN VOLUME LED INDICATOR SHALL DISPLAY THE OUTPUT LEVEL CONTROL ACTIVITY.
- BUILT IN LED STATUS INDICATORS SHALL INDICATE THE OPERATING MODE OF THE HIGHT POWER AMPLIFIER.
- MULTIPLE HIGH POWER AMPLIFIERS SHALL BE OPERATED ON THE SMART STATION NETWORK.
- SPEAKER SHOWN OUTDOORS SHALL BE WEATHERPROOF AND DESIGNED FOR OUTDOOR USE.
- SPEAKER MOUNTS SHALL BE ADJUSTABLE TO ANY ANGLE AS NEEDED BY THE INSTALLATION.

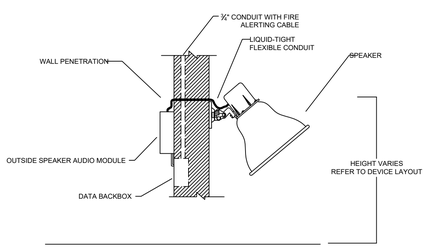
NOTE: ALL THRU PENATRATIONS MUST BE SEALED WITH DAP - PREMIUM RUBBER CONCRETE, TYPICAL.

IT IS MANDATORY TO INSTALL SCREWS IN ALL MOUNTING HOLES.

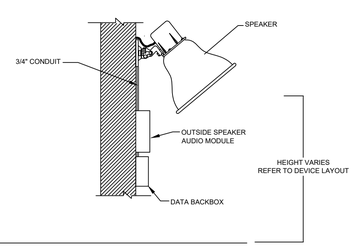




01 HIGH POWER AMPLIFIER AND INTERIOR SPEAKER
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS



02 OUTSIDE APEAKER AUDIO MODULE - EXTERIOR
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS



03 OUTSIDE APEAKER AUDIO MODULE - INTERIOR
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS

WESTNET®
15542 CHEMICAL LANE
HUNTINGTON BEACH, CA 92649
TEL: (714) 548-3500 FAX (714) 901-5610
www.FirstInAlerting.com

REV	REVISION	DATE	BY
1	DEVICE LAYOUTS	11.17.21	MAC
2	LAYOUTS REVISIONS	11.23.21	MAC
3	INSTALL LAYOUTS	11.29.21	MAC
4	INSTALL LAYOUTS	11.30.21	MAC
5	BACKGROUND REVISIONS	04.13.22	MAC
6	DEVICE REVISIONS	06.06.22	MAC
7	INSTALLATION LAYOUTS	08.15.22	MAC
	BID DOCUMENTS	10.12.23	

FIRST-IN

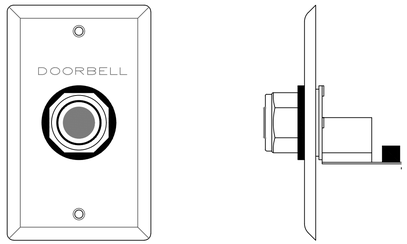
ALERT SYSTEM

PROJECT NAME:
FIRE STATION No. 9
LONG BEACH FIRE DEPARTMENT
LONG BEACH, CALIFORNIA

NOTE:
THIS SHEET IS NOT TO SCALE.

PROJECT START DATE:
DRAWN BY: MAC
SCALE: N.T.S.
TITLE: AS DEVICE DETAILS

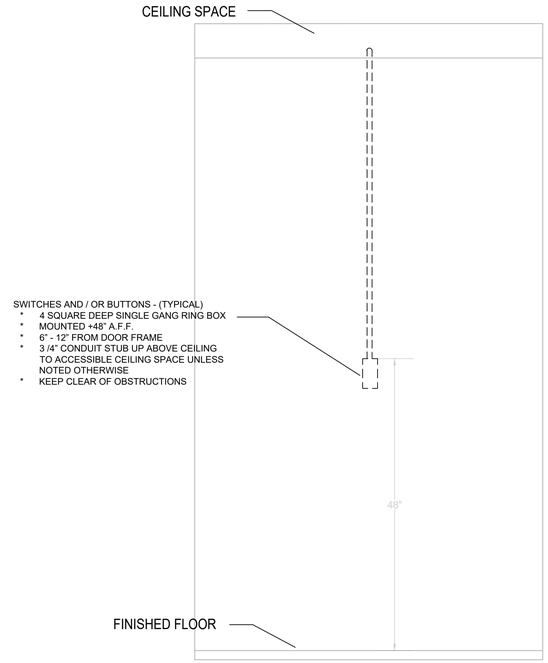
SHEET
235-AS4.4



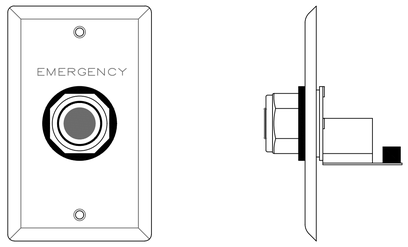
01 DOORBELL - DB
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS.

