LIBERTY HIGH SCHOOL ADMINISTRATION & STUDENT COMMONS

850 2ND STREET, BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA FILE NO: 7-H4 **DSA APPLICATION NO:** 01-119033 **PTN:** 61721-75

CONSTRUCTION DOCUMENTS

PROJECT TEAM

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IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
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LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033
ARCH PROJECT NO: 1783.00
DRAWN BY: HM
DRAWING SCALE: N.T.S.
PTN: 61721-75 FILE NO: 7-H4
CD
DECEMBER 2, 2020
SHEET TITLE

COVER SHEET

SHEET NUMBER

G-0.1

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ABBREVIATIONS

&	AND
L	ANGLE
@	AT
C	CENTERLINE
'	FEET
"	INCHES
d	PENNY
#	POUND/ NUMBER
AB	ANCHOR BOLT
ABBREV	ABBREVIATION
AC	ASPHALT CONCRETE
A/C	AIR CONDITIONING
ACC	ACCESSIBLE
ACOUS	ACOUSTICAL
AC T	ACOUSTICAL TILE
AD	AREA DRAIN
ADJ	ADJUSTABLE
A.F.F.	ABOVE FINISH FLOOR
AGG	AGGREGATE
ALUM	ALUMINUM
ANOD	ANODIZED
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASPH	ASPHALT
BD	BOARD
BITUM	BITUMINOUS
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BO	BY OWNER
BRK	BREAK
BRG	BEARING
BTWN	BETWEEN
BU	BUILT-UP
BUR	BUILT-UP ROOFING
CAB	CABINET
CB	CATCH BASIN
CBU	CEMENTITIOUS BACKER UNIT
CEM	CEMENT
CER	CERAMIC
CI	CAST IRON
CIR	CIRCLE
CJ	CONTROL JOINT
CORR	CORRIDOR
CL	CLOSET/ CENTER LINE
CLG	CEILING
CLR	CLEAR
CLS	CLOSURE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
COL	COLUMN
COMB	COMBINATION
COMP	COMPOSITION
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CT	CERAMIC TILE
CTR	CENTER
CTSK	COUNTERSINK
CUST	CUSTODIAN
CW	COLD WATER
DBL	DOUBLE
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DG	DECOMPOSED GRANITE
DI	DRAIN INLET
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DISP	DISPOSAL
DIV	DIVISION
DN	DOWN
DO	DOOR OPENING
DIR	DIRECTLY
DR	DOOR
DS	DOWN SPOUT
DSP	DRY STAND PIPE
DT	DRAIN TILE
DW	DISHWASHER
DWG	DRAWING
DWR	DRAWER
E	EAST
(E)	EXISTING
EA	EACH
EB	EXPANSION BOLT
EE	EACH END
EF	EXHAUST FAN
EJ	EXPANSION JOINT
EL	ELEVATION GRADE
ELEC	ELECTRICAL
ELEV	ELEVATION
EMER	EMERGENCY
EMT	ELECTRIC METALLIC TUBING
ENCL	ENCLOSURE
EP	ELECTRIC PANEL
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ES	EACH SIDE
EW	EACH WAY
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F	FACE
FA	FIRE ALARM
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISH FLOOR
FG	FINISH GRADE
FGL	FIBERGLAS
FH	FIRE HYDRANT
FHMS	FLAT HEAD MACHINE SCREW
FHS	FIRE HOSE STATION
FHWS	FLAT HEAD WOOD SCREW
FIN	FINISH
FIXT	FIXTURE
FL	FLOOR LINE
FLASH	FLASHING
FLUOR	FLUORESCENT
FLR	FLOOR
FM / FOM	FACE OF MASONRY
FN	FACE NAIL
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOS	FACE OF STUD
FRMG	FRAMING
FR	FIRE-RESISTANT
FRP	FIBERGLASS REINFORCED PANEL
FT	FEET
FTG	FOOTING
FURR	FURRING
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GI	GALVANIZED IRON
GL	GLASS/ GLAZING
GLB	GLUE LAMINATED BEAM
GND	GROUND
GR	GRADE
GYP BD	GYPSUM BOARD
HB	HOSE BIBB
HC	HOLLOW CORE
HDR	HEADER
HDWD	HARDWOOD
HDWR	HARDWARE
HM	HOLLOW METAL
HOR	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HSS	HOLLOW STEEL SECTION
HT	HEIGHT
HTG	HEATING
HVAC	HEATING, VENTILATING, AIR-CONDITIONING
ID	INSIDE DIAMETER
INSUL	INSULATION
INT	INTERIOR
INTEG	INTEGRAL
INTERMED	INTERMEDIATE
INV	INVERT
JH	JOIST HANGER
JST	JOIST
JT	JOINT
KIT	KITCHEN
KP	KICK PLATE
LAB	LABORATORY
LAM	LAMINATE
LAV	LAVATORY
LL	LIVE LOAD
LP	LOW POINT
LT	LIGHT
MAT	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MC	MEDICINE CABINET
MECH	MECHANICAL
MED	MEDIUM
MEMB	MEMBRANE
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MOD	MODULAR
MR	MOISTURE RESISTANT
MTD	MOUNTED
MTL	METAL
MUL	MULLION
N	NORTH
(N)	NEW
NAT	NATURAL
N.I.C.	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
N.T.S.	NOT TO SCALE
O/	OVER
OA	OVERALL
OBS	OBSCURE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OVERFLOW
OFCI	OWNER FURNISHED/ CONTRACTOR INSTALLED
O.L.F.	OCCUPANT LOAD FACTOR
OFF	OFFICE
OPNG	OPENING
OPP	OPPOSITE
OVHD	OVERHEAD
PC	PORTLAND CEMENT
P.C.F.	POUNDS PER CUBIC FOOT
PDA	POWER DRIVEN ANCHOR
PERF	PERFORATED
PH	PLATE HEIGHT
PL	PLATE
P/L	PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER/ PLASTIC
PLF	POUNDS PER LINEAL FOOT
PLYWD	PLYWOOD
P.O.C.	POINT OF CONTACT
PR	PAIR
PROP	PROPERTY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT
PTDF	PRESSURE TREATED DOUGLAS FIR
PTN	PARTITION
PTR	PAPER TOWEL RECEPTACLE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
R	RISER
R / RAD	RADIUS
RD	ROOF DRAIN
REF	REFERENCE
REFR	REFRIGERATOR
REG	REGULAR
REQD	REQUIRED
REINF	REINFORCED
RH	ROOF HATCH
RHMS	ROUND HEAD MACHINE SCREW
RHWS	ROUND HEAD WOOD SCREW
RM	ROOM
RO	ROUGH OPENING
RWL	RAIN WATER LEADER
RWD	REDWOOD
S	SOUTH
S.A.D.	SEE ARCHITECTURAL DRAWINGS
S.AV.D.	SEE AUDIOVIDEO DRAWINGS
SC	SOLID CORE
S.C.D.	SEE CIVIL DRAWINGS
SCHED	SCHEDULE
SD	STORM DRAIN
SECT	SECTION
S.E.D.	SEE ELECTRICAL DRAWINGS
SEP	SEPARATION
S.F.P.D.	SEE FIRE PROTECTION DRAWINGS
SHR	SHOWER
SHTG	SHEATHING
SIM	SIMILAR
SL	SLIDING
S.L.D.	SEE LANDSCAPE DRAWINGS
SM	SHEET METAL
S.M.D.	SEE MECHANICAL DRAWING
SOV	SHUT OFF VALVE
S.P.D.	SEE PLUMBING DRAWINGS
SPEC	SPECIFICATION
SPKR	SPEAKER
SQ	SQUARE
SS	STAINLESS STEEL
S.S.D.	SEE STRUCTURAL DRAWINGS
S.TH.D.	SEE THEATER DRAWINGS
STA	STATION
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SYM	SYMMETRICAL
T	TREAD
T&B	TOP & BOTTOM
TC	TOP OF CURB
TEL	TELEPHONE
TER	TERRAZZO
T&G	TONGUE & GROOVE
TH	THICK
THRU	THROUGH
TJ	TOOL JOINT
TN	TOE NAIL
T.O.D.	TOP OF DECK
T.O.P.	TOP OF PLATE
T.O.R.	TOP OF ROOF
T.O.W.	TOP OF WALL
T.P.	TOP OF PAVEMENT
TRN	TRANSOM
TRANS	TRANSPARENT
TS	TUBE STEEL
TUB	TUBULAR
TV	TELEVISION
TW	TACKWALL
TYP	TYPICAL
UNF	UNFINISHED
U.O.N.	UNLESS OTHERWISE NOTED
UR	URINAL
UTIL	UTILITY
VB	VAPOR BARRIER
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
V.I.F.	VERIFY IN FIELD
VTR	VENT THROUGH ROOF
VWC	VINYL WALL COVERING
W	WEST
W/	WITH
WC	WATER CLOSET
WD	WOOD
WDW	WINDOW
WH	WATER HEATER
W/O	WITHOUT
WP	WATER PROOF
W.P.	WORK POINT
WR	WATER RESISTANT
WSCT	WAINSCOT
WT	WEIGHT
YD	YARD

LEGEND

ALL NOTES AND SYMBOLS ARE INTENDED TO APPLY AT ALL OTHER LOCATIONS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY. NO LIMITATION OF APPLICATION IS INTENDED EXCEPT AS SPECFICALLY NOTED.

- AA / A1 — COLUMN GRIDS A AND 1 IN BUILDING A
- 6'-0" — DIMENSION TO FACE OF STUD OR MASONRY
- 6'-0" — DIMENSION TO FACE OF FINISH
- 6'-0" — DIMENSION TO CENTER LINE OR COLUMN LINE
- 12'-0" — RELATIVE ELEVATION DIMENSION
- B101A — DOOR A IN ROOM NUMBER 101 IN BUILDING B ACCESSIBLE CLEARANCES SHOWN DASHED
- 009 — WINDOW NUMBER 009
- 11 / A-9.12 — DETAIL NUMBER 11 ON SHEET NUMBER A-9.12
- 3 / A-B6.2 — SECTION NUMBER 3 ON SHEET NUMBER A-B6.2
- 2 / A-B5.3 — ELEVATION NUMBER 2 ON SHEET NUMBER A-B5.3
- FLOOR PLAN: CLASSROOM — ROOM NAME; A204 — ROOM NUMBER 204 IN BUILDING A; F-4 — FLOOR FINISH CODE F-4; A-A7.6 — INTERIOR ELEVATION SHOWN ON SHEET A-A7.6
- REFLECTED CLG PLAN: CLASSROOM — ROOM NAME; A204 — ROOM NUMBER 204 IN BUILDING A; CL-6 — CEILING FINISH CODE CL-6; 10'-0" — FINISH CEILING HEIGHT 10'-0"
- 33 — KEYNOTE NUMBER 33
- 8" — METAL WALL FRAMING SIZE 8"
- 50 — WALL ACOUSTIC RATING OF STC 50
- C — TOILET ACCESSORY C
- 222 — ARCHITECTURAL WOODWORK STANDARDS (AWS) CABINET DESIGN SERIES IDENTIFIER
- W-2 — FINISH CODE, WALL FINISH 2 SHOWN
- E1 — ROOM / BUILDING ACCESSIBLE SIGNAGE TYPE E1. SEE ARCHITECTURAL GRAPHICS PLAN AND ACCESSIBLE SIGNAGE DETAIL
- W.P. — RELATIVE ORIGIN OR WORK POINT
- A — EQUIPMENT TAG REFER TO EQUIPMENT SCHEDULE

GENERAL NOTES

1. ALL WORK IS SHOWN, DESCRIBED OR SPECIFIED IN THE DRAWINGS INDEXED ON THIS PAGE OR IN THE SPECIFICATIONS.

   ALL WORK NOT INDICATED AS EXISTING (E) IS NEW.

2. ALL FRAMING DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE.
   ●DO NOT SCALE DRAWINGS.
   ●VERIFY ALL DIMENSIONS WHERE WORK INVOLVES FRAMING FOR WINDOWS, DOORS, OR CABINETS.

3 ONLY WORK SO NOTED IS NOT IN CONTRACT (N.I.C.) ALL N.I.C. ITEMS ARE NOT PART OF DSA APPROVAL

4. GOVERNING CODES: A COPY OF TITLE 24 PARTS 1-5 SHALL BE KEPT ON THE JOB AT ALL TIMES.
   CALIFORNIA CODE OF REGULATIONS TITLE 24 BUILDING STANDARDS CODE:
   PART 1 2019 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR
   PART 2 2019 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR
   (2018 INTERNATIONAL BUILDING CODE, VOL. 1 & 2, AND 2016 CALIFORNIA AMENDMENTS)
   PART 3 2019 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR
   (2017 NATIONAL ELECTRICAL CODE AND 2016 CALIFORNIA AMENDMENTS)
   PART 4 2019 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR
   (2018 IAPMO UNIFORM MECHANICAL CODE AND 2016 CALIFORNIA AMENDMENTS)
   PART 5 2019 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR
   (2018 IAPMO UNIFORM PLUMBING CODE AND 2016 CALIFORNIA AMENDMENTS)
   PART 6 2019 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 CCR
   PART 9 2019 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR
   (2018 INTERNATIONAL FIRE CODE AND 2016 CALIFORNIA AMENDMENTS)
   PART 10 2019 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR
   (2018 INTERNATIONAL EXISTING BUILDING CODE AND 2016 CALIFORNIA AMENDMENTS)
   PART 11 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CAL-GREEN), PART 11, TITLE 24 CCR
   PART 12 2019 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 CCR
   TITLE 19 CCR, PUBLIC SAFETY CODE, STATE FIRE MARSHAL REGULATIONS
   2010 ADA STANDARDS FOR ACCESSIBILITY DESIGN
   2016 ASME A17.1-16/CSA B44-16 SAFETY CODE FOR ELEVATORS AND ESCALATORS

5. STANDARD AND GUIDES:

NFPA 13	INSTALLATION OF FIRE SPRINKLER SYSTEMS (CA AMENDED)	2016 EDITION
NFPA 14	INSTALLATION OF STANDPIPE AND HOSE SYSTEMS	2016 EDITION
NFPA 17	DRY CHEMICAL EXTINGUISHING SYSTEMS	2017 EDITION
NFPA 17A	WET CHEMICAL FIRE EXTINGUISHING SYSTEMS	2017 EDITION
NFPA 20	INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION	2016 EDITION
NFPA 24	STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES	2016 EDITION
NFPA 25	CALIFORNIA EDITION - TESTING, MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS	2013 EDITION
NFPA 72	NATIONAL FIRE ALARM AND SIGNALING CODE (CA AMENDED)	2016 EDITION
NFPA 80	STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES	2016 EDITION
NFPA 110	EMERGENCY AND STANDBY POWER SYSTEMS	2016 EDITION
NFPA 170	STANDARD FOR FIRE SAFETY AND EMERGENCY SYMBOLS	2018 EDITION
NFPA 2001	STANDARD ON CLEAN AGENT FIRE EXTINGUISHING SYSTEMS	2015 EDITION
UL 300	STANDARD FOR FIRE TESTING OF FIRE EXTINGUISHING SYSTEMS FOR PROTECTION OF COMMERCIAL COOKING EQUIPMENT	2005 (R2010)
UL 464	AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND SIGNALING SYSTEMS, INCLUDING ACCESSORIES	2003 EDITION
UL 521	STANDARD FOR HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS	1999 EDITION
UL 1971	STANDARD FOR SIGNALING DEVICES FOR THE HEARING IMPAIRED	2002 EDITION
UL 2034	STANDARD FOR SINGLE AND MULTIPLE CARBON MONOXIDE ALARMS	2017 EDITION
ICC 300	STANDARD FOR BLEACHERS, FOLDING AND TELESCOPIC SEATING, AND GRANDSTANDS	2017 EDITION

6. IN ACCORDANCE WITH TITLE 24 PART 1 CHAPTER 4: THE ADMINISTRATIVE REGULATIONS FOR THE DIVISION OF THE STATE ARCHITECT STRUCTURAL SAFETY (DSA/SS)
   ●4-331 DSA SHALL BE NOTIFIED AT THE START OF CONSTRUCTION.
   ●4-332 WHEN CONSTRUCTION IS SUSPENDED FOR MORE THAN ONE MONTH, THE PROJECT INSPECTOR SHALL INFORM DSA.
   ●4-333(a) OBSERVATION OF THE WORK SHALL BE BY ARCHITECT OR REGISTERED ENGINEER.
   ●4-333(b) THE DISTRICT MUST PROVIDE AND PAY FOR PROJECT INSPECTOR.
   ●4-334 SUPERVISION OF CONSTRUCTION BY DSA SHALL BE IN ACCORDANCE WITH THIS SECTION.
   ●4-335 STRUCTURAL TESTS AND INSPECTION ARE REQUIRED IN ACCORDANCE WITH THIS SECTION. TESTS OF MATERIALS AND TESTING LAB SHALL BE IN ACCORDANCE WITH SECTION 4-335 AND THE DISTRICT SHALL EMPLOY AND PAY THE LAB. COSTS OF RE-TEST MAY BE BACKCHARGED TO THE CONTRACTOR. ALL TESTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 4-335 AND APPROVED T & I SHEET (DSA-103)
   ●4-336 VERIFIED REPORTS SHALL BE SUBMITTED BY CONTRACTORS, INSPECTORS (DSA - 6), ARCHITECTS AND ENGINEERS (DSA 6AE) IN ACCORDANCE WITH SECTIONS 4-336 AND 4-343.
   ●4-337 SEMI-MONTHLY REPORTS SHALL BE SUBMITTED BY INSPECTORS (DSA - 155), IN ACCORDANCE WITH SECTIONS 4-337.
   ●4-338 WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE APPROVED PLANS, ADDENDA AND CONSTRUCTION DOCUMENTS. CHANGES IN THE APPROVED PLANS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR CONSTRUCTION CHANGE DOCUMENTS STAMPED AND SIGNED BY THE ARCHITECT OR REGISTERED ENGINEER IN CHARGE. ADDENDA AND CHANGE DOCUMENTS SHALL BE SUBMITTED TO AND APPROVED BY DSA PRIOR TO COMMENCEMENT OF WORK.
   ● 4-341(a) THE ARCHITECT AND THE REGISTERED ENGINEER SHALL PERFORM THEIR DUTIES IN ACCORDANCE WITH SECTIONS 4-333(a) AND 4-341.
   ● 4-341(d) INSPECTOR SHALL BE APPROVED BY DSA.
   ● 4-342 INSPECTION SHALL BE IN ACCORDANCE WITH SECTION 4-333 THE DUTY OF THE INSPECTOR SHALL BE IN ACCORDANCE WITH THIS SECTION.
   ●.4-343 THE CONTRACTOR SHALL PERFORM HIS DUTIES IN ACCORDANCE WITH THIS SECTION.

7. THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, C.C.R. SHOULD ANY EXISTING CONDITIONS BE DISCOVERED WHICH ARE NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH SAID TITLE 24 C.C.R. A CONSTRUCTION CHANGE DOCUMENT DETAILING AND SPECIFYING THE REQUIRED REPAIR WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE REPAIR WORK. (TITLE 24 PART 1, SECTION 4-338(c))

8. COMPLIANCE WITH CFC CHAPTER 33, FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION AND CBC CHAPTER 33, SAFETY DURING CONSTRUCTION SHALL BE ENFORCED.

9. EMERGENCY VEHICLE ACCESS ROADS AND ON-SITE FIRE HYDRANTS SHALL BE IN SERVICE AND OPERABLE PRIOR TO LOADING THE SITE WITH COMBUSTIBLE MATERIALS.

10. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS, AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH APPLICABLE LOCAL ORDINANCES.

SHEET INDEX

194 SHEETS

PROJECT INFORMATION

G-0.1 COVER SHEET
G-0.2 ABBREVIATIONS AND NOTES
G-0.3 FIRE AUTHORITY APPROVAL PLAN
G-0.4 ACCESSIBILITY PLAN
G-0.5 CODE ANALYSIS PLAN

CIVIL

C-1.0 EXISTING CONDITIONS/DEMOLITION
C-2.0 HORIZONTAL CONTROL
C-2.1 HORIZONTAL CONTROL
C-3.0 CURB AND WALL TYPE PLAN
C-3.1 CURB / WALL TYPE DETAILS
C-4.0 UTILITY PLAN
C-5.0 OVERALL GRADING AND DRAINAGE
C-5.1 GRADING AND DRAINAGE
C-5.2 GRADING AND DRAINAGE
C-5.3 GRADING AND DRAINAGE
C-6.0 SIGNING AND STRIPING PLAN
C-7.0 STORMWATER CONTROL PLAN
C-8.0 EROSION CONTROL PLAN

LANDSCAPE

L1.0 MATERIAL AND DETAIL REFERENCE PLAN
L1.1 CONSTRUCTION DETAILS
L1.2 CONSTRUCTION DETAILS
L1.3 CONSTRUCTION DETAILS
L1.4 CONSTRUCTION DETAILS
L2.0 LAYOUT PLAN
L3.0 IRRIGATION MAIN LINE, SLEEVE & WIRE PLAN
L3.1 IRRIGATION PLAN
L3.2 IRRIGATION LEGEND & NOTES
L3.3 IRRIGATION DETAILS
L3.4 IRRIGATION DETAILS
L3.5 IRRIGATION DETAILS
L3.6 IRRIGATION DETAILS & SCHEDULES
L4.0 PLANTING PLAN
L4.1 PLANTING DETAILS

ARCHITECTURAL

A-1.1 CAMPUS SITE & EGRESS PLAN
A-1.2 SITE DETAILS

BUILDING "A" - ADMINISTRATION BUILDING

A-A2.1 ADMINISTRATION AND A-WING BUILDINGS FLOOR PLAN
A-A2.2 ADMINISTRATION BUILDING DIMENSION PLAN
A-A2.3 ADMINISTRATION BUILDING FINISH PLAN - INTERIOR
A-A3.1 ADMINISTRATION BUILDING REFLECTED CEILING PLAN
A-A4.1 ADMINISTRATION BUILDING ROOF PLAN
A-A5.1 ADMINISTRATION BUILDING EXTERIOR ELEVATIONS
A-A6.1 ADMINISTRATION BUILDING SECTIONS
A-A6.2 ADMINISTRATION BUILDING WALL SECTIONS
A-A6.3 ADMINISTRATION BUILDING WALL SECTIONS
A-A7.1 ADMINISTRATION BUILDING INTERIOR ELEVATIONS
A-A7.2 ADMINISTRATION BUILDING INTERIOR ELEVATIONS
A-A7.3 ADMINISTRATION BUILDING INTERIOR ELEVATIONS
A-A7.4 ADMINISTRATION BUILDING INTERIOR ELEVATIONS
A-A7.5 ADMINISTRATION BUILDING INTERIOR ELEVATIONS
A-A7.6 ADMINISTRATION BUILDING INTERIOR ELEVATIONS
A-A7.7 ADMINISTRATION BUILDING INTERIOR ELEVATIONS

BUILDING "B" - CAFETERIA AND SERVERY

A-B2.0 CAFETERIA AND A-WING BUILDINGS DEMOLITION FLOOR PLAN
A-B2.1 CAFETERIA BUILDING FLOOR AND DIMENSION PLANS
A-B2.2 CAFETERIA BUILDING FINISH PLAN - INTERIOR
A-B3.1 CAFETERIA BUILDING REFLECTED CEILING PLAN
A-B4.1 CAFETERIA BUILDING ROOF PLAN
A-B5.1 CAFETERIA BUILDING EXTERIOR ELEVATIONS
A-B6.1 CAFETERIA BUILDING SECTIONS
A-B6.2 CAFETERIA BUILDING SECTIONS
A-B6.3 CAFETERIA BUILDING WALL SECTIONS
A-B6.4 CAFETERIA BUILDING WALL SECTIONS
A-B6.5 CAFETERIA BUILDING WALL SECTIONS
A-B6.6 CAFETERIA BUILDING WALL SECTIONS
A-B6.7 CAFETERIA BUILDING WALL SECTIONS
A-B7.1 CAFETERIA BUILDING INTERIOR ELEVATIONS
A-B7.2 CAFETERIA BUILDING INTERIOR ELEVATIONS
A-B7.3 CAFETERIA BUILDING INTERIOR ELEVATIONS

A-8.1 DOOR SCHEDULE
A-8.2 WINDOW SCHEDULE
A-8.3 WINDOW SCHEDULE
A-8.4 FINISH SCHEDULE

A-9.1 WALL DETAILS
A-9.2 FRAMING DETAILS
A-9.3 OPENING DETAILS
A-9.4 ROOFING DETAILS
A-9.5 ROOFING DETAILS
A-9.6 RAIN CANOPIES AND METAL PANEL DETAILS

A-10.1 CEILING DETAILS
A-10.2 INTERIOR DETAILS
A-10.3 INTERIOR AND CASEWORK DETAILS
A-10.4 CASEWORK DETAILS

AG-2.1 ARCH GRAPHICS PLAN

SHEET INDEX CONTINUED

STRUCTURAL

S-0.1 GENERAL NOTES
S-1.1 TYPICAL CONCRETE DETAILS
S-1.2 TYPICAL WOOD DETAILS
S-1.3 TYPICAL WOOD DETAILS
S-1.4 TYPICAL I-JOIST DETAILS
S-1.5 TYPICAL CMU DETAILS
S-A2.1 ADMINISTRATION BUILDING FOUNDATION PLAN
S-A2.2 ADMINISTRATION BUILDING ROOF FRAMING PLAN
S-B2.1 CAFETERIA FOUNDATION PLAN
S-B2.2 CAFETERIA ROOF FRAMING PLAN
S-3.1 CANOPY PLANS
S-4.1 FOUNDATION DETAILS
S-5.1 STEEL DETAILS
S-6.1 WOOD DETAILS
S-7.1 RAIN CANOPY DETAILS
S-8.1 MODERNIZATION DETAILS
S-8.2 MODERNIZATION DETAILS

MECHANICAL

M-1.1 MECHANICAL SCHEDULES & LEGENDS
M-A2.0 ADMINISTRATION DEMOLITION MECHANICAL PLAN
M-B2.0 CAFETERIA MECHANICAL DEMOLITION FLOOR PLAN
M-B4.0 CAFETERIA MECHANICAL DEMO ROOF PLAN
M-A2.1 ADMINISTRATION MECHANICAL FLOOR PLAN
M-A3.1 ADMINISTRATION MECHANICAL ENLARGEMENT FLOOR PLAN
M-A3.2 ADMINISTRATION MECHANICAL ENLARGEMENT FLOOR PLAN
M-A4.1 ADMINISTRATION MECHANICAL ROOF PLAN
M-B2.1 CAFETERIA MECHANICAL FLOOR PLAN
M-B3.1 CAFETERIA MECHANICAL KITCHEN ENLARGEMENT
M-B4.1 CAFETERIA MECHANICAL ROOF PLAN
M-5.1 MECHANICAL DETAILS
M-5.2 MECHANICAL DETAILS
M-5.3 MECHANICAL DETAILS
M-6.1 CONTROL DIAGRAMS
M-6.2 CONTROL DIAGRAMS
M-6.3 PIPING DIAGRAMS

PLUMBING

P-1.1 PLUMBING SCHEDULES & LEGENDS
P-A2.0 ADMINISTRATION DEMOLITION PLUMBING PLAN
P-B2.0 CAFETERIA PLUMBING DEMOLITION FLOOR PLAN
P-B3.0 CAFETERIA DEMOLITION ENLARGEMENT PLANS
P-B4.0 CAFETERIA ROOF DEMOLITION PLAN
P-A2.1 ADMINISTRATION PLUMBING WASTE & VENT PLAN
P-A2.2 ADMINISTRATION PLUMBING WATER PLAN
P-A4.1 ADMINISTRATION PLUMBING ROOF PLAN
P-B2.1 CAFETERIA PLUMBING FLOOR PLAN
P-B3.1 CAFETERIA WASTE & VENT KITCHEN ENLARGEMENT
P-B3.2 CAFETERIA WATER & GAS KITCHEN ENLARGEMENT
P-B4.1 CAFETERIA PLUMBING ROOF PLAN
P-5.1 PLUMBING DETAILS
P-5.2 PLUMBING DETAILS

ELECTRICAL

E-0.1 SYMBOLS LIST, GENERAL NOTES & LIST OF DRAWINGS
E-0.2 LUMINAIRE SCHEDULE
E-0.3 LUMINAIRE SCHEDULE
E-1.0 SITE PLAN - ELECTRICAL
E-1.1 SITE PLAN - LIGHTING
E-A2.1 ADMINISTRATION BLDG - LIGHTING
E-B2.1 CAFETERIA KITCHEN PLAN - LIGHTING
E-A3.1 ADMINISTRATION BLDG - POWER & SIGNAL
E-A3.2 ADMINISTRATION BLDG - MECHANICAL EQUIPMENT ELECTRICAL
E-B3.1 CAFETERIA KITCHEN PLAN - POWER & SIGNAL
E-B4.1 ENLARGED KITCHEN PLAN - POWER & SIGNAL
E-5.1 SINGLE LINE DIAGRAM - POWER
E-5.2 LIGHTING CONTROL DIAGRAMS
E-5.3 DETAILS
E-6.1 PANEL SCHEDULES
E-7.1 DETAILS
E-7.2 DETAILS
E-7.3 DETAILS
E-8.1 TITLE 24 DOCUMENTATION
E-8.2 TITLE 24 DOCUMENTATION
E-8.3 TITLE 24 DOCUMENTATION

FE-0.1 FIRE ALARM EQUIPMENT LIST AND GENERAL NOTES
FE-1.0 SITE PLAN - FIRE ALARM
FE-A3.1 ADMINISTRATION BLDG - FIRE ALARM
FE-B3.1 CAFETERIA KITCHEN PLAN - FIRE ALARM
FE-5.1 RISER DIAGRAM - FIRE ALARM
FE-6.1 CALCULATIONS - FIRE ALARM

FIRE PROTECTION

FP-0.1 LEGEND, NOTES, AND DETAILS - FIRE PROTECTION
FP-1.1 SITE PLAN - FIRE PROTECTION
FP-A2.1 ADMIN BLDG PIPING PLAN - FIRE PROTECTION
FP-A3.1 ADMIN BLDG CEILING PLAN - FIRE PROTECTION
FP-A4.1 ADMIN BLDG SECTIONS - FIRE PROTECTION
FP-B2.1 CAFETERIA BLDG PIPING PLAN - FIRE PROTECTION
FP-B3.1 CAFETERIA BLDG CEILING PLAN - FIRE PROTECTION
FP-B4.1 CAFETERIA BLDG SECTIONS - FIRE PROTECTION
FP-B4.2 CAFETERIA BLDG SECTIONS - FIRE PROTECTION
FP-6.1 DETAILS - FIRE PROTECTION
FP-6.2 DETAILS AND SEISMIC BRACING CALCULATIONS - FIRE PROTECTION

KITCHEN

K1.0 FOODSERVICE EQUIPMENT FLOOR PLAN
K2.0 FOODSERVICE EQUIPMENT ELECTRICAL PLAN
K3.0 FOODSERVICE EQUIPMENT PLUMBING PLAN
K4.0 FOODSERVICE EQUIPMENT WALL BACKING
K5.0 FOODSERVICE EQUIPMENT ELEVATIONS
K5.1 FOODSERVICE EQUIPMENT ELEVATIONS
K6.0 FOODSERVICE EQUIPMENT HOOD PLAN
K6.1 FOODSERVICE EQUIPMENT HOOD PLAN
K6.2 FOODSERVICE EQUIPMENT HOOD DETAILS
K7.0 FOODSERVICE EQUIPMENT FIRE SUPPRESSION PLAN
K8.0 FOODSERVICE EQUIPMENT WALK-IN PLAN
K8.1 FOODSERVICE EQUIPMENT WALK-IN PLAN
K8.2 FOODSERVICE EQUIPMENT WALK-IN DETAILS
K8.3 FOODSERVICE EQUIPMENT WALK-IN DETAILS
K8.4 FOODSERVICE EQUIPMENT WALK-IN WIRING
K9.0 FOODSERVICE EQUIPMENT SERVERY COUNTERS
K10.0 FOOD SERVICE ATTACHMENT DETAILS

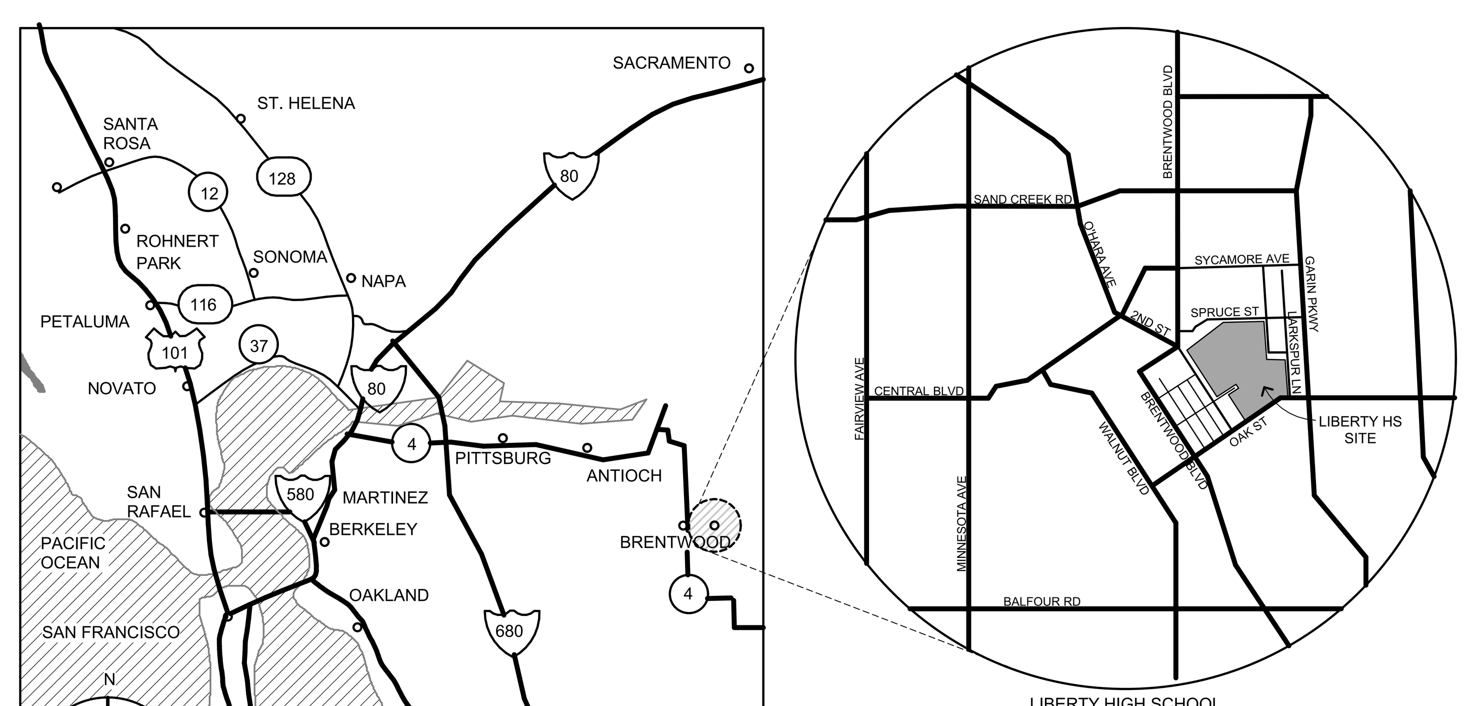
CATHODIC PROTECTION

CP.1 CP DETAILS
CP.2 CP DETAILS

TITLE 24

T-1.1 TITLE 24 BLDG A
T-1.2 TITLE 24 BLDG A
T-1.3 TITLE 24 BLDG A
T-1.4 TITLE 24 BLDG B
T-1.5 TITLE 24 BLDG B
T-1.6 TITLE 24 BLDG B
T-1.7 TITLE 24 BLDG B

VICINITY MAP



LIBERTY HIGH SCHOOL
850 2ND STREET
BRENTWOOD, CA 94513

PROJECT DESCRIPTON

THE PROJECT INCLUDES A NEW ADMINISTRATION & STUDENT COMMONS BUILDING, A-WING BUILDING MODERNIZATION, SERVERY ADDITION & MODERNIZATION TO THE CAFETERIA BUILDING AND SITE IMPROVEMENTS.

THE ADMINISTRATION & STUDENT COMMONS BUILDING IS APPROXIMATELY 9,400 SQUARE FEET. THE BUILDING INCLUDES ENTRY LOBBY/ RECEPTION AREA,OFFICES FOR PRINCIPAL, REGISTRATION, DATA TECH, ASSISTANT PRINCIPALS AND COUNSELORS, TOILET ROOMS, CONFERENCE ROOMS AND A STAFF BREAK AREA.

THE A-WING BUILDING IS APPROXIMATELY 3,500 SQUARE FEET. THE MODERNIZATION INCLUDES NEW FIRE SPRINKLER SYSTEM, MINOR RECONFIGURATIN OF ROOMS, NEW INTERIOR FINISHES, NEW ACCESSIBLE RAMP, STAIRS AT CONCRETE PLATFORM AND A RAIN CANOPY.

THE CAFETERIA BUILDING MODERNIZATION IS APPROXIMATELY 9,400 SQUARE FEET PROPOSED ALTERATIONS TRIGGERED A FULL UPGRADE ANDN DESIGN GRITERIA REPORT 01-118793. THIS WORK CONSISTS OF MODERNIZING THE DINING AREA AND KITCHEN WITH OFFICES, A TOILET ROOM, STORAGE ROOMS, WALK-IN FREEZER & COOLER AND A 1,490 SQUARE FEET NEW SERVERY ADDITION WITH ACCESSIBLE SERVING COUNTERS, SERVICE WINDOWS AND ENTRY RAIN CANOPY.

DEFERRED APPROVAL

WINDOW WALL SYSTEM WITH SPANS GREATER THAN 10'-0"

STATEMENT OF GENERAL CONFORMANCE

THESE DRAWINGS (MARKED LANDSCAPING, CIVIL, ELECTRICAL) AND/OR SPECIFICATIONS AND/OR CALCULATIONS FOR THE ITEMS LISTED, HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONS OR CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. THEY HAVE BEEN EXAMINED BY ME FOR:

1) DESIGN INTENT AND APPEAR TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS AND THE PROJECT SPECIFICATIONS PREPARED BY ME, AND

2) COORDINATION WITH MY PLANS AND SPECIFICATIONS, AND IS ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT.

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

SIGNATURE OF ARCHITECT/ENGINEER	DATE
	DECEMBER 2, 2020

NAME, TITLE	LICENSE NO., EXP. DATE
JIM THEISS, PRINCIPAL	C22643 JUNE 2021

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	HM
DRAWING SCALE:	N.T.S
PTN: 61721-75	FILE NO: 7-H4

CD
DECEMBER 2, 2020

SHEET TITLE

ABBREVIATIONS AND NOTES

SHEET NUMBER

G-0.2

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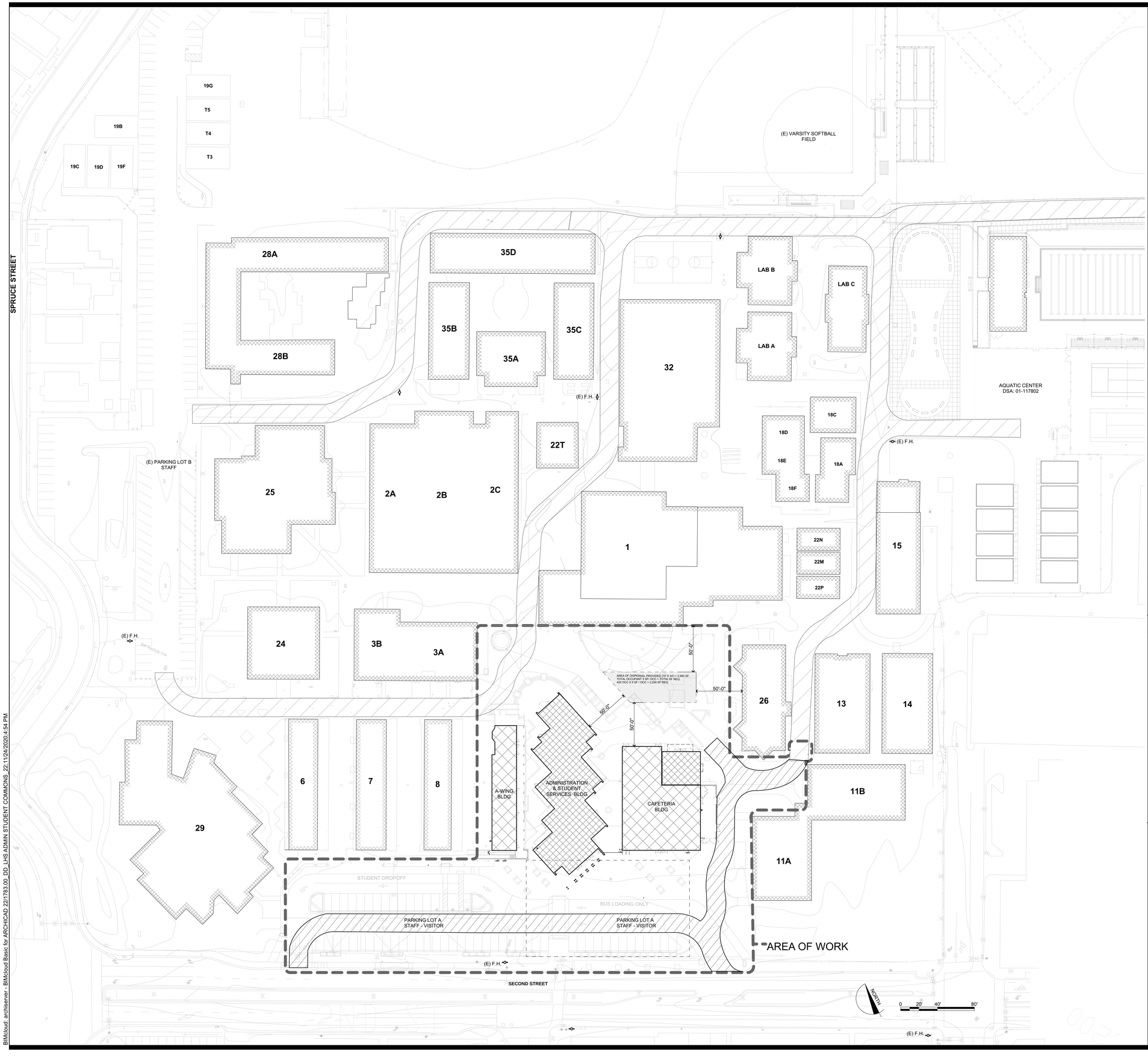

DSA 810

FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

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

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

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

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

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

PROJECT INFORMATION	
School District/Owner:	Liberty Union High School District
Project Name/School:	Liberty High School, Administration and Student Commons
Project Address:	850 2nd Street Brentwood, CA

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

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

School District Acceptance of Acceptable Design Alternates

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

Accepted by: _____ Title: _____

Signature: _____ Date: _____

LOCAL FIRE AUTHORITY (LFA) INFORMATION			
LFA Agency Name:	East Contra Costa Fire Protection		
LFA Review Official:	**Curt Itson**		
Title:	**Fire Services Specialist**	Work Phone:	**(209) 894-5436**
Work Email:	**curtisi@csgengr.com**		

LFA Reviewer's Signature: _____ Date: **6/9/2020**

FIRE ACCESS PLAN LEGEND

- (N) BUILDING
- (E) BUILDING TO BE MODERNIZED
- (E) BUILDING TO REMAIN
- (E) 20' WIDE EMERGENCY VEHICLE ACCESS
- 20' WIDE EMERGENCY VEHICLE ACCESS
- PROPERTY LINE (APPROX)
- AREA OF WORK
- (E) FIRE HYDRANT, S.C.D.
- FIRE RISER, S.C.D., S.F.P.D.
- PIV, S.C.D.
- FDC, S.C.D.

NOTE: FOR BUILDING ID, SEE G-0.4

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0629

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

EAST CONTRA COSTA FIRE
THESE PLANS AND DETAILS ARE
APPROVED
East Contra Costa
Fire Protection District
By: _____ Date: 6-9-2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	*HM / CH*
DRAWING SCALE:	1" = 40'-0"
PTN: 61T21-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

FIRE AUTHORITY APPROVAL PLAN

SHEET NUMBER

G-0.3

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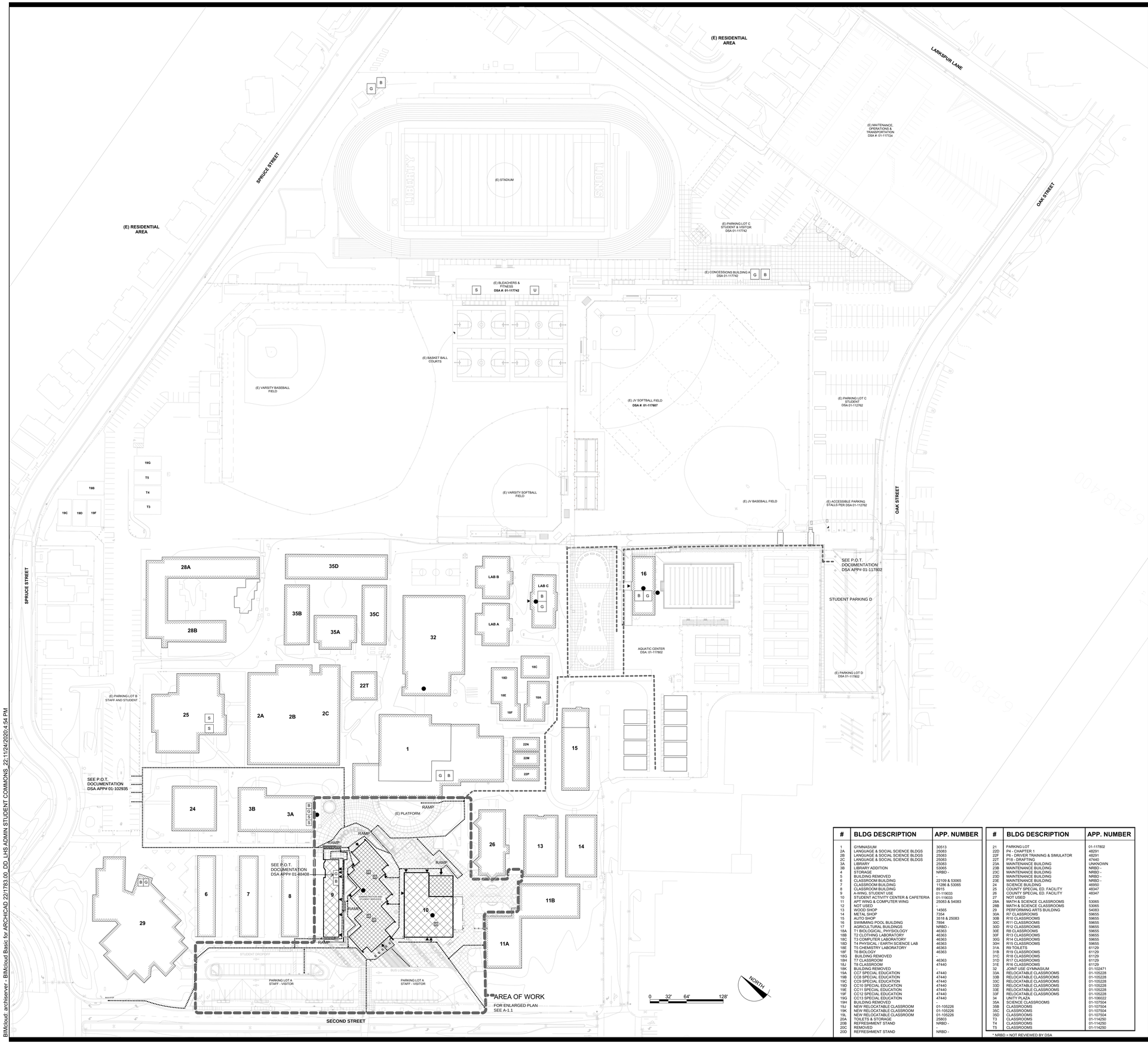


#	BLDG DESCRIPTION	APP. NUMBER
1	GYMNASIUM	30513
2A	LANGUAGE & SOCIAL SCIENCE BLDGS	25083
2B	LANGUAGE & SOCIAL SCIENCE BLDGS	25083
2C	LANGUAGE & SOCIAL SCIENCE BLDGS	25083
3A	LIBRARY	25083
3B	LIBRARY ADDITION	53065
4	STORAGE	NRBD -
5	BUILDING REMOVED	-
6	CLASSROOM BUILDING	22109 & 53065
7	CLASSROOM BUILDING	11286 & 53065
8	CLASSROOM BUILDING	8915
9	A-WING, STUDENT USE	01-119033
10	STUDENT ACTIVITY CENTER & CAFETERIA	01-119033
11	APT WING & COMPUTER WING	25083 & 54083
12	NOT USED	-
13	WOOD SHOP	14565
14	METAL SHOP	7354
15	AUTO SHOP	3518 & 25083
16	SWIMMING POOL BUILDING	7894
17	AGRICULTURAL BUILDINGS	NRBD -
18A	T1 BIOLOGICAL, PHYSIOLOGY	46363
18B	T2 CLOTHING LABORATORY	46363
18C	T3 COMPUTER LABORATORY	46363
18D	T4 PHYSICAL / EARTH SCIENCE LAB	46363
18E	T5 CHEMISTRY LABORATORY	46363
18F	T6 BIOLOGY	46363
18G	BUILDING REMOVED	-
18H	T7 CLASSROOM	46363
18J	T8 CLASSROOM	47440
18K	BUILDING REMOVED	-
19A	CC7 SPECIAL EDUCATION	47440
19B	CC8 SPECIAL EDUCATION	47440
19C	CC9 SPECIAL EDUCATION	47440
19D	CC10 SPECIAL EDUCATION	47440
19E	CC11 SPECIAL EDUCATION	47440
19F	CC12 SPECIAL EDUCATION	47440
19G	CC13 SPECIAL EDUCATION	47440
19H	BUILDING REMOVED	-
19J	NEW RELOCATABLE CLASSROOM	01-105226
19K	NEW RELOCATABLE CLASSROOM	01-105226
19L	NEW RELOCATABLE CLASSROOM	01-105226
20A	TOILETS & STORAGE	25803
20B	REFRESHMENT STAND	NRBD -
20C	REMOVED	-
20D	REFRESHMENT STAND	NRBD -

#	BLDG DESCRIPTION	APP. NUMBER
21	PARKING LOT	01-117802
22D	P4 - CHAPTER 1	48291
22F	P6 - DRIVER TRAINING & SIMULATOR	48291
22T	P18 - DRAFTING	47440
23A	MAINTENANCE BUILDING	UNKNOWN
23B	MAINTENANCE BUILDING	NRBD -
23C	MAINTENANCE BUILDING	NRBD -
23D	MAINTENANCE BUILDING	NRBD -
23E	MAINTENANCE BUILDING	NRBD -
24	SCIENCE BUILDING	46950
25	COUNTY SPECIAL ED. FACILITY	48347
26	COUNTY SPECIAL ED. FACILITY	48347
27	NOT USED	-
28A	MATH & SCIENCE CLASSROOMS	53065
28B	MATH & SCIENCE CLASSROOMS	53065
29	PERFORMING ARTS BUILDING	54083
30A	R7 CLASSROOMS	59655
30B	R10 CLASSROOMS	59655
30C	R11 CLASSROOMS	59655
30D	R12 CLASSROOMS	59655
30E	R8 CLASSROOMS	59655
30F	R13 CLASSROOMS	59655
30G	R14 CLASSROOMS	59655
30H	R15 CLASSROOMS	59655
31A	R9 TOILETS	61129
31B	R19 CLASSROOMS	61129
31C	R18 CLASSROOMS	61129
31D	R17 CLASSROOMS	61129
31E	R16 CLASSROOMS	61129
32	JOINT USE GYMNASIUM	01-102471
33A	RELOCATABLE CLASSROOMS	01-105228
33B	RELOCATABLE CLASSROOMS	01-105228
33C	RELOCATABLE CLASSROOMS	01-105228
33D	RELOCATABLE CLASSROOMS	01-105228
33E	RELOCATABLE CLASSROOMS	01-105228
33F	RELOCATABLE CLASSROOMS	01-105228
34	UNITY PLAZA	01-106022
35A	SCIENCE CLASSROOMS	01-107504
35B	CLASSROOMS	01-107504
35C	CLASSROOMS	01-107504
35D	CLASSROOMS	01-107504
T3	CLASSROOMS	01-114250
T4	CLASSROOMS	01-114250
T5	CLASSROOMS	01-114250

* NRBD = NOT REVIEWEED BY DSA

SITE ACCESS NOTES

1. SEE SHEET G-0.5 FOR CODE INFORMATION
2. REFER TO CIVIL ENGINEERING DWGS FOR SIDEWALK GRADES
3. REFER TO CIVIL ENGINEERING DRAWINGS AND LANDSCAPE PLANS FOR SITE FEATURES NOT OTHERWISE INDICATED.
4. CONCRETE SHALL SLOPE 1/8" PER FOOT AWAY FROM BUILDINGS.

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT:
THE P.O.T. IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT THE P.O.T. WAS EXAMINED AND ANY ELEMENT, COMPONENTS OR PORTIONS OF THE P.O.T. THAT WERE DETERMINED TO BE NONCOMPLIANT

1) HAVE BEEN IDENTIFIED AND

2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS.

ANY NONCOMPLIANT ELEMENT, COMPONENT, OR PORTION OF THE P.O.T. THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS.

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

••••••••> INDICATES BARRIER FREE PATH OF TRAVEL

THE BARRIER FREE PATH OF TRAVEL INDICATED HAS BEEN PROVIDED IN ACCORDANCE WITH IR 11B-10 AND SHALL COMPLY WITH THE FOLLOWING:

- 1:20 MAXIMUM SLOPE WITHOUT A RAMP
- 1:48 MAXIMUM CROSS SLOPE
- NO ABRUPT VERTICAL CHANGES EXCEEDING 1/4". CHANGES BETWEEN 1/4" TO 1/2" VERTICAL CAN BE AT 1:2 MAX SLOPE. CHANGES LESS THAN 1/4" CAN BE VERTICAL
- 48" MIN. CLEAR IN WIDTH (60" MIN PASSING SPACE)
- NON-SLIP SURFACE -HEAVY BROOM FINISH AT EXTERIOR CONCRETE PAVING WHERE SLOPED >6%, MEDIUM BROOM FINISH AT SLOPES <6%
- MAINTAIN FREE OF OVERHANGING OBSTRUCTIONS TO 80" MIN
- PROTRUDING OBJECTS NOT GREATER THAN 4" SHALL BE MOUNTED BETWEEN 27" AND 80" A.F.F.
- WHERE A DRAIN INLET IS IN THE PATH OF TRAVEL, THE GRATE SHALL BE ORIENTED SO THAT MAX OPENING IS 1/2" & LONG DIM IS PERPENDICULAR TO THE PREDOMINANT DIRECTION OF PEDESTRIAN TRAVEL
- CONTRACTOR TO VERIFY THAT NO BELOW-GRADE PULL BOXES OCCUR WITHIN THE AREA OF TRUNCATED DOMES

PARKING AND PEDESTRIAN SITE SIGNAGE SHALL COMPLY WITH CBC SECTIONS 11B-502.6 11B-502.8 & 11B-703.7.2.1

BUILDING SIGNAGE SHALL COMPLY WITH CBC 11B-703

PEDESTRIAN GATES SHALL COMPLY WITH CBC 1008.2 & 11B-206.5

ACCESS SITE PLAN LEGEND

- NEW BUILDING
- (E) BUILDING TO BE MODERNIZED
- (E) BUILDING TO REMAIN, SEE G-0.5 FOR BLDG I.D. #
- BARRIER FREE PATH OF TRAVEL PER GENERAL NOTES
- (E) BARRIER FREE PATH OF TRAVEL
- ACCESSIBLE ENTRY/ EXTERIOR DOOR AT P.O.T.
- ACCESSIBLE DRINKING FOUNTAIN
- G RESTROOM - GIRLS
- B RESTROOM - BOYS
- S RESTROOM - STAFF
- U RESTROOM - UNISEX
- PROPERTY LINE (APPROX)
- AREA OF WORK

PARKING COUNT

	OVERALL	ACC STALL	ACC VAN STALL	REQUIRED STD	REQUIRED VAN
(E) PARKING LOT A STAFF & VISITOR	58	2	1	2	1
(E) PARKING LOT B STAFF AND STUDENT	103	2	3	4	1
(E) PARKING LOT C STUDENT & VISITOR	264	8	8	5	2
PARKING LOT D STUDENT	44	1	1	1	1

CBC 2019 TABLE 11B-208.2:
26-50 TOTAL SPACES = 2 REQ'D ACC SPACES

CBC 2019 SECTION 11B-208.2.4:
FOR EVERY 6 OR FRACTION OF 6 ACC PARKING SPACES REQUIRED, AT LEAST 1 SHALL BE A VAN ACCESSIBLE PARKING SPACE.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	HM / CH
DRAWING SCALE:	1" = 40'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

ACCESSIBILITY PLAN

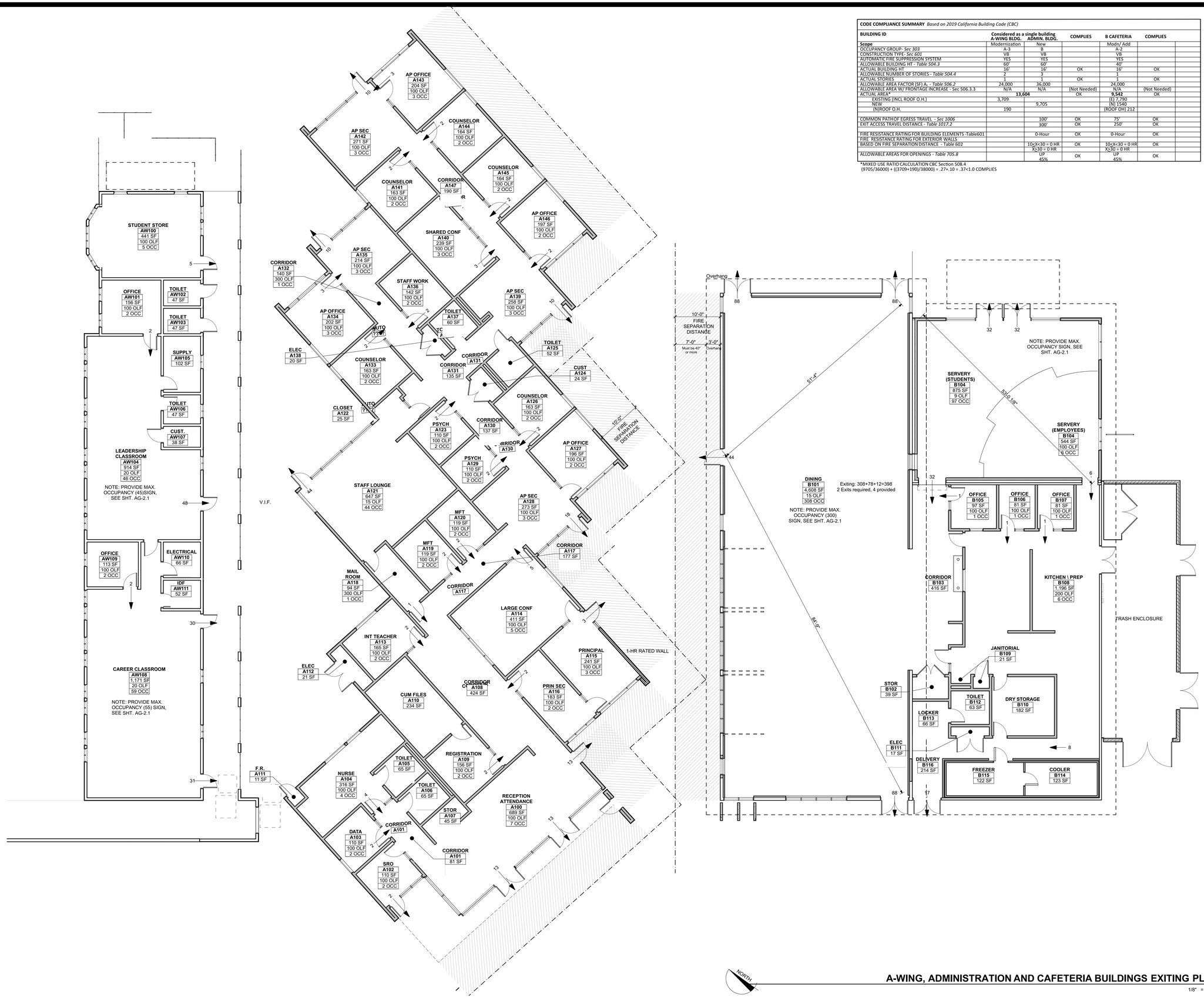
SHEET NUMBER

G-0.4

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS_22-11/24/2020-4:54 PM

CODE COMPLIANCE SUMMARY *Based on 2019 California Building Code (CBC)*					
BUILDING ID	**Considered as a single building A-WING BLDG.**	**ADMIN. BLDG.**	**COMPLIES**	**B CAFETERIA**	**COMPLIES**
Scope	Modernization	New		Modn/ Add	
OCCUPANCY GROUP- *Sec 303*	A-3	B		A-2	
CONSTRUCTION TYPE- *Sec 601*	VB	VB		VB	
AUTOMATIC FIRE SUPPRESSION SYSTEM	YES	YES		YES	
ALLOWABLE BUILDING HT - *Table 504.3*	60'	60'		40'	
ACTUAL BUILDING HT	16'	16'	OK	16'	OK
ALLOWABLE NUMBER OF STORIES - *Table 504.4*	2	3		1	
ACTUAL STORIES	1	1	OK	1	OK
ALLOWABLE AREA FACTOR (SF) A_t - *Table 506.2*	24,000	36,000		24,000	
ALLOWABLE AREA W/ FRONTAGE INCREASE - Sec 506.3.3	N/A	N/A	(Not Needed)	N/A	(Not Needed)
ACTUAL AREA*	**13,604**		OK	**9,542**	OK
EXISTING (INCL ROOF O.H.)	3,709			(E) 7,790	
NEW		9,705		(N) 1540	
(N)ROOF O.H.	190			(ROOF OH) 212	
COMMON PATHOF EGRESS TRAVEL - *Sec 1006*		100'	OK	75'	OK
EXIT ACCESS TRAVEL DISTANCE - *Table 1017.2*		300'	OK	250'	OK
FIRE RESISTANCE RATING FOR BUILDING ELEMENTS -Table601		0-Hour	OK	0-Hour	OK
FIRE RESISTANCE RATING FOR EXTERIOR WALLS					
BASED ON FIRE SEPARATION DISTANCE - Table 602		10<X<30 = 0 HR	OK	10<X<30 = 0 HR	OK
		X>30 = 0 HR		X>30 = 0 HR	
ALLOWABLE AREAS FOR OPENINGS - *Table 705.8*		UP	OK	UP	OK
		45%		45%	

*MIXED USE RATIO CALCULATION CBC Section 508.4
(9705/36000) + ((3709+190)/38000) = .27+.10 = .37<1.0 COMPLIES



A-WING, ADMINISTRATION AND CAFETERIA BUILDINGS EXITING PLAN (1)
1/8" = 1'-0"

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DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	HM
DRAWING SCALE:	1/16" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

CODE ANALYSIS PLAN

SHEET NUMBER

G-0.5

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS 22:11/24/2020:4:54 PM

LEGEND

- PROPERTY BOUNDARY
- REMOVE AC/CONCRETE
- REMOVE STRUCTURE
- 6" SS — EXISTING SANITARY SEWER
- 12" SD, 8" SD — EXISTING STORM DRAIN
- 12" W — EXISTING WATER
- 6" IRR — EXISTING IRRIGATION LINE
- COMM — EXISTING COMMUNICATION LINE
- ELEC — EXISTING ELECTRICAL LINE
- EXISTING INLET
- EX U/G — REMOVE UTILITY
- REMOVE TREE

NOTES:

1. CONTRACTOR TO NOTE THAT THE STUDENT DROP OFF PARKING LOT HAS A CONCRETE PAVEMENT SECTION. IT IS NOT ASPHALT.
2. COMPLY WITH TREE PRESERVATION STANDARDS ON SHEET L4.1.

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REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	DRAFTSPERSON
DRAWING SCALE:	SCALE
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

EXISTING CONDITIONS/ DEMOLITION

SHEET NUMBER

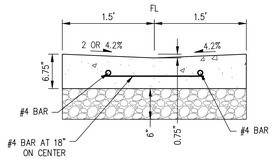
C-1.0

LINE TABLE		
NO	BEARING	LENGTH
L1	2.232	S45° 28' 41.69"W
L2	6.130	S55° 11' 26.03"W
L3	15.845	S55° 03' 03.19"W
L4	14.000	N55° 03' 03.19"E
L5	14.000	S34° 56' 56.81"E
L6	14.000	N55° 03' 03.19"E
L7	11.744	N54° 52' 22.63"E
L8	9.223	N55° 03' 03.19"E
L9	4.950	N79° 44' 15.64"W
L10	61.634	S34° 44' 15.64"E
L11	5.803	N55° 15' 44.36"E
L12	1.943	S34° 56' 56.81"E
L13	16.000	S55° 03' 03.19"W
L14	9.943	N34° 56' 56.81"W
L15	8.000	N55° 03' 03.19"E
L16	14.680	S34° 56' 56.81"E
L17	15.946	S55° 03' 03.19"W
L18	12.338	N34° 35' 19.16"W
L19	9.327	N54° 57' 36.29"E
L20	9.045	N08° 10' 14.07"E

LINE TABLE		
NO	BEARING	LENGTH
L21	18.825	N54° 59' 31.08"E
L22	16.334	N34° 37' 29.23"W
L23	32.018	N04° 09' 39.19"E
L24	14.577	N11° 55' 50.26"E
L25	26.345	S55° 07' 17.25"W
L26	22.578	S11° 34' 15.37"W
L27	20.196	N77° 47' 20.03"W
L28	4.826	S56° 49' 20.59"W
L29	5.107	N35° 30' 27.65"W
L30	6.217	S35° 00' 04.92"E
L31	4.497	S54° 59' 55.08"W
L32	33.060	S34° 36' 35.06"E
L33	20.671	N69° 32' 41.29"E
L34	40.752	S55° 07' 17.25"W
L35	14.245	N34° 55' 38.99"W
L36	15.250	S55° 07' 17.25"W
L37	58.622	N34° 55' 38.99"W
L38	2.986	N55° 00' 00.17"E
L39	30.893	N34° 55' 38.99"W
L40	21.160	S55° 00' 00.17"W

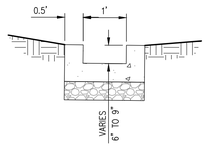
LINE TABLE		
NO	BEARING	LENGTH
L41	12.407	S35° 43' 08.95"E
L42	29.093	S55° 09' 12.38"W
L43	12.664	N34° 50' 47.62"W
L44	7.615	N55° 00' 00.17"E
L45	8.507	N54° 34' 19.54"E
L46	1.880	S18° 15' 22.31"W
L47	7.804	N71° 44' 37.69"W
L48	11.696	S77° 00' 21.89"E
L49	16.000	S12° 59' 38.11"W
L50	11.000	S77° 00' 21.89"E
L51	18.314	S12° 59' 38.11"W
L52	1.779	S55° 01' 19.05"W
L53	17.359	S34° 59' 59.83"E
L54	3.736	S55° 00' 00.17"W
L55	15.946	N28° 18' 31.51"W
L56	70.770	N34° 46' 04.48"W
L57	19.811	S35° 03' 49.10"E

CURVE TABLE			
NO	RADIUS	DELTA	LENGTH
C1	45.00'	044°36'23"	35.03'
C2	50.00'	044°34'41"	38.90'
C3	20.00'	053°32'03"	18.69'
C4	15.00'	044°18'37"	11.60'
C5	2.00'	098°51'00"	3.45'
C6	4.00'	090°00'00"	6.28'
C7	4.00'	090°00'00"	6.28'
C8	2.00'	090°00'00"	3.14'
C9	2.00'	090°00'00"	3.14'
C10	2.00'	090°00'00"	3.14'
C11	10.00'	090°00'00"	15.71'
C12	2.00'	100°42'48"	3.52'
C13	24.00'	033°51'51"	14.18'
C14	71.00'	005°29'58"	6.81'
C15	5.00'	140°55'20"	12.30'
C16	2.00'	090°00'00"	3.14'
C17	20.00'	046°34'20"	16.26'
C18	20.00'	090°00'00"	31.42'
C19	2.00'	132°57'42"	4.64'
C20	20.00'	094°04'36"	32.84'



VALLEY GUTTER DETAIL

NOT TO SCALE

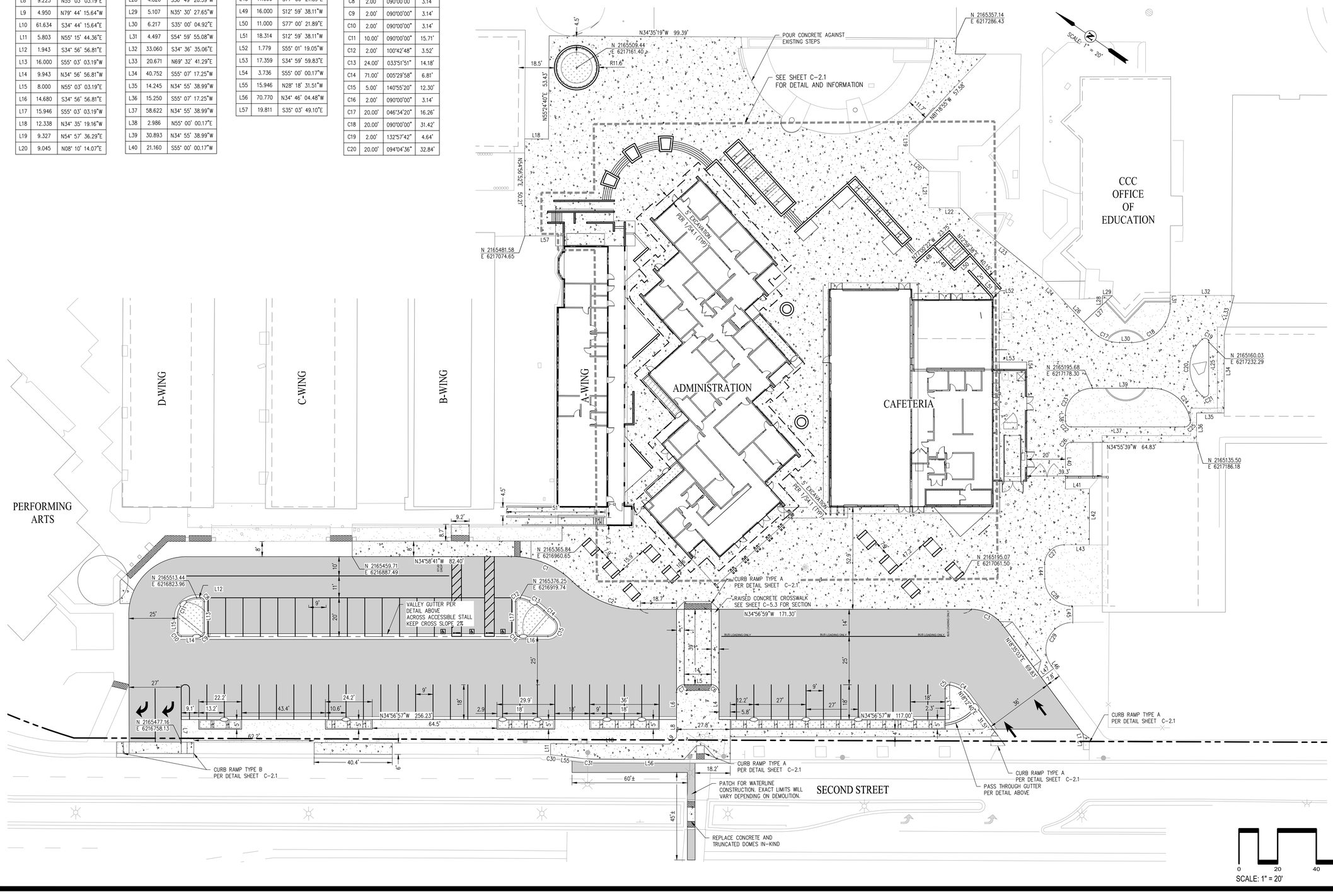


PASS THROUGH GUTTER DETAIL

NOT TO SCALE

LEGEND

- PROPERTY BOUNDARY
- TREE WELLS WITH SEAT WALLS
- SEAT WALL PUNCH THROUGH (SEE DETAIL SHEET C-2.1)
- CURB CUT (SEE DETAIL SHEET C-2.1)
- BIORETENTION AREA
- CONCRETE SIDEWALK
- PROPOSED AC



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REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO: 1783.00
DRAWN BY: DRAFTSPERSON
DRAWING SCALE: SCALE
PTN: 61721-75 FILE NO: 7-H4

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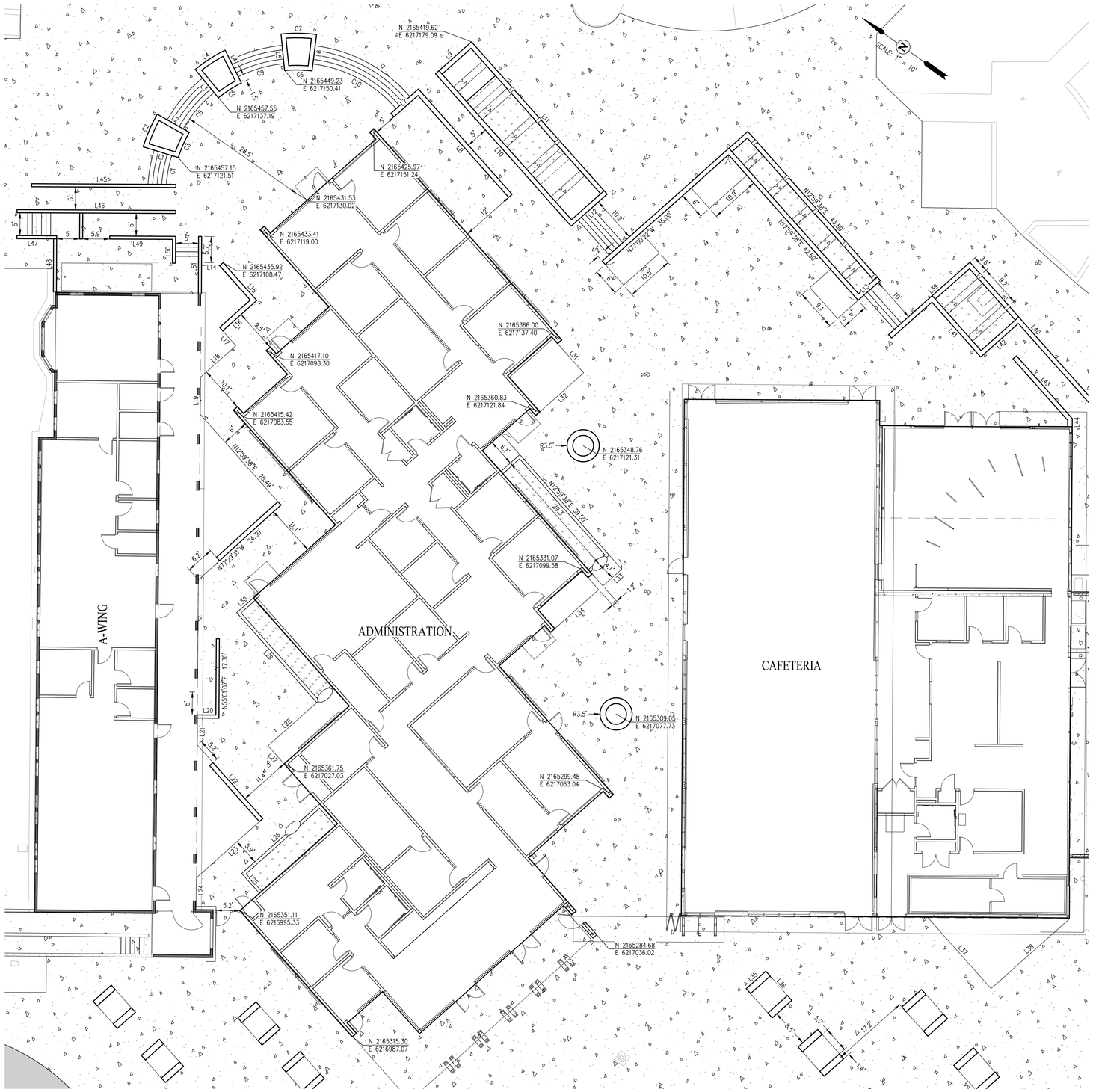
DECEMBER 2, 2020

SHEET TITLE

HORIZONTAL CONTROL

SHEET NUMBER

C-2.0



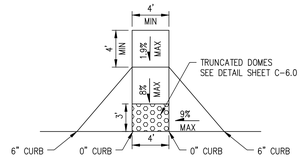
LINE TABLE		
NO	BEARING	LENGTH
L1	8.000	N18° 22' 29.63"W
L2	8.000	S05° 38' 26.51"E
L3	8.000	N15° 23' 35.90"E
L4	8.000	S28° 07' 39.02"W
L5	8.000	N49° 01' 52.43"E
L6	8.000	S61° 45' 55.55"W
L7	7.000	S77° 00' 21.89"E
L8	29.750	S12° 59' 38.11"W
L9	10.500	S77° 00' 21.89"E
L10	44.496	N12° 59' 38.11"E
L11	44.496	S12° 59' 38.11"W
L12	10.500	N77° 00' 21.89"W
L13	6.500	S77° 00' 21.89"E
L14	4.713	N35° 02' 06.75"W
L15	11.050	N12° 59' 38.11"E
L16	9.960	S77° 00' 21.88"E
L17	4.332	N12° 59' 38.11"E
L18	10.291	S77° 00' 21.88"E
L19	8.135	N55° 17' 53.05"E
L20	3.999	N34° 58' 52.95"W
L21	5.882	S55° 05' 20.23"W
L22	21.521	S12° 59' 39.01"W
L23	19.447	N77° 00' 21.90"W
L24	6.206	S55° 04' 33.22"W
L25	5.796	S12° 59' 39.01"W
L26	22.800	S77° 00' 21.84"E

LINE TABLE		
NO	BEARING	LENGTH
L27	5.259	N12° 59' 38.12"E
L28	14.211	S77° 00' 21.88"E
L29	26.241	N12° 59' 38.11"E
L30	4.789	S77° 00' 22.08"E
L31	8.535	S12° 59' 38.11"W
L32	12.771	N77° 02' 17.65"W
L33	5.501	N77° 00' 21.89"W
L34	12.771	N77° 00' 21.88"W
L35	5.731	S77° 00' 21.89"E
L36	8.517	S12° 59' 27.42"W
L37	20.680	S12° 59' 38.11"W
L38	22.951	S77° 01' 24.02"E
L39	23.750	S77° 00' 21.89"E
L40	40.149	S12° 59' 38.11"W
L41	16.000	S12° 59' 38.11"W
L42	11.000	S77° 00' 21.89"E
L43	18.314	S12° 59' 38.11"W
L44	1.779	S55° 01' 19.05"W
L45	31.446	S35° 03' 49.10"E
L46	34.609	N35° 03' 49.10"W
L47	8.000	S35° 03' 49.10"E
L48	11.577	S54° 56' 10.90"W
L49	13.718	S35° 03' 49.10"E
L50	5.173	S54° 56' 10.90"W
L51	12.499	S54° 56' 10.90"W

CURVE TABLE			
NO	RADIUS	DELTA	LENGTH
C1	28.50'	012°52'17"	6.40'
C2	34.38'	012°57'51"	7.78'
C3	27.00'	012°44'03"	6.00'
C4	34.38'	012°57'51"	7.78'
C5	27.00'	012°44'03"	6.00'
C6	27.00'	012°44'03"	6.00'
C7	34.38'	012°57'51"	7.78'
C8	28.50'	021°02'02"	10.46'
C9	28.50'	020°54'13"	10.40'
C10	28.50'	042°22'29"	21.08'

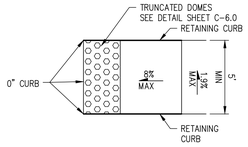
LEGEND

- TREE WELLS WITH SEAT WALLS
- SEAT WALL PUNCH THROUGH (SEE DETAIL BELOW)
- BIORETENTION AREA
- CONCRETE SIDEWALK
- PROPOSED AC



TYPE A RAMP

NOT TO SCALE



TYPE B RAMP

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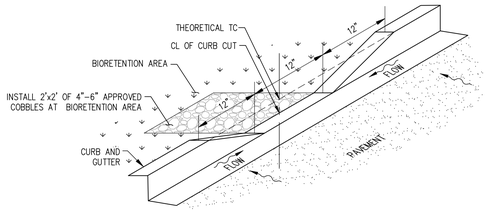
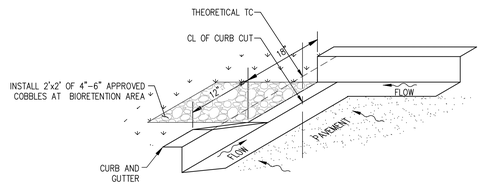


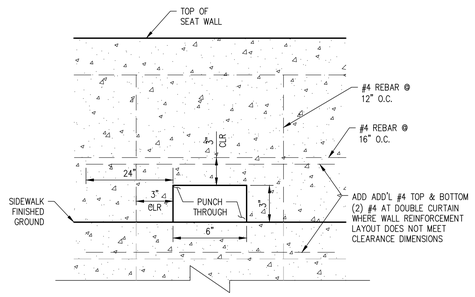
VEHICULAR CURB CUT DETAIL

NOT TO SCALE



VEHICULAR CORNER CURB CUT DETAIL

NOT TO SCALE

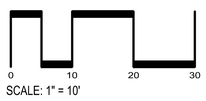


SEAT WALL PUNCH THROUGH

NOT TO SCALE

PUNCH THROUGH NOTE

1. INSTALL 2'x2' OF 4"-6" APPROVED COBBLES SHALL BE INSTALLED IN THE BIORETENTION AREA UNDER THE PASS THROUGH AS A SPLASH BLOCK.



SCALE: 1" = 10'

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DECEMBER 2, 2020

SHEET TITLE

HORIZONTAL CONTROL

SHEET NUMBER

C-2.1

PAVEMENT SAWCUT REPAIR DETAIL

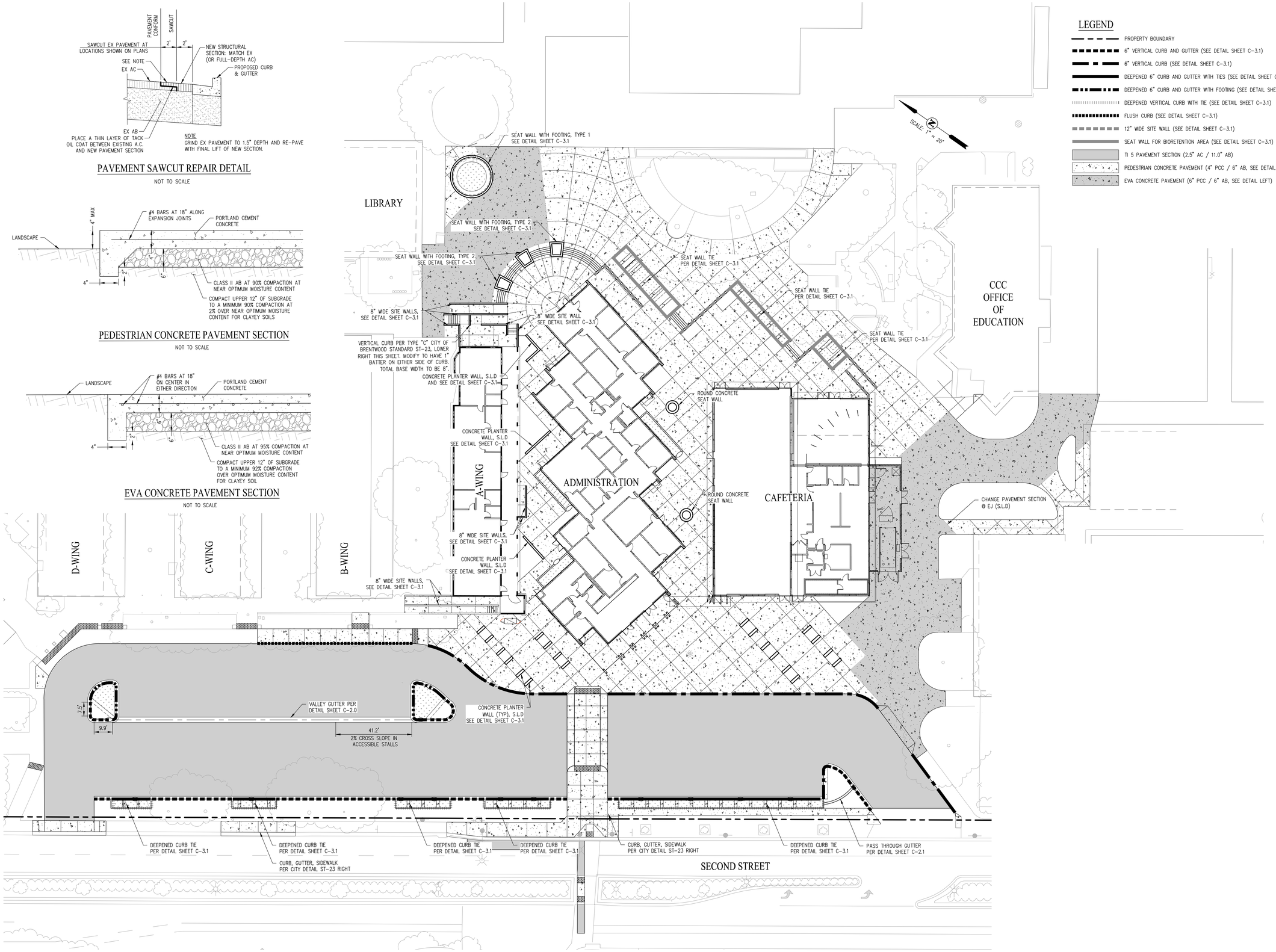
NOT TO SCALE

PEDESTRIAN CONCRETE PAVEMENT SECTION

NOT TO SCALE

EVA CONCRETE PAVEMENT SECTION

NOT TO SCALE



LEGEND

- PROPERTY BOUNDARY
- 6" VERTICAL CURB AND GUTTER (SEE DETAIL SHEET C-3.1)
- 6" VERTICAL CURB (SEE DETAIL SHEET C-3.1)
- DEEPENED 6" CURB AND GUTTER WITH TIES (SEE DETAIL SHEET C-3.1)
- DEEPENED 6" CURB AND GUTTER WITH FOOTING (SEE DETAIL SHEET C-3.1)
- DEEPENED VERTICAL CURB WITH TIE (SEE DETAIL SHEET C-3.1)
- FLUSH CURB (SEE DETAIL SHEET C-3.1)
- 12" WIDE SITE WALL (SEE DETAIL SHEET C-3.1)
- SEAT WALL FOR BIORETENTION AREA (SEE DETAIL SHEET C-3.1)
- TI 5 PAVEMENT SECTION (2.5" AC / 11.0" AB)
- PEDESTRIAN CONCRETE PAVEMENT (4" PCC / 6" AB, SEE DETAIL LEFT)
- EVA CONCRETE PAVEMENT (6" PCC / 6" AB, SEE DETAIL LEFT)

0 20 40 60
SCALE: 1" = 20'

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
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STATE OF CALIFORNIA

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LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	DRAFTSPERSON
DRAWING SCALE:	SCALE
PTN: 61721-75	FILE NO: 7-H4

CD

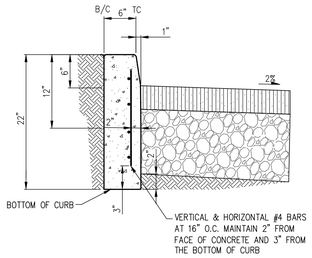
DECEMBER 2, 2020

SHEET TITLE

CURB AND WALL TYPE PLAN

SHEET NUMBER

C-3.0



6" VERTICAL CURB DETAIL

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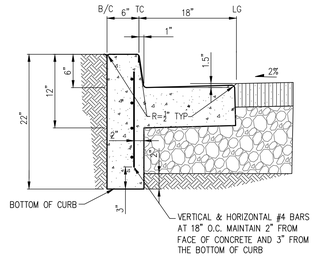

6" VERTICAL CURB AND GUTTER DETAIL

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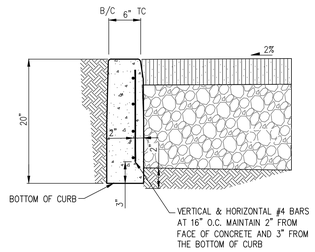
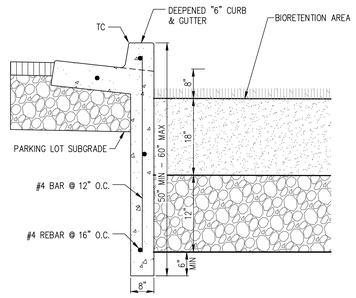


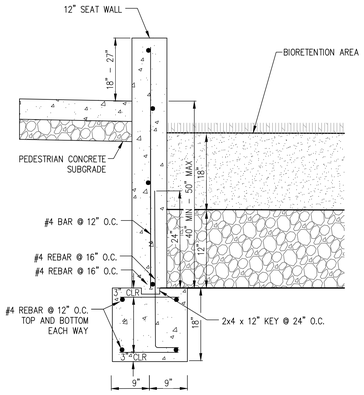
FLUSH CURB DETAIL

NOT TO SCALE



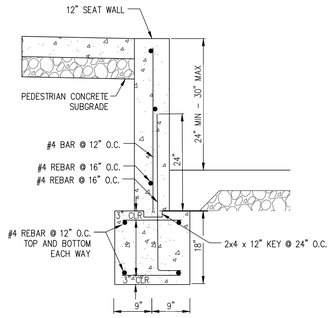
6" DEEPENED CURB & GUTTER

NOT TO SCALE



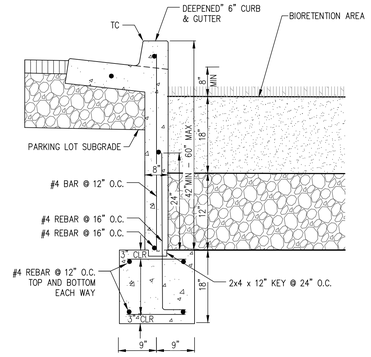
SEAT WALL WITH FOOTING - TYPE 1

NOT TO SCALE



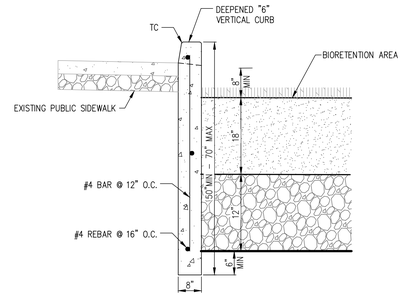
SEAT WALL WITH FOOTING - TYPE 2

NOT TO SCALE



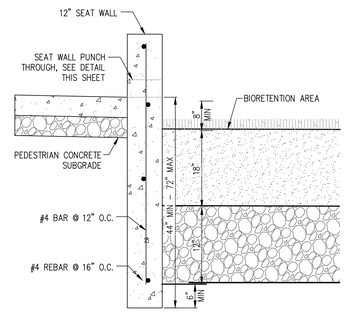
6" DEEPENED CURB & GUTTER WITH FOOTING

NOT TO SCALE



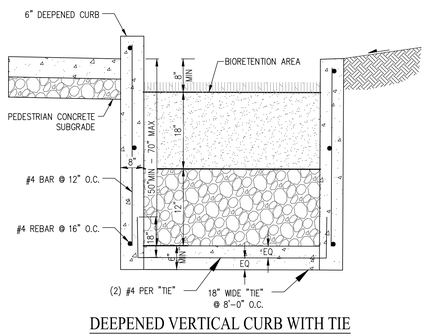
6" DEEPENED VERTICAL CURB

NOT TO SCALE



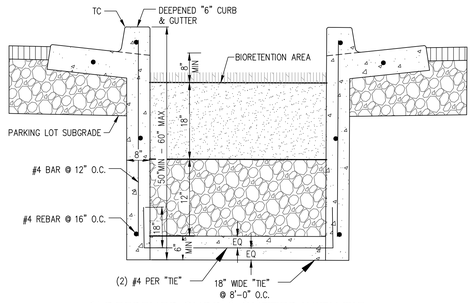
SEAT WALL AT BIORETENTION AREA

NOT TO SCALE



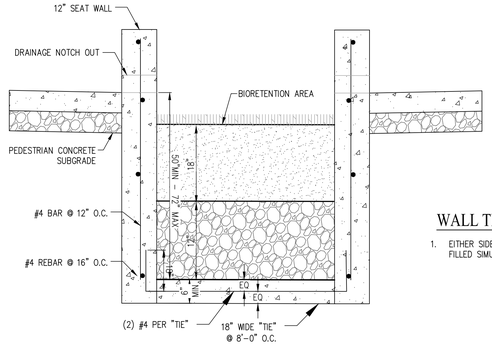
DEEPENED VERTICAL CURB WITH TIE

NOT TO SCALE



6" DEEPENED CURB & GUTTER WITH TIE

NOT TO SCALE

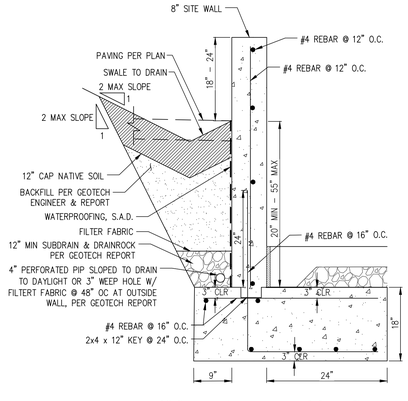


SEAT WALL WITH TIE

NOT TO SCALE

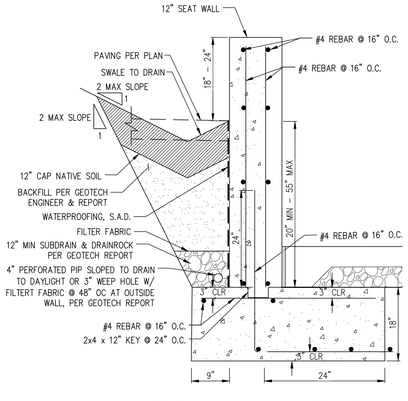
WALL TIE NOTE

1. EITHER SIDE OF DEEPENED CURBS SHALL BE FILLED SIMULTANEOUSLY TO AVOID TIPPING.



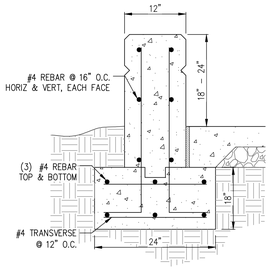
8" SITE WALL WITH FOOTING

NOT TO SCALE



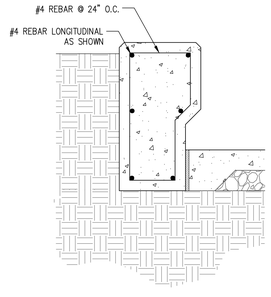
12" SEAT WALL WITH FOOTING

NOT TO SCALE



CONCRETE PLANTER WALL

NOT TO SCALE



ROUND CONCRETE SEAT WALL

NOT TO SCALE

ALL WALL NOTES

1. PER DSA IR A-22, RETAINING WALLS UNDER 4' TALL ARE EXEMPT FROM DSA SS REVIEW.
2. SEE 1/S-1.1 FOR TYPICAL REINFORCING INFORMATION.
3. THE 2"x4" KEY AT THE BASE OF THE WALL IS NEEDED WHEN THE WALL AND FOOTING ARE POURED SEPARATELY
4. WALL HEIGHT PER SHEET C-5.1 TO C-5.3
5. PROVIDE FORMED DOWELED CONSTRUCTION JOINTS AT 100' OC MAX
6. PROVIDE VERTICAL CONTROL JOINTS AT 2xHEIGHT OC MAX (10' MIN). COORDINATE LOCATIONS W/ ARCHITECT AND ENGINEER.

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REGISTERED PROFESSIONAL ENGINEER JASON D. VOGT 59299 CIVIL STATE OF CALIFORNIA
12-2-20

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	DRAFTSPERSON
DRAWING SCALE:	SCALE
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

CURB / WALL TYPE DETAILS

SHEET NUMBER

C-3.1

STORM DRAIN PIPE SCHEDULE

STRUCTURE	DESCRIPTION
3" PIPE	116 LF PVC
4" PERFORATED PIPE	385 LF PVC
6" PIPE	75 LF HDPE
10" PIPE	495 LF HDPE
12" PIPE	945 LF HDPE
12" PIPE	290 LF RCP CLASS IV

STRUCTURE	DESCRIPTION
AREA DRAIN 1–7 (7 TOTAL)	OLDCASTLE PRECAST CB1212 WITH HEEL GRATE
AREA DRAIN 8–9 (2 TOTAL)	NDS #9108B WITH HEEL GRATE
FIELD INLET 18–21 (4 TOTAL)	OLDCASTLE PRECAST CB1212
FIELD INLET 1 – 17 (17 TOTAL)	OLDCASTLE PRECAST CB1818
MANHOLE (8 TOTAL)	TYPE A PER CITY OF BRENTWOOD STANDARD SS–22

SANITARY SEWER PIPE SCHEDULE

STRUCTURE	DESCRIPTION
4" PIPE	405 LF, PVC SDR 35

SANITARY SEWER STRUCTURE SCHEDULE

STRUCTURE	DESCRIPTION
SSCO (2 TOTAL)	PER CITY OF BRENTWOOD STANDARD SS–1
GREASE TRAP (1 TOTAL)	JENSEN JP120EE–SO SEE MECHANICAL SHEETS
AREA DRAIN (4 TOTAL)	ZURN Z556

WATER PIPE SCHEDULE

STRUCTURE	DESCRIPTION
2" PIPE	255 LF PVC
6" PIPE	510 LF PVC
8" PIPE	237 LF PVC

WATER STRUCTURE SCHEDULE

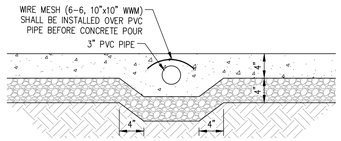
STRUCTURE	DESCRIPTION
DOUBLE CHECK DETECTOR ASSEMBLY (1 TOTAL)	WILKINS 350–DA PER CITY OF BRENTWOOD STANDARD W–4
SINGLE–DETECTOR CHECK VALVE (2 TOTAL)	NIBCO F–908–W 175 PSI WWP IRON BODY CHECK VALVE
PIV (2 TOTAL)	MUELLER A–20801 PER CITY OF BRENTWOOD STANDARD W–4
FIRE DEPT. CONNECTION (2 TOTAL)	CROKER 6545 4–WAY FDC

LEGEND

- PROPERTY BOUNDARY
- AC PAVEMENT
- PROPOSED CONCRETE
- BIO–RETENTION AREA
- 15" SD — PROPOSED STORM DRAIN
- PROPOSED RAINWATER LEADER
- 8" SS — PROPOSED SEWER LATERAL
- 2" W — PROPOSED WATER LATERAL
- 4" FS — PROPOSED FIRE SERVICE
- 6" IRR — RELOCATED NONPOTABLE WATER
- IRR — PROPOSED IRRIGATION SLEEVE – S.L.P.
- PROPOSED THRUST BLOCK – SEE DETAIL BELOW
- DOUBLE CHECK DETECTOR ASSEMBLY
- SINGLE–DETECTOR CHECK VALVE
- PIV
- FDC
- PROPOSED FIELD INLET
- PROPOSED SEWER CLEANOUT
- PROPOSED STORM DRAIN CLEANOUT
- PROPOSED MANHOLE
- PROPOSED CURB CUT (SEE DETAIL ON SHEET C–2.1)
- PROPOSED STREET LIGHT, FOR REFERENCE ONLY S.E.D.
- 8" SS — EXISTING SEWER
- 18" SD — EXISTING STORM DRAIN
- 12" W — EXISTING WATER
- 12" NPW — EXISTING NONPOTABLE WATER
- 6" IRR — EXISTING IRRIGATION
- EXISTING FIELD INLET

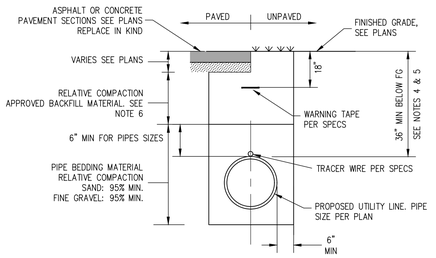
NOTES

1. WHEREVER PIPES DISCHARGE INTO THE BIORETENTION AREA, INSTALL A 2'x2' APRON OF 4" – 6" APPROVED COBBLES.
2. COMPLY WITH TREE PRESERVATION STANDARDS ON L4.1.



THRU CURB DRAIN

NOT TO SCALE

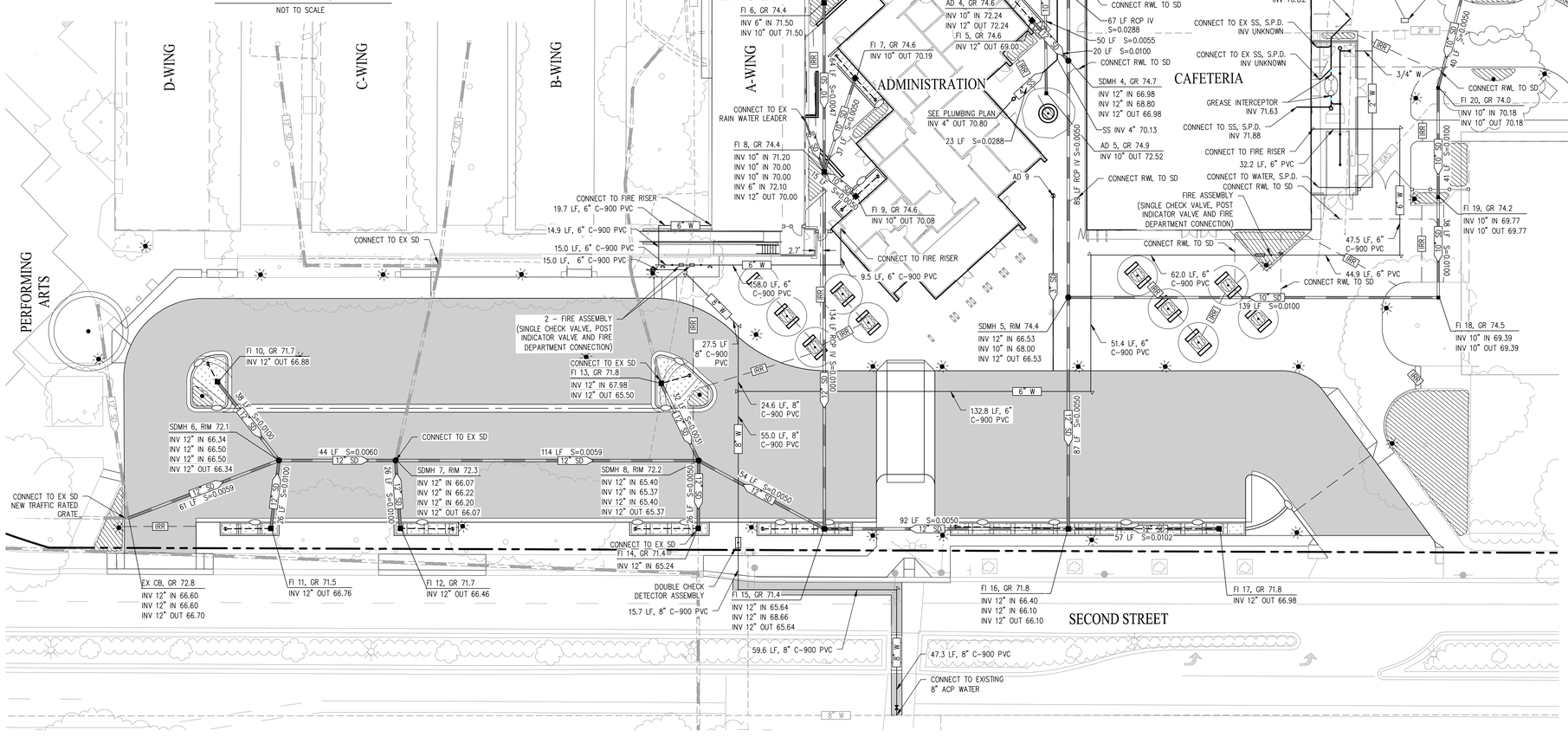


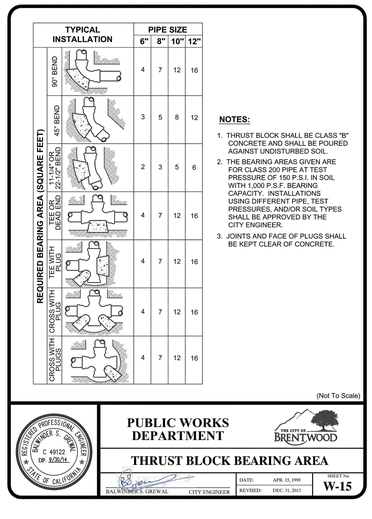
NOTES:

1. BEDDING SHOULD EXTEND A MINIMUM D/4 (D=OUTSIDE PIPE DIAMETER) BELOW BOTTOM OF PIPE.
2. SEE PROJECT SPECIFICATIONS FOR FURTHER UTILITY TRENCH REQUIREMENTS.
3. WHERE TRENCHES EXCEED 5' DEEP, CONTRACTOR TO CONFORM TO CURRENT OSHA REQUIREMENTS FOR SHORING, SLOPING, AND WORKING SAFELY.
4. COVER FOR PAVED AREAS IS DEFINED FROM TOP OF PIPE TO BOTTOM OF AGGREGATE BASE.
5. COVER FOR UNPAVED AREAS IS DEFINED FROM TOP OF PIPE TO TOP OF FINISHED SURFACE.
6. THE RELATIVE COMPACTION FOR APPROVED NATIVE MATERIAL, IMPORTED FILL, AND CALTRANS CLASS II AGGREGATE BASE SHALL BE AS FOLLOW:
   PAVED AREAS: 95% MINIMUM
   NON–PAVED AREAS: 90% MINIMUM

FIRE WATER TRENCH DETAIL

NOT TO SCALE





TYPICAL INSTALLATION	PIPE SIZE 6"	8"	10"	12"
90° BEND	4	7	12	16
45° BEND	3	5	8	12
11¼°/CAP, DEAD END, 22½° BEND	2	3	5	6
TEE CR.	4	7	12	16
TEE WITH PLUG	4	7	12	16
CROSS WITH PLUGS	4	7	12	16
CROSS WITH PLUGS	4	7	12	16

REQUIRED BEARING AREA (SQUARE FEET)

NOTES:

1. THRUST BLOCK SHALL BE CLASS "B" CONCRETE AND SHALL BE POURED AGAINST UNDISTURBED SOIL.
2. THE BEARING AREAS GIVEN ARE FOR CLASS 200 PIPE AT TEST PRESSURE OF 150 P.S.I. IN SOIL WITH 1,000 P.S.F. BEARING CAPACITY. INSTALLATIONS USING DIFFERENT PIPE, TEST PRESSURES, AND/OR SOIL TYPES SHALL BE APPROVED BY THE CITY ENGINEER.
3. JOINTS AND FACE OF PLUGS SHALL BE KEPT CLEAR OF CONCRETE.

(Not To Scale)

REGISTERED PROFESSIONAL ENGINEER — WARREN S. GREWAL — C 49122 — EXP. 9/30/21 — STATE OF CALIFORNIA

PUBLIC WORKS DEPARTMENT — THE CITY OF BRENTWOOD

THRUST BLOCK BEARING AREA

DALWINDER S. GREWAL, CITY ENGINEER — DATE: APR. 15, 1999 — REVISED: DEC. 31, 2013 — SHEET No. W-15

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PTN: 61721-75	FILE NO: 7-H4

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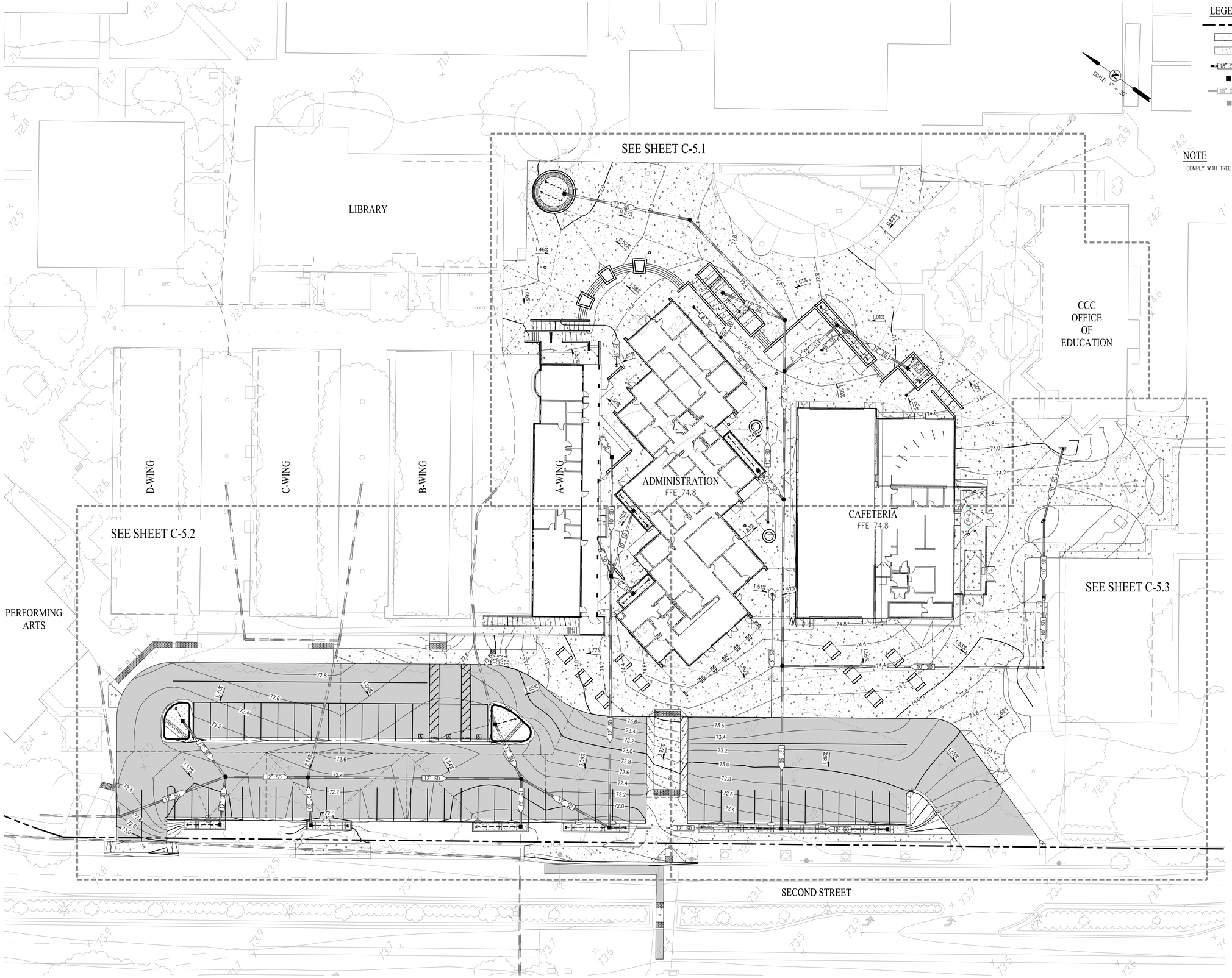
DECEMBER 2, 2020

SHEET TITLE

UTILITY PLAN

SHEET NUMBER

C-4.0



LEGEND

- PROPERTY BOUNDARY
- CONCRETE SIDEWALK/GUTTER
- BIO-RETENTION AREA
- 18" SD — PROPOSED STORM DRAIN
- PROPOSED CATCH BASIN
- 18" SD — EXISTING STORM DRAIN
- EXISTING FIELD INLET

NOTE

COMPLY WITH TREE PRESERVATION STANDARDS ON L4.1.

SCALE: 1" = 20'

0 20 40 60

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DRAWING SCALE:	SCALE
PTN: 61721-75	FILE NO: 7-H4

CD

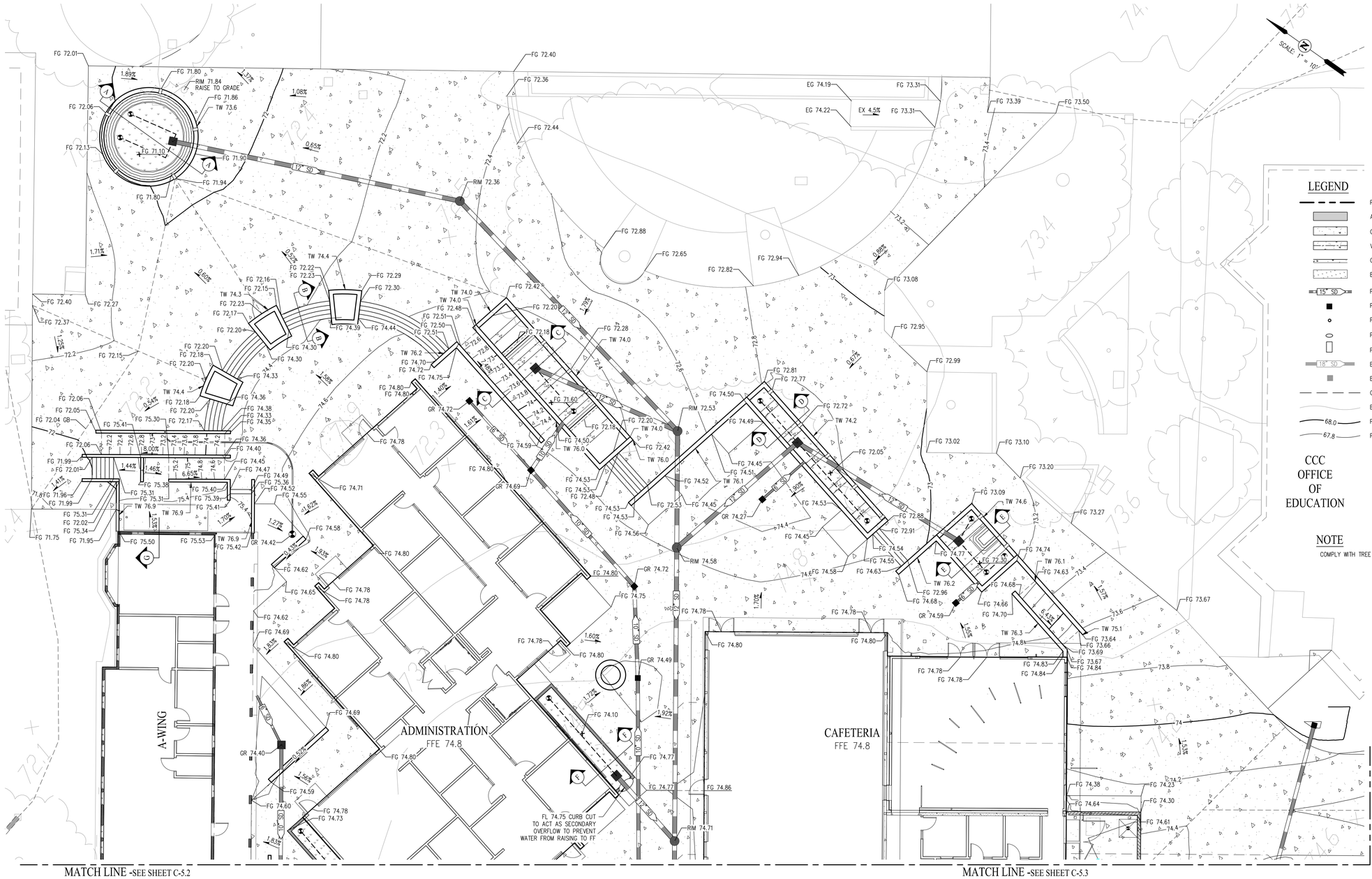
DECEMBER 2, 2020

SHEET TITLE

OVERALL GRADING AND DRAINAGE

SHEET NUMBER

C-5.0



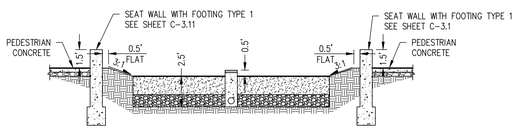
LEGEND

- PROPERTY BOUNDARY
- AC PAVEMENT
- CONCRETE SIDEWALK/GUTTER
- VALLEY GUTTER
- CURB AND GUTTER
- BIO-RETENTION AREA
- 15" SD — PROPOSED STORM DRAIN
- PROPOSED FIELD INLET
- PROPOSED CLEANOUT
- PROPOSED CURB CUT (SEE DETAIL SHEET C-2.1)
- PROPOSED PUNCH THROUGH (SEE DETAIL SHEET C-2.1)
- 18" SD — EXISTING STORM DRAIN
- EXISTING FIELD INLET
- GRADE BREAK
- EXISTING CONTOUR
- 68.0 — PROPOSED MAJOR CONTOUR
- 67.8 — PROPOSED MINOR CONTOUR

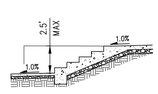
CCC OFFICE OF EDUCATION

NOTE

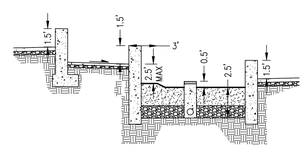
COMPLY WITH TREE PRESERVATION STANDARDS ON L4.1.



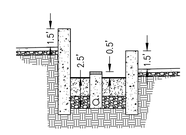
A-A DETAIL
NOT TO SCALE



B-B DETAIL
NOT TO SCALE



SECTION C-C
NOT TO SCALE



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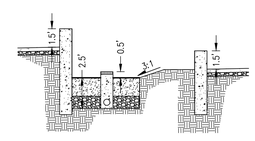

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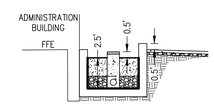

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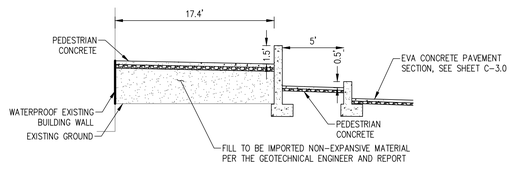
NOT TO SCALE



G-G DETAIL
NOT TO SCALE

0 10 20 30
SCALE: 1" = 10'

IDENTIFICATION STAMP
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APP: 01-119033 INC:
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QUATTROCCHI KWOK ARCHITECTS
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REGISTERED PROFESSIONAL ENGINEER JASON D. VOGT 59299 CIVIL STATE OF CALIFORNIA
12-2-20

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	DRAFTSPERSON
DRAWING SCALE:	SCALE
PTN: 61721-75	FILE NO: 7-H4

CD

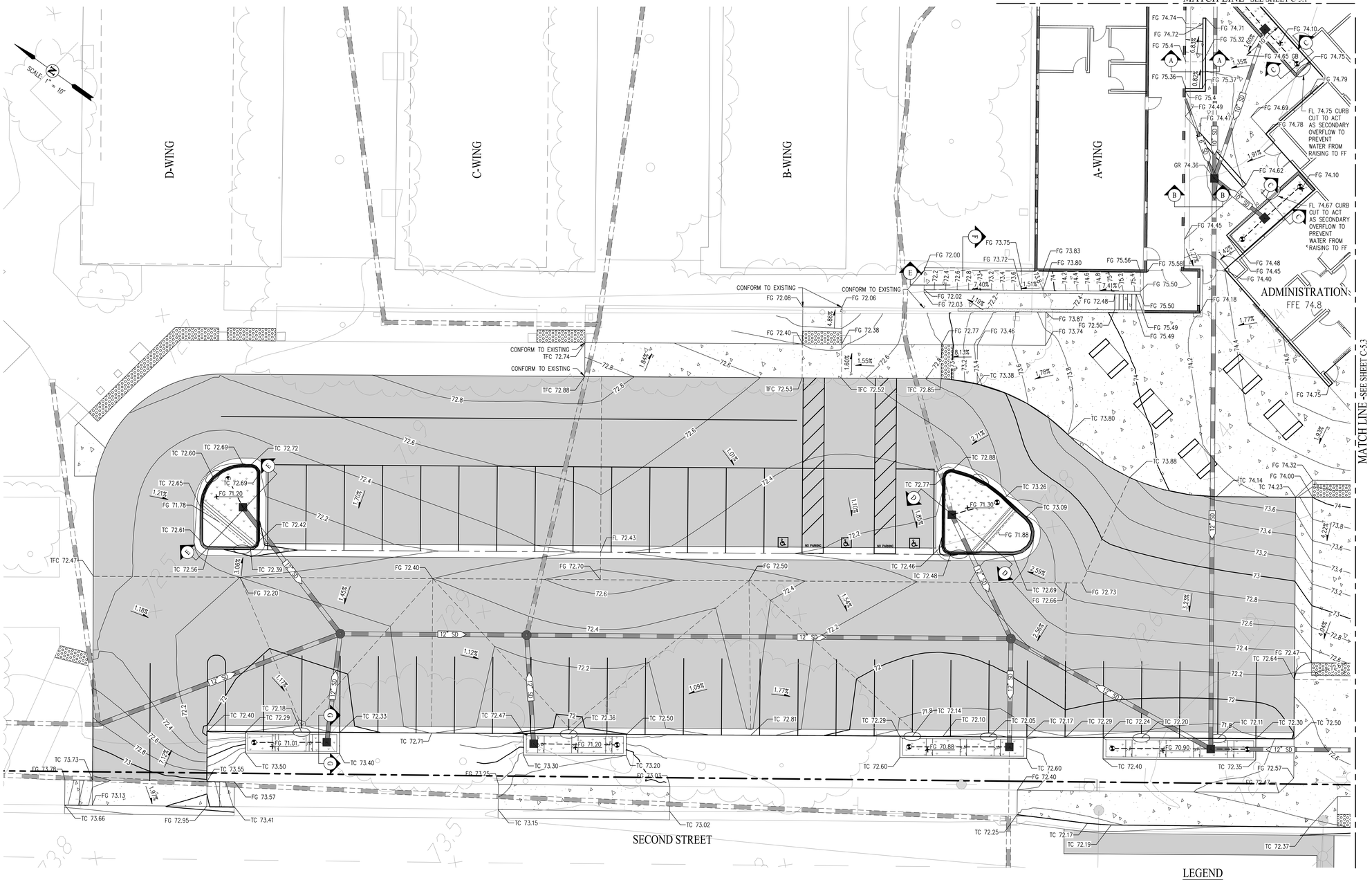
DECEMBER 2, 2020

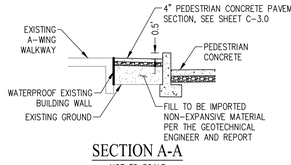
SHEET TITLE

GRADING AND DRAINAGE

SHEET NUMBER

C-5.1





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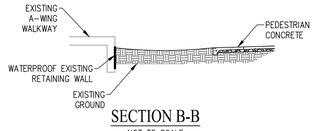

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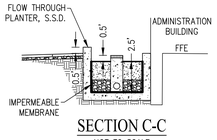

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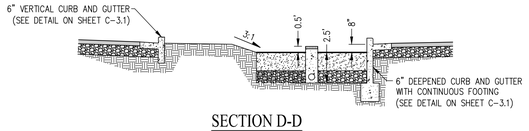
NOT TO SCALE



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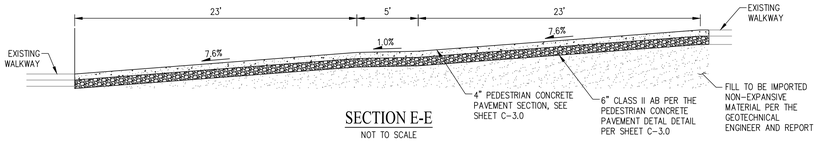
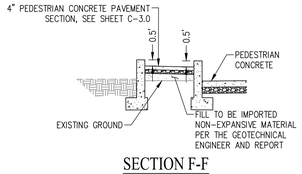
NOT TO SCALE



SECTION E-E
NOT TO SCALE



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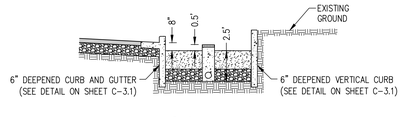

G-G DETAIL
NOT TO SCALE

LEGEND

- PROPERTY BOUNDARY
- AC PAVEMENT
- CONCRETE SIDEWALK/GUTTER
- VALLEY GUTTER
- CURB AND GUTTER
- BIO-RETENTION AREA
- 15" SD — PROPOSED STORM DRAIN
- PROPOSED FIELD INLET
- PROPOSED CLEANOUT
- PROPOSED CURB CUT (SEE DETAIL SHEET C-2.1)
- PROPOSED PUNCH THROUGH (SEE DETAIL SHEET C-2.1)
- 18" SD — EXISTING STORM DRAIN
- EXISTING FIELD INLET
- GRADE BREAK
- EXISTING CONTOUR
- 68.0 — PROPOSED MAJOR CONTOUR
- 67.8 — PROPOSED MINOR CONTOUR

NOTE

COMPLY WITH TREE PRESERVATION STANDARDS ON L4.1.

0 10 20 30
SCALE: 1" = 10'

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DRAWING SCALE:	SCALE
PTN: 61721-75	FILE NO: 7-H4

CD

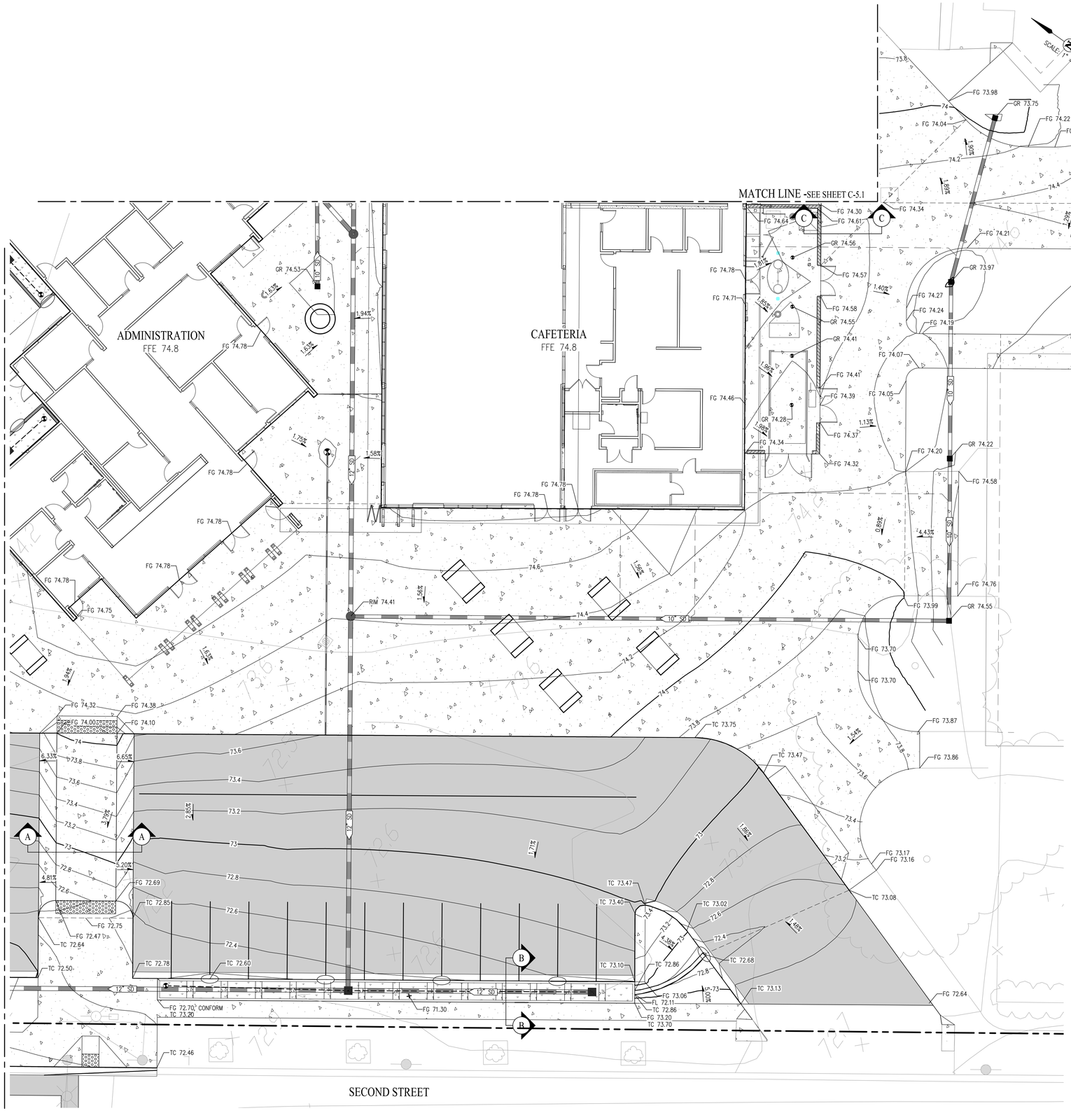
DECEMBER 2, 2020

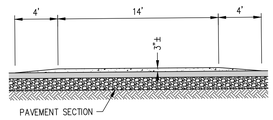
SHEET TITLE

GRADING AND DRAINAGE

SHEET NUMBER

C-5.2





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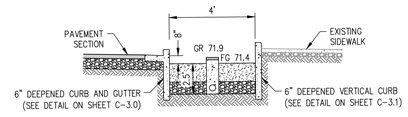

SECTION B-B
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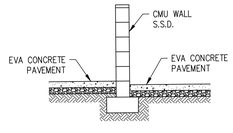

SECTION C-C
NOT TO SCALE

LEGEND

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DRAWN BY:	DRAFTSPERSON
DRAWING SCALE:	SCALE
PTN: 61721-75	FILE NO: 7-H4

CD

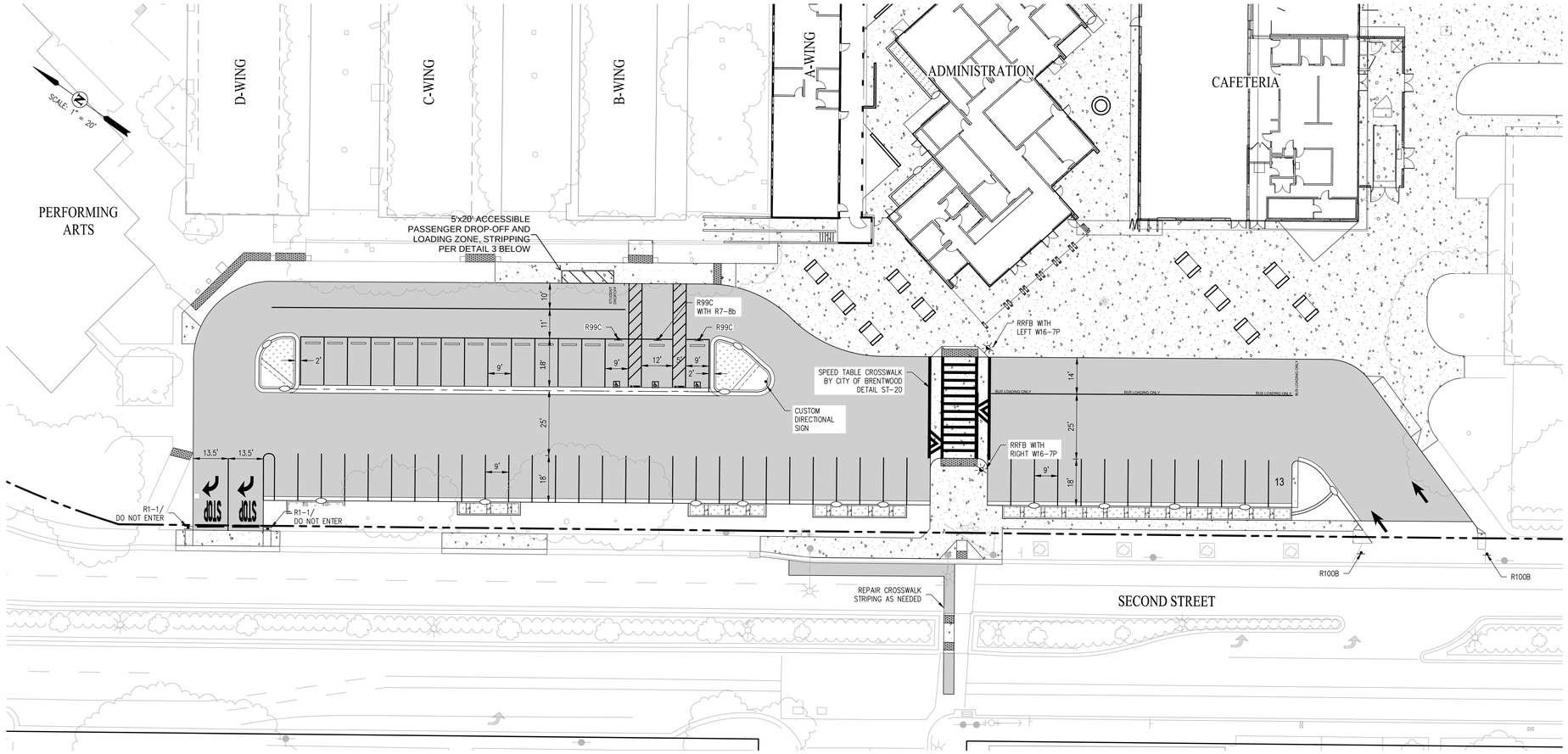
DECEMBER 2, 2020

SHEET TITLE

GRADING AND DRAINAGE

SHEET NUMBER

C-5.3



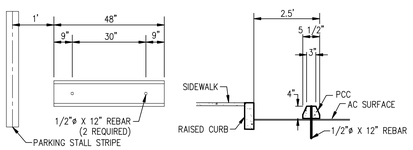
ABBREVIATIONS

ISA	INTERNATIONAL SYMBOL OF ACCESSIBILITY
R99C (CA)	ACCESSIBLE PARKING ONLY SIGN
R7-8b (CA)	VAN ACCESSIBLE SIGN
R1-1	STOP SIGN
SNS	STREET NAME SIGN
R100B	TOW AWAY SIGN
S1-1	SCHOOL CROSSWALK SIGN
W16-7P	RIGHT OR LEFT CROSSWALK ARROW SIGN
R10-25	PUSH BUTTON FOR WARNING LIGHT SIGN

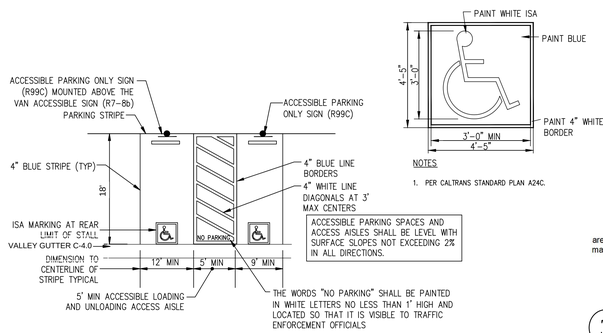
LEGEND

	WHEEL STOP
15	PARKING COUNT
	SIGN

CUSTOM DIRECTIONAL SIGN
NOT TO SCALE

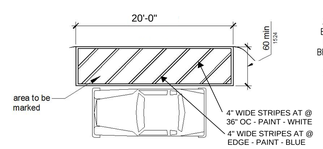


1 PASSENGER VEHICLE WHEEL STOP (OR APPROVED EQUAL)
(NOT TO SCALE)



NOTES
1. PER CALTRANS STANDARD PLAN A24C.

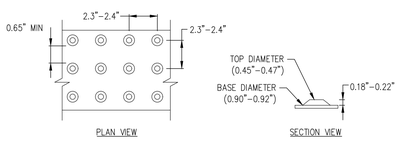
2 ACCESSIBLE PARKING STALL



3 PASSENGER DROP-OFF AND LOADING ZONE AISLE

ACCESSIBLE PARKING ONLY SIGN (R99C)
NOT TO SCALE

VAN ACCESSIBILE SIGN (R7-8b)
NOT TO SCALE

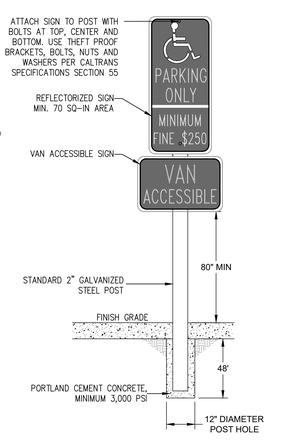


TYPICAL TRUNCATED DOME DETAIL PER CBC 11B-705.1.1
COLOR TO BE YELLOW
NOT TO SCALE

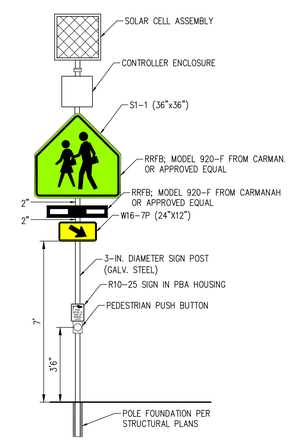
UNAUTHORIZED VEHICLES PARKED IN DESIGNATED ACCESSIBLE SPACES NOT DISPLAYING DISTINGUISHABLE PLACARDS OR SPECIAL LICENSE PLATES ISSUED FOR PERSONS WITH DISABILITIES WILL BE TOWED AWAY AT THE OWNER'S EXPENSE

TOWED VEHICLES MAY BE RECLAIMED AT
BRENTWOOD POLICE DEPARTMENT
OR BY TELEPHONING
778-2441

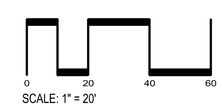
TOW AWAY SIGN (R100B)
NOT TO SCALE



VAN ACCESSIBILE SIGN PLACEMENT
NOT TO SCALE



RECTANGULAR RAPID FLASHING BEACON (RRFB)
NOT TO SCALE



SCALE: 1" = 20'

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PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

SIGNING & STRIPING PLAN

SHEET NUMBER

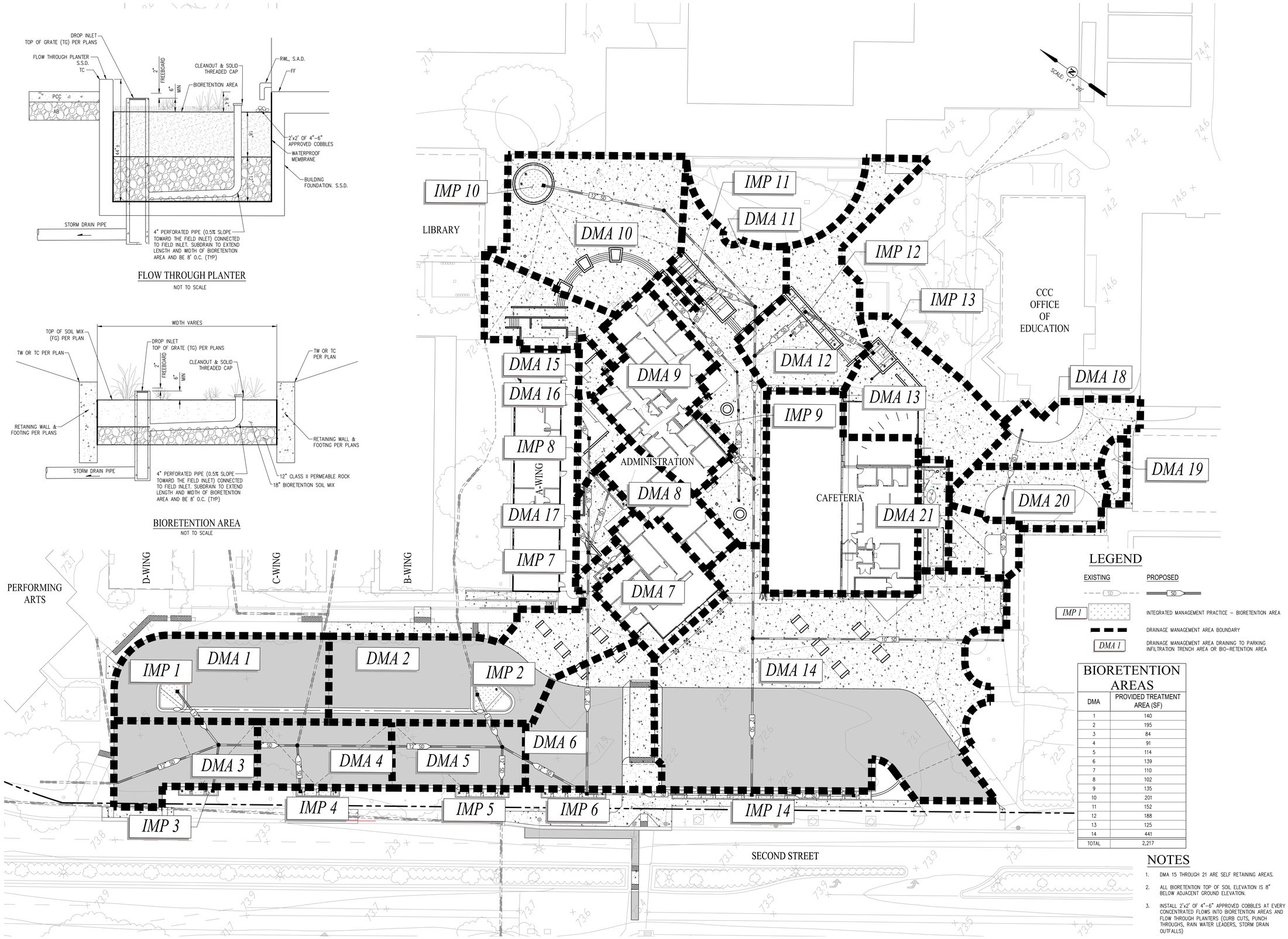
C-6.0

FLOW THROUGH PLANTER

NOT TO SCALE

BIORETENTION AREA

NOT TO SCALE



LEGEND

EXISTING	PROPOSED	
SD	SD	
IMP 1		INTEGRATED MANAGEMENT PRACTICE – BIORETENTION AREA
		DRAINAGE MANAGEMENT AREA BOUNDARY
DMA 1		DRAINAGE MANAGEMENT AREA DRAINING TO PARKING INFILTRATION TRENCH AREA OR BIO-RETENTION AREA

BIORETENTION AREAS

DMA	PROVIDED TREATMENT AREA (SF)
1	140
2	195
3	84
4	91
5	114
6	139
7	110
8	102
9	135
10	201
11	152
12	188
13	125
14	441
TOTAL	2,217

NOTES

1. DMA 15 THROUGH 21 ARE SELF RETAINING AREAS.
2. ALL BIORETENTION TOP OF SOIL ELEVATION IS 8" BELOW ADJACENT GROUND ELEVATION.
3. INSTALL 2'x2' OF 4"-6" APPROVED COBBLES AT EVERY CONCENTRATED FLOWS INTO BIORETENTION AREAS AND FLOW THROUGH PLANTERS (CURB CUTS, PUNCH THROUGHS, RAIN WATER LEADERS, STORM DRAIN OUTFALLS)

0 20 40 60

SCALE: 1" = 20'

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PTN: 61721-75	FILE NO: 7-H4

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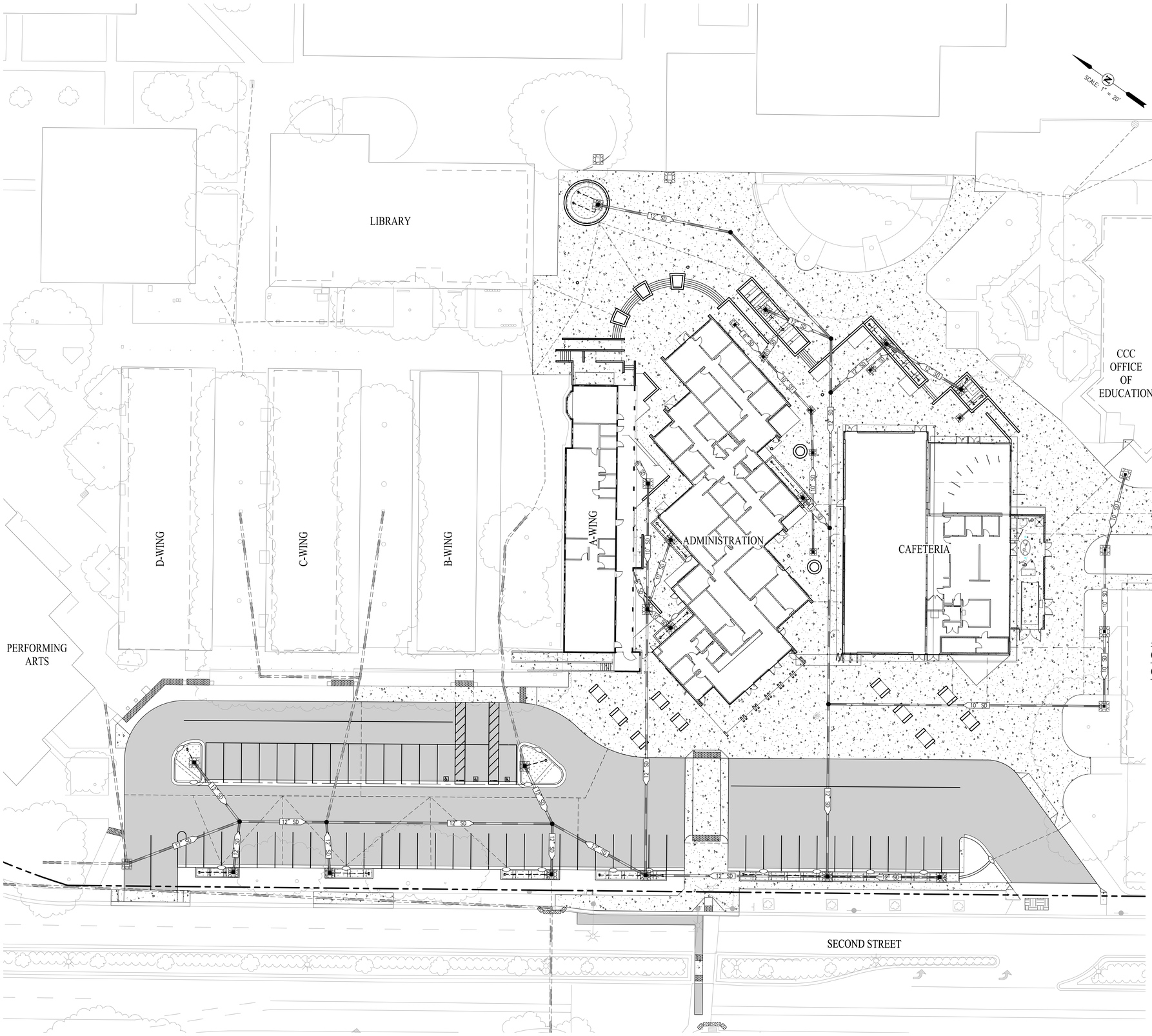
DECEMBER 2, 2020

SHEET TITLE

STORMWATER CONTROL PLAN

SHEET NUMBER

C-7.0



WDID #:

GENERAL NOTES:

1. LEGALLY RESPONSIBLE PARTY/PERSON (LRP) OWNER/SUBDIVIDER: LIBERTY UNION HIGH SCHOOL DISTRICT, 850 2ND STREET, BRENTWOOD, CA 94513
2. CIVIL ENGINEER: CARLSON, BARBEE & GIBSON, INC., 2633 CAMINO RAMON, SUITE 350, SAN RAMON, CA 94583, (925) 866-0322, JASON VOGAN, RCE 59299
3. GEOTECHNICAL ENGINEER: BSK ASSOCIATES, 399 LINDBERGH AVENUE, LIVERMORE, CA 94551, (925) 315-3151, CARRIE FOULK

LEGEND

- DIRECTION OF FLOW WITH STORM DRAIN INSTALLED
- FIELD INLET PROTECTION – (SE-10)
- CURB INLET PROTECTION – (SE-10)
- FIBER ROLL – (SE-5)
- STABILIZED CONSTRUCTION ENTRANCE/EXIT – (TC-1)
- FIELD INLET
- CURB CUT
- 15" SD — PROPOSED STORM DRAIN
- 18" SD, 8" SD — EXISTING STORM DRAIN

NOTE:

* STORMWATER DISCHARGE SAMPLING LOCATIONS ARE SUBJECT TO CHANGE AND WILL BE REMOVED, RELOCATED OR ADDED AT THE QSP'S DISCRETION.

APPLICABLE (BUT NOT LIMITED TO) CURRENT CASQA STORMWATER BMP CONSTRUCTION HANDBOOK

EC-1	SCHEDULING
EC-3	HYDROMULCH
EC-4	HYDROSEED
NS-1	WATER CONSERVATION PRACTICES
NS-2	DEWATERING OPERATIONS
NS-3	PAVING & GRINDING OPERATIONS
NS-8	VEHICLE & EQUIPMENT CLEANING
NS-9	VEHICLE & EQUIPMENT FUELING
NS-10	VEHICLE & EQUIPMENT MAINTENANCE
NS-12	CONCRETE CURING
NS-13	CONCRETE FINISHING
SE-1	SILT FENCE
SE-4	CHECK DAMS
SE-5	FIBER ROLLS
SE-10	DI PROTECTION TYPE 1
SE-10	DI PROTECTION TYPE 2
SE-10	DI PROTECTION TYPE 3
TC-1	STABILIZED CONSTRUCTION ENTRANCE/EXIT
TC-2	STABILIZED CONSTRUCTION ROADWAY
TC-3	ENTRANCE & OUTLET TIRE WASH
WE-1	WIND EROSION CONTROL
WM-1	MATERIAL DELIVERY & STORAGE
WM-2	MATERIAL USE
WM-3	STOCKPILE MANAGEMENT
WM-8	CONCRETE WASTE MANAGEMENT
WM-9	SANITARY/SEPTIC WASTE MANAGEMENT

0 20 40 60
SCALE: 1" = 20'

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
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SAN RAMON • (925) 866-0322
SACRAMENTO • (916) 375-1877
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REGISTERED PROFESSIONAL ENGINEER JASON D. VOGAN 59299 CIVIL STATE OF CALIFORNIA
12-2-20

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	DRAFTSPERSON
DRAWING SCALE:	SCALE
PTN: 61721-75	FILE NO: 7-H4

CD

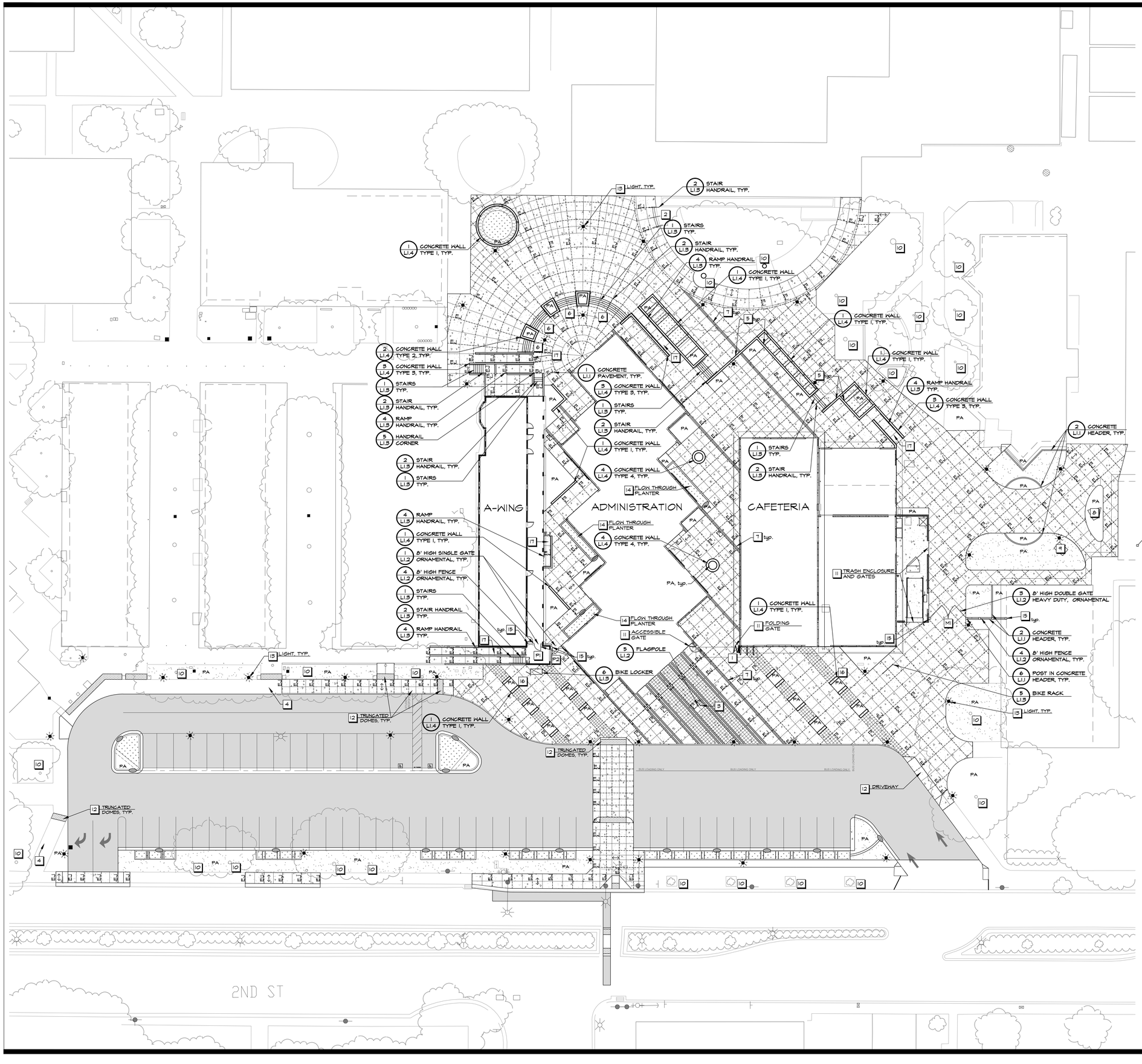
DECEMBER 2, 2020

SHEET TITLE

EROSION CONTROL PLAN

SHEET NUMBER

C-8.0



KEY NOTES

1. School entrance with gates. See Architectural Drawings.
2. Existing Senior Steps. See Architectural Drawings.
3. Colored Concrete Pavement Type 2 at flagpole
4. Existing concrete to remain. See Civil Drawings.
5. Retaining wall
6. Monument stairs
7. Colored concrete band, typ.
8. Relocate (E) Lioness and Cub statue. See Architectural Drawings.
9. (E) Lion statue to remain
10. Existing tree to remain, typ. Comply with Tree Preservation Standards on L4.1.
11. See Architectural Drawings
12. See Civil Drawings
13. See Electrical Drawings
14. See Structural Drawings
15. Clearance shall be less than 4", typ.
16. Walls to match Colored Concrete Pavement Type 1
17. Ramp. See Civil Drawings.

MATERIAL LEGEND

- Concrete Pavement. Concrete shall have a slip resistant broom finish in the direction shown on this sheet.
- Colored Concrete Pavement Type 1. Integral color shall be Davis Graphite. 2 lbs. of #5084. Concrete shall have a slip resistant broom finish in the direction shown on this sheet and shall have a clear sealer applied.
- Colored Concrete Pavement Type 2. Integral color shall be Davis Sandstone: 0.75 lbs. of #5287 per #4 lbs. (1 cu. ft.) of Type I-II Cement. Concrete shall have a slip resistant broom finish in the direction shown on this sheet and shall have a clear sealer applied.
- Asphalt Pavement. See Civil Drawings.
- Biofiltration Facilities. See Civil Drawings.
- Concrete Wall. See plan for type.
- Handrail
- EJ — Expansion Joint. See Civil Drawings.
- Tooled Control Joint. See Civil Drawings.
- ↔ Direction of broom finish
- PA Planting Area
- 8' High Fence, Ornamental
- 8' High Single Gate, Ornamental
- 8' High Double Gate, Heavy Duty Ornamental

P	Panic Hardware Gate
M	Maintenance Gate

Refer to General Fencing and Gate Notes and Schedules on L1.2

CONCRETE NOTES

1. Subgrade preparation shall be done in accordance with the recommendations in the Geotechnical Report.
2. Tooled control joints shall run continuously and extend through integral curbs and thickened edges. Tooled control joint layout shall be as shown on the Layout Plan, and coincide with the corners of objects, structures and the beginning and ends of curves. Joints should have a minimum depth of 25% of the slab thickness, unless otherwise noted on plans.
3. Expansion joints shall be laid out as shown on the Layout Plan.
4. Contractor shall place 3/8" asphalt impregnated fiber board where new concrete meets building, walls, curbs and planters.
5. The base rock layer, prior to placement of concrete, shall be sprinkled with clean water several times to restore any moisture that may have been lost after completion of compaction.
6. Cure concrete with curing compound or keep continuously moist for a minimum of 7 days.
7. Contractor shall prepare a 4'x4' sample of all flatwork and 4' length of all walls and curb in the field prior to construction, for review and approval by the District.
8. Concrete pavement with slopes less than 6% shall receive a medium broom finish and slopes greater than 6% shall receive a heavy broom finish. Finish shall be in the direction shown on this sheet.

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REGISTERED LANDSCAPE ARCHITECT
ANTONIO STRANDI
No. 2990
Exp. 10-31-22
STATE OF CALIFORNIA

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	BTI/HDJ
DRAWING SCALE:	1"=20'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

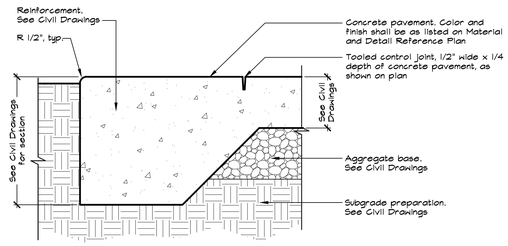
DECEMBER 2, 2020

SHEET TITLE

MATERIAL AND DETAIL REFERENCE PLAN

SHEET NUMBER

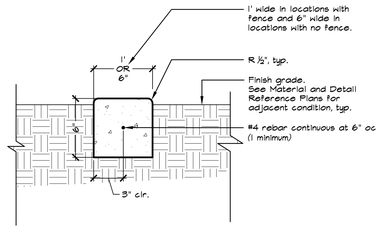
L1.0



NOTES:

1. See Concrete Notes on the Material and Detail Reference Plan.
2. See Material and Detail Reference Plan for concrete color and finish.
3. See Material and Detail Reference Plan for tooled control joint and expansion joint locations.
4. See Civil Drawings for grading and drainage design and information.

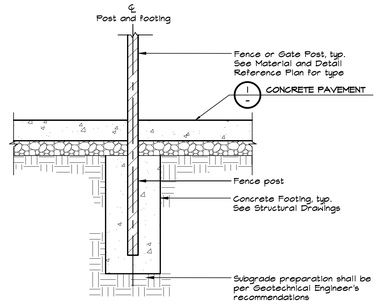
1 CONCRETE PAVEMENT
NOT TO SCALE



NOTES:

1. See Concrete Notes on the Material and Detail Reference Plan in addition to requirements in the Specifications.
2. Concrete finish shall be a light broom finish on all exposed sides, parallel with header, or as noted on plan.
3. Contractor shall install score joints at 6' OC maximum with expansion joints at 18' OC maximum. Align joints with fence posts or adjacent concrete edges and pavement.

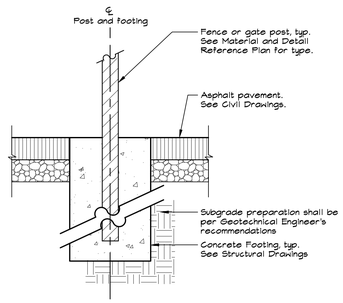
2 CONCRETE HEADER
NOT TO SCALE



NOTES:

1. See Concrete Notes on the Material and Detail Reference Plan.
2. See Structural Drawings for fence footing design.
3. See General Fencing and Gate Notes and Schedules on Sheet L1.2.

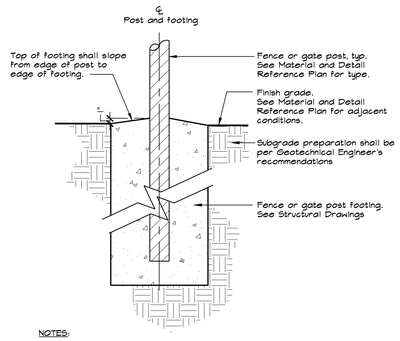
3 POST AT CONCRETE PAVEMENT
NOT TO SCALE



NOTES:

1. See Concrete Notes on the Material and Detail Reference Plan.
2. See Structural Drawings for fence footing design.
3. See General Fencing and Gate Notes and Schedules on Sheet L1.2.

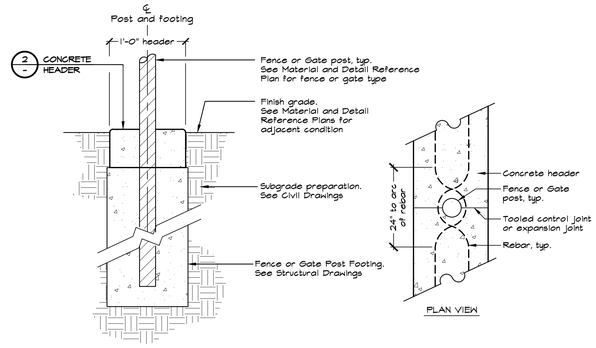
4 POST AT ASPHALT PAVEMENT
NOT TO SCALE



NOTES:

1. See Concrete Notes on the Material and Detail Reference Plan.
2. See Structural Drawings for fence footing design.
3. See General Fencing and Gate Notes and Schedules on Sheet L1.2.

5 POST AT FINISH GRADE
NOT TO SCALE



NOTES:

1. See Concrete Notes on the Material and Detail Reference Plan.
2. Tooled control joint and expansion joints shall align with center of fence and gate posts.
3. See Structural Drawings for post and footing information.

6 POST IN CONCRETE HEADER
NOT TO SCALE

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CD

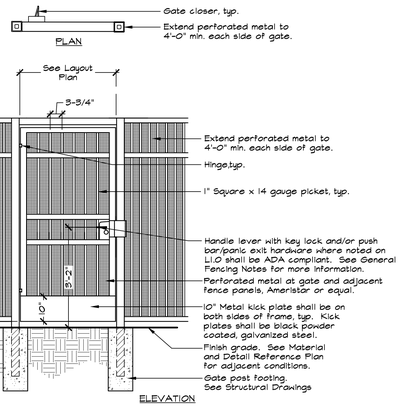
DECEMBER 2, 2020

SHEET TITLE

CONSTRUCTION DETAILS

SHEET NUMBER

L1.1



NOTES:

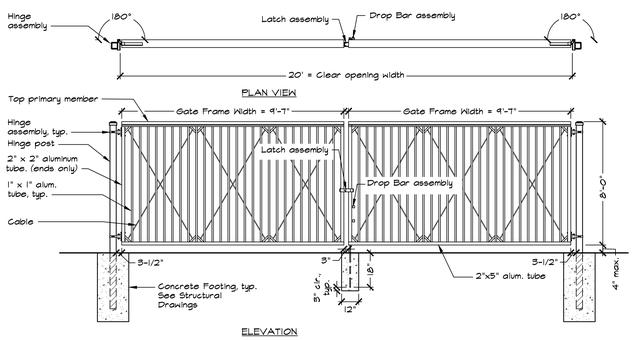
1. See General Fencing and Gate Notes and Schedules on this Sheet.
2. See Material and Detail Reference Plan and Layout Plan for post locations.
3. See Structural Drawings for post and footing information.
4. Door opening shall provide clear width of 32 inches minimum, CBC 11B-404.2.3.
5. Gate shall be black in color to match Ameristar standard black finish.
6. Contractor shall provide 1 gallon of touch up paint from Manufacturer to match black color.

1 8' HIGH SINGLE GATE, ORNAMENTAL

NOT TO SCALE

NOT USED

2

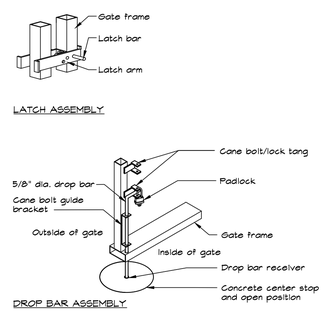


NOTES:

1. See General Fencing and Gate Notes and Schedules on this sheet.
2. See Material and Detail Reference Plan and Layout Plan for gate post locations.
3. See Structural Drawings for post and footing information.
4. Gate shall be Double Heavy Duty Swing Gate with 180-degree hinges, manufactured by Tymetal Corp. (800) 328-4283, or approved equal.
5. All tubular aluminum elements shall have a minimum 1/4" wall thickness.
6. Gate shall be black in color to match Ameristar standard black finish.
7. Contractor shall provide 1 gallon of touch up paint from Manufacturer to match black color.

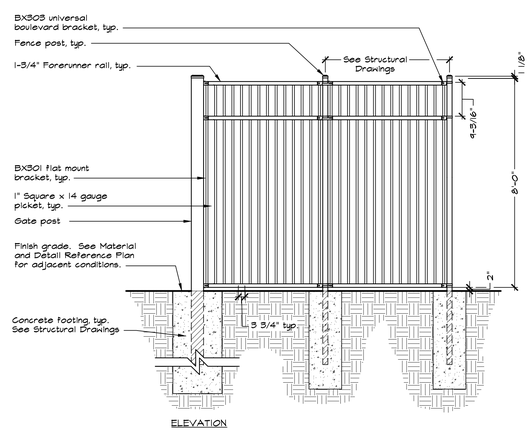
3 8' HIGH DOUBLE GATE, HEAVY DUTY ORNAMENTAL

NOT TO SCALE



NOTES:

1. Provide all hardware required.
2. Contractor shall field drill hole for drop bar.



NOTES:

1. See General Fencing and Gate Notes and Schedules on this Sheet.
2. See Material and Detail Reference Plan and Layout Plan for post locations.
3. See Structural Drawings for post and footing information.
4. Fence shall be Aegis II Majestic and 3-3/4" picket gap, manufactured by Ameristar, or approved equal. Contact Ed Carini, (510) 552-8605 / (888) 333-3422.
5. Fence shall be black in color to match Ameristar standard black finish.
6. Contractor shall provide 1 gallon of touch up paint from Manufacturer to match black color.

4 8' HIGH FENCE, ORNAMENTAL

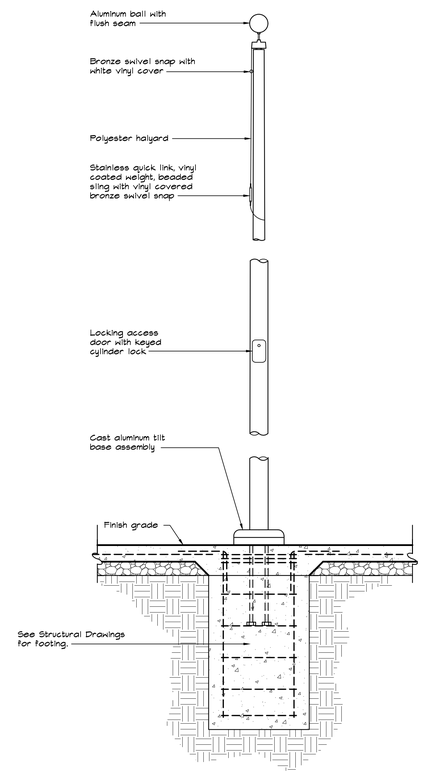
NOT TO SCALE

GENERAL FENCING AND GATE NOTES AND SCHEDULES

1. Details are for general reference. Contractor shall provide shop drawings prior to construction for approval by the District. Contractor shall include all hardware types and manufacturers' information within shop drawings.
2. P Designated gates shown on L1.0 shall be accessible, have push bar and lockable lever with cylinder dogging, push pad armor, push bar with trim, weep holes and keyed lever; all in stainless steel finish. Von Duprin, or equal, product number; CD x AX x PA x 98L x KH x 996L-NL x 630. Lock shall have an interchangeable large format lock, cylinder dogging and night latch feature. Schlage Lock product number; 20-057 D124 (996L) and 20-061 D124 x X611-948 630 (CD). Contact Debbie White at Allegion for ordering information. (925) 463-7102, Debbie.White@allegion.com.
3. Panic exit hardware shall comply with CBC 1010.10 Panic Hardware: Exit devices are required to unlatch with a maximum 5 lbs. force per 11B-404.2.7 and 11B-309.4. Exit devices are required to comply with SFM Standard 12-10-302. (Cross bars shall extend across not less than one-half of the door/gate. The ends of the cross-bar shall be curved, guarded or otherwise designed to prevent catching on the clothing of persons during egress.
4. Gates with closers shall include LCN 4040XP closer with MKH-100 hinges, or approved equal. Hardware shall match gate finish.
5. See Concrete Notes on Sheet L1.0.
6. See Structural Drawings for post and footing information.
7. Subgrade preparation shall be per Geotechnical Engineer's recommendations.

Gate Schedule		
Description	8' High x 5'-6" Wide P1 P2	8' High x 20' Clear M1
Detail Reference	1 / L1.2	5 / L1.2
Gate Post	See Structural Drawings	See Structural Drawings
Gate Frame	2" sq x 11 GA	By Manufacturer
Footing Size	See Structural Drawings	See Structural Drawings

Fence Schedule	
Description	8' High Ornamental Fence
Detail Reference	4 / L1.2
Line Post	See Structural Drawings
Corner/ End Post	See Structural Drawings
Footing Size	See Structural Drawings



NOTES:

1. Total exposed height of flagpole shall not exceed 34'-6".
2. Flagpole shall be Model #LHTBJ35' Tilt Base Cone Tapered Aluminum Flagpole with Jam Cleat Concealed Halyard as manufactured by LPH Bolander & Sons Inc. (800) 434-5611, or approved equal. Flagpole shall be special ordered for 34'-6" maximum exposed height and aluminum ball at top.
3. See Structural Drawings for footing details.
4. Not reviewed by DSA.

5 FLAGPOLE

NOT TO SCALE

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DRAWING SCALE:	1"=20'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

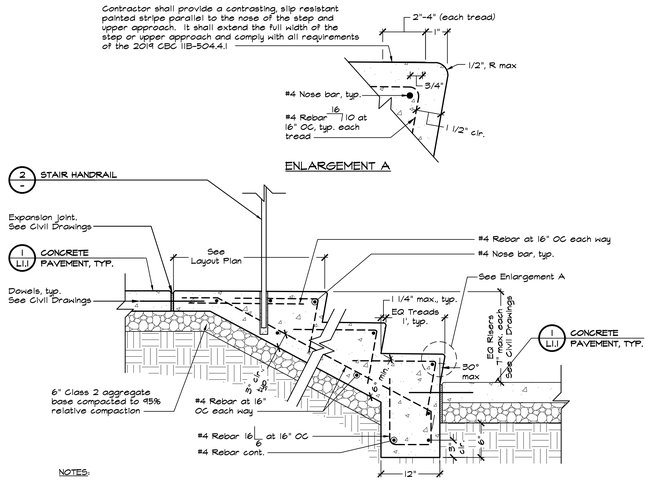
DECEMBER 2, 2020

SHEET TITLE

CONSTRUCTION DETAILS

SHEET NUMBER

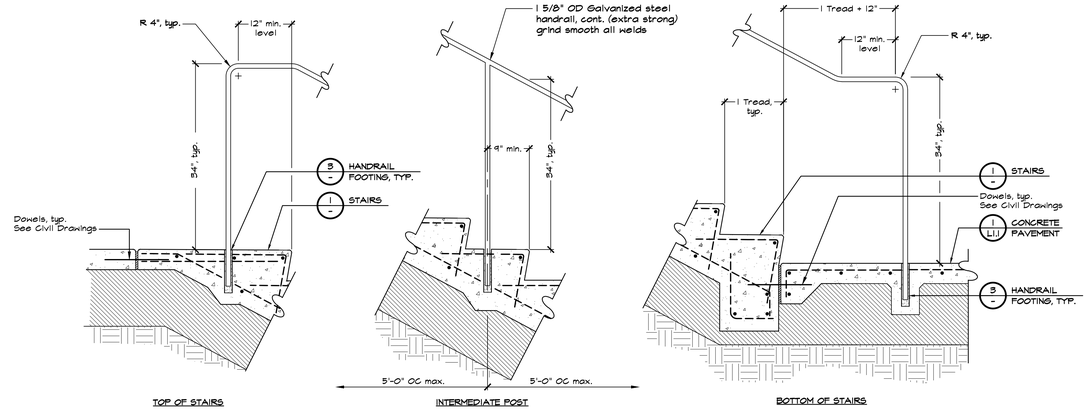
L1.2



NOTES:

1. See Concrete Notes on the Material and Detail Reference Plan in addition to requirements in the Specifications.
2. Concrete shall be uncolored concrete with a medium broom finish on all sides and parallel with concrete stairs.
3. Contractor shall submit paint samples that provide 70% contrast with concrete color and with slip resistant finish to the District for review and approval. Provide contrasting stripe at top and bottom tread.
4. Contractor shall comply with all requirements of the 2019 CBC (1B-504.4.)
5. See Structural Drawings for lap splice requirements and hook/bend information.

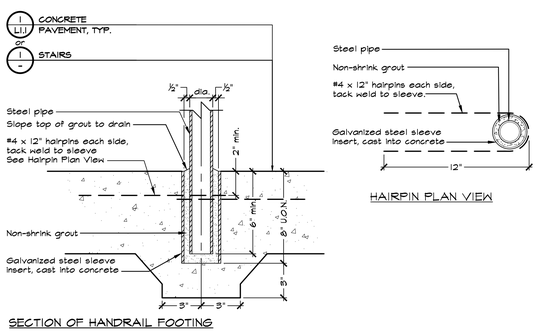
1 STAIRS
NOT TO SCALE



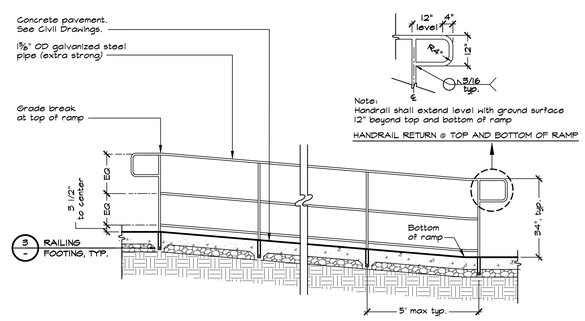
NOTES:

1. Handrails shall be manufactured from steel pipe, and then hot-dipped galvanized. All joints shall be fully welded and sanded smooth before hot-dipping the handrails.
2. Architect shall review and approve handrails in place prior to grouting.
3. See Material and Detail Reference Plan for handrail locations.

2 STAIR HANDRAIL
NOT TO SCALE



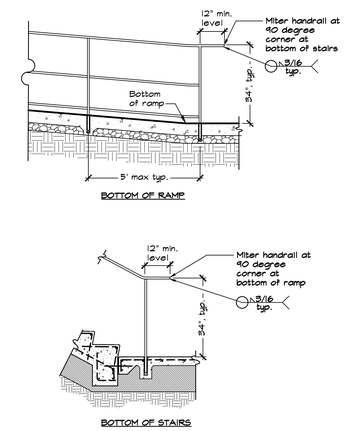
3 RAILING FOOTING
NOT TO SCALE



NOTES:

1. Handrail shall be manufactured from steel pipe, and then hot-dipped galvanized. All joints shall be fully welded and sanded smooth before hot-dipping the handrail.
2. District shall review and approve handrail in place prior to grouting.
3. See Material and Detail Reference Plans for handrail locations.

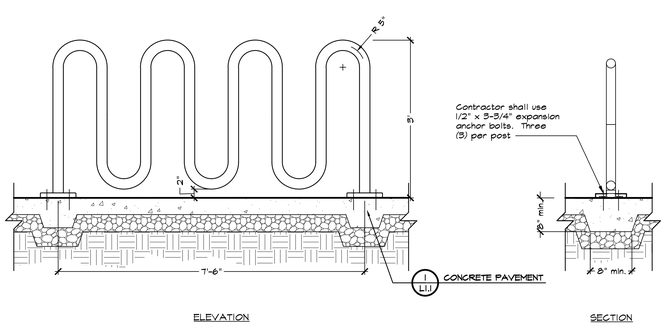
4 RAMP HANDRAIL
NOT TO SCALE



NOTES:

1. Handrail shall extend level with ground surface 12" beyond top and bottom of ramp and stairs.

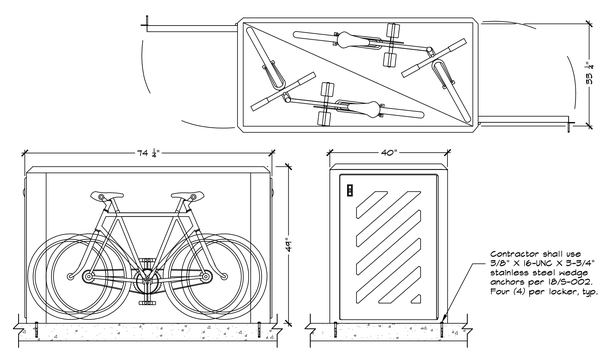
5 HANDRAIL CORNER
NOT TO SCALE



NOTES:

1. Bike Rack shall be DuMor Series 150 Bike Rack, 5 loops, hot-dipped galvanized. Contact Jon Bawden of Ross Recreation Equipment Co. (530) 342-2860.
2. Installation shall be per manufacturer's specifications.

6 BIKE RACK
NOT TO SCALE



NOTES:

1. Bike Locker shall be Ground Control Systems Fiberglass Bicycle Vault, Bike Locker-FBV2, Leather (Tan) UV stable color, fire retardant composite finish, closed door and padlock handle. Available through Ground Control Systems, (800) 630-7225, info@groundcontrolsystems.com, or approved equal.
2. Installation shall be per manufacturer's specifications.

GROUND CONTROL SYSTEMS

7 BIKE LOCKER
NOT TO SCALE

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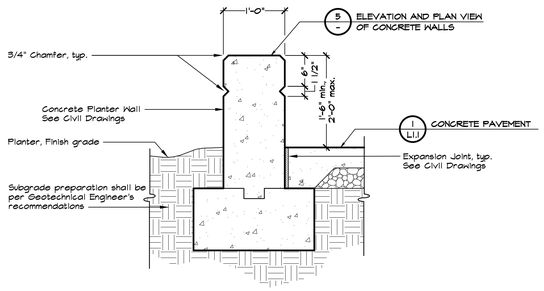
DECEMBER 2, 2020

SHEET TITLE

CONSTRUCTION DETAILS

SHEET NUMBER

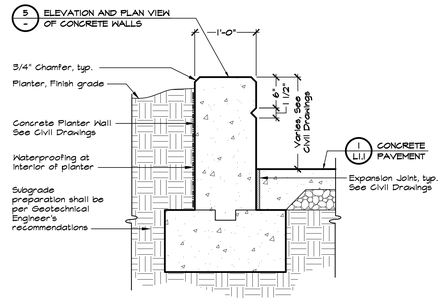
L1.3



NOTES:

1. See Concrete Notes on the Material and Detail Reference Plan.
2. See Civil Drawings for detailed grading and drainage plans.
3. Provide integral color where noted on the Material and Detail Reference Plan.
4. Hold top of wall level unless otherwise noted on Civil Drawings.
5. Wall finish shall be smooth sack finish on all surfaces and edges.
6. See Civil Drawings for detailed wall, reinforcement and wall drainage design.

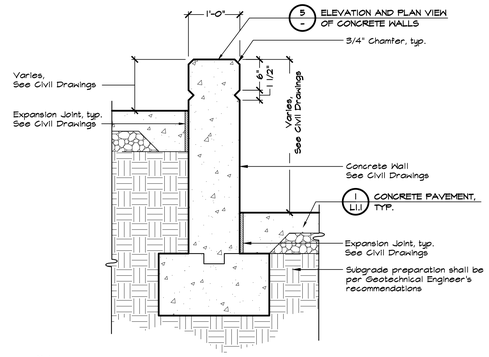
1 CONCRETE WALL - TYPE 1
NOT TO SCALE



NOTES:

1. See Concrete Notes on the Material and Detail Reference Plan.
2. See Civil Drawings for detailed grading and drainage plans.
3. Hold top of wall level unless otherwise noted on Civil Drawings.
4. Wall finish shall be smooth sack finish on all surfaces and edges.
5. See Civil Drawings for detailed wall, reinforcement and wall drainage design.

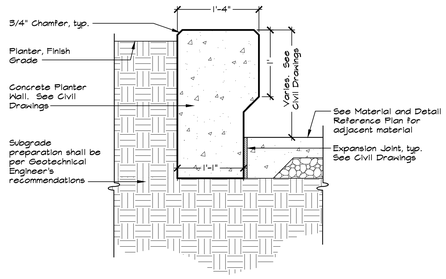
2 CONCRETE WALL - TYPE 2
NOT TO SCALE



Notes:

1. See Concrete Notes on the Material and Detail Reference Plan.
2. See Civil Drawings for detailed grading and drainage plans.
3. Hold top of wall level unless otherwise noted on the Civil Drawings.
4. Wall finish shall be smooth sack finish on all surfaces and edges.
5. See Civil Drawings for detailed wall, reinforcement and wall drainage design.

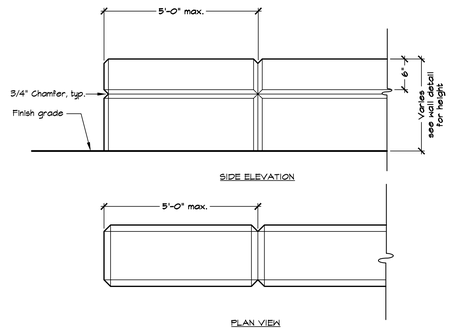
3 CONCRETE WALL - TYPE 3
NOT TO SCALE



NOTES:

1. See Civil Drawings for detailed grading and drainage plans.
2. Hold top of wall level unless otherwise noted on Civil Drawings.
3. Wall finish shall be smooth sack finish on all surfaces and edges.
4. See Civil Drawings for detailed wall, reinforcement and wall drainage design.
5. Contractor shall use District furnished form for planter.
6. Dimensions are approximate. Contractor shall verify in the field.

4 CONCRETE WALL - TYPE 4
NOT TO SCALE



NOTES:

1. See Civil Drawings for reinforcement and expansion joints.

5 ELEVATION AND PLAN VIEW OF CONCRETE WALLS
NOT TO SCALE

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APP: 01-119033 INC:
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DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
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REGISTERED LANDSCAPE ARCHITECT
BRUCE STRANGE
No. 2990
Exp. 10-31-22
STATE OF CALIFORNIA

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	BTI/HDJ
DRAWING SCALE:	1"=20'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

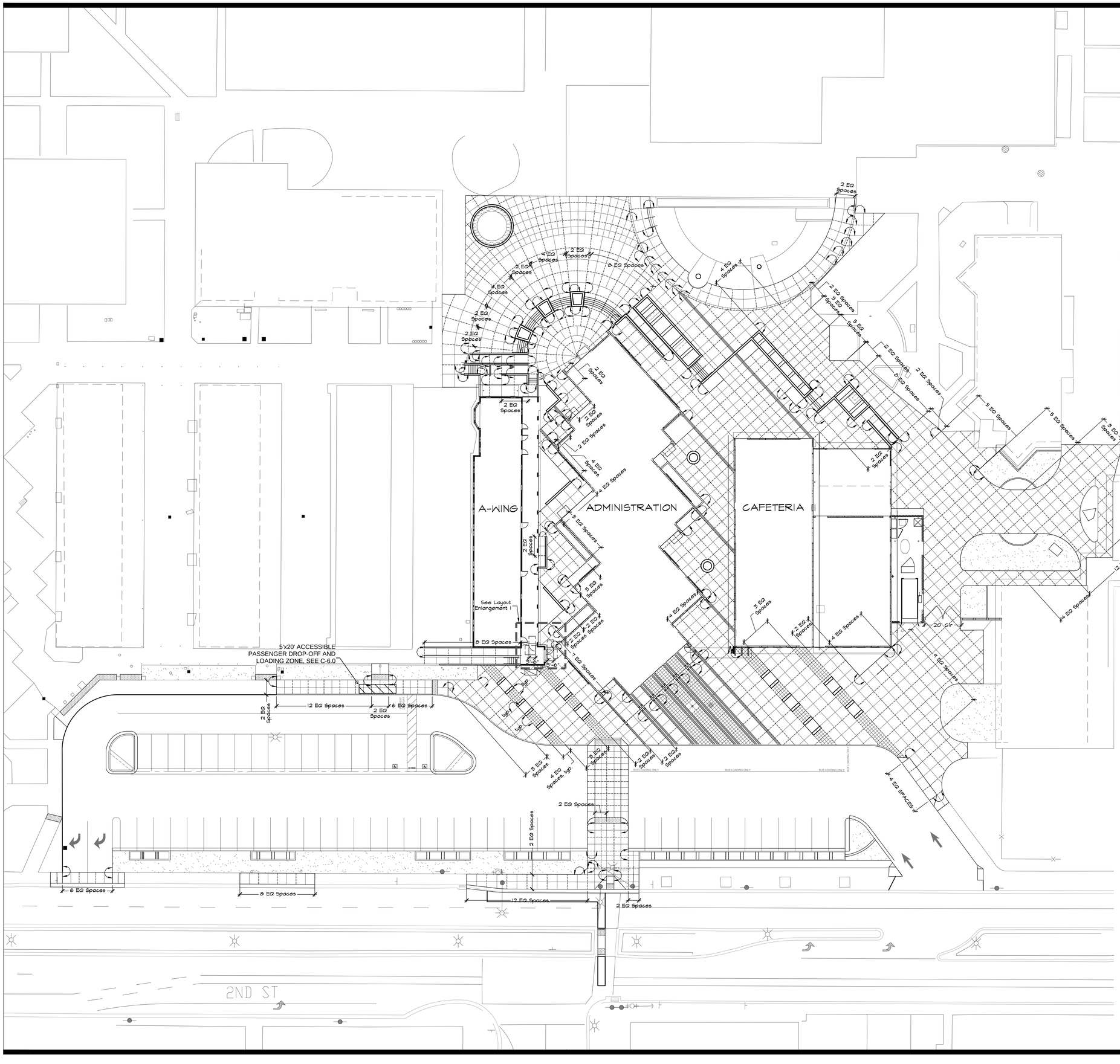
DECEMBER 2, 2020

SHEET TITLE

CONSTRUCTION DETAILS

SHEET NUMBER

L1.4

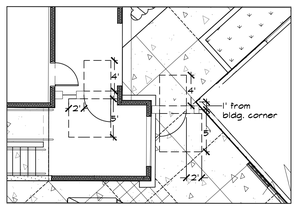


LAYOUT LEGEND

- RX'-Y" — Radial Dimension
- X' — Arc Dimension
- X" — Linear Dimension
- Align
- Guideline to show alignment
- EQ — Equal
- ℄ — Centerline
- MA — Midpoint of Arc
- PT — Point of Tangency
- Clr — Clear Opening
- 90 Degree Angle
- Control Points: a. Center of Circular Steps

LAYOUT NOTES

1. Contractor shall notify all public or private utility companies two (2) working days prior to commencement of work on this project to verify the locations of existing utility lines. Call Underground Service Alert (U.S.A.) toll free at 1-800-227-2600 or 811, 7:00am to 5:00pm, Monday through Friday.
2. All coordinates and dimensions shown are in a horizontal plane.
3. Written dimensions always take precedence over scaled dimensions. If there is a conflict, notify the Architect and obtain a clarification. No deviation or substitution shall be allowed without obtaining written approval from the Architect.
4. See Civil Drawings for additional layout information.
5. This Plan does not represent a Property Line Survey. Property lines shown hereon may not represent the true position of the line.
6. The Contractor shall coordinate all construction elements including utility locations and required sleeving prior to installation of any underground utilities.
7. The Contractor shall verify critical dimensions, reference and control point locations and construction conditions prior to construction.
8. All dimensions shall be verified in the field, chalked painted, and/or string lined. Any minor adjustments required to achieve overall design layout shall be reviewed and approved by the Architect prior to construction.
9. All materials shall be furnished and installed by the Contractor per Manufacturer's specifications, unless otherwise noted in these Plans or Specifications.
10. Existing features and topographic information have been taken from Survey performed by Carlson, Barbee & Gibson, Inc. on June 14, 2018 provided by Quattrocchi Kwok Architects. GSM landscape architects, Inc. assumes no liability, real or alleged, regarding the accuracy of the existing features or topographic information shown.



NOTES:

1. Gates shall comply with Maneuvering Clearances 2019 C.B.C. 11B-404.2.4.1.

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

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PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

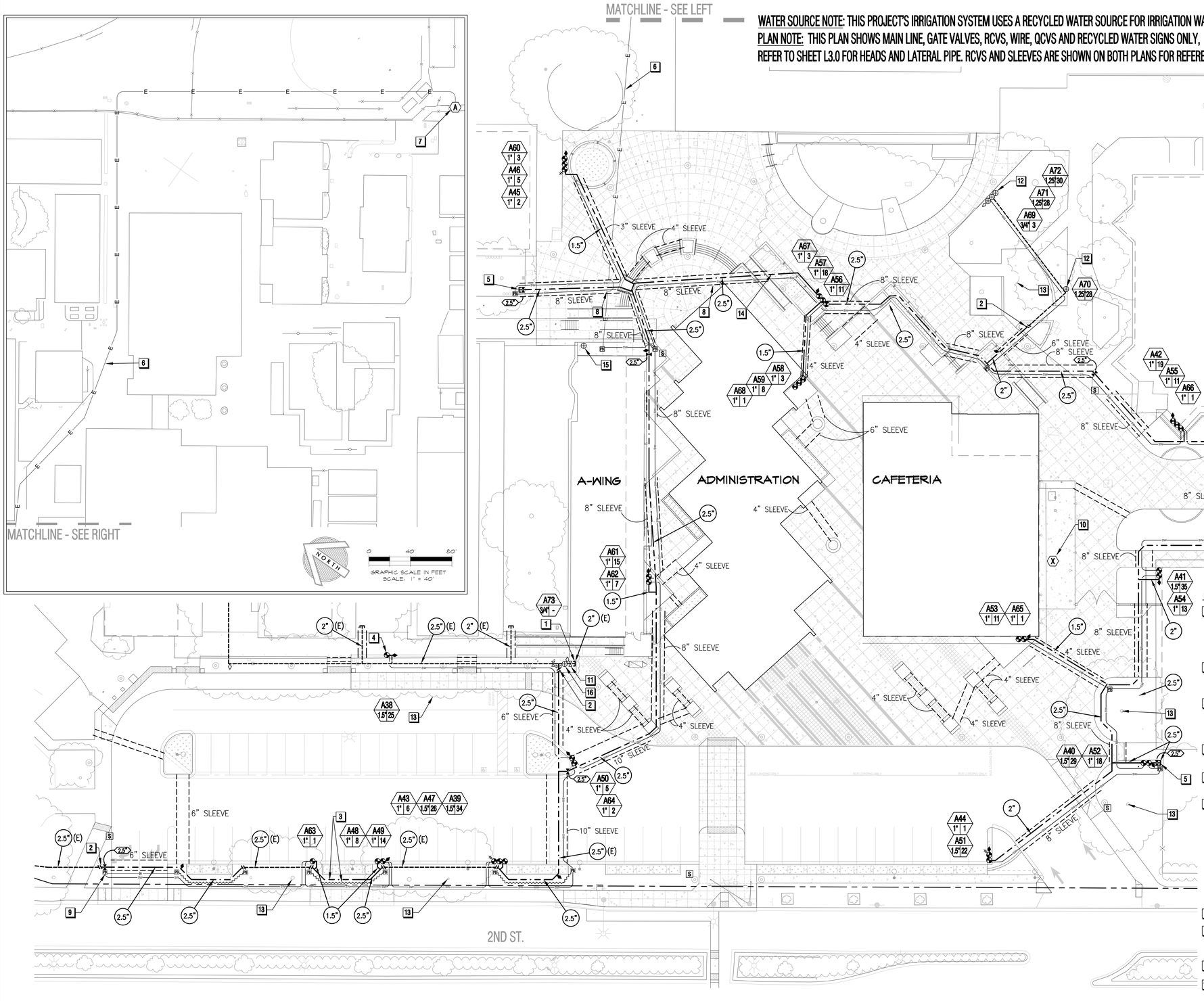
SHEET TITLE

LAYOUT PLAN

SHEET NUMBER

L2.0

WATER SOURCE NOTE: THIS PROJECT'S IRRIGATION SYSTEM USES A RECYCLED WATER SOURCE FOR IRRIGATION WATER.
PLAN NOTE: THIS PLAN SHOWS MAIN LINE, GATE VALVES, RCVS, WIRE, QCVS AND RECYCLED WATER SIGNS ONLY, REFER TO SHEET L3.0 FOR HEADS AND LATERAL PIPE. RCVS AND SLEEVES ARE SHOWN ON BOTH PLANS FOR REFERENCE.



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P:(925) 867-3339
EMAIL: JDE@EDDYASSOCIATES.COM
PLANNING-DESIGN-MANAGEMENT
JDE PROJECT NO: 20010

IRRIGATION DESIGNER:
JAMES D. EDDY ASSOCIATES, DANVILLE, CALIFORNIA
NOTE: NO LICENSE FOR THE LANDSCAPE IRRIGATION SYSTEM DESIGN PROFESSION IS AVAILABLE IN THE STATE OF CALIFORNIA.
MEMBER: AMERICAN SOCIETY OF IRRIGATION CONSULTANTS

CONSTRUCTION NOTES

1. AVOID (N) AND (E) UTILITIES INCLUDING SEWER LINES, ELECTRICAL CONDUITS, GAS LINES, AND TELEPHONE LINES. REFER TO CIVIL DRAWINGS FOR (N) AND (E) UTILITIES. POTHOLE TO LOCATE (N) AND (E) UTILITIES.
2. WHERE 2-WIRE CONTROL CABLE IS LOCATED BELOW VEHICULAR PAVEMENT: INSTALL 2-WIRE CABLE IN PVC ELECTRICAL CONDUIT, 24-INCH COVER, WITH TRAFFIC RATED CONCRETE PULL BOXES EVERY 200 FEET.
3. WHERE 2-WIRE CONTROL CABLE IS LOCATED BELOW PEDESTRIAN PAVEMENT: INSTALL 2-WIRE CABLE INSIDE A SPECIFIED SLEEVE, ADJACENT TO IRR MAIN LINE.
4. SLEEVES AND CONDUIT: INSTALL SLEEVES AND CONDUIT PER THIS SHEET, L3.0.
5. (E) IRRIGATION INSIDE THE (N) WORK AREA SHALL BE DEMOLISHED AS REQUIRED TO MAKE WAY FOR THE (N) HARDSCAPE CONSTRUCTION. THIS INCLUDES THE (E) RCV'S, LATERAL LINE PIPE, AND (E) QCV'S. WHEN IN DOUBT, CONFER WITH ARCHITECT FOR DIRECTION.
6. THE (E) IRRIGATION MAIN LINE SERVING LIBERTY HIGH SCHOOL CAMPUS LANDSCAPE SHALL REMAIN IN SERVICE AND IN GOOD WORKING ORDER AT ALL TIMES. PROVIDE THE FOLLOWING RESEARCH AND SERVICES PRIOR TO ACTUAL CONSTRUCTION OF THE NEW WORK:
   A. DISCUSS THE ACTUAL IRRIGATION MAIN LINE PIPE LOCATIONS WITH THE ARCHITECT. STAKE LOCATIONS AS REQUIRED.
   B. POT HOLE TO ESTABLISH WHAT BURIED PIPES ARE IRRIGATION MAIN LINES SERVING THE SCHOOL CAMPUS.
   C. CONSTRUCT (N) PVC MAIN LINE AS SHOWN ON THESE PLANS.
6. EXISTING SCHOOL CAMPUS IRRIGATION OUTSIDE OF THE AREA OF WORK SHALL BE OUT OF SERVICE FOR A MAXIMUM OF 72 HOURS. NOTIFY THE DISTRICT BEFORE START OF WORK AFFECTING (E) LANDSCAPE.
7. PIPE, VALVES, SLEEVES, AND WIRE PLAN LOCATIONS ARE DIAGRAMMATIC, TYPICAL. ROUTE IRRIGATION TO AVOID CONFLICT WITH UTILITIES AND SITE CONSTRUCTION. REFER TO INSTALLATION NOTE 6, SHEET L3.2.
8. MAIN LINE: AT 90 DEGREE BENDS, INSTALL MAIN LINE WITH TWO 45 DEGREE ELBOWS. DO NOT USE 90 DEGREE ELBOWS.

SHEET NOTES

1. CAP (E) RECYCLED WATER IRR MAIN LINE AT THIS LOCATION. (ORIGINATES FROM FIELD IRR MAIN LINE WITH RECYCLED WATER POINT OF CONNECTION AT OAK STREET). ALL (E) DOWNSTREAM MAIN LINE AND IRRIGATION SHALL BE DEMOLISHED FOR (N) CONSTRUCTION. DOWNSTREAM IRRIGATION OF THIS GATE VALVE WAS PREVIOUSLY CONTROLLED BY AN (E) 12-STATION CONTROLLER AT THE DEMOLISHED BUILDING 10.
2. CONNECT (N) RECYCLED WATER IRR PVC MAIN LINE PIPE TO (E) RECYCLED WATER IRR PVC MAIN LINE PIPE LOCATED IN THIS APPROXIMATE LOCATION. LOCATE EXACT MAIN LINE LOCATION IN THE FIELD.
3. MAIN LINE SHALL NOT BE INSTALLED IN BIOSWALE. CUT (E) MAIN LINE AND CONTROL WIRE AT EACH END OF EACH BIOSWALE. REROUTE MAIN LINE WITH (N) PIPE AS SHOWN. SPLICE TO (E) CONTROL WIRE AND RE-ROUTE CONTROL WIRE USING (N) CONTROL WIRE, SAME COLOR AS FOUND, AROUND BIOSWALE, TYPICAL.
4. REMOVE (E) RCV, USE (E) MAIN LINE TEE, REPLACE WITH (N) RISER AND RCV ASSEMBLY FOR (N) TURF ZONE. USE 2-WIRE PATH AND WIRE TO CONTROLLER "A" AT THE FIELD.
5. MAIN LINE STUB WITH 2-WIRE CONTROL CABLE FROM (E) CONTROLLER "A" FOR FUTURE USE.
6. 2-WIRE CABLE FROM (E) CONTROLLER "A" LOCATED AT FIELD SHALL BE INSTALLED IN (E) ELECTRICAL CONDUIT, ON-SITE. REFER TO DISTRICT FOR LOCATION AND AVAILABLE (E) ELECTRICAL PULL BOXES FOR PULLING OF 2-WIRE CABLE. IRR CONTRACTOR SHALL ROUTE 2-WIRE CABLE IN (E) ELECTRICAL CONDUIT AND ROUTE 2-WIRE CABLE INTO THE ADMINISTRATION PROJECT LANDSCAPE AREA. RCVS SHALL BE CONTROLLED FROM (E) CONTROLLER "A" AND THE ASSOCIATED (E) MASTER VALVE AND (E) FLOW SENSOR LOCATED AT THE RECYCLED WATER POC. REFER TO FIELD IRR IMPROVEMENT PLANS AND SEE (E) FIELD CONTROLLER "A" AT SITE. NOTE OF CAUTION: DUE TO SIGNAL INTERFERENCE, THE 2-WIRE CABLE CANNOT BE ROUTED INSIDE CONDUIT WITH OTHER ELECTRICAL CABLING. CONDUIT MUST BE DEDICATED FOR THE 2-WIRE CABLE. FIELD DETERMINE IF THIS IS POSSIBLE, CONFER WITH THE ARCHITECT AS NEEDED.
7. (E) FIELD CONTROLLER "A". REFER TO FIELD IRR IMPROVEMENT PLANS FOR DETAILS.
8. INSTALL SECTIONS OF 20-FOOT SLEEVES, IN A STRAIGHT LINE, LEVEL, AND SOLVENT WELDED AT JOINTS. USE 20-FOOT SLEEVE SECTIONS, QTY. AS REQUIRED. TRIM ENDS OF SLEEVE TO LENGTH AS REQUIRED.
9. STUB 2-WIRE CABLE INSIDE A ROUND PLASTIC VALVE BOX FOR FUTURE EXPANSION.
10. DEMOLISH (E) IRR 12-STATION CONTROLLER FROM PREVIOUS IRRIGATION WORK. RETURN TO DISTRICT.
11. SHUT DOWN THIS (E) GATE VALVE DURING DEMOLITION AND PRIOR TO IRRIGATION CONSTRUCTION.
12. (E) RCVS TO REMAIN IN SERVICE. IF VALVE IS MALFUNCTIONING, REBUILD WITH A VALVE REBUILD PACKAGE AS NEEDED. CONNECT (E) RCVS TO 2-WIRE PATH FROM FIELD CONTROLLER "A".
13. (E) TREE, TYPICAL. COMPLY WITH TREE PRESERVATION STANDARDS ON SHEET L4.1.
14. INSTALL A VERTICAL MAIN LINE PIPE RISER DUE TO ELEVATION DIFFERENCE. TAPE 2-WIRE PATH TO MAIN LINE RISER PIPE.
15. INVESTIGATE (E) UTILITY OR IRRIGATION BOX AND POTHOLE TO INVESTIGATE UNDERGROUND LINES. RELOCATE/REROUTE (E) IRRIGATION VALVE OR PIPING TO A PLANTING AREA AS REQUIRED FOR A FINISHED INSTALLATION.
16. DEMOLISH (E) RCV, CAP (E) MAIN LINE, AND AND ABANDON (E) WIRE

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LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	SUT/JDE
DRAWING SCALE:	1"=20'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

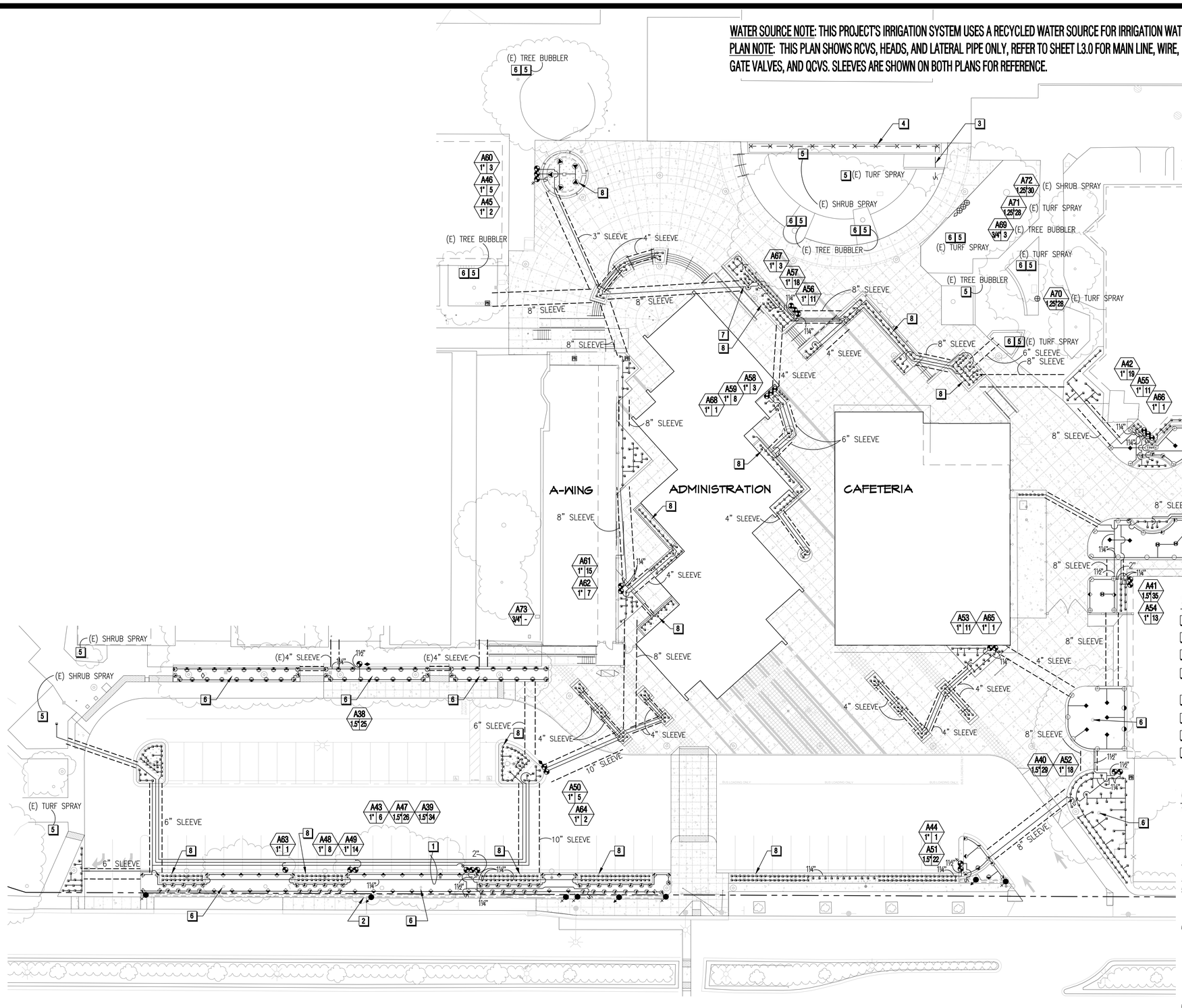
SHEET TITLE

IRRIGATION MAIN LINE, SLEEVE & WIRE PLAN

SHEET NUMBER

L3.0

WATER SOURCE NOTE: THIS PROJECT'S IRRIGATION SYSTEM USES A RECYCLED WATER SOURCE FOR IRRIGATION WATER.
PLAN NOTE: THIS PLAN SHOWS RCVS, HEADS, AND LATERAL PIPE ONLY, REFER TO SHEET L3.0 FOR MAIN LINE, WIRE, GATE VALVES, AND QCVS. SLEEVES ARE SHOWN ON BOTH PLANS FOR REFERENCE.



SHEET NOTES

1. INSTALL PIPES IN COMMON TRENCH.
2. INSTALL SUBSURFACE EMITTER TUBING IN 24–INCH ZONE PER MWELO REQUIREMENTS.
3. (E) 1" LATERAL PIPE FROM (E) SHRUB SPRAY ZONE.
4. (E) END STRIP AND SIDE STRIP SPRAY HEADS. REPAIR OR REPLACE HEADS AND NOZZLES AS NEEDED TO PROVIDE UNIFORM COVERAGE AND EFFICIENT OPERATION.
5. (E) IRRIGATED AREA TO REMAIN IN SERVICE AS IS.
6. (E) TREE, TYPICAL. COMPLY WITH TREE PRESERVATION STANDARDS ON SHEET L4.1.
7. VERTICAL LATERAL PIPE RISERS WILL BE REQUIRED DUE TO ELEVATION DIFFERENCE.
8. SEE CIVIL DRAWINGS FOR BIORETENTION AREAS. LOCATE SUBDRAIN AND ADJUST HEAD LOCATIONS AS REQUIRED. SECURE HEADS IN BIORETENTION FACILITIES WITH 1/2" PVC PIPE STAKES AND STAINLESS STEEL GEAR CLAMPS BELOW GRADE, REFER TO POP–UP SPRAY DETAIL.

CONSTRUCTION NOTES

1. AVOID (N) AND (E) UTILITIES INCLUDING SEWER LINES, ELECTRICAL CONDUITS, GAS LINES, AND TELEPHONE LINES. REFER TO CIVIL DRAWINGS FOR (N) AND (E) UTILITIES. POTHOLE TO LOCATE (N) AND (E) UTILITIES.
2. WHERE 2–WIRE CONTROL CABLE IS LOCATED BELOW VEHICULAR PAVEMENT: INSTALL 2–WIRE CABLE IN PVC ELECTRICAL CONDUIT, 24–INCH COVER, WITH TRAFFIC RATED CONCRETE PULL BOXES EVERY 200 FEET.
3. WHERE 2–WIRE CONTROL CABLE IS LOCATED BELOW PEDESTRIAN PAVEMENT: INSTALL 2–WIRE CABLE INSIDE A SPECIFIED SLEEVE, ADJACENT TO IRR MAIN LINE.
4. SLEEVES AND CONDUIT: INSTALL SLEEVES AND CONDUIT PER SHEET, L3.0.
5. (E) IRRIGATION INSIDE THE (N) WORK AREA SHALL BE DEMOLISHED AS REQUIRED TO MAKE WAY FOR THE (N) HARDSCAPE CONSTRUCTION. THIS INCLUDES THE (E) RCV'S, LATERAL LINE PIPE, AND (E) QCV'S. WHEN IN DOUBT, CONFER WITH ARCHITECT FOR DIRECTION.
6. THE (E) IRRIGATION MAIN LINE SERVING LIBERTY HIGH SCHOOL CAMPUS LANDSCAPE SHALL REMAIN IN SERVICE AND IN GOOD WORKING ORDER AT ALL TIMES. PROVIDE THE FOLLOWING RESEARCH AND SERVICES PRIOR TO ACTUAL CONSTRUCTION OF THE NEW WORK:
   A. DISCUSS THE ACTUAL IRRIGATION MAIN LINE PIPE LOCATIONS WITH THE ARCHITECT. STAKE LOCATIONS AS REQUIRED.
   B. POT HOLE TO ESTABLISH WHAT BURIED PIPES ARE IRRIGATION MAIN LINES SERVING THE SCHOOL CAMPUS.
   C. CONSTRUCT (N) PVC MAIN LINE AS SHOWN ON THESE PLANS.
6. EXISTING SCHOOL CAMPUS IRRIGATION OUTSIDE OF THE AREA OF WORK SHALL BE OUT OF SERVICE FOR A MAXIMUM OF 72 HOURS. NOTIFY THE DISTRICT BEFORE START OF WORK AFFECTING (E) LANDSCAPE.
7. PIPE, VALVES, SLEEVES, AND WIRE PLAN LOCATIONS ARE DIAGRAMMATIC, TYPICAL. ROUTE IRRIGATION TO AVOID CONFLICT WITH UTILITIES AND SITE CONSTRUCTION. REFER TO INSTALLATION NOTE 6, SHEET L3.2.

NORTH

0 20' 40'
GRAPHIC SCALE IN FEET
SCALE: 1" = 20'

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PLANNING -DESIGN -MANAGEMENT
JDE PROJECT NO: 20010

IRRIGATION DESIGNER: James D. Eddy
JAMES D. EDDY ASSOCIATES, DANVILLE, CALIFORNIA
NOTE: NO LICENSE FOR THE LANDSCAPE IRRIGATION SYSTEM DESIGN PROFESSION IS AVAILABLE IN THE STATE OF CALIFORNIA.
MEMBER: AMERICAN SOCIETY OF IRRIGATION CONSULTANTS

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DECEMBER 2, 2020

SHEET TITLE

IRRIGATION PLAN

SHEET NUMBER

L3.1

IRRIGATION INSTALLATION NOTES

REFER TO IRRIGATION SPECIFICATIONS FOR DETAILED INFORMATION.
LUHSD = LIBERTY UNION HIGH SCHOOL DISTRICT

1. THE (E) IRRIGATION MAIN LINE ROUTING AND VALVE LOCATIONS HAVE BEEN TAKEN FROM AN ARCHIVED DISTRICT IRRIGATION DESIGN PLAN (CIRCA 1990) AND PAST SURVEY PLANS. NO FIELD OR AERIAL SURVEY FOR IRRIGATION CONDITIONS WAS COMPLETED FOR OR PRIOR TO THIS DESIGN WORK. CONFIRM THE ACTUAL MAIN LINE AND VALVE LOCATIONS IN THE FIELD. THIS CONTRACT WORK SHALL FIELD EXAMINE AND SURVEY THE EXISTING IRRIGATION CONDITIONS.

2. PROVIDE INSTALLATION BY PERSONS FAMILIAR WITH IRRIGATION WORK AND UNDER THE SUPERVISION OF A QUALIFIED SUPERVISOR.

3. OBTAIN THE PERMITS REQUIRED AND PROVIDE LABOR AND MATERIALS NECESSARY TO FULLY COMPLETE THE WORK IN ACCORDANCE WITH THE DRAWINGS AND THE SPECIFICATIONS.

4. LOCATE AND PROTECT NEW AND EXISTING UTILITIES PRIOR TO EXCAVATION. DO NOT DAMAGE EXISTING UTILITIES, PAVING OR STRUCTURES. PROVIDE THE NECESSARY REPAIRS AT NO ADDITIONAL COST TO LUHSD.

5. REMOVE DEBRIS AND ACCUMULATION OF DEBRIS AS A RESULT OF IRRIGATION CONSTRUCTION FROM THE SITE AND LEAVE AREA IN A CLEAN CONDITION ACCEPTABLE TO LUHSD. MAINTAIN SITE FOR THE SPECIFIED CALENDAR DAYS FOLLOWING ACCEPTANCE OF THE WORK BY LUHSD AND MAKE CORRECTIONS OR REPAIRS TO THE IRRIGATION AS DIRECTED BY LUHSD AT THE COMPLETION OF THE MAINTENANCE PERIOD.

6. THE DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL BE AWARE OF THE FOLLOWING CONDITIONS WHILE REFERRING TO AND USING THESE PLANS FOR BIDDING AND DURING ACTUAL CONSTRUCTION:
   - (E) UTILITIES SUCH AS WATER LINES TO BUILDINGS AND DRINKING FOUNTAINS, SEWER LINES, DRAINAGE LINES, HIGH VOLTAGE ELECTRICAL LINES AND BOXES, TELEPHONE LINES, CABLE TV CABLE, FIBER OPTIC CABLING, AND OTHER (E) UTILITIES. NOTIFY USA (811), REFER TO ARCHIVE UTILITY PLANS, AND CONFER WITH THE DISTRICT.
   - LOCATE AND PROTECT (N) AND (E) UTILITIES PRIOR TO EXCAVATION AND TRENCHING. DO NOT DAMAGE (E) UTILITIES, PAVING OR STRUCTURES. DAMAGE REPAIR SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT OR LUHSD.
   - PIPE AND EQUIPMENT MAY BE SHOWN IN PAVING FOR CLARITY OF DRAWING THE PLAN ONLY. INSTALL PIPING AND EQUIPMENT IN PLANTING AREAS. INSTALL RCV'S AND VALVES IN LOCATIONS THAT ARE AWAY FROM GATES AND OUT OF PEDESTRIAN LINE OF TRAFFIC.
   - DUE TO THE SCALE OF THE DRAWINGS, ALL OFFSETS, FITTINGS, SLEEVES, ETC. WHICH MAY BE REQUIRED MAY NOT BE INDICATED. COORDINATE AND INSTALL THESE ITEMS DURING CONSTRUCTION AS REQUIRED.
   - PRIOR TO BID AND START OF CONSTRUCTION, INVESTIGATE THE STRUCTURAL AND ACTUAL CONDITIONS IN THE FIELD WHICH MAY AFFECT THE CONTRACT WORK INCLUDING OBSTRUCTIONS, GRADE DIFFERENCES, OR AREA DIFFERENCES WHICH MAY HAVE NOT BEEN CONSIDERED IN THE ENGINEERING OR MAY BE CONSTRUCTION RELATED. WHERE (E) FIELD CONDITIONS MAY AFFECT THE CONTRACT WORK, COORDINATE ACCORDINGLY BY NOTIFICATION AND APPROVAL OF LUHSD. PROVIDE A SHOP DIAGRAM CREATED BY THE CONTRACTOR'S DRAFTER TO SHOW THE INTENDED CONSTRUCTION WHICH VARIES FROM THE PLANS.

6. CONTRACTOR SHALL COORDINATE IRRIGATION CONTRACT WORK WITH ALL APPLICABLE CONTRACTORS AS FOLLOWS:
   - LOCATION AND INSTALLATION OF PIPE AND LOW VOLTAGE WIRE WHICH MAY AFFECT ANOTHER CONTRACTOR'S WORK (WHEN NECESSARY TO COORDINATE).
   - LOCATION AND INSTALLATION OF CONDUIT AND/OR SLEEVES THROUGH OR UNDER WALLS, ROADWAYS, PAVING, STRUCTURE, ETC. BEFORE CONSTRUCTION.
   - ASSUME FULL RESPONSIBILITY AT NO ADDITIONAL EXPENSE TO THE PROJECT OR LUHSD FOR REQUIRED REVISIONS TO CONSTRUCTION IF THESE NOTIFICATIONS ARE NOT COORDINATED AND COMPLETED.

7. AT THE END OF CONSTRUCTION, CONTRACTOR SHALL PROVIDE RECORD DRAWINGS AS PER THE IRRIGATION SPECIFICATIONS SHOWING THE FINAL LOCATIONS AND MEASUREMENTS OF IRRIGATION EQUIPMENT FOR APPROVAL BY LUHSD AND THE ARCHITECT.

8. THE INTENT OF THIS IRRIGATION SYSTEM DESIGN IS TO PROVIDE THE MINIMUM AMOUNT OF WATER REQUIRED TO SUSTAIN GOOD PLANT HEALTH.

9. PROGRAM THE CONTROLLER TO PROVIDE THE MINIMUM AMOUNT OF WATER NEEDED TO SUSTAIN GOOD PLANT HEALTH. MAKE ADJUSTMENTS TO THE PROGRAM FOR SEASONAL WEATHER CHANGES, PLANT MATERIAL, WATER REQUIREMENTS, MOUNDS AND SLOPES, SUN, SHADE AND WIND EXPOSURES.

10. THE IRRIGATION SYSTEM IN THIS CONTRACT WORK AREA IS DESIGNED FOR 1 VALVE TO OPERATE AT ONE TIME. THIS WILL ALLOW THE CONTRACT AREA SYSTEM TO IRRIGATE IN APPROXIMATELY 8 HOURS OR LESS ACCORDING TO WEATHER CONDITIONS. TOTAL GPM DEMAND OF SYSTEM WILL BE APPROXIMATELY 1–35 GPM MAXIMUM. DO NOT UNDER ANY CIRCUMSTANCE EXCEED 50 GPM OR OPERATE MORE THAN TWO (2) VALVES AT THE SAME TIME, ONE SPRAY ZONE AND ONE EMITTER ZONE.

11. IRRIGATION CONTROL WIRE: RAINMASTER 2–WIRE CABLE, TW–CAB–14, WITH U.L. APPROVAL FOR DIRECT BURIAL IN GROUND, SIZE AWG–UF #14–1.

12. SPLICES: MADE WITH 3M–DBY, OR SPEARS MODEL #400, OR APPROVED EQUAL SEAL PACKS.

13. INSTALL ONE SPARE 2–WIRE CABLE FROM CONTROLLER ALONG THE ENTIRE MAIN LINE. INSTALL 36" EXCESS WIRE INTO A QUICK COUPLER BOX AT EACH VALVE GROUP. WEATHERPROOF UNUSED WIRE ENDS. SPLICING OF 2–WIRE CABLE AND 24 VOLT WIRES IS NOT PERMITTED EXCEPT IN VALVE BOXES. LEAVE A 36" LONG, 1" DIAMETER COIL OF EXCESS WIRE AT EACH SOLENOID WIRE SPLICE.

14. PLASTIC VALVE BOXES AND LIDS SHALL BE <u>PURPLE</u> IN COLOR WITH BOLT DOWN, NON–HINGED COVER MARKED "IRRIGATION". BOX BODY SHALL HAVE KNOCK OUTS. MANUFACTURER: RAIN BIRD, NDS, OLD CASTLE, OR APPROVED EQUAL.

15. INSTALL REMOTE CONTROL VALVE BOXES 12" FROM WALK, CURB, BUILDING OR LANDSCAPE FEATURE. AT MULTIPLE VALVE BOX GROUPS, EACH BOX SHALL BE AN EQUAL DISTANCE FROM THE WALK, CURB, ETC. AND EACH BOX SHALL BE 12" APART. SHORT SIDE OF RECTANGULAR VALVE BOXES SHALL BE PARALLEL TO WALK, CURB, ETC. REFER TO BOX INSTALLATION DETAIL.

16. FLUSH AND ADJUST IRRIGATION HEADS FOR EFFICIENT PERFORMANCE. PREVENT OVERSPRAY ON THE WALKS, PLAYGROUNDS, ROADWAYS, SIGNS, LIGHTS, AND/OR BUILDINGS. SELECT THE BEST DEGREE OF ARC TO FIT THE EXISTING SITE CONDITIONS AND THROTTLE THE FLOW CONTROL OR PRESSURE REGULATION DEVICE AT EACH VALVE TO OBTAIN THE BEST OPERATING PRESSURE FOR EACH SYSTEM.

17. SET POP–UP HEADS PERPENDICULAR TO FINISH GRADE OF THE AREA TO BE IRRIGATED UNLESS OTHERWISE NOTED ON THE DRAWINGS.

18. IRRIGATION HEAD LAYOUT AND PIPING AS SHOWN ON THE DRAWINGS IS INDICATIVE OF THE WORK TO BE INSTALLED. IRRIGATION HEADS, ARC OF SPRAY, RADIUS OF SPRAY AND PIPING AT CERTAIN LOCATIONS MAY REQUIRE FIELD ADJUSTMENT TO PREVENT HARM TO TREE ROOTS AND INTERFERENCE OF TREES TO IRRIGATION SPRAY.

19. EXERCISE PARTICULAR ATTENTION AT ALL EXISTING AND NEW TREES TO ELIMINATE DIRECT SPRAY OF IRRIGATION HEADS ON TREE TRUNKS.

20. THE SPRINKLER SYSTEM DESIGN IS BASED ON THE MINIMUM OPERATING PRESSURE SHOWN ON THE IRRIGATION DRAWINGS. VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. REPORT ANY DIFFERENCE BETWEEN THE WATER PRESSURE INDICATED ON THE DRAWINGS AND THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO LUHSD.

21. IRRIGATION DEMAND: 1–35 GPM MAX. AT 80 PSI RECYCLED WATER PRESSURE AT OAK STREET POINT OF CONNECTION.

22. PIPE SIZING SHOWN ON THE DRAWINGS IS TYPICAL. AS CHANGES IN LAYOUT OCCUR DURING STAKING AND CONSTRUCTION ADJUST THE SIZE ACCORDINGLY.

23. BEFORE COMMENCING WITH WORK UNDER THIS CONTRACT, NOTIFY UNDERGROUND SERVICE ALERT AT <u>811</u> OR <u>1–800–227–2600</u>. DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES, PIPES, AND STRUCTURES BEFORE COMMENCING WORK. COSTS OF DAMAGES WHICH OCCUR FROM FAILURE TO ACCURATELY LOCATE AND PRESERVE THESE UTILITIES SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR.

24. <u>CAUTION</u>: USE SHOVELS AND HAND DIG TRENCHES AROUND (E) TREE ROOT SYSTEMS. INSTALL PIPING AWAY FROM (E) TREE ROOT SYSTEMS. PROTECT (E) TREE ROOT SYSTEMS AT ALL TIMES. TYPICAL FOR ALL (E) TREE ROOT SYSTEMS. INSTALL ALL BURIED IRRIGATION SUCH AS PVC PIPING, VALVES, HEADS, BOXES, CONDUIT WITH WIRES, IN A MANNER TO AVOID EXCAVATING OR TRENCHING WITHIN THE EXISTING TREE DRIPLINES AND ROOTZONES.

25. NOTE: NO PLASTIC PIPE OR SOLVENT WELDED JOINTS ARE PERMITTED ABOVE GRADE.

26. <u>(E) CONTROLLER, (E) MASTER VALVE, AND (E) FLOW SENSOR NOTE:</u> CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH CONTROLLER ASSEMBLY VENDOR, THE PROPER OPERATION OF THE (E) MASTER VALVE, (E) FLOW SENSOR, AND ALL ASSOCIATED PARTS AND HARDWARE TO PROVIDE A COMPLETE AND FULLY OPERABLE SYSTEM.

27. CONTRACTOR SHALL COORDINATE WORK AFFECTING EXISTING, TEMPORARY AND PROPOSED IMPROVEMENTS TO PROVIDE CONTINUOUS IRRIGATION SYSTEM OPERATION.

28. SUBSURFACE EMITTER IRRIGATION:
   - CONTACT THE LOCAL SUBSURFACE MANUFACTURER'S REPRESENTATIVE FOR THE INSTALLATION PROCEDURES AND FOR ASSISTANCE WITH THE INSTALLATION OF THE SUBSURFACE EMITTER LINE.
   - INSTALL EMITTER DRIPPERLINE ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND GUIDELINES AND THE DETAILS SHOWN ON THE PLANS.
   - PRIOR TO PLANTING, THOROUGHLY FLUSH ALL EMITTER TUBING TO REMOVE CONSTRUCTION DEBRIS AND SOIL FROM THE TUBING.
   - PRIOR TO PLANT INSTALLATION MAKE SURE THE SURROUNDING SHRUB PLANTING SOIL AND SOIL BASE FOR PLANTS IS THOROUGHLY MOISTENED.
   - TEMPORARY SURFACE WATERING IS REQUIRED AFTER INITIAL PLANTING OF THE PLANTS, SEED, OR SOD. ALLOW TWO WEEKS OR MORE AS NEEDED TO PROMOTE ROOT GROWTH AND SUSTAIN GOOD PLANT HEALTH.
   - CONTAINER ROOTBALL SOIL WILL HOLD WATER DIFFERENTLY FROM THE SITE'S NATIVE SOIL. DO NOT ALLOW SHRUB CONTAINER ROOTBALLS TO DRY OUT. KEEP CONTAINER ROOTBALLS MOIST AT ALL TIMES.
   - OBSERVE PLANTS TO MAKE SURE THAT THE PLANTS ARE ROOTING IN THE PREPARED SURROUNDING SOIL BASE AND HAVE ENOUGH MOISTURE.

29. USE THE MANUFACTURER RECOMMENDED T. CHRISTY SOLVENT WELD GLUE AND PRIMER AT ALL MAIN AND LATERAL LINE JOINTS. SOLVENT WELD THE JOINTS USING THE MANUFACTURER RECOMMENDED PROCEDURES FOR A SOLID AND COMPLETE GLUE JOINT. REFER TO THE WELD–ON CORPORATION INSTRUCTIONS, "BEST PRACTICES FOR SOLVENT WELDING THERMOPLASTIC PIPING: PVC, CPVC, and ABS" AT: HTTPS://WELDON.COM/WP–CONTENT/UPLOADS/2015/03/BESTPRACTICES_THERMOPLASTIC_SEP08.PDF.

30. PIPE THREAD SEALANT COMPOUND SHALL BE PERMATEX 51 OR RECTORSEAL T+2.

31. <u>SOLVENT WELDED JOINTS</u>: USE THE APPROVED SOLVENT WELD GLUE AND PRIMER AT ALL SOLVENT WELD SPIGOT JOINTS. GLUE THE JOINTS USING THE MANUFACTURER'S RECOMMENDED PROCEDURES FOR A SOLID AND COMPLETE GLUE JOINT. REFER TO THE WELD–ON CORPORATION INSTRUCTIONS, "BEST PRACTICES FOR SOLVENT WELDING THERMOPLASTIC PIPING: PVC, CPVC, and ABS": HTTPS://WELDON.COM/WP–CONTENT/UPLOADS/2015/03/BESTPRACTICES_THERMOPLASTIC_SEP08.PDF

TREE BUBBLER QUANTITY CHART

TREE SIZE	TREE LOCATION	DEEP ROOT BUBBLER QTY.	TOTAL GPM	PRECIP RATE (GPM)	NOTES
24" BOX	WITHIN SHRUB AREA	1	0.25	0.25	
24" BOX	WITHIN LANDSCAPE MULCH	2	0.5	0.5	INSTALL DEEP ROOT BUBBLERS 180 DEG APART & AT ROOTBALL.

ABBREVIATIONS:

AV	AIR VALVE
CI	CAST IRON
CU	COPPER
DEG	DEGREES
DI	DUCTILE IRON
DIA	DIAMETER
ECV	EMITTER CONTROL VALVE
EFF	EFFICIENCY
ETWU	ESTIMATED TOTAL WATER USE
ETO(ET)	EVAPOTRANSPIRATION
(E)	EXISTING
(F)	FUTURE
FC	FULL CIRCLE (360°)
FT	FEET
FIPT	FEMALE IRON PIPE THREAD
FPS	FEET PER SECOND
FS	FLOW SENSOR
FV	FLUSH VALVE
GA	GAUGE
GI	GALVANIZED IRON
GV	GATE VALVE
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
ID	INTERNAL DIAMETER
IN	INCHES
IRR	IRRIGATION
LA	LANDSCAPE ARCHITECT
MAWA	MAXIMUM APPLIED WATER ALLOWANCE
MAX	MAXIMUM
MCV	MASTER CONTROL VALVE
MV	MASTER VALVE
MIN	MINIMUM
MIPT	MALE IRON PIPE THREAD
MPR	MATCHED PRECIPITATION RATE
MWELO	MODEL WATER EFFICIENT LANDSCAPE ORDINANCE
(N)	NEW
NIC	NOT IN CONTRACT
NPW	NON POTABLE WATER
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
PC	PART CIRCLE (20°–360°)
PE	POLYETHYLENE
POC	POINT OF CONNECTION
PRECIP	PRECIPITATION
PRV	PRESSURE REDUCING VALVE
PVBA	PRESSURE VACUUM BREAKER ASSEMBLY
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYLCHLORIDE
PW	POTABLE WATER
QTY	QUANTITY
QCV	QUICK COUPLING VALVE
RCV	REMOTE CONTROL VALVE
RPBA	REDUCED PRESSURE BACKFLOW ASSEMBLY
RS	RIGID STEEL
RW	RECYCLED WATER
SCH	SCHEDULE
SF	SQUARE FOOT OR FEET
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
TBD	TO BE DETERMINED
TBE	THREADED BOTH ENDS
TOE	THREADED ONE END
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UPC	UNIFORM PLUMBING CODE
USA	UNDERGROUND SERVICE ALERT
UV	ULTRAVIOLET
UVR	ULTRAVIOLET RESISTANT
VAC	VOLTS–ALTERNATING CURRENT
VB	VALVE BOX
WM	WATER METER

IRRIGATION LEGEND

SYMBOL	NUMBER	DESCRIPTION	PSI	GPM OR GPH	RADIUS (MIN./MAX.)	PRECIP. RATE
6" POP-UP SPRAYS AT TURF						
	PROS–06–PRS30–CV–R/ 15H,Q	HUNTER 6" POP–UP BODY WITH CHECK VALVE, RECYCLED CAP, & HUNTER NOZZLE	30	1.9,1.0	12–15	1.8 IN/H
	PROS–06–PRS30–CV–R/ 15A	HUNTER 6" POP–UP BODY WITH CHECK VALVE, RECYCLED CAP, & HUNTER NOZZLE	30	0.5–3.7	12–15	1.8 IN/H
	PROS–06–PRS30–CV–R/ 12H	HUNTER 6" POP–UP BODY WITH CHECK VALVE, RECYCLED CAP, & HUNTER NOZZLE	30	1.3	10–12	2.0 IN/H
	PROS–06–PRS30–CV–R/ 10F,H,Q	HUNTER 6" POP–UP BODY WITH CHECK VALVE, RECYCLED CAP, & HUNTER NOZZLE	30	1.6,0.9,0.4	8–10	2.0 IN/H
	PROS–06–PRS30–CV–R/ 10A	HUNTER 6" POP–UP BODY WITH CHECK VALVE, RECYCLED CAP, & HUNTER NOZZLE	30	0.25–2.0	8–10	2.0 IN/H
	PROS–06–PRS30–CV–R/ 8F,H,Q	HUNTER 6" POP–UP BODY WITH CHECK VALVE, RECYCLED CAP, & HUNTER NOZZLE	30	1.0,0.5,0.24	6–8	1.7 IN/H
	PROS–06–PRS30–CV–R/ 8A	HUNTER 6" POP–UP BODY WITH CHECK VALVE, RECYCLED CAP, & HUNTER NOZZLE	30	0.22–1.76	6–8	3.1 IN/H
	PROS–06–PRS30–CV–R/ 5H,Q	HUNTER 6" POP–UP BODY WITH CHECK VALVE, RECYCLED CAP, & HUNTER NOZZLE	30	0.2,0.1	4–5	2.1 IN/H
12" POP-UP SPRAYS AT BIOSWALE						
	PROS–12–PRS30–CV–R/ 10A	HUNTER 12" POP–UP BODY WITH CHECK VALVE, RECYCLED CAP, & HUNTER NOZZLE	30	0.25–2.0	8–10	2.0 IN/H
	PROS–12–PRS30–CV–R/ 8F	HUNTER 12" POP–UP BODY WITH CHECK VALVE, RECYCLED CAP, & HUNTER NOZZLE	30	1.0	6–8	1.7 IN/H
TREE ROOT WATERING SYSTEM WITH SOCK AND PURPLE GRATE						
	[RWS–B–C–1401]+[RWS–SOCK]+ [RWS–GRATE–P]	RAIN BIRD (SEE "TREE BUBBLER QUANTITY CHART", THIS SHEET)	30	0.25	FLOOD	0.5 GPM
SHRUB BUBBLERS						
	1401	RAIN BIRD BUBBLER	30	0.25	FLOOD	0.25 GPM

SUBSURFACE DRIPPERLINE AT TURF, 24" BUFFER FROM HARDSCAPE (PER MWELO REQUIREMENTS)

12" SPACING — AREA OF TURF SUBSURFACE IRRIGATION ZONE: INSTALL TORO SUB–SURFACE DRIPPERLINE AS FOLLOWS: 5/8" DL2000 PC DRIPLINE WITH ROOTGUARD, MODEL RGP–212–E, PURPLE COLOR, 0.5 GPH, 12 INCH SPACING, WITH TORO COMPRESSION FITTINGS. INSTALL TUBING AT A SPACING OF 10–12 INCHES BETWEEN ROWS, 3–4 INCHES FROM PAVEMENT OR LANDSCAPE EDGE, AND TRIANGULATE THE EMITTER PORTS BETWEEN ROWS. INSTALL ZONES WITH AIR VALVE, FLUSH VALVE, AND OPERATION INDICATOR AS INDICATED IN THE DRIPPERLINE CONSTRUCTION DETAILS. PROVIDE A 3–4–INCH SOIL COVER.

<u>EACH DRIPLINE TUBING ZONE SHALL INCLUDE THE FOLLOWING ITEMS</u>:

NUMBER	DESCRIPTION
FCH–H	TORO HOSE END FLUSH DEVICE FOR FLUSHING THE PIPING AT END RUNS OF THE TORO DRIPPERLINE SYSTEMS. THIS ITEM PROVIDES A FLUSH OF THE SYSTEM TO EXHAUST DEBRIS WHICH MAY INFILTRATE THE EMITTER ZONE AND CLOG EMITTER OUTLETS. INSTALL IN OUT–OF–PLAY AREAS.
YD–500–34	TORO DRIPPERLINE AIR VENT/VACUUM RELIEF VALVE. INSTALL IN THE MIDDLE OF DRIPPERLINE ZONE. THIS ITEM EXHAUSTS AIR OR VACUUM WHICH COULD BE HARMFUL TO THE SYSTEM.

VALVES

NUMBER	DESCRIPTION
[100DWS.IB–R]+[TW–D–1] (1") [150DWS.IB–R]+[TW–D–1] (1.5")	GRISWOLD REMOTE CONTROL VALVE WITH INTEGRAL UNION, BALL VALVE, PURPLE CROSS HANDLE, AND RAINMASTER 2–WIRE DECODER (MINIMUM FLOW: 0.1 GPM).
[DWS–100R.IS–R]+[PRL–30]+ [TW–D–1]	GRISWOLD DRIP ZONE SOLENOID CONTROL REMOTE CONTROL VALVE, NORMALLY CLOSED, BRASS CONSTRUCTION, FIPT, WITH INTEGRAL UNION BALL VALVE, STRAINER, PURPLE CROSS HANDLE, SENNINGER LOW FLOW PRESSURE REGULATOR, AND RAINMASTER 2–WIRE DECODER. SIZE: 1". (EMITTER ZONES)
44NP ACME (1")	RAIN BIRD QUICK COUPLING VALVE WITH ACME THREADS AND NON–POTABLE LOCKING COVER
LMV–22BB (2.5")	LEEMCO RESILIENT WEDGE GATE VALVE WITH SLIP–ON CONNECTIONS AND 2" SQ. WRENCH NUT. IPS SERIES (BELL X BELL). SIZE TO BE EQUAL TO MAIN LINE PIPE SIZE. NOTE: GASKET BELL ENDS OF VALVE HAVE CAST ON SELF–RESTRAINED JOINT RESTRAINT SYSTEM.
(EXISTING)	EXISTING REMOTE CONTROL VALVE, CONFIRM LOCATION IN THE FIELD, SEE PLAN NOTES
(EXISTING)	EXISTING GATE VALVE, CONFIRM LOCATION IN THE FIELD, SEE PLAN NOTES
(EXISTING)	EXISTING QUICK COUPLING VALVE, CONFIRM LOCATION IN THE FIELD, SEE PLAN NOTES

CONTROLLER

A — SA6–RM2–TW/2YR/PMR/RSE/ EMP–16/PED–.../1RMD1/ 1RMD2/1RM...

CONTROLLER ASSEMBLY CONSISTING OF A RAINMASTER "EAGLE PLUS" iCENTRAL 2–WIRE CONTROLLER WITH 200 STATIONS AND THE FOLLOWING OPTIONS:
- 2 ADDITIONAL YEARS OF iCENTRAL SERVICE
- RAINMASTER REMOTE ASSEMBLY (PMR)
- RAIN SENSOR (ENCLOSURE MOUNT)
- ENCLOSURE MOUNTING PAD
- ENCLOSURE PEDESTAL
- RAINMASTER 1 STATION DECODER (RAINMASTER TW–D–1)
- RAINMASTER LIGHTNING ARRESTOR (EVERY 600 FEET; RAIN MASTER TW–LA–1)
- 2–WIRE CABLE: RAIN MASTER TW–CAB–14

-EXISTING AT FIELD-

-EXISTING AT FIELD-

NOTE: THIS CONTROLLER IS EXISTING AT THE FIELD AND IS A 2–WIRE CABLE CONTROLLER WITH STATION DECODERS AND SHALL BE USED FOR ALL (N) REMOTE CONTROL VALVES. (35 STATIONS FOR THIS WORK, 72 STATIONS TOTAL USED, 128 STATIONS EXTRA)

CONTROLLER STATION NUMBER
APPROXIMATE FLOW (GPM)
REMOTE CONTROL VALVE SIZE

SLEEVES AND PIPE

(E) IRR MAIN LINE. CONFIRM ACTUAL LOCATION AND SIZE IN THE FIELD. REPORT ANY DIFFERENCE FROM THE DESIGN PLAN SIZE TO THE ACTUAL SITE CONDITION SIZE TO THE DISTRICT.

2.5–INCH AND SMALLER MAIN LINE: 1120–SCHEDULE 40 PVC <u>PURPLE</u> PLASTIC PIPE FOR RECYCLED WATER USE WITH SOLVENT WELDED CONNECTIONS AND SCHEDULE 40 PVC PLASTIC SOLVENT WELDED FITTINGS. SOIL COVER: 18–INCH IN SOIL, 18–INCH UNDER PEDESTRIAN PAVEMENT, 24–INCH UNDER VEHICULAR PAVEMENT. SIZE AS NOTED. PROVIDE T.CHRISTY BURIED DETECTABLE WARNING TAPE PER THE SPECIFICATIONS.

LATERAL LINE: 1120–SCHEDULE 40 PVC <u>PURPLE</u> PLASTIC PIPE FOR RECYCLED WATER USE WITH SOLVENT WELDED CONNECTIONS AND SCHEDULE 40 PVC PLASTIC SOLVENT WELDED FITTINGS. 12–INCH SOIL COVER. SIZE 1–INCH UNLESS OTHERWISE NOTED.

(E) IRR LATERAL LINE. CONFIRM ACTUAL LOCATION AND SIZE IN THE FIELD. REPORT ANY DIFFERENCE FROM THE DESIGN PLAN SIZE TO THE ACTUAL SITE CONDITION SIZE TO THE DISTRICT.

SLEEVE: 1120–CLASS 200 OR SCHEDULE 40 PVC PLASTIC PIPE, WHICHEVER HAS THE LARGEST WALL THICKNESS, WITH SCHEDULE 40 PVC PLASTIC SOLVENT WELDED FITTINGS. SOIL COVER TO BE EQUAL TO COVER REQUIRED FOR PIPE CONTAINED WITHIN SLEEVE 18–INCH MINIMUM COVER. 2–INCH DIA. UNLESS OTHERWISE NOTED.

E — E — E — (E) ELECTRICAL CONDUIT TO BE USED FOR LOW VOLTAGE 2–WIRE CABLE ROUTING. REFER TO DISTRICT FOR LOCATION AND AVAILABLE (E) ELECTRICAL PULL BOXES FOR PULLING OF 2–WIRE CABLE.

SW — SW — 2–WIRE PATH FROM (E) CONTROLLER "A" AT THE FIELD.

LOW VOLTAGE CONVENTIONAL CONTROL AND COMMON WIRE RE–ROUTE FROM (E) CAMPUS CONTROLLER

PB — ELECTRICAL PULL BOX FOR WIRE SPLICES: ROUND PLASTIC BOX WITH PLASTIC BOLT–DOWN LID.

RECYCLED WATER SIGNAGE

S — CITY OF BRENTWOOD RECYCLED WATER ADVISORY SIGN AVAILABLE FROM THE CITY. VERIFY FIELD CONSTRUCTION DETAILS AND FIELD LOCATIONS WITH THE CITY'S RECYCLED WATER REPRESENTATIVE.

NOTE: MINIMUM SPRINKLER RADIUS IS BASED UPON 80% OF THE MANUFACTURER'S SPECIFIED MAXIMUM RADIUS.

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JDE PROJECT NO: 20010

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NOTE: NO LICENSE FOR THE LANDSCAPE IRRIGATION SYSTEM DESIGN PROFESSION IS AVAILABLE IN THE STATE OF CALIFORNIA.
MEMBER: AMERICAN SOCIETY OF IRRIGATION CONSULTANTS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

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REGISTERED LANDSCAPE ARCHITECT
GRETCHEN STRANZL McCANN
No. 2790
Exp. 10–31–22
STATE OF CALIFORNIA

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	SUT/JDE
DRAWING SCALE:	N/A
PTN: 61721-75	FILE NO: 7-H4

CD
DECEMBER 2, 2020

SHEET TITLE

IRRIGATION LEGEND & NOTES

SHEET NUMBER

L3.2

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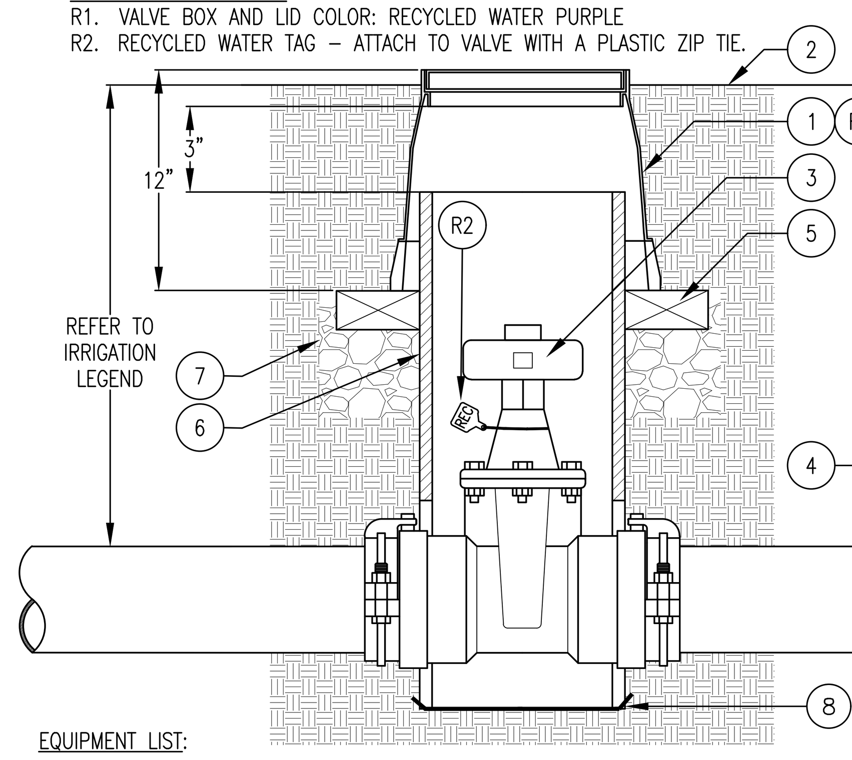
RECYCLED WATER ITEMS:
R1. VALVE BOX AND LID COLOR: RECYCLED WATER PURPLE
R2. RECYCLED WATER TAG – ATTACH TO VALVE WITH A PLASTIC ZIP TIE.



LEEMCO VALVE MODEL NO.	
SIZE	MODEL NO.
2"	LMV-11BB
2.5"	LMV-22BB
3"	LMV-33BB
4"	LMV-44BB
6"	LMV-66BB

EQUIPMENT LIST:
(REFER TO BUBBLED NUMBERS)
1. 10" ROUND PLASTIC VALVE BOX WITH PLASTIC BOLT-DOWN LID.
2. FINISH GRADE
3. LEEMCO GATE VALVE, BELL CONNECTIONS WITH INTEGRAL RESTRAINTS. UNLESS OTHERWISE NOTED, PLACE VALVE IN THE OPEN POSITION. BOLT TORQUE: 3" = 20 FT-LBS; 4", 6" & 8" = 50 FT-LBS.
4. MAIN LINE PIPE (ACCORDING TO LEGEND AND SPECIFICATIONS)
5. BRICK BASE (2 TOTAL, 180 DEGREES APART)
6. 10" SCH. 40 OR CLASS 200 PVC RISER-NOTCH RISER TO FIT OVER PIPE
7. CRUSHED GRAVEL, 6" DEEP, ALL AROUND
8. GALVANIZED WIRE CLOTH, 1/2" MESH, 19 GAUGE

INSTALLATION NOTES:
1. INSTALL VALVE BOX FLUSH WITH FINISH GRADE IN TURF AND 1" ABOVE FINISH GRADE IN SHRUB AREAS.
2. KEEP BRICKS AWAY FROM PIPE.

1 GATE VALVE, LEEMCO WITH BELL CONNECTIONS & RESTRAINTS (2.5")
NOT TO SCALE

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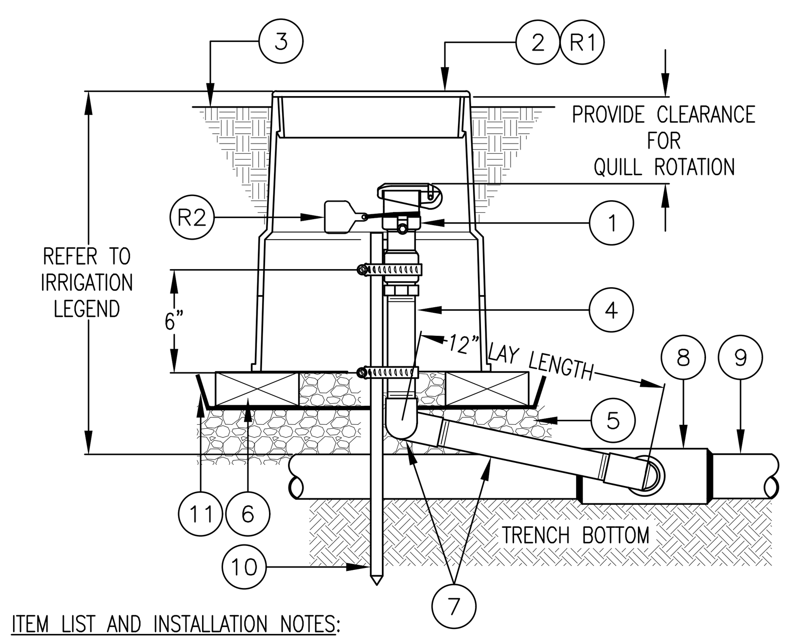
RECYCLED WATER ITEMS:
R1. VALVE BOX AND LID COLOR: RECYCLED WATER PURPLE
R2. RECYCLED WATER TAG – ATTACH TO VALVE WITH A PLASTIC ZIP TIE.



ITEM LIST AND INSTALLATION NOTES:
1. QUICK COUPLING VALVE – INSTALL VALVE PERPENDICULAR TO FINISHED GRADE UNLESS FIELD CONDITIONS REQUIRE ADJUSTMENT. INSTALL IN OUT-OF-PLAY OR PEDESTRIAN ACCESS AREAS. UNLESS OTHERWISE NOTED, FITTINGS ARE THE SAME IPT SIZE AS THE VALVE IPT INLET THREAD SIZE.
2. PLASTIC VALVE BOX AND LID, 10" ROUND, BOLT-DOWN LID – INSTALL VALVE BOX FLUSH WITH FINISH GRADE IN TURF AND 1" ABOVE FINISH GRADE IN SHRUB AREAS
3. FINISH GRADE OR TOP OF MULCH
4. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
5. CRUSHED GRAVEL BASE, 6" DEEP
6. COMMON BRICK, 2 TOTAL, 180 DEGREES APART
7. SWING JOINT ASSEMBLY:
   A. FINGER TIGHTEN O-RING JOINTS AND BACK-OFF ONE FULL TURN TO ALLOW FOR SWING ACTION.
   B. PROVIDE 12" BETWEEN CENTER LINES OF ELBOWS ON SWING ARM.
   C. INSTALL THE SWING JOINT LAY ARM AT AN ANGLE BETWEEN 30° AND 45° OF THE LATERAL IN ORDER TO ABSORB DOWNWARD IMPACT.
   D. SWING JOINT MANUFACTURER: RAIN BIRD SWJ SERIES, 1" DURA STANDARD UNI-BODY MODEL 1-A2-2-1-12, OR APPROVED EQUAL.
8. TEE, ELBOW OR SADDLE CONNECTION (PER MAIN LINE FITTING SPECIFICATIONS)
9. MAIN LINE PIPE, (MATERIAL AND TYPE PER LEGEND AND SPECIFICATIONS)
10. #4 X 24" REBAR STAKE W/STAINLESS STEEL GEAR CLAMPS OR EQUIVALENT SUPPORT SYSTEM
11. METAL WIRE MESH TO PREVENT GOPHER INTRUSION, 1/2" MESH, 19 GA, GALVANIZED

2 QUICK COUPLING VALVE IN LANDSCAPED AREAS
NOT TO SCALE

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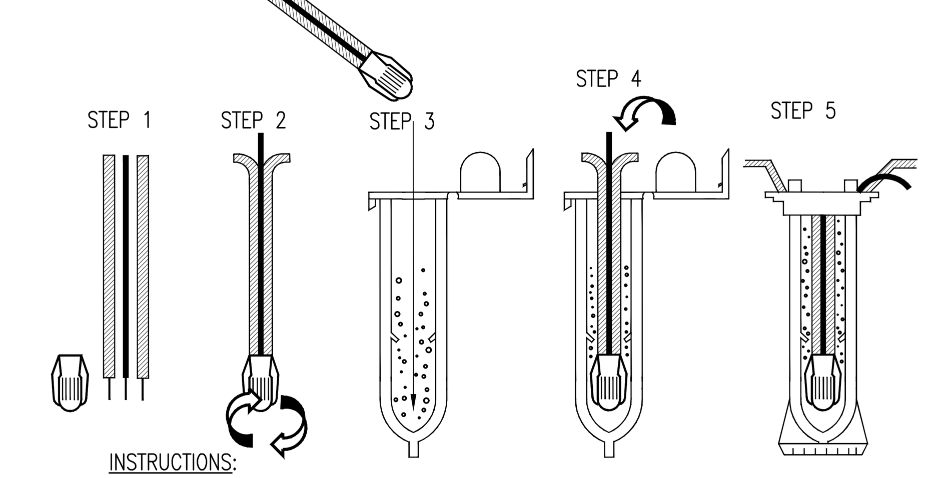

INSTRUCTIONS:
1. STRIP WIRES APPROXIMATELY 1/2" TO EXPOSE WIRE.
2. TWIST CONNECTOR AROUND WIRES CLOCKWISE UNTIL HAND TIGHT, DO NOT OVERTIGHTEN.
3. INSERT WIRE ASSEMBLY INTO PLASTIC TUBE UNTIL WIRE CONNECTOR SNAPS PAST LIP IN BOTTOM OF TUBE.
4. PLACE WIRES WHICH EXIT TUBE IN WIRE EXIT HOLES AND CLOSE CAP UNTIL IT SNAPS.
5. INSPECT FINAL SPLICE ASSEMBLY TO BE SECURE AND FINISHED.

3 WIRE SPLICE
NOT TO SCALE

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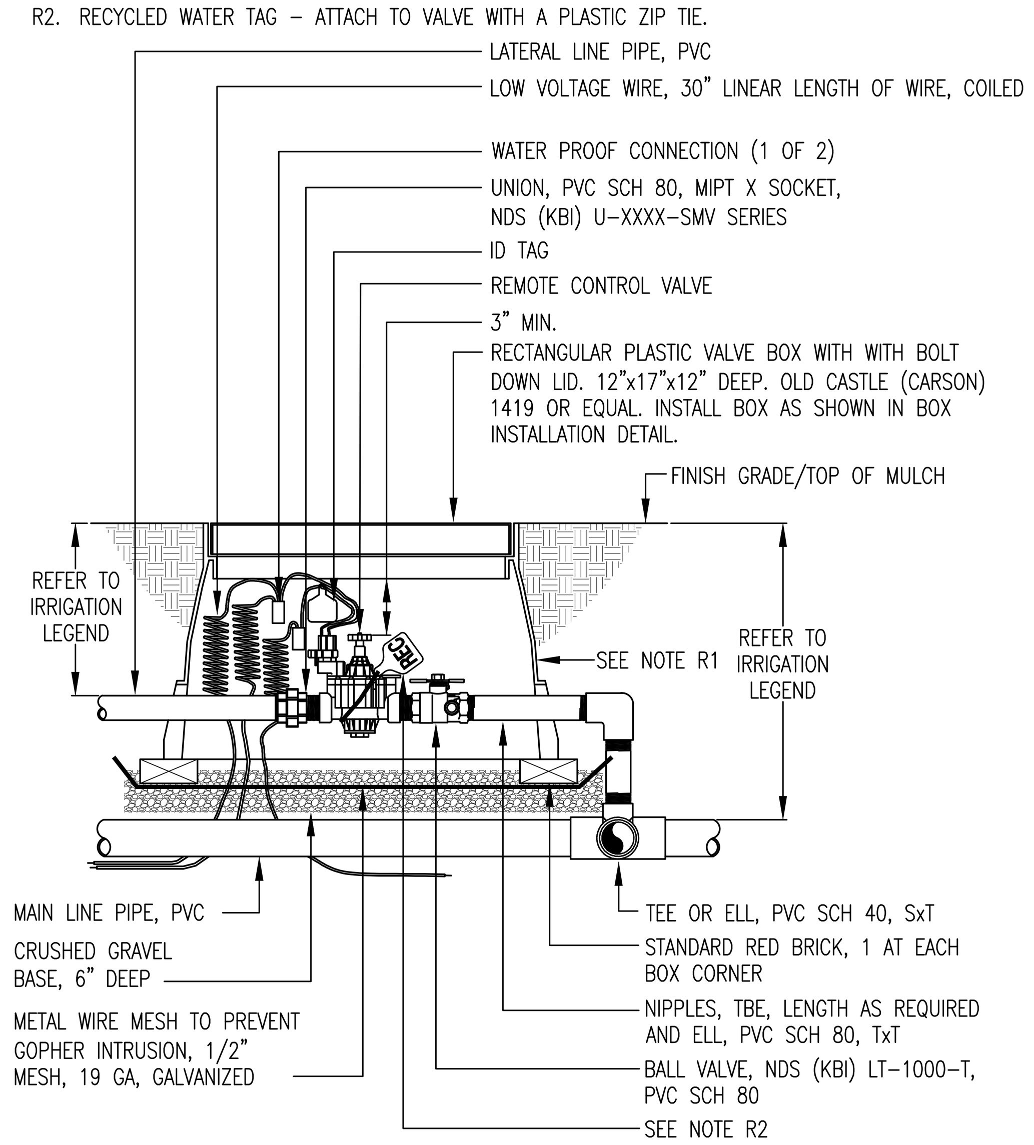
RECYCLED WATER ITEMS:
R1. VALVE BOX AND LID COLOR: RECYCLED WATER PURPLE
R2. RECYCLED WATER TAG – ATTACH TO VALVE WITH A PLASTIC ZIP TIE.



4 REMOTE CONTROL VALVE (SPRAY AND BUBBLER ZONES)
NOT TO SCALE

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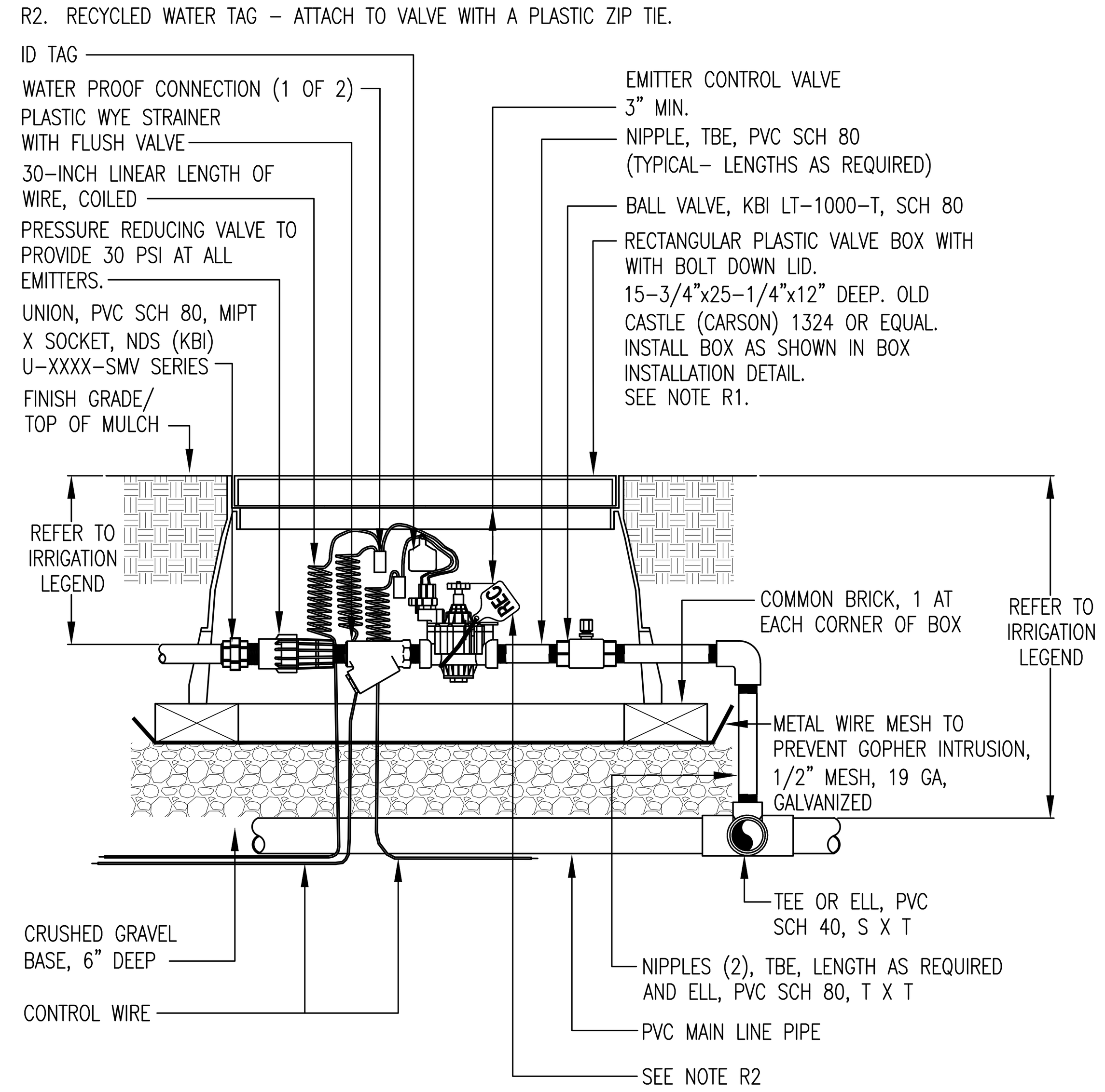
RECYCLED WATER ITEMS:
R1. VALVE BOX AND LID COLOR: RECYCLED WATER PURPLE
R2. RECYCLED WATER TAG – ATTACH TO VALVE WITH A PLASTIC ZIP TIE.



5 EMITTER CONTROL VALVE
NOT TO SCALE

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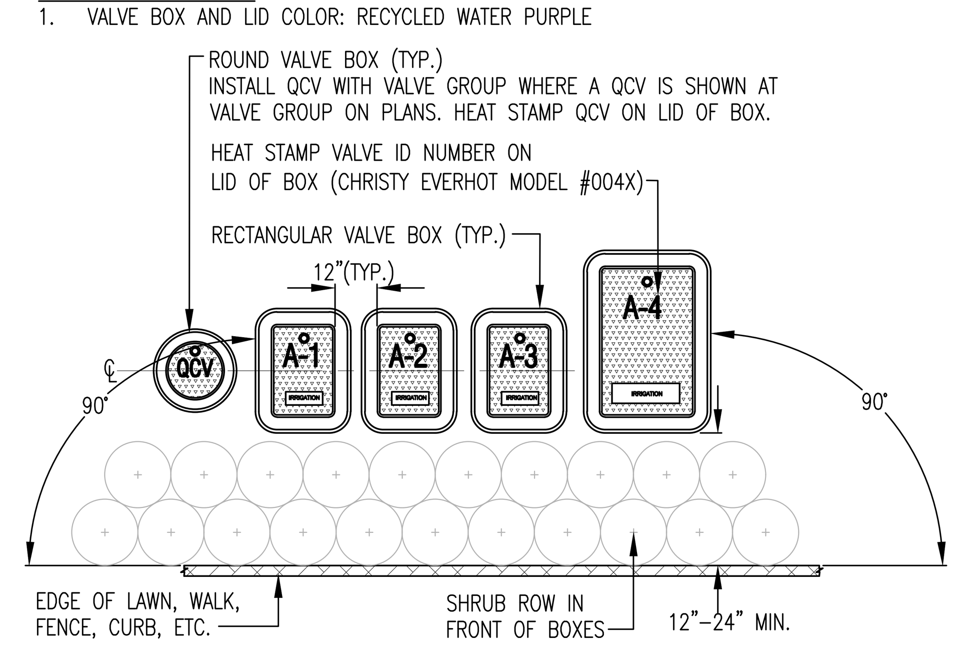
RECYCLED WATER ITEMS:
1. VALVE BOX AND LID COLOR: RECYCLED WATER PURPLE



INSTALLATION NOTES:
1. INSTALL VALVE BOXES AS SHOWN IN THE DETAIL ABOVE.
2. INSTALL VALVE BOX ASSEMBLIES IN SHRUB OR GROUND COVER ZONES. VALVE ASSEMBLIES INSTALLED IN A TURF ZONE IS PERMITTED ONLY IF A SHRUB OR GROUND COVER AREA DOES NOT EXIST IN THE PROXIMITY OF THE IRRIGATION ZONE.
3. PLACE THE CENTER OF THE VALVE BOX OVER THE CENTER OF THE REMOTE CONTROL VALVE. INSTALL VALVE BOX IN A WAY TO ENABLE EASY SERVICING OR REMOVAL OF VALVE.
4. INSTALL TOP OF BOX 1" ABOVE FINISHED GRADE IN SHRUB OR GROUND COVER AREAS OR EQUAL TO THE DEPTH OF THE MULCH AND FLUSH WITH GRADE IN TURF ZONES. INSTALL THE TOP OF BOX AT THE SAME ANGLE AS THE FINISHED GRADE.
5. PREVENT THE COLLAPSE AND DEFORMATION OF VALVE BOX SIDES. DO NOT HEAVILY COMPACT SOIL AGAINST THE SIDES OF THE VALVE BOX.
6. INSTALL EXTENSION RISERS TO VALVE BOX AS REQUIRED TO COMPLETELY ENCLOSE VALVE ASSEMBLY. PROVIDE EXTENSION RISER MANUFACTURED BY THE SAME MANUFACTURER OF THE VALVE BOX.
7. PREVENT SOIL INTRUSION INTO THE BOX. USE 20 MIL POLYETHYLENE TAPE AROUND PIPE CUTOUTS AS NEEDED.
8. SAWCUTTING OR MODIFYING THE VALVE BOXES BEYOND WHAT THE MANUFACTURER ALLOWS IS NOT PERMITTED.
11. WHEN ASSEMBLY IS COMPLETE INSTALL THE GRAVEL BELOW THE VALVE. FINISHED GRAVEL SHALL BE CLEAN WITHOUT DEBRIS IN THE VALVE BOX.
12. WHEN WORK IS COMPLETE AND ACCEPTED BY THE DISTRICT OR TO PREVENT VANDALISM, BOLT DOWN THE LIDS.

6 BOX INSTALLATION
NOT TO SCALE

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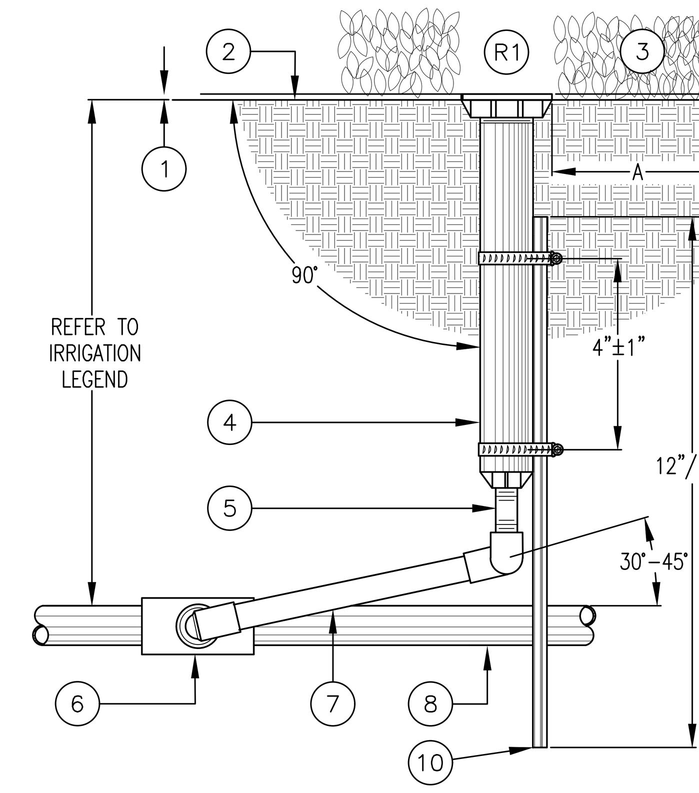

EQUIPMENT LIST:
(REFER TO BUBBLED NUMBERS)
1. SEE INSTALLATION NOTE 1
2. FINISH GRADE/TOP OF MULCH
3. PLANT MATERIAL
4. POP-UP SPRAY HEAD
5. PVC SCH 80 TBE NIPPLE, LENGTH AS REQUIRED
6. PVC SCH 40 TEE OR ELL
7. VENDOR FABRICATED SWING JOINT, RAIN BIRD, TORO, DURA, OR LASCO
8. PVC LATERAL PIPE
9. BUILDING, HEADERBOARD, FENCE, SIDEWALK, OR CURB
10. 1/2" DIA. SCH 40 PVC PIPE STAKE WITH STAINLESS STEEL GEAR CLAMPS IN BIO-RETENTION AREAS ONLY: 12" LONG FOR 6" POP-UP; 18" LONG FOR 12" POP-UP.

RECYCLED WATER ITEMS:
R1. TOP OF HEADS MUST CLEARLY INDICATE THE USE OF RECYCLED WATER.

INSTALLATION NOTES:
1. INSTALL TOP OF HEAD 1" ABOVE FINISH GRADE IN SHRUB AREAS AND FLUSH WITH GRADE IN TURF AREAS. SIDE INLET USE IS NOT PERMITTED.
2. DIMENSION "A": INSTALL HEAD 4" FROM HEADERBOARD OR FENCE AND 24" FROM BUILDINGS AND NON-PERMEABLE PAVED SURFACES.
3. INSTALL HEAD PERPENDICULAR TO FINISHED GRADE.
4. PRIOR TO NOZZLE INSTALLATION, FLUSH HEAD WITH WATER USING MANUFACTURER'S FLUSH NOZZLE TO ELIMINATE DEBRIS FROM WITHIN HEAD AND RISER.
5. INSTALL NOZZLE SCREEN. INSTALL NOZZLE, HAND TIGHT. RATCHET POP-UP RISER AND ADJUST VARIABLE ARC NOZZLES SO NOZZLE SPRAY IS WITHIN PLANTED AREA. NO OVERSPRAY ON WINDOWS, BUILDINGS, STREETS OR PAVEMENT.

7 POP-UP SPRAY WITH STABILIZER FOR LOOSE SOILS
NOT TO SCALE

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LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	SUT/JDE
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

CD
DECEMBER 2, 2020

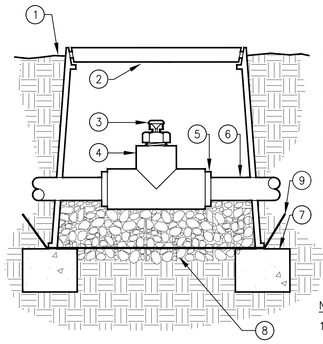
SHEET TITLE
IRRIGATION DETAILS

SHEET NUMBER
L3.3

JDE
JAMES D. EDDY ASSOCIATES
LANDSCAPE IRRIGATION ENGINEERS
P.O. BOX 2291
DANVILLE, CALIFORNIA 94526
P:(925) 867-3339
EMAIL: JDE@EDDYASSOCIATES.COM
PLANNING-DESIGN-MANAGEMENT
JDE PROJECT NO: 20010

IRRIGATION DESIGNER:
James D. Eddy
JAMES D. EDDY ASSOCIATES, DANVILLE, CALIFORNIA
NOTE: NO LICENSE FOR THE LANDSCAPE IRRIGATION SYSTEM DESIGN PROFESSION IS AVAILABLE IN THE STATE OF CALIFORNIA.
MEMBER: AMERICAN SOCIETY OF IRRIGATION CONSULTANTS

THESE DETAILS ARE SPECIFIC TO BURIED TORO DRIPPERLINE TUBING



SECTION/ELEVATION

1. FINISHED GRADE
2. 6" ROUND VALVE BOX
3. TORO DL2000 AIR/VACUUM RELIEF VALVE (YD-500-34)
4. 1/2" PVC TEE (SxSxT)
5. TORO DL2000 COMPRESSION ADAPTER (CA710) (TYP.)
6. TORO DL2000 DRIPLINE OR BLANK TUBING
7. HALF BRICK SUPPORTS
8. DRAIN ROCK SUMP (6" DEEP)
9. METAL WIRE MESH, 1/2" MESH, 19 GA, GALVANIZED

NOTES:
1. AIR/VACUUM RELIEF VALVE CANNOT BE CONNECTED LOWER THAN DRIPLINE LATERALS.
2. USE ONE FOR EACH INCREMENT OF 7 GPM.

1 1/2" AIR/VACUUM RELIEF VALVE (TORO DL2000)
NOT TO SCALE

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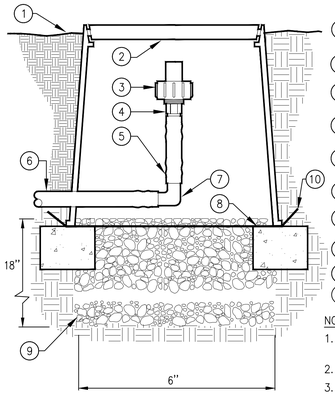

SECTION/ELEVATION

1. FINISHED GRADE
2. 6" ROUND VALVE BOX
3. TORO DL2000 AUTOMATIC FLUSH VALVE (FCH-H)
4. TORO DL2000 3/4" MALE ADAPTER (DL-75MA-9153)
5. TORO DL2000 BLANK TUBING (A710)
6. TORO DL2000 DRIPLINE
7. TORO DL2000 BARBED ELBOW (DL-E-9018)
8. HALF BRICK SUPPORTS
9. DRAIN ROCK SUMP (18" DEEP)
10. METAL WIRE MESH, 1/2" MESH, 19 GA, GALVANIZED

NOTES:
1. USE ONE FOR EACH INCREMENT OF 7 GPM.
2. FLUSH RATE = 0.8 GPM
3. SEALING PRESSURE = 2 PSI

2 AUTOMATIC FLUSH VALVE (TORO DL2000)
NOT TO SCALE

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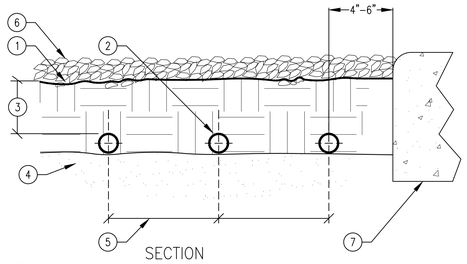

SECTION

1. FINISHED GRADE
2. TORO DL2000 DRIPLINE (TYP.)
3. DEPTH OF TORO DL2000 DRIPLINE = 3"-4"
4. SUB-GRADE NATIVE SOIL. REMOVE ALL ROCKS OR JAGGED MATERIAL TO PROTECT TUBING.
5. TORO DL2000 DRIPLINE LATERAL SPACING, SEE LEGEND FOR DISTANCE.
6. MULCH - SEE LANDSCAPE DRAWINGS
7. CURB, WALK, WALL, OR DRIVEWAY - SEE LANDSCAPE DRAWINGS

3 SUB-GRADE LATERAL - TORO DL2000
NOT TO SCALE

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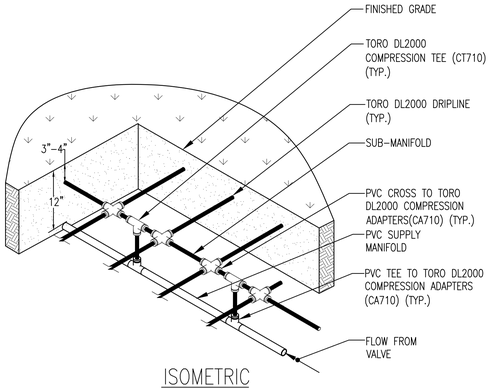

ISOMETRIC

NOTES:
1. REFER TO DRAWINGS, IRRIGATION LEGEND AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. PLANT TREES BETWEEN DRIPPERLINE TUBES.
3. INSTALL DRIPPERLINE 3"-4" BELOW FINISHED GRADE AND STAKE DRIPPERLINE EVERY 4' OR AS NECESSARY TO SECURE THE TUBING FROM MOVEMENT.
4. USE ONLY TORO COMPRESSION FITTINGS WITH TORO DRIPPERLINE TUBING.
5. INSTALL FITTINGS TO TUBING AS DIRECTED BY MANUFACTURER.

4 CENTER FEED MANIFOLD
NOT TO SCALE

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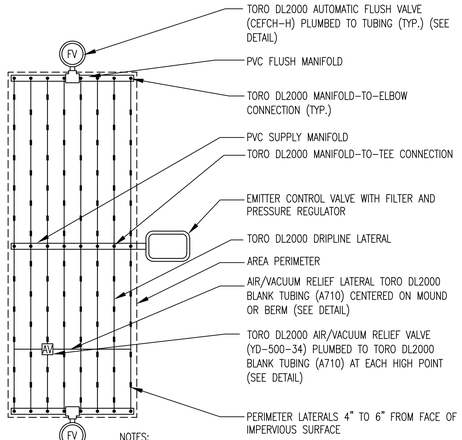

PLAN

NOTES:
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3. INSTALL DRIPPERLINE 3"-4" BELOW FINISHED GRADE AND STAKE DRIPPERLINE EVERY 4' OR AS NECESSARY TO SECURE THE TUBING FROM MOVEMENT.
4. USE ONLY TORO COMPRESSION FITTINGS WITH TORO DRIPPERLINE TUBING.
5. INSTALL FITTINGS TO TUBING AS DIRECTED BY MANUFACTURER.

5 CENTER FEED LAYOUT
NOT TO SCALE

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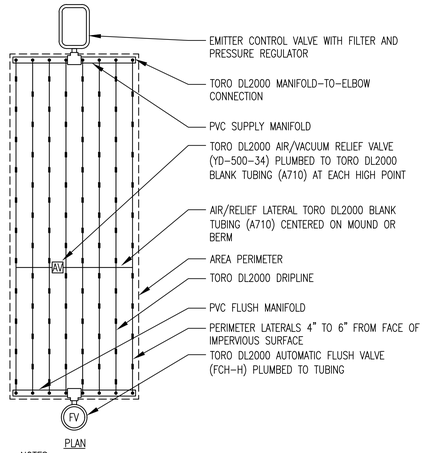

PLAN

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4. USE ONLY TORO COMPRESSION FITTINGS WITH TORO DRIPPERLINE TUBING.
5. INSTALL FITTINGS TO TUBING AS DIRECTED BY MANUFACTURER.

6 END FEED LAYOUT
NOT TO SCALE

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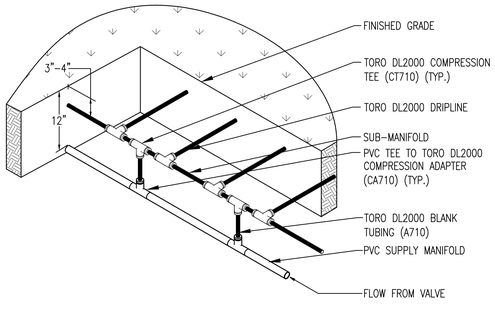

ISOMETRIC

NOTES:
1. REFER TO DRAWINGS, IRRIGATION LEGEND AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. PLANT TREES BETWEEN DRIPPERLINE TUBES.
3. INSTALL DRIPPERLINE 3"-4" BELOW FINISHED GRADE AND STAKE DRIPPERLINE EVERY 4' OR AS NECESSARY TO SECURE THE TUBING FROM MOVEMENT.
4. USE ONLY TORO COMPRESSION FITTINGS WITH TORO DRIPPERLINE TUBING.
5. INSTALL FITTINGS TO TUBING AS DIRECTED BY MANUFACTURER.

7 END FEED MANIFOLD
NOT TO SCALE

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IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
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Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

GSM landscape architects, inc
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Napa, CA 94559
707-255-4630
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REGISTERED LANDSCAPE ARCHITECT
BRIAN STRANGE
No. 2940
Exp. 10-31-22
STATE OF CALIFORNIA

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	SUT/JDE
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

IRRIGATION DETAILS

SHEET NUMBER

L3.4

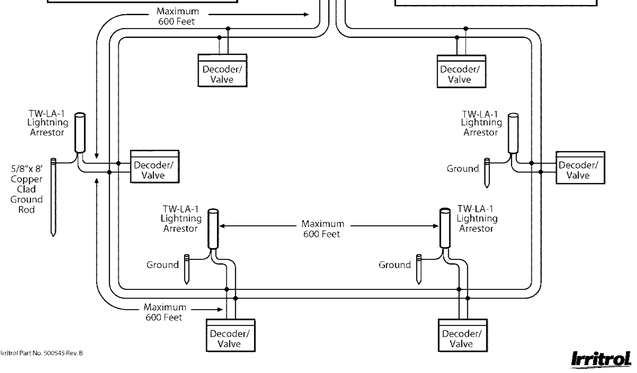
RAIN MASTER®
CONTROL SYSTEMS

RAIN MASTER™ TWICE 2-WIRE • LOOP CONFIGURATION

Decoder Options
TW-D-1 Kit Twice Single Valve Decoder
TW-D-2 Kit Twice Dual Valve Decoder
TW-D-3 Kit Twice Quad Valve Decoder

Controller
Internal Lightning Arrestor

Loop Configuration		
Wire Gauge	Total Loop Length (feet)	Distance to furthest valve (ft)
TW-CAB-14	10,000	5,000
Maximum 600 feet between Lightning Arrestors		

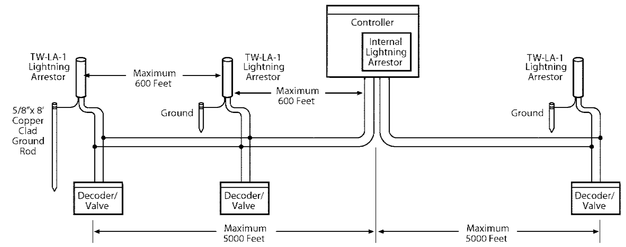


Irritrol Part No. 500545 Rev. B

Irritrol

RAIN MASTER®
CONTROL SYSTEMS

RAIN MASTER™ TWICE™ • STRAIGHT LINE CONFIGURATION



Straight Line Configuration	
Wire Gauge	Total Wire Length (feet)
TW-CAB-14	5,000
Maximum 600 feet between Lightning Arrestors	

Decoder Options
TW-D-1 Kit Twice Single Valve Decoder
TW-D-2 Kit Twice Dual Valve Decoder
TW-D-3 Kit Twice Quad Valve Decoder

Irritrol Part No. 500544 Rev. B

Irritrol

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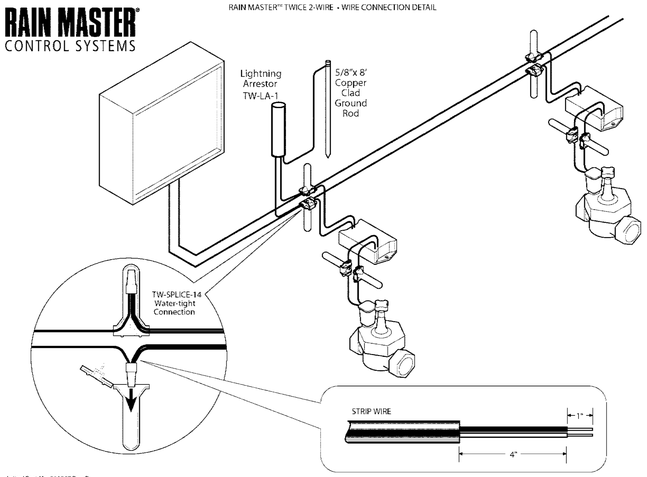
P:(925) 867-3339
EMAIL: JDE@EDDYASSOCIATES.COM
PLANNING -DESIGN - MANAGEMENT
JDE PROJECT NO: 20010

IRRIGATION DESIGNER:
James D. Eddy
JAMES D. EDDY ASSOCIATES, DANVILLE, CALIFORNIA
NOTE: NO LICENSE FOR THE LANDSCAPE IRRIGATION SYSTEM DESIGN PROFESSION IS AVAILABLE IN THE STATE OF CALIFORNIA.
MEMBER: AMERICAN SOCIETY OF IRRIGATION CONSULTANTS

RAIN MASTER®
CONTROL SYSTEMS

RAIN MASTER™ TWICE 2-WIRE • WIRE CONNECTION DETAIL



Irritrol Part No. 500547 Rev. B

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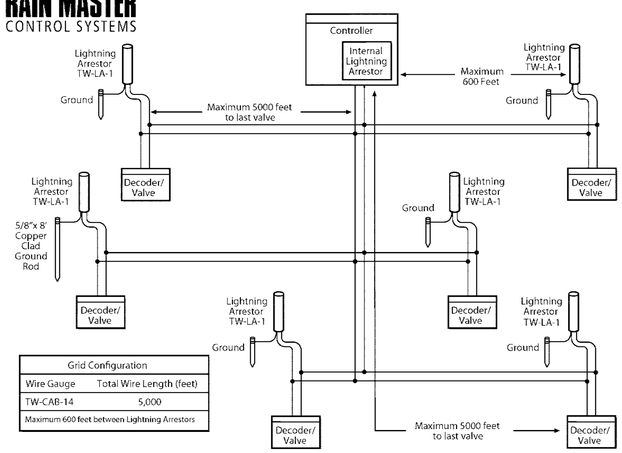
RAIN MASTER®
CONTROL SYSTEMS

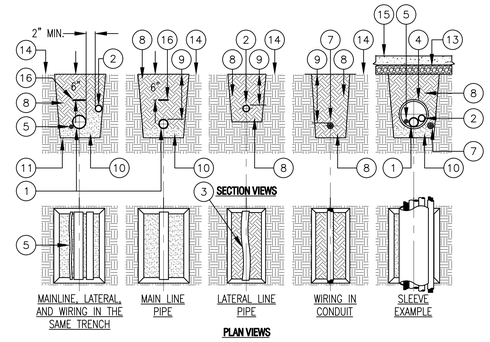
RAIN MASTER™ TWICE• GRID CONFIGURATION



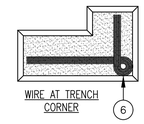
Grid Configuration	
Wire Gauge	Total Wire Length (feet)
TW-CAB-14	5,000
Maximum 600 feet between Lightning Arrestors	

Irritrol Part No. 500546 Rev. B

Irritrol



PLAN VIEWS



ITEM LIST AND INSTALLATION NOTES:

1. MAIN LINE PIPE; PROVIDE A MINIMUM OF 2" BETWEEN ALL PIPES.
2. LATERAL LINE PIPE; PROVIDE A MINIMUM OF 2" BETWEEN ALL PIPES.
3. SNAKE SOLVENT WELD PLASTIC PIPING IN TRENCH AS SHOWN.
4. SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH SLEEVING TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN.
5. WIRE BUNDLE: INSTALL WIRING BENEATH AND BESIDE MAIN LINE. TAPE AND BUNDLE AT 10-FOOT INTERVALS.
6. TIE A 24-INCH LOOP IN WIRING AT CHANGES OF DIRECTION OF 30° OR GREATER. UNTIE AFTER ALL CONNECTIONS HAVE BEEN MADE.
7. LOW VOLTAGE WIRE CONDUIT (WHERE SPECIFIED).
8. CLEAN BACKFILL PER THE SPECIFICATIONS, TYPICAL.
9. FOR PIPE, SLEEVE AND WIRE BURIAL DEPTHS, REFER TO IRRIGATION LEGEND AND SPECIFICATIONS.
10. PROVIDE A SAND BED FOR PIPE.
11. TRENCH BOTTOM OF UNDISTURBED SOIL, TYPICAL.
12. WHERE BORING UNDER EXISTING PAVEMENT IS REQUIRED – REFER TO DRAWINGS FOR SPECIFIC INFORMATION.
13. PAVEMENT AND SUBGRADE
14. FINISH GRADE
15. PAVED OR CONCRETE SURFACE
16. DETECTABLE WARNING TAPE PER SPECIFICATIONS

4 TRENCH
NOT TO SCALE

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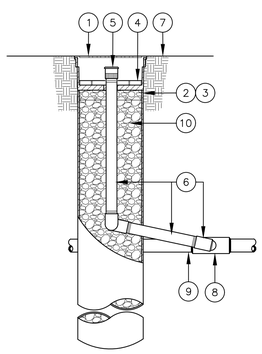
INSTALLATION NOTES:

1. INSTALL QUANTITY OF BUBBLERS PER "TREE BUBBLER QUANTITY CHART" AND LEGEND, SEE SHEET L2.1.
2. INSTALL DEEP WATERING TUBE ADJACENT AND AGAINST THE ROOTBALL.



1. ROOT WATERING SYSTEM: RAIN BIRD RWS-BG (INCLUDES CANISTER, BUBBLER WITH SWING JOINT RISER AND GRATE)
2. 4" BASKET WEAVE CANISTER* –PLACE AGAINST TREE ROOTBALL
3. RAIN BIRD RWS SOCK*
4. 4" GRATE*
5. BUBBLER*
6. RAIN BIRD SWING JOINT RISER ASSEMBLY*
7. FINISH GRADE
8. PVC SCH 40 TEE OR ELL
9. LATERAL PIPE
10. PLACE DRAIN ROCK INSIDE THE CANISTER FROM UNDER THE BUBBLER PLATE TO THE BOTTOM OF THE CANISTER

* RAIN BIRD ROOT WATERING SYSTEM INCLUDES CANISTER, BUBBLER, SWING JOINT RISER, SOCK AND PURPLE GRATE

1 TREE DEEP ROOT WATERING SYSTEM
NOT TO SCALE

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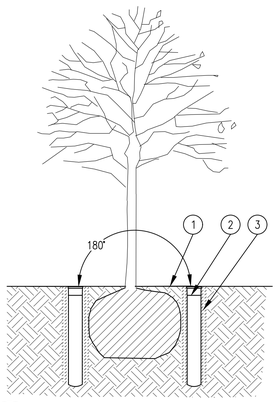

1. FINISH GRADE
2. ROOT WATERING SYSTEM: RAIN BIRD RWS-BCG (INCLUDES BUBBLER, CHECK VALVE AND GRATE)
3. RAIN BIRD RWS SOCK

NOTES:

1. WHERE TWO UNITS ARE SPECIFIED, POSITION UNITS SPACED AT 180 DEGREES AROUND ROOT BALL.
2. INSTALL PRODUCT WITH TOP GRATE EVEN WITH GROUND SURFACE.

2 TREE WATERING SYSTEM
NOT TO SCALE

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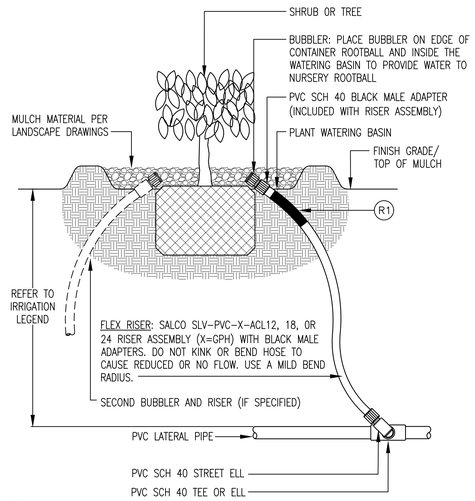
RECYCLED WATER ITEMS:

R1. RECYCLED WATER TAG – ATTACH TO FLEX RISER, USE T. CHRISTY ENTERPRISES RISER MARKER, MODEL #5100 WITH ADHESIVE BACKING.



3 SHRUB BUBBLER, MICRO-BUBBLER, OR TREE BUBBLER RISER
NOT TO SCALE

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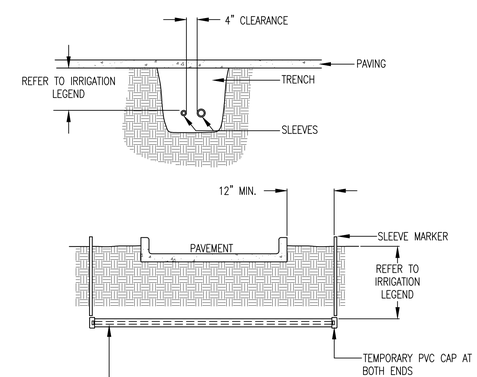

NOTES:

1. IRRIGATION SLEEVES TO BE PVC CLASS 200 OR SCH 40 PIPE. USE THE PIPE WITH THE THICKEST WALL DIMENSION.
2. JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. IF PIPING IS TO BE INSTALLED AFTER SLEEVING IS BACKFILLED, MARK SLEEVE LOCATION WITH A T. CHRISTY ENTERPRISES FIBERGLASS COMPOSITE MARKING POST, LABELED "IRRIGATION", EXPOSED AT GRADE, MODEL #ID-SF66-IRR.
4. MECHANICALLY TAMP BACKFILL TO 95% COMPACTION.
5. INSTALL SLEEVES LEVEL AND AFTER PIPE INSTALLATION, SEAL ENDS OF PIPE WITH GROUT TO PREVENT ROOT INTRUSION INTO THE SLEEVE.

5 SLEEVE INSTALLATION
NOT TO SCALE

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IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

GSM landscape architects, inc
1700 Soscol Ave. Suite 23
Napa, CA 94559
707-255-4630
www.gsmlainc.com

REGISTERED LANDSCAPE ARCHITECT
BRYAN STRANGE
No. 2940
Exp. 10-31-22
STATE OF CALIFORNIA

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	SUT/JDE
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

IRRIGATION DETAILS

SHEET NUMBER

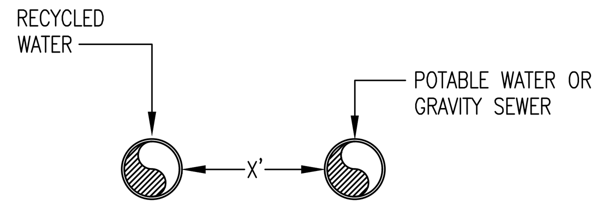
L3.5

IRRIGATION DESIGNER:

JAMES D. EDDY ASSOCIATES, DANVILLE, CALIFORNIA
NOTE: NO LICENSE FOR THE LANDSCAPE IRRIGATION SYSTEM DESIGN PROFESSION IS AVAILABLE IN THE STATE OF CALIFORNIA.
MEMBER: AMERICAN SOCIETY OF IRRIGATION CONSULTANTS

JDE

JAMES D. EDDY ASSOCIATES
LANDSCAPE IRRIGATION ENGINEERS
P.O. BOX 2291
DANVILLE, CALIFORNIA 94526
P:(925) 867-3339
EMAIL: JDE@EDDYASSOCIATES.COM
PLANNING~DESIGN~MANAGEMENT
JDE PROJECT NO: 20010



IF DIMENSION "X" IS:
LESS THAN 4' – THIS IS NOT ALLOWED

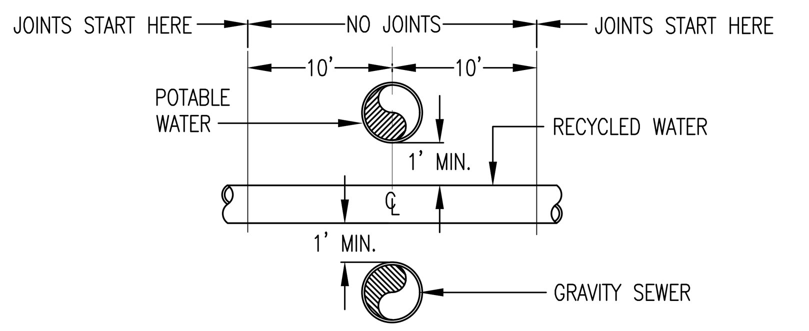
4' – 10' PIPE MUST MEET ONE OF THESE REQUIREMENTS:
- SOLVENT–WELDED PVC PIPE
- JOINT RESTRAINED PVC PIPE
- JOINT RESTRAINED DUCTILE IRON PIPE
- SOLDERED COPPER PIPE
- SLEEVED RECYCLED PIPE
- SLEEVED POTABLE PIPE

10' OR GREATER – NO SPECIAL CONSTRUCTION REQUIREMENTS

PIPE CONDITION - PARALLEL PIPES

INSTALLATION NOTES:

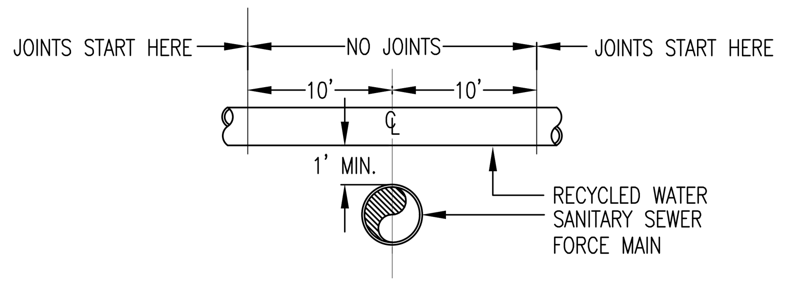
* NO JOINT CONTROL FOR PVC PIPE



PIPE CONDITION - CROSSOVER #1

INSTALLATION NOTES:

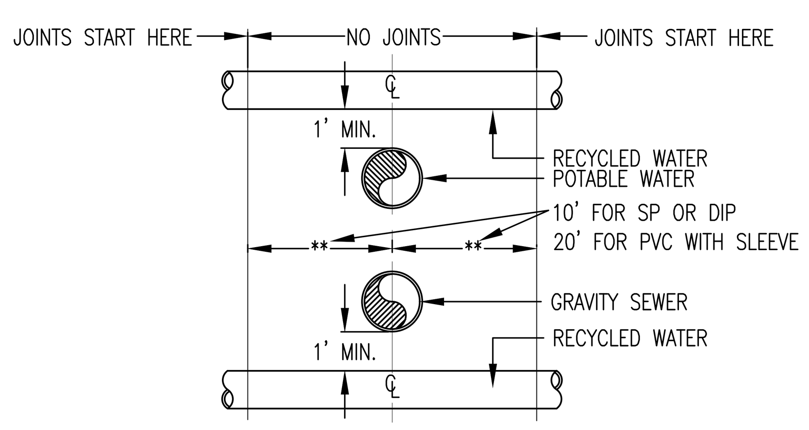
* PROVIDE JOINT CONTROL FOR PVC PIPE
* INSTALL RECYCLED WATER PIPE BELOW POTABLE PIPE AND ABOVE STORM AND SANITARY PIPES
* INSTALLATION OF RECYCLED WATER PIPE LESS THAN 1' BELOW POTABLE PIPE OR ABOVE GRAVITY SEWER PIPE IS NOT ALLOWED



PIPE CONDITION - CROSSOVER #2

INSTALLATION NOTES:

* PVC PIPE IS NOT ALLOWED
* USE SP WITH DOUBLE WELDED JOINTS OR USE DIP WITH MECHANICAL RESTRAINT JOINTS
* LOCATE JOINTS MIN. 10' FROM THE CROSSING



PIPE CONDITION - CROSSOVER #3

INSTALLATION NOTES:

* INSTALLATION OF RECYCLED WATER PIPE LESS THAN 1' ABOVE POTABLE PIPE IS NOT ALLOWED
* USE SP WITH DOUBLE WELDED JOINTS OR DIP WITH MECHANICAL RESTRAINT JOINTS OR PVC PIPE WITH JOINT RESTRAINT AND SLEEVED CONTINUOUSLY FOR 20' FROM THE CROSSING
* LOCATE JOINTS MIN. 10' FROM THE CROSSING (SP & DIP)

1 PIPE CLEARANCE REQUIREMENTS
NOT TO SCALE

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SEPARATION STANDARDS

PARALLEL CONSTRUCTION

- WHEN THE RECYCLED WATER MAIN LINE PIPE IS AT LEAST 10 FEET (MEASURED FROM EDGE OF PIPE TO EDGE OF OTHER PIPE) FROM POTABLE WATER, SANITARY SEWER MAINS OR STORM DRAINS, INSTALL THE RECYCLED WATER MAIN LINE PIPE USING THE SPECIFIED PVC PIPE, WITHOUT CONCERN WHERE PIPE JOINTS ARE LOCATED.
- WHEN THE RECYCLED WATER MAIN LINE PIPE IS LOCATED NEAR A SEWER FORCE MAIN, INSTALL THE RECYCLED WATER MAIN LINE PIPE MAINTAINING THE 10 FOOT MINIMUM SEPARATION REQUIREMENT AND INSTALL STEEL PIPE (SP) WITH DOUBLE WELDED JOINTS OR DUCTILE IRON PIPE (DIP) WITH MECHANICALLY RESTRAINED JOINTS INSTEAD OF THE PVC PIPE AS SPECIFIED.

CROSSING CONSTRUCTION

- REFER TO CROSSOVER #1 DETAIL: WHERE THE RECYCLED WATER MAIN LINE PIPE IS INSTALLED ABOVE OR BELOW UNDERGROUND UTILITY PIPE OR CONDUIT, LOCATE THE RECYCLED WATER MAIN LINE PIPE JOINTS AT LEAST 5 FEET FROM THE UTILITY PIPE OR CONDUIT, MEASURED FROM THE CENTERLINE OF THE UTILITY PIPE OR CONDUIT AND TO THE JOINT. UTILITY LINES MAY BE:
  1. POTABLE WATER PIPE
  2. SANITARY SEWER PIPE
  3. STORM DRAIN PIPE
  4. NATURAL GAS PIPE
  5. ELECTRICAL DUCTS

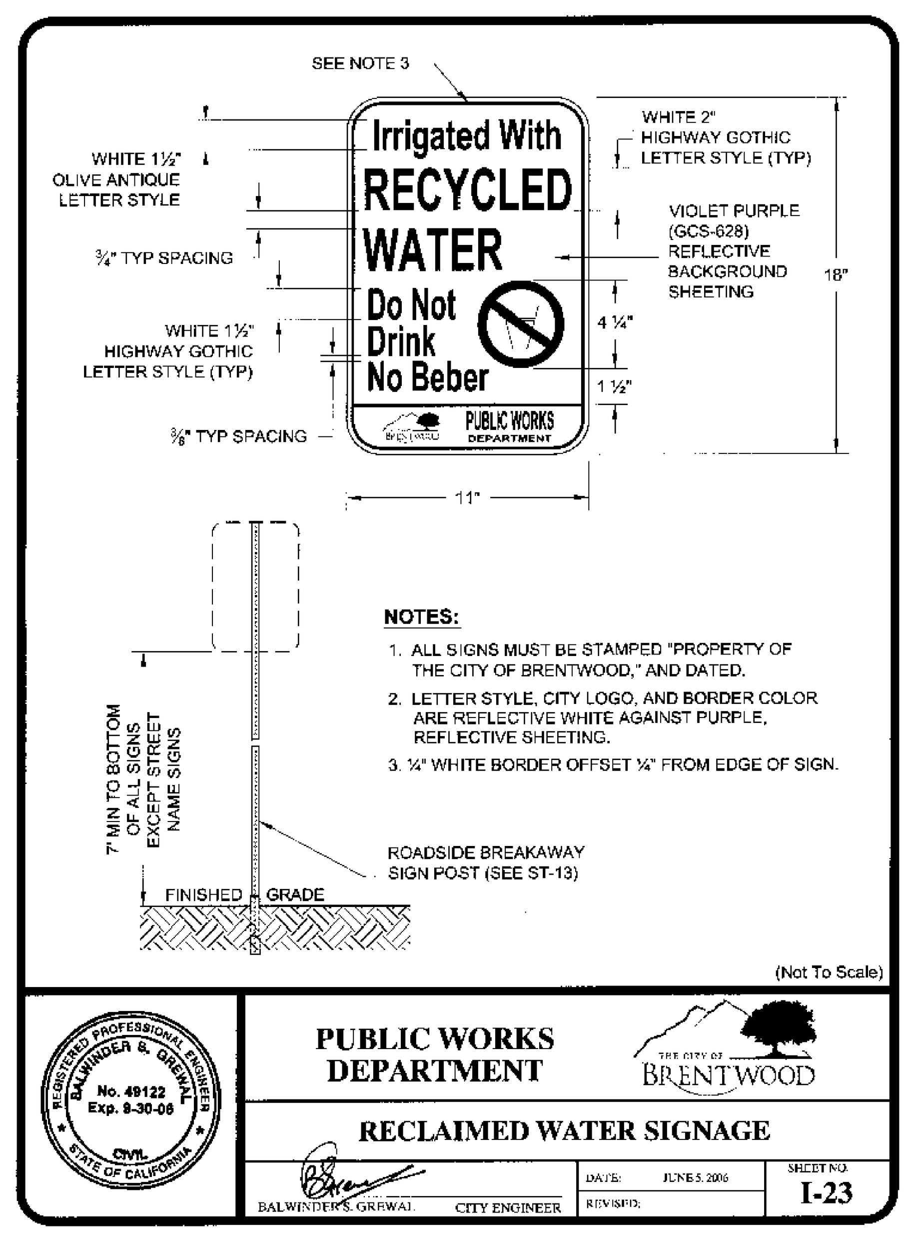
  PVC PIPE IS ACCEPTABLE FOR USE IN THIS SITUATION.
- REFER TO CROSSOVER #2 DETAIL: WHEN CROSSING A SANITARY SEWER FORCE MAIN, LOCATE THE RECYCLED WATER MAIN LINE PIPE AT LEAST 1 FOOT ABOVE THE FORCE MAIN. INSTALL STEEL PIPE WITH DOUBLE WELDED JOINTS OR DUCTILE IRON PIPE WITH MECHANICALLY RESTRAINED JOINTS. LOCATE THE RECYCLED WATER PIPE JOINTS 10 FEET OR MORE AWAY FROM THE CENTERLINE OF THE SANITARY SEWER FORCE MAIN.
- REFER TO CROSSOVER #3 DETAIL: WHEN THE RECYCLED WATER MAIN LINE PIPE IS 1 FOOT ABOVE THE POTABLE WATER PIPE AND/OR 1 FOOT BELOW THE SANITARY SEWER MAIN, INSTALL STEEL PIPE WITH DOUBLE WELDED JOINTS OR DUCTILE IRON PIPE WITH MECHANICALLY RESTRAINED JOINTS. LOCATE THE JOINTS 10 FEET OR MORE AWAY FROM THE CENTERLINE OF THE SANITARY SEWER PIPES OR WATER PIPES. PVC CAN BE USED FOR THE RECYCLED WATER MAIN LINE PIPE AT THE CROSSING; INSTALL JOINT RESTRAINT DEVICES ON THE JOINTS AND A CONTINUOUS PVC SLEEVE FOR A DISTANCE OF 20 FEET ON EITHER SIDE OF THE CROSSING.

GENERAL NOTES

1. ALL STEEL PIPE USED FOR RECYCLED WATER MAIN LINE PIPE SHALL MEET A MINIMUM INTERNAL PRESSURE OF 200 PSI. NO MINIMUM PIPE WALL THICKNESS IS REQUIRED.
2. ALL DUCTILE IRON PIPE USED FOR RECYCLED WATER MAIN LINE PIPE SHALL MEET A MINIMUM INTERNAL PRESSURE OF 200 PSI. NO MINIMUM PIPE WALL THICKNESS IS REQUIRED.
3. DIP PIPE: CEMENT LINED DUCTILE IRON PIPE WITH PUSH–ON JOINTS CONFORMING TO AWWA C151. THE PUSH–ON JOINT PIPE DIMENSIONS AND WEIGHTS SHALL CONFORM TO THICKNESS CLASS 52 AS SHOWN ON TABLE 51.6: DIMENSIONS AND WEIGHTS FOR SPECIAL CLASSES OF PUSH–ON–JOINT DUCTILE IRON PIPE OF THE AWWA C151 STANDARD.
4. SP PIPE:
5. ALL PVC PIPE USED FOR RECYCLED WATER MAIN LINE PIPE SHALL BE AS SPECIFIED IN THE IRRIGATION LEGEND.
6. PROPER CORROSION PROTECTION TO PIPING IS REQUIRED. THIS INCLUDES BUT IS NOT LIMITED TO OUTSIDE COATING, INSIDE LINING, DIELECTRIC TREATMENT, AND OTHER CATHODIC PROTECTION.
7. ANY EXCEPTIONS TO THE REQUIREMENTS OF THIS DETAIL WILL REQUIRE SPECIAL REVIEW AND AN APPROVAL GRANTED BY THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES.

NOTES FOR RECYCLED WATER IRRIGATION SYSTEMS

1. ALL WORK SHALL CONFORM TO EXISTING CA DEPARTMENT OF HEALTH SERVICES REGULATIONS.
2. NO CROSS–CONNECTIONS TO THE RECYCLED WATER SYSTEM ARE PERMITTED.
3. ALL ON–SITE BURIED RECYCLED WATER PIPING SHALL BE IDENTIFIED BY THE FOLLOWING METHOD: PURPLE–COLORED PVC PIPE WITH CONTINUOUS WORDING: "CAUTION – RECYCLED WATER" PRINTED ON OPPOSITE SIDES OF THE PIPE: PIPE SHALL BE LAID WITH WORDING FACING UPWARDS.
4. ALL RECYCLED WATER PIPING SHALL BE BURIED TO A MINIMUM DEPTH FROM FINISHED GRADE TO TOP OF PIPE (MINIMUM COVER) OF:
   A. PRESSURIZED LINES OF 3 INCH DIA. OR LARGER: 24 INCH COVER.
   B. PRESSURIZED LINE 2–1/2 INCH DIA. AND SMALLER: 18 INCH COVER.
   C. INTERMITTENT–PRESSURE LINES: 12 INCHES.
6. ALL RECYCLED WATER PIPING, OTHER THAN PVC PIPING WITH SOLVENT WELDED JOINTS, SHALL BE PROTECTED AGAINST MOVEMENT WITH THRUST BLOCKS OR RESTRAINED JOINTS OR OTHER APPROVED METHOD.
7. MAINTAIN A 10–FOOT HORIZONTAL SEPARATION BETWEEN PRESSURIZED RECYCLED WATER IRRIGATION PIPING AND POTABLE WATER PIPING UNLESS OTHERWISE NOTED. AT PIPE CROSSINGS, RECYCLED WATER IRRIGATION WATER PIPING MUST BE 12 INCHES BELOW POTABLE WATER LINES. IF RECYCLED WATER PIPING MUST CROSS OVER POTABLE WATER LINES, THE RECYCLED WATER PIPING SHALL BE AT LEAST 12 INCHES ABOVE THE POTABLE LINES AND SHALL BE INSTALLED IN A PVC SLEEVE WHICH EXTENDS A MINIMUM OF 10 FEET ON EITHER SIDE OFF THE POTABLE WATER PIPING.
8. ALL RECYCLED WATER SYSTEM REMOTE CONTROL VALVES, ISOLATION VALVES, QUICK COUPLING VALVES, STRAINERS, AND PRESSURE–REGULATING VALVES SHALL BE INSTALLED BELOW GRADE IN VALVE BOXES. PURPLE–COLORED BOXES AND LIDS ARE ACCEPTABLE. VALVE BOXES SHALL HAVE A RECYCLED WATER USE WARNING MESSAGE PERMANENTLY MOLDED INTO THE LID.
9. NO HOSE BIBS ARE ALLOWED ON THE RECYCLED WATER IRRIGATION SYSTEM.
10. ALL RECYCLED WATER METERS, DEVICES, AND VALVES – E.G. ISOLATION VALVES, IRRIGATION CONTROLLERS, REMOTE CONTROL VALVES, PRESSURE REGULATING VALVES, QUICK COUPLING VALVES, ETC. – SHALL BE TAGGED AND THE COLOR PURPLE WHERE AVAILABLE.
11. LABEL ALL POTABLE WATER METERS AND ABOVE GROUND POTABLE WATER PIPES/DEVICES (BACKFLOW PREVENTERS, HOSE BIBS, ETC.) WITH TAGS OR LABELS READING: "POTABLE WATER" IN BLACK LETTERS ON BLUE BACKGROUND.
12. INSTALLATION OF DIRECT INJECTION SYSTEMS ON THE RECYCLED WATER IRRIGATION SYSTEM IS NOT PERMITTED.
13. ROTOR OR SPRAY HEAD OVERSPRAY IS NOT ALLOWED ON DRINKING FOUNTAINS.
14. WHEN THE CHANGE FROM POTABLE WATER TO RECYCLED WATER OCCURS: CONSPICUOUS ADVISORY SIGNS MUST BE POSTED AT ADEQUATE INTERVALS AROUND THE AREA TO INSURE PEOPLE KNOW RECYCLED WATER IS BEING USED TO IRRIGATE THE LANDSCAPE AND THIS WATER IS NOT POTABLE. SIGNS SHOULD STATE "RECYCLED WATER" AND INCLUDE THE STATEMENT "DO NOT DRINK" IN ENGLISH AND SPANISH. PROCURE APPROVED SIGNAGE FROM THE CITY OF BRENTWOOD WATER DEPARTMENT.



NOTES:
1. ALL SIGNS MUST BE STAMPED "PROPERTY OF THE CITY OF BRENTWOOD," AND DATED.
2. LETTER STYLE, CITY LOGO, AND BORDER COLOR ARE REFLECTIVE WHITE AGAINST PURPLE, REFLECTIVE SHEETING.
3. ¼" WHITE BORDER OFFSET ¼" FROM EDGE OF SIGN.

(Not To Scale)

REGISTERED PROFESSIONAL ENGINEER BALWINDER S. GREWAL No. 49122 Exp. 9-30-06 CIVIL STATE OF CALIFORNIA

PUBLIC WORKS DEPARTMENT — THE CITY OF BRENTWOOD

RECLAIMED WATER SIGNAGE

BALWINDER S. GREWAL CITY ENGINEER | DATE: JUNE 5, 2006 | REVISED: | SHEET NO. I-23

IRRIGATION SCHEDULES

NOTE: USE OF RECYCLED WATER ESTABLISHES THE WATERED AREAS AS "SPECIAL LANDSCAPED AREAS" OR "SLA".

BUBBLER IRRIGATION @ TREES – (SLA)

MANUFACTURER:	RAIN BIRD	TREE CANOPY(SQ.FT.):	19.6
MODEL:	RWS	SPECIES FACTOR(Kc):	1.0
PSI:	30	MICROCLIMATE FACTOR(Kmc):	1.0
GPM OF BUBBLER:	0.25	DENSITY FACTOR(Kd):	1.0
NO. OF BUBBLERS:	2	IRRIGATION EFFICIENCY:	0.81
GPM OF ALL BUBBLER(S):	0.5	SOIL INFILTRATION RATE(INCHES):	0.2
TREE CANOPY(FT.):	5	YEAR 2 REDUCTION AMOUNT(%):	10

	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	TOTAL
ADJUSTED ETO/MONTH(INCHES)		1.0	1.5	2.9	4.5	6.1	7.1	7.9	6.7	5.2	3.2	1.4	0.7	48.3
ADJUSTED ETO/WEEK(INCHES)		0.2	0.3	0.7	1.0	1.4	1.6	1.8	1.5	1.2	0.7	0.3	0.2	
MINUTES PER WEEK	YEAR 1	7	11	21	31	42	49	54	46	36	22	10	5	
	YEAR 2	7	10	19	28	38	45	49	42	33	20	9	5	
DAYS PER WEEK	YEAR 1	1	1	2	2	3	3	3	3	3	3	2	1	
	YEAR 2	1	1	2	2	3	3	3	3	3	3	2	1	
MINUTES OF WATER PER DAY	YEAR 1	7	11	11	16	14	17	18	16	12	8	5	5	
	YEAR 2	7	10	10	15	13	16	17	15	11	8	5	5	
CYCLES PER DAY TO MEET SOIL INFILTRATION RATE	YEAR 1	2	2	2	3	3	3	3	3	2	2	1	1	
	YEAR 2	2	2	2	3	3	3	3	3	2	2	1	1	
MAX. RUN TIME (MINUTES) PER CYCLE	YEAR 1	4	6	6	6	5	6	6	6	6	4	5	5	
	YEAR 2	4	5	5	5	5	6	6	5	6	4	5	5	

BUBBLER IRRIGATION @ SHRUBS – (SLA)

MANUFACTURER:	RAIN BIRD	SHRUB CANOPY(SQ.FT.):	3.1
MODEL:	1401	SPECIES FACTOR(Kc):	1.0
PSI:	30	MICROCLIMATE FACTOR(Kmc):	1.0
GPM OF BUBBLER:	0.25	DENSITY FACTOR(Kd):	1.0
NUMBER OF BUBBLERS:	1	IRRIGATION EFFICIENCY:	0.81
GPM OF ALL BUBBLER(S):	0.25	SOIL INFILTRATION RATE(INCHES):	0.2
SHRUB CANOPY(FT.):	2	YEAR 2 REDUCTION AMOUNT(%):	10

	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	TOTAL
ETO/YEAR(INCHES)		1.0	1.5	2.9	4.5	6.1	7.1	7.9	6.7	5.2	3.2	1.4	0.7	48.3
ETO/MONTH(INCHES)		0.2	0.3	0.7	1.0	1.4	1.6	1.8	1.5	1.2	0.7	0.3	0.2	
MINUTES PER WEEK	YEAR 1	3	4	7	10	14	16	18	15	12	7	4	2	
	YEAR 2	3	4	7	9	13	15	17	14	11	7	4	2	
DAYS PER WEEK	YEAR 1	1	1	2	2	3	3	3	3	3	3	2	1	
	YEAR 2	1	1	2	2	3	3	3	3	3	3	2	1	
MINUTES OF WATER PER DAY	YEAR 1	3	4	4	5	5	6	6	5	4	3	2	2	
	YEAR 2	3	4	4	5	5	6	6	5	4	3	2	2	
CYCLES PER DAY TO MEET SOIL INFILTRATION RATE	YEAR 1	2	2	2	3	3	3	3	3	2	2	1	1	
	YEAR 2	2	2	2	3	3	3	3	3	2	2	1	1	
MAX. RUN TIME (MINUTES) PER CYCLE	YEAR 1	2	2	2	2	2	2	2	2	2	2	2	2	
	YEAR 2	2	2	2	2	2	2	2	2	2	2	2	2	

SPRAY IRRIGATION @ SHRUB AREAS – (SLA)

MANUFACTURER:	HUNTER	Pr RATE(INCHES/HOUR):	2.0
MODEL:	PROS	SPECIES FACTOR:	1.0
PSI:	30	IRRIGATION EFFICIENCY:	0.75
SPACING(FEET):	14.5	SOIL INFILTRATION RATE(INCHES):	0.2
GPM:	3.7	YEAR 2 REDUCTION AMOUNT(%):	10

	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	TOTAL
Eto/MONTH(INCHES)		1.0	1.5	2.9	4.5	6.1	7.1	7.9	6.7	5.2	3.2	1.4	0.7	48.3
Eto/WEEK(INCHES)		0.2	0.3	0.7	1.0	1.4	1.6	1.8	1.5	1.2	0.7	0.3	0.2	
MINUTES PER WEEK	YEAR 1	10	15	28	42	57	66	74	62	49	30	13	7	
	YEAR 2	9	14	26	38	52	60	67	56	45	27	12	7	
DAYS PER WEEK	YEAR 1	1	1	2	3	5	5	5	5	5	3	2	1	
	YEAR 2	1	1	2	3	5	5	5	5	5	3	2	1	
MINUTES OF WATER PER DAY	YEAR 1	10	15	14	14	12	14	15	13	10	10	7	7	
	YEAR 2	9	14	13	13	11	13	14	12	9	9	7	7	
CYCLES PER DAY TO MEET SOIL INFILTRATION RATE	YEAR 1	2	2	2	2	2	2	2	2	2	2	1	1	
	YEAR 2	2	2	2	2	2	2	2	2	2	2	1	1	
MAX. RUN TIME (MINUTES) PER CYCLE	YEAR 1	5	8	7	7	6	7	8	7	5	5	7	7	
	YEAR 2	5	7	7	7	6	7	7	6	5	5	7	7	

SUBSURFACE EMITTER IRRIGATION IN TURF AREAS – (SLA)

MANUFACTURER:	TORO	SPECIES FACTOR(Kc):	1
MODEL:	DL2000	MICROCLIMATE FACTOR(Kmc):	1.0
PSI:	30	DENSITY FACTOR(Kd):	1.0
EMITTER SPACING (IN.):	18	IRRIGATION EFFICIENCY:	0.81
ROW SPACING(IN.):	16	SOIL INFILTRATION RATE(INCHES):	0.2
EMITTER GPH:	0.5	YEAR 2 REDUCTION AMOUNT (%):	10
PR RATE(IN./HR.):	0.4		

	MONTH:	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	TOTAL
ADJUSTED ETO/MONTH(INCHES)		1.0	1.5	2.9	4.5	6.1	7.1	7.9	6.7	5.2	3.2	1.4	0.7	48.3
ADJUSTED ETO/WEEK(INCHES)		0.2	0.3	0.7	1.0	1.4	1.6	1.8	1.5	1.2	0.7	0.3	0.2	
MINUTES PER WEEK	YEAR 1	42	65	123	188	255	297	330	280	218	134	59	30	
	YEAR 2	38	59	111	170	230	268	297	252	197	121	54	27	
DAYS PER WEEK	YEAR 1	1	1	2	2	4	4	4	4	4	3	2	1	
	YEAR 2	1	1	2	2	4	4	4	4	4	3	2	1	
MINUTES OF WATER PER DAY	YEAR 1	42	65	62	94	64	75	83	70	55	45	30	30	
	YEAR 2	38	59	56	85	58	68	75	63	50	41	27	27	
CYCLES PER DAY TO MEET SOIL INFILTRATION RATE	YEAR 1	2	2	2	3	2	3	3	2	2	2	1	1	
	YEAR 2	2	2	2	3	2	3	3	2	2	2	1	1	
MAX. RUN TIME (MINUTES) PER CYCLE	YEAR 1	21	33	31	32	32	25	28	35	28	23	30	30	
	YEAR 2	19	30	28	29	29	23	25	32	25	21	27	27	

SPRAY IRRIGATION @ TURF AREAS – (SLA)

MANUFACTURER:	HUNTER	Pr RATE(INCHES/HOUR):	2.0
MODEL:	PROS	SPECIES FACTOR:	1.0
PSI:	30	IRRIGATION EFFICIENCY:	0.75
SPACING(FEET):	14.5	SOIL INFILTRATION RATE(INCHES):	0.2
GPM:	3.7	YEAR 2 REDUCTION AMOUNT(%):	10

	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	TOTAL
Eto/MONTH(INCHES)		1.0	1.5	2.9	4.5	6.1	7.1	7.9	6.7	5.2	3.2	1.4	0.7	48.3
Eto/WEEK(INCHES)		0.2	0.3	0.7	1.0	1.4	1.6	1.8	1.5	1.2	0.7	0.3	0.2	
MINUTES PER WEEK	YEAR 1	10	15	28	42	57	66	74	62	49	30	13	7	
	YEAR 2	9	14	26	38	52	60	67	56	45	27	12	7	
DAYS PER WEEK	YEAR 1	1	1	2	3	5	5	5	5	5	3	2	1	
	YEAR 2	1	1	2	3	5	5	5	5	5	3	2	1	
MINUTES OF WATER PER DAY	YEAR 1	10	15	14	14	12	14	15	13	10	10	7	7	
	YEAR 2	9	14	13	13	11	13	14	12	9	9	7	7	
CYCLES PER DAY TO MEET SOIL INFILTRATION RATE	YEAR 1	2	2	2	2	2	2	2	2	2	2	1	1	
	YEAR 2	2	2	2	2	2	2	2	2	2	2	1	1	
MAX. RUN TIME (MINUTES) PER CYCLE	YEAR 1	5	8	7	7	6	7	8	7	5	5	7	7	
	YEAR 2	5	7	7	7	6	7	7	6	5	5	7	7	

THIS SCHEDULE IS INTENDED AS A GUIDE ONLY. ACTUAL WATERING TIMES WILL BE DEPENDANT ON ACTUAL Eto RATES, SOIL INFILTRATION RATE, AND SOIL WATER HOLDING CAPACITY.

THE DATA IS AVERAGED AND TAKEN FROM CIMIS STATION: BRENTWOOD

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
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REGISTERED LANDSCAPE ARCHITECT GRETCHEN STRANZL MCCANN No. 2790 Exp. 10-31-22 STATE OF CALIFORNIA

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	SUT/JDE
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

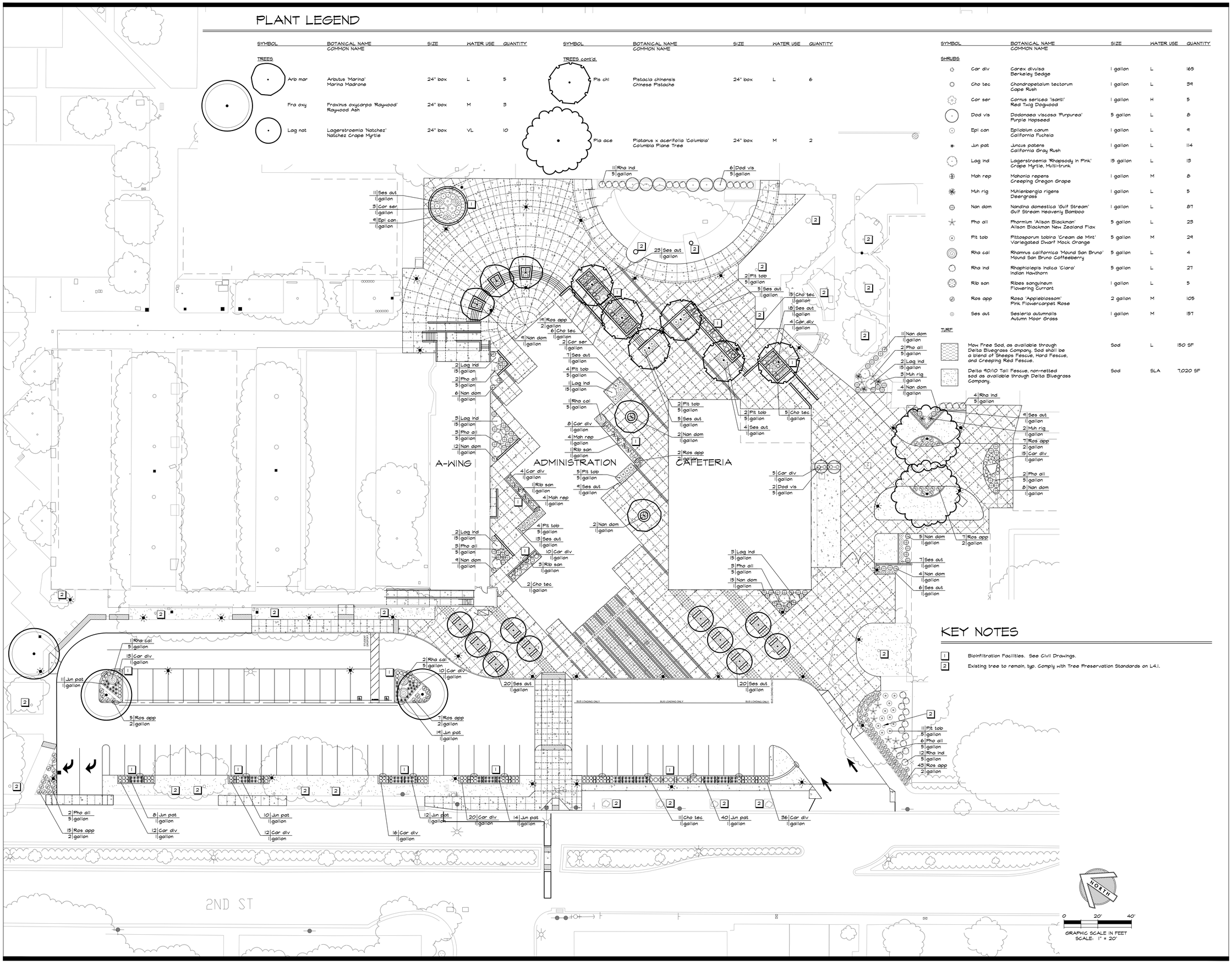
IRRIGATION DETAILS & SCHEDULES

SHEET NUMBER

L3.6

PLANT LEGEND

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	WATER USE	QUANTITY
TREES				
Arb mar	Arbutus 'Marina' / Marina Madrone	24" box	L	5
Fra oxy	Fraxinus oxycarpa 'Raywood' / Raywood Ash	24" box	M	3
Lag nat	Lagerstroemia 'Natchez' / Natchez Crape Myrtle	24" box	VL	10
TREES cont'd.				
Pis chi	Pistacia chinensis / Chinese Pistache	24" box	L	6
Pla ace	Platanus x acerifolia 'Columbia' / Columbia Plane Tree	24" box	M	2
SHRUBS				
Car div	Carex divulsa / Berkeley Sedge	1 gallon	L	165
Cho tec	Chondropetalum tectorum / Cape Rush	1 gallon	L	39
Cor ser	Cornus sericea 'Isanti' / Red Twig Dogwood	1 gallon	H	5
Dod vis	Dodonaea viscosa 'Purpurea' / Purple Hopseed	5 gallon	L	8
Epl can	Epilobium canum / California Fuchsia	1 gallon	L	9
Jun pat	Juncus patens / California Gray Rush	1 gallon	L	114
Lag ind	Lagerstroemia 'Rhapsody in Pink' / Crape Myrtle, Multi-trunk	15 gallon	L	13
Mah rep	Mahonia repens / Creeping Oregon Grape	1 gallon	M	8
Muh rig	Muhlenbergia rigens / Deergrass	1 gallon	L	5
Nan dom	Nandina domestica 'Gulf Stream' / Gulf Stream Heavenly Bamboo	1 gallon	L	87
Pho all	Phormium 'Allison Blackman' / Allison Blackman New Zealand Flax	5 gallon	L	23
Pit tob	Pittosporum tobira 'Cream de Mint' / Variegated Dwarf Mock Orange	5 gallon	M	24
Rha cal	Rhamnus californica 'Mound San Bruno' / Mound San Bruno Coffeeberry	5 gallon	L	4
Rha ind	Rhaphiolepis indica 'Clara' / Indian Hawthorn	5 gallon	L	27
Rib san	Ribes sanguineum / Flowering Currant	1 gallon	L	5
Ros app	Rosa 'Appleblossom' / Pink Flowercarpet Rose	2 gallon	M	105
Ses aut	Sesleria autumnalis / Autumn Moor Grass	1 gallon	M	157
TURF				
	Mow Free Sod, as available through Delta Bluegrass Company. Sod shall be a blend of Sheeps Fescue, Hard Fescue, and Creeping Red Fescue.	Sod	L	150 SF
	Delta 90/10 Tall Fescue, non-netted sod as available through Delta Bluegrass Company.	Sod	SLA	7,020 SF



KEY NOTES

1. Bioinfiltration Facilities. See Civil Drawings.
2. Existing tree to remain, typ. Comply with Tree Preservation Standards on L4.1.

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No. 2990
Exp. 10-31-22
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LIBERTY UNION HIGH SCHOOL DISTRICT

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DRAWN BY:	BTI/HDJ
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CD

DECEMBER 2, 2020

SHEET TITLE

PLANTING PLAN

SHEET NUMBER

L4.0

PLANTING NOTES

1. Prior to commencement of planting, the Contractor shall verify locations of all underground utilities.
2. Contractor shall adjust all plant material around electrical utilities, valve boxes, etc., as required in the field.
3. All landscape grades shall be smooth and feathered in appearance.
4. Irrigation system shall be fully operational prior to planting. Contractor shall thoroughly water all plants immediately after planting.
5. All trees shall be staked and installed per planting details. All trees shall be of adequate trunk caliper to stand without support.
6. Installing Contractor shall verify existing grade in the field prior to planting. Finished surfaces shall be uniform and smooth. Finished grade of planting and bark mulch areas shall be flush with top of edging, pavement and walks.
7. Soil for all exposed soil and planting areas except sod and bioretention areas shall receive weed fabric and a 3" minimum depth of bark mulch. Bark mulch shall be Eco-Mini Natural Mulch, as available through EcoMulch, 5010 Pacheco Blvd., Martinez, (925) 228-1673. Bioretention areas shall receive 3" minimum depth of the compost used in the biotreatment soil mix.
8. All trees planted within 8' of adjacent paving, curbing, hardscape, water meters, joint trenches, etc. shall receive Deep Root Barrier UB 24-2 (24" depth x 10' min. length) as manufactured by Deep Root Partners (800) 458-7668, or approved equal.
9. No plant material shall be substituted without prior written consent from the Landscape Architect.
10. Contractor shall be responsible for the pre-ordering of all plant material after the Notice to Proceed. Photographs for all plants shall be submitted to the Landscape Architect prior to placing order.
11. All plant material shall be certified by the Agricultural Commissioner inspection program for freedom from the glassy winged sharpshooter or other pests identified by the Agricultural Commissioner. The Agricultural Commissioner's office shall be notified of all impending deliveries of live plants with points of origin outside of the County so that inspection can be arranged.
12. All plants of the same type and container size shall be matched in height and width.
13. The Plant Legend is provided for convenience only, not accurate bidding purposes. Graphic depiction of plant material shall take precedence over stated quantities. Contractor shall notify the Architect to obtain clarification if there are discrepancies.

SOILS MANAGEMENT NOTES

A. The following organic amendments, soil amendments and fertilizer rates and quantities shall be used for bid basis only. Contractor shall arrange and pay for soil fertility tests by an accredited soils laboratory of existing site soil after rough grading operations are complete, and shall amend the soils, according to said laboratory's recommendations. The soils recommendations shall be considered a part of these contract documents. The soils report must provide the following information:
   1. Soil permeability rate in inches per hour.
   2. Soil texture test.
   3. Cation exchange capacity.
   4. Soil fertility, including test for nitrogen, potassium, phosphorous, pH, organic matter and specific conductance (electrical conductivity).
   5. Recommendation for amendments to the planting area soil.

B. Topsoil: All landscape areas shall have a minimum 8" depth of topsoil with greater depths as required for planting work. Contractor shall provide topsoil which is fertile and friable, possessing characteristics of representative productive soils on the site. It shall not contain toxic substances which may be harmful to plant growth. When herbicide contamination is suspected then a radish/rye grass growth trial must be performed. Consult with the District prior to decision to test. It shall be uniformly textured and free of all objectionable foreign materials, oil or chemicals which may be injurious to plant growth. Natural topsoil shall possess a pH factor between 5.5 and 7.5, a sodium absorption ratio (SAR) of less than 8, a boron concentration of the saturation extract of less than 1 ppm, and salinity of the saturation extract at 25 degrees C. of less than 4.0 millimhos per centimeter. If required to import topsoil, Contractor shall obtain topsoil from naturally well-drained sites where topsoil occurs in a depth of not less than four inches (4"); do not obtain from bogs or marshes.

C. Organic Amendment: Nitrified fir bark having a minimum organic content of 94% and a nitrogen content of 0.8% minimum to 1.2% maximum on a dry weight basis. Fir bark shall be shredded to pass a one quarter inch (1/4") mesh screen. Incorporate organic amendment and fertilizer into the soil to a minimum depth of six inches (6") at a minimum rate of six cubic yards (6 cy) per one thousand square feet (1,000 sf) or per specific amendment recommendations from the soils report.

D. Fertilizer:
   1. Fertilizer shall be a commercial inorganic fertilizer in the granular or pelleted form. Fertilizer shall be delivered to the site in containers labeled in accordance with the applicable State of California regulations, bearing the warranty of the producer or the grade furnished, and shall be uniform in composition, dry and free-flowing.
   2. Turf, Shrubs and Vines:
      a. 6N-20P-20K, and 16-6-8, pelleted type.
      b. Sulphate - sulphur
      c. Lime for pH adjustment of moderately acid soil
      d. Starting one (1) month after planting, on a monthly basis, 21N-0P-0K Ammonium sulfate. 5 lbs. per 1,000 square feet.
   3. Trees:
      a. 21 gram 20N-10P-5K slow release fertilizer tablets as manufactured by Agriform. Apply according to manufacturer's instructions.
      b. After planting: 21N-0P-0K Ammonium sulfate 5lbs. per 1,000 square feet.

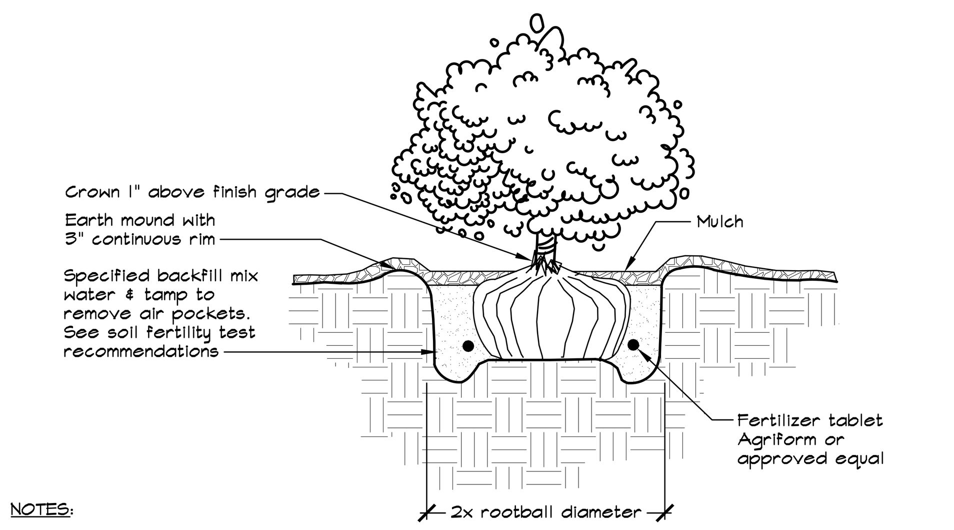
TREE PROTECTION SPECIFICATIONS

Site Preparation Phase
The following work, #1 through #12, must be accomplished before any site clearing, grading or other earthwork occurs within 100 feet of trees that are to be retained.

1. The General Contractor and grading contractor are required to meet with the District's Consulting Arborist (CA) at the site prior to beginning work to review all work procedures, access routes and tree protection measures.
2. Tree Protection Zones (TPZ's) shall be a minimum of 12 times the diameter at breast height (DBH) of all protected trees. The boundaries of all TPZ's shall be staked in the field.
3. No change to grade or trenching shall take place within the Critical Radius, a minimum 5 times the DBH, of all protected trees without prior approval of the CA.
4. Trees to be removed that have branches extending into canopies of trees to remain must be removed by a qualified arborist, not by demolition or construction contractors.
5. Tree removals shall be performed so as to prevent damage to branches, trunks and roots of protected trees.
6. Trees to be removed from within a TPZ shall be removed by a qualified arborist. Stumps shall be cut as low as possible. If stump grinding is preferred by the owner or contractor, grinding shall not be deep enough to damage woody roots of adjacent protected trees.
7. All downed brush and trees shall be removed from TPZ's either by hand or with equipment sitting outside the TPZ, by lifting the material out, not by skidding across the ground.
8. Roots or other underground features to be removed where a TPZ would be disturbed shall be done so as to minimize disturbance. Equipment shall operate from outside the TPZ. The CA shall be on site during all operations within the TPZ to monitor activity.
9. Any pruning required for site preparation shall be performed by a qualified arborist and in accordance with current professional standards.
10. A four foot high visibility or comparable barrier fence, affixed with locking zip-ties to steel T posts shall be erected to fully enclose TPZ's, or partially enclose them.
11. Any tree damage resulting from grading or other site preparation work shall be reported to the Architect and CA within six hours so that remedial action can be taken. Timeliness is critical.
12. If temporary access pathways for vehicles must pass over TPZ's, Contractor shall place geogrid and a bed of 6 inches of coarse wood chip under the mulch to protect the soil and roots.

Construction Phase

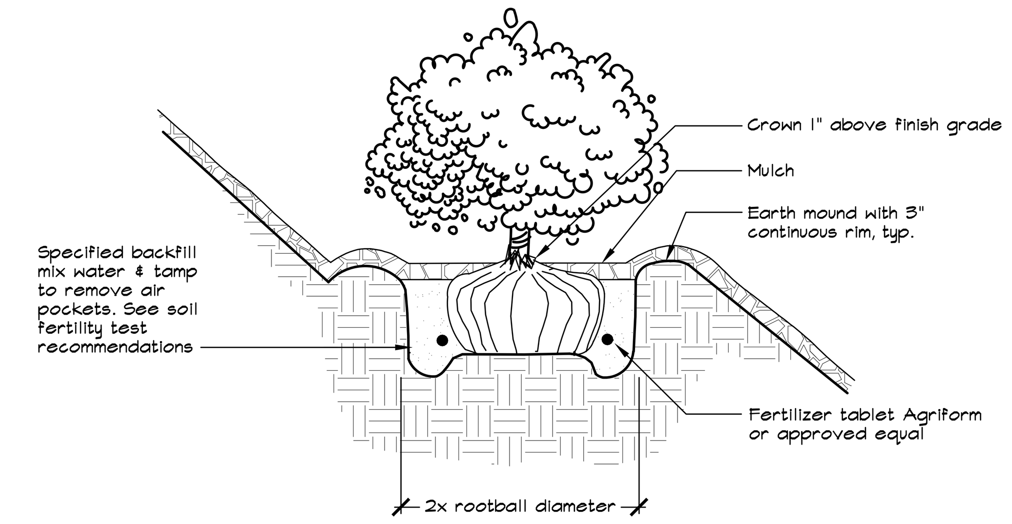
13. The General Contractor and grading contractor are required to meet with the CA at the site prior to beginning work to review all work procedures, access routes and tree protection measures.
14. Tree protection fences erected before site grading shall remain in place throughout the construction phase and may not be relocated, detached or removed without written permission of the CA.
15. Construction trailers, traffic, parking and storage areas shall remain outside of fenced areas at all times.
16. All underground utilities, drainage or irrigation lines shall be routed outside the TPZ's as much as is feasible. If lines must traverse a TPZ they shall be tunneled or bored under trees, or hand excavated under observation of the CA to minimize root pruning.
17. No materials, equipment, spoil or waste or washout water shall be deposited, stored, or parked within a TPZ.
18. Additional tree pruning required for clearance during construction shall be performed by a qualified arborist and not by construction personnel.
19. If injury should occur to any tree during construction, it shall be evaluated as soon as possible by the CA so that appropriate treatments can be applied.
20. Any grading, trenching, construction, demolition or other work that is expected to encounter tree roots shall be observed by the CA.
21. The CA may require the General Contractor to apply supplementary irrigation for protected trees that have received root damage in the course of grading or construction work.
22. Before grading, pad preparation, or excavation for foundations, footings, walls, or trenching, any tree with a TPZ within or adjacent to such a location shall be evaluated by the CA and Contractor in order to establish a plan that will prevent or minimize tree damage. Such plans may include manual or pneumatic excavation to expose and evaluate roots, alternative construction techniques, root pruning observed by the CA.
23. Any woody roots damaged during grading and construction shall be exposed back to sound tissue by the Contractor and evaluated by the CA for further action, which might include cleanly severing damaged roots back to tight cambium or excising damaged bark.
24. Spoils from trenches or other excavations shall not be placed within TPZ's.
25. No debris, garbage or other waste materials shall be placed within TPZ's.
26. If temporary access pathways for vehicles must pass over TPZ's, Contractor shall place geogrid and a bed of 6 inches of coarse wood chip under the mulch to protect the soil and roots.



NOTES:

1. Root ball shall rest on undisturbed soil.
2. Plant tablets shall be equally spaced around root ball. The number of tablets shall be 1 for 4" pot or liner, 2 for 1 gallon, 3 for 5 gallon, and 4 for 15 gallon, or as specified in the soils fertility test recommendations.
3. Contractor shall water planting pit thoroughly following planting.
4. See Planting Notes on this sheet for mulch specification.

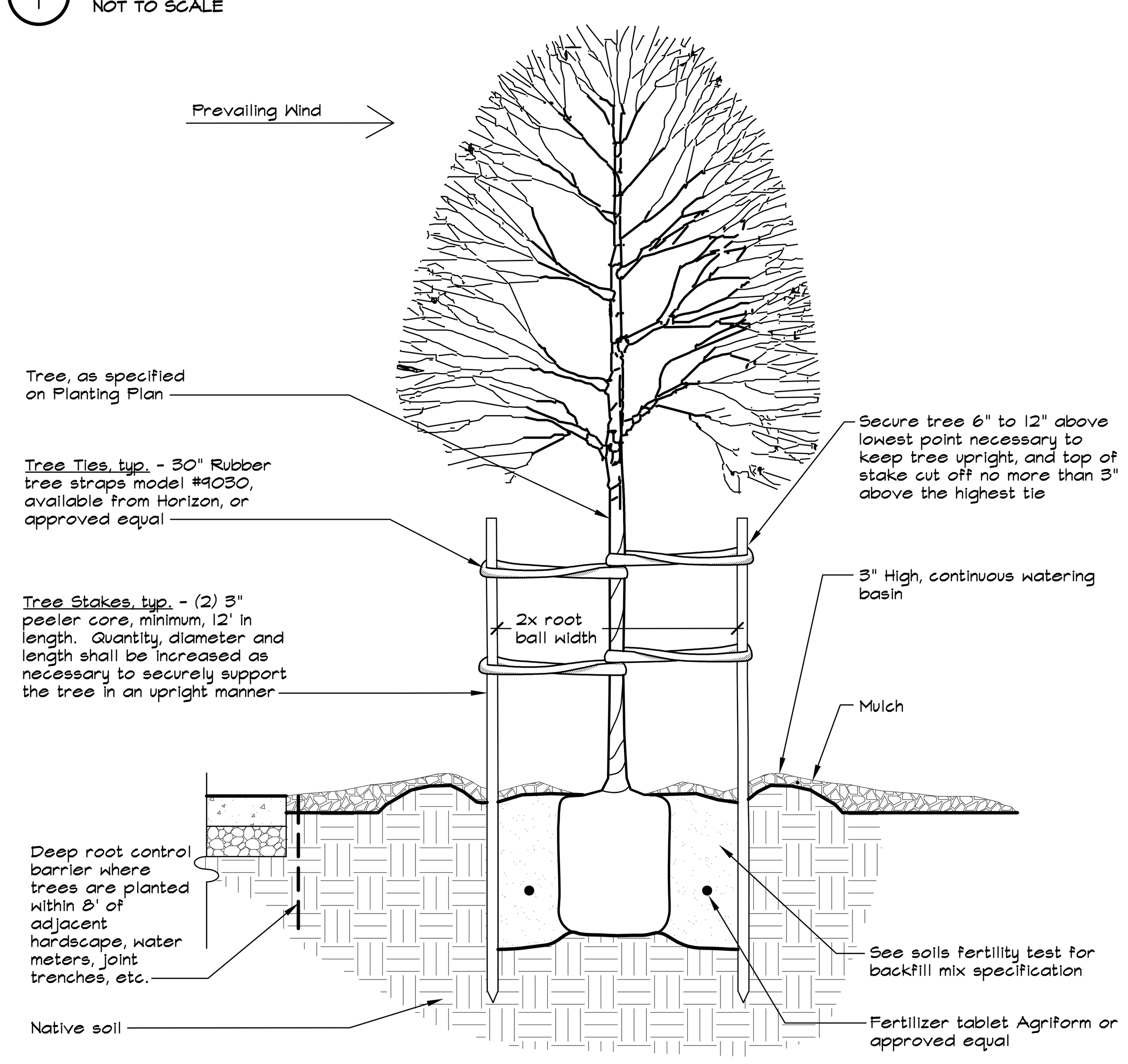
1 SHRUB/GROUNDCOVER PLANTING
NOT TO SCALE



NOTES:

1. Root ball shall rest on undisturbed soil.
2. Plant tablets shall be equally spaced around root ball. The number of tablets shall be 1 for 4" pot or liner, 2 for 1 gallon, 3 for 5 gallon, and 4 for 15 gallon, or as specified in the soils fertility test recommendations.
3. Contractor shall water planting pit thoroughly following planting.
4. See Planting Notes on this sheet for mulch specification.

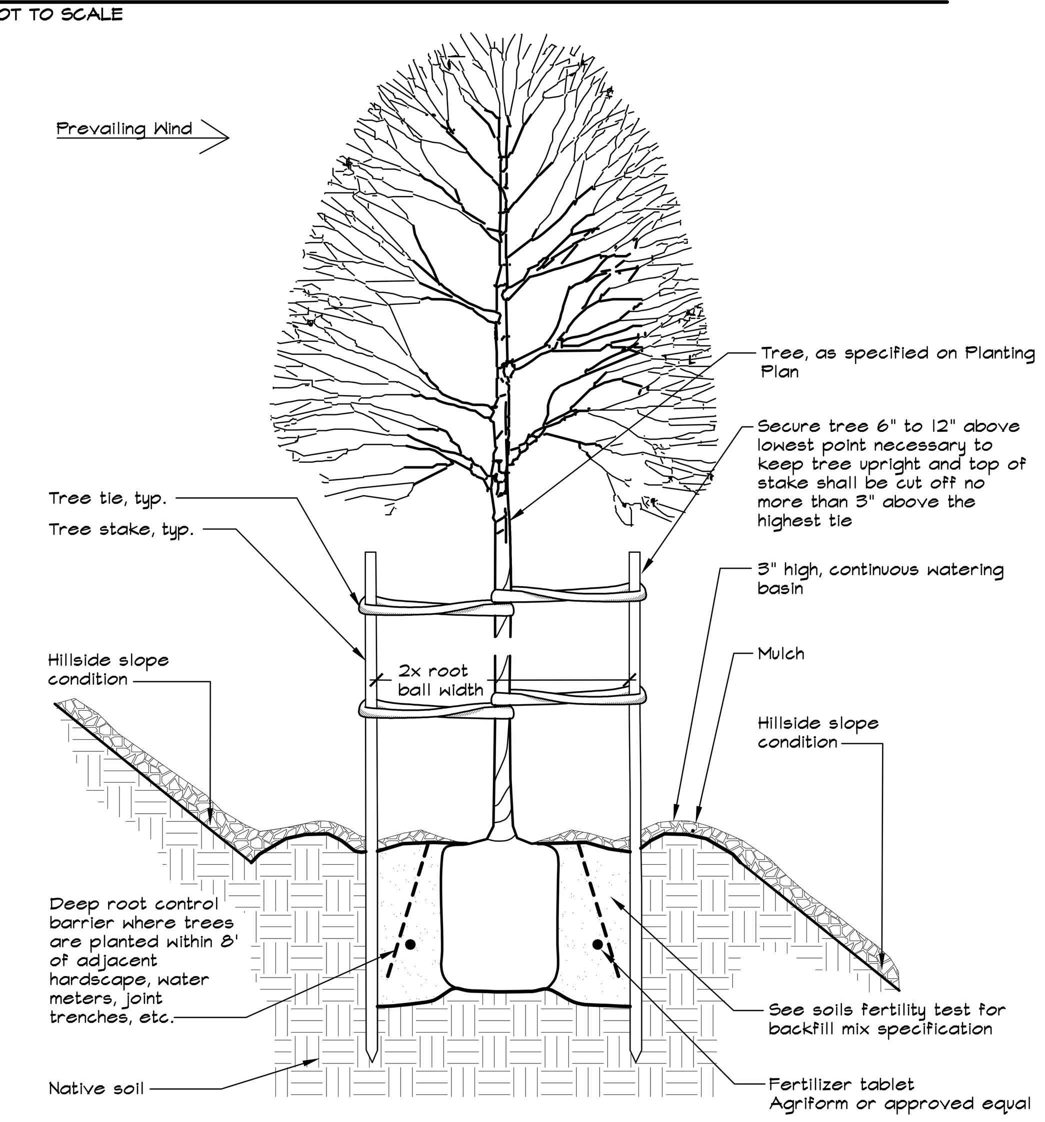
2 HILLSIDE SHRUB/GROUNDCOVER PLANTING
NOT TO SCALE



NOTES:

1. Root ball shall rest on undisturbed soil.
2. Plant tablets shall be equally spaced around root ball. The number of tablets shall be 4 for 15 gallon and 6 for 24", 36" box, or as specified in the soils fertility test recommendations.
3. Contractor shall water planting pit thoroughly following planting.
4. Trees shall be staked parallel with the direction of the prevailing wind.
5. Tree stakes shall have equal degree of separation between stakes.
7. Contractor shall use Deep Root Barrier where trees are planted within 8' of adjacent hardscape, water meters, joint trenches, etc. See Planting Notes on Planting Plan for more information.
8. See Planting Notes on this sheet for mulch specification.

3 TREE PLANTING AND STAKING
NOT TO SCALE



NOTES:

1. Root ball shall rest on undisturbed soil.
2. Plant tablets shall be equally spaced around root ball. The number of tablets shall be 4 for 15 gallon and 6 for 24", 36" box, or as specified in the soils fertility test recommendations.
3. Contractor shall water planting pit thoroughly following planting.
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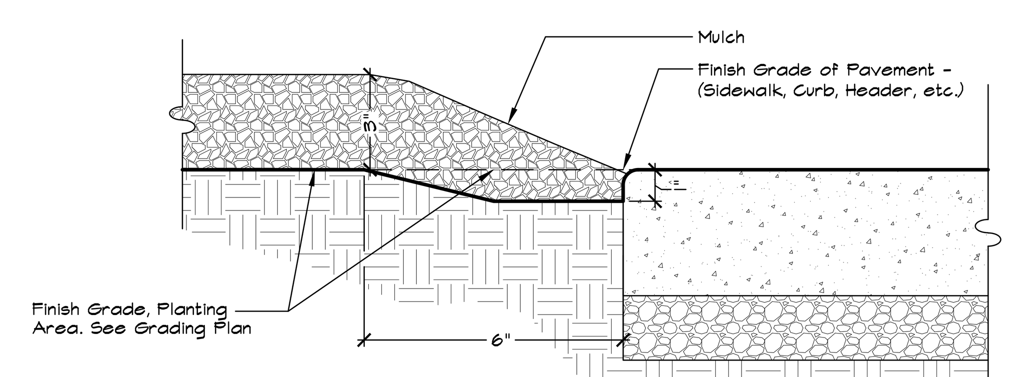
7. Contractor shall use Deep Root Barrier where trees are planted within 8' of adjacent hardscape, water meters, joint trenches, etc. See Planting Notes on Planting Plan for more information.
8. See Planting Notes on this sheet for mulch specification.

4 HILLSIDE TREE PLANTING AND STAKING
NOT TO SCALE



NOTES:

1. Grading shall provide for natural runoff of water without low spots or pockets.
2. See Planting Notes on this sheet for mulch specification.

5 MULCH
NOT TO SCALE

TREE PRESERVATION STANDARDS

1. Tree Protection Specifications shall be utilized for the protection of trees to remain within the Limit of Work. Construction activity shall include, but is not limited to, grading, trenching, excavating, and operation of construction equipment or vehicles in the vicinity of the tree to be protected, or work which has the potential to harm or affect the health or vigor of the tree.
2. Roots of single standing trees often extend two to three times the distance of the actual drip line and function primarily in the uptake of nutrients and water. The drip line is arbitrarily established as the minimum root area generally required to preserve tree health. As much area around the circumference of the tree beyond the drip line shall have minimum intrusion to further ensure tree survival and health.
3. Original grade shall be maintained at all times in the immediate area of the root crown, where the soil contacts tree bole. No increase in grade shall be allowed under any circumstances in this area.
4. All underground work within tree drip lines shall be avoided wherever possible to reduce negative impact on trees. Underground utilities should be located well outside the tree drip line for preservation purposes.
5. All underground work required within the drip line of the trees and below original grade shall be previewed by the District to determine potential impact on trees. Hand trenching shall be required where existing tree root systems could be damaged by equipment.
6. Construction materials or facilities shall not be placed under the dripline of existing trees.
7. Root pruning shall be restricted to roots less than two (2) inches in diameter. Roots shall be cut with a sharp saw. Roots may not be severed, pulled or broken with any soil excavation equipment during grading or trenching. Cutting of roots larger than two (2) inches in diameter must be approved by the District.

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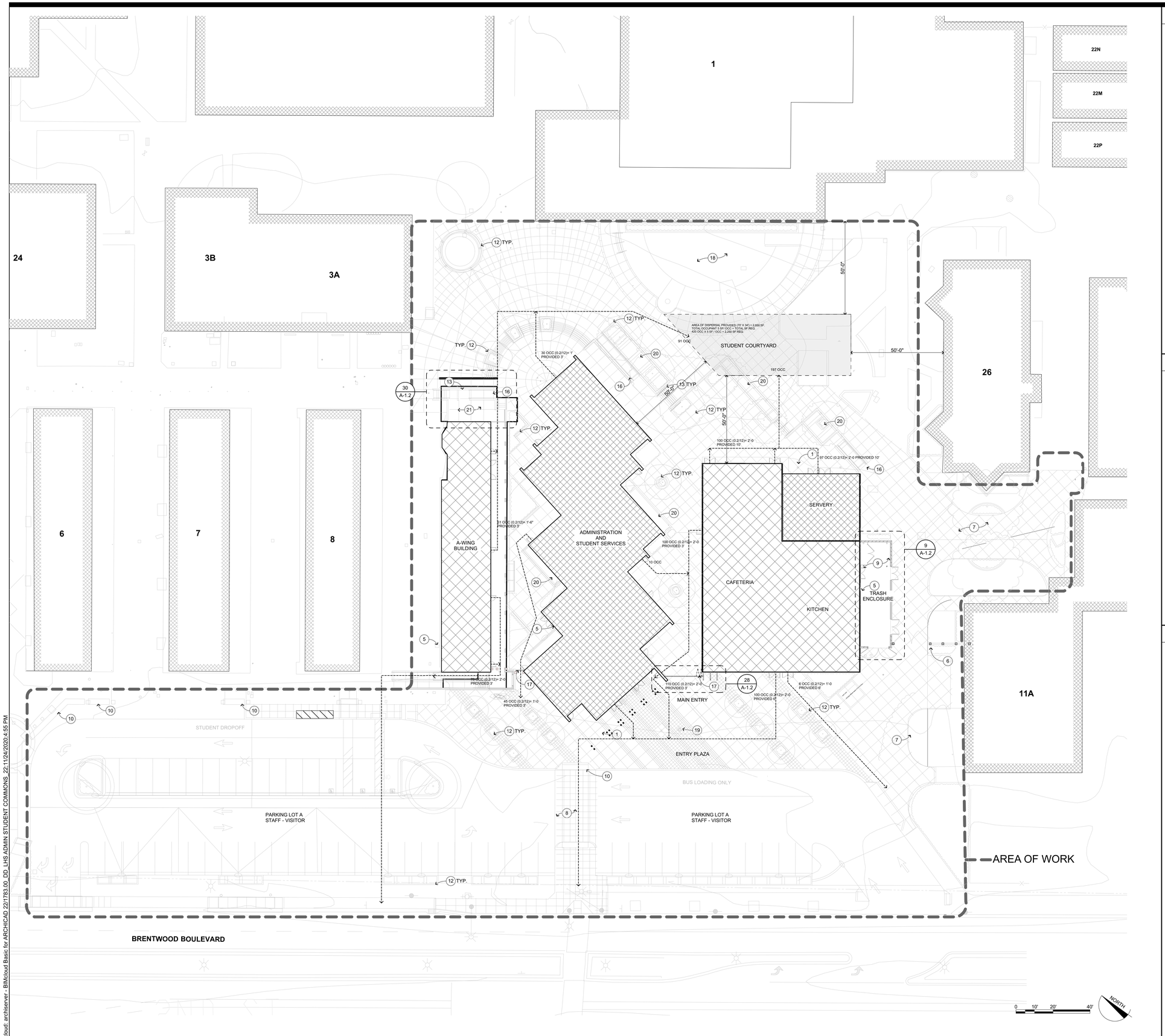
DECEMBER 2, 2020

SHEET TITLE

PLANTING DETAILS

SHEET NUMBER

L4.1



SITE PLAN KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. STRUCTURAL ITEM, S.S.D.
2. MECHANICAL ITEM, S.M.D.
3. PLUMBING ITEM / FIXTURE, S.P.D.
4. ELECTRICAL ITEM, S.E.D.
5. FIRE SPRINKLER RISER, S.P.D.
6. CHAINLINK FENCING & GATES, S.L.D.
7. NEW SIDEWALK, S.C.D.
8. CROSSWALK, S.C.D.
9. NEW TRASH ENCLOSURE
10. NOT USED
11. DROP OFF ZONE AND SIGNAGE, S.C.D.
12. PLANTER WALL AND PLANTINGS TYP., S.L.D
13. RAILINGS, S.L.D.
14. TIERED SEAT WALLS, S.C.D., S.L.D.
15. ACCESSIBLE SLOPED WALKWAY, SEE SHEET G-0.4, S.C.D.
16. ACCESSIBLE RAMP, S.C.D.
17. ORNAMENTAL FENCE AND GATES, S.L.D.
18. EXISTING PLATFORM TO REMAIN, S.C.D.
19. FLAG POLE, S.L.D.
20. BIO-RETENTION W/ CONC. SEAT, S.C.D.
21. CONCRETE DECK TO MATCH (E)

SITE PLAN GENERAL NOTES

1. IMPERVOUS SUFACES WTHIN 10 FEET OF THE BUILDING FOUNDATION SHALL BE SLOPED NOT LESS THAN 2% AWAY FROM THE BUILDING. SUCH SURFACES SHALL BE PERMITTED TO SLOPE LESS THAN 2% WHERE THE SURFACE IS A DOOR LANDING OR REQUIRED RAMP.
2. SEE SHEET G0.4 FOR ACCESSIBLE PATH OF TRAVEL INFORMATION
3. SEE SHEET G0.5 FOR CODE INFORMATION
4. REFER TO CIVIL ENGINEERING DWGS FOR SIDEWALK GRADES
5. REFER TO CIVIL ENGINEERING DRAWINGS AND LANDSCAPE PLANS FOR SITE FEATURES NOT OTHERWISE INDICATED.
6. REFER TO DEMOLITION PLANS

SITE PLAN LEGEND

- NEW BUILDING
- (E) BUILDING TO BE MODERNIZED
- (E) BUILDING TO REMAIN
- PROPERTY LINE
- AREA OF WORK

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SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
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JIM THEISS
LICENSE # C22643
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LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO.	01-119033
ARCH PROJECT NO:	1783.00
DRAWN BY:	HM / CH
DRAWING SCALE:	1"=20'
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

CAMPUS SITE & EGRESS PLAN

SHEET NUMBER

A-1.1

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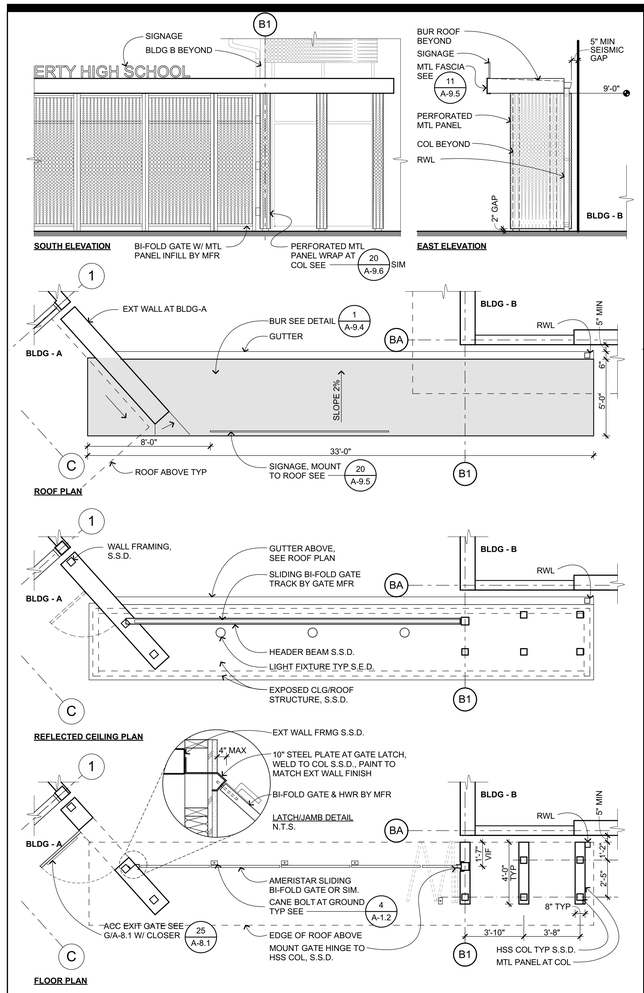
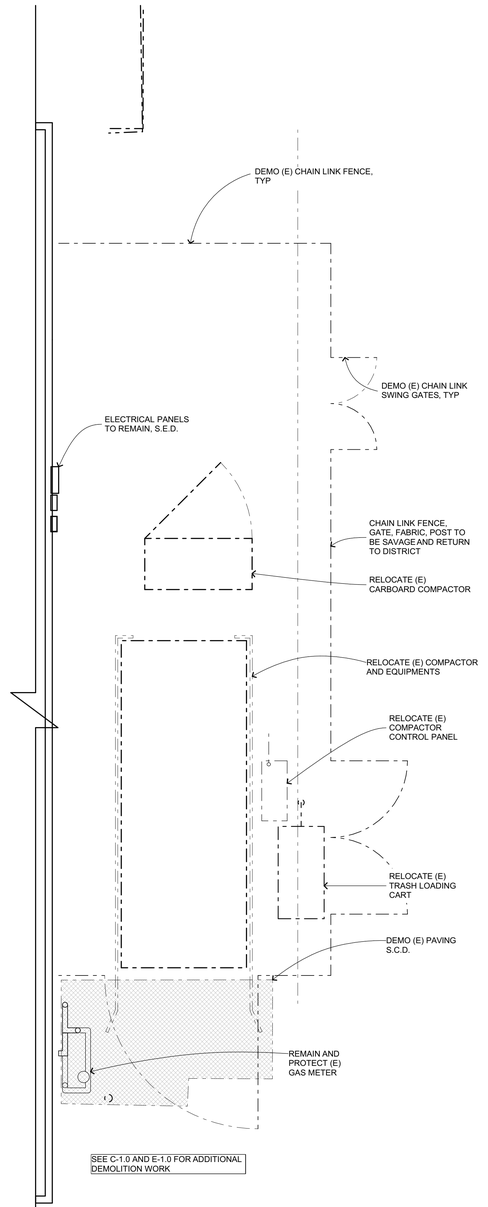


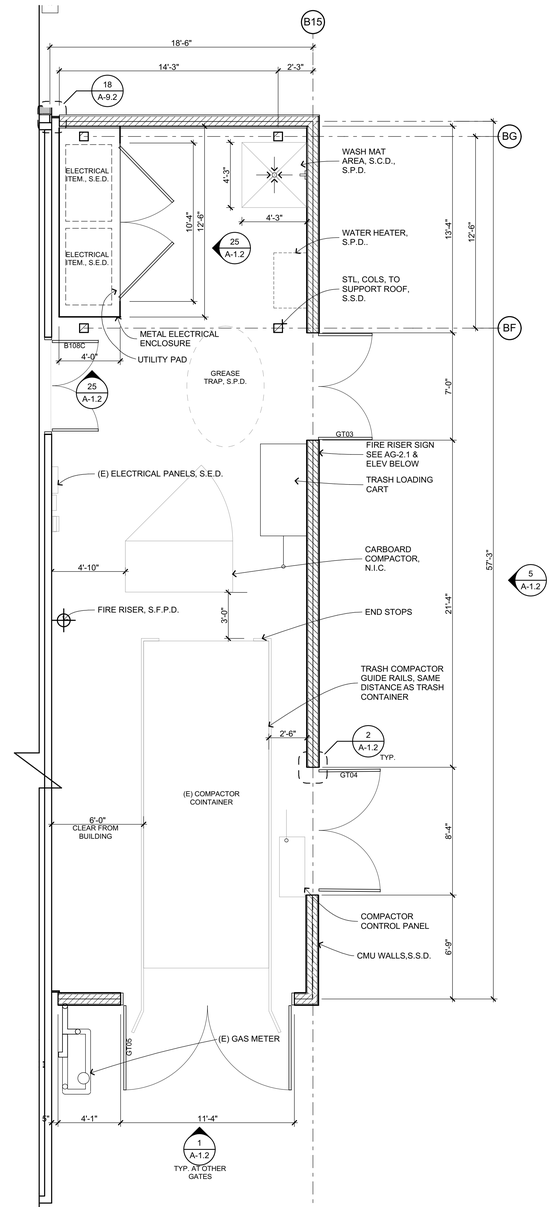
SCHOOL ENTRY GATEWAY

1/4" = 1'-0" — 28



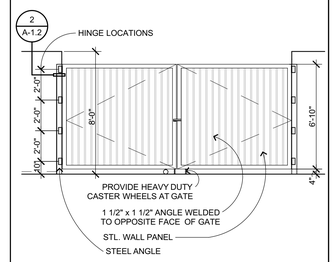
TRASH ENCLOSURE DEMO PLAN

1/4" = 1'-0" — 19



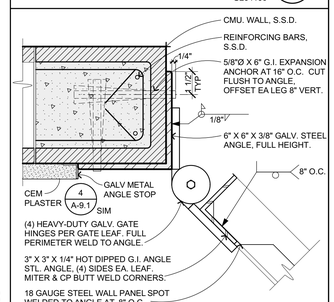
ENLARGED TRASH ENCLOSURE PLAN

1/4" = 1'-0" — 9



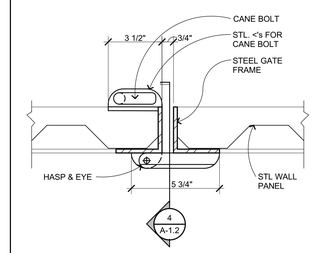
ENCLOSURE GATE

1/4" = 1'-0" — 1 — G204100



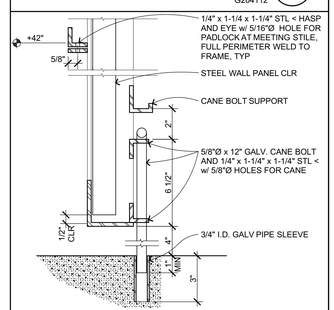
CMU WALL GATE JAMB

3" = 1'-0" — 2 — G204111



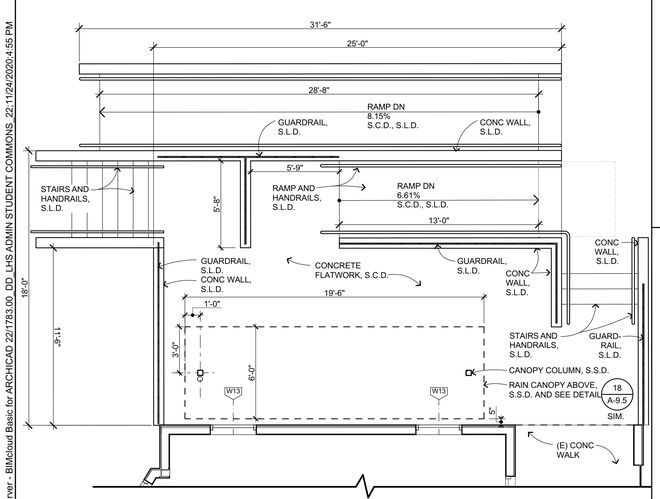
GATE HASP & BOLT

3" = 1'-0" — 3 — G204112



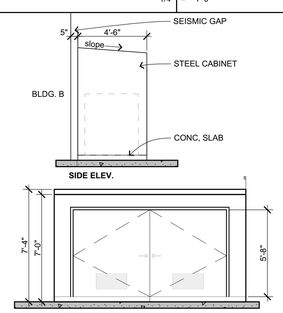
BOLT AT GRADE

3" = 1'-0" — 4 — G204113



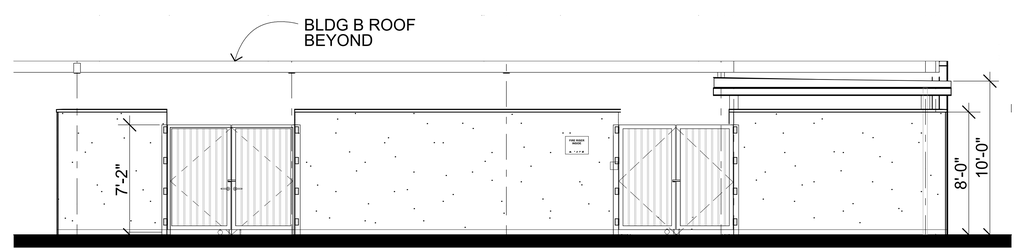
ENLARGED PLATFORM & CANOPY PLAN - A WING

1/4" = 1'-0" — 30



ELECT ENCLOSURE

1/4" = 1'-0" — 25



EAST ELEVATION TRASH ENCLOSURE

1/4" = 1'-0" — 5

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ARCH PROJECT NO:	1783.00
DRAWN BY:	PAG
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

SITE DETAILS

SHEET NUMBER

A-1.2

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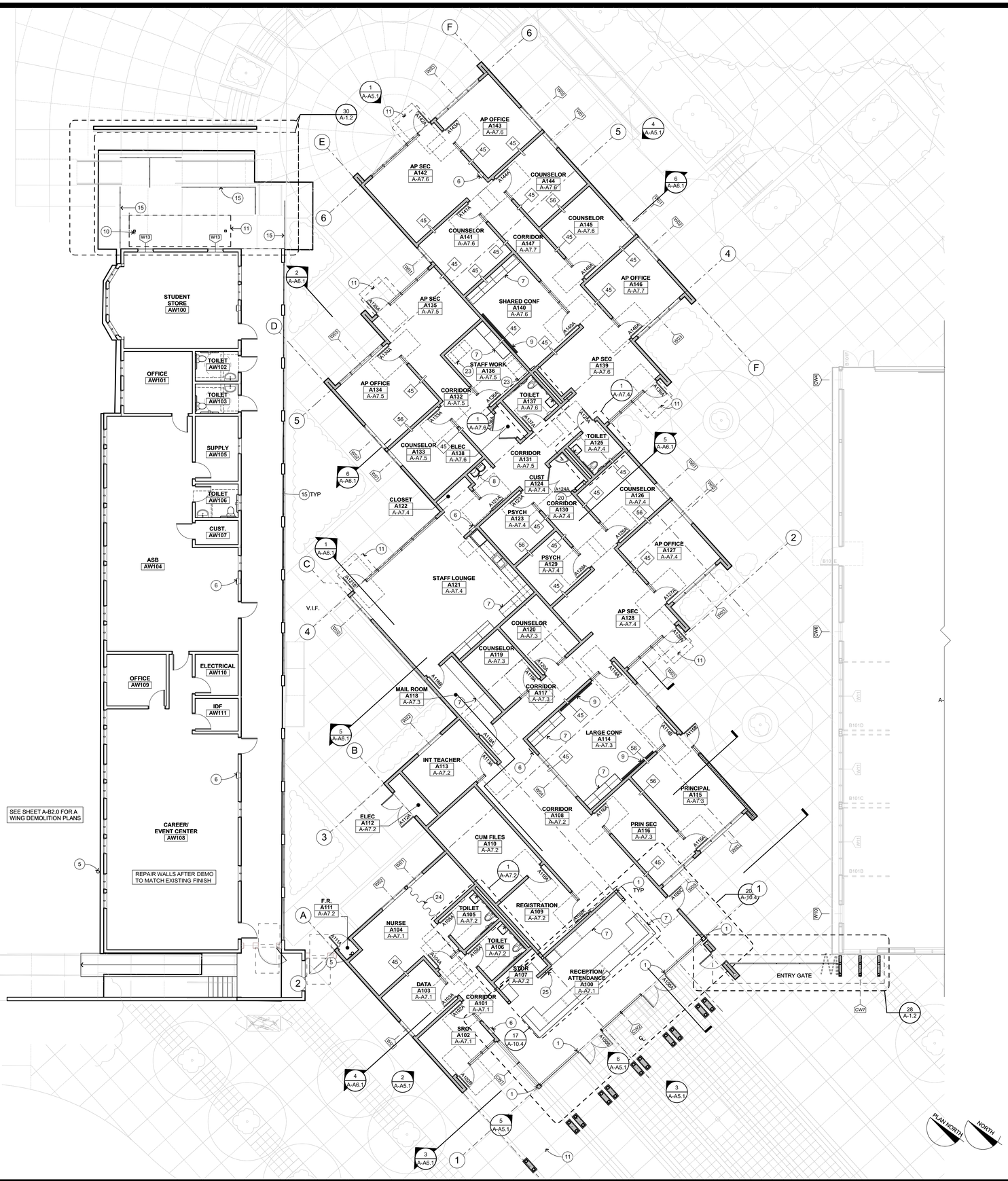


FLOOR PLAN KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. STRUCTURAL ITEM, S.S.D.
2. MECHANICAL ITEM, S.M.D.
3. PLUMBING ITEM / FIXTURE, S.P.D., S.K.D.
4. ELECTRICAL ITEM, S.E.D.
5. FIRE SPRINKLER RISER, S.P.D.
6. FIRE EXTINGUISHER, SEMI-RECESSED, SEE DTL 1/A-9.2
7. CASEWORK, SEE INTERIOR ELEVATIONS
8. HYDRATION STATION, SEE DETAIL 8/A-10.2
9. MARKER BOARD, SEE INTERIOR ELEVATIONS
10. RAIN WATER LEADER
11. ROOF OVERHANG OR RAIN CANOPY ABOVE
12. KITCHEN EQUIPMENT (BLDG.B), S.K.D., S.E.D., S.P.D.
13. FLOOR DRAIN, S.P.D.
14. STAINLESS STEEL COUNTER (BLDG. B) 20/A-9.3
15. METAL RAILING, SEE DETAIL 5/A-9.1
16. VENDING MACHINE (BLDG. B), N.I.C.
17. ACCESSIBLE LOCKERS (BLDG. B), SEE DETAIL 18/A-10.2
18. NOT USED
19. P-LAM GATE (BLDG.B)
20. ACCESS LADDER, SEE DETAIL 12/A-10.2
21. (E) TRASH EQUIPMENT, N.I.C.
22. SEISMIC JOINT COVER 18/A-9.2
23. EQUIPMENT, N.I.C.
24. PRIVACY CURTAIN (BLDG. A) PROVIDE BLOCKING AS REQUIRED
25. FLAT PANEL DISPLAY MOUNTING BRACKET, SEE 19/A-10.2
26. SURFACE MOUNTED TYPE K FIRE EXTINGUISHER

KITCHEN EQUIPMENT NOTE:
TYPE 1 HOOD REQUIRES A TYPE K FIRE EXTINGUISHER

FLOOR PLAN GENERAL NOTES

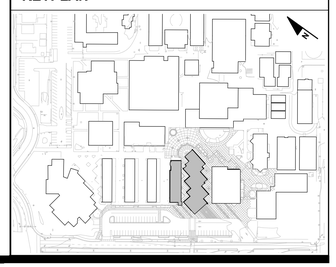
1. FOR SITE CONDITIONS SEE SITE PLAN SHEET A-1.1
2. FINISHED FLOOR ELEVATIONS SHOWN INDICATE FLOOR SLABS FOR THIS BUILDING. FOR ELEVATIONS RELATIVE TO THE REST OF THE SITE, REFER TO CIVIL ENGINEERING DRAWINGS.
3. REFER TO CIVIL ENGINEERING DRAWINGS AND SITE PLAN FOR SITE FEATURES NOT OTHERWISE INDICATED.
4. REFER TO ARCHITECTURAL GRAPHICS DRAWINGS FOR SIGNAGE NOT SHOWN.
5. REFER TO REFLECTED CEILING PLAN FOR CLERESTORY WINDOWS.
6. ALL INTERIOR WALL FRAMING AND GYP.BD. EXTEND TO UNDERSIDE OF ROOF /FLOOR SHEATHING ABOVE, U.O.N.