DB DOORBELL

- SHALL NOTIFY PERSONNEL OF VISITOR ON FIRE STATION GROUNDS.
- NOTIFICATION OF VISITOR SHALL BE RELAYED TO DISPATCH CENTER.
- SHALL NOTIFY FIRE PERSONNEL AT WHICH DOOR THE VISITOR IS WAITING.
- SHALL PROVIDE BOTH AUDIBLE AND VISUAL NOTIFICATION OF DOORBELL ACTIVATION.
- PROVIDE CUSTOMIZED MESSAGES AND ALERT TONES.



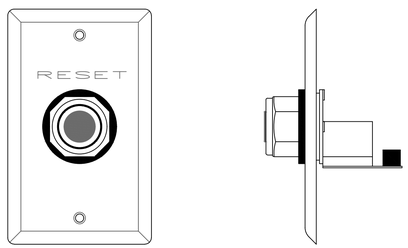
SWITCH/BUTTON MOUNTING DETAIL (TYP.)



02 EMERGENCY BUTTON - EB
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS.

EB EMERGENCY BUTTON

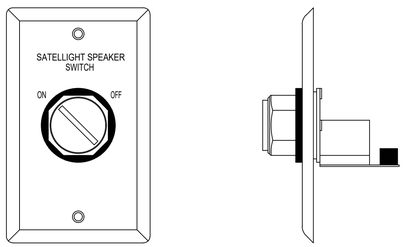
- SHALL NOTIFY PERSONNEL OF EMERGENCY ON FIRE STATION GROUNDS.
- SHALL NOTIFY DISPATCH CENTER OF INCIDENT OCCURANCE AT THE FIRE STATION.
- SHALL ENABLE THE FIRE FIGHTER TO ANSWER THE DOOR AND ATTEND TO THE PROBLEM IMMEDIATLY.
- SHALL PROVIDE BOTH AUDIBLE AND VISUAL NOTIFICATION OF AN EMERGENCY.
- PROVIDE CUSTOMIZED MESSAGES AND ALERT TONES.



02 RESET BUTTON - RB
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS.

RB RESET BUTTON

-RESETS APPLIANCE CONTROLLER DEVICE
- SHALL BE WITHIN CLOSE DISTANCE TO APPLIANCE CONTROLLER DEVICE



03 SPEAKER SWITCH - SW
N.T.S.
RE: WESTNET SPECIFICATIONS FOR OVERALL DEVICE DIMENSIONS.

SW SPEAKER SWITCH

- SHALL BE UTILIZED TO CONTROL THE ACTIVE/INACTIVE OPERATION OF THE SATELLIGHT CONTROLLER IN ROOM (COMBINATION SPEAKER/LED LIGHT DEVICE).

WESTNET®
15542 CHEMICAL LANE
HUNTINGTON BEACH, CA 92649
TEL: (714) 548-3500 FAX (714) 901-5610
www.FirstInAlerting.com

REV	REVISION	DATE	BY
1	DEVICE LAYOUTS	11.17.21	MAC
2	LAYOUTS REVISIONS	11.23.21	MAC
3	INSTALL LAYOUTS	11.29.21	MAC
4	INSTALL LAYOUTS	11.30.21	MAC
5	BACKGROUND REVISIONS	04.13.22	MAC
6	DEVICE REVISIONS	06.06.22	MAC
7	INSTALLATION LAYOUTS	08.15.23	MAC
	BID DOCUMENTS	10.12.23	

FIRST-IN ALERT SYSTEM

PROJECT NAME:
FIRE STATION No. 9
LONG BEACH FIRE DEPARTMENT
LONG BEACH, CALIFORNIA

NOTE:
THIS SHEET IS NOT TO SCALE.

PROJECT START DATE:
DRAWN BY: MAC
SCALE: N.T.S.
TITLE: AS DEVICE DETAILS

SHEET
236-AS4.5