WALL TYPE LEGEND

ALL WOOD FRAMING IS 6" STUDS, U.O.N. S.S.D. FOR WOOD FRAMING SIZES

- EXISTING WALL
- WOOD FRAMING - NON RATED (18/A-9.1 EXT., 23/A-9.1 INT.)
- WOOD FRAMING - 1 HR RATED (24/A-9.1 EXT.)
- CMU - NON RATED
- EXISTING CONC WALL W/ 3 1/2" MTL FURRING
- WOOD STUD SIZE, 2X6 U.O.N.
- ACOUSTIC RATING (STC). SEE SHEET A-9.2 FOR ACOUSTIC WALL DETAILS.

KEYPLAN



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ARCH PROJECT NO:	1783.00
DRAWN BY:	HM
DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION AND A-WING BUILDINGS FLOOR PLAN

SHEET NUMBER

A-A2.1

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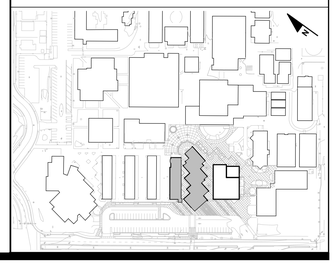
KEYPLAN



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DRAWN BY:	HM
DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION BUILDING DIMENSION PLAN

SHEET NUMBER

A-A2.2

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS 22:11/24/2020:4:55 PM

FINISH PLAN GENERAL NOTES

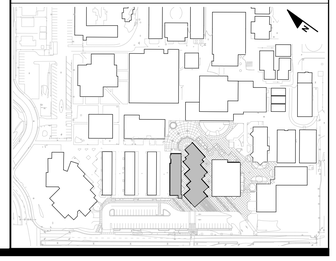
1. SEE FINISH PLAN SHEETS (A-A2.3 & A-B2.2), INTERIOR ELEVATION SHEETS (A-A7.1 - A-A7.7 & A-B7.1 - A-B7.3), & ALL DETAILS FOR THE EXTENT OF FINISH DOCUMENTATION.
2. SEE REFLECTED CEILING PLAN SHEETS (AX.XX) FOR SPECIFIC LOCATIONS & CONFIGURATIONS OF GYP. BD. SOFFITS, SUSPENDED CEILING SYSTEMS AND OTHER CEILING ELEMENTS. ALL GYP. SOFFITS TO BE PAINTED P1, U.O.N..
3. SEE FINISH SCHEDULE AND PROJECT SPECIFICATIONS FOR PRODUCT AND MATERIAL INFORMATION.
4. FLOOR FINISH INSTALLATION SHALL BE SMOOTH AND HAVE NO HEIGHT DIFFERENTIAL IN ONE LOCATION GREATER THAN 1/4" FOR A TOTAL OF 1/2" PER ADA REQUIREMENTS, EXPOSED EDGES OF THE FLOORING SHALL BE FASTENED TO THE FLOOR SURFACE AND HAVE TRIM AS APPROPRIATE FOR THE CONDITION.
5. NEW FLOORING TO EXTENDS UNDER ALL BUILT-IN CASEWORK.
6. CONTRACTOR TO VERIFY W/ ARCHITECT ALL MATERIAL / COLOR TERMINATIONS POINTS ON ALL HORIZONTAL & VERTICAL SURFACES PRIOR TO START OF WORK.
7. INTERIOR PAINTED WALLS ARE TO BE P1 TYP., U.O.N.. SEE FINISH SCHEDULE AND PROJECT SPECIFICATION FOR PAINTING SCHEDULE AND SHEEN DESIGNATION, U.O.N..
8. CONTRACTOR TO SUBMIT PAINT SAMPLES BRUSH-OUTS FOR ACHITECT REVIEW & APPROVAL.
9. ALL INTERIOR GRILLS AND REGISTER TO MATCH ADJACENT WALL COLOR, U.O.N..
10. ALL PAINTED HOLLOW METAL DOOR FRAMES TO BE COLOR 'SW7019 GAUNTLET GRAY' ON ALL SIDES, TYP U.O.N.. SEE DOOR SCHEDULE FOR ALTERNATE COLOR & FINISH TYPES.
11. ALL PAINTED METAL WINDOW FRAMES TO BE COLOR 'SW7019 GAUNTLET GRAY' ON ALL SIDES, TYP U.O.N.. SEE WINDOW SCHEDULE FOR FINISH TYPES.
12. ALL FACTORY FINISH FRAMES AND DOORS TO BE COLOR '740 EC DARK BRZ - DK C-1' ON ALL SIDES, TYP U.O.N.. SEE WINDOW SCHEDULE FOR FINISH TYPES.

FINISH PLAN LEGEND

SEE SHEET A-8.4 FOR FINISH INFORMATION

ROOM NAME	
ROOM #	
P1	WALL FINISH CODE
B1	BASE FINISH CODE
CPT1	FLOOR FINISH CODE
CPT2	SECONDARY FLOOR FINISH TAG
	FLOOR MATERIAL TRANSITION
	GRAIN DIRECTION
P2	WALL FINISH TAG
	FINISH CODE
	EXTENT OF MATERIAL
P1*	DENOTES SEMI GLOSS FINISH

KEYPLAN



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DRAWING SCALE:	1/8" = 1'-0"
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DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION BUILDING FINISH PLAN - INTERIOR

SHEET NUMBER

A-A2.3

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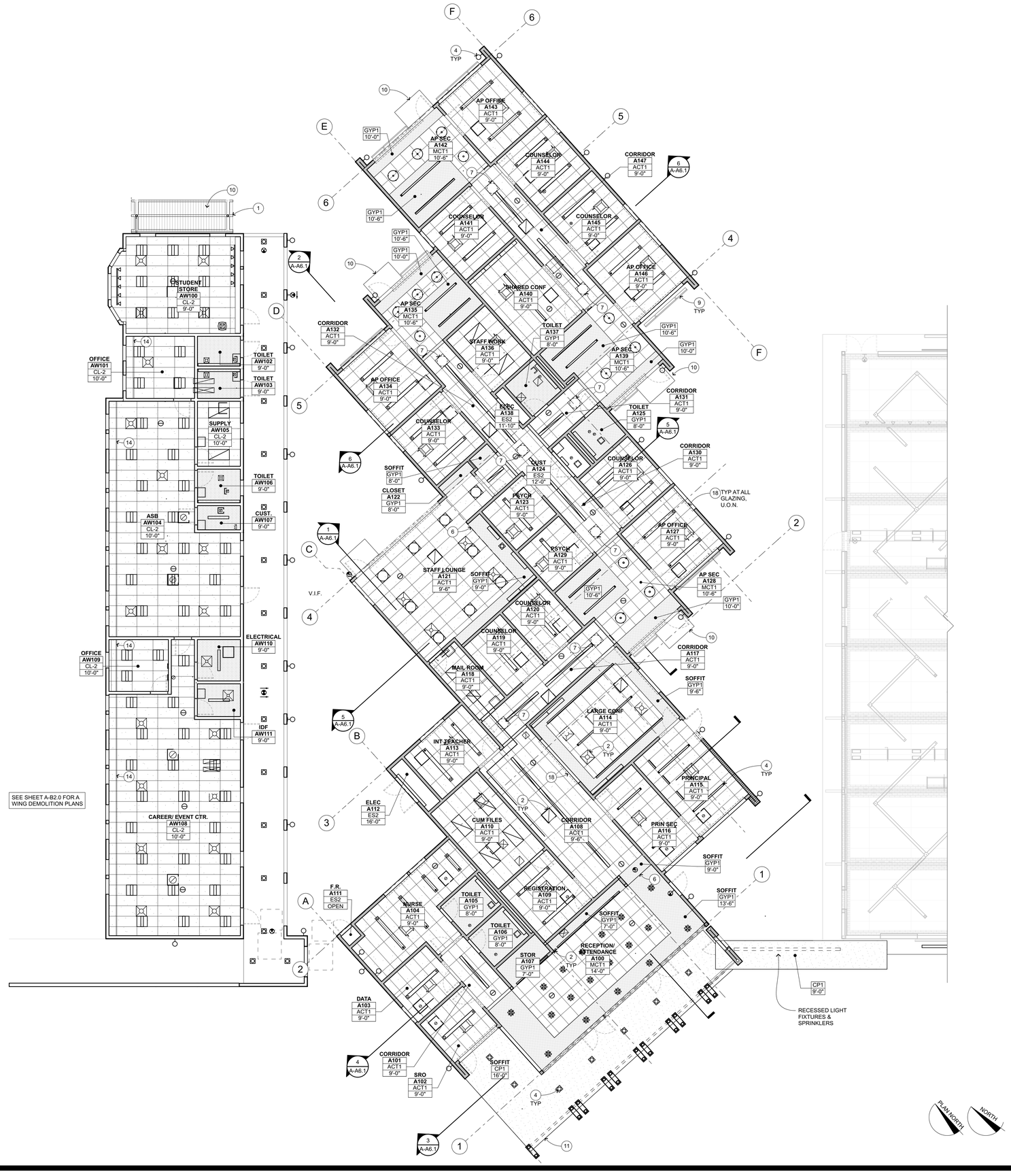


REFLECTED CEILING PLAN KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. EXPOSED STRUCTURE, S.S.D.
2. MECHANICAL ITEM, S.M.D.
3. PLUMBING ITEM / FIXTURE, S.P.D.
4. ELECTRICAL ITEM, S.E.D.
5. FIRE SPRINKLER, S.P.D.
6. SOFFIT, S.S.D. AND (22 / A-10.1) (28 / A-10.1)
7. SKYLIGHT, SEE ROOF PLAN
8. CEILING ACCESS PANEL
9. METAL PANEL, SEE EXTERIOR ELEVATIONS
10. RAIN CANOPY, SEE ROOF PLAN
11. EDGE OF ROOF ABOVE
12. KITCHEN EQUIPMENT, SEE KITCHEN DRAWINGS
13. AIR CURTAIN, S.M.D.
14. POCKET WINDOW SOFFIT (21 / A-10.1) SIM
15. COILING GRILLE (CONCEALED IN CEILING)
16. RAIN WATER LEADER, S.P.D. AND SEE (13 / A-9.5) (22 / A-9.5)
17. ROOF ACCESS HATCH (12 / A-9.4)
18. MANUAL OPERATED WINDOW SHADES (24 / A-10.2)
19. MOTORIZED OPERATED WINDOW SHADES (29 / A-10.2)

REFLECTED CEILING PLAN GENERAL NOTES

1. NOTES & SYMBOLS ARE TO APPLY TO ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDACY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
2. PENDANT LIGHT FIXTURE LOCATION DIMENSIONS ARE NOMINAL. VERIFY IN FIELD TO MAINTAIN 45° SWING CLEARANCES TO FIXED ELEMENTS.
3. S.E.D. FOR HORNS, SPEAKERS, PULL STATIONS, LIGHT FIXTURES AND OTHER FEATURES NOT OTHERWISE SHOWN.
4. S.E.D. FOR EXIT SIGNS & EMERGENCY LIGHTING CONDITIONS.
5. S.M.D. FOR PIPING, REGISTERS & VENTS NOT OTHERWISE SHOWN. MECHANICAL DUCT LOCATION DIMENSIONS ARE NOMINAL. VERIFY IN FIELD TO MAINTAIN CLEARANCES TO FIXED ELEMENTS.
6. CBC TABLE 601- ROOFS AND THEIR MEMBERS OTHER THAN THE STRUCTURAL FRAME MAY BE OF UNPROTECTED NON-COMBUSTIBLE MATERIALS WHEN EVERY PART OF ROOF FRAMING INCLUDING THE STRUCTURAL FRAME IS 20 FEET OR MORE ABOVE THE FLOOR IMMEDIATELY BELOW

REFLECTED CEILING PLAN LEGEND

10'-0" / ROOM NAME / ROOM # / X'-X" — CL-XX REFERS TO CEILING FINISH CODE SEE BELOW. X'-X" REFERS TO FINISHED CEILING HEIGHT AFF. WHERE CEILING HEIGHT IS INDICATED AS "OPEN" OR " - ", ROOM IS OPEN TO STRUCTURE ABOVE. FOR CEILING CONFIGURATION & HEIGHT WHERE CEILING HEIGHT IS INDICATED AS CURVED, SLOPING, OR VARIES, REFER TO SECTION DRAWINGS.

DOORS SHOWN DASHED INDICATE DOOR BELOW. FOR DEMO, (E), AND (N) DOOR/FRAME INFORMATION SEE FLOOR PLANS & DOOR SCHEDULE

ELECTRICAL ITEMS, S.E.D.

MECHANICAL ITEMS, S.M.D.

FIRE SPRINKLERS, S.F.P.D.

2x2 SOLATUBE

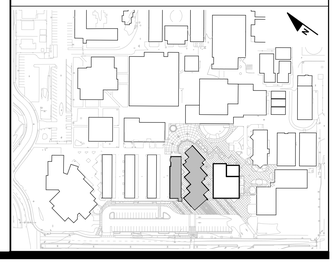
CEILING FINISH CODES

FOR PAINT FINISHES SEE SEC. 09 9113 (EXTERIOR) & 09 9123 (INTERIOR).

SEE SHEET A-8.4 FOR FINISH INFORMATION

GYP1	GYPSUM BOARD O/ FRAMING, S.S.D.	
ACT1 ACT2 ACT3	2'X4' SUSPENDED CEILING SYSTEM W/ ACOUSTIC TILE	(3 / A-10.1) (13 / A-10.1)
MCT1	SUSPENDED CEILING SYSTEM W/ PERFORATED METAL	(3 / A-10.1) (13 / A-10.1)
ACP1	ACOUSTIC CEILING PANELS, 4'x8'	(24 / A-10.1)
CP1	CEMENT PLASTER	(4 / A-9.1)
ES1 ES2	EXPOSED CEILING/ROOF STRUCTURE	

KEYPLAN



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DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION BUILDING REFLECTED CEILING PLAN

SHEET NUMBER

A-A3.1

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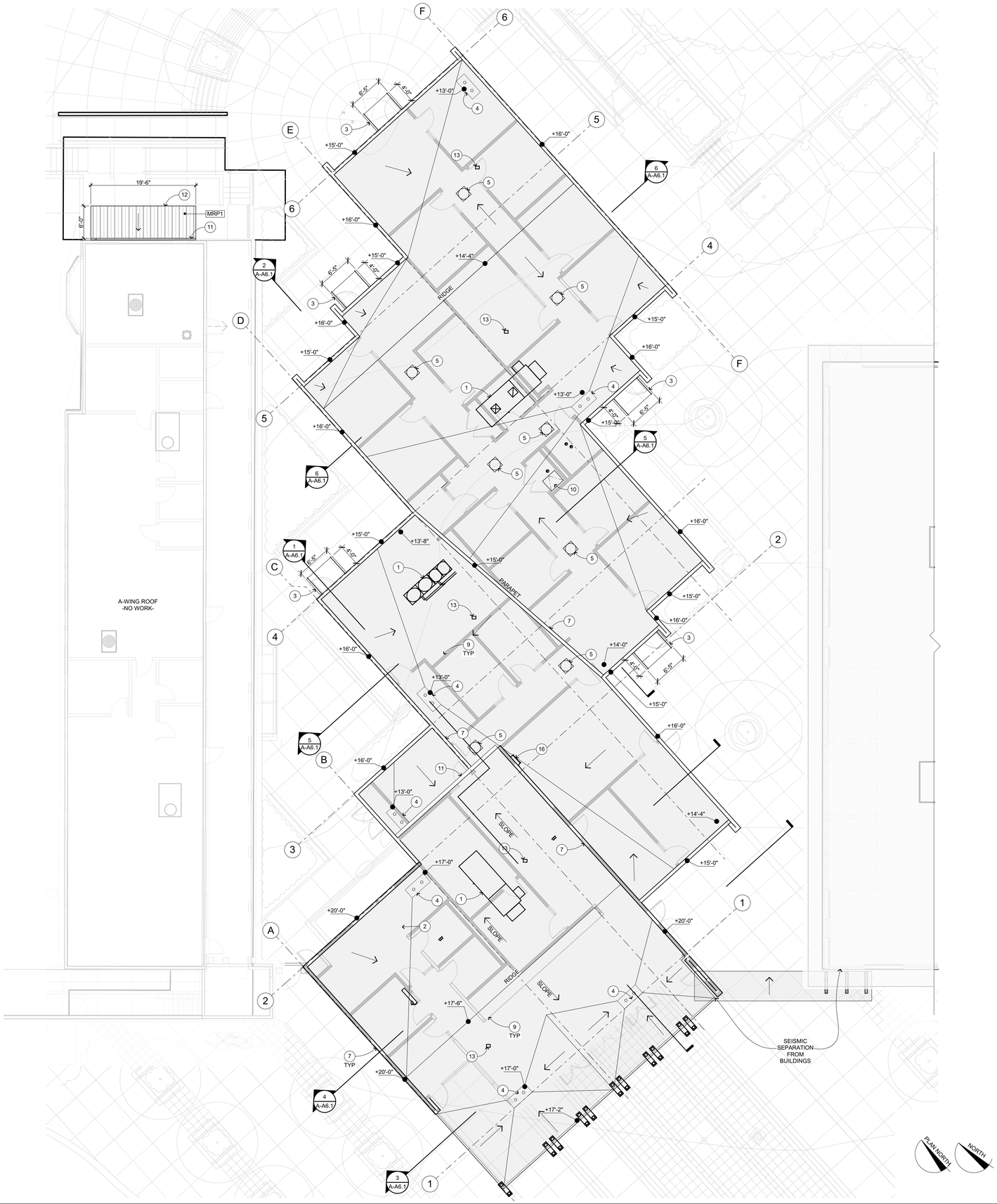


ROOF PLAN KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. MECHANICAL ITEM (S.M.D.), FOR CURB SEE 3/A-9.4
2. BUR CRICKET O/ SLOPED INSULATION
3. RAIN CANOPY BELOW, SEE 1/A-9.6
4. ROOF DRAIN, S.P.D. AND SEE 5/A-9.4
5. TUBULAR SKYLIGHT (BLDG. A), SEE 5/A-9.5
6. MECHANICAL SCREEN, SEE 26/A-9.4 28/A-9.4
7. PARAPET, SEE DETAIL 7/A-9.4
8. MAIN ENTRY GATEWAY 28/A-1.2
9. WALLS SHOWN IN GRAY BELOW
10. ROOF ACCESS HATCH, SEE DETAIL 12/A-9.4
11. GUTTER, SEE DETAIL 2/A-9.5
12. ENTRY CANOPY, S.S.D. AND 18/A-9.5
13. ROOF ANCHORAGE FOR SAFETY EQUIP, SEE 22/A-9.4
14. TRASH ENCLOSURE ROOF (BLDG. B), S.S.D.
15. RAIN WATER LEADER BELOW, SEE RCP
16. ROOF LADDER, ATTACHMENT SEE 23/A-9.4

ROOF PLAN GENERAL NOTES

1. LOCATE ALL METAL ROOF PENETRATIONS IN THE CENTER OF THE PAN. DO NOT INTERRUPT STANDING SEAMS.
2. MINIMUM THICKNESS OF RIGID INSULATION TO BE 1" AT LOW POINT OF ROOF. SLOPE MIN 1/4":12" TO DRAIN. ALL RIGID INSULATION OVERLAID WITH 1/2" PERLITE BOARD.
3. ALL ROOFING TO BE CLASS A.
4. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ROOF PENETRATION LOCATIONS NOT OTHERWISE INDICATED, TYPICAL.
5. MECHANICAL UNIT MOUNTING CURBS PER 3/A-9.4 S.M.D.
6. MECHANICAL OR PLUMBING VENT FLASHING, BOOTS, SEE 4/A-9.4 B.U.R.

ROOF PLAN LEGEND

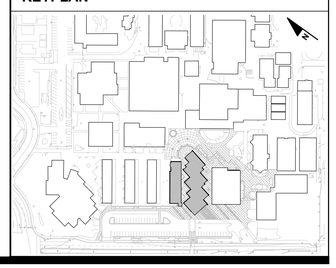
SEE SHEET A-8.4 FOR FINISH INFORMATION

+0'-0" DIMENSION INDICATING TOP OF ROOF LEVEL. SEE DETAILS FOR TOP OF ROOF LOCATION WITHIN ASSEMBLY

BUILT-UP ROOFING 1/A-9.4

METAL ROOFING 18/A-9.5

KEYPLAN



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APP: 01-119033 INC:
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DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS

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Pleasanton Office:
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LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
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SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	HM
DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION BUILDING ROOF PLAN

SHEET NUMBER

A-A4.1

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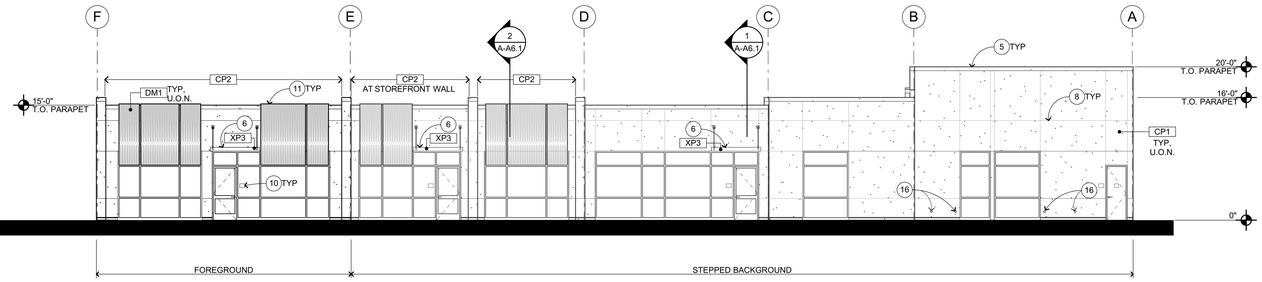
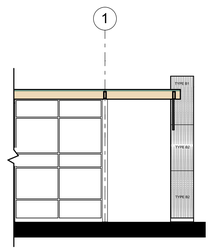


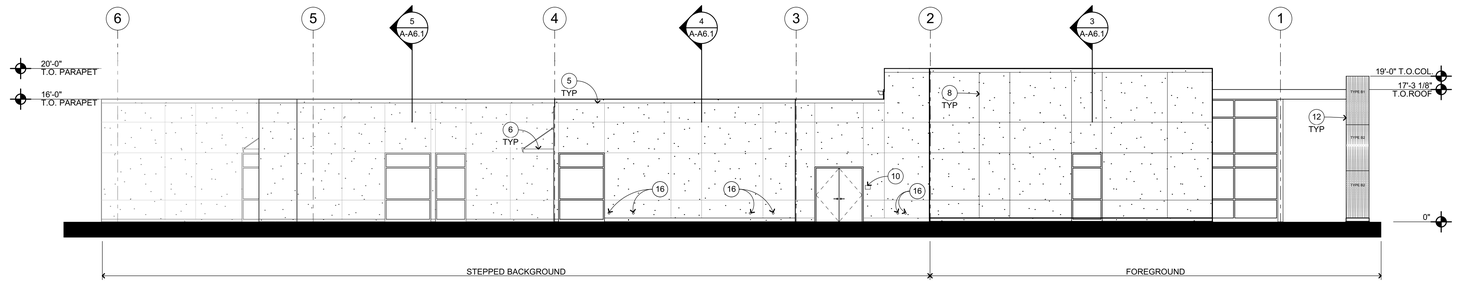
NORTH ELEVATION 1

1/8" = 1'-0"



PARTIAL WEST ELEVATION 5

1/8" = 1'-0"



WEST ELEVATION 2

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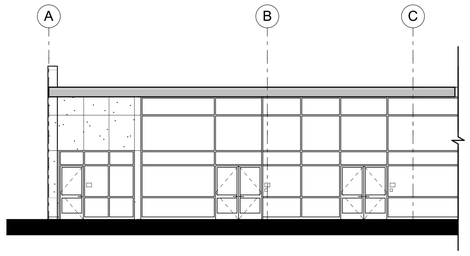
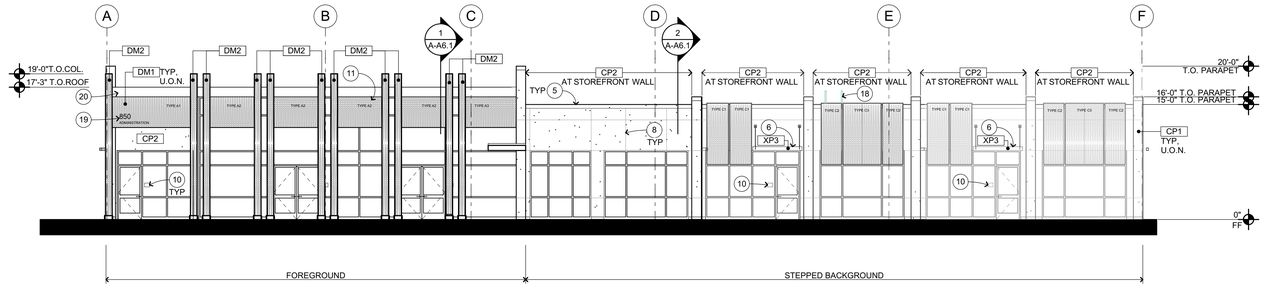


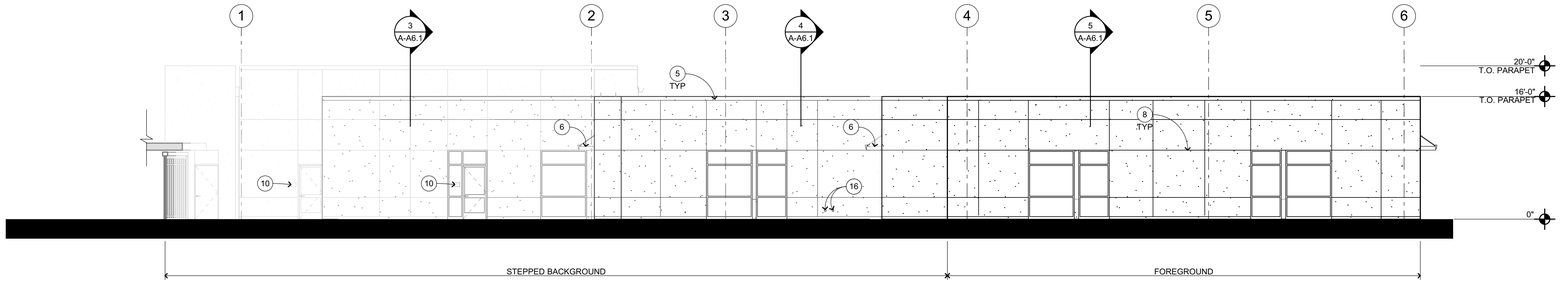
PARTIAL SOUTH ELEVATION 6

1/8" = 1'-0"



SOUTH ELEVATION 3

1/8" = 1'-0"



EAST ELEVATION 4

1/8" = 1'-0"

EXTERIOR ELEVATION KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. STRUCTURAL ITEM, S.S.D.
2. MECHANICAL ITEM, S.M.D.
3. PLUMBING ITEM / FIXTURE, S.P.D.
4. LIGHT FIXTURE, S.E.D.
5. FLASHING AT PARAPET, SEE 7/A-9.4
6. RAIN CANOPY, SEE ROOF PLAN
7. ENTRY CANOPY, SEE ROOF PLAN
8. CEMENT PLASTER CONTROL JOINT 4/A-9.1
9. SCHOOL SIGN 20/A-9.5
10. SIGNAGE, SEE AG-2.1 ARCH GRAPHICS PLAN
11. PERFORATED METAL PANEL 17/A-9.6
12. NOT USED
13. SERVICE WINDOW, SEE WINDOW SCHEDULE
14. METAL PANEL PAINTED WITH SCHOOL LOGO
15. MECHANICAL SCREEN, SEE ROOF PLAN
16. DOWNSPOUT NOZZLE, S.P.D.
17. RAIN WATER LEADER, S.P.D.
18. ROOF LADDER, SEE ROOF PLAN
19. BUILDING ID SIGN, SEE 33/AG-2.1
20. METAL FASCIA
21. WALL INFILL TO MATCH EXTERIOR FINISH, S.S.D. 21/S-1.1

EXTERIOR ELEVATION GENERAL NOTES

1. NOTES AND SYMBOLS ARE TO APPLY AT ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
2. ALL PENETRATIONS THROUGH EXTERIOR ROOF AND WALLS, AND FLOORS SHALL BE FLASHED AND SEALED WEATHER TIGHT. ALL PENETRATIONS THROUGH THE BUILDING INSULATION ENVELOPE SHALL BE PACKED WITH INSULATION.
3. PROVIDE OPENING FLASHINGS AT ALL WINDOWS, DOORS, LOUVERS AND SIMILAR WALL OPENINGS PER 17/A-9.1
4. PROVIDE CEMENT PLASTER CONTROL JOINTS AS INDICATED AND AS FOLLOWS: PROVIDE CONTROL JOINTS SO THAT THE MAXIMUM DISTANCE BETWEEN JOINTS, VERTICALLY OR HORIZONTALLY DOES NOT EXCEED 12'-0"; ALL CEMENT PLASTER "PANELS" SHALL BE DEFINED BY FOUR STRAIGHT AND UNINTERRUPTED EDGES; PROVIDE JOINTS AS REQUIRED TO AVOID INSIDE CORNERS IN ANY INDIVIDUAL PANEL.
5. REFER TO MECHANICAL DRAWINGS FOR REGISTERS AND VENTS NOT OTHERWISE SHOWN.
6. REFER TO ELECTRICAL DRAWINGS FOR HORNS, SPEAKERS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN.

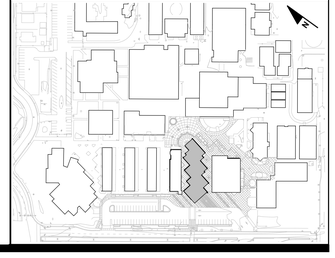
EXTERIOR ELEVATION LEGEND

(E) CONCRETE (TILT-UP)

CP1 / CP2 — CEMENT PLASTER 4/A-9.1

XP1 — FINISH TAG, SEE A-8.4 FINISH SCHEDULE

KEYPLAN



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ARCH PROJECT NO:	1783.00
DRAWN BY:	HM
DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

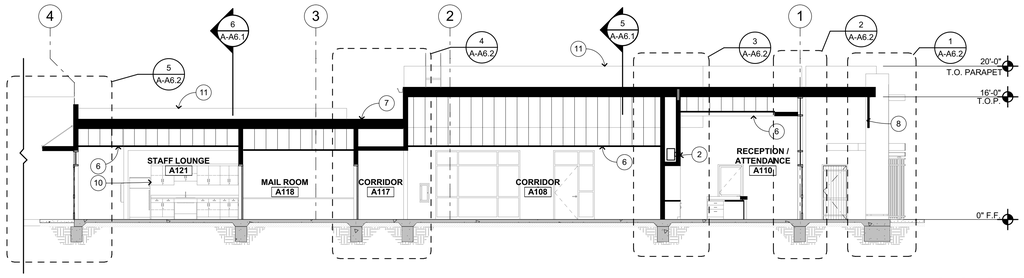
SHEET TITLE

ADMINISTRATION BUILDING EXTERIOR ELEVATIONS

SHEET NUMBER

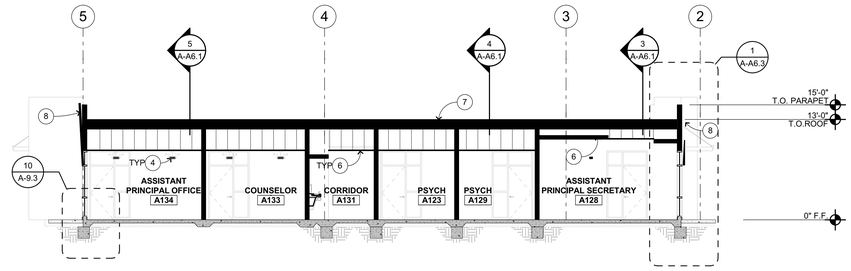
A-A5.1

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS 22:11/24/2020:4:55 PM



ADMIN SECTION 1

1/8" = 1'-0"



ADMIN SECTION 2

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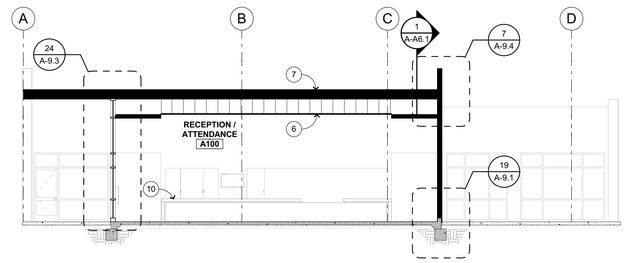
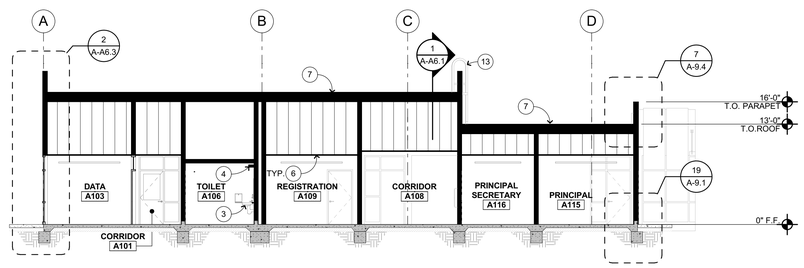


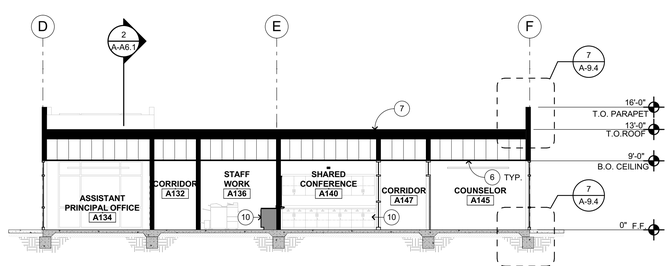
ADMIN SECTION 3

1/8" = 1'-0"



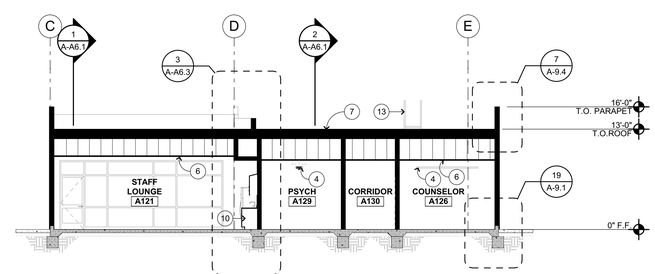
ADMIN SECTION 4

1/8" = 1'-0"



ADMIN SECTION 6

1/8" = 1'-0"



ADMIN SECTION 5

1/8" = 1'-0"

SECTION KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. STRUCTURAL ITEM, S.S.D.
2. MECHANICAL ITEM, S.M.D.
3. PLUMBING ITEM / FIXTURE, S.P.D.
4. LIGHT FIXTURE, S.E.D.
5. FIRE SPRINKLER HD, S.P.D.
6. CEILING PER PLAN
7. ROOFING, SEE ROOF PLAN
8. PERFORATED METAL PANEL, SEE EXTERIOR ELEVATIONS
9. MECHANICAL SCREEN, SEE ROOF PLAN
10. CASEWORK, SEE INTERIOR ELEVATIONS
11. PARAPET, SEE ROOF PLAN
12. GUTTER, SEE ROOF PLAN
13. ACCESS LADDER
14. FURRED METAL STUD WALL
15. ENTRY GATE AND CANOPY
16. RAIN CANOPY, SEE ROOF PLAN
17. RAIN WATER LEADER, SEE RCP

SECTION GENERAL NOTES

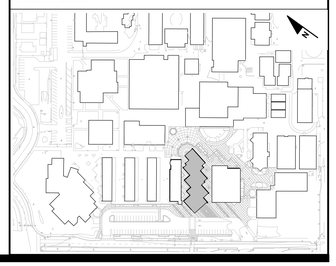
1. NOTES AND SYMBOLS ARE TO APPLY AT ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
2. ALL PENETRATIONS THROUGH EXTERIOR ROOF AND WALLS, AND FLOORS SHALL BE FLASHED AND SEALED WEATHER TIGHT. ALL PENETRATIONS THROUGH THE BUILDING INSULATION ENVELOPE SHALL BE PACKED WITH INSULATION.
3. PROVIDE OPENING FLASHINGS AT ALL WINDOWS, DOORS, LOUVERS AND SIMILAR WALL OPENINGS PER DETAIL 17 / A-9.1
4. PROVIDE FIRESTOPPING AT CONCEALED SPACES, INCLUDING BETWEEN STAIR STRINGERS & BETWEEN STUDS WITH STAIR RUN, FURRED SPACES, CEILING/FLOOR LEVELS AND 10'-0" INTERVALS ALONG LENGTHS OF WALL, SOFFITS, DROP CEILINGS, AND COVE CEILINGS PER CBC 718.
5. REFER TO INTERIOR ELEVATIONS FOR WALL FINISHES AND INFORMATION NOT SHOWN, TYPICAL.
6. REFER TO FLOOR PLAN FOR FLOOR FINISHES, TYPICAL.
7. REFER TO REFLECTED CEILING PLAN FOR CEILING FINISHES, TYPICAL.
8. REFER TO MECHANICAL DRAWINGS FOR REGISTERS AND VENTS NOT OTHERWISE SHOWN.
9. REFER TO ELECTRICAL DRAWINGS FOR HORNS, SPEAKERS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN.

SECTION LEGEND

EXISTING WALL (A-WING AND BUILDING B)

WOOD FRAMING - NON RATED

KEYPLAN



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JIM THEISS
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ADMINISTRATION & STUDENT COMMONS

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LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	*HM / PAG*
DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

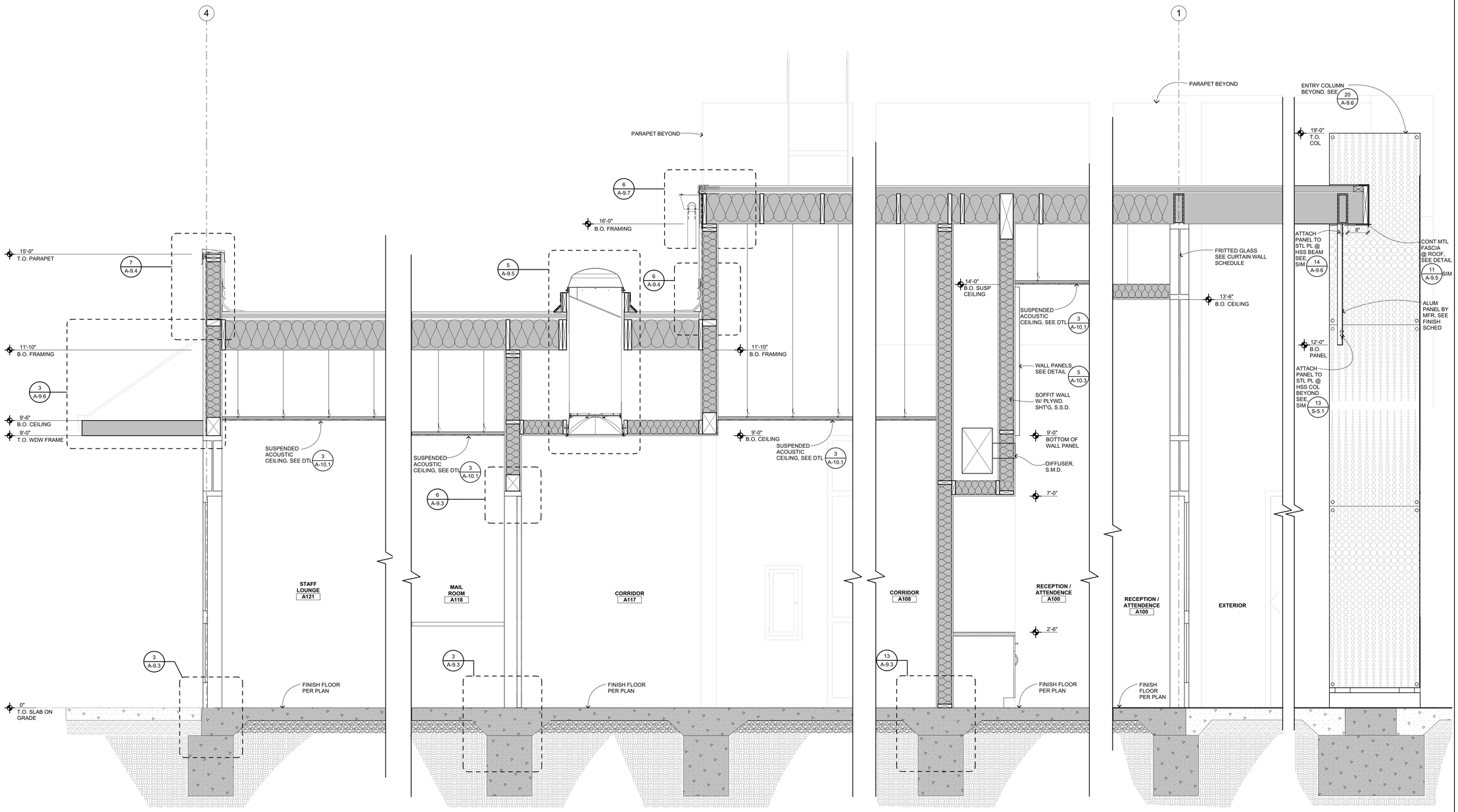
SHEET TITLE

ADMINISTRATION BUILDING SECTIONS

SHEET NUMBER

A-A6.1

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS, 22:11/24/2020 4:55 PM



ADMIN AT CANOPY 5
3/4" = 1'-0"

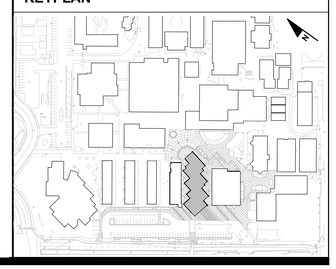
ADMIN INT CORRIDOR 4
3/4" = 1'-0"

ADMIN AT RECEPTION 3
3/4" = 1'-0"

ADMIN AT ENTRANCE 2
3/4" = 1'-0"

ADMIN AT ENTRANCE 1
3/4" = 1'-0"

KEYPLAN



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DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	PAG
DRAWING SCALE:	3/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION BUILDING WALL SECTIONS

SHEET NUMBER

A-A6.2

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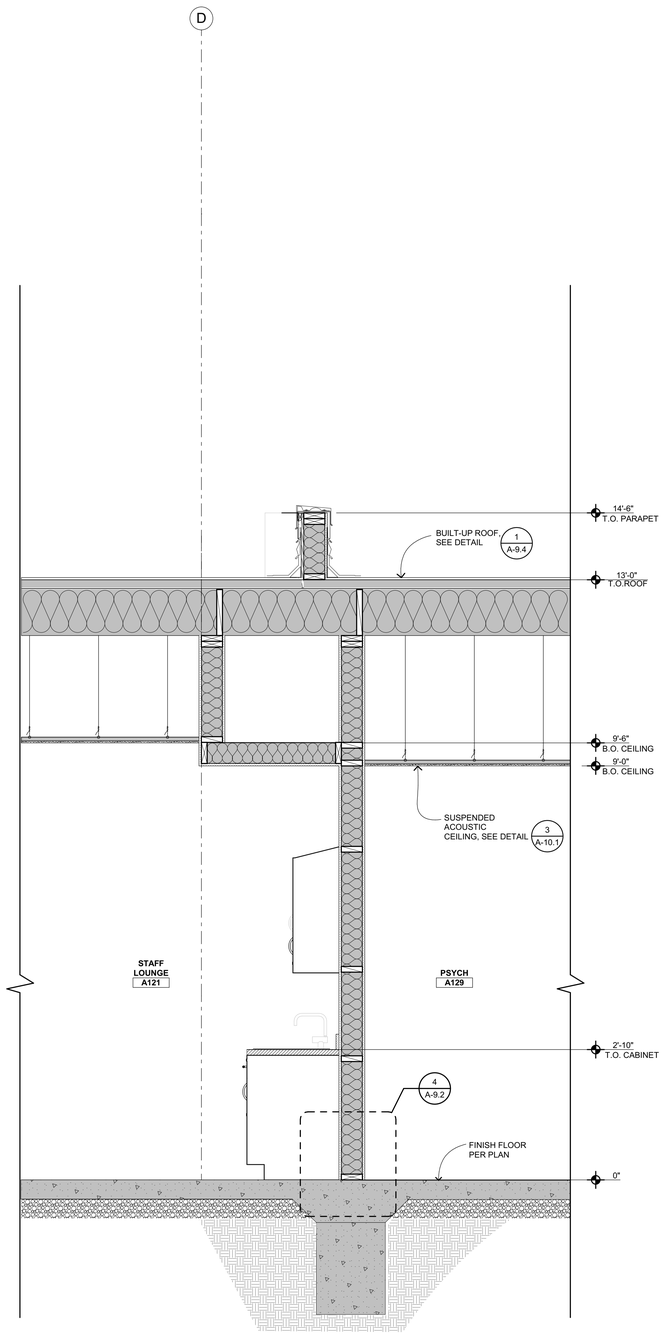

ADMIN SECTION 3
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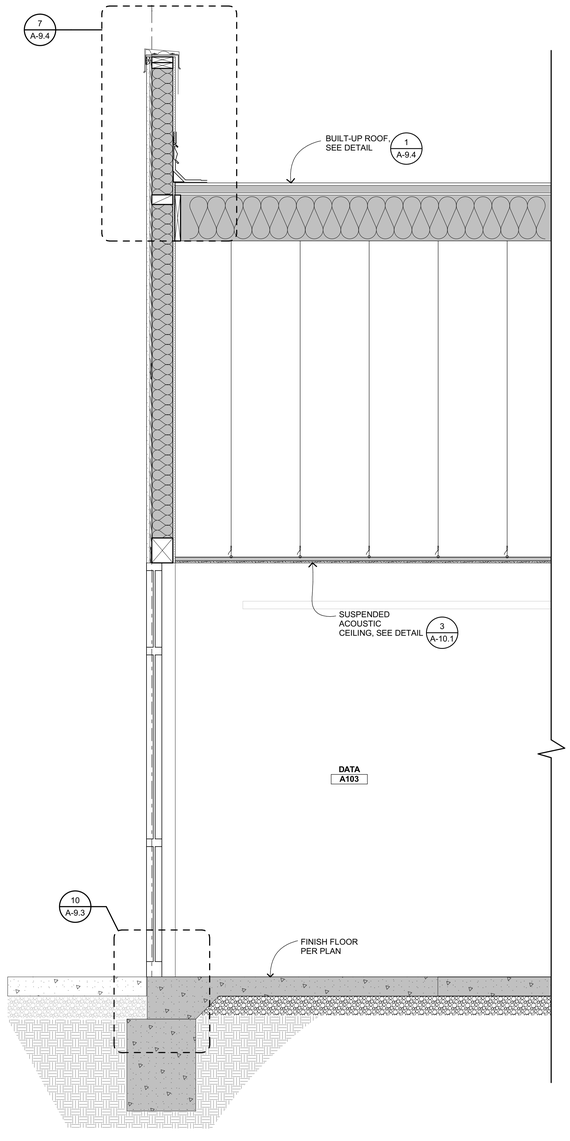
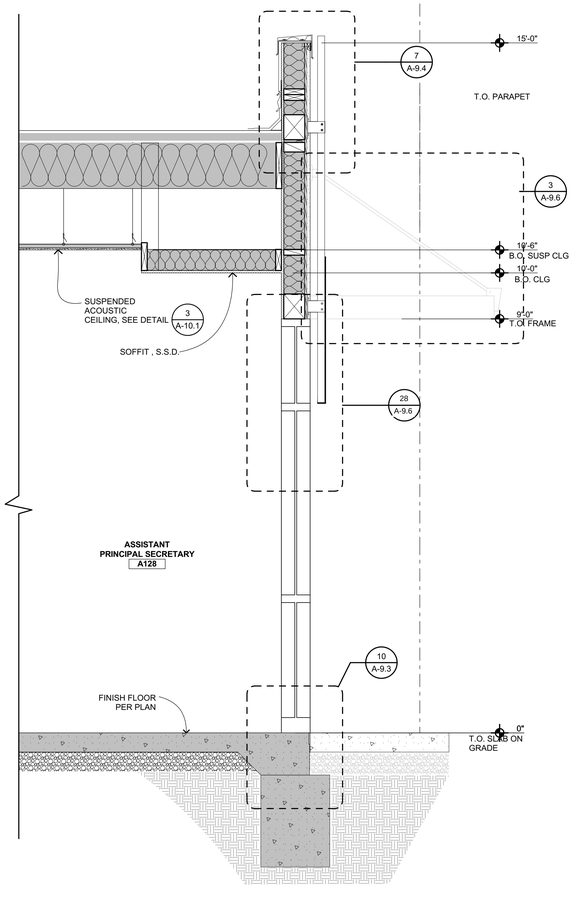
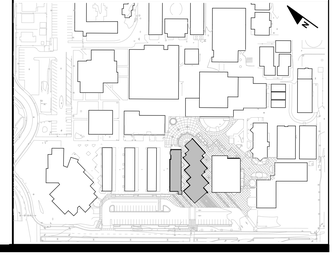


ADMIN SECTION 2
3/4" = 1'-0"



ADMIN SECTION 1
3/4" = 1'-0"

KEYPLAN



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DRAWING SCALE:	3/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION BUILDING WALL SECTIONS

SHEET NUMBER

A-A6.3

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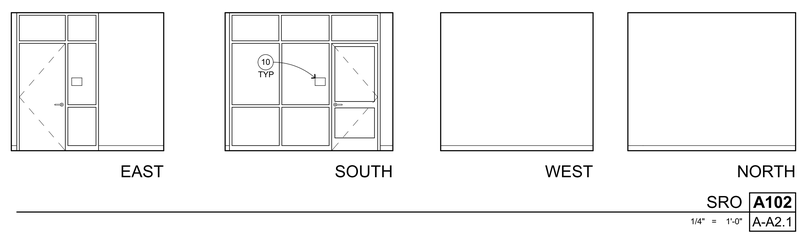

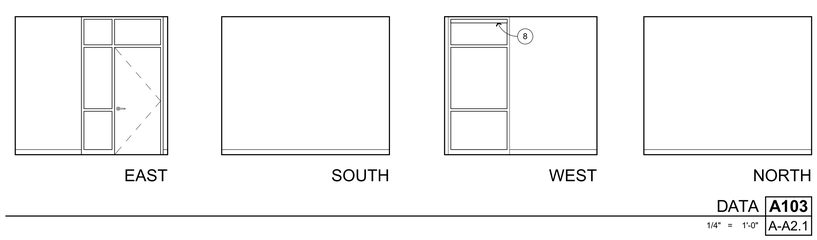

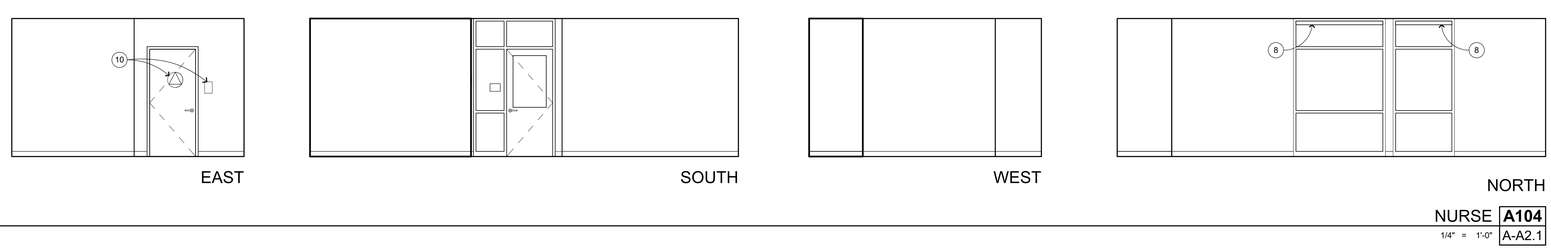

INTERIOR ELEVATION KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. EXPOSED STRUCTURAL ITEM, S.S.D.
2. MECHANICAL ITEM, S.M.D.
3. PLUMBING ITEM / FIXTURE, S.P.D.
4. ELECTRICAL ITEM, S.E.D.
5. MARKERBOARD, SEE 3/A-10.2
6. FIRE EXTINGUISHER / CABINET, SEE 1/A-9.2
7. CASEWORK, SEE 3/A-10.4 ACC, SEE 9/A-10.4
8. NOT USED
9. (12) FLAT PANEL DISPLAY MOUNTING BRACKETS, SEE 19/A-10.2
10. SIGNAGE, SEE AG-2.1 AND 32/AG-2.1
11. SOFFIT, SEE RCP
12. ACOUSTIC WALL PANELS, SEE 21/A-10.2
13. CANTILEVERED COUNTERTOP, SEE 15/A-10.3
14. SECTIONAL DOOR, SEE DOOR SCHEDULE
15. KITCHEN EQUIPMENT, SEE K SHEETS
16. HYDRATION STATION, SEE 8/A-10.2
17. ACCESS LADDER, SEE 12/A-10.2
18. INFILL AREA, S.S.D. AND FINISH TO MATCH (E) ADJACENT W/ SMOOTH TRANSITION
19. CUSTOM DECAL GRAPHIC
20. EQUIPMENT, OFCI

INTERIOR ELEVATION GENERAL NOTES

1. NOTES AND SYMBOLS ARE TO APPLY AT ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
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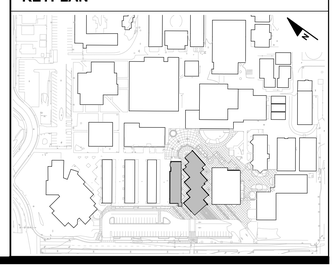
3. REFER TO ELECTRICAL DRAWINGS FOR HORNS, SPEAKERS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN.
4. TYPICAL MOUNTING HEIGHTS OF ACCESSIBLE ELEMENTS AT ACCESSIBLE FIXTURES SEE 5/A-10.2
5. FLUSH VALVE HANDLES SHALL BE LOCATED AT THE WIDE SIDE OF ACCESSIBLE STALL.
6. FLOORING & BASE SHALL EXTEND UNDER ACCESSIBLE SINK/LAVATORY BASE CABINETS TO THE WALL. WATER SUPPLY AND DRAINPIPES ACCESSIBLE UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.
7. PROVIDE SOLID BLOCKING FOR CABINET, ACCESSORY, OR EQUIPMENT MOUNTING 1/A-10.2 WD FRMG 2/A-10.2 MTL FRMG

WALL FINISH CODES

FOR OVERALL WALL AND BASE FINISHES, SEE FINISH PLANS (**A-A2.3** & **A-B2.2**). FOR MATERIAL INFORMATION, SEE **A-8.4** FINISH SCHEDULE. FOR PAINT FINISHES SEE SEC. 09 9113 (EXTERIOR) & 09 9123 (INTERIOR). ALL GYP BD TO BE TYPE 'X'.

P1 P2	PAINT
WT1 WT2	CERAMIC WALL TILE
WC1A WC1B	LINOLEUM TACKWALL
AP1	ACOUSTIC PANELS
MP1	METAL PERFORATED WALL PANELS
WP1	FRP
PLY1	3/4" MDO FIRE RATED PLYWOOD

KEYPLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	CG / HM
DRAWING SCALE:	1/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

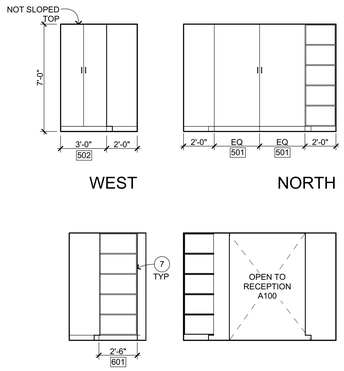
SHEET TITLE

ADMINISTRATION BUILDING INTERIOR ELEVATIONS

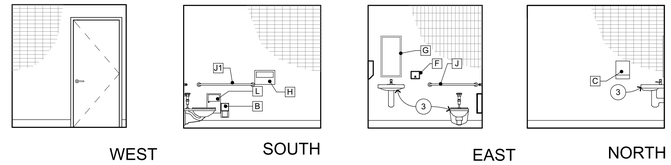
SHEET NUMBER

A-A7.1

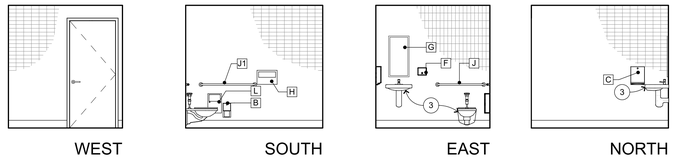
BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS.ADMIN.STUDENT COMMONS, 22:11/24/2020:4:55 PM



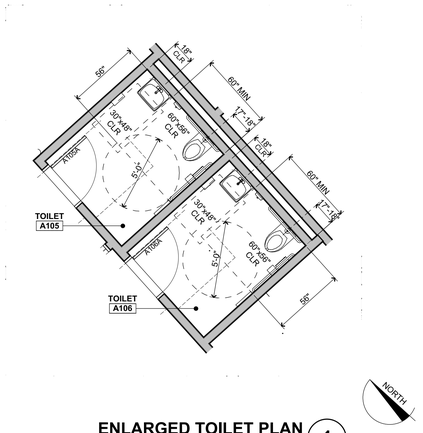
STORAGE **A107**
1/4" = 1'-0" A-A2.1



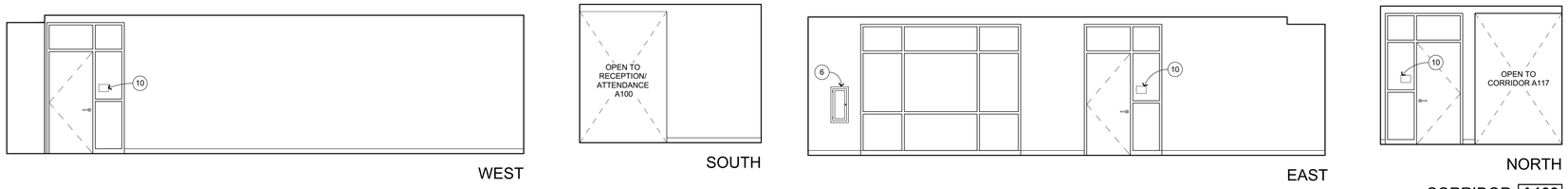
TOILET **A105**
1/4" = 1'-0" A-A2.1



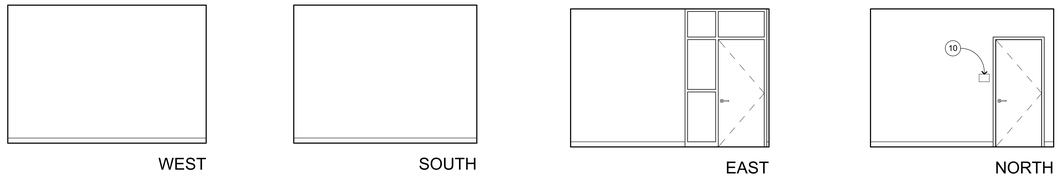
TOILET **A106**
1/4" = 1'-0" A-A2.1



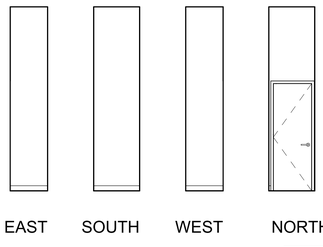
ENLARGED TOILET PLAN 1
1/4" = 1'-0"



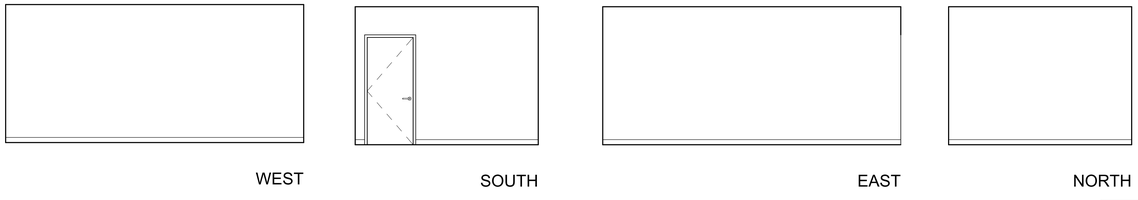
CORRIDOR **A108**
1/4" = 1'-0" A-A2.1



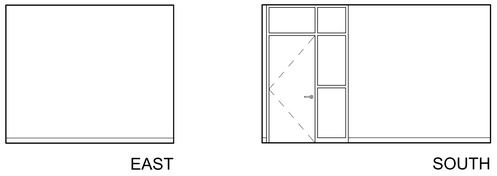
REGISTRATION **A109**
1/4" = 1'-0" A-A2.1

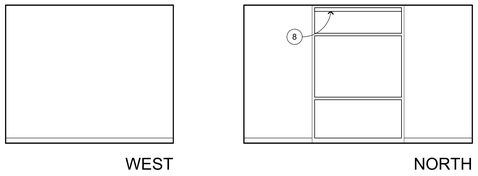


FIRE RISER **A111**
1/4" = 1'-0" A-A2.1

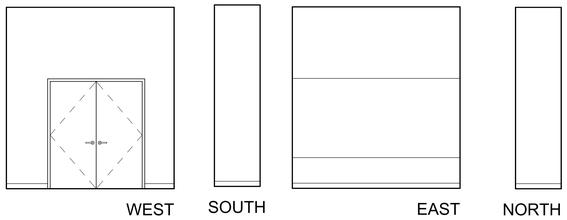


CUM FILES **A110**
1/4" = 1'-0" A-A2.1





INT TEACHER **A113**
1/4" = 1'-0" A-A2.1



ELECTRICAL ROOM **A112**
1/4" = 1'-0" A-A2.1

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6. FIRE EXTINGUISHER / CABINET, SEE 1/A-9.2
7. CASEWORK, SEE 3/A-10.4 ACC, SEE 9/A-10.4
8. NOT USED
9. (12) FLAT PANEL DISPLAY MOUNTING BRACKETS, SEE 19/A-10.2
10. SIGNAGE, SEE AG-2.1 AND 32/AG-2.1
11. SOFFIT, SEE RCP
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13. CANTILEVERED COUNTERTOP, SEE 15/A-10.3
14. SECTIONAL DOOR, SEE DOOR SCHEDULE
15. KITCHEN EQUIPMENT, SEE K SHEETS
16. HYDRATION STATION, SEE 8/A-10.2
17. ACCESS LADDER, SEE 12/A-10.2
18. INFILL AREA, S.S.D. AND FINISH TO MATCH (E) ADJACENT W/ SMOOTH TRANSITION
19. CUSTOM DECAL GRAPHIC
20. EQUIPMENT, OFCI

TOILET ROOM ACCESSORY SCHEDULE

A	NOT USED
B	TOILET PAPER DISPENSER, SURFACE MOUNTED, OFOI
C	PAPER TOWEL DISPENSER, SURFACE MOUNTED
D	WASTE RECEPTACLE, N.I.C.
E	PAPER TOWEL DISPENSER AND WASTE RECEPTACLE, RECESSED
F	SOAP DISPENSER, SURFACE MOUNTED, OFOI
G	MIRROR (TYP), FOR ATTACHMENT SEE 7/A-10.2
H	TOILET SEAT COVER DISPENSER, SURFACE MOUNTED
J	36" GRAB BAR, FOR ATTACHMENT SEE 6/A-10.2
J1	42" GRAB BAR, FOR ATTACHMENT SEE
K	SANITARY NAPKIN RECEPTACLE, SURFACE MOUNTED
L	SANITARY NAPKIN RECEPTACLE, RECESSED (3" MAXIMUM PROJECTION)

INTERIOR ELEVATION GENERAL NOTES

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WALL FINISH CODES

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P1 P2	PAINT
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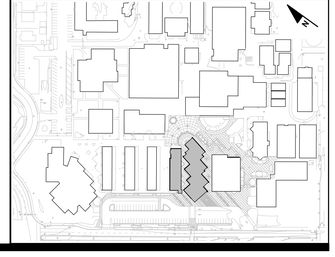
WC1A WC1B	LINOLEUM TACKWALL
AP1	ACOUSTIC PANELS
MP1	METAL PERFORATED WALL PANELS
WP1	FRP
PLY1	3/4" MDO FIRE RATED PLYWOOD

KEYPLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM TREISS
LICENSE # C22643
EXP. JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	CG / HM
DRAWING SCALE:	1/4" = 1'-0"
PTN: 61T21-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION BUILDING INTERIOR ELEVATIONS

SHEET NUMBER

A-A7.2

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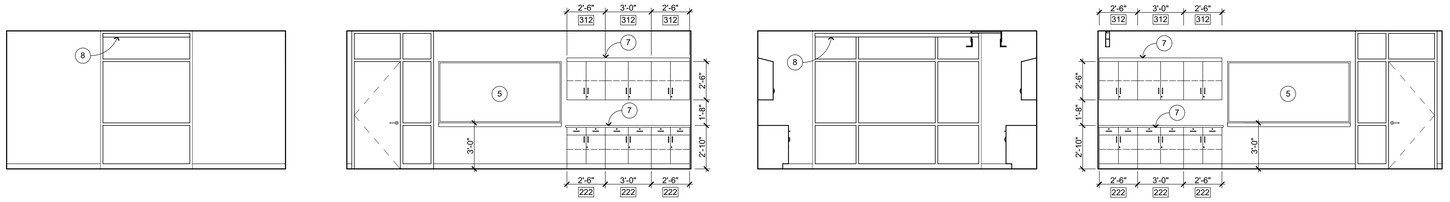
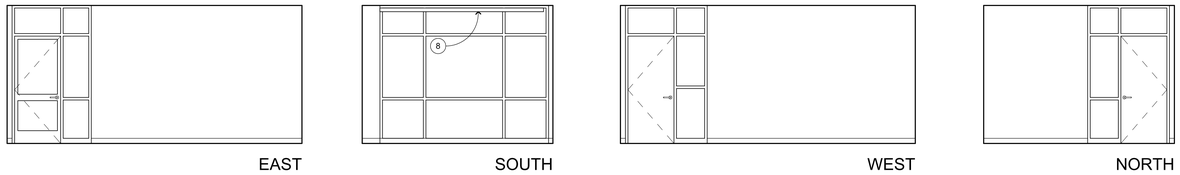
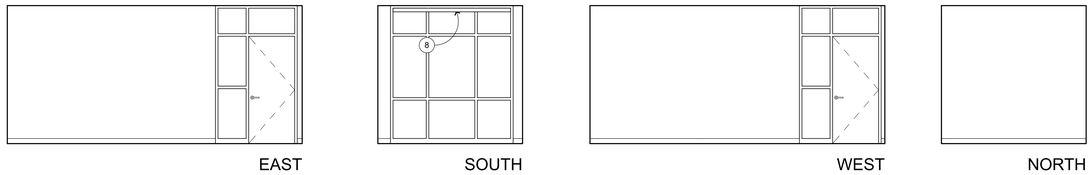


LARGE CONF **A114**
1/4" = 1'-0" A-A2.1



PRINCIPAL **A115**
1/4" = 1'-0" A-A2.1



PRINCIPAL SECRETARY **A116**
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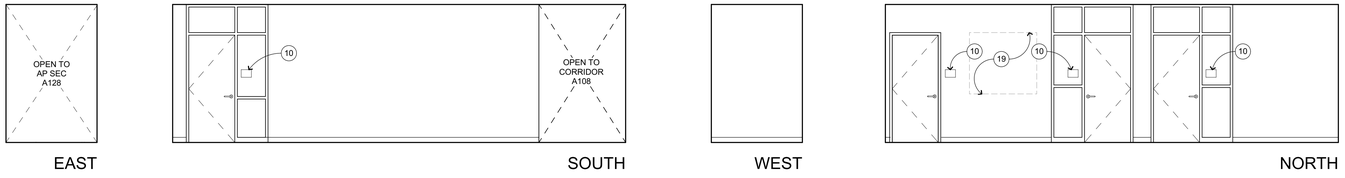
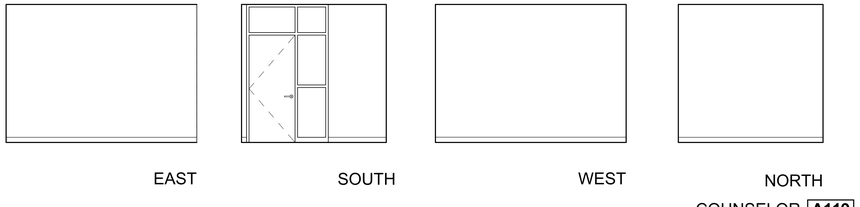
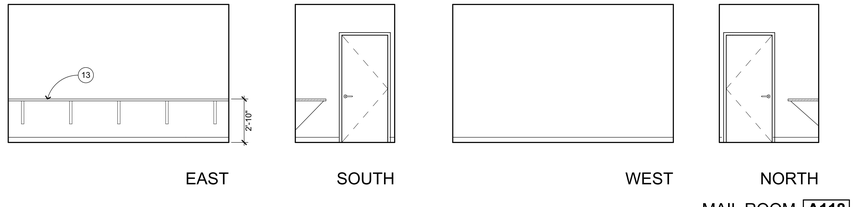


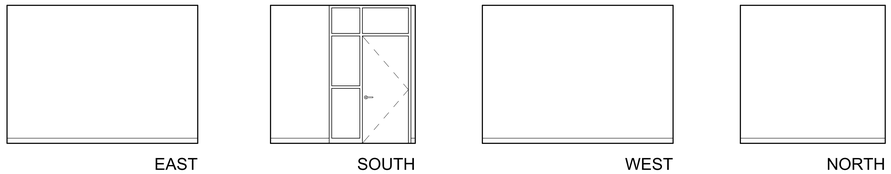
CORRIDOR **A117**
1/4" = 1'-0" A-A2.1



COUNSELOR **A119**
1/4" = 1'-0" A-A2.1



MAIL ROOM **A118**
1/4" = 1'-0" A-A2.1



COUNSELOR **A120**
1/4" = 1'-0" A-A2.1

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9. (12) FLAT PANEL DISPLAY MOUNTING BRACKETS, SEE 19/A-10.2
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WC1A WC1B	LINOLEUM TACKWALL
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MP1	METAL PERFORATED WALL PANELS
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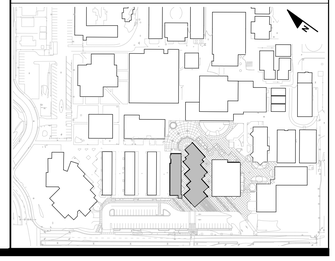
PLY1	3/4" MDO FIRE RATED PLYWOOD

KEYPLAN



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ARCH PROJECT NO:	1783.00
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PTN: 61T21-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

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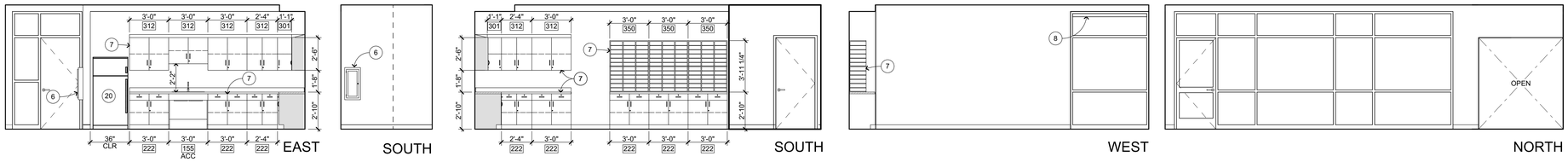
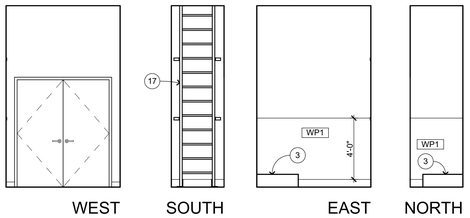
SHEET NUMBER

A-A7.3

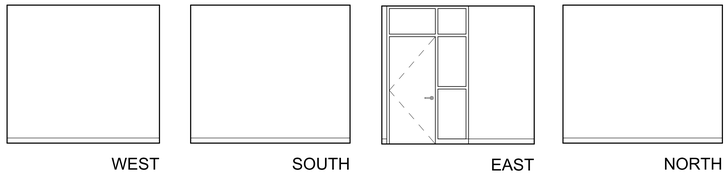
BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS 22:11/24/2020:4:55 PM



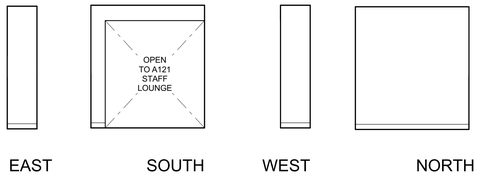
STAFF LOUNGE **A121**
1/4" = 1'-0" A-A2.1



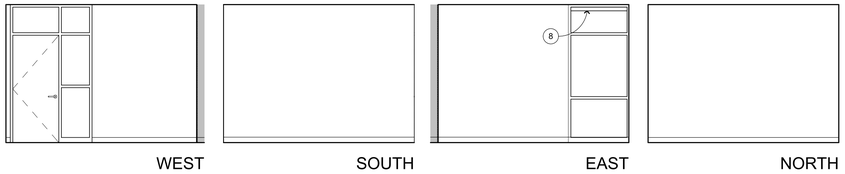
CUSTODIAN **A124**
1/4" = 1'-0" A-A2.1



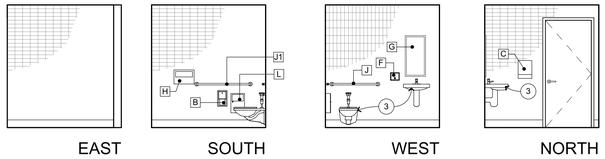
PSYCH **A123**
1/4" = 1'-0" A-A2.1



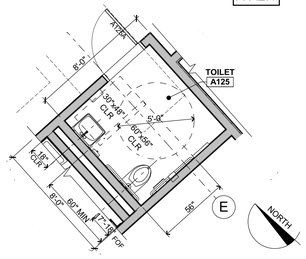
CLOSET **A122**
1/4" = 1'-0" A-A2.1



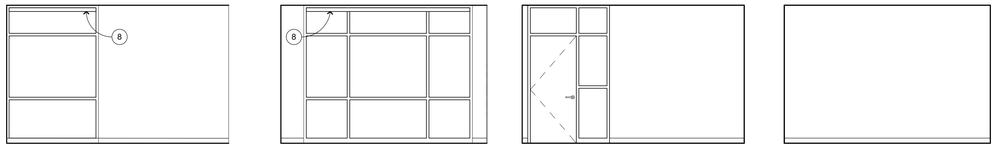
COUNSELOR **A126**
1/4" = 1'-0" A-A2.1



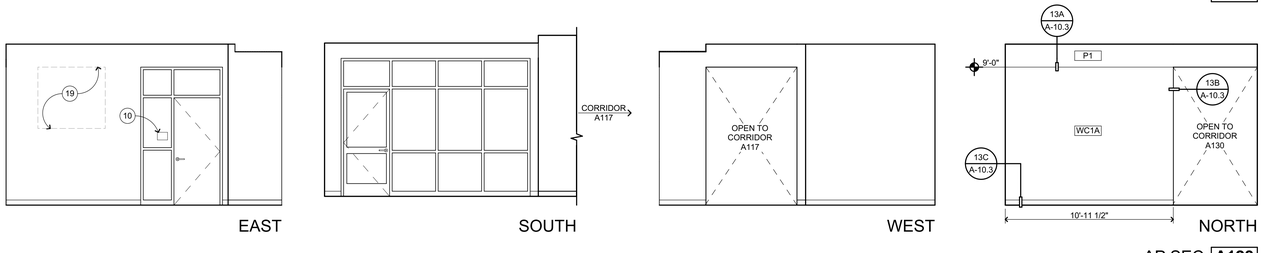
TOILET **A125**
1/4" = 1'-0" A-A2.1



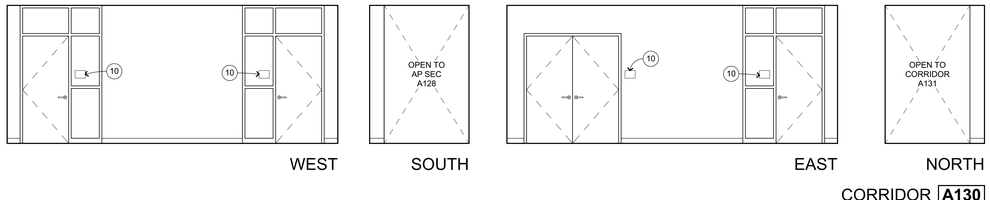
ENLARGED TOILET PLAN 1
1/4" = 1'-0"



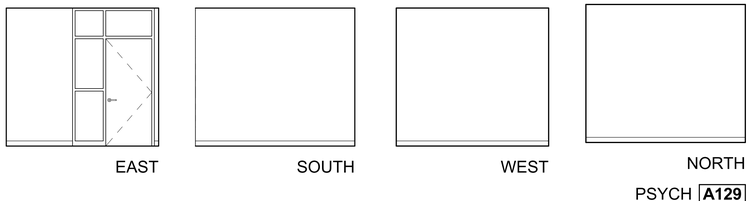
AP OFFICE **A127**
1/4" = 1'-0" A-A2.1



AP SEC **A128**
1/4" = 1'-0" A-A2.1



CORRIDOR **A130**
1/4" = 1'-0" A-A2.1



PSYCH **A129**
1/4" = 1'-0" A-A2.1

INTERIOR ELEVATION KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. EXPOSED STRUCTURAL ITEM, S.S.D.
2. MECHANICAL ITEM, S.M.D.
3. PLUMBING ITEM / FIXTURE, S.P.D.
4. ELECTRICAL ITEM, S.E.D.
5. MARKERBOARD, SEE 3/A-10.2
6. FIRE EXTINGUISHER / CABINET, SEE 1/A-9.2
7. CASEWORK, SEE 3/A-10.4 ACC, SEE 9/A-10.4
8. NOT USED
9. (12) FLAT PANEL DISPLAY MOUNTING BRACKETS, SEE 19/A-10.2
10. SIGNAGE, SEE AG-2.1 AND 32/AG-2.1
11. SOFFIT, SEE RCP
12. ACOUSTIC WALL PANELS, SEE 21/A-10.2
13. CANTILEVERED COUNTERTOP, SEE 15/A-10.3
14. SECTIONAL DOOR, SEE DOOR SCHEDULE
15. KITCHEN EQUIPMENT, SEE K SHEETS
16. HYDRATION STATION, SEE 8/A-10.2
17. ACCESS LADDER, SEE 12/A-10.2
18. INFILL AREA, S.S.D. AND FINISH TO MATCH (E) ADJACENT W/ SMOOTH TRANSITION
19. CUSTOM DECAL GRAPHIC
20. EQUIPMENT, OFCI

TOILET ROOM ACCESSORY SCHEDULE

A	NOT USED
B	TOILET PAPER DISPENSER, SURFACE MOUNTED, OFOI
C	PAPER TOWEL DISPENSER, SURFACE MOUNTED
D	WASTE RECEPTACLE, N.I.C.
E	PAPER TOWEL DISPENSER AND WASTE RECEPTACLE, RECESSED
F	SOAP DISPENSER, SURFACE MOUNTED, OFOI
G	MIRROR (TYP), FOR ATTACHMENT SEE 7/A-10.2
H	TOILET SEAT COVER DISPENSER, SURFACE MOUNTED
J	36" GRAB BAR, FOR ATTACHMENT SEE 6/A-10.2
J1	42" GRAB BAR, FOR ATTACHMENT SEE
K	SANITARY NAPKIN RECEPTACLE, SURFACE MOUNTED
L	SANITARY NAPKIN RECEPTACLE, RECESSED (3" MAXIMUM PROJECTION)

INTERIOR ELEVATION GENERAL NOTES

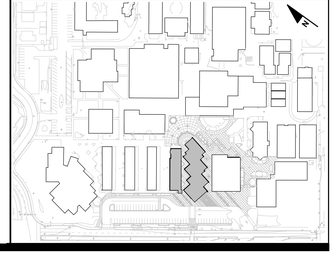
1. NOTES AND SYMBOLS ARE TO APPLY AT ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
2. REFER TO MECHANICAL DRAWINGS FOR REGISTERS AND VENTS NOT OTHERWISE SHOWN.
3. REFER TO ELECTRICAL DRAWINGS FOR HORNS, SPEAKERS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN.
4. TYPICAL MOUNTING HEIGHTS OF ACCESSIBLE ELEMENTS AT ACCESSIBLE FIXTURES SEE 5/A-10.2
5. FLUSH VALVE HANDLES SHALL BE LOCATED AT THE WIDE SIDE OF ACCESSIBLE STALL.
6. FLOORING & BASE SHALL EXTEND UNDER ACCESSIBLE SINK/LAVATORY BASE CABINETS TO THE WALL. WATER SUPPLY AND DRAINPIPES ACCESSIBLE UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.
7. PROVIDE SOLID BLOCKING FOR CABINET, ACCESSORY, OR EQUIPMENT MOUNTING 1/A-10.2 WD FRMG 2/A-10.2 MTL FRMG

WALL FINISH CODES

FOR OVERALL WALL AND BASE FINISHES, SEE FINISH PLANS (**A-A2.3** & **A-B2.2**). FOR MATERIAL INFORMATION, SEE **A-8.4** FINISH SCHEDULE. FOR PAINT FINISHES SEE SEC. 09 9113 (EXTERIOR) & 09 9123 (INTERIOR). ALL GYP BD TO BE TYPE 'X'.

P1 P2	PAINT
WT1 WT2	CERAMIC WALL TILE
WC1A WC1B	LINOLEUM TACKWALL
AP1	ACOUSTIC PANELS
MP1	METAL PERFORATED WALL PANELS
WP1	FRP
PLY1	3/4" MDO FIRE RATED PLYWOOD

KEYPLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	CG FMGI
DRAWING SCALE:	1/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

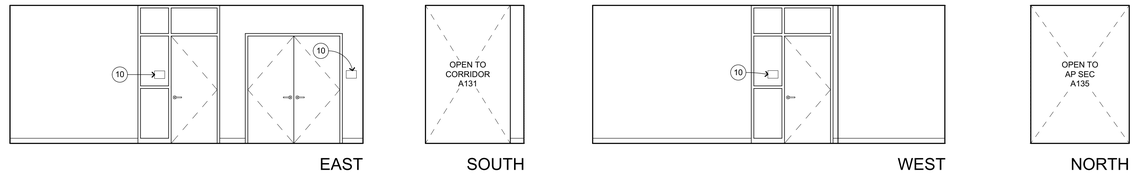
ADMINISTRATION BUILDING INTERIOR ELEVATIONS

SHEET NUMBER

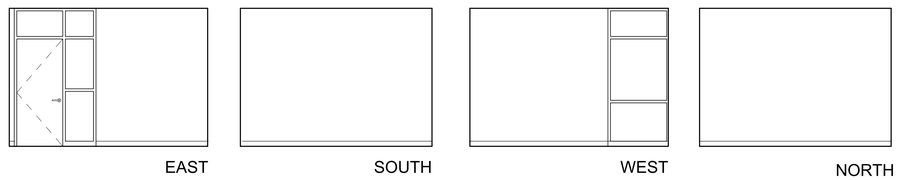
A-A7.4

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS 22/11/24/2020/4:56 PM

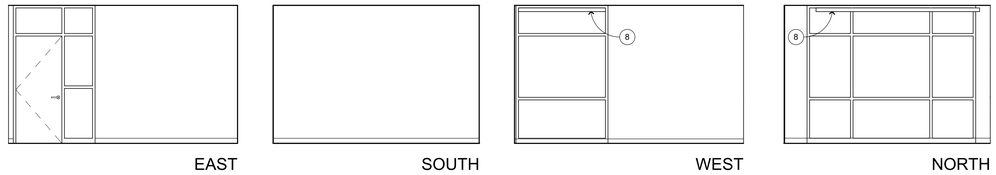
CORRIDOR **A131**
1/4" = 1'-0" A-A2.1



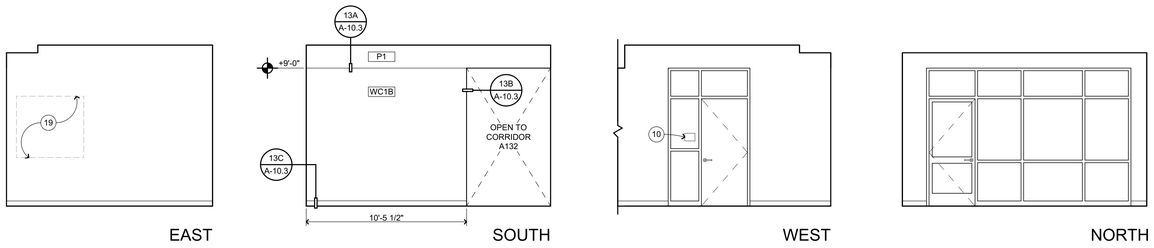
CORRIDOR **A132**
1/4" = 1'-0" A-A2.1



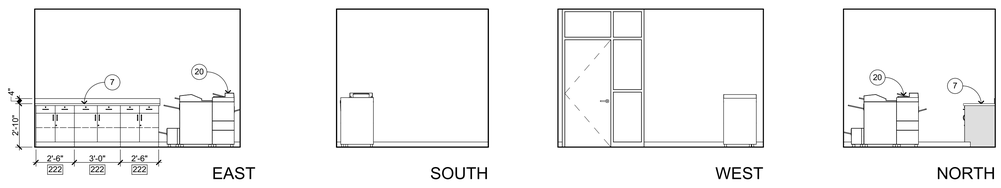
COUNSELOR **A133**
1/4" = 1'-0" A-A2.1



ASSISTANT PRINCIPAL OFFICE **A134**
1/4" = 1'-0" A-A2.1



ASSISTANT PRINCIPAL SECRETARY **A135**
1/4" = 1'-0" A-A2.1



STAFF WORK **A136**
1/4" = 1'-0" A-A2.1

INTERIOR ELEVATION KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. EXPOSED STRUCTURAL ITEM, S.S.D.
2. MECHANICAL ITEM, S.M.D.
3. PLUMBING ITEM / FIXTURE, S.P.D.
4. ELECTRICAL ITEM, S.E.D.
5. MARKERBOARD, SEE 3/A-10.2
6. FIRE EXTINGUISHER / CABINET, SEE 1/A-9.2
7. CASEWORK, SEE 3/A-10.4 ACC, SEE 9/A-10.4
8. NOT USED
9. (12) FLAT PANEL DISPLAY MOUNTING BRACKETS, SEE 19/A-10.2
10. SIGNAGE, SEE AG-2.1 AND 32/AG-2.1
11. SOFFIT, SEE RCP
12. ACOUSTIC WALL PANELS, SEE 21/A-10.2
13. CANTILEVERED COUNTERTOP, SEE 15/A-10.3
14. SECTIONAL DOOR, SEE DOOR SCHEDULE
15. KITCHEN EQUIPMENT, SEE K SHEETS
16. HYDRATION STATION, SEE 8/A-10.2
17. ACCESS LADDER, SEE 12/A-10.2
18. INFILL AREA, S.S.D. AND FINISH TO MATCH (E) ADJACENT W/ SMOOTH TRANSITION
19. CUSTOM DECAL GRAPHIC
20. EQUIPMENT, OFCI

INTERIOR ELEVATION GENERAL NOTES

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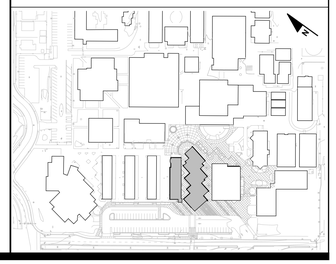
6. FLOORING & BASE SHALL EXTEND UNDER ACCESSIBLE SINK/LAVATORY BASE CABINETS TO THE WALL. WATER SUPPLY AND DRAINPIPES ACCESSIBLE UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.
7. PROVIDE SOLID BLOCKING FOR CABINET, ACCESSORY, OR EQUIPMENT MOUNTING 1/A-10.2 WD FRMG 2/A-10.2 MTL FRMG

WALL FINISH CODES

FOR OVERALL WALL AND BASE FINISHES, SEE FINISH PLANS (**A-A2.3** & **A-B2.2**). FOR MATERIAL INFORMATION, SEE **A-8.4** FINISH SCHEDULE. FOR PAINT FINISHES SEE SEC. 09 9113 (EXTERIOR) & 09 9123 (INTERIOR). ALL GYP BD TO BE TYPE 'X'.

P1 P2	PAINT
WT1 WT2	CERAMIC WALL TILE
WC1A WC1B	LINOLEUM TACKWALL
AP1	ACOUSTIC PANELS
MP1	METAL PERFORATED WALL PANELS
WP1	FRP
PLY1	3/4" MDO FIRE RATED PLYWOOD

KEYPLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THISS
LICENSE # C22643
EXP. JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	CG PMGI
DRAWING SCALE:	1/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

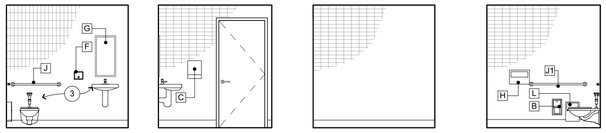
SHEET TITLE

ADMINISTRATION BUILDING INTERIOR ELEVATIONS

SHEET NUMBER

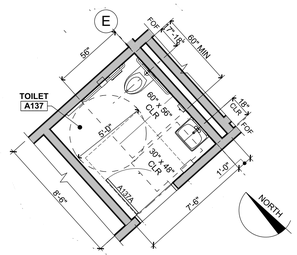
A-A7.5

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS, 22:11/24/2020:4:56 PM

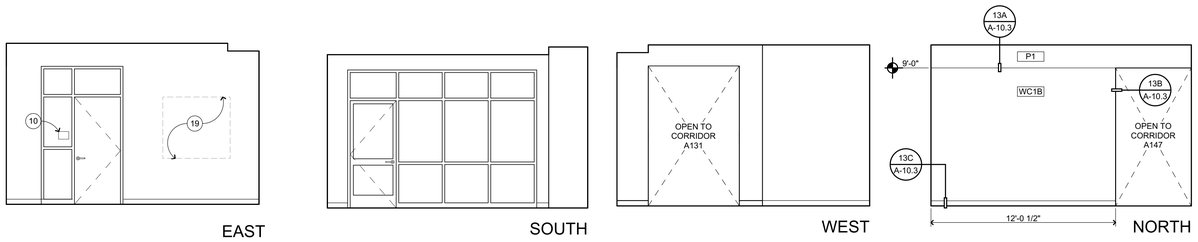


EAST SOUTH WEST NORTH

TOILET **A137**
1/4" = 1'-0" A-A2.1

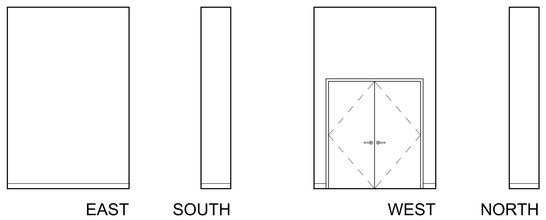


ENLARGED TOILET PLAN 1
1/4" = 1'-0"



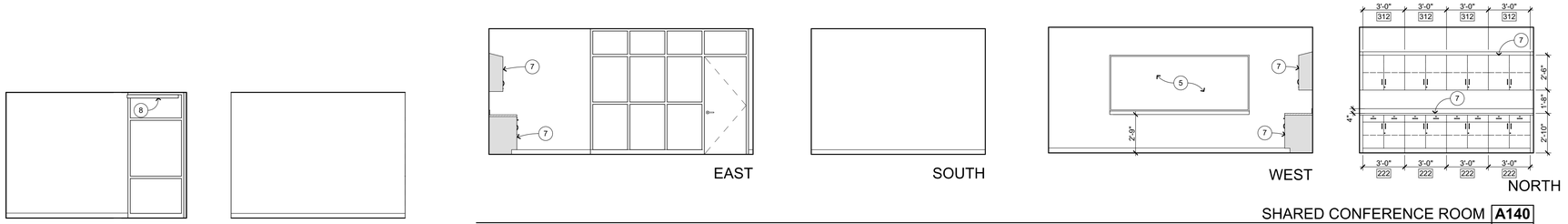
EAST SOUTH WEST NORTH

ASSISTANT PRINCIPAL SECRETARY **A139**
1/4" = 1'-0" A-A2.1



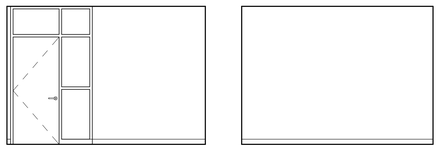
EAST SOUTH WEST NORTH

ELECTRICAL ROOM **A138**
1/4" = 1'-0" A-A2.1



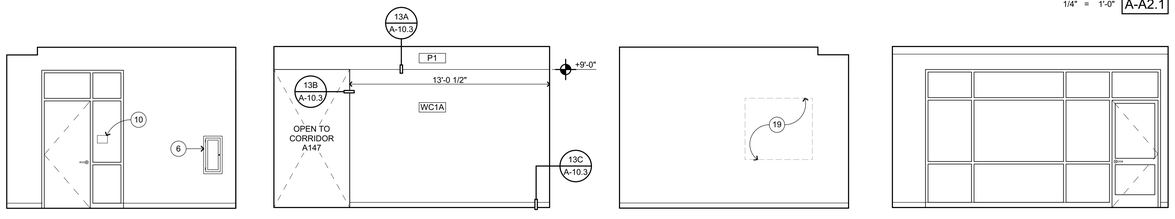
WEST NORTH EAST SOUTH WEST NORTH

SHARED CONFERENCE ROOM **A140**
1/4" = 1'-0" A-A2.1



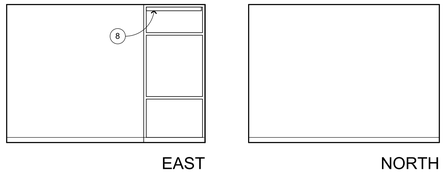
EAST SOUTH

COUNSELOR **A141**
1/4" = 1'-0" A-A2.1

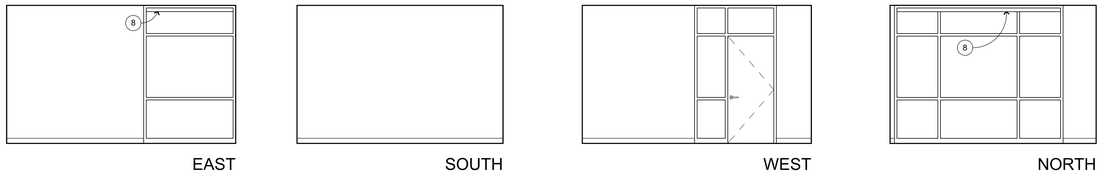


EAST SOUTH WEST NORTH

ASSISTANT PRINCIPAL SECRETARY **A142**
1/4" = 1'-0" A-A2.1

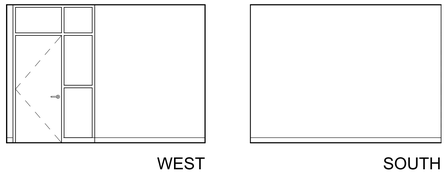


EAST NORTH



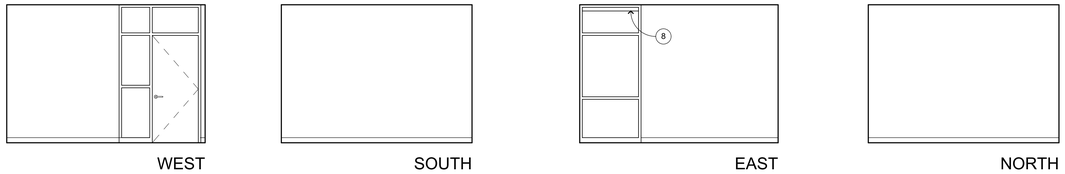
EAST SOUTH WEST NORTH

ASSISTANT PRINCIPAL OFFICE **A143**
1/4" = 1'-0" A-A2.1



WEST SOUTH

COUNSELOR **A145**
1/4" = 1'-0" A-A2.1



WEST SOUTH EAST NORTH

COUNSELOR **A144**
1/4" = 1'-0" A-A2.1

INTERIOR ELEVATION KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. EXPOSED STRUCTURAL ITEM, S.S.D.
2. MECHANICAL ITEM, S.M.D.
3. PLUMBING ITEM / FIXTURE, S.P.D.
4. ELECTRICAL ITEM, S.E.D.
5. MARKERBOARD, SEE 3/A-10.2
6. FIRE EXTINGUISHER / CABINET, SEE 1/A-9.2
7. CASEWORK, SEE 3/A-10.4 ACC, SEE 9/A-10.4
8. NOT USED
9. (12) FLAT PANEL DISPLAY MOUNTING BRACKETS, SEE 19/A-10.2
10. SIGNAGE, SEE AG-2.1 AND 32/AG-2.1
11. SOFFIT, SEE RCP
12. ACOUSTIC WALL PANELS, SEE 21/A-10.2
13. CANTILEVERED COUNTERTOP, SEE 15/A-10.3
14. SECTIONAL DOOR, SEE DOOR SCHEDULE
15. KITCHEN EQUIPMENT, SEE K SHEETS
16. HYDRATION STATION, SEE 8/A-10.2
17. ACCESS LADDER, SEE 12/A-10.2
18. INFILL AREA, S.S.D. AND FINISH TO MATCH (E) ADJACENT W/ SMOOTH TRANSITION
19. CUSTOM DECAL GRAPHIC
20. EQUIPMENT, OFCI

TOILET ROOM ACCESSORY SCHEDULE

A	NOT USED
B	TOILET PAPER DISPENSER, SURFACE MOUNTED, OFOI
C	PAPER TOWEL DISPENSER, SURFACE MOUNTED
D	WASTE RECEPTACLE, N.I.C.
E	PAPER TOWEL DISPENSER AND WASTE RECEPTACLE, RECESSED
F	SOAP DISPENSER, SURFACE MOUNTED, OFOI
G	MIRROR (TYP), FOR ATTACHMENT SEE 7/A-10.2
H	TOILET SEAT COVER DISPENSER, SURFACE MOUNTED
J	36" GRAB BAR, FOR ATTACHMENT SEE 6/A-10.2
J1	42" GRAB BAR, FOR ATTACHMENT SEE
K	SANITARY NAPKIN RECEPTACLE, SURFACE MOUNTED
L	SANITARY NAPKIN RECEPTACLE, RECESSED (3" MAXIMUM PROJECTION)

INTERIOR ELEVATION GENERAL NOTES

1. NOTES AND SYMBOLS ARE TO APPLY AT ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
2. REFER TO MECHANICAL DRAWINGS FOR REGISTERS AND VENTS NOT OTHERWISE SHOWN.
3. REFER TO ELECTRICAL DRAWINGS FOR HORNS, SPEAKERS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN.
4. TYPICAL MOUNTING HEIGHTS OF ACCESSIBLE ELEMENTS AT ACCESSIBLE FIXTURES SEE 5/A-10.2
5. FLUSH VALVE HANDLES SHALL BE LOCATED AT THE WIDE SIDE OF ACCESSIBLE STALL.
6. FLOORING & BASE SHALL EXTEND UNDER ACCESSIBLE SINK/LAVATORY BASE CABINETS TO THE WALL. WATER SUPPLY AND DRAINPIPES ACCESSIBLE UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.
7. PROVIDE SOLID BLOCKING FOR CABINET, ACCESSORY, OR EQUIPMENT MOUNTING 1/A-10.2 WD FRMG 2/A-10.2 MTL FRMG

WALL FINISH CODES

FOR OVERALL WALL AND BASE FINISHES, SEE FINISH PLANS (**A-A2.3** & **A-B2.2**). FOR MATERIAL INFORMATION, SEE **A-8.4** FINISH SCHEDULE. FOR PAINT FINISHES SEE SEC. 09 9113 (EXTERIOR) & 09 9123 (INTERIOR). ALL GYP BD TO BE TYPE 'X'.

P1 P2	PAINT
WT1 WT2	CERAMIC WALL TILE
WC1A WC1B	LINOLEUM TACKWALL
AP1	ACOUSTIC PANELS
MP1	METAL PERFORATED WALL PANELS
WP1	FRP
PLY1	3/4" MDO FIRE RATED PLYWOOD

KEYPLAN

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	PAG / HM
DRAWING SCALE:	1/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION BUILDING INTERIOR ELEVATIONS

SHEET NUMBER

A-A7.6

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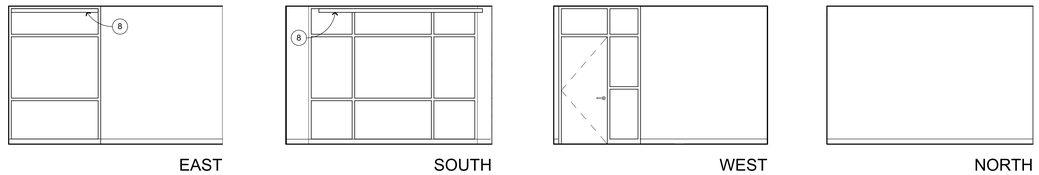
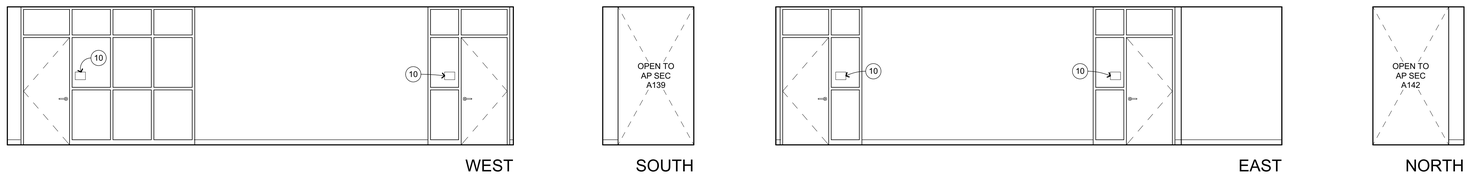


COUNSELOR **A146**

1/4" = 1'-0" A-A2.1



CORRIDOR **A147**

1/4" = 1'-0" A-A2.1

INTERIOR ELEVATION KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. EXPOSED STRUCTURAL ITEM, S.S.D.
2. MECHANICAL ITEM, S.M.D.
3. PLUMBING ITEM / FIXTURE, S.P.D.
4. ELECTRICAL ITEM, S.E.D.
5. MARKERBOARD, SEE 3/A-10.2
6. FIRE EXTINGUISHER / CABINET, SEE 1/A-9.2
7. CASEWORK, SEE 3/A-10.4 ACC, SEE 9/A-10.4
8. NOT USED
9. (12) FLAT PANEL DISPLAY MOUNTING BRACKETS, SEE 19/A-10.2
10. SIGNAGE, SEE AG-2.1 AND 32/AG-2.1
11. SOFFIT, SEE RCP
12. ACOUSTIC WALL PANELS, SEE 21/A-10.2
13. CANTILEVERED COUNTERTOP, SEE 15/A-10.3
14. SECTIONAL DOOR, SEE DOOR SCHEDULE
15. KITCHEN EQUIPMENT, SEE K SHEETS
16. HYDRATION STATION, SEE 8/A-10.2
17. ACCESS LADDER, SEE 12/A-10.2
18. INFILL AREA, S.S.D. AND FINISH TO MATCH (E) ADJACENT W/ SMOOTH TRANSITION
19. CUSTOM DECAL GRAPHIC
20. EQUIPMENT, OFCI

INTERIOR ELEVATION GENERAL NOTES

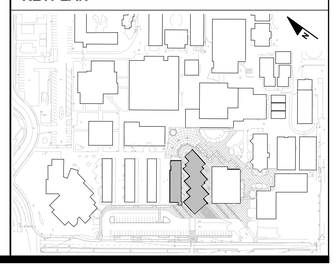
1. NOTES AND SYMBOLS ARE TO APPLY AT ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
2. REFER TO MECHANICAL DRAWINGS FOR REGISTERS AND VENTS NOT OTHERWISE SHOWN.
3. REFER TO ELECTRICAL DRAWINGS FOR HORNS, SPEAKERS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN.
4. TYPICAL MOUNTING HEIGHTS OF ACCESSIBLE ELEMENTS AT ACCESSIBLE FIXTURES SEE 5/A-10.2
5. FLUSH VALVE HANDLES SHALL BE LOCATED AT THE WIDE SIDE OF ACCESSIBLE STALL.
6. FLOORING & BASE SHALL EXTEND UNDER ACCESSIBLE SINK/LAVATORY BASE CABINETS TO THE WALL. WATER SUPPLY AND DRAINPIPES ACCESSIBLE UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.
7. PROVIDE SOLID BLOCKING FOR CABINET, ACCESSORY, OR EQUIPMENT MOUNTING 1/A-10.2 WD FRMG 2/A-10.2 MTL FRMG

WALL FINISH CODES

FOR OVERALL WALL AND BASE FINISHES, SEE FINISH PLANS (**A-A2.3** & **A-B2.2**). FOR MATERIAL INFORMATION, SEE **A-8.4** FINISH SCHEDULE. FOR PAINT FINISHES SEE SEC. 09 9113 (EXTERIOR) & 09 9123 (INTERIOR). ALL GYP BD TO BE TYPE 'X'.

P1 P2	PAINT
WT1 WT2	CERAMIC WALL TILE
WC1A WC1B	LINOLEUM TACKWALL
AP1	ACOUSTIC PANELS
MP1	METAL PERFORATED WALL PANELS
WP1	FRP
PLY1	3/4" MDO FIRE RATED PLYWOOD

KEYPLAN



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PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION BUILDING INTERIOR ELEVATIONS

SHEET NUMBER

A-A7.7

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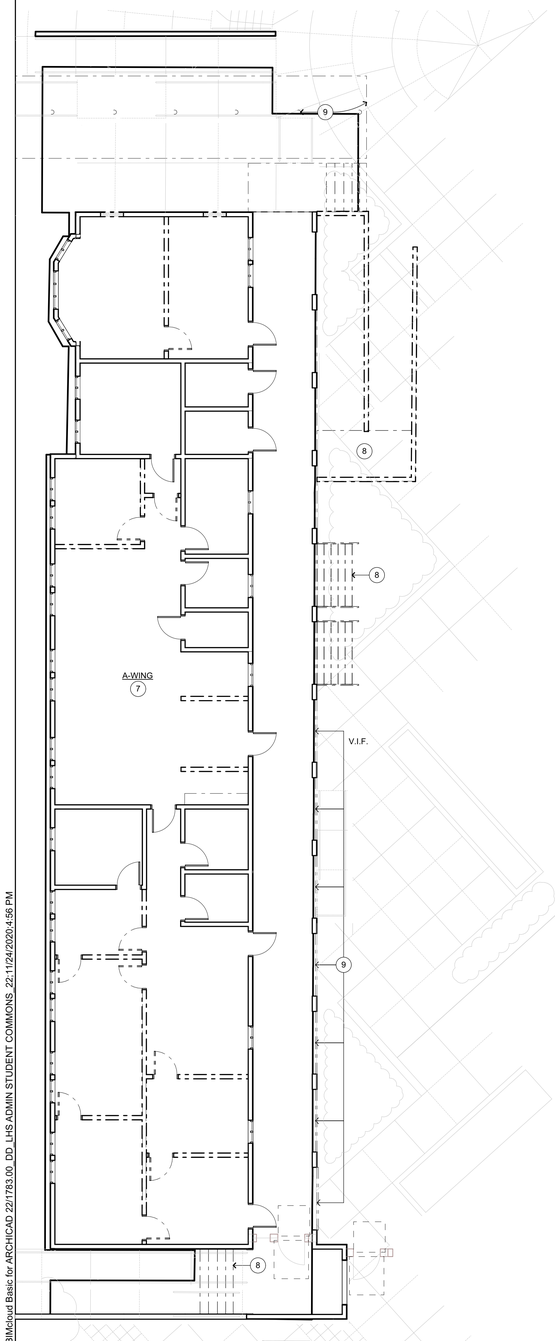
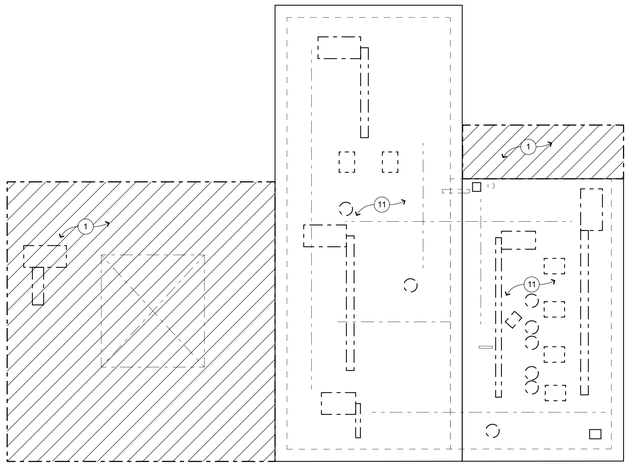
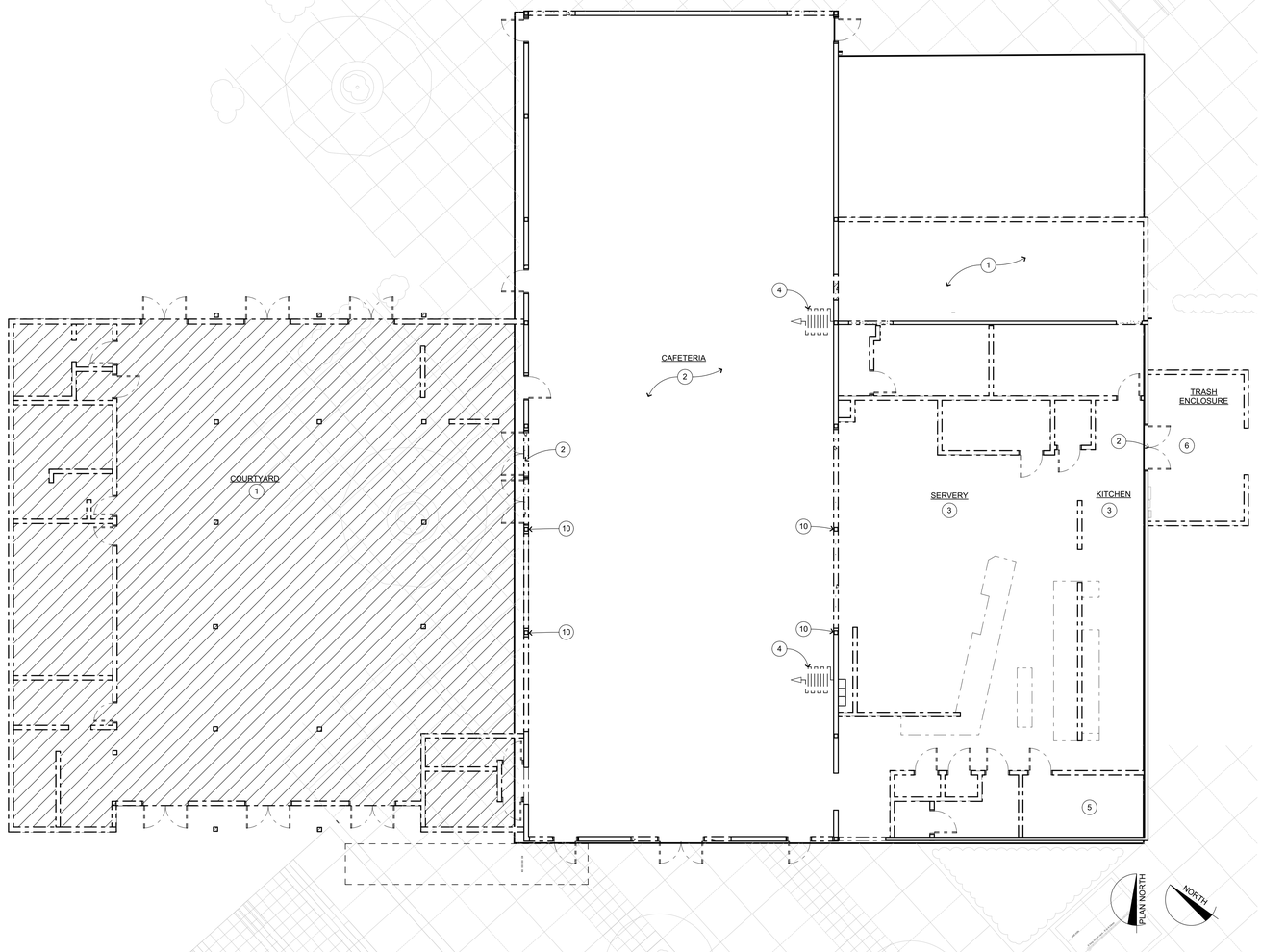




CAFETERIA ROOF DEMO

1/16" = 1'-0"

2



CAFETERIA AND A-WING BUILDINGS DEMOLITION FLOOR PLAN

1/8" = 1'-0"

1

DEMOLITION PLAN KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. CAFETERIA BUILDING: EXISTING STRUCTURE TO BE DEMOLISHED (COMPLETE) INCLUDING FOUNDATION, CONCRETE FLOORS, COLUMNS, WALLS, ROOF, MECH & ELEC SYSTEMS
2. EXISTING FLOOR FINISH, CEILING TILE, DOORS, WINDOWS, CLERESTORY WINDOWS, ELECTRICAL AND MECHANICAL SYSTEMS TO BE DEMOLISHED. PROTECT EXISTING OPENINGS FOR NEW WORK
3. EXISTING FLOOR FINISH, GYP BOARD CEILING, KITCHEN EQUIPMENT, RAILINGS, CABINETS TO BE REMOVED. PROTECT AND RETURN EQUIPMENT TO DISTRICT.
4. FOLDING PARTITIONS TO BE REMOVED
5. EXISTING PRE-FAB FREEZER TO BE DEMOLISHED
6. TRASH ENCLOSURE CMU WALLS, DOORS AND PAVING TO BE DEMOLISHED
7. A-WING BUILDING: SELECTIVE DEMOLITION OF PARTITION WALLS, DOORS, CARPET, COMPLETE RCP, REMOVE (2) WINDOWS
8. CONCRETE RAMP, STAIRS, RAILINGS TO BE DEMOLISHED
9. COVERED WALK TO BE DEMOLISHED
10. EXISTING COLUMN TO REMAIN, PRESERVE AND PROTECT
11. EXISTING ROOFING ASSEMBLY TO BE DEMOLISHED DOWN TO PLYWOOD SHEATHING, ROOF STRUCTURE TO REMAIN. EXISTING MECHANICAL & ELECTRICAL EQUIPMENT, CONDUIT AND CURBS TO BE DEMOLISHED.

DEMOLITION PLAN GENERAL NOTES

GENERAL:

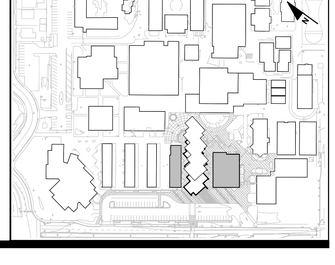
1. COORDINATE ALL WORK WITH THAT SHOWN IN STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.
2. SHORING IS THE RESPONSIBILITY OF THE CONTRACTOR.
3. REFER TO CIVIL AND LANDSCAPE DRAWINGS FOR SITE DEMOLITION
4. DEMOLITION SHALL BE SUFFICIENT TO COMPLETE THE (N) WORK SHOWN IN THE DRAWINGS. NEATLY CUT AND REMOVE FINISHES AS REQUIRED TO A NATURAL POINT OF DIVISION TO ENABLE INSTALLATION OF BLOCKING, BACKING, FRAMING, SHEATHING, UTILITIES OR OTHER CONCEALED WORK, WHETHER SPECIFICALLY SHOWN OR INFERRED FOR (N) WORK. REFER TO OTHER DRAWINGS FOR CONCEALED WORK.
5. NO DEMOLITION SHALL BEGIN UNTIL PLANS INCLUDING DEMOLITION WORK HAVE BEEN APPROVED BY DSA.

DEMOLITION LEGEND

EXISTING & DEMOLITION WORK:

- (E) ITEM TO BE DEMOLISHED
- (E) WALL AND ASSOCIATED WORK TO BE DEMOLISHED, PATCH & REPAIR FLOOR AS REQ
- (E) ITEM TO REMAIN
- (E) WALL TO REMAIN, PROTECT AND PRESERVE
- (E) DOOR/FRAME TO BE DEMOLISHED, SEE NEW WORK FLOOR PLAN & DOOR SCHEDULE
- AREA OF COMPLETE DEMOLITION, SEE KEYNOTE 1

KEYPLAN



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ARCH PROJECT NO:	1783.00
DRAWN BY:	CH,GRD
DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

CAFETERIA AND A-WING BUILDINGS DEMOLITION PLAN

SHEET NUMBER

A-B2.0

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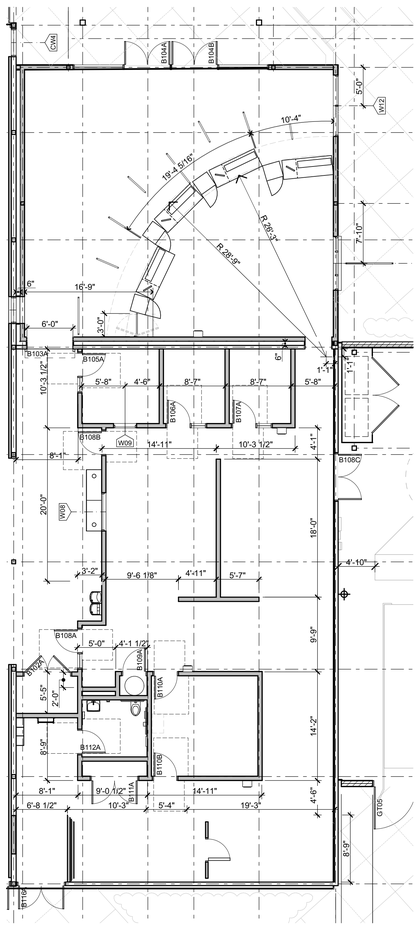
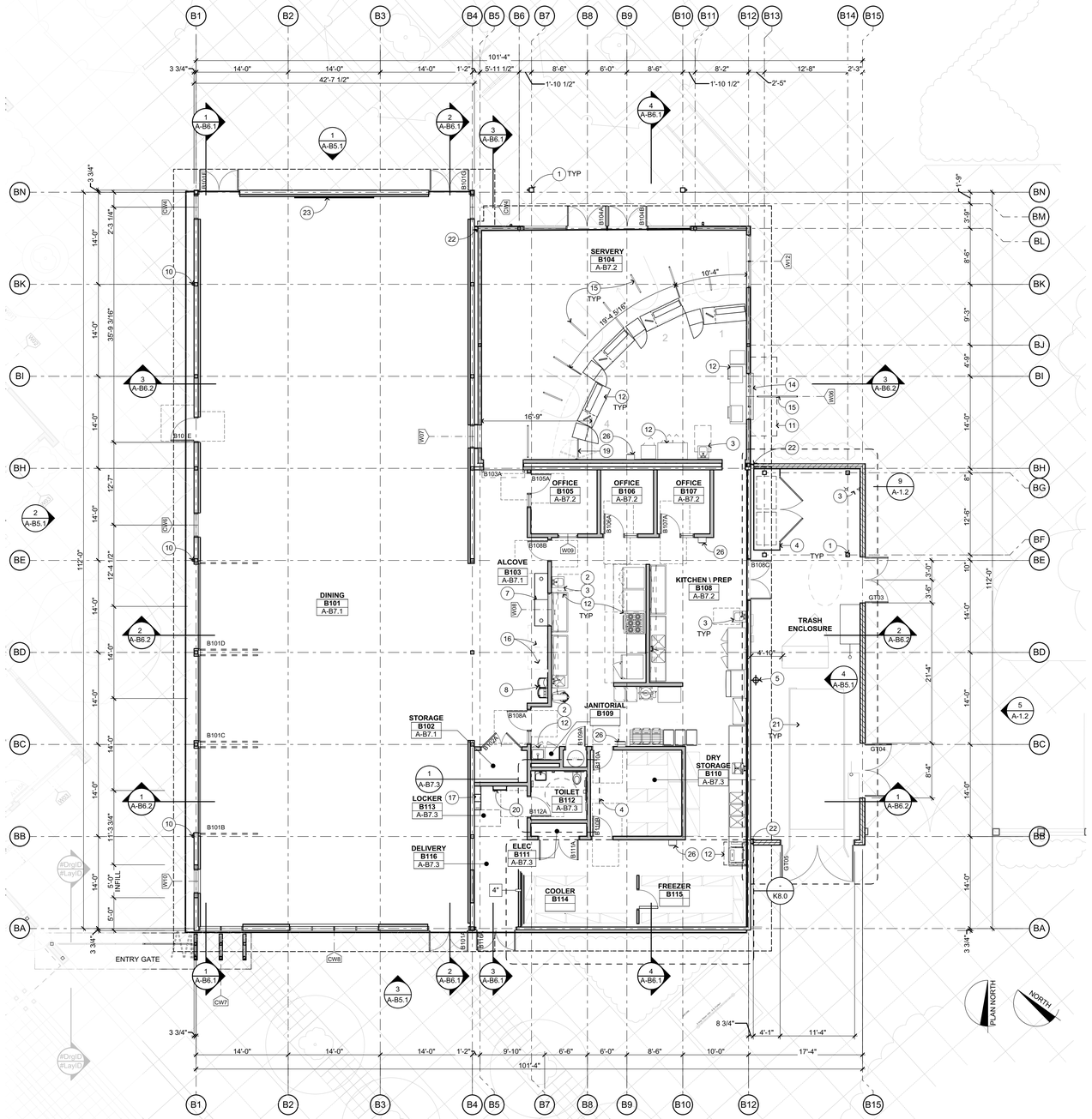


KITCHEN & SERVERY DIMENSION PLAN 2
1/8" = 1'-0"



CAFETERIA FLOOR PLAN 1
1/8" = 1'-0"

FLOOR PLAN KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. STRUCTURAL ITEM, S.S.D.
2. MECHANICAL ITEM, S.M.D.
3. PLUMBING ITEM / FIXTURE, S.P.D., S.K.D.
4. ELECTRICAL ITEM, S.E.D.
5. FIRE SPRINKLER RISER, S.P.D.
6. FIRE EXTINGUISHER, SEMI-RECESSED, SEE DTL 1/A-9.2
7. CASEWORK, SEE INTERIOR ELEVATIONS
8. HYDRATION STATION, SEE DETAIL 8/A-10.2
9. MARKER BOARD, SEE INTERIOR ELEVATIONS
10. RAIN WATER LEADER
11. ROOF OVERHANG OR RAIN CANOPY ABOVE
12. KITCHEN EQUIPMENT (BLDG.B), S.K.D., S.E.D., S.P.D.
13. FLOOR DRAIN, S.P.D.
14. STAINLESS STEEL COUNTER (BLDG. B) 20/A-9.3
15. METAL RAILING, SEE DETAIL 5/A-9.1
16. VENDING MACHINE (BLDG. B), N.I.C.
17. ACCESSIBLE LOCKERS (BLDG. B), SEE DETAIL 18/A-10.2
18. NOT USED
19. P-LAM GATE (BLDG.B)
20. ACCESS LADDER, SEE DETAIL 12/A-10.2
21. (E) TRASH EQUIPMENT, N.I.C.
22. SEISMIC JOINT COVER 18/A-9.2
23. EQUIPMENT, N.I.C.
24. PRIVACY CURTAIN (BLDG. A)
25. FLAT PANEL DISPLAY MOUNTING BRACKET, SEE 19/A-10.2
26. SURFACE MOUNTED TYPE K FIRE EXTINGUISHER

KITCHEN EQUIPMENT NOTE:
TYPE 1 HOOD REQUIRES A TYPE K FIRE EXTINGUISHER

FLOOR PLAN GENERAL NOTES

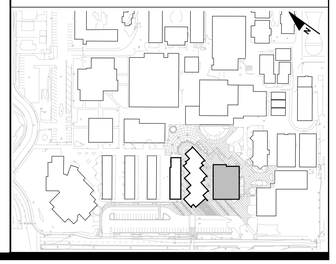
1. FOR SITE CONDITIONS SEE SITE PLAN SHEET A-1.1
2. FINISHED FLOOR ELEVATIONS SHOWN INDICATE FLOOR SLABS FOR THIS BUILDING. FOR ELEVATIONS RELATIVE TO THE REST OF THE SITE, REFER TO CIVIL ENGINEERING DRAWINGS.
3. REFER TO CIVIL ENGINEERING DRAWINGS AND SITE PLAN FOR SITE FEATURES NOT OTHERWISE INDICATED.
4. REFER TO ARCHITECTURAL GRAPHICS DRAWINGS FOR SIGNAGE NOT SHOWN.
5. REFER TO REFLECTED CEILING PLAN FOR CLERESTORY WINDOWS.
6. ALL INTERIOR WALL FRAMING AND GYP.BD. EXTEND TO UNDERSIDE OF ROOF /FLOOR SHEATHING ABOVE, U.O.N.

WALL TYPE LEGEND

ALL WOOD FRAMING IS 6" STUDS, U.O.N. S.S.D. FOR WOOD FRAMING SIZES

- EXISTING WALL
- WOOD FRAMING - NON RATED (18/A-9.1 EXT., 23/A-9.1 INT.)
- WOOD FRAMING - 1 HR RATED (24/A-9.1 EXT.)
- CMU - NON RATED
- EXISTING CONC WALL W/ 3 1/2" MTL FURRING
- WOOD STUD SIZE, 2X6 U.O.N.
- ACOUSTIC RATING (STC). SEE SHEET A-9.2 FOR ACOUSTIC WALL DETAILS.

KEYPLAN



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CD

DECEMBER 2, 2020

SHEET TITLE

CAFETERIA BUILDING FLOOR AND DIMENSION PLANS

SHEET NUMBER

A-B2.1

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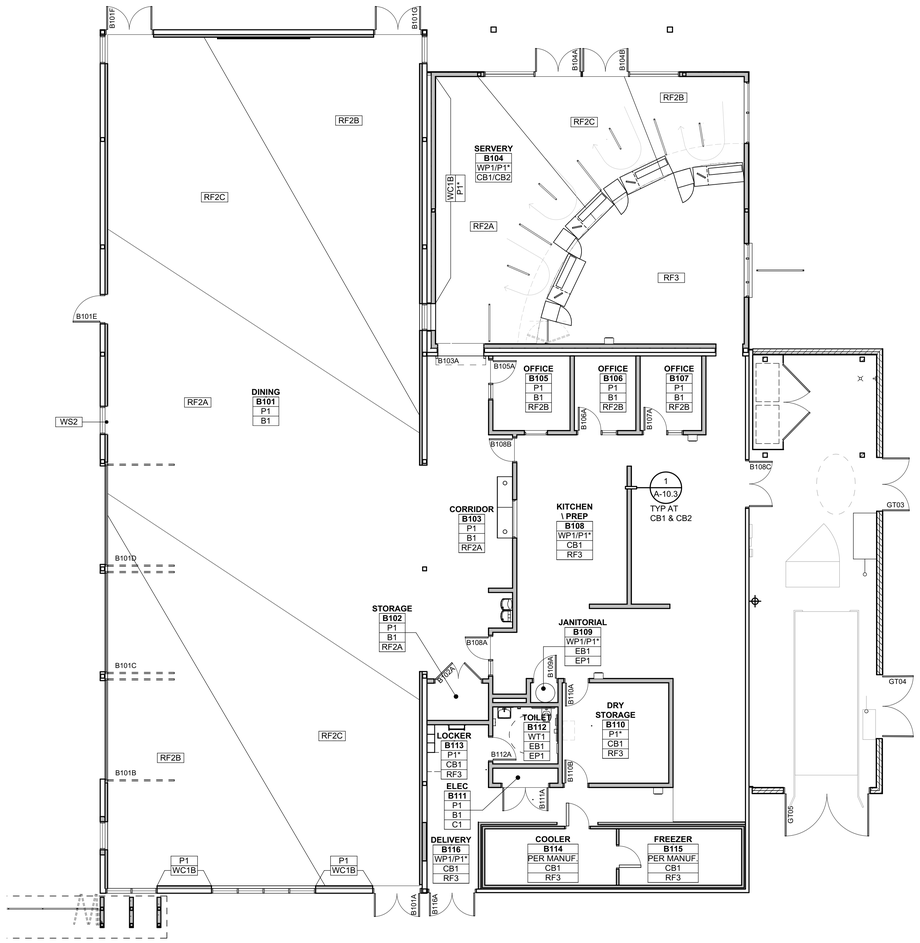


FINISH PLAN GENERAL NOTES

1. SEE FINISH PLAN SHEETS (A-A2.3 & A-B2.2), INTERIOR ELEVATION SHEETS (A-A7.1 - A-A7.7 & A-B7.1 - A-B7.3), & ALL DETAILS FOR THE EXTENT OF FINISH DOCUMENTATION.
2. SEE REFLECTED CEILING PLAN SHEETS (AX.XX) FOR SPECIFIC LOCATIONS & CONFIGURATIONS OF GYP. BD. SOFFITS, SUSPENDED CEILING SYSTEMS AND OTHER CEILING ELEMENTS. ALL GYP. SOFFITS TO BE PAINTED P1, U.O.N..
3. SEE FINISH SCHEDULE AND PROJECT SPECIFICATIONS FOR PRODUCT AND MATERIAL INFORMATION.
4. FLOOR FINISH INSTALLATION SHALL BE SMOOTH AND HAVE NO HEIGHT DIFFERENTIAL IN ONE LOCATION GREATER THAN 1/4" FOR A TOTAL OF 1/2" PER ADA REQUIREMENTS, EXPOSED EDGES OF THE FLOORING SHALL BE FASTENED TO THE FLOOR SURFACE AND HAVE TRIM AS APPROPRIATE FOR THE CONDITION.
5. NEW FLOORING TO EXTENDS UNDER ALL BUILT-IN CASEWORK.
6. CONTRACTOR TO VERIFY W/ ARCHITECT ALL MATERIAL / COLOR TERMINATIONS POINTS ON ALL HORIZONTAL & VERTICAL SURFACES PRIOR TO START OF WORK.
7. INTERIOR PAINTED WALLS ARE TO BE P1 TYP, U.O.N.. SEE FINISH SCHEDULE AND PROJECT SPECIFICATION FOR PAINTING SCHEDULE AND SHEEN DESIGNATION, U.O.N..
8. CONTRACTOR TO SUBMIT PAINT SAMPLES BRUSH-OUTS FOR ACHITECT REVIEW & APPROVAL.
9. ALL INTERIOR GRILLS AND REGISTER TO MATCH ADJACENT WALL COLOR, U.O.N..
10. ALL PAINTED HOLLOW METAL DOOR FRAMES TO BE COLOR 'SW7019 GAUNTLET GRAY' ON ALL SIDES, TYP U.O.N.. SEE DOOR SCHEDULE FOR ALTERNATE COLOR & FINISH TYPES.
11. ALL PAINTED METAL WINDOW FRAMES TO BE COLOR 'SW7019 GAUNTLET GRAY' ON ALL SIDES, TYP U.O.N.. SEE WINDOW SCHEDULE FOR FINISH TYPES.
12. ALL FACTORY FINISH FRAMES AND DOORS TO BE COLOR '740 EC DARK BRZ - DK C-1' ON ALL SIDES, TYP U.O.N.. SEE WINDOW SCHEDULE FOR FINISH TYPES.

FINISH PLAN LEGEND

SEE SHEET A-8.4 FOR FINISH INFORMATION

ROOM NAME
ROOM #
P1 — WALL FINISH CODE
B1 — BASE FINISH CODE
CPT1 — FLOOR FINISH CODE

CPT2 — SECONDARY FLOOR FINISH TAG

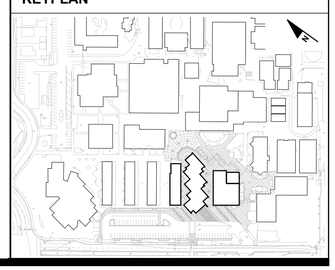
FLOOR MATERIAL TRANSITION

GRAIN DIRECTION

P2 — WALL FINISH TAG
FINISH CODE
EXTENT OF MATERIAL

P1* — DENOTES SEMI GLOSS FINISH

KEYPLAN



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LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	HM
DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

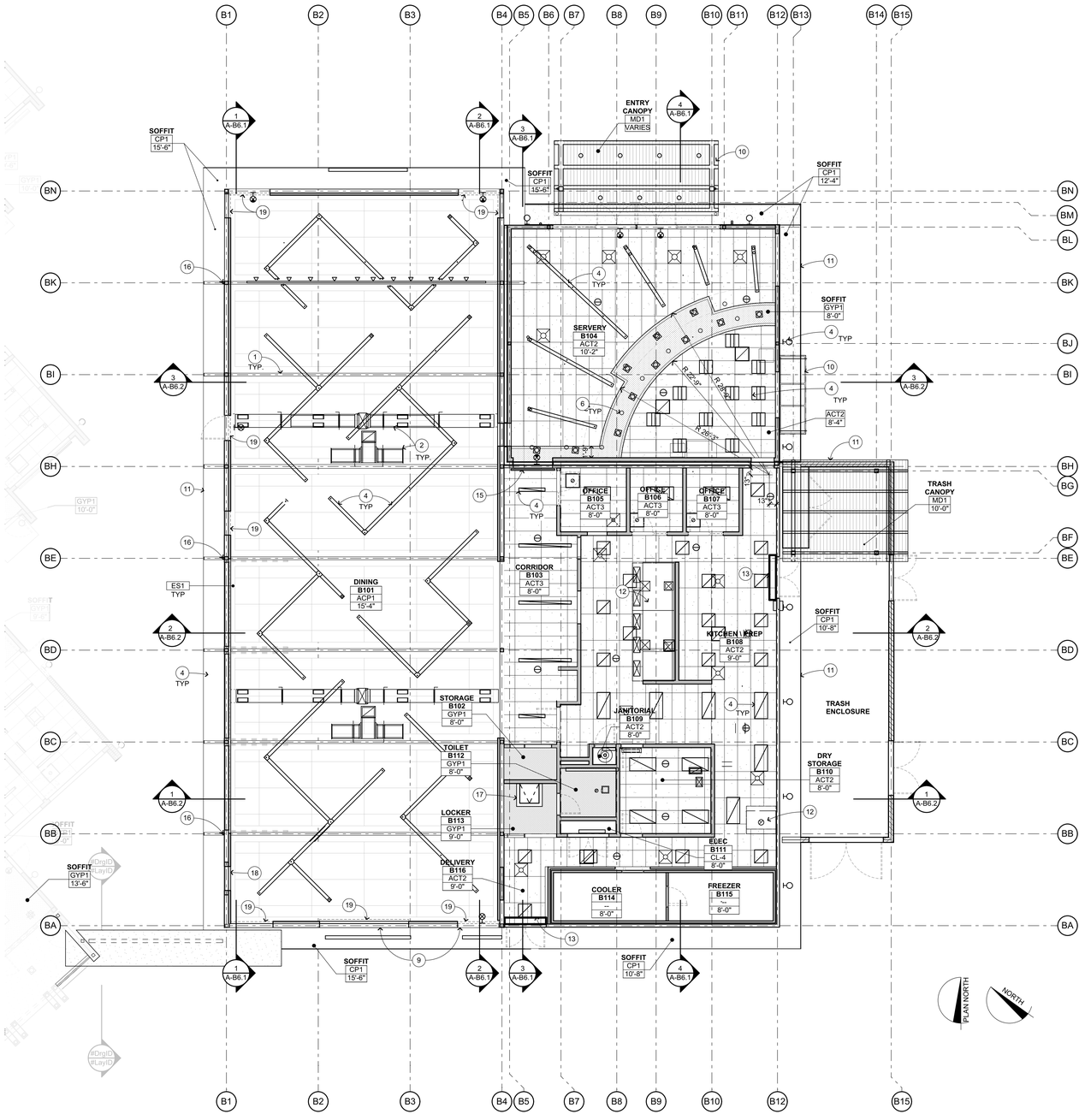
SHEET TITLE

CAFETERIA BUILDING FINISH PLAN - INTERIOR

SHEET NUMBER

A-B2.2

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS, 22:11/24/2020,4:56 PM



CAFETERIA REFLECTED CEILING PLAN 1

1/8" = 1'-0"

REFLECTED CEILING PLAN KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. EXPOSED STRUCTURE, S.S.D.
2. MECHANICAL ITEM, S.M.D.
3. PLUMBING ITEM / FIXTURE, S.P.D.
4. ELECTRICAL ITEM, S.E.D.
5. FIRE SPRINKLER, S.P.D.
6. SOFFIT, S.S.D. AND (22 / A-10.1) (28 / A-10.1)
7. SKYLIGHT, SEE ROOF PLAN
8. CEILING ACCESS PANEL
9. METAL PANEL, SEE EXTERIOR ELEVATIONS
10. RAIN CANOPY, SEE ROOF PLAN
11. EDGE OF ROOF ABOVE
12. KITCHEN EQUIPMENT, SEE KITCHEN DRAWINGS
13. AIR CURTAIN, S.M.D.
14. POCKET WINDOW SOFFIT (21 / A-10.1) SIM
15. COILING GRILLE (CONCEALED IN CEILING)
16. RAIN WATER LEADER, S.P.D. AND SEE (13 / A-9.5) (22 / A-9.5)
17. ROOF ACCESS HATCH (12 / A-9.4)
18. MANUAL OPERATED WINDOW SHADES (24 / A-10.2)
19. MOTORIZED OPERATED WINDOW SHADES (29 / A-10.2)

REFLECTED CEILING PLAN GENERAL NOTES

1. NOTES & SYMBOLS ARE TO APPLY TO ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDACY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
2. PENDANT LIGHT FIXTURE LOCATION DIMENSIONS ARE NOMINAL. VERIFY IN FIELD TO MAINTAIN 45" SWING CLEARANCES TO FIXED ELEMENTS.
3. S.E.D. FOR HORNS, SPEAKERS, PULL STATIONS, LIGHT FIXTURES AND OTHER FEATURES NOT OTHERWISE SHOWN.
4. S.E.D. FOR EXIT SIGNS & EMERGENCY LIGHTING CONDITIONS.
5. S.M.D. FOR PIPING, REGISTERS & VENTS NOT OTHERWISE SHOWN. MECHANICAL DUCT LOCATION DIMENSIONS ARE NOMINAL. VERIFY IN FIELD TO MAINTAIN CLEARANCES TO FIXED ELEMENTS.
6. CBC TABLE 601- ROOFS AND THEIR MEMBERS OTHER THAN THE STRUCTURAL FRAME MAY BE OF UNPROTECTED NON-COMBUSTIBLE MATERIALS WHEN EVERY PART OF ROOF FRAMING INCLUDING THE STRUCTURAL FRAME IS 20 FEET OR MORE ABOVE THE FLOOR IMMEDIATELY BELOW

REFLECTED CEILING PLAN LEGEND

10'-0" / ROOM NAME / ROOM # / X'-X" — CL-XX REFERS TO CEILING FINISH CODE SEE BELOW. X'-X" REFERS TO FINISHED CEILING HEIGHT AFF. WHERE CEILING HEIGHT IS INDICATED AS "OPEN" OR "- - ", ROOM IS OPEN TO STRUCTURE ABOVE. FOR CEILING CONFIGURATION & HEIGHT WHERE CEILING HEIGHT IS INDICATED AS CURVED, SLOPING, OR VARIES, REFER TO SECTION DRAWINGS.

DOORS SHOWN DASHED INDICATE DOOR BELOW. FOR DEMO, (E), AND (N) DOOR/FRAME INFORMATION SEE FLOOR PLANS & DOOR SCHEDULE

ELECTRICAL ITEMS, S.E.D.

MECHANICAL ITEMS, S.M.D.

FIRE SPRINKLERS, S.F.P.D.

2x2 SOLATUBE

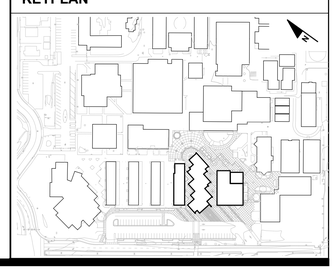
CEILING FINISH CODES

FOR PAINT FINISHES SEE SEC. 09 9113 (EXTERIOR) & 09 9123 (INTERIOR).

SEE SHEET A-8.4 FOR FINISH INFORMATION

GYP1	GYPSUM BOARD O/ FRAMING, S.S.D.	
ACT1 ACT2 ACT3	2'X4' SUSPENDED CEILING SYSTEM W/ ACOUSTIC TILE	(3 / A-10.1) (13 / A-10.1)
MCT1	SUSPENDED CEILING SYSTEM W/ PERFORATED METAL	(3 / A-10.1) (13 / A-10.1)
ACP1	ACOUSTIC CEILING PANELS, 4'x8'	(24 / A-10.1)
CP1	CEMENT PLASTER	(4 / A-9.1)
ES1 ES2	EXPOSED CEILING/ROOF STRUCTURE	

KEYPLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS

Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
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(707) 576-0829

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DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

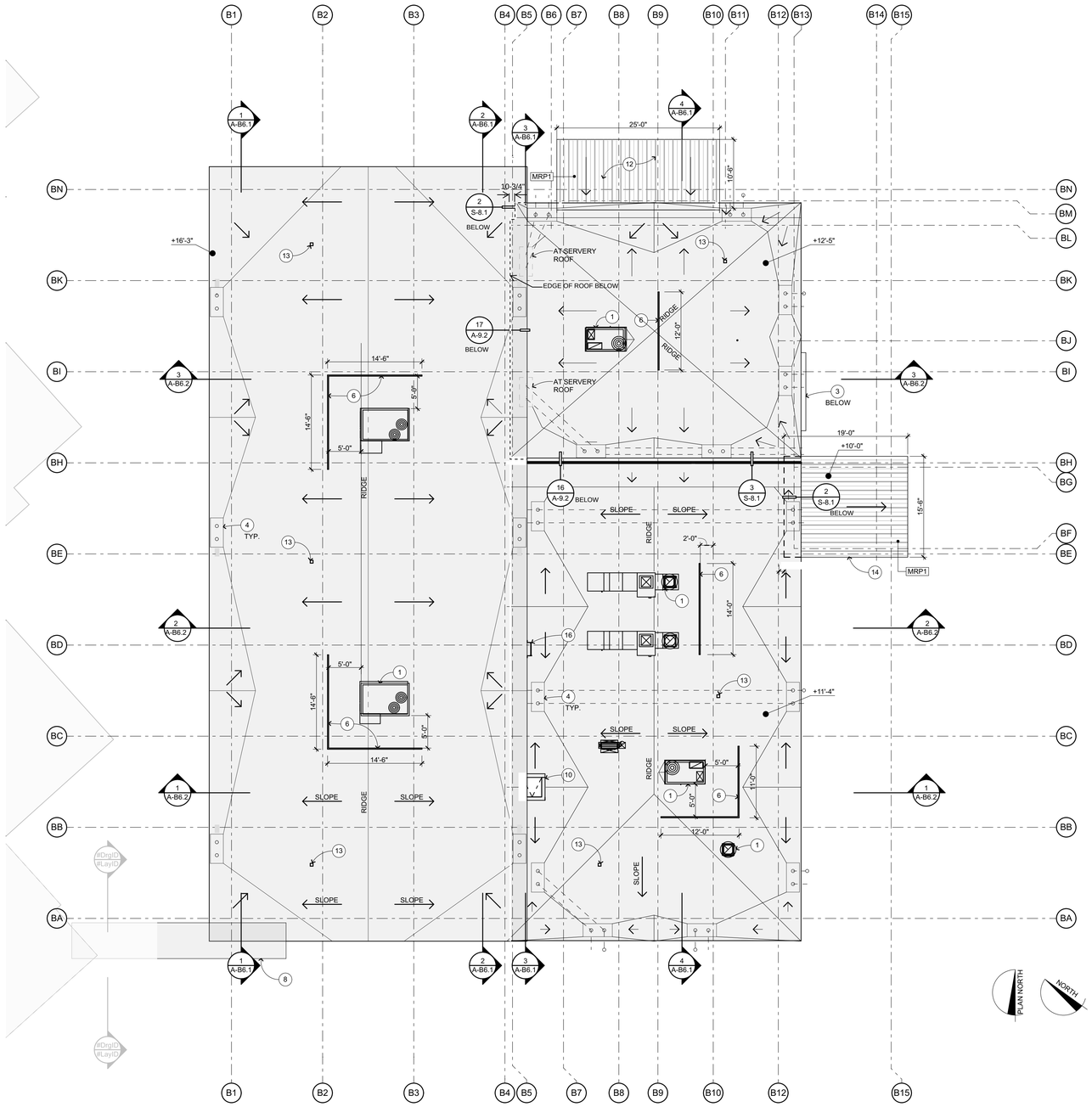
SHEET TITLE

CAFTERIA BUILDING REFLECTED CEILING PLAN

SHEET NUMBER

A-B3.1

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS 22-11/24/2020 4:56 PM



CAFETERIA ROOF PLAN 1

1/8" = 1'-0"

ROOF PLAN KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. MECHANICAL ITEM (S.M.D.), FOR CURB WHERE OCCURS SEE 3/A-9.4
2. BUR CRICKET O/ SLOPED INSULATION
3. RAIN CANOPY BELOW, SEE 1/A-9.6
4. ROOF DRAIN, S.P.D. AND SEE 5/A-9.4
5. TUBULAR SKYLIGHT, SEE 5/A-9.5
6. MECHANICAL SCREEN, SEE 24/A-9.4 28/A-9.4
7. PARAPET, SEE DETAIL 7/A-9.4
8. MAIN ENTRY GATEWAY 28/A-1.2
9. WALLS SHOWN IN GRAY BELOW
10. ROOF ACCESS HATCH, SEE DETAIL 12/A-9.4
11. GUTTER, SEE DETAIL 2/A-9.5
12. ENTRY CANOPY, S.S.D. AND 18/A-9.5
13. ROOF ANCHORAGE FOR SAFETY EQUIP, SEE 22/A-9.4
14. TRASH ENCLOSURE ROOF, S.S.D.
15. RAIN WATER LEADER BELOW, SEE RCP
16. ROOF LADDER, ATTACHMENT SEE 23/A-9.4

ROOF PLAN GENERAL NOTES

1. LOCATE ALL METAL ROOF PENETRATIONS IN THE CENTER OF THE PAN. DO NOT INTERRUPT STANDING SEAMS.
2. MINIMUM THICKNESS OF RIGID INSULATION TO BE 1" AT LOW POINT OF ROOF. SLOPE MIN 1/4":12" TO DRAIN. ALL RIGID INSULATION OVERLAID WITH 1/2" PERLITE BOARD.
3. ALL ROOFING TO BE CLASS A.
4. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ROOF PENETRATION LOCATIONS NOT OTHERWISE INDICATED, TYPICAL.
5. MECHANICAL UNIT MOUNTING CURBS PER 3/A-9.4 S.M.D.
6. MECHANICAL OR PLUMBING VENT FLASHING, BOOTS, SEE 4/A-9.4 B.U.R.

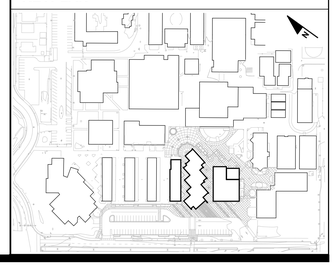
ROOF PLAN LEGEND

+0'-0" DIMENSION INDICATING TOP OF ROOF LEVEL. SEE DETAILS FOR TOP OF ROOF LOCATION WITHIN ASSEMBLY

BUILT-UP ROOFING 1/A-9.4

METAL ROOFING 18/A-9.5

KEYPLAN



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SHEET TITLE

CAFETERIA BUILDING ROOF PLAN

SHEET NUMBER

A-B4.1

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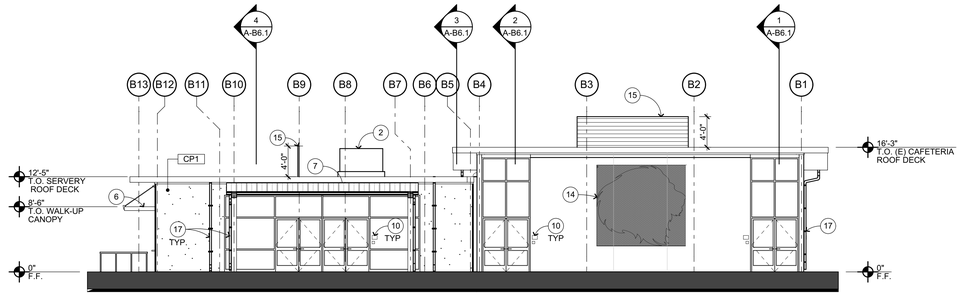
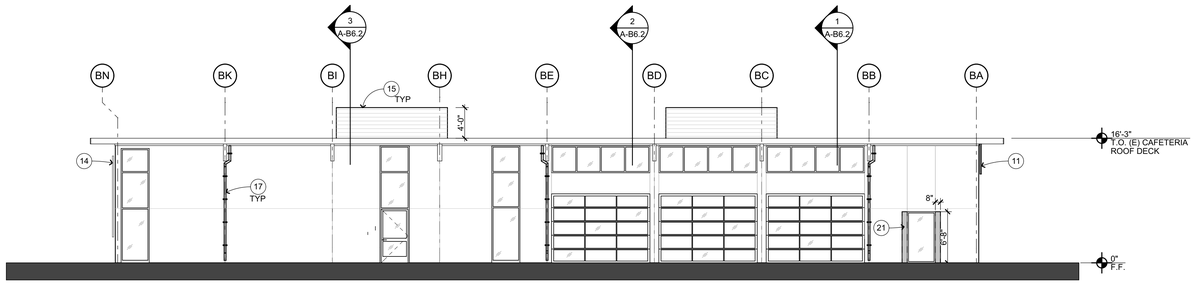


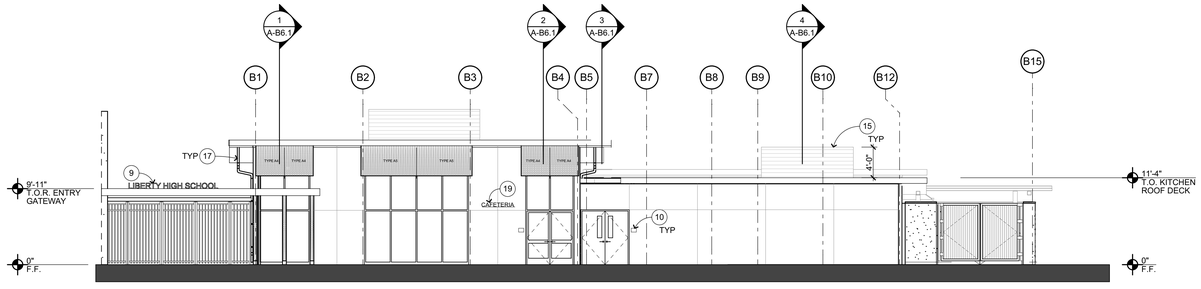
NORTH ELEVATION 1

1/8" = 1'-0"



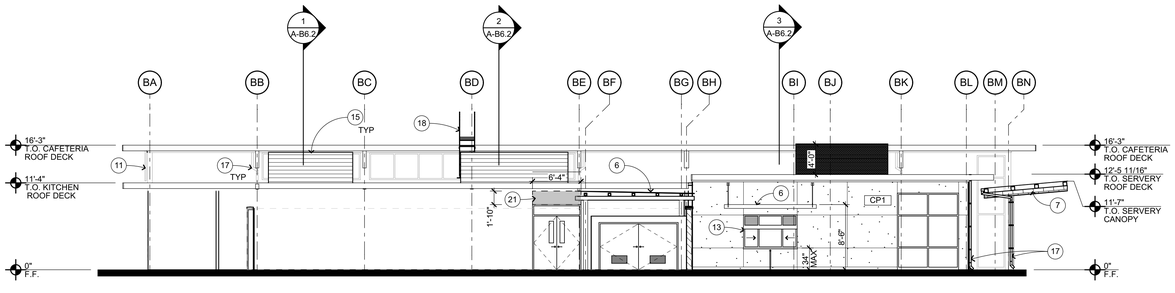
WEST ELEVATION 2

1/8" = 1'-0"



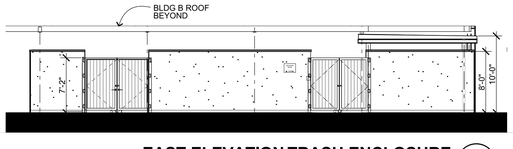
SOUTH ELEVATION 3

1/8" = 1'-0"



EAST ELEVATION 4

1/8" = 1'-0"



EAST ELEVATION TRASH ENCLOSURE 5

1/8" = 1'-0"

EXTERIOR ELEVATION KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. STRUCTURAL ITEM, S.S.D.
2. MECHANICAL ITEM, S.M.D.
3. PLUMBING ITEM / FIXTURE, S.P.D.
4. LIGHT FIXTURE, S.E.D.
5. FLASHING AT PARAPET, SEE 7/A-9.4
6. RAIN CANOPY, SEE ROOF PLAN
7. ENTRY CANOPY, SEE ROOF PLAN
8. CEMENT PLASTER CONTROL JOINT 4/A-9.1
9. SCHOOL SIGN 20/A-9.5
10. SIGNAGE, SEE AG-2.1 ARCH GRAPHICS PLAN
11. PERFORATED METAL PANEL 17/A-9.6
12. NOT USED
13. SERVICE WINDOW, SEE WINDOW SCHEDULE
14. METAL PANEL PAINTED WITH SCHOOL LOGO
15. MECHANICAL SCREEN, SEE ROOF PLAN
16. DOWNSPOUT NOZZLE, S.P.D.
17. RAIN WATER LEADER, S.P.D.
18. ROOF LADDER, SEE ROOF PLAN
19. BUILDING ID SIGN, SEE 33/AG-2.1
20. METAL FASCIA
21. WALL INFILL TO MATCH EXTERIOR FINISH, S.S.D. 21/S-1.1

EXTERIOR ELEVATION GENERAL NOTES

1. NOTES AND SYMBOLS ARE TO APPLY AT ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
2. ALL PENETRATIONS THROUGH EXTERIOR ROOF AND WALLS, AND FLOORS SHALL BE FLASHED AND SEALED WEATHER TIGHT. ALL PENETRATIONS THROUGH THE BUILDING INSULATION ENVELOPE SHALL BE PACKED WITH INSULATION.
3. PROVIDE OPENING FLASHINGS AT ALL WINDOWS, DOORS, LOUVERS AND SIMILAR WALL OPENINGS PER 17/A-9.1
4. PROVIDE CEMENT PLASTER CONTROL JOINTS AS INDICATED AND AS FOLLOWS: PROVIDE CONTROL JOINTS SO THAT THE MAXIMUM DISTANCE BETWEEN JOINTS, VERTICALLY OR HORIZONTALLY DOES NOT EXCEED 12'-0"; ALL CEMENT PLASTER "PANELS" SHALL BE DEFINED BY FOUR STRAIGHT AND UNINTERRUPTED EDGES; PROVIDE JOINTS AS REQUIRED TO AVOID INSIDE CORNERS IN ANY INDIVIDUAL PANEL.
5. REFER TO MECHANICAL DRAWINGS FOR REGISTERS AND VENTS NOT OTHERWISE SHOWN.
6. REFER TO ELECTRICAL DRAWINGS FOR HORNS, SPEAKERS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN.

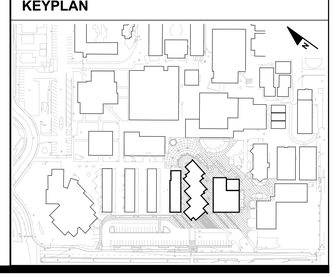
EXTERIOR ELEVATION LEGEND

(E) CONCRETE (TILT-UP)

CP1 / CP2 — CEMENT PLASTER 4/A-9.1

XP1 — FINISH TAG, SEE A-8.4 FINISH SCHEDULE

KEYPLAN



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DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

CAFETERIA BUILDING EXTERIOR ELEVATIONS

SHEET NUMBER

A-B5.1

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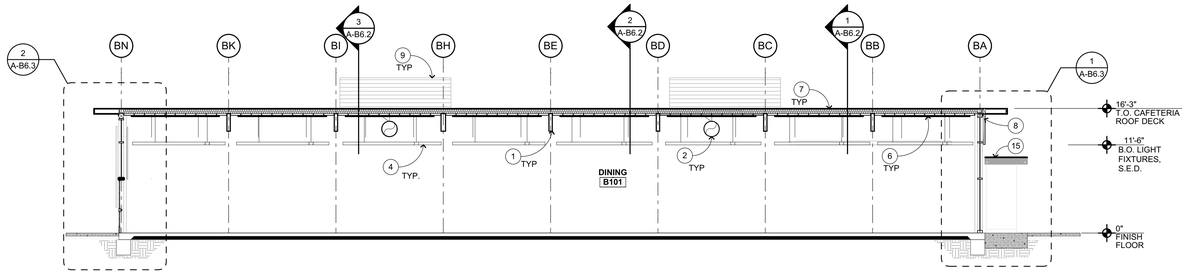

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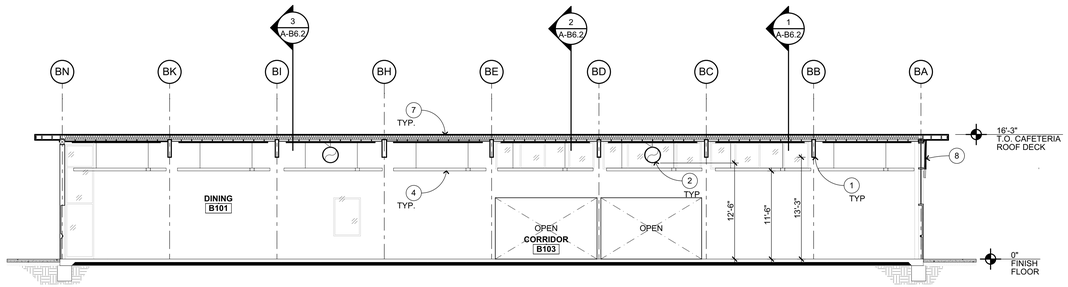
1/8" = 1'-0"



SECTION 2
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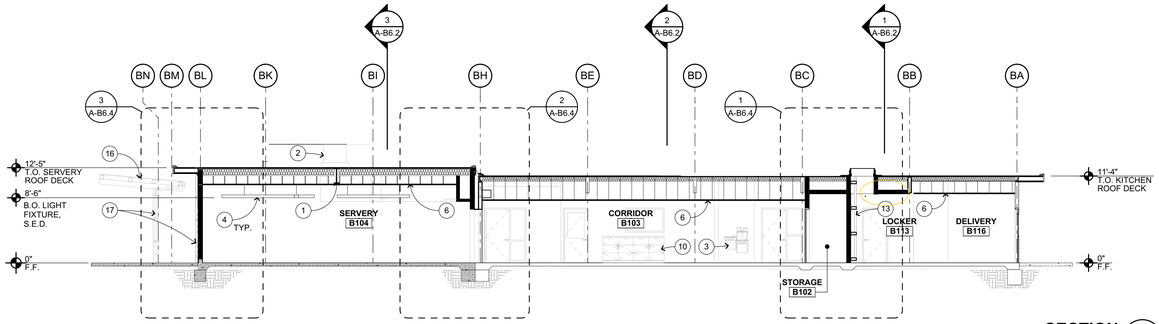
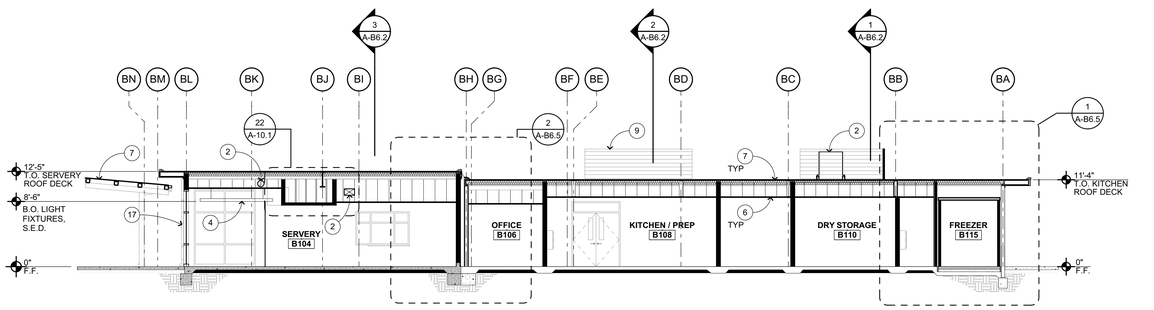


SECTION 3
1/8" = 1'-0"



SECTION 4
1/8" = 1'-0"

SECTION KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. STRUCTURAL ITEM, S.S.D.
2. MECHANICAL ITEM, S.M.D.
3. PLUMBING ITEM / FIXTURE, S.P.D.
4. LIGHT FIXTURE, S.E.D.
5. FIRE SPRINKLER HD, S.P.D.
6. CEILING PER PLAN
7. ROOFING, SEE ROOF PLAN
8. PERFORATED METAL PANEL, SEE EXTERIOR ELEVATIONS
9. MECHANICAL SCREEN, SEE ROOF PLAN
10. CASEWORK, SEE INTERIOR ELEVATIONS
11. PARAPET, SEE ROOF PLAN
12. GUTTER, SEE ROOF PLAN
13. ACCESS LADDER
14. FURRED METAL STUD WALL
15. ENTRY GATE AND CANOPY
16. RAIN CANOPY, SEE ROOF PLAN
17. RAIN WATER LEADER, SEE RCP

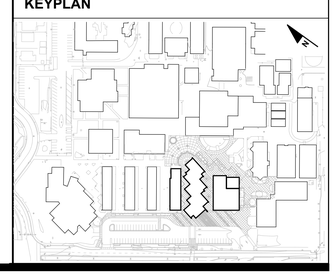
SECTION GENERAL NOTES

1. NOTES AND SYMBOLS ARE TO APPLY AT ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
2. ALL PENETRATIONS THROUGH EXTERIOR ROOF AND WALLS, AND FLOORS SHALL BE FLASHED AND SEALED WEATHER TIGHT. ALL PENETRATIONS THROUGH THE BUILDING INSULATION ENVELOPE SHALL BE PACKED WITH INSULATION.
3. PROVIDE OPENING FLASHINGS AT ALL WINDOWS, DOORS, LOUVERS AND SIMILAR WALL OPENINGS PER DETAIL 17 A-9.1
4. PROVIDE FIRESTOPPING AT CONCEALED SPACES, INCLUDING BETWEEN STAIR STRINGERS & BETWEEN STUDS WITH STAIR RUN, FURRED SPACES, CEILING/FLOOR LEVELS AND 10'-0" INTERVALS ALONG LENGTHS OF WALL, SOFFITS, DROP CEILINGS, AND COVE CEILINGS PER CBC 718.
5. REFER TO INTERIOR ELEVATIONS FOR WALL FINISHES AND INFORMATION NOT SHOWN, TYPICAL.
6. REFER TO FLOOR PLAN FOR FLOOR FINISHES, TYPICAL.
7. REFER TO REFLECTED CEILING PLAN FOR CEILING FINISHES, TYPICAL.
8. REFER TO MECHANICAL DRAWINGS FOR REGISTERS AND VENTS NOT OTHERWISE SHOWN.
9. REFER TO ELECTRICAL DRAWINGS FOR HORNS, SPEAKERS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN.

SECTION LEGEND

EXISTING WALL (A-WING AND BUILDING B)
WOOD FRAMING - NON RATED

KEYPLAN



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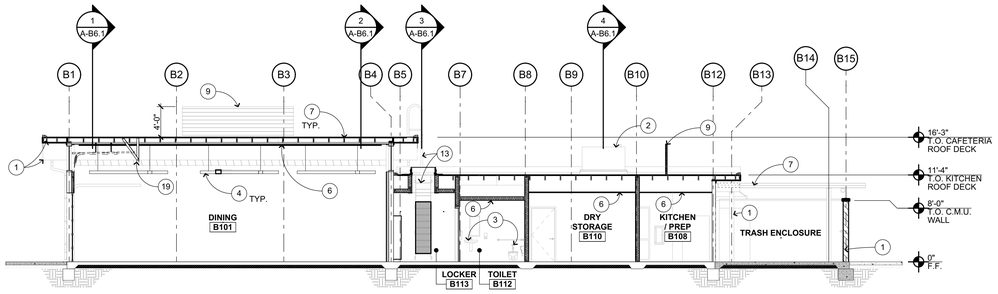
SHEET TITLE

CAFETERIA BULDING SECTIONS

SHEET NUMBER

A-B6.1

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS, 22:11/24/2020:4:56 PM



SECTION 1
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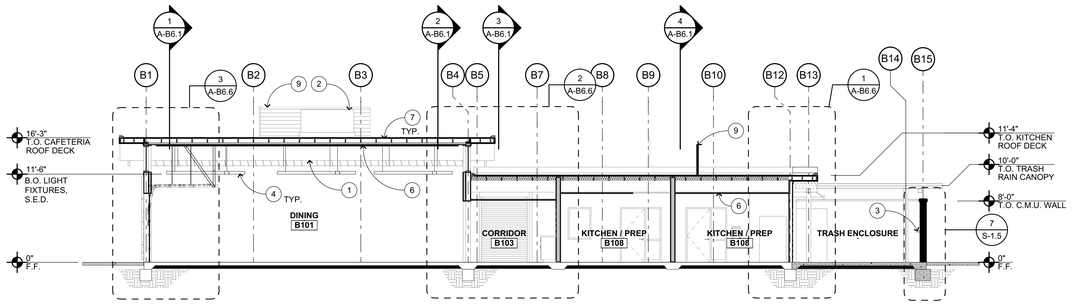

SECTION 2
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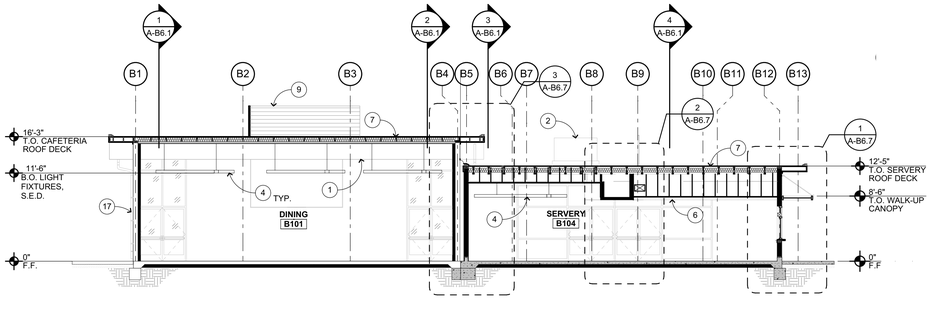


SECTION 3
1/8" = 1'-0"

SECTION KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. STRUCTURAL ITEM, S.S.D.
2. MECHANICAL ITEM, S.M.D.
3. PLUMBING ITEM / FIXTURE, S.P.D.
4. LIGHT FIXTURE, S.E.D.
5. FIRE SPRINKLER HD, S.P.D.
6. CEILING PER PLAN
7. ROOFING, SEE ROOF PLAN
8. PERFORATED METAL PANEL, SEE EXTERIOR ELEVATIONS
9. MECHANICAL SCREEN, SEE ROOF PLAN
10. CASEWORK, SEE INTERIOR ELEVATIONS
11. PARAPET, SEE ROOF PLAN
12. GUTTER, SEE ROOF PLAN
13. ACCESS LADDER
14. FURRED METAL STUD WALL
15. ENTRY GATE AND CANOPY
16. RAIN CANOPY, SEE ROOF PLAN
17. RAIN WATER LEADER, SEE RCP

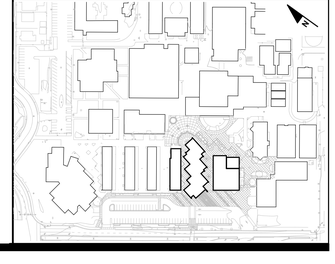
SECTION GENERAL NOTES

1. NOTES AND SYMBOLS ARE TO APPLY AT ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
2. ALL PENETRATIONS THROUGH EXTERIOR ROOF AND WALLS, AND FLOORS SHALL BE FLASHED AND SEALED WEATHER TIGHT. ALL PENETRATIONS THROUGH THE BUILDING INSULATION ENVELOPE SHALL BE PACKED WITH INSULATION.
3. PROVIDE OPENING FLASHINGS AT ALL WINDOWS, DOORS, LOUVERS AND SIMILAR WALL OPENINGS PER DETAIL 17 / A-9.1
4. PROVIDE FIRESTOPPING AT CONCEALED SPACES, INCLUDING BETWEEN STAIR STRINGERS & BETWEEN STUDS WITH STAIR RUN, FURRED SPACES, CEILING/FLOOR LEVELS AND 10'-0" INTERVALS ALONG LENGTHS OF WALL, SOFFITS, DROP CEILINGS, AND COVE CEILINGS PER CBC 718.
5. REFER TO INTERIOR ELEVATIONS FOR WALL FINISHES AND INFORMATION NOT SHOWN, TYPICAL.
6. REFER TO FLOOR PLAN FOR FLOOR FINISHES, TYPICAL.
7. REFER TO REFLECTED CEILING PLAN FOR CEILING FINISHES, TYPICAL.
8. REFER TO MECHANICAL DRAWINGS FOR REGISTERS AND VENTS NOT OTHERWISE SHOWN.
9. REFER TO ELECTRICAL DRAWINGS FOR HORNS, SPEAKERS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN.

SECTION LEGEND

EXISTING WALL (A-WING AND BUILDING B)
WOOD FRAMING - NON RATED

KEYPLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0629

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	CH, HE, PAG, GRD
DRAWING SCALE:	1/8" = 1'-0"
PTN: 61T21-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

CAFETERIA BULDING SECTIONS

SHEET NUMBER

A-B6.2

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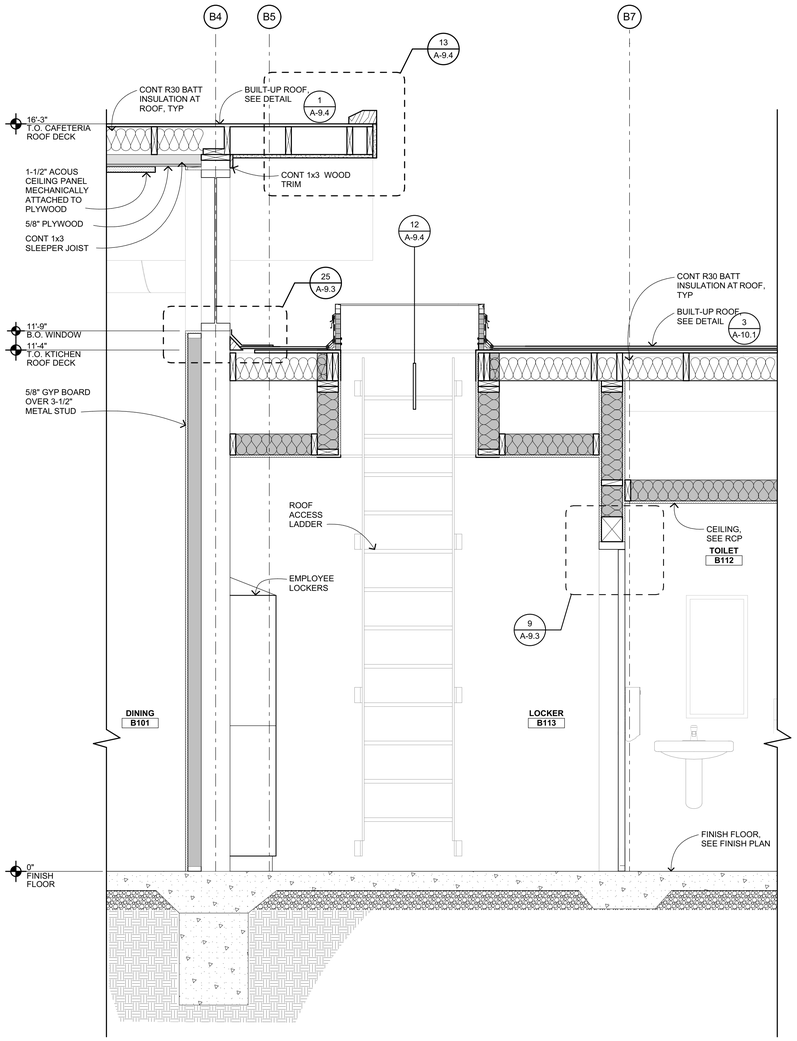
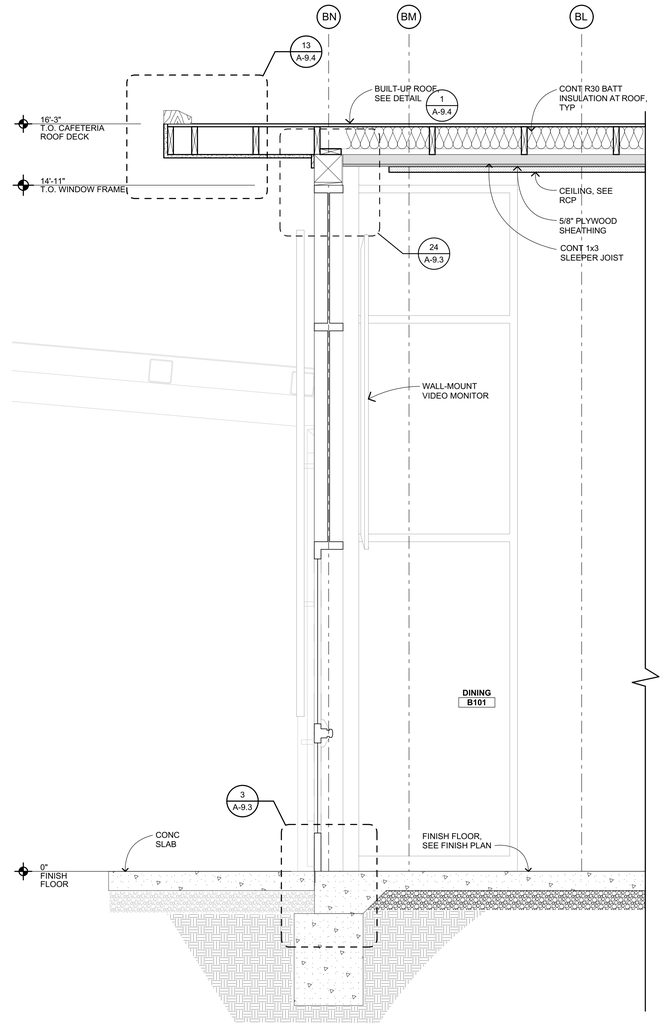
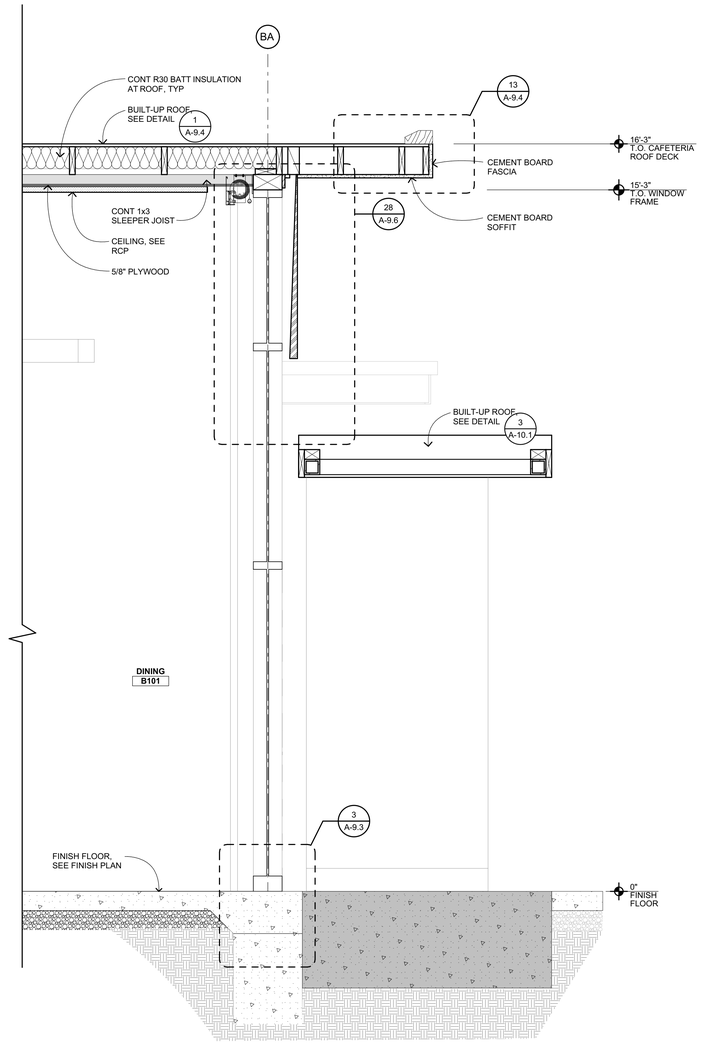


SECTION 3
3/4" = 1'-0"

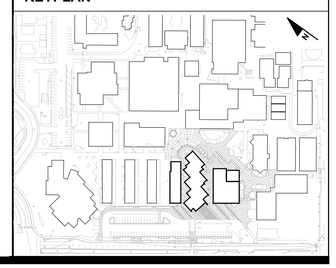


SECTION 2
3/4" = 1'-0"



SECTION 1
3/4" = 1'-0"

KEYPLAN



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ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
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LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	PAG, GRD
DRAWING SCALE:	3/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

CAFETERIA BUILDING WALL SECTIONS

SHEET NUMBER

A-B6.3

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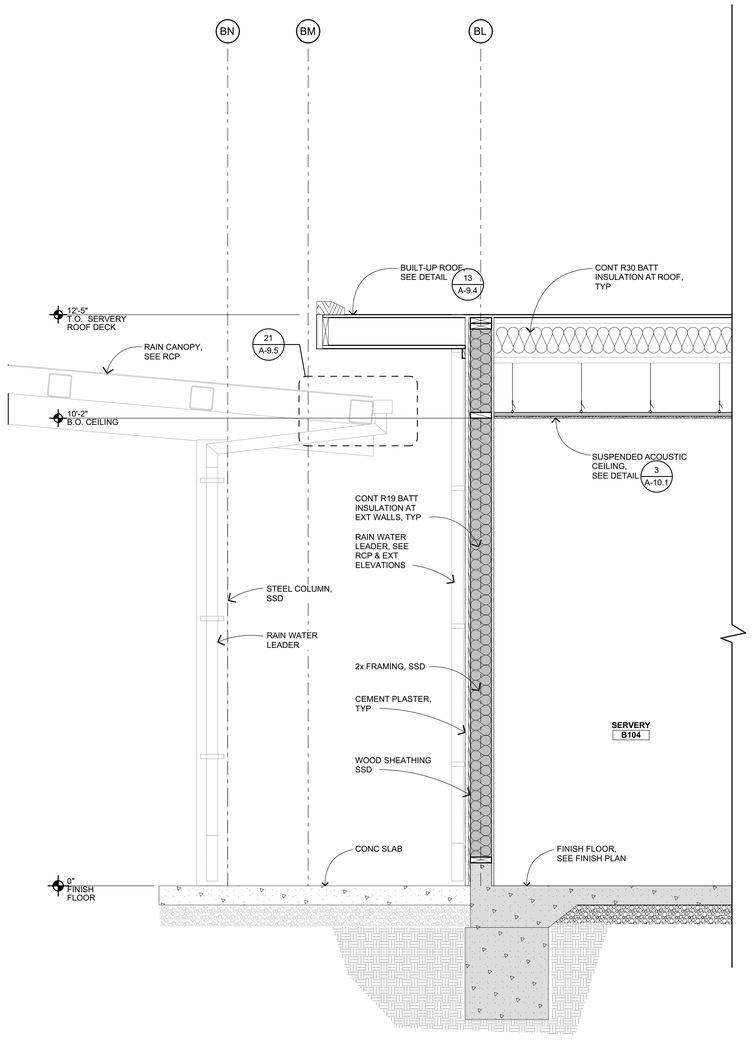
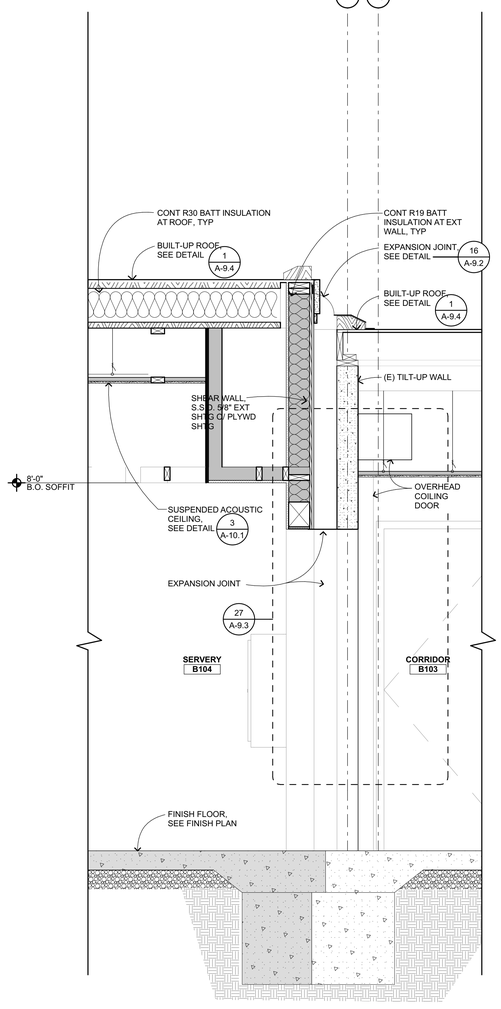


CAFETERIA SECTION 3 (3)
3/4" = 1'-0"



CAFETERIA SECTION (2)
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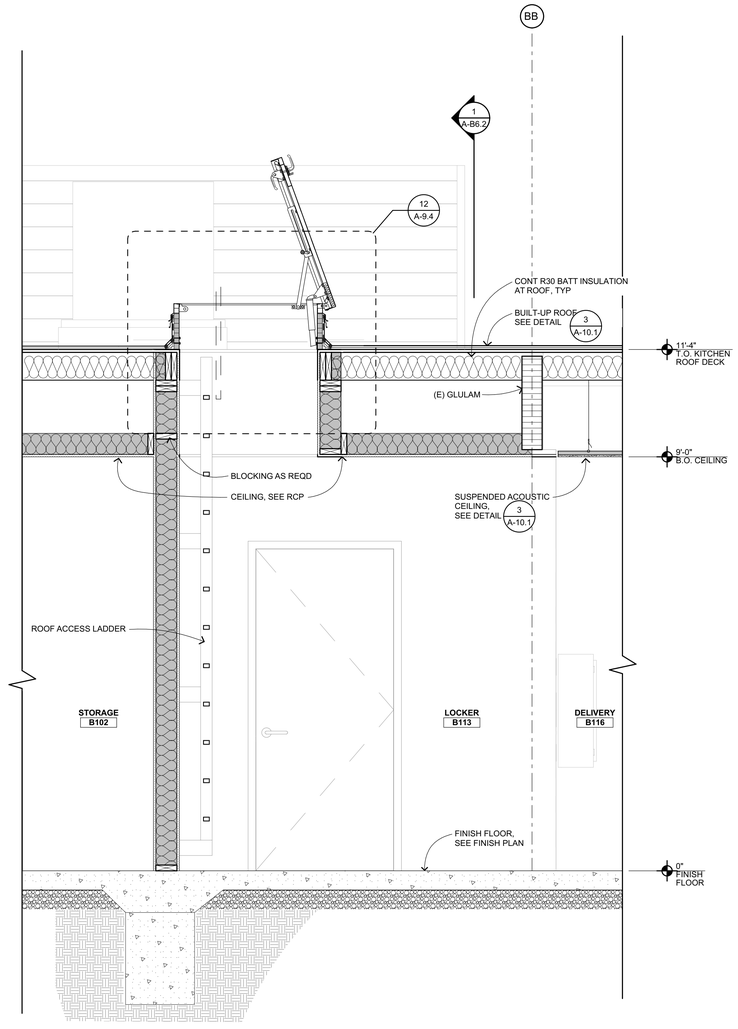
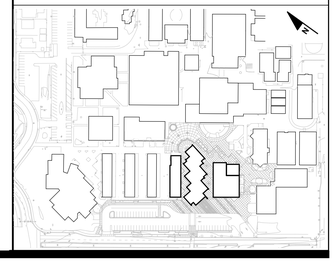


CAFETERIA SECTION (1)
3/4" = 1'-0"

KEYPLAN



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ADMINISTRATION & STUDENT COMMONS

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BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	PAG, GRD
DRAWING SCALE:	3/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

CAFETERIA BUILDING WALL SECTIONS

SHEET NUMBER

A-B6.4

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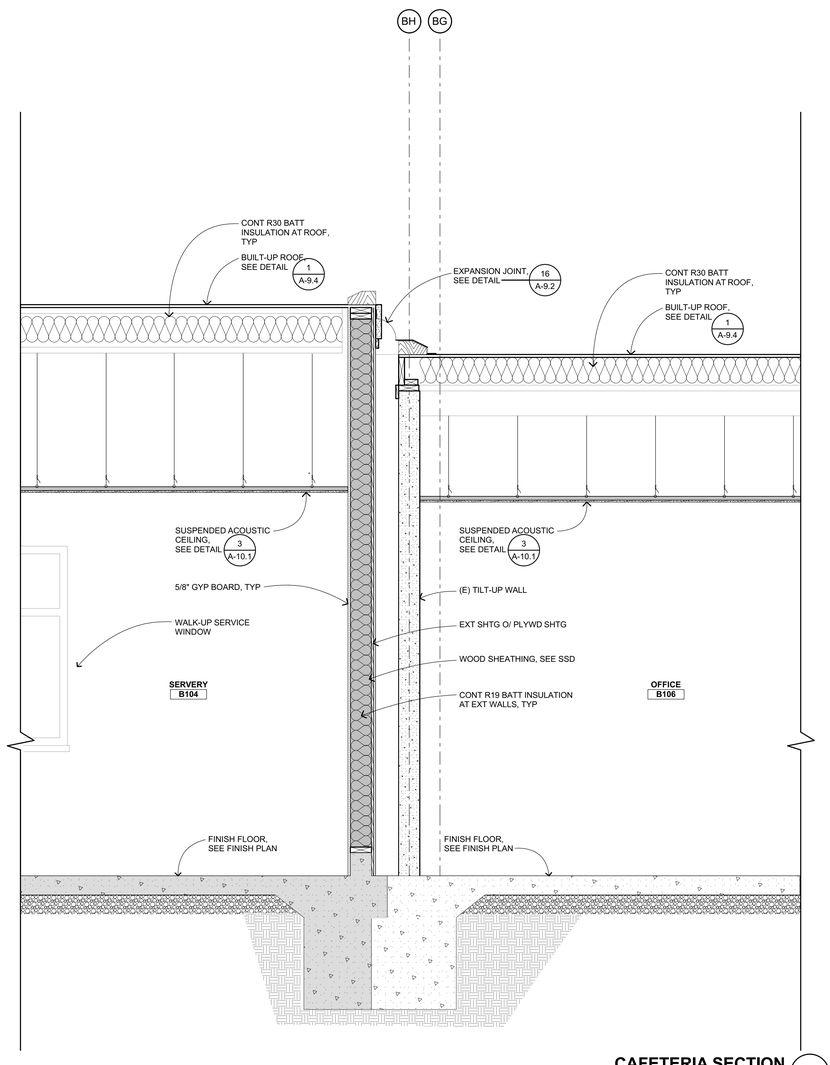
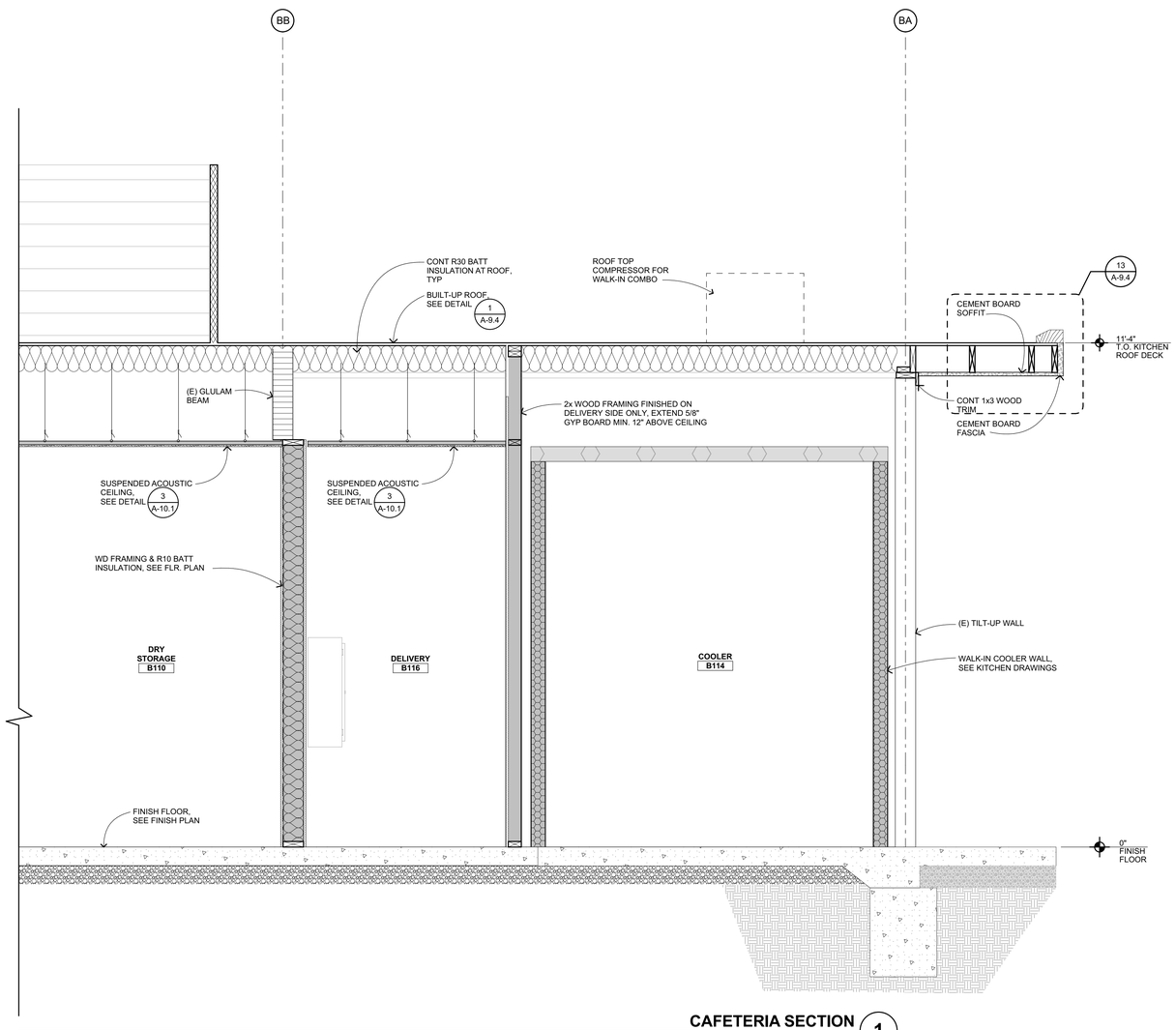


CAFETERIA SECTION 2

3/4" = 1'-0"



CAFETERIA SECTION 1

3/4" = 1'-0"

KEYPLAN

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DIV. OF THE STATE ARCHITECT
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ADMINISTRATION & STUDENT COMMONS

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LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	PAG, GRD
DRAWING SCALE:	3/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

CAFETERIA BUILDING WALL SECTIONS

SHEET NUMBER

A-B6.5

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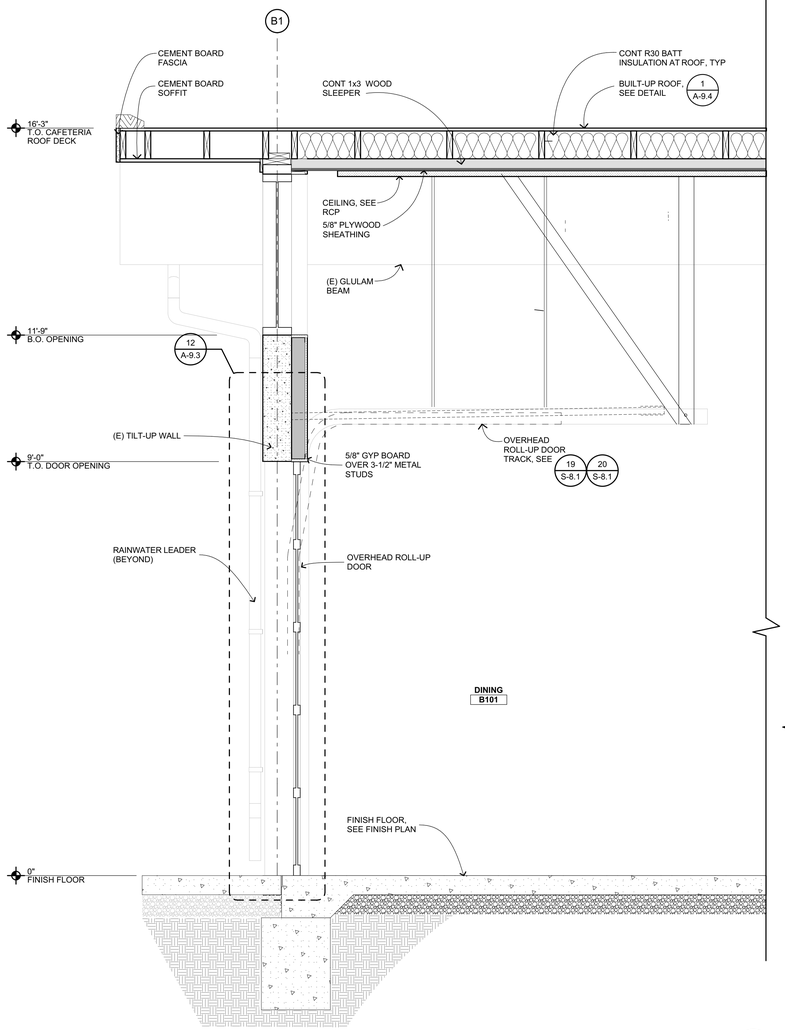
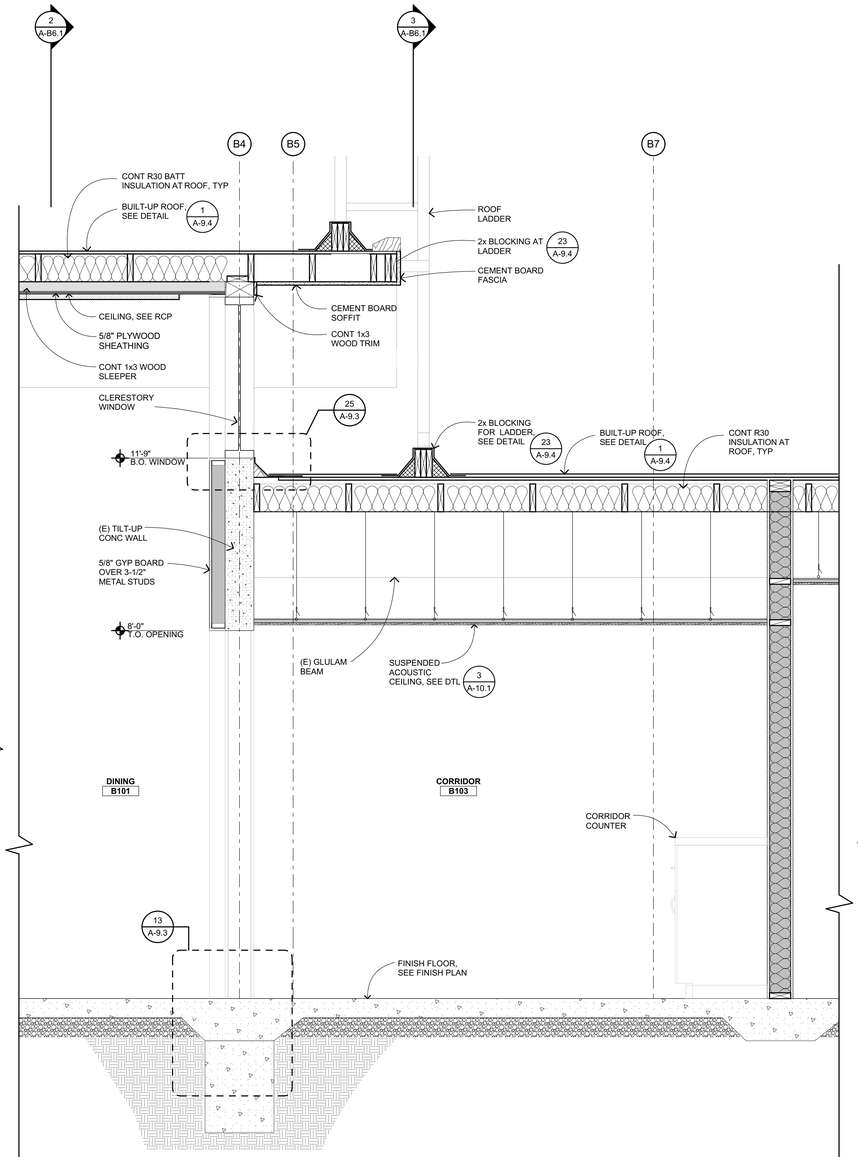


CAFETERIA SECTION 3
3/4" = 1'-0"



CAFETERIA SECTION 2
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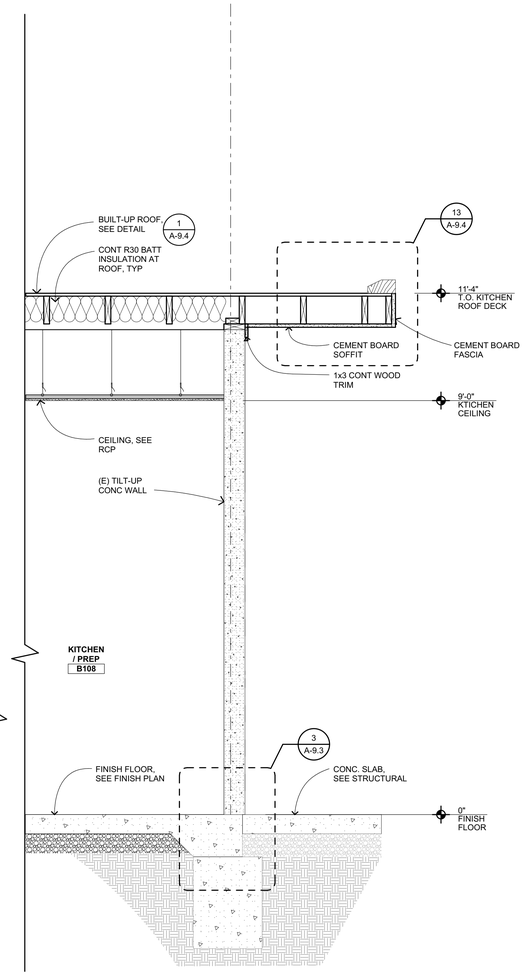
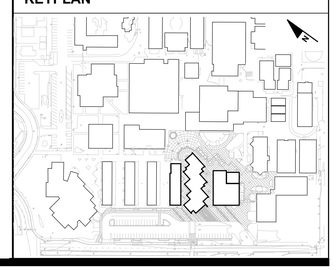


SECTION 1
3/4" = 1'-0"

KEYPLAN



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ADMINISTRATION & STUDENT COMMONS

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LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	PAG, GRD
DRAWING SCALE:	3/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

CAFETERIA BUILDING WALL SECTIONS

SHEET NUMBER

A-B6.6

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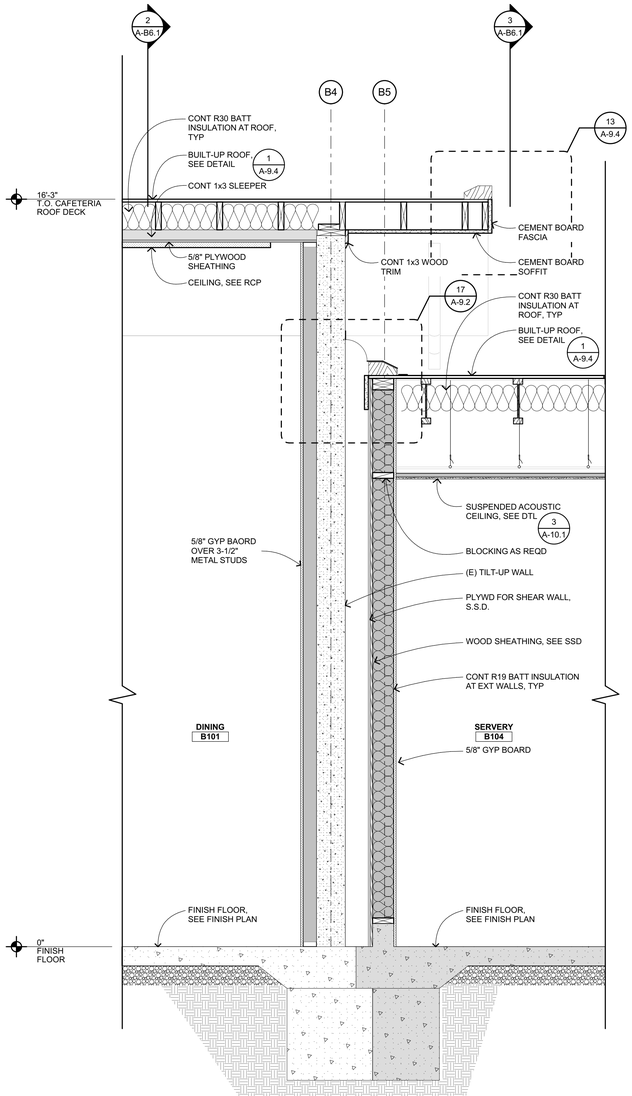
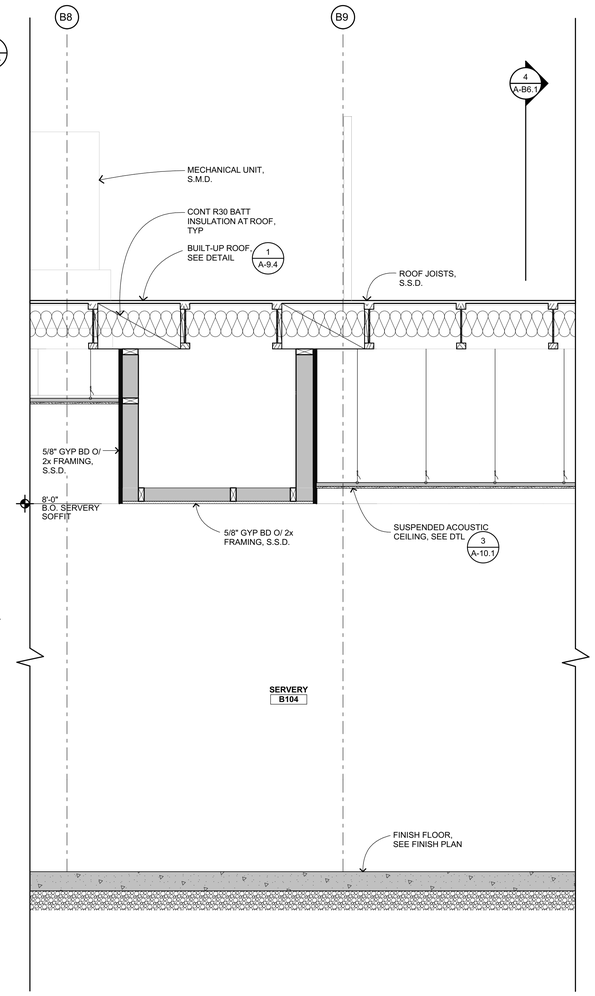


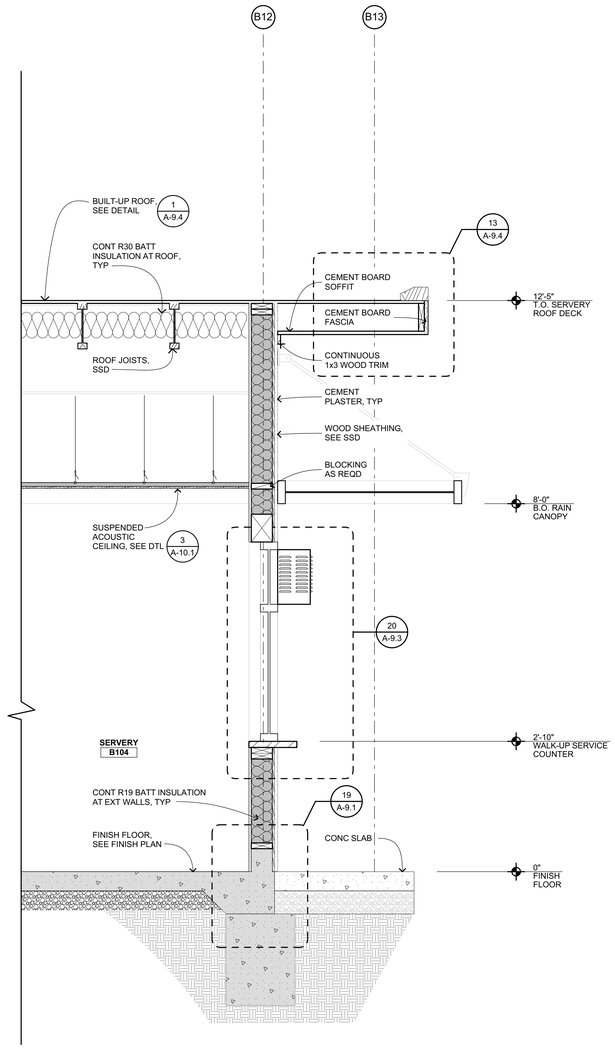
CAFETERIA SERVERY EXPANSION JOINT 3

3/4" = 1'-0"



CAFETERIA SERVERY COUNTER SOFFIT 2

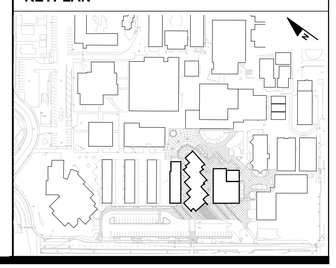
3/4" = 1'-0"



CAFETERIA SERVERY WALK-UP WINDOW 1

3/4" = 1'-0"

KEYPLAN



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ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
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LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	PAG, GRD
DRAWING SCALE:	3/4" = 1'-0"
PTN: 61T21-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

CAFETERIA BUILDING WALL SECTIONS

SHEET NUMBER

A-B6.7

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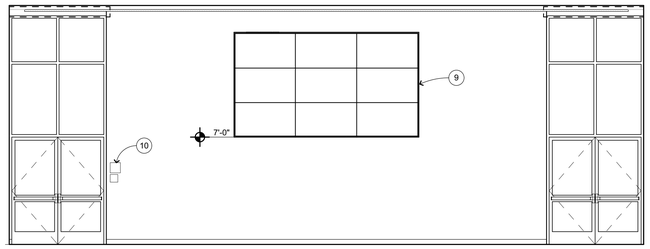

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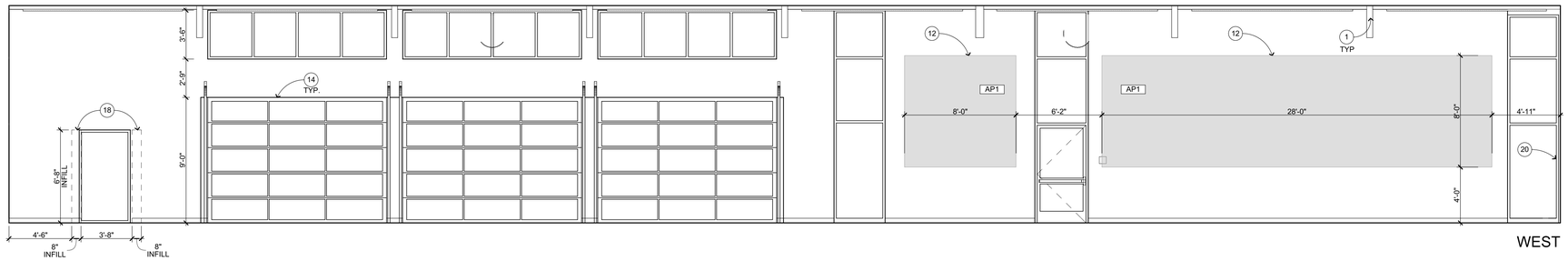
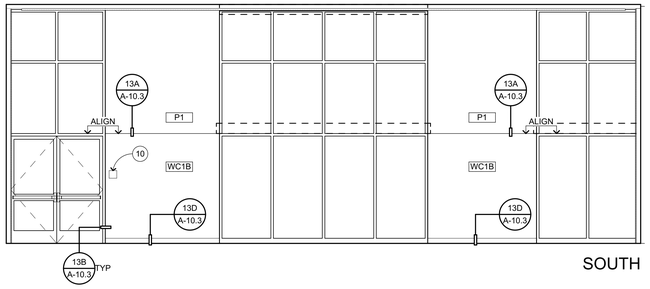


WEST



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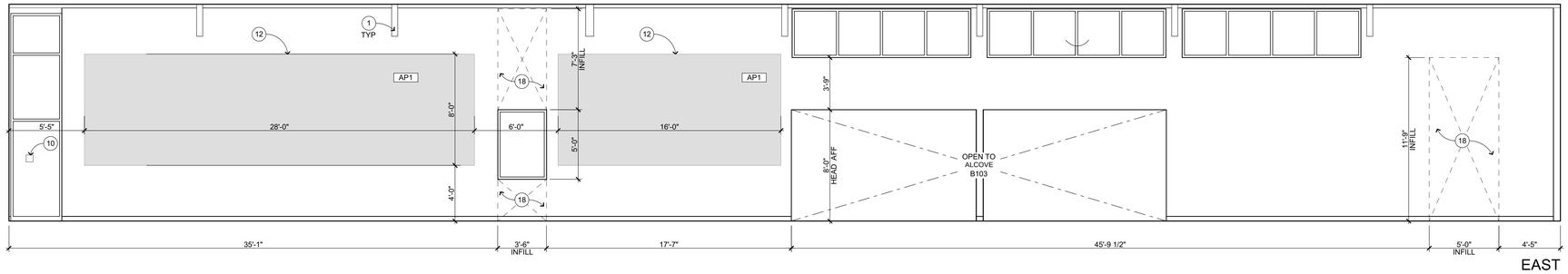
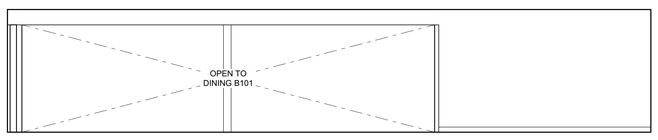


EAST

DINING **B101**

1/4" = 1'-0" A-B2.1



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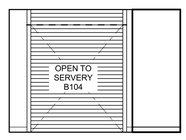

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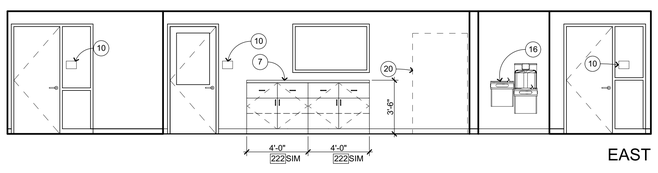
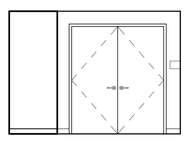


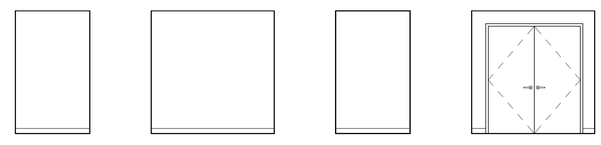
EAST



SOUTH

ALCOVE **B103**

1/4" = 1'-0" A-B2.1



EAST SOUTH WEST NORTH

STORAGE **B102**

1/4" = 1'-0" A-B2.1

INTERIOR ELEVATION KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. EXPOSED STRUCTURAL ITEM, S.S.D.
2. MECHANICAL ITEM, S.M.D.
3. PLUMBING ITEM / FIXTURE, S.P.D.
4. ELECTRICAL ITEM, S.E.D.
5. MARKERBOARD, SEE 3/A-10.2
6. FIRE EXTINGUISHER / CABINET, SEE 1/A-9.2
7. CASEWORK, SEE 3/A-10.4 ACC, SEE 9/A-10.4
8. NOT USED
9. (12) FLAT PANEL DISPLAY MOUNTING BRACKETS, SEE 19/A-10.2
10. SIGNAGE, SEE AG-2.1 AND 32/AG-2.1
11. SOFFIT, SEE RCP
12. ACOUSTIC WALL PANELS, SEE 21/A-10.2
13. CANTILEVERED COUNTERTOP, SEE 15/A-10.3
14. SECTIONAL DOOR, SEE DOOR SCHEDULE
15. KITCHEN EQUIPMENT, SEE K SHEETS
16. HYDRATION STATION, SEE 8/A-10.2
17. ACCESS LADDER, SEE 12/A-10.2
18. INFILL AREA, S.S.D. AND FINISH TO MATCH (E) ADJACENT W/ SMOOTH TRANSITION
19. CUSTOM DECAL GRAPHIC
20. EQUIPMENT, OFCI

INTERIOR ELEVATION GENERAL NOTES

1. NOTES AND SYMBOLS ARE TO APPLY AT ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
2. REFER TO MECHANICAL DRAWINGS FOR REGISTERS AND VENTS NOT OTHERWISE SHOWN.
3. REFER TO ELECTRICAL DRAWINGS FOR HORNS, SPEAKERS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN.
4. TYPICAL MOUNTING HEIGHTS OF ACCESSIBLE ELEMENTS AT ACCESSIBLE FIXTURES SEE 5/A-10.2
5. FLUSH VALVE HANDLES SHALL BE LOCATED AT THE WIDE SIDE OF ACCESSIBLE STALL.
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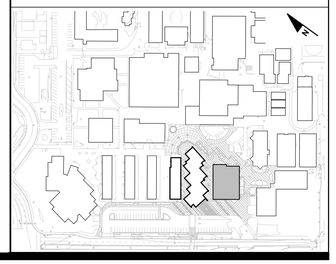
7. PROVIDE SOLID BLOCKING FOR CABINET, ACCESSORY, OR EQUIPMENT MOUNTING 1/A-10.2 WD FRMG 2/A-10.2 MTL FRMG

WALL FINISH CODES

FOR OVERALL WALL AND BASE FINISHES, SEE FINISH PLANS (**A-A2.3** & **A-B2.2**). FOR MATERIAL INFORMATION, SEE **A-8.4** FINISH SCHEDULE. FOR PAINT FINISHES SEE SEC. 09 9113 (EXTERIOR) & 09 9123 (INTERIOR). ALL GYP BD TO BE TYPE 'X'.

P1 P2	PAINT
WT1 WT2	CERAMIC WALL TILE
WC1A WC1B	LINOLEUM TACKWALL
AP1	ACOUSTIC PANELS
MP1	METAL PERFORATED WALL PANELS
WP1	FRP
PLY1	3/4" MDO FIRE RATED PLYWOOD

KEYPLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS

Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	PG / HM/GRD
DRAWING SCALE:	1/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

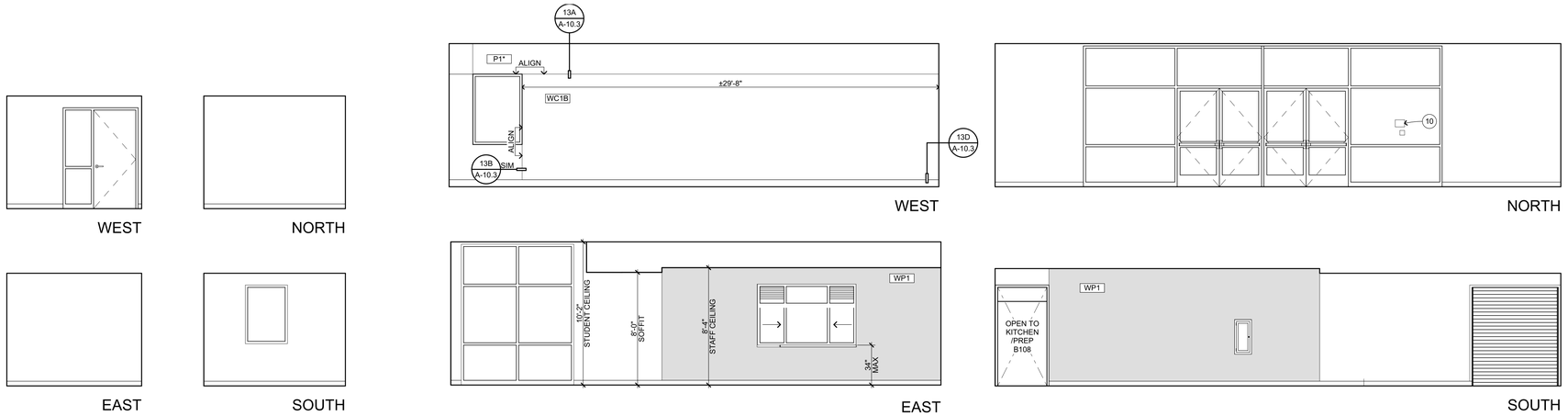
SHEET TITLE

CAFETERIA BUILDING INTERIOR ELEVATIONS

SHEET NUMBER

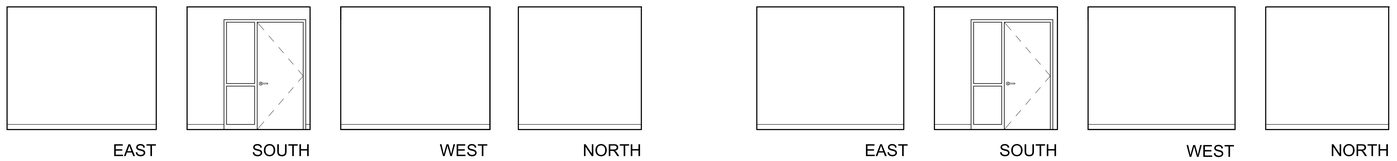
A-B7.1

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS, 22:11/24/2020:4:56 PM



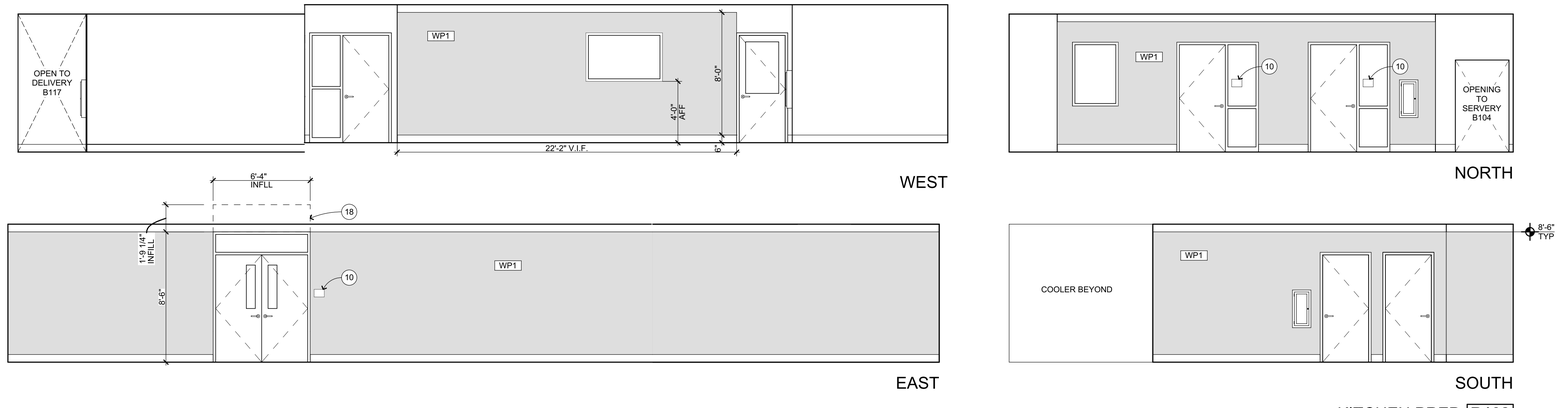
OFFICE **B105**
1/4" = 1'-0" A-B2.1

SERVERY **B107**
1/4" = 1'-0" A-B2.1

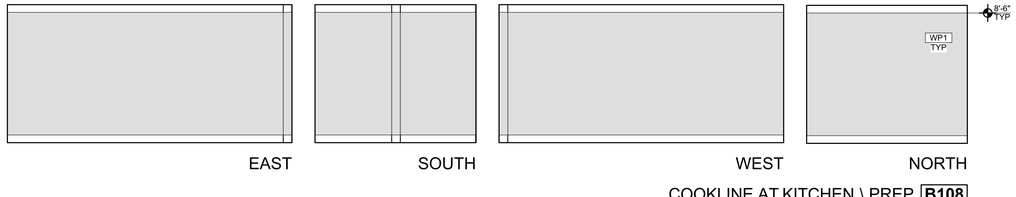


OFFICE **B107**
1/4" = 1'-0" A-B2.1

OFFICE **B106**
1/4" = 1'-0" A-B2.1



KITCHEN PREP **B108**
1/4" = 1'-0" A-B2.1



COOKLINE AT KITCHEN \ PREP **B108**
1/4" = 1'-0" A-B2.1

INTERIOR ELEVATION KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

1. EXPOSED STRUCTURAL ITEM, S.S.D.
2. MECHANICAL ITEM, S.M.D.
3. PLUMBING ITEM / FIXTURE, S.P.D.
4. ELECTRICAL ITEM, S.E.D.
5. MARKERBOARD, SEE 3/A-10.2
6. FIRE EXTINGUISHER / CABINET, SEE 1/A-9.2
7. CASEWORK, SEE 3/A-10.4 ACC, SEE 9/A-10.4
8. NOT USED
9. (12) FLAT PANEL DISPLAY MOUNTING BRACKETS, SEE 19/A-10.2
10. SIGNAGE, SEE AG-2.1 AND 32/AG-2.1
11. SOFFIT, SEE RCP
12. ACOUSTIC WALL PANELS, SEE 21/A-10.2
13. CANTILEVERED COUNTERTOP, SEE 15/A-10.3
14. SECTIONAL DOOR, SEE DOOR SCHEDULE
15. KITCHEN EQUIPMENT, SEE K SHEETS
16. HYDRATION STATION, SEE 8/A-10.2
17. ACCESS LADDER, SEE 12/A-10.2
18. INFILL AREA, S.S.D. AND FINISH TO MATCH (E) ADJACENT W/ SMOOTH TRANSITION
19. CUSTOM DECAL GRAPHIC
20. EQUIPMENT, OFCI

INTERIOR ELEVATION GENERAL NOTES

1. NOTES AND SYMBOLS ARE TO APPLY AT ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
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7. PROVIDE SOLID BLOCKING FOR CABINET, ACCESSORY, OR EQUIPMENT MOUNTING 1/A-10.2 WD FRMG 2/A-10.2 MTL FRMG

WALL FINISH CODES

FOR OVERALL WALL AND BASE FINISHES, SEE FINISH PLANS (**A-A2.3** & **A-B2.2**). FOR MATERIAL INFORMATION, SEE **A-8.4** FINISH SCHEDULE. FOR PAINT FINISHES SEE SEC. 09 9113 (EXTERIOR) & 09 9123 (INTERIOR). ALL GYP BD TO BE TYPE 'X'.

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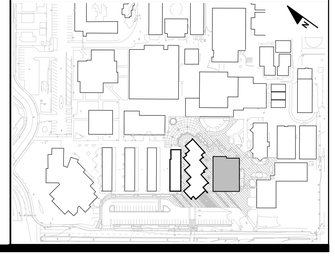
WT1 WT2	CERAMIC WALL TILE
WC1A WC1B	LINOLEUM TACKWALL
AP1	ACOUSTIC PANELS
MP1	METAL PERFORATED WALL PANELS
WP1	FRP
PLY1	3/4" MDO FIRE RATED PLYWOOD

KEYPLAN



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DATE: 12/04/2020

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JIM THEISS
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ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
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LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	PG / HM / GRD
DRAWING SCALE:	1/4" = 1'-0"
PTN: 61T21-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

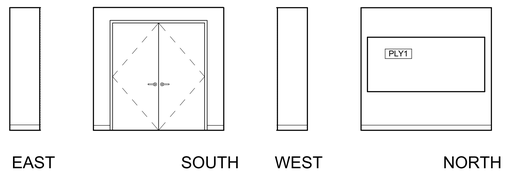
SHEET TITLE

CAFETERIA BUILDING INTERIOR ELEVATIONS

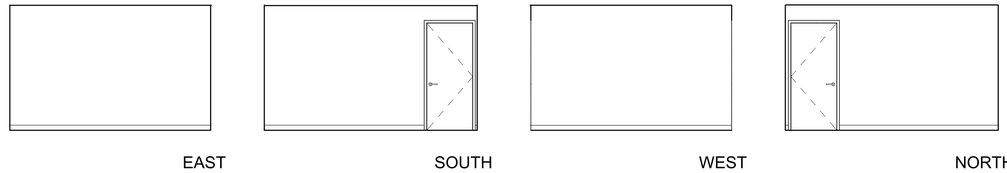
SHEET NUMBER

A-B7.2

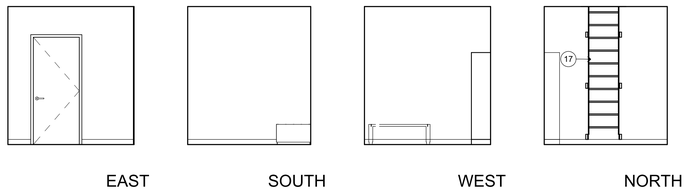
BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS 22:11/24/2020:4:56 PM



ELECTRICAL ROOM **B111**
1/4" = 1'-0" A-B2.1

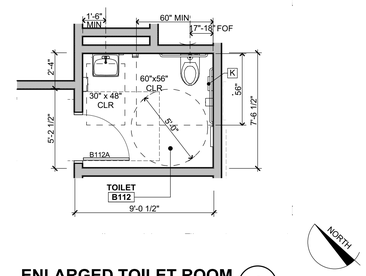


DRY STORAGE **B110**
1/4" = 1'-0" A-B2.1

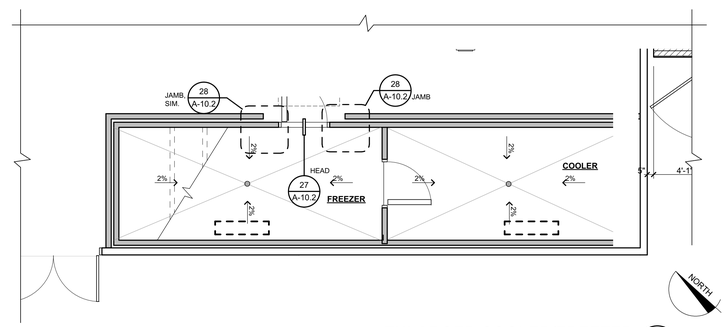


LOCKER **B113**
1/4" = 1'-0" A-B2.1

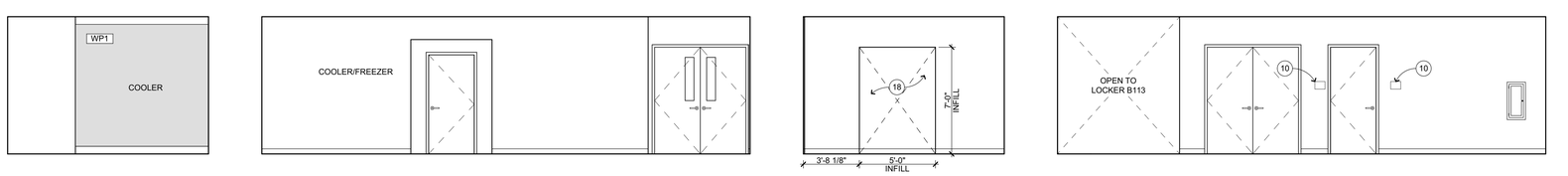
TOILET **B112**
1/4" = 1'-0" A-B2.1



ENLARGED TOILET ROOM 1
1/4" = 1'-0"



ENLARGED COOLER/FREEZER 2
1/4" = 1'-0"



DELIVERY **B116**
1/4" = 1'-0" A-B2.1

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18. INFILL AREA, S.S.D. AND FINISH TO MATCH (E) ADJACENT W/ SMOOTH TRANSITION
19. CUSTOM DECAL GRAPHIC
20. EQUIPMENT, OFCI

TOILET ROOM ACCESSORY SCHEDULE

A	NOT USED
B	TOILET PAPER DISPENSER, SURFACE MOUNTED, OFOI
C	PAPER TOWEL DISPENSER, SURFACE MOUNTED
D	WASTE RECEPTACLE, N.I.C.
E	PAPER TOWEL DISPENSER AND WASTE RECEPTACLE, RECESSED
F	SOAP DISPENSER, SURFACE MOUNTED, OFOI
G	MIRROR (TYP), FOR ATTACHMENT SEE 7/A-10.2
H	TOILET SEAT COVER DISPENSER, SURFACE MOUNTED
J	36" GRAB BAR, FOR ATTACHMENT SEE 6/A-10.2
J1	42" GRAB BAR, FOR ATTACHMENT SEE
K	SANITARY NAPKIN RECEPTACLE, SURFACE MOUNTED
L	SANITARY NAPKIN RECEPTACLE, RECESSED (3" MAXIMUM PROJECTION)

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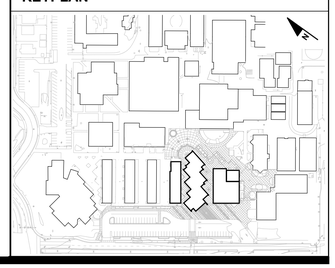

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SHEET TITLE

CAFETERIA BUILDING INTERIOR ELEVATIONS

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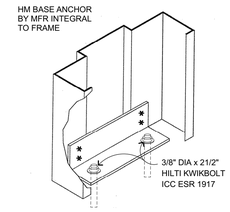
A-B7.3

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS.ADMIN.STUDENT COMMONS, 22:11/24/2020:4:56 PM

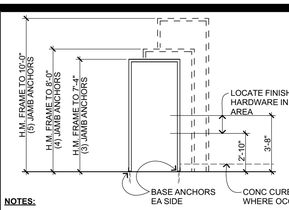
DOOR SCHEDULE

ID	TYPE	DOOR SIZE	DOOR MAT	DOOR FIN	FRAME TYPE	FRAME MAT	FRAME FIN	LOUVER SIZE	LABEL	HDWR	P. H.	REMARKS
A100A	F	PR - 3'-0" x 7'-0"	ALUM	FAC FIN	CW2	ALUM	FAC FIN		-	1		
A100B	F	PR - 3'-0" x 7'-0"	ALUM	FAC FIN	CW2	ALUM	FAC FIN		-	1		
A100C	F	3'-0" x 7'-0"	ALUM	FAC FIN	10	ALUM	FAC FIN		-	2		
A102A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	20		
A102B	F	3'-0" x 7'-0"	ALUM	FAC FIN	12	ALUM	FAC FIN		-	2		
A103A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	20		
A104A	D	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	7		
A105A	A	3'-0" x 7'-0"	WOOD	STAIN	1	H.M.	PAINT		-	8		
A106A	A	3'-0" x 7'-0"	WOOD	STAIN	1	H.M.	PAINT		-	9		
A109A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	20		
A110A	A	3'-0" x 7'-0"	WOOD	STAIN	1	H.M.	PAINT		-	10		
A111A	A	2'-6" x 7'-0"	H.M.	PAINT	1	H.M.	PAINT		-	5		
A112A	A	PR - 3'-0" x 7'-0"	H.M.	PAINT	2	H.M.	PAINT		-	4		
A113A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	20		
A114A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	21		
A114B	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	21		
A115A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	21		
A115B	F	3'-0" x 7'-0"	ALUM	FAC FIN	11	ALUM	FAC FIN		-	3		
A115B	F	3'-0" x 7'-0"	ALUM	FAC FIN	11	ALUM	FAC FIN		-	3		
A116A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	6		
A118A	A	3'-0" x 7'-0"	WOOD	STAIN	1	H.M.	PAINT		-	11		
A118B	A	3'-0" x 7'-0"	WOOD	STAIN	1	H.M.	PAINT		-	11		
A119A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	20		
A120A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	20		
A121A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	11		
A121B	F	3'-0" x 7'-0"	ALUM	FAC FIN	16	ALUM	FAC FIN		-	3		
A123A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	21		
A124A	A	PR - 3'-0" x 7'-0"	WOOD	STAIN	2	H.M.	PAINT		-	12		
A125A	A	3'-0" x 7'-0"	WOOD	STAIN	1	H.M.	PAINT		-	13		
A126A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	20		
A127A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	21		
A128A	F	3'-0" x 7'-0"	ALUM	FAC FIN	13	ALUM	FAC FIN		-	3		
A129A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	21		
A133A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	20		
A134A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	21		
A135A	F	3'-0" x 7'-0"	ALUM	FAC FIN	14	ALUM	FAC FIN		-	3		
A136A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	20		
A137A	A	3'-0" x 7'-0"	WOOD	STAIN	1	H.M.	PAINT		-	9		
A138A	A	PR - 3'-0" x 7'-0"	WOOD	STAIN	2	H.M.	PAINT		-	14		
A139A	F	3'-0" x 7'-0"	ALUM	FAC FIN	13	ALUM	FAC FIN		-	2		
A140A	A	3'-0" x 7'-0"	WOOD	STAIN	4	H.M.	PAINT		-	20		
A141A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	20		
A142A	F	3'-0" x 7'-0"	ALUM	FAC FIN	15	ALUM	FAC FIN		-	2		
A143A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	21		
A144A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	20		
A145A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	20		
A146A	A	3'-0" x 7'-0"	WOOD	STAIN	3	H.M.	PAINT		-	21		
B101A	F	PR - 3'-0" x 7'-0"	ALUM	FAC FIN	CW9	ALUM	FAC FIN		-	15	PH	
B101B	H	12'-10" x 9'-0"	ALUM	FAC FIN	-	ALUM	FAC FIN			-		
B101C	H	12'-10" x 9'-0"	ALUM	FAC FIN	-	ALUM	FAC FIN			-		
B101D	H	12'-10" x 9'-0"	ALUM	FAC FIN	-	ALUM	FAC FIN			-		
B101E	F	3'-6" x 7'-0"	ALUM	FAC FIN	CW5	ALUM	FAC FIN		-	16	PH	
B101F	F	PR - 3'-0" x 7'-0"	ALUM	FAC FIN	CW3	ALUM	FAC FIN		-	15	PH	
B101G	F	PR - 3'-0" x 7'-0"	ALUM	FAC FIN	CW3	ALUM	FAC FIN		-	15	PH	
B102A	A	PR - 3'-0" x 7'-0"	WOOD	STAIN	2	H.M.	PAINT		-	14		
B103A	J	6'-0" x 8'-6"	ALUM	FAC FIN	-	ALUM	FAC FIN			-		
B104A	F	PR - 3'-0" x 7'-0"	ALUM	FAC FIN	17	ALUM	FAC FIN		-	15	PH	
B104B	F	PR - 3'-0" x 7'-0"	ALUM	FAC FIN	17	ALUM	FAC FIN		-	15	PH	
B105A	A	3'-0" x 7'-0"	WOOD	STAIN	5	H.M.	PAINT		-	20		
B106A	A	3'-0" x 7'-0"	WOOD	STAIN	5	H.M.	PAINT		-	20		
B107A	A	3'-0" x 7'-0"	WOOD	STAIN	5	H.M.	PAINT		-	20		
B108A	A	3'-0" x 7'-0"	WOOD	STAIN	5	H.M.	PAINT		-	17		
B108B	D	3'-0" x 7'-0"	WOOD	STAIN	1	H.M.	PAINT		-	11		
B108C	C	PR - 3'-0" x 7'-0"	H.M.	PAINT	6	H.M.	PAINT		-	18		
B109A	A	3'-0" x 7'-0"	H.M.	PAINT	1	H.M.	PAINT		-	19		
B110A	A	3'-0" x 7'-0"	WOOD	STAIN	1	H.M.	PAINT		-	6		
B110B	A	3'-0" x 7'-0"	WOOD	STAIN	1	H.M.	PAINT		-	6		
B111A	A	PR - 3'-0" x 7'-0"	H.M.	PAINT	2	H.M.	PAINT		-	14		
B112A	A	3'-0" x 7'-0"	WOOD	STAIN	1	H.M.	PAINT		-	9		



HM FRAME BASE ANCHOR (16)

3" = 1'-0" B203106.1

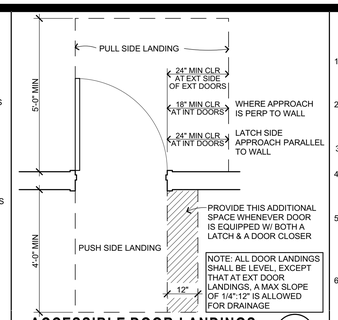


NOTES:

1. PROVIDE DOOR FRAME ANCHORAGE AS FOLLOWS: PROVIDE A MINIMUM OF (3) FRAME ANCHORS AT EA JAMB OF DOOR FRAMES AT 24" O.C. MAX WITHIN 18" OF TOP AND BOTTOM. JAMB ANCHORS TO BE SPACED EQUALLY.
2. ATTACH ANCHORS TO WOOD FRAMING WITH #8 F.H.W.S., 1 1/2" MINIMUM PENETRATION.
3. BASE ANCHORS ARE ADDITIONAL TO THE NUMBER OF JAMB ANCHORS INDICATED ON THIS DIAGRAM. SEE 16/A-8.1

HM FRAME ANCHORAGE (11)

1/4" = 1'-0" B203106



ACCESSIBLE DOOR LANDINGS (6)

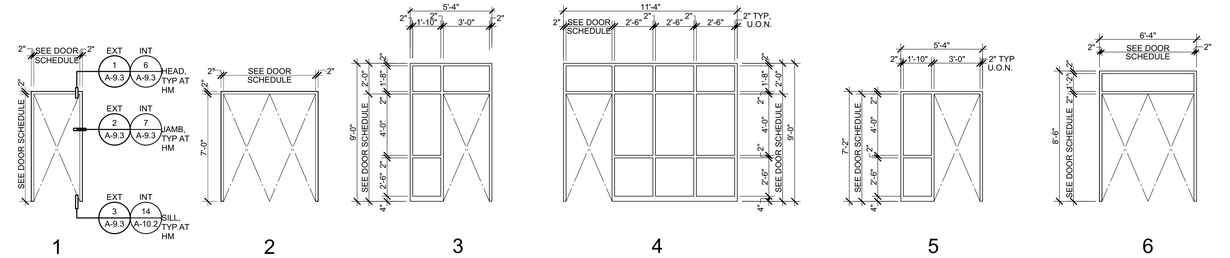
1/2" = 1'-0" B203301

1. ALL EXIT DOORS IN SCHOOL BUILDINGS, INCLUDING BUT NOT LIMITED TO DOORS OF TOILET ROOMS AND STORAGE ROOMS SHALL CONFORM TO CBC 1010. EXIT DOORS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY, OR SPECIAL KNOWLEDGE OR EFFORT.
2. EXIT DEVICES (PANIC HARDWARE) SHALL BE INSTALLED IN CONFORMANCE WITH CBC 1010.1.10. PANIC HARDWARE IS REQUIRED FROM ROOMS AND CORRIDORS OF A OR E OCCUPANCY WHERE OCCUPANT LOAD EXCEEDS 50 PER CBC 1010.1.10
3. ALL DOORS AT E OCCUPANCY WITH AN OCCUPANT LOAD GREATER THAN 5 SHALL BE LOCKABLE FROM THE INSIDE.
4. DOORS WITH CLOSERS SHALL BE ADJUSTED TO PROVIDE MINIMUM DOOR CLOSER PERIOD OF FIVE SECONDS FROM A POSITION OF 90 DEGREES TO WITHIN 12 DEGREES OF THE DOOR LATCH, MEASURED FROM THE LEADING EDGE OF THE DOOR.
5. MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 POUNDS APPLIED IN THE DIRECTION OF TRAVEL. REQUIRED FIRE DOORS SHALL HAVE A MAXIMUM OPERATING EFFORT NOT TO EXCEED 15 POUNDS. THESE FORCES DO NOT APPLY TO THE FORCE REQUIRED TO RETRACT LATCH BOLTS OR DISENGAGE OTHER DEVICES THAT HOLD THE DOOR OR GATE IN A CLOSED POSITION.
6. SEE ARCHITECTURAL SIGNAGE DRAWINGS FOR SIGNS ON DOORS AND SIGNS RELATED TO ENTRANCE AND EXIT. REFER TO SITE PLAN FOR SITE SIGNAGE.

DOOR GENERAL NOTES (1)

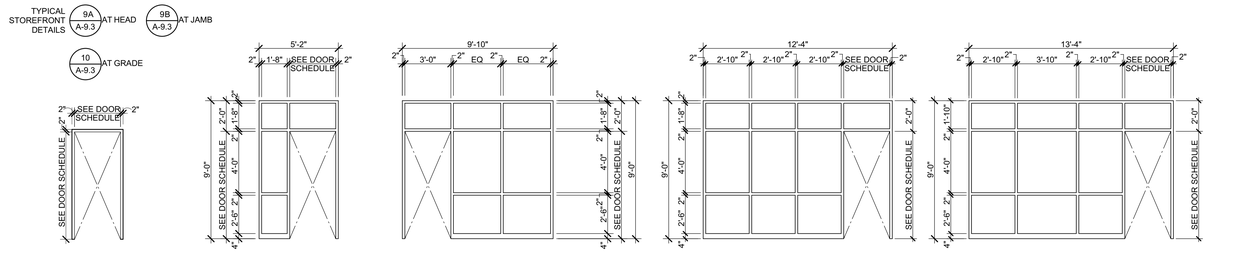
1/4" = 1'-0" Z101005

DOOR FRAME TYPES

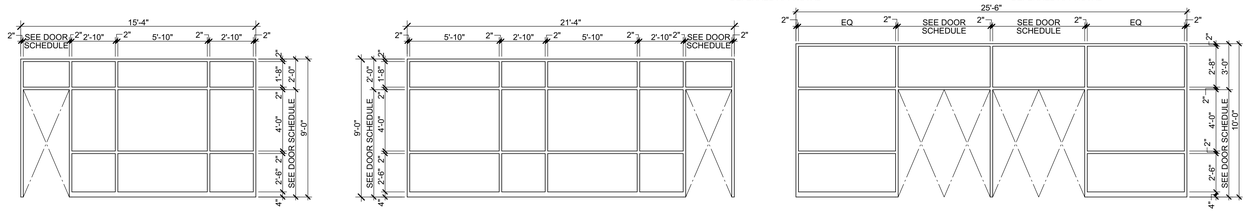


1 HOLLOW METAL FRAME
2 HOLLOW METAL FRAME
3 HOLLOW METAL FRAME WITH FIXED SIDELIGHT AND TRANSOM
4 HOLLOW METAL FRAME WITH FIXED SIDELIGHT AND TRANSOM DEFERRED APPROVAL
5 HOLLOW METAL FRAME WITH FIXED SIDELIGHT
6 HOLLOW METAL FRAME WITH FIXED TRANSOM

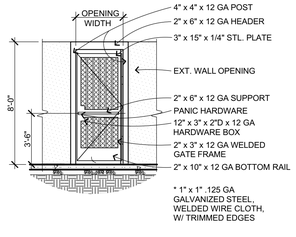
STOREFRONT TYPES



10 ALUMINUM STOREFRONT
11 ALUMINUM STOREFRONT
12 ALUMINUM STOREFRONT DUAL-GLAZED WITH TRANSOM & SIDELIGHTS
13 ALUMINUM STOREFRONT DUAL-GLAZED WITH TRANSOM & SIDELIGHTS DEFERRED APPROVAL
14 ALUMINUM STOREFRONT DUAL-GLAZED WITH TRANSOM & SIDELIGHTS DEFERRED APPROVAL



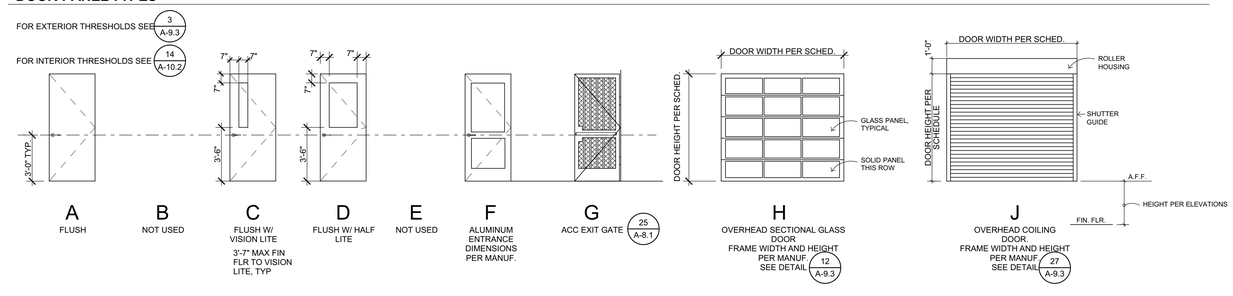
15 ALUMINUM STOREFRONT DUAL-GLAZED WITH TRANSOM & SIDELIGHTS DEFERRED APPROVAL
16 ALUMINUM STOREFRONT DUAL-GLAZED WITH TRANSOM & SIDELIGHTS DEFERRED APPROVAL
17 ALUMINUM STOREFRONT DUAL-GLAZED WITH TRANSOM & SIDELIGHTS DEFERRED APPROVAL



ENTRY MTL GATE (25)

1/4" = 1'-0" G204104

DOOR PANEL TYPES



A FLUSH
B NOT USED
C FLUSH W/ VISION LITE 3'-7" MAX FIN FLR TO VISION LITE, TYP
D FLUSH W/ HALF LITE
E NOT USED
F ALUMINUM ENTRANCE DIMENSIONS PER MANUF.
G ACC EXIT GATE 25 A-8.1
H OVERHEAD SECTIONAL GLASS DOOR FRAME WIDTH AND HEIGHT PER MANUF. SEE DETAIL 12 A-9.3
J OVERHEAD COILING DOOR. FRAME WIDTH AND HEIGHT PER MANUF. SEE DETAIL 27 A-9.3

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829
LICENSED ARCHITECT JIM THEISS LICENSE # C22643 EXP. JUNE 30, 2021 STATE OF CALIFORNIA
SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033
ARCH PROJECT NO: 1783.00
DRAWN BY: HM
DRAWING SCALE: AS NOTED
PTN: 61721-75 FILE NO: 7-H4
CD
DECEMBER 2, 2020
SHEET TITLE

DOOR SCHEDULE

SHEET NUMBER

A-8.1

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS, 22:11/24/2020,4:56 PM

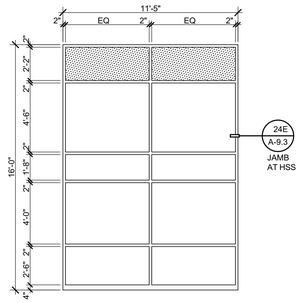
CURTAINWALL TYPES

FRITTED GLASS

TYPICAL CURTAINWALL DETAILS 24A/A-9.3 AT HEAD

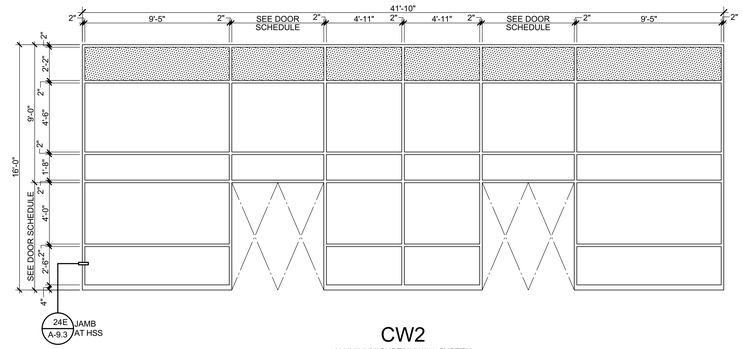
24D/A-9.3 AT JAMB, TYP U.O.N.

24F/A-9.3 AT SILL



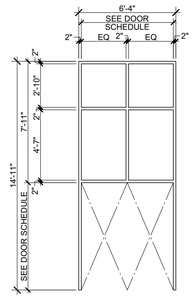
CW1
ALUMINUM CURTAINWALL SYSTEM

DUAL-GLAZED
DEFERRED APPROVAL



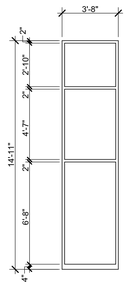
CW2
ALUMINUM CURTAINWALL SYSTEM

DUAL-GLAZED WITH TRANSOM & SIDELIGHTS
DEFERRED APPROVAL



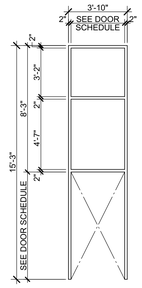
CW3
ALUMINUM CURTAINWALL SYSTEM

DUAL-GLAZED WITH TRANSOM
DEFERRED APPROVAL



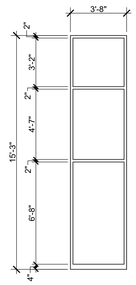
CW4
ALUMINUM CURTAINWALL SYSTEM

DUAL-GLAZED
DEFERRED APPROVAL



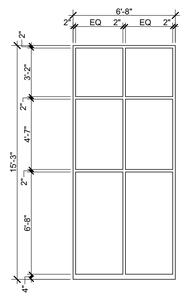
CW5
ALUMINUM CURTAINWALL SYSTEM

DUAL-GLAZED WITH TRANSOM
DEFERRED APPROVAL



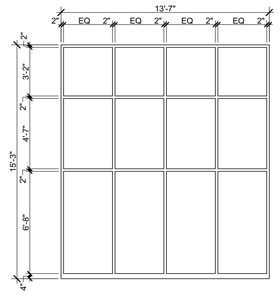
CW6
ALUMINUM CURTAINWALL SYSTEM

DUAL-GLAZED
DEFERRED APPROVAL



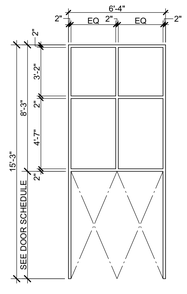
CW7
ALUMINUM CURTAINWALL SYSTEM

DUAL-GLAZED
DEFERRED APPROVAL



CW8
ALUMINUM CURTAINWALL SYSTEM

DUAL-GLAZED
DEFERRED APPROVAL



CW9
ALUMINUM CURTAINWALL SYSTEM

DUAL-GLAZED WITH TRANSOM
DEFERRED APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	HM
DRAWING SCALE:	AS NOTED
PTN: 61T21-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

WINDOW SCHEDULE

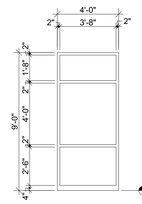
SHEET NUMBER

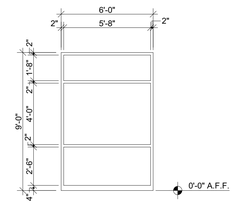
A-8.2

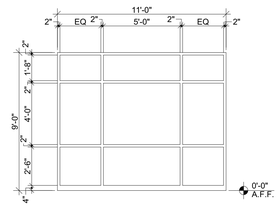
BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS 22:11/24/2020;4:56 PM

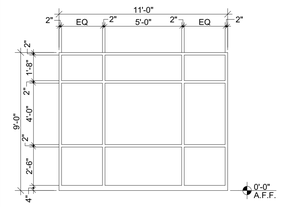
WINDOW SCHEDULE

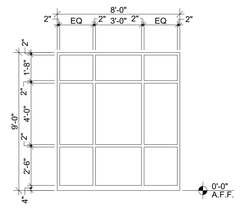
REFER TO SHEET A-8.1 FOR DETAIL REFERENCES, TYPICAL

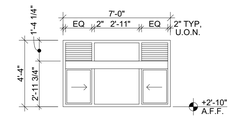






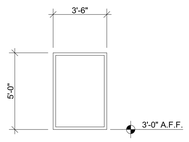


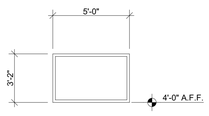


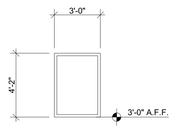


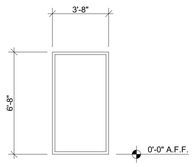
	W01	W02	W03	W04	W05	W06
TYPE	ALUMINUM STOREFRONT	ALUMINUM STOREFRONT	ALUMINUM STOREFRONT	HM	ALUMINUM STOREFRONT	ALUMINUM STOREFRONT
GLAZING	DUAL GLAZED	DUAL GLAZED	DUAL GLAZED	DUAL GLAZED	DUAL GLAZED	DUAL GLAZED
OPERATION	FIXED	FIXED	FIXED	FIXED	FIXED	---
RATING	UNRATED	UNRATED	UNRATED	UNRATED	UNRATED	UNRATED
NOTES			DEFERRED APPROVAL	DEFERRED APPROVAL		SERVICE PASS-THRU WINDOW W/ AUTOMATIC CLOSING DEVICE AND AIR CURTAIN; SEE DETAIL 20/A-9.3

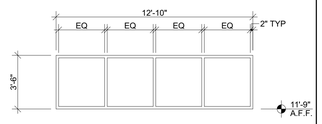
WINDOW SCHEDULE





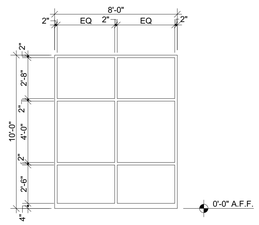


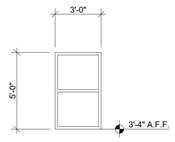




	W07	W08	W09	W10	W11
TYPE	HM	HM	HM	HM	HM
GLAZING	DUAL GLAZED	DUAL GLAZED	DUAL GLAZED	DUAL GLAZED	DUAL GLAZED
OPERATION	FIXED	FIXED	FIXED	FIXED	FIXED
RATING	UNRATED	UNRATED	UNRATED	UNRATED	UNRATED
NOTES					

WINDOW SCHEDULE





	W12	W13
TYPE	ALUMINUM STOREFRONT	ALUMINUM STOREFRONT
GLAZING	DUAL GLAZED	DUAL GLAZED
OPERATION	FIXED	---
RATING	UNRATED	UNRATED
NOTES		DOUBLE HUNG

IDENTIFICATION STAMP
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DATE: 12/04/2020

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LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
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DRAWN BY: HM
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CD

DECEMBER 2, 2020

SHEET TITLE

WINDOW SCHEDULE

SHEET NUMBER

A-8.3

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS -22-11/24/2020 4:56 PM

EXTERIOR

SPEC SECTION	FINISH CODE	MATERIAL	MANUFACTURER	PRODUCT	COLOR	FINISH	SIZE	COMMENTS	INSTALLATION
DECORATIVE METAL									
05 7000	DM1	PERFORATED METAL PANELS	BOK MODERN	PATTERN A26	DEEP MATTE IGP-HWF CLASSIC 591T RAL 591TA90160A10	FACTORY FINISH	VARIES - SEE ELEVATIONS	WHITE	
05 7000	DM2	PERFORATED METAL PANELS	BOK MODERN	PATTERN A14	SATIN 38/30041 REDWOOD	FACTORY FINISH	VARIES - SEE ELEVATIONS	RED	
ROOFING									
07 4113	MRP1	METAL ROOF PANELS	GARLAND		RIVER ROCK				
HOLLOW METAL DOORS AND FRAMES									
08 1113	-		SHERWIN WILLIAMS		SW7019 GAUNTLET GRAY	SEMI-GLOSS U.O.N., SEE SPECIFICATIONS		GRAY	
ALUMINUM ENTRANCES AND STOREFRONT									
08 4313	-		OLDCASTLE GLASS		740 EC DARK BRZ - DK C-1	FACTORY FINISH			
ALUMINUM CURTAIN WALL									
08 4413	-		OLDCASTLE GLASS		740 EC DARK BRZ - DK C-1	FACTORY FINISH			
WALLS									
09 2513	CP1	CEMENT PLASTER	BMI PRODUCTS	BMI 690 PLASTER WITH 100% ACRYLIC PRIMER & FINISH	INTEGRAL TO MATCH SW6119 ANTIQUE WHITE	SEE SPECIFICATION			
09 2513	CP2	CEMENT PLASTER	BMI PRODUCTS	BMI 690 PLASTER WITH 100% ACRYLIC PRIMER & FINISH	INTEGRAL TO MATCH SW7019 GAUNTLET GRAY	SEE SPECIFICATION			
EXTERIOR PAINTING									
09 9113	XP1	EXTERIOR PAINT	SHERWIN WILLIAMS	EXTERIOR PAINT	SW6119 ANTIQUE WHITE	SEE SPECIFICATION		OFF-WHITE	
09 9113	XP2	EXTERIOR PAINT	SHERWIN WILLIAMS	EXTERIOR PAINT	SW7019 GAUNTLET GRAY	SEE SPECIFICATION		GRAY	
09 9113	XP3	EXTERIOR PAINT	KELLY MOORE	EXTERIOR PAINT	KM160 BRAVADO	SEE SPECIFICATION		RED	

INTERIOR

SPEC SECTION	FINISH CODE	MATERIAL	MANUFACTURER	PRODUCT	COLOR	FINISH	SIZE	COMMENTS	INSTALLATION
BASE									
09 6500	B1	RESILIENT BASE	BURKE	4" TP STANDARD BASE	DEEP SPACE #198	-	4"H x 100' ROLLS	-	-
09 6556	CB1	COVED BASE	ECO-GRIP	SLIP RESISTANT SAFETY FLOORING	GRAPHITE	-	6" HIGH MIN	INTEGRAL TO MATCH ADJACENT FLOORING PRODUCT	
09 6500	CB2	COVED BASE	MONDO	KAYAR	SEE ADJACENT FLOOR FINISH CODE	-	6" HIGH MIN	INTEGRAL TO MATCH ADJACENT FLOORING PRODUCT	
ALT CB2		COVED BASE	VERDUREN	-	SEE ADJACENT FLOOR FINISH CODE	-	6" HIGH MIN	INTEGRAL TO MATCH ADJACENT FLOORING PRODUCT	
09 6700	EB1	EPOXY COVE BASE	TERA-LITE	TERA-GEM III, DQ TERA-BLEND	GREY W/ 2 CLEAR COATS	FLINTSHOT		-	-
FLOOR									
03 3511	C1	SEALED CONCRETE	RETROPLATE	-	PER SPEC				
09 6500	RF1	RESILIENT TILE FLOORING	TARKETT	MESHWORK	TALLOW		12"x36" PLANKS		VERTICAL ASHLAR
09 6500	RF2A	RUBBER FLOORING	MONDO	KAYAR	K021		6'-2"x32'-9" ROLLS	DARK GRAY	SEE FINISH PLAN FOR CUSTOM PATTERN
ALT RF2A		LINOLEUM POURED FLOOR	VERDUREN	-	GR350 H			DARK GRAY	SEE FINISH PLAN FOR CUSTOM PATTERN
09 6500	RF2B	LINOLEUM POURED FLOOR	MONDO	KAYAR	K054		6'-2"x32'-9" ROLLS	PUTTY	SEE FINISH PLAN FOR CUSTOM PATTERN
ALT RF2B		LINOLEUM POURED FLOOR	VERDUREN	-	B343 L			PUTTY	SEE FINISH PLAN FOR CUSTOM PATTERN
09 6500	RF2C	LINOLEUM POURED FLOOR	MONDO	KAYAR	K074		6'-2"x32'-9" ROLLS	RED	SEE FINISH PLAN FOR CUSTOM PATTERN
ALT RF2C		LINOLEUM POURED FLOOR	VERDUREN	-	R311 L			RED	SEE FINISH PLAN FOR CUSTOM PATTERN
09 6556	RF3	SAFETY FLOORING	ECO-GRIP	SLIP RESISTANT SAFETY FLOORING	GRAPHITE	-			
09 6700	EP1	EPOXY FLOORING	TERA-LITE	TERA-GEM III, DQ TERA-BLEND	GREY W/ 2 CLEAR COATS	FLINTSHOT			
09 6813	CPT1	CARPET TILE	TARKETT / TANDUS	TEXTUREMAP #11129	TOMORROWLAND #42801	-	24"x24"		VERTICAL ASHLAR
09 6813	CPT2	CARPET TILE	TARKETT / TANDUS	COLORMAP #11130	TOMORROWLAND #42801	-	24"x24"		VERTICAL ASHLAR
09 6813	CPT3	CARPET TILE - WALKOFF	TARKETT / TANDUS	ABRASIVE ACTION #02578	WINTER GRAY #19103	-	24"x24"		VERTICAL ASHLAR
WALL									
09 9123	P1	PAINTED GYP BOARD - GENERAL	SHERWIN WILLIAMS	INTERIOR PAINT	SW7003 TOQUE WHITE	SEE SPECIFICATION		WHITE	
09 9123	P2	PAINTED GYP BOARD - ACCENT	SHERWIN WILLIAMS	INTERIOR PAINT	SW6002 ESSENTIAL GRAY	SEE SPECIFICATION		GRAY	
09 3000	WT1	CERAMIC WALL TILE	DALTILE	COLOR WHEEL CLASSIC	X114 MATTE DESERT GRAY	SEMI-GLOSS	3"x6"	GROUT TBD	HORIZONTIAL STACKED BOND PATTERN
09 3000	WT2	CERAMIC WALL TILE	DALTILE	COLOR WHEEL CLASSIC	1012 MUSTARD	SEMI-GLOSS	3"x6"	GROUT TBD	VERTICAL STACKED BOND PATTERN
09 7230	WC1A	LINOLEUM TACKWALL	FORBO	BULLETIN BOARD	#2210 HOT SALSA	-	48"x90' ROLLS	RED	PER MANUFACTURER
09 7230	WC1B	LINOLEUM TACKWALL	FORBO	BULLETIN BOARD	#2212 FRESH PINEAPPLE	-	48"x90' ROLLS	YELLOW	PER MANUFACTURER
WALL PANEL									
09 7230	AP1	ACOUSTIC PANELS	MDC WALLCOVERING	ZINTRA PATTERN PANELS	TOP LAYER: FOSSIL 34720 BACKING LAYER: OCHRE #4719	PATTERN LAYER OVER ACOUSTICAL BACK LAYER	48"x108" PANELS	COMINATION OF CUSTOM IMAGE AND MANUFACTURER'S MONSOON	WALL MOUNT ON STAND-OFFS (1")
09 8448	MP1	METAL PERFORATED WALL PANEL	USG CEILINGS PLUS	WALLFORMS / PARTI PERFORATIONS	WHITE	FACTORY FINISH	30"x60"	CUSTOM PERF PATTERN / INCLUDE ACOUSTICAL BACKER: ULTRA-SORB (1.5", 1.5#, BLACK)	WALL MOUNTED
WALL PROTECTION									
09 7723	WP1	FRP	MARLITE	STANDARD FRP	P145 SILVER	PEBBLED SURFACE	4'x8' PANELS	OFF-WHITE	
	PLY1	3/4" MDO FIRE RATED PLYWOOD							
CEILINGS									
09 2116	GYP1	GYP BOARD	-	-	PAINT TO MATCH P1, U.O.N.	SEE SPECIFICATIONS			
09 5100	ACT1	ACOUSTICAL CEILING TILE	ARMSTRONG	CALLA	WHITE	-	2'x4'		SUSPENDED - SUPRAFINE XL 9/16" EXPOSED TEE, WHITE
09 5100	ACT2	ACOUSTICAL CEILING TILE	ARMSTRONG	CLEAN ROOM VL	WHITE	-	2'x4'	SMOOTH SURFACE MEETS USDA/FSIS GUIDELINES FOR USE IN FOOD PROCESSING AREAS	SUSPENDED - PRELUDE XL 15/16" EXPOSED TEE, WHITE
09 5100	ACT3	ACOUSTICAL CEILING TILE	ARMSTRONG	CORTEGA	WHITE	-	2'x4'		SUSPENDED - PRELUDE XL 15/16" EXPOSED TEE, WHITE
09 5133	MCT1	METAL PERFORATED CEILING	USG CEILINGS PLUS	ILLUSIONS / PARTI PERFORATIONS	WHITE	PAINT		CUSTOM PERF PATTERN / INCLUDE ACOUSTICAL BACKER: ULTRA-SORB (1.5", 1.5#, BLACK)	SUSPENDED, WHITE
09 5100	ACP1	ACOUSTIC CEILING PANELS	ARMSTRONG	TECTUM DIRECT-ATTACH	TECTUM NATURAL, PAINTED SW7019 GAUNTLET GRAY	PAINT	4'x8'		
-	ES1	EXPOSED STRUCTURE			SW7019 GAUNTLET GRAY	PAINT			
-	ES2	EXPOSED STRUCTURE			-	UNFINISHED			
WINDOW COVERING									
12 2100	WS1	WINDOW SHADE - MANUAL	MECHOSHADE	ECOVEIL	1569 SILVER BIRCH	1550 SERIES (3% OPEN)			
		FASCIA COLOR	MECHOSHADE		COLOR TBD			CONTRACTOR TO PROVIDE COLOR SAMPLES TO ARCHITECT FOR FINAL SELECTION	
12 2100	WS2	WINDOW SHADE - MOTORIZED	MECHOSHADE	ECOVEIL	1569 SILVER BIRCH / FASCIA TBD	1550 SERIES (3% OPEN)			
		FASCIA COLOR	MECHOSHADE		COLOR TBD			CONTRACTOR TO PROVIDE COLOR SAMPLES TO ARCHITECT FOR FINAL SELECTION	
CASEWORK									
06 4100	PL1	PLASTIC LAMINATE	WILSONART	HPL	LIMBER MAPLE 10734-60	MATTE		FOR TYP. CABINETS, U.O.N.	INSTALL GRAIN PATTERN VERTICALLY
06 4100	PL2	PLASTIC LAMINATE	WILSONART	HPL	WHITE CYPRESS 7976K-12	SOFTGRAIN / AEON SCRATCH RESISTANCE		FOR MAIN RECEPTION DESK, VERTICAL SURFACE	INSTALL GRAIN PATTERN HORIZONTALLY
06 4100	PL3	PLASTIC LAMINATE	WILSONART	HPL	WHITE CYPRESS 7976-60	MATTE / AEON SCRATCH RESISTANCE		FOR MAIN RECEPTION DESK, WORK SURFACE; GROMMET COLOR TO BE SELECTED BY ARCHITECT	
06 4100	PL4	PLASTIC LAMINATE	WILSONART	HPL	WASHI GOLD 5019-38	FINE VELVET FINISH		FOR TYP. COUNTERTOPS	
12 3600	SS1	SOLID SURFACE	DURAT	SOLID SURFACE	#254	-	SLAB: 114.17" x 31.5" x .47"		
FINISH CARPENTRY									
06 2000	FC1	SILLS / TRIM				PAINT TO MATCH P2, U.O.N.			
HOLLOW METAL DOORS AND FRAMES									
08 1113	-		SHERWIN WILLIAMS		SW7019 GAUNTLET GRAY	SEE SPECIFICATIONS		GRAY	

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS

Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	*HM*
DRAWING SCALE:	N.T.S.
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

FINISH SCHEDULE

SHEET NUMBER

A-8.4

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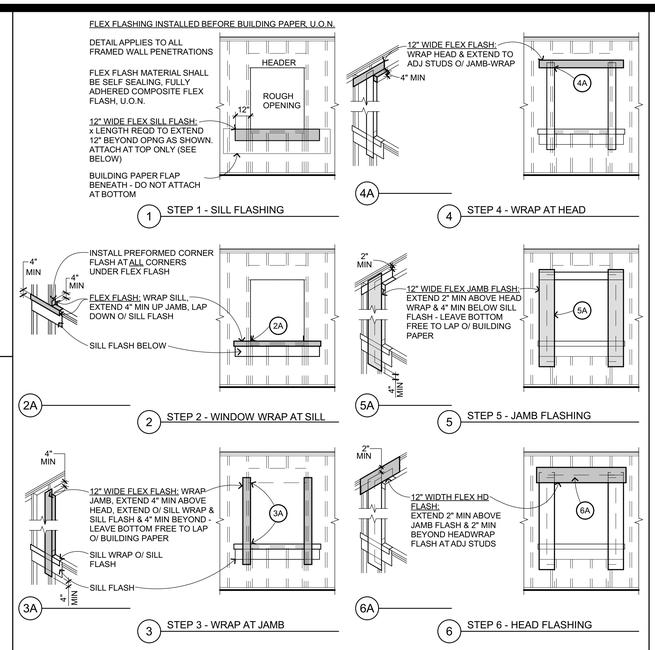
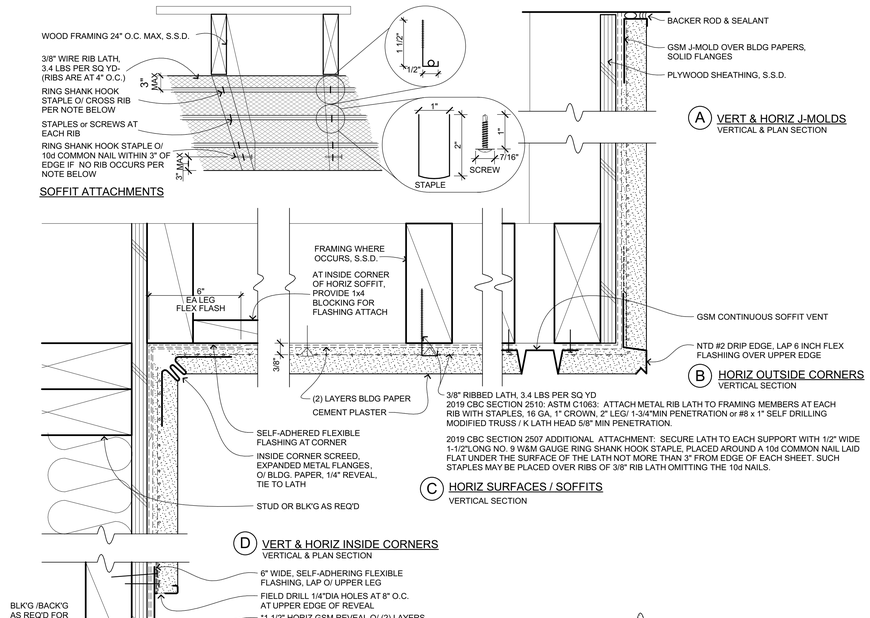


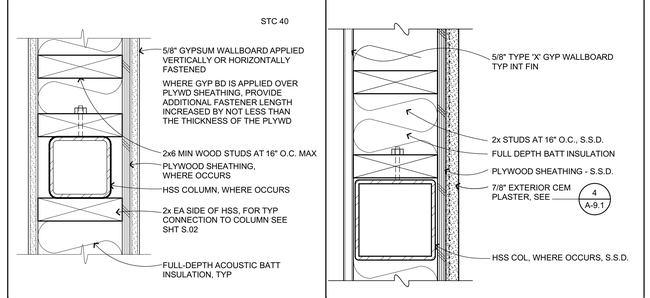
TYP FLASHING/PAPERING

1/4" = 1'-0" B201103 **17**



TYP CEM PLASTER AT WD FRMG

6" = 1'-0" B201401 **4**

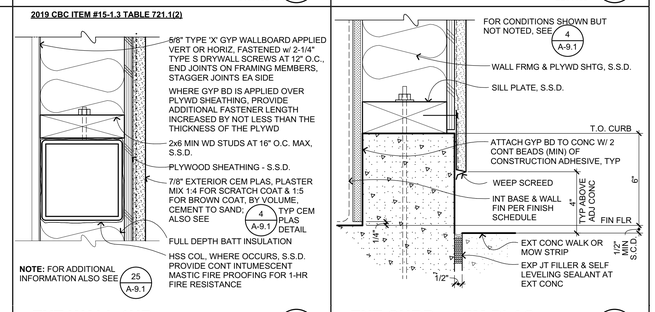


TYP INT WALL - NON-RATED

3" = 1'-0" C101105 **23**

TYP EXT WALL

3" = 1'-0" B201100 **18**



EXT WALL 1HR

3" = 1'-0" B201101 **24**

EXT CURB - CEM PLAS

3" = 1'-0" B201102 **19**

NOTE 1: AT ALL 1-HR AND 2-HR WALLS, THE AGGREGATE AREA OF WALL PENETRATIONS FOR ELECTRICAL OUTLET BOXES SHALL NOT EXCEED 100 SQ IN IN ANY 100 SQ FT OF WALL AREA. OUTLET BOXES ON OPPOSITE SIDES OF 1-HR WALLS SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF AT LEAST 24".

NOTE 2: 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. SUCH IDENTIFICATION SHALL:

-BE LOCATED IN ACCESSIBLE CONCEALED FLOOR, FLOOR-CEILING OR ATTIC SPACES AND

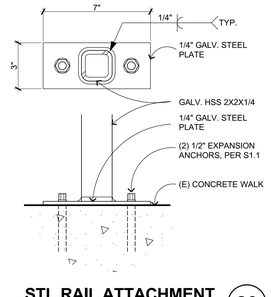
-BE LOCATED WITHIN 15 FEET OF THE END OF EACH WALL AND AT INTERVALS NOT EXCEEDING 30 FEET MEASURED HORIZONTALLY ALONG THE WALL OR PARTITION AND

-INCLUDE LETTERING NOT LESS THAN 3 INCHES IN HEIGHT WITH A MINIUMUM 3/8 INCH STROKE IN A CONTRASTING COLOR INCORPORATING THE SUGGESTED WORDING: **"FIRE AND SMOKE BARRIER - PROTECT ALL OPENINGS"**.

(REFERENCE CBC 2019 703.7)

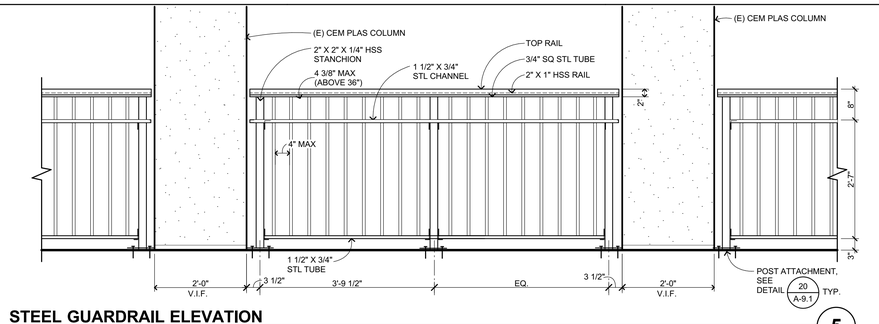
RATED WALLS TYP NOTES

1/4" = 1'-0" C101114 **25**



STL RAIL ATTACHMENT

3" = 1'-0" **20**



STEEL GUARDRAIL ELEVATION

3/4" = 1'-0" **5**

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DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	PAG / HM
DRAWING SCALE:	AS NOTED
PTN: 61T21-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

WALL DETAILS

SHEET NUMBER

A-9.1

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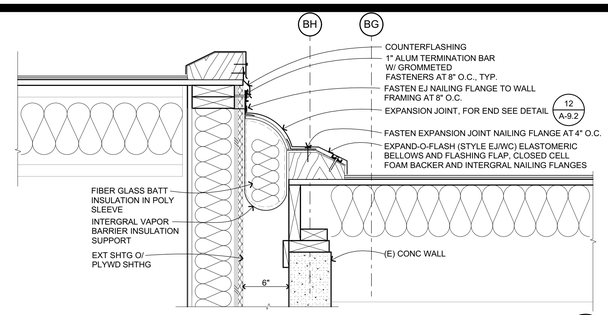
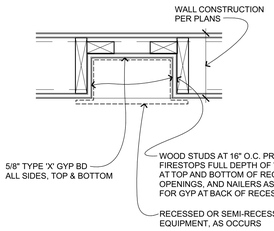


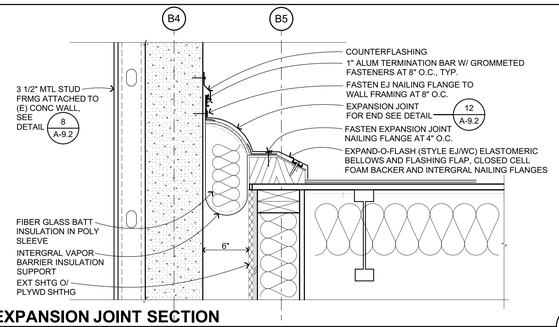
EXPANSION JOINT SECTION

1 1/2"= 1'-0" B400101 **16**



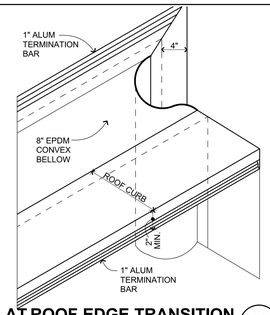
RECESS AT WALL

1 1/2"= 1'-0" C104102 **1**



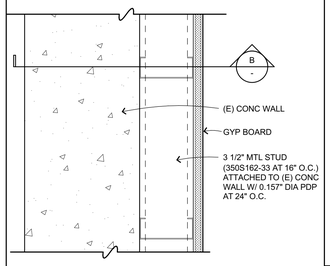
EXPANSION JOINT SECTION

1 1/2"= 1'-0" B400101 **17**

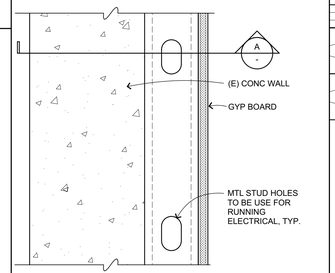


EJ AT ROOF EDGE TRANSITION

1 1/2"= 1'-0" **12**



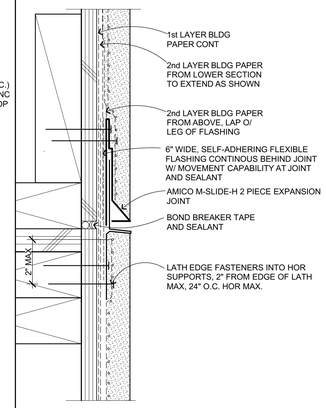
SECTION A



SECTION B

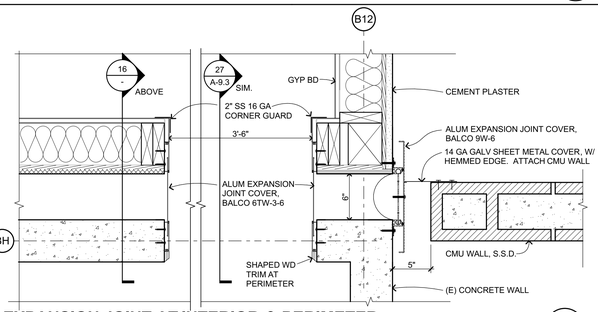
FURRED WALL

3" = 1'-0" 1783.00-001 **8**



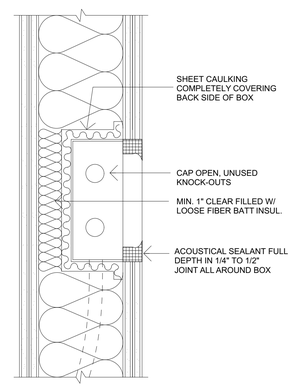
CEM PLAS HORZ EXP JOINT

6" = 1'-0" B201404_D4 **4**

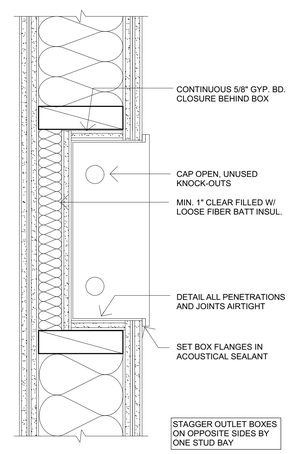


EXPANSION JOINT AT INTERIOR & PERIMETER

1 1/2"= 1'-0" **18**



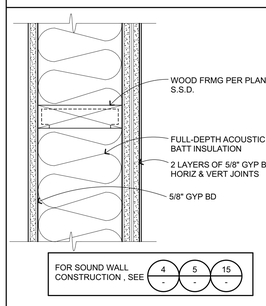
(A) BOX SIZE 4" X 8" AND UNDER



(B) BOX SIZE OVER 4" X 8"

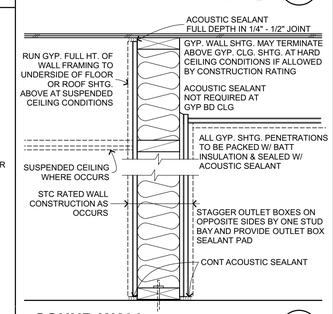
AIRTIGHT RECESSED ITEMS

3" = 1'-0" C101137 **15**



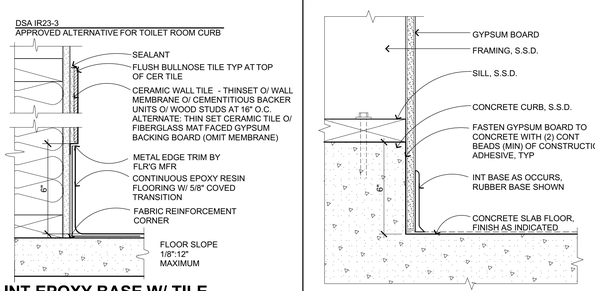
STC 45 SOUND WALL

3" = 1'-0" C101131 **9**



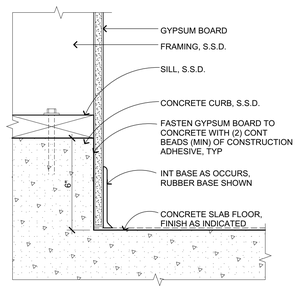
SOUND WALL

1 1/2"= 1'-0" C101135 **4**



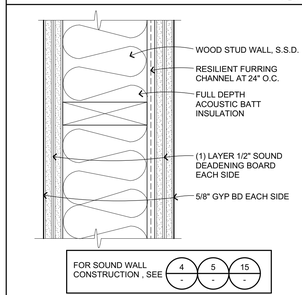
INT EPOXY BASE W/ TILE WALL

3" = 1'-0" C302102_A **25**



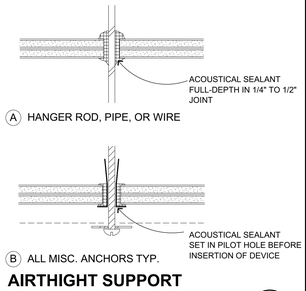
CONC CURB AT INT WALL

3" = 1'-0" C301101 **20**



STC 56 SOUND WALL

3" = 1'-0" C101133 **10**



(A) HANGER ROD, PIPE, OR WIRE

(B) ALL MISC. ANCHORS TYP.

AIRTHIGHT SUPPORT ELEMENTS

3" = 1'-0" C101138 **5**

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS

Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO.	01-119033
ARCH PROJECT NO:	1783.00
DRAWN BY:	PAG
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

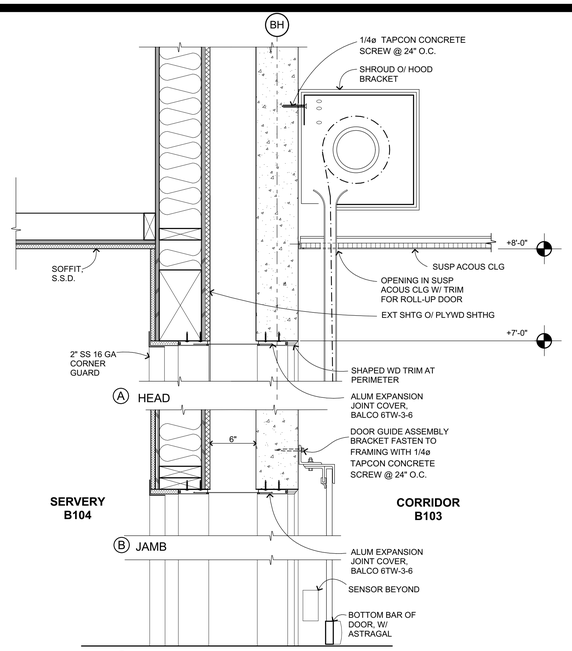
SHEET TITLE

FRAMING DETAILS

SHEET NUMBER

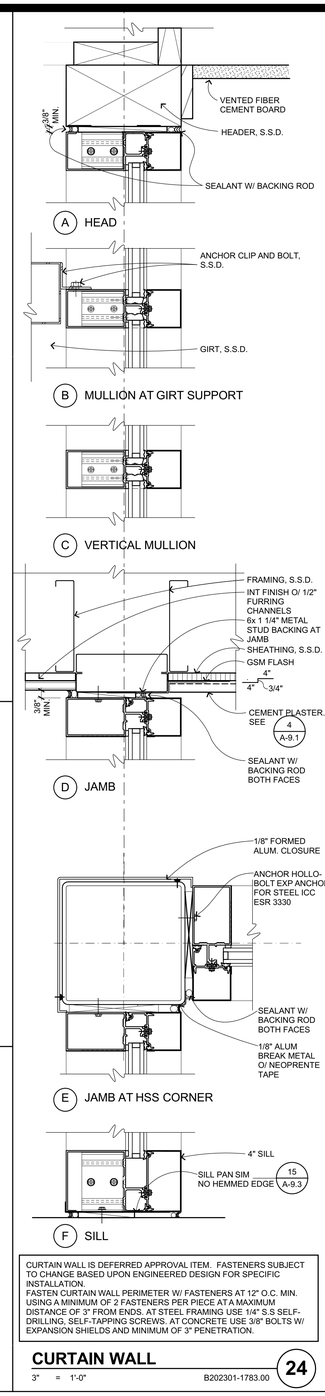
A-9.2

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS, 22:11/24/2020,4:56 PM



COILING DOOR

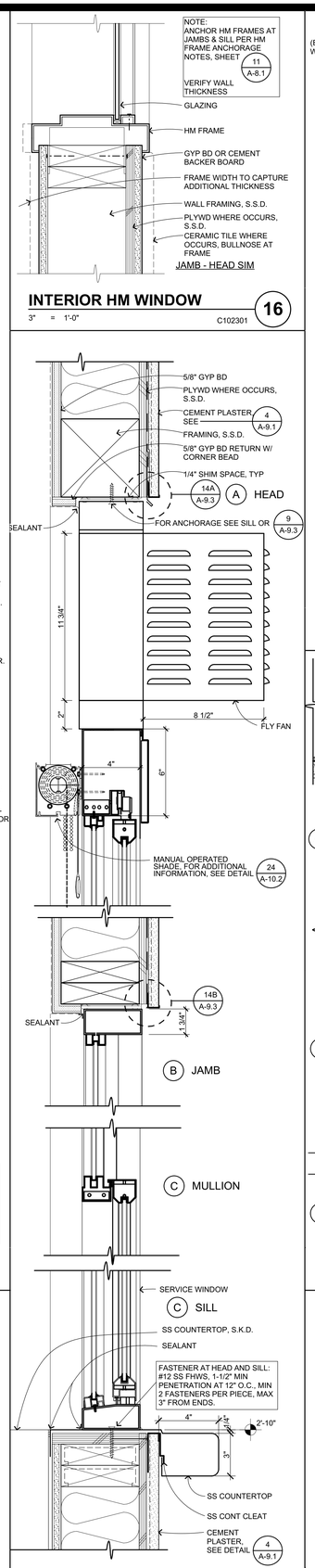
1 1/2"= 1'-0" B203104 **27**



CURTAIN WALL IS DEFERRED APPROVAL ITEM. FASTENERS SUBJECT TO CHANGE BASED UPON ENGINEERED DESIGN FOR SPECIFIC INSTALLATION.
FASTEN CURTAIN WALL PERIMETER W/ FASTENERS AT 12" O.C. MIN. USING A MINIMUM OF 2 FASTENERS PER PIECE AT A MAXIMUM DISTANCE OF 3" FROM ENDS. AT STEEL FRAMING USE 1/4" S.S SELF-DRILLING, SELF-TAPPING SCREWS. AT CONCRETE USE 3/8" BOLTS W/ EXPANSION SHIELDS AND MINIMUM OF 3" PENETRATION.

CURTAIN WALL

3" = 1'-0" B202301-1783.00 **24**

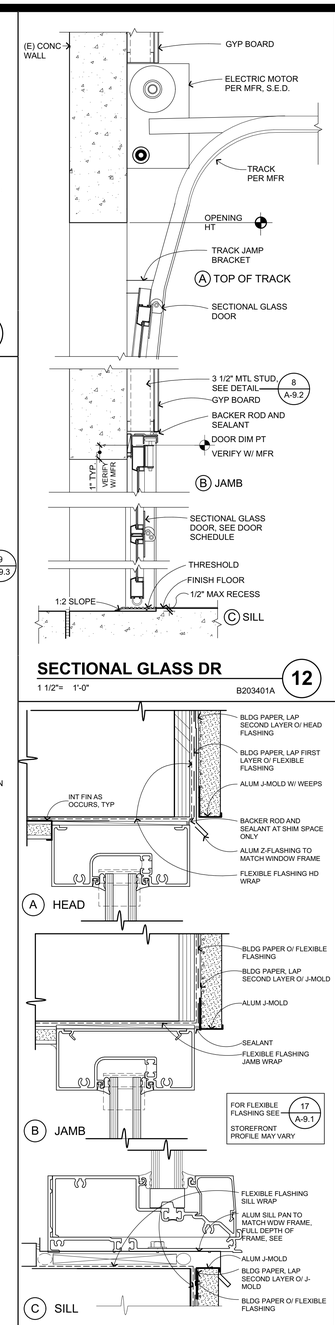


INTERIOR HM WINDOW

3" = 1'-0" C102301 **16**

SERVICE WINDOW

3" = 1'-0" **20**

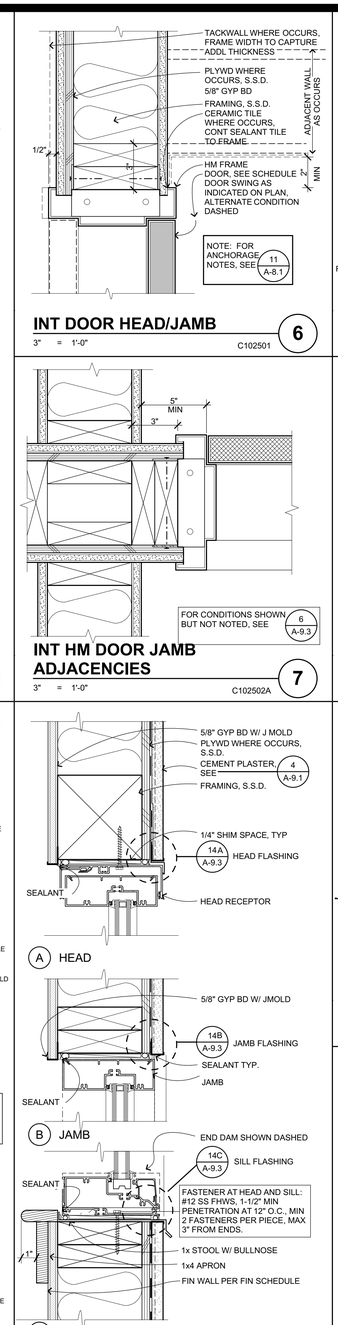


SECTIONAL GLASS DR

1 1/2"= 1'-0" B203401A **12**

ENLARGED STOREFRONT FLASHING

6" = 1'-0" B202102_A **14**



INT DOOR HEAD/JAMB

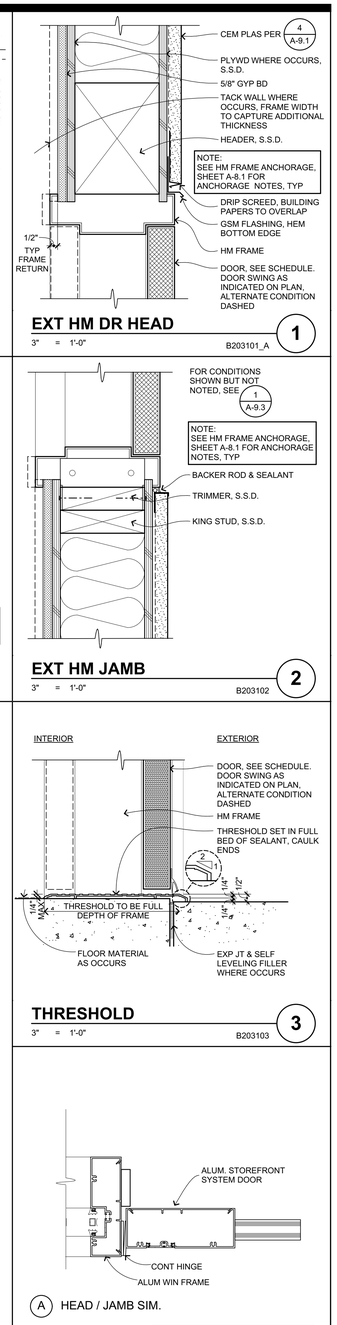
3" = 1'-0" C102501 **6**

INT HM DOOR JAMB ADJACENCIES

3" = 1'-0" C102502A **7**

6" ALUM STOREFRONT

3" = 1'-0" B202101.3_A **9**

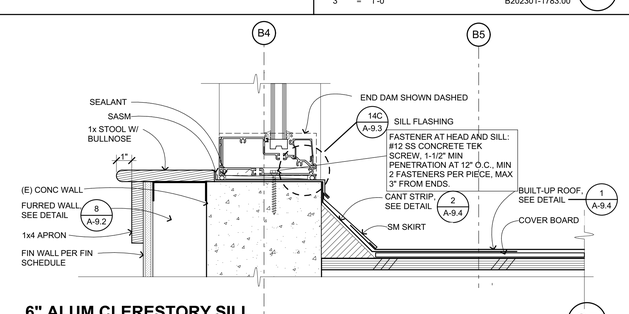


THRESHOLD

3" = 1'-0" B203103 **3**

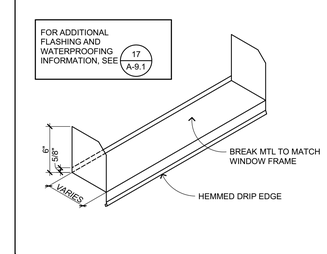
ALUM DOOR IN CURTAIN WALL

3" = 1'-0" B201101 **5**



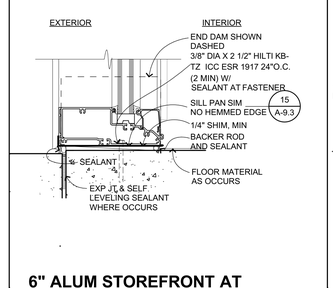
6" ALUM CLERESTORY SILL

3" = 1'-0" **25**



SILL PAN

1 1/2"= 1'-0" B201105 **15**



6" ALUM STOREFRONT AT GRADE

3" = 1'-0" B202104 **10**

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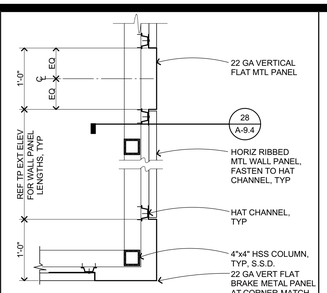
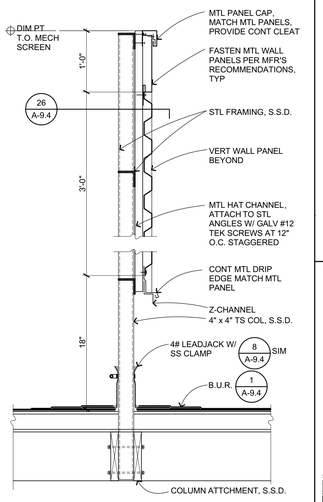
A-9.3

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS_22:11/24/2020/4:56 PM



MECH SCREEN PLAN SECTION

1" = 1'-0" B301210 **26**



MECHANICAL SCREEN SECTION

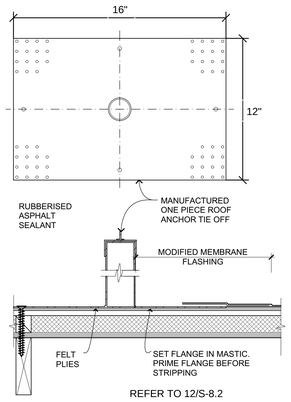
1" = 1'-0" B301211 **28**

ANCHORAGE: 3100 LB CAPACITY

AT RIGID INSULATION, PROVIDE FULL DEPTH P.T.D.F.

WHERE PLATE IS ON PLYWD ROOF SHEATHING, PROVIDE LAG SCREWS

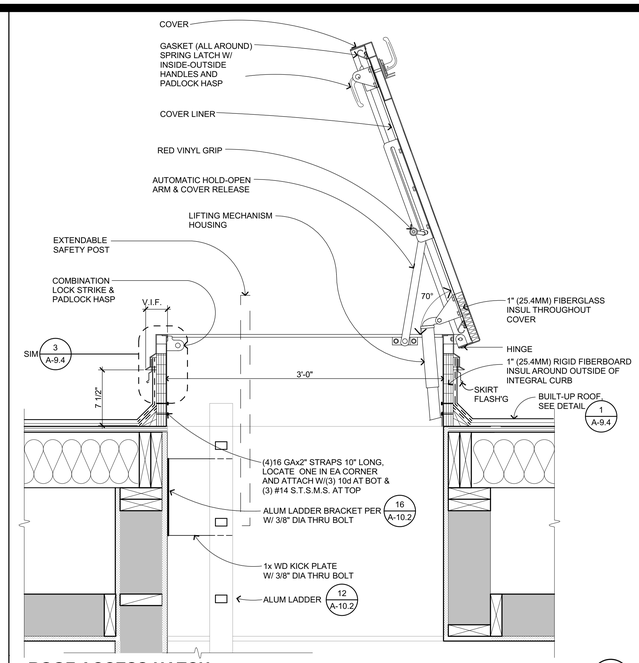
BUR ASSEMBLY, SEE DTL 1 A-9.4



REFER TO 12/S-8.2

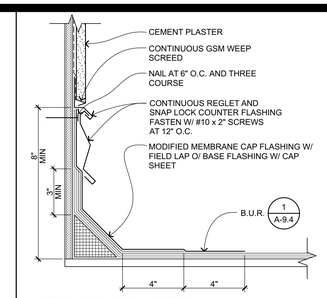
ROOF ANCHORAGE

3" = 1'-0" B301214.1621.00 **22**



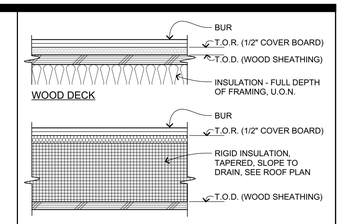
ROOF ACCESS HATCH

1 1/2"= 1'-0" B302301 **12**



REGLET COUNTER FLASHING

3" = 1'-0" B301208 **6**

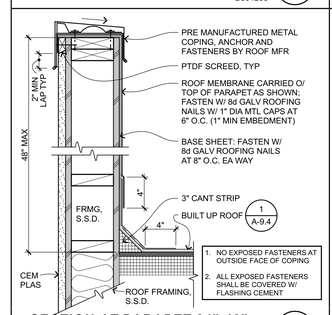


TYPICAL NOTES:

1. BUILT UP ROOFING (BUR) MODIFIED MINERAL SURFACE CAP SHEET OVER FELTS. SET ALL PLIES IN BITUMEN.
2. TOP OF ROOF ASSEMBLY (T.O.R.) DIMENSION POINT IS TOP OF PERLITE BOARD.

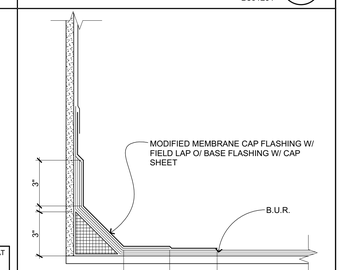
TYP B.U.R. ASSEMBLIES

3" = 1'-0" B301201 **1**



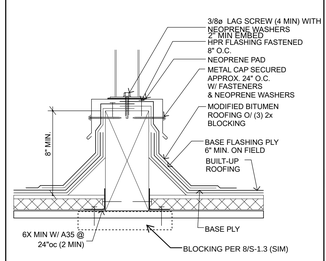
SECTION AT PARAPET 24"-48"

1 1/2"= 1'-0" B301202.2 **7**



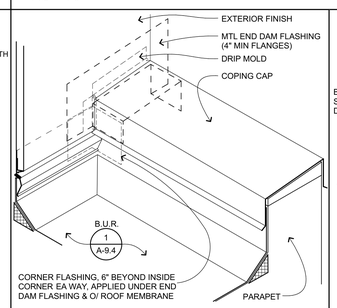
ROOF TO WALL TRANSITION (CANT STRIP)

3" = 1'-0" B301218 **2**



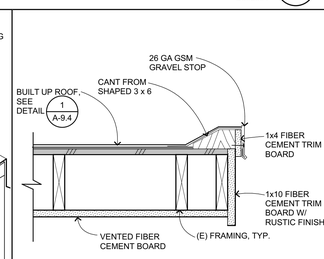
EQUIPMENT SUPPORT

N.T.S. **23**



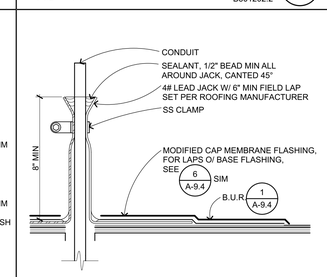
COPING FLASH-INTERSECTION

1 1/2"= 1'-0" B301207 **18**



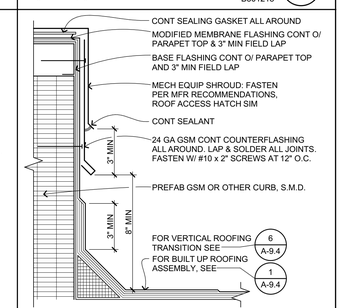
B.U.R. EDGE

1 1/2"= 1'-0" B301204 **13**



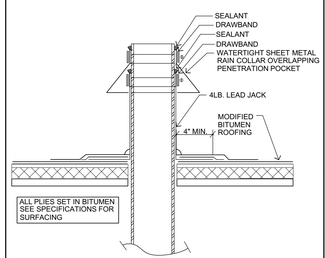
CONDUIT ROOF PENETRATION FLASH'G

3" = 1'-0" B301215 **8**



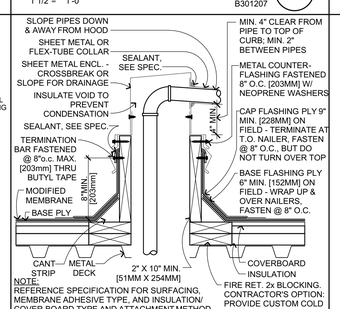
PREFAB MECH EQUIP CURB

3" = 1'-0" B301209 **3**



CONDUIT / PIPE FLASHING

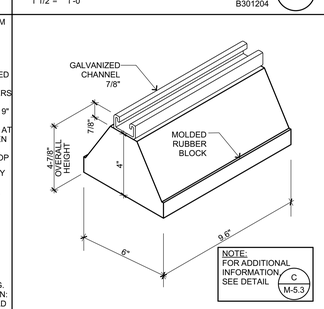
N.T.S. **24**



NOTE:
REFERENCE SPECIFICATION FOR SURFACING, MEMBRANE ADHESIVE TYPE, AND INSULATION/ COVER BOARD TYPE AND ATTACHMENT METHOD.

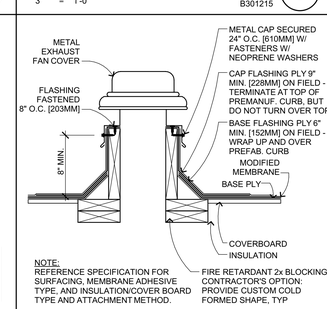
PIPE HOUSING @ ROOF

1 1/2"= 1'-0" B05 1730 **19**



PIPE SUPPORT

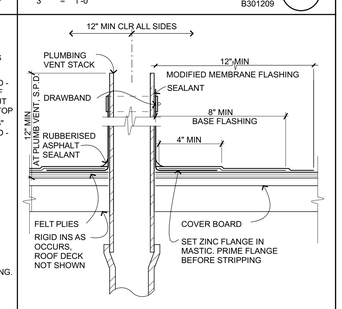
3" = 1'-0" B04 1730 **14**



NOTE:
REFERENCE SPECIFICATION FOR SURFACING, MEMBRANE ADHESIVE TYPE, AND INSULATION/COVER BOARD TYPE AND ATTACHMENT METHOD.

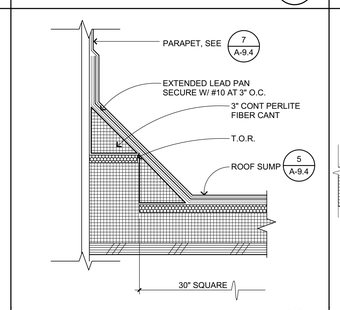
EXHAUST FAN @ BUR

1 1/2"= 1'-0" B03 1730 **9**



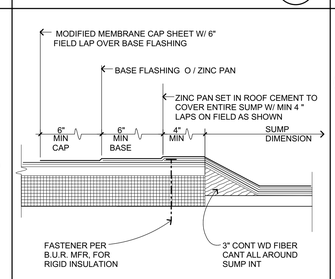
ROOF PLUMB'G FLASH'G

3" = 1'-0" B301214 **4**



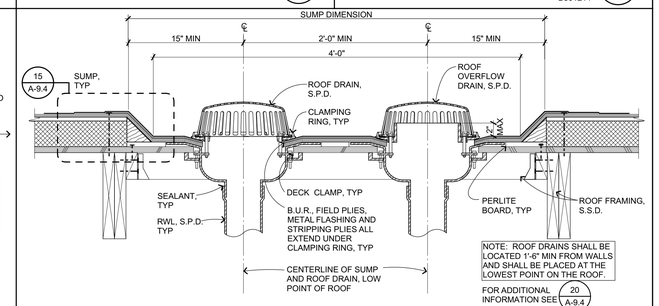
ROOF SUMP AT PARAPET

3" = 1'-0" B301213 **20**



ROOF DRAIN EDGE

3" = 1'-0" B304303 **15**



NOTE: ROOF DRAINS SHALL BE LOCATED 1'-6" MIN FROM WALLS AND SHALL BE PLACED AT THE LOWEST POINT ON THE ROOF.

FOR ADDITIONAL INFORMATION SEE 20 A-9.4

ROOF DRAIN W/OVERFLOW WD FRMG

1 1/2"= 1'-0" B304301_A **5**

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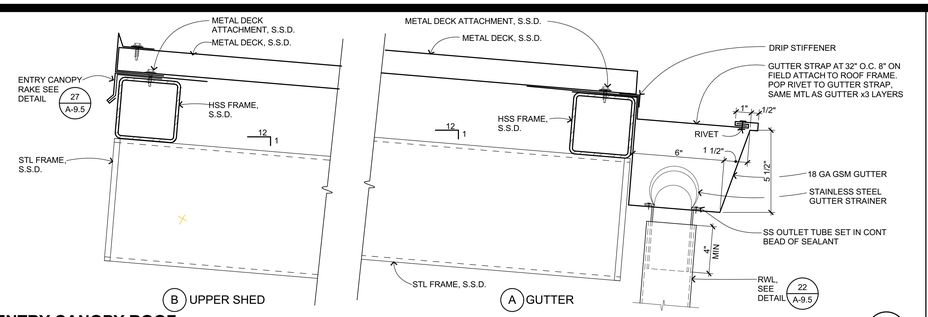
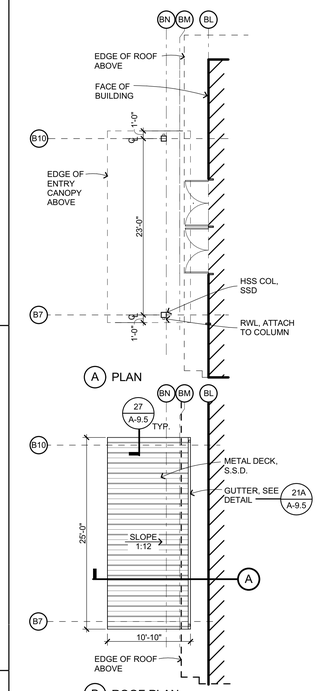
BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS -22:11/24/2020:4:56 PM

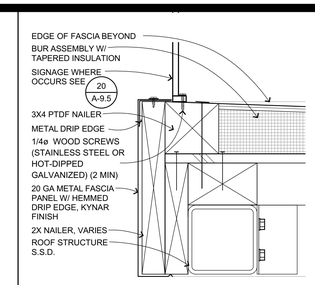


ENTRY CANOPY ROOF

3" = 1'-0"

21

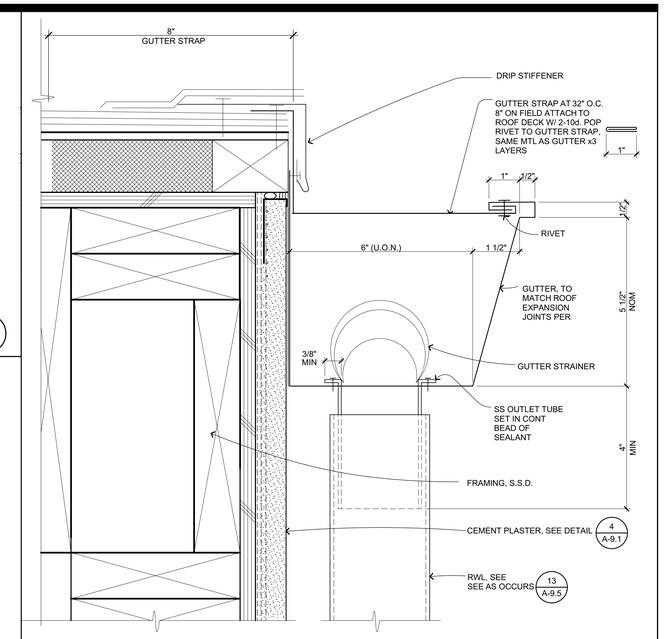




METAL FASCIA DETAIL

3" = 1'-0" 1783.00-002

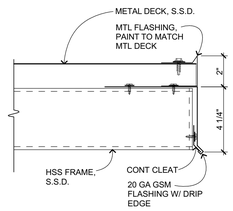
11



TYP GUTTER AT BUR

6" = 1'-0" B304104

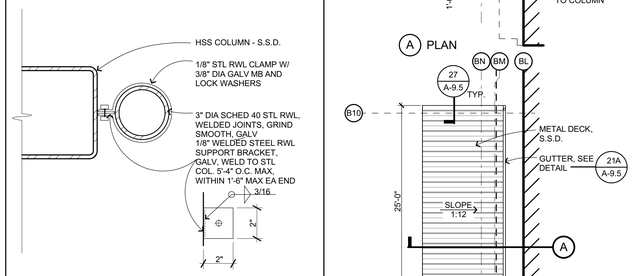
2



ENTRY CANOPY RAKE

3" = 1'-0" B205118

27



RWL SUPPORT @ HSS COLUMN

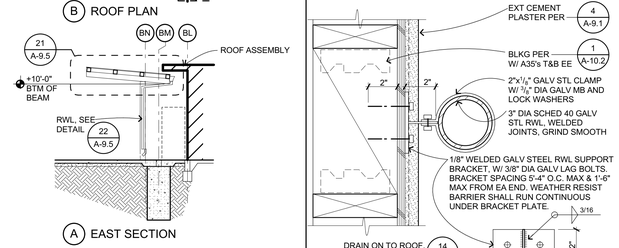
3" = 1'-0" B304205

22

NOT USED

3" = 1'-0" B302201

12



ENTRY CANOPY AT BUILDING B - A-WING SIM.

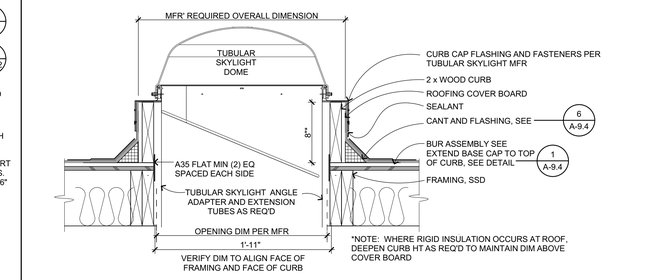
1/8" = 1'-0"

18

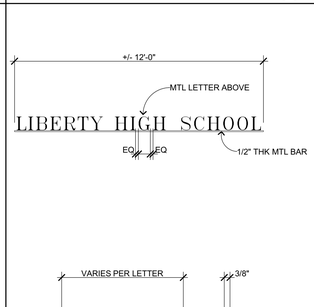
RWL SUPPORT CEM PLAS

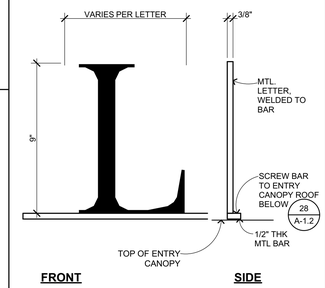
3" = 1'-0" B304201

13



A TUBULAR SKYLIGHT ON CURB AT BUR



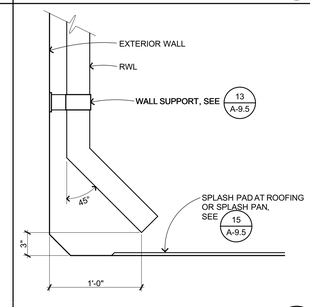


SEE SPECS FOR FONT TYPE , MATERIALS AND FINISHES.

EXTERIOR SIGN

3" = 1'-0" 1583.00-004-1783.00

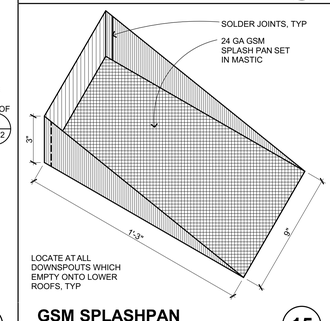
20



RWL DISCHARGE @ ROOF

1 1/2"= 1'-0" B304213

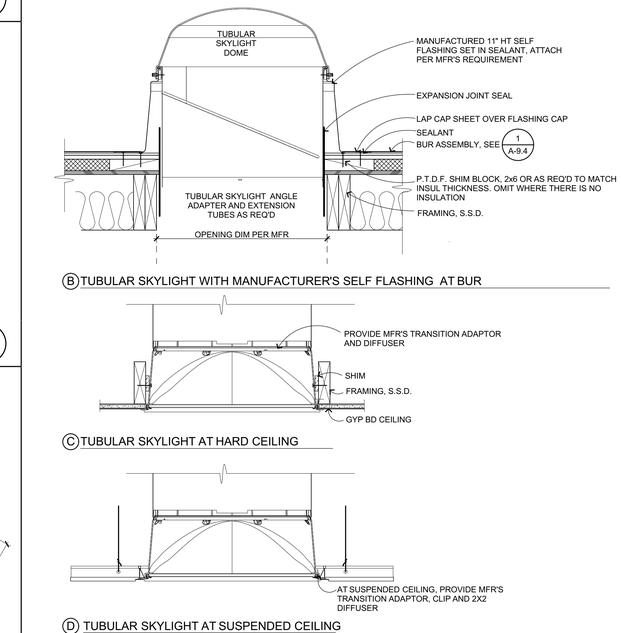
14



GSM SPLASHPAN

3" = 1'-0" B304210

15



TUBULAR SKYLIGHT

1 1/2"= 1'-0" B302210

5

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829
LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA
SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO.	01-119033
ARCH PROJECT NO:	1783.00
DRAWN BY:	PAG
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

ROOFING DETAILS

SHEET NUMBER

A-9.5

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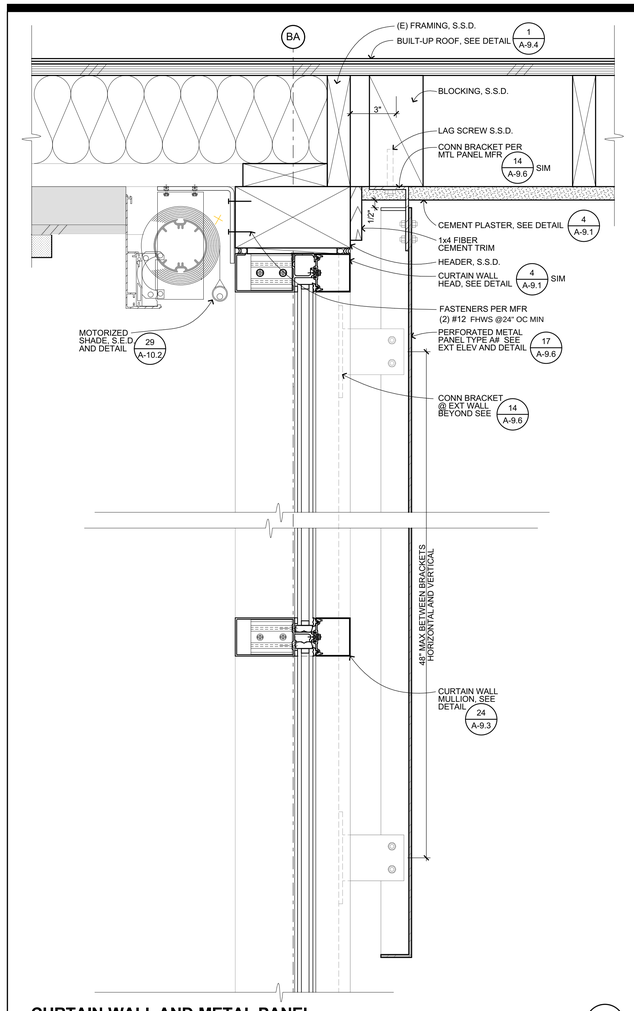
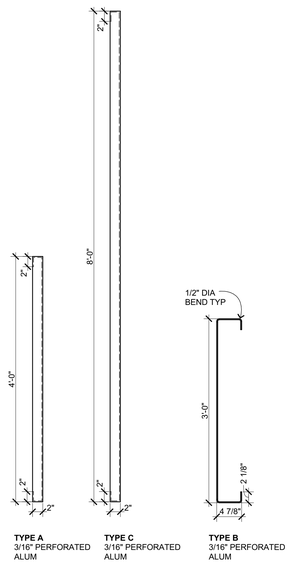


CURTAIN WALL AND METAL PANEL 28

3" = 1'-0"



TYPE A 3/16" PERFORATED ALUM

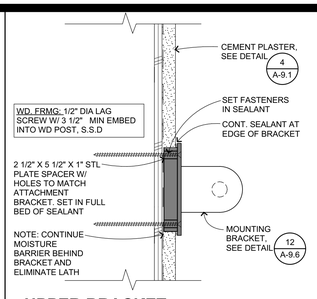
TYPE C 3/16" PERFORATED ALUM

TYPE B 3/16" PERFORATED ALUM

NOTE: LENGTH VARIES, SEE EXTERIOR ELEVATIONS. FOR PERFORATED PATTERNS SEE FINISH SCHEDULE. PANELS WEIGH 2.7 LBS/SF

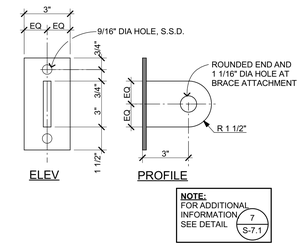
METAL PANEL PROFILES 17

1" = 1'-0" 1783.00-004



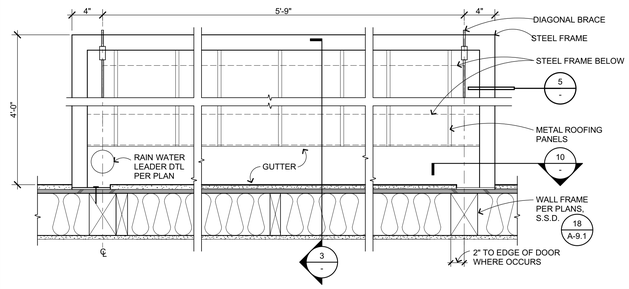
UPPER BRACKET INSTALLATION 11

3" = 1'-0" B205002



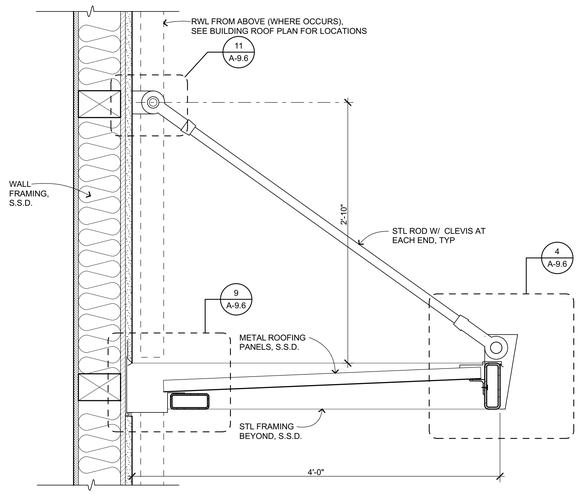
UPPER WALL BRACKET 12

3" = 1'-0" B205001



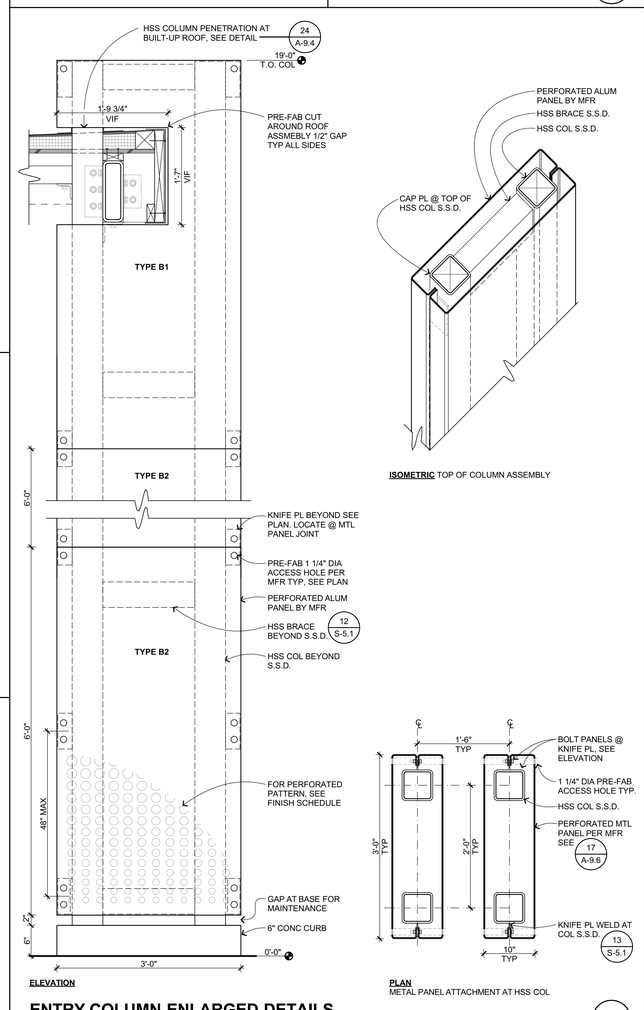
CANOPY PLAN 1

1 1/2"= 1'-0" B205111



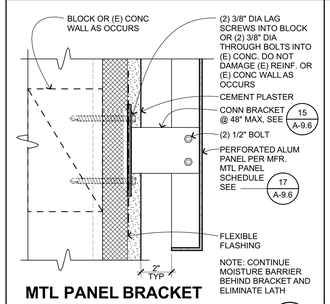
CANOPY SECTION 3

1 1/2"= 1'-0" B205110



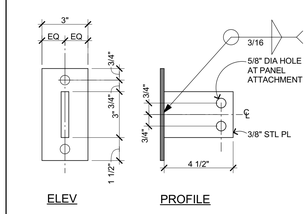
ENTRY COLUMN ENLARGED DETAILS 20

1" = 1'-0" B205002B



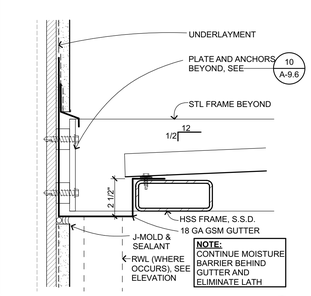
MTL PANEL BRACKET INSTALLATION 14

3" = 1'-0" B205002A



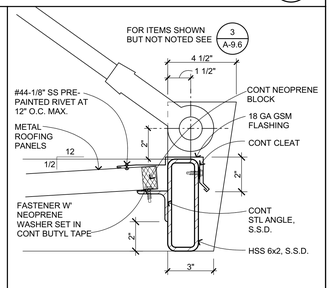
CONN BRACKET - MTL PANEL 15

3" = 1'-0" B205001A



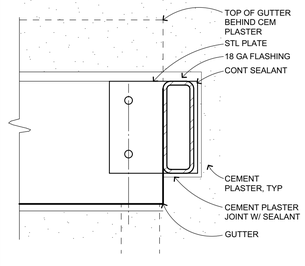
RAIN CANOPY GUTTER 9

3" = 1'-0" B205115



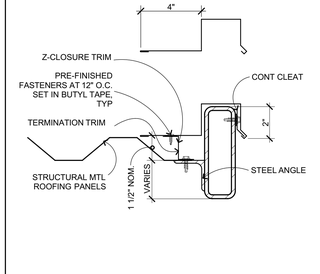
RAIN CANOPY HEAD 4

3" = 1'-0" B205112



RAIN CANOPY ATTACHMENT 10

3" = 1'-0" B205114



CANOPY RAKE 5

3" = 1'-0" B205113

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS

Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THEISS
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LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
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LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	PAG
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

RAIN CANOPIES AND METAL PANEL DETAILS

SHEET NUMBER

A-9.6

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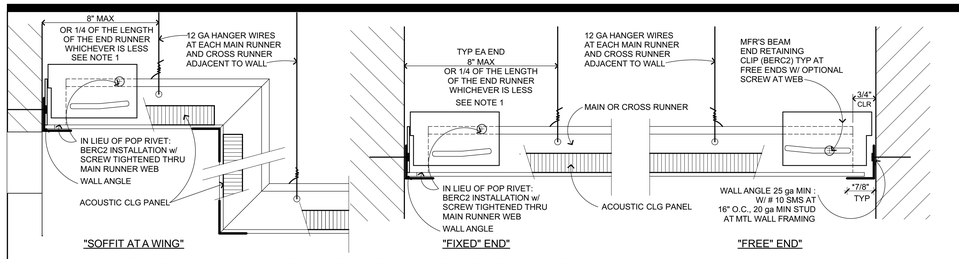


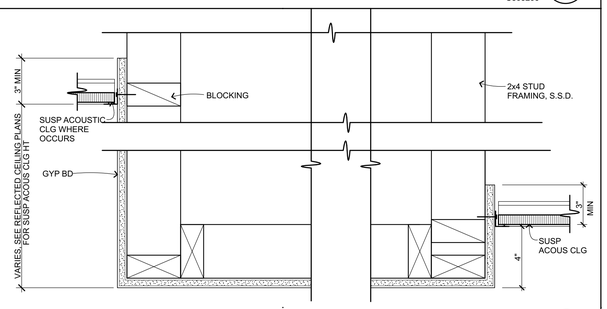
BASIS OF DESIGN: ARMSTRONG PRELUDE XL SEISMIC Rx. ICC ESR 1308. REFER TO SPECIFICATIONS FOR ALTERNATE MANUFACTURERS.

NOTE 1: PERIMETER WIRES ARE NOT REQUIRED WHEN LENGTH OF TEE IS 8" OR LESS.

*NOTE 2: PER IR 25-2.13 FIGURE 2.60 ALLOWS A SMALLER ANGLE WHEN USED IN CONJUCTION WITH A PROPRIETARY SEISMIC CLIP. USE PROPRIETARY CLIP PER MFR AS DRAWN AND AS NOTED IN SPECIFICATIONS AND ICC ESR REPORT.

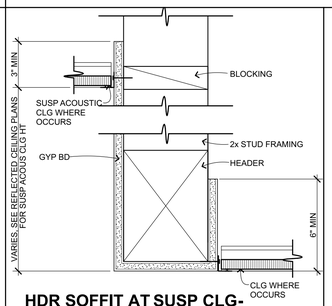
SUSP CLG PERIMETER-MFR CLIP

6" = 1'-0" C303206 **21**



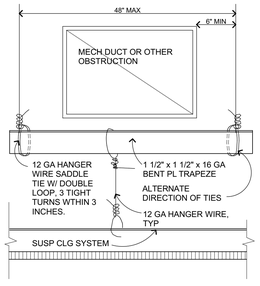
SERVERY SOFFIT AT SUSPENDED CEILING

3" = 1'-0" C303210_A-1783.00B **22**



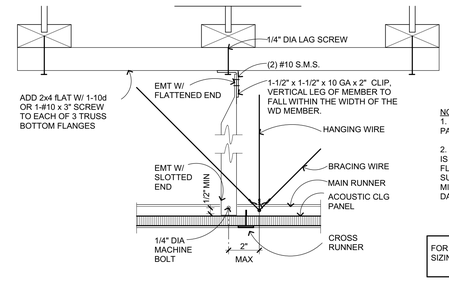
HDR SOFFIT AT SUSP CLG-WD

3" = 1'-0" C303210_A-1783.00 **28**



SUSP ACOUS CLG TRAPEZE

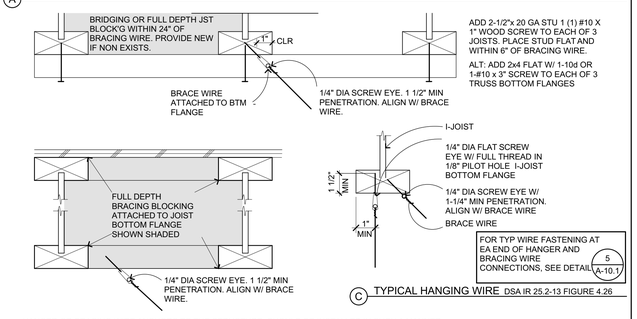
3" = 1'-0" C303203 **23**



NOTES:
1. DO NOT INSERT SCREWS PARALLEL TO LAMINATIONS
2. WHEN FIRE RATED GYP BOARD IS INSTALLED ON THE BOTTOM OF FLANGES, USE FASTENERS W/ SUFFICIENT LENGTH TO MEET THE MIN PENETRATION WITHOUT DAMAGING GYP BD.

FOR COMPRESSION STRUT SIZING, SEE DETAIL 10 / A-10.1

A EMT COMPRESSION STRUT

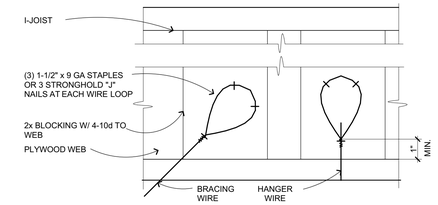


FOR TYP WIRE FASTENING AT EA END OF HANGER AND BRACING WIRE CONNECTIONS, SEE DETAIL 5 / A-10.1

C TYPICAL HANGING WIRE DSA IR 25.2-13 FIGURE 4.26

HANGER OR BRACING WIRE ANCHORS TO THE STRUCTURE SHOULD BE INSTALLED IN SUCH A MANNER THAT THE DIRECTION OF THE ANCHOR ALIGNS AS CLOSELY AS POSSIBLE W/ THE DIRECTION OF THE WIRE. HANGER AND BRACING WIRES SHALL NOT ATTACH TO OR GEND AROUND OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO :PIPING, DUCTWORK, CONDUIT AND EQUIPMENT.

B TYPICAL BRACING WIRE DSA IR 25.2-13 FIGURES 4.36 & 4.37

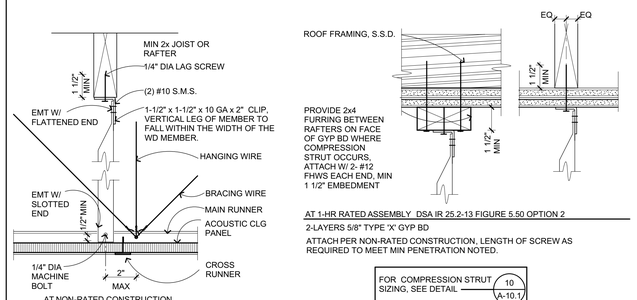


C ALTERNATE WIRE ATTACHMENTS

SEE ALSO 4 / A-10.1, 5 / A-10.1, 9 / A-10.1, 23 / A-10.1
FOR SUSPENDED CEILING CONDITIONS & NOTES

SUSPENDED ACOUSTIC CEILING-TJI

3" = 1'-0" C303205 **13**



AT NON-RATED CONSTRUCTION
DSA IR 25.2-13 FIGURE 5.60 OPTION 2

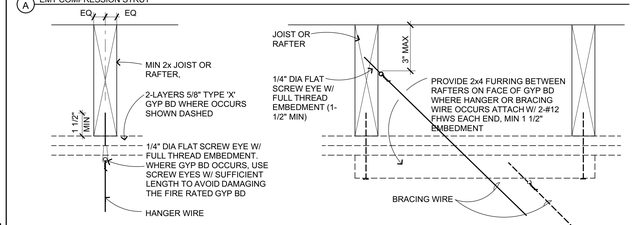
AT 1-HR RATED ASSEMBLY DSA IR 25.2-13 FIGURE 5.50 OPTION 2

2-LAYERS 5/8" TYPE 'X' GYP BD

ATTACH PER NON-RATED CONSTRUCTION, LENGTH OF SCREW AS REQUIRED TO MEET MIN PENETRATION NOTED.

FOR COMPRESSION STRUT SIZING, SEE DETAIL 10 / A-10.1

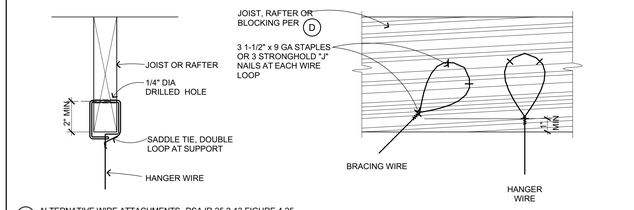
A EMT COMPRESSION STRUT



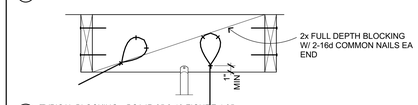
HANGER OR BRACING WIRE ANCHORS TO THE STRUCTURE SHOULD BE INSTALLED IN SUCH A MANNER THAT THE DIRECTION OF THE ANCHOR ALIGNS AS CLOSELY AS POSSIBLE W/ THE DIRECTION OF THE WIRE. HANGER AND BRACING WIRES SHALL NOT ATTACH TO OR BEND AROUND OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO: PIPING, DUCTWORK, CONDUIT, AND EQUIPMENT.

FOR TYP WIRE FASTENING AT EA END OF HANGER AND BRACING WIRE CONNECTIONS, SEE DETAIL 5 / A-10.1

B TYPICAL HANGING AND BRACING WIRES DSA IR 25.2-13 FIGURES 4.25 & 4.35



C ALTERNATIVE WIRE ATTACHMENTS DSA IR 25.2-13 FIGURE 4.25

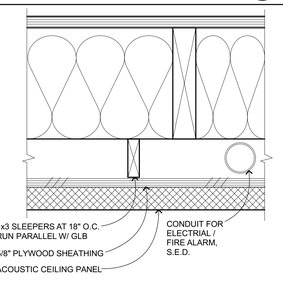


D TYPICAL BLOCKING DSA IR 25.2-13 FIGURE 4.25
N.T.S.

SEE ALSO 4 / A-10.1, 5 / A-10.1, 9 / A-10.1, 23 / A-10.1
FOR SUSPENDED CEILING CONDITIONS & NOTES

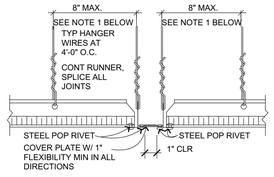
SUSPENDED ACOUSTIC CEILING

3" = 1'-0" C303204 **3**



DINING ROOM CEILING

3" = 1'-0" B203400 **24**

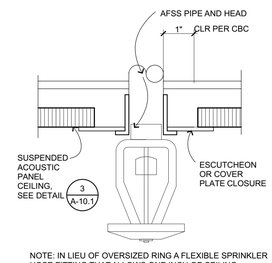


DSA IR 25-2.13 FIGURE 2.40

REQUIRED AT EXITWAY INTERSECTION OR AS EXPANSION JOINT FOR CEILING AREAS OVER 2,500 SF
1. PROVIDE #12 GAGE HANGER WIRES AT THE ENDS OF ALL MAIN AND CROSS RUNNERS WITHIN EIGHT (8) INCHES OF THE SUPPORT OR WITHIN ONE-FOURTH (1/4) OF THE LENGTH OF THE END TEE, WHICHEVER IS LESS, FOR THE PERIMETER OF THE CEILING AREA. PERIMETER WIRES ARE NOT REQUIRED WHEN THE LENGTH OF THE END TEE IS EIGHT (8) INCHES OR LESS.

SUSP CLG EXP JT

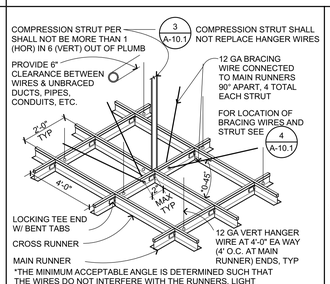
6" = 1'-0" C303216 **19**



NOTE: IN LIEU OF OVERSIZED RING A FLEXIBLE SPRINKLER HOSE FITTING THAT ALLOWS ONE INCH OF CEILING MOVEMENTSHALL BE PERMITTED

FIRE SPRINKLER HD PLATE

6" = 1'-0" C303217 **14**

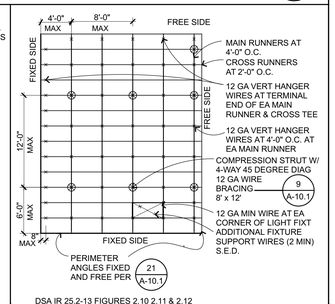


*THE MINIMUM ACCEPTABLE ANGLE IS DETERMINED SUCH THAT THE WIRES DO NOT INTERFERE WITH THE RUNNERS, LIGHT FIXTURES, ETC. AND REMAIN STRAIGHT AND UNOBSTRUCTED.

DSA IR 25.2-13 FIGURE 2.35

CROSS-TEE INTERSECTION

1 1/2"= 1'-0" C303201 **9**



DSA IR 25.2-13 FIGURES 2.10 2.11 & 2.12

SUSP CLG SUPPORT PLAN

1/8" = 1'-0" C303208 **4**

PER DSA IR 25-2.13 FIGURE 3.21

EMT COMPRESSION STRUT	MAXIMUM LENGTH
1/2" DIA EMT (0.042" WALL TH)	3'-11"
3/4" DIA EMT (0.049" WALL TH)	6'-4"
1" DIA EMT (0.057" WALL TH)	9'-9"
1 1/4" DIA EMT (0.065" WALL TH)	12'-9"
1-1/2" DIA EMT (0.065" WALL TH)	14'-,-9"
2" DIA EMT (0.065" WALL TH)	18'-10"

CHANNEL COMPRESSION STRUT	MAXIMUM LENGTH
250S125-33	5'-0"
250S137-33	6'-10"
362S137-33	8'-0"
250S137-43	8'-10"
400S137-43	10'-10"

COMPRESSION STRUT TABLE

1' = 1'-0" C303214 **10**

1. GENERAL REQUIREMENTS: CBC Section 1616 & IR 25-2.13 govern the design and installation of metal suspension systems for lay-in ceilings.The details are for ceilings whose total weight, including ceiling mounted air terminals, services and light fixtures, does not exceed 4 PSF.
SEE DETAILS FOR SPECIFIC REQUIREMENTS
All ceiling grid system components shall be from a single manufacturer.
SEE SPECIFICATIONS FOR DETAILED REQUIREMENTS

2. Refer to reflected ceiling plans for locations of expansion joints and seismic separation joints as occur.

3. Lateral force bracing may be omitted for suspended acoustical ceiling systems with a ceiling area of 144 square feet or less, and fire rated suspended acoustical ceiling systems with a ceiling area of 96 square feet or less, when perimeter support in accordance with governing regulations are provided and perimeter walls are designed to carry the ceiling lateral forces.

4. For attachment of all light fixtures, flush, recessed or otherwise ceiling mounted, refer to electrical drawings for details.

5. For attachment of ceiling mounted air terminals , grilles, mechanical terminals, and flexible sprinkler hose fittings or other services be supported directly on runner, refer to mechanical drawings for details.

6. Ceiling panels shall not support any light fixture, air terminals or devices.

TYPICAL WIRE FASTENING:

HANGER WIRES: 12 GA WIRE WITH MINIMUM OF 3 TIGHT TURNS IN 3 INCHES, BOTH ENDS, TYPICAL.
BRACING WIRES: 12 GA WIRE WITH MINIMUM OF 4 TIGHT TURNS IN 1-1/2" EACH END, TYPICAL.

TYP SUSP CEILING NOTES

1/8" = 1'-0" C303209.2016 **5**

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
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(707) 576-0829

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
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SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	PAG
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

CEILING DETAILS

SHEET NUMBER

A-10.1

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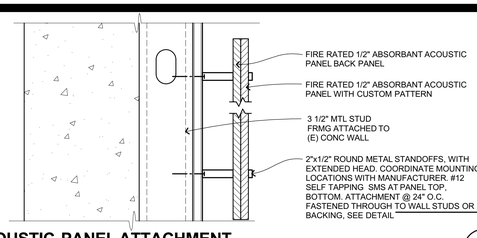
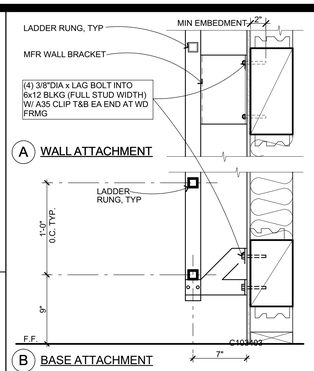


ACOUSTIC PANEL ATTACHMENT

3" = 1'-0"

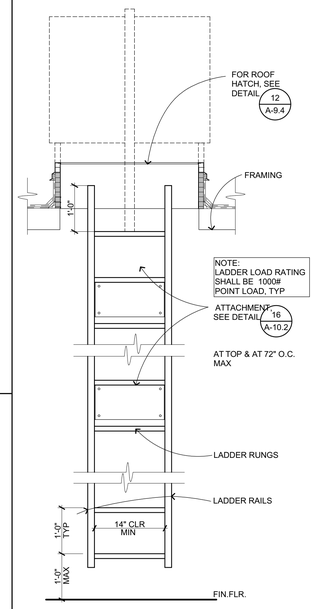
21



LADDER ATTACHMENT

1 1/2"= 1'-0"

16

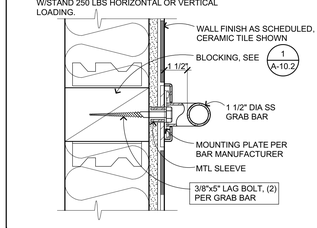


INT ALUM LADDER

3/4" = 1'-0" C103401

12

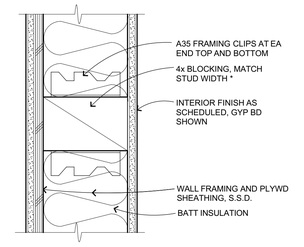
NOTES:
1. GRAB BARS SHALL NOT ROTATE.
2. GRAB BARS AND ANY SURFACE ADJACENT TO THEM CANNOT HAVE ANY SHARP OR ABRASIVE ELEMENTS.
3. CBC 11B-609.8 GRAB BARS & MOUNTINGS SHALL W/STAND 250 LBS HORIZONTAL OR VERTICAL LOADING.



GRAB BAR ATTACHED

3" = 1'-0" C103101_A

6



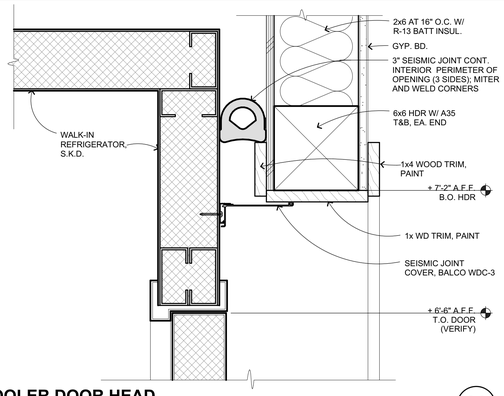
TYPICAL WALL OR CEILING BLOCKING / BACKING FOR ATTACHING FIXTURES, EQUIPMENT, CABINETS, REQUIRED

* WHERE STUD WIDTH > 5 1/2", 4 x 6 AT SIDE OF ATTACHMENT MAY BE USED.

BLK'G/BACKING WD

3" = 1'-0" C108101_A

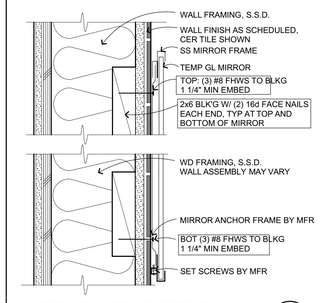
1



WALK-IN COOLER DOOR HEAD

3" = 1'-0"

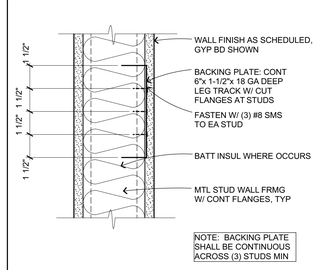
22



MIRROR ATTACHMENT

3" = 1'-0" C103103_A

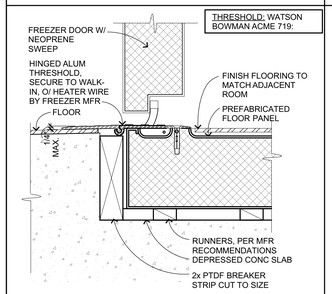
7



BACKING PLATE AT MTL STUDS

3" = 1'-0" C108101_B

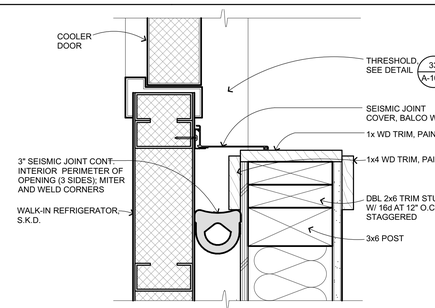
2



COOLER THRESHOLD

3" = 1'-0"

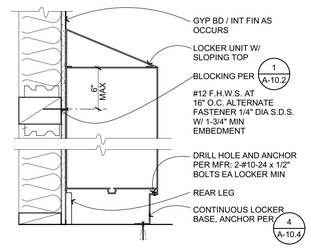
33



WALK-IN COOLER DOOR JAMB

3" = 1'-0"

23

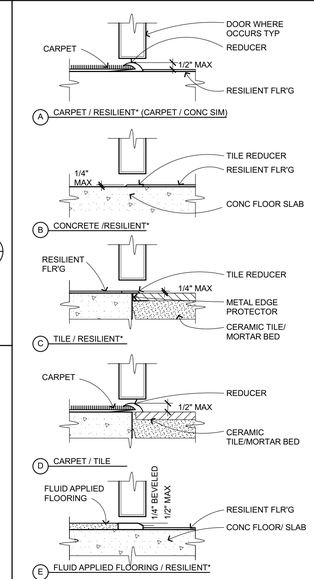


WHERE STUD WIDTH > 5 1/2", x6 AT SIDE OF ATTACHMENT MAY BE USED

LOCKER ATTACHMENT

1 1/2"= 1'-0"

18

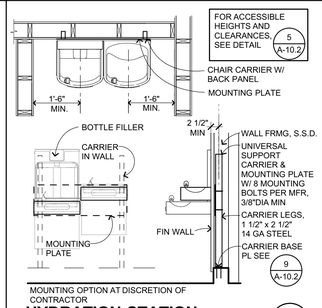


NOTES:
1. RESILIENT FLOORING - TILE OR SHEET MATERIAL AS NOTED OR SPECIFIED ELSEWHERE.
2. WHERE TRANSITION STRIP > 1/4" HT SHALL BE BEVELED 1:2 MAX OR EQUIVALENT THERETO.
3. DOOR AS OCCURS, TYP.

FLOOR TRANSITIONS/SILLS

3" = 1'-0" C102601

14

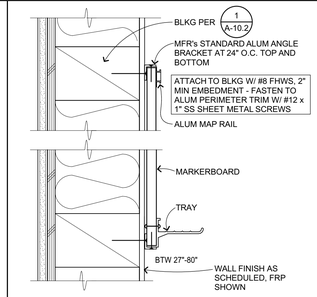


MOUNTING OPTION AT DISCRETION OF CONTRACTOR

HYDRATION STATION

1/2" = 1'-0" D208107

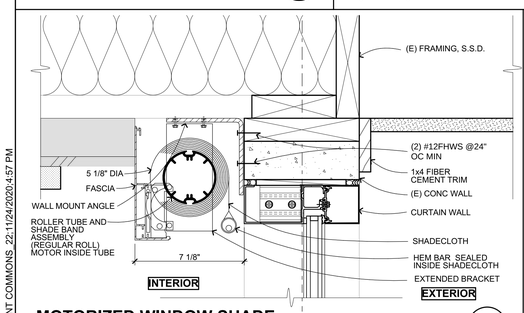
8



MARKERBOARD

3" = 1'-0" C103201_A

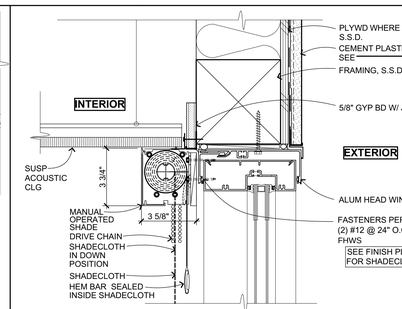
3



MOTORIZED WINDOW SHADE

3" = 1'-0"

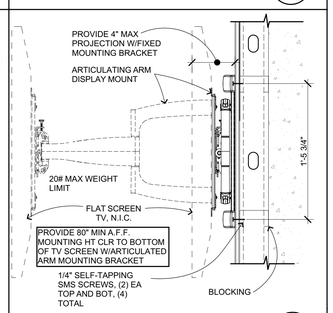
29



MANUAL OPERATED WINDOW SHADE

3" = 1'-0"

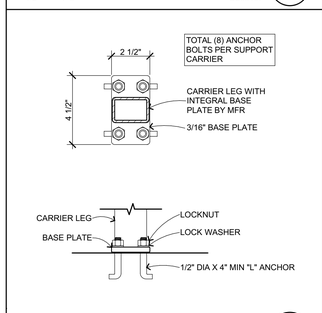
24



FLAT PANEL DISPLAY

1 1/2"= 1'-0"

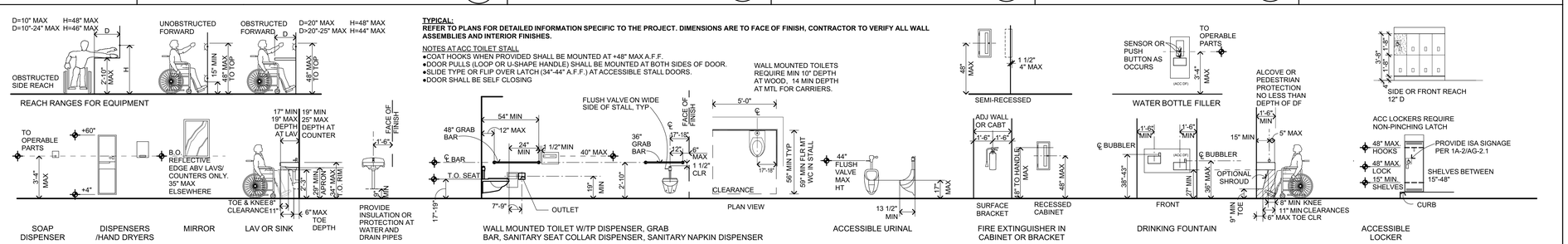
19



DF BASE ANCHOR

3" = 1'-0" D208109

9



TYPICAL:
REFER TO PLANS FOR DETAILED INFORMATION SPECIFIC TO THE PROJECT. DIMENSIONS ARE TO FACE OF FINISH, CONTRACTOR TO VERIFY ALL WALL ASSEMBLIES AND INTERIOR FINISHES.

NOTES AT ACC TOILET STALL
- COAT HOOKS WHEN PROVIDED SHALL BE MOUNTED AT +48" MAX A.F.F.
- DOOR PULLS (LOOP OR U-SHAPE HANDLE) SHALL BE MOUNTED AT BOTH SIDES OF DOOR.
- SLIDE TYPE OR FLIP OVER LATCH (34"-44" A.F.F.) AT ACCESSIBLE STALL DOORS.
- DOOR SHALL BE SELF CLOSING

WALL MOUNTED TOILETS REQUIRE MIN 10" DEPTH AT WOOD, 14 MIN DEPTH AT MTL FOR CARRIERS.

ACC MOUNTING HEIGHTS - ADULT

1/4" = 1'-0"

C401101-2019

5

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
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SS ☑ FLS ☑ ACS ☑
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LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

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DSA APP NO.	01-119033
ARCH PROJECT NO:	1783.00
DRAWN BY:	PAG / HM
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

INTERIOR DETAILS

SHEET NUMBER

A-10.2

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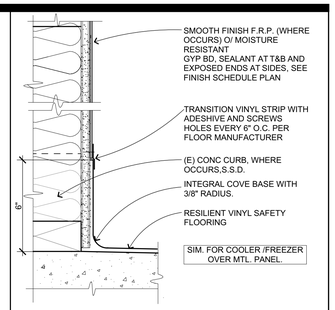
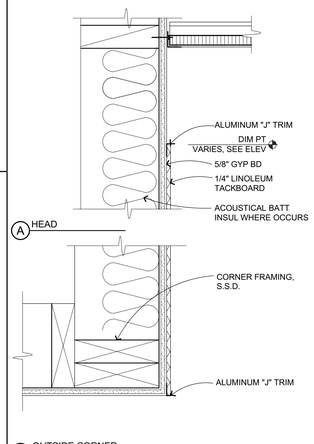


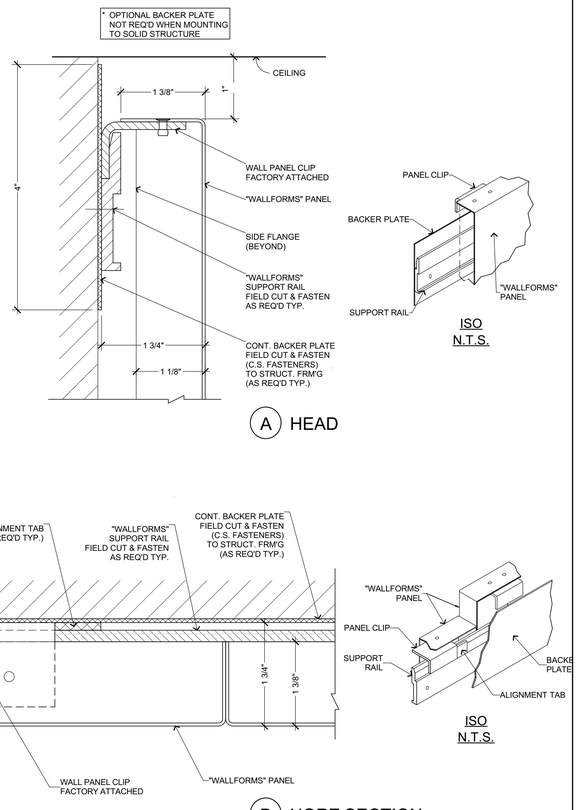
COVED FLOOR BASE @ FRP

3" = 1'-0" C301201-1783 **1**



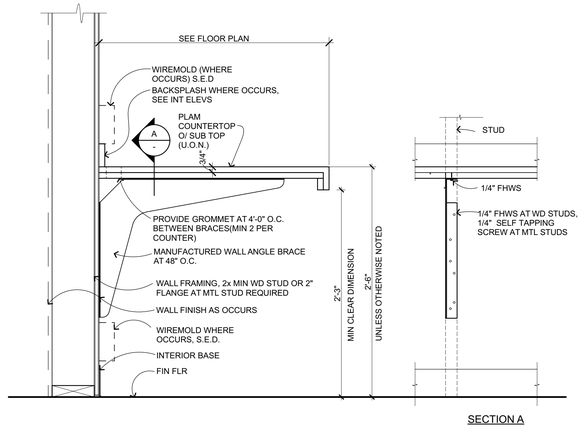
LINOLEUM TACKBOARD

3" = 1'-0" C301301-1783.00 **13**



INTERIOR PANELS FEATURE AT RECEPTION

1' = 1'-0" **5**



CANTILEVER COUNTERTOP W/ BRACKET

1 1/2"= 1'-0" E201104 **15**

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DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
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DATE: 12/04/2020

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ARCH PROJECT NO:	1783.00
DRAWN BY:	HM
DRAWING SCALE:	AS NOTED
PTN: 61T21-75	FILE NO: T-H4

CD

DECEMBER 2, 2020

SHEET TITLE

INTERIOR AND CASEWORK DETAILS

SHEET NUMBER

A-10.3

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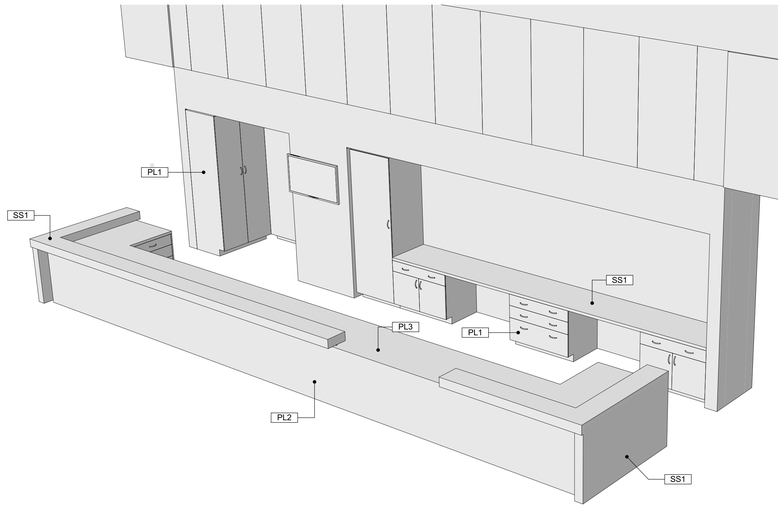
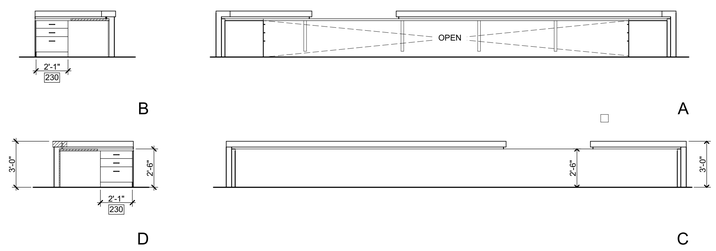


RECEPTION DESK 17

1/4" = 1'-0"



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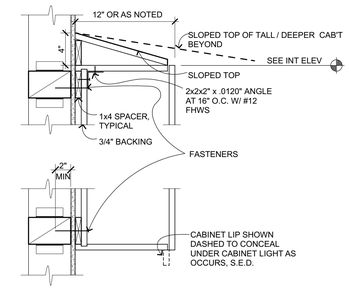
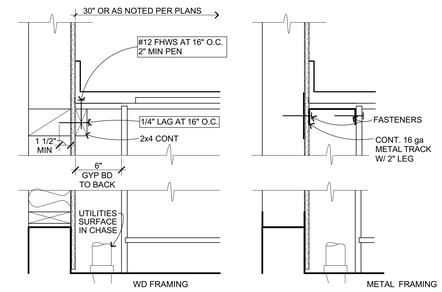
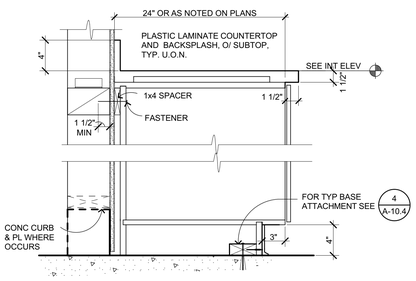


A UPPER CABINET



B CABINET W/ CHASE



C BASE CABINET

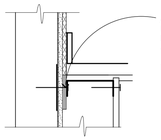
TYPICAL FASTENER :

2" MAX FROM ENDS. 3 MIN PER CABINET
WOOD: #12 F.H.W.S. AT 16" O.C. SET FLUSH.
ALTERNATE FASTENER 1/4" Ø SDS W/ 1-3/4" MIN EMBEDMENT.

FOR BLOCKING AT WOOD FRAMING SEE 1 / A-10.2

CABINET NOTES:

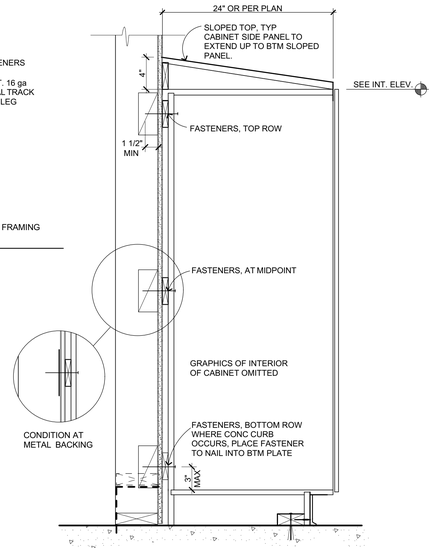
PLASTIC LAMINATE CABINET U.O.N. ON INT ELEVATIONS OR OTHERWISE SCHEDULED.
DADO AND GLUE CABINET CARCASS. 3/4" BACKING, INTEGRAL TOE, TYPICAL



AT MONOLITHIC TACKWALL:

PROVIDE 1/2" PLYWD SHIM AT BLOCKING LOCATION & ADDITIONAL FASTENER LENGTH AS REQ'D FOR MIN PENETRATION.

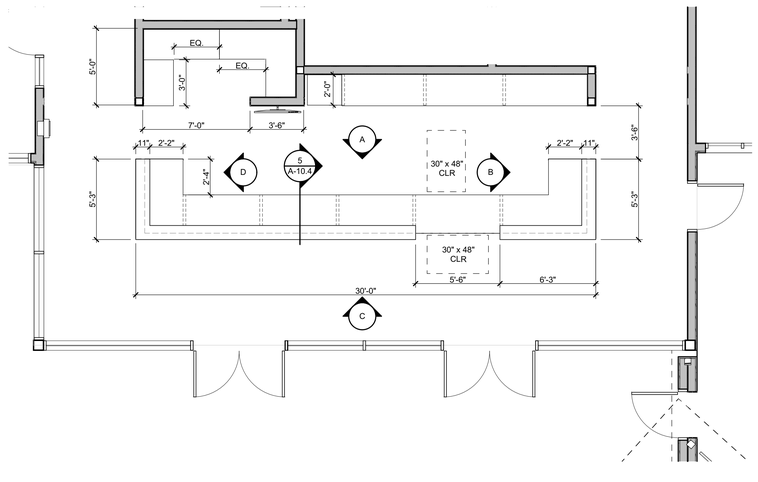
METAL FRAMING SHOWN



D TALL CABINET

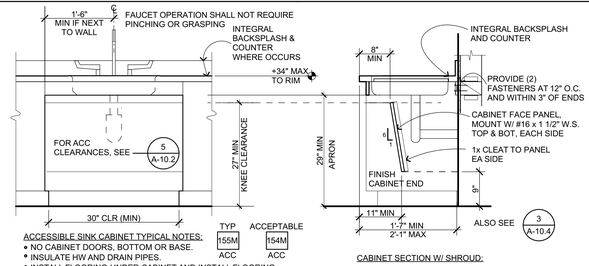
TYP CASEWORK ATTACHMENT

1 1/2"= 1'-0" E201100 3



RECEPTION DESK ENLARGED PLAN

1/4" = 1'-0" 20

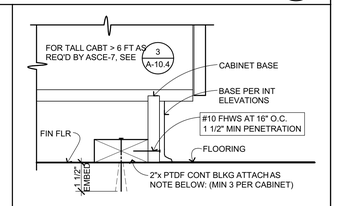


ACCESSIBLE SINK CABINET TYPICAL NOTES:
- NO CABINET DOORS, BOTTOM OR BASE.
- INSULATE HW AND DRAIN PIPES.
- INSTALL FLOORING UNDER CABINET AND INSTALL FLOORING BASE CONTINUOUS AT PERIMETER OF CABINET RECESS. SEE PLANS FOR LOCATIONS

TYP	ACCEPTABLE
155M	154M
ACC	ACC

ACC SINK BASE CABINET

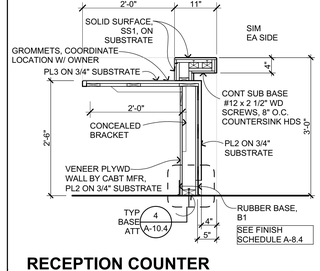
3/4" = 1'-0" E201108 9



AT WOOD FLOOR: 16d AT12" O.C.
AT CONC FLOOR: HILTI X-U .157" x 3" (ICC ESR 2269) AT 16" OC
AT ISLAND OR PENINSULA AT CONC FLOOR: 3/8"ø SCREW ANCHOR 6" FROM EACH END & AT 24"o.c. PER 3/S-1.1
AT GYP CRETE: #14x4" SCREW THROUGH GYPCRETE TO EXTEND 1/4" MIN PAST THE UDNERSIDE OF THE STRUCTURAL FLOOR SHEATHING

BASE CABINET FLR ATTACHMENT

3" = 1'-0" E201101 4



RECEPTION COUNTER SECTION

3/4" = 1'-0" E201201 5

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APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS

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LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	HM
DRAWING SCALE:	AS NOTED
PTN: 61T21-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

CASEWORK DETAILS

SHEET NUMBER

A-10.4

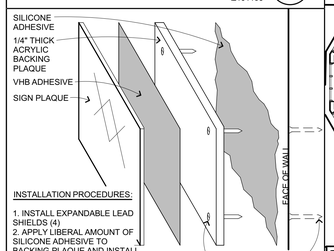
BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS 22-11/24/2020 4:57 PM

SIGNAGE GENERAL NOTES

1. ALL SIGNAGE AT MAIN ENTRANCES, TOILETS, PERMANENT ROOMS, ASSISTIVE LISTENING SYSTEMS SHALL COMPLY WITH TITLE 24 CBC AND CBC 11B-703
2. RAISED CHARACTERS SHALL CONFORM TO CBC 11B-703.2
   BRAILLE SHALL CONFORM TO 11B-703.3
   PICTORIAL SIGNAGE SHALL CONFORM TO 11B-703.6
3. MOUNTING LOCATION AND HEIGHT: (WHERE PERMANENT INDENTIFICATION IS PROVIDED OR WHERE SIGNAGE IS REQUIRED FOR ROOMS AND SPACES): CBC 11B-703.4
4. INTERNATIONAL SYMBOL OF ACCESSIBILITY DESIGN AND COLOR SHALL CONFORM TO CBC 11B-703.7.1 & 11B-703.7.2.1.
5. DOORS TO TOILET ROOMS: PROVIDE SIGNAGE CONFORMING TO CBC 11B-703.7.2.6
6. CONTRAST AND FINISH OF SYMBOLS SHALL CONFORM TO CBC 11B-703.7.1.

SIGNAGE GENERAL NOTES (31)

1/4" = 1'-0" Z101106

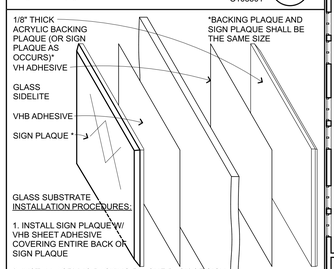


INSTALLATION PROCEDURES:

1. INSTALL EXPANDABLE LEAD SHIELDS (4)
2. APPLY LIBERAL AMOUNT OF SILICONE ADHESIVE TO BACKING PLAQUE AND INSTALL USING 4 COUNTERSUNK SCREWS
3. INSTALL SIGN PLAQUE USING VHB SHEET ADHESIVE COVERING ENTIRE BACK SIDE OF SIGN PLAQUE

SIGN INSULATION (32)

6" = 1'-0" C103301

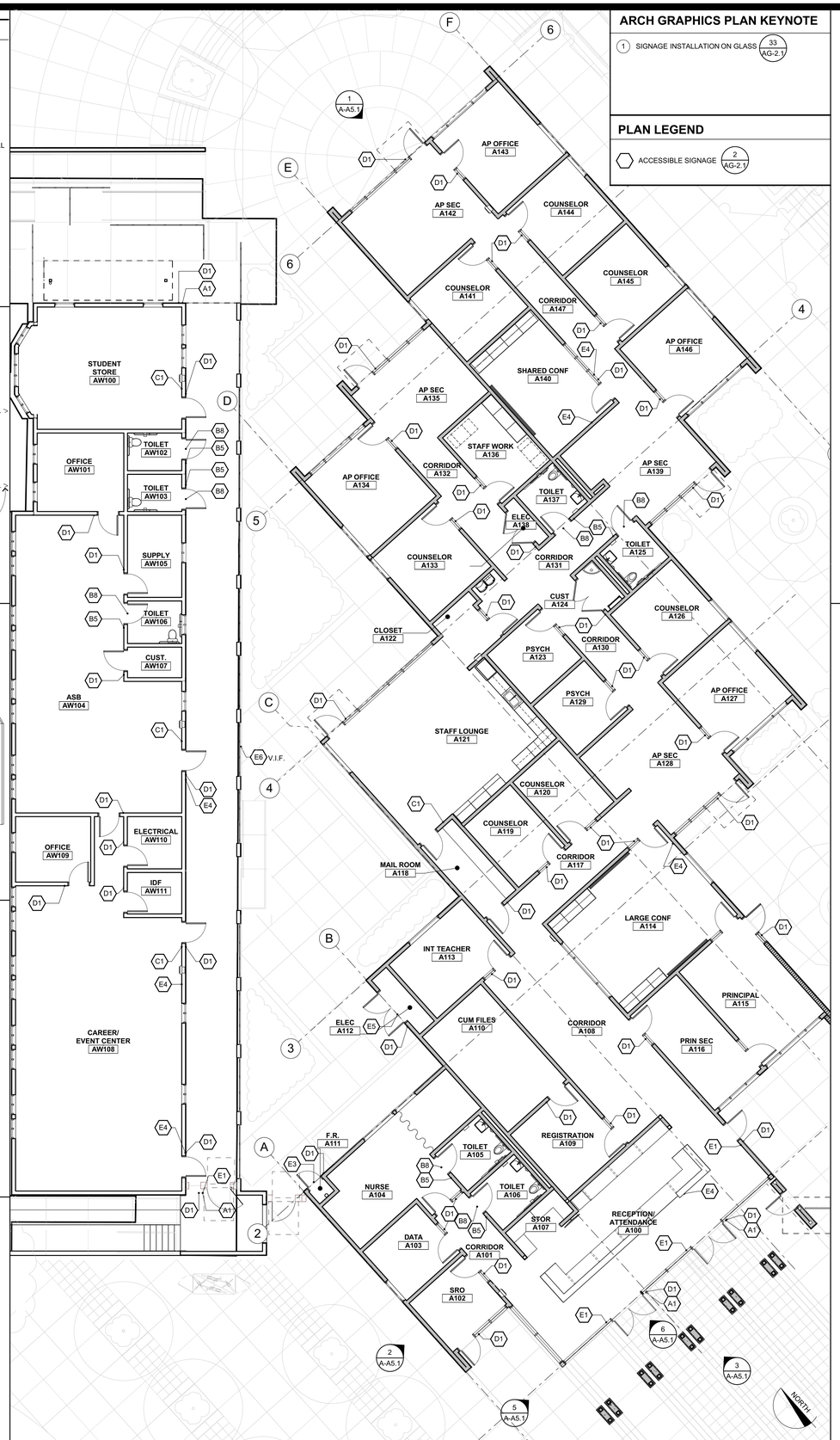


INSTALLATION PROCEDURES:

1. INSTALL SIGN PLAQUE W/ VHB SHEET ADHESIVE COVERING ENTIRE BACK OF SIGN PLAQUE
2. INSTALL ACRYLIC BACKING PLAQUE BACK OF SIGN ON OPPOSITE SIDE OF GLAZING, USING VHB ADHESIVE AS FOR SIGN PLAQUE.

SIGN INSULATION ON GLASS (33)

6" = 1'-0" C103302



BLDG A FLOOR PLAN SIGNAGE (20)

1/8" = 1'-0"

ARCH GRAPHICS PLAN KEYNOTE

1. SIGNAGE INSTALLATION ON GLASS (33 / AG-2.1)

PLAN LEGEND

ACCESSIBLE SIGNAGE (2 / AG-2.1)

MINIMUM CBC REQUIREMENTS.

TYPICAL PLAQUE NOTES U.O.N.

PLAQUES WITH TACTILE LETTERING AND SYMBOLS (RAISED 1/32") INCLUDES CALIFORNIA CONTRACTED GRADE 2 BRAILLE RAISED 1/40" PER CBC REQUIREMENTS. SAN SERIF FONT SELECTION SHALL HAVE THE WIDTH OF THE UPPERCASE LETTER "O" IS 60% MIN AND 110% MAX OF THE HEIGHT OF THE UPPERCASE LETTER "I". A STROKE WIDTH TO HEIGHT OF THE UPPERCASE LETTER "I" SHALL BE 15% MAX OF HT OF CHARACTER.

CUSTOM COLORS, LAYOUT & LETTER STYLES TO BE SELECTED & APPROVED BY ARCHITECT, SIGNAGE SYMBOLS, BACKGROUND, MOUNTING SURFACE TO CONTRAST, 70% MINIMUM CONTRAST.

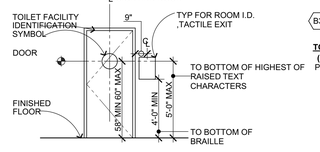
WHERE SIGN PLAQUES ARE PLACED ON GLASS, ANY BACKING PLAQUE OR SIGN IS TO BE THE SAME SIZE.

TEXT

TEXT SIZE*

5/8" MIN. TEXT (48 PT)
2" MAX.

MOUNTING OF SIGNS



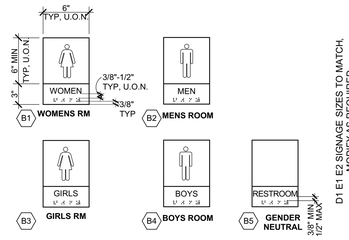
PERMANENT ROOM SIGNAGE TO BE PLACED AT STRIKE SIDE, WHERE INSUFFICIENT ROOM, PLACE ON THE INACTIVE LEAF OR TO THE RIGHT AT DOUBLE DOORS.

ACCESSIBLE ENTRANCE SIGN (A1)

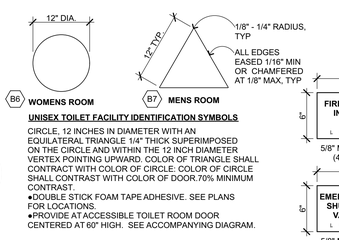
VINYL 4"X4" BACKING WITH VINYL SYMBOL. 3M REFLECTIVE BLUE BACKGROUND WITH 3M REFLECTIVE WHITE SYMBOL. PROVIDE AT MAIN ENTRANCE AND AS NOTED.

STRIKE SIDE TOILET ROOM SIGNAGE
(PLAQUE NOTES TYP FOR EACH SIGN)

PROVIDE AT ACCESSIBLE TOILET ROOMS.
USE "GIRLS" & BOYS" WHERE TOILET ROOMS ARE PRIMARILY USED BY CHILDREN.



TOILET ROOM DOOR SIGNAGE
(NOTES TYP FOR EACH SIGN)
PROVIDE AT ALL TOILET ROOMS.



UNISEX TOILET FACILITY IDENTIFICATION SYMBOLS

CIRCLE, 12 INCHES IN DIAMETER WITH AN EQUILATERAL TRIANGLE 1/4" THICK SUPERIMPOSED ON THE CIRCLE AND WITHIN THE 12 INCH DIAMETER VERTEX POINTING UPWARD. COLOR OF TRIANGLE SHALL CONTRACT WITH COLOR OF CIRCLE: COLOR OF CIRCLE SHALL CONTRAST WITH COLOR OF DOOR.70% MINIMUM CONTRAST.
•DOUBLE STICK FOAM TAPE ADHESIVE. SEE PLANS FOR LOCATIONS.
•PROVIDE AT ACCESSIBLE TOILET ROOM DOOR CENTERED AT 60" HIGH. SEE ACCOMPANYING DIAGRAM.

D1 E1 E2 SIGNAGE SIZES TO MATCH, MODIFY AS REQUIRED

ROOM OCCUPANCY SIGNAGE (C1)
MAXIMUM OCCUPANCY 105 PERSONS — 8" x 8", 5/8" MIN TEXT (48 PT.)
INSTALLATION LOCATION PER PLANS AND CBC REQUIREMENTS.
PROVIDE AT ALL ROOMS W/ OCCUPANT LOADS GREATER THAN 50
VERIFY ACTUAL # AT SHT. G-0.5

PERMANENT ROOM I.D. SIGNAGE (D1)
ROOM NUMBER ROOM NAME — 8" OR AS REQ*, 6", 5/8" MIN TEXT (48 PT.), 3/8" MIN 1/2" MAX
INSTALL NEXT TO ENTRANCE DOORS, PER CBC REQUIREMENTS.

TACTILE EXIT SIGN AT ALL EXIT DOORS (E1)
EXIT — 8", 6", 5/8" MIN TEXT (48 PT.), 3/8" MIN 1/2" MAX
RAISED LETTERS "EXIT". BRAILLE "EXIT". CONTRACTED GRADE 2 BRAILLE
LOCATED AT ALL EXIT DOORS IN ADDITION TO OVERHEAD, ILLUMINATED EXIT SIGNS.
INSTALL ON THE WALLADJACENT TO THE LATCH ON THE OUTSIDE OF THE DOOR WHERE THERE IS NO WALL SPACE ON THE WALL LATCH SIDE INCLUDING AT DOUBLE LEAF DOORS. SIGNS SHALL BE PLACED ON THE NEAREST ADJACENT WALL, PREFERABLY ON THE RIGHT SIDE.

TACTILE EXIT ROUTE SIGN (E2)
EXIT ROUTE — 8", 6", 5/8" MIN TEXT (48 PT.), 3/8" MIN 1/2" MAX
POST AS INDICATED AT DOORS TO EXIT ROUTE THAT DO NOT LEAD DIRECTLY TO THE EXTERIOR

*MIN DIMENSIONS SHOWN, WHERE BACK TO BACK SIGNS ARE APPLIED OVER GLASS, WIDTHS TO MATCH.

FIRE RISER SIGN (E3)
FIRE RISER INSIDE — 8", 6", 5/8" MIN TEXT (48 PT.), 3/8" MIN 1/2" MAX

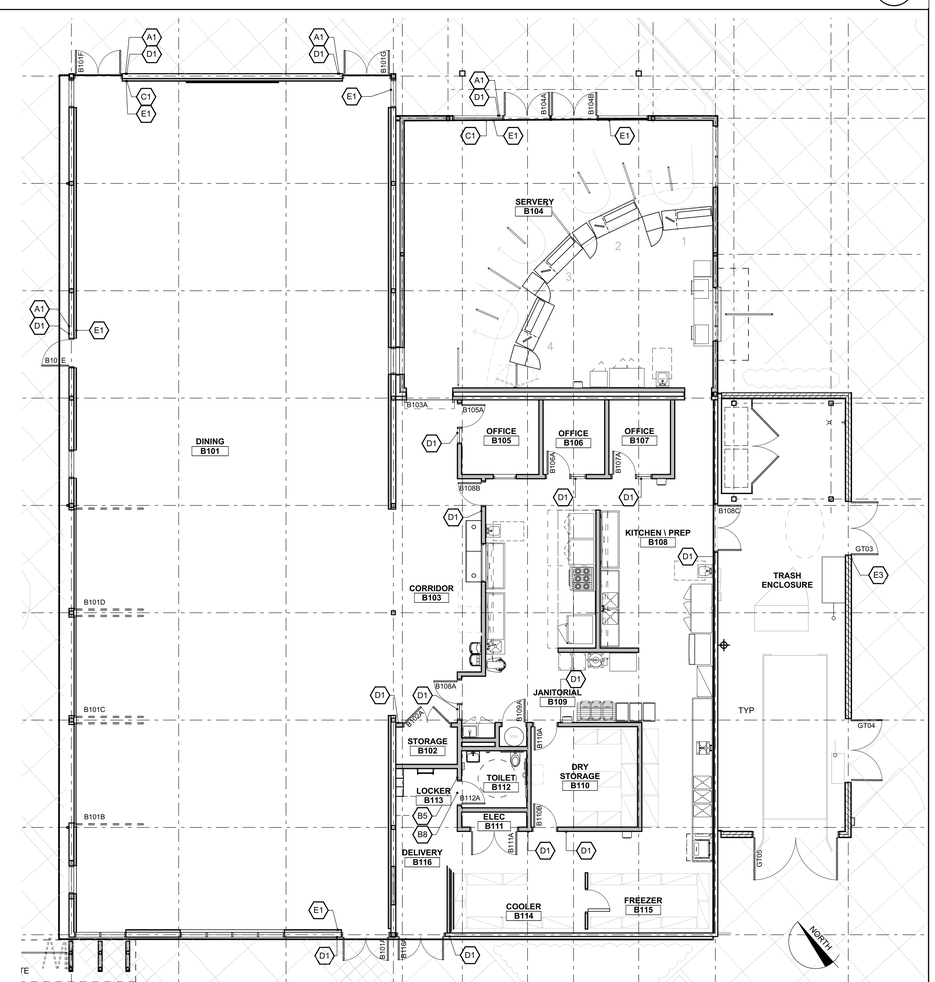
ASSISTIVE LISTENING SYSTEM SIGN (E4)
ASSISTIVE LISTENING SYSTEM AVAILABLE AT RECEPTION — 1'-0", 8", +60" A.F.F., 5/8" MIN TEXT (48 PT.)

EMERGENCY SHUTOFF VALVE SIGN (E6)
EMERGENCY SHUTOFF VALVE — 8", 6", 5/8" MIN TEXT (48 PT.)

ELECTRICAL CONTROL PANEL SIGN (E5)
ELECTRICAL CONTROL PANEL — 8", 6", 5/8" MIN TEXT (48 PT.), 3/8" MIN 1/2" MAX

ACCESSIBLE SIGNAGE (2)

1/4" = 1'-0"



BLDG B FLOOR PLAN SIGNAGE (5)

1/8" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
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DATE: 12/04/2020

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ARCH GRAPHICS PLAN

SHEET NUMBER

AG-2.1

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(J) MATERIAL DATA

(INFORMATION SHOWN IS FOR STRUCTURAL DESIGN REFERENCE ONLY. SEE THE PROJECT SPECIFICATIONS FOR ALL MATERIAL SPECIFICATIONS.)

CONCRETE 28-DAY MINIMUM DESIGN STRENGTH:
F'_c = 3,000 PSI FOUNDATIONS
F'_c = 3,000 PSI INTERIOR SLAB ON GRADE

REINFORCING STEEL YIELD STRENGTH:
ASTM A615 GRADE 60 OR A706 GRADE 60 (F_y = 60,000 PSI)

STEEL YIELD STRENGTH (UNO):
W SHAPES - ASTM A992 (Fy = 50,000 PSI)
ANGLES, CHANNELS, AND PLATES - ASTM A36 (Fy = 36,000 PSI)
RECTANGULAR HSS - ASTM A500 GRADE C (Fy = 50,000 PSI)
ROUND HSS - ASTM A500 GRADE C (Fy = 46,000 PSI)
PIPES - ASTM A53 GRADE B (Fy = 35,000 PSI)

FASTENERS:
MACHINE BOLTS SHALL BE ASTM A307 GRADE A
ANCHOR RODS SHALL BE ASTM F1554 GR 36 UNO
ARC-WELDING ELECTRODES SHALL BE E70

COLD FORMED METAL FRAMING YIELD STRENGTH:
F_y = 33,000 PSI 33 & 43 MILS (20 & 18 GAUGE)
F_y = 50,000 PSI 54, 68, & 97 MILS (16, 14, & 12 GAUGE)

MASONRY COMPRESSIVE STRENGTH:
F'_m = 2,000 PSI

WOOD BASE DESIGN STRESSES (UNO):

SAWN LUMBER MEMBER	SPECIES AND MINIMUM GRADE, UNO	F_b (PSI)	F_v (PSI)	E (PSI)
6x POSTS	DOUGLAS FIR - #1	1200	170	$1.6x10^6$
6x BEAMS	DOUGLAS FIR - #1	1350	170	$1.6x10^6$
4x POSTS & BEAMS	DOUGLAS FIR - #1	1000	180	$1.7x10^6$
2x JOISTS, RAFTERS	DOUGLAS FIR - #1	1000	180	$1.7x10^6$
ℙ MATERIAL	DOUGLAS FIR - #1	1000	180	$1.7x10^6$
2x STUDS	DOUGLAS FIR - #1	1000	180	$1.7x10^6$

MANUFACTURED WOOD PRODUCTS:
LVL (BEAMS) F_b = 2,900 PSI E = $2.0x10^6$ PSI
LSL (BLOCKING) F_b = 1,700 PSI E = $1.3x10^6$ PSI

FOR METAL CONNECTOR DESIGNATION REFER TO SIMPSON STRONG-TIE PER SPECIFICATIONS.

(K) COMPONENTS AND CLADDING

NET COMPONENTS AND CLADDING WIND PRESSURES (PSF)

MAX HEIGHT (FT)	SURFACE (PER ASCE 7-16 CHAPTER 30 PART 1)				
	ROOF ZONE			WALL ZONE	
	1	2	3	4	5
20	9.4 / -36.9	9.4 / -62.4	9.4 / -66.3	21.2 / -23.0	21.2 / -28.3

1. GIVEN VALUES SHALL BE USED FOR DESIGN OF CLADDING SYSTEMS UNLESS ENGINEERING IS SUBMITTED FOR REVIEW PER ITEM 3.
2. SEE A/S-0.1 FOR WIND DESIGN CRITERIA.
3. GIVEN PRESSURES ARE BASED ON AN EFFECTIVE AREA OF 10 SQUARE FEET OR LESS. ENGINEERING MAY BE SUBMITTED TO SUBSTANTIATE USE OF LOWER PRESSURES BASED ON GREATER EFFECTIVE WIND AREAS.
4. NEGATIVE VALUES INDICATE PRESSURE DIRECTED AWAY FROM THE EXTERIOR SURFACE OF THE STRUCTURE. BOTH THE POSITIVE AND NEGATIVE PRESSURE CASES SHALL BE CONSIDERED.

(L) COLD-FORMED STEEL FRAMING NOTES

1. SEE PLANS, DETAILS, AND ARCHITECTURAL DRAWINGS FOR METAL FRAMING LOCATIONS. SEE ARCHITECTURAL DRAWINGS FOR WALL WIDTHS AND CONFIGURATIONS.
2. EACH FRAMING MEMBER IS DESIGNATED BY A FOUR PART CODE INDICATING THE SIZE (BOTH DEPTH AND FLANGE WIDTH), STYLE, AND MATERIAL THICKNESS. FOR EXAMPLE, 600S162-54:

   600 - MEMBER DEPTH IN 1/100" (6")
   S - MEMBER STYLE - S=STUD, T=TRACK
   162 - FLANGE WIDTH IN 1/100" (1⅝")
   54 - MATERIAL THICKNESS IN MILS (0.054")

3. TYPICAL TRACKS ARE SAME GAUGE (MILS) AS STUD, 43 MILS MINIMUM UNO. FLANGE TO BE 1½" MIN.
4. ALL STUDS TO BE CONTINUOUS. ALL TRACKS IN HEADERS AND SILLS TO BE CONTINUOUS SINGLE-PIECE BETWEEN JAMB STUDS OR PARAPET POSTS.
5. FASTENING OF COMPONENTS SHALL BE WITH SELF-DRILLING SCREWS OR WELDING. SCREWS OR WELDS NOT SHOWN SHALL BE OF SUFFICIENT SIZE TO ENSURE THE STRENGTH OF THE CONNECTION. ALL WELDS OF GALVANIZED STEEL SHALL BE TOUCHED-UP WITH A ZINC-RICH PAINT. WIRE TYING OF COMPONENTS SHALL NOT BE PERMITTED.
6. EXPANSION ANCHOR OR SCREW ANCHOR SIZE AND EMBEDMENT ARE AS REQUIRED PER DRAWINGS. MINIMUM STEEL EDGE DISTANCE IN TRACK IS 2x ANCHOR DIAMETER AND MINIMUM SPACING IS 3x ANCHOR DIAMETER UNO. SEE EXPANSION OR SCREW ANCHOR SCHEDULE FOR CONCRETE REQUIREMENTS. FOR EXPANSION ANCHOR THROUGH METAL TRACK, USE 3" SQUARE x ¼" PLATE WASHER (OR EQUIVALENT ROUND WASHER) AT TRACK. DRILL HOLE IN PLATE WASHER FOR EXPANSION ANCHOR AS NEEDED TO ACHIEVE MINIMUM EDGE DISTANCES.
7. PROVIDE LIGHT GAUGE METAL BACKING FOR ARCHITECTURAL FINISHES AND FURNISHINGS, SAD.
8. FOR POWDER FRIVEN PINS (PDP) UNO:

BASE MATERIAL	FASTENER TYPE	SIZE	MINIMUM SPACING	MINIMUM DISTANCE	NOTES
CONCRETE	HILTI X-U (ICC ESR-2269)	0.157"Ø MIN 1¼" LONG	4"	3"	DO NOT USE PDP AT CONCRETE CURB

(F) SHEAR WALL NOTES

1. PEN = PLYWOOD/OSB SHEATHING EDGE NAILING. BLOCK ALL UNSUPPORTED EDGES WITH 2x MATERIAL UNO. BLOCK EDGES WITH 3x MATERIAL WHERE NAILING IS 4"oc OR LESS. SEE 12/S-1.2 FOR NAIL STAGGER AT ALL 3x.
2. FIELD NAILING TO BE 12"oc UNO.
3. ALL SHEATHING NAILS TO BE COMMON WIRE. SEE E/S-0.1 AND SPECIFICATIONS FOR OTHER NAIL REQUIREMENTS.
4. ALL EXTERIOR WALLS NOT DESIGNATED AS SHEAR WALLS ON PLANS TO HAVE SHEATHING AND PEN NAILING PER SHEAR WALL TYPE 'A'.
5. SHEAR WALL LENGTHS, WHERE NOTED, ARE MINIMUM. DO NOT LOCATE HOLDOWNS FROM THESE DIMENSIONS. SAD FOR ACTUAL WALL LENGTHS.
6. HOLDOWN REFERS TO SIMPSON STRONG TIE CO. HOLDOWNS. INSTALL HOLDOWNS AND REQUIRED POSTS PER 5/S-1.2 AND 10/S-1.2. SEE PLANS FOR OTHER REQUIREMENTS.
7. EDGE NAIL WALL SHEATHING TO STUDS OR POSTS WITH HOLDOWNS.
8. PORTIONS OF INTERIOR WALL SURFACES ADJACENT TO SPECIFIED SHEAR WALLS SHALL BE SHEATHED FOR THE FULL, UNINTERRUPTED LENGTH TO MATCH EXTERIOR WALLS OR WITH GYPSUM BOARD OF THE SAME THICKNESS TO PROVIDE AN EVEN WALL SURFACE FOR FINISH MATERIALS.
9. SHEAR WALLS MORE THAN ONE VERTICAL PANEL IN HEIGHT SHALL HAVE STAGGERED HORIZONTAL OR VERTICAL SPLICE JOINTS.
10. WHERE PANELS ARE APPLIED ON BOTH FACES OF A WALL AND NAIL SPACING IS LESS THAN 6"oc ON EITHER SIDE, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS OR FRAMING SHALL BE 3x OR THICKER AND NAILS ON EACH SIDE SHALL BE STAGGERED.
11. ANCHOR BOLTS (AB) FOR SHEAR WALLS SHALL INCLUDE STEEL PLATE WASHERS, A MINIMUM OF 0.229 INCH BY 3 INCHES SQUARE IN SIZE, BETWEEN THE SILL PLATE AND NUT. THE HOLE IN THE PLATE WASHER IS PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3⁄16" LARGER THAN THE AB DIAMETER AND A SLOT LENGTH NOT TO EXCEED 1¾", PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND THE NUT. PLATE WASHER TO EXTEND WITHIN ½" OF SHEAR WALL SHEATHING UNO. PROVIDE OVERSIZED PLATE WASHER OR OFFSET AB AS REQUIRED. AT DOUBLE-SIDED SHEAR WALLS, STAGGER AB AS REQUIRED. AB TO BE PLACED A MINIMUM OF 4½" AND A MAXIMUM OF 12" FROM ENDS OF ALL SILL PLATES AND AT NOTCHES IN SILL PLATES.
12. NO OPENINGS ARE ALLOWED IN SHEAR WALLS UNLESS SHOWN ON THE STRUCTURAL PLANS. OPENINGS NOTED ARE PER 7/S-1.2. COORDINATE ANY OPENINGS NOT SHOWN WITH THE STRUCTURAL ENGINEER.

SHEAR WALL SCHEDULE

SW	APA RATED SHEATHING	NAILING (PEN)	ANCHORAGE ⅝"Ø BOLT FDN 2x SILL	ANCHORAGE ⅝"Ø BOLT FDN 3x SILL	REMARKS
A	15⁄32" (32/16) EXP 1	10d @ 6"oc	32"oc	48"oc	
B	15⁄32" (32/16) EXP 1	10d @ 4"oc	24"oc	32"oc	3x MIN AT ALL ADJOINING PANEL EDGES
C	15⁄32" (32/16) EXP 1	10d @ 3"oc	16"oc	24"oc	
D	15⁄32" (32/16) EXP 1	10d @ 2"oc	-	16"oc	

(G) MANUFACTURED I-JOIST NOTES

1. IJ = BUILT-UP "I" SHAPED WOOD JOIST WITH PLYWOOD OR OSB WEB. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. I-JOISTS ARE PER PLAN. PROVIDE "HB" HANGERS (SLOPED AS REQUIRED) UNLESS NOTED OTHERWISE. HANGER SIZE TO BE CORRECT FULL SIZE FOR JOIST SIZE WITH 'MAX' NAILING UNLESS NOTED OTHERWISE.
3. ALTERNATE FRAMING CAN BE SUBMITTED FOR SUBSTITUTION REVIEW AS AN EXTRA SERVICES ITEM. CONTRACTOR SHALL BE RESPONSIBLE FOR COST OF INVESTIGATING AND REVIEWING THE ADEQUACY AND/OR ACCEPTABILITY OF SUCH SUBSTITUTION, INCLUDING ANY REQUIRED REVISIONS TO DRAWINGS AND SPECIFICATIONS.
4. IJ SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. WEB STIFFENERS AND WEB FILLERS SHALL BE INSTALLED PER IJ AND JOIST HANGER MANUFACTURER'S REQUIREMENTS AND 4/S-1.4.
5. NO MODIFICATIONS ARE PERMITTED TO I-JOIST TOP AND BOTTOM CHORDS, DO NOT CUT. OPENINGS THROUGH I-JOIST WEBS ARE PERMITTED AS INDICATED PER 1/S-1.4.
6. BLOCKING AT I-JOIST SHALL BE INSTALLED PER 2/S-1.4.
7. WHERE MULTIPLE-PLY I-JOIST ARE USED, PROVIDE CONNECTIONS BETWEEN JOISTS PER 5/S-1.4.
8. PROVIDE BRIDGING WITHIN 12" OF EACH HANGER AND AT 8'-0" MAX AT ALL I-JOIST PER 1/S-1.4.

I - JOIST SCHEDULE

TYPE	MANUFACTURER & MODEL	CODE REPORT NUMBER
IJ11⅞	BOISE CASCADE BCI 90-1.8	ICC ESR - 1336
	LOUISIANA PACIFIC LPI 42 PLUS	ICC ESR - 1305
	REDBUILT RED-I65	ICC ESR - 2994
	WEYERHAEUSER TJI 560	ICC ESR - 1153

(H) STEEL NOTES

1. COORDINATE TOP OF FOOTING ELEVATIONS AS DETERMINED BY THE CONTRACTOR PER D/S-0.1.
2. TOP OF STEEL ELEVATIONS ARE TO BE DETERMINED BY THE CONTRACTOR BASED ON ARCHITECTURAL DRAWINGS AND STRUCTURAL DRAWINGS.
3. WHERE INDICATED ON PLAN "C" INDICATES MIDSPAN CAMBER IN INCHES.

(I) CONCRETE MASONRY UNIT NOTES

1. CONCRETE MASONRY UNIT CONSTRUCTION SHALL BE PER 2/S-1.5 UNO. USE DOUBLE OPEN END WHERE POSSIBLE AND SINGLE OPEN END OTHERWISE. ALL CELLS TO BE GROUTED SOLID. ALL CMU TO BE LAID IN RUNNING BOND.
2. PROVIDE INVERTED BOND BEAM UNITS AT FOUNDATION LEVEL. SEE SPECIFICATIONS FOR CLEANOUT AND GROUTING REQUIREMENTS.
3. DOWELS FROM FOUNDATION ARE TO MATCH SIZE AND ALIGNMENT WITH THE WALL VERTICAL REINFORCEMENT. EXTEND DOWELS FROM FOUNDATION INTO WALL TO PROVIDE MINIMUM LAP WITH WALL VERTICAL REINFORCEMENT. INSTALL DOWEL BARS PER PLAN AND 1/S-1.5 . ALL DOWELS TO EXTEND TO THE LOWEST FOUNDATION REINFORCEMENT AND END WITH A STANDARD HOOK.
4. WALL REINFORCING SHALL BE PER 2/S-1.5 & 7/S-1.5 UNO.
5. PROVIDE SASH UNITS AT ALL OPENINGS TYPICAL UNO.
6. SAD FOR TYPE OF FINISH, LOCATION, COLOR, ETC. SEE SPECIFICATIONS OTHERWISE.
7. VERTICAL CONTROL JOINTS SHALL BE SPACED NO GREATER THAN 1.5x THE WALL HEIGHT BUT NOT GREATER THAN 25'-0"oc. SEE 3/S-1.5.

(D) FOUNDATION NOTES

1. FOUNDATION DESIGN PRESSURES ARE:

   SHALLOW FOOTINGS:
   DEAD LOAD + LIVE LOAD = 2,500 PSF
   DEAD LOAD + LIVE LOAD + LATERAL = 3,333 PSF

   DRILLED PIERS:
   ALLOWABLE SKIN FRICTION DEAD LOAD + LIVE LOAD = 300 PSF DOWN, 200 PSF UP MAY BE INCREASED BY 1/3 FOR TOTAL LOADS INCLUDING LATERAL

   RETAINING WALLS:
   ACTIVE PRESSURE = 45 PCF
   AT-REST PRESSURE = 65 PCF
   PASSIVE (ALLOWABLE) PRESSURE = 300 PCF

2. ALL SOILS WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS, THE REQUIREMENTS OF THE GEOTECHNICAL REPORT NOTED BELOW AND CHAPTER 18A OF THE CBC, TITLE 24, PART 2. ALL FOUNDATIONS SHALL BEAR ON FIRM, UNDISTURBED, NATIVE SOILS OR ENGINEERED FILL AT OR EXCEEDING DEPTHS SHOWN ON THE DRAWINGS. ENGINEERED FILL TO BE COMPACTED PER GEOTECHNICAL REPORT. INCREASE FILL AND OR FOOTING DEPTH AS REQUIRED BY GEOTECHNICAL ENGINEER. ALL FOOTING EXCAVATIONS SHALL BE AS NEAT AS PRACTICABLE. MAXIMUM OVER EXCAVATION IN WIDTH SHALL BE LESS THAN 12 INCHES OR 25% OF FOOTING WIDTH, WHICH EVER IS LESS. 6 INCHES MAXIMUM PER SIDE. LARGER OVER-EXCAVATIONS IN WIDTH SHALL BE FILLED WITH ADDITIONAL REINFORCED CONCRETE AS DIRECTED BY THE ENGINEER, OR FORMWORK SHALL BE PROVIDED. OVER-EXCAVATIONS IN DEPTH MAY BE FILLED WITH LEAN CONCRETE OR COMPACTED APPROVED BACKFILL. ALL LOOSE SOILS SHALL BE REMOVED FROM EXCAVATIONS PRIOR TO PLACEMENT OF REINFORCING OR CONCRETE. ALL UNFORMED FOUNDATIONS SHALL BE EXCAVATED AND FORMED PER 13/S-1.1. GEOTECHNICAL REPORT BY:

   BSK ASSOCIATES
   REPORT NO. G18-308-11L
   DATED: JANUARY 30, 2019 & UPDATE LETTER NOVEMBER 13, 2019

3. WHERE BOTTOM OF ADJACENT FOOTINGS ARE DIFFERENT PROVIDE STEPPED FOOTING PER 5/S-1.1.
4. USE 5/8" DIAMETER x 12" (18" AT CURBS) ANCHOR BOLTS (AB) AT 48"oc WHERE NOT OTHERWISE NOTED. MINIMUM EMBEDMENT INTO CONCRETE IS 7" (EXCLUDING CURB) UNLESS DETAILED OTHERWISE. ANCHOR BOLTS ARE TO BE TIED IN PLACE PRIOR TO PLACEMENT OF CONCRETE. SEE SHEAR WALL SCHEDULE FOR ADDITIONAL REQUIREMENTS. MINIMUM TWO ANCHOR BOLTS PER SILL PIECE.
5. TYPICAL SLAB: 5" CONCRETE REINFORCED WITH #4 @ 16"oc EACH WAY LOCATED 1½" CLEAR FROM TOP OF SLAB OVER VAPOR RETARDER (PER SPECIFICATIONS) AND 6" MINIMUM FREE DRAINING COMPACTED ROCK PER SPECIFICATIONS ON SUBGRADE PER THE GEOTECHNICAL RECOMMENDATIONS, AND AS APPROVED BY THE GEOTECHNICAL ENGINEER. DO NOT DRIVE CONCRETE TRUCKS OR LARGE SCREED MACHINES ON VAPOR BARRIER WITHOUT ADDITIONAL BUFFER MATERIAL AND APPROVAL FROM THE STRUCTURAL ENGINEER.
6. REFER TO ARCHITECTURAL AND PLUMBING DRAWINGS FOR DEPRESSED SLABS FOR ARCHITECTURAL FLOORING OR INSERTS, SLOPED SLABS TO DRAIN AND PIPES OR CONDUITS AT SLAB. SEE 8/S-1.1 AT DEPRESSED SLAB & 7/S-1.1 FOR PIPES AND CONDUITS.
7. PROVIDE CONTROL JOINTS PER 6/S-1.1 (OR CONSTRUCTION/DOWEL JOINTS AT CONTRACTOR'S OPTION) AS SHOWN ON PLAN AND AS REQUIRED TO MEET A MAXIMUM SPACING IN FEET OF 3 TIMES THE SLAB DEPTH IN INCHES (FOR EXAMPLE 3x4" = 12'-0"oc MAX). PROVIDE CONSTRUCTION/DOWEL JOINTS PER 6/S-1.1 AS SHOWN ON PLAN, BUT NOT GREATER THAN 60'-0"oc EACH WAY. INSTALL JOINTS TO DIVIDE SLAB INTO RECTANGULAR AREAS WITH LONG DIMENSION LESS THAN 1.5 x SHORT DIMENSION. INSTALL JOINTS AT FACE OF STUDS OF WALL WHERE POSSIBLE. SUBMIT JOINT LAYOUT PLAN FOR REVIEW PRIOR TO PLACEMENT.
8. DRILLING FOR CAST IN PLACE CONCRETE PIERS REQUIRES OBSERVATION AND APPROVAL OF GEOTECHNICAL ENGINEER. ALL PIERS SHALL BE POURED IN ONE CONTINUOUS POUR WITH STEEL IN PLACE. ALL PIERS TO BE VIBRATED WHILE POURING CONCRETE.
9. DO NOT UNDERCUT EXISTING FOUNDATIONS. NOTIFY ENGINEER FOR REVIEW AND POSSIBLE REVISIONS, IF EXISTING FOUNDATION CONDITIONS ARE NOT AS SHOWN.
10. TOP OF FOOTING ELEVATIONS TO BE DETERMINED BY THE CONTRACTOR BASED ON INFORMATION FROM THE CIVIL DRAWINGS, GEOTECHNICAL REPORT, LANDSCAPE, ETC.
11. EXTERIOR WALLS TO HAVE MINIMUM 6" TALL CURB. SAD FOR CURB CONFIGURATION. INTERIOR WALLS AT TOILET ROOM TO HAVE MINIMUM 6" TALL CURB, UNO.

(E) WOOD FRAMING NOTES

1. HEADERS, BEAMS, POSTS, TOP PLATE SPLICES, AND ETC., ARE PER 1/S-1.2 AND 3/S-1.2 WHERE NOT NOTED ON PLAN AND DETAILS. WALLS AT SEISMIC SEPARATIONS SHALL BE CONSIDERED EXTERIOR WALLS.
2. ALL BEAMS AND JOISTS (EXCLUDING I JOISTS) SHALL BE SEAT CUT FOR FULL UNIFORM BEARING AT SUPPORTS, INCLUDING BEAM SEATS AND COLUMN CAPS.
3. SEE 12/S-1.2 FOR SHEATHING NAILING REQUIREMENTS. ALL NAILING NOT NOTED OR DETAILED OTHERWISE SHALL BE PER 11/S-1.2. NAIL LENGTH TO BE SUFFICIENT TO MEET CBC PENETRATION REQUIREMENTS.
4. EXTERIOR STUD WALL SHALL BE 2x6 @ 16"oc UNLESS NOTED OTHERWISE. INTERIOR BEARING WALLS AND SHEAR WALLS SHALL BE 2x6 @ 16"oc UNLESS NOTED OTHERWISE. SEE ARCHITECTURAL DRAWINGS FOR OTHER INTERIOR WALL FRAMING SIZES. COORDINATE STUD AND PLATE SIZES WITH THE REQUIREMENTS OF THE SHEAR WALL SCHEDULE. STUDS ADJACENT TO SEISMIC SEPARATIONS ARE TO BE 2x6 @ 16"oc UNLESS NOTED OTHERWISE.
5. WOOD POST SIZES ARE TO MATCH BEAM AND STUD WIDTH, UNO. PEN PER 5/S-1.2 TO POSTS AT ALL EXTERIOR WALLS AND INTERIOR SHEAR WALLS. POSTS AT HOLDOWNS TO BE FULL HEIGHT AND PER F/S-0.1.
6. FOR ROOF DRAINAGE, TOP OF FRAMING BETWEEN NOTED POINTS IS A STRAIGHT LINE.
7. ALL MECHANICAL SUPPLY AND RETURN OPENINGS TO BE BETWEEN FRAMING UNO.
8. HSS OR PIPE COLUMNS IN STUD WALLS ARE TO BE TRIMMED PER 6/S-1.3. REFER TO PLANS AND DETAILS FOR OTHER REQUIREMENTS.
9. RAFTERS ARE PER PLAN, WITH HU HANGERS (SKEWED AND/OR SLOPED AS REQUIRED) AT FLUSH FRAMING UNO. PROVIDE HUC HANGERS AS REQUIRED. HANGERS FOR SAWN BEAMS AT EXTERIOR FRAMING TO BE HUCQ UNO. HANGERS FOR SAWN BEAMS TO BE HUS UNO. HANGERS FOR RAFTERS AT STEEL BEAMS TO BE BA UNO. HANGER SIZE TO BE CORRECT FULL SIZE FOR JOIST SIZE (I.E. HU210 FOR 2x10).
10. PROVIDE SOLID BLOCKING @ 8'-0"oc MAX FOR ALL 2x12 REPETITIVE FRAMING.
11. ROUND HOLES IN STEEL PLATES TO BE 1⁄16" OVERSIZE. SLOTTED HOLES IN STEEL PLATES SHALL BE 1⁄16" WIDER THAN THE BOLT DIAMETER AND HAVE A LENGTH OF 2 TIMES THE BOLT DIAMETER. THE DIRECTION OF THE SLOTTED LENGTH IS INDICATED ON THE DETAILS (VSH OR HSH). INSTALL BOLT AT THE CENTER LINE OF THE HOLE. BOLT HOLES IN WOOD SHALL BE ROUND AND 1⁄32" OVERSIZE. CUT OFF BOLT THREADED END FLUSH WITH NUT WHEN REQUIRED BY FINISHES AND 1" MAXIMUM FROM NUT OTHERWISE. PROVIDE STANDARD CUT WASHERS UNDER HEAD AND NUT WHERE BOLT BEARS ON WOOD. USE PLATE OR MALLEABLE IRON WASHERS AT EXPOSED CONDITIONS OR AS INDICATED.
12. ALL BOLTED OR NAILED STRAP CONNECTIONS SHALL HAVE AN EQUAL NUMBER OF BOLTS OR NAILS EACH SIDE OF THE SPLICE JOINT. THE FIRST BOLT OR NAIL FROM EACH SIDE OF THE SPLICED OR STRAPPED MEMBER SHALL BE EQUIDISTANT FROM THE SPLICE. STRAPS USING 16d NAILS ON 2x MATERIAL TO BE INSTALLED ON THE 1½" EDGE OF THE MEMBER.
13. THE CONTRACTOR SHALL VERIFY THAT THE MOISTURE CONTENT OF ALL FRAMING LUMBER AND SHEATHING MEET THE REQUIREMENTS OF THE SPECIFICATIONS AT THE TIME OF INSTALLATION AND AT CLOSE-IN. THE CONTRACTOR SHALL PROVIDE ALLOWANCE FOR DIFFERENTIAL SHRINKAGE BETWEEN FLOORS, ETC.
14. VENTING IS REQUIRED IN ENCLOSED FRAMING AREAS, SAD. DRILL BLOCKING AND LEDGERS AS DETAILED ON ARCHITECTURAL DRAWINGS.
15. SAD FOR CEILING INFO. WHERE REQUIRED PROVIDE CEILING JOISTS PER 4/S-1.3, UNO.
16. ALL SHEATHING SHALL HAVE 1/8" GAP AT ALL EDGES AND JOINTS. TYPICAL SHEATHING:
    A. ROOF SHEATHING: 19⁄32" T&G APA RATED SHEATHING (40/20) EXP 1 WITH 10d @ 6"oc EDGES (PEN) AND 12"oc FIELD UNO ON PLANS. LAY PERPENDICULAR TO FRAMING MEMBERS. BLOCK EDGES WITH 2x4 LAID FLAT. NO PANELS LESS THAN 24" WIDE SHALL BE USED. STAGGER SHEETS.

(B) GENERAL NOTES

1. REFER TO SHEETS S-1.1, S-1.2, S-1.3, S-1.4, & S-1.5 FOR STANDARD DETAILS OF CONSTRUCTION. REFER TO THE PROJECT SPECIFICATIONS FOR MATERIALS AND METHODS.
2. BUILDING DIMENSIONS SHOWN ARE FOR GENERAL REFERENCE ONLY. SEE ARCHITECTURAL DRAWINGS (SAD) FOR ALL ACTUAL BUILDING DIMENSIONS. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER SO CLARIFICATION CAN BE MADE PRIOR TO COMMENCING WORK.
3. STRUCTURAL DRAWINGS SHALL NOT BE SCALED. ALL DIMENSIONS AND FIT SHALL BE DETERMINED AND VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING WORK.
4. DETAILS NOT FULLY OR SPECIFICALLY SHOWN SHALL BE OF SAME NATURE AS OTHER SIMILAR CONDITIONS.
5. REFER TO ARCHITECTURAL DRAWINGS FOR SIDEWALK SLABS AND DIMENSIONS.
6. COORDINATION OF MECHANICAL, ELECTRICAL, PLUMBING, AND SITE UTILITY SYSTEMS WITH THE STRUCTURAL SYSTEM IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. USE DETAILS 2/S-1.1 3/S-1.1 7/S-1.1 2/S-1.2 6/S-1.2 AND 7/S-1.2. AT CONDITIONS WHERE THESE DETAILS DO NOT APPEAR TO APPLY, NOTIFY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION. AT CONDITIONS WHERE FIELD MODIFICATIONS OF MECHANICAL, ELECTRICAL, PLUMBING, OR SITE UTILITIES AFFECT STRUCTURAL SYSTEMS, NOTIFY STRUCTURAL ENGINEER PRIOR TO INSTALLATION.
7. VERIFY WEIGHTS AND LOCATIONS OF MECHANICAL UNITS WITH MECHANICAL ENGINEER PRIOR TO PLACEMENT. UNITS VARYING OVER 10% IN WEIGHT SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION (MECHANICAL WEIGHTS SHOWN ARE MAXIMUM). CONTRACTOR TO VERIFY MECHANICAL UNIT SIZES AND WEIGHTS AS INSTALLED PRIOR TO INSTALLATION OF SPECIAL FRAMING TO ENSURE CORRECT PLACEMENT UNDER CURBS, ETC. SEE 7/S-1.3 .
8. SHORING AND BRACING DESIGN, MATERIALS AND INSTALLATION SHALL BE PROVIDED BY THE GENERAL CONTRACTOR, AND SHALL BE ADEQUATE FOR ALL LOADS. LEAVE IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY AND UNTIL FINAL STRUCTURAL CONSTRUCTION IS COMPLETED. THE CONTRACTOR SHALL ENGAGE A LICENSED CIVIL OR STRUCTURAL ENGINEER TO PROVIDE SHORING.
9. SPECIAL INSPECTIONS ARE REQUIRED PER THE TESTING AND INSPECTION FORM, SEE SPECIFICATIONS.
10. VEHICULAR TRAFFIC, HEAVY EQUIPMENT AND MATERIAL STAGING SHALL NOT BE ALLOWED ADJACENT TO ANY RETAINING/BASEMENT WALL, NEW OR EXISTING WITHIN A HORIZONTAL DISTANCE EQUAL TO THE WALL HEIGHT MEASURED FROM THE BOTTOM OF FOOTING OR 5'-0" WHICHEVER IS GREATER, UNLESS APPROVED BY THE STRUCTURAL ENGINEER OR NOTED OTHERWISE. WITHIN THIS ZONE, ONLY HAND-OPERATED EQUIPMENT ("WHACKERS", VIBRATORY PLATES, OR PNEUMATIC COMPACTORS) SHALL BE USED TO COMPACT THE BACKFILL SOILS.
11. SITE REVIEWS BY ZFA ARE REQUIRED FOR THE FOLLOWING UNLESS DIRECTED OTHERWISE:
    - REINFORCING STEEL
    - WOOD ROOF SHEATHING
    - WALL SHEATHING

    NOTIFY ZFA AT LEAST 2 WORKING DAYS PRIOR TO COMPLETION OF WORK.
12. SUBMIT ENGINEERING OF ITEMS TO ARCHITECT/ENGINEER FOR REVIEW PRIOR TO FABRICATION. SAD AND SPECIFICATIONS FOR THE REQUIREMENTS. GENERAL CONTRACTOR SHALL REVIEW AND APPROVE DIMENSIONS AND DETAILS SHOWN ON THE SHOP DRAWINGS PRIOR TO SUBMITTAL. CONTRACTOR TO PROVIDE DRAWINGS AND CALCULATIONS PREPARED AND SIGNED BY A CALIFORNIA LICENSED CIVIL / STRUCTURAL ENGINEER FOR THE FOLLOWING ITEMS, UNLESS NOTED OTHERWISE:
    A. STORE FRONT, CURTAIN WALL, GLAZING AND SKYLIGHT SYSTEMS: INCLUDE ATTACHMENTS TO STRUCTURE. DESIGN LOADS PER CODE/SPECIFICATIONS AND K/S-0.1.

(C) EXISTING CONSTRUCTION NOTES

1. IN PREPARING THE PROJECT PLANS, THE SOURCE OF INFORMATION WAS BASED ON THE EXISTING BUILDING PLANS PREPARED BY, DALTON & DALTON CONSULTING STRUCTURAL ENGINEERS, DATED OCTOBER 15, 1964, DSA APPLICATION NO 25083. THE CONTRACTOR SHALL VERIFY ALL EXISTING JOB CONDITIONS, REVIEW THE PLANS AND VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ALL DISCREPANCIES AND EXCEPTIONS BEFORE PROCEEDING WITH ANY WORK. DRAWINGS FOR THE EXISTING CONSTRUCTION ARE AVAILABLE FOR REVIEW.
2. ALL WORK NOT INDICATED AS EXISTING (E) SHALL BE ASSUMED TO BE NEW (N).
3. ANY REMOVAL, CUTTING, DRILLING, ETC OF EXISTING WORK SHALL BE PERFORMED WITH GREAT CARE. SMALL TOOLS SHALL BE USED IN ORDER NOT TO JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE STRUCTURE. IF STRUCTURAL MEMBERS OR MECHANICAL, ELECTRICAL, OR ARCHITECTURAL ELEMENTS NOT INDICATED FOR REMOVAL INTERFERE WITH THE NEW WORK, THE ARCHITECT/ENGINEER SHALL BE IMMEDIATELY NOTIFIED AND PRIOR APPROVAL SHALL BE OBTAINED BEFORE REMOVAL OF THE MEMBERS.
4. DO NOT OVER CUT EXISTING WOOD, CONCRETE, MASONRY OR OTHER WORK TO REMAIN. CUTS SHALL BE MADE NEATLY TO A CORNER, THEN ALTERNATE MEANS SHALL BE USED TO REMOVE REMAINING MATERIAL. CONTRACTOR IS RESPONSIBLE FOR REPAIR/REPLACEMENT OF OVER CUT MATERIAL AS DIRECTED BY THE ARCHITECT AND/OR ENGINEER.
5. EXISTING DAMAGED STRUCTURAL MEMBERS WHICH ARE UNCOVERED SHALL BE REPORTED TO THE ARCHITECT/ENGINEER FOR REVIEW AND REPAIR.
6. EXISTING CONCRETE SURFACE ABUTTING NEW CONCRETE SHALL BE ROUGHENED TO ¼" AMPLITUDE AND THOROUGHLY CLEANED OF DUST, LOOSE AGGREGATE, LAITANCE, ETC.

(A) DESIGN CRITERIA

DESIGN CRITERIA: 2019 CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2 (CBC)
2019 CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 10 (CEBC)

FLOOR LIVE LOAD: N/A
ROOF LIVE LOAD: 20 PSF (REDUCIBLE)
FUTURE SOLAR: 0 PSF
RISK CATEGORY: III
WIND DATA: BASIC DESIGN WIND SPEED (3 SEC GUST): V = 100 MPH
ASD WIND SPEED (3 SEC GUST): V_{ASD} = 78 MPH
WIND EXPOSURE: C
INTERNAL WIND PRESSURE COEFFICIENT (GCPI) = ±0.18
COMPONENTS AND CLADDING DESIGN PRESSURES FOR SYSTEMS DESIGNED BY OTHERS SHALL COMPLY WITH K/S-0.1

ASCE 7 EARTHQUAKE DATA: SEISMIC IMPORTANCE FACTOR, I_e: 1.25
MAPPED SPECTRAL RESPONSE ACCELERATIONS: S_S = 1.37; S_1 = 0.48
SITE CLASS: D
SPECTRAL RESPONSE COEFFICIENTS: S_{DS} = 0.91; S_{D1} = 0.58
SEISMIC DESIGN CATEGORY: D
ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE

ADMINISTRATION BUILDING
SEISMIC FORCE RESISTING SYSTEM: WOOD FRAMED SHEAR WALLS
RESPONSE MODIFICATION FACTOR: R = 6.5
SEISMIC RESPONSE COEFFICIENT, C_S = 0.176
DESIGN BASE SHEAR: 42.1k (ASD)
HORIZONTAL IRREGULARITIES: REENTRANT CORNER
VERTICAL IRREGULARITIES: NONE

SERVERY BUILDING (FOR THE NEW CONSTRUCTION ONLY)
SEISMIC FORCE RESISTING SYSTEM: WOOD FRAMED SHEAR WALLS
RESPONSE MODIFICATION FACTOR: R = 6.5
SEISMIC RESPONSE COEFFICIENT, C_S = 0.176
DESIGN BASE SHEAR: 6.6k (ASD)
HORIZONTAL IRREGULARITIES: NONE
VERTICAL IRREGULARITIES: NONE

CANTILEVER COLUMN CANOPIES
SEISMIC FORCE RESISTING SYSTEM: STEEL ORDINARY CANTILEVER COLUMN
RESPONSE MODIFICATION FACTOR: R = 1.25
SEISMIC RESPONSE COEFFICIENT, C_S =1.096

MAXIMUM ANTICIPATED STORY DRIFT = 0.015 X HEIGHT
PROVIDE DEFORMATION COMPATIBILITY PER ASCE 7 SECTION 12.12.5 FOR NON-STRUCTURAL ITEMS, INCLUDING CLADDING, STAIRS, GLAZING, ETC.

ASCE 41 EARTHQUAKE DATA: LEVEL OF SEISMICITY: HIGH
KNOWLEDGE FACTOR FOR EXISTING COMPONENTS: 1.0
ANALYSIS PROCEDURE USED: LINEAR STATIC
BUILDING TYPE: TILT-UP CONCRETE (PC1)
EFFECTIVE MASS FACTOR: C_m = 1.0

HAZARD LEVEL: BSE-1N
PERFORMANCE OBJECTIVES:
STRUCTURAL: REDUCED SAFETY (S-2)
NONSTRUCTURAL: POSITION RETENTION (N-B)
MAPPED SPECTRAL RESPONSE ACCELERATIONS: S_{XS} = 0.91 S_{X1} = 0.58
SPECTRAL RESPONSE ACCELERATION: S_a = 0.91
C_1C_2 = 1.0

HAZARD LEVEL: BSE-2N
PERFORMANCE OBJECTIVES:
STRUCTURAL: LIMITED SAFETY (S-4)
NONSTRUCTURAL: HAZARDS REDUCED (N-D)
MAPPED SPECTRAL RESPONSE ACCELERATIONS: S_S = 1.37 S_1 = 0.48
DESIGN SPECTRAL RESPONSE ACCELERATIONS: S_{XS} = 1.37 S_{X1} = 0.88
SPECTRAL RESPONSE ACCELERATION: S_a = 1.37
C_1C_2 = 1.27

SCOPE: NEW SINGLE STORY WOOD-FRAMED BUILDING ON CONVENTIONAL SPREAD FOOTINGS.
MODERNIZATION OF EXISTING CAFETERIA INCLUDING NEW MECHANICAL UNITS. NEW SEISMICALLY SEPERATE SINGLE STORY WOOD-FRAMED ADDITION ON CONVENTIONAL SPREAD FOOTINGS.

SHEET INDEX

S-0.1	GENERAL NOTES
S-1.1	TYPICAL CONCRETE DETAILS
S-1.2	TYPICAL WOOD DETAILS
S-1.3	TYPICAL WOOD DETAILS
S-1.4	TYPICAL I-JOIST DETAILS
S-1.5	TYPICAL CMU DETAILS
S-A2.1	ADMINISTRATION BUILDING FOUNDATION PLAN
S-A2.2	ADMINISTRATION BUILDING ROOF FRAMING PLAN
S-B2.1	CAFETERIA FOUNDATION PLAN
S-B2.2	CAFETERIA ROOF FRAMING PLAN
S-3.1	CANOPY PLANS
S-4.1	FOUNDATION DETAILS
S-5.1	STEEL DETAILS
S-6.1	WOOD DETAILS
S-7.1	RAIN CANOPY DETAILS
S-8.1	MODERNIZATION DETAILS
S-8.2	MODERNIZATION DETAILS

ABBREVIATIONS

AB	ANCHOR BOLT
ABV	ABOVE
AC	AIR CONDITIONING
ADJ	ADJACENT
ADDL	ADDITIONAL
ALT	ALTERNATE
ALUM	ALUMINUM
ARCH	ARCHITECT
@	AT
BLDG	BUILDING
BLK/BLKG	BLOCK/BLOCKING
BLW	BELOW
BM	BEAM
BN	BOUNDARY NAIL
BOT	BOTTOM
BRG	BEARING
BTWN	BETWEEN
BU	BUILT-UP
BYND	BEYOND
C	AMERICAN STANDARD CHANNEL
CANT	CANTILEVER
CB	CARRIAGE BOLT
CIP	CAST IN PLACE
CGL	CERTIFIED GLUED LUMBER
CJ	CONTROL JOINT
℄	CENTERLINE
CJP	COMPLETE JOINT PENETRATION
CLG	CEILING
CLR	CLEAR
COL	COLUMN
COLL	COLLECTOR
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
COORD	COORDINATE/ COORDINATION
CMU	CONCRETE MASONRY UNIT
CSK	COUNTERSINK
CW	CUT WASHER
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DCW	DEMAND CRITICAL WELD
DF	DOUGLAS FIR
DIA or Ø	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DJ	DOWEL JOINT
DL	DEAD LOAD
DN	DOWN
DO	DITTO
DWG	DRAWING
DWL	DOWEL
EA	EACH
EE	EACH END
EF	EACH FACE
ELEC	ELECTRICAL
ELEV	ELEVATOR/ELEVATION
EMBED	EMBEDMENT
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
EW	EACH WAY
EXIST or (E)	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FDN	FOUNDATION
FIN	FINISH
FG	FINISH GRADE
FLI	FERRULE LOOP INSERT
FLR	FLOOR
FN	FACE NAIL
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FRMG	FRAMING
FS	FAR SIDE
FTG	FOOTING
GA	GAGE or GAUGE
GALV	GALVANIZED

GB	GRADE BEAM
GLB	GLUE LAMINATED BEAM
GR	GRADE
HD	HOLD DOWN
HDG	HOT-DIP GALVANIZED
HDR	HEADER
HGR	HANGER
HK	HOOK
HORIZ	HORIZONTAL
HS	HIGH STRENGTH
HSB	HIGH STRENGTH BOLT
HSFB	HIGH STRENGTH FRICTION BOLT
HSG	HIGH STRENGTH GROUT
HSH	HORIZONTAL SLOTTED HOLE
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT
ID	INSIDE DIAMETER
IJ	I SHAPED WOOD BUILT UP TRUSS
INT	INTERIOR
JST	JOIST
JT	JOINT
KP	KING POST
L	STEEL ANGLE
Lb or #	POUND(s)
LGMF	LIGHT GAGE METAL FRAMING
LGMFC	LIGHT GAGE METAL FRAMING CONTRACTOR
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION
LS	LAG SCREW
LSL	LAMINATED STRAND LUMBER
LVL	LAMINATED VENEER LUMBER
MAX	MAXIMUM
MB	MACHINE BOLT
MBM	METAL BUILDING MANUFACTURER
MC	MISCELLANEOUS CHANNEL
MECH	MECHANICAL
MEZZ	MEZZANINE
MF	MOMENT FRAME
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MIW	MALLEABLE IRON WASHER
MTL	METAL
(N)	NEW
NIC	NOT IN CONTRACT
NO or #	NUMBER
NS	NEAR SIDE
NSG	NON-SHRINK GROUT
NTS	NOT TO SCALE
O/	OVER
oc	ON CENTER
OD	OUTSIDE DIAMETER
OH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
OVS	OVERSIZED
OW	OTHERWISE
OWT	OPEN WEB TRUSS
ℙ	PLATE or PROPERTY LINE
PA	POST ABOVE
PDP	POWDER DRIVEN PINS
PEN	PANEL EDGE NAIL
PERP	PERPENDICULAR
PES	PANEL EDGE SCREWS
PJP	PARTIAL JOINT PENETRATION
PLF	POUNDS PER LINEAR FOOT
PNL	PANEL
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
PTB	PANEL TIE BAR

PTDF	PRESSURE TREATED DOUGLAS FIR
PT	POINT
R	RADIUS
RBS	REDUCED BEAM SECTION
RFTR	RAFTER
REF	REFERENCE
REINF	REINFORCING
REQD	REQUIRED
RET	RETAINING
REV	REVISION
RF	ROOF
RWD	REDWOOD
S	AMERICAN STANDARD BEAM
SAD	SEE ARCHITECTURAL DRAWINGS
SB	SOLID BLOCK
SC	SLIP CRITICAL
SCBF	SPECIAL CONCENTRIC BRACED FRAME
SCD	SEE CIVIL DRAWINGS
SCHED	SCHEDULE
SED	SEE ELECTRICAL DRAWINGS
SEOR	STRUCTURAL ENGINEER OF RECORD
SFRS	SEISMIC FORCE RESISTING SYSTEM
SHTG	SHEATHING
SIM	SIMILAR
SKYLT	SKYLIGHT
SMF	SPECIAL MOMENT FRAME
SMS	SHEET METAL SCREW
SMD	SEE MECHANICAL DRAWINGS
SOG	SLAB ON GRADE
SPCG	SPACING
SPD	SEE PLUMBING DRAWINGS
SPEC	SPECIFICATION
SQ	SQUARE
SS	SELECT STRUCTURAL or STAINLESS STEEL
STGR	STAGGERED
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURAL
SW	SHEAR WALL
SYM	SYMMETRICAL
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
THK	THICK
THRD	THREADED
THRU	THROUGH
TL	TOTAL LOAD
TN	TOE NAIL
TOC	TOP OF CONCRETE
TOF	TOP OF FRAMING
TOM	TOP OF MASONRY
TOP	TOP OF PLYWOOD
TOS	TOP OF STEEL
TOT	TOTAL
TU	TILT UP
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD
VSH	VERTICAL SLOTTED HOLE
W	WIDE FLANGE STEEL BEAM
W/	WITH
W/O	WITHOUT
WD	WOOD
WHS	WELDED HEADED STUD
WLD	WELDED
WP	WORK POINT/WATERPROOF
WS	WOOD SCREW
WT	WEIGHT
WTS	WELDED THREADED STUD
WWR	WELDED WIRE REINFORCEMENT

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

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PROFESSIONAL ENGINEER CHRIS S. WARNER No. S4613 STRUCTURAL STATE OF CALIFORNIA
11/24/2020

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LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2nd Street
Brentwood CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

-	-	-

DSA APP NO. 01-119033

ARCH PROJECT NO: 1783.00
ENGR / PM: KPB / AIZ
DRAWING SCALE: As indicated
PTN: 61721-75 FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

S-0.1

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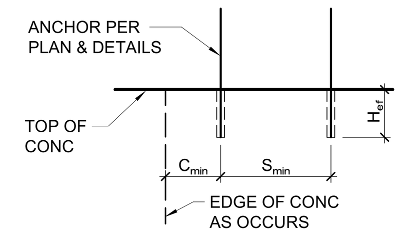
11/24/2020 5:02:04 PM

ADHESIVE ANCHOR IN 2500 PSI MIN CONCRETE

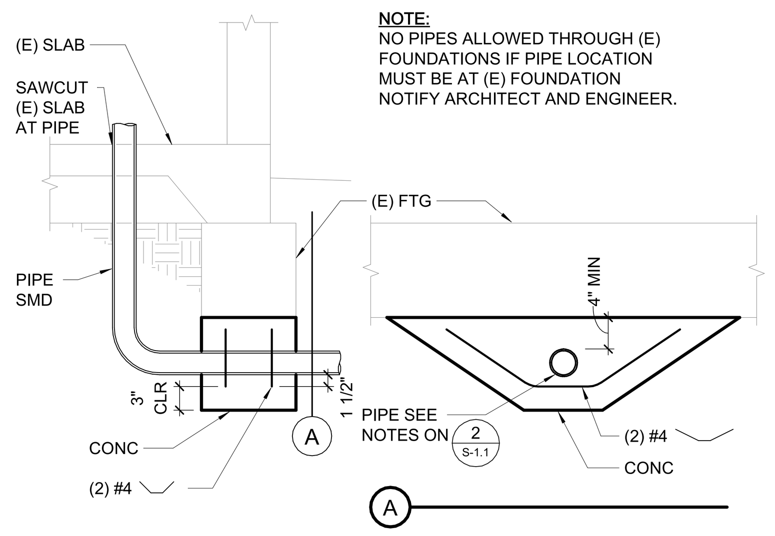
ADHESIVE TYPE	ANCHOR THRD ROD	ANCHOR REBAR	PILOT HOLE	MIN EMBED UNO H_{ef}	MIN EDGE DISTANCE C_{min}	MIN SPCG S_{min}	MIN CONC DEPTH H_{min}
SIMPSON SET-XP (ICC-ESR 2508)	⅜"Ø	#3	½"Ø	3"	1¾"	3"	H_{ef} + 2½"
	½"Ø	#4	⅝"Ø	4"	1¾"	3"	H_{ef} + 3⅛"
	⅝"Ø	#5	¾"Ø	5"	1¾"	3"	H_{ef} + 3¾"
	¾"Ø	#6	⅞"Ø	6"	1¾"	3"	H_{ef} + 4⅜"
	⅞"Ø	#7	1"Ø	7"	1¾"	3"	H_{ef} + 4"
	1"Ø	#8	1⅛"Ø	8"	1¾"	3"	H_{ef} + 5⅝"
	1¼"Ø	#10	1⅜"Ø	10"	2¾"	6"	H_{ef} + 6⅞"
HILTI HIT-HY 200R (ICC-ESR 3187)	⅜"Ø	N/A	7⁄16"Ø	3"	1¾"	1⅞"	H_{ef} + 1¼"
	N/A	#3	½"Ø	3"	1¾"	1⅞"	
	½"Ø	N/A	9⁄16"Ø	4"	1¾"	2½"	
	N/A	#4	⅝"Ø	4"	1¾"	2½"	
	⅝"Ø	#5	¾"Ø	5"	1¾"	3⅛"	H_{ef} + 1½"
	¾"Ø	#6	⅞"Ø	6"	1¾"	3¾"	H_{ef} + 1¾"
	⅞"Ø	#7	1"Ø	7"	1¾"	4⅜"	H_{ef} + 2"
	1"Ø	#8	1⅛"Ø	8"	1¾"	5"	H_{ef} + 2¼"
	N/A	#9	1⅜"Ø	9"	1¾"	5⅝"	H_{ef} + 2¾"
	1¼"Ø	N/A	1⅜"Ø	10"	1¾"	6¼"	
	N/A	#10	1½"Ø	10"	1¾"	6¼"	H_{ef} + 3"



NOTES:

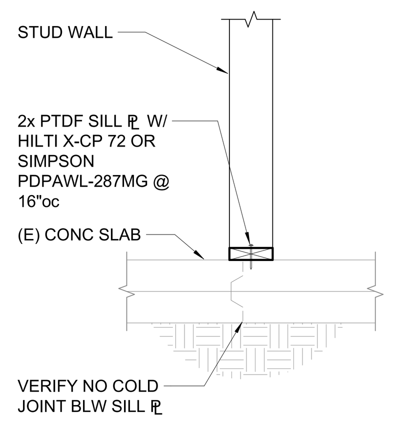
1. INSTALL ADHESIVE ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING, AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
3. HOLES TO BE DRILLED W/ ROTARY DRILL ONLY. WHEN DRILLING HOLES IN EXISTING CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
4. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A AND THE REQUIREMENTS OF THE ICC REPORTS. THE SPECIAL INSPECTOR SHALL PERFORM PERIODIC/CONTINUOUS INSPECTION IN ACCORDANCE WITH TABLE 1705A.3. THE SPECIAL INSPECTOR SHALL INSPECT ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND ADHESIVE INJECTION. TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5. SEE DRAWINGS FOR SPECIFIC TENSION TEST LOADS FOR ANCHORS.

18 ADHESIVE ANCHOR IN CONCRETE
3/4" = 1'-0"

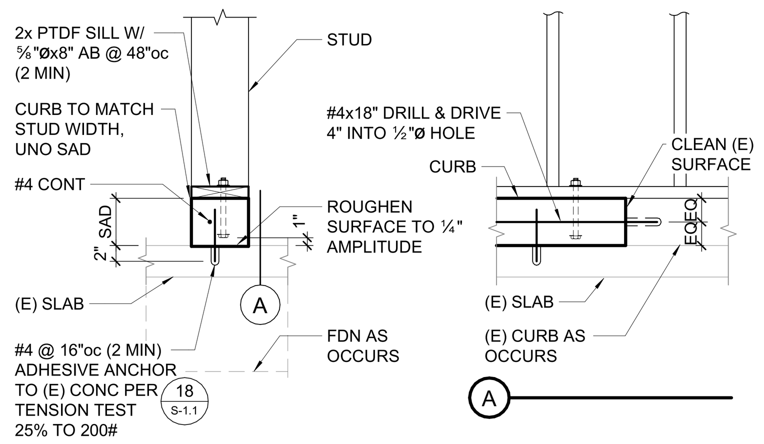


NOTE:
NO PIPES ALLOWED THROUGH (E) FOUNDATIONS IF PIPE LOCATION MUST BE AT (E) FOUNDATION NOTIFY ARCHITECT AND ENGINEER.

19 NEW PIPE AT EXISTING FOUNDATION
3/4" = 1'-0"



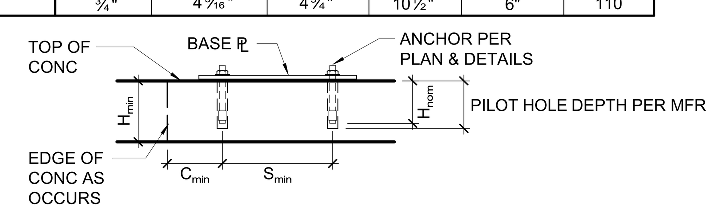
14 NON BEARING WALL AT EXISTING SLAB
3/4" = 1'-0"



15 NEW CURB AT EXISTING SLAB
3/4" = 1'-0"

CARBON STL EXPANSION ANCHORS IN 2500 PSI MIN CONC

ANCHOR TYPE	ANCHOR & PILOT HOLE DIA	MIN NOMINAL EMBED H_{nom}	MIN EDGE DISTANCE C_{min}	MIN SPCG S_{min}	MIN CONC THICKNESS H_{min}	INSTALL TORQUE (FT-LB)
SIMPSON STRONG-BOLT 2 (ICC-ESR 3037)	⅜"	1⅞"	6"	3"	3¼"	30
	½"	2¾"	6"	6"	4"	60
	⅝"	3⅜"	6½"	5"	5½"	90
	¾"	4⅛"	6½"	8"	6¾"	150
	1"	5¼"	8"	8"	9"	230
HILTI KWIK BOLT TZ (ICC-ESR 1917)	⅜"	2 5⁄16"	2½"	5"	4"	25
	½"	2⅜"	2¾"	5¾"	4"	40
	⅝"	3 9⁄16"	3⅝"	6⅛"	5"	60
	¾"	4 5⁄16"	4¾"	10½"	6"	110



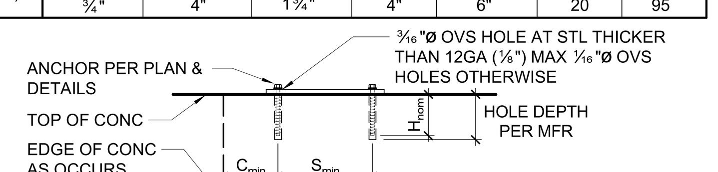
NOTES:

1. INSTALL EXPANSION ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A AND THE REQUIREMENTS OF THE ICC REPORTS.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
3. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
4. THE SPECIAL INSPECTOR SHALL PERFORM PERIODIC/CONTINUOUS INSPECTION IN ACCORDANCE WITH TABLE 1705.3. THE SPECIAL INSPECTOR SHALL INSPECT ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.
5. TEST ANCHORS TO INSTALL TORQUE IN ACCORDANCE W/ CBC SECTION 1910A.5.

16 EXPANSION ANCHOR IN CONCRETE
3/4" = 1'-0"

SCREW ANCHOR IN 2500 PSI MIN CONCRETE

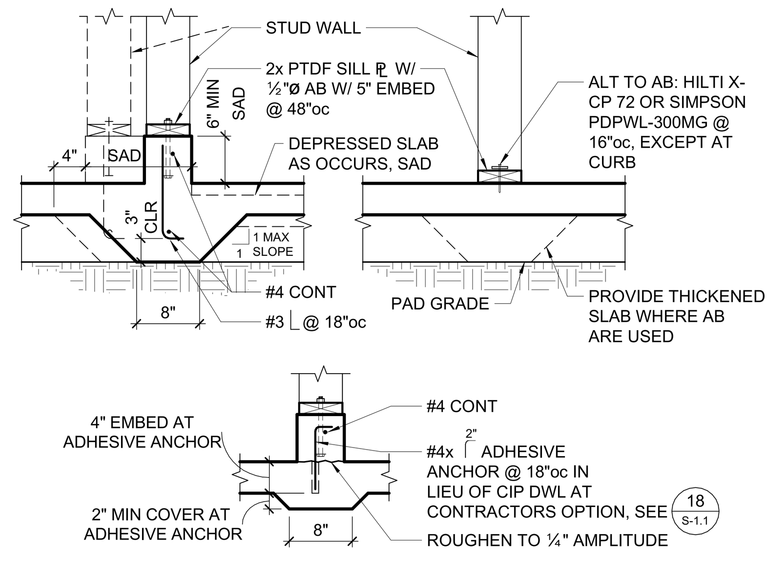
ANCHOR TYPE	ANCHOR AND PILOT HOLE DIA	MINIMUM EMBEDMENT H_{nom}	MINIMUM EDGE DIST C_{min}	MINIMUM SPCG S_{min}	MINIMUM CONCRETE THICKNESS H_{min}	MIMIMUM INSTALL TORQUE (FT-LB)	MAXIMUM INSTALL TORQUE (FT-LB)
SIMPSON TITEN HD (ICC-ESR 2713)	¼"	1⅝"	1½"	1½"	3¼"	10	24
	⅜"	2½"	1¾"	3"	4"	10	50
	½"	3¼"	1¾"	3"	5"	10	65
	⅝"	4"	1¾"	3"	6"	10	100
	¾"	5½"	1¾"	3"	8¾"	20	150
HILTI KH-EZ (ICC-ESR 3027)	¼"	1⅝"	1½"	1½"	3¼"	10	18
	⅜"	2½"	1½"	3"	4"	10	40
	½"	3"	1¾"	3"	4¾"	10	45
	⅝"	3¼"	1¾"	4"	5"	10	85
	¾"	4"	1¾"	4"	6"	20	95



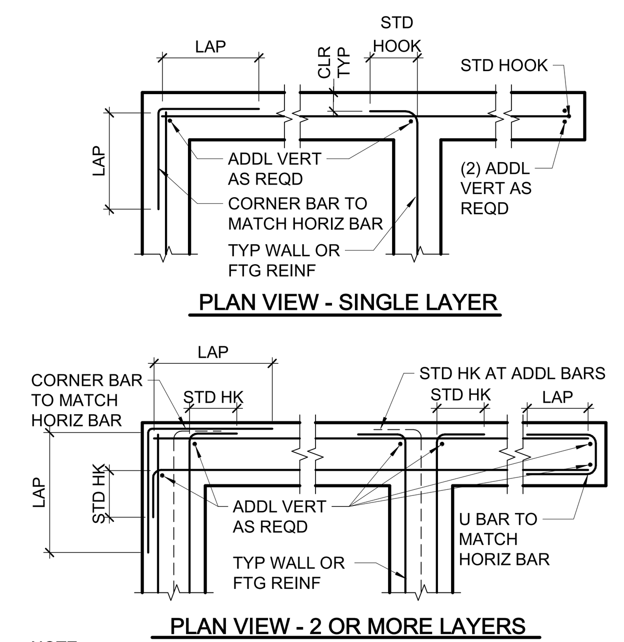
NOTES:

1. INSTALL SCREW ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A OF THE CBC AND THE REQUIREMENTS OF THE ICC REPORTS. INSTALLED ANCHORS SHALL BRING CONNECTED PLIES INTO FIRM CONTACT, MEETING THE INSTALL TORQUE BUT NOT EXCEEDING THE MAXIMUM INSTALL TORQUE.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
3. HOLES TO BE DRILLED W/ ROTARY DRILL ONLY. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
4. THE SPECIAL INSPECTOR SHALL PERFORM PERIODIC/CONTINUOUS INSPECTION IN ACCORDANCE WITH TABLE 1705A.3. THE SPECIAL INSPECTOR SHALL INSPECT ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.
5. TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5.

17 SCREW ANCHOR IN CONCRETE
3/4" = 1'-0"

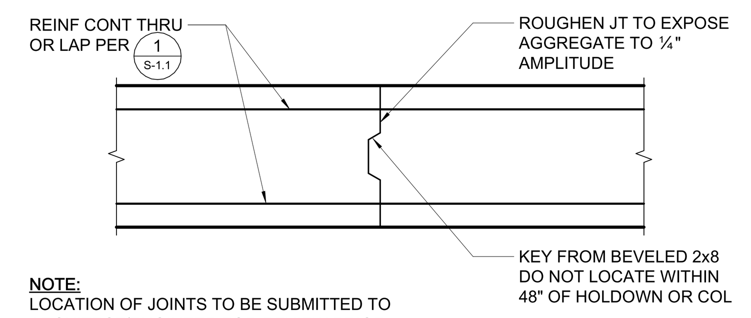


9 NON-BEARING STUD WALL AT SLAB
3/4" = 1'-0"



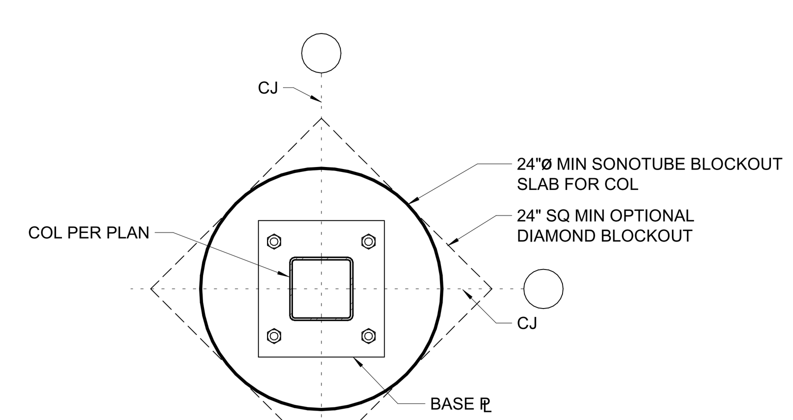
NOTE:
FOOTING REINFORCING AT CORNER AND INTERSECTION TO BE SIMILAR

10 TYPICAL CORNER, INTERSECTION AND END REINFORCING
3/4" = 1'-0"

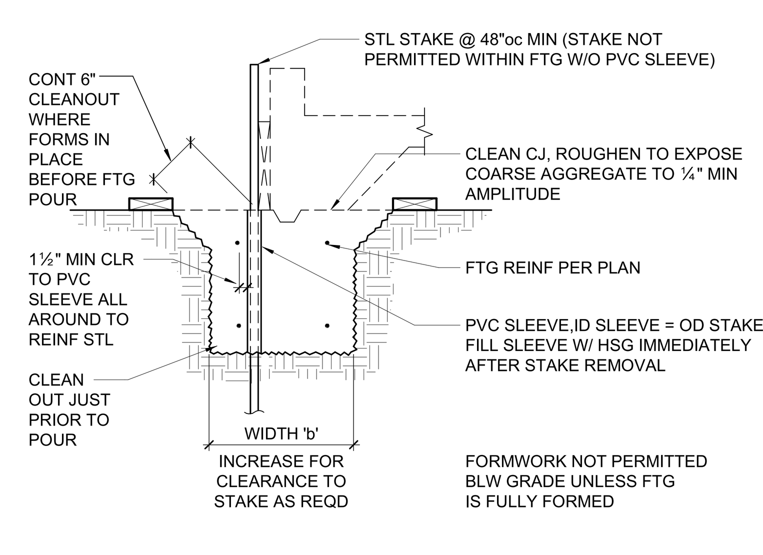


NOTE:
LOCATION OF JOINTS TO BE SUBMITTED TO ARCHITECT/ENGINEER FOR REVIEW PRIOR TO PLACEMENT OF CONCRETE

11 FOOTING CONSTRUCTION JOINT
3/4" = 1'-0"

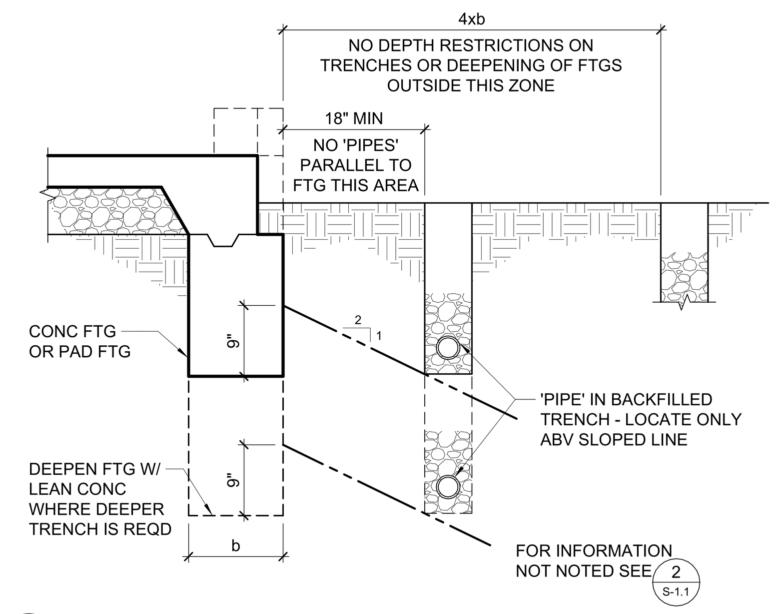


12 SLAB BLOCKOUT
1" = 1'-0"

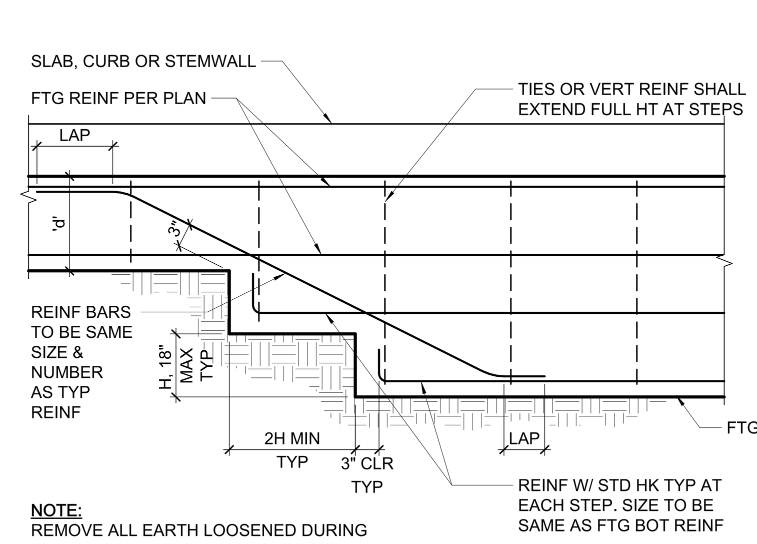


NOTE:
FOUNDATION CONCRETE MAY BE PLACED DIRECTLY INTO NEAT EXCAVATIONS PROVIDED THE FOUNDATION TRENCH WALLS ARE STABLE AS DETERMINED BY THE GEOTECHNICAL ENGINEER SUBJECT TO THE APPROVAL OF THE AUTHORITY HAVING JURISDICTION.

13 FORMWORK STAKES AT FOOTING
3/4" = 1'-0"

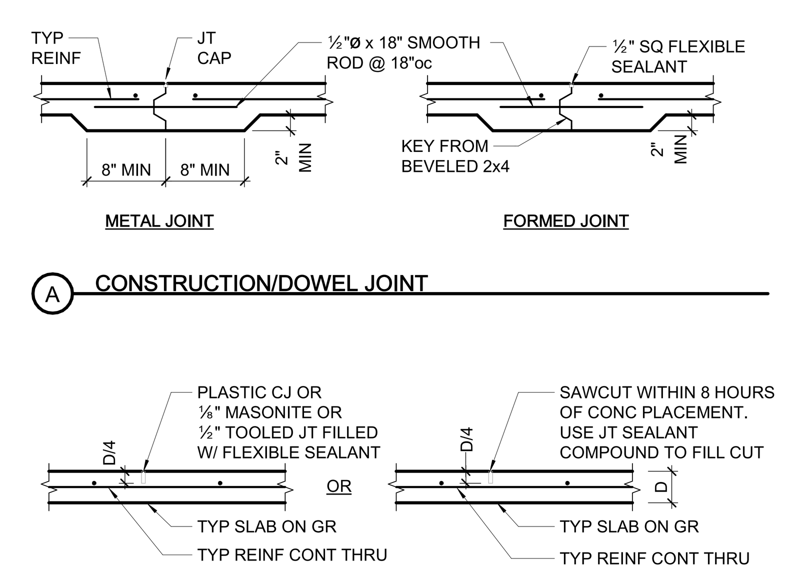


4 TRENCHING ADJACENT TO FOOTING
3/4" = 1'-0"



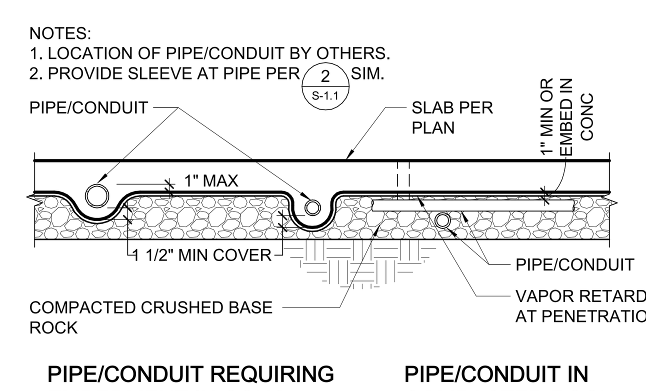
NOTE:
REMOVE ALL EARTH LOOSENED DURING EXCAVATION AND FILL W/ CONCRETE.

5 STEPPED FOOTING
3/4" = 1'-0"

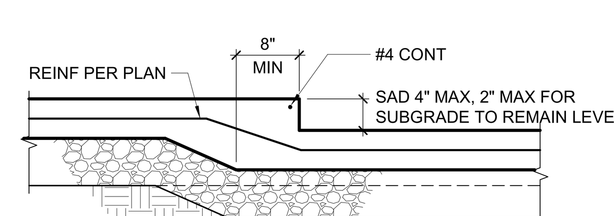


6 SLAB ON GRADE JOINTS
3/4" = 1'-0"

NOTES:
1. LOCATION OF PIPE/CONDUIT BY OTHERS.
2. PROVIDE SLEEVE AT PIPE PER 2 S-1.1 SIM.



7 CONDUIT & PIPE AT SLAB ON GRADE
3/4" = 1'-0"



8 DEPRESSED SLAB - 4" MAX
3/4" = 1'-0"

MINIMUM BAR LAPS FOR REINFORCING STEEL CONCRETE STRENGTH: 3000 PSI OR GREATER - (STAGGER SPLICES)					
SIZE	LAP LENGTH	SIZE	LAP LENGTH	SIZE	LAP LENGTH
#3	12"	#6	34"	#9	86"
#4	24"	#7	56"	#10	105"
#5	34"✳	#8	70"	#11	126"

(CLASS B TOP BAR)
BAR SPCG SHALL NOT BE LESS THAN 4x BAR DIA OR 4".
✳ WHERE COVER NOT LESS THAN 1½", #5 LAP LENGTH = 28"

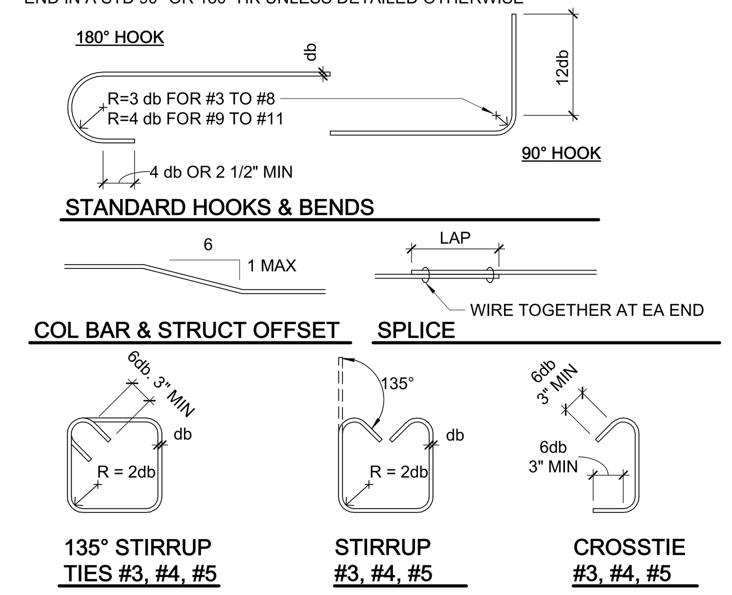
CONC COVER FOR REINF STL .... 'CLR'

CAST AGAINST EARTH OR GR .... 3"

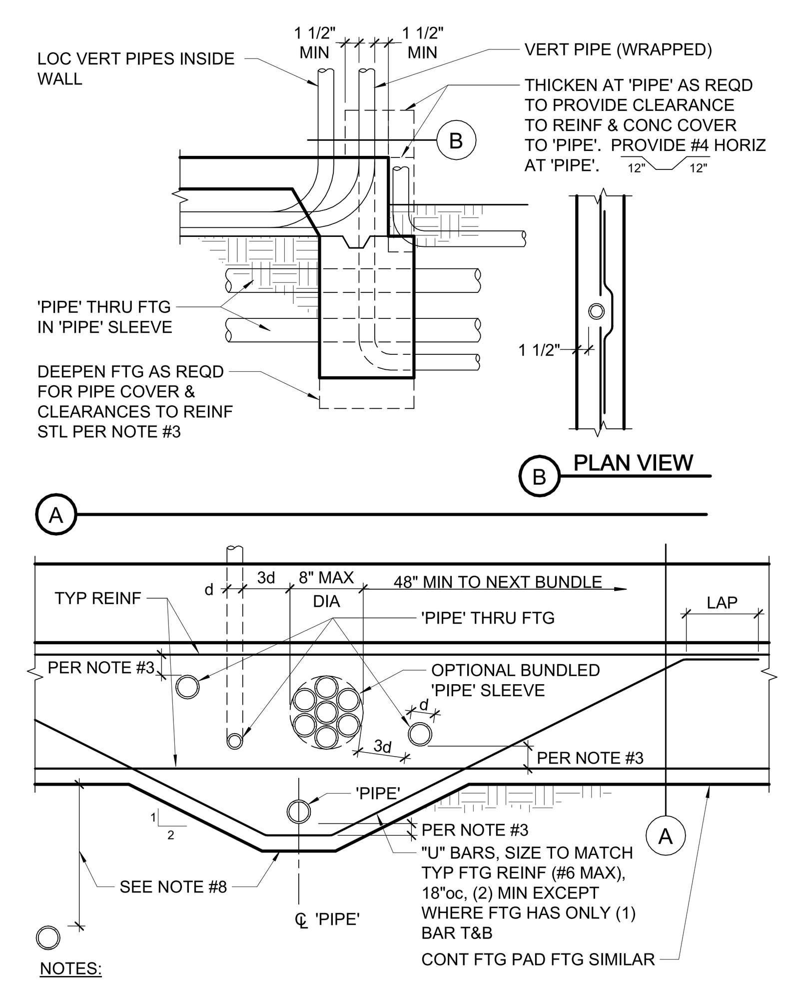
EXPOSED TO EARTH (FORMED) OR WEATHER
- #5 & SMALLER .... 1½"
- #6 & LARGER .... 2"

NOT EXPOSED TO EARTH OR WEATHER
- #5 & SMALLER .... 1"
- #6 & LARGER, & ALL BM STIRRUPS, COL TIES & SPIRALS .... 1½"

ALL REINF BARS SHALL EXTEND AS FAR AS POSSIBLE & END IN A STD 90° OR 180° HK UNLESS DETAILED OTHERWISE



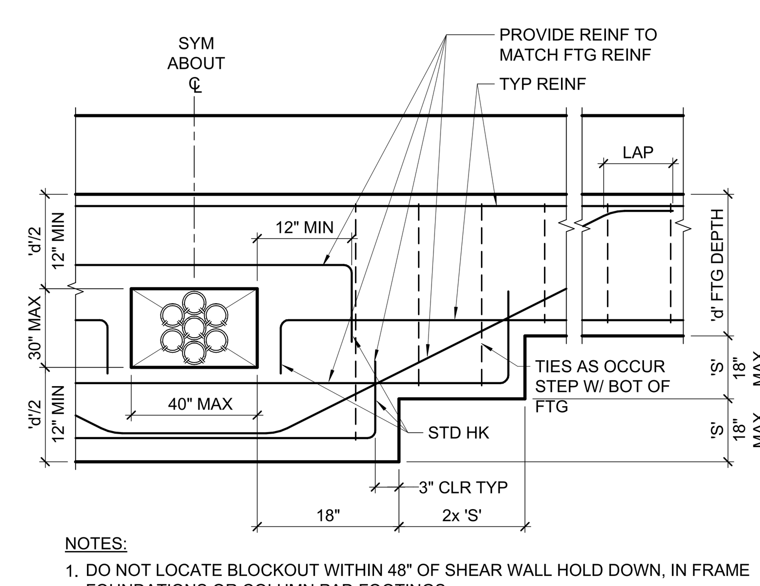
1 TYPICAL REINFORCING DETAILS (f'c = 3000psi MIN)
3/4" = 1'-0"



NOTES:

1. 'PIPE' = ANY PENETRATION THRU OR EMBEDDED IN FOUNDATION.
2. ALL PIPES THROUGH FOOTINGS TO BE WRAPPED OR SLEEVED AS FOLLOWS:
   a. SLEEVES: PROVIDE 1" MIN CLEAR ALL AROUND O.D. PIPE TO I.D. SLEEVE, UNO. SEAL SLEEVE ENDS W/ MASTIC OR PLASTIC BITUMINOUS CEMENT.
   b. WRAPPED VERTICAL PIPES: PROVIDE ⅛" NOMINAL SHEET FOAM W/ (3) WRAPS MINIMUM, UNO.
   c. WRAPPED HORIZONTAL PIPES: PROVIDE ⅛" NOMINAL SHEET FOAM W/ (8) WRAPS MINIMUM, UNO.
   d. UNDERGROUND FIRE LINES 4" AND LARGER:
      1. SLEEVES: PROVIDE 2" MIN CLEAR ALL AROUND O.D. PIPE TO I.D. SLEEVE. SEAL ENDS PER ABOVE.
      2. WRAPPED: PROVIDE ⅛" NOMINAL SHEET FOAM W/ (16) WRAPS MINIMUM.
3. WRAPPED AND SLEEVED PIPES SHALL HAVE 1½" MIN CLEAR TO REINF STEEL. MINIMUM CONCRETE COVER AT PIPES TO BE 3".
4. CLEARANCE BETWEEN 'PIPES' TO BE 3d MIN TYP W/ A MAXIMUM OF (8) PIPES PER 48". GROUPS OF PIPES MAY BE BUNDLED AS SHOWN, EXCEPT IN PAD FOOTINGS.
5. NO 'PIPE' TO RUN PARALLEL IN FOOTINGS, STEM OR CURB.
6. PVC CONDUIT ('PIPE') EMBEDDED IN CURB/STEM MAY BE WIRE TIED TO HORIZONTAL REINF.
7. NO HORIZONTAL PIPES ALLOWED THROUGH FOOTING WITHIN 2'-0" EACH SIDE OF HOLDOWNS OR STEEL COLUMNS. PROVIDE 18" MIN OF COMPACTED FILL ABOVE PIPES UP TO 12"Ø, FOR LARGER PIPES
8. INCREASE COMPACTED FILL DEPTH 1'-0" FOR EACH 6" INCREASE IN PIPE DIAMETER. OTHERWISE DEEPEN FOOTING AS SHOWN.
9. PROVIDE FLEXIBLE WATERPROOF SEALANT BETWEEN SLEEVE AND PIPE.

2 PIPES THRU FOOTING
3/4" = 1'-0"



NOTES:
1. DO NOT LOCATE BLOCKOUT WITHIN 48" OF SHEAR WALL HOLD DOWN, IN FRAME FOUNDATIONS OR COLUMN PAD FOOTINGS.
2. MINIMUM DISTANCE BETWEEN BLOCKOUTS OR OTHER PIPES TO BE 48".

3 FOUNDATION BLOCKOUT
3/4" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office: 636 Fifth Street, Santa Rosa, CA 95404
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zfa job no. 19179

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REGISTERED PROFESSIONAL ENGINEER CHRIS S. WARNER No. S4613 STRUCTURAL STATE OF CALIFORNIA
11/24/2020

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LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2nd Street
Brentwood CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

-	-	-

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
ENGR / PM:	KPB / AIZ
DRAWING SCALE:	As indicated
PTN: 61721-75	FILE NO: 7-H4

CD

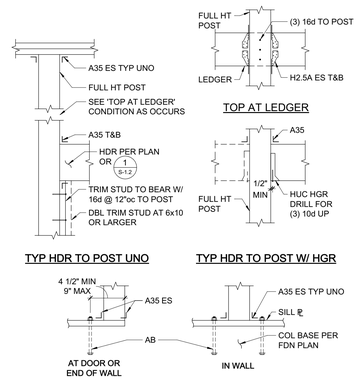
DECEMBER 2, 2020

SHEET TITLE

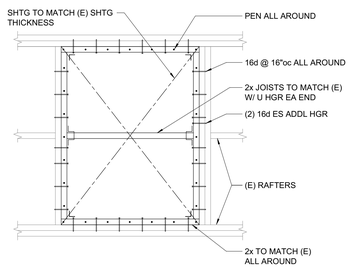
TYPICAL CONCRETE DETAILS

SHEET NUMBER

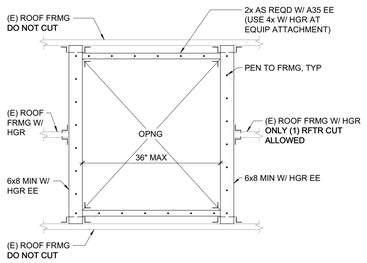
S-1.1



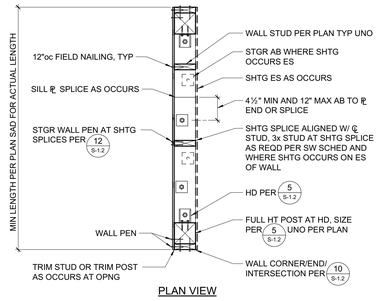
16 TYPICAL POST AND HEADER CONNECTIONS
3/4" = 1'-0"



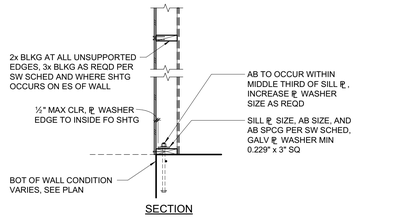
17 NEW INFILL AT EXISTING ROOF
3/4" = 1'-0"



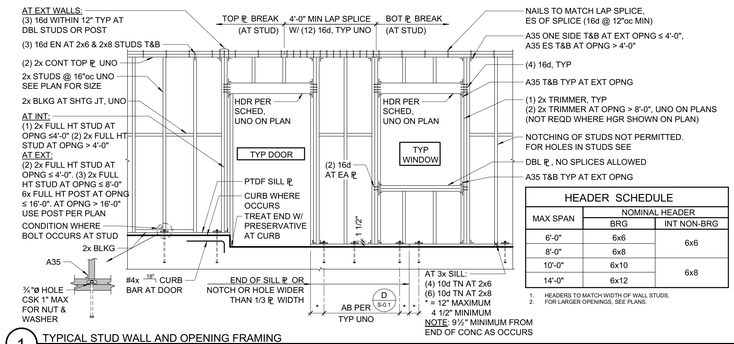
18 NEW 24" MAXIMUM OPENING
3/4" = 1'-0"



9 SCHEMATIC SHEAR WALL CONSTRUCTION
3/4" = 1'-0"



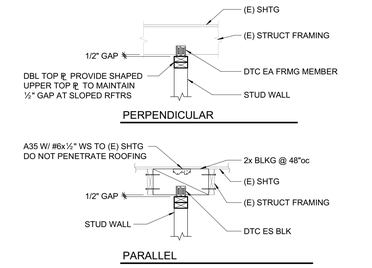
NOTES:
1. PEN = PLYWOOD/OSB EDGE NAILING PER SW SCHED.
2. SILL ⊥ AB WASHER HOLE MAY BE OVERSIZED UP TO ⅜". WASHER MAY BE DIAG SLOTTED UP TO 1¾" IN LENGTH. WHERE HOLE IS OVERSIZED OR SLOTTED, PROVIDE STD CUT WASHER.



HEADER SCHEDULE		
MAX SPAN	NOMINAL HEADER	
	BRG	INT NON-BRG
6'-0"	6x6	6x6
8'-0"	6x8	
10'-0"	6x10	6x8
14'-0"	6x12	

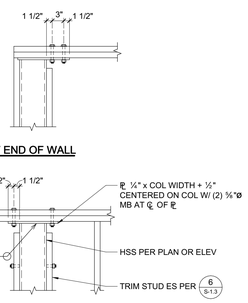
1. HEADERS TO MATCH WIDTH OF WALL STUDS.
2. FOR LARGER OPENINGS, SEE PLANS.

1 TYPICAL STUD WALL AND OPENING FRAMING
3/8" = 1'-0"

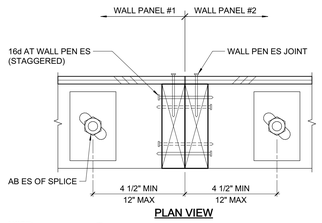


NOTE:
INSTALL SLOT NAILS AT ℄ OF SLOT W/ ⅛" GAP BTWN NAIL HEAD & CLIP

13 TYPICAL NON-BEARING STUD WALL DETAILS
3/4" = 1'-0"

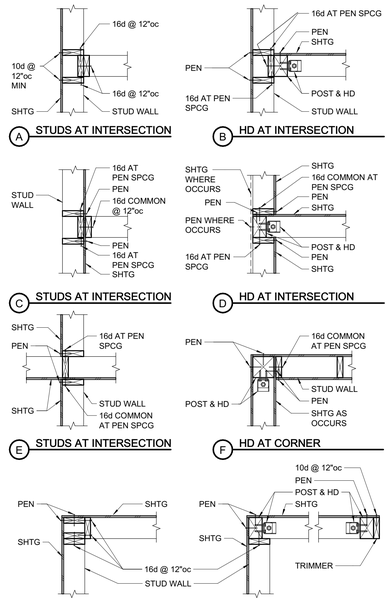


14 HSS COLUMN AT TOP PLATE
3/4" = 1'-0"



NOTE:
SPLICE TOP ⊥ PER 1 S-1.3 CASE #2

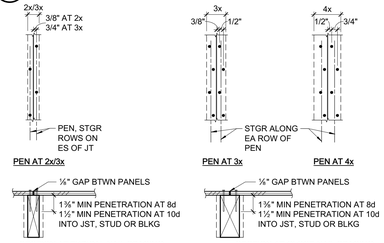
15 SHEAR WALL PANEL SPLICE (ONLY WHERE NOTED ON PLAN)
3" = 1'-0"



10 TYPICAL PLAN VIEW OF STUD WALL INTERSECTIONS
3/4" = 1'-0"

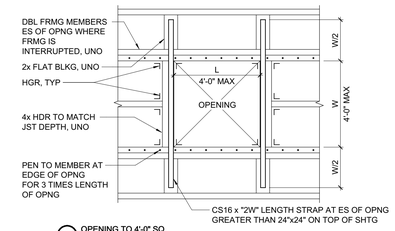
RIM JOIST TO TOP ⊥, TOE NAIL	10d @ 6"oc
TRUSSES, JOISTS OR RAFTERS AT ALL BEARING POINTS	
TOE NAILS EACH SIDE	(2) 10d
TRUSSES, JOISTS OR RAFTERS TO SIDE OF STUDS	
EIGHT (8) INCH JOISTS OR LESS	(3) 16d
FOR EACH ADDITIONAL 4 INCHES OF DEPTH OF JOIST	(1) 16d
BLOCKING BETWEEN JOISTS OR RAFTERS:	
TO JOIST OR RAFTERS - TOE NAILS EA SIDE, EA END	(2) 10d
TO JOIST OR RAFTER BEARINGS - TOE NAILS EA SIDE	(2) 10d
BLOCKING BETWEEN STUDS, EACH END TOE NAILS	(2) 10d OR (2) 16d
BRIDGING TO JOIST, TOE NAIL EACH END	(2) 8d
2" SUBFLOOR TO JOIST OR GIRDER, BLIND & FACE NAIL	(2) 16d
SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL	16d @ 16"oc
SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL PANELS	(3) 16d @ 16"oc
TOP PLATE TO STUD, END NAIL	(2) 16d
STUD TO SOLE PLATE, TOE NAIL	(4) 8d
DOUBLE STUDS AT EXTERIOR WALLS, FACE NAIL	16d @ 12"oc
DOUBLE STUDS, FACE NAIL	16d @ 24"oc
DOUBLE TOP PLATES, FACE NAIL	16d @ 12"oc
TOP PLATES, LAPS & INTERSECTIONS, FACE NAIL	(3) 16d
CONTINUOUS HEADER, TWO PIECES	16d @ 16"oc ALONG EACH EDGE
DOUBLE TOP PLATE LAP AT CORNER	(3) 16d
CONTINUOUS HEADER TO STUD, TOE NAIL	(4) 8d
CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL	(3) 16d
CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	(3) 16d
BUILT-UP CORNER STUDS	16d @ 12"oc
POST TO SILL/SOLE/TOP PLATE, EACH SIDE TOE NAIL	(4) 10d

11 NAILING SCHEDULE
3/4" = 1'-0"

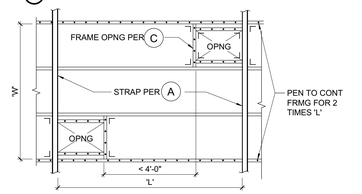


NOTE:
SHEATHING SHEETS ARE TO BE AS LARGE AS POSSIBLE. STAGGER SHEETS. JOINTS ARE TO BE CENTERED OVER BEARING. NAIL HEADS SHALL BE DRIVEN FLUSH W/ SHEATHING. MINIMUM SHEATHING SIZE IS 24" WIDTH x 48" LENGTH AT FLOOR AND ROOF, AND 12"x48" AT WALLS.

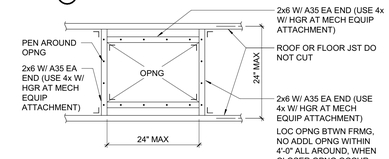
12 SHEATHING NAILING
1 1/2" = 1'-0"



A OPENING TO 4'-0" SQ

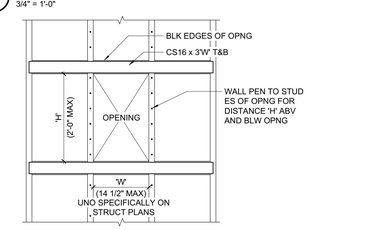


B CLOSELY SPACED OPENINGS BETWEEN FRAMING



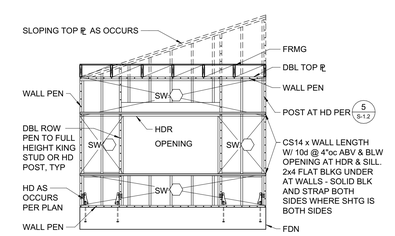
C ISOLATED OPENING BETWEEN FRAMING UP TO 24"

6 OPENING IN DIAPHRAGM
3/4" = 1'-0"



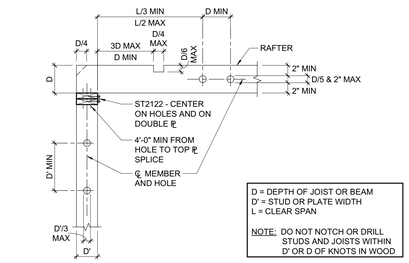
NOTES:
1. OPENINGS < 6" SQ DO NOT REQUIRE BLOCKING AND STRAPPING.
2. NO ADDITIONAL OPENINGS WITHIN 4'-0" ALL AROUND.
3. NO OPENINGS PERMITTED IN SHEAR WALL C OR HIGHER OR IN SHEAR WALLS LESS THAN 10'-0" LONG UNLESS SPECIFICALLY DETAILED ON STRUCTURAL PLANS. CONTACT STRUCTURAL ENGINEER FOR ASSISTANCE.
4. FRAME OPENINGS PER 1/S-1.2 WHERE STUDS ARE INTERRUPTED.

7 SMALL OPENINGS IN SHEAR WALLS
3/4" = 1'-0"

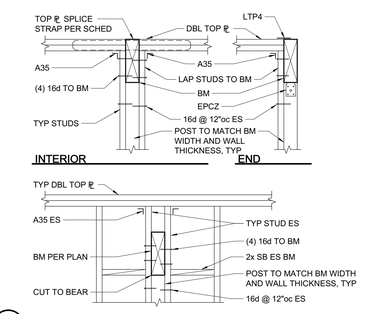


NOTE:
FRAMING SHOWN IS SCHEMATIC. SEE PLAN FOR SPECIFIC REQUIREMENTS.

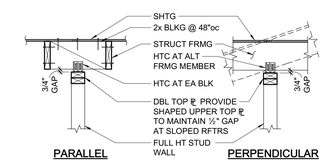
8 SCHEMATIC SHEAR WALL ELEVATION
1/4" = 1'-0"



2 HOLES AND NOTCHES IN WOOD STUDS, RAFTERS, AND PLATES
3/4" = 1'-0"

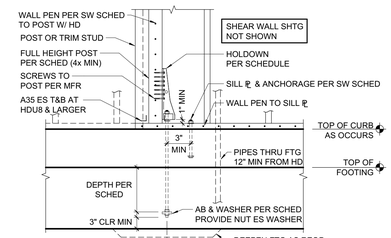


3 TYPICAL BEAM IN AND THRU STUD WALL
3/4" = 1'-0"



NOTE:
INSTALL SLOT NAILS AT ℄ OF SLOT W/ ⅛" GAP BTWN NAIL HEAD & CLIP

4 TYPICAL NON-STRUCTURAL STUD WALL DETAILS
3/4" = 1'-0"



HOLDOWN	AB OR THRD ROD	WASHER AT AB	DEPTH	MIN FTG WIDTH	MIN POST SIZE UNO ON PLANS
HDU2	⅝"Ø	1¼"x2½" SQ	12"	18"	4x
HDU4	⅝"Ø	1¼"x2½" SQ	12"	18"	4x
HDU5	⅝"Ø	1¼"x2½" SQ	12"	18"	4x
HDU8	⅞"Ø	⅝"x3" SQ	15"	24"	6x6
HDU11	1"Ø	⅞"x3½" SQ	17"	36"	6x6
HDU14*	1"Ø	⅞"x3½" SQ	21"	36"	6x6

*NUTS AT ANCHOR ROD TO BE HEAVY HEX

5 TYPICAL HOLDOWN
3/4" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS

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600 Main Street, Suite E,
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(707) 576-0829

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1212 fourth street | suite z — zfa.com
santa rosa ca 95404 — 707.526.0992
zfa job no. 19179

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11/24/2020

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LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2nd Street
Brentwood CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

-	-	-

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
ENGR / PM:	KPB / AIZ
DRAWING SCALE:	As indicated
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

TYPICAL WOOD DETAILS

SHEET NUMBER

S-1.2

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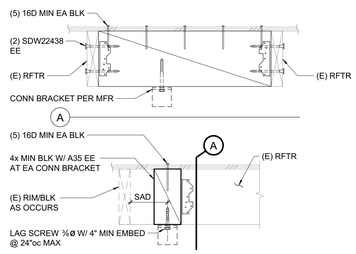
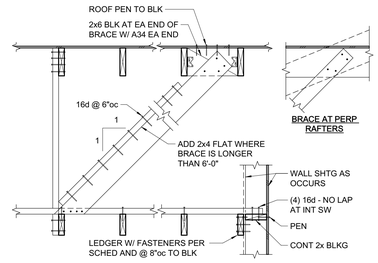
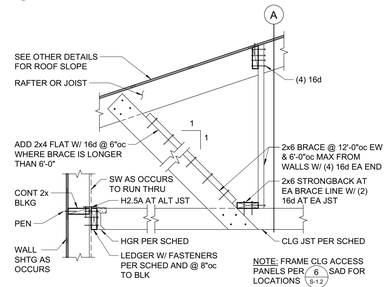


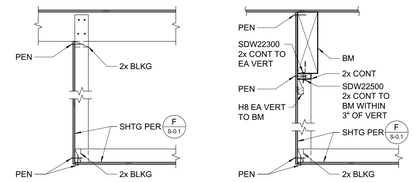
12 BLOCKING BETWEEN EXISTING RAFTERS (AT CONN BRACKET)
1 1/2" = 1'-0"



A AT END WALL OR FULL HEIGHT PARTITION

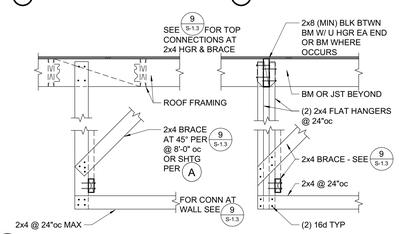


9 CEILING JOISTS (SPAN TO WALLS)
3/4" = 1'-0"

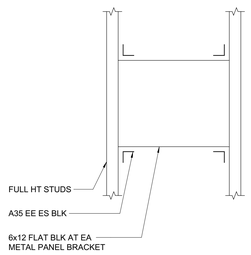


A OPTION IN LIEU OF BRACING

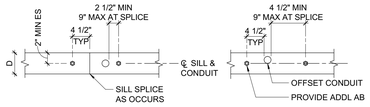
B SOFFIT AT ALIGNED BEAM



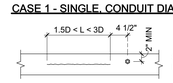
10 TYPICAL SOFFIT FRAMING
3/4" = 1'-0"



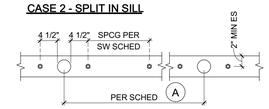
11 BLOCKING FOR PERFORATED METAL PANELS
1 1/2" = 1'-0"



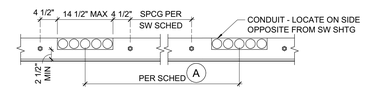
CASE 1 - SINGLE, CONDUIT DIAMETER ≤ D/3, MAX SPCG = 16"oc



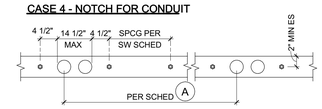
CASE 2 - SPLIT IN SILL



CASE 3 - SINGLE, CONDUIT DIAMETER > D/3



CASE 4 - NOTCH FOR CONDUIT

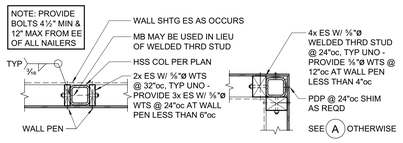


CASE 5 - MULTI CONDUIT, DIAMETER > D/3

SCHEDULE A			
	CASE 3	CASE 4	CASE 5
SW A	48"	32"	48"
SW B	64"	48"	64"
SW C	80"	64"	N/A
SW D	N/A	N/A	N/A

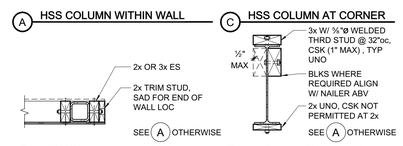
NOTE:
1. ALL PENETRATIONS THROUGH SHEAR WALL SILL PLATE SHALL CONFORM TO THE REQUIREMENTS OF THIS DETAIL OR BE REROUTED PRIOR TO INSTALLATION OF SILL.
2. ADDITIONAL ANCHOR BOLTS TO BE INSTALLED PER 17/S-1.1 WHERE NECESSARY. AB DIA AS REQD BY SW SCHED.

5 HOLES IN PLATES AT SHEAR WALLS
3/4" = 1'-0"



A HSS COLUMN WITHIN WALL

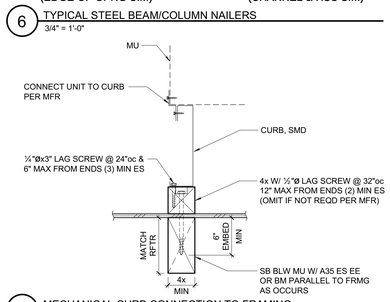
C HSS COLUMN AT CORNER



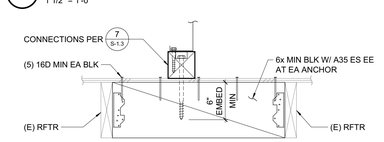
B HSS COLUMN AT END OF WALL (EDGE OF OPNG SIM)

D WIDE FLANGE NAILER (CHANNEL & HSS SIM)

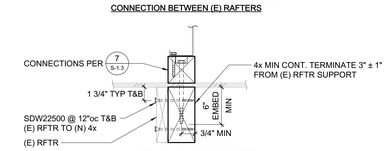
6 TYPICAL STEEL BEAM/COLUMN NAILERS
3/4" = 1'-0"



7 MECHANICAL CURB CONNECTION TO FRAMING
1 1/2" = 1'-0"



CONNECTION BETWEEN (E) RAFTERS

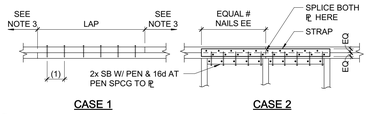


CONNECTION CLOSE TO (E) RAFTER

8 MECHANICAL CURB CONNECTION TO EXISTING FRAMING
1 1/2" = 1'-0"

TOP PLATE SPLICE SCHEDULE		
MARK	LAP SPLICE (CASE 1)	STRAP SPLICE (CASE 2)
A	(12) 16d PER 4'-0" MIN LAP	MSTC28
B	(22) 16d PER 4'-0" MIN LAP	MSTC40
C	(26) 16d PER 6'-0" MIN LAP	MSTC52
D	(32) 16d PER 6'-0" MIN LAP	MSTC66
E	(36) 16d PER 8'-0" MIN LAP	MSTC28 EA SIDE
F	(44) 16d PER 8'-0" MIN LAP	MSTC40 EA SIDE
G	(50) 16d PER 10'-0" MIN LAP	MSTC52 EA SIDE

NOTES:
1. AT LAP SPLICES, SPACE NAILS @ 3"oc MIN (MAX 12"oc). STAGGER AT 2½" GAGE.
2. USE STRAP SPLICE WHERE BM INTERSECTS TOP ℄ .
3. NAILS TO MATCH LAP SPLICE ES OF SPLICE (16d @ 12"oc MIN)
4. USE SPLICE TYPE A UNO.

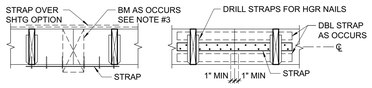


CASE 1 CASE 2

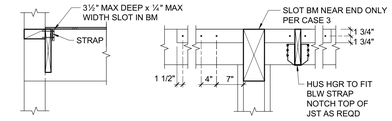
1 TOP PLATE SPLICE SCHEDULE AND DETAILS
3/4" = 1'-0"

LEDGER SPLICE SCHEDULE				
MARK	CASE	STRAP/PLATE	CASE	STRAP/PLATE
A	1	MSTA24	-	
B	1	MSTA30	-	
C	2	MSTI48	3	MSTI60
D	2	CMST14x5'-6"	3	CMST14x6'-0"
E	2	(2) MSTI48	4	℄ ¼" W/ (6) 1"ø MB ES OF SPLICE

SPLICE NOTES:
1. PROVIDE 3x OR (2) 2x STUDS AT SPLICE
2. ALL NAILS TO BE 10d NAIL ALL HOLES
3. FOR CASE 1, SPLICE W/ MSTA36 AT BM
4. USE SPLICE TYPE 'A' UNO

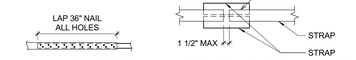


CASE 1 CASE 2



CASE 3 CASE 4

2 LEDGER OR RIM SPLICE SCHEDULE
3/4" = 1'-0"



NAILED LAP SPLICE

ALTERNATE - WELDED LAP SPLICE

TIE STRAP SCHEDULE						
MARK	STRAP	MIN. NAILING ES OF •	MAX. NAIL SPACING (SEE NOTES #1 & #2)			MIN. END LENGTH (EL)
			CASE 1	CASE 2		
				EL	RL	
A	CS16	(10) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	10d @ 4"oc STGR	12"
B	CS14	(13) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	10d @ 4"oc STGR	16"
C	CMSTC16	(25) 10d	10d @ 3"oc STGR	FILL ALL NAIL HOLES	10d @ 3"oc STGR	24"
D	CMST14	(33) 10d	10d @ 3½"oc STGR	FILL ALL NAIL HOLES	10d @ 3½"oc STGR	32"
E	CMST12	(43) 10d	10d @ 3½"oc STGR	FILL ALL NAIL HOLES	10d @ 3½"oc STGR	48"

1. CASE 1 APPLIES UNLESS END LENGTH (EL) IS NOTED ON PLANS. WHERE END LENGTH (EL) IS NOTED, SEE CASE 2.

CASE 1 CASE 2

2. AS REQUIRED, PROVIDE CLOSER NAIL SPACING TO MEET MINIMUM NAILING EACH SIDE OF • .
3. LOCATE STRAPS OVER SHEATHING AND BLOCK UNDER STRAP W/ FLAT 2x6 (2x4 AT CS16/CS14) WHERE NO FRAMING OCCURS, UNO.
4. SEE PLANS FOR STRAP LENGTHS, LOCATIONS AND DETAILS, UNO.
5. SPLICE STRAPS AS SHOWN WHERE LENGTH PER PLAN EXCEEDS AVAILABLE PRODUCT LENGTH

3 TIE STRAP SCHEDULE
3/4" = 1'-0"

CEILING JOIST SCHEDULE			
MAX SPAN	JOIST SIZE	HANGER IF REQUIRED	LEDGER IF REQUIRED
9'-0"	2x4 @ 16"oc	LU24	2x4 W/ (2) 16d @ 16"oc
12'-6"	2x6 @ 16"oc	LU26	2x6 W/ (3) 16d @ 16"oc
14'-0"	2x8 @ 16"oc	LU28	2x8 W/ (4) 16d @ 16"oc
19'-0"	2x10 @ 16"oc	LU210	2x10 W/ (5) 16d @ 16"oc

NOTES:
1. CEILING JOIST SCHEDULE IS BASED ON LL = 10 psf.
2. WHERE LEDGERS ARE NAILED THROUGH WALL SHTG, USE 20d NAILS IN LIEU OF 16d NAILS.
3. PROVIDE MIDSPAN BLOCKING AT 2x10 JOISTS.

4 CEILING JOIST SCHEDULE
3/4" = 1'-0"

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DSA APP NO. 01-119033
ARCH PROJECT NO: 1783.00
ENGR / PM: KPB / AIZ
DRAWING SCALE: As indicated
PTN: 61721-75 FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

TYPICAL WOOD DETAILS

SHEET NUMBER

S-1.3

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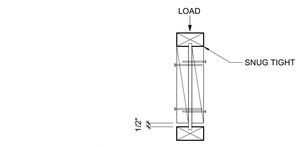
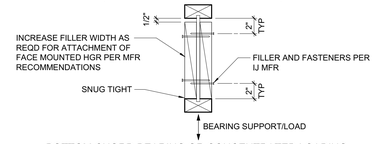
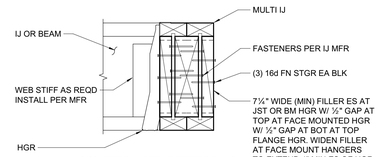


CONCENTRATED TOP CHORD LOADING
(OR PERPENDICULAR TOP FLANGE HANGER)

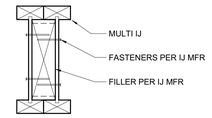


BOTTOM CHORD BEARING OR CONCENTRATED LOADING
(OR PERPENDICULAR FACE FLANGE HANGER)

4 I-JOIST WEB FILLER
1 1/2" = 1'-0"

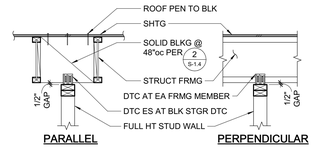


CONDITION AT HEADERS/BMS



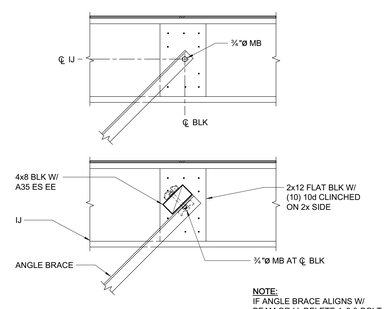
CONDITION FULL LENGTH

5 MULTI I-JOIST ASSEMBLY
1 1/2" = 1'-0"



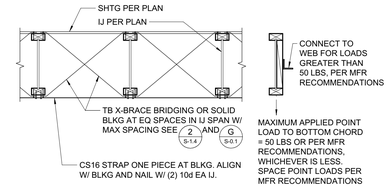
NOTE:
INSTALL SLOT NAILS AT ℄ OF SLOT W/ ⅜" GAP BTWN NAIL HEAD & CLIP

6 TYPICAL NON-STRUCTURAL STUD WALL DETAILS
3/4" = 1'-0"



NOTE:
IF ANGLE BRACE ALIGNS W/ BEAM OR IJ, DELETE 4x8 & BOLT THROUGH DIRECTLY PER ABV

7 ANGLE BRACE AT IJ FRAMING
3/4" = 1'-0"

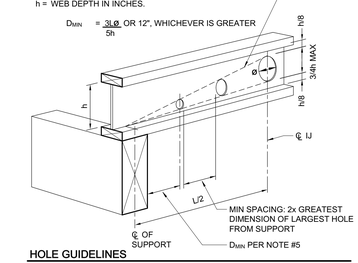


BRIDGING

POINT LOAD

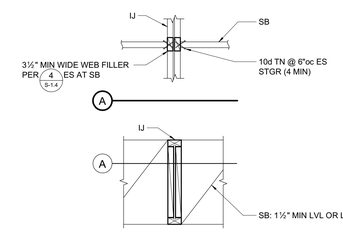
1. DO NOT CUT OR NOTCH FLANGES.
2. DO NOT CUT HOLES LARGER THAN 1½" ROUND IN CANTILEVERS.
3. HOLE SIZES AND LOCATIONS NOT MEETING THE HOLE GUIDELINES TO BE VERIFIED BY MANUFACTURER.
4. FOR SIMPLE SPANS AND UNIFORM LOADS A CHALK LINE CAN BE USED TO SHOW THE LIMITS WHEREIN HOLES ARE ACCEPTABLE. ONCE DISTANCE (D) HAS BEEN DETERMINED, THAT DIAMETER HOLE CAN BE PLACED ANYWHERE WITHIN THE WEB DEPTH (h).
5. D = DISTANCE IN FEET FROM CENTERLINE SUPPORT TO CENTER LINE OF HOLE.
   L = BEAM SPAN IN FEET, FROM CENTER LINE SUPPORT TO CENTER LINE SUPPORT.
   ø = HOLE DIAMETER IN INCHES.
   h = WEB DEPTH IN INCHES.

$D_{MIN} = \frac{3L\phi}{5h}$ OR 12", WHICHEVER IS GREATER

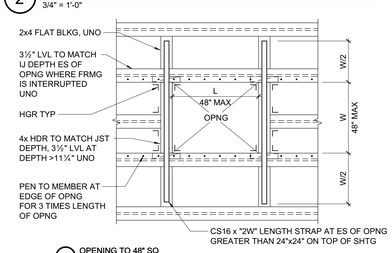


HOLE GUIDELINES

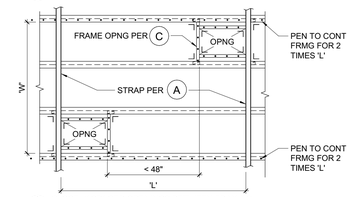
1 I-JOIST HOLES & BRIDGING
3/4" = 1'-0"



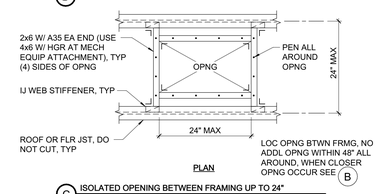
2 I-JOIST BLOCKING
3/4" = 1'-0"



A OPENING TO 48" SQ



B CLOSELY SPACED OPENINGS BETWEEN FRAMING



PLAN

C ISOLATED OPENING BETWEEN FRAMING UP TO 24"

3 OPENING IN DIAPHRAGM
3/4" = 1'-0"

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DECEMBER 2, 2020

SHEET TITLE

TYPICAL I-JOIST DETAILS

SHEET NUMBER

S-1.4

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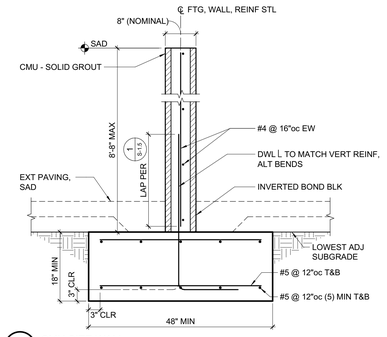


7 CMU SITE WALL
3/4" = 1'-0"

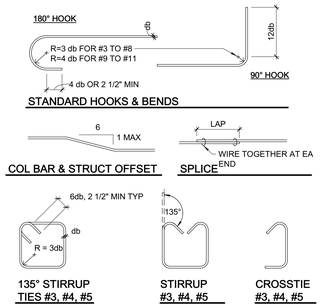
MINIMUM BAR LAPS FOR REINFORCING STEEL MASONRY STRENGTH: 2000 PSI OR GREATER (STAGGER SPLICES)					
SIZE	LAP LENGTH	SIZE	LAP LENGTH	SIZE	LAP LENGTH
#3	12"	#5	36"	#7	64"
#4	24"	#6	54"	#8	72"

MINIMUM CLEARANCES ..... 'CLR'

CMU TO BAR ..... ½"

BAR TO BAR ..... 2"

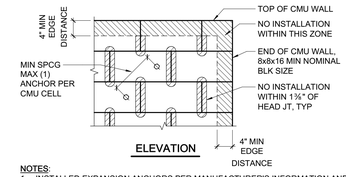
ALL REINFORCING BARS SHALL EXTEND AS FAR AS POSSIBLE



1 TYPICAL REINFORCING DETAILS (f'm = 2000psi MIN)
3/4" = 1'-0"

CARBON STL EXP ANCHORS IN 2000 PSI MIN CMU				
ANCHOR TYPE	ANCHOR & PILOT HOLE DIA	MINIMUM EMBEDMENT DEPTH*	MIN SPCG S_{min}	INSTALL TORQUE (FT-LB)
SIMPSON STRONG-BOLT 2 (IAPMO ER-240)	⅜"	2⅜"	4"	30
	½"	3½"	4"	35
	⅝"	4⅜"	4"	55
	¾"	5⅛"	4"	120
HILTI KWIK BOLT 3 (ICC-ESR 1385)	⅜"	2½"	8"	15
	½"	3½"	8"	25
	⅝"	4"	8"	65
	¾"	4¾"	8"	120

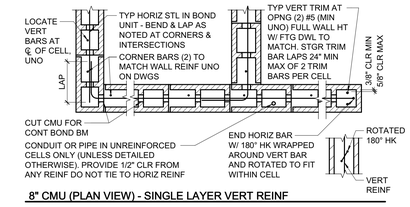
* PILOT HOLE DEPTH = MIN (1) DIAMETER GREATER THAN EMBEDMENT DEPTH



NOTES:

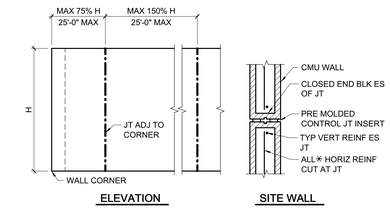
1. INSTALLED EXPANSION ANCHORS PER MANUFACTURER'S INFORMATION AND EVALUATION REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A AND THE REQUIREMENTS OF THE ICC REPORT.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR AND SHALL CONSIDER BOLT SPACING WHEN SELECTING ANCHOR TYPE.
3. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING CMU, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. USE ROTARY DRILL ONLY. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND ANCHOR. WHEN REINFORCEMENT IS PRESENT IN DRILLED HOLE ABANDON THE HOLE. FILL ABANDONED HOLES W/ DRY PACK AND FINISH TO MATCH CMU. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
4. THE SPECIAL INSPECTOR SHALL PERFORM PERIODIC/CONTINUOUS INSPECTION IN ACCORDANCE WITH TABLE 1705.3. THE SPECIAL INSPECTOR SHALL INSPECT ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, MASONRY TYPE, MASONRY COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), MASONRY THICKNESS, AND TIGHTENING TORQUE.
5. TEST ANCHORS IN ACCORDANCE W/ CBC SECTIONS 1705A.4 AND 1910A.5.

6 EXPANSION ANCHORS IN CMU
3/4" = 1'-0"

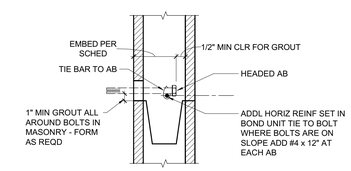


8" CMU (PLAN VIEW) - SINGLE LAYER VERT REINF

2 8" CMU (PLAN VIEW) - SINGLE LAYER VERT REINF
3/4" = 1'-0"



3 CMU WALL CONTROL JOINT
3/4" = 1'-0"

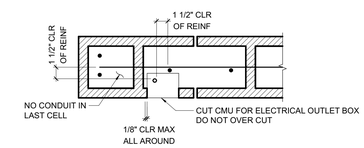


8" CMU WALL EMBEDMENT	12" CMU WALL EMBEDMENT	16" MIN PILASTER EMBEDMENT
5½"	9½"	12"

NOTE:

1. USE TEMPLATE TO SET ALL BOLTS.
2. BEDMENT TOLERANCE IS ±½" AND AS REQUIRED FOR CLEARANCE TO CMU.
3. AB SHALL PROJECT NOT LESS THAN ¼" OR MORE THAN 1" BEYOND NUT. REMOVE EXCESS THREADS WHERE NUT IS TO BE COUNTERSUNK FLUSH.

4 BOLT EMBEDMENT SCHEDULE
3/4" = 1'-0"



NOTES:

1. DO NOT TIE CONDUIT TO REINFORCING.
2. PLACE CONDUIT IN CELLS W/O REINF WHERE POSSIBLE.

5 CONDUIT IN CMU
1 1/2" = 1'-0"

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SHEET NUMBER

S-1.5

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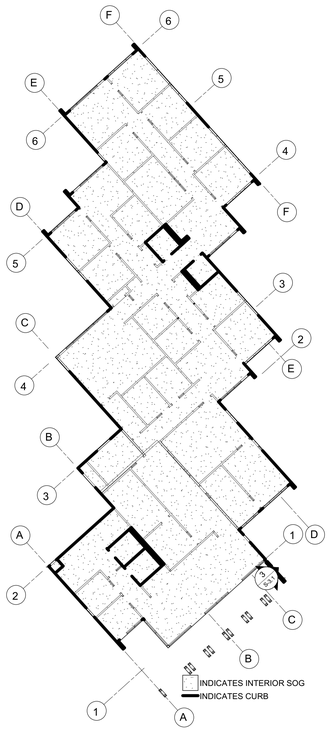
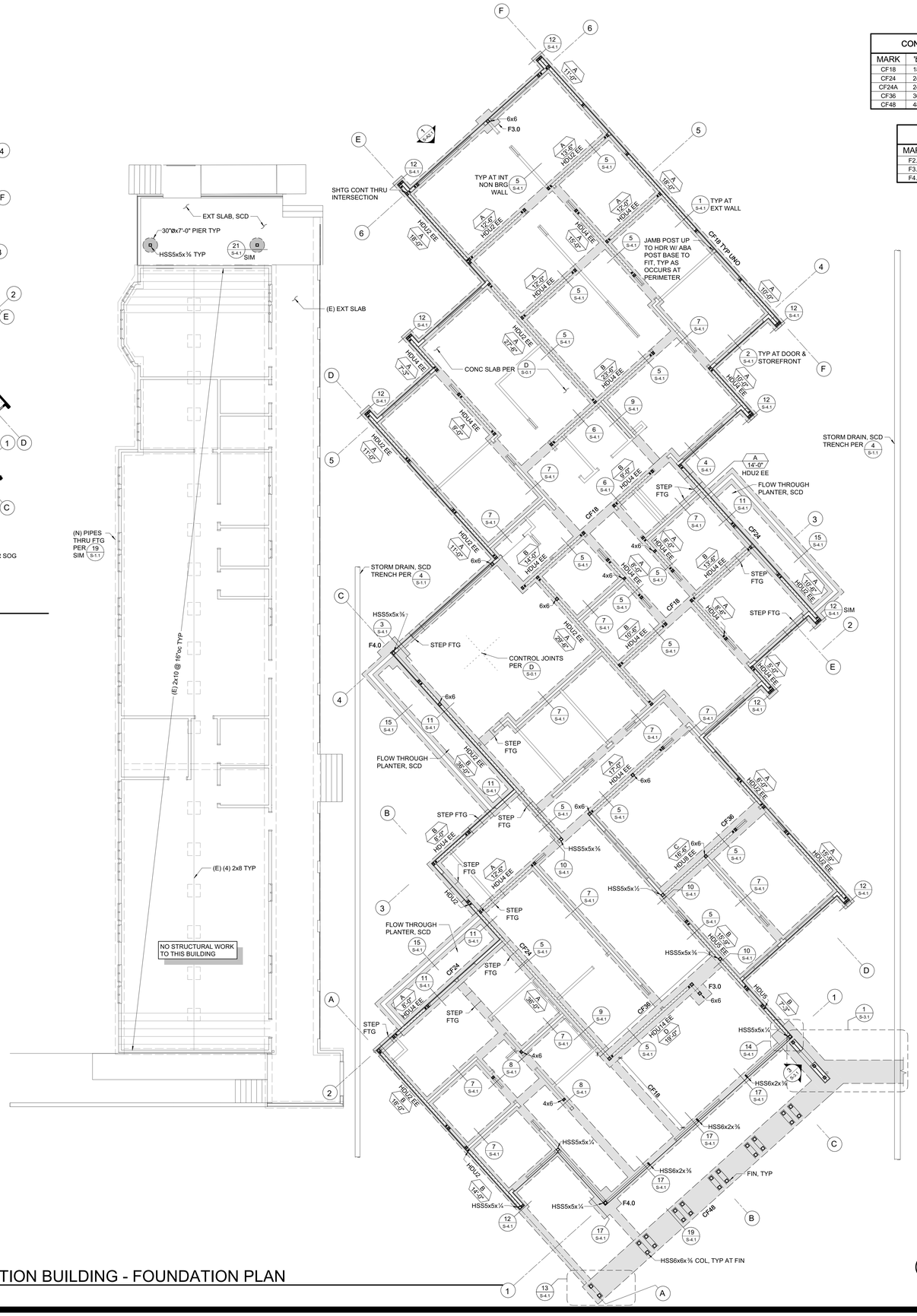


ADMIN - CURB PLAN

NOT TO SCALE



ADMINISTRATION BUILDING - FOUNDATION PLAN

1/8" = 1'-0"

CONTINUOUS FOOTING SCHEDULE

MARK	'b'	'd'	REINF	TIES
CF18	18"	18"	(2) #5 T&B	#3 @ 24"oc
CF24	24"	18"	(3) #5 T&B	#3 @ 24"oc
CF24A	24"	16"	(3) #5 TOP & (4) #8 BOT	
CF36	36"	24"	(4) #5 T&B	#3 @ 24"oc
CF48	48"	24"	(5) #5 T&B	#3 @ 24"oc

PAD FOOTING SCHEDULE

MARK	SIZE	REINF
F2.0	2'-0" SQ x 18" DEPTH	(3) #5 T&B EW
F3.0	3'-0" SQ x 18" DEPTH	(4) #5 T&B EW
F4.0	4'-0" SQ x 18" DEPTH	(5) #5 T&B EW

FOUNDATION PLAN NOTES:

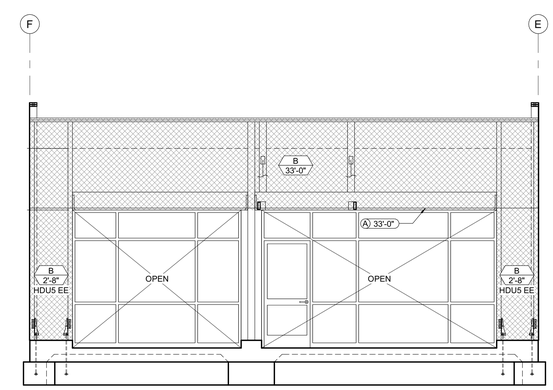
1. REFER TO SHEETS S-0.1, S-1.1, S-1.2 AND S-1.3 FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
2. DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
3. SEE CURB PLAN FOR CURB LOCATIONS. COORDINATE WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES. PROVIDE LONGER ANCHOR BOLTS AT CURBS PER D/S-0.1.
4. ALL NEW WOOD EXTERIOR WALLS NOT DESIGNATED AS SHEAR WALLS ON PLANS SHALL BE SHEATHED AS SHEAR WALL TYPE 'A' PER SHEAR WALL SCHEDULE, UNO.
5. PLUMBING AND ELECTRICAL CONDUIT AND GROUND STRAP SHALL NOT BE LAID WITHIN FOUNDATIONS. NO UTILITY PIPES OR CONDUITS SHALL BE LOCATED THRU COLUMN FOOTINGS OR FRAME FOOTINGS. NO PIPES OR CONDUITS THRU SILL PLATES SHALL BE WITHIN 12" OF HOLDOWN BOLTS. NO MECHANICAL, ELECTRICAL, OR PLUMBING OPENINGS SHALL BE LOCATED IN SHEAR WALLS UNLESS SHOWN AND DETAILED ON THE STRUCTURAL DRAWINGS. NO VERTICAL OR HORIZONTAL PIPES OR CONDUITS SHALL BE LOCATED THROUGH STEEL COLUMNS OR STEEL BASE PLATES. PROVIDE FURRING AND/OR THICKENED CONCRETE WHERE REQUIRED TO CLEAR UTILITY SYSTEMS. NOTIFY STRUCTURAL ENGINEER/ARCHITECT PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.
   - PIPES THROUGH FOOTINGS SHALL BE PER 2/S-1.1 AND 3/S-1.1.
   - PIPES PARALLEL TO FOOTINGS SHALL BE PER 4/S-1.1.
   - PIPES AT SLAB ON GRADE SHALL BE PER 7/S-1.1.
   - PIPES THROUGH WOOD FRAMING SHALL BE PER 2/S-1.2 AND 5/S-1.3.
6. CONTRACTOR SHALL DETERMINE FOUNDATION STEP LOCATIONS BASED ON GEOTECHNICAL REPORT, CIVIL, ARCHITECTURAL AND LANDSCAPE DRAWINGS. STEP FOOTING PER 9/S-1.1.
7. SEISMIC GAPS WHERE NOTED ARE DIMENSIONED CLEAR BETWEEN WALL FINISHES. THIS GAP TO BE MAINTAINED ENTIRELY CLEAR TO ALLOW FOR DIFFERENTIAL BUILDING MOVEMENT. NO PIPES, CONDUITS, ETCETERA SHALL BE LOCATED WITHIN THE GAP. PROVIDE FLEXIBLE COUPLINGS AT ALL UTILITIES CROSSING SEISMIC GAPS.
8. ELEVATION OF THE TOP OF FINISHED SLAB = 0'-0", UNLESS NOTED OTHERWISE. ELEVATION OF THE TOP OF FOOTING = 0'-11", UNLESS NOTED OTHERWISE.

PLAN LEGEND

SYMBOL	REFERENCE DETAIL	DESCRIPTION
	1/S-1.2	INDICATES STRUCTURAL WALL.
A 10'-0"	9/S-1.2 F/S-0.1	INDICATES SHEAR WALL TYPE AND MINIMUM WALL LENGTH. SYMBOL LOCATION INDICATES SHEATHED FACE OF WALL UNLESS NOTED OTHERWISE.
A ST 20'-0"	8/S-1.2	INDICATES STRAPPED SHEAR WALL WITH TYPE AND OVERALL WALL LENGTH. SEE ARCHITECTURAL DRAWINGS FOR OPENINGS.
	E/S-0.1 16/S-1.2	INDICATES WOOD POST.
•	5/S-1.2	INDICATES POST WITH HOLDOWN. POSTS WITH HOLDOWN ARE FULL HEIGHT FROM SILL TO TOP PLATE.
	6/S-1.3	INDICATES STEEL COLUMN.
		INDICATES FOUNDATION.
CF24		INDICATES CONTINUOUS FOOTING SIZE AND REINFORCING PER SCHEDULE.
F2.0		INDICATES PAD FOOTING SIZE AND REINFORCING PER SCHEDULE.
DS	8/S-1.1	INDICATES DEPRESSED SLAB, SEE ARCHITECTURAL AND PLUMBING DRAWINGS FOR COMPLETE LOCATIONS, DEPTH AND SLOPE INFORMATION.
		INDICATES STEP IN ELEVATION, SEE ARCHITECTURAL DRAWINGS.
88		INDICATES GRIDLINE.
1 S3.1		INDICATES ELEVATION.
		INDICATES EXISTING FOUNDATION.
		INDICATES EXISTING FRAMING.

SHEAR WALL SCHEDULE

SW	APA RATED SHEATHING	NAILING (PEN)	ANCHORAGE ½"@ BOLT FDN 2x SILL	ANCHORAGE ½"@ BOLT FDN 3x SILL	REMARKS
A	15/32" (32/16) EXP 1	10d @ 6"oc	32"oc	48"oc	
B	15/32" (32/16) EXP 1	10d @ 4"oc	24"oc	32"oc	3x MIN AT ALL ADJOINING PANEL EDGES
C	15/32" (32/16) EXP 1	10d @ 3"oc	16"oc	24"oc	
D	15/32" (32/16) EXP 1	10d @ 2"oc	-	16"oc	



1 GRID 6 - STRAPPED SHEAR WALL ELEVATION

1/4" = 1'-0"

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LIBERTY UNION HIGH SCHOOL DISTRICT

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DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
ENGR / PM:	KPB / AIZ
DRAWING SCALE:	As indicated
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION BUILDING FOUNDATION PLAN

SHEET NUMBER

S-A2.1

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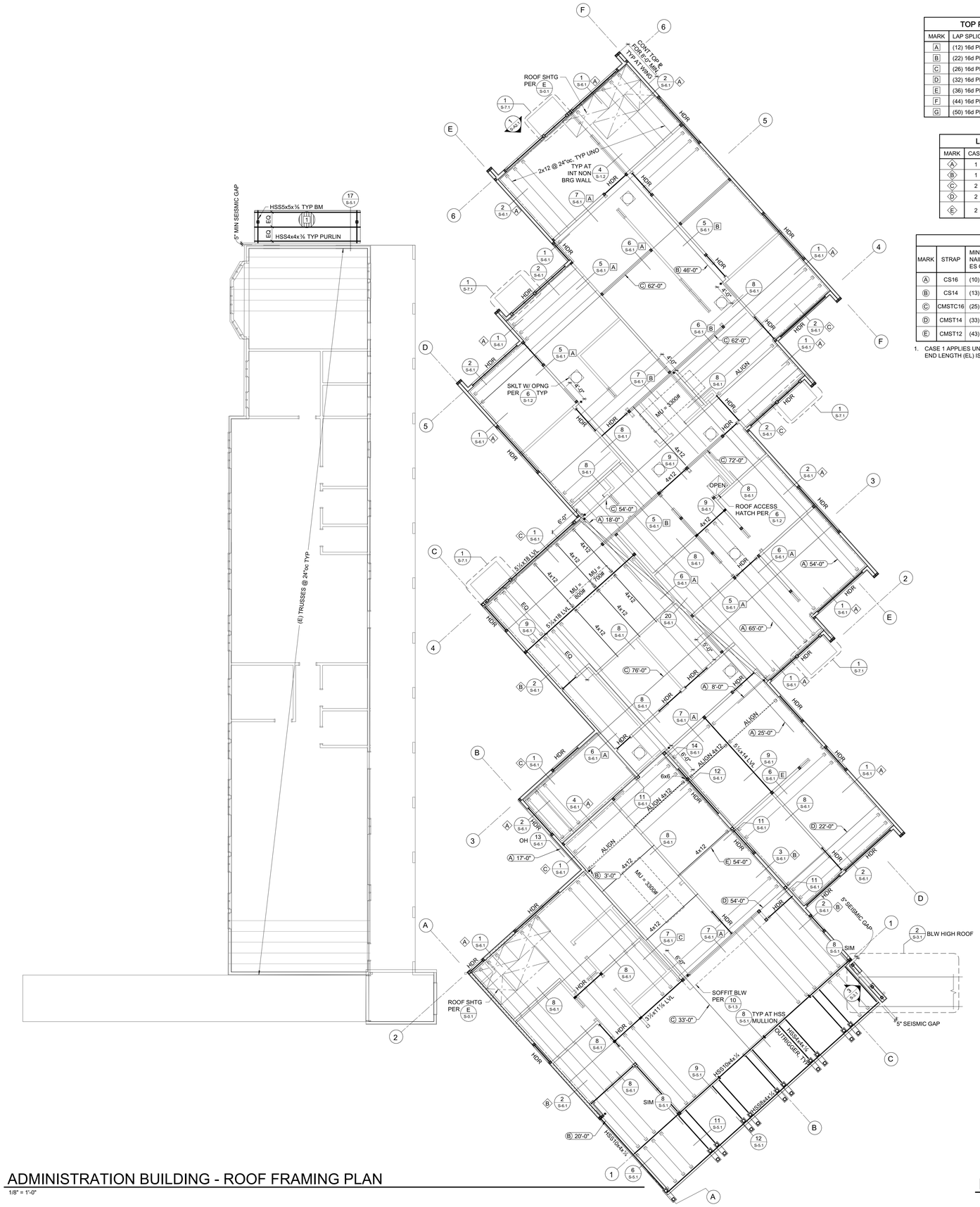
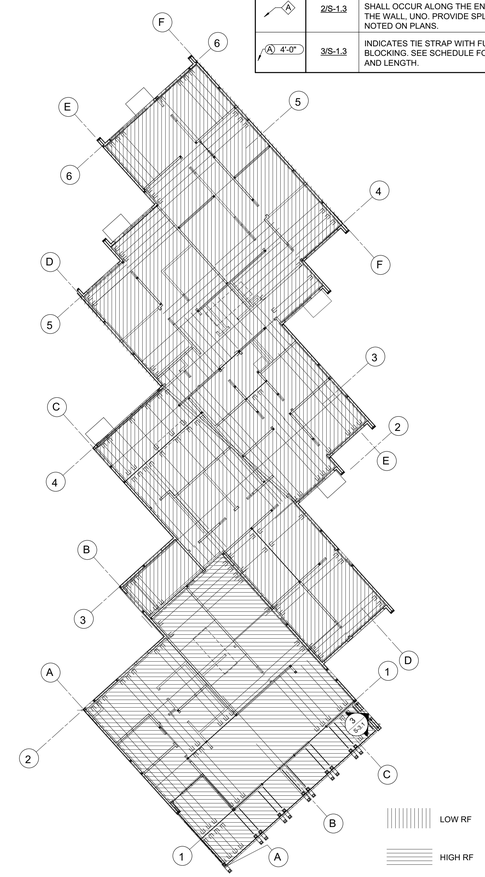


ADMINISTRATION BUILDING - ROOF FRAMING PLAN

1/8" = 1'-0"



DIAPHRAGM PLAN

1/16" = 1'-0"

TOP PLATE SPLICE SCHEDULE

MARK	LAP SPLICE (CASE 1)	STRAP SPLICE (CASE 2)
A	(12) 16d PER 4'-0" MIN LAP	MSTC28
B	(22) 16d PER 4'-0" MIN LAP	MSTC40
C	(26) 16d PER 6'-0" MIN LAP	MSTC52
D	(32) 16d PER 6'-0" MIN LAP	MSTC66
E	(36) 16d PER 8'-0" MIN LAP	MSTC28 EA SIDE
F	(44) 16d PER 8'-0" MIN LAP	MSTC40 EA SIDE
G	(50) 16d PER 10'-0" MIN LAP	MSTC52 EA SIDE

LEDGER SPLICE SCHEDULE

MARK	CASE	STRAP/PLATE	CASE	STRAP/PLATE
A	1	MSTA24	-	
B	1	MSTA30	-	
C	2	MSTI48	3	MSTI60
D	2	CMST14x5'-6"	3	CMST14x6'-0"
E	2	(2) MSTI48	4	℄ ¼" W/ (6) 1"Ø MB ES OF SPLICE

TIE STRAP SCHEDULE

MARK	STRAP	MIN. NAILING ES OF •	MAX. NAIL SPACING (SEE NOTES #1 & #2) CASE 1	CASE 2 EL	CASE 2 RL	MIN. END LENGTH (EL)
A	CS16	(10) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	10d @ 4"oc STGR	12"
B	CS14	(13) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	10d @ 4"oc STGR	16"
C	CMSTC16	(25) 10d	10d @ 3"oc STGR	FILL ALL NAIL HOLES	10d @ 3"oc STGR	24"
D	CMST14	(33) 10d	10d @ 3½"oc STGR	FILL ALL NAIL HOLES	10d @ 3½"oc STGR	32"
E	CMST12	(43) 10d	10d @ 3½"oc STGR	FILL ALL NAIL HOLES	10d @ 3½"oc STGR	48"

1. CASE 1 APPLIES UNLESS END LENGTH (EL) IS NOTED ON PLANS. WHERE END LENGTH (EL) IS NOTED, SEE CASE 2.

FRAMING PLAN NOTES:

1. REFER TO SHEETS S-0.1, S-1.2, S-1.3, S-1.4, AND S-1.5 FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
2. DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
3. MECHANICAL, ELECTRICAL AND PLUMBING PENETRATIONS THROUGH WALLS, ROOFS OR FLOORS SHALL BE PER REFERENCES BELOW UNLESS SHOWN AND DETAILED OTHERWISE ON THE STRUCTURAL PLANS. NOTIFY ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.

   PENETRATIONS THROUGH SHEAR WALLS SHALL BE PER 7/S-1.2 .

   PENETRATIONS THROUGH ROOFS SHALL BE PER 6/S-1.2 .
4. ALL NEW WOOD EXTERIOR WALLS NOT DESIGNATED AS SHEAR WALLS ON PLANS SHALL BE SHEATHED AS SHEAR WALL TYPE 'A' PER SHEAR WALL SCHEDULE, UNLESS NOTED OTHERWISE.
5. SEISMIC GAPS WHERE NOTED ARE DIMENSIONED CLEAR BETWEEN WALL FINISHES. THIS GAP TO BE MAINTAINED ENTIRELY CLEAR TO ALLOW FOR DIFFERENTIAL BUILDING MOVEMENT. NO PIPES, CONDUITS, ETCETERA SHALL BE LOCATED WITHIN THE GAP. PROVIDE FLEXIBLE COUPLINGS AT ALL UTILITIES CROSSING SEISMIC GAPS.

PLAN LEGEND

SYMBOL	REFERENCE DETAIL	DESCRIPTION
88		INDICATES GRIDLINE.
	1/S-1.2	INDICATES STRUCTURAL WALL.
	E/S-0.1 16/S-1.2	INDICATES WOOD POST.
	6/S-1.3	INDICATES STEEL COLUMN.
	12/S-1.2	INDICATES PANEL EDGE NAILING ALONG FULL LENGTH OF MEMBER. PROVIDE 2x SB @ 24"oc.
	E/S-0.1 G/S-0.1	INDICATES HANGER.
	H/S-0.1	INDICATES STL BM.
		INDICATES LEDGER. SEE PLAN FOR SIZE AND ANCHORAGE.
1	11/S-7.1	INDICATES METAL DECK AND DIRECTION OF DECK SPAN.
MU 1,000#	7/S-1.3 8/S-1.3	INDICATES APPROXIMATE LOCATION, SIZE AND MAXIMUM WEIGHT OF MECHANICAL UNIT. SEE MECHANICAL DRAWINGS FOR ANCHORAGE AND ADDITIONAL INFORMATION.
		INDICATES EXISTING FRAMING.
A	1/S-1.3	INDICATES TOP PLATE SPLICE. SPLICE TYPE SHALL OCCUR ALONG THE ENTIRE LENGTH OF THE WALL, UNO. PROVIDE SPLICE TYPE 'A' IF NOT NOTED ON PLANS.
A	2/S-1.3	INDICATES LEDGER/RIM SPLICE. SPLICE TYPE SHALL OCCUR ALONG THE ENTIRE LENGTH OF THE WALL, UNO. PROVIDE SPLICE TYPE 'A' IF NOT NOTED ON PLANS.
A 4'-0"	3/S-1.3	INDICATES TIE STRAP WITH FULL DEPTH BLOCKING. SEE SCHEDULE FOR STRAP, NAILING AND LENGTH.

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DRAWING SCALE:	As indicated
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION BUILDING ROOF FRAMING PLAN

SHEET NUMBER

S-A2.2

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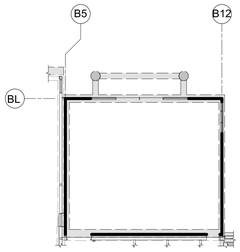
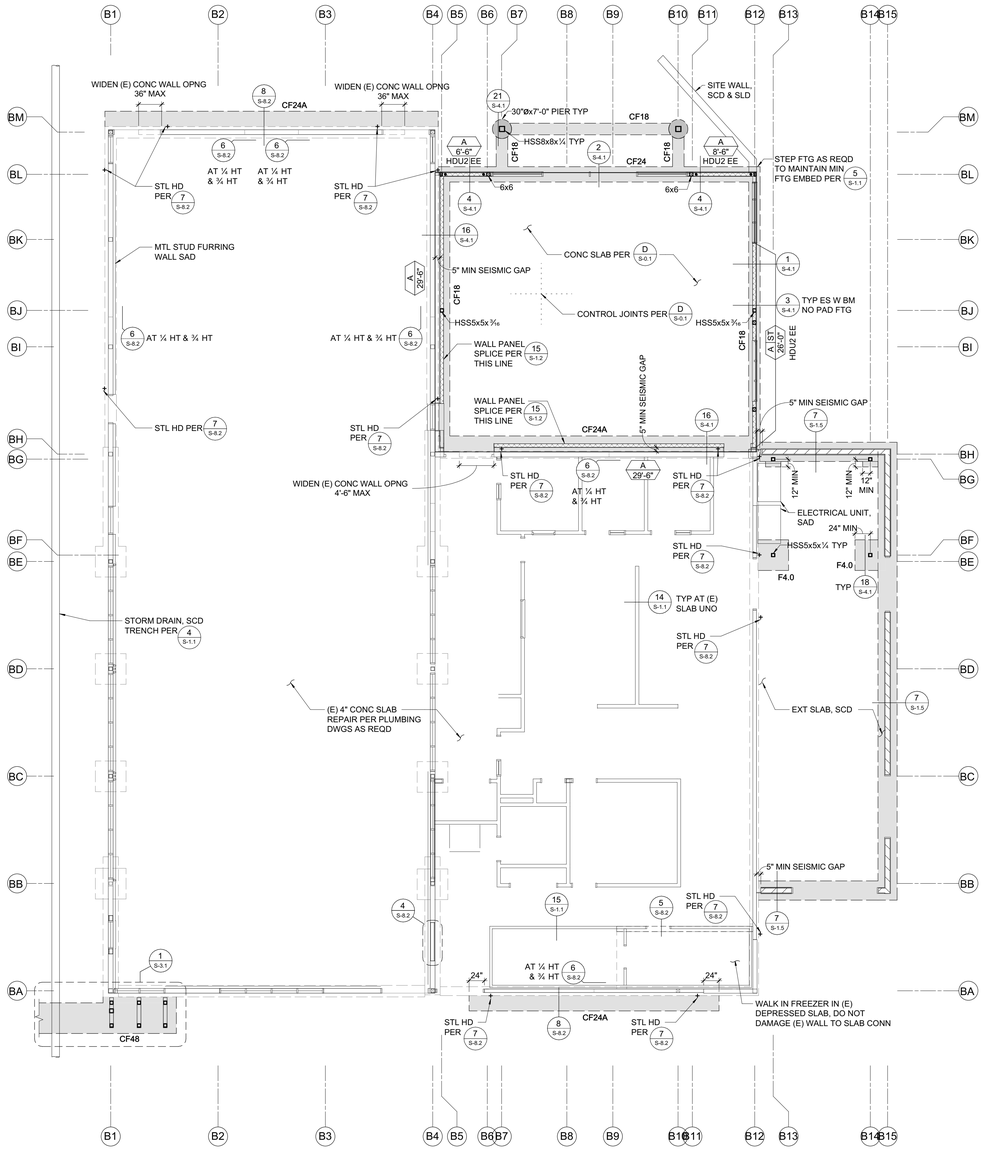


SERVERY CURB PLAN

1/16" = 1'-0"



CAFETERIA - FOUNDATION PLAN

1/8" = 1'-0"

FOUNDATION PLAN NOTES:

1. REFER TO SHEETS S-0.1, S-1.1, S-1.2 AND S-1.3 FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
2. DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
3. SEE CURB PLAN FOR CURB LOCATIONS. COORDINATE WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES. PROVIDE LONGER ANCHOR BOLTS AT CURBS PER D/S-0.1 .
4. ALL NEW WOOD EXTERIOR WALLS NOT DESIGNATED AS SHEAR WALLS ON PLANS SHALL BE SHEATHED AS SHEAR WALL TYPE 'A' PER SHEAR WALL SCHEDULE, UNO.
5. PLUMBING AND ELECTRICAL CONDUIT AND GROUND STRAP SHALL NOT BE LAID WITHIN FOUNDATIONS. NO UTILITY PIPES OR CONDUITS SHALL BE LOCATED THRU COLUMN FOOTINGS OR FRAME FOOTINGS. NO PIPES OR CONDUITS THRU SILL PLATES SHALL BE WITHIN 12" OF HOLDOWN BOLTS. NO MECHANICAL, ELECTRICAL, OR PLUMBING OPENINGS SHALL BE LOCATED IN SHEAR WALLS UNLESS SHOWN AND DETAILED ON THE STRUCTURAL DRAWINGS. NO VERTICAL OR HORIZONTAL PIPES OR CONDUITS SHALL BE LOCATED THROUGH STEEL COLUMNS OR STEEL BASE PLATES. PROVIDE FURRING AND/OR THICKENED CONCRETE WHERE REQUIRED TO CLEAR UTILITY SYSTEMS. NOTIFY STRUCTURAL ENGINEER/ARCHITECT PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.

   PIPES THROUGH FOOTINGS SHALL BE PER 2/S-1.1 AND 3/S-1.1.

   PIPES PARALLEL TO FOOTINGS SHALL BE PER 4/S-1.1.

   PIPES AT SLAB ON GRADE SHALL BE PER 7/S-1.1.

   PIPES THROUGH WOOD FRAMING SHALL BE PER 2/S-1.2 AND 5/S-1.3.
6. CONTRACTOR SHALL DETERMINE FOUNDATION STEP LOCATIONS BASED ON GEOTECHNICAL REPORT, CIVIL, ARCHITECTURAL AND LANDSCAPE DRAWINGS. STEP FOOTING PER 5/S-1.1.
7. SEISMIC GAPS WHERE NOTED ARE DIMENSIONED CLEAR BETWEEN WALL FINISHES. THIS GAP TO BE MAINTAINED ENTIRELY CLEAR TO ALLOW FOR DIFFERENTIAL BUILDING MOVEMENT. NO PIPES, CONDUITS, ETCETERA SHALL BE LOCATED WITHIN THE GAP. PROVIDE FLEXIBLE COUPLINGS AT ALL UTILITIES CROSSING SEISMIC GAPS.
8. ELEVATION OF THE TOP OF FINISHED SLAB = 0'-0", UNLESS NOTED OTHERWISE. ELEVATION OF THE TOP OF FOOTING = 0'-11", UNLESS NOTED OTHERWISE.

PLAN LEGEND

SYMBOL	REFERENCE DETAIL	DESCRIPTION
	1/S-1.2	INDICATES STRUCTURAL WALL.
A 10'-0"	9/S-1.2 F/S-0.1	INDICATES SHEAR WALL TYPE AND MINIMUM WALL LENGTH. SYMBOL LOCATION INDICATES SHEATHED FACE OF WALL UNLESS NOTED OTHERWISE.
A ST 20'-0"	8/S-1.2	INDICATES STRAPPED SHEAR WALL WITH TYPE AND OVERALL WALL LENGTH, SEE ARCHITECTURAL DRAWINGS FOR OPENINGS.
	E/S-0.1 16/S-1.2	INDICATES WOOD POST.
•	5/S-1.2	INDICATES POST WITH HOLDOWN. POSTS WITH HOLDOWN ARE FULL HEIGHT FROM SILL TO TOP PLATE.
	6/S-1.3	INDICATES STEEL COLUMN.
		INDICATES FOUNDATION.
CF24		INDICATES CONTINUOUS FOOTING SIZE AND REINFORCING PER SCHEDULE.
F2.0		INDICATES PAD FOOTING SIZE AND REINFORCING PER SCHEDULE.
DS	8/S-1.1	INDICATES DEPRESSED SLAB, SEE ARCHITECTURAL AND PLUMBING DRAWINGS FOR COMPLETE LOCATIONS, DEPTH AND SLOPE INFORMATION.
		INDICATES STEP IN ELEVATION, SEE ARCHITECTURAL DRAWINGS.
88		INDICATES GRIDLINE.
1 S3.1		INDICATES ELEVATION.
		INDICATES EXISTING FOUNDATION.
		INDICATES EXISTING FRAMING.

CONTINUOUS FOOTING SCHEDULE

MARK	'b'	'd'	REINF	TIES
CF18	18"	18"	(2) #5 T&B	#3 @ 24"oc
CF24	24"	18"	(3) #5 T&B	#3 @ 24"oc
CF24A	24"	16"	(3) #5 TOP & (4) #8 BOT	
CF36	36"	24"	(4) #5 T&B	#3 @ 24"oc
CF48	48"	24"	(5) #5 T&B	#3 @ 24"oc

PAD FOOTING SCHEDULE

MARK	SIZE	REINF
F2.0	2'-0" SQ x 18" DEPTH	(3) #5 T&B EW
F3.0	3'-0" SQ x 18" DEPTH	(4) #5 T&B EW
F4.0	4'-0" SQ x 18" DEPTH	(5) #5 T&B EW

SHEAR WALL SCHEDULE

SW	APA RATED SHEATHING	NAILING (PEN)	ANCHORAGE ⅝"Ø BOLT FDN 2x SILL	ANCHORAGE ⅝"Ø BOLT FDN 3x SILL	REMARKS
A	15/32 " (32/16) EXP 1	10d @ 6"oc	32"oc	48"oc	
B	15/32 " (32/16) EXP 1	10d @ 4"oc	24"oc	32"oc	3x MIN AT ALL ADJOINING PANEL EDGES
C	15/32 " (32/16) EXP 1	10d @ 3"oc	16"oc	24"oc	
D	15/32 " (32/16) EXP 1	10d @ 2"oc	-	16"oc	

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SHEET TITLE

CAFETERIA FOUNDATION PLAN

SHEET NUMBER

S-B2.1

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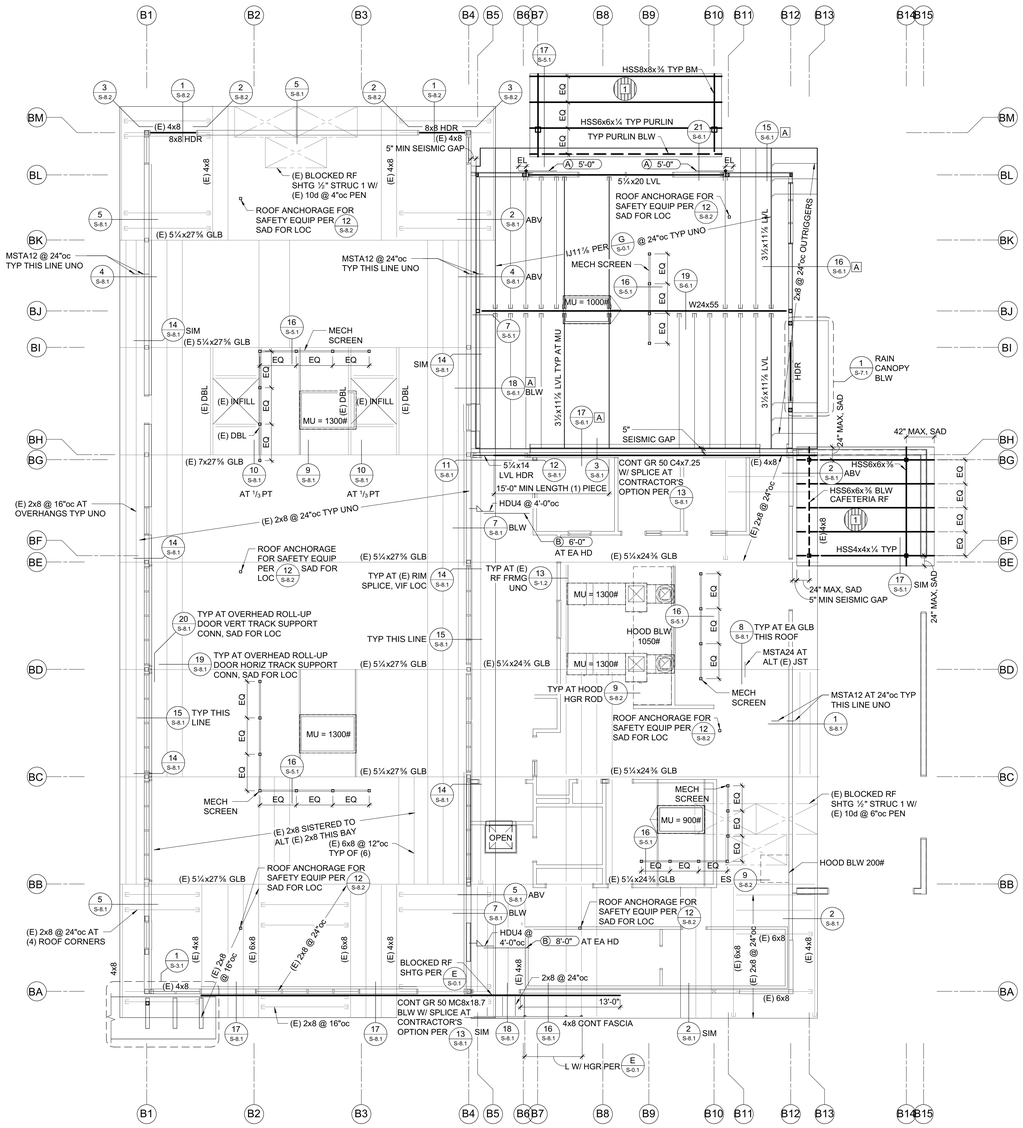

NORTH

CAFETERIA - ROOF FRAMING PLAN

1/8" = 1'-0"

FRAMING PLAN NOTES:

1. REFER TO SHEETS S-0.1, S-1.2, S-1.3, S-1.4, AND S-1.5 FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
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   PENETRATIONS THROUGH SHEAR WALLS SHALL BE PER 7/S-1.2 .

   PENETRATIONS THROUGH ROOFS SHALL BE PER 6/S-1.2 .
4. ALL NEW WOOD EXTERIOR WALLS NOT DESIGNATED AS SHEAR WALLS ON PLANS SHALL BE SHEATHED AS SHEAR WALL TYPE 'A' PER SHEAR WALL SCHEDULE, UNLESS NOTED OTHERWISE.
5. SEISMIC GAPS WHERE NOTED ARE DIMENSIONED CLEAR BETWEEN WALL FINISHES. THIS GAP TO BE MAINTAINED ENTIRELY CLEAR TO ALLOW FOR DIFFERENTIAL BUILDING MOVEMENT. NO PIPES, CONDUITS, ETCETERA SHALL BE LOCATED WITHIN THE GAP. PROVIDE FLEXIBLE COUPLINGS AT ALL UTILITIES CROSSING SEISMIC GAPS.

PLAN LEGEND

SYMBOL	REFERENCE DETAIL	DESCRIPTION
88		INDICATES GRIDLINE.
	1/S-1.2	INDICATES STRUCTURAL WALL.
	E/S-0.1 16/S-1.2	INDICATES WOOD POST.
	6/S-1.3	INDICATES STEEL COLUMN.
	12/S-1.2	INDICATES PANEL EDGE NAILING ALONG FULL LENGTH OF MEMBER. PROVIDE 2x SB @ 24"oc.
	E/S-0.1 G/S-0.1	INDICATES HANGER.
	H/S-0.1	INDICATES STL BM.
		INDICATES LEDGER. SEE PLAN FOR SIZE AND ANCHORAGE.
1	11/S-7.1	INDICATES METAL DECK AND DIRECTION OF DECK SPAN.
MU 1,000#	7/S-1.3 8/S-1.3	INDICATES APPROXIMATE LOCATION, SIZE AND MAXIMUM WEIGHT OF MECHANICAL UNIT. SEE MECHANICAL DRAWINGS FOR ANCHORAGE AND ADDITIONAL INFORMATION.
		INDICATES EXISTING FRAMING.
A	1/S-1.3	INDICATES TOP PLATE SPLICE. SPLICE TYPE SHALL OCCUR ALONG THE ENTIRE LENGTH OF THE WALL, UNO. PROVIDE SPLICE TYPE 'A' IF NOT NOTED ON PLANS.
A	2/S-1.3	INDICATES LEDGER/RIM SPLICE. SPLICE TYPE SHALL OCCUR ALONG THE ENTIRE LENGTH OF THE WALL, UNO. PROVIDE SPLICE TYPE 'A' IF NOT NOTED ON PLANS.
A 4'-0"	3/S-1.3	INDICATES TIE STRAP WITH FULL DEPTH BLOCKING. SEE SCHEDULE FOR STRAP, NAILING AND LENGTH.

TOP PLATE SPLICE SCHEDULE

MARK	LAP SPLICE (CASE 1)	STRAP SPLICE (CASE 2)
A	(12) 16d PER 4'-0" MIN LAP	MSTC28
B	(22) 16d PER 4'-0" MIN LAP	MSTC40
C	(26) 16d PER 6'-0" MIN LAP	MSTC52
D	(32) 16d PER 6'-0" MIN LAP	MSTC66
E	(36) 16d PER 8'-0" MIN LAP	MSTC28 EA SIDE
F	(44) 16d PER 8'-0" MIN LAP	MSTC40 EA SIDE
G	(50) 16d PER 10'-0" MIN LAP	MSTC52 EA SIDE

TIE STRAP SCHEDULE

MARK	STRAP	MIN. NAILING ES OF *	MAX. NAIL SPACING (SEE NOTES #1 & #2)			MIN. END LENGTH (EL)
			CASE 1	CASE 2		
				EL	RL	
A	CS16	(10) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	10d @ 4"oc STGR	12"
B	CS14	(13) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	10d @ 4"oc STGR	16"
C	CMSTC16	(25) 10d	10d @ 3"oc STGR	FILL ALL NAIL HOLES	10d @ 3"oc STGR	24"
D	CMST14	(33) 10d	10d @ 3½"oc STGR	FILL ALL NAIL HOLES	10d @ 3½"oc STGR	32"
E	CMST12	(43) 10d	10d @ 3½"oc STGR	FILL ALL NAIL HOLES	10d @ 3½"oc STGR	48"

1. CASE 1 APPLIES UNLESS END LENGTH (EL) IS NOTED ON PLANS. WHERE END LENGTH (EL) IS NOTED, SEE CASE 2.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS

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CHRIS S. WANG
No. S5400
STRUCTURAL
STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER

11/24/2020

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LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2nd Street
Brentwood CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

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DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
ENGR / PM:	KPB / AIZ
DRAWING SCALE:	As indicated
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

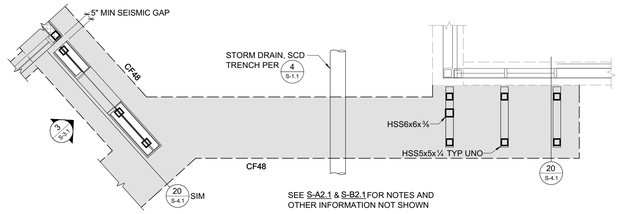
CAFETERIA ROOF FRAMING PLAN

SHEET NUMBER

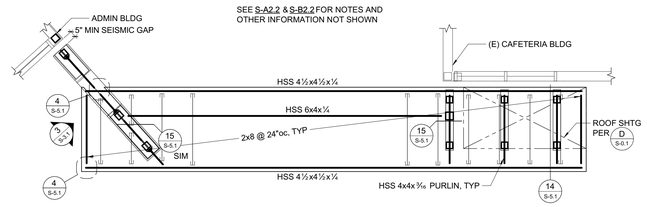
S-B2.2

C:\revit_local\19179_LIBERTY HS_S19C_kyleb@zfa.com.rvt

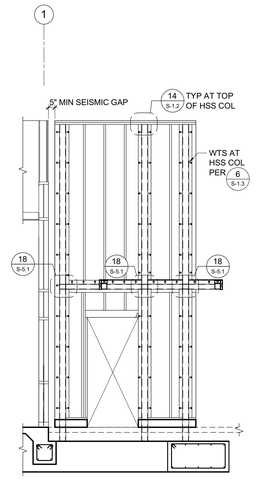
11/24/2020 5:02:29 PM



1 ENTRY CANOPY - FOUNDATION PLAN
1/4" = 1'-0"



2 ENTRY CANOPY - ROOF FRAMING PLAN
1/4" = 1'-0"



3 ENTRY CANOPY - TALL WALL ELEVATION
1/4" = 1'-0"

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DSA APP NO. 01-119033

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DRAWING SCALE:	1/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

CANOPY PLANS

SHEET NUMBER

S-3.1

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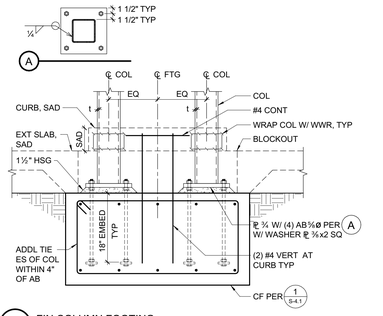
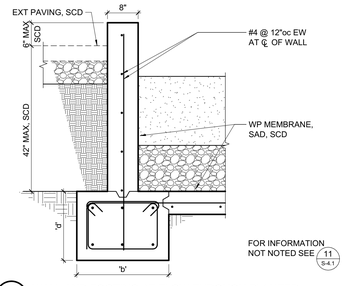
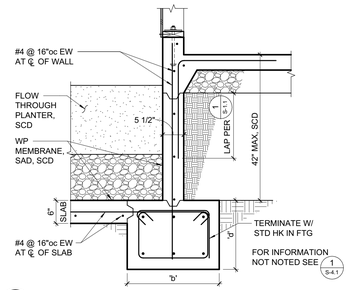


19 FIN COLUMN FOOTING
3/4" = 1'-0"



15 WALL AND FOOTING AT FLOW THROUGH PLANTER
3/4" = 1'-0"



11 BUILDING FOOTING AT FLOW THROUGH PLANTER
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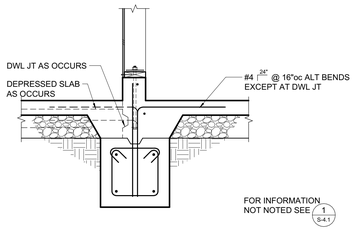
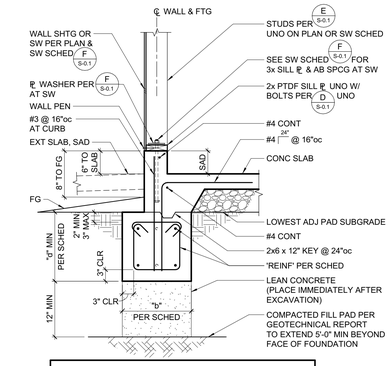
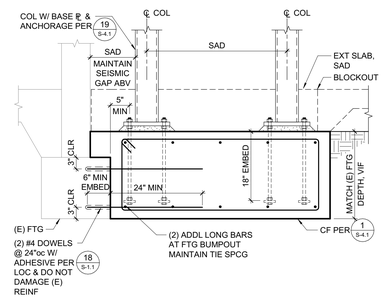


6 INTERIOR FOOTING AT SHEAR WALL WITH CURB
3/4" = 1'-0"

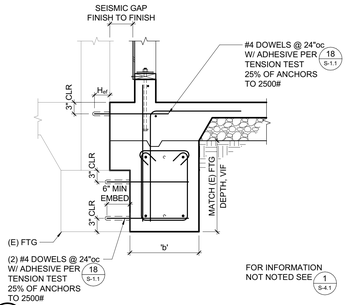


CONTINUOUS FOOTING SCHEDULE				
MARK	'b'	'd'	REINF	TIES
CF18	18"	18"	(2) #5 T&B	#3 @ 24"oc
CF24	24"	18"	(3) #5 T&B	#3 @ 24"oc
CF24A	24"	16"	(3) #5 TOP & (4) #8 BOT	
CF36	36"	24"	(4) #5 T&B	#3 @ 24"oc
CF48	48"	24"	(5) #5 T&B	#3 @ 24"oc

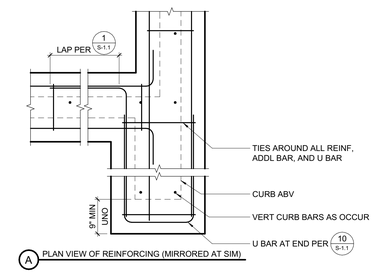
1 TYPICAL EXTERIOR FOOTING
3/4" = 1'-0"

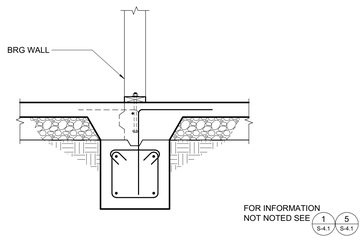


20 ENTRY CANOPY COLUMN FOOTING
3/4" = 1'-0"

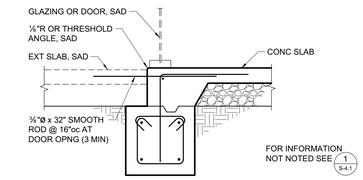


16 TYPICAL FOOTING TO (E) FOOTING
3/4" = 1'-0"

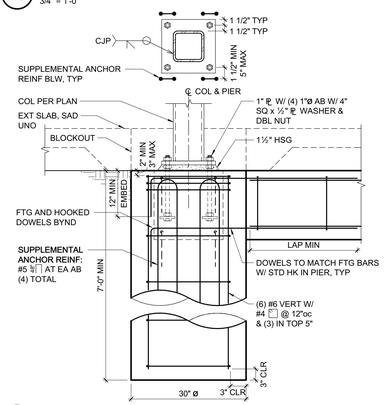




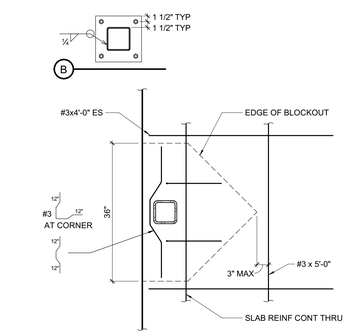
7 INTERIOR FOOTING AT BEARING WALL
3/4" = 1'-0"

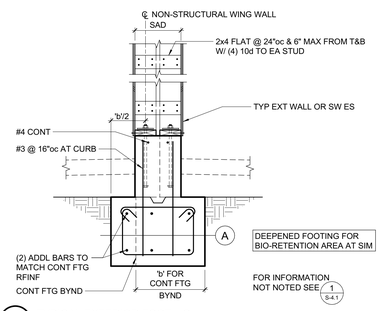


2 FOOTING AT GLAZING OR DOOR
3/4" = 1'-0"

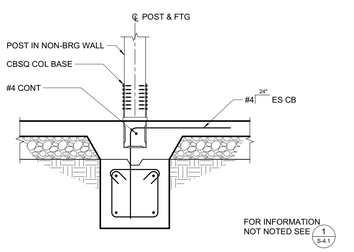


21 HSS COLUMN AND PIER AT CANOPY
3/4" = 1'-0"

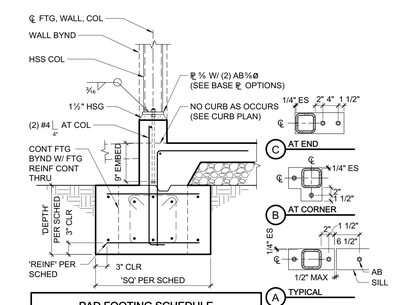




12 TYPICAL EXTERIOR FOOTING
3/4" = 1'-0"

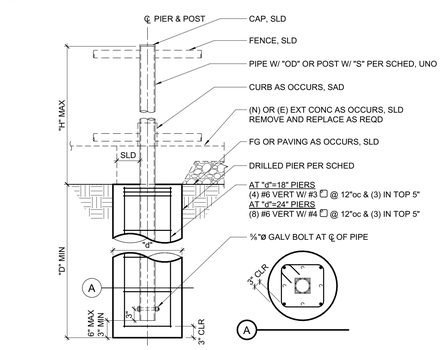


8 INTERIOR FOOTING AT POST IN NON-BEARING WALL
3/4" = 1'-0"



PAD FOOTING SCHEDULE		
MARK	SIZE	REINF
F2.0	2'-0" SQ x 18" DEPTH	(3) #5 T&B EW
F3.0	3'-0" SQ x 18" DEPTH	(4) #5 T&B EW
F4.0	4'-0" SQ x 18" DEPTH	(5) #5 T&B EW

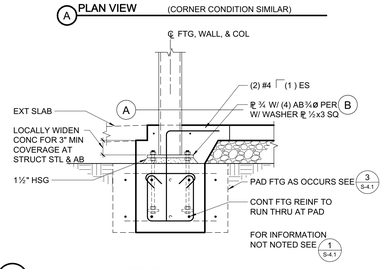
3 HSS COLUMN AT PAD FOOTING
3/4" = 1'-0"



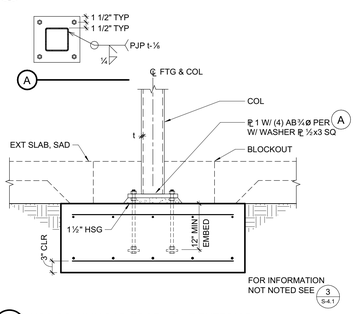
PIPE & PIER SCHEDULE[1,2]					
FENCE/GATE TYPE[3]	"H" MAX HT ABV GR	"OD"/"S" MIN SIZE[3]	MAX SPCG BTWN PIERS	"D" MIN PIER DEPTH	"d" PIER DIA
8'-0" HIGH FENCE, ORNAMENTAL	8'-0"	3" x 12GA	8'-0"	5'-0"	18"
8'-0" HIGH SINGLE GATE, ORNAMENTAL[4]	8'-0"	3" x 12GA	8'-0"	5'-0"	18"
8'-0" HIGH DOUBLE GATE, ORNAMENTAL[4]	8'-0"	3" x 12GA	8'-0"	5'-0"	18"
8'-0" HIGH DOUBLE GATE, HEAVY DUTY ORNAMENTAL[4]	8'-0"	6" x ⅜"[4]	8'-0"	6'-0"	24"
FLAG POLE	35'-0"	PER MFR	N/A	5'-0"	36"

NOTES:
1. IF GROUND WATER IS ENCOUNTERED AT PIERS CONSULT GEOTECHNICAL ENGINEER FOR PEIR CASTING REQUIREMENTS.
2. WINDSCREENS, PRIVACY NETTINGS, SLATS, ETC. ARE NOT PERMITTED FOR THE LIFETIME OF THE FENCE/GATE, UNLESS NOTED OTHERWISE.
3. PERFORATED METAL PANEL PERMITTED ON GATE PANEL AND FOR 4'-0" MAX ON FENCE PANEL.
4. ORNAMENTAL FENCE & GATE PIER DESIGN IS BASED ON AEGIS II INDUSTRIAL ORNAMENTAL STEEL FENCE BY AMERISTAR. ORNAMENTAL FENCE & GATE POSTS ARE PER THE MANUFACTURER. IF AN ALTERNATIVE IS USED, CONTACT ZFA IMMEDIATELY.
5. F_y = 30KSI MIN UNO OR AS SPECIFIED BY MANUFACTURER.

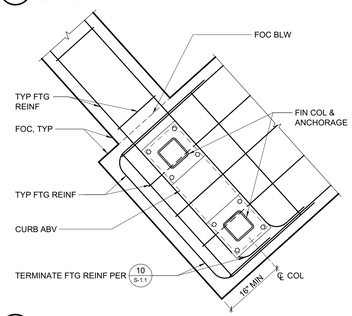
22 DRILLED PIERS FOR FENCING
3/4" = 1'-0"



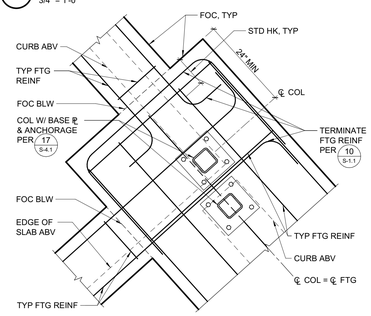
17 HSS COLUMN ON FOOTING
3/4" = 1'-0"



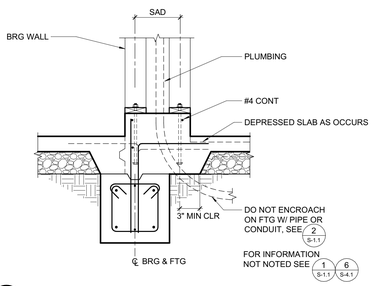
18 HSS COLUMN PAD FOOTING AT EXTERIOR
3/4" = 1'-0"



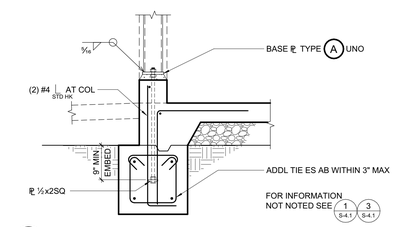
13 PLAN VIEW OF REINFORCING AT END OF FIN COLUMN FOOTING
3/4" = 1'-0"



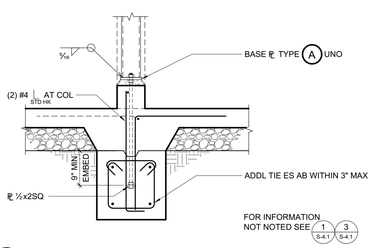
14 PLAN VIEW OF REINFORCING AT END OF FIN COLUMN FOOTING
3/4" = 1'-0"



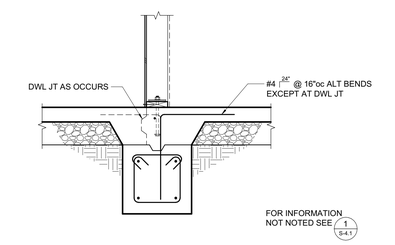
9 INTERIOR FOOTING AT BEARING WALL WITH PLUMBING WALL
3/4" = 1'-0"



4 HSS HOLDOWN COLUMN AT CONTINUOUS FOOTING
3/4" = 1'-0"



10 HSS COLUMN AT INTERIOR FOOTING
3/4" = 1'-0"



5 INTERIOR FOOTING AT SHEAR WALL
3/4" = 1'-0"

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DRAWING SCALE:	3/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

FOUNDATION DETAILS

SHEET NUMBER

S-4.1

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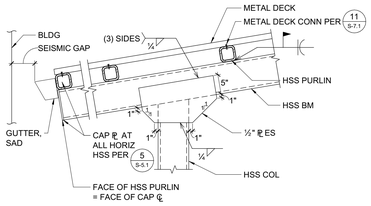
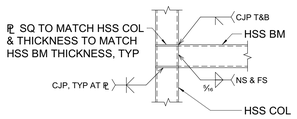
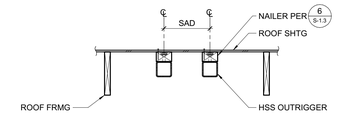


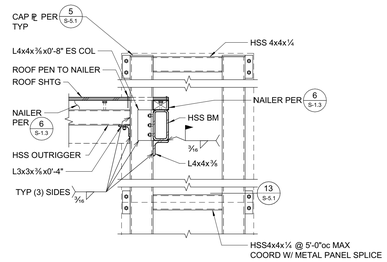
17 ENTRY CANOPY FRAMING CONNECTION
3/4" = 1'-0"



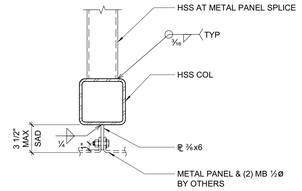
18 HSS TO HSS MOMENT CONNECTION
3/4" = 1'-0"



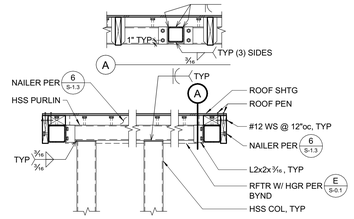
11 HSS OUTRIGGERS
3/4" = 1'-0"



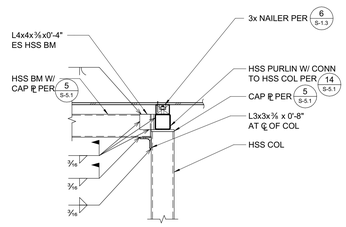
12 FIN CONNECTION AT ROOF
3/4" = 1'-0"



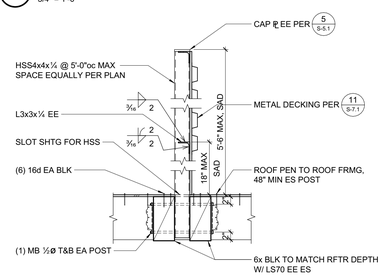
13 METAL PANEL TO HSS COLUMN
1 1/2" = 1'-0"



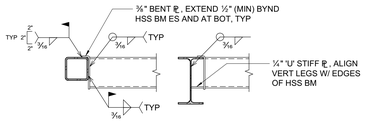
14 ENTRY CANOPY FRAMING CONNECTION
3/4" = 1'-0"



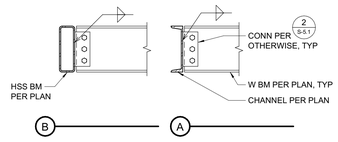
15 BEAM TO COLUMN AT ENTRY CANOPY
3/4" = 1'-0"



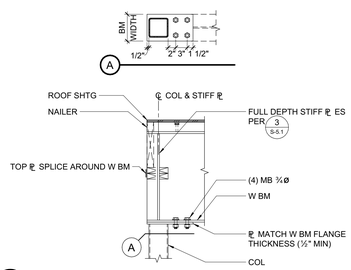
16 MECHANICAL SCREEN
3/4" = 1'-0"



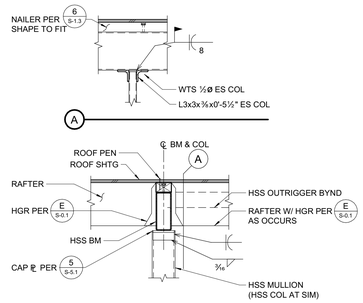
C HSS TO HSS OR W BM



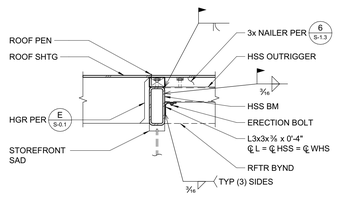
6 BEAM TO HSS OR C CHANNEL
3/4" = 1'-0"



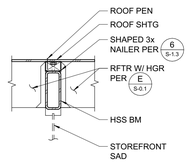
7 BEAM TO COLUMN CONNECTION
3/4" = 1'-0"



8 HSS MULLION TO HSS BEAM
3/4" = 1'-0"



9 HSS OUTRIGGER TO HSS BM
3/4" = 1'-0"

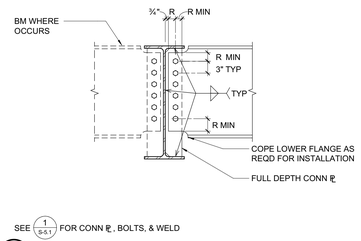


10 RAFTERS AT HSS BM
3/4" = 1'-0"

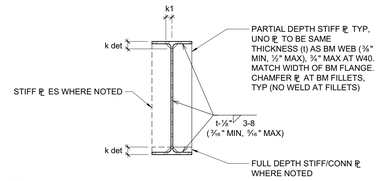
BEAM DEPTH	NO. BOLTS PER ROW	CONN PLATE	WELD SIZE
W8, W10	2	℞ ⅜	5/16"
W12, W14	3	℞ ⅜	5/16"
W16	4	℞ ⅜	5/16"
W18	5	℞ ⅜	5/16"
W21	6	℞ ⅜	5/16"
W24	6	℞ ½	5/16"
W27	7	℞ ½	5/16"

NOTES:
1. R = 1½" SEE TYP CONNECTION DETAILS. BOLT SPACING AND EDGE DISTANCE SHALL CONFORM TO AISC SPECIFICATIONS.
2. A COMPLETE PENETRATION BEVEL WELD MAY BE SUBSTITUTED FOR THE FILLET WELDS SPECIFIED.
3. USE ASTM A36 CONNECTION PLATES, UNO.
4. HOLE SIZE = BOLT SIZE + 1/16".
5. USE SAME CONNECTIONS AT CHANNELS. FOR W6, C6 & ANGLES USE PLATE, WELD & BOLT SIZE PER W8.

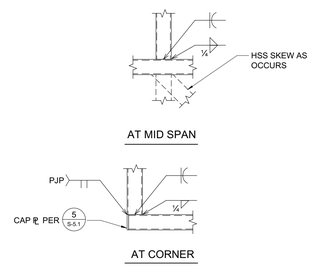
1 ¾"ø MACHINE BOLT (MB) CONNECTION SCHEDULE
3/4" = 1'-0"



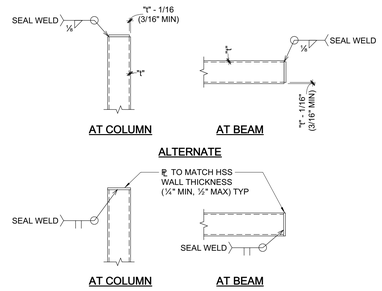
2 TYPICAL FULL DEPTH BEAM TO BEAM CONNECTION
3/4" = 1'-0"



3 TYPICAL BEAM WEB STIFFENER PLATE DETAIL
3/4" = 1'-0"



4 HSS TO HSS
3/4" = 1'-0"



5 TYPICAL CAP PLATE
3/4" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS

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zfa job no. 19179

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CHRIS S. WANG — STRUCTURAL — STATE OF CALIFORNIA
11/24/2020

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LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2nd Street
Brentwood CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

-	-	-

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
ENGR / PM:	KPB / AIZ
DRAWING SCALE:	As indicated
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

STEEL DETAILS

SHEET NUMBER

S-5.1

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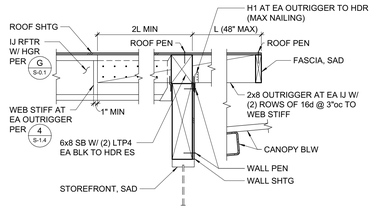
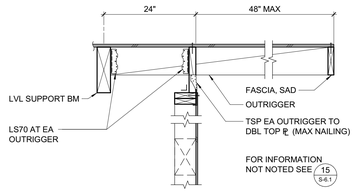
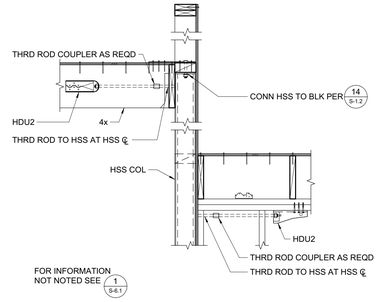


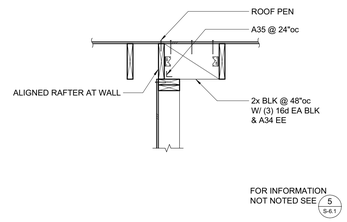
21 PERPENDICULAR FRAMING AT EXTERIOR WALL
3/4" = 1'-0"



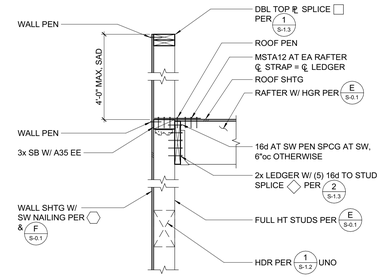
16 PARALLEL FRAMING AT EXTERIOR WALL WITH OVERHANG
3/4" = 1'-0"



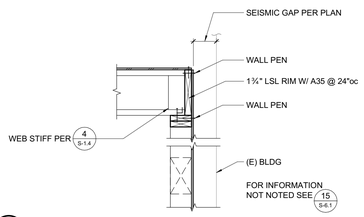
11 SHEAR TRANSFER AT ROOF ELEVATION CHANGE
3/4" = 1'-0"



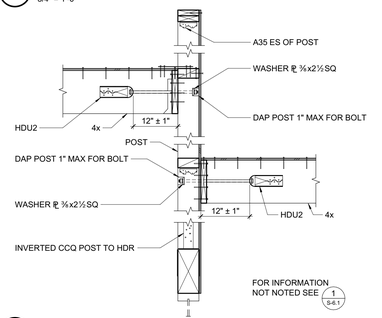
6 INTERIOR SHEAR WALL AT PARALLEL RAFTERS
3/4" = 1'-0"



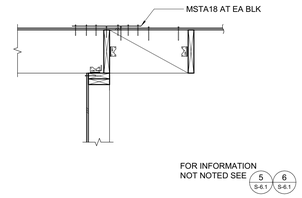
1 WALL ANCHORAGE AT EXTERIOR WALL
3/4" = 1'-0"



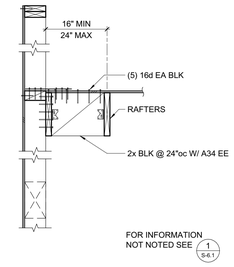
17 PERPENDICULAR FRAMING AT EXTERIOR WALL (SEISMIC GAP)
3/4" = 1'-0"



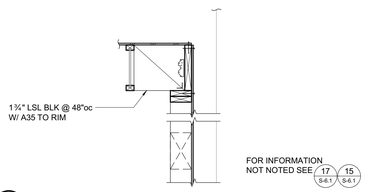
12 SHEAR TRANSFER AT ROOF ELEVATION CHANGE
3/4" = 1'-0"



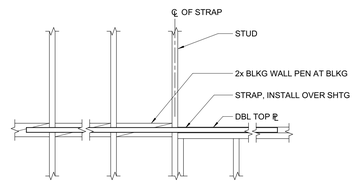
7 INTERIOR SHEAR WALL AT RAFTER DIRECTION CHANGE
3/4" = 1'-0"



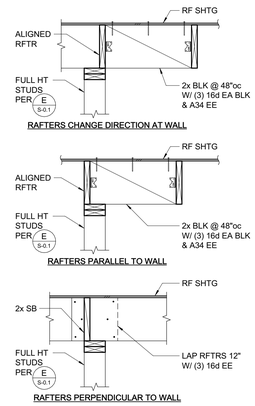
2 PARALLEL FRAMING AT EXTERIOR WALL
3/4" = 1'-0"



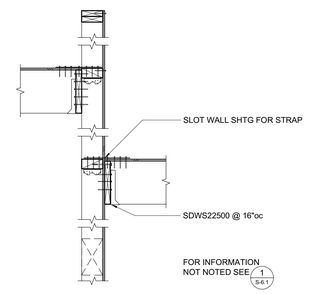
18 PARALLEL FRAMING AT EXTERIOR WALL (SEISMIC GAP)
3/4" = 1'-0"



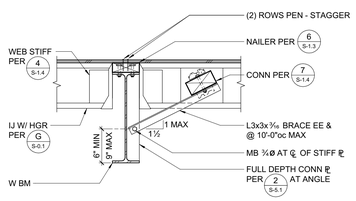
13 STRAP TIE ELEVATION
3/4" = 1'-0"



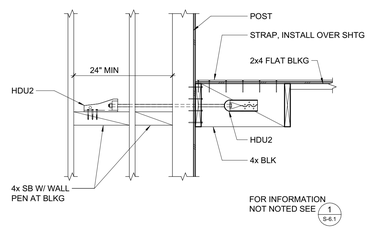
8 INTERIOR BEARING WALLS
3/4" = 1'-0"



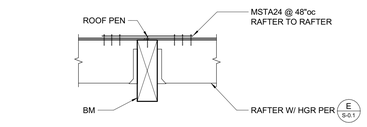
3 ROOF STEP WITH PARPAET
3/4" = 1'-0"



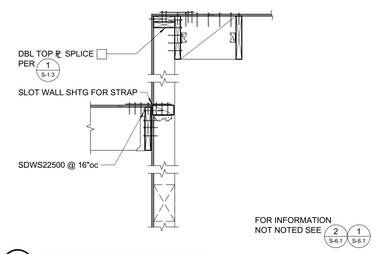
19 I-JOIST TO WIDE FLANGE BEAM AND BRACE
3/4" = 1'-0"



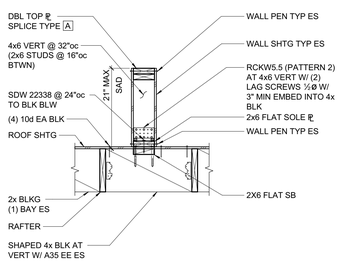
14 LATERAL TIE ELEVATION
3/4" = 1'-0"



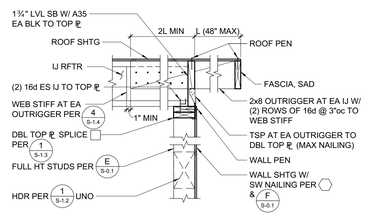
9 FRAMING AT BEAM
3/4" = 1'-0"



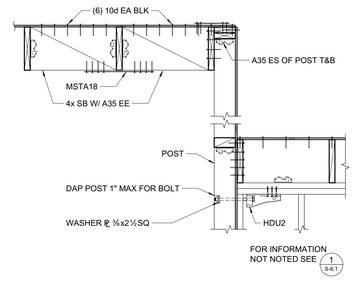
4 ROOF STEP WITHOUT PARAPET
3/4" = 1'-0"



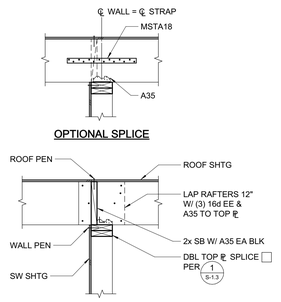
20 DRAINAGE PARAPET
3/4" = 1'-0"



15 PERPENDICULAR FRAMING AT EXTERIOR WALL
3/4" = 1'-0"



10 SHEAR TRANSFER AT ROOF ELEVATION CHANGE
3/4" = 1'-0"



5 INTERIOR SHEAR WALL AT PERPENDICULAR RAFTERS
3/4" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS

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CHRIS S. WARNER
No. S5400
STRUCTURAL
STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER

11/24/2020

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LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2nd Street
Brentwood CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

-	-	-

DSA APP NO. 01-119033
ARCH PROJECT NO: 1783.00
ENGR / PM: KPB / AIZ
DRAWING SCALE: 3/4" = 1'-0"
PTN: 61721-75 FILE NO:7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

WOOD DETAILS

SHEET NUMBER

S-6.1

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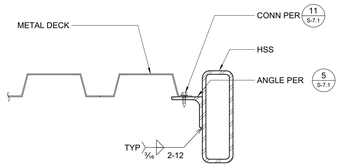
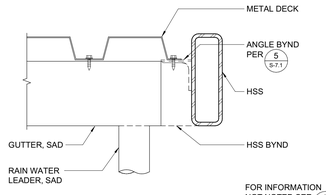
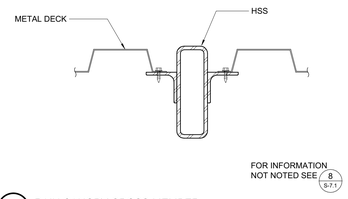


8 RAIN CANOPY RAKE
3" = 1'-0"



9 RAIN CANOPY AT GUTTER
3" = 1'-0"

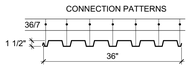


10 RAIN CANOPY CROSS MEMBER
3" = 1'-0"

MARK	STEEL DECK GAGE & PROFILE TYPE SEE 12 S-7.1	DECK CONNECTIONS					
		END/INT BEARING CONN (A)		SIDE BEARING CONN (B)		SIDELAP CONNECTION (C)	
		SIZE & TYPE[2]	PATTERN	SIZE & TYPE[2]	SPACING	SIZE & TYPE[3]	SPACING
1	20 GA	SCREWS	36/7	SCREWS	12"	BP	12"

NOTES:
1. ATTACH DECK TO ALL STEEL SUPPORT FRAMING AS OCCURS.
2. SCREWS = STEEL DECK INSTITUTE (SDI) RECOGNIZED #12 SELF-DRILLING SCREWS, HILTI S-SLC01 M HWH, OR HILTI S-SLC02 M HWH. EXTERIOR-RATED AND W/ INTEGRAL NEOPRENE WASHER AT EXTERIOR CONDITIONS.
3. BP = BUTTON PUNCH.
4. ABOVE REFERENCED DECK IS BASED ON ALLOWABLE DESIGN LOADS PER IAPMO ER-0217 VERCO MANUFACTURING - EQUIVALENT DECK MUST HAVE EQUIVALENT ALLOWABLE VERTICAL LOADS, DIAPHRAGM SHEAR VALUES, AND FLEXIBILITY FACTORS.

11 DECKING SCHEDULE
3/4" = 1'-0"

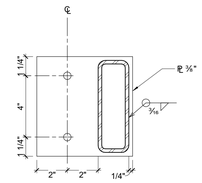


PROPERTIES
F_y=38 KSI

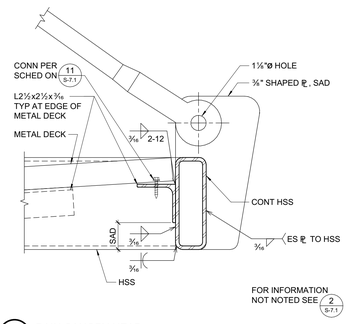
GAGE	I (in^4/ft)	+S (in^3/ft)	-S (in^3/ft)
20 GA	0.219	0.230	0.237

TYPE "1" DECK
VERCO PLB OR APPROVED EQUAL

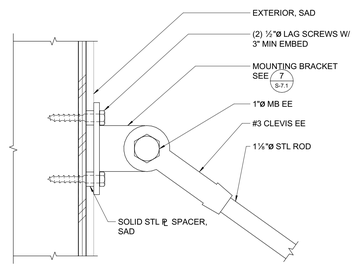
12 DECKING TYPE AND CONNECTION PATTERN
3/4" = 1'-0"



4 CANOPY ATTACHMENT
3" = 1'-0"



5 RAIN CANOPY HEAD
3" = 1'-0"



6 DIAGONAL BRACE CONNECTION
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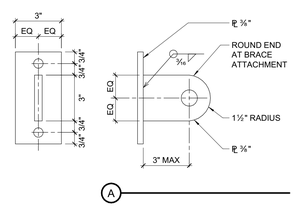
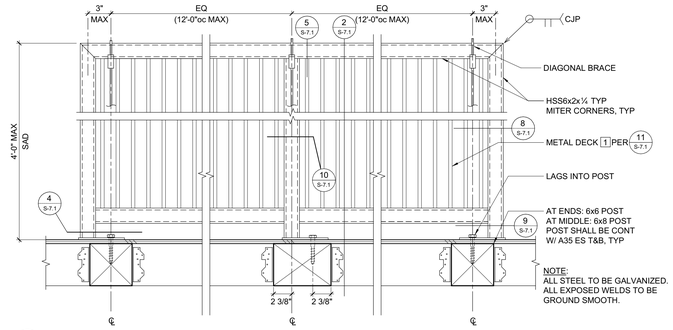
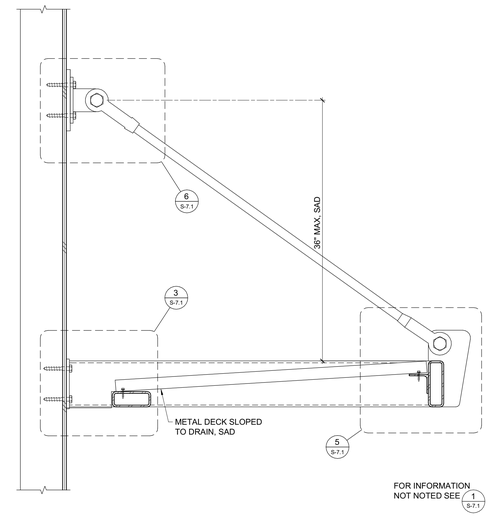


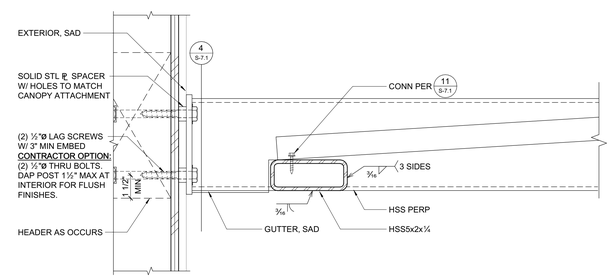
7 DIAGONAL BRACE MOUNTING BRACKET
3" = 1'-0"



1 RAIN CANOPY - PLAN VIEW
1 1/2" = 1'-0"



2 RAIN CANOPY - SECTION
1 1/2" = 1'-0"



3 RAIN CANOPY LOWER CANOPY ATTACHMENT
3" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
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1212 fourth street | suite z **zfa.com**
santa rosa ca 95404 **707.526.0992**
zfa job no. 19179

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CHRIS S. WANG
No. S5804
STRUCTURAL
STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER
11/24/2020

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LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2nd Street
Brentwood CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

-	-	-

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
ENGR / PM:	KPB / AIZ
DRAWING SCALE:	As indicated
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

RAIN CANOPY DETAILS

SHEET NUMBER

S-7.1

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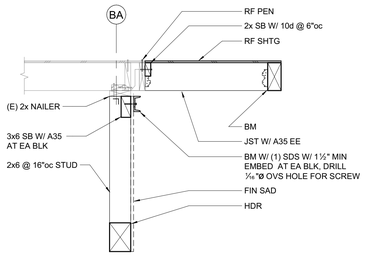
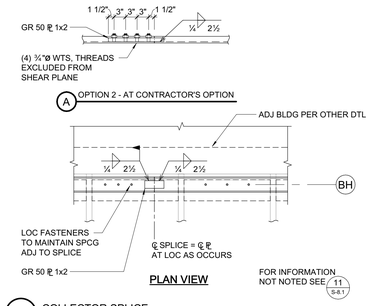
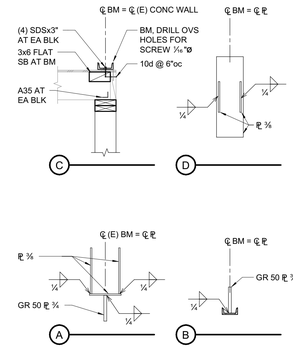


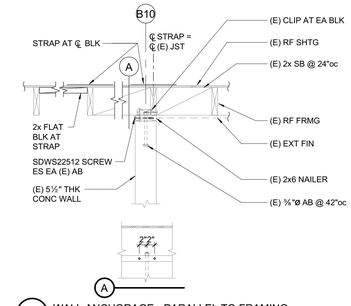
18 COLLECTOR
3/4" = 1'-0"



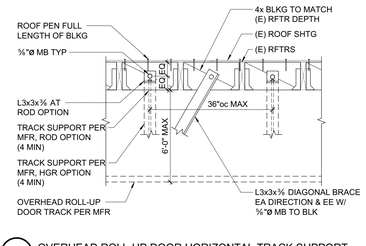
13 COLLECTOR SPLICE
3/4" = 1'-0"



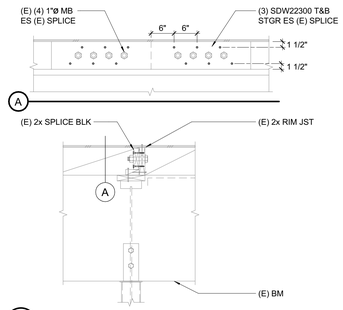
6 NOT USED
3/4" = 1'-0"



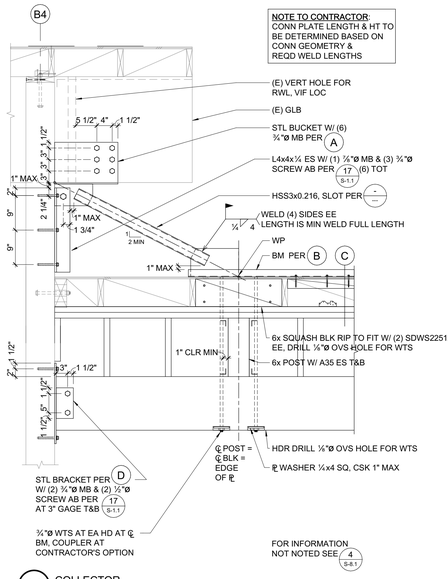
1 WALL ANCHORAGE - PARALLEL TO FRAMING
3/4" = 1'-0"



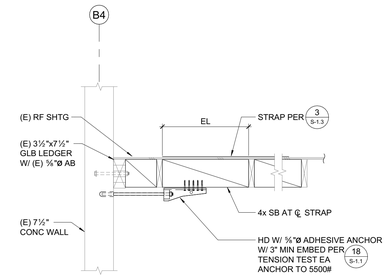
19 OVERHEAD ROLL-UP DOOR HORIZONTAL TRACK SUPPORT
3/4" = 1'-0"



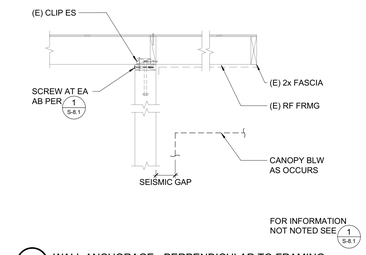
14 RIM JOIST SPLICE
3/4" = 1'-0"



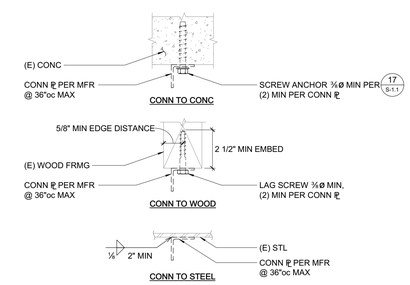
11 COLLECTOR
3/4" = 1'-0"



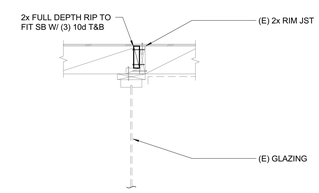
7 WALL ANCHORAGE - PARALLEL TO FRAMING
3/4" = 1'-0"



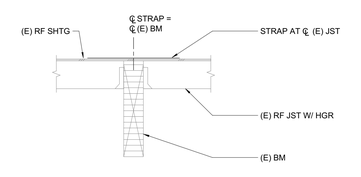
2 WALL ANCHORAGE - PERPENDICULAR TO FRAMING
3/4" = 1'-0"



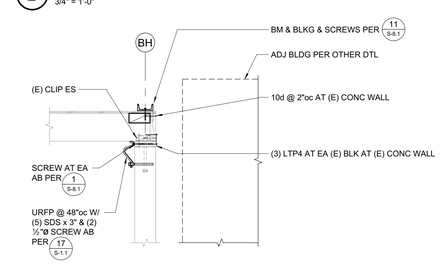
20 OVERHEAD ROLL-UP DOOR VERTICAL TRACK SUPPORT
3" = 1'-0"



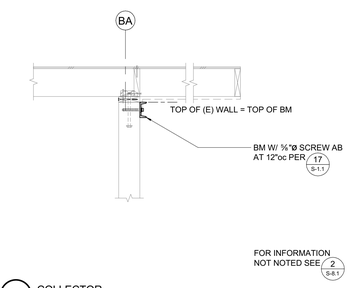
15 RIM JOIST STRENGTHENING
3/4" = 1'-0"



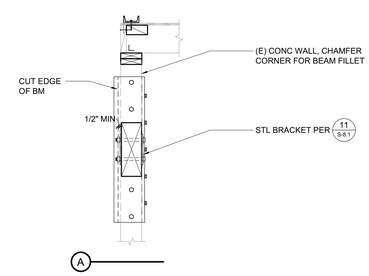
8 JOIST TO BEAM
3/4" = 1'-0"

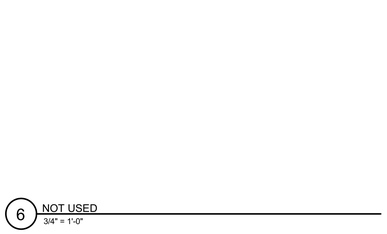


3 WALL ANCHORAGE - PERPENDICULAR TO FRAMING
3/4" = 1'-0"



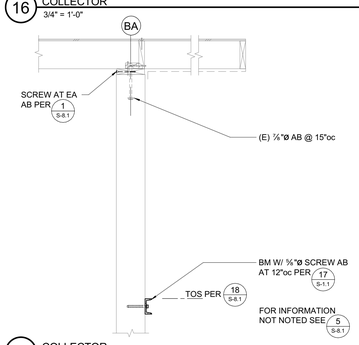
16 COLLECTOR
3/4" = 1'-0"



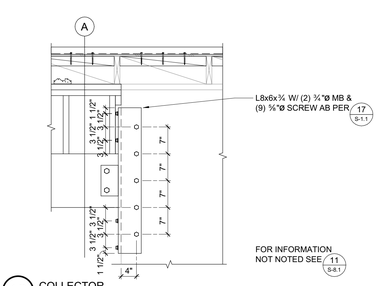


9 JOIST TO BEAM
3/4" = 1'-0"

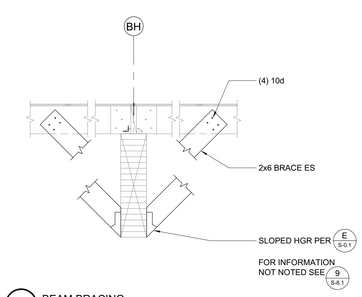
4 WALL ANCHORAGE - PARALLEL TO FRAMING
3/4" = 1'-0"



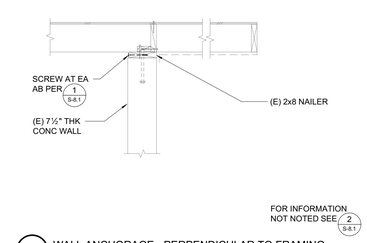
17 COLLECTOR
3/4" = 1'-0"



12 COLLECTOR
3/4" = 1'-0"



10 BEAM BRACING
3/4" = 1'-0"



5 WALL ANCHORAGE - PERPENDICULAR TO FRAMING
3/4" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK
ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

ZFA STRUCTURAL ENGINEERS
1212 fourth street | suite z — zfa.com
santa rosa ca 95404 — 707.526.0992
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LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

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LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

-	-	-

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
ENGR / PM:	KPB / AIZ
DRAWING SCALE:	As indicated
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

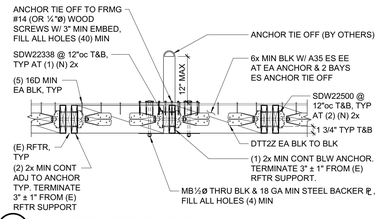
MODERNIZATION DETAILS

SHEET NUMBER

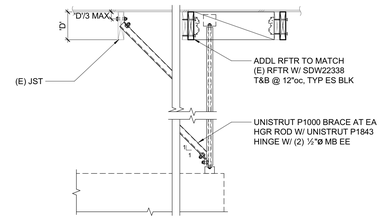
S-8.1

C:\revit_local\19179_LIBERTY HS_S19C_kyleb@zfa.com.rvt

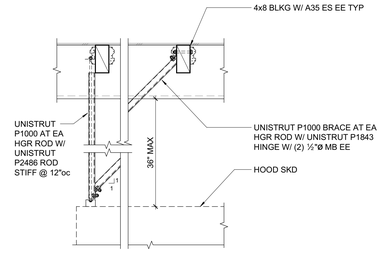
11/24/2020 5:02:23 PM



12 ANCHOR TIE OFF TO ROOF FRAMING
3/4" = 1'-0"

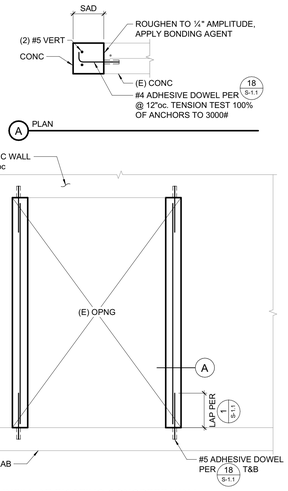


TRANSVERSE (SEE BLW FOR INFO NOT NOTED)

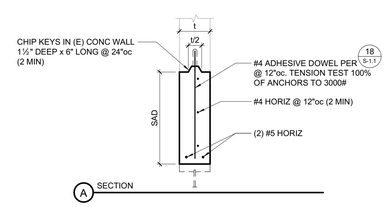


LONGITUDINAL

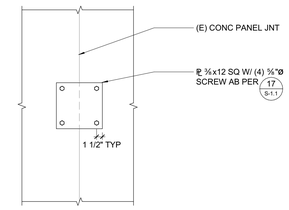
9 HOOD BRACING
3/4" = 1'-0"



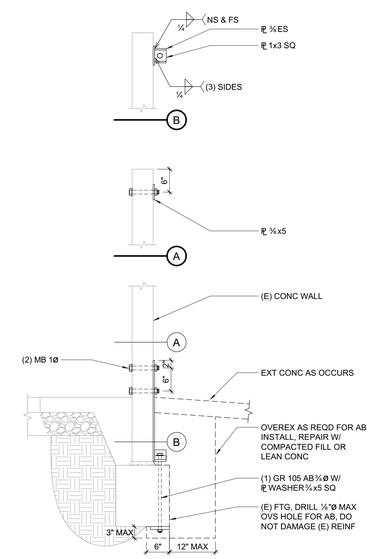
10 JAMB INFILL AT EXISTING CONCRETE WALL
3/4" = 1'-0"



11 HEAD INFILL AT EXISTING CONCRETE WALL
3/4" = 1'-0"



6 PANEL JOINT STRENGTHENING
3/4" = 1'-0"



7 CONCRETE WALL HOLDOWN
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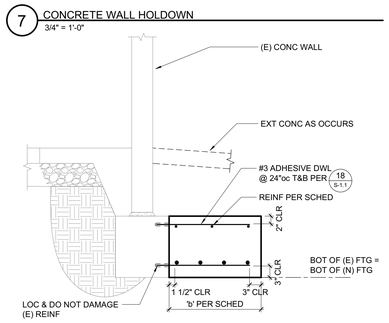
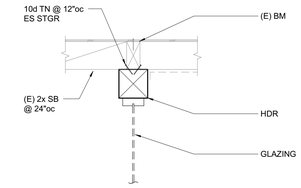
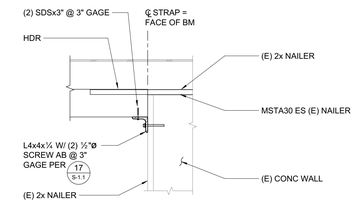


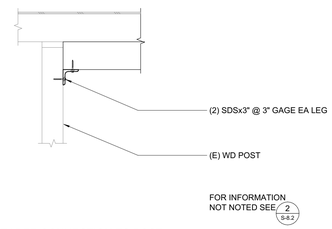
8 NEW FOOTING AT EXISTING FOOTING
3/4" = 1'-0"



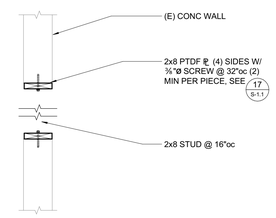
1 HEADER
3/4" = 1'-0"



2 HEADER CONNECTION TO WALL
3/4" = 1'-0"

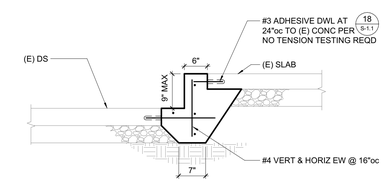


3 HEADER CONNECTION TO POST
3/4" = 1'-0"



PLAN VIEW

4 WOOD INFILL AT CONCRETE WALL
3/4" = 1'-0"



5 NEW SLAB TO EXISTING SLAB
3/4" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS

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Pleasanton Office:
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1212 fourth street | suite z **zfa.com**
santa rosa ca 95404 **707.526.0992**
zfa job no. 19179

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ARCH PROJECT NO:	1783.00
ENGR / PM:	KPB / AIZ
DRAWING SCALE:	3/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

MODERNIZATION DETAILS

SHEET NUMBER

S-8.2

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VENTILATION RATING PROCEDURE BLDG A

ROOM #	ROOM NAME	Area	ASHRAE 62.1 OCCUPANCY	MAX REQUIRED OSA	DESIGN OSA
A100	RECEPTION/ATTEND	644	62-Office Buildings - Reception Areas	97	100
A102	SRO	102	62-Office Buildings - Office Space	16	25
A102	CORRIDOR	79	62-General - Corridor	12	25
A103	DATA	103	62-Office Buildings - Office Space	16	25
A104	NURSE	314	62-Office Buildings - Office Space	48	50
A108	COORIDOOR	409	62-General - Corridor	62	75
A109	REGISTRATION	156	62-Office Buildings - Office Space	24	25
A110	CUM FILES	234	62-Office Buildings - Occupiable Storage	36	50
A112	COORIDOOR	175	62-General - Corridor	27	50
A113	INT TEACHER	165	62-Office Buildings - Office Space	25	25
A114	LARGE CONF	410	62- General - Conference/Meeting	205	225
A115	PRINCIPAL	241	62-Office Buildings - Office Space	37	50
A116	PRIN SEC	183	62-Office Buildings - Office Space	28	50
A117	AP SEC	271	62-Office Buildings - Office Space	41	50
A118	AP OFFICE	191	62-Office Buildings - Office Space	29	50
A118	MAIL	94	62-Office Buildings - Office Space	15	25
A119	MFT	119	62-Office Buildings - Office Space	18	25
A120	MFT	118	62-Office Buildings - Office Space	18	25
A121	STAFF LOUNGE	572	62-Office Buildings - Breakrooms	286	300
A123	PSYCH	110	62-Office Buildings - Office Space	17	25
A126	COUNSELOR	163	62-Office Buildings - Office Space	25	25
A129	PSYCH	111	62-Office Buildings - Office Space	17	25
A133	COUNSELOR	163	62-Office Buildings - Office Space	25	25
A134	AP OFFICE	193	62-Office Buildings - Office Space	29	50
A135	AP SEC	223	62-Office Buildings - Office Space	34	50
A136	STAFF WORK	142	62-Office Buildings - Office Space	22	25
A139	AP SEC	259	62-Office Buildings - Office Space	39	50
A140	SHARED CONF	234	62- General - Conference/Meeting	117	125
A141	COUNSELOR	162	62-Office Buildings - Office Space	25	25
A142	AP SEC	263	62-Office Buildings - Office Space	40	50
A143	AP OFFICE	199	62-Office Buildings - Office Space	30	50
A144	COUNSELOR	162	62-Office Buildings - Office Space	25	25
A145	COUNSELOR	160	62-Office Buildings - Office Space	24	25
A146	AP OFFICE	193	62-Office Buildings - Office Space	29	50
					1875

VENTILATION RATING PROCEDURE BLDG B

ROOM #	ROOM NAME	Area	ASHRAE 62.1 OCCUPANCY	MAX REQUIRED OSA	DESIGN OSA
B101	DINING	4677	62-Public Assembly Spaces - Lobbies	2339	2350
B103	CORRIDOR	412	62-General - Corridor	62	75
B104	SERVERY	1401	62-Public Assembly Spaces - Lobbies	701	725
B105	OFFICE	89	62-Office Buildings - Office Space	14	25
B106	OFFICE	81	62-Office Buildings - Office Space	13	25
B107	OFFICE	81	62-Office Buildings - Office Space	13	25
B108	KITCHEN / PREP	1197	62-Educational Facilities - Art Classroom	180	200
					3425

BLDG 'MECHANICAL' SHEET LIST

M-1.1	MECHANICAL SCHEDULES & LEGENDS
M-A2.0	ADMINISTRATION DEMOLITION MECHANICAL PLAN
M-B2.0	CAFETERIA MECHANICAL DEMOLITION FLOOR PLAN
M-B4.0	CAFETERIA MECHANICAL DEMO ROOF PLAN
M-A2.1	ADMINISTRATION MECHANICAL FLOOR PLAN
M-A3.1	ADMINISTRATION MECHANICAL ENLARGEMENT FLOOR PLAN
M-A3.2	ADMINISTRATION MECHANICAL ENLARGEMENT FLOOR PLAN
M-A4.1	ADMINISTRATION MECHANICAL ROOF PLAN
M-B2.1	CAFETERIA MECHANICAL FLOOR PLAN
M-B3.1	CAFETERIA MECHANICAL KITCHEN ENLARGEMENT
M-B4.1	CAFETERIA MECHANICAL ROOF PLAN
M-5.1	MECHANICAL DETAILS
M-5.2	MECHANICAL DETAILS
M-5.3	MECHANICAL DETAILS
M-6.1	CONTROL DIAGRAMS
M-6.2	CONTROL DIAGRAMS
M-6.3	PIPING DIAGRAMS

GRAVITY RELIEF SCHEDULE

MARK	MFR	MODEL NO	AIRFLOW	SP	WEIGHT	REMARKS
GRSI B1	GREENHECK	GRSI 12	525 CFM	0.07 in-wg	10 lb	1, 2

REMARKS: 1. PROVIDE WITH BIRD SCREEN
2. PROVIDE WITH MIN 10" CURB AND BACKDRAFT DAMPER.

ENERGY RECOVERY VENTILATOR

MARK	MFR.	MODEL NO.	SUPPLY CFM	EXHAUST CFM	ESP ("WC")	ELECTRICAL DATA V-Ø-HZ	MCA	MOCP	WEIGHT	REMARKS
ERV 1	MITSUBISHI	MPE-1-W1-52-060-1	1100	1100	1	208-3-60	37.5	45	3126	1-13
ERV 2	MITSUBISHI	MPE-1-W1-52-060-1	1100	1100	1	208-3-60	37.5	45	3126	1-13

REMARKS.

1. PROVIDE WITH WEATHERHOOD: DOWNTURNED HOOD.
2. PROVIDE WITH OUTDOOR AIR FILTERS - MERV 13, 2-20X25X2
3. PROVIDE WITH EXHAUST AIR FILTERS - MERV 13, 2-20X25X2
4. PROVIDE WITH SUPPLY FILTERS - 2" PLEATED MERV 13, 4-20X20X2
5. PROVIDE WITHOUTDOOR AIR DAMPERS - MOTORIZED LOW LEAKAGE
6. PAINTED EXTERIOR - PERMATECTOR SILK GREY (RAL 7044)
7. PROVIDE WITH MICROPROCESSOR CONTROLS
8. PROVIDE WITH SUPPLY FAN VFD CONTROL - CONSTANT VOLUME (ON/OFF)
9. PROVIDE WITH EXHAUST FAN VFD CONTROL - CONSTANT VOLUME
10. PROVIDE WITH PHASE AND BROWN OUT PROTECTION
11. PROVIDE WITH UNIT DISCONNECT - MOUNTED BY FACTORY
12. WEB-BASED USER INTERFACE
13. ELECTRIC HEATER 208V-1-60, 34.14 AMPS

ROOF TOP UNIT (AC) SCHEDULE

MARK	MANF	MODEL NUMBER	UNIT SIZE TONS	SUPPLY FAN MIN O.A	MAX O.A	ESP	SUPPLY FAN RPM	AIRFLOW CFM	COOLING CAPACITY TOTAL COOLING (MBH)	SENSIBLE COOLING (MBH)	HEATING CAPACITY GAS INPUT (MBH)	GAS OUTPUT (MBH)	IEER	ELECTRICAL DATA V-Ø-Hz	MCA	MOCP	CURB MODEL	CURB WEIGHT	ECONOMIZER WEIGHT	OPERATING UNIT WEIGHT	TOTAL WEIGHT	SERVICE	REMARKS
AC-1	CARRIER	48TCDD12	12 (10 TON)	351	1175	1.00 in-wg	1042	4000 CFM	124.1	96.2	120/180	98/148	12.80	208-3-60	55.0	60	CRBK-SRT34FA-14	120	75	1049 lb	1245	DINING B101	1-13
AC-2	CARRIER	48TCDD12	12 (10 TON)	351	1175	1.00 in-wg	1042	4000 CFM	124.1	96.2	120/180	98/148	12.80	208-3-60	55.0	60	CRBK-SRT34FA-14	120	75	1049 lb	1245	DINING B101	1-13
AC 3	CARRIER	48FCLA05	04 (4 TON)			1.00 in-wg	2021	1600 CFM	48.4	34.3	60	49	14.00	208-3-60	25.0	30	CRBK-SRT34FA-14	120	75	561 lb	756	SERVERY B104	1-12
AC 4	CARRIER	48FCLA05	04 (4 TON)			1.00 in-wg	2021	1600 CFM	48.4	34.3	60	49	14.00	208-3-60	25.0	30	CRBK-SRT34FA-14	120	75	561 lb	756	KITCHEN	1-12,14

REMARKS.

1. PROVIDE WITH ECONOMIZER W/ BAROMETRIC RELIEF.
2. PROVIDE WITH FACTORY FABRICATED ROOF CURB, 14" HIGH.
3. MERV-13 2" PLEATED FILTER.
4. VERTICAL DUCT CONFIGURATION.
5. PROVIDE WITH 2-SPEED SPEED VFD DISPLAY KIT & 2-SPEED INDOOR FAN MOTOR CONTROLLED BY VFD.
6. PROVIDE WITH MERV-13 2" PLEATED FILTER.
7. PROVIDE FACTORY BASE ELECTROMECHANICAL CONTROLS.
8. PROVIDE FACTORY FUSED DISCONNECT WITH THRU THE BASE CONDUIT ENTRY
9. MEDIUM STATIC BELT DRIVE.
10. SEE B/M-5.1 FOR MOUNTING DETAIL
11. PROVIDE WITH CO2 ROOM SENSOR FOR DEMAND CONTROL VENTILATION.
12. PROVIDE WITH PELICAN CONTROLS WIRELESS THERMOSTAT.
13. AUTOMATIC SHUTOFF NOT REQUIRED PER 2019 CMC608 EXEPTION 2 .
14. PROVIDE WITH CO SENSOR.

SPLIT SYSTEM INDOOR UNIT

MARK	MFR	MODEL	TYPE	DESIGN OSA (CFM)	AIRFLOW	RATED COOLING CAPACITY	RATED HEATING CAPACITY (BTU)	ELECTRICAL DATA V-Ø-HZ	MCA	MOCP	FILTER	WEIGHT	SERVICE	REMARKS
FC-A100	MITSUBISHI	PEFY-P30NMHU-E2	DUCTED	325	883 CFM	30000 Btu/h	34000 Btu/h	208-1-60	2.7	15	FBH2-2	124 lb	RECEPTION/ATTEND A100	3,4,5
FC-A102	MITSUBISHI	PLFY-P05NFMU-E	CASSETT	25	280 CFM	5000 Btu/h	5600 Btu/h	208-1-60	0.24	15	WASHABLE	34 lb	SRO A102	3,5
FC-A103	MITSUBISHI	PLFY-P05NFMU-E	CASSETT	25	280 CFM	5000 Btu/h	5600 Btu/h	208-1-60	0.24	15	WASHABLE	34 lb	DATA A103	3,5
FC-A104	MITSUBISHI	PLFY-P12NCMU-ER4	CASSETT	50	390 CFM	12000 Btu/h	13500 Btu/h	208-1-60	0.35	15	WASHABLE	42 lb	NURSE A104	3,5
FC-A109	MITSUBISHI	PLFY-P08NCMU-ER4	CASSETT	50	350 CFM	8000 Btu/h	9000 Btu/h	208-1-60	0.29	15	WASHABLE	41 lb	REGISTRATION A109	3,5
FC-A110	MITSUBISHI	PLFY-P12NCMU-ER4	CASSETT	50	390 CFM	12000 Btu/h	13500 Btu/h	208-1-60	0.35	15	WASHABLE	42 lb	CUM FILES A110	3,5
FC-A113	MITSUBISHI	PLFY-P08NCMU-ER4	CASSETT	50	350 CFM	8000 Btu/h	9000 Btu/h	208-1-60	0.29	15	WASHABLE	41 lb	INT TEACHER A113	3,5
FC-A114	MITSUBISHI	PEFY-P15NMHU-E2	DUCTED	225	494 CFM	15000 Btu/h	17000 Btu/h	208-1-60	1.63	15	PAC-KE63TB-F	98 lb	LARGE CONF A114	3,4,5
FC-A115	MITSUBISHI	PLFY-P12NCMU-ER4	CASSETT	50	390 CFM	12000 Btu/h	13500 Btu/h	208-1-60	0.35	15	WASHABLE	42 lb	PRINCIPAL A115	3,5
FC-A116	MITSUBISHI	PLFY-P08NCMU-ER4	CASSETT	50	350 CFM	8000 Btu/h	9000 Btu/h	208-1-60	0.29	15	WASHABLE	41 lb	PRIN SEC A116	3,5
FC-A117	MITSUBISHI	PKA-A12HA6	WALL	50	425 CFM	12000 Btu/h		208-1-60	1	15	WASHABLE	29 lb	MAIL A118	2,3,5,6
FC-A119	MITSUBISHI	PLFY-P05NFMU-E	CASSETT	25	208 CFM	5000 Btu/h	5600 Btu/h	208-1-60	0.24	15	WASHABLE	34 lb	MFT A119	3,5
FC-A120	MITSUBISHI	PLFY-P05NFMU-E	CASSETT	25	208 CFM	5000 Btu/h	5600 Btu/h	208-1-60	0.24	15	WASHABLE	34 lb	MFT A120	3,5
FC-A121	MITSUBISHI	PEFY-P24NMHU-E2	DUCTED	300	671 CFM	24000 Btu/h	27000 Btu/h	208-1-60	2.11	15	FBM2-3	100 lb	STAFF LOUNGE A121	3,4,5
FC-A123	MITSUBISHI	PLFY-P05NFMU-E	CASSETT	25	208 CFM	5000 Btu/h	5600 Btu/h	208-1-60	0.24	15	WASHABLE	34 lb	PHYCH 123	3,5
FC-A126	MITSUBISHI	PLFY-P08NCMU-ER4	CASSETT	25	350 CFM	8000 Btu/h	9000 Btu/h	208-1-60	0.29	15	WASHABLE	41 lb	COUNSELOR A126	3,5
FC-A127	MITSUBISHI	PLFY-P08NCMU-ER4	CASSETT	25	350 CFM	8000 Btu/h	9000 Btu/h	208-1-60	0.29	15	WASHABLE	41 lb	AP OFFICE A118	3,5
FC-A128	MITSUBISHI	PEFY-P12NMAU-E3	DUCTED	50	371 CFM	12000 Btu/h	13500 Btu/h	208-1-60	1.2	15	FBH2-2	49 lb	AP SEC A117	3,4,5
FC-A129	MITSUBISHI	PLFY-P05NFMU-E	CASSETT	25	208 CFM	5000 Btu/h	5600 Btu/h	208-1-60	0.24	15	WASHABLE	34 lb	PSYCH A129	3,5
FC-A133	MITSUBISHI	PLFY-P08NCMU-ER4	CASSETT	25	350 CFM	8000 Btu/h	9000 Btu/h	208-1-60	0.29	15	WASHABLE	41 lb	COUNSELOR A133	3,5
FC-A134	MITSUBISHI	PLFY-P08NCMU-ER4	CASSETT	50	350 CFM	8000 Btu/h	9000 Btu/h	208-1-60	0.29	15	WASHABLE	41 lb	AP OFFICE A134	3,5
FC-A135	MITSUBISHI	PEFY-P15NMHU-E2	DUCTED	50	494 CFM	15000 Btu/h	17000 Btu/h	208-1-60	1.63	15	PAC-KE63TB-F	98 lb	AP SEC A135	3,4,5
FC-A136	MITSUBISHI	PLFY-P08NCMU-ER4	CASSETT	75	350 CFM	8000 Btu/h	9000 Btu/h	208-1-60	0.29	15	WASHABLE	41 lb	STAFF WORK A136	3,5
FC-A139	MITSUBISHI	PEFY-P12NMAU-E3	DUCTED	50	371 CFM	12000 Btu/h	13500 Btu/h	208-1-60	1.2	15	FBH2-2	49 lb	AP SEC A139	3,4,5
FC-A140	MITSUBISHI	PLFY-P12NCMU-ER4	CASSETT	125	390 CFM	12000 Btu/h	13500 Btu/h	208-1-60	0.35	15	WASHABLE	42 lb	SHARED CONF A140	3,5
FC-A141	MITSUBISHI	PLFY-P08NCMU-ER4	CASSETT	25	350 CFM	8000 Btu/h	9000 Btu/h	208-1-60	0.29	15	WASHABLE	41 lb	COUNSELOR A141	3,5
FC-A142	MITSUBISHI	PEFY-P12NMAU-E3	DUCTED	50	371 CFM	12000 Btu/h	13500 Btu/h	208-1-60	1.2	15	FBH2-2	49 lb	AP SEC A142	3,4,5
FC-A143	MITSUBISHI	PLFY-P12NCMU-ER4	CASSETT	50	390 CFM	12000 Btu/h	13500 Btu/h	208-1-60	0.35	15	WASHABLE	42 lb	AP OFFICE A143	3,5
FC-A144	MITSUBISHI	PLFY-P08NCMU-ER4	CASSETT	25	350 CFM	8000 Btu/h	9000 Btu/h	208-1-60	0.29	15	WASHABLE	41 lb	COUNSELOR A144	3,5
FC-A145	MITSUBISHI	PLFY-P08NCMU-ER4	CASSETT	25	350 CFM	8000 Btu/h	9000 Btu/h	208-1-60	0.29	15	WASHABLE	41 lb	COUNSELOR A145	3,5
FC-A146	MITSUBISHI	PLFY-P08NCMU-ER4	CASSETT	50	350 CFM	8000 Btu/h	9000 Btu/h	208-1-60	0.29	15	WASHABLE	41 lb	AP OFFICE A146	3,5
FC B1	MITSUBISHI	PKA-A18HA	WALL	50	425 CFM	18000 Btu/h	19000 Btu/h	208-1-60	1	15	WASHABLE	29 lb	DRY STORAGE B110	1-2,6-7

REMARKS.

1. SEE E/M-6.1 FOR CONTROL DIAGRAM
2. HIGH TEMPERATURE ALARM NU-TEMP NU-30 BY PAL PRODUCTS, SET AT 90F.
3. PROVIDE WITH PELICAN CONTROLS WIRELESS THERMOSTAT.
4. PROVIDE FILTER BOX FOR ALL DUCTED FAN COILS.
5. SEE SHEE M-6.3 FOR VRF WIRING, PIPING AND CONCONTROL DIAGRAM.
6. PROVIDE UNIT WITH AUXILLARY CONDENSATE PUMP, DISCHARGE TO APPOVED RECEPTOR
7. PROVIDE INDIVIDUAL POWER TO ONE (1)OUTDOOR UNIT.

EXHAUST FAN SCHEDULE

MARK	MFR	MODEL NO	AIRFLOW	FAN RPM	INLET SONES	ELECTRICAL DATA MOTOR HP	OPER. HP	WATTS	V-Ø-Hz	WEIGHT	SERVICE	REMARKS
EF-1	PANASONIC	FV-0511VKS2	110 CFM	1356	0.3	-	-	10 W	120-1-60	11.9 lb	RESTROOM	1,2
EF-2	PANASONIC	FV-0511VKS2	110 CFM	1356	0.3	-	-	10 W	120-1-60	11.9 lb	RESTROOM	1,2
EF-3	PANASONIC	FV-0511VKS2	110 CFM	1356	0.3	-	-	10 W	120-1-60	11.9 lb	RESTROOM	1,2
EF-4	PANASONIC	FV-0511VKS2	110 CFM	1356	0.3	-	-	10 W	120-1-60	11.9 lb	RESTROOM	1,2
EF-5	PANASONIC	FV-0511VKS2	110 CFM	1356	0.3	-	-	10 W	120-1-60	11.9 lb	CUSTODIAL	1,2
EF-6	PANASONIC	FV-0511VKS2	110 CFM	1356	0.3	-	-	10 W	120-1-60	11.9 lb	RESTROOM	1,2
KEF 1	GREENHECK	CUBE-161-10	2520 CFM	1251	15.5	1	0.8	-	208-3-60	132.0 lb	KITCHEN HOOD	3-8
KEF 2	GREENHECK	CUBE-141-5	1631 CFM	1270	11.7	1/2	0.43	-	208-3-60	76.0 lb	KITCHEN HOOD	3-8
KEF 3	GREENHECK	CUE 099 VG	525 CFM	991	5.2	1/4	0.05	-	115-1-60	40.0 lb	DISH MACHINE	3-8

REMARKS.

1. INTERLOCK WITH LIGHT SWITCH (BY ELEC.)
2. PROVIDE OEM ACCESSORY OCCUPANCY SENSOR
3. PROVIDE WITH VFD.
4. CONNECT TO FAN SWITCH ON HOOD FOR ON/OFF CONTROL.
5. PROVIDE LINE VOLTAGE TOGGLE DISCONNECT SWITCH FACTORY WIRE FROM MOTOR TO SWITCH JUNCTION BOX WITHIN THE MOTOR COMPARTMENT.
6. PROVIDE WITH 22 INCH STANDARD CURB
7. PROVIDE WITH GREASE TRAP WITH ABSORBENT MATERIAL.
8. PROVIDE WITH HEAT BAFFLE.

AIR TERMINAL SCHEDULE

MANUFACTURER:TITUS (EXCEPT AS NOTED)

CD	RADIAL DIFFUSER	TMR - POSITION-1, EXPOSED (NO CEILING) STEEL CONSTRUCTION
CD-1	CEILING DIFFUSER	TDC - COMPLETE WITH EQUALIZING GRID, THROW-REDUCING VANES, STEEL CONSTRUCTION
CD-2	HOOD CEILING DIFFUSER	PMC CEILING SUPPLY DIFFUSERS, 4 WAY ADJUSTABLE MODULAR CORES W/ PERFORATED FACE, STEEL CONSTRUCTION
WSR	EXPOSED SUPPLY DIFFUSER	300RL - STEEL CONSTRUCTION, DOUBLE DEFLECTION HORIZONTAL BLADES, EQUALIZING GRID
WRG	WALL RETURN GRILLE	355R - LOUVERS ON 1/2" CENTERS, STEEL CONSTRUCTION, LOUVERS PARALLEL WITH LONG DIMENSION
CR	CEILING RETURN	SAME AS CD EXCEPT NO EQUALIZING GRID
EG	EXHAUST GRILLE CEILING RETURN	50F5 - 1/2" x 1/2" x 1/2" EGGCRATE, ALUMINUM GRID
DL	DOOR LOUVER	T700 - STEEL CONSTRUCTION WITH FLANGED AND AUXILIARY FRAME
TG	TRANSFER GRILLE	355R - LOUVERS ON 1/2" CENTERS, STEEL CONSTRUCTION, LOUVERS PARALLEL WITH LONG DIMENSION
LSD	PLENUM SLOT SUPPLY DIFFUSER	SERIES FTB-20: 2 CRA, 1" TWO SLOTS , 48" LENGTH, STEEL; WHITE POWDER COATED FINISH; WITH FULL SIZE ENGINEERED PLENUM. 10" INLET. JET TROW PATTERN. BORDER TYPE 66.

NOTES: 1. ADAPTER NEEDED FOR TRANSITION FROM SQUARE NECK TO ROUND DUCT.
2. SIZE (NECK/FACE) TYPE CFM (NO. OF THROW) FACE SIZE FOR T-BAR CEILING ONLY

MAKE-UP AIR UNIT SCHEDULE

MARK	MFR	MODEL NO	SUPPLY FAN RPM	AIRFLOW	ESP	GAS HTG INPUT	GAS HTG OUTPUT	EVAP COOLING EFFICIENCY	ELECTRICAL DATA MOTOR HP	OPER. HP	V-Ø-HZ	MCA	MOCP	WEIGHT	SERVICE	REMARKS
MUA 1	GREENHECK	IGX-P112-H12-MF-G	2280	2520 CFM	0.50 in-wg	200 Btu/h	160 Btu/h		1	0.82	208-3-60	15.5	20	1481.00 lb	KITCHEN HOOD	1-8
MUA 2	GREENHECK	IGX-P112-H12-MF-E	1657	1631 CFM	0.50 in-wg	150 Btu/h	120 Btu/h		1/2	0.34	208-3-60	10	15	1452.00 lb	KITCHEN HOOD	1-8
MUA 3	GREENHECK	SQ-95-VG	1714	525 CFM	0.50 in-wg				1/6	0.13	115-1-60			91.00 lb	DISH MACHINE HOOD	9,10

REMARKS.

1. PROVIDE INTEGRAL UNIT MOUNTED DICONNECT.
2. PROVIDE WITH 2" CLEANABLE ALUMINUM MESH, DIRTY (FILTER SWITCH) DP:
3. PROVIDE WITH KITCHEN HOOD CONTROLLER.
4. TWO STAGE GAS HEAT MODULATING.
5. INTERLOCK W/ HOOD EXHAUST FAN
6. FACTORY VFD AND INVERTER DUTY RATED MOTOR.
7. PROVIDE WITH 1" MAKE UP WATER ASSEMBLY
8. PROVIDE WITH COMBINATION CURB -161
9. PROVIDE WITH 2" MERV 13 FILTERS.
10. INTERLOCK WITH KEF 3

HEAT PUMP UNIT

MARK	MFR.	MODEL NO.	UNIT CAPACITIES (BTU) HEATING	COOLING	EER	ELECTRICAL DATA V-Ø-HZ	MCA	MOCP	WEIGHT	SERVICE	REMARKS
HP A1	MITSUBISHI	TURYP31238N40A	350000	312000	10.1/10.2	208-230-3-60 (X2)	61/57, 52/48	100/90, 80/70	739/646		1, 6, 7, 8, 9
HP B1	MITSUBISHI	PUY-A12NHA4	19000	18000	15.3	208-1-60	13	15	99	DRY STORAGE B110	1-5, 7

REMARKS.

1. COORDINATE WITH FAN COIL UNIT.
2. BALL BEARING FAN MOTOR.
3. COMPRESSOR START ASSIST CAPACITOR AND RELAY.
4. FREEZE-STAT.
5. LOW-AMBIENT PRESSURE SWITCH AND WINTER START CONTROL.
6. PROVIDE WITH 960 SALT SPRAY PROTECTION
7. PROVIDE WITH R-410A REFRIGERANT
8. PROVIDE WITH ENERGY RECOVERY
9. PROVIDE WITH TWINING KIT

BRANCH CONTROLLER SCHEDULE

MARK	MFR	MODEL NUMBER	ELECTRICAL DATA V-Ø-HZ	MCA	MOCP	WEIGHT
BC-1	MITSUBISHI	CMB-P1016NU-HA1	208-1-60	1.65		172 lb
BC-2	MITSUBISHI	CMB-P1016NU-HB1	208-1-60	1.46		136 lb
BC-3	MITSUBISHI	CMB-P1016NU-HB1	208-1-60	1.46		136 lb
BC-4	MITSUBISHI	CMB-P1016NU-HB1	208-1-60	1.46		136 lb

MECHANICAL LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
X / X		EQUIPMENT TYPE / EQUIPMENT NUMBER
X / X-X		DETAIL / DRAWING NUMBER / SHEET NUMBER
	SA OR OA	SECTION THRU SUPPLY AIR OR OUTSIDE AIR DUCT
	RA OR EA	SECTION THRU RETURN AIR OR EXHAUST AIR DUCT
		ROUND DUCT DOWN
DN / DN	DN OR UP	SLOPE DUCT DOWN OR UP IN DIRECTION OF FLOW
	AL	ACOUSTICAL LINING
	FC	FLEXIBLE DUCT CONNECTION
	VD	VOLUME DAMPER
	FD	FIRE DAMPER
	TV	TURNING VANES
		FLEXIBLE DUCT
		45° ROUND DUCT TAKE-OFF
		45° RECTANGULAR DUCT TAKE-OFF
		90° TURN - ROUND DUCT
		90° RADIUS TURN - ROUND OR RECTANGULAR DUCT
		SQUARE TO ROUND DUCT TRANSITION
		DUCT TRANSITION
		RECTANGULAR DUCT 90° SPLIT
T		THERMOSTAT @ 48" AFF
	AP	ACCESS PANEL
	POC	POINT OF CONNECTION
	POD	POINT OF DEMOLITION
	BHP	BRAKE HORSEPOWER
	HP	HORSEPOWER
	SAD	SEE ARCHITECTURAL DRAWINGS
	SSD	SEE STRUCTURAL DRAWINGS
	SCD	SEE CIVIL DRAWINGS

Applicable Code: 2019 CBC 02/05/2020 Revised: 02/14/2020

MEP Componet Anchorage Note

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

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

The following mechanical and electrical components shall be positively attached to the structure but need not demonstrate design compliance with the references noted above. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit. Flexible connections must allow movement in both trasverse and longitudinal directions:

A. Components weighing less than 400 pounds and having a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.

B. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

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

Piping, Ductwork, and Electrical Distribution System Bracing Note

Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-16 Section 13.3 as defined in ASCE 7-16 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.

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

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

MP☐ MD☐ PP☐ E☐ Option 1: Detailed on the approved drawings with project specific notes and details

MP☒ MD☒ PP☐ E☐ Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM #) #OPM-0043-13

APPLICABLE GOVERNING CODES:

2019 CALIFORNIA BUILDING CODE
2019 CALIFORNIA ELECTRICAL CODE
2019 CALIFORNIA MECHANICAL CODE
2019 CALIFORNIA PLUMBING CODE
2019 CALIFORNIA ENERGY CODE
2019 CALIFORNIA FIRE CODE
2019 CALIFORNIA GREEN BUILDING STANDARDS

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LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO: 1783.00
DRAWN BY: Author
DRAWING SCALE: NTS
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DECEMBER 2, 2020

SHEET TITLE

MECHANICAL SCHEDULES & LEGENDS

SHEET NUMBER

M-1.1

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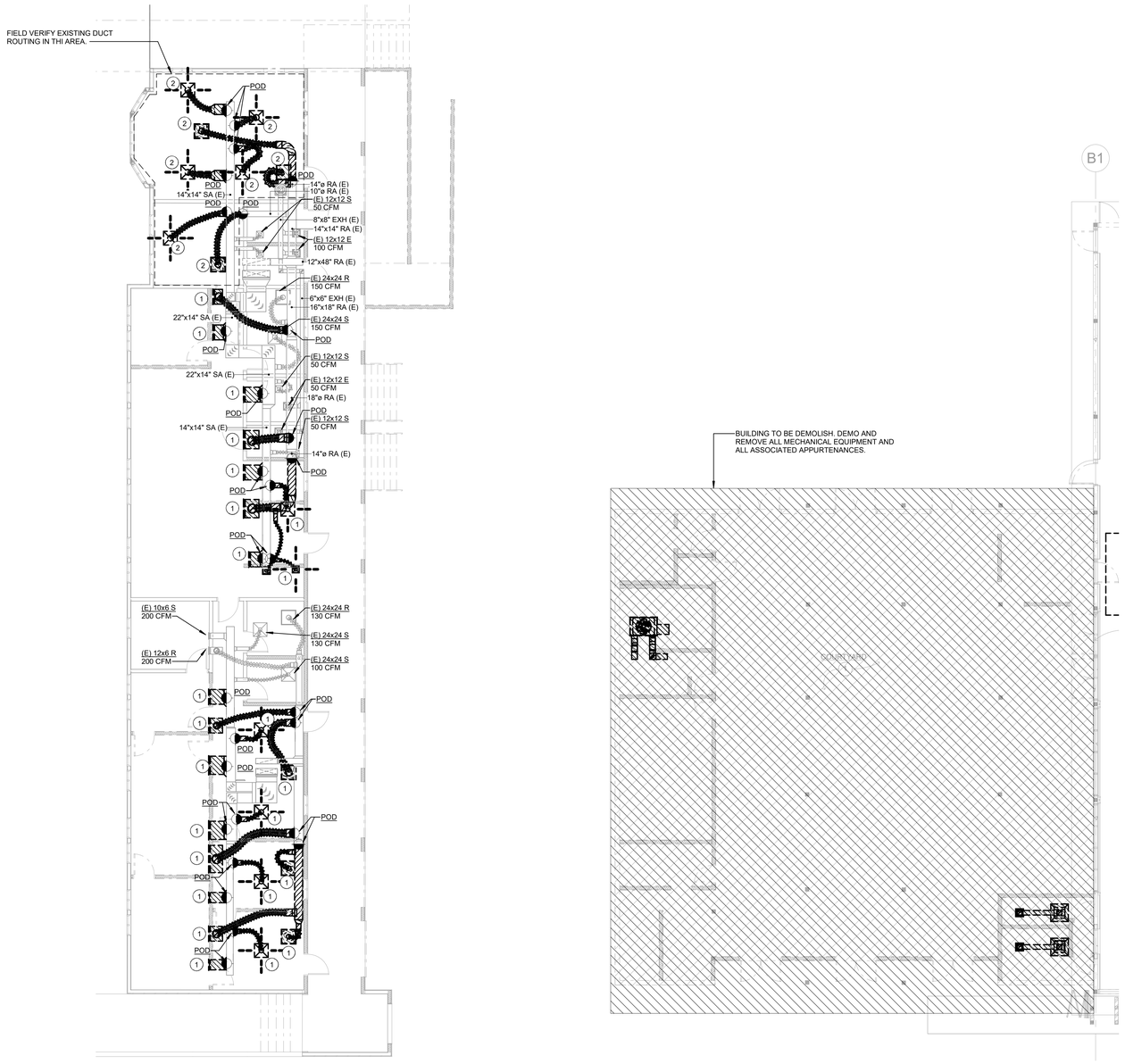


HVAC DEMOLITION ADMINISTRATION PLAN

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

GENERAL NOTES

1. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-1.1
2. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL WORK WITH OTHER TRADES.
3. THIS CONTRACTOR SHALL RETAIN SPECIFIC EQUIPMENT AS DIRECTED BY OWNER AND DELIVER TO OWNER SPECIFIED LOCATION.
4. ALL EQUIPMENT, MECHANICAL EQUIPMENT, PIPING, VALVING, CONTROLS, ETC. RENDERED USELESS BY THIS WORK SHALL BE DEMOLISHED AND REMOVED FROM THE SITE
5. LOCATION OF EXISTING MECHANICAL EQUIPMENT, DUCTWORK, AIR OUTLETS, PIPING, CONTROLS, VALVING, ETC. HAS BEEN BASED ON THE BEST AVAILABLE INFORMATION OBTAINABLE AT THE SITE AND THROUGH RECORD DRAWINGS. VERIFY EXACT LOCATIONS, SIZES, AND EXTENT OF EXISTING SYSTEMS PRIOR TO START OF DEMOLITION WORK
6. PATCH ALL WALLS, CEILINGS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS.
7. ASBESTOS CONTAINING PRODUCTS MAY BE PRESENT IN THE EXISTING BUILDING CONSTRUCTION. IF SUSPECT MATERIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE FOR INSTRUCTIONS PRIOR TO PROCEEDING WITH ADDITIONAL WORK. THE CONTRACTOR SHALL IMMEDIATELY POST NOTICES AND TAKE PRECAUTIONS NECESSARY TO ENSURE THE HEALTH AND SAFETY OF ALL WORKERS, THE STAFF, AND THE PUBLIC.
8. TEMPORARY CAP EXISTING OPEN DUCT REMOVE FROM REGISTERS DURING CONSTRUCTION. PREPARE DUCT FOR RECONNECTION.
9. PROVIDE PRE BALANCE REPORT AT REGISTERS SHOWN ON PLAN. PRE-BALANCE REPORT SHALL BE USED FOR REFERENCE FOR FINAL BALANCE REPORT.

SHEET NOTES

(1) REMOVE (E) GRILLE /DUCTWORK & ALL ASSOCIATED APPURTENANCES TO THE POINT OF DEMOLITION.

(2) REMOVE EXISTING REGISTER & DUCT AND PRESERVE FOR RE-INSTALLATION TO NEW LOCATION. SEE MECHANICAL PLANS.

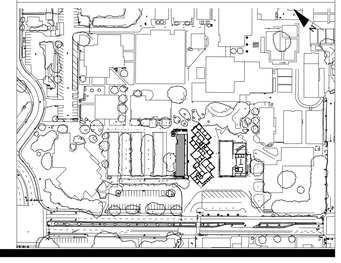
WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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DRAWN BY:	Author
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PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION DEMOLITION MECHANICAL PLAN

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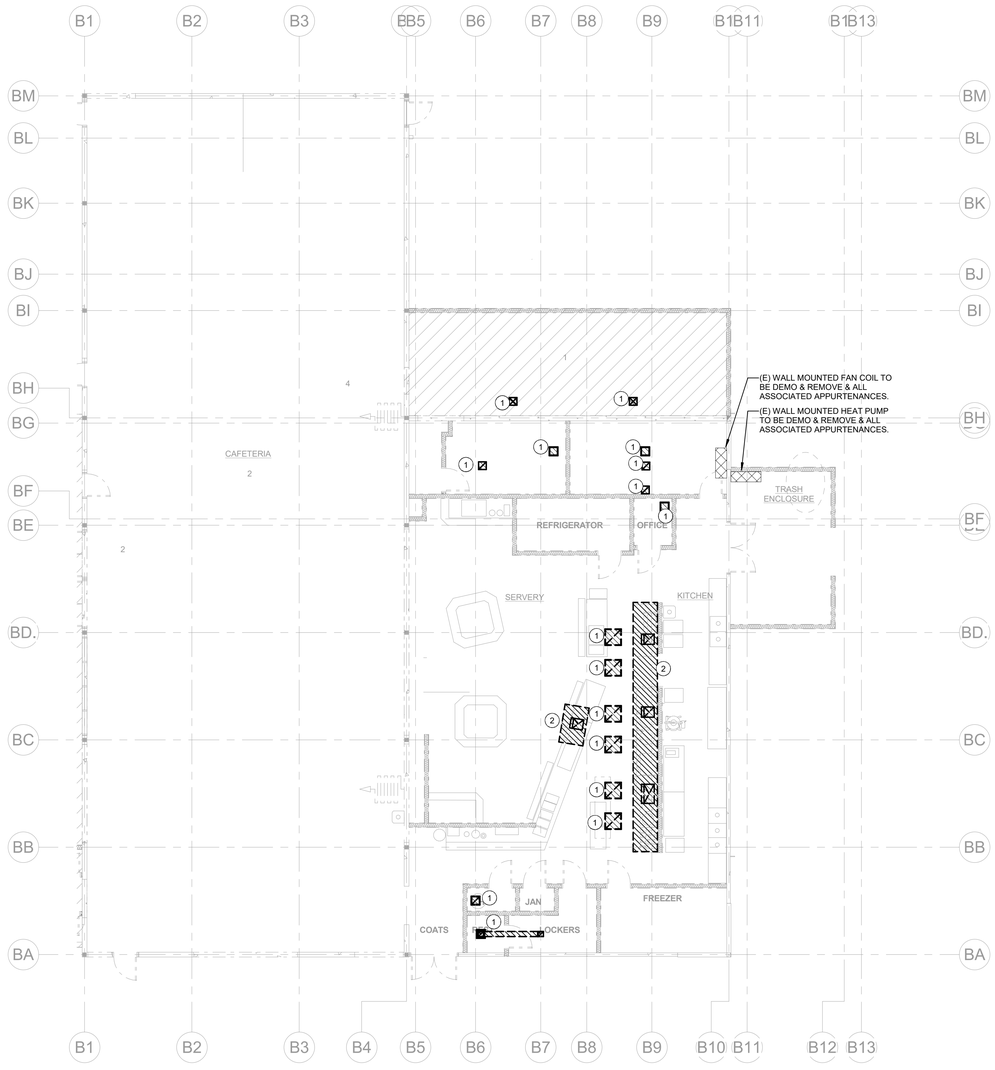


HVAC DEMOLITION CAFETERIA BUILDING FLOOR PLAN

1/8" = 1'-0"

1

GENERAL NOTES

1. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-1.1
2. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL WORK WITH OTHER TRADES.
3. THIS CONTRACTOR SHALL RETAIN SPECIFIC EQUIPMENT AS DIRECTED BY OWNER AND DELIVER TO OWNER SPECIFIED LOCATION.
4. ALL EQUIPMENT, MECHANICAL EQUIPMENT, PIPING, VALVING, CONTROLS, ETC. RENDERED USELESS BY THIS WORK SHALL BE DEMOLISHED AND REMOVED FROM THE SITE
5. LOCATION OF EXISTING MECHANICAL EQUIPMENT, DUCTWORK, AIR OUTLETS, PIPING, CONTROLS, VALVING, ETC. HAS BEEN BASED ON THE BEST AVAILABLE INFORMATION OBTAINABLE AT THE SITE AND THROUGH RECORD DRAWINGS. VERIFY EXACT LOCATIONS, SIZES, AND EXTENT OF EXISTING SYSTEMS PRIOR TO START OF DEMOLITION WORK
6. PATCH ALL WALLS, CEILINGS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS.
7. ASBESTOS CONTAINING PRODUCTS MAY BE PRESENT IN THE EXISTING BUILDING CONSTRUCTION. IF SUSPECT MATERIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE FOR INSTRUCTIONS PRIOR TO PROCEEDING WITH ADDITIONAL WORK. THE CONTRACTOR SHALL IMMEDIATELY POST NOTICES AND TAKE PRECAUTIONS NECESSARY TO ENSURE THE HEALTH AND SAFETY OF ALL WORKERS, THE STAFF, AND THE PUBLIC.
8. TEMPORARY CAP EXISTING OPEN DUCT REMOVE FROM REGISTERS DURING CONSTRUCTION. PREPARE DUCT FOR RECONNECTION.
9. PROVIDE PRE BALANCE REPORT AT REGISTERS SHOWN ON PLAN. PRE-BALANCE REPORT SHALL BE USED FOR REFERENCE FOR FINAL BALANCE REPORT.

SHEET NOTES

1. DEMOLISH & REMOVE (E) GRILLE, DUCTWORK & ALL ASSOCIATED APPURTENANCES. SEAL DUCT PENETRATION THRU ROOF
2. DEMOLISH & REMOVE (E) HOOD, DUCTWORK & ALL ASSOCIATED APPURTENANCES. SEAL DUCT PENETRATION THRU ROOF

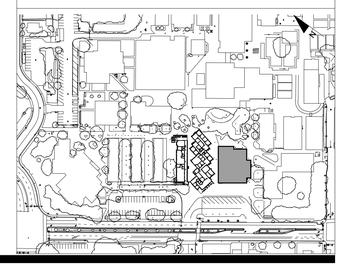
WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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DRAWN BY:	Author
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SHEET TITLE

CAFETERIA MECHANICAL DEMOLITION FLOOR PLAN

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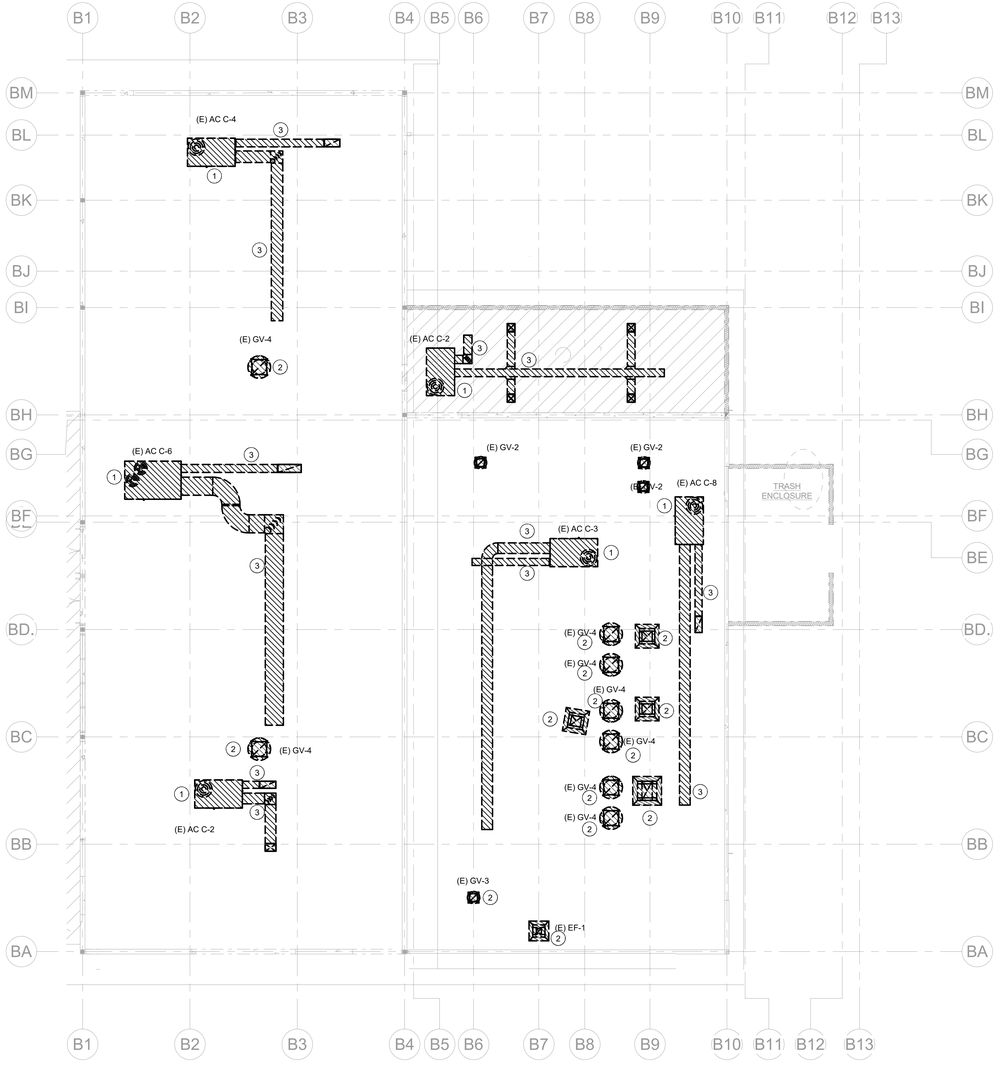

HVAC CAFETERIA BUILDING DEMOLITION ROOF PLAN

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

GENERAL NOTES

1. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-1.1
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6. PATCH ALL WALLS, CEILINGS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS.
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8. TEMPORARY CAP EXISTING OPEN DUCT REMOVE FROM REGISTERS DURING CONSTRUCTION. PREPARE DUCT FOR RECONNECTION.
9. PROVIDE PRE BALANCE REPORT AT REGISTERS SHOWN ON PLAN. PRE-BALANCE REPORT SHALL BE USED FOR REFERENCE FOR FINAL BALANCE REPORT.

SHEET NOTES

(1) DEMOLISH & REMOVE (E) AC UNIT ON ROOF & ALL ASSOCIATED APPURTENANCES. SEAL DUCT PENETRATION THRU ROOF

(2) DEMOLISH & REMOVE (E) EQUIPMENT & ALL ASSOCIATED APPURTENANCES. SEAL DUCT PENETRATION THRU ROOF

(3) DEMOLISH & REMOVE (E) DUCT ON ROOF & ALL ASSOCIATED APPURTENANCES. SEAL DUCT PENETRATION THRU ROOF

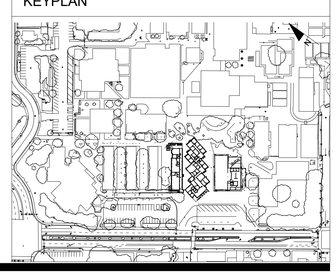
WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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ARCH PROJECT NO:	1783.00
DRAWN BY:	Author
DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

CAFETERIA MECHANICAL DEMO ROOF PLAN

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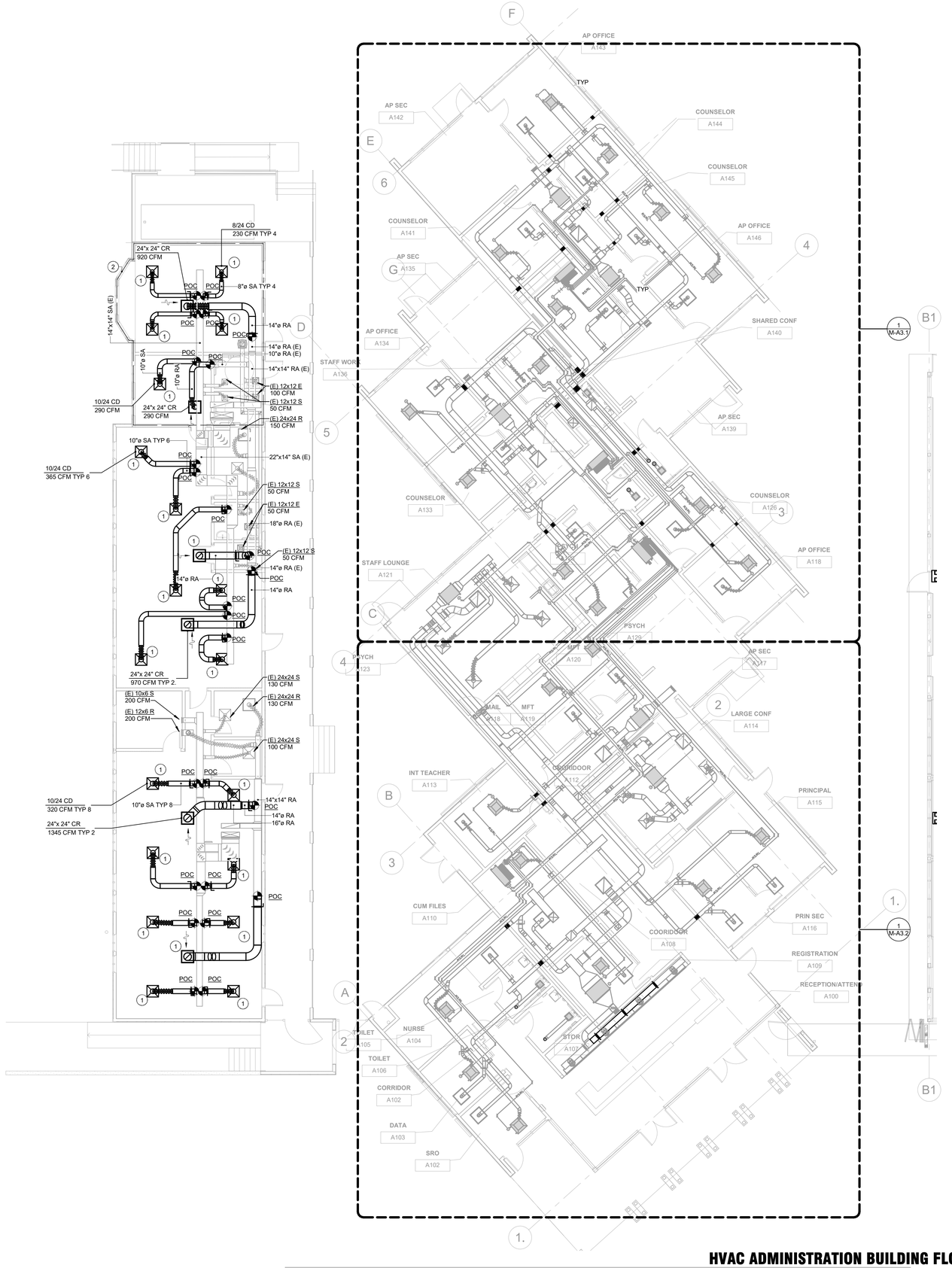


HVAC ADMINISTRATION BUILDING FLOOR PLAN

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

GENERAL NOTES

1. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-1.1
2. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL WORK WITH OTHER TRADES. MAKE ANY OFFSETS AS REQUIRED TO AVOID CONFLICT WITH PIPING, LIGHT FIXTURES, SKYLIGHTS, ETC.
3. CONTRACTOR SHALL COORDINATE ALL GRILLE LOCATIONS AND CEILING TYPES PRIOR TO ORDERING GRILLES. SEE ARCHITECTURAL CEILING PLANS AND ELECTRICAL LIGHTING PLANS.
4. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWING OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER AND FIELD INSPECTOR OF THE GOVERNING AUTHORITY.
5. SUPPORT AND BRACING OF ALL PIPING AND DUCTWORK SHALL BE IN ACCORDANCE WITH THE SMACNA "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS" OR NO.R-003 THE "SUPERSTRUT SEISMIC RESTRAINT SYSTEM" FOR PIPING ONLY.
6. REFER TO ARCHITECTURAL GRAPHICS DRAWINGS FOR SIGNAGE NOT SHOW.

SHEET NOTES

(1) RECONNECT NEW GRILLE & DUCTWORK TO (E) DUCT TO POINT OF CONNECTION.

(2) VERIFY (E) DUCT ROUTING FROM (E) UNIT ABOVE. SOME DUCTS HAVE BEEN CAPPED FROM UNIT PREVIOUSLY SERVING THIS AREA. RELOCATE (E) REGISTERS TO NEW LOCATIONS SHOWN. EXTEND (E) DUCTS TO NEW LOCATIONS.

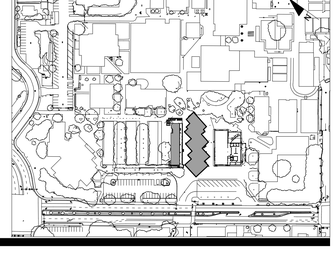
WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION MECHANICAL FLOOR PLAN

SHEET NUMBER

M-A2.1

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HVAC ADMINISTRATION BUILDING FLOOR PLAN - ENLARGEMENT

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

GENERAL NOTES

1. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-1.1
2. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL WORK WITH OTHER TRADES. MAKE ANY OFFSETS AS REQUIRED TO AVOID CONFLICT WITH PIPING, LIGHT FIXTURES, SKYLIGHTS, ETC.
3. CONTRACTOR SHALL COORDINATE ALL GRILLE LOCATIONS AND CEILING TYPES PRIOR TO ORDERING GRILLES. SEE ARCHITECTURAL CEILING PLANS AND ELECTRICAL LIGHTING PLANS.
4. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWING OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER AND FIELD INSPECTOR OF THE GOVERNING AUTHORITY.
5. SUPPORT AND BRACING OF ALL PIPING AND DUCTWORK SHALL BE IN ACCORDANCE WITH THE SMACNA "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS" OR NO.R-003 THE "SUPERSTRUT SEISMIC RESTRAINT SYSTEM" FOR PIPING ONLY.
6. REFER TO ARCHITECTURAL GRAPHICS DRAWINGS FOR SIGNAGE NOT SHOW.

SHEET NOTES

1. RECONNECT NEW GRILLE & DUCTWORK TO (E) DUCT TO POINT OF CONNECTION.
2. PENETRATION THRU SHEAR WALL SSD 7/S-1.2
3. BRANCH SELECTOR SEE DETAIL (E / M-5.1)
4. CEILING CASSETTE SEE DETAIL (F / M-5.1)
5. DUCTED FAN COIL SEE DETAIL (E / M-5.1)
6. 16x16 RA/SA UTR TO ERV ON ROOF
7. NOT USED IN THIS SHEET
8. FILTER BOX SEE EQUIPMENT SCHEDULE

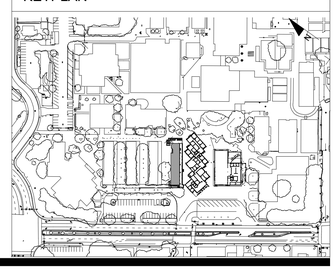
WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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MECHANICAL
STATE OF CALIFORNIA

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2nd STREET
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	Author
DRAWING SCALE:	1/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION MECHANICAL ENLARGEMENT FLOOR PLAN

SHEET NUMBER

M-A3.1

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REFER TO SHEET M-6.3 FOR PIPING DIAGRAM & SIZES.

HVAC ADMINISTRATION BUILDING FLOOR PLAN - ENLARGEMENT. 1
1/4" = 1'-0"

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11/24/2020 4:46:10 PM

GENERAL NOTES

1. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-1.1
2. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL WORK WITH OTHER TRADES. MAKE ANY OFFSETS AS REQUIRED TO AVOID CONFLICT WITH PIPING, LIGHT FIXTURES, SKYLIGHTS, ETC.
3. CONTRACTOR SHALL COORDINATE ALL GRILLE LOCATIONS AND CEILING TYPES PRIOR TO ORDERING GRILLES, SEE ARCHITECTURAL CEILING PLANS AND ELECTRICAL LIGHTING PLANS.
4. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWING OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER AND FIELD INSPECTOR OF THE GOVERNING AUTHORITY.
5. SUPPORT AND BRACING OF ALL PIPING AND DUCTWORK SHALL BE IN ACCORDANCE WITH THE SMACNA "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS" OR NO.R-003 THE "SUPERSTRUT SEISMIC RESTRAINT SYSTEM" FOR PIPING ONLY.
6. REFER TO ARCHITECTURAL GRAPHICS DRAWINGS FOR SIGNAGE NOT SHOW.

SHEET NOTES

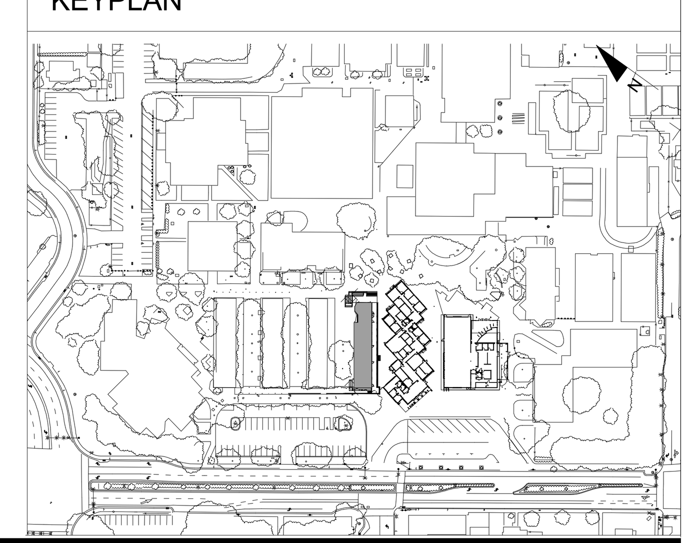
1. RECONNECT NEW GRILLE & DUCTWORK TO (E) DUCT TO POINT OF CONNECTION.
2. PENETRATION THRU SHEAR WALL SSD 7/S-1.2
3. BRANCH SELECTOR SEE DETAIL E/M-5.1
4. CEILING CASSETTE SEE DETAIL F/M-5.1
5. DUCTED FAN COIL SEE DETAIL E/M-5.1
6. 16x16 RA/SA UTR TO ERV ON ROOF
7. WALL MOUNTED FAN COIL SEE DETAIL H/M-5.1
8. FILTER BOX SEE EQUIPMENT SCHEDULE

WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING -1-HR RATED FIRE BARRIER
METAL FRAMING - NON RATED

KEYPLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
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Pleasanton Office:
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COSTA ENGINEERS INC.
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REGISTERED PROFESSIONAL ENGINEER
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No. 31600
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STATE OF CALIFORNIA

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ADMINISTRATION & STUDENT COMMONS

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DRAWING SCALE:	1/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

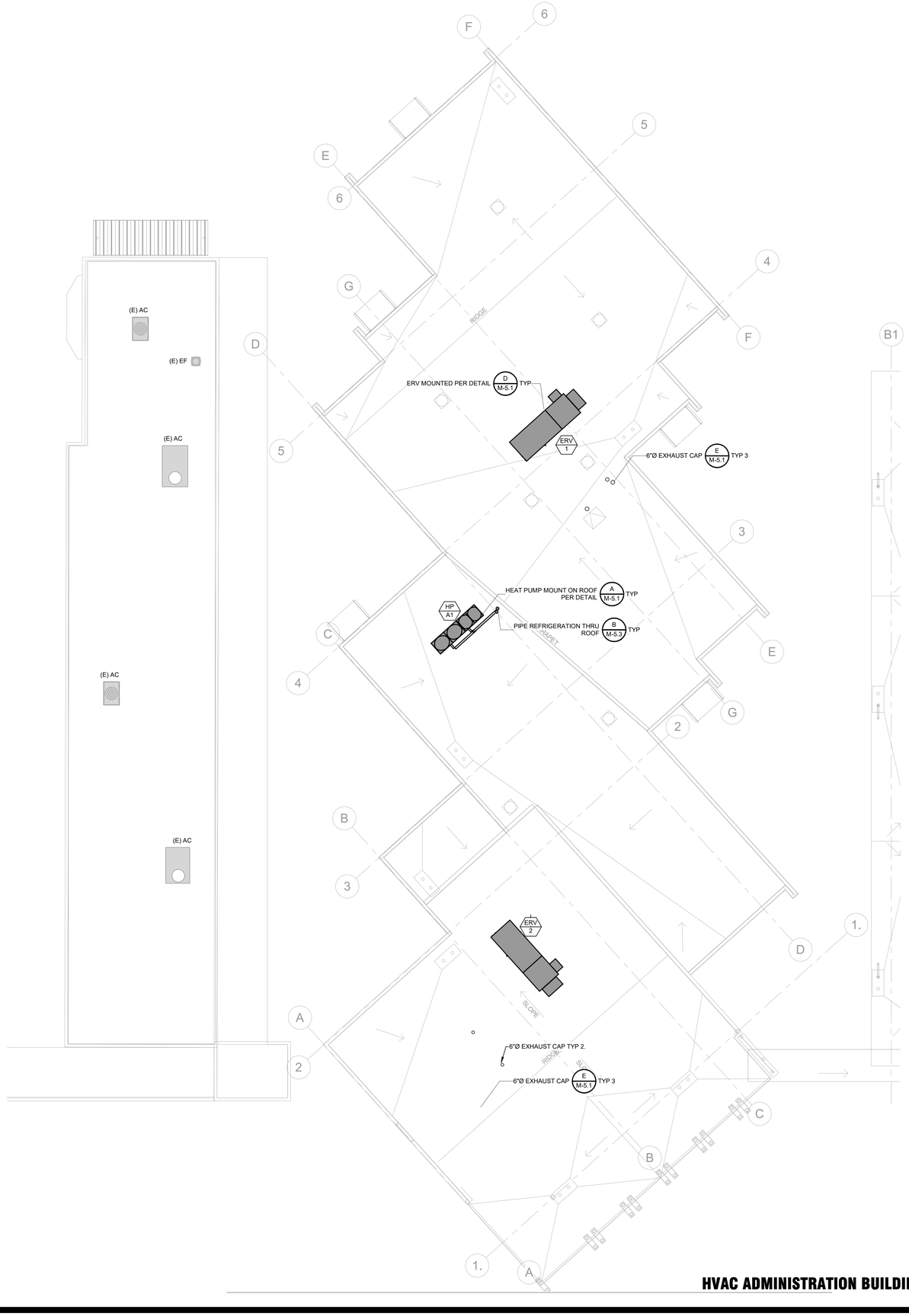
DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION MECHANICAL ENLARGEMENT FLOOR PLAN

SHEET NUMBER

M-A3.2



HVAC ADMINISTRATION BUILDING ROOF 1

1/8" = 1'-0"

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6. REFER TO ARCHITECTURAL GRAPHICS DRAWINGS FOR SIGNAGE NOT SHOW.

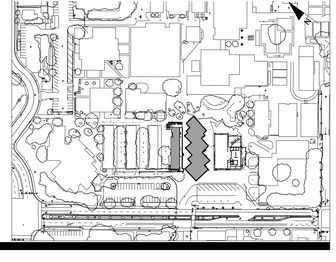
WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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ARCH PROJECT NO:	1783.00
DRAWN BY:	Author
DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION MECHANICAL ROOF PLAN

SHEET NUMBER

M-A4.1

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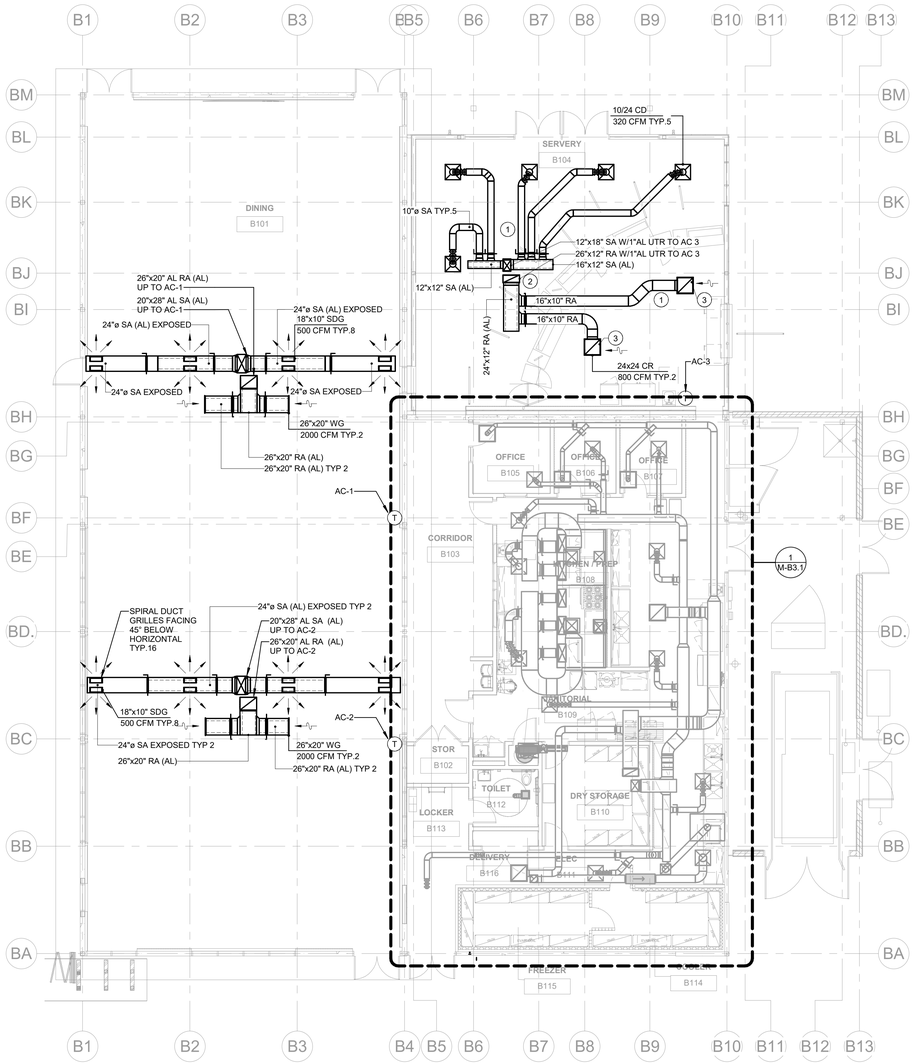

HVAC CAFETERIA BUILDING FLOOR PLAN

1/8" = 1'-0"

1

GENERAL NOTES

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5. REFER TO ARCHITECTURAL GRAPHICS DRAWINGS FOR SIGNAGE NOT SHOW.

SHEET NOTES

1. ROUTE DUCT TO AVOID LIGHTING AND LIGHTING SUPPORTS.
2. OFFSET SUPPLY AND RETURN AIR DUCTS UP THROG ROOF AS REQUIRED ON EACH SIDES OF BEAM.
3. 24"x24" CAPPED PLENUM ABOVE RETUN AIR REGISTER.

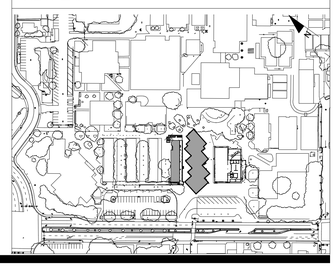
WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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DRAWN BY:	Author
DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

CAFETERIA MECHANICAL FLOOR PLAN

SHEET NUMBER

M-B2.1

11/24/2020 4:46:16 PM

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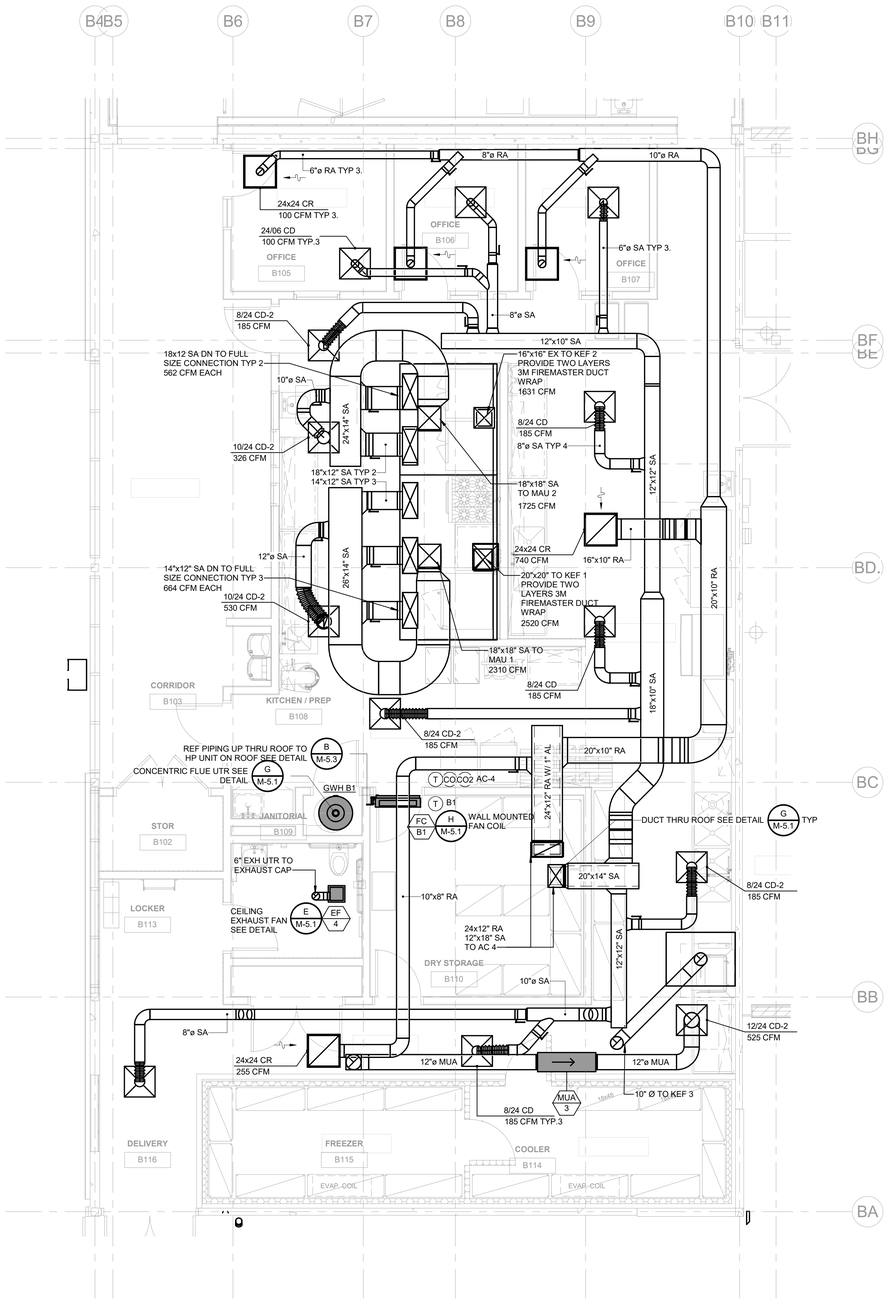

CAFETERIA MECHANICAL KITCHEN ENLARGEMENT

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

GENERAL NOTES

1. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-1.1
2. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL WORK WITH OTHER TRADES. MAKE ANY OFFSETS AS REQUIRED TO AVOID CONFLICT WITH PIPING, LIGHT FIXTURES, SKYLIGHTS, ETC.
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5. REFER TO ARCHITECTURAL GRAPHICS DRAWINGS FOR SIGNAGE NOT SHOW.

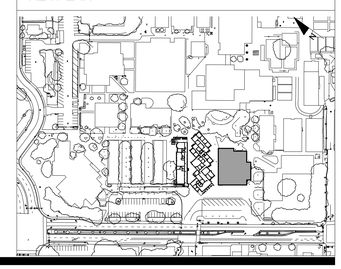
WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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850 2nd STREET
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	Author
DRAWING SCALE:	1/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

CAFETERIA MECHANICAL KITCHEN ENLARGEMENT

SHEET NUMBER

M-B3.1

11/24/2020 4:46:19 PM

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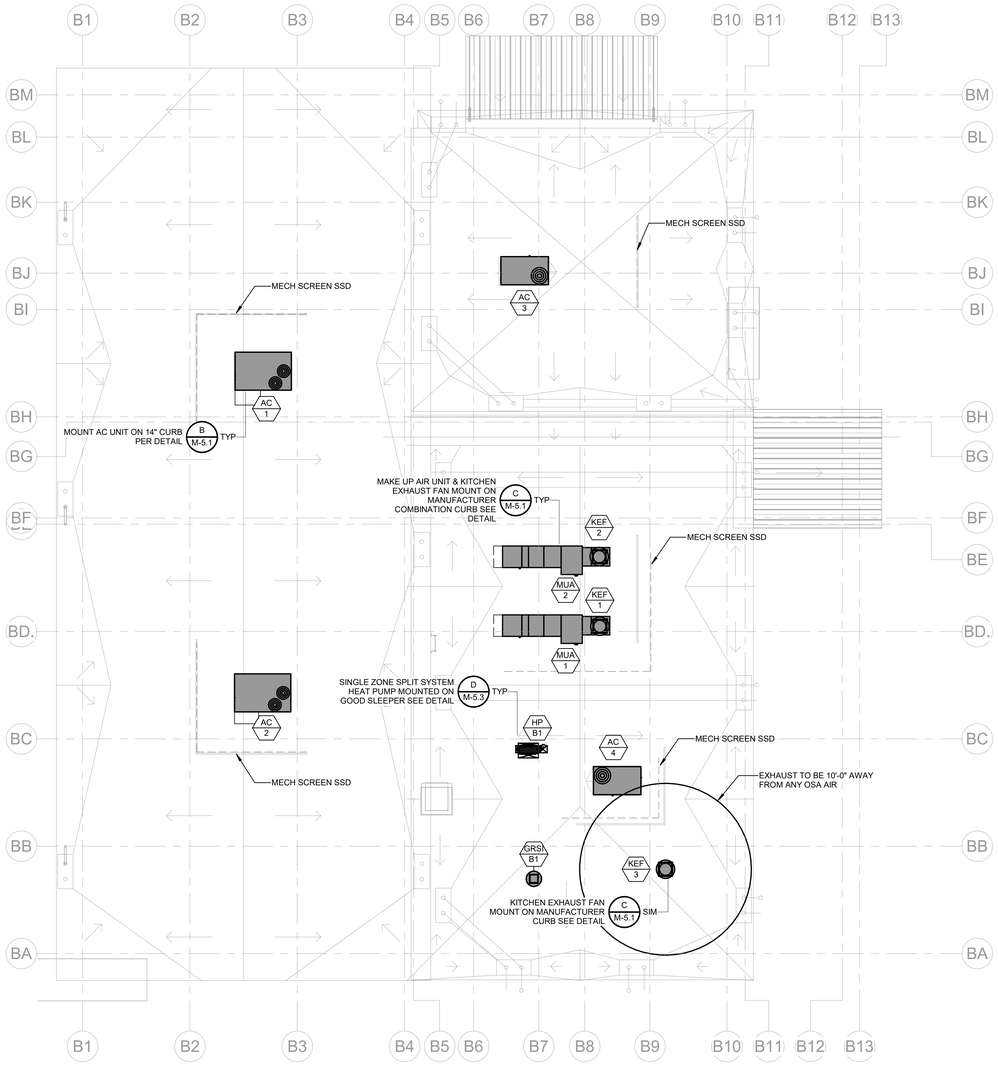

HVAC CAFETERIA BUILDING ROOF

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

GENERAL NOTES

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WALL LEGENDS

NOTES:
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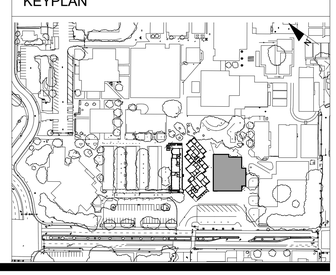
METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

CAFETERIA MECHANICAL ROOF PLAN

SHEET NUMBER

M-B4.1

11/24/2020 4:46:22 PM

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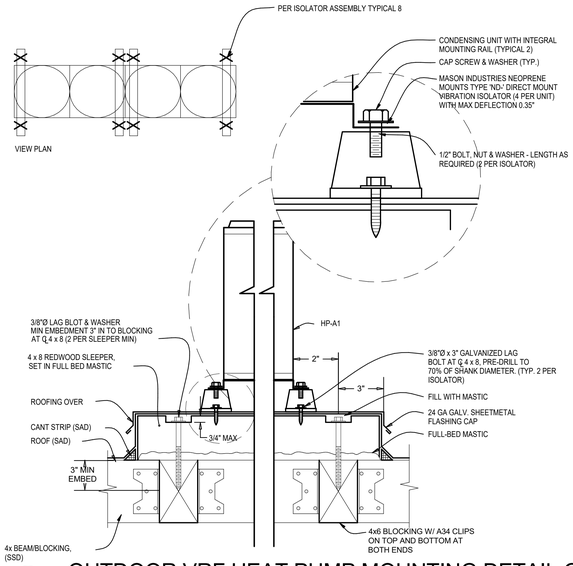
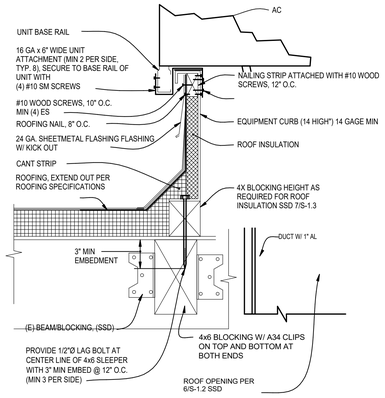


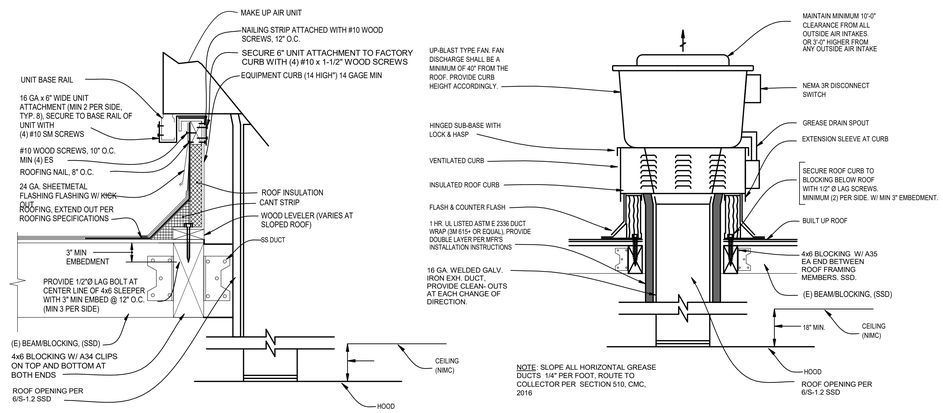
A OUTDOOR VRF HEAT PUMP MOUNTING DETAIL ON ROOF

SCALE: NONE



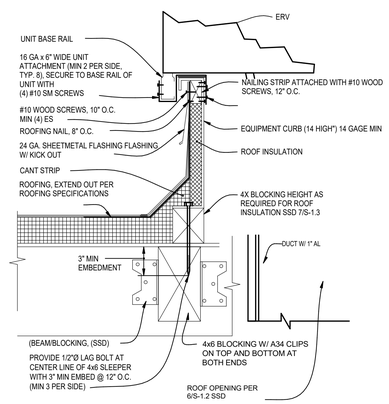
B AC MOUNTING DETAIL

SCALE: NONE



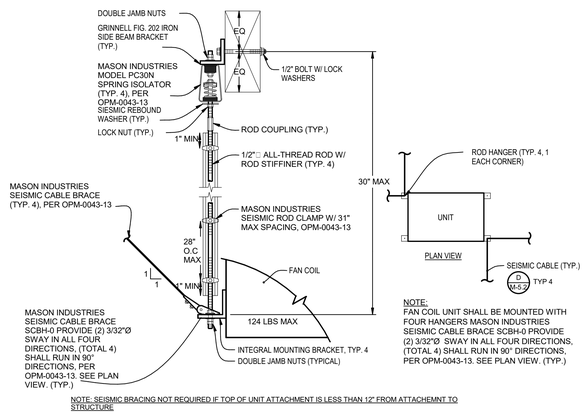
C MAU & KITCHEN EXHAUST FAN CONBI CURB MOUNTING DETAIL

SCALE: NONE



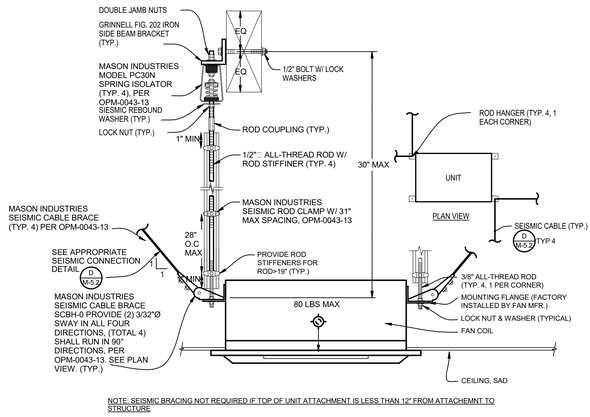
D ERV MOUNTING DETAIL

SCALE: NONE



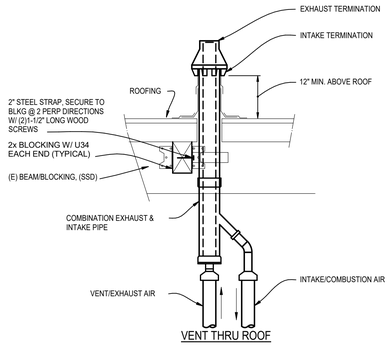
E FC/BS MOUNTING DETAIL

SCALE: NONE



F CEILING CASSETTE FC MOUNTING DETAIL

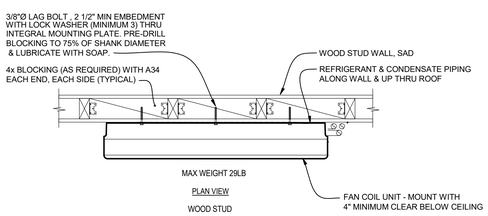
SCALE: NONE



NOTE: MAINTAIN MIN./MAX. CLEARANCES PER MANUFACTURER'S INSTRUCTIONS

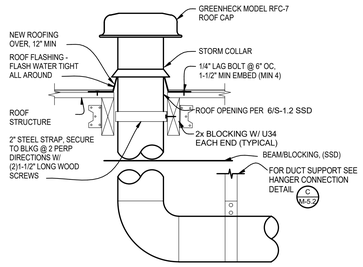
G CONCENTRIC VENT DETAIL

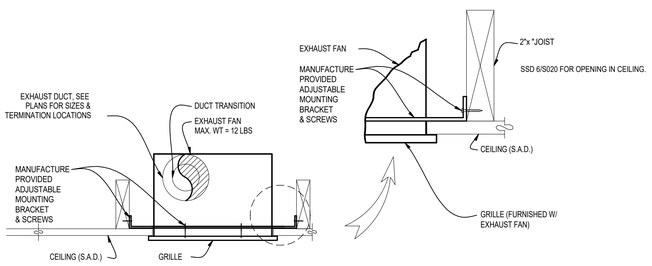
SCALE: NONE (COORDINATE FLASHING W/ ROOFING CONTRACTOR)



H WALL-MOUNTED FAN COIL DETAIL

SCALE: NONE





J CEILING EXHAUST FAN MOUNTING DETAIL

SCALE: NONE

K NOT USED

SCALE: NONE

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MECHANICAL DETAILS

SHEET NUMBER

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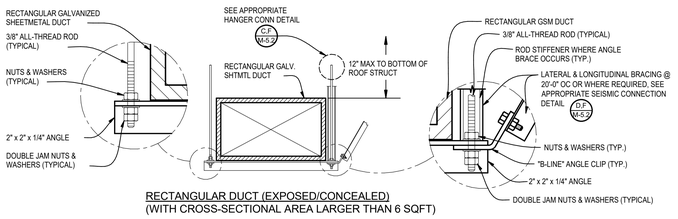
TRAPEZE LOAD & SUPPORT CONDITIONS:

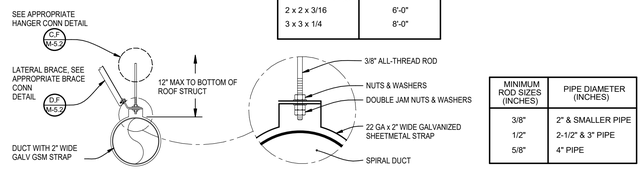
HEAVY: 645 LBS PER TRAPEZE, OR MORE: 1/2"□ ALL-THREAD TO STEEL

NOT HEAVY: LESS THAN 645 LBS PER TRAPEZE: 3/8"□ ALL-THREAD TO CONC DECK

TABLE-1	
ANGLE (INCHES)	MAX LENGTH (INCHES)
1-1/2 x 1-1/2 x 1/8	3'-0"
2 x 2 x 3/16	6'-0"
3 x 3 x 1/4	8'-0"

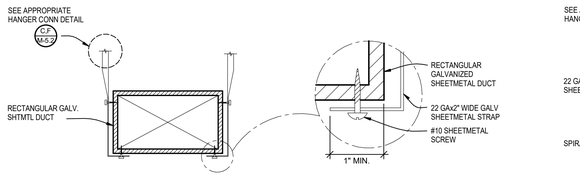


RECTANGULAR DUCT (EXPOSED/CONCEALED)
(WITH CROSS-SECTIONAL AREA LARGER THAN 6 SQFT)

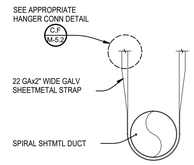


MINIMUM ROD SIZES (INCHES)	PIPE DIAMETER (INCHES)
3/8"	2" & SMALLER PIPE
1/2"	2-1/2" & 3" PIPE
5/8"	4" PIPE

ROUND DUCT (EXPOSED/CONCEALED)
(WITH CROSS-SECTIONAL AREA LARGER THAN 6 SQFT)



RECTANGULAR DUCT (EXPOSED/CONCEALED)
(WITH CROSS-SECTIONAL AREA SMALLER THAN 6 SQFT)



ROUND DUCT (EXPOSED/CONCEALED)
(WITH CROSS-SECTIONAL AREA SMALLER THAN 6 SQFT)

DUCT SUPPORT NOTES:

A. ALL STRAPS, RODS, TRAPEZE ANGLES AND TRAPEZE CHANNELS SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE LATEST SMACNA REQUIREMENTS.

B. ALL BOLTS, NUTS, SCREWS AND OTHER FASTENING DEVICES SHALL BE LOAD-RATED AND SHALL MEET ALL CODE REQUIREMENTS AND SAFETY FACTORS WHICH APPLY.

C. WIRE, USED IN LIEU OF STRAPS AND RODS, IS NOT ALLOWED.

D. WHERE APPLICABLE, INSTALL INSULATION AFTER INSTALLING DUCT HANGERS.

E. SUPPORTS SHALL BE PLACED AT 8'-0" ON CENTER (MAX) AND AT ALL CHANGES IN DIRECTION.

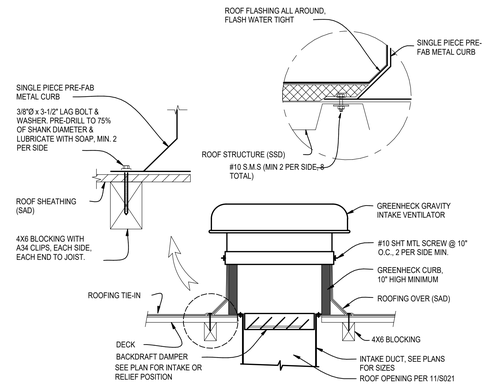
F. LATERAL BRACING REQUIRED ON DUCTS WITH CROSS-SECTIONAL AREA LARGER THAN 6 SQ FT.

G. SEISMIC BRACING IS NOT REQUIRED AT HVAC DUCTS THAT ARE 6 FT SQ OR LESS IN CROSS-SECTIONAL AREA, OR WEIGH 10 LB/FT OR LESS.

H. SUPPORTS SHALL BE PLACED AT 8'-0" ON CENTER (MAX) AND AT ALL CHANGES IN DIRECTION.

I. SEISMIC BRACING IS NOT REQUIRED AT HVAC DUCTS SUPPORTED BY HANGERS THAT ARE 12" OR LESS IN LENGTH FROM THE DUCT SUPPORT POINT TO THE SUPPORTING STRUCTURE. HVAC DUCTS SUPPORTED WITH ROD HANGERS WITH DIAMETER GREATER THAN 3/8 INCH SHALL BE EQUIPPED WITH SWIVELS TO PREVENT INELASTIC BENDING IN THE ROD.

J. HVAC DUCTS ARE FREE TO SWING AT 45° IN ANY HORIZONTAL DIRECTION WITHOUT COLLIDING WITH THE STRUCTURE, ARCHITECTURAL ITEMS OR OTHER MECHANICAL, PLUMBING OR ELECTRICAL ITEMS.

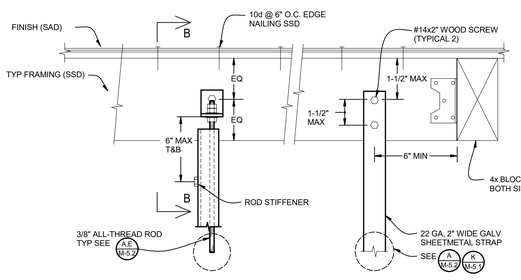


A DUCT SUPPORT DETAIL

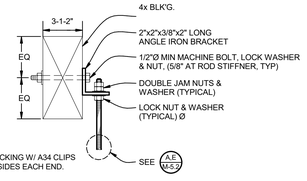
SCALE: NONE

B ROOFTOP GRAVITY INTAKE /RELIEFHOOD DETAIL

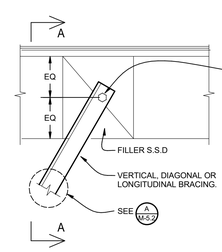
SCALE: NONE



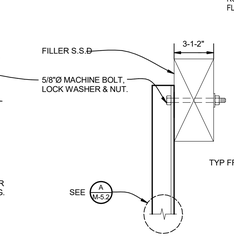
VERTICAL HANGER CONNECTION TO BLK'G



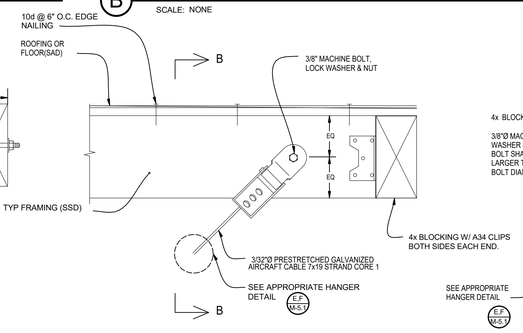
SECTION BB

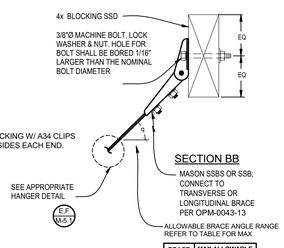


DIAGONAL BRACING PARALLEL TO BLK'G



SECTION AA





SECTION BB

BRACE ANGLE RANGE q	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	270 LBS
46° - 60°	190 LBS

C HANGER CONNECTION TO WOOD FRAMING

SCALE: NONE

PIPE SUPPORT NOTES:

A. SUPPORT PIPING AT A MAXIMUM OF 10'-0" INTERVALS.

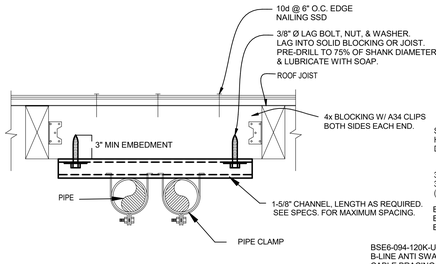
B. SEE PLANS FOR PIPE SIZES.

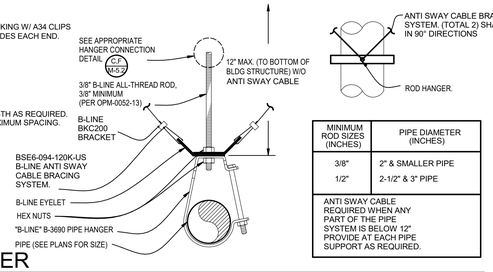
C. CHANNEL DEFLECTION SHALL NOT EXCEED 1/360 OF THE SPAN BETWEEN RODS. DOUBLE-UP CHANNELS AS REQUIRED.

D. B-LINE CHANNEL ROD STIFFENER @ ALL-THREAD WHERE DIAGONAL BRACE OCCURS. INCLUDE SC228 ASSEMBLY AS RECOMMENDED BY MANUFACTURER.

E. NO BRACING IS REQUIRED ON GAS PIPES WITH LESS THAN 1" I.D. AND ALL OTHER PIPES LESS THAN 2-1/2" IN DIAMETER, AND WHEN SUPPORTED LESS THAN 12" FROM BOTTOM OF ROOF STRUCTURE.

F. PIPING SUPPORTED MORE THAN 12" FROM BOTTOM OF ROOF STRUCTURE SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7-16 CHAPTER 13, 26 AND 30. BRACING AND ATTACHMENTS TO STRUCTURE SHALL COMPLY WITH ONE OF THE OSHPD PRE APPROVALS WITH AN OPM NUMBER, AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318-14 CHAPTER 17.

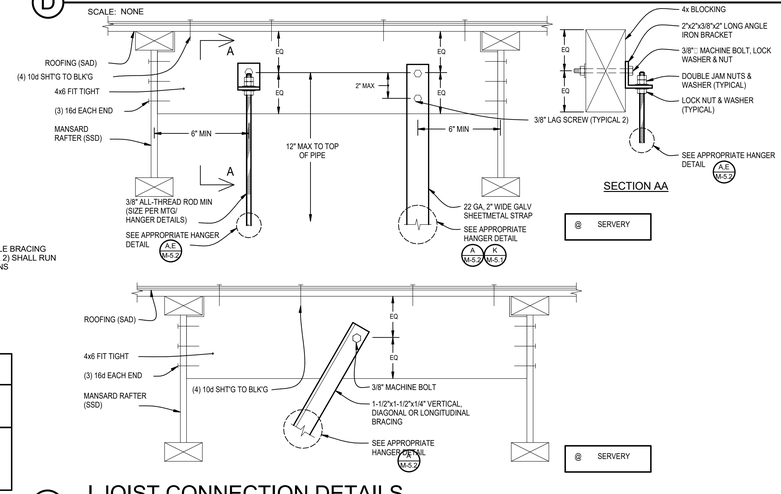




MINIMUM ROD SIZES (INCHES)	PIPE DIAMETER (INCHES)
3/8"	2" & SMALLER PIPE
1/2"	2-1/2" & 3" PIPE
ANTI SWAY CABLE REQUIRED WHEN ANY PART OF THE PIPE SYSTEM IS BELOW 12" PROVIDE AT EACH PIPE SUPPORT AS REQUIRED.	

D SEISMIC BRACING CONNECTIONS TO WOOD FRAMING

SCALE: NONE



SECTION AA

E REFRIGERANT PIPING HANGER

SCALE: NONE

F I JOIST CONNECTION DETAILS

SCALE: NONE

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APP: 01-119033 INC:
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DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
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636 Fifth Street, Santa Rosa, CA 95404
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3274 Villa Lane Napa, CA 94558 ph: 707-252-9177 fax: 707-252-6473

REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER J. DEL CASTILLO No. 33600 Exp. 12-31-20 MECHANICAL STATE OF CALIFORNIA

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2nd STREET
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO: 1783.00
DRAWN BY: Author
DRAWING SCALE:
PTN: 61721-75 FILE NO: 7-H4
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DECEMBER 2, 2020

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MECHANICAL DETAILS

SHEET NUMBER

M-5.2

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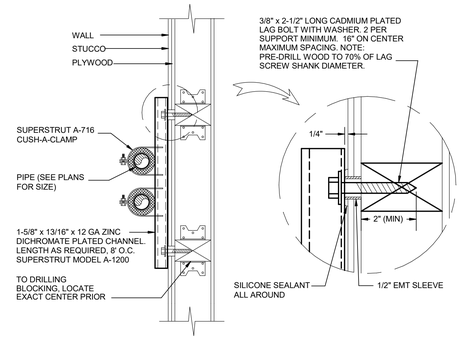
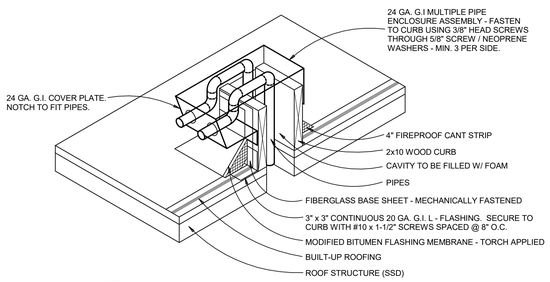


A PIPE ON WALL DETAIL

SCALE: NONE

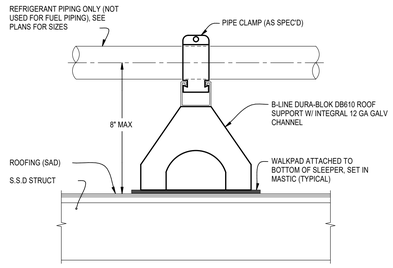


NOTES:

1. ALL PIPES ENTERING THE PIPE ENCLOSURE ASSEMBLY SHALL BE SLOPED UPWARD AS THEY ENTER THE FLASHING SO THAT WATER WILL NOT BE ABLE TO RUN INTO THE BUILDING.
2. MAX OPENING: 6x12, DO NOT CUT ROOF FRAMING

B PIPE ENCLOSURE THRU ROOF DETAIL

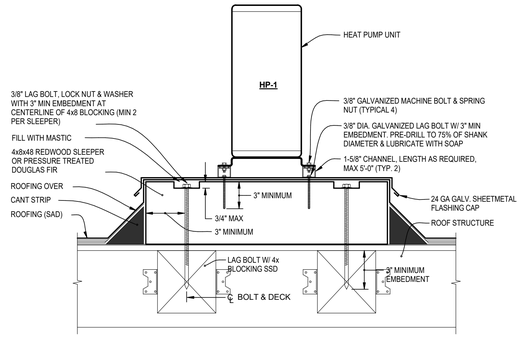
SCALE: NONE



NOTE: SUPPORTS SHALL BE AT 8'-0" ON CENTER & AT ALL CHANGE OF DIRECTION

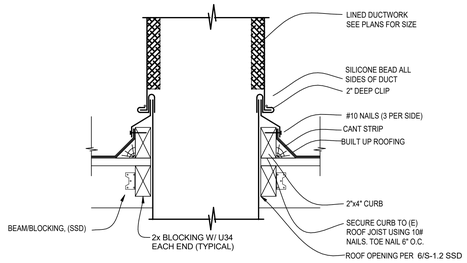
C PIPE SUPPORT ON ROOF DETAIL

SCALE: NONE



D HEAT PUMP UNIT MOUNTING DETAIL

SCALE: NONE



E DUCT THRU ROOF

SCALE: NONE

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No. 33600
Exp. 12-31-20
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CD
DECEMBER 2, 2020
SHEET TITLE

MECHANICAL DETAILS

SHEET NUMBER

M-5.3

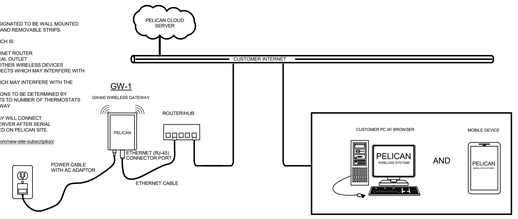
THE WIRELESS GATEWAY IS DESIGNATED TO BE WALL MOUNTED USING THE INCLUDED 3M COMMAND REMOVABLE STRIPS.

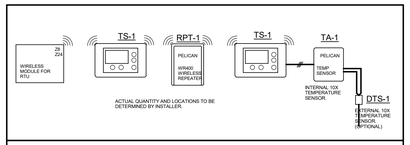
FIND A SUITABLE LOCATION WHICH IS:

-WITHIN 10 FEET OF YOUR INTERNET ROUTER
-WITHIN 4 FEET OF AN ELECTRICAL OUTLET
-AT LEAST 4 FEET AWAY FROM OTHER WIRELESS DEVICES
-AWAY FROM LARGE METAL OBJECTS WHICH MAY INTERFERE WITH THE WIRELESS SIGNAL
-AWAY FROM EQUIPMENT WHICH MAY INTERFERE WITH THE WIRELESS SIGNAL
-ACTUAL QUANTITY AND LOCATIONS TO BE DETERMINED BY INSTALLER. NO PRACTICAL LIMITS TO NUMBER OF THERMOSTATS SUPPORTED BY A SINGLE GATEWAY

FACTORY IP ADDRESS GATE WAY WILL CONNECT AUTOMATICALLY TO PELICAN SERVER AFTER SERIAL NO. OF GATEWAY IS REGISTERED ON PELICAN SITE.

GO TO:http://www.pelicanwireless.com/new-site-subscription/





WIRELESS COMPONENTS

TAG	PART NUMBER	DESCRIPTION
RPT-1	PEL WR400	WIRELESS REPEATER, WITH POWER ADAPTOR
GW-1	PEL GW400	WIRELESS GATEWAY, WITH POWER ADAPTOR
TS-1	TS250	TEMPERATURE AND CO2 SENSOR WITH PEAL ECONOMIZER CONTROLLER

A TYPICAL PELICAN WIRELESS LAN LAYOUT

SCALE: NONE

Make Up Air Unit (MAU) System

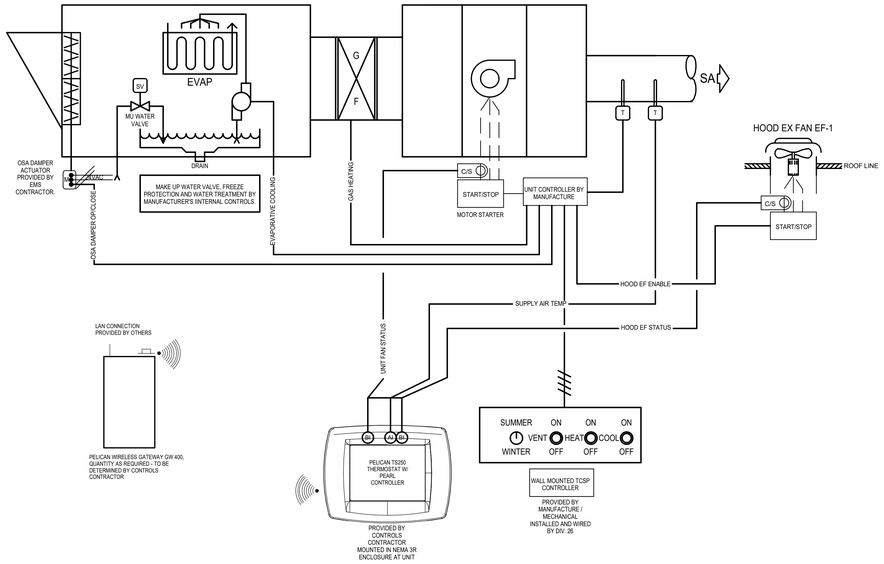
1. System Overview

a. Make Up Air unit will be directly controlled by its own terminal strip and control panel
b. The unitary controller will be connected to a wall mounted TSCP control panel.
c. TSCP panel shall include winter/summer mode switch. Blower enable, heat enable, and cooling enable.
d. The unit mounted sensor in NEMA 3R enclosure shall communicate the status to ems point as shown below.

2. Outside air damper shall be commanded 100% open any time MUA is in operation and shall be commanded 100% closed any time MUA is not in operation. Hood Exhaust Fans EF-1 shall run when MAU is in operation.

3. Heating operation: The unitary controller compares the heating setpoint with the leaving air temperature and determines a heating control signal to engage the gas furnace heating section to maintain leaving air temperature setpoint.

4. Cooling operation: The unitary controller compares the cooling setpoint with the leaving air temperature and determines a cooling signal. The unitary controller shall command the evap cooler circulating pump on when cooling is required to maintain leaving air temperature setpoint.

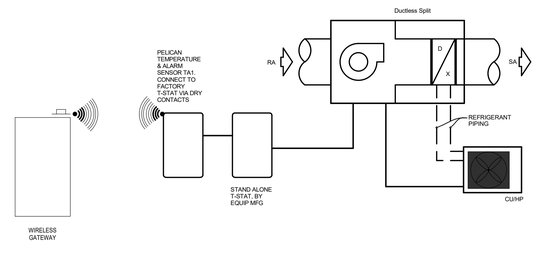


B NOT USED

SCALE: NONE

C MAKE UP AIR SYSTEM CONTROL DIAGRAM

SCALE: NONE



D NOT USED

SCALE: NONE

E SINGLE ZONE DUCTLESS SPLIT SYSTEM CONTROL DIAGRAM

SCALE: NONE

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CONTROL DIAGRAMS

SHEET NUMBER

M-6.1

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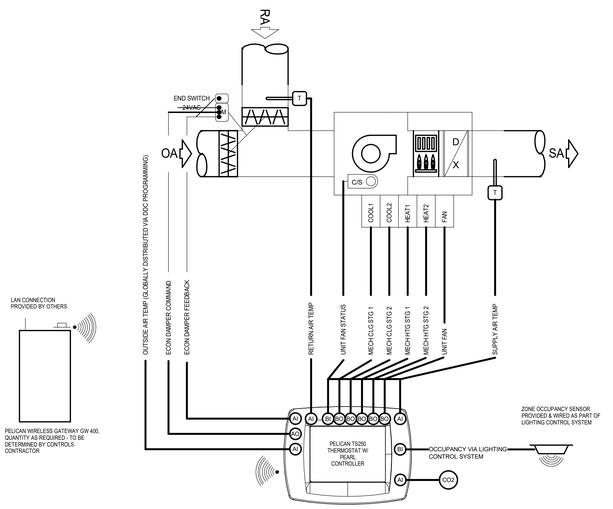


PACKAGED AC UNIT WITH ECONOMIZER, DEMAND CONTROL VENTILATION, ZONE OCCUPANCY MONITORING

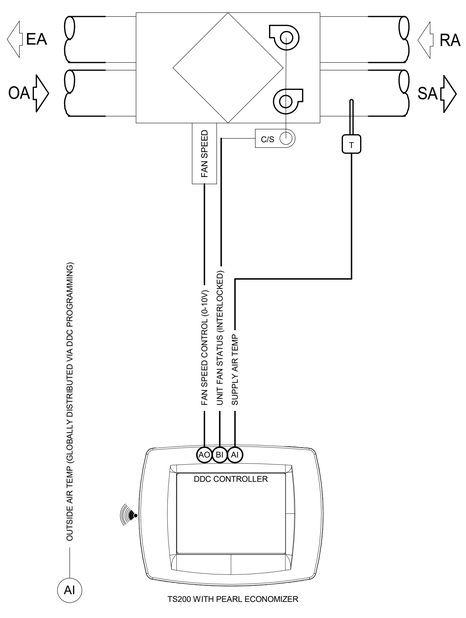
1. SYSTEM OVERVIEW
   a. EACH AC UNIT WILL BE DIRECTLY CONTROLLED BY ITS OWN DEDICATED EMS (ENERGY MANAGEMENT SYSTEM) UNITARY CONTROLLER.
   b. EMS UNITARY CONTROLLER WILL BE CONNECTED TO A WALL MOUNTED ELECTRONIC ZONE TEMPERATURE SENSOR WITH INTEGRAL RELATIVE HUMIDITY SENSOR AND CO2 SENSOR.
   c. ELECTRONIC ZONE TEMPERATURE SENSOR SHALL HAVE A TOUCH SCREEN LCD INTERFACE WHICH INCLUDES: 1) DIGITAL PUSHBUTTONS FOR WARMER/COOLER SETPOINT CONTROL; 2) VISUAL DISPLAY OF ROOM TEMPERATURE, ROOM HUMIDITY, ROOM CO2 AND AMBIENT OSA TEMPERATURE; AND 3) DIGITAL PUSHBUTTON AFTER-HOURS OVERRIDE TIMER CONTROL, WITH USER ADJUSTABLE DURATION. THE AFTER-HOURS OVERRIDE DURATION SHALL HAVE THE ABILITY TO BE LIMITED FROM THE FRONT-END.
2. OCCUPANCY/VACANCY MONITORING
   a. ZONE OCCUPANCY AND VACANCY WILL BE ACTIVELY MONITORED BY CONNECTION TO LIGHTING CONTROL SYSTEM OCCUPANCY SENSOR(S). IF AVAILABLE, MONITORING SHALL BE ACCOMPLISHED VIA BACNET SYSTEM INTEGRATION. OTHERWISE, BAS CONTRACTOR SHALL MONITOR AUXILIARY CONTACTS ON LIGHTING CONTROL SYSTEM OCCUPANCY SENSOR(S).
3. UNIT FAN OPERATION
   a. WHEN THE ZONE IS IN OCCUPIED MODE OR IN AFTERHOURS MODE, THE FAN SHALL RUN CONTINUOUSLY, UNLESS VACANT MODE HAS BEEN TRIGGERED.
   b. LOW SPEED AND HIGH SPEED FAN OPERATION TO BE CONTROLLED BY AC-UNIT MANUFACTURER'S INTERNAL CONTROLS INDEPENDENT OF EMS BASED UPON CALL FOR HEATING, COOLING OR VENTILATION.
   c. DURING THE UNOCCUPIED MODE AS DETERMINED BY EMS TIME SCHEDULE, THE UNIT FAN CYCLES WITH DEMAND AND THE TEMPERATURE IS CONTROLLED BY THE UNOCCUPIED SPACE TEMPERATURE HEATING AND COOLING SETPOINTS.
4. MINIMUM OUTDOOR AIR VENTILATION
   a. DURING OCCUPIED MODE OR AFTERHOURS MODE, THE ECONOMIZER DAMPER SHALL BE COMMANDED BY THE EMS UNITARY CONTROLLER TO MAINTAIN A POSITION WHICH SATISFIES THE MINIMUM OUTDOOR AIR VENTILATION REQUIREMENTS FOR THE ZONE. DAMPER POSITION(S) DETERMINED BY AIR BALANCING CONTRACTOR.
5. DEMAND CONTROL VENTILATION
   a. EMS UNITARY CONTROLLER WILL BE CONNECTED TO A WALL MOUNTED CO2 SENSOR TO MONITOR ZONE CO2 CONCENTRATION.
   b. DURING OCCUPIED MODE OR AFTERHOURS MODE, THE EMS UNITARY CONTROLLER SHALL RESET THE OUTSIDE AIR DAMPER MINIMUM POSITION TO MAINTAIN THE CO2 CONCENTRATION BELOW 1,000 PPM.
6. AUTOMATIC DEMAND REDUCTION CONTROLS
   a. EMS SHALL BE PROGRAMMED WITH CAPABILITY TO IMPLEMENT CENTRALIZED DEMAND SHED FOR ALL NON-CRITICAL ZONES UPON CALL FOR AUTOMATIC DEMAND REDUCTION. CRITICAL ZONES SHALL NOT BE IMPACTED BY DEMAND SHED CONSERVATION MEASURES.
7. VACANT MODE CONTROL
   a. WHEN THE ZONE HAS BEEN SCHEDULED FOR OCCUPANCY FOR AT LEAST ONE HOUR AND THE OCCUPANCY SENSOR HAS CONFIRMED THAT ZONE HAS BEEN VACANT FOR 5 MINUTES (ADJUSTABLE: MAXIMUM 30 MINUTES), ZONE SHALL BE PLACED INTO VACANT MODE.
   b. RESET COOLING AND HEATING SETPOINTS UP AND DOWN BY 2°F (ADJUSTABLE) OR MORE.
   c. MINIMUM OUTDOOR AIR VENTILATION REQUIREMENTS IN THE ZONE NEED ONLY BE MAINTAINED 15 MINUTES OUT OF EVERY 60 MINUTES WHILE THE ZONE IS IN VACANT MODE.
   d. UPON DETECTION OF OCCUPANCY, VACANT MODE SHALL BE CLEARED.
8. ZONE PRE-OCCUPANCY PURGE
   a. THE EMS SHALL SCHEDULE THE ZONE TO BE IN OCCUPIED MODE ONE HOUR PRIOR TO THE ACTUAL TIME OF ANTICIPATED OCCUPANCY.
9. HEATING OPERATION
   a. THE CONTROLLER COMPARES THE HEATING SETPOINT WITH THE SPACE TEMPERATURE AND DETERMINES A NEED-HEATING CONTROL SIGNAL TO STAGE A GAS REGULATING VALVE ON THE UNIT.
   b. ECONOMIZER TO BE COMMANDED TO MIN CFM SETPOINT AND MECHANICAL COOLING TO BE LOCKED OUT DURING HEATING MODE.
10. COOLING OPERATION
   a. THE CONTROLLER COMPARES THE COOLING SETPOINT WITH THE SPACE TEMPERATURE AND DETERMINES A NEED-COOLING SIGNAL.
   b. THE FIRST STAGE OF COOLING WILL ENABLE THE ECONOMIZER TO PROVIDE FREE COOLING FOR AS LONG AS POSSIBLE.
   c. THE SECOND STAGE WILL ENABLE THE COMPRESSOR(S) TO MAINTAIN THE ROOM SET POINT.
   d. MECHANICAL HEATING TO BE LOCKED OUT DURING COOLING MODE.
11. FAULT DETECTION DIAGNOSTICS
   a. THE EMS DDC CONTROLLER SHALL MONITOR THE FOLLOWING ECONOMIZER ACTUATOR FAULT DETECTION DIAGNOSTIC CONDITIONS AND BROADCAST RESULTS VIA EMS NETWORK:
   i. TEMPERATURE SENSOR FAILURE/FAULT
   ii. ECONOMIZER NOT ECONOMIZING WHEN ENABLED
   iii. ECONOMIZER ECONOMIZING WHEN DISABLED
   iv. ECONOMIZER DAMPER MODULATION FAILURE
   v. EXCESS OUTDOOR AIR
12. MONITORING - THE FOLLOWING CONDITIONS SHALL BE MONITORED AND DISPLAYED AT EMS OPERATOR WORKSTATION/GRAPHICAL USER INTERFACE:
   a. SUPPLY AIR TEMPERATURE.
   b. ROOM TEMPERATURE.
   c. ROOM CO2 CONCENTRATION.
   d. ROOM OCCUPANCY STATUS.
   e. CURRENT MODE (HEATING/COOLING/FAN).
   f. SUPPLY AIR TEMPERATURE ATTAINED LAST TIME UNIT WAS IN HEATING.
   g. SUPPLY AIR TEMPERATURE ATTAINED LAST TIME UNIT WAS IN COOLING.
   h. CURRENT COMMAND STATUS OF FAN, ECONOMIZER, COMPRESSOR AND GAS VALVE.
   i. RUN TIME METERS ON FAN, COMPRESSOR, AND HEAT.
   j. FAN STATUS THRU CURRENT SWITCH.
   k. ECONOMIZER ACTUATOR FEEDBACK STATUS.

(A) PACKAGE AC UNIT W/ DEMAND CONTROL VENTILATION & OCCUPANCY MONITORING

SCALE: NONE

Energy Recovery Ventilator & 100% Outside Air

1. System Overview
   a. Each ERV unit will be directly controlled by its own dedicated EMS (Energy Management System) unitary controller.
   b. EMS unitary controller will be connected to a wall mounted electronic zone temperature sensor. Electronic zone temperature sensor shall have a touch screen LCD interface which includes: 1) digital pushbuttons for warmer/cooler setpoint control; 2) visual display of room temperature and ambient OSA temperature; and 3) digital pushbutton after-hours override timer control, with user adjustable duration. The after-hours override duration shall have the ability to be limited from the front-end.
2. Unit Fan Operation
   a. When the zone is in Occupied Mode or in Afterhours Mode, the fans shall run continuously.
   b. During the Unoccupied Mode as determined by EMS time schedule, the unit fan cycles with demand and the temperature is controlled by the unoccupied space temperature heating and cooling setpoints.
3. Temperature operation
   a. The controller compares the temperature setpoint with the space temperature and determines a need-heating or need cooling control signal to the LEV at the VRF coil.
4. Zone Pre-Occupancy Purge
   a. The EMS shall schedule the zone to be in Occupied Mode one hour prior to the actual time of anticipated occupancy.
7. Monitoring - The following conditions shall be monitored and displayed at EMS Operator Workstation/Graphical User Interface:
   a. Supply air temperature.
   b. Room temperature.
   c. Current command status of fan
   d. Fan Status thru Current Switch.



(A) ERV CONTROLS DIAGRAM

SCALE: NONE

MICROPROCESSOR CONTROLLER SEQUENCE OF OPERATION

MICROPROCESSOR CONTROLLER: CONTROLLER SHALL BE PROVIDED WITH REQUIRED SENSORS AND PROGRAMMING FOR ROOFTOP UNIT. CONTROLLER SHALL BE FACTORY PROGRAMMED, MOUNTED AND TESTED. CONTROLLER SHALL HAVE A LCD READOUT FOR CHANGING SET POINTS AND MONITORING UNIT OPERATION.

UNIT START COMMAND (UNIT WILL BE ENABLED TO START ONCE A JUMPER IS PLACED BETWEEN R TO G):
- FACTORY MOUNTED AND WIRED OUTDOOR AIR ARE POWERED
- EXHAUST FAN STARTS AFTER A (ADJ.) DELAY.
- SUPPLY FAN STARTS 15 SECONDS (ADJ.) AFTER THE EXHAUST FAN.
- TEMPERING OPTIONS AND ENERGY WHEEL OPTION TO FUNCTION AS DESCRIBED BELOW.

UNIT STOP COMMAND (OR DE-ENERGIZED):
- SUPPLY FAN, EXHAUST FAN, ENERGY WHEEL AND TEMPERING OPTIONS DE-ENERGIZED.
- OUTDOOR AIR DAMPER ACTUATOR IS SPRING RETURN CLOSE.

OCCUPIED/UNOCCUPIED MODES: SHALL BE BASED ON A 7-DAY TIME CLOCK INTERNAL TO THE CONTROLLER. THE SCHEDULE SHALL BE SET BY THE END USER. WHEN A USER INITIATES AN OVERRIDE INPUT, THE CONTROLLER WILL SWITCH FROM UNOCCUPIED TO OCCUPIED MODE. THE CONTROLLER WILL RETURN TO THE SCHEDULED OCCUPIED/UNOCCUPIED MODE AFTER THE OVERRIDE TIME HAS EXPIRED. IF INTERNAL TIME CLOCK IS DISABLED, A REMOTE CONTACT OR A BMS CAN CONTROL THE OCCUPIED/UNOCCUPIED MODE.

OCCUPIED MODE:
- DAMPER CONTROL PER BELOW.
- ENERGY WHEEL CONTROL PER BELOW.
- EXHAUST FAN ON.
- SUPPLY FAN ON.
- HEATING PER BELOW.
- COOLING PER BELOW.

UNOCCUPIED MODE (UNIT OFF): UNIT REMAINS OFF WHEN IN UNOCCUPIED MODE.
- SUPPLY FAN OFF
- EXHAUST FAN OFF
- TEMPERING OFF
- OUTDOOR AIR DAMPER CLOSED.

SUPPLY BLOWER SEQUENCE: THE SUPPLY BLOWER IS PROVIDED WITH A FACTORY MOUNTED VARIABLE FREQUENCY

THE SUPPLY BLOWER SPEED WILL BE CONTROLLED WITH THE FOLLOWING SEQUENCE.

CONSTANT VOLUME (ON/OFF): THE SUPPLY BLOWER WILL OPERATE AT A CONSTANT SPEED SET POINT (ADJ.) DURING OPERATION.

EXHAUST BLOWER SEQUENCE : THE EXHAUST BLOWER IS PROVIDED WITH A FACTORY MOUNTED VARIABLE FREQUENCY

THE EXHAUST BLOWER SPEED WILL BE CONTROLLED WITH THE FOLLOWING SEQUENCE.

- **CONSTANT VOLUME (ON/OFF):** THE EXHAUST BLOWER WILL OPERATE AT A CONSTANT SPEED SET POINT (ADJ.) DURING OPERATION.

COOLING SEQUENCE: THE COOLING IS CONTROLLED TO MAINTAIN THE SUPPLY TEMPERATURE SET POINT. THE MECHANICAL COOLING WILL BE LOCKED OUT WHEN THE OUTSIDE AIR IS < 55 F (ADJ.).

AIR-SOURCE HEAT PUMP: THE CONTROLLER WILL PROVIDE A MODULATING SIGNAL FOR COOLING. FROM 0-100%. THE INVERTER SCROLL WILL BE CONTROLLED TO MAINTAIN DISCHARGE TEMPERATURE. THE ELECTRONIC EXPANSION VALVE WILL MODULATE TO MAINTAIN 8 F OF SUPERHEAT.

MODULATING HOT GAS REHEAT SEQUENCE: DURING DEHUMIDIFICATION THE MODULATING HGRH IS CONTROLLED TO MAINTAIN THE SUPPLY TEMPERATURE SET POINT.

MODULATING HEAD PRESSURE CONTROL: LEAD CONDENSER FAN WILL HAVE AN EC MOTOR AND WILL MODULATE TO MAINTAIN A HEAD PRESSURE SET POINT.

DEHUMIDIFICATION SEQUENCE: THE COOLING IS CONTROLLED TO MAINTAIN THE COOLING-COIL SET POINT. THE DEHUMIDIFICATION SEQUENCE WILL BE LOCKED OUT WHEN THE OA IS < 10 F ABOVE THE COLD-COIL SET POINT.
COLD COIL SET POINT RESET FUNCTION: THE CONTROLLER WILL CONTROL THE COOLING TO MAINTAIN AN ACTIVE SET POINT. THE ACTIVE SET POINT WILL SET TO LOCAL CONTROL (55 F, ADJ.) FROM THE FACTORY AND CAN BE FIELD ADJUSTED TO THE FOLLOWING SEQUENCE.

BMS CONTROL: THE CONTROLLER WILL ADJUST THE COLD COIL LEAVING AIR TEMPERATURE SET POINT BETWEEN THE MINIMUM (ADJ.) AND THE MAXIMUM (ADJ.) SET POINTS, TO SATISFY THE DESIRED BMS SET POINT FOR DEHUMIDIFICATION.

REHEAT SEQUENCE: WHILE THE UNIT IS IN DEHUMIDIFICATION MODE, THE OUTDOOR AIR CAN BE REHEATED VIA PRIMARY HEATING SOURCE, ON/OFF HOT GAS REHEAT OR MODULATING HOT GAS REHEAT FOR SPACE NEUTRAL APPLICATIONS.

MODULATING HOT GAS REHEAT: THE CONTROLLER WILL MODULATE THE HOT GAS REHEAT REHEAT VALVE WITH A 0-10 V SIGNAL TO MAINTAIN THE SUPPLY TEMPERATURE SET POINT (ADJ.).

PRIMARY HEATING SEQUENCE: THE AIR-SOURCE HEAT PUMP IS CONTROLLED TO MAINTAIN THE SUPPLY TEMPERATURE SET POINT. HEATING WILL BE LOCKED OUT WHEN THE OUTSIDE AIR IS > 80 F (ADJ.). THE AIR-SOURCE HEAT PUMP WILL BE LOCKED OUT WHEN OUTSIDE TEMPERATURES ARE < 10 F.

AIR-SOURCE HEAT PUMP: THE CONTROLLER WILL PROVIDE A MODULATING SIGNAL FOR HEATING. FROM 0-100%. THE INVERTER SCROLL WILL BE CONTROLLED TO MAINTAIN DISCHARGE TEMPERATURE. THE ELECTRONIC EXPANSION VALVE WILL MODULATE TO MAINTAIN 8 F OF SUPERHEAT.

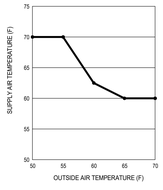
SECONDARY HEATING SEQUENCE:IF THE AIR-SOURCE HEAT PUMP CANNOT MEET THE SUPPLY TEMPERATURE SET POINT, THE SECONDARY HEATING SOURCE WILL ACTIVATE AND WORK IN CONJUNCTION WITH THE AIR-SOURCE HEAT PUMP.

ELECTRIC HEATER: THE CONTROLLER WILL MODULATE AN ELECTRIC HEATER TO MAINTAIN THE SUPPLY TEMPERATURE SET POINT (ADJ.).

SUPPLY SET POINT RESET FUNCTION. THE CONTROLLER WILL MODULATE THE HEATING AND COOLING TO MAINTAIN AN ACTIVE SET POINT.

OUTSIDE (OA) RESET: THE CONTROLLER WILL MONITOR THE OUTDOOR AIR TEMPERATURE AND ADJUSTS THE DESIRED SUPPLY TEMPERATURE SET POINT ACCORDINGLY. FOR EXAMPLE, WHEN THE OUTDOOR AIR IS BELOW 55 F, THE CONTROLLER WILL CHANGE THE SUPPLY SET POINT TO 70 F. IF THE OUTDOOR AIR IS ABOVE 65 F, THE CONTROLLER WILL CHANGE THE SUPPLY SET POINT TO 55 F. IF THE OUTDOOR AIR TEMPERATURE IS BETWEEN 55 F AND 65 F, THE SUPPLY SET POINT CHANGES ACCORDING TO THE OUTDOOR AIR RESET FUNCTION. A VISUAL REPRESENTATION OF THIS IS SHOWN BELOW.

OUTDOOR AIR RESET FUNCTION



LOCAL (SUPPLY TEMP CONTROL): THE SUPPLY SET POINT WILL BE A CONSTANT TEMPERATURE SET FROM THE CONTROLLER (ADJ.).

BUILDING FREEZE PROTECTION: IF THE SUPPLY AIR TEMPERATURE DROPS BELOW 35 F (ADJ.) FOR 3005 (ADJ.), THE CONTROLLER WILL DE-ENERGIZE THE UNIT AND ACTIVATE THE ALARM OUTPUT AFTER A PRESET TIME DELAY.

TEMPERATURE PROTECTION: THE CONTROLLER WILL ENABLE THE SUPPLY FAN TO MODULATE DOWN TO HELP THE UNIT KEEP UP WITH HEATING DEMAND IN THE EVENT OF WHEEL FAILURE OR THE UNIT OPERATING OUTSIDE DESIGN CONDITIONS. (THIS CAN BE ENABLED UNDER THE MANUFACTURER MENU IN THE CONTROLLER)

ALARMS INDICATION: THE CONTROLLER WILL DISPLAY ALARMS AND HAVE ONE DIGITAL OUTPUT FOR REMOTE INDICATION OF AN ALARM CONDITION. POSSIBLE ALARMS INCLUDE:

DIRTY WHEEL ALARM: THE CONTROLLER MONITORS PRESSURE ACROSS THE WHEEL AND SENDS AN ALARM IN THE CASE OF AN INCREASED PRESSURE DROP.

SUPPLY AND EXHAUST AIR ALARM: THE CONTROLLER MONITORS THE PROVING SWITCH ON EACH BLOWER AND SENDS AN ALARM IN THE CASE OF EITHER BLOWER PROVING SWITCH NOT ENGAGING.

TEMPERATURE SENSOR ALARM: THE CONTROLLER SENDS AN ALARM IN THE CASE OF A FAILED AIR TEMPERATURE SENSOR.

OPTIONAL ACCESSORIES: THE FOLLOWING ACCESSORIES WILL BE INCLUDED WITH THE UNIT TO EXPAND THE FUNCTIONALITY OR USABILITY OF THE CONTROLLER.

PHASE AND BROWNOUT PROTECTION: FACTORY MOUNTED AND WIRED COMPONENT WHICH MONITORS THE MAIN POWER COMING INTO THE UNIT. IF A PHASE DROPS OUT, OR IF THE INCOMING VOLTAGE EXCEEDS THE ACCEPTABLE RANGE, THE COMPONENT WILL TURN OFF THE UNIT TO HELP PROTECT THE ELECTRICAL SYSTEMS.

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APP: 01-119033 INC:
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DATE: 12/04/2020

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3274 Villa Lane Napa, CA 94558 ph: 707-252-9177 fax: 707-252-6473
REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER J. DEL CASTILLO No. 38600 Exp. 12-31-20 MECHANICAL STATE OF CALIFORNIA

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2nd STREET
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033
ARCH PROJECT NO: 1783.00
DRAWN BY: Author
DRAWING SCALE:
PTN: 61721-75 FILE NO: 7-H4
CD
DECEMBER 2, 2020
SHEET TITLE

CONTROL DIAGRAMS

SHEET NUMBER

M-6.2

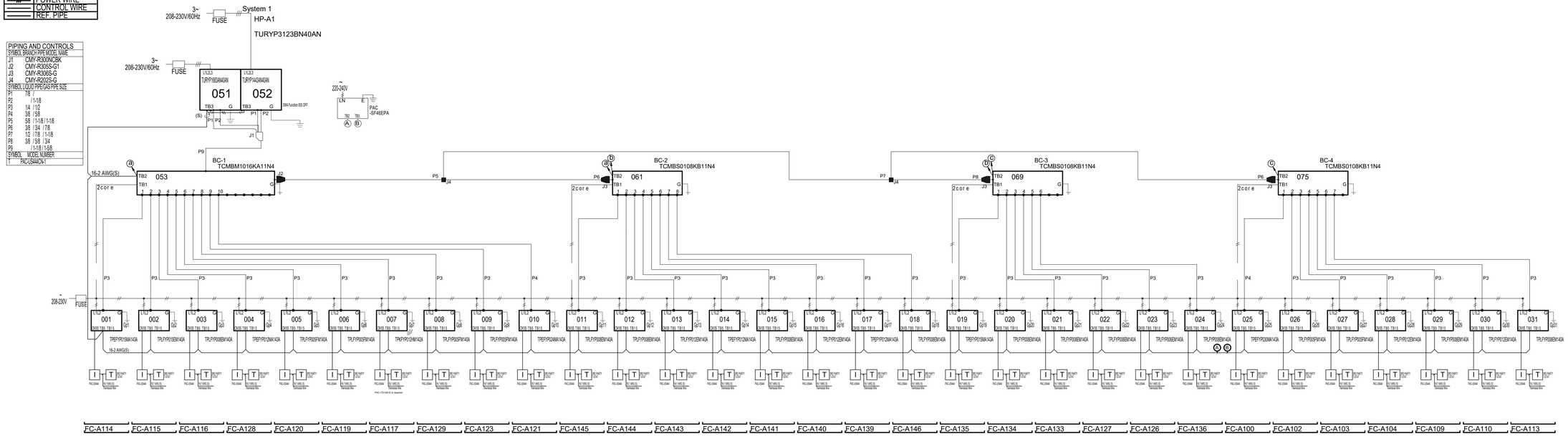
DIAGRAM SYMBOL LEGEND	
DISPLAY	DESCRIPTION
###	POWER WIRE
═══	CONTROL WIRE
═══	REF. PIPE

CONT.No	PAGE

CITY MULTI
SYSTEM SCHEMATIC DWG.

Additional refrigerant charge is needed depending on the size and length of extended piping. Please refer the amount of pre-charge and the formula of calculation which is mentioned on the data book.
1.25mm(16 AWG) : 1.25mm(16 AWG) or more. 0.75mm(20 AWG) : between 0.5mm(24 AWG) and 0.75mm(20 AWG).

PIPING AND CONTROLS	
SYMBOL	BRANCH PIPE MODEL NAME
J1	CMY-R300NCBK
J2	CMY-R305S-G1
J3	CMY-R306S-G
J4	CMY-R202S-G
SYMBOL	LIQUID PIPE/GAS PIPE SIZE
P1	7/8 /
P2	/ 1-1/8
P3	1/4 / 1/2
P4	3/8 / 5/8
P5	5/8 / 1-1/8 / 1-1/8
P6	3/8 / 3/4 / 7/8
P7	1/2 / 7/8 / 1-1/8
P8	3/8 / 5/8 / 3/4
P9	/ 1-1/8 / 1-1/8
SYMBOL	MODEL NUMBER
T	PAC-US444CN-1



REMARKS
Originator: Jason Lykam
Comments:

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Mitsubishi Electric
Diamond System Builder
6/22/2020
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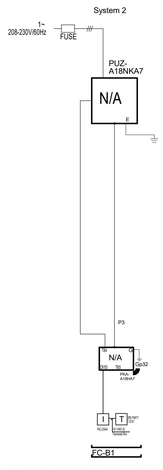
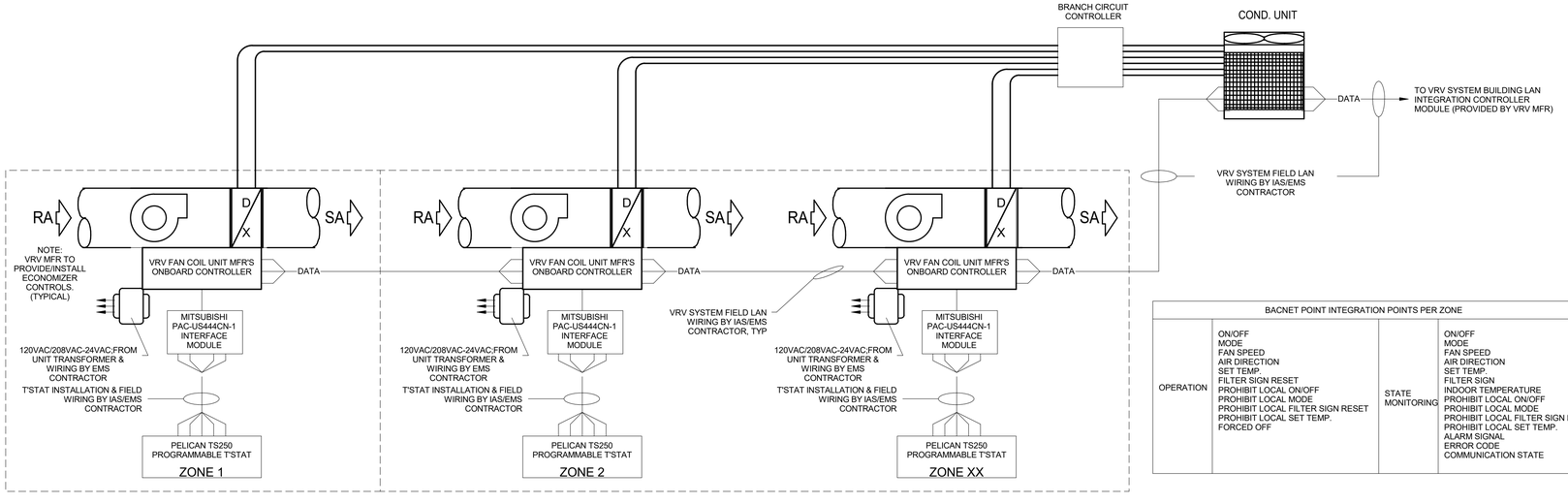
(A) MITSUBISHI VRF PIPING SYSTEM
SCALE: NONE



(B) MITSUBISHI SINGLE SPLIT SYSTEM
SCALE: NONE



BACNET POINT INTEGRATION POINTS PER ZONE			
OPERATION	ON/OFF MODE FAN SPEED AIR DIRECTION SET TEMP. FILTER SIGN RESET PROHIBIT LOCAL ON/OFF PROHIBIT LOCAL MODE PROHIBIT LOCAL FILTER SIGN RESET PROHIBIT LOCAL SET TEMP. FORCED OFF	STATE MONITORING	ON/OFF MODE FAN SPEED AIR DIRECTION SET TEMP. FILTER SIGN INDOOR TEMPERATURE PROHIBIT LOCAL ON/OFF PROHIBIT LOCAL MODE PROHIBIT LOCAL FILTER SIGN RESET PROHIBIT LOCAL SET TEMP. ALARM SIGNAL ERROR CODE COMMUNICATION STATE

(C) MITSUBISHI VRF CONTROL DIAGRAM
SCALE: NONE

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DECEMBER 2, 2020

SHEET TITLE

PIPING DIAGRAMS

SHEET NUMBER

M-6.3

GAS WATER HEATER SCHEDULE

MARK	MFR	MODEL NO	GAS INPUT	EFFICIENCY	STORAGE CAPACITY	RECOVERY @ 60°F	V-Ø-HZ	OPER. WEIGHT	REMARKS
GWH B1	A.O. SMITH	BTH-150	150000 Btu/h	98%	100 gal	297 gal/h	120-1-60	1357 lb	1-3

REMARKS:
1. FACTORY INSTALLED AUTOMATIC TEMPERATURE CONTROL WITH SAFETY CUTOFF TO PREVENT OVERHEATING.
2. INSTALL DHWR CIRCULATOR PUMP 120V-1-60HZ, AQUA-STAT AND CONCENTRIC FLUE
3. PROVIDE FACTORY INSTALLED AUTOMATIC TEMPERATURE CONTROL WITH SAFETY CUTOFF TO PREVENT OVERHEATING
4. PROVIDE WITH CONDENSATE NEUTRALIZATION KIT

PLUMBING FIXTURE SCHEDULE

MARK	W	V	CW	HW	REMARKS
P-1	4"	2"	1 1/2"		WALL MOUNTED WATER CLOSET
P-1B	4"	2"	1 1/2"		FLOOR MOUNTED WATER CLOSET ADA
P-2	2"	1 1/2"	3/4"	3/4"	WALL MOUNTED LAVATORY (SAD FOR MOUNTING HEIGHT)
P-2A	0"	0"	0"	3/4"	WALL MOUNTED LAV (S.A.D.FOR MOUNTING HEIGHT)
P-4	2"	1 1/2"	3/4"	3/4"	FLOOR MOUNTED JANITOR SINK
RD					ROOF DRAIN SEE PLAN FOR PIPE SIZES
FS	2"	1 1/2"			FLOOR SINK
FD	2"	1 1/2"			FLOOR DRAIN
HS-1			3/4"	3/4"	HOSE STATION WITH MIXING TEMPERED VALVE AND 4X NEMA ENCLOUSURE.
HB-2			3/4"		

CW FIXTURES AND VALVES SHALL BE AB1953 COMPLIANT.

ELECTRIC WATER HEATER SCHEDULE

MARK	MANUF.	MODEL	TYPE	STORAGE CAPACITY	RECOVERY @ 60F° RISE	ELECTRICAL V-Ø-HZ	ELECTRICAL No. Elements	ELECTRICAL WATTS	OPER. WEIGHT	LOCATION	Remarks
EWH A1	A.O. SMITH	DEL 40	TANK	40 gal		120-1-60	2	4,500 W	447.00 lb		2,3
EWH B1	CHONOMITE	ER-90L/203_3P	INSTANTANEOUS			208-3-60		18,700 W	26.00 lb	TRASH ENCLOSURE	1-2

REMARKS:
1. PROVIDE WITH MANUFACTURES NEMA 4X CABINET AND INSTALL IN NEMA 4 ENCLOSURE.
2. PROVIDE FACTORY INSTALLED AUTOMATIC TEMPERATURE CONTROL WITH SAFETY CUTOFF TO PREVENT OVERHEATING.
3. INSTALL DHWR CIRCULATOR PUMP 120V-1-60HZ, AQUA-STAT.

GREASE INTERCEPTOR

MARK	MFR	MODEL NO	FLOW RATE	STORAGE CAPACITY	WEIGHT	REMARKS
GI B1	ZURN	GMC 1000 FL	200 GPM	1000 gal	9100.00 lb	1, 2

REMARKS:
1. SEE DETAIL- D/P-5.2
2. WEIGHT INCLUDES FULL CONTENTS

GREASE INTERCEPTOR CALCULATIONS

EQUIPMENT	DFU	QTY	QTY
COMBI OVEN	2	1	2
PREP SINK	2	1	2
2 COMP PREP SINK	4	1	4
3 COMP PREP SINK	4	1	4
4 COMP UTENSIL SINK	4	1	4
SOILED DISH TABLE	2	1	2
CONDENSATE FROM EVAP FREEZER	2	1	2
CONDENSATE FROM EVAP COOLER	2	1	2
ICE MACHINE	2	1	2
VENTLESS DISHWASHER	2	1	2
TOTAL GPH			26

CALCULATIONS

- MAXIMUM DRAINAGE FIXTURE UNIT VALUES OBTAINED FROM 2019 CPS TABLE 702.1 IN ACCORDANCE WITH 2019 CPC EXAMPLE 1014.3.6
- GRAVITY GREASE INTERCEPTOR VOLUME SIZING AS DICTATED BY 2019 CPC TABLE 1014.3.6 IN ACCORDANCE WITH 2019 CPC EXAMPLE 1014.3.6.

MAXIMUM DRAINAGE FIXTURE UNIT FOR KITCHEN GREASE WASTE

26 DFU = 1000 GALLON INTERCEPTOR VOLUME*

ROOF EQUIPMENT GAS CALCULATIONS

EQUIPMENT	MBH	PIPE SIZE	SEGMENT	SEGMENT LENGTH
AC-1	180	3/4	A-B	50.25 FEET
AC-2	180	3/4	C-B	8.16 FEET
AC-3	60	3/4	E-F	58.91 FEET
MAU-2	150	3/4	G-F	9.25 FEET
MAU-1	150	3/4	I-H	2.66 FEET
AC-4	60	3/4	J-K	6.5 FEET
TOTAL MBH	780			

CALCULATIONS

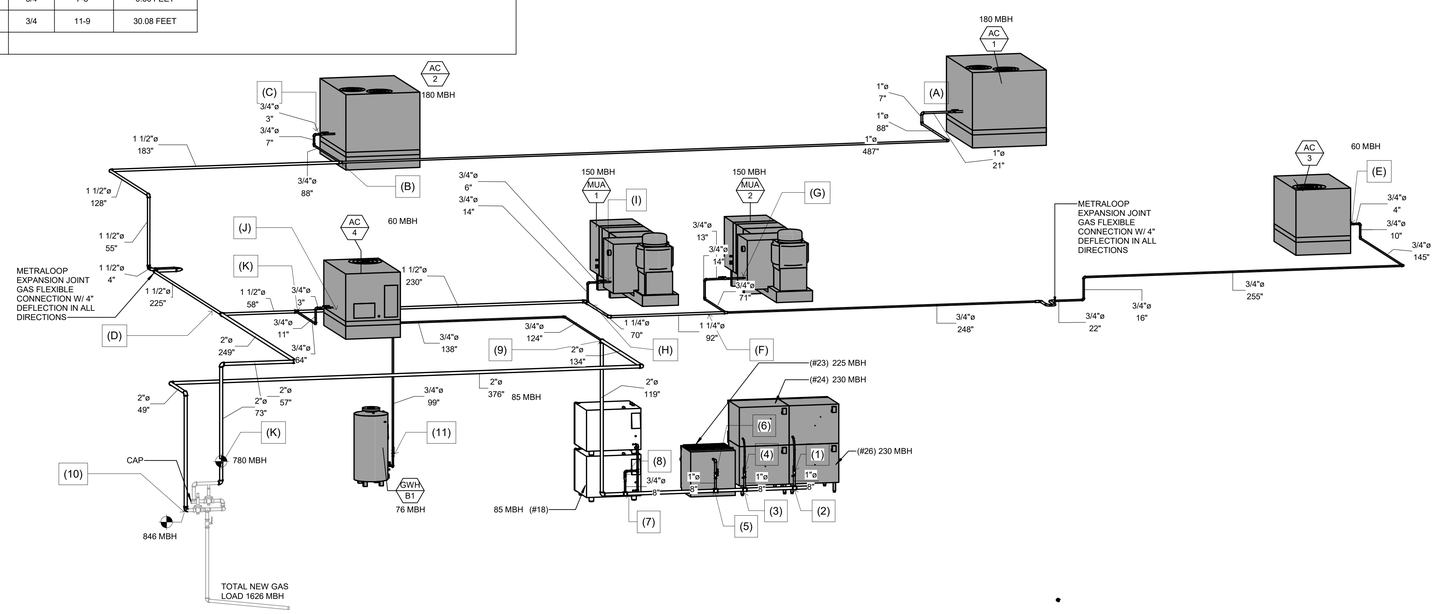
- LOW PRESSURE (7" W.C.) VALUES OBTAINED FROM 2016 CPS TABLE 1219.2(1)
- PIPE MATERIAL: SCH 40 METALLIC

KITCHEN EQUIPMENT GAS CALCULATIONS

EQUIPMENT	MBH	PIPE SIZE	SEGMENT	SEGMENT LENGTH
ITEM # 26 D STACK CONVECTION OVEN	230	1	1-2	0.66 FEET
ITEM # 24 D STACK CONVECTION OVEN	230	1	4-3	0.66 FEET
ITEM # 23 6-BURNER	225	1	6-5	0.66 FEET
ITEM # 19 COMBI-OVEN	85	3/4	7-8	0.66 FEET
GWH B-1	76	3/4	11-9	30.08 FEET
TOTAL MBH	846			

CALCULATIONS

- LOW PRESSURE (7" W.C.) VALUES OBTAINED FROM 2016 CPS TABLE 1219.2(1)
- PIPE MATERIAL: SCH 40 METALLIC



1 GAS ISOMETRIC

Applicable Code: 2019 CBC 02/05/2020 Revised: 02/14/2020

MEP Componet Anchorage Note

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

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

The following mechanical and electrical components shall be positively attached to the structure but need not demonstrate design compliance with the references noted above. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit. Flexible connections must allow movement in both trasverse and longitudinal directions:

A. Components weighing less than 400 pounds and having a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.

B. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

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

Piping, Ductwork, and Electrical Distribution System Bracing Note

Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-16 Section 13.3 as defined in ASCE 7-16 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.

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

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

MP☐ MD☐ PP☒ E☐ Option 1: Detailed on the approved drawings with project specific notes and details

MP☐ MD☐ PP☒ E☐ Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM #) #OPM-0043-13

PLUMBING LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
X		EQUIPMENT TYPE
X		EQUIPMENT NUMBER
X / X-X		DETAIL / DRAWING NUMBER / SHEET NUMBER
X-XX		FIXTURE TYPE/NUMBER
	(N)	NEW PLUMBING AND PIPING SHOWN HEAVY
	(E)	EXISTING PLUMBING AND PIPING SHOWN LIGHT
	SS	SANITARY WASTE ABOVE GROUND
	SS	SANITARY WASTE BELOW GROUND
GW	GW	GREASE WASTE BELOW GROUND
	V	VENT PIPE
	DCW	COLD WATER PIPE
	DHW	HOT WATER PIPE
	DHWR	HOT WATER RETURN PIPE
110°	110°	TEMPERED HOT WATER PIPE
CD	CD	CONDENSATE DRAIN
FW	FW	FILTERED WATER
G	G	NATURAL GAS PIPE
ID	ID	INDIRECT WASTE
RVD	RVD	RELIEF VALVE DISCHARGE
RWL	RWL	RAIN WATER LEADER
OD	OD	OVERFLOW DRAIN PIPE
VAC	VAC	VACUUM LINE
	GV	GATE VALVE
		GLOBE VALVE
	BV	BALL VALVE
	BFV	BUTTERFLY VALVE
	CV	CHECK VALVE
		BALANCING VALVE
		GAS COCK OR STOP
	PRV	PRESSURE REDUCING VALVE
	TV	TEMPERING VALVE
		STRAINER
		UNION
		PRESSURE GAUGE AND COCK
	P	PUMP
		THERMOMETER
	CO	CLEANOUT
	WCO	WALL CLEANOUT
	FCO	FLOOR CLEANOUT
	COTG	CLEANOUT TO GRADE
		PRESSURE GUAGE WELL ONLY (PETE'S PLUG)
	HB	HOSE BIBB
		PIPE UP
		PIPE DOWN
		BRANCH TOP CONNECTION
		BRANCH BOTTOM CONNECTION
		BRANCH SIDE CONNECTION
		CAP ON END OF PIPE
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		VALVE IN RISER
		POINT OF CONNECTION
		POINT OF DEMOLITION
		CENTER LINE
	AFF	ABOVE FINISHED FLOOR
	AFG	ABOVE FINISHED GRADE
	AP	ACCESS PANEL
	BFF	BELOW FINISHED FLOOR
	CI	CAST IRON
	COTG	CLEANOUT TO GRADE
	DMV	DRAIN, WASTE, AND VENT
	DN	DOWN
	DW	DISHWASHER
	DWG	DRAWING
	(E)	EXISTING
	FCO	FLOOR CLEANOUT
	IE	INVERT ELEVATION
	IW	INDIRECT WASTE
	MFR	MANUFACTURER
	(N)	NEW
	NIC	NOT IN CONTRACT
	NTS	NOT TO SCALE
	SA	SHOCK ABSORBER
	SAD	SEE ARCHITECTURAL DRAWINGS
	SCD	SEE CIVIL DRAWINGS
	SED	SEE ELECTRICAL DRAWINGS
	SMD	SEE MECHANICAL DRAWINGS
	SSD	SEE STRUCTURAL DRAWINGS
	TYP	TYPICAL
	UMC	UNIFORM MECHANICAL CODE
	UPC	UNIFORM PLUMBING CODE
	UNO	UNLESS NOTED OTHERWISE
	V	VENT
	VTR	VENT THROUGH ROOF
	WCO	WALL CLEANOUT
	WA	WATER HAMMER ARRESTOR

BLDG 'PLUMBING' SHEET LIST

P-1.1	PLUMBING SCHEDULES & LEGENDS
P-A2.0	ADMINISTRATION DEMOLITION PLUMBING PLAN
P-B2.0	CAFETERIA PLUMBING DEMOLITION FLOOR PLAN
P-B3.0	CAFETERIA DEMOLITION ENLARGEMENT PLANS
P-B4.0	CAFETERIA ROOF DEMOLITION PLAN
P-A2.1	ADMINISTRATION PLUMBING WASTE & VENT PLAN
P-A2.2	ADMINISTRATION PLUMBING WATER AND GAS PLAN
P-A4.1	ADMINISTRATION PLUMBING ROOF PLAN
P-B2.1	CAFETERIA PLUMBING FLOOR PLAN
P-B3.1	CAFETERIA WASTE & VENT KITCHEN ENLARGEMENT
P-B3.2	CAFETERIA WATER & GAS KITCHEN ENLARGEMENT
P-B4.1	CAFETERIA PLUMBING ROOF PLAN
P-5.1	PLUMBING DETAILS
P-5.2	PLUMBING DETAILS

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SHEET TITLE

PLUMBING SCHEDULES & LEGENDS

SHEET NUMBER

P-1.1

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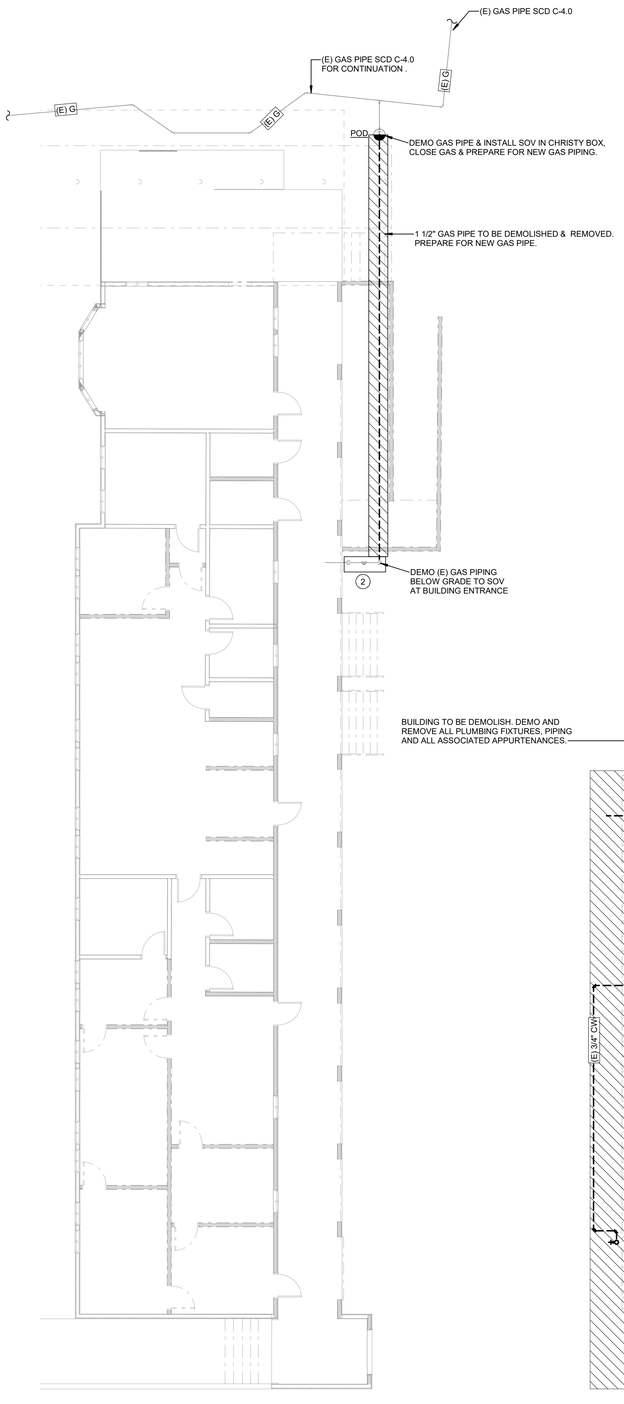
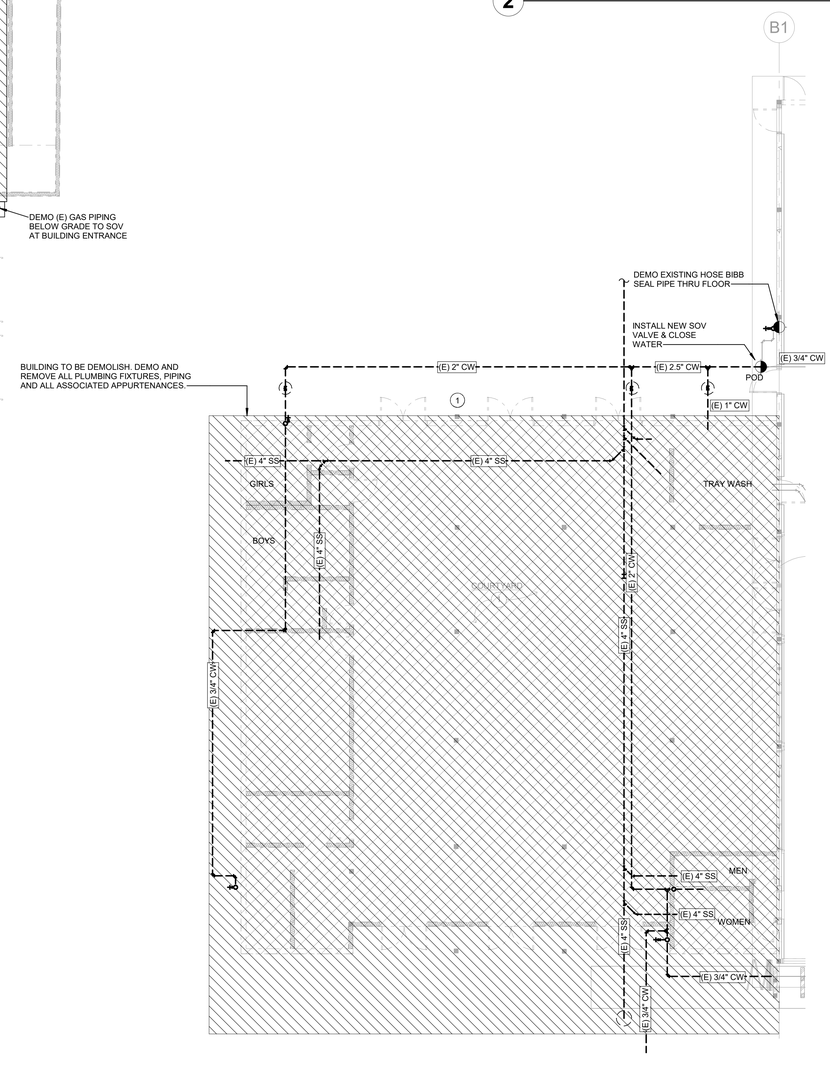


PLUMBING DEMOLITION ADMINISTRATION PLAN 1

1/8" = 1'-0"

2 ADMINISTRATION BLDG GAS ENTRANCE

NTS



GENERAL NOTES

1. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-1.1
2. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL WORK WITH OTHER TRADES.
3. THIS CONTRACTOR SHALL RETAIN SPECIFIC EQUIPMENT AS DIRECTED BY OWNER AND DELIVER TO OWNER SPECIFIED LOCATION.
4. ALL EQUIPMENT, MECHANICAL EQUIPMENT, PIPING, VALVING, CONTROLS, ETC. RENDERED USELESS BY THIS WORK SHALL BE DEMOLISHED AND REMOVED FROM THE SITE
5. LOCATION OF EXISTING MECHANICAL EQUIPMENT, DUCTWORK, AIR OUTLETS, PIPING, CONTROLS, VALVING, ETC. HAS BEEN BASED ON THE BEST AVAILABLE INFORMATION OBTAINABLE AT THE SITE AND THROUGH RECORD DRAWINGS. VERIFY EXACT LOCATIONS, SIZES, AND EXTENT OF EXISTING SYSTEMS PRIOR TO START OF DEMOLITION WORK
6. PATCH ALL WALLS, CEILINGS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS.
7. ASBESTOS CONTAINING PRODUCTS MAY BE PRESENT IN THE EXISTING BUILDING CONSTRUCTION. IF SUSPECT MATERIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE FOR INSTRUCTIONS PRIOR TO PROCEEDING WITH ADDITIONAL WORK. THE CONTRACTOR SHALL IMMEDIATELY POST NOTICES AND TAKE PRECAUTIONS NECESSARY TO ENSURE THE HEALTH AND SAFETY OF ALL WORKERS, THE STAFF, AND THE PUBLIC.
8. TEMPORARY CAP EXISTING OPEN DUCT REMOVE FROM REGISTERS DURING CONSTRUCTION. PREPARE DUCT FOR RECONNECTION.
9. PROVIDE PRE BALANCE REPORT AT REGISTERS SHOWN ON PLAN. PRE-BALANCE REPORT SHALL BE USED FOR REFERENCE FOR FINAL BALANCE REPORT.

SHEET NOTES

1. DEMOLISH ALL PLUMBING FIXTURES, PIPING AND ALL ASSOCIATED APPURTENANCES IN AREA
2. EXISTING GAS ENTRANCE WITH GAS REGULATOR AND GAS SHUT OFF VALVE TO REMAIN. PROTECT AND GUARD WITH VAULT AROUND. PROVIDE SINAGE FOR EMERGENCY GAS SHUTOFF VALVE. SAD

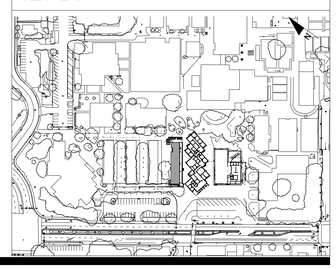
WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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ADMINISTRATION DEMOLITION PLUMBING PLAN

SHEET NUMBER

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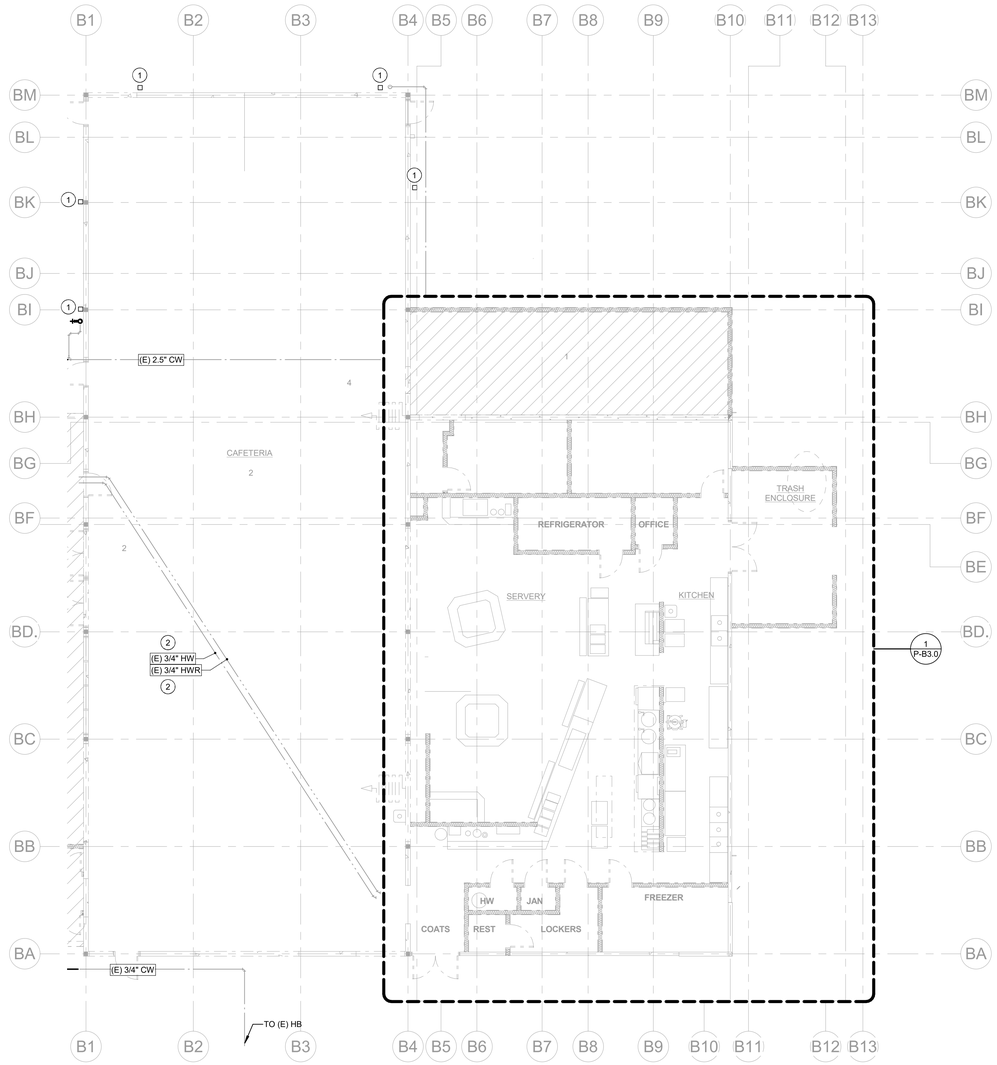


PLUMBING CAFETERIA BLDG DEMOLITION PLAN 1

1/8" = 1'-0"

GENERAL DEMO NOTES

1. FOR PLUMBING GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET P-1.1
2. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE PLUMBING WORK WITH OTHER TRADES.
3. THIS CONTRACTOR SHALL RETAIN SPECIFIC EQUIPMENT AS DIRECTED BY OWNER AND DELIVER TO OWNER SPECIFIED LOCATION.
4. ALL EQUIPMENT RENDERED USELESS BY THIS WORK SHALL BE DEMOLISHED AND REMOVED FROM THE SITE.
5. LOCATION OF EXISTING PLUMBING EQUIPMENT, FIXTURES, PIPE SIZES, PIPE SYSTEM ETC. HAS BEEN BASED ON THE BEST AVAILABLE INFORMATION OBTAINABLE AT THE SITE AND THROUGH RECORD DRAWINGS. VERIFY EXACT LOCATIONS, SIZES, AND EXTENT OF EXISTING SYSTEMS PRIOR TO START OF DEMOLITION WORK.
6. PATCH ALL WALLS, CEILINGS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS.
7. ASBESTOS CONTAINING PRODUCTS MAY BE PRESENT IN THE EXISTING BUILDING CONSTRUCTION. IF SUSPECT MATERIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE FOR INSTRUCTIONS PRIOR TO PROCEEDING WITH ADDITIONAL WORK. THE CONTRACTOR SHALL IMMEDIATELY POST NOTICES AND TAKE PRECAUTIONS NECESSARY TO ENSURE THE HEALTH AND SAFETY OF ALL WORKERS, THE STAFF, AND THE PUBLIC.

SHEET NOTES

1. (E) RWL SPILLED ON SLAB OR CONCRETE SPLASH BLOCK & ALL ASSOCIATED APPURTENANCES
2. CAP PIPE AND ABANDON IN PLACE

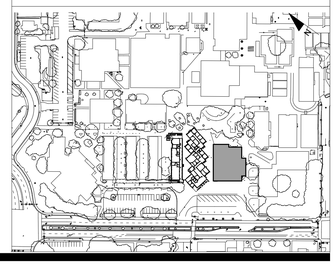
WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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SHEET TITLE

CAFETERIA PLUMBING DEMOLITION FLOOR PLAN

SHEET NUMBER

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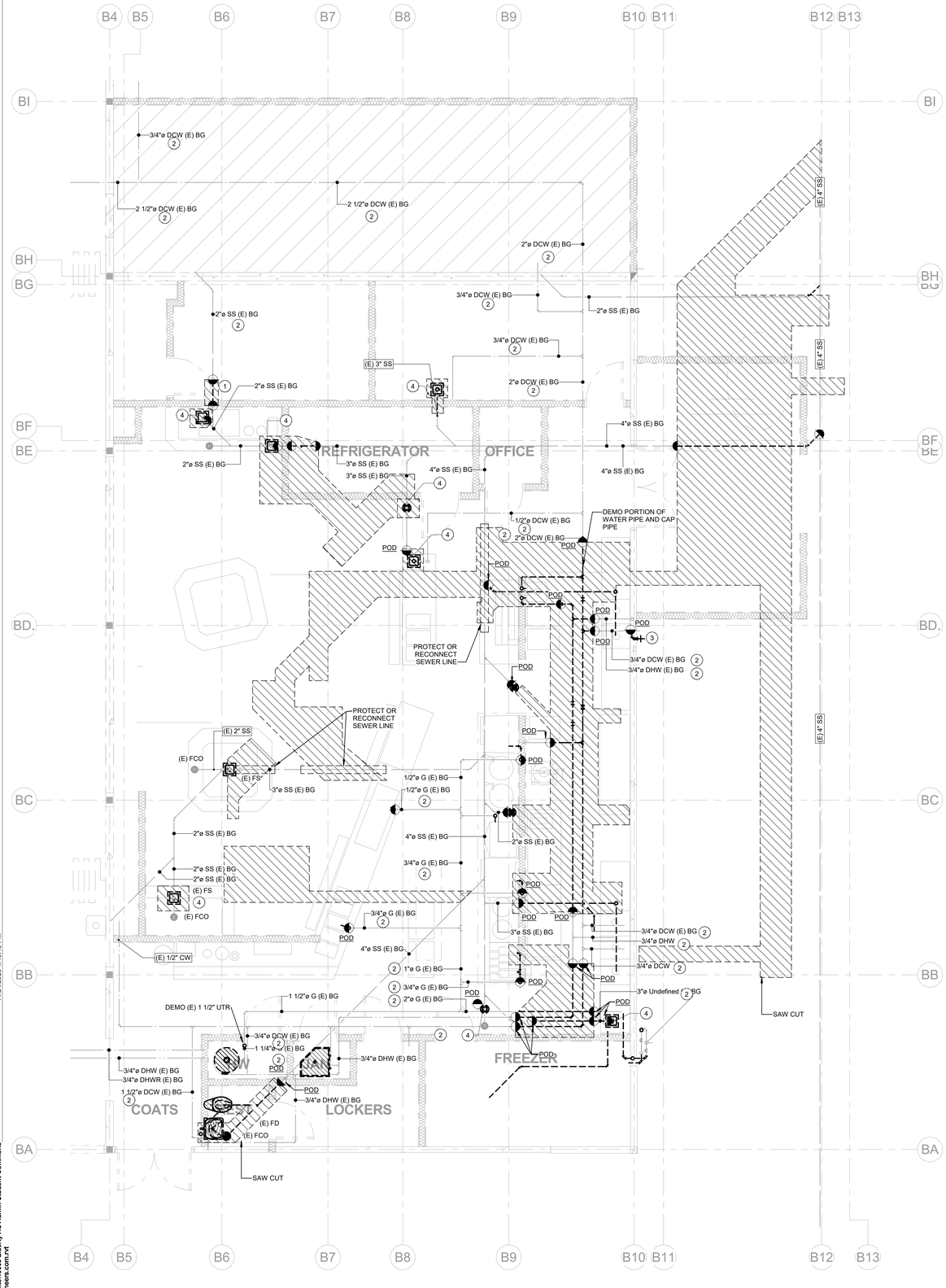
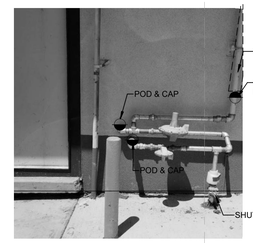


PLUMBING CAFETERIA BLDG DEMOLITION PLAN - ENLARGEMENT (1)

1/4" = 1'-0"



(3) KITCHEN GAS ENTRANCE
1/2" = 1'-0"

GENERAL DEMO NOTES

1. FOR PLUMBING GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET P-1.1
2. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE PLUMBING WORK WITH OTHER TRADES.
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4. ALL EQUIPMENT RENDERED USELESS BY THIS WORK SHALL BE DEMOLISHED AND REMOVED FROM THE SITE.
5. LOCATION OF EXISTING PLUMBING EQUIPMENT, FIXTURES, PIPE SIZES, PIPE SYSTEM ETC. HAS BEEN BASED ON THE BEST AVAILABLE INFORMATION OBTAINABLE AT THE SITE AND THROUGH RECORD DRAWINGS. VERIFY EXACT LOCATIONS, SIZES, AND EXTENT OF EXISTING SYSTEMS PRIOR TO START OF DEMOLITION WORK.
6. PATCH ALL WALLS, CEILINGS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS.
7. ASBESTOS CONTAINING PRODUCTS MAY BE PRESENT IN THE EXISTING BUILDING CONSTRUCTION. IF SUSPECT MATERIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE FOR INSTRUCTIONS PRIOR TO PROCEEDING WITH ADDITIONAL WORK. THE CONTRACTOR SHALL IMMEDIATELY POST NOTICES AND TAKE PRECAUTIONS NECESSARY TO ENSURE THE HEALTH AND SAFETY OF ALL WORKERS, THE STAFF, AND THE PUBLIC.

SHEET NOTES

(1) SAW CUT, DEMO, CAP PIPE AND ABANDOND PIPE BELOW GRADE. PATH CONCRETE.

(2) ABANDOND PIPE BELOW GRADE.

(3) REMOVE (E) HOSE BIBB & ABANDOND PIPE BELOW GRADE.

(4) SAW CUT, DEMO & REMOVE FLOOR SINK OR FLOOR DRAIN. REPAIR SEWER PIPE FOR FUTURE USE & PATCH CONCRETE FLOOR

(5) REMOVE (E) GAS WATER HEATER & ALL ASSOCIATED APPURTENANCES.

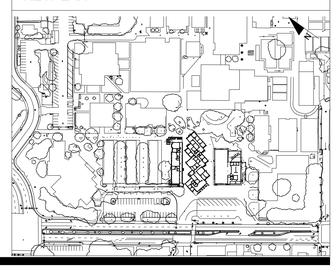
WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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CAFETERIA DEMOLITION ENLARGEMENT PLANS

SHEET NUMBER

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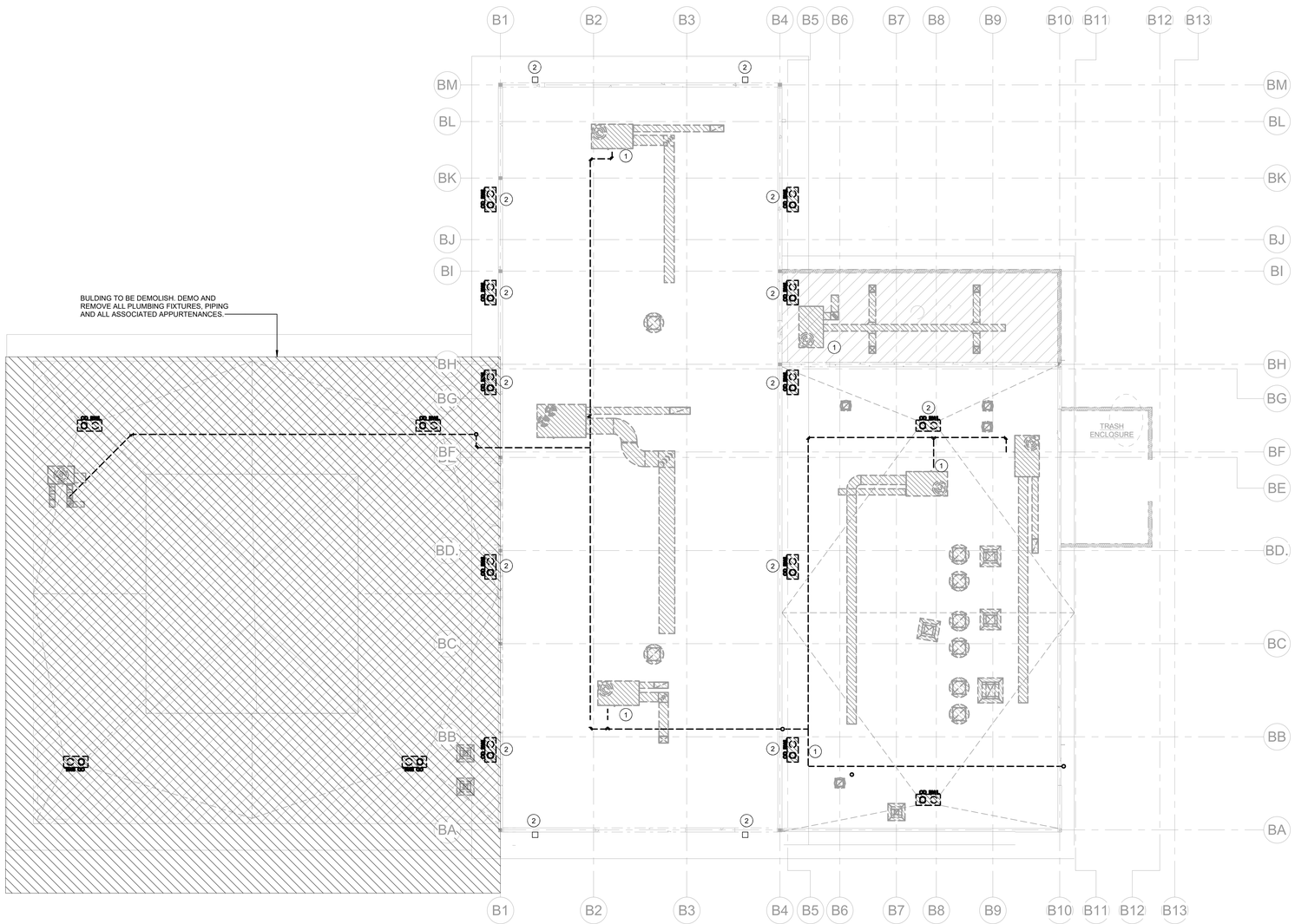

PLUMBING CAFETERIA BUILDING DEMO ROOF PLAN

1/8" = 1'-0"

1

GENERAL DEMO NOTES

1. FOR PLUMBING GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET P-1.1
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SHEET NOTES

1. REMOVE ALL GAS & CONDENSATE PIPE & ALL ASSOCIATED APPURTENANCES.
2. REMOVE ALL ROOF DRAIN & ALL ASSOCIATED APPURTENANCES.

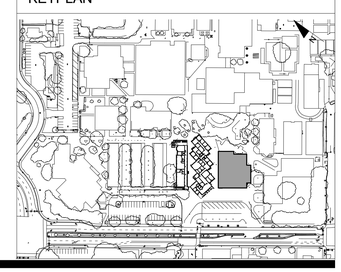
WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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SHEET TITLE

CAFETERIA ROOF DEMOLITION PLAN

SHEET NUMBER

P-B4.0

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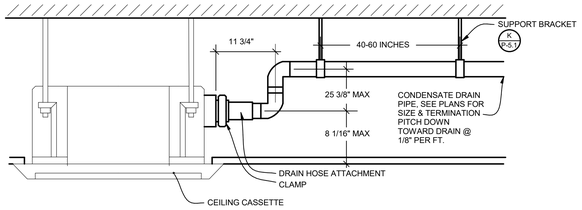
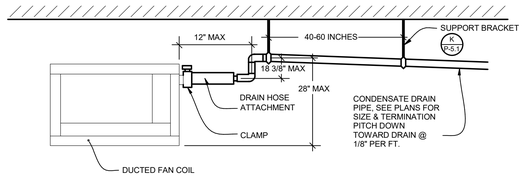


A TYPICAL CONDENSATE DRAIN FOR CEILING CASSETTE

SCALE: NONE



B TYPICAL CONDENSATE DRAIN FOR DUCTED FAN COIL

SCALE: NONE

PLUMBING ADMINISTRATION BLDG NEW PLAN

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

GENERAL NOTES

1. FOR PLUMBING GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET P-1.1
2. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE PLUMBING WORK WITH OTHER TRADES.
3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO PROCEEDING WITH INSTALLATION. NOTIFY ARCHITECT/ENGINEER OF ANY EXISTING CONDITIONS WHICH CONFLICT WITH INFORMATION PROVIDED IN CONSTRUCTION DOCUMENTS.
4. CONTRACTOR SHALL COORDINATE ALL FIXTURES LOCATIONS AND FIXTURES TYPES PRIOR TO ORDERING. SEE ARCHITECTURAL PLANS.
5. LOCATION OF EXISTING PLUMBING EQUIPMENT, FIXTURES, PIPE SIZES, PIPE SYSTEM ETC. HAS BEEN BASED ON THE BEST AVAILABLE INFORMATION OBTAINABLE AT THE SITE AND THROUGH RECORD DRAWINGS. VERIFY EXACT LOCATIONS, SIZES, AND EXTENT OF EXISTING SYSTEMS PRIOR TO START OF DEMOLITION WORK.
6. ALL BRACING OF PIPING SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA GUIDELINES, HAZARD LEVEL 'A'.
7. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWING OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER AND FIELD INSPECTOR OF THE GOVERNING AUTHORITY.

SHEET NOTES

1. OVERFLOW STORM DRAIN IN WALL & TERMINATE WITH BOTTOM OF PIPE AT 8" ABOVE FINISHED GRADE
2. POC RAIN WATER LEADER (RWL) TO POC 5'-0" OUTSIDE OF BUILDING. REFER TO SITE CIVIL DRAWINGS FOR CONTINUATION.
3. FIRE STAND DRAIN SEE DETAIL. (E / P-5.2)
4. 3/4" CD DIW TO SINK TAILPIECE SEE DETAIL (E / P-5.1)
5. 3/4" CD DIW TO FIRE STAND DRAIN
6. 3/4" CD DIW TO JANITORIAL SINK
7. TIE-UP 3/4" CD DIW TO 3" RWL IN VERTICAL
8. 3" RWL & 3" OD UP THRU ROOF TO ROOF DRAIN
9. 4" SANITARY SEWER (SS) TO POC AT 5'-0" OUTSIDE OF BUILDING WITH COTG. REFER TO SITE CIVIL DRAWINGS FOR CONTINUATION.
10. TIE-UP (3) 3" RWL INTO 4" RWL IN VERTICAL
11. RAIN WATER LEADER IN WALL & TERMINATE WITH 45 DEGREE. AT 6" ABOVE BIO RETENTION GRADE.
12. OVERFLOW DRAIN TERMINATE HIGH.
13. 3" RWL ALONG CONCRETE WALL & TERMINATE WITH 45 DEGREE AND 6" ABOVE SPLASH BLOCK.
14. PENETRATION THRU SHEAR WALL SSD
15. CEILING CASSETTE CONDENSATE CONNECTION PER DETAIL (A / P-A2.1)
16. DUCTED FAN COIL CONDENSATE CONNECTION PER DETAIL (B / P-A2.1)

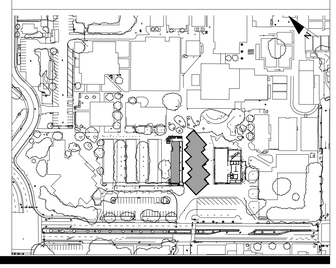
WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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APP: 01-119033 INC:
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DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
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COSTA ENGINEERS INC.
3274 Villa Lane Napa, CA 94558 ph: 707-252-9177 fax: 707-252-6473
REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER J. DEL CASTILLO No. 33600 Exp. 12-31-20 MECHANICAL STATE OF CALIFORNIA

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2nd STREET
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	Author
DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION PLUMBING WASTE & VENT PLAN

SHEET NUMBER

P-A2.1

11/24/2020 4:46:35 PM

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PLUMBING ADMINISTRATION BLDG WATER PLAN

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

GENERAL NOTES

1. FOR PLUMBING GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET P-1.1
2. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE PLUMBING WORK WITH OTHER TRADES.
3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO PROCEEDING WITH INSTALLATION. NOTIFY ARCHITECT/ENGINEER OF ANY EXISTING CONDITIONS WHICH CONFLICT WITH INFORMATION PROVIDED IN CONSTRUCTION DOCUMENTS.
4. CONTRACTOR SHALL COORDINATE ALL FIXTURES LOCATIONS AND FIXTURES TYPES PRIOR TO ORDERING. SEE ARCHITECTURAL PLANS.
5. LOCATION OF EXISTING PLUMBING EQUIPMENT, FIXTURES, PIPE SIZES, PIPE SYSTEM ETC. HAS BEEN BASED ON THE BEST AVAILABLE INFORMATION OBTAINABLE AT THE SITE AND THROUGH RECORD DRAWINGS. VERIFY EXACT LOCATIONS, SIZES, AND EXTENT OF EXISTING SYSTEMS PRIOR TO START OF DEMOLITION WORK.
6. ALL BRACING OF PIPING SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA GUIDELINES, HAZARD LEVEL 'A'.
7. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWING OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER AND FIELD INSPECTOR OF THE GOVERNING AUTHORITY.

SHEET NOTES

1. ELECTRIC TANK TYPE WATER HEATER PER DETAIL (B / P-5.1)
2. WATER ENTRANCE PER DETAIL (J / P-5.1)

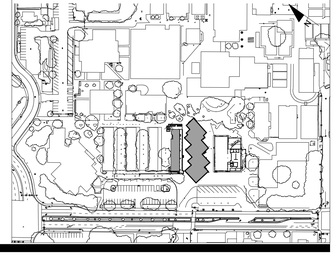
WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION PLUMBING WATER AND GAS PLAN

SHEET NUMBER

P-A2.2

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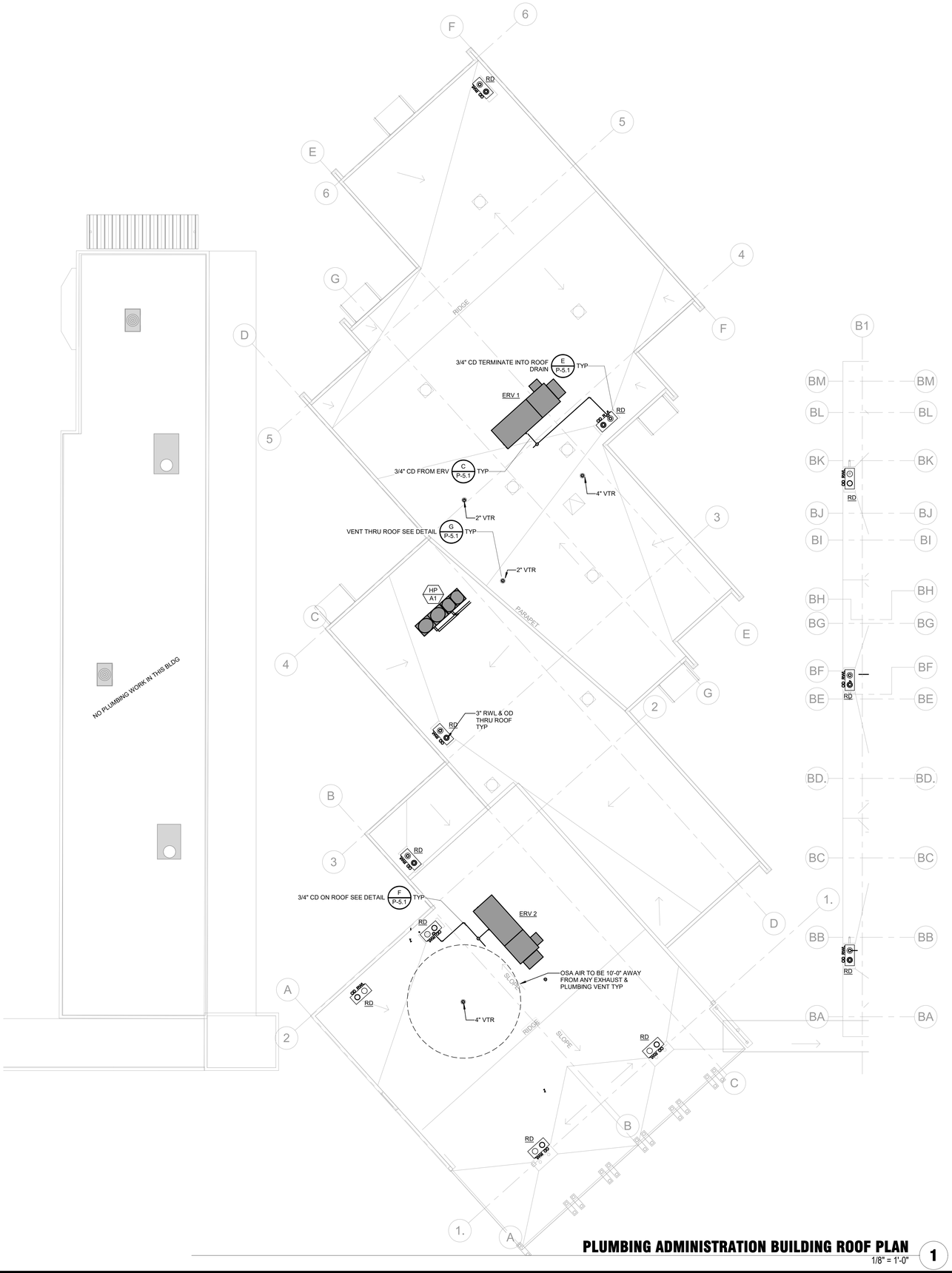

PLUMBING ADMINISTRATION BUILDING ROOF PLAN

1/8" = 1'-0"

1

GENERAL DEMO NOTES

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6. PATCH ALL WALLS, CEILINGS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS.
7. ASBESTOS CONTAINING PRODUCTS MAY BE PRESENT IN THE EXISTING BUILDING CONSTRUCTION. IF SUSPECT MATERIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE FOR INSTRUCTIONS PRIOR TO PROCEEDING WITH ADDITIONAL WORK. THE CONTRACTOR SHALL IMMEDIATELY POST NOTICES AND TAKE PRECAUTIONS NECESSARY TO ENSURE THE HEALTH AND SAFETY OF ALL WORKERS, THE STAFF, AND THE PUBLIC.

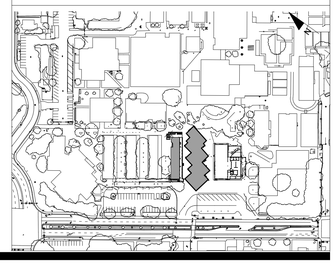
WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING - 1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

ADMINISTRATION PLUMBING ROOF PLAN

SHEET NUMBER

P-A4.1

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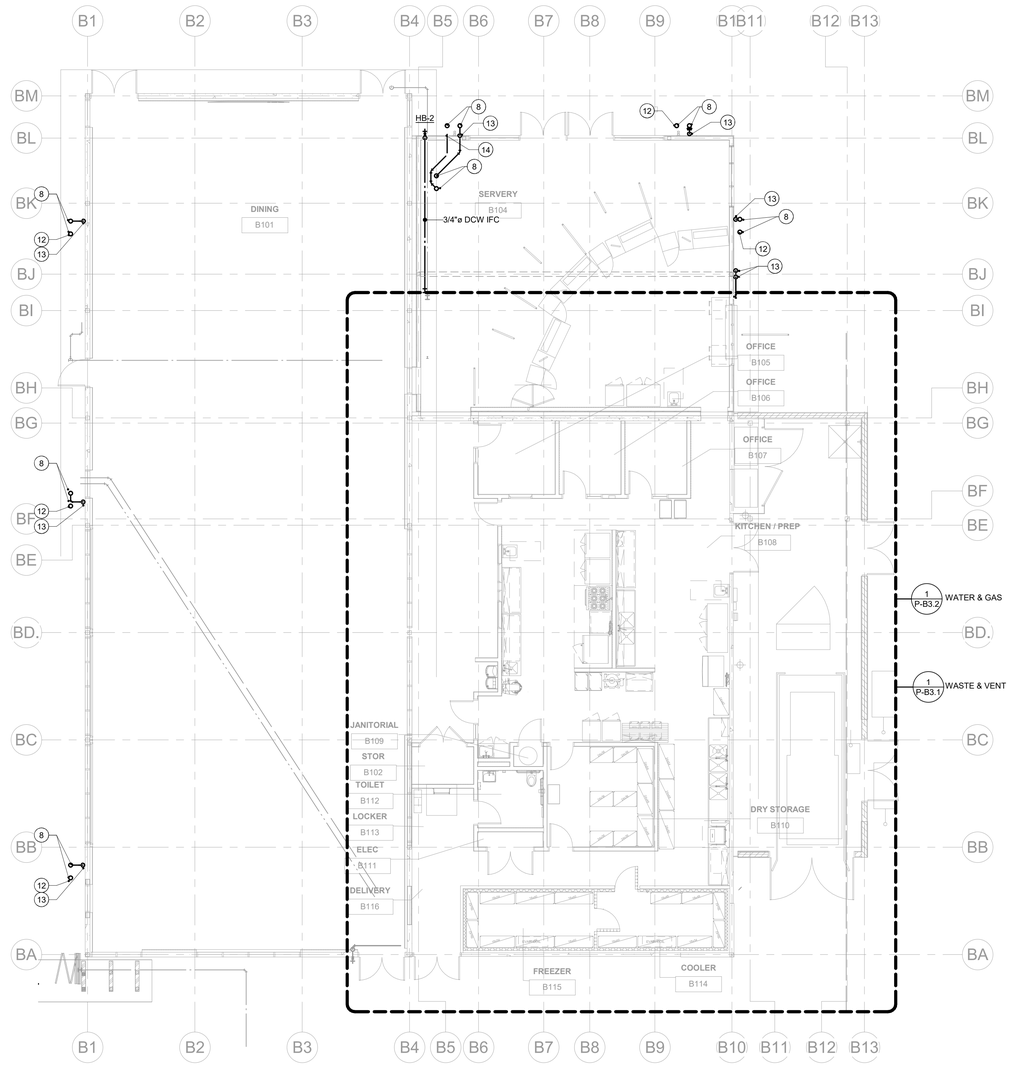

PLUMBING CAFETERIA BLDG NEW PLAN. 1

1/8" = 1'-0"

GENERAL NOTES

1. FOR PLUMBING GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET P-1.1
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SHEET NOTES

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2. NOT USED IN THIS SHEET
3. NOT USED IN THIS SHEET
4. NOT USED IN THIS SHEET
5. NOT USED IN THIS SHEET
6. NOT USED IN THIS SHEET
7. NOT USED IN THIS SHEET
8. 3" RWL & 3" OD UP THRU ROOF TO ROOF DRAIN
9. NOT USED IN THIS SHEET
10. NOT USED IN THIS SHEET
11. RAIN WATER LEADER IN WALL & TERMINATE WITH 45 DEGREE. AT 6" ABOVE BIO RETENTION GRADE. OR GRADE
12. OVERFLOW DRAIN TERMINATE HIGH.
13. 3" RWL ALONG CONCRETE WALL & TERMINATE WITH 45 DEGREE AND 6" ABOVE SPLASH BLOCK.
14. 3" RWL THRU CONCRETE WALL & TERMINATE HIGH

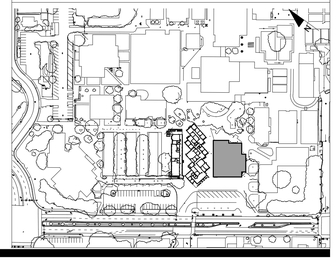
WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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ARCH PROJECT NO:	1783.00
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DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

CAFETERIA PLUMBING FLOOR PLAN

SHEET NUMBER

P-B2.1

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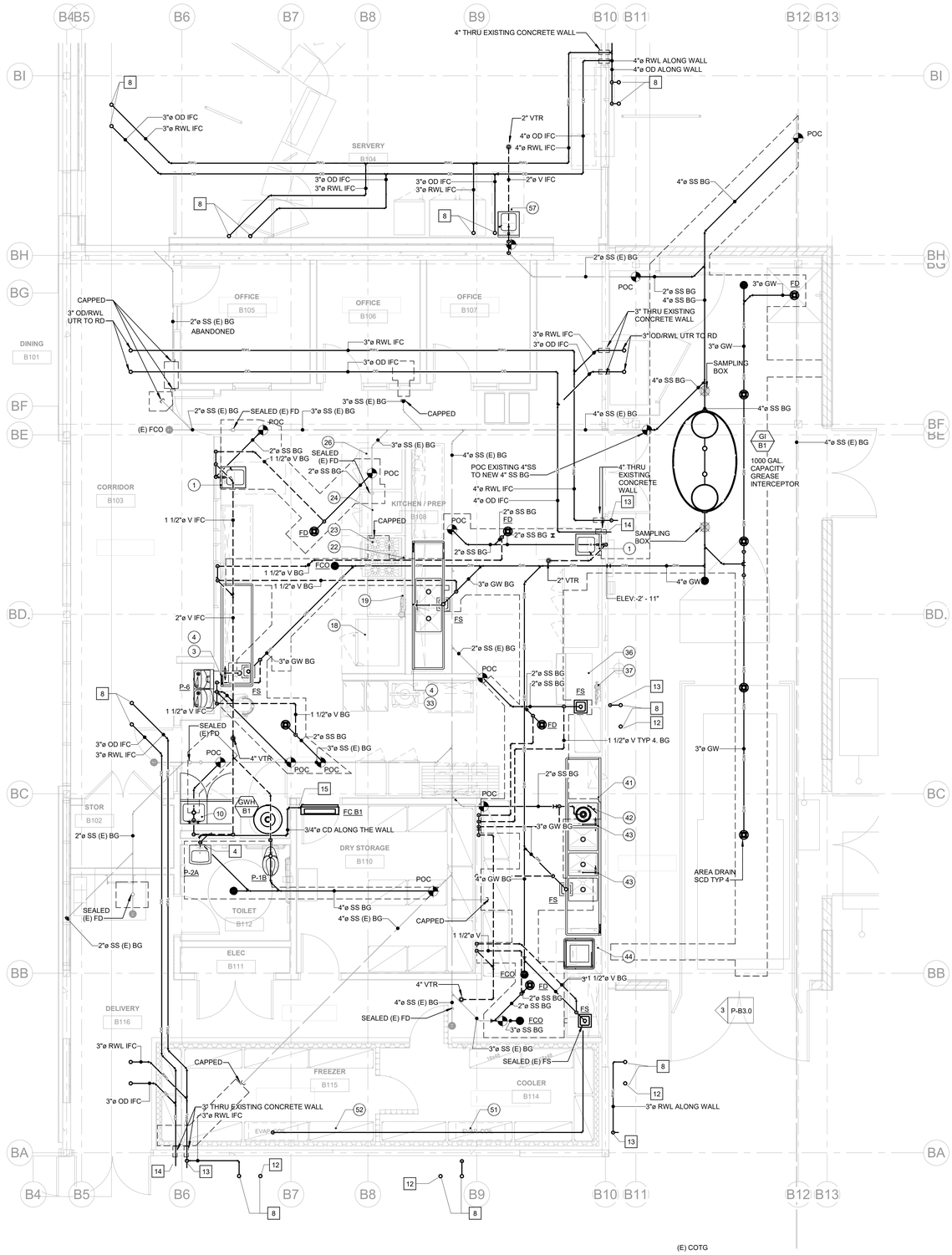

KITCHEN WASTE & VENT ENLARGEMENT

1/4" = 1'-0"

1

KITCHEN SCHEDULE SEE KITCHEN CONSULANT PLANS FOR MORE INFORMATION

ITEM	QTY	DESCRIPTION	WATER HOT	WATER COLD	WATER HT	WASTE DIRECT	WASTE INDIRECT	WASTE HT	GAS SIZE	GAS BTU	GAS HT
1	2	S/S HAND SINK	1/2"	1/2"	+24"	1-1/2"		+20"			
2	4	S/S WALL SHELF									
3	1	S/S PREP TABLE W/SINK					2"	FS			
4	2	FAUCETS	1/2"	1/2"	+16"						
5	1	S/S WORKTABLE									
6	1	S/S WALL SHELF W/UTENSIL SHELF									
7	1	MIXER									
8	2	S/S OVERSHELF									
9	--	SPARE									
10	1	S/S MOP SINK CABINET	1/2"	1/2"	+16"	2"		+0"			
11	2	WARMING CABINETS									
12	3	INGREDIENT BINS									
13	1	MAPLE TOP WORKTABLE									
14	1	S/S WORKTABLE									
15	1	FOOD PROCESSOR									
16	2	SHEET PAN RACKS									
17	--	SPARE									
18	1	COMBI-OVEN		3/4"	+36"		2"	FS	(2) 3/4"	85,000	+24"
19	1	WATER FILTER FOR COMBI-OVEN		3/4"	+16"						
20	1	S/S TYPE I EXHAUST HOOD									
21	1	S/S WORKTABLE									
22	1	POT FILLER FAUCET		1/2"	+58"						
23	1	6-BURNER RANGE							1"	225,000	+24"
24	1	DOUBLE STACK CONVECTION OVEN							1"	230000	+24"
25	1	S/S TYPE I EXHAUST HOOD									
26	1	DOUBLE STACK CONVECTION OVEN							1"	230000	+24"
27	1	S/S WALL LINER									
28	1	EXHAUST SYSTEM CONTROL PANEL									
29	2	UTILITY CARTS									
30	1	FIRE SUPPRESSION SYSTEM PULL STATION									
31	1	FIRE SUPPRESSION SYSTEM-WALL MOUNTED									
32	1	S/S WORKTABLE									
33	1	S/S PREP TABLE W/SINKS					2"	FS			
34	2	AIR CURTAINS									
35	1	3-DOOR REFRIGERATOR									
36	1	ICE MACHINE AND BIN	FROM FILTER				1"	FS			
37	1	WATER FILTER ASSEMBLY		3/4"	+46"						
38	--	SPARE									
39	--	SPARE									
40	1	(LOT) DRY STORAGE SHELVING									
41	1	S/S 4-TUB SINK					2"	FS			
42	1	GARBAGE DISPOSAL		1/2"	+16"	2"		+12"			
43	2	PRERINSE UNIT WITH FAUCET	1/2"	1/2"	+16"						
44	1	HIGH-TEMP DISHWASHER	1/2"		+16"		1-1/2"	FS			
45	1	S/S TYPE II EXHAUST HOOD									
46	1	S/S CLEAN SIDE DISHTABLE									
47	--	SPARE									
48	--	SPARE									
49	1	WALK-IN COOLER/FREEZER									
50	1	(LOT) WALK-IN SHELVING									
51	1	EVAP COIL FOR WI COOLER					1"	FS			
52	1	EVAP COIL FOR WI FREEZER					1"	FS			
53	1	CONDENSING UNIT FOR WI COOLER									
54	1	CONDENSING UNIT FOR WI FREEZER									
		SERVER EQUIPMENT									
S1	4	MILLWORK SERVING COUNTER									
S2	4	SNEEZE GUARD W/WARMER AT TOP									
S3	4	DROP-IN HOT FOOD SHELF									
S4	3	1-DOOR REACH-IN REFRIGERATOR									
S5	1	WARMING CABINET									
S6	1	2-DOOR REACH-IN REFRIGERATOR									
S7	1	S/S HAND SINK	1/2"	1/2"	+24"	1-1/2"		+20"			
S8	2	WARMING DRAWER UNITS									
S9	1	S/S SERVING COUNTER									

GENERAL DEMO NOTES

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SHEET NOTES

1. NOT USED IN THIS SHEET
2. NOT USED IN THIS SHEET
3. NOT USED IN THIS SHEET
4. 3/4" CD DIW TO SINK TAILPIECE SEE DETAIL E/P-5.1
5. NOT USED IN THIS SHEET
6. 3/4" CD DIW TO JANITORIAL SINK
7. NOT USED IN THIS SHEET
8. 3" RWL & 3" OD UP THRU ROOF TO ROOF DRAIN
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12. OVERFLOW DRAIN TERMINATE HIGH.
13. 3" RWL ALONG CONCRETE WALL & TERMINATE WITH 45 DEGREE AND 6" ABOVE SPLASH BLOCK.
14. 3" RWL THRU CONCRETE WALL & TERMINATE HIGH
15. 3/4" CD FROM UNIT
16. GAS WATER HEATER MOUNT PER A/P-5.1

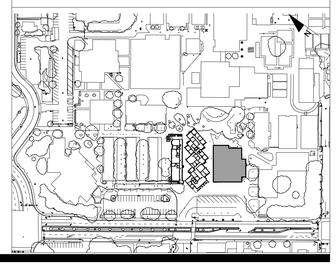
WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
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3274 Villa Lane Napa, CA 94558 ph: 707-252-9177 fax: 707-252-6473
REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER J. DEL CORSO No. 33600 Exp. 12-31-20 MECHANICAL STATE OF CALIFORNIA

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2nd STREET
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
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PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

CAFETERIA WASTE & VENT KITCHEN ENLARGEMENT

SHEET NUMBER

P-B3.1

11/24/2020 4:46:53 PM
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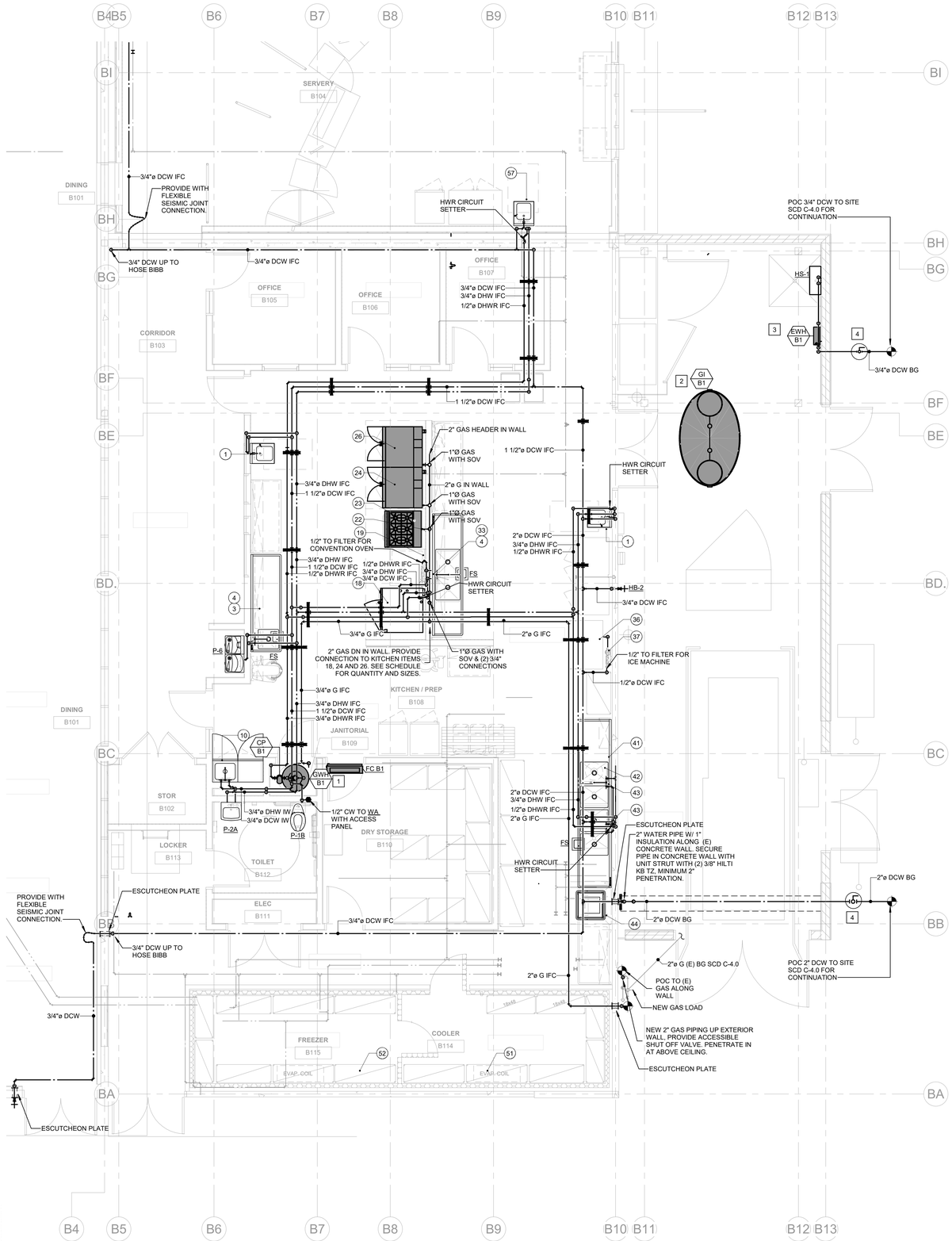
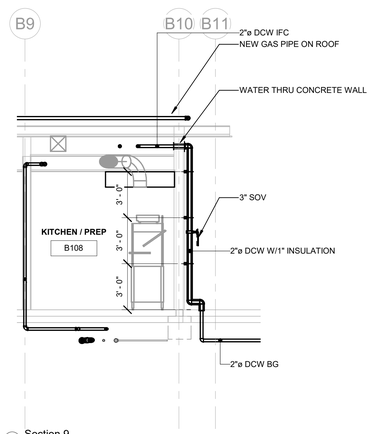


KITCHEN WATER & GAS ENLARGEMENT

1 — 1/4" = 1'-0"

KITCHEN SCHEDULE SEE KITCHEN CONSULTANT PLANS FOR MORE INFORMATION

ITEM	QTY	DESCRIPTION	WATER			GAS				
			HOT	COLD	HT	DIRECT	INDIRECT	HT	SIZE	BTU	HT
1	2	S/S HAND SINK	1/2"	1/2"	+24"	1-1/2"		+20"			
2	4	S/S WALL SHELF									
3	1	S/S PREP TABLE W/SINK					2"	F5			
4	2	FAUCETS	1/2"	1/2"	+16"						
5	1	S/S WORKTABLE									
6	1	S/S WALL SHELF W/UTENSIL SHELF									
7	1	MIXER									
8	2	S/S OVERSHELF									
9	--	SPARE									
10	1	S/S MOP SINK CABINET	1/2"	1/2"	+16"	2"		+0"			
11	2	WARMING CABINETS									
12	3	INGREDIENT BINS									
13	1	MAPLE TOP WORKTABLE									
14	1	S/S WORKTABLE									
15	1	FOOD PROCESSOR									
16	2	SHEET PAN RACKS									
17	--	SPARE									
18	1	COMBI-OVEN		3/4"	+36"		2"	F5	(2) 3/4"	85,000	+24"
19	1	WATER FILTER FOR COMBI-OVEN		3/4"	+16"						
20	1	S/S TYPE I EXHAUST HOOD									
21	1	S/S WORKTABLE									
22	1	POT FILLER FAUCET		1/2"	+58"						
23	1	6-BURNER RANGE							1"	225,000	+24"
24	1	DOUBLE STACK CONVECTION OVEN							1"	230000	+24"
25	1	S/S TYPE I EXHAUST HOOD									
26	1	DOUBLE STACK CONVECTION OVEN							1"	230000	+24"
27	1	S/S WALL LINER									
28	1	EXHAUST SYSTEM CONTROL PANEL									
29	2	UTILITY CARTS									
30	1	FIRE SUPPRESSION SYSTEM PULL STATION									
31	1	FIRE SUPPRESSION SYSTEM-WALL MOUNTED									
32	1	S/S WORKTABLE									
33	1	S/S PREP TABLE W/SINKS					2"	F5			
34	2	AIR CURTAINS									
35	1	3-DOOR REFRIGERATOR									
36	1	ICE MACHINE AND BIN	FROM FILTER				1"	F5			
37	1	WATER FILTER ASSEMBLY		3/4"	+16"						
38	--	SPARE									
39	--	SPARE									
40	1	(LOT) DRY STORAGE SHELVING									
41	1	S/S 4-TUB SINK					2"	F5			
42	1	GARBAGE DISPOSAL		1/2"	+16"	2"		+12"			
43	2	PRERINSE UNIT WITH FAUCET	1/2"	1/2"	+16"						
44	1	HIGH-TEMP DISHMACHINE	1/2"		+16"		1-1/2"	F5			
45	1	S/S TYPE II EXHAUST HOOD									
46	1	S/S CLEAN SIDE DISHTABLE									
47	--	SPARE									
48	--	SPARE									
49	1	WALK-IN COOLER/FREEZER									
50	1	(LOT) WALK-IN SHELVING									
51	1	EVAP COIL FOR WI COOLER					1"	F5			
52	1	EVAP COIL FOR WI FREEZER					1"	F5			
53	1	CONDENSING UNIT FOR WI COOLER									
54	1	CONDENSING UNIT FOR WI FREEZER									
		SERVER EQUIPMENT									
55	4	MILLWORK SERVING COUNTER									
56	4	SNEEZE GUARD WARMER AT TOP									
57	4	DROP-IN HOT FOOD SHELF									
58	3	1-DOOR REACH-IN REFRIGERATOR									
59	1	WARMING CABINET									
60	1	2-DOOR REACH-IN REFRIGERATOR									
61	1	S/S HAND SINK	1/2"	1/2"	+24"	1-1/2"		+20"			
62	2	WARMING DRAWER UNITS									
63	1	S/S SERVING COUNTER									



2 Section 9
1/4" = 1'-0"

GENERAL DEMO NOTES

1. FOR PLUMBING GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET P-1.1
2. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE PLUMBING WORK WITH OTHER TRADES.
3. THIS CONTRACTOR SHALL RETAIN SPECIFIC EQUIPMENT AS DIRECTED BY OWNER AND DELIVER TO OWNER SPECIFIED LOCATION.
4. ALL EQUIPMENT RENDERED USELESS BY THIS WORK SHALL BE DEMOLISHED AND REMOVED FROM THE SITE.
5. LOCATION OF EXISTING PLUMBING EQUIPMENT, FIXTURES, PIPE SIZES, PIPE SYSTEM ETC. HAS BEEN BASED ON THE BEST AVAILABLE INFORMATION OBTAINABLE AT THE SITE AND THROUGH RECORD DRAWINGS. VERIFY EXACT LOCATIONS, SIZES, AND EXTENT OF EXISTING SYSTEMS PRIOR TO START OF DEMOLITION WORK.
6. PATCH ALL WALLS, CEILINGS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS.
7. ASBESTOS CONTAINING PRODUCTS MAY BE PRESENT IN THE EXISTING BUILDING CONSTRUCTION. IF SUSPECT MATERIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE FOR INSTRUCTIONS PRIOR TO PROCEEDING WITH ADDITIONAL WORK. THE CONTRACTOR SHALL IMMEDIATELY POST NOTICES AND TAKE PRECAUTIONS NECESSARY TO ENSURE THE HEALTH AND SAFETY OF ALL WORKERS, THE STAFF, AND THE PUBLIC.

SHEET NOTES

1. GAS WATER HEATER MOUNT PER (A / P-5.1)
2. GREASE INTERCEPTOR MOUNT PER (D / P-5.1)
3. ELECTRIC WATER HEATER INSIDE ENCLOSURE (L / P-5.1)
4. DOMESTIC WATER ENTRANCE WITH VALVE IN CRISTY BOX SEE (J / P-5.1)

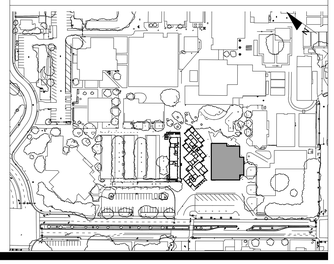
WALL LEGENDS

NOTES:
ALL METAL FRAMING IS 6" STUDS, U.O.N., S.S.D.

METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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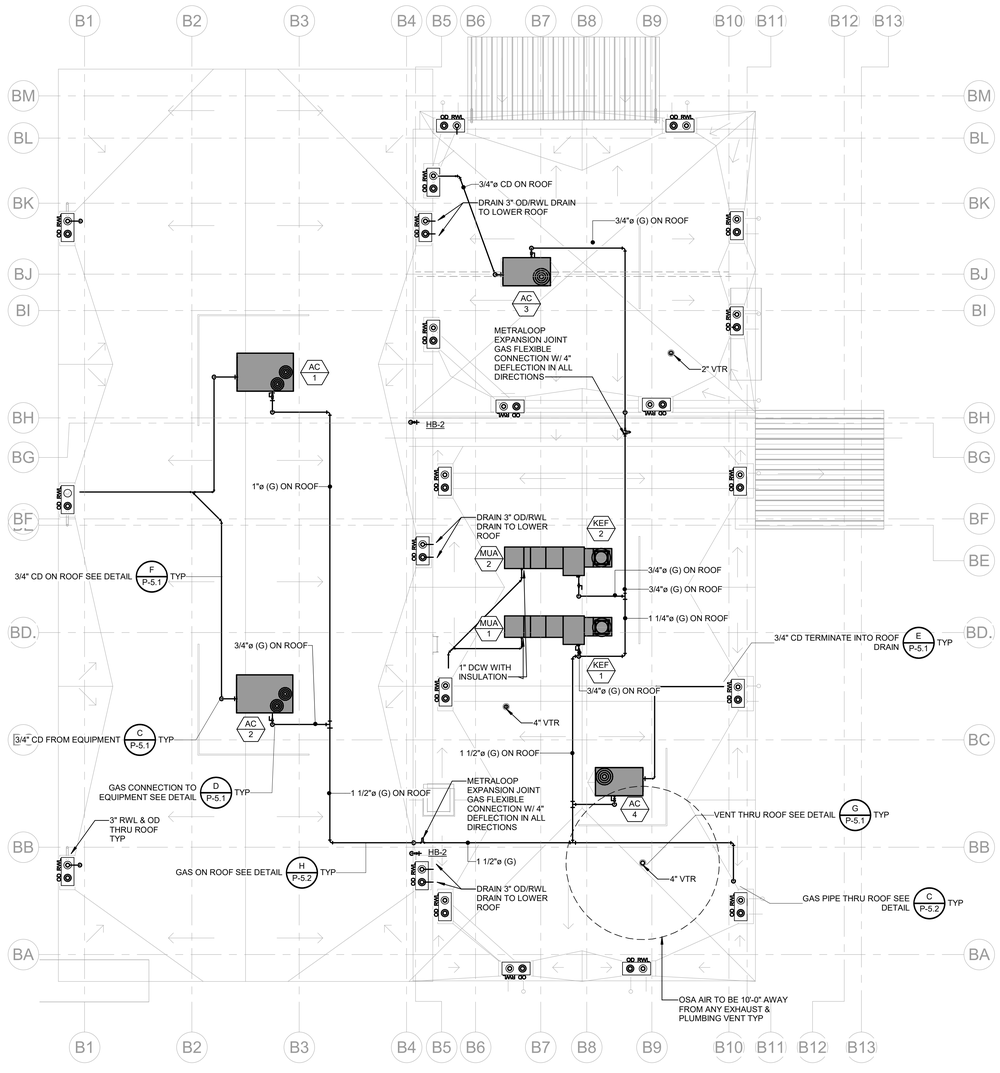

PLUMBING CAFETERIA BUILDING ROOF PLAN

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

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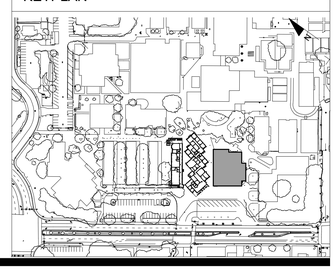
METAL FRAMING -1-HR RATED FIRE BARRIER

METAL FRAMING - NON RATED

KEYPLAN



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CAFETERIA PLUMBING ROOF PLAN

SHEET NUMBER

P-B4.1

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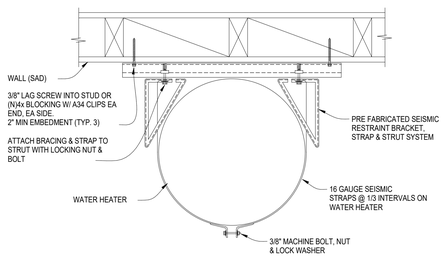
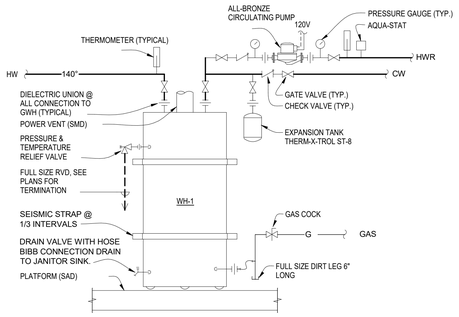


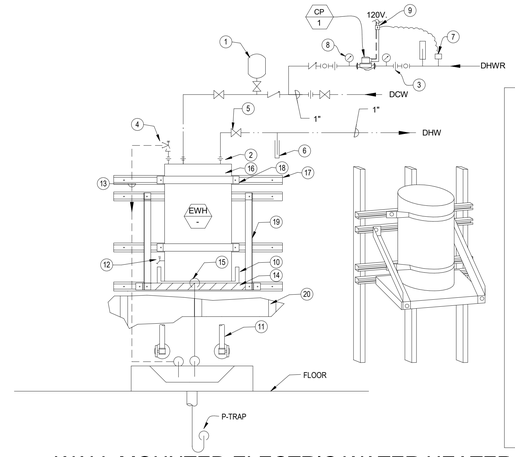
PLAN VIEW



PIPING DIAGRAM

A WATER HEATER MOUNTING DETAIL & PIPING DIAGRAM

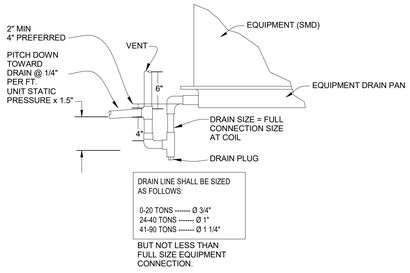
SCALE: NONE



1	AMTROL ST-12 EXPANSION TANK	14	3/4" THICK PLYWOOD PLATFORM UNDER ENTIRE WATER HEATER & FASTED TO BRACKET
2	DIELECTRIC UNION (TYPICAL)	15	3/4" DRAIN FROM DRAIN PAN. TO DRAIN INDIRECTLY INTO SERVICE SINK MIN. 1" AIR GAP.
3	UNION (TYP.)	16	STORAGE-TYPE, ELECTRIC WATER HEATER. DISTANCE FROM WALL TO WATER HEATER PER CURRENT U.P.C. 9" MIN CLEARANCE TO CEILING (MAX. 400 LBS)
4	PRESSURE TEMPERATURE RELIEF VALVE	17	B-LINE B-22 STRUT FASTENED TO 3 STUDS WITH (2) #10 SMS AT EA. STUD
5	GATE VALVE (TYPICAL)	18	WATTS E-100 SEISMIC RESTRAINT T&B SYSTEM FASTENED TO STRUTS WITH 1/2" BOLTS (TYP)
6	THERMOMETER (TYP)	19	WATTS WM-26 HEAVY DUTY WALL MOUNT SYSTEM FASTENED TO STRUTS WITH 1/2" BOLTS
7	BELL & GOSSETT AQS THERMOSTAT. SET @ 105°	20	METAL STUD BEHIND GYP-BD WALL @16" O.C (TYP)
8	PRESSURE GAUGE, (TYPICAL)		
9	DISCONNECT SWITCH		
10	2 1/2" DEEP, 24 GA. GALV. SHEET METAL DRAIN PAN. HEM EDGE 1/2"		
11	3/4"DCW/DHW WATER SUPPLY THRU WALL TO JANITORIAL SINK		
12	DRAIN VALVE WITH HOSE BIBB CONNECTION		
13	FULL SIZE T & PRV DRAIN CONT. DN TO DRAIN INDIRECTLY INTO SERVICE SINK WITH 1" AIR GAP		

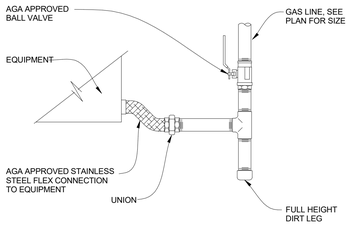
B WALL MOUNTED ELECTRIC WATER HEATER

SCALE: NONE



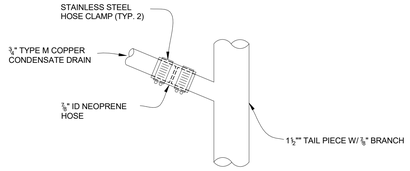
C CONDENSATE DRAIN PIPING DETAIL

SCALE: NONE

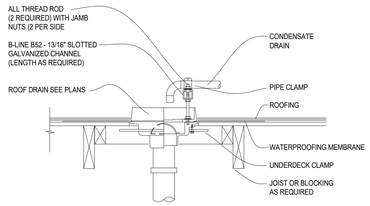


D GAS CONNECTION TO EQUIPMENT DETAIL

SCALE: NONE



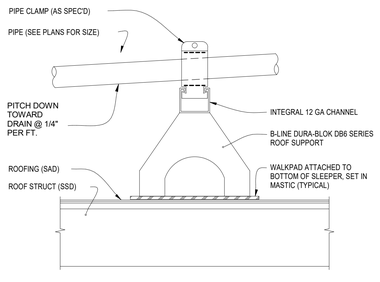
CONDENSATE TO SINK TAILPIECE



CONDENSATE TO ROOF DRAIN

E CONDENSATE TERMINATION DETAIL

SCALE: NONE

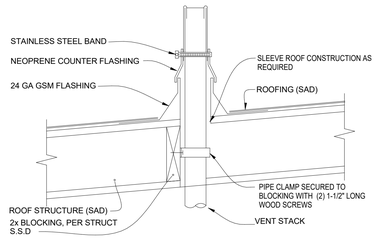


NOTE: SUPPORTS SHALL BE AT 8'-0" ON CENTER & AT ALL CHANGE OF DIRECTION

SIM E/M412

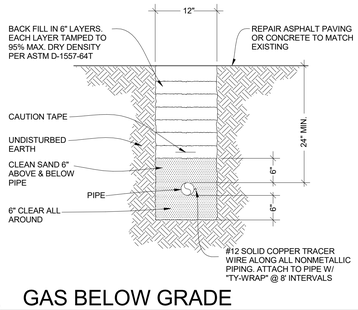
F CONDENSATE SUPPORT ON ROOF DETAIL

SCALE: NONE



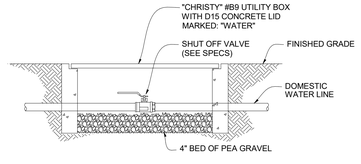
G VENT THRU ROOF DETAIL

SCALE: NONE



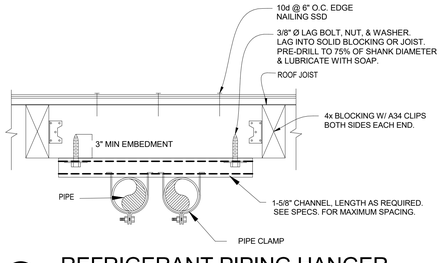
H GAS BELOW GRADE

SCALE: NONE



J DOMESTIC WATER SHUT-OFF DETAIL

SCALE: NONE



K REFRIGERANT PIPING HANGER

SCALE: NONE

PIPE SUPPORT NOTES:

A. SUPPORT PIPING AT A MAXIMUM OF 10'-0" INTERVALS.

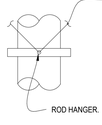
B. SEE PLANS FOR PIPE SIZES.

C. CHANNEL DEFLECTION SHALL NOT EXCEED 1/360 OF THE SPAN BETWEEN RODS. DOUBLE-UP CHANNELS AS REQUIRED.

D. B-LINE CHANNEL ROD STIFFENER @ ALL-THREAD WHERE DIAGONAL BRACE OCCURS. INCLUDE SC228 ASSEMBLY AS RECOMMENDED BY MANUFACTURER.

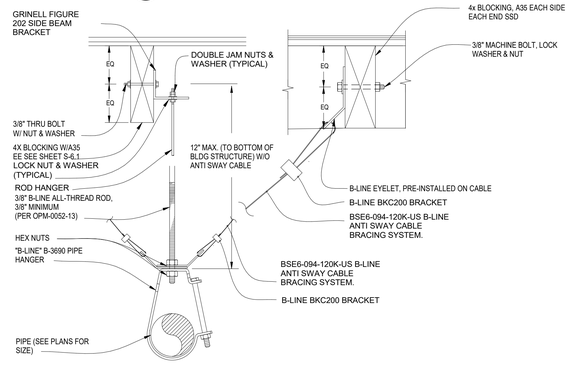
E. NO BRACING IS REQUIRED ON GAS PIPES WITH LESS THAN 1" I.D. AND ALL OTHER PIPES LESS THAN 2-1/2" IN DIAMETER, AND WHEN SUPPORTED LESS THAN 12" FROM BOTTOM OF ROOF STRUCTURE.

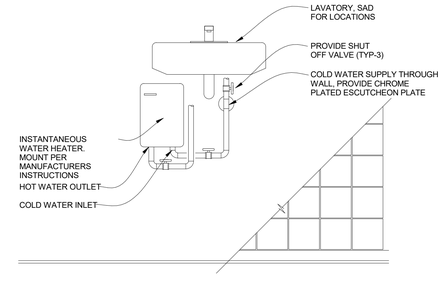
F. PIPING SUPPORTED MORE THAN 12" FROM BOTTOM OF ROOF STRUCTURE SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7-16 CHAPTER 13, 26 AND 30. BRACING AND ATTACHMENTS TO STRUCTURE SHALL COMPLY WITH ONE OF THE OSHPD PRE APPROVALS WITH AN OPM NUMBER, AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318-14 CHAPTER 17.



MINIMUM ROD SIZES (INCHES)	PIPE DIAMETER (INCHES)
3/8"	2" & SMALLER PIPE
1/2"	2-1/2" & 3" PIPE

ANTI SWAY CABLE REQUIRED WHEN ANY PART OF THE PIPE SYSTEM IS BELOW 12" PROVIDE AT EACH PIPE SUPPORT AS REQUIRED.





L POINT OF USE WATER HEATER DETAIL

SCALE: NONE

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P-5.1

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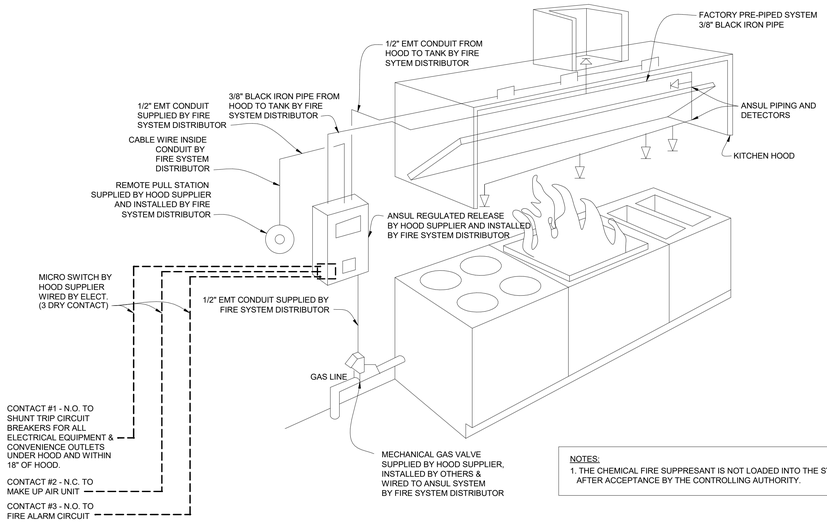
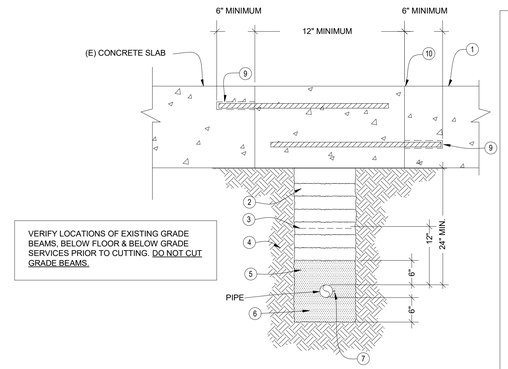


NOTES:
1. THE CHEMICAL FIRE SUPPRESANT IS NOT LOADED INTO THE SYSTEM UNTIL AFTER ACCEPTANCE BY THE CONTROLLING AUTHORITY.

A HOOD ANSUL DIAGRAM

SCALE: NONE

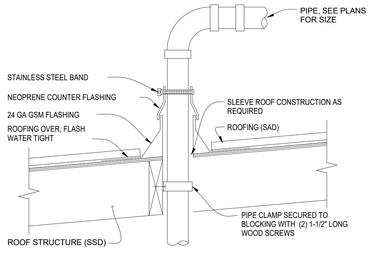


VERIFY LOCATIONS OF EXISTING GRADE BEAMS, BELOW FLOOR & BELOW GRADE SERVICES PRIOR TO CUTTING. DO NOT CUT GRADE BEAMS.

1. REPAIR ASPHALT PAVING OR CONCRETE TO MATCH EXISTING
2. BACK FILL IN 6" LAYERS. EACH LAYER TAMPED TO 95% MAX. DRY DENSITY PER ASTM D-1557-64T
3. WARNING TAP, 6" WIDE MINIMUM
4. UNDISTURBED EARTH
5. CLEAN SAND 6" ABOVE & BELOW PIPE
6. 6" CLEAR ALL AROUND
7. #12 SOLID COPPER TRACER WIRE ALONG ALL NONMETALLIC PIPING. ATTACH TO PIPE W/ "TY-WRAP" @ "TY-WRAP 8'-0" O.C.
8. PLACE CONCRETE FILL AROUND SLEEVES BEFORE POURING FOOTING PADS. FILL SHALL BE SAME WIDTH AS FOOTING AND FULL PLACE CONCRETE FILL.
9. #4 REBAR DOWELS @12" O.C. DRILLED INTO (E) SLAB GROUTED OR EPOXY TREATED.
10. ROUGHEN SAW CUT EDGE W/ CHIPPING GUN AND APPLY EPOXY BONDING PRIOR TO CONCRETE PLACEMENT.

B SAW CUT REPAIR DETAIL

SCALE: NONE



C PIPE THRU ROOF DETAIL

SCALE: NONE

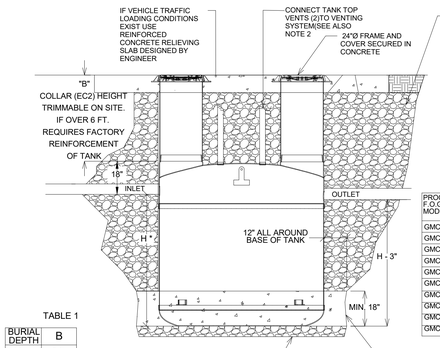
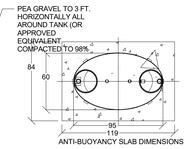


TABLE 1

BURIAL DEPTH	B
Max.	6 ft.
Min.with Traffic	18"
Min. no Traffic	** 12"

EXTENSION COLLAR SEAT

** ESTIMATED SPACE REQUIRED TO FIT VENT ELBOWS UNDER FLOOR



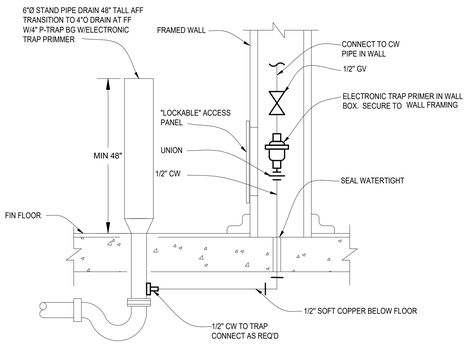
ANTI-BUOYANCY SLAB DIMENSIONS

PROCEPTOR F.O.G. SEPARATOR MODEL	INLET INVERT TO TANK BOTTOM (H)	WEIGHT OF TANK FULL OF WATER (lbs)
GMC 500 UPC	33"	4740
GMC 750 UPC	46"	6935
GMC 1000 UPC	60"	9100
GMC 1300 UPC	75"	11700
GMC 1500 UPC	86"	13430
GMC 750 FL	46"	6935
GMC 1000 FL	60"	9100
GMC 1250 FL	75"	11700
GMC 1500 FL	86"	13430
GMC 2000 UPC	110"	17721

NOTES:
1. ENSURE FLOOR IS LEVEL, SMOOTH, AND IS ABLE TO SUPPORT THE WEIGHT OF THE TANKS FULL OF WATER AT INSTALLATION LOCATION.
2. MOVE TANKS INTO POSITION. CHECK FIT AND LOCATION OF INLET, OUTLET AND VENT PIPING (WHERE APPLICABLE).
3. ENSURE ACCESSWAY IS ACCESSIBLE FOR COVER REMOVAL AND PUMPOUT AS WELL AS ACCESS TO THE INTERIOR. ENSURE ALL OTHER PORTS ARE ACCESSIBLE FOR INSTALLATION AND MAINTENANCE. ALARM PROBES (IF SUPPLIED) SHOULD HAVE SUFFICIENT HEADSPACE FOR REMOVAL TO CALIBRATE OR SERVICE.
4. ENSURE AREA AROUND TANK IS HEATED TO PREVENT FREEZING OF WATER IN TANK AND PIPES.
5. THE STABILIZATION SUPPORTS MAY BE AFFIXED TO FLOOR IF DESIRED.
6. SEISMIC RESTRAINTS TO BE PROVIDED BY OTHERS IF REQUIRED BY LOCAL AUTHORITIES
7. INSTALL INLET, OUTLET AND VENT PIPES TO MEET LOCAL PLUMBING CODE.
8. PRIOR TO COMMENCING OPERATIONS, FILL TANK WITH CLEAN WATER.
9. US PATENT # 5,746,912; CDN PATENT # 2,195,822
10. PROCEPTOR SEPARATORS MUST BE INSTALLED IN ACCORDANCE WITH ALL RELEVANT FEDERAL, PROVINCIAL,/STATE, AND LOCAL CODES INCLUDING LOCAL PLUMBING CODE.

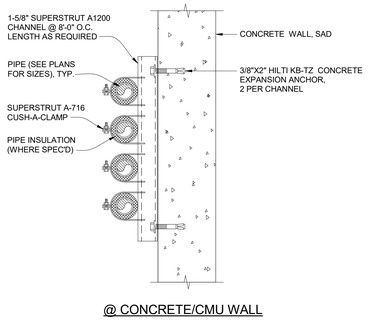
D GREASE INTERCEPTOR BELOW GRADE

SCALE: NTS



E FIRE STAND DRAIN

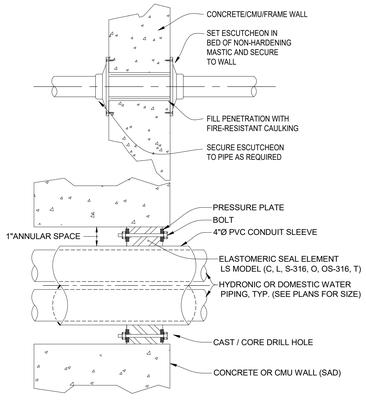
SCALE: NONE



@ CONCRETE/CMU WALL

F PIPE ALONG CONCRETE WALL

SCALE: NONE

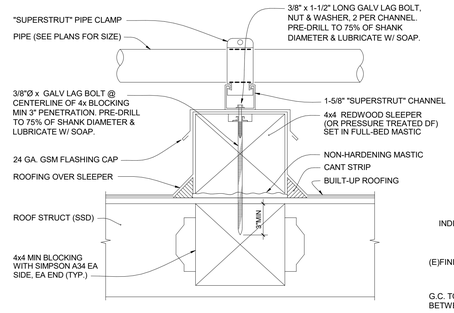


LINK-SEAL®MODULAR SEALS WITH CAST OR CORE DRILLED WALL OPENING

FOR USE WHERE PIPES PASS INTO OR OUT OF BARREL STORAGE ROOMS. INSULATE ANNULAR SPACE TO PREVENT CONDENSATION

G PIPE THRU CONCRETE WALL

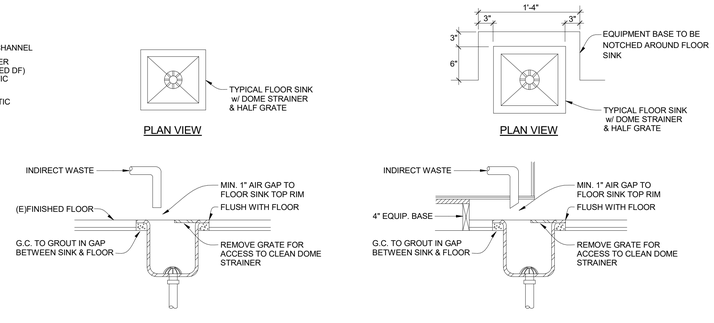
SCALE:



NOTES:
1. SUPPORTS SHALL BE AT 8'-0" ON CENTER & AT ALL CHANGE OF DIRECTION.
2. USE FOR SUPPORT OF GAS PIPING.

H GAS ON ROOF

SCALE: NONE



J TYPICAL FLOOR SINK DETAILS

SCALE: NONE

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DECEMBER 2, 2020

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ELECTRICAL EQUIPMENT ANCHORAGE

ELECTRICAL ANCHORAGE NOTES:

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

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

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

A. COMPONENT WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM WALL.

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

ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE:

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

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

ELECTRICAL DISTRIBUTION SYSTEMS ARE: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

LIGHT FIXTURES:

ALL LIGHT FIXTURES SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION SYSTEMS BY MECHANICAL MEANS TO RESIST A HORIZONTAL FORCE EQUAL TO THE WEIGHT OF THE FIXTURE. A MINIMUM OF TWO SCREWS OR APPROVED FASTENERS ARE REQUIRED AT EACH LIGHT FIXTURE, PER ASTM E580, SECTION 5.3.1.

SURFACE-MOUNTED LIGHT FIXTURES SHALL BE ATTACHED TO THE MAIN RUNNER WITH AT LEAST TWO POSITIVE CLAMPING DEVICES. THE CLAMPING DEVICE SHALL COMPLETELY SURROUND THE SUPPORTING CEILING RUNNER AND BE MADE OF STEEL WITH A MINIMUM THICKNESS OF #14 GAGE. ROTATIONAL SPRING CATCHES DO NOT COMPLY. A #12 GAGE SLACK SAFETY WIRE SHALL BE CONNECTED FROM EACH CLAMPING DEVICE TO THE STRUCTURE ABOVE. PROVIDE ADDITIONAL SUPPORTS WHEN LIGHT FIXTURES ARE EIGHT (8) FEET OR LONGER OR EXCEED 56 LB. MAXIMUM SPACING BETWEEN SUPPORTS SHALL NOT EXCEED EIGHT (8) FEET.

LIGHT FIXTURES WEIGHING LESS THAN OR EQUAL TO 10 LB. SHALL HAVE A MINIMUM OF ONE (1) #12 GAGE SLACK SAFETY WIRE CONNECTED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE.

LIGHT FIXTURES WEIGHING GREATER THAN 10 LB. BUT LESS THAN OR EQUAL TO 56 LBS. MAY BE SUPPORTED DIRECTLY ON THE CEILING RUNNERS, BUT THEY SHALL HAVE A MINIMUM OF TWO (2) #12 GAGE SLACK SAFETY WIRES CONNECTED FROM THE FIXTURE HOUSING AT DIAGONAL CORNERS TO THE STRUCTURE ABOVE. EXCEPTION: ALL LIGHT FIXTURES GREATER THAN TWO BY FOUR FEET WEIGHING LESS THAN 56 LBS. SHALL HAVE A #12 GAGE SLACK SAFETY WIRE AT EACH CORNER.

ALL LIGHT FIXTURES WEIGHING GREATER THAN 56 LB. SHALL BE INDEPENDENTLY SUPPORTED BY NOT LESS THAN FOUR (4) TAUT #12 GAGE HANGER WIRES (ONE AT EACH CORNER) ATTACHED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE OR OTHER APPROVED HANGERS. THE FOUR (4) TAUT #12 GAGE WIRES OR OTHER APPROVED HANGERS, INCLUDING THEIR ATTACHMENT TO THE STRUCTURE ABOVE, SHALL BE CAPABLE OF SUPPORTING FOUR (4) TIMES THE WEIGHT OF THE FIXTURE.

GENERAL DEMOLITION NOTES

1. THE CONTRACTOR SHALL VERIFY IN THE FIELD ALL LINES, LEVELS, DIMENSIONS AND EXISTING CONDITIONS. THE INFORMATION ON THE DRAWINGS REGARDING EXISTING ELECTRICAL EQUIPMENT AND BRANCH CIRCUITS IS THE RESULT OF FIELD SURVEY AND IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. IT IS INTENDED, HOWEVER, AS A GUIDE FOR USE IN VERIFICATION ONLY.
2. ANY EXISTING ELECTRICAL EQUIPMENT IN THE AREA OF NEW CONSTRUCTION NOT SHOWN ON THE EXISTING PLANS SHALL BE DOCUMENTED AND SUBMITTED TO THE ENGINEER FOR DETERMINATION OF ACTION REQUIRED.
3. WHEREVER THE REMOVAL OF EXISTING ELECTRICAL EQUIPMENT IS CALLED FOR AND ALL EQUIPMENT ON A PARTICULAR BRANCH CIRCUIT IS TO BE REMOVED, ALL CONDUIT AND WIRE BACK TO THE PANEL SHALL BE ENTIRELY REMOVED AND THE CIRCUIT IN PANEL SHALL BE MARKED "SPARE". THIS APPLIES TO SIGNAL AND COMMUNICATIONS SYSTEMS EQUIPMENT, CONDUIT, AND WIRE AS WELL.
4. WHEREVER THE REMOVAL OF EXISTING ELECTRICAL EQUIPMENT IS CALLED FOR AND ALL EQUIPMENT ON A PARTICULAR BRANCH CIRCUIT IS NOT TO BE REMOVED, THE CIRCUIT SHALL BE MAINTAINED CONTINUOUS TO THE EXISTING EQUIPMENT IN USE WITH MINIMUM INTERRUPTIONS OF POWER. THIS APPLIES TO SIGNAL AND COMMUNICATIONS SYSTEMS EQUIPMENT, CONDUIT, AND WIRE AS WELL.
5. WHENEVER THE REMOVAL OF EXISTING CONSTRUCTION REVEALS ELECTRICAL WORK THAT IS TO REMAIN, BUT IS IN CONFLICT WITH NEW CONSTRUCTION, RELOCATE THE EXISTING ELECTRICAL WORK AS NECESSARY TO AVOID ANY CONFLICT. RELOCATION WORK SHALL BE DONE TO MINIMIZE ANY INTERRUPTIONS OF POWER.
6. CARE SHALL BE TAKEN IN ORDER TO IDENTIFY AND PROTECT ALL EXISTING ELECTRICAL WORK THAT IS TO REMAIN.
7. ENSURE RECONNECTION OF EXISTING DEVICES WHOSE CIRCUITS HAVE BEEN INTERRUPTED BY DEMOLITION BY PROVIDING NEW CONNECTION TO ANOTHER EXISTING TO REMAIN DEVICE OR PANEL.
8. ALL EXISTING ELECTRICAL EQUIPMENT SHOWN ON THE PLANS FOR NEW WORK ARE THOSE WHICH ARE TO BE REUSED DURING SOME PHASE OF THE NEW CONSTRUCTION OR REQUIRE SOME SPECIAL CONSIDERATIONS.
9. WHENEVER THE REMOVAL OF EXISTING ELECTRICAL PANELBOARDS ARE CALLED FOR AND ALL EXISTING BRANCH CIRCUITS ARE NOT TO BE REMOVED, THE EXISTING BRANCH CIRCUITS SHALL BE CONNECTED TO OTHER EXISTING ELECTRICAL EQUIPMENT OR PANELS STILL IN USE WITH MINIMUM INTERRUPTIONS OF POWER. ALSO, IF REQUIRED, THESE SAME BRANCH CIRCUITS SHALL BE RECONNECTED TO RELOCATED EXISTING OR NEW PANELBOARDS AS PART OF THE NEW CONSTRUCTION. THIS APPLIES TO SIGNAL AND COMMUNICATIONS SYSTEMS EQUIPMENT, CONDUIT AND WIRE AS WELL.
10. THE ELECTRICAL CONTRACTOR SHALL REVISE EXISTING PANEL SCHEDULES TO CORRESPOND TO ACTUAL CONDITIONS AFTER ALL DEMOLITION AND NEW WORK IS COMPLETED.
11. REMOVE ALL ABANDONED CONDUIT AND WIRE ABOVE CEILINGS.
12. WHEN ELECTRICAL EQUIPMENT OR DEVICE IS REMOVED FROM AN EXISTING WALL OR CEILING WHICH IS TO REMAIN, PATCH ABANDONED OPENINGS TO MATCH EXISTING FINISH.
13. IN GENERAL, THE DEMOLITION PLANS SHOW ALL EXISTING EQUIPMENT THAT IS TO BE REMOVED UNLESS NOTED OTHERWISE. HOWEVER, ELECTRICAL EQUIPMENT, WHETHER SHOWN ON THIS DRAWING OR NOT, WHERE LOCATED IN THE AREA SCHEDULED TO BE DEMOLISHED, SHALL BE REMOVED COMPLETELY (INCLUDING CONDUIT AND WIRES BACK TO THE LAST REMAINING FIXTURE, OUTLET, DEVICE, ETC.) UNLESS OTHERWISE NOTED. COORDINATE DEMOLITION WORK WITH ARCHITECT AND GENERAL CONTRACTOR.
14. EXISTING CONDUIT FEEDS UP THROUGH FLOOR SHALL BE CUT OFF AND PLUGGED FLUSH WITH FLOOR WHERE EXISTING WALLS, ETC., ARE REMOVED. REMOVE CONDUCTORS FROM THE POINT BACK TO LAST OUTLET REMAINING IN SERVICE.
15. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO MAINTAIN CONTINUITY OF ALL ELECTRICAL SYSTEMS, EQUIPMENT, ETC. REMAINING IN OPERATION WHICH IS BEING FED BY AN ABANDONED OUTLET. MAINTAINING CONTINUITY SHALL CONSIST OF REROUTING OF CONDUIT, WIRE, ETC. AS REQUIRED.
16. IT SHALL BE THIS CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF EXISTING CIRCUITS AND ADJUST CIRCUIT NUMBERS ACCORDING TO EXISTING CONDITIONS IF REQUIRED
17. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER PRIOR TO REMOVAL OF EXISTING ELECTRICAL EQUIPMENT AND TURN OVER REMOVED EQUIPMENT THAT THE OWNER REQUESTS, IN AS-FOUND CONDITION. EQUIPMENT THAT IS TO BE TURNED OVER SHALL BE BOXED AND TAGGED TO IDENTIFY THE SPECIFIC EQUIPMENT. EQUIPMENT TO BE TEMPORARILY REMOVED DUE TO THE CONSTRUCTION SHALL BE CLEANED AND RE-INSTALLED IN ITS ORIGINAL CONDITION OR AS REQUIRED.
18. WHERE EXISTING WALLS HAVE BEEN REMOVED, AND THERE ARE EXISTING CONDUIT FEEDS WHICH HAVE BEEN CUT OFF AND CAPPED FLUSH WITH THE FLOOR, IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND DIMENSION ALL SUCH CONDUITS ON THE "AS-BUILT" DRAWINGS.
19. IF ANY EQUIPMENT THAT IS SCHEDULED TO REMAIN IN OPERATION IS DAMAGED BY THE CONTRACTOR, IT SHALL BE REPLACED TO ITS ORIGINAL CONDITION SATISFACTORY TO THE OWNER AT CONTRACTOR'S EXPENSE.

SYMBOLS LIST

H	FIRE ALARM SYSTEM MAGNETIC DOOR HOLD-OPEN
B	WALL-MOUNTED BEAM SMOKE DETECTOR - TRANSMITTING UNIT; MOUNT 18" BELOW CEILING LEVEL, U.O.N.
B	WALL-MOUNTED BEAM SMOKE DETECTOR - RECEIVING UNIT; MOUNT IN EXACT HORIZONTAL & VERTICAL ALIGNMENT WITH CORRESPONDING TRANSMITTING UNIT
B	CEILING-MOUNTED BEAM SMOKE DETECTOR - TRANSMITTING UNIT
B	CEILING-MOUNTED BEAM SMOKE DETECTOR - RECEIVING UNIT; MOUNT IN EXACT HORIZONTAL & VERTICAL ALIGNMENT WITH CORRESPONDING TRANSMITTING UNIT
	FIRE ALARM SYSTEM END-OF-LINE RESISTOR
FSD	FIRE SMOKE DAMPER BY MECHANICAL. COORDINATE WITH MECHANICAL FOR MONITORING TO FIRE ALARM SYSTEM (INCLUDING SMOKE DETECTOR PROVISIONS). CONTROL OF DAMPER TO BE BY MECHANICAL, U.O.N. PROVIDE TOGGLE TYPE DISCONNECT SWITCH
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL
	WEATHERPROOF ENCLOSURE
	CONDUIT AND WIRE CONCEALED IN CEILING OR WALL
	CONDUIT AND WIRE CONCEALED IN OR UNDER SLAB OR UNDERGROUND
	CONDUIT AND WIRE RUN EXPOSED
	CROSSMARKS INDICATE QUANTITY OF #12 CONDUCTORS PLUS PARITY SIZED GROUND CONDUCTOR (INCLUDED BUT NOT INDICATED), NO HASHMARKS INDICATES (2) #12 CONDUCTORS PLUS PARITY SIZED GROUND CONDUCTOR, U.O.N.
	GROUND WIRE
(#10)	WIRE SIZE 10 AWG FOR ALL CONDUCTORS, INCLUDING GROUND WIRE, THROUGHOUT THE COMPLETE CIRCUIT
	FLEXIBLE METALLIC CONDUIT
	HOMERUN TO PANELBOARD OR TERMINAL BOARD, AS NOTED ON PLANS
	COMPLETE CONNECTION OF EQUIPMENT
	CONDUIT STUBBED OUT, CAPPED AND MARKED
	CONDUIT TURNED UP
	CONDUIT TURNED DOWN
T	TELEPHONE SYSTEM CONDUIT AND PULLWIRE; 3/4" U.O.N.
C	COMPUTER/DATA SYSTEM CONDUIT AND PULLWIRE; 3/4" U.O.N.
D	TELEPHONE/DATA SYSTEM CONDUIT AND PULLWIRE; 3/4" U.O.N.
G	#4/0 COPPER GROUNDING ELECTRODE CONDUCTOR, U.O.N.
AC-1	MECHANICAL EQUIPMENT DESIGNATION - SEE MECHANICAL PLANS
3 / E-6	DETAIL DESIGNATION - SEE DETAIL 3, SHEET E-6
1	NUMBERED SHEET NOTE
M	UTILITY METER
CT'S	CURRENT TRANSFORMERS
30A / 3P	CIRCUIT BREAKER. NUMBER INDICATES 30A 3-POLE
1504N	FEEDER SIZE - SEE POWER SINGLE LINE DIAGRAMS & FEEDER SCHEDULE

ABBREVIATIONS

A.F.F.	ABOVE FINISHED FLOOR
A.F.G.	ABOVE FINISHED GRADE
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CATV	CABLE TV
C.L.	CIRCUIT LIGHTING
C.O.	CONDUIT ONLY
CU	COPPER
E.C.	ELECTRICAL CONTRACTOR
E	EMERGENCY LIGHT FIXTURE ON EMERGENCY GENERATOR OR INVERTER, SWITCHABLE, U.O.N.
EM	EMERGENCY LIGHT FIXTURE WITH BATTERY PACK, SWITCHABLE
EMS	ENERGY MANAGEMENT SYSTEM
(E)	EXISTING
EQPT	EQUIPMENT
(ER)	EXISTING EQUIPMENT TO BE RELOCATED
(EX)	EXISTING EQUIPMENT TO BE DISCONNECTED AND REMOVED
EXT	EXTERIOR
FMC	FLEXIBLE METALLIC CONDUIT
FTL	FEED THROUGH LUGS
GFI	GROUND FAULT CIRCUIT INTERRUPTING TYPE RECEPTACLE
IDF	INTERMEDIATE DISTRIBUTION FRAME
L	LOCKABLE
LV	LOW VOLTAGE
MCB	MAIN CIRCUIT BREAKER
MDF	MAIN DISTRIBUTION FRAME
MFR	MANUFACTURER
MLO	MAIN LUGS ONLY
MTD	MOUNTED
(N)	NEW
N.E.C.	NATIONAL ELECTRICAL CODE
NEU	NEUTRAL
N.I.E.C.	NOT IN ELECTRICAL CONTRACT
O.A.H.	OVERALL HEIGHT
O.F.C.I.	OWNER FURNISHED, CONTRACTOR INSTALLED
P	INDICATES FIXTURES ON PHOTOCELL CONTROL
PA	PUBLIC ADDRESS
PNL	PANEL
S.A.D.	SEE ARCHITECTURAL DRAWINGS
STC	SIGNAL TERMINAL CABINET
TC	INDICATES FIXTURES ON TIMECLOCK CONTROL
TELE	TELEPHONE
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
U.O.N.	UNLESS OTHERWISE NOTED
VAV	VAV BOX, SEE MECHANICAL DIVISION DRAWINGS FOR LOCATIONS. PROVIDE TOGGLE TYPE DISCONNECT SWITCH
WP	WEATHER PROOF, NEMA 3R
WPIU	WEATHER PROOF WHILE IN USE

SYMBOLS LIST

	MAIN SWITCHBOARD, DISTRIBUTION PANEL OR MOTOR CONTROL CENTER
	FLUSH MOUNTED PANELBOARD, 6'-6" TO TOP
	SURFACE MOUNTED PANELBOARD, 6'-6" TO TOP
	FUSED EQUIPMENT DISCONNECT SWITCH WITH FUSE SIZE AS RECOMMENDED BY EQUIPMENT MANUFACTURER
	MOTOR DISCONNECT SWITCH; HORSEPOWER RATED, NON FUSE
	COMBINATION MAGNETIC MOTOR STARTER & MOTOR CIRCUIT PROTECTOR
	MAGNETIC MOTOR STARTER
VFD	VARIABLE FREQUENCY DRIVE, FURNISHED BY MECHANICAL, INSTALLED & CONNECTED COMPLETE BY ELECTRICAL
	MANUAL MOTOR STARTER WITH OVERLOAD PROTECTION
	MOTOR WITH FLEXIBLE CONDUIT CONNECTION AND DISCONNECT
T	TRANSFORMER
	CONCRETE PULLBOX, SIZE AS REQUIRED OR SHOWN - CHRISTY OR EQUAL WITH LABELED LID PER USE
	COPPER GROUND ROD
J	FLUSH CEILING MOUNTED JUNCTION BOX, U.O.N.
J	FLUSH WALL MOUNTED JUNCTION BOX, UP 18" U.O.N.
J	JUNCTION BOX FLUSH FLOOR MOUNTED
	20A 3PG 125V DUPLEX RECEPTACLE, UP 18" U.O.N.
	20A 3PG 125V DUPLEX RECEPTACLE, WEATHERPROOF, UP 18" U.O.N.
GFI	20A 3PG 125V DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER TYPE, UP 18" U.O.N.
IG	20A 3PG 125V DUPLEX RECEPTACLE, ISOLATED GROUND TYPE, UP 18" U.O.N.
T	20A 3PG 125V DUPLEX RECEPTACLE, TAMPER RESISTANT, UP 18" U.O.N.
	20A 3PG 125V DUPLEX RECEPTACLE, MOUNTED ABOVE COUNTER, U.O.N.
	20A 3PG 125V DOUBLE DUPLEX RECEPTACLE, UP 18" U.O.N.
	20A 3PG 125V DOUBLE DUPLEX RECEPTACLE, MOUNTED ABOVE COUNTER, U.O.N.
	20A 3PG 125V SINGLE RECEPTACLE, UP 18" U.O.N.
	20A 3PG 125V SINGLE TWISTLOCK RECEPTACLE, NEMA L5-20R, UP 18" U.O.N.
	SPECIAL RECEPTACLE AS INDICATED ON PLANS
	CONTROLLED AND IDENTIFIED (SPLIT-WIRED) DUPLEX RECEPTACLE, WITH ONE HALF OF RECEPTACLE WIRED THROUGH LOCAL PLUG-LOAD CONTROLLER, UP 18" U.O.N.
	CONTROLLED DUPLEX RECEPTACLE WIRED THROUGH LOCAL PLUG-LOAD CONTROLLER, UP 18" U.O.N.
	FLUSH IN FLOOR OUTLET BOX WITH QUANTITY OF 20A 3PG 125V DUPLEX RECEPTACLES AS INDICATED ON PLANS
	FLUSH CEILING MTD. DUPLEX OUTLET, 20A 3PG
T	LINE VOLTAGE THERMOSTAT, PROVIDED & INSTALLED BY ELECTRICAL, CONNECTED COMPLETE BY MECHANICAL
	SURFACE MOUNTED WIREMOLD RACEWAY WITH RECEPTACLES AS INDICATED ON PLANS
	TERMINAL MOUNTING BACKBOARD, 3/4" PLYWOOD, DIMENSIONS AS NOTED ON PLANS, PAINT TO MATCH ADJACENT WALL SURFACE, MAINTAINING UL FIRE LABEL VISIBLE
(2)	COMBINED TELEPHONE/DATA OUTLET, UP 18" U.O.N.
	NUMBER INDICATES QUANTITY OF DATA OUTLET JACKS
	COMBINED VOICE/DATA OUTLET, MOUNTED ABOVE COUNTER U.O.N.
	INTERCOM HANDSET, UP 48" U.O.N.
	WALL MOUNTED 120V SIGNAL SYSTEM CLOCK, UP 96" U.O.N.
TV	WALL MOUNTED VIDEO OUTLET, UP 18" U.O.N.
S	FLUSH WALL MOUNTED INDOOR PUBLIC ADDRESS SPEAKER, UP 96" U.O.N.
S	FLUSH WALL MOUNTED OUTDOOR WEATHERPROOF PUBLIC ADDRESS SPEAKER
S	FLUSH CEILING MOUNTED INDOOR PUBLIC ADDRESS SPEAKER
S	FLUSH WALL MOUNTED INDOOR PUBLIC ADDRESS SPEAKER & SIGNAL SYSTEM 120V CLOCK, UP 96" U.O.N.
F	FIRE ALARM SYSTEM MANUAL PULL STATION, UP 48" U.O.N.
F 110	FIRE ALARM SYSTEM HORN/STROBE, UP 80" U.O.N. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
F 110	WEATHERPROOF FIRE ALARM SYSTEM HORN/STROBE, UP 80" U.O.N. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
F 110	FIRE ALARM SYSTEM HORN/STROBE, CEILING MOUNTED. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
S 110	FIRE ALARM SYSTEM STROBE, UP 80" U.O.N. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
S 110	FIRE ALARM SYSTEM STROBE, CEILING MOUNTED. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
H	WEATHERPROOF FIRE ALARM SYSTEM HORN, UP 90" U.O.N.
V 110	FIRE ALARM SYSTEM SPEAKER/STROBE, UP 80" U.O.N. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
V 110	FIRE ALARM SYSTEM SPEAKER/STROBE, CEILING MOUNTED. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
S	FIRE ALARM SYSTEM SPEAKER, UP 90" U.O.N.
S	WEATHERPROOF FIRE ALARM SYSTEM SPEAKER, UP 90" U.O.N.
S	FIRE ALARM SYSTEM SPEAKER, CEILING MOUNTED
D	WALL MOUNTED ELECTROMAGNETIC DOOR HOLD-OPEN DEVICE, FURNISHED BY DIV. 8, INSTALLED & CONNECTED COMPLETE TO FIRE ALARM SYSTEM BY DIV. 28
FS	FIRE ALARM SYSTEM SPRINKLER FLOW SWITCH. PROVIDE MONITOR MODULE
TS	FIRE ALARM SYSTEM SPRINKLER VALVE SUPERVISORY SWITCH. PROVIDE MONITOR MODULE
PIV	POST INDICATING VALVE
B	SPRINKLER FLOW ALARM (PROVIDE BY SPRINKLER CONTRACTOR). CONNECT COMPLETE VIA WATER FLOW SWITCH AUX. CONTACTS
S	FIRE ALARM SYSTEM SMOKE DETECTOR
H	FIRE ALARM SYSTEM HEAT DETECTOR
D	FIRE ALARM SYSTEM HVAC DUCT MOUNTED SMOKE DETECTOR. COORDINATE WITH MECHANICAL FOR SUPPLY, INSTALL AND COMPLETE CONNECTION (INCLUDING CONTROL OF HVAC EQUIPMENT) - SEE SPECIFICATIONS
M	FIRE ALARM SYSTEM MONITOR MODULE
C	FIRE ALARM SYSTEM CONTROL MODULE
R	FIRE ALARM SYSTEM RELAY MODULE
CO	FIRE ALARM SYSTEM CEILING MOUNTED CARBON MONOXIDE DETECTOR WITH SOUNDER BASE

CALIFORNIA GREEN BUILDING STANDARDS COMPLIANCE

ALL EXTERIOR LUMINAIRES SPECIFIED IN THESE CONTRACT DOCUMENTS COMPLY WITH THE REQUIREMENTS OF THE CALIFORNIA ENERGY CODE AND THE CALIFORNIA GREEN BUILDING STANDARDS CODE, SECTION A5.106.8 LIGHT POLLUTION REDUCTION. EXTERIOR LUMINAIRES COMPLY WITH BACKLIGHT, UPLIGHT, AND GLARE (BUG) RATINGS AS DEFINED IN IESNA TM-15-11 AND BUG RATINGS DO NOT EXCEED THE MAXIMUM ALLOWABLE RATINGS FOR THIS PROJECT.

SYMBOLS LIST

ALL SWITCH AND CONTROL MOUNTING HEIGHTS OF 48" SHALL BE TO TOP OF THE DEVICE BOX. ALL RECEPTACLES WITH MOUNTING HEIGHT OF UP TO 18" SHALL BE NO LOWER THAN 15" TO BOTTOM OF THE DEVICE BOX, TYPICAL, U.O.N.

AA1	INDICATES LUMINAIRE TYPE, SEE LUMINAIRE SCHEDULE
	RECESSED 2'x2', 2'x4' OR 1'x4' LUMINAIRE, FULLY LENSED
	RECESSED 2'x2', 2'x4' LUMINAIRE WITH DECORATIVE ARTICULATED OPTICAL SHIELD
EM OR E	INDICATES EMERGENCY LUMINAIRE. SEE ABBREVIATIONS FOR TYPE OF EMERGENCY SOURCE
	SUSPENDED LINEAR LUMINAIRE
	INDICATES AIRCRAFT CABLE SUPPORT POINT (VERIFY WITH MANUFACTURER)
	INDICATES COMBINATION AIRCRAFT CABLE/ELECTRICAL FEED POINT (VERIFY WITH MANUFACTURER)
	SURFACE CEILING, WALL OR COVE MOUNTED LUMINAIRE
	UNDER CABINET LUMINAIRE
	SURFACE OR SUSPENDED STRIP LUMINAIRE
	SURFACE CEILING MOUNTED LUMINAIRE
	PENDANT MOUNTED LUMINAIRE WITH CABLE SUSPENSION AND (1) POWER FEED LOCATION
	(2) SUSPENDED CABLE LOCATIONS
	DECORATIVE CEILING MOUNTED LUMINAIRE
	SURFACE MOUNTED LIGHTING TRACK WITH TRACK LUMINAIRES
	RECESSED ADJUSTABLE ACCENT LUMINAIRE. ARROW INDICATES AIMING DIRECTION
	RECESSED DOWNLIGHT LUMINAIRE
	RECESSED WALLWASH LUMINAIRE
	RECESSED OR SURFACE MOUNTED LINEAR WALLWASHER, OPEN AREA INDICATES DIRECTION OF ILLUMINATION
	RECESSED DOWNLIGHT WITH DECORATIVE TRIM
	WALL MOUNTED LUMINAIRE
	LOCATION OF WALL MOUNTED LUMINAIRE, SEE BUILDING PLANS FOR EXACT LOCATION AND LUMINAIRE TYPE
	STEPLIGHT RECESSED FLUSH IN WALL
	POLE ARM-MOUNTED AREA LUMINAIRE; ARROW INDICATES DIRECTION OF LIGHT DISTRIBUTION WHEN NOT PARALLEL TO ARM ORIENTATION
	POLE ARM-MOUNTED PEDESTRIAN-SCALE WALKWAY OR AREA LUMINAIRE; ARROW INDICATES DIRECTION OF LIGHT DISTRIBUTION
	POST-TOP PEDESTRIAN-SCALE AREA LUMINAIRE; ARROW INDICATES DIRECTION OF LIGHT DISTRIBUTION
	BOLLARD LUMINAIRE; ARROW INDICATES DIRECTION OF LIGHT DISTRIBUTION
	FLUSH IN-GROUND LANDSCAPE OR BUILDING UPLIGHT, NON-ADJUSTABLE AIMING
	FLUSH IN-GROUND LANDSCAPE OR BUILDING UPLIGHT WITH ADJUSTABLE AIMING FEATURE; ARROW INDICATES AIMING DIRECTION
	FLUSH IN-GROUND WALLWASH UPLIGHT; OPEN AREA INDICATES DIRECTION OF ILLUMINATION
	STEM MOUNTED SIGN LIGHT
	WALL MOUNTED EXIT SIGN, ARROWS AS NOTED ON PLANS. SHADED AREA INDICATES NUMBER OF FACES
	CEILING MOUNTED EXIT SIGN, ARROWS AS NOTED ON PLANS. SHADED AREA INDICATES NUMBER OF FACES
	LOW LEVEL WALL MOUNTED EXIT SIGN
	WALL MOUNTED EMERGENCY BATTERY EGRESS LUMINAIRE WITH NUMBER OF ADJUSTABLE LAMP HEADS INDICATED
$a	LINE VOLTAGE SINGLE POLE TOGGLE SWITCH, LETTER ADJACENT INDICATES RESPECTIVE ZONE CONTROLLED, UP 48" U.O.N.
$2	LINE VOLTAGE TWO POLE TOGGLE SWITCH, UP 48" U.O.N.
$3	LINE VOLTAGE THREE-WAY TOGGLE SWITCH, UP 48" U.O.N.
$k	LINE VOLTAGE KEY OPERATED TOGGLE SWITCH
$m	LINE VOLTAGE MOTOR RATED TOGGLE SWITCH INSTALLED AT EQPT SHOWN
$p	LINE VOLTAGE TOGGLE SWITCH WITH PILOT LIGHT, LIGHT IS ON WHEN CIRCUIT IS CLOSED, UP 48" U.O.N.
Sab	LOW VOLTAGE MOMENTARY CONTACT SWITCH - SEE LOW VOLTAGE RELAY SCHEDULE, LOWER CASE LETTER ADJACENT INDICATES RESPECTIVE ZONE CONTROLLED, UP 48" U.O.N.
kSab	LOW VOLTAGE KEYED MOMENTARY CONTACT SWITCH - SEE LOW VOLTAGE RELAY SCHEDULE, LOWER CASE LETTER ADJACENT INDICATES RESPECTIVE ZONE CONTROLLED, UP 48" U.O.N.
aOSb	WALL MOUNTED SWITCH TYPE INFRARED OCCUPANCY SENSOR; UP 48" U.O.N.; SINGLE OR DUAL AS NOTED BY LETTERS ADJACENT. SET TO FIXED 20 MINUTE TIME DELAY AND MAX SENSITIVITY
aDSb	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR; UP 48" U.O.N.; SINGLE OR DUAL AS NOTED BY LETTERS ADJACENT. SET TO FIXED 20 MINUTE TIME DELAY AND MAX SENSITIVITY
OSD	WALL MOUNTED DIGITAL DUAL TECHNOLOGY DIMMING OCCUPANCY SENSOR SWITCH; UP 48" U.O.N.
Sa	WALL MOUNTED DIGITAL SWITCH, UP 48" U.O.N.; LOWER CASE LETTER ADJACENT INDICATES RESPECTIVE ZONE CONTROLLED
2Da,b	WALL MOUNTED SINGLE OR MULTI-ZONE DIGITAL DIMMER SWITCH, UP 48" U.O.N.; LOWER CASE LETTERS ADJACENT INDICATE RESPECTIVE ZONES TO BE SIMULTANEOUSLY MANUALLY CONTROLLED; NUMERAL DESIGNATES NUMBER OF ZONES ASSIGNED TO THE DEVICE
	CEILING MOUNTED DUAL TECHNOLOGY DIGITAL OCCUPANCY SENSOR
	WALL MOUNTED DUAL TECHNOLOGY DIGITAL OCCUPANCY SENSOR
	CEILING MOUNTED LINE VOLTAGE DUAL TECHNOLOGY OCCUPANCY SENSOR
Z3,Z4 P	SINGLE OR MULTI-ZONE SWITCHING OR DIMMING OPEN LOOP DIGITAL DAYLIGHTING SENSOR; NOTATIONS ADJACENT IDENTIFY DAYLIGHT ZONES ASSIGNED TO THE DEVICE. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN
Z1 P	SINGLE ZONE SWITCHING OR DIMMING CLOSED LOOP DIGITAL DAYLIGHTING SENSOR; NOTATIONS ADJACENT IDENTIFY DAYLIGHT ZONES ASSIGNED TO THE DEVICE. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN
Z1 P	DAYLIGHT CONTROL PHOTOCELL - BRACKET MOUNTED; NOTATIONS ADJACENT IDENTIFY DAYLIGHT ZONES ASSIGNED TO THE DEVICE. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN
Z2	INDICATES DAYLIGHT ZONE CONTROLLED VIA PHOTOCELL
RC 2	ROOM CONTROLLER
	ADJACENT NUMERAL REFERS TO THE NUMBER OF ZONES TO BE CONTROLLED. VENDOR OR CONTRACTOR TO PROVIDE QUANTITY OF ROOM CONTROLLERS REQUIRED FOR THE NUMBER OF CONTROLLED ZONES.
PC	PLUG LOAD ROOM CONTROLLER
NB	NETWORK BRIDGE
MBR	MASTER WIRELESS BORDER ROUTER & NB - SWITCH IN NETWORK CABINET; SEE DETAILS FOR TYPE
BR 1	SECONDARY WIRELESS BORDER ROUTER
IR	ISOLATED RELAY INTERFACE
EC	EMERGENCY LIGHTING CONTROL MODULE
P	OCCUPANCY SENSOR POWER PACK MOUNTED IN CONCEALED ACCESSIBLE LOCATION

GENERAL NOTES

1. PRIOR TO BID THE CONTRACTOR SHALL VISIT THE SITE TO ADEQUATELY DETERMINE ALL PRE-EXISTING CONDITIONS. BY THE ACT OF SUBMITTING A BID, THE CONTRACTOR WILL BE DEEMED TO HAVE COMPLIED WITH THE FOREGOING, TO HAVE ACCEPTED SUCH CONDITIONS, AND TO HAVE MADE ALLOWANCES THEREFORE IN PREPARING THE BID.
2. PROVIDE PARITY SIZED GREEN GROUND WIRE IN ALL POWER CONDUITS, BRANCH CIRCUITS (LIGHTING & POWER) AND HOMERUNS. PROVIDE ADDITIONAL ISOLATED GROUND, GREEN WITH YELLOW STRIPE, TO ALL ISOLATED GROUND RECEPTACLES.
3. PROVIDE PULLROPE IN ALL EMPTY CONDUITS THROUGHOUT THE PROJECT.
4. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATION & CONNECTION REQUIREMENTS OF ALL LUMINAIRE(S) AND ALL OUTLET, SWITCH, AND ELECTRICAL RELATED DEVICE MOUNTING HEIGHTS AND LOCATIONS. COORDINATE LOCATIONS OF ALL LUMINAIRE(S) AND JUNCTION BOXES WITH MECHANICAL DIVISION PRIOR TO ROUGH-IN. COORDINATE LOCATIONS OF ELECTRICAL DEVICES WITH FURNITURE PLANS PRIOR TO ROUGH-IN.
5. REFER TO MECHANICAL PLANS FOR EXACT LOCATION(S) OF ALL MECHANICAL EQUIPMENT, AND CONFIRM EXACT CONNECTION REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL DIVISION, PRIOR TO ROUGH-IN. VERIFY EXACT REQUIREMENTS FOR VOLTAGE, PHASE, HORSE-POWER, OR KVA RATINGS, OF ALL MECHANICAL DIVISION EQUIPMENT REQUIRING ELECTRICAL CONNECTION.
6. VERIFY EXACT CONNECTION REQUIREMENTS, OUTLET TYPE(S), MOUNTING HEIGHT(S) AND LOCATION(S) OF ALL OWNER-SUPPLIED EQUIPMENT, AND ALL EQUIPMENT PROVIDED UNDER OTHER SECTIONS OF THE SPECIFICATIONS, PRIOR TO ROUGH-IN. REFER TO ARCHITECTURAL DRAWINGS FOR EQUIPMENT LOCATIONS.
7. COORDINATE TRENCHING WITH OWNER AND OTHER TRADES BEFORE BEGINNING WORK.
8. ALL CONDUIT PENETRATIONS THROUGH FIRE-RATED WALLS AND FLOORS SHALL BE SEALED AND EQUIPPED WITH U.L. LISTED FIRE PENETRATION ASSEMBLIES TO MAINTAIN FIRE SEPARATION RATING.
9. DO NOT INSTALL ANY OUTLETS BACK TO BACK IN STUD WALLS OR DE-MOUNTABLE PARTITIONS.
10. THE CONTRACTOR SHALL VERIFY ALL CEILING TYPES BEFORE ORDERING OF LUMINAIRE(S). ALSO VERIFY THAT ALL FEATURES CALLED FOR IN LUMINAIRE DESCRIPTIONS ON THE LUMINAIRE SCHEDULE ARE INCLUDED WITH CATALOG NUMBERS LISTED ON THE LUMINAIRE SCHEDULE WHEN LUMINAIRE ORDERS ARE PLACED, AND ARE INCLUDED AS PART OF THE LIGHTING SUBMITTALS FOR THIS PROJECT. IF A DISCREPANCY EXISTS, CONTACT THE ARCHITECT AND ELECTRICAL ENGINEER FOR CLARIFICATION PRIOR TO BID.
11. CIRCUITRY AND CONDUIT ROUTING SHOWN ON THE PLANS IS DIAGRAMMATIC ONLY. THIS CONTRACTOR IS RESPONSIBLE FOR BECOMING COMPLETELY FAMILIAR WITH THE ARCHITECTURAL AND STRUCTURAL CONDITIONS AND LIMITATIONS IN THE BUILDING AND TO PROVIDE ALL LABOR, TOOLS AND MATERIALS REQUIRED TO PRODUCE A COMPLETELY CONCEALED INSTALLATION WHEREVER INDICATED ON THE PLANS.
12. MAINTAIN "AS-BUILT" RECORDS AT ALL TIMES, SHOWING EXACT LOCATION OF ALL UNDERGROUND AND/OR CONCEALED CONDUITS AND SERVICES INSTALLED UNDER THIS CONTRACT, INCLUDING CIRCUIT IDENTIFICATION WHERE APPLICABLE. PROVIDE OWNER WITH "AS-BUILT" DOCUMENTS AS INDICATED IN THE SPECIFICATIONS, AND/OR CALLED FOR IN THE SPECIFICATIONS.
13. DRAWINGS INDICATE THE LOCATION(S) OF DEVICES, LUMINAIRE(S) AND EQUIPMENT, AND THE CIRCUIT NUMBER AND PANEL DESIGNATED TO SUPPLY THEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETELY CONNECTING ALL ELECTRICAL DEVICES TO CIRCUITS INDICATED ON THE DRAWINGS.
14. UNLESS OTHERWISE NOTED, ALL WORK SHOWN ON DRAWINGS IS NEW AND TO BE PROVIDED AND INSTALLED COMPLETE UNDER THIS CONTRACT.
15. ALL EQUIPMENT GROUNDING SHALL CONFORM TO ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE, LATEST EDITION.
16. ALL EXTERIOR CONDUIT ABOVE GRADE, INCLUDING ALL ROOF MOUNTED CONDUIT, SHALL BE GALVANIZED RIGID STEEL. COAT ALL EXPOSED THREADS WITH GALVANIZING PAINT. PAINT ALL SURFACE MOUNTED RACEWAYS AND PULLBOXES TO MATCH SURROUNDING CONDITIONS, AS DIRECTED BY THE ARCHITECT.
17. ALL ELECTRICAL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE LATEST EDITION OF THE N.E.C., AS WELL AS STATE, AND LOCAL CODES AND REQUIREMENTS.
18. ALL CONDUIT SHALL BE CONCEALED, UNLESS OTHERWISE NOTED.
19. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE AVAILABLE SHORT CIRCUIT CURRENT AT THE MAIN SWITCHBOARD INCOMING TERMINALS WITH THE UTILITY COMPANY, AND TO VERIFY THAT ALL POWER AND SIGNAL SERVICE PROVISIONS, INCLUDING CONCRETE EQUIPMENT PADS, CONDUITS, PULLBOXES AND CLEARANCES, MEET THE UTILITY COMPANY'S REQUIREMENTS, PRIOR TO INSTALLATION.
20. EQUIPMENT OVERLOADS AND FUSES SHALL BE PROVIDED AND INSTALLED AS PER NAME PLATE ON THE EQUIPMENT ACTUALLY PROVIDED.
21. THE CONTRACTOR SHALL PAY FOR ALL REQUIRED PERMITS AND INSPECTION FEES.
22. THE CONTRACTOR SHALL VERIFY ALL CRITICAL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.
23. ALL EXIT SIGNS SHALL COMPLY WITH THE RELEVANT PORTIONS OF SECTIONS 1008 AND 1013 OF THE CBC.
24. ALL MECHANICAL DIVISION EQUIPMENT LOW VOLTAGE CONTROL WIRING AND RACEWAY SHALL BE PROVIDED AND INSTALLED AS SPECIFIED IN MECHANICAL DIVISION U.O.N.
25. COORDINATE INSTALLATION OF ALL RECESSED LUMINAIRE(S) WITH MECHANICAL DIVISION PRIOR TO INSTALLATION OF HVAC DUCTS AND SPRINKLER HEADS. ENSURE AFTER INSTALLATION OF LUMINAIRE(S) THAT THERE IS NO CONTACT BETWEEN DUCTS AND LUMINAIRE(S) TO AVOID VIBRATION IN LUMINAIRE(S).
26. USE FLEXIBLE CONDUIT FOR ALL MOTOR, TRANSFORMER, RECESSED LUMINAIRE CONNECTIONS, AND CONNECTIONS BETWEEN TWO SEPARATE STRUCTURES AND FOR ALL FINAL CONNECTIONS TO "CRITICAL EQUIPMENT" AS DEFINED IN SPECIFICATIONS. MINIMUM 1/2" DIAMETER, LIQUID TIGHT TYPE USED OUTDOORS AND IN ALL WET LOCATIONS; PROVIDE WITH CODE-SIZE (MINIMUM #12) BARE GROUND WIRE IN ALL FLEXIBLE CONDUIT.
27. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR ALL BRANCH CIRCUITS FEEDING OUTLETS AS NOTED ON THE DRAWINGS.
28. FOR FLUSH MOUNTED PANELBOARDS THE CONTRACTOR SHALL STUB A MINIMUM OF FOUR (4) 3/4" CONDUITS FROM THE PANEL UP INTO THE ACCESSIBLE CEILING ABOVE FOR FUTURE CIRCUITS.
29. ALL CONDUIT CONNECTORS TO OUTLET OR JUNCTION BOXES SHALL HAVE INSULATED THROATS (MANUFACTURED AS AN INTEGRAL PART OF THE CONNECTOR). AFTER-MARKET INSERTABLE THROATS ARE NOT ACCEPTABLE.
30. ALL CIRCUITS IN ALL JUNCTION BOXES AND DEVICES SHALL BE CLEARLY IDENTIFIED BY MEANS OF "EZ" NUMBERING TAGS OR EQUIVALENT, TO IDENTIFY THE CIRCUIT NUMBER OR RELAY SUPPLYING THE CONDUCTOR. ALL JUNCTION BOXES SHALL BE LABELED PER SPECIFICATIONS.
31. ALL SURFACE MOUNTED POWER AND SIGNAL BOXES IN FINISHED AREAS SHALL BE "WIREMOLD" TYPE, WITH MATCHING RACEWAYS. SURFACE MOUNTED STEEL JUNCTION BOXES AND/OR EMT ARE NOT ACCEPTABLE.
32. ALL LOCATIONS OF BARE METAL SURFACE MOUNTED CONDUIT, BOXES, PANEL COVERS, AND RELATED FITTINGS OR ACCESSORIES INSTALLED IN FINISHED AREAS (BOTH INTERIOR AND EXTERIOR) SHALL BE FINISH PAINTED TO MATCH THE SURFACE TO WHICH THEY ARE MOUNTED TO (AFTER INSTALLATION). PAINTING SHALL INCLUDE DIFFERENT COLORS AS REQUIRED TO MATCH EXISTING STRIPING OR OTHER BUILDING FEATURES TO WHICH THE EQUIPMENT IS ATTACHED AND VISIBLE. VERIFY EXACT JUNCTION BOX LOCATION(S) AND ROUTING OF EXPOSED RACEWAYS WITH THE ARCHITECT PRIOR TO ROUGH-IN.
33. PROVIDE A BLANK COVER PLATE (COLOR TO MATCH ADJACENT DEVICES OR AS SPECIFICALLY CALLED FOR IN SPECIFICATIONS) FOR ALL JUNCTION BOXES (NEW AND EXISTING) ON THE PROJECT WHEN NO DEVICE IS INSTALLED.
34. FOR OUTDOOR 15 AND 20-AMPERE, 125 AND 250-VOLT RECEPTACLES: RECEPTACLES LOCATED IN "WET" LOCATIONS SHALL HAVE "IN-USE" TYPE WEATHERPROOF COVER PLATES PROVIDED AND INSTALLED; RECEPTACLES LOCATED IN "DAMP" LOCATIONS SHALL HAVE "IN-USE" TYPE WEATHERPROOF COVER PLATES IN LOCATIONS DEEMED TO BE "IN-USE" WITH CORD AND PLUG ATTACHED.
35. TWO OR THREE DIFFERENT PHASES SUPPLIED BY A 3-PHASE PANEL MAY SHARE A SINGLE NEUTRAL ONLY IF CIRCUIT POSITIONS ARE ADJACENT IN THE PANEL. PROVIDE COMMON HANDLE-TIE ON BREAKERS FOR MULTI-WIRE BRANCH CIRCUITS, WITH COMMON NEUTRAL, PER NEC REQUIREMENTS.

LIST OF DRAWINGS

E-0.1 SYMBOLS LIST, GENERAL NOTES & LIST OF DRAWINGS
E-0.2 LUMINAIRE SCHEDULE
E-0.3 LUMINAIRE SCHEDULE

E-1.0 SITE PLAN - ELECTRICAL
E-1.1 SITE PLAN - LIGHTING

E-A2.1 ADMINISTRATION BLDG - LIGHTING
E-B2.1 CAFETERIA KITCHEN PLAN - LIGHTING

E-A3.1 ADMINISTRATION BLDG - POWER & SIGNAL
E-A3.2 ADMINISTRATION BLDG - MECHANICAL EQUIPMENT ELECTRICAL

E-B3.1 CAFETERIA KITCHEN FLOOR PLAN - POWER & SIGNAL

E-B4.1 ENLARGED KITCHEN PLAN - POWER & SIGNAL

E-5.1 SINGLE LINE DIAGRAM - POWER
E-5.2 LIGHTING CONTROL DIAGRAMS
E-5.3 DETAILS

E-6.1 PANEL SCHEDULES

E-7.1 DETAILS
E-7.2 DETAILS
E-7.3 DETAILS

E-8.1 TITLE 24 DOCUMENTATION
E-8.2 TITLE 24 DOCUMENTATION
E-8.3 TITLE 24 DOCUMENTATION

FE-0.1 FIRE ALARM EQUIPMENT LIST AND GENERAL NOTES
FE-1.0 SITE PLAN - FIRE ALARM

FE-A3.1 ADMINISTRATION BLDG - FIRE ALARM
FE-B3.1 CAFETERIA KITCHEN PLAN - FIRE ALARM

FE-5.1 RISER DIAGRAM - FIRE ALARM
FE-6.1 CALCULATIONS - FIRE ALARM

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

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REVISIONS

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DECEMBER 2, 2020

SHEET TITLE

SYMBOLS LIST, GENERAL NOTES & LIST OF DRAWINGS

SHEET NUMBER

E-0.1

LUMINAIRE SCHEDULE

TYPE	MOUNTING	DESCRIPTION	MANUFACTURER	CATALOG #	SOURCE DETAILS	POWER SUPPLY	VOLTS	INPUT WATTS
AJ2	RECESSED CEILING	SAME AS TYPE AJ1 EXCEPT LOWER OUTPUT	COLUMBIA LIGHTING	VSYWW-35-LWHE-G-ED-U	LED 3500K 80+ CRI 1425 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	UNV	19
AK1	PENDANT	4' L x 7.5"W x 3"H LINEAR L.E.D. DIRECT/INDIRECT CABLE SUSPENDED UNIT WITH DIE FORMED STEEL HOUSING, FROSTED ACRYLIC BOTTOM LENS, 2-LED LIGHT ENGINES, INTEGRAL ELECTRONIC DIMMING DRIVER.	FINELITE	S16 LED 1D DCO-4-3E-B-B	LED 3500K 80 CRI 856LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	28
AK2	PENDANT MOUNTED	SAME AT TYPE AK1 EXCECPT 8ft LENGTH	FINELITE	S16 LED 1D DCO-4-3E-B-B	LED 3500K 80 CRI 856LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	57
AL1	RECESSED CEILING	2'W x 2'L x 2-3/8"H RECESSED LED FLAT PANEL 'FOOD SERVICE' RATED SEALED TROFFER, WITH FROSTED SHATTERPROOF/PROTECTIVE, 0.125" THICK POLYCARBONATE BOTTOM LENS, FORMED STEEL HOUSING, PAINTED AFTER FABRICATION HOUSING, INTEGRAL ELECTRONIC DIMMING DRIVER, BASKETS BETWEEN FRAME AND LENS, AND BETWEEN FRAME AND CEILING GRID MEMBERS, UL WET LOCATION AND NATIONAL SANITATION FOUNDATION (NSF) CERTIFIED, OPTIONAL EARTHQUAKE CLIPS.	FAILSAFE	FSP-22-2135-CP125-FPEQ	LED 3500K 80+ CRI 2100 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	UNV	21
AL2	RECESSED CEILING	SAME AS AL1 EXCEPT HIGHER OUTPUT	FAILSAFE	FSP-22-25HE35-CP125-FPEQ	LED 3500K 80+ CRI 4200 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	UNV	38
AM1	RECESSED CEILING	2' x 4' L.E.D.RECESSED FLAT PANEL TROFFER, WITH EDGELIT OPAL WHITE ACRYLIC DIFFUSING LENS, FORMED STEEL HOUSING, PAINTED AFTER FABRICATION HOUSING, INTEGRAL ELECTRONIC DIMMING DRIVER, OPTIONAL EARTHQUAKE CLIPS AT EACH CORNER.	FAILSAFE	FSP-24-4735-CP125-FPEQ	LED 3500K 80+ CRI 4700 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	UNV	41
AM2	RECESSED CEILING	SAME AS AM1 EXCEPT HIGHER WATTAGE & OUTPUT	FAILSAFE	FSP-24-6435-CP125-FPEQ	LED 3500K 80+ CRI 6400 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	UNV	60
AN1	SURFACE WALL	6'L L.E.D. OVER MIRROR LUMINAIRE WITH EXTRUDED ALUMINUM LINEAR HOUSING, DIECAST ALUMINUM ENDCAPS, 'WRAP-AROUND' CONTINUOUS ACRYLIC DIFFUSER.	LITECONTROL	67L-W-D-6-(FINISH)-35K-D055-NDM-UNV	LED 3500K 80 CRI 3300 LM	INTEGRAL ELECTRONIC LED NON-DIMMING	UNV	24
AN2	SURFACE WALL	SAME AS AN1, EXCEPT 8'L, WATTAGE AND OUTPUT.	LITECONTROL	67L-W-D-8-(FINISH)-35K-D055-NDM-UNV	LED 3500K 80 CRI 4400 LM	INTEGRAL ELECTRONIC LED NON-DIMMING	UNV	32
AP1	RECESSED CEILING	ROUND 2'x'2' RECESSED L.E.D. TROFFER UNIT, WITH OPTIONAL RAL COLOR PAINTED SQUARE SURROUND TRIM, CONVEX OPAL WHITE ACRYLIC DROPPED DISH DIFFUSER, RAL COLOR, PAINTED TRIM FINISH, AS SELECTED BY THE ARCHITECT	PRUDENTIAL LIGHTING	P9020-LED35-LO-(SHIELDING)-(FINISH)-SC-UNV-X1-DM10	LED 3500K 80 CRI 2100 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	UNV	35
AQ1	RECESSED DOWNLIGHT	4" DIAMETER L.E.D. DOWNLIGHT WITH DECORATIVE, FROSTED DROPPED ACRYLIC RING ELEMENT	LIGHTOLIER	4RN C4L10-835-W-Z10-U C4R-DL-(FINISH)-(FLANGE) D4A02-C4RDL-4RN	LED 3500K 80+ CRI 1000 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-1%	UNV	11
AQ2	RECESSED DOWNLIGHT	SAME AT TYPE AQ1 EXCEPT HIGHER OUTPUT	LIGHTOLIER	4RN C4L20-835-W-Z10-U C4R-DL-(FINISH)-(FLANGE) D4A02-C4RDL-4RN	LED 3500K 80+ CRI 2000 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-1%	UNV	21
AR1	RECESSED DOWNLIGHT	RECESSED L.E.D. DOWNLIGHT WITH 4"DIA. ROUND APERTURE - GYP BOARD MOUNT	LIGHTOLIER	4RN C4L10-835-W-Z10-U C4R-DL-(FINISH)-(FLANGE)	LED 3500K 80+ CRI 1000 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-1%	UNV	11
AR2	RECESSED DOWNLIGHT	SAME AS AR1 EXCEPT MOUNTING FOR PERFORATED METAL CEILING.	LIGHTOLIER	4RN C4L10-835-W-Z10-U C4R-DL-(FINISH)-(FLANGE)	LED 3500K 80+ CRI 1000 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-1%	UNV	11
AS1	SURFACE	2'L L.E.D. STRIP LUMINAIRE WITH FORMED STEEL HOUSING, NOM. 3-5/16"W x 2 -9/16'W, PAINTED AFTER FABRICATION FINISH, HEAVY GAGE WIRE GUARD.	HE WILLIAMS	75R-2-L20-8-35-WG	LED 3500K 80 CRI 2000 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	UNV	15
AS2	SURFACE	SAME AS TYPE AS1 EXCEPT 4' LENGTH, WATTAGE & OUTPUT.	HE WILLIAMS	75R-4-L50-8-35	LED 3500K 80 CRI 5000 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	UNV	31
AS3	SURFACE	SAME AS TYPE AS1 EXCEPT 8' LENGTH	HE WILLIAMS	75R-8-L100-8-35	LED 3500K 80 CRI 10000 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	UNV	63
AS4	SURFACE	SAME AS TYPE AS1 EXCEPT 4' LENGTH AND LOWER OUTPUT	HE WILLIAMS	75R-4-L30-8-35	LED 3500K 80 CRI 3000 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	UNV	20
AT1	RECESSED DOWNLIGHT	4" DIAMETER RECESSED L.E.D. DOWNLIGHT WITH DROPPED DECORATIVE GLASS ELEMENT	FOCAL POINT	FLS2DD-RF-700L-NFL-120-L11-BH-LS2-RD-35K-DNC-NFL-CD-(FINISH)	LED 3500K 80+ CRI 700 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-1%	120	8
AU1	TRACK SPOT LIGHT	TRACK MOUNTED L.E.D. ADJUSTABLE ACCENT LUMINAIRE WITH FORMED ALUMINUM HOUSING, NOMINAL 7-1/4" WIDE X 8" TALL; LSI CT1 FITTING FOR CONTROLTRACK; WITH 25 DEGREE BREAM SPREAD; FINISH AS SELECTED BY THE ARCHITECT	LIGHTING SERVICES INC	LP2-ZE8 22-90 35 25 CT1-L3 120 (FINISH) ACCESSORIES: LP2 CROSS BAFFLE, BACKER RING E, (SPREAD GELS)	LED 3500K 90 CRI 2180 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER, LUTRON ECOSYSTEM, 100%-1%, SOFT ON/OFF	120	30
AU2	SURFACE TRACK	ONE CIRCUIT CONTROLTRACK EXTRUDED ALUMINUM, MUSEUM-GRADE LIGHT TRACK, NOMINAL 1-7/16" DEEP X 1-13/16" WIDE X 36 FT LENGTH. PROVIDE WITH ALL PARTS AND ACCESSORIES TO COMPRISE A FULLY FUNCTIONING TRACK SYSTEM; FINISH AS SELECTED BY THE ARCHITECT	LIGHTING SERVICES INC	TRACK: TRK-SC-(LENGTH)-120-(FINISH) (CUT TO LENGTH) JOINTER: TRK-XC-MJ1-120 END FEED: TRK-SC-EFC1-120 (FINISH) END CAP: TRK-S-AC-EC-(FINISH)	NA	NA	120	NA
AU3	TRACK SPOT LIGHT	TRACK MOUNTED L.E.D. ADJUSTABLE ACCENT LUMINAIRE WITH FORMED ALUMINUM HOUSING, NOMINAL 7-1/4" WIDE X 8" TALL; LSI CT1 FITTING FOR CONTROLTRACK; WITH 25 DEGREE BREAM SPREAD; FINISH AS SELECTED BY THE ARCHITECT	LIGHTING SERVICES INC	LP2-ZE8 22-90 35 25 CT1-10 120 (FINISH) ACCESSORIES: LP2 CROSS BAFFLE, BACKER RING E, (SPREAD GELS)	LED 3500K 90 CRI 2180 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER, 0-10V, 100%-10%.	120	30
AU4	SURFACE TRACK	SAME AS TYPE AU2 EXCEPT 8ft LENGTH AND 1.5A CURRENT LIMITER	LIGHTING SERVICES INC	TRACK: TRK-SC-(LENGTH)-120-(FINISH) (CUT TO LENGTH) JOINTER: TRK-XC-MJ1-120 END FEED: TRK-SC-EFC1-120 (FINISH) END CAP: TRK-S-AC-EC-(FINISH) CURRENT LIMITER: TCL-2-1.5-(FINISH)	NA	NA	120	180
AU5	SURFACE TRACK	SAME AS TYPE AU2 EXCEPT 7FT LENGTH AND 1.5A CURRENT LIMITER	LIGHTING SERVICES INC	TRACK: TRK-SC-(LENGTH)-120-(FINISH) (CUT TO LENGTH) JOINTER: TRK-XC-MJ1-120 END FEED: TRK-SC-EFC1-120 (FINISH) END CAP: TRK-S-AC-EC-(FINISH) CURRENT LIMITER: TCL-2-1.5-(FINISH)	NA	NA	120	180

LUMINAIRE SCHEDULE

TYPE	MOUNTING	DESCRIPTION	MANUFACTURER	CATALOG #	SOURCE DETAILS	POWER SUPPLY	VOLTS	INPUT WATTS
AA1	AIRCRAFT CABLE SUSPENDED	COMBINED ASSEMBLY OF2"W x 4"H x LENGTHS AS SHOWN ON THE PLANS, S.S. AIRCRAFT CABLE SUSPENDED, LINEAR L.E.D. DOWNLIGHT-ONLY RUNS, JOINED WITH 90 deg. CORNER, CROSS AND 'TEE' FITTINGS TO FORM THE 'RANDOM' GEOMETRIC ASSEMBLY AS SHOWN ON THE PLANS; WITH INTEGRAL ELECTRONIC DIMMING DRIVERS, DROPPED FROSTED ACRYLIC 'WRAP-AROUND' DIFFUSERS; FIVE (5) ENJOINED SECTIONS TOTAL 59.5 FT FOR THIS ASSEMBLY; EMERGENCY LUMINAIRE SECTIONS AS INDICATED ON THE PLANS.	FINELITE	HP2-P-D-59.5-B-835-BG-96LG-277-SC-FC-10%-FAxx-C4-FE-(FINISH)	LED 3500K 80 CRI 414 LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	274
AA2	AIRCRAFT CABLE SUSPENDED	SIMILAR TO AA1, EXCEPT DIFFERENT 'RANDOM' GEOMETRIC PATTERN ASSEMBLY - FOUR (4) LINEAR SECTIONS TOTALLING - 65 FT, ONE EMERENCY INVERTER-POWERED LUMINAIRE SECTION AS INDICATED ON THE PLANS.	FINELITE	HP2-P-D-65-B-835-BG-96LG-277-SC-FC-10%-FAxx-C4-FE-(FINISH)	LED 3500K 80 CRI 414 LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	299
AA3	AIRCRAFT CABLE SUSPENDED	SIMILAR TO AA1, EXCEPT DIFFERENT GEOMETRIC PATTERN ASSEMBLY - FOUR (4) LINEAR SECTIONS TOTALLING 43 FT; ONE EMERENCY INVERTER-POWERED LUMINAIRE SECTION AS INDICATED ON THE PLANS.	FINELITE	HP2-P-D-43-B-835-BG-96LG-277-SC-FC-10%-FAxx-C4-FE-(FINISH)	LED 3500K 80 CRI 414 LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	198
AA4	AIRCRAFT CABLE SUSPENDED	SIMILAR TO AA1, EXCEPT DIFFERENT GEOMETRIC PATTERN ASSEMBLY - FOUR (4) LINEAR SECTIONS TOTALLING 42.5 FT; ONE EMERENCY INVERTER-POWERED LUMINAIRE SECTION AS INDICATED ON THE PLANS.	FINELITE	HP2-P-D-42.5-B-835-BG-96LG-277-SC-FC-10%-FAxx-C4-FE-(FINISH)	LED 3500K 80 CRI 414 LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	196
AA5	AIRCRAFT CABLE SUSPENDED	SIMILAR TO AA1, EXCEPT DIFFERENT 'RANDOM' GEOMETRIC PATTERN ASSEMBLY - FOUR (4) LINEAR SECTIONS TOTALLING 44 FT; ONE EMERENCY INVERTER-POWERED LUMINAIRE SECTION AS INDICATED ON THE PLANS.	FINELITE	HP2-P-D-44-B-835-BG-96LG-277-SC-FC-10%-FAxx-C4-FE-(FINISH)	LED 3500K 80 CRI 414 LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	203
AA6	AIRCRAFT CABLE SUSPENDED	SIMILAR TO AA1, EXCEPT DIFFERENT 'RANDOM' GEOMETRIC PATTERN ASSEMBLY - FOUR (4) LINEAR SECTIONS TOTALLING 65.5 FT; ONE EMERENCY INVERTER-POWERED LUMINAIRE SECTION AS INDICATED ON THE PLANS.	FINELITE	HP2-P-D-65.5-B-835-BG-96LG-277-SC-FC-10%-FAxx-C4-FE-(FINISH)	LED 3500K 80 CRI 414 LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	302
AA7	AIRCRAFT CABLE SUSPENDED	SIMILAR TO AA1, EXCEPT DIFFERENT 'RANDOM' GEOMETRIC PATTERN ASSEMBLY - FOUR (4) LINEAR SECTIONS TOTALLING 40 FT; ONE EMERENCY INVERTER-POWERED LUMINAIRE SECTION AS INDICATED ON THE PLANS.	FINELITE	HP2-P-D-40-B-835-BG-96LG-277-SC-FC-10%-FAxx-C4-FE-(FINISH)	LED 3500K 80 CRI 414 LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	184
AB1	AIRCRAFT CABLE SUSPENDED	SUSPENDED LINEAR L.E.D. DIRECT/INDIRECT RUN, 6'-3"L x 4"H x 2"W, WITH OPEN, WIDESPREAD DISTRIBUTION 'UP', FLAT FROSTED ACRYLIC DIFFUSER 'DOWN', INTEGRAL ELECTRONIC DIMMING DRIVER(S), WITH EMERGENCY INVERTER POWER CORD DROP.	FINELITE	HP-2-P-ID-6'3"-H-S-835-F-BG-96LG-SC-FA50-C1-FE-SW-	LED 3500K 80 CRI 1120 LM/FT	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	63
AB2	AIRCRAFT CABLE SUSPENDED	SAME AS AB1, EXCEPT 7'-0"L RUN, INCREASED WATTAGE AND OUPUT.	FINELITE	HP-2-P-ID-7'0"-H-S-835-F-BG-96LG-SC-FA50-C1-FE-SW-	LED 3500K 80 CRI 1120 LM/FT	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	71
AB3	AIRCRAFT CABLE SUSPENDED	SAME AS AB1, EXCEPT 10'-11"L RUN, INCREASED WATTAGE AND OUPUT.	FINELITE	HP-2-P-ID-10'11"-H-S-835-F-BG-96LG-SC-FA50-C1-FE-SW-	LED 3500K 80 CRI 1120 LM/FT	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	111
AB4	AIRCRAFT CABLE SUSPENDED	SAME AS AB1, EXCEPT 10'-9"L RUN, INCREASED WATTAGE AND OUPUT.	FINELITE	HP-2-P-ID-10'9"-H-S-835-F-BG-96LG-SC-FA50-C1-FE-SW-	LED 3500K 80 CRI 1120 LM/FT	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	109
AB5	PENDANT MOUNTED	SAME AS AB1, EXCEPT 14'-10"L RUN, INCREASED WATTAGE AND OUPUT.		HP-2-P-ID-14'9.5"-H-S-835F-BG-96LG-SC-FA50-C1-FE-SW-	LED 3500K 80 CRI 1120 LM/FT	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	149
AB6	AIRCRAFT CABLE SUSPENDED	SAME AS AB1, EXCEPT 20'-6"L RUN, INCREASED WATTAGE AND OUPUT.	FINELITE	HP-2-P-ID-20'6"-H-S-835-F-BG-96LG-SC-FA50-C1-FE-SW-	LED 3500K 80 CRI 1120 LM/FT	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	207
AB8	AIRCRAFT CABLE SUSPENDED	SAME AS AB1, EXCEPT 6'-0"L RUN, WATTAGE AND WITH BOOSTED 'UP', STANDARD 'DOWN' OUPUTS.	FINELITE	HP-2-P-ID-6-B-S-835-F-BG-96LG-SC-FA50-C1-FE-SW-	LED 3500K 80 CRI 1120 LM/FT	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	49
AB9	AIRCRAFT CABLE SUSPENDED	SAME AS AB1, EXCEPT 8'-0"L RUN, WATTAGE AND WITH BOOSTED 'UP', STANDARD 'DOWN' OUPUT.	FINELITE	HP-2-P-ID-8-B-S-835-F-BG-96LG-SC-FA50-C1-FE-SW-	LED 3500K 80 CRI 1120 LM/FT	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	65
AB10	AIRCRAFT CABLE SUSPENDED	SAME AS AB1, EXCEPT 10'-0"L RUN, WATTAGE AND WITH BOOSTED 'UP', STANDARD 'DOWN' OUPUT.	FINELITE	HP-2-P-ID-10-B-S-835-F-BG-96LG-SC-FA50-C1-FE-SW-	LED 3500K 80 CRI 1120 LM/FT	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	81
AB11	AIRCRAFT CABLE SUSPENDED	SAME AS AB1, EXCEPT 12'-0"L RUN, WATTAGE AND WITH BOOSTED 'UP', STANDARD 'DOWN' OUPUT.	FINELITE	HP-2-P-ID-12-B-S-835-F-BG-96LG-SC-FA50-C1-FE-SW-	LED 3500K 80 CRI 1120 LM/FT	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	97
AB12	PENDANT MOUNTED	SAME AS AB1, EXCEPT 14'-0"L RUN, WATTAGE AND WITH BOOSTED 'UP', STANDARD 'DOWN' OUPUT.	FINELITE	HP-2-P-ID-14-B-S-835-F-BG-96LG-SC-FA50-C1-FE-SW-	LED 3500K 80 CRI 1120 LM/FT	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	113
AD1	RECESSED	RECESSED LINEAR L.E.D. DOWNLIGHT, 2"W x 4"H x 4' LENGTH, WITH DROPPED OPAL WHITE ACRYLIC DIFFUSER, EXTRUDED ALUMINUM HOUSING.	FINELITE	HP-2-R-D-4-B-835-DL-96LG-120-SC-FC-10%-C1-FE-SW	LED 3500K 80 CRI 423LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	18
AD2	RECESSED	SAME AS AD1, EXCEPT 6' L, WATTAGE & OUTPUT.	FINELITE	HP-2-R-D-6-B-835-DL-96LG-120-SC-FC-10%-C1-FE-SW	LED 3500K 80 CRI 423LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	28
AD3	RECESSED	SAME AS AD1, EXCEPT 8' L, WATTAGE & OUTPUT.	FINELITE	HP-2-R-D-8-B-835-DL-96LG-120-SC-FC-10%-C1-FE-SW	LED 3500K 80 CRI 423LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	37
AD4	RECESSED	SAME AS AD1, EXCEPT 12' L, WATTAGE & OUTPUT.	FINELITE	HP-2-R-D-12-B-835-DL-96LG-120-SC-FC-10%-C1-FE-SW	LED 3500K 80 CRI 423LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	55
AD5	RECESSED	SAME AS AD1, EXCEPT 16' L, WATTAGE & OUTPUT	FINELITE	HP-2-R-D-16-B-835-DL-96LG-120-SC-FC-10%-C1-FE-SW	LED 3500K 80 CRI 423LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	74
AD6	RECESSED	SAME AS AD1, EXCEPT 20' L, WATTAGE & OUTPUT - 12' MAXIMUM SECTION LENGTH PLUS 8' SECTION	FINELITE	HP-2-R-D-20-B-835-DL-96LG-120-SC-FC-10%-C1-FE-SW	LED 3500K 80 CRI 423LM/LFM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	92
AD7	RECESSED	SAME AS AD1, EXCEPT 28' L, WATTAGE & OUTPUT - (2) 12' MAXIMUM SECTION LENGTH PLUS 2' SECTION	FINELITE	HP-2-R-D-28-B-835-DL-96LG-120-SC-FC-10%-C1-FE-SW	LED 3500K 80 CRI 423LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	129
AG1	SURFACE RECESSED	RECESSED LINEAR L.E.D. WALL WASH LUMINAIRE, 2' L x 4" HIGH x 2 1/4" WIDE, WITH DROPPED 'KICK' REFLECTOR, INTEGRAL ELECTRONIC DIMMING DRIVER EXTRUDED ALUMINUM RECESSED HOUSING.	FINELITE	HP-2-R-WW-D-2-H-835-K-96LG-277-SC-FC-10%-(CEILING)-FE	LED 3500K 80 CRI 292 LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	8
AG2	SURFACE RECESSED	SAME AS TYPE AG1 EXCEPT 8' LENGTH	FINELITE	HP-2-R-WW-D-8-H-835-K-96LG-277-SC-FC-10%-(CEILING)-FE	LED 3500K 80 CRI 292 LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	31
AG3	SURFACE RECESSED	SAME AS TYPE AG1 EXCEPT 10' LENGTH	FINELITE	HP-2-R-WW-D-10-H-835-K-96LG-277-SC-FC-10%-(CEILING)-FE	LED 3500K 80 CRI 292 LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	38
AG4	SURFACE RECESSED	SAME AS TYPE AG1 EXCEPT 16' LENGTH	FINELITE	HP-2-R-WW-D-16-H-835-K-96LG-277-SC-FC-10%-(CEILING)-FE	LED 3500K 80 CRI 292 LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	61
AG5	SURFACE RECESSED	SAME AS TYPE AG1 EXCEPT 17' LENGTH	FINELITE	HP-2-R-WW-D-17-H-835-K-96LG-277-SC-FC-10%-(CEILING)-FE	LED 3500K 80 CRI 292 LM/LF	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	65
AJ1	RECESSED CEILING	EDGE-LIT DECORATIVE L.E.D. 2' x 2' RECESSED DOWNLIGHT WITH TWIN ANGLED ACRYLIC DIFFUSING PANELS & DECORATIVE CENTER TRIM BAND.	COLUMBIA LIGHTING	VSY22-35-HLHE-G-ED-U	LED 3500K 80+ CRI 3755 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	UNV	26

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

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REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO: 1783.00
DRAWN BY: LN
DRAWING SCALE: AS NOTED
PTN: 61721-75 FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

LUMINAIRE SCHEDULE

SHEET NUMBER

E-0.2

LIBERTY HS ADMIN & STUDENT COMMONS – 219013

LUMINAIRE SCHEDULE

TYPE	MOUNTING	DESCRIPTION	MANUFACTURER	CATALOG #	SOURCE DETAILS	POWER SUPPLY	VOLTS	INPUT WATTS
BK2	PEDESTRIAN POST TOP	SAME AS TYPE BK1, EXCEPT IES TYPE II ASYMMETRIC DISTRIBUTION PATTERN	GARDCO	PPT-140L-650-WW/G2-T3-2-UNV-(FINISH) POLE SRS-14-4.0-T4-(FINISH)	LED 3500K 70CRI 2910 LM	NON-DIMMING	UNV	30
BK3	PEDESTRIAN POST TOP	SAME AS TYPE BK1 EXCEPT TYPE III ASYMMETRIC DISTRIBUTION PATTERN	GARDCO	PPT-140L-650-WW/G2-T3-3-UNV-(FINISH) POLE SRS-14-4.0-T4-(FINISH)	LED 3500K 70CRI 2910 LM	NON-DIMMING	UNV	30
EX1	SURFACE WALL OR CEILING	DIECAST ALUMINUM SINGLE FACE LED EXIT SIGN WITH GREEN STENCIL LETTERS, ARROWS AS SHOWN ON THE PLANS	ISOLITE	TL2-EM-G-1-(FINISH)	NA	NON-DIMMING	UNV	2
EX2	SURFACE WALL OR CEILING	SAME AS EX1 EXCEPT DOUBLE FACE.	ISOLITE	TL2-EM-G-2-(FINISH)	NA	NON-DIMMING	UNV	2
EX3	SURFACE WALL OR CEILING	NON-ELECTRIC SINGLE FACE EXIT SIGN WITH TRITIUM LIGHT SOURCE, POLYCARBONATE LENS, EXTRUDED ALUMINUM FRAME, ARROWS AS INDICATED, UNIVERSAL MOUNTING BRACKET FOR BACK, END OR CEILING MOUNT.	ISOLITE		NA	NA	NA	0
EX4	SURFACE WALL OR CEILING	SAME AS EX4 EXCEPT DOUBLE FACE.	ISOLITE		NA	NA	NA	0

LUMINAIRE SCHEDULE

TYPE	MOUNTING	DESCRIPTION	MANUFACTURER	CATALOG # CURRENT LIMITER: TCL-2-3.0-(FINISH)	SOURCE DETAILS	POWER SUPPLY	VOLTS	INPUT WATTS
AV1	PENDANT	24" DIA.DECORATIVE L.E.D. DIRECT/INDIRECT CABLE-SUSPENDED 'RING' PENDANT UNIT WITH EXTRUDED ALUMINUM HOUSING, OPTIONAL 50% REDUCED OUTPUT (OPTION PR1), REMOTE ELECTRONIC DIMMING DRIVER MOUNTED IN NEMA 1 ENCLOSURE ABOVE TBAR CEILING, POWER OVER SUSPENSION CABLE, PREMIUM RAL PAINTED FINISH AS SELECTED BY THE ARCHITECT.	BETA CALCO	953105-D35-N35-S1-D1-PR1-RAL METALLIC		INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-1%	UNV	21
AW1	SURFACE WALL MOUNT	ROUNDED DECORATIVE L.E.D. WALL SCONCE WITH HEAVY GAGE FORMED STEEL HOUSING, 8-7/8" WIDE X 16" HIGH X 4" DEEP; PREMIUM METALLIC RAL POWDER COAT PAINT FINISH AS SELECTED BY THE ARCHITECT	VISA LIGHTING	CB3660-L35K-H-MVOLT-(FINISH)	LED 3500K 80 CRI 1000 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-1%	UNV	14
AZ1	SURFACE UNDERCABINET	3'L x 5"W x 1"H L.E.D. UNDERCABINET UNIT WITH ACRYLIC PRISMATIC LENS, SOLID FRONT, FORMED STEEL HOUSING; COORDINATE PROVISION OF CONCEALING FACIA AT BASE OF UPPER CABINETS & SHELVES WHERE UNITS ARE TO BE INSTLALLED, PRIOR TO RELEASE OF CASEWORK ORDERS.	HE WILLIAMS 1SF	1SF-3-L18-835-AF12125-DIM	LED 3500K 80 CRI 1800 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	UNV	21
AZ2	SURFACE UNDERCABINET	SAME AS AZ1 EXCEPT 4'L, WATTAGE, OUTPUT.	HE WILLIAMS 1SF	1SF-4-L24-835-AF12125-DIM	LED 3500K 80 CRI 2400LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	UNV	29
								2
BA1	SURFACE ROOF EAVE	2"W x 2.5"H x 6'L EXTERIOR LINEAR L.E.D. DOWNLIGHT WALL-GRAZING LUMINAIRE, WITH EXTRUDED ALUMINIUM ENCLOSED & GASKETED HOUSING, UL WET LOCATION LABEL, 10deg. x 60deg OPTICS, INTEGRAL ELECTRONIC DIMMING DRIVER, ADJUSTABLE HINGED MOUNTING BRACKETS, FACTORY STANDARD FINISH, SLANTED GLARE BAFFLE.	BOCA FLASHER	HPNLS-HO-3000K-10X60-120-(FINISH)-E-H-S-SSB-6FT-	LED 3000K 90+ CRI	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	30
BA2	SURFACE ROOF EAVE	SAME AS BA1 EXCEPT 12L, 'WALL WASH' OPTICS.	BOCA FLASHER	HPNLS-HO-3000K-30X60-120-D-E-S-(LENS)-SSB-12FT	LED 3000K 90+ CRI	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	60
BA3	SURFACE	SAME AS BA1 EXCEPT 13L, INCREASED WATTAGE, OUTPUT.	BOCA FLASHER	HPNLS-HO-3000K-10X60-120-(FINISH)-E-H-S-SSB-13FT-	LED 3000K 90+ CRI	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	65
BA4	SURFACE	16' LED GRAZE WITH SLATED BAFFLE FOR METAL PANEL - SERVERY	BOCA FLASHER	HPNLS-HO-3000K-30X60-120-(FINISH)-E-S-(LENS)-SSB-16FT	LED 3000K 90+ CRI	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	80
BB1	SURFACE WALL	DECORATIVE EXTERIOR L.E.D. WALL SCONCE, UL WET LOCATION LISTED, WITH CUTOFF IES TYPE III 'DIFFUSE' DOWNLIGHT DISTRIBUTION PATTERN, NOM. 13"W x 10"H x 4"D 'TRIANGLE/WEDGE' FABRICATED ALUMINUM HOUSING, FACTORY PREMIIUM FINISH AS SELECTED BY THE ARCHITECT, OPTIONAL DIECAST MOUNTING ADAPTER FOR SURFACE CONDUIT CONNECTION WHERE INDICATED ON THE PLANS OR REQUIRED.	ARCHITECTURAL AREA LIGHTING	CY1-25-3K8-1-3D-UNV-(PREMIUM FINISH)-MOUNTING ADAPTER	LED 3000K 80 CRI 2500 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	UNV	25
BB2	SURFACE WALL	SAME AS BB1, EXCEPT WITH 'PRECISION' IES TYPE III DISTRIBUTION OPTICS.	ARCHITECTURAL AREA LIGHTING	CY1-25-3K8-1-3D-UNV-(PREMIUM FINISH)-MOUNTING ADAPTER	LED 3000K 80 CRI 2500 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	UNV	25
BB3	SURFACE WALL	SIMILAR TO BB1, EXCEPT LARGER HOUSING, HIGHER WATTAGE & OUTPUT.	ARCHITECTURAL AREA LIGHTING	CY2-25-3K8-1-2D-UNV-(PREMIUM FINISH)-MOUNTING ADAPTER WHERE SPEC'D	LED 3000K 80 CRI 2500 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	UNV	25
BB4		SIMILAR TO BB1, EXCEPT LARGER HOUSING, HIGHER WATTAGE & OUTPUT, IES TYPE 4 DISTRIBUTION PATTERN	ARCHITECTURAL AREA LIGHTING	CY2-25-3K8-1-2D-UNV-(PREMIUM FINISH)-MOUNTING ADAPTER WHERE SPEC'D	LED 3000K 80 CRI 2500 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	UNV	25
BD1	SURFACE CANOPY	3" DIAMETER, UL WET LOCATION LISTED, ADJUSTABLE L.E.D. EXTERIOR ROOF CANOPY-MOUNTED DOWNLIGHT, WITH INTEGRAL ELECTRONIC DIMMING DRIVER IN CYLINDRICAL MACHINED ALUMINUM HOUSING, FACTORY PREIMIUM FINISH AS SELECTED BY THE ARCHITECT, 45deg ANGLED GLARE SNOOT, OPTIONAL ROTATING KNUCKLE, MATCHING DIECAST ALUMINUM GASKETED J-BOX CANOPY COVERPLATE.	BK LIGHTING	DELED-X65-WFL-(FINISH)-12-(CAP)-PC-360HD-	3000K	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%		27
BF1	POLE MOUNT AREA	POLE MOUNTED L.E.D. CUTOFF PARKING LOT/AREA LUMINAIRE WITH SINGLE ARM-MOUNTED, 5"H x 27.5"L x 14.9"W DIECAST ALUMINUM LUMINAIRE HEAD WITH ROTATABLE OPTICAL SYSTEM PROVIDING IES TYPE III DISTRIBUTION AIMED AS INDICATED ON THE PLANS, WITH UNIFORM LUMINAIRE HEAD ALIGNMENT, AS SHOWN ON THE PLANS, INTERNAL HOUSE SIDE SHIELD; MOUNTED ON 23' HIGH ROUND STRAIGHT STEEL POLE WITH BOLTED BASEPLATE, FULL BASEPLATE COVER, MATCHING FACTORY STANDARD FINISH FOR LUMINAIRE AND POLE, AS SELECTED BY THE ARCHITECT.	GARDCO	GARDCO ECF-S-32L-700-WW-G2-AR-3-UNV-(FINISH)-HIS-32 POLE: SRS-23-4-D1-(FINISH)	LED 3000K 70 CRI 7795 LUMENS	NON-DIMMING	UNV	73
BF2	POLE MOUNT AREA	SAME AS TYPE BF1 EXCEPT WITH OPTICS ROTATED 90deg/HEAD ALIGNED WITH OTHER UNITS.	GARDCO	GARDCO ECF-S-32L-700-WW-G2-AR-3-270-UNV-(FINISH)-HIS-32-V POLE: SRS-23-4-D1-(FINISH)	LED 3000K 70 CRI 7795 LUMENS	NON-DIMMING	UNV	73
BF3	POLE MOUNT AREA	SAME AS TYPE BF1 EXCEPT WITH 2 HEADS AT 180deg TO ONE ANOTHER; ONE HEAD TYPE III ON THE NORTH SIDE OF POLE, AND TYPE IV ON THE SOUTH SIDE HEAD.	GARDCO	GARDCO (1) ECF-S-32L-700-WW-G2-AR-3-UNV-IMRI3-(FINISH) (1) ECF-S-32L-700-WW-G2-AR-4-UNV-IMRI3-(FINISH) POLE: SRS-20-4-D2-(FINISH)	LED 3000K 70 CRI 15590 LUMENS	NON-DIMMING	UNV	146
BF4	POLE MOUNT AREA	SAME AS TYPE BF1 EXCEPT WITH 2 HEADS AT 90deg TO ONE ANOTHER	GARDCO	GARDCO (2) ECF-S-32L-700-WW-G2-AR-3-UNV-IMRI3-(FINISH) POLE: SRS-20-4-D2@90-(FINISH)	LED 3000K 70 CRI 15590 LUMENS	NON-DIMMING	UNV	146
BG1	SURFACE MOUNTED	SURFACE CEILING MOUNTED L.E.D. DOWNLIGHT WITH 'BEVELLED BLOCK'DIECAST ALUMINUM HOUSING, NOM. 5" SQUARE X 7" H, INTEGRAL SURFACE CONDUIT ADAPTER BACKBOX WITH CUTOUTS, STANDARD FACTORY FINISH AS SELECTED BY THE ARCHITECT, REGRESSED FROSTED BOROSILICATE GLASS DIFFUSER, 90° BEAM SPREAD	USAI	BLSD5-24C3-35KS-90-BF-(FINISH)-CC-UNVD2, W/KEY ACCESSORIES AS REQUIRED AT EACH UNIT.	LED 3500K 80+ CRI	NON-DIMMING	UNV	24
BG2	SURFACE MOUNTED	SAME AS BG1 EXCEPT REDUCED WATTAGE & OUTPUT.	USAI	BLSD5-12C3-35KS-90-BF(FINISH)-CC-UNVD2, W/KEY ACCESSORIES AS REQUIRED AT EACH UNIT.	LED 3500K 80+ CRI	NON-DIMMING	UNV	12
BH1	RECESSED	4" SQUARE RECESSED EXTERIOR L.E.D. DOWNLIGHT, U.L. WET LOCATION LISTED, ENCLOSED & GASKETED, WITH NOM. 3" D ENAMELED ALUMINUM HOUSING, REGRESSED LENS PROVIDING MEDIUM FLOOD DISTRIBUTION, GASKET BETWEEN TRIM & CEILINGRECESSED DOWNLIGHT MEDIUM FLOOD OPTICS	KIRLIN	LRS-04503-2500L-120-23-45-	LED 3500K 80+ CRI 2500 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-10%	120	36
BJ1	RECESSED	4" ROUND RECESSED EXTERIOR L.E.D. DOWNLIGHT, U.L. WET LOCATION LISTED, ENCLOSED & GASKETED, WITH NOM. 3" D ENAMELED ALUMINUM HOUSING, REGRESSED LENS PROVIDING MEDIUM FLOOD DISTRIBUTION, GASKET BETWEEN TRIM & CEILING	KIRLIN	LRR-04006-1500L-120-23-45	LED 3500K 80+ CRI 1500 LM	INTEGRAL ELECTRONIC LED DIMMING DRIVER 0-10V, 100%-1%	120	21
BK1	PEDESTRIAN POST TOP	DECORATIVE POST-TOP L.E.D. WALKWAY LUMINAIRE, WITH 20" DIA. x 2.5"H DIE-CAST ALUMINUM 'DISC HOUSING' WITH MATCHING DIECAST ALUM., 17"H TWIN SUPPORT ARMS, DIFFUSING 'COMFORT' LENS OBSCURES LED ARRAY, I.E.S. SYMMETRIC MEDIUM TYPE V LIGHT DISTRIBUTION; ROUND STRAIGHT, 4" DIA. x 12'H ALUMINUM POLE, FULL BASE COVER, MATCHING FACTORY-STANDARD FINISH FOR LUMINAIRE AND POLE AS SELECTED BY ARCHITECT.	GARDCO	PPT-140L-650-BW/G2-T3-5-UNV-(FINISH) POLE SRS-14-4.0-T4-(FINISH)	LED 3500K 70CRI 2910 LM	NON-DIMMING	UNV	30

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REVISIONS

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ARCH PROJECT NO: 1783.00
DRAWN BY: LN
DRAWING SCALE: AS NOTED
PTN: 61721-75 FILE NO: 7-H4

CD

DECEMBER 2, 2020

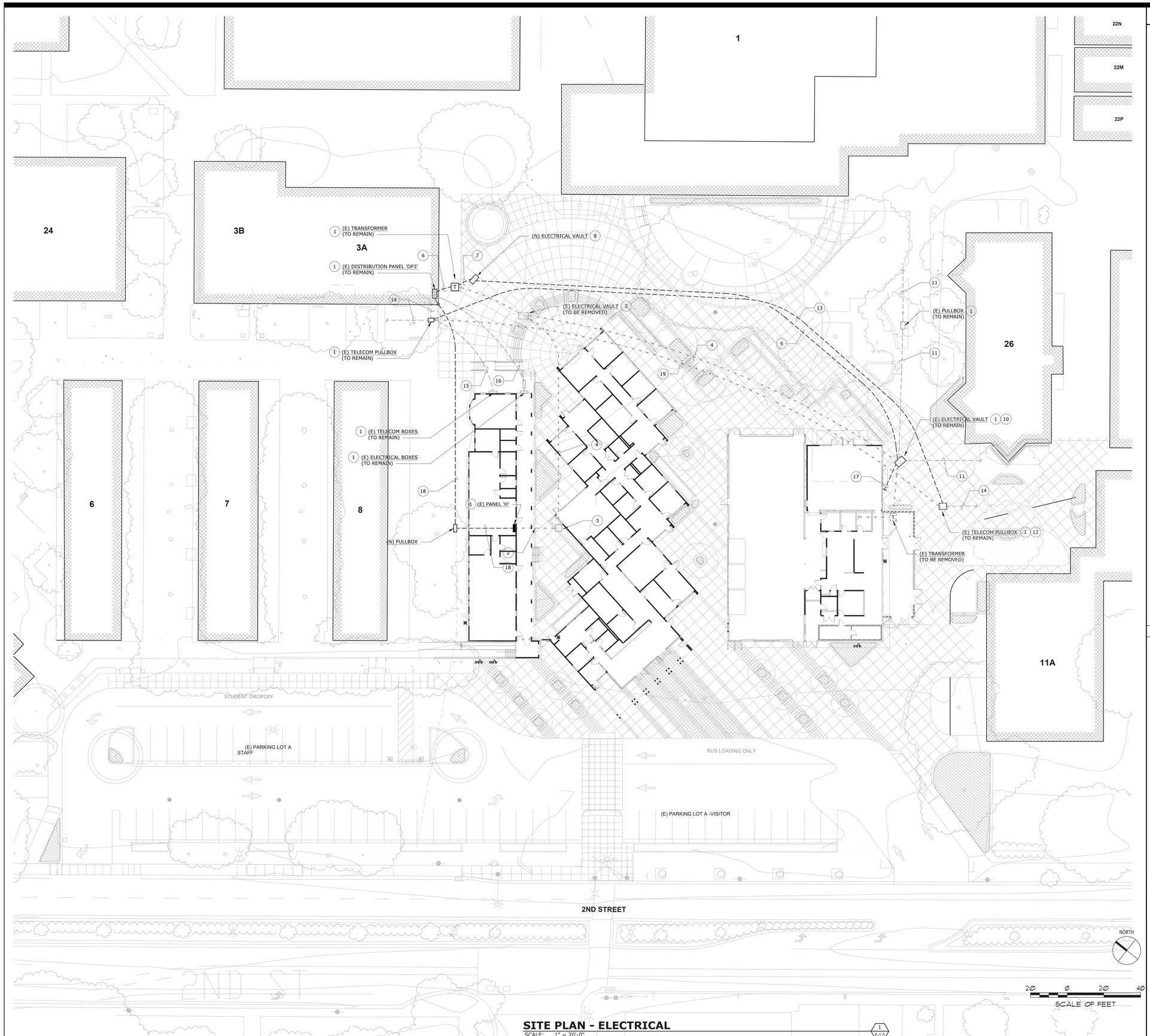
SHEET TITLE

LUMINAIRE SCHEDULE

SHEET NUMBER

E-0.3

LIBERTY HS ADMIN & STUDENT COMMONS – 219013



SITE PLAN - ELECTRICAL

SCALE: 1" = 20'-0"

1 / E-1.0

NUMBERED SHEET NOTES

1. (E) EQUIPMENT, VAULT, OR UNDERGROUND LINES TO REMAIN. FIELD SURVEY EXACT LOCATION, IDENTIFY, AND PROTECT IN PLACE DURING CONSTRUCTION.
2. (E) POWER FEEDER INTO BUILDING TO (E) PANEL 'H'. DISCONNECT AND REMOVE. PANEL 'H' TO REMAIN AND BE RECONNECTED WITH A NEW FEEDER FROM (E) DISTRIBUTION PANEL 'DP3'. SEE NOTE 18.
3. (E) IN-GROUND POWER VAULT TO BE REMOVED. DISCONNECT AND REMOVE (E) PANEL 'H' FEEDER RUNNING THROUGH BOX, BACK TO SOURCE AND LOAD.
4. (E) UNDERGROUND PANEL 'H' FEEDER TO BE REMOVED BETWEEN (E) DISTRIBUTION PANEL 'DP3' AND (E) PANEL 'H'.
5. (E) IN-GROUND POWER VAULT TO BE REMOVED. DISCONNECT AND REMOVE (E) POWER FEEDERS FOR (E) DISTRIBUTION PANEL 'DP3' AND (E) PANEL 'H', RUNNING THROUGH BOX.
6. (E) 208V FEEDER FROM TRANSFORMER TO PANEL 'DP3' TO REMAIN. FIELD SURVEY EXACT LOCATION, IDENTIFY, AND PROTECT IN PLACE DURING CONSTRUCTION.
7. PROVIDE AND INSTALL (N) TRANSFORMER FEEDER FROM PRIMARY SIDE OF (E) TRANSFORMER TO SPLICE POINT AT SOUTH SIDE OF WORK AREA (NOTE 10).
8. PROVIDE AND INSTALL (N) FLUSH IN-GROUND POWER VAULT (3'x5') WITH STEEL LID LABELED "POWER". COORDINATE EXACT LOCATION WITH NEW HARDSCAPE DESIGN AND ORIENT PARALLEL AND PERPENDICULAR TO NEW HARDSCAPE LINES AND FEATURES.
9. PROVIDE AND INSTALL NEW 4" UNDERGROUND SCHEDULE 40 PVC TRANSFORMER PRIMARY SIDE FEEDER - (3)#500 KCMIL + (1)#2G - THROUGH (N) HARDSCAPE AREA, FROM PRIMARY SIDE OF (E) TRANSFORMER TO SPLICE POINT AT SOUTH SIDE OF WORK AREA (NOTE 10). RECONNECT TRANSFORMER COMPLETE.
10. INTERCEPT (E) TRANSFORMER FEEDER FOR PANEL 'DP3 AT THIS PULLBOX AND SPLICE (E) 500 KCMIL CONDUCTORS FOR EXTENSION OF NEW AS SHOWN (SEE NOTE 9). UTILIZE LONG BARREL HIGH COMPRESSION BUT SPLICES AND 3M COLD SHRINK INSULATION FOR SPLICING OF EACH PHASE CONDUCTOR AND GROUND, FOR A COMPLETELY WATER-TIGHT SPLICE.
11. (E) UNDERGROUND ELECTRICAL FEEDERS TO REMAIN. FIELD SURVEY EXACT LOCATION, IDENTIFY, AND PROTECT IN PLACE DURING CONSTRUCTION.
12. INTERCEPT (E) TELECOM FEEDERS AT THIS PULLBOX AND SPLICE FOR EXTENSION OF NEW AS SHOWN, WITH COMPLETELY WATER-TIGHT FIBER AND COPPER SPLICE CASES IN (E) VAULT.
13. PROVIDE AND INSTALL (N) COPPER AND FIBER TELECOM FEEDERS TO REPLACE (E) LINES THROUGH (N) HARDSCAPE AREA, FROM TELECOM BOXES AT NORTH AND SOUTH SIDES OF WORK AREA.
14. (E) TELECOM FEEDERS TO REMAIN. FIELD SURVEY EXACT LOCATION, IDENTIFY, AND PROTECT IN PLACE DURING CONSTRUCTION.
15. (E) TELECOM FEEDERS TO BUILDING A TO REMAIN. FIELD SURVEY EXACT LOCATION, IDENTIFY, AND PROTECT IN PLACE DURING CONSTRUCTION.
16. (E) POWER WIRING TO REMAIN. FIELD SURVEY EXACT LOCATION, IDENTIFY, AND PROTECT IN PLACE DURING CONSTRUCTION.
17. PROVIDE AND INSTALL NEW UNDERGROUND FEEDER TO (N) TRANSFORMER, FED FROM (E) 480V SERVICE PANEL TO THE SOUTH.
18. PROVIDE AND INSTALL NEW 3" UNDERGROUND SCHEDULE 40 PVC PANEL 'H' FEEDER - (4)#350 KCMIL + (1)#4G - THROUGH (N) HARDSCAPE AREA, FROM (E) DISTRIBUTION PANEL 'DP3' TO (E) PANEL 'H'. RECONNECT PANEL COMPLETE.
19. (E) UNDERGROUND TELECOM FEEDERS TO BE REMOVED BETWEEN (E) PULL BOXES SHOWN. FIELD IDENTIFY EACH CONDUCTOR / CABLE, TAG, AND SPLICE (N) PER NOTE 13.

GENERAL SITE NOTES

ALL CONDUIT ROUTING SHOWN ON THIS PLAN IS DIAGRAMMATIC. CONTRACTOR TO FIELD VERIFY ALL (E) UNDERGROUND CONDITIONS IN THE AREA OF WORK, PRIOR TO DIGGING. MAINTAIN A MINIMUM LATERAL CLEARANCE FROM ALL NEW AND EXISTING TREES. REFER TO PLANTING PLAN L4.1 AND TREE PRESERVATION STANDARDS ON L4.1. INSTALL ALL (N) WORK TO BEST ACCOMMODATE (E) AND (N) OBSTRUCTIONS, INCLUDING BIO-RETENTION AREAS.

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DSA APP NO. 01-119033

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DRAWN BY:	LN
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

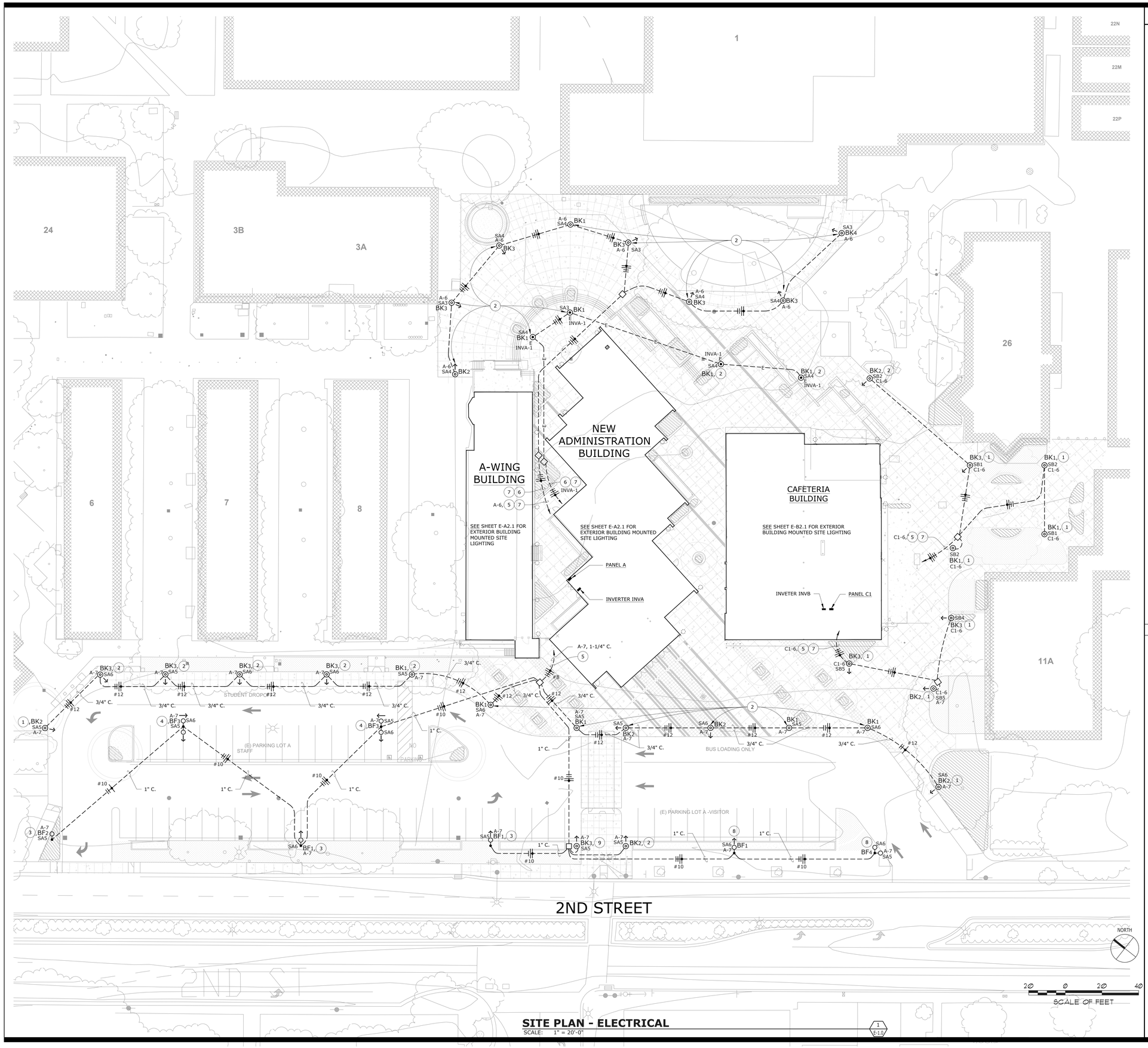
SHEET TITLE

SITE PLAN - ELECTRICAL

SHEET NUMBER

E-1.0

LIBERTY HS ADMIN & STUDENT COMMONS – 219013



SITE PLAN - ELECTRICAL

SCALE: 1" = 20'-0"

NUMBERED SHEET NOTES

1. SEE DETAIL 9/E7.3.
2. SEE DETAIL 3/E7.3.
3. SEE DETAIL 2/E7.3.
4. SEE DETAIL 10/E7.3.
5. ROUTE HOME VIA LIGHTING CONTROL PANEL IN ELECTRIC ROOM. SITE LIGHTING TO BE CONTROLLED ON/OFF BY SEGMENT MANAGER. SEE LIGHTING PLANS, AND CONTROL DIAGRAMS ON SHEET E-5.2.
6. ROUTE HOME VIA EMERGENCY CONTROL MODULE IN ELECTRIC ROOM. SITE LIGHTING TO BE CONTROLLED ON/OFF BY SEGMENT MANAGER. SEE LIGHTING PLANS, AND CONTROL DIAGRAMS ON SHEET E-5.2.
7. PROVIDE 3/4" CONDUIT THROUGHOUT.
8. SEE DETAIL 4/E-7.3.
9. SEE DETAIL 1/E-7.3.

GENERAL SITE NOTES

ALL CONDUIT ROUTING SHOWN ON THIS PLAN IS DIAGRAMMATIC. CONTRACTOR TO FIELD VERIFY ALL (E) UNDERGROUND CONDITIONS IN THE AREA OF WORK, PRIOR TO DIGGING. MAINTAIN A MINIMUM LATERAL CLEARANCE FROM ALL NEW AND EXISTING TREES. REFER TO PLANTING PLAN L4.0 AND TREE PRESERVATION STANDARDS ON L4.0. INSTALL ALL (N) WORK TO BEST ACCOMMODATE (E) AND (N) OBSTRUCTIONS, INCLUDING BIO-RETENTION AREAS.

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PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

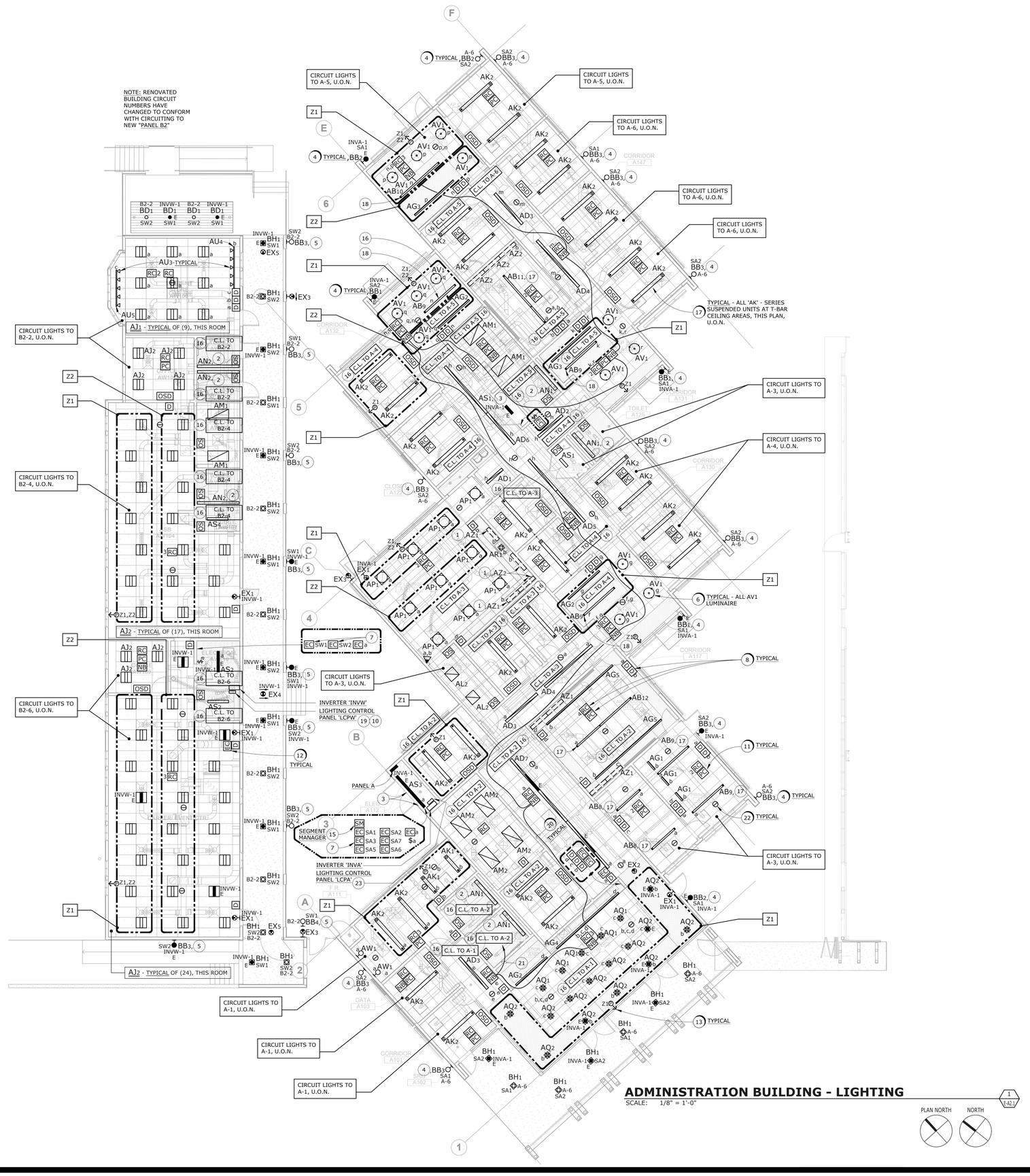
SHEET TITLE

SITE PLAN - LIGHTING

SHEET NUMBER

E-1.1

LIBERTY HS ADMIN & STUDENT COMMONS – 219013



ADMINISTRATION BUILDING - LIGHTING

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

1 / E-A2.1

PLAN NORTH NORTH

NUMBERED SHEET NOTES

1. TYPE 'AZ' UNITS MOUNTED AT BOTTOMS OF UPPER CABINETS; COORDINATE CONCEALING FACIA AT CASEWORK BOTTOMS, MIN. 2" DEEP; SEE DETAIL 5/E7.3.
2. WALL MOUNTED AT 7'-6" A.F.F.; COORDINATE WITH MIRROR INSTALLER TO PROVIDE MIN. 2" CLEAR ABOVE TOP OF MIRRORS TO BOTTOMS OF AN-SERIES LUMINAIRES; COORDINATE WITH FRAMING CONTRACTOR FOR BLOCKING IN WALL AS REQUIRED TO PREVENT SAGGING OF LUMINAIRES AFTER INSTALLATION; SEE DETAIL 5/E7.2.
3. MOUNT ON VERTICAL HEADER WALL, ABOVE DOOR, WITH MIN. 3" CLEAR BETWEEN BOTTOM OF LUMINAIRE AND TOP OF THE DOOR OPENING.
4. MOUNT ALL 'BB' SERIES UNITS ON ADMIN BUILDING ON EXTERIOR WALLS AT 9'-0" TO BOTTOM , U.O.N.
5. MOUNT ALL 'BB3' SERIES UNITS ON A-WING BUILDING ON EXTERIOR WALLS AT +13'-0" TO BOTTOM, U.O.N. CONFIRM ROUTING OF ALL EXPOSED R.S.C. SERVING BB-SERIES UNITS WITH THE ARCHITECT, PRIOR TO ROUGH-IN; PROVIDE ALL 'BB'-SERIES UNITS WITH SURFACE RACEWAYS WITH OPTIONAL SURFACE BACKBOX ADAPTER.
6. MOUNT REMOTE DRIVER ABOVE ACCESSIBLE CEILING.
7. LABEL EMERGENCY LIGHTING CONTROL MODULES FOR SA1-SA6, SW1, SW2 "EXTERIOR".
8. PROVIDE AND INSTALL DIMMER SWITCH(ES), OCCUPANCY SENSOR(S), ISOLATED RELAY(S), PLUG CONTROLLER(S), PHOTOSENSOR(S), ROOM CONTROLLERS AND NETWORK BRIDGES WHERE SHOWN. SEE DETAILS ON SHEET E-5.5-2. MOUNT ROOM CONTROLLER ABOVE ACCESSIBLE CEILING WHEREVER POSSIBLE.
9. SEE E-5.3 FOR INVERTER SPECIFICATIONS.
10. ROUTE ALL EXTERIOR LIGHTING CIRCUITS HOME VIA LIGHTING CONTROL PANEL (LOCATED IN THE ELECTRIC ROOM FOR EACH BUILDING); TIMECLOCK SCHEDULE CONTROL PROVIDED BY SEGMENT MANAGER. SEE DETAILS ON E-5.2. TYPICAL ALL EXTERIOR BUILDING-MOUNTED LUMINAIRES.
11. NUMERAL ADJACENT TO ROOM CONTROLLER INDICATES NUMBER OF CONTROL ZONES REQUIRED. VENDOR OR CONTRACTOR TO PROVIDE QUANTITY OF ROOM CONTROLLERS REQUIRED FOR THE NUMBER OF CONTROLLED ZONES.
12. PROVIDE AN EMERGENCY LIGHTING CONTROL MODULE FOR ALL SWITCHED LIGHT FIXTURES ON EMERGENCY INVERTER. THIS INCLUDES EMERGENCY FIXTURES CONTROLLED BY OCCUPANCY SENSORS. SEE 6/E-5.2. MOUNT CONTROL MODULE/TEST SWITCH 7'-6" A.F.F. AND ALIGN WITH LIGHT SWITCH BELOW WHEREVER POSSIBLE, OR ELSE LABEL EXACT MODULE WITH CORRESPONDING ROOM NAME.
13. COORDINATE WITH ALL OTHER TRADES TO ENSURE UNOBSTRUCTED PHOTOCELL "VIEW" OUT WINDOW.
14. ENGRAVE "EXT LTS".
15. SEGMENT MANAGER IN NETWORK CABINET. PROVIDES SCHEDULED CONTROL OF EXTERIOR LIGHTS. SEE DETAILS ON SHEET E-5.2. CIRCUIT TO A-9.
16. 'BOXED' NOTE ('C.L. TO LPXX-X' INDICATES: "CONNECT LUMINAIRES IN THIS ROOM TO BRANCH CIRCUIT 'LPXX-X' U.O.N.; SEE PANELBOARD SCHEDULE.
17. SEE DETAIL 8/E7.2 FOR MOUNTING.
18. SEE DETAIL 9/E7.2 FOR MOUNTING.
19. MOUNT PANEL 'LCPW' TO WALL ABOVE INVERTER. PROVIDE LM-MS/TP-DB CABLE IN 1"C. TO SEGMENT MANAGER IN BUILDING A. SEE 6/E-5.2.
20. MS/TP DATA CABLE CONNECTING NETWORK BRIDGES. SEE 6/E-5.2.
21. TO SEGMENT MANAGER IN ELECTRICAL ROOM A112 VIA NETWORK BRIDGE IN ELECTRICAL ROOM.
22. MOUNT OCCUPANCY SENSOR AT LEAST 6'-0" FROM SUPPLY AIR AND COOLING AIR VENTS. TYPICAL ALL SENSORS U.O.N.
23. MOUNT PANEL TO WALL ABOVE INVERTER. CIRCUIT CONTROL BOARD TO A-9.

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REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	LN
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

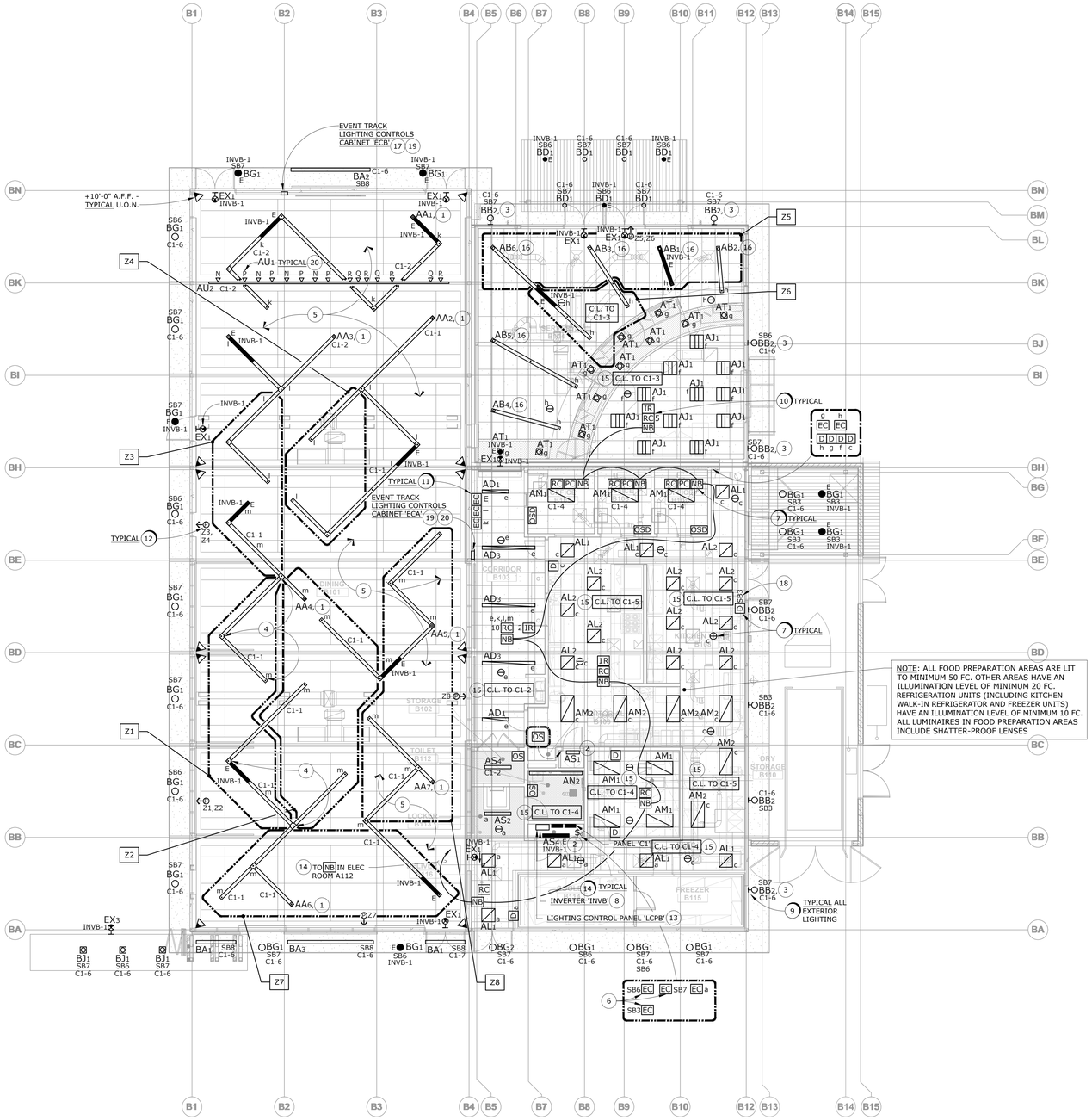
SHEET TITLE

ADMINISTRATION BLDG - LIGHTING

SHEET NUMBER

E-A2.1

LIBERTY HS ADMIN & STUDENT COMMONS – 219013



NOTE: ALL FOOD PREPARATION AREAS ARE LIT TO MINIMUM 50 FC. OTHER AREAS HAVE AN ILLUMINATION LEVEL OF MINIMUM 20 FC. REFRIGERATION UNITS (INCLUDING KITCHEN WALK-IN REFRIGERATOR AND FREEZER UNITS) HAVE AN ILLUMINATION LEVEL OF MINIMUM 10 FC. ALL LUMINAIRES IN FOOD PREPARATION AREAS INCLUDE SHATTER-PROOF LENSES

CAFETERIA KITCHEN PLAN - LIGHTING

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

1 / E-B2.1

PLAN NORTH NORTH

NUMBERED SHEET NOTES

1. CABLE SUSPENDED AT +10'-7" A.F.F. TO BOTTOM OF LUMINAIRE - SEE DETAIL 9/E7.2; VERIFY EXACT LOCATIONS WITH THE ARCHITECT, AND COORDINATE MOUNTING WITH MECHANICAL CONTRACTOR, PRIOR TO ROUGH-IN; ALL AA-SERIES LUMINAIRE ASSEMBLIES IN DINING ROOM SHALL BE SEISMICALLY BRACED TO PREVENT SWAY IN ANY DIRECTION; SEE DETAILS 4/E7.2 & 6/E7.2.
2. MOUNT ON VERTICAL HEADER WALL ABOVE DOOR, MIN. 3" BETWEEN BOTTOM OF LUMINAIRE AND TOP OF DOOR OPENING.
3. MOUNT UP 8'-0" ON EXTERIOR WALL; TYPICAL FOR ALL 'BB'-SERIES UNITS, THIS PLAN.
4. CONTRACTOR SHALL COORDINATE IN ADVANCE WITH GARAGE DOOR VENDOR & INSTALLER, TO VERIFY LOCATIONS OF ALL DOOR RAIL STRUCTURAL CHANNELS, SUPPORT RODS, BRACES, BRACKETS, ETC. TO ALLOW SUSPENDED 'AA' - SERIES LUMINAIRE ARRAYS TO BE INSTALLED AT LOCATIONS INDICATED; PROVIDE ALL REQUIRED SEISMIC BRACING FOR 'AA'-SERIES LUMINAIRE ASSEMBLIES - SEE SPECS.
5. FOR ALL ELECTRICAL / LIGHTING / LOW VOLTAGE ITEMS MOUNTED IN, ON, OR FROM THE HIGH CEILING AREA, PROVIDE MC CABLE (POWER) AND METALLIC FLEX CONDUIT (LOW VOLTAGE) UP SOUTH PERIMETER WALL FURRING AND INTO AND THROUGH CEILING CAVITY SPACE. REFER TO ARCHITECTURAL SECTIONS FOR PROFILE OF LIMITED WALL AND CEILING TRANSITION SPACE. FOR RACEWAYS IN CEILING, MAINTAIN A MINIMUM OF 1.5" CLEAR FROM THE BOTTOM OF ANY ROOFING MATERIALS, PER NEC 300.4(E).
6. LABEL EMERGENCY LIGHTING CONTROL MODULE "EXTERIOR".
7. PROVIDE AND INSTALL DIMMER SWITCH(ES), OCCUPANCY SENSOR(S), ISOLATED RELAY(S), PLUG CONTROLLER(S), PHOTOSENSOR(S), ROOM CONTROLLERS AND NETWORK BRIDGES WHERE SHOWN. SEE DETAILS ON SHEET E-5.5-2. MOUNT ROOM CONTROLLER ABOVE ACCESSIBLE CEILING WHEREVER POSSIBLE.
8. SEE E-5.3 FOR INVERTER SPECIFICATIONS.
9. ROUTE ALL EXTERIOR LIGHTING CIRCUITS HOME VIA LIGHTING CONTROL PANEL (LOCATED IN THE ELECTRIC ROOM FOR EACH BUILDING); TIMECLOCK SCHEDULE CONTROL PROVIDED BY SEGMENT MANAGER. SEE DETAILS ON E-5.2. TYPICAL ALL EXTERIOR BUILDING-MOUNTED LUMINAIRES.
10. NUMERAL ADJACENT TO ROOM CONTROLLER INDICATES NUMBER OF CONTROL ZONES REQUIRED. VENDOR OR CONTRACTOR TO PROVIDE QUANTITY OF ROOM CONTROLLERS REQUIRED FOR THE NUMBER OF CONTROLLED ZONES.
11. PROVIDE AN EMERGENCY LIGHTING CONTROL MODULE FOR ALL SWITCHED LIGHT FIXTURES ON EMERGENCY INVERTER. THIS INCLUDES EMERGENCY FIXTURES CONTROLLED BY OCCUPANCY SENSORS. SEE 6/E-5.2. MOUNT CONTROL MODULE/TEST SWITCH 7'-6" A.F.F. AND ALIGN WITH LIGHT SWITCH BELOW WHEREVER POSSIBLE, OR ELSE LABEL EXACT MODULE WITH CORRESPONDING ROOM NAME.
12. COORDINATE WITH ALL OTHER TRADES TO ENSURE UNOBSTRUCTED PHOTOCELL "VIEW" OUT WINDOW.
13. MOUNT TO WALL ABOVE INVERTER. PROVIDE LM-MS/TP-DB CABLE IN 1" C. TO SEGMENT MANAGER IN BUILDING A. SEE E-A2.1 AND 6/E-5.2.
14. MSTP DATA CABLE CONNECTING NETWORK BRIDGES TO SEGMENT MANAGER IN BUILDING A. SEE 6/E-5.2.
15. 'BOXED' NOTE ('C.L. TO LPXX-X') INDICATES: "CONNECT LUMINAIRES IN THIS ROOM TO BRANCH CIRCUIT 'LPXX-X' U.O.N.; - SEE PANEL SCHEDULE."
16. CABLE SUSPENDED AT +8'-4" A.F.F. TO BOTTOM OF LUMINAIRE - VERIFY EXACT LOCATION(S) W/ARCHITECT, COORDINATE ATTACHMENT TO STRUCTURE ABOVE CEILING WITH MECH. CONTRACTOR; SEE 3/E7.2.
17. CONFIRM LOCATION AND MOUNTING HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN.
18. DIMMER PROVIDE TIMECLOCK OVERRIDE FUNCTION. ZONE SB3 TO BE SCHEDULED OFF 24 HOURS PER DAY BY THE SEGMENT MANAGER AND TURNED ON AS NEEDED USING THIS DIMMER.
19. TRACK LIGHTS TO BE CONTROLLED BY TWO LIGHTING CONTROL CABINETS. ECA AND ECB. ECA IS TO BE THE MAIN CONTROLLER, LUTRON GRAFIK EYE, AND ECB IS TO BE A LUTRON SEETOUCH 5-BUTTON CONTROL STATION. SEE DETAIL 7/E-5.2 FOR PART NUMBERS AND WIRING. CONTROL ECA IS TO BE MOUNTED IN A FLUSH CABINET PER DETAIL 8/E7.3. CONTROL ECB IS TO BE MOUNTED IN A CABINET SAME AS DETAIL 8/7.3 EXCEPT SMALLER, SIZED TO FIT THE CONTROL.
20. PROVIDE 15 TYPE AU1 TRACK HEADS. ASSIGN HEADS TO CONTROL ZONES AS SHOWN ON THE PLANS. FINAL AIMING AND SCENE PROGRAMMING TO BE PER ARCHITECT'S AND DISTRICT'S REQUEST. IF NO OTHER DIRECTION IS PROVIDED, AIM HEADS P AND Q TO COVER THE CENTER OF THE STAGE, AND HEADS ON ZONES N AND R COVER THE REMAINDER OF THE STAGE, SO THE ENTIRE STAGE IS ILLUMINATED. PROGRAM FOUR SCENES, AS FOLLOWES:
    1. WHOLE STAGE ILLUMINATED DURING DAYLIGHT (FULL LUMINAIRE POWER OUTPUT).
    2. WHOLE STAGE ILLUMINATED AT NIGHT (HALF LUMINAIRE POWER OUTPUT).
    3. SINGLE SPEAKER ILLUMINATED DURING DAYLIGHT (FULL LUMINAIRE POWER OUTPUT).
    4. SINGLE SPEAKER ILLUMINATED AT NIGHT (HALF LUMINAIRE POWER OUTPUT).

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DECEMBER 2, 2020

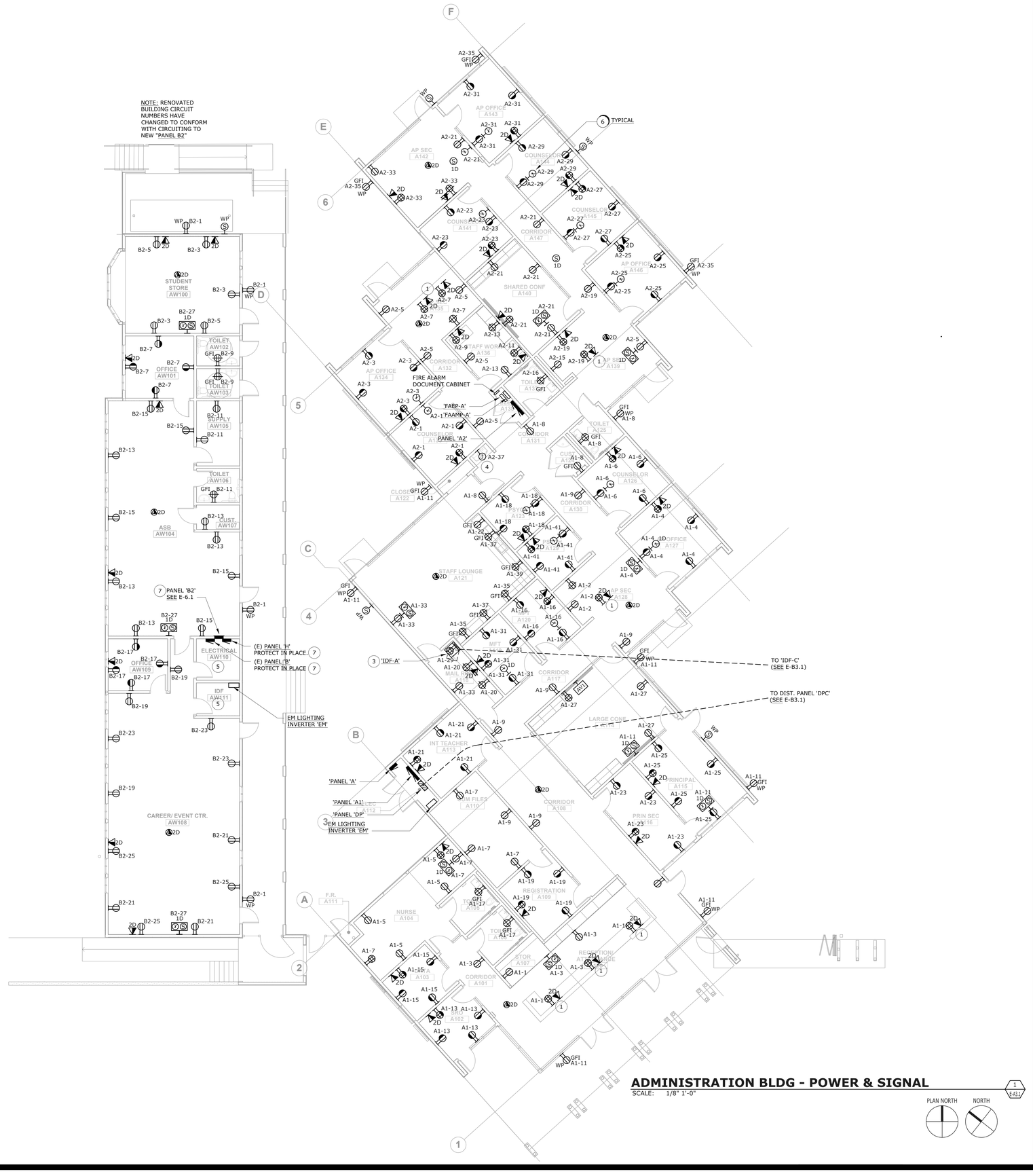
SHEET TITLE

CAFETERIA KITCHEN PLAN - LIGHTING

SHEET NUMBER

E-B2.1

LIBERTY HS ADMIN & STUDENT COMMONS – 219013



ADMINISTRATION BLDG - POWER & SIGNAL

SCALE: 1/8" 1'-0"

1 / E-A3.1

PLAN NORTH NORTH

NUMBERED SHEET NOTES

1. FLUSH MOUNTED IN CUSTOM CASEWORK S.A.D. FOR EXACT LOCATIONS.
2. NOT USED.
3. 'IDF-A', WALL MOUNTED, FLOOR SUPPORTED ON CASTERS, SWING-OUT STYLE; 6'H x 30"D (19" RACK FRAME).
4. DRINKING FOUNTAIN WITH COOLER.
5. PROTECT IN PLACE ALL (E) EQUIPMENT.
6. FOR ALL CLOCKS PROVIDE 120V CIRCUIT.
7. IN PANEL 'H', REPLACE (E) 90A BREAKER WHICH SUB-FEEDS (E) PANEL 'B' WITH 100A BREAKER. SUB FEED PANEL 'B2' WITH THIS NEW 100A BREAKER. SUB-FEED (E)PANEL 'B' FROM PANEL 'B2'. SEE PANEL SCHEDULE ON E-6.1.

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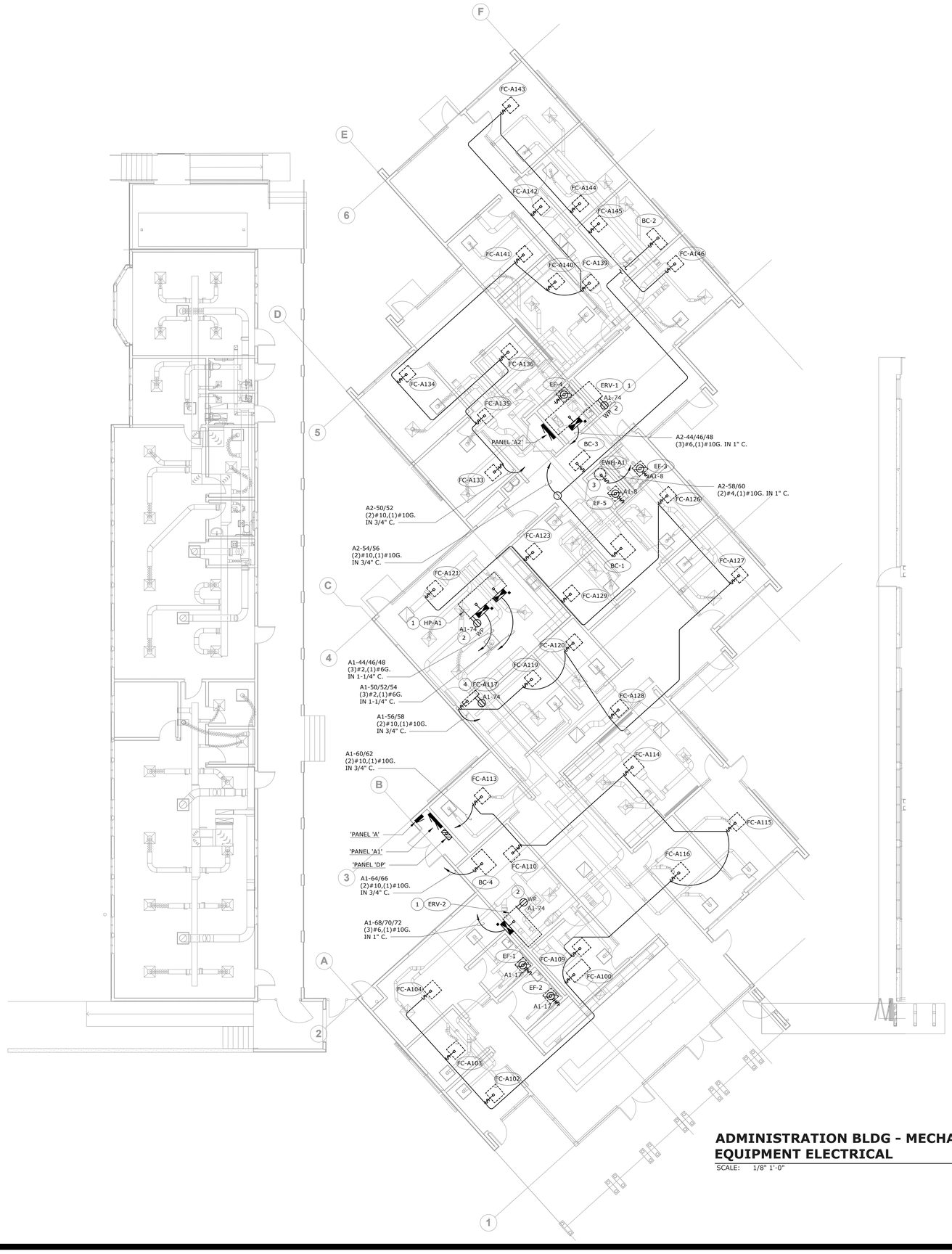
ADMINISTRATION BLDG - POWER & SIGNAL

SHEET NUMBER

E-A3.1

LIBERTY HS ADMIN & STUDENT COMMONS – 219013



ADMINISTRATION BLDG - MECHANICAL EQUIPMENT ELECTRICAL

SCALE: 1/8" 1'-0"

1 / E-3.3

PLAN NORTH NORTH

NUMBERED SHEET NOTES

1. MECHANICAL EQUIPMENT LOCATED ON ROOF.
2. WEATHERPROOF OUTLET LOCATED ON ROOF.
3. PROVIDE 120V CIRCUIT TO EWH-A1 FOR CIRCULATOR PUMP.
4. PROVIDE 120V CIRCUIT FOR 120V CONDENSATE PUMP, CO-LOCATE WITH FAN COIL UNIT.

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DECEMBER 2, 2020

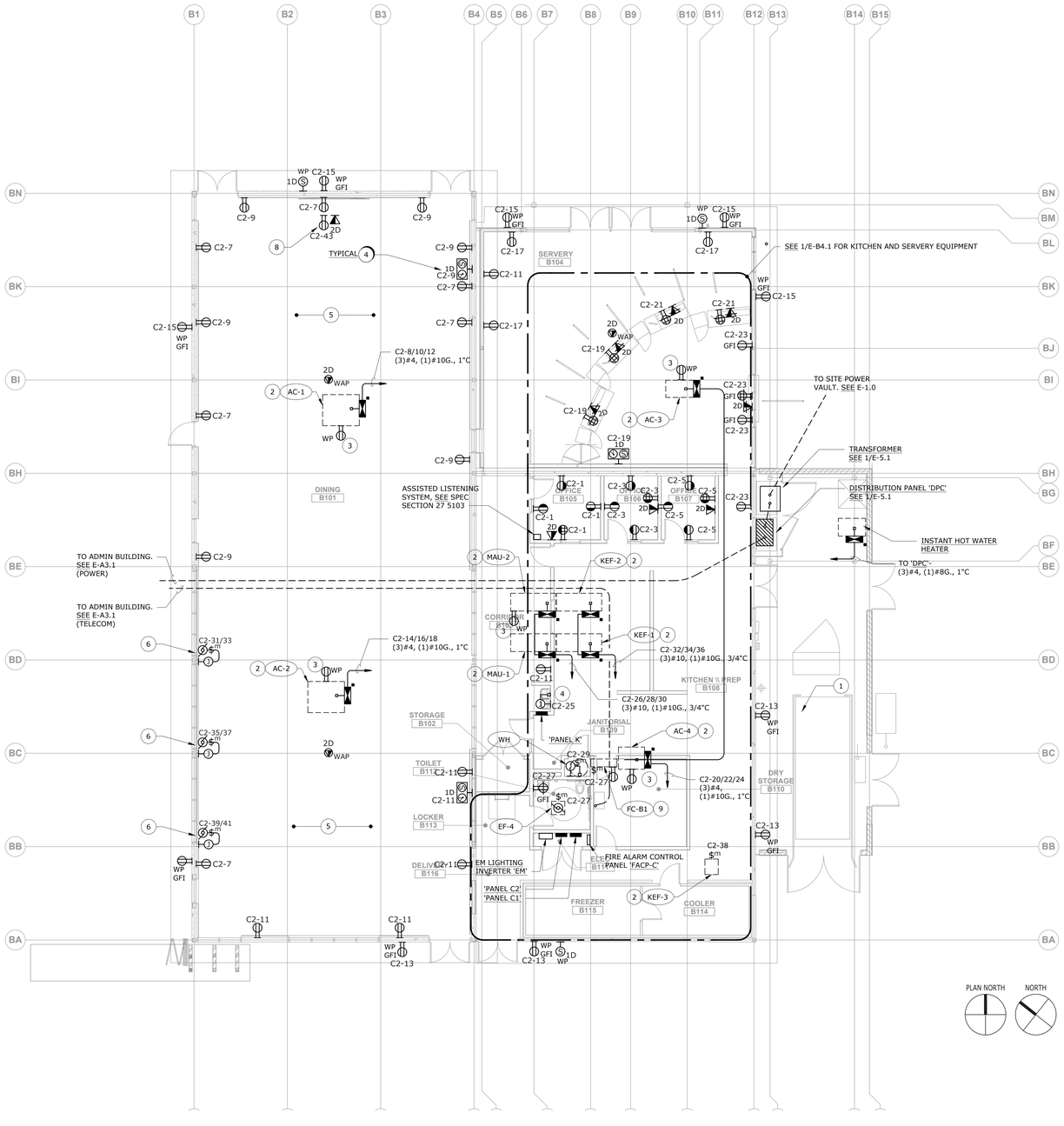
SHEET TITLE

ADMINISTRATION BLDG - MECHANICAL EQUIPMENT ELECTRICAL

SHEET NUMBER

E-A3.2

LIBERTY HS ADMIN & STUDENT COMMONS – 219013



CAFETERIA KITCHEN PLAN - POWER & SIGNAL

SCALE: 1/8" 1'-0"

1 / E-B3.1

NUMBERED SHEET NOTES

1. PROVIDE TEMPORARY POWER SOURCE FOR COMPACTOR AND CARDBOARD BAILER DURING DEMOLITION AND CONSTRUCTION PROCESS.
2. MECHANICAL EQUIPMENT LOCATED ON ROOF.
3. WEATHERPROOF OUTLET LOCATED ON ROOF. CONNECT TO CIRCUIT C2-40.
4. CHILLED WATER FILLING STATION.
5. FOR ALL ELECTRICAL / LIGHTING / LOW VOLTAGE ITEMS MOUNTED IN, ON, OR FROM THE HIGH CEILING AREA, PROVIDE MC CABLE (POWER) AND METALLIC FLEX CONDUIT (LOW VOLTAGE) UP SOUTH PERIMETER WALL FURRING AND INTO AND THROUGH CEILING CAVITY SPACE. REFER TO ARCHITECTURAL SECTIONS FOR PROFILE OF LIMITED WALL AND CEILING TRANSITION SPACE. FOR RACEWAYS IN CEILING, MAINTAIN A MINIMUM OF 1.5" CLEAR FROM THE BOTTOM OF ANY ROOFING MATERIALS, PER NEC 300.4(E).
6. ELECTRIC ROLL UP DOOR (208, 1PH, 30A). PROVIDE AND INSTALL PUSH BUTTON CONTROLS WITH 'UP', 'DOWN' AND 'STOP' FUNCTIONS. WIRING/CONDUIT: (2) #8 + (1) #10G. IN 3/4" C.
7. FOR ALL CLOCKS PROVIDE 120V CIRCUIT.
8. PROVIDE 120V OUTLET AND DATA JACK INSET INTO WALL. COORDINATE LOCATION WITH ARCHITECT. VERIFY FLAT DISPLAY MOUNTING BRACKET LOCATION PRIOR TO ROUGH-IN. SEE 19/A-10.2.
9. PROVIDE CIRCUIT C2-44/46 FOR FC-B1. ADDITIONALLY COLLOCATE 120V OUTLET FOR CONDENSATE PUMP.

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CAFETERIA KITCHEN PLAN - POWER & SIGNAL

SHEET NUMBER

E-B3.1

LIBERTY HS ADMIN & STUDENT COMMONS – 219013

KITCHEN EQUIPMENT ELECTRICAL SCHEDULE									
ITEM #	QTY	DESCRIPTION	ELECTRICAL SPECIFICATIONS						
			VOLTS	AMPS	KVA	PHASE	PANEL	CIRCUIT #	CONDUIT & CONDUCTORS
7	1	MIXER	120	10	1.200	1	K	1	(2) #10 + (1) #10G. IN 3/4" C.
11	2	WARMING CABINETS	120	1	0.120	1	K	3	(2) #10 + (1) #10G. IN 3/4" C.
15	1	FOOD PROCESSOR	120	10	1.200	1	K	5	(2) #10 + (1) #10G. IN 3/4" C.
18	1	COMBI-OVEN	(2)120	7	0.840	1	K	7,9	(2) #10 + (1) #10G. IN 3/4" C.
19	1	WATER FILTER FOR COMBI-OVEN	(2)120	3	0.360	1	K	11	(2) #10 + (1) #10G. IN 3/4" C.
20	1	S/S TYPE I EXHAUST HOOD	120	5	0.600	1	K	13	(2) #10 + (1) #10G. IN 3/4" C.
24	1	DOUBLE STACK CONVECTION OVEN	(2)120	7	0.840	1	K	15,17	(2) #10 + (1) #10G. IN 3/4" C.
25	1	S/S TYPE I EXHAUST HOOD	120	5	0.600	1	K	19	(2) #10 + (1) #10G. IN 3/4" C.
26	1	DOUBLE STACK CONVECTION OVEN	(2)120	7	0.840	1	K	21,23	(2) #10 + (1) #10G. IN 3/4" C.
28	1	EXHAUST SYSTEM CONTROL PANEL	120	2	0.240	1	K	25	(2) #10 + (1) #10G. IN 3/4" C.
30	1	FIRE SUPRRESSION SYSTEM PULL STAT.				1	K		
31	1	FIRE SUPPRESSION SYSTEM-WALL MNT.				1	K		
34	2	AIR CURTAINS	120	3.4	0.408	1	K	27	(2) #10 + (1) #10G. IN 3/4" C.
35	1	3-DOOR REFRIGERATOR	120	11.8	1.416	1	K	29	(2) #10 + (1) #10G. IN 3/4" C.
36	1	ICE MACHINE AND BIN	208	15.4	3.203	1	K	31/33	(2) #10 + (1) #10G. IN 3/4" C.
42	1	GARBAGE DISPOSAL	208	7.7	1.602	1	K	35/37	(2) #10 + (1) #10G. IN 3/4" C.
44	1	HIGH-TEMP DISHMACHINE	208	51.8	10.774	1	K	39/41	(2) #2 + (1) #6G. IN 1" C.
49	1	WALK-IN COOLER/FREEZER	120	5	0.600	1	K	34	(2) #10 + (1) #10G. IN 3/4" C.
51	1	EVAP COIL FOR WI COOLER	120	1.6	0.192	1	K	44	(2) #10 + (1) #10G. IN 3/4" C.
52	1	EVAP COIL FOR WI FREEZER	208	10.8	2.246	1	K	46/48	(2) #10 + (1) #10G. IN 3/4" C.
53	1	CONDENSING UNIT FOR WI COOLER	208	15.5	3.224	1	K	36/38	(2) #10 + (1) #10G. IN 3/4" C.
54	1	CONDENSING UNIT FOR WI FREEZER	208	32.2	6.698	1	K	40/42	(2) #8 + (1) #8G. IN 1" C.
						1	K		
		SERVERY EQUIPMENT				1	K		
S2	4	SNEEZE GUARD W/WARMER	120	16	1.920	1	K	2,4,8,10	(2) #10 + (1) #10G. IN 3/4" C.
S3	4	DROP-IN HOT FOOD SHELF	120	16	1.920	1	K	14,16,18,20	(2) #10 + (1) #10G. IN 3/4" C.
S4	3	I-DOOR REACH-IN REFRIGERATOR	120	2.2	0.264	1	K	12	(2) #10 + (1) #10G. IN 3/4" C.
S5	1	WARMING CABINET	120	16	1.920	1	K	24	(2) #10 + (1) #10G. IN 3/4" C.
S6	1	2-DOOR REACH-IN REFRIGERATOR	120	5.4	0.648	1	K	26	(2) #10 + (1) #10G. IN 3/4" C.
S8	2	WARMING DRAWER UNITS	120	5.3	0.636	1	K	28	(2) #10 + (1) #10G. IN 3/4" C.

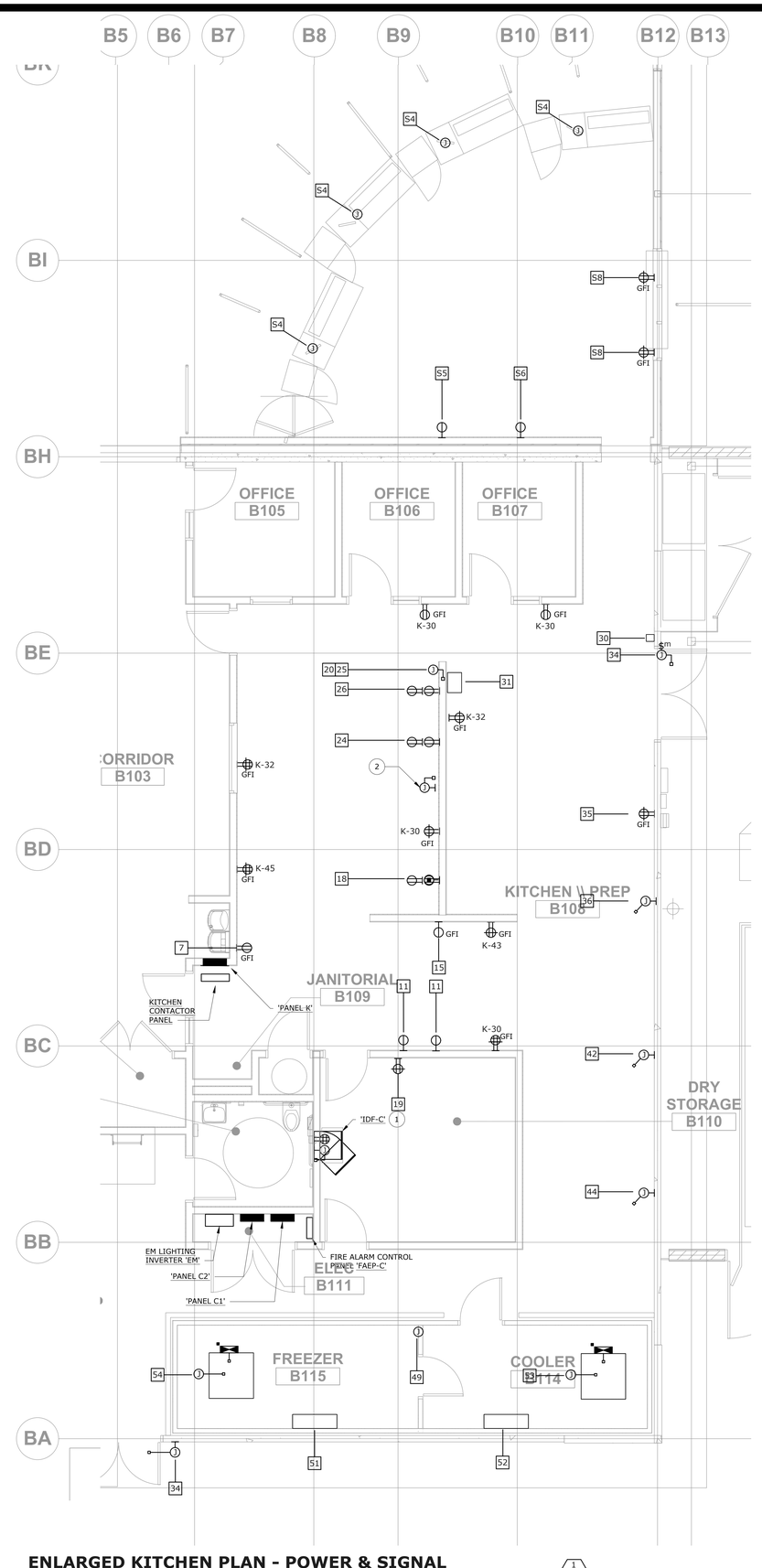
PANEL K

VOLTS:	120 / 208	**MAINS:**	225A MCB
PHASE:	3 PH	**FEEDER:**	SEE SINGLE LINE
WIRE:	4 W	**CONDUIT:**	SEE SINGLE LINE
BUSSING:	225A	**MOUNTED:**	FLUSH
POLES:	54P	**AIC RATING:**	22K AIC

LOAD DESCRIPTION	TYPE	A	B	C	BRKR.	CKT.	CKT.	BRKR.	A	B	C	TYPE	LOAD DESCRIPTION
MIXER	K	1.20			20/1	**1**	**2**	20/1	1.92			K	WARMER
WARMING CABINETS	K		0.24		20/1	**3**	**4**	20/1		1.92		K	WARMER
FOOD PROCESSOR	K			1.20	20/1	**5**	**6**	20/1					SPARE
COMBI-OVEN	K	0.84			20/1	**7**	**8**	20/1	1.92			K	WARMER
COMBI-OVEN	K		0.84		20/1	**9**	**10**	20/1		1.92		K	WARMER
WATER FILTER FOR COMBI	K			0.72	20/1	**11**	**12**	20/1			0.79	K	REACH IN REFRIGERATORS
S/S TYPE I EXHAUSE HOOD	K	0.60			20/1	**13**	**14**	20/1	1.92			K	HOT FOOD SHELF
DOUBLE STACK CONVECTION OVEN	K		0.84		20/1	**15**	**16**	20/1		1.92		K	HOT FOOD SHELF
DOUBLE STACK CONVECTION OVEN	K			0.84	20/1	**17**	**18**	20/1			1.92	K	HOT FOOD SHELF
S/S TYPE I EXHAUST HOOD	K	0.60			20/1	**19**	**20**	20/1	1.92			K	HOT FOOD SHELF
DOUBLE STACK CONVECTION OVEN	K		0.84		20/1	**21**	**22**	20/1					SPARE
DOUBLE STACK CONVECTION OVEN	K			0.84	20/1	**23**	**24**	20/1			1.92	K	WARMING CABINET
EXHAUST SYSTEM CONTROL PANEL	L	0.24			20/1	**25**	**26**	20/1	0.65			K	2-DOOR REACH-IN REFRIGERATOR
AIR CURTAINS	L		0.82		20/1	**27**	**28**	20/1		1.27		K	WARMING DRAWER UNITS
3-DOOR REFRIGERATOR	K			1.42	20/1	**29**	**30**	20/1			1.08	R	REC - MISC OUTLETS
ICE MACHINE & BIN	K	1.60			20/2	**31**	**32**	20/1	0.54			R	REC - MISC OUTLETS
	K		1.60			**33**	**34**	20/1		0.60		K	WALK-IN COOLER/FREEZER
GARBAGE DISPOSAL	K			0.80	20/2	**35**	**36**	20/2			1.62	M	WALK-IN CONDENSING UNIT 53
	K	0.80				**37**	**38**		1.62			M	
HIGH TEMP DISHMACHINE	K		5.39		70/2	**39**	**40**	40/2		3.30		M	WALK-IN CONDENSING UNIT 54
	K			5.39		**41**	**42**				3.30	M	
REC - DEDICATED OUTLET	R	0.50			20/1	**43**	**44**	20/1	0.20			M	WALK-IN COIL 52
REC - DEDICATED OUTLET	R		0.50		20/1	**45**	**46**	20/2		1.13		M	WALK-IN COIL 51
SPARE					20/1	**47**	**48**				1.13	M	
S P A C E						**49**	**50**						S P A C E
S P A C E						**51**	**52**						S P A C E
S P A C E						**53**	**54**						S P A C E
		6.38	11.06	11.20					10.69	12.06	11.76		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	12.30	100%	12.30
TYPE "L": LIGHTING / CONTINUOUS LOADS	1.06	125%	1.32
TYPE "R": RECEPTACLES (FIRST 10KVA)	2.62	100%	2.62
TYPE "R": RECEPTACLES (OVER 10KVA)	0.00	50%	0.00
TYPE "K": KITCHEN APPLIANCE	47.18	65%	30.67
TOTALS:	63.16		46.91

PHASE A:	17.07	**KVA**
PHASE B:	23.13	**KVA**
PHASE C:	22.97	**KVA**
	192.71	**MAX AMPS / PHASE**



ENLARGED KITCHEN PLAN - POWER & SIGNAL

SCALE: 1/4" 1'-0"

1 E-B4.1

PLAN NORTH NORTH

NUMBERED SHEET NOTES

1. PROVIDE DEDICATED QUAD RECEPTACLE AND J-BOX WITH #2AWG G. TO NEAREST BUILDING ELECTRODE. LOCATE EQUIPMENT WITHIN IDF CABINET (OR RACK).
2. PROVIDE JUNCTION BOX FOR RANGE HOOD.
3. VERIFY LOCATION OF EQUIPMENT WITH KITCHEN ELECTRICAL CONTRACTOR AND ARCHITECT PRIOR TO ROUGH-IN.

GENERAL SHEET NOTES

1. REFER TO KITCHEN EQUIPMENT ELECTRICAL SCHEDULE FOR FEEDER SIZING.
2. ALL KITCHEN EQUIPMENT CIRCUITS SHOWN ON THIS PLAN ARE CONNECTED TO PANEL 'K', U.O.N.
3. COORDINATE ELECTRICAL INSTALLATION WITH FOOD SERVICE CONTRACTOR AND THE ARCHITECT PRIOR TO ROUGH-IN.
4. COORDINATE ELECTRICAL INSTALLATION WITH THE 'K' SERIES FOOD SERVICE DRAWINGS, SPECIFICATIONS AND MANUFACTURERS EQUIPMENT DATA SHEETS PRIOR TO ROUGH-IN.
5. SEE 'K' SERIES FOOD SERVICE DRAWINGS FOR ALL MOUNTING HEIGHTS, LOCATIONS, AND INTERCONNECTIONS.
6. SEE PANEL SCHEDULE DESCRIPTIONS AND NUMBERED SHEET NOTE FOR TWO POLE, 120/208VOLT, SINGLE PHASE BRANCH CIRCUITS EQUIPPED WITH A NEUTRAL CONDUCTOR.
7. ALL 125 VOLT RECEPTACLES IN KITCHEN SHALL BE GFCI TYPE, PER CEC 210.8

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DATE: 12/04/2020

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LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	LN
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

ENLARGED KITCHEN PLAN - POWER & SIGNAL

SHEET NUMBER

E-B4.1

LIBERTY HS ADMIN & STUDENT COMMONS – 219013

GENERAL ELECTRICAL NOTES

1. CONTRACTOR TO RETAIN INDEPENDENT TESTING COMPANY (EMERSON OR EQUAL) TO PREPARE A SHORT-CIRCUIT AND COORDINATION STUDY (INCLUDING GROUND FAULT), AND ARC-FLASH STUDY FOR DISTRIBUTION SYSTEM, INCLUDING ALL ADJUSTABLE TRIP BREAKERS - SET BREAKER TRIP SETTING AS PER STUDY RECOMMENDATIONS AND IDENTIFY ALL ARC FLASH HAZARD LEVELS ON NEW AND EXISTING EQUIPMENT.
2. PER NEC 110.06, PROVIDE AND INSTALL ELECTRIC ARC FLASH WARNING SIGNS ON SWITCHBOARD AND ALL PANELBOARDS, TRANSFORMERS, CONTROL PANELS, METER SOCKET ENCLOSURES, AND MOTOR CONTROLS.

COPPER FEEDER SCHEDULE

FEEDER	CONDUIT	CONDUCTORS
10004	(1) 3"	(4)350 MCM & (1)#2/0 G.
4003	(1) 3"	(3)500 MCM & (1)#2 G.
4004	(1) 3.5"	(4)500 MCM & (1)#2 G.
2254	(1) 3"	(4)#4/0 & (1)#4 G.
1004	(1) 1.5"	(4)#2 & (1)#8 G.
703	(1) 1"	(3)#4 & (1)#8 G.

FEEDER TAG KEY

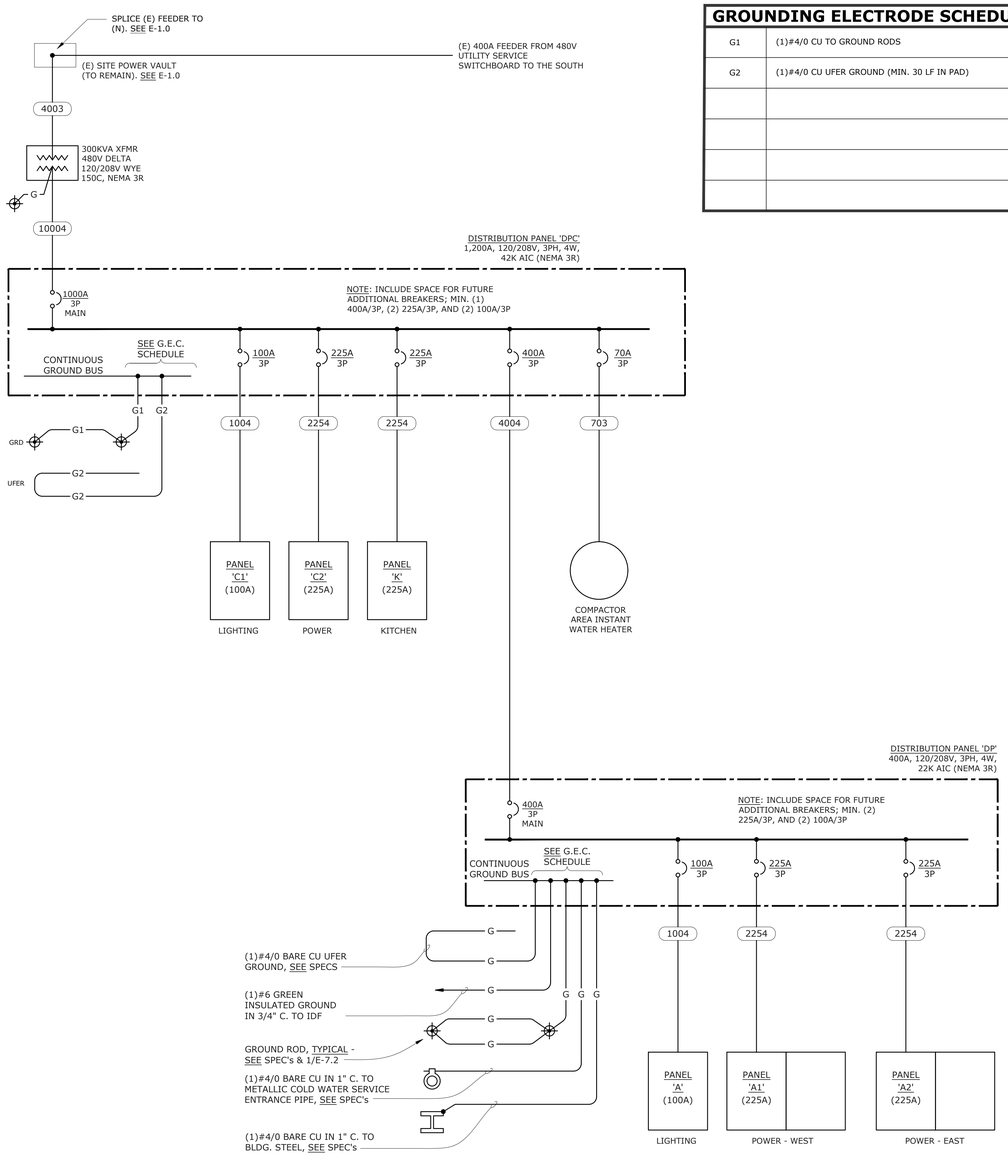
400 4 N

- INDICATES DOUBLE NEUTRAL
- WIRE QUANTITY
- FEEDER AMPACITY

NOTE: NOT ALL FEEDERS ON THIS SCHEDULE ARE NECESSARILY USED ON THIS PROJECT.

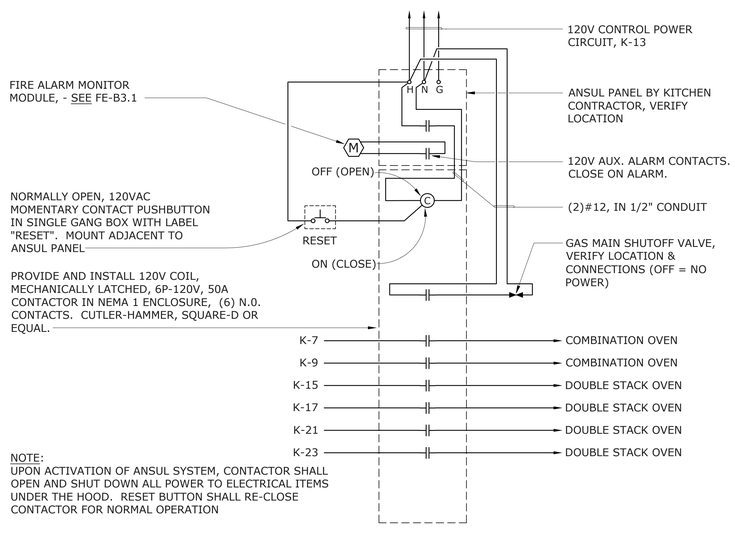
GROUNDING ELECTRODE SCHEDULE

G1	(1)#4/0 CU TO GROUND RODS
G2	(1)#4/0 CU UFER GROUND (MIN. 30 LF IN PAD)



SINGLE LINE DIAGRAM - POWER (1 / E-5.1)

SCALE: NONE



NOTE:
UPON ACTIVATION OF ANSUL SYSTEM, CONTACTOR SHALL OPEN AND SHUT DOWN ALL POWER TO ELECTRICAL ITEMS UNDER THE HOOD. RESET BUTTON SHALL RE-CLOSE CONTACTOR FOR NORMAL OPERATION

ANSUL CONTACTOR CONTROL DIAGRAM KITCHEN HOOD EQUIPMENT (2 / 5.1)

SCALE: NONE
FILE:

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DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO. 7-H4

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DECEMBER 2, 2020

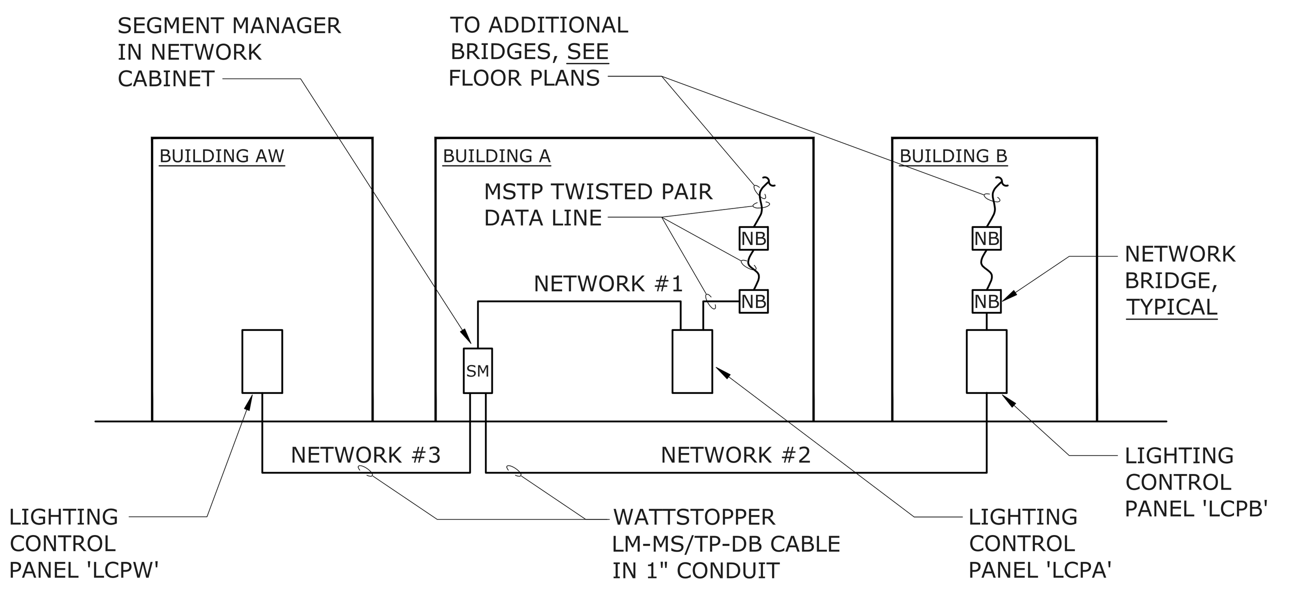
SHEET TITLE

SINGLE LINE DIAGRAM - POWER

SHEET NUMBER

E-5.1

LIBERTY HS ADMIN & STUDENT COMMONS – 219013

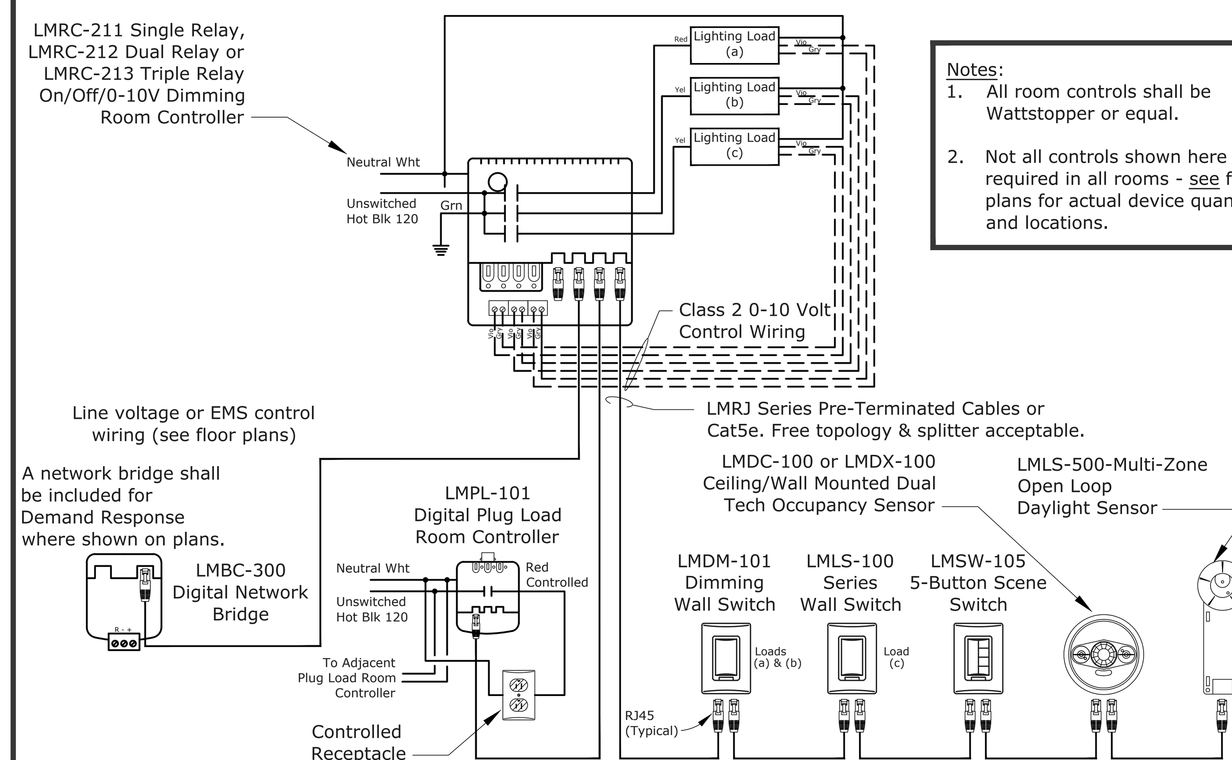


LIGHTING CONTROL NETWORK DIAGRAM

6 / E-5.2

SCALE: NONE
FILE:

NOTE:
One, two or three zone 0-10v dimmed application with wall or ceiling mounted occupancy sensor(s) for shut off and manual dimming. Lights will turn on automatically from the occupancy sensor upon entering the space and can be dimmed or switched manually from the device on the wall. Lights will be turned off automatically by the occupancy sensor. Time-out of sensor to be set at 20 minutes.



Notes:
1. All room controls shall be Wattstopper or equal.
2. Not all controls shown here are required in all rooms - see floor plans for actual device quantities and locations.

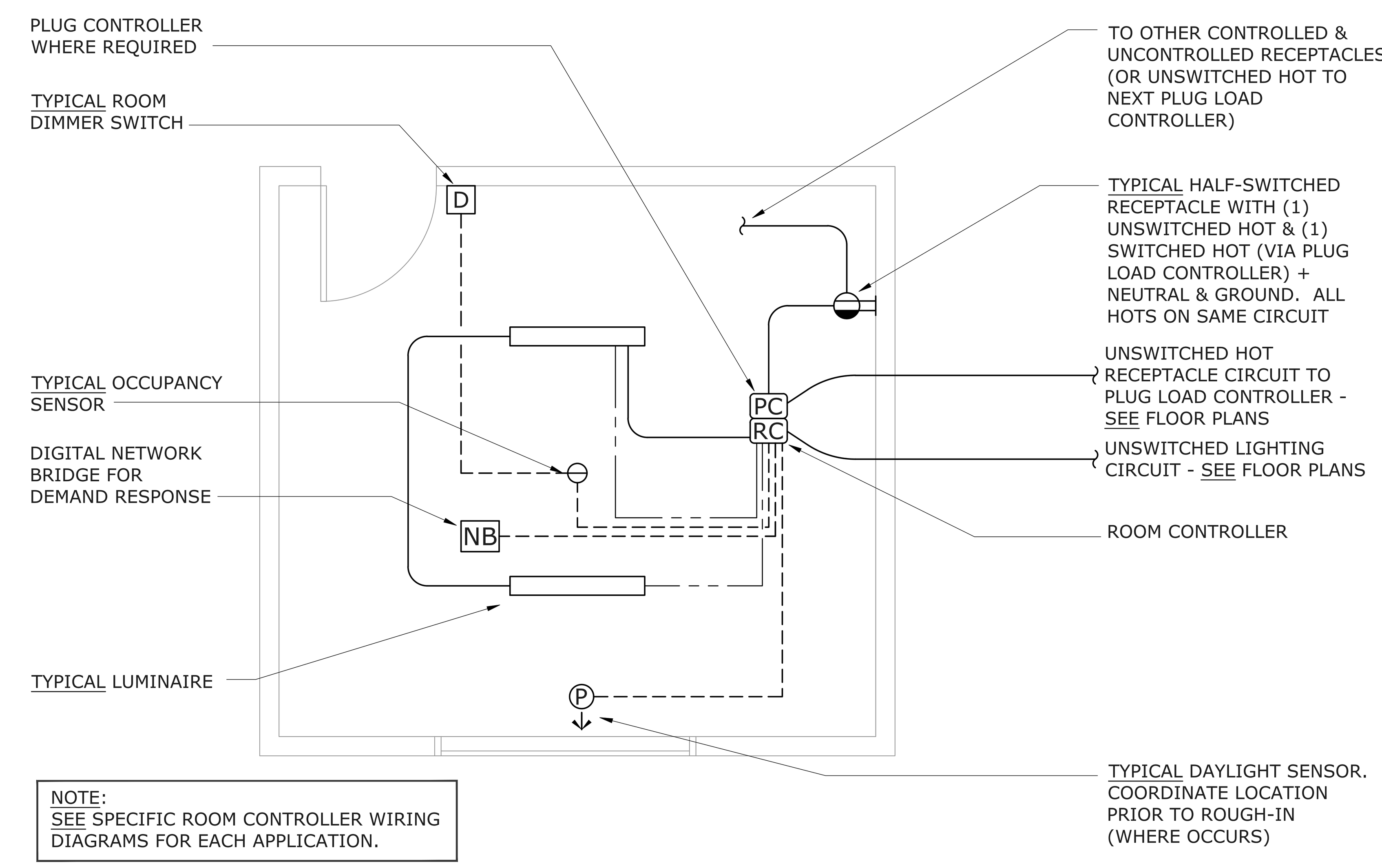
ROOM & PLUG CONTROLLER W/ ISOLATED RELAY & FUTURE DEMAND RESPONSE CAPABLE

2 / E-5.2

SCALE: NONE
FILE: L:\DETAILS\LIGHT\LTG CONTROL WATTSTOPPER DLM\LLCW011A

WIRING LEGEND

- (solid line) BRANCH CIRCUIT WIRING - PROVIDED AND INSTALLED BY CONTRACTOR. EXACT QTY., TYPE AND SIZE VARIES
- (dashed line) CAT5e CABLING - PROVIDED AND INSTALLED BY CONTRACTOR, VERIFY WIRE TYPE WITH LIGHTING CONTROL MANUFACTURER
- (dash-dot line) 0-10V DIMMING CONTROL WIRING

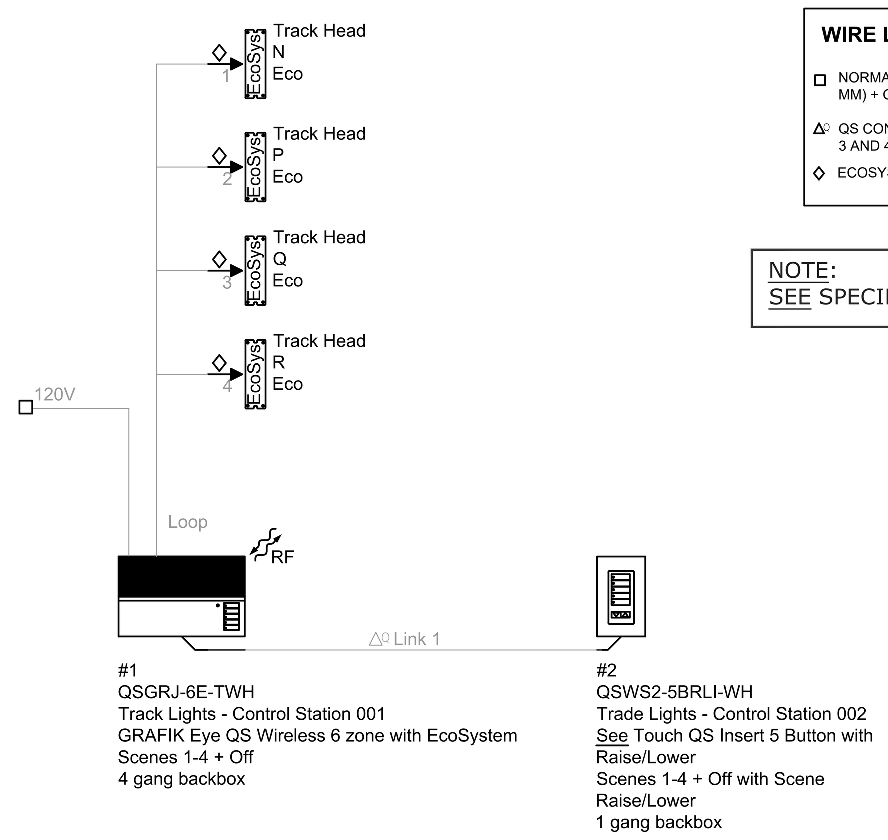


NOTE:
SEE SPECIFIC ROOM CONTROLLER WIRING DIAGRAMS FOR EACH APPLICATION.

TYPICAL ROOM CONTROL DIAGRAM WITH DEMAND RESPONSE CAPABILITY

1 / E-5.2

SCALE: NONE
FILE: L:\DETAILS\LIGHT\LTG CONTROL WATTSTOPPER DLM\LLCW007A



WIRE LEGEND

- □ NORMAL INPUT POWER 2 #12 AWG (4 SQ MM) + GROUND
- △ QS CONTROL LINK (CONNECT WIRES 1, 2, 3 AND 4)*
- ◇ ECOSYSTEM BUS/LOOP*

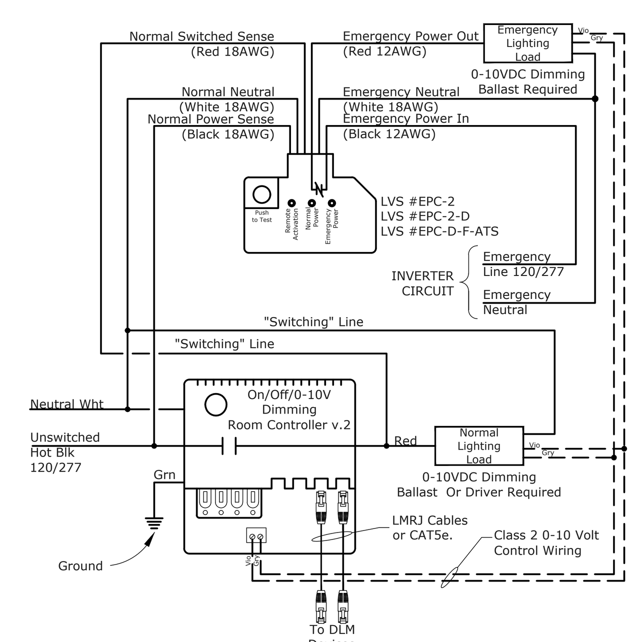
NOTE:
SEE SPECIFICATIONS ON E-5.3.

DINING ROOM TRACK LIGHT CONTROL

7 / E-5.2

SCALE: NONE

SEQUENCE OF OPERATION:
Upon the loss of normal power, the LVS Emergency Control Module will bypass the Room Controller and force the emergency fixtures ON. The Room Controller will force the dimmed emergency fixture to 100%. The LVS is UL924 listed.



EMERGENCY LIGHTING CONTROL MODULE WIRING DIAGRAM FOR DIMMED EMERGENCY FIXTURES CONTROLLED BY 0-10V DIMMING ROOM CONTROLLER

3 / E-5.2

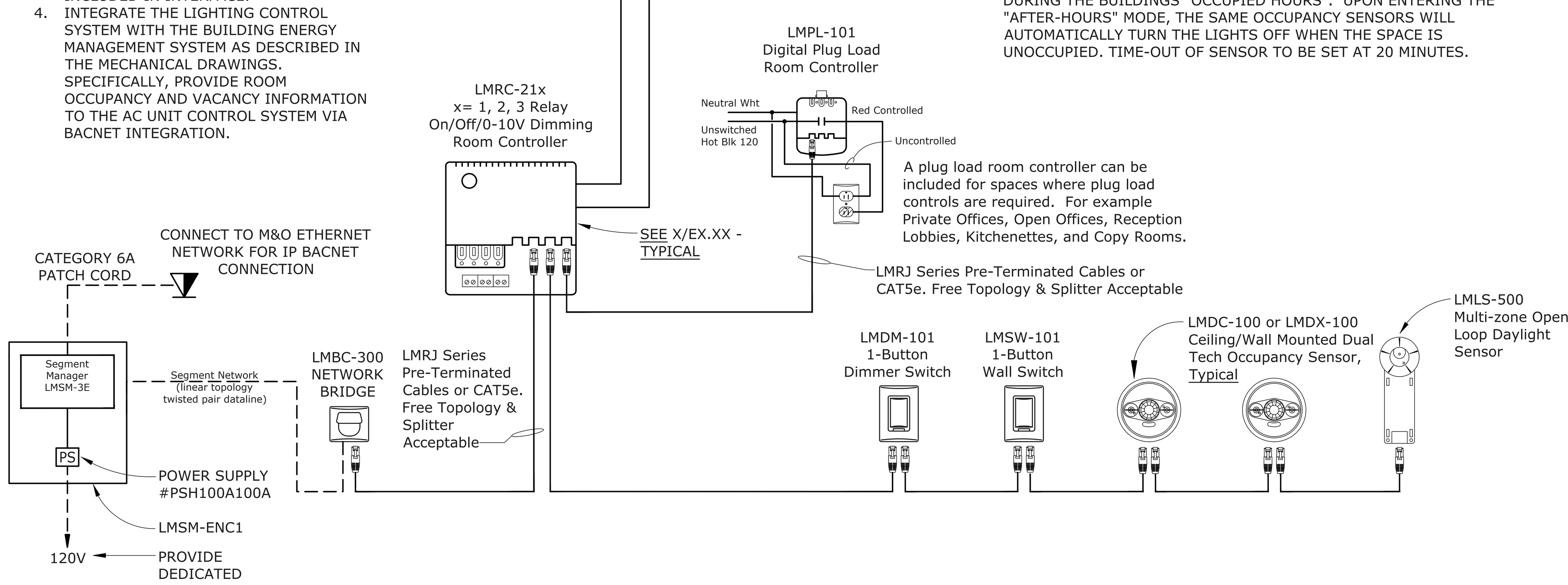
SCALE: NONE
FILE: L:\DETAILS\LIGHT\LTG CONTROL WATTSTOPPER DLM\LLCW010

EMS & BACNET SYSTEM INTERFACE:

1. COORDINATE WITH DISTRICT EMS SYSTEM (PELICAN CONTROLS) FOR BACNET INTERFACE BETWEEN LIGHTING CONTROLS AND EMS SYSTEM.
2. PROVIDE BACNET INTERFACE EXPORT TABLE DATA FOR PROPER BINDINGS.
3. CONSULT DISTRICT FOR SPECIFIC STATUS AND CONTROL FUNCTIONS TO BE INCLUDED IN INTERFACE.
4. INTEGRATE THE LIGHTING CONTROL SYSTEM WITH THE BUILDING ENERGY MANAGEMENT SYSTEM AS DESCRIBED IN THE MECHANICAL DRAWINGS. SPECIFICALLY, PROVIDE ROOM OCCUPANCY AND VACANCY INFORMATION TO THE AC UNIT CONTROL SYSTEM VIA BACNET INTEGRATION.

CORRIDORS & STAIRWAYS:

RUN CAT5 CABLE FROM ROOM CONTROLLER TO LMCP RELAY PANEL. MULTI-ZONE 0-10V DIMMED APPLICATION WITH CEILING MOUNTED OCCUPANCY SENSORS FOR PARTIAL OFF W/ AUTO OFF AND MANUAL DIMMING. LIGHTS WILL TURN ON AUTOMATICALLY FROM THE OCCUPANCY SENSOR UPON ENTERING THE SPACE, AND CAN BE DIMMED MANUALLY FROM THE DEVICE ON THE WALL. LIGHTS WILL DIM DOWN TO A 50% LIGHT LEVEL WHEN THE SPACE IS UN-OCCUPIED DURING THE BUILDINGS "OCCUPIED HOURS". UPON ENTERING THE "AFTER-HOURS" MODE, THE SAME OCCUPANCY SENSORS WILL AUTOMATICALLY TURN THE LIGHTS OFF WHEN THE SPACE IS UNOCCUPIED. TIME-OUT OF SENSOR TO BE SET AT 20 MINUTES.



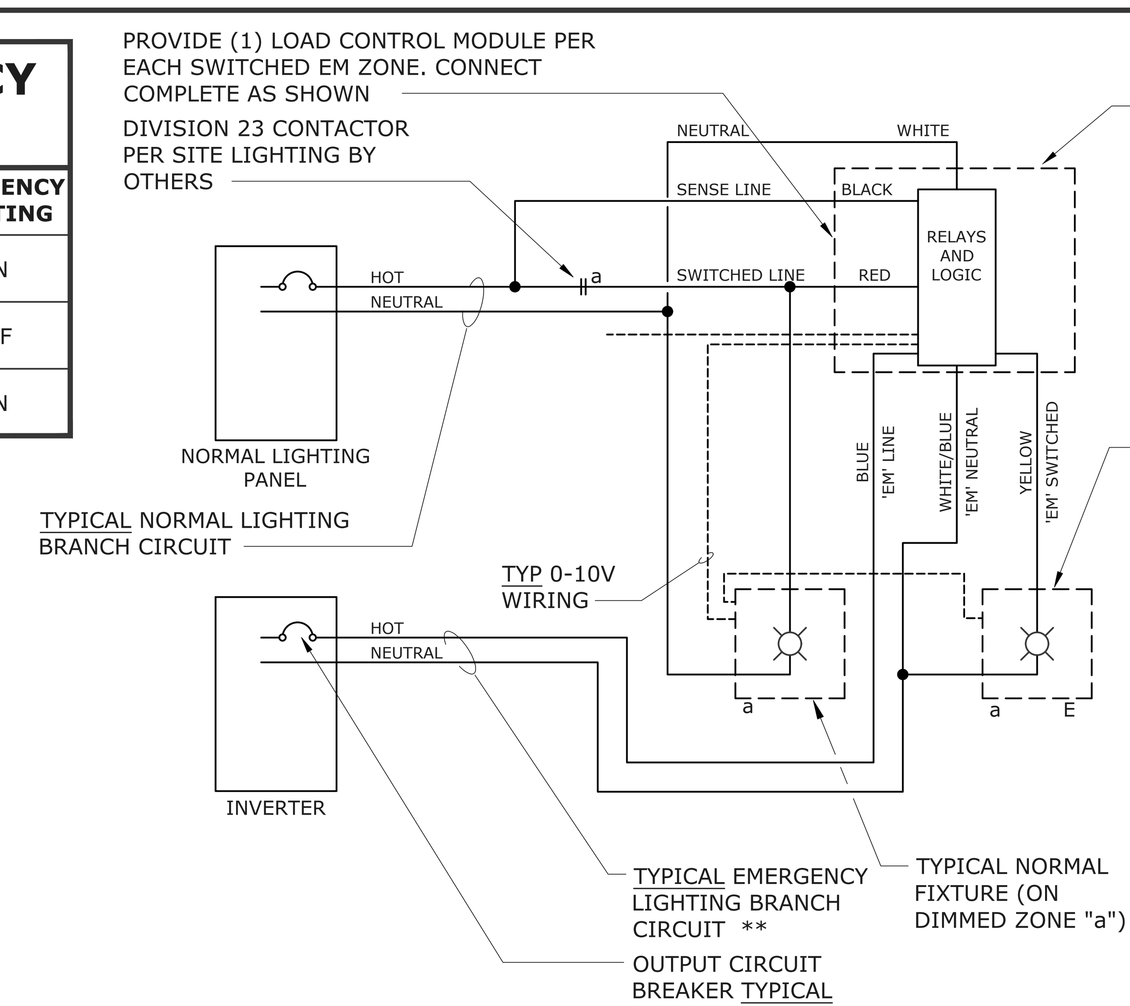
SEGMENT MANAGER / NETWORK CONNECTION & ROOM CONTROLLER WIRING DIAGRAM

5 / E-5.2

SCALE: NONE
FILE: L:\DETAILS\LIGHT\LTG CONTROL WATTSTOPPER DLM\LLCW017

NORMAL AND EMERGENCY LIGHTING STATUS

NORMAL POWER LINE IN	RELAY "a" STATUS	NORMAL "a" LIGHTING	EMERGENCY LIGHTING
120/277VAC	ON	ON	ON
120/277VAC	OFF	OFF	OFF
NONE	EITHER	OFF (NO POWER)	ON



EC
EMERGENCY LIGHTING CONTROL MODULE MTD. IN 4-11/16" J-BOX. ONE REQUIRED PER EACH SWITCHED ZONE DESIGNATED 'E'. MODULES SHALL BE AS MANUFACTURED BY LVS, INC. #EPC-D-F OR EQUAL, UL924 LISTED (COMPATIBLE WITH VOLTAGE USED), LOCAL TEST SWITCH IN ROOM WITH CONTROLLED LIGHTING. MOUNT UNIT WITH INTEGRAL TEST SWITCH 7'-6" A.F.F. IN LINE WITH ROOM CONTROLS, U.O.N.

SEQUENCE OF OPERATIONS:
UPON LOSS OF NORMAL POWER THE EMERGENCY CONTROL MODULE SHALL ENERGIZE THE 'E' DESIGNATED CIRCUIT TO ALLOW THE EMERGENCY LIGHTING TO BE ENERGIZED AT FULL LIGHT OUTPUT. THIS DIAGRAM ONLY INDICATES LIGHT FIXTURES CONTROLLED VIA A RELAY CONTROL SYSTEM. FOR ROOMS WITH LINE VOLTAGE SWITCHES AND/OR OCCUPANCY SENSORS, A HOT WIRE CONNECTING FROM THE LINE SIDE OF THE CONTROL DEVICE IS REQUIRED TO BE INSTALLED TO THE CONTROL MODULE SIMILAR TO THIS DIAGRAM. COMPLETE INSTALLATION SHALL COMPLY WITH NEC 700.

SCHEMATIC SHOWN IN DE-ENERGIZED STATE.

** ALL EMERGENCY SOURCE CIRCUITS SHALL BE INSTALLED IN SEPARATE RACEWAYS (FROM NORMAL POWER), PER 2014 NEC 700.10(B), OR APPLICABLE CODE AT THE TIME OF PERMITTING.

EMERGENCY LIGHTING CONTROL MODULE WIRING DIAGRAM FOR DIMMED EMERGENCY FIXTURES

4 / E-5.2

SCALE: NONE
FILE: L:\DETAILS\LIGHT\LTG CONTROL\LLC003-HORIZ

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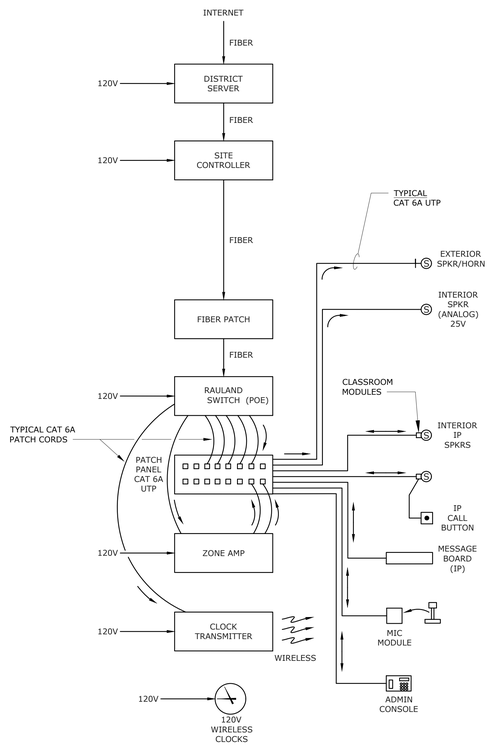
DECEMBER 2, 2020

SHEET TITLE
LIGHTING CONTROL DIAGRAMS

SHEET NUMBER
E-5.2

INVERTER UNIT SPECIFICATIONS

1. ALL EMERGENCY SOURCE CIRCUITS SHALL BE INSTALLED IN SEPARATE RACEWAYS (FROM NORMAL POWER), PER 2014 NEC 700.10(B), OR APPLICABLE CODE AT THE TIME OF PERMITTING.
2. REFER ALSO TO SPECIFICATIONS SECTION 265101. UNITS SHALL BE MYERS POWER PRODUCTS ILLUMINATOR SERIES EM OR APPROVED EQUAL:
   INVA: 1-EM-1-S-BA2004-M-Z-2YW
   INVB: 1-EM-1-S-BA2003-M-Z-2YW
   INVW: 1-EM-1-S-BA2003-M-Z-2YW
3. UNITS SHALL BE 120V 1PH 2W INPUT, 120V OUTPUT WITH 20AMP OUTPUT CIRCUIT BREAKER, RATED AS FOLLOWS:
   INVA: 1.0KVA
   INVB: 1.0KVA
   INVW: 1.0KVA
4. INPUT SHALL BE EQUIPPED WITH ANSI 62.41 SURGE PROTECTION AND 1HZ NOMINAL SYNCHRONIZING SLEW RATE.
5. OUTPUT VOLTAGE STATIC REGULATION SHALL BE +/- 5% FOR 100% RESISTIVE LOAD.
6. OUTPUT DISTORTION SHALL BE 5% THD MAXIMUM.
7. OVERLOAD RATING: 150% MOMENTARY; 120% FOR 5 MINUTES.
8. TRANSFER TIME: NO BREAK
9. BATTERY SHALL BE SEALED LEAD CALCIUM, 10 YEAR LIFE, 90 MINUTE RUN TIME, WITH AUTO-DISCONNECT FOR LOW BATTERY VOLTAGE.
10. PROVIDE RS232 PORT FOR EXTERNAL COMMUNICATIONS.
11. INVERTER SHALL BE PWM TYPE.
12. PROVIDE MAINTENANCE BYPASS.
13. PROVIDE IN NEMA 1 ENCLOSURE, FRONT ACCESS ONLY.
14. PROVIDE FACTORY STARTUP AND TEST OF UNIT TO THE SATISFACTION OF BUILDING INSPECTION AUTHORITIES AND WITH MAXIMUM 4 HOURS OF PERSONNEL TRAINING FOLLOWING STARTUP.
15. AUTO SELF TESTING.
16. PROVIDE OUTPUT CIRCUIT BREAKERS RATED 20AMPS EACH WITH DEDICATED CIRCUITS FOR EACH OF THE EMERGENCY LIGHTING LOADS:
    INVA: 4 OUTPUT BREAKERS
    INVB: 3 OUTPUT BREAKERS
    INVW: 3 OUTPUT BREAKERS
17. SEISMIC QUALIFIED.
18. SUBMIT FOR REVIEW AND APPROVAL.



CLOCK SPEAKER CONNECTION DIAGRAM

SCALE: NA

1 / E-5.3

GRAFIK EYE LIGHTING CONTROLS INSTALLATION SPECIFICATION

A. Install Equipment in accordance with manufacturer's installation instructions.
B. The scope of work includes standalone lighting control systems and associated components:
   a. LED drivers (Lutron EcoSystem).
   b. Power interfaces.
   c. Main units (Lutron Grafik Eye QS).
   d. Control stations.
   e. Low-voltage control interfaces.
   f. Accessories.
C. Manufacturer's Standard Warranty, With Manufacturer Start-Up; Lutron Standard 2-Year Warranty; Lutron LSC-B2:
   a. Manufacturer Lighting Control System Components, Except Ballasts/Drivers and Ballast Modules:
      1) First Two Years:
         1. 100 percent replacement parts coverage, 100 percent manufacturer labor coverage to troubleshoot and diagnose a lighting issue.
         2. First-available on-site or remote response time.
         3. Remote diagnostics for applicable systems.
      2) Telephone Technical Support: Available 24 hours per day, 7 days per week, excluding manufacturer holidays.
   b. Ballasts/Drivers and Ballast Modules: Five years 100 percent parts coverage, no manufacturer labor coverage.
D. Manufacturer's Startup Services; Lutron Standard Startup Services:
   a. Manufacturer's authorized Service Representative to conduct minimum of two site visits to ensure proper system installation and operation.
   b. Conduct Pre-Installation visit to review requirements with installer.
   c. Conduct second site visit upon completion of lighting control system to perform system startup and verify proper operation:
      1) Verify connection of power wiring and load circuits.
      2) Verify connection and location of controls.
      3) Address devices.
      4) Verify system operation control by control.
      5) Verify proper operation of manufacturer's interfacing equipment.
      6) Configure initial groupings of drivers for wall controls.
      7) Train Owner's representative on system capabilities, operation, and maintenance.
      8) Obtain sign-off on system functions.

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APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
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REGISTERED PROFESSIONAL ENGINEER
No.14738
Exp. 6/21
ELECTRICAL
STATE OF CALIFORNIA

O'MAHONY & MYER
ELECTRICAL ENGINEERS and LIGHTING DESIGN
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LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET,
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO: 1783.00
DRAWN BY: LN
DRAWING SCALE: AS NOTED
PTN: 61721-75 FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

DETAILS

SHEET NUMBER

E-5.3

LIBERTY HS ADMIN & STUDENT COMMONS – 219013

PANEL C1

VOLTS:	120 / 208	MAIN BRKR:	MAIN LUG ONLY
PHASE:	3 PH	FEEDER:	SEE SINGLE LINE
WIRE:	4 W	CONDUIT:	SEE SINGLE LINE
BUSSING:	100A	MOUNTED:	SURFACE
POLES:	42P	AIC RATING:	42 KAIC

LOAD DESCRIPTION	TYPE	A	B	C	BRKR.	CKT.	CKT.	BRKR.	A	B	C	TYPE	LOAD DESCRIPTION
LIGHTING ROOM 101 DINING	L	1.42			20/1	1	2	20/1	0.77			L	LIGHTING ROOMS 101 - 103
LIGHTING ROOM 104 SERVERY	L		1.29		20/1	3	4	20/1		0.55		L	LIGHTING ROOMS 105 - 107, 110 - 116
LIGHTING ROOMS 108, 109	L			0.98	20/1	5	6	20/1			1.51	L	EXTERIOR LIGHTING, SITE POLE LIGHTS
SPARE					20/1	7	8	20/1	0.10			L	LIGHTING CONTROLS
SPARE					20/1	9	10	20/1					SPARE
SPARE					20/1	11	12	20/1					SPARE
SPARE					20/1	13	14						SPACE
SPACE						15	16						SPACE
SPACE						17	18						SPACE
SPACE						19	20						SPACE
SPACE						21	22						SPACE
SPACE						23	24						SPACE
SPACE						25	26						SPACE
SPACE						27	28						SPACE
SPACE						29	30						SPACE
SPACE						31	32						SPACE
SPACE						33	34						SPACE
SPACE						35	36						SPACE
SPACE						37	38						SPACE
SPACE						39	40						SPACE
SPACE						41	42						SPACE
		1.42	1.29	0.98					0.87	0.55	1.51		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	0.00	100%	0.00
TYPE "L": LIGHTING / CONTINUOUS LOADS	6.62	125%	8.28
TYPE "R": RECEPTACLES (FIRST 10KVA)	0.00	100%	0.00
TYPE "R": RECEPTACLES (OVER 10KVA)	0.00	50%	0.00
TYPE "H": HVAC / MECHANICAL LOADS	0.00	100%	0.00
TOTALS:	6.62		8.28

PHASE A: 2.29 KVA
PHASE B: 1.84 KVA
PHASE C: 2.49 KVA
20.75 MAX AMPS / PHASE

PANEL A2

(SECTION 1 - RIGHT HAND SIDE)

VOLTS:	120 / 208 V	MAIN BRKR:	MLO
PHASE:	3 PH	FEEDER:	SEE SINGLE LINE
WIRE:	4 W	CONDUIT:	SEE SINGLE LINE
BUSSING:	225A	MOUNTED:	SURFACE
POLES:	42P	AIC RATING:	22K

LOAD DESCRIPTION	TYPE	A	B	C	BRKR.	CKT.	CKT.	BRKR.	A	B	C	TYPE	LOAD DESCRIPTION
REC - COUNSELOR A133	R	0.90			20/1	1	2	20/1					SPARE
REC - AP OFFICE A134	R		0.90		20/1	3	4	20/1					SPARE
REC - CORRIDORS	R			0.90	20/1	5	6	20/1					SPARE
REC - AP SEC A135	R	0.90			20/1	7	8	20/1					SPARE
REC - STAFF WORK A136	R		1.00		20/1	9	10	20/1					SPARE
REC - STAFF WORK A137	R			1.00	20/1	11	12	20/1					SPARE
REC - STAFF WORK A138	R	0.36			20/1	13	14						SPACE
REC - REST RM A137	R		0.36		20/1	15	16						SPACE
SPARE					20/1	17	18						SPACE
REC - AP SEC A139	R	0.90			20/1	19	20						SPACE
REC - SHARED CONFERENCE	R		1.08		20/1	21	22						SPACE
REC - COUNSELOR A141	R			0.90	20/1	23	24						SPACE
REC - AP OFFICE A146	R	0.90			20/1	25	26						SPACE
REC - COUNSELOR A145	R		0.90		20/1	27	28						SPACE
REC - COUNSELOR A144	R			0.90	20/1	29	30						SPACE
REC - AP OFFICE A143	R	0.90			20/1	31	32						SPACE
REC - AP SEC A142	R		0.90		20/1	33	34						SPACE
REC - EXTERIOR	R			0.54	20/1	35	36						SPACE
WATER FOUNTAIN	M	0.50			20/1	37	38						SPACE
SPARE					20/1	39	40						SPACE
SPARE					20/1	41	42						SPACE
		5.36	5.14	4.24					0.00	0.00	0.00		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	0.50	100%	0.50
TYPE "L": LIGHTING / CONTINUOUS LOADS	0.00	125%	0.00
TYPE "R": RECEPTACLES (FIRST 10KVA)	10.00	100%	10.00
TYPE "R": RECEPTACLES (OVER 10KVA)	4.24	50%	2.12
TYPE "H": HVAC / MECHANICAL LOADS	0.00	100%	0.00
TOTALS:	14.74		12.62

THIS SECTION PHASE A: 5.36 KVA
THIS SECTION PHASE B: 5.14 KVA
THIS SECTION PHASE C: 4.24 KVA
THIS SECTION: 44.67 MAX AMPS / PHASE

PANEL TOTAL PHASE A: 10.04 KVA
PANEL TOTAL PHASE B: 11.70 KVA
PANEL TOTAL PHASE C: 10.47 KVA
TOTAL: 97.46 MAX AMPS / PHASE

PANEL A

VOLTS:	120 / 208	MAIN BRKR:	MAIN LUG ONLY
PHASE:	3 PH	FEEDER:	SEE SINGLE LINE
WIRE:	4 W	CONDUIT:	SEE SINGLE LINE
BUSSING:	100A	MOUNTED:	SURFACE
POLES:	42P	AIC RATING:	22 KAIC

LOAD DESCRIPTION	TYPE	A	B	C	BRKR.	CKT.	CKT.	BRKR.	A	B	C	TYPE	LOAD DESCRIPTION
LIGHTING ROOMS 100 - 104	L	0.54			20/1	1	2	20/1	0.98			L	LIGHTING ROOMS 105 - 114
LIGHTING ROOMS 115 - 125	L		1.14		20/1	3	4	20/1		0.93		L	LIGHTING ROOMS 126 - 134
LIGHTING ROOMS 135 - 143	L			0.95	20/1	5	6	20/1			1.18	L	LIGHTING ROOMS 144 - 147, EXTERIOR
PARKING LOT LIGHTING	L	1.42			20/1	7	8	20/1					SPARE
LIGHTING CONTROLS	L		0.10		20/1	9	10	20/1					SPARE
SPARE					20/1	11	12	20/1					SPARE
SPARE					20/1	13	14						SPACE
SPARE					20/1	15	16						SPACE
SPARE					20/1	17	18						SPACE
SPACE						19	20						SPACE
SPACE						21	22						SPACE
SPACE						23	24						SPACE
SPACE						25	26						SPACE
SPACE						27	28						SPACE
SPACE						29	30						SPACE
SPACE						31	32						SPACE
SPACE						33	34						SPACE
SPACE						35	36						SPACE
SPACE						37	38						SPACE
SPACE						39	40						SPACE
SPACE						41	42						SPACE
		1.96	1.24	0.95					0.98	0.93	1.18		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	0.00	100%	0.00
TYPE "L": LIGHTING / CONTINUOUS LOADS	7.24	125%	9.05
TYPE "R": RECEPTACLES (FIRST 10KVA)	0.00	100%	0.00
TYPE "R": RECEPTACLES (OVER 10KVA)	0.00	50%	0.00
TYPE "H": HVAC / MECHANICAL LOADS	0.00	100%	0.00
TOTALS:	7.24		9.05

PHASE A: 2.94 KVA
PHASE B: 2.17 KVA
PHASE C: 2.13 KVA
24.50 MAX AMPS / PHASE

PANEL C2

VOLTS:	120 / 208	MAINS:	225A MCB
PHASE:	3 PH	FEEDER:	SEE SINGLE LINE
WIRE:	4 W	CONDUIT:	SEE SINGLE LINE
BUSSING:	225A	MOUNTED:	SURFACE
POLES:	54P	AIC RATING:	42K AIC

LOAD DESCRIPTION	TYPE	A	B	C	BRKR.	CKT.	CKT.	BRKR.	A	B	C	TYPE	LOAD DESCRIPTION
REC - OFFICE B105	R	0.90			20/1	1	2	20/1	0.60			L	FIRE ALARM 'FACP-B'
REC - OFFICE B106	R		0.90		20/1	3	4	20/1					SPARE
REC - OFFICE B107	R			0.90	20/1	5	6	20/1					SPARE
REC - DINING	R	1.08			20/1	7	8		5.28			H	
REC - DINING	R		1.08		20/1	9	10	60/3		5.28		H	AC-1
REC - DINING	R			1.08	20/1	11	12				5.28	H	
REC - EXTERIOR	R	0.72			20/1	13	14		5.28			H	
REC - EXTERIOR	R		0.90		20/1	15	16	60/3		5.28		H	AC-2
REC - SERVERY	R			0.54	20/1	17	18				5.28	H	
REC - SERVERY REGISTERS	R	0.72			20/1	19	20		4.80			H	
REC - SERVERY REGISTERS	R		0.72		20/1	21	22	50/3		4.80		H	AC-3, AC-4
REC - SERVERY REGISTERS	R			0.72	20/1	23	24				4.80	H	
WATER FILLING STATION	R	0.50			20/1	25	26		2.00			H	
REC - RESTROOM - EF-4	R		0.40		20/1	27	28	30/3		2.00		H	MAU-1, MAU-2
GAS WATER HEATER	M			0.50	20/1	29	30				2.00	H	
ROLL UP DOOR	M	1.20			30/2	31	32		1.40			H	
	M		1.20			33	34	20/3		1.40		H	KEF-1, KEF-2
ROLL UP DOOR	M			1.20	30/2	35	36				1.40	H	
	M	1.20				37	38	15/1	0.50			H	KEF-3
ROLL UP DOOR	M		1.20		30/2	39	40	20/1		0.9		R	ROOF RECEPTACLES
	M			1.20		41	42	15/2			0.22	H	FC-B1
CAFETERIA FLAT PANEL DISPLAY	L	0.50			20/1	43	44		0.22			H	
SPARE					20/1	45	46	20/1					SPARE
SPARE					20/1	47	48						SPACE
SPACE					Z	49	50						SPACE
SPACE					E	51	52						SPACE
SPACE						53	54						SPACE
		6.82	6.40	6.14					20.09	19.67	18.99		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	7.70	100%	7.70
TYPE "L": LIGHTING / CONTINUOUS LOADS	1.10	125%	1.38
TYPE "R": RECEPTACLES (FIRST 10KVA)	10.00	100%	10.00
TYPE "R": RECEPTACLES (OVER 10KVA)	2.06	50%	1.03
TYPE "H": HVAC / MECHANICAL LOADS	57.25	100%	57.25
TOTALS:	78.11		77.35

PHASE A: 26.91 KVA
PHASE B: 26.07 KVA
PHASE C: 25.13 KVA
224.24 MAX AMPS / PHASE

PANEL A2

(SECTION 2 - LEFT HAND SIDE)

VOLTS:	120 / 208 V	MAIN BRKR:	SUB FED, FEED THRU LUGS
PHASE:	3 PH	FEEDER:	
WIRE:	4 W	CONDUIT:	
BUSSING:	225A	MOUNTED:	SURFACE
POLES:	42P	AIC RATING:	22K

LOAD DESCRIPTION	TYPE	A	B	C	BRKR.	CKT.	CKT.	BRKR.	A	B	C	TYPE	LOAD DESCRIPTION
SPARE					20/1	43	44		3.60			H	
SPARE					20/1	45	46	45/3		3.60		H	ENERGY RECOVER VENT. ERV-1
SPARE					20/1	47	48				3.60	H	
SPACE						49	50	15/2	0.70			H	FAN COILS A133-A146
SPACE						51	52			0.70		H	
SPACE						53	54	15/2			0.38	H	BRANCH CONTROLLERS BC-1,2,3
SPACE						55	56		0.38			H	
SPACE						57	58	60/2		2.25		H	WATER HEATER EWH-1
SPACE						59	60				2.25	H	
SPACE						61	62						SPACE
SPACE						63	64						SPACE
SPACE						65	66						SPACE
SPACE						67	68						SPACE
SPACE						69	70						SPACE
SPACE						71	72						SPACE
SPACE						73	74						SPACE
SPACE						75	76						SPACE
SPACE						77	78						SPACE
SPACE						79	80						SPACE
SPACE						81	82						SPACE
SPACE						83	84						SPACE
		0.00	0.00	0.00					4.68	6.56	6.23		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	0.00	100%	0.00
TYPE "L": LIGHTING / CONTINUOUS LOADS	0.00	125%	0.00
TYPE "R": RECEPTACLES (FIRST 10KVA)	0.00	100%	0.00
TYPE "R": RECEPTACLES (OVER 10KVA)	0.00	50%	0.00
TYPE "H": HVAC / MECHANICAL LOADS	17.47	100%	17.47
TOTALS:	17.47		17.47

THIS SECTION PHASE A: 4.68 KVA
THIS SECTION PHASE B: 6.56 KVA
THIS SECTION PHASE C: 6.23 KVA
THIS SECTION: 54.63 MAX AMPS / PHASE

PANEL A1

(SECTION 1 - RIGHT HAND SIDE)

VOLTS:	120 / 208 V	MAIN BRKR:	MLO
PHASE:	3 PH	FEEDER:	SEE SINGLE LINE
WIRE:	4 W	CONDUIT:	SEE SINGLE LINE
BUSSING:	225A	MOUNTED:	SURFACE
POLES:	42P	AIC RATING:	22K

LOAD DESCRIPTION	TYPE	A	B	C	BRKR.	CKT.	CKT.	BRKR.	A	B	C	TYPE	LOAD DESCRIPTION
REC - RECEPTION	R	0.90			20/1	1	2	20/1	0.72			R	REC - AP SEC
REC - RECEPTION	R		0.90		20/1	3	4	20/1		0.90		R	REC - AP OFFICE
REC - NURSE	R			0.90	20/1	5	6	20/1			0.90	R	REC - COUNSELOR
REC - NURSE / FILES	R	1.08			20/1	7	8	20/1				R	REC - CUSTODIAN / RESTRM
REC - CORRIDORS	R		1.08		20/1	9	10	20/1					SPARE
REC - EXTERIOR	R			1.08	20/1	11	12	20/1					SPARE
REC - SRO A102	R	0.90			20/1	13	14	20/1	1.50				SPARE
REC - DATA A103	R		0.90		20/1	15	16	20/1		0.90		R	REC MFT A120
REC - RESTROOMS NURSE	R			0.36	20/1	17	18	20/1			0.90	R	REC - PSYCH 123
REC - REGISTRATION	R	0.90			20/1	19	20	20/1	0.36			R	REC - MAIL RM
REC - INT TEACHER	R		0.90		20/1	21	22	20/1		0.50		R	REC - STAFF LOUNGE
REC - PRIN SEC	R			0.90	20/1	23	24	20/1					SPARE
REC - PRINCIPAL	R	1.08			20/1	25	26	20/1					SPARE
REC - CONFERENCE RM	R		0.72		20/1	27	28	20/1					SPARE
REC - IDF 'A'	L			1.00	20/1	29	30						SPACE
REC - MFT A119	R	0.90			20/1	31	32						SPACE
REC - MAIL RM	R		0.72		20/1	33	34						SPACE
REC - STAFF LOUNGE	R			0.36	20/1	35	36						SPACE
REC - STAFF LOUNGE	R	0.36			20/1	37	38						SPACE
REC - STAFF LOUNGE	R		0.18		20/1	39	40						SPACE
REC - PSYCH 129	R			0.90	20/1	41	42						SPACE
		6.12	5.40	5.50					2.58	2.30	1.80		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	0.00	100%	0.00
TYPE "L": LIGHTING / CONTINUOUS LOADS	1.00	125%	1.25
TYPE "R": RECEPTACLES (FIRST 10KVA)	10.00	100%	10.00
TYPE "R": RECEPTACLES (OVER 10KVA)	11.20	50%	5.60
TYPE "H": HVAC / MECHANICAL LOADS	0.00	100%	0.00
TOTALS:	22.20		16.85

THIS SECTION PHASE A: 8.70 KVA
THIS SECTION PHASE B: 7.70 KVA
THIS SECTION PHASE C: 7.30 KVA
THIS SECTION: 72.50 MAX AMPS / PHASE

PANEL TOTAL PHASE A: 24.92 KVA
PANEL TOTAL PHASE B: 22.87 KVA
PANEL TOTAL PHASE C: 22.74 KVA
TOTAL: 207.68 MAX AMPS / PHASE

LIGHTING CONTROL PANEL LCPA

ZONE/SWITCH DESIGNATION	RELAY NO.	LINE VOLTAGE CIRCUIT	LOAD VA	ROOM NAME / FIXTURE TYPE	MASTER SWITCH ZONE GROUP	NOTES	PROGRAM CHANNEL
SA1*	1	120/A-6		LUMINAIRES MOUNTED ON BUILDING A		2	
SA2*	2	120/A-6		LUMINAIRES MOUNTED ON BUILDING A		1	
SA3*	3	120/A-6		SITE POLE LIGHTING NORTH OF BUILDING A		2	
SA4*	4	120/A-6		SITE POLE LIGHTING NORTH OF BUILDING A		1	
SA5	5	120/A-7		PARKING LOT LIGHTING		2	
SA6	6	120/A-7		PARKING LOT LIGHTING		1	
SPARE	7	120					
SPARE	8	120					

LIGHTING CONTROL PANEL LCPB

ZONE/SWITCH DESIGNATION	RELAY NO.	LINE VOLTAGE CIRCUIT	LOAD VA	ROOM NAME / FIXTURE TYPE	MASTER SWITCH ZONE GROUP	NOTES	PROGRAM CHANNEL
SB1	1	120		SITE POLE LIGHTING EAST OF BUILDING B		2	
SB2	2	120		SITE POLE LIGHTING EAST OF BUILDING B		1	
SB3*	3	120		TRASH ENCLOSURE EXTERIOR LIGHTING		4	
SB4	4	120		SITE POLE LIGHTING SOUTH OF BUILDING B		2	
SB5	5	120		SITE POLE LIGHTING SOUTH OF BUILDING B		1	
SB6*	6	120		LUMINAIRES MOUNTED ON BUILDING B		2	
SB7*	7	120		LUMINAIRES MOUNTED ON BUILDING B		1	
SB8	8	120		LUMINAIRES MOUNTED ON BUILDING B		1	

LIGHTING CONTROL PANEL LCPW

ZONE/SWITCH DESIGNATION	RELAY NO.	LINE VOLTAGE CIRCUIT	LOAD VA	ROOM NAME / FIXTURE TYPE	MASTER SWITCH ZONE GROUP	NOTES	PROGRAM CHANNEL
SW1*	1	120		LUMINAIRES MOUNTED ON BUILDING A-WING		2	
SW2*	2	120		LUMINAIRES MOUNTED ON BUILDING A-WING		1	
SPACE	3	120					
SPACE	4	120					
SPACE	5	120					
SPACE	6	120					
SPACE	7	120					
SPACE	8	120					

NOTES:
1 PROVIDE AN ASTRO-DIAL MASTER CHANNEL; ASTRO-ON, TIMECLOCK-OFF.
RELAYS NOTED SHALL BE AUTOMATICALLY CONTROLLED BY THE RESPECTIVE ASTRO CHANNEL FOR EXTERIOR CONTROL.
2 PROVIDE AN ASTRO-DIAL MASTER CHANNEL; ASTRO-ON, ASTRO-OFF.
RELAYS NOTED SHALL BE AUTOMATICALLY CONTROLLED BY THE RESPECTIVE ASTRO CHANNEL FOR EXTERIOR CONTROL.
*3 PROVIDE (1) EMERGENCY LIGHTING CONTROL MODULE FOR EACH RELAY INDICATED WITH AN ASTERISK.
SEE TYPICAL SWITCHED EMERGENCY LIGHT FIXTURE CONNECTION DETAIL 3/E-5.2.
4 PROGRAM THESE LIGHTS TO BE ALWAYS OFF, WITH MANUAL OVERRIDE AT THE LOCAL WALL SWITCH.

PANEL B2

VOLTS:	120 / 208	MAIN BRKR:	MAIN LUG ONLY
PHASE:	3 PH	FEEDER:	SEE SINGLE LINE
WIRE:	4 W	CONDUIT:	SEE SINGLE LINE
BUSSING:	100A	MOUNTED:	SURFACE
POLES:	42P	AIC RATING:	22 KAIC

LOAD DESCRIPTION	TYPE	A	B	C	BRKR.	CKT.	CKT.	BRKR.	A	B	C	TYPE	LOAD DESCRIPTION
REC - EXTERIOR RECEPTACLES	R	0.72			20/1	1	2	20/1	0.98			L	LIGHTS
REC - STUDENT STORE	R		0.54		20/1	3	4	20/1		0.93		L	LIGHTS
REC - STUDENT STORE	R			0.36	20/1	5	6	20/1			1.18	L	LIGHTS
REC - OFFICE	R	0.72			20/1	7	8	20/1					SPARE
REC - TOILET 102 & 103	R		0.36		20/1	9	10	20/1					SPARE
REC - SUPPLY ROOM & TOILET 106	R			0.54	20/1	11	12	20/1					SPARE
REC - ASB	R	0.90			20/1	13	14	20/1					SPARE
REC - ASB	R		0.90		20/1	15	16	20/1					SPARE
REC - OFFICE	R			0.72	20/1	17	18	20/1					SPARE
REC - CAREER / EVENT CENTER	R	0.72			20/1	19	20	20/1					SPARE
REC - CAREER / EVENT CENTER	R		0.54		20/1	21	22	20/1					SPARE
REC - CAREER / EVENT CENTER	R			0.54	20/1	23	24						SPACE
REC - CAREER / EVENT CENTER	R	0.54			20/1	25	26						SPACE
CLOCK CIRCUIT	L		0.20		20/1	27	28						SPACE
SPARE					20/1	29	30						SPACE
SPARE					20/1	31	32						SPACE
SPARE					20/1	33	34						SPACE
SPARE					20/1	35	36						SPACE
	M	5.00				37	38						SPACE
PANEL 'B'	M		5.00		90/3	39	40						SPACE
	M			5.00		41	42						SPACE
		8.60	7.54	7.16					0.98	0.93	1.18		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	15.00	100%	15.00
TYPE "L": LIGHTING / CONTINUOUS LOADS	3.29	125%	4.11
TYPE "R": RECEPTACLES (FIRST 10KVA)	8.10	100%	8.10
TYPE "R": RECEPTACLES (OVER 10KVA)	0.00	50%	0.00
TYPE "H": HVAC / MECHANICAL LOADS	0.00	100%	0.00
TOTALS:	26.39		27.21

PHASE A: 9.58 KVA
PHASE B: 8.47 KVA
PHASE C: 8.34 KVA
79.83 MAX AMPS / PHASE

PANEL A1

(SECTION 2 - LEFT HAND SIDE)

VOLTS:	120 / 208 V	MAIN BRKR:	SUB FED, FEED THRU LUGS
PHASE:	3 PH	FEEDER:	
WIRE:	4 W	CONDUIT:	
BUSSING:	225A	MOUNTED:	SURFACE
POLES:	42P	AIC RATING:	22K

LOAD DESCRIPTION	TYPE	A	B	C	BRKR.	CKT.	CKT.	BRKR.	A	B	C	TYPE	LOAD DESCRIPTION
SPARE					20/1	43	44		5.86			M	
SPARE					20/1	45	46	75/3		5.86		M	HEAT PUMP HP-A1 - UNIT 1
SPARE					20/1	47	48				5.86	M	
SPARE					20/1	49	50		4.99			M	
SPARE					20/1	51	52	65/3		4.99		M	HEAT PUMP HP-A1 - UNIT 2
SPARE					20/1	53	54				4.99	M	
SPACE						55	56	15/2	0.57			M	FAN COILS FC A117-A129
SPACE						57	58			0.57		M	
SPACE						59	60	15/2			0.84	M	FAN COILS FC A100-A116
SPACE						61	62		0.84			M	
SPACE						63	64	15/2		0.15		M	BRANCH CONTROLLER BC-4
SPACE						65	66				0.15	M	
SPACE						67	68		3.60			M	
SPACE						69	70	45/3		3.60		M	ENERGY RECOVERY VENT ERV-2
SPACE						71	72				3.60	M	
SPACE						73	74	20/1	0.36			R	ROOF RECEPTACLES
SPACE						75	76						SPACE
SPACE						77	78						SPACE
SPACE						79	80						SPACE
SPACE						81	82						SPACE
SPACE						83	84						SPACE
		0.00	0.00	0.00					16.22	15.17	15.44		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	46.47	100%	46.47
TYPE "L": LIGHTING / CONTINUOUS LOADS	0.00	125%	0.00
TYPE "R": RECEPTACLES (FIRST 10KVA)	0.36	100%	0.36
TYPE "R": RECEPTACLES (OVER 10KVA)	0.00	50%	0.00
TYPE "H": HVAC / MECHANICAL LOADS	0.00	100%	0.00
TOTALS:	46.83		46.83

THIS SECTION PHASE A: 16.22 KVA
THIS SECTION PHASE B: 15.17 KVA
THIS SECTION PHASE C: 15.44 KVA
THIS SECTION: 135.18 MAX AMPS / PHASE

IDENTIFICATION STAMP
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APP: 01-119033 INC:
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SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

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No.14738
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LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET,
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	LN
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

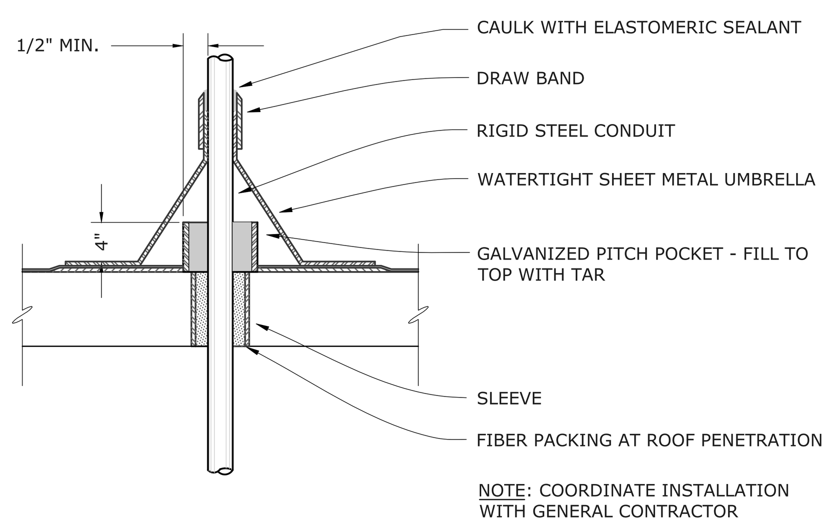
SHEET TITLE

PANEL SCHEDULES

SHEET NUMBER

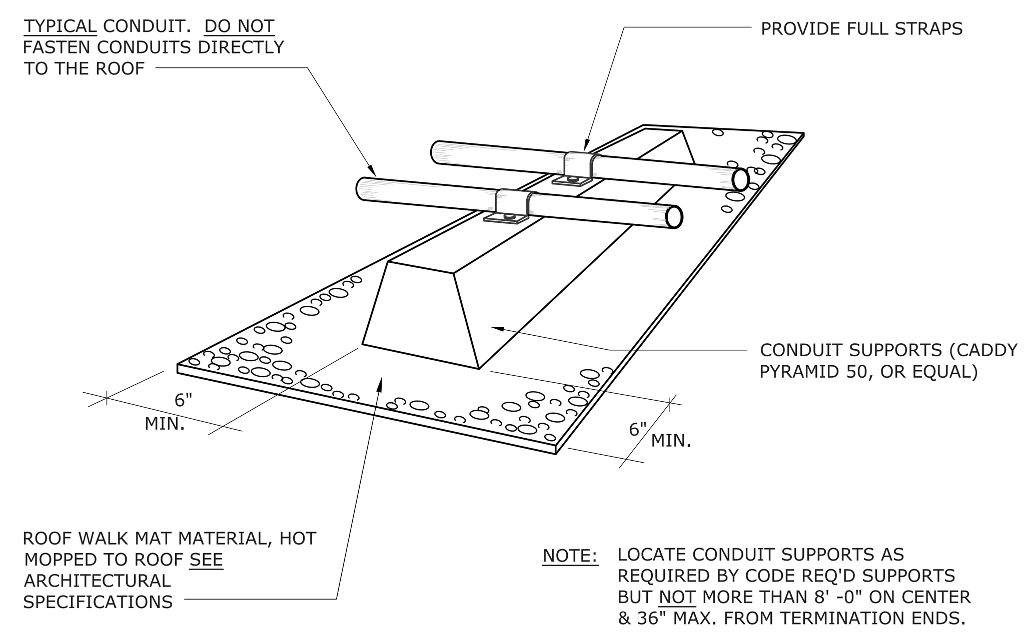
E-6.1

LIBERTY HS ADMIN & STUDENT COMMONS – 219013



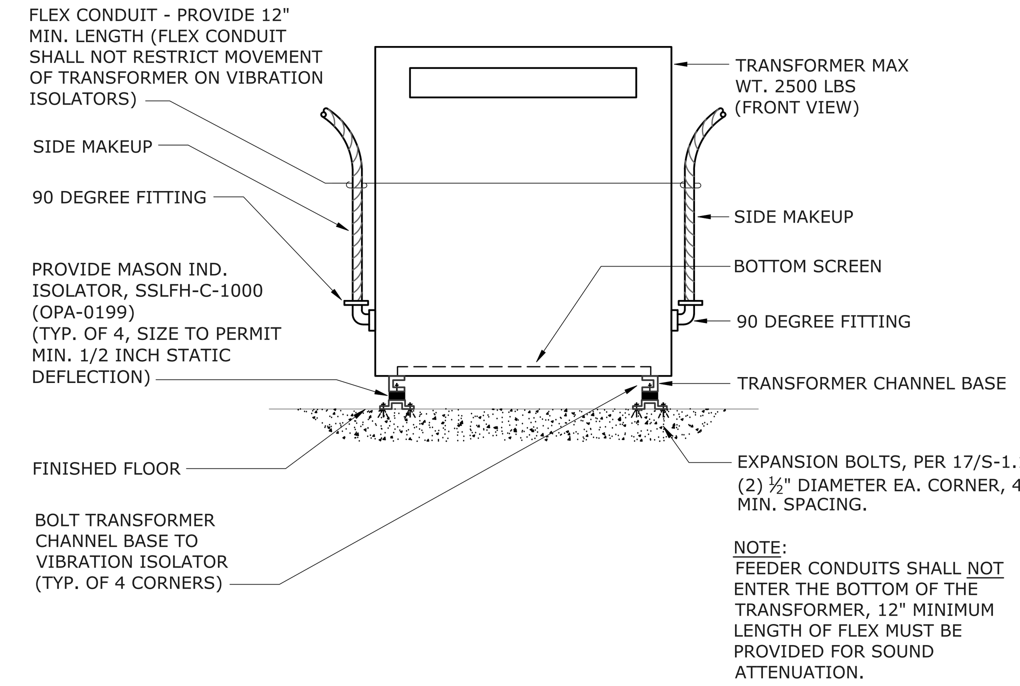
NOTE: COORDINATE INSTALLATION WITH GENERAL CONTRACTOR

ROOF PENETRATION DETAIL
SCALE: NOT TO SCALE
12 E-7.1



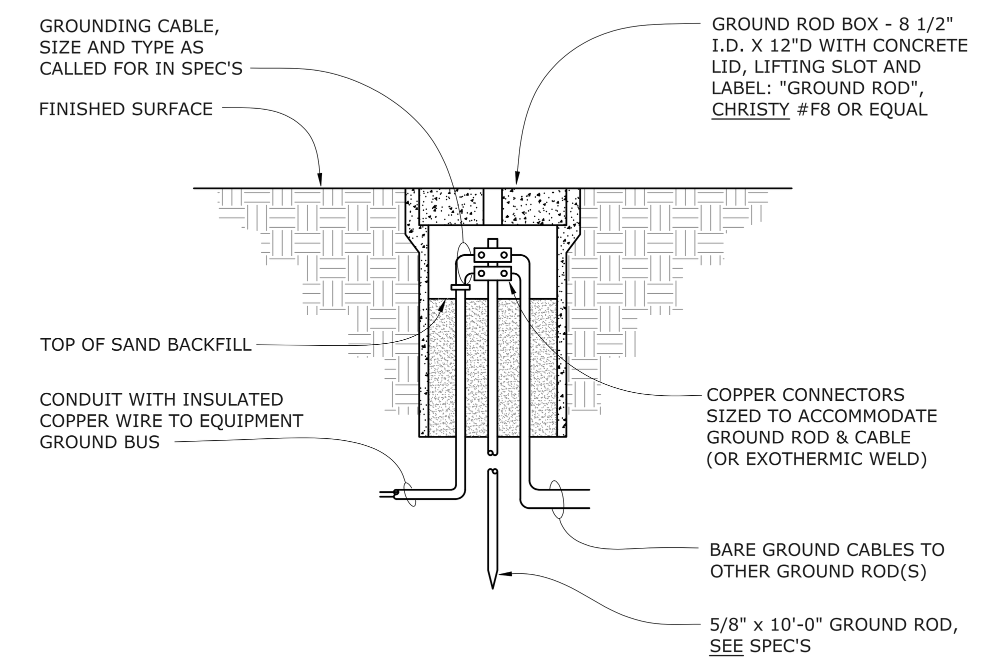
NOTE: LOCATE CONDUIT SUPPORTS AS REQUIRED BY CODE REQ'D SUPPORTS BUT NOT MORE THAN 8' -0" ON CENTER & 36" MAX. FROM TERMINATION ENDS.

ROOF MOUNTED ELECTRICAL CONDUIT SUPPORTS
SCALE: NONE
8 E-7.1

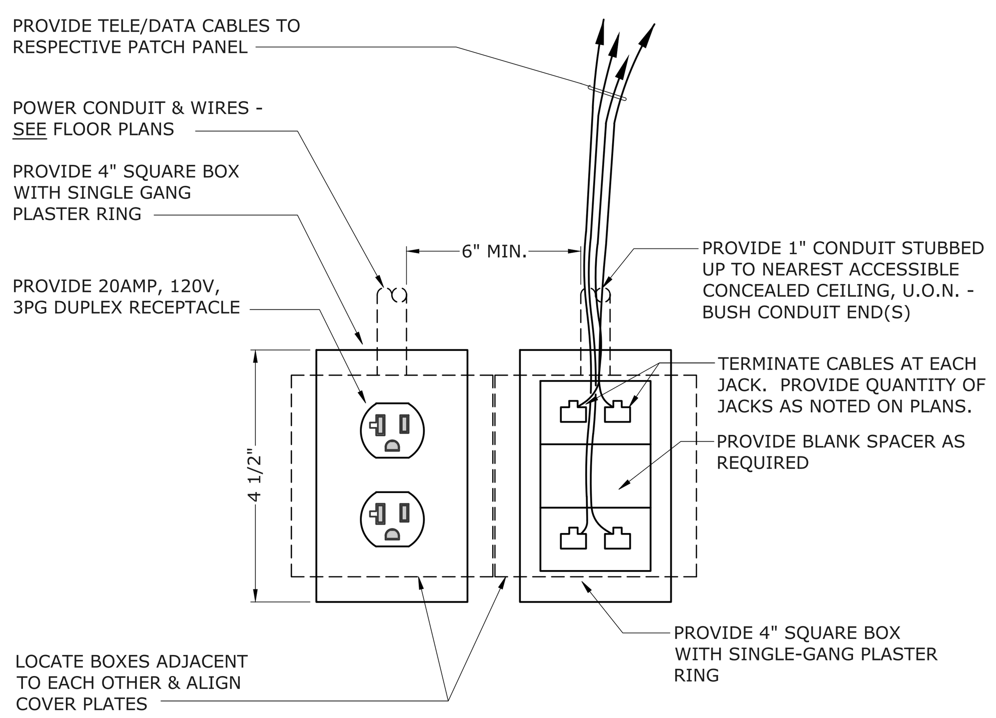


NOTE:
FEEDER CONDUITS SHALL NOT ENTER THE BOTTOM OF THE TRANSFORMER, 12" MINIMUM LENGTH OF FLEX MUST BE PROVIDED FOR SOUND ATTENUATION.

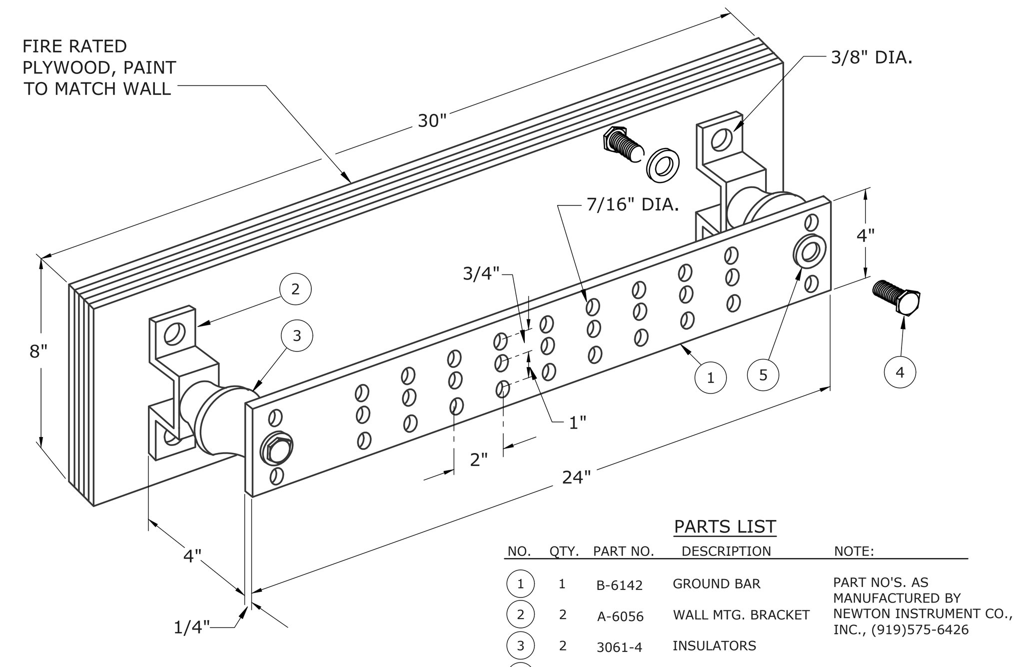
TRANSFORMER MOUNTING DETAIL
SCALE: NONE
5 E-7.1



GROUND ROD INSTALLATION
SCALE: NONE
1 E-7.1



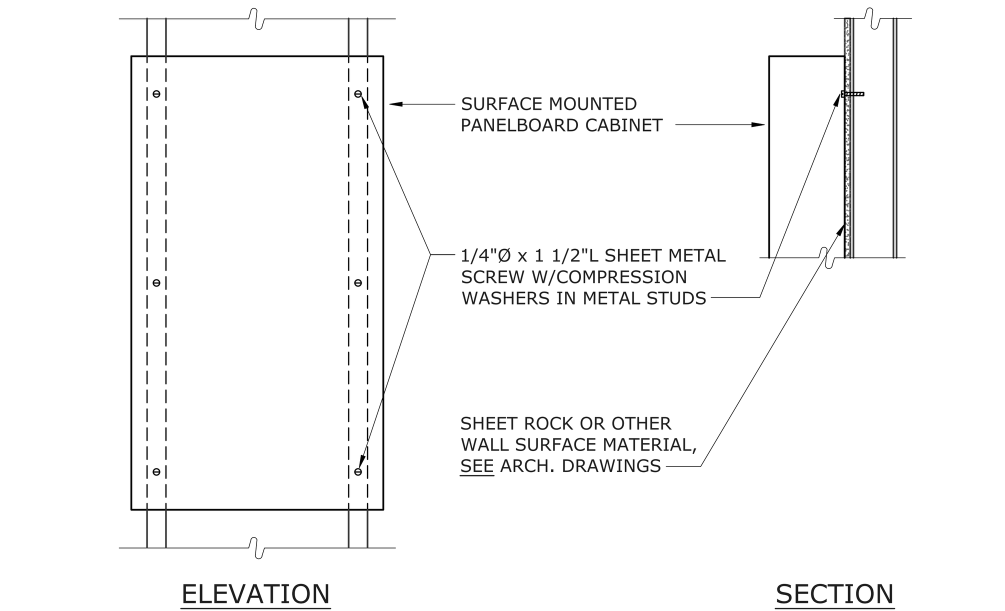
COMBINATION DUPLEX POWER & TELECOM OUTLET BOXES
SCALE: NONE
FILE:
13 E-7.1



PARTS LIST

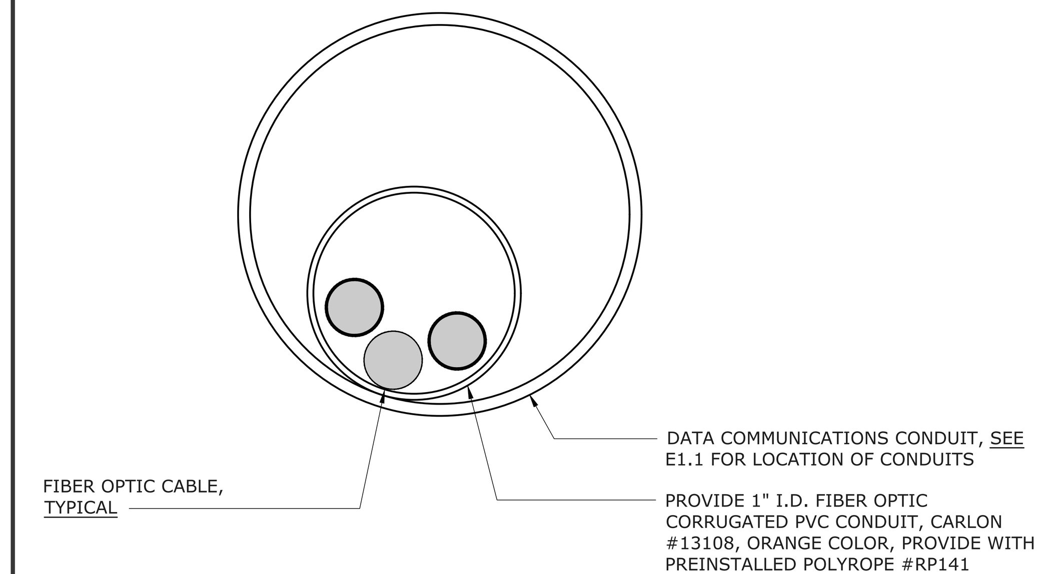
NO.	QTY.	PART NO.	DESCRIPTION	NOTE:
1	1	B-6142	GROUND BAR	PART NO'S. AS MANUFACTURED BY NEWTON INSTRUMENT CO., INC., (919)575-6426
2	2	A-6056	WALL MTG. BRACKET	
3	2	3061-4	INSULATORS	
4	4	3012-1	5/8-11 X 1" HHCS	
5	4	3015-B	5/8 LOCKWASHER	

GROUND BUS BAR
SCALE: NONE
9 E-7.1

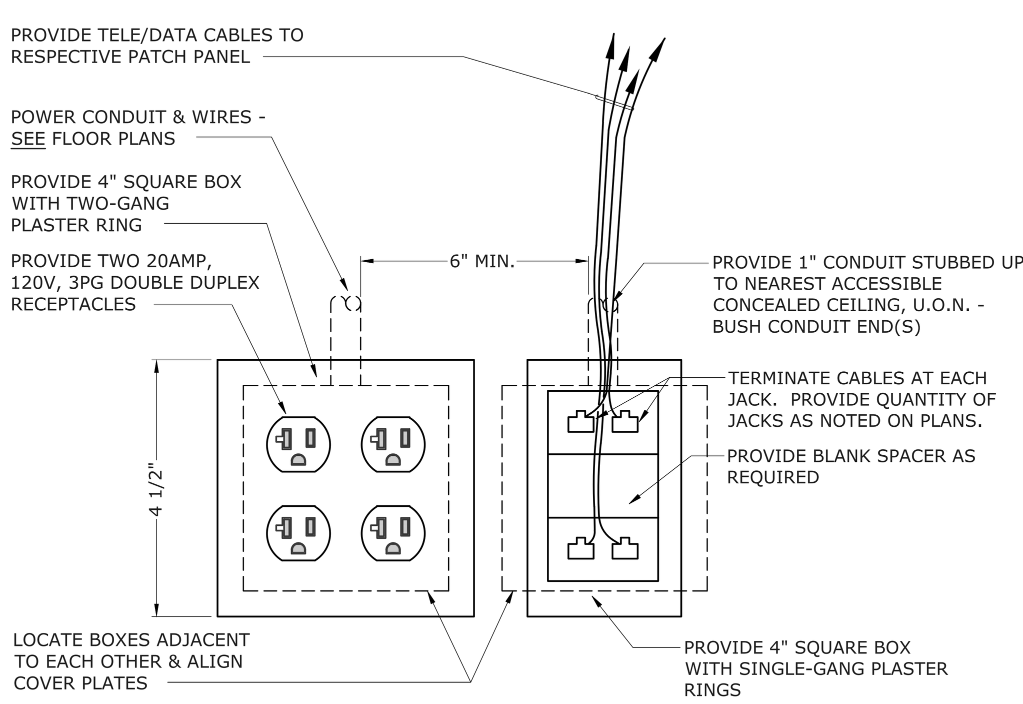


NOTES:
1. MAXIMUM PANELBOARD WEIGHT: 150 POUNDS.

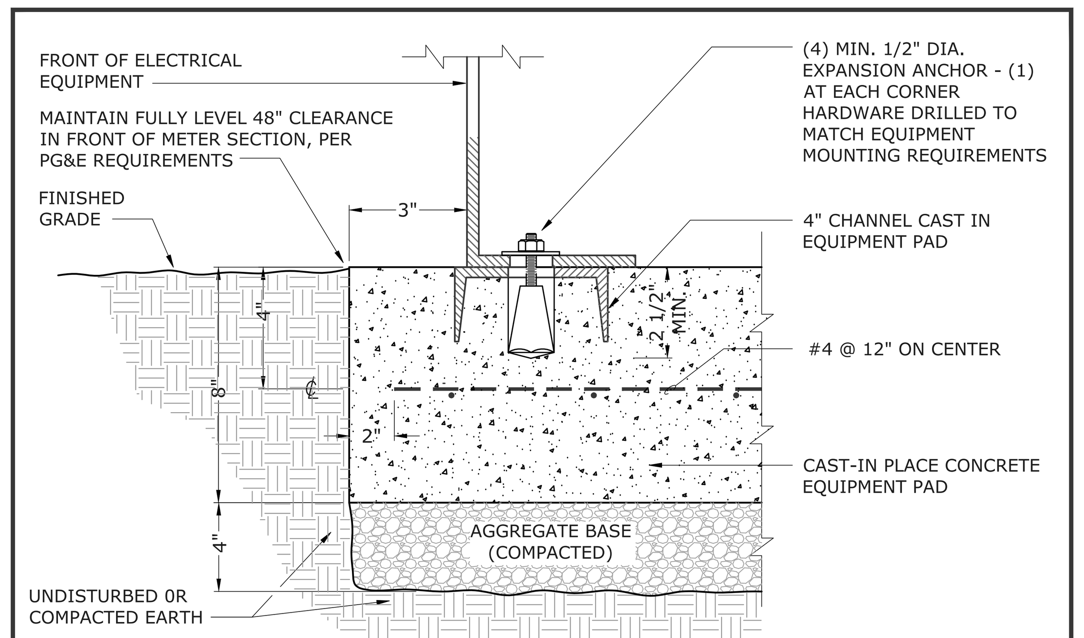
SURFACE PANELBOARD MOUNTING
SCALE: NONE
6 E-7.1



DATA CONDUIT AND CABLE SECTION
SCALE: NONE
2 E-7.1

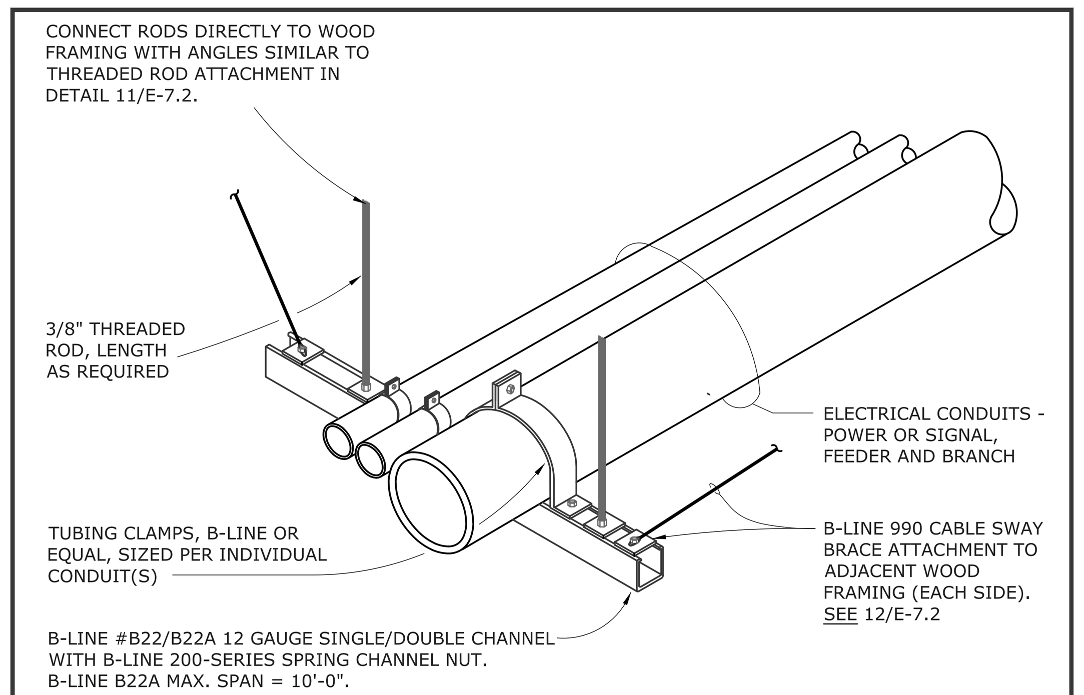


COMBINATION QUAD POWER & TELECOM OUTLET BOXES
SCALE: NONE
FILE:
14 E-7.1

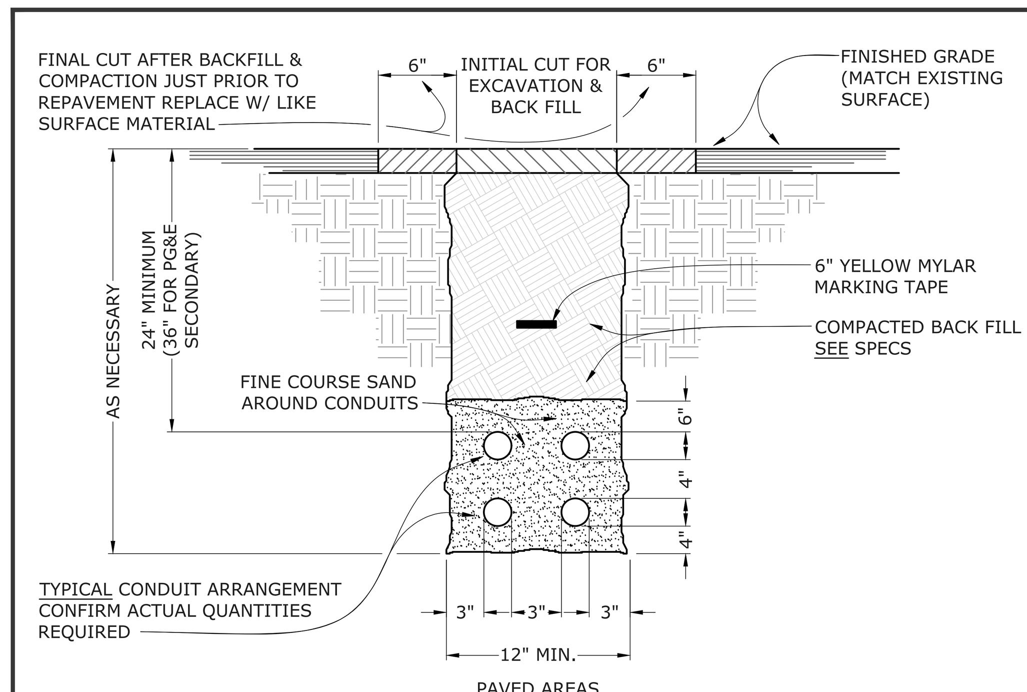


NOTE: PAD DIMENSIONS TO BE COORDINATED WITH EQUIPMENT FOOTPRINT.

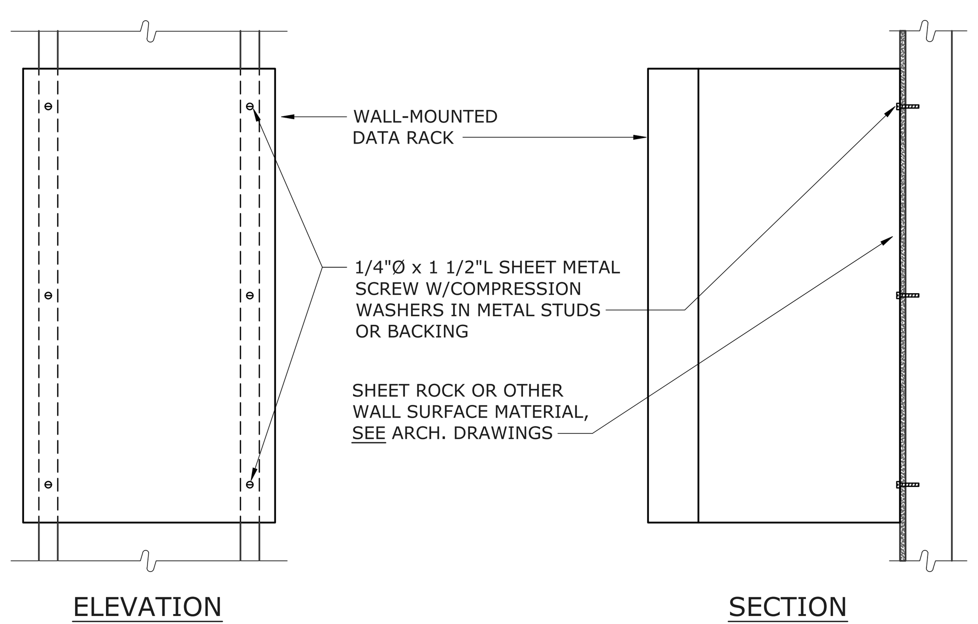
EXTERIOR ELECTRICAL EQUIPMENT (WITH METER) PAD
SCALE: NONE
10 E-7.1



CONDUIT MOUNTING DETAIL
SCALE: NONE
7 E-7.1

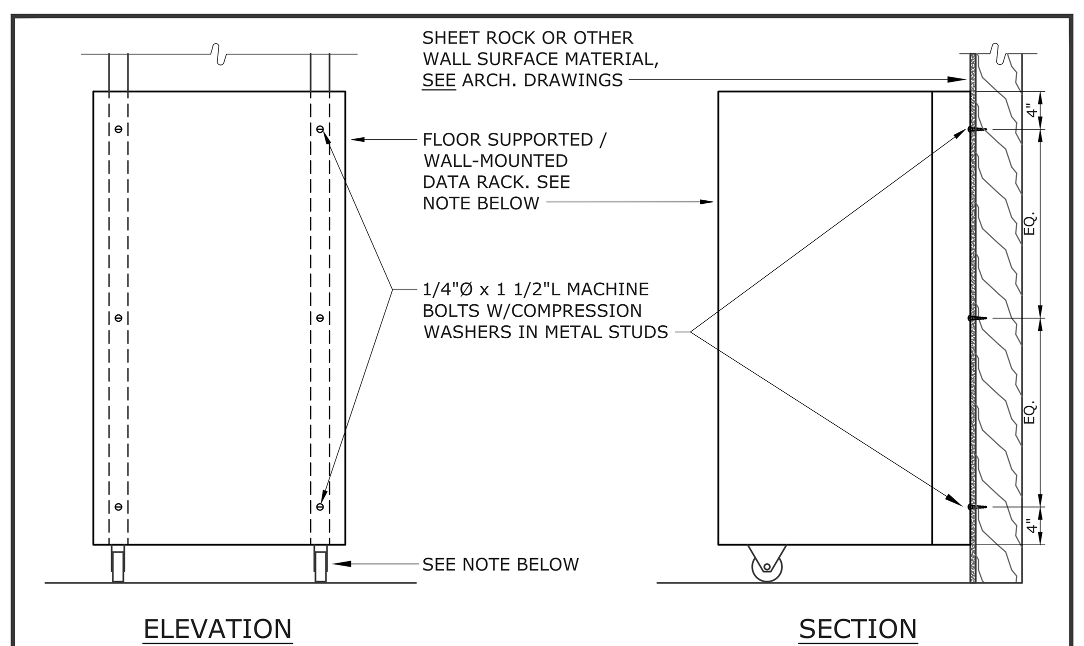


TYPICAL TRENCH SECTION
SCALE: NONE
3 E-7.1



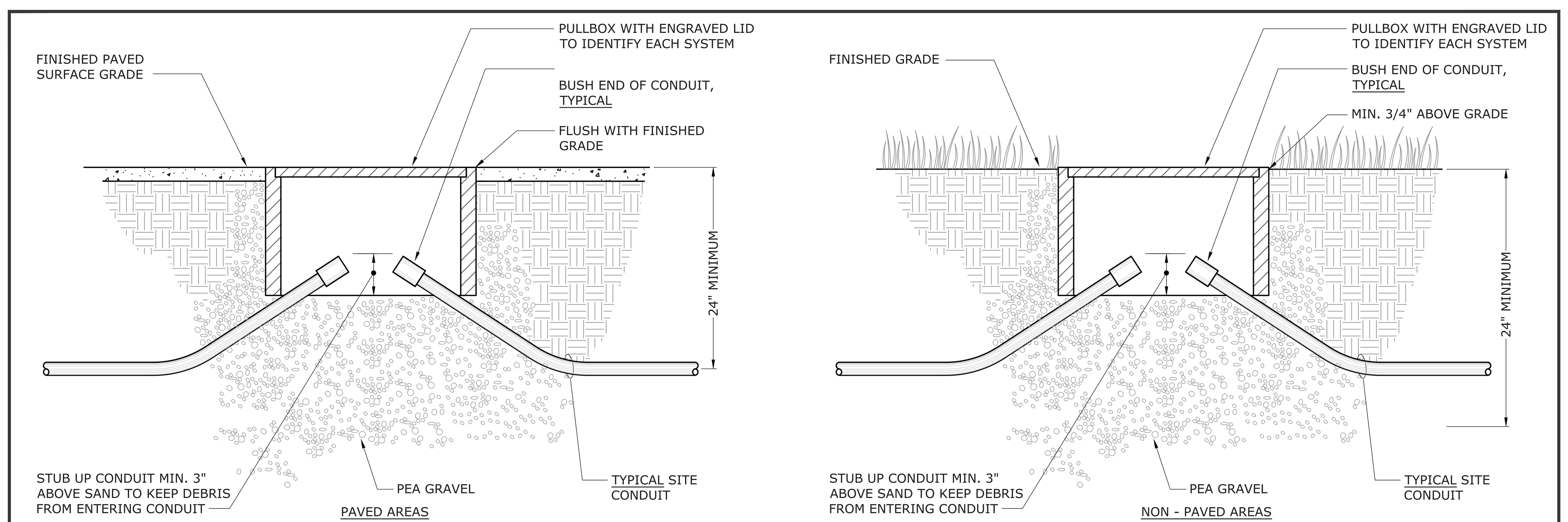
NOTES:
1. MAXIMUM PANELBOARD WEIGHT: 150 POUNDS.
2. IF NEEDED, PROVIDE BACKING PER 1/A-10.2

DATA RACK MOUNTING
SCALE: NONE
15 E-7.1



NOTE:
6' HIGH DATA CABINET TO BE FLOOR SUPPORTED (ON CASTERS FOR SWING-OUT FUNCTION), WALL MOUNTED. CHATSWORTH CUBE-IT OR EQUAL.

6' HIGH IDF DATA RACK MOUNTING
SCALE: NONE
11 E-7.1



TYPICAL PULLBOX DETAILS
SCALE: NOT TO SCALE
4 E-7.1

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DRAWN BY: LN
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PTN: 61721-75 FILE NO: 7-H4

CD

DECEMBER 2, 2020

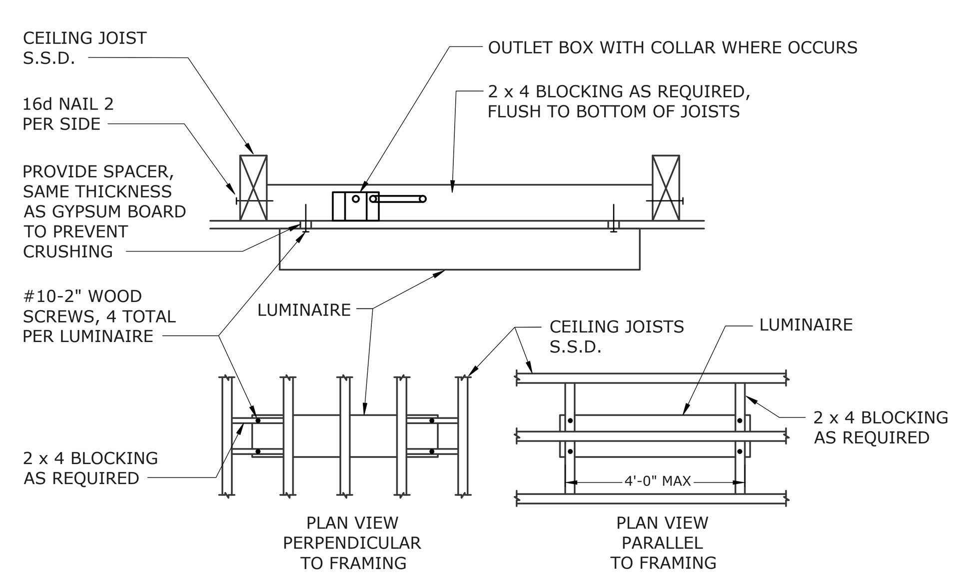
SHEET TITLE

DETAILS

SHEET NUMBER

E-7.1

LIBERTY HS ADMIN & STUDENT COMMONS – 219013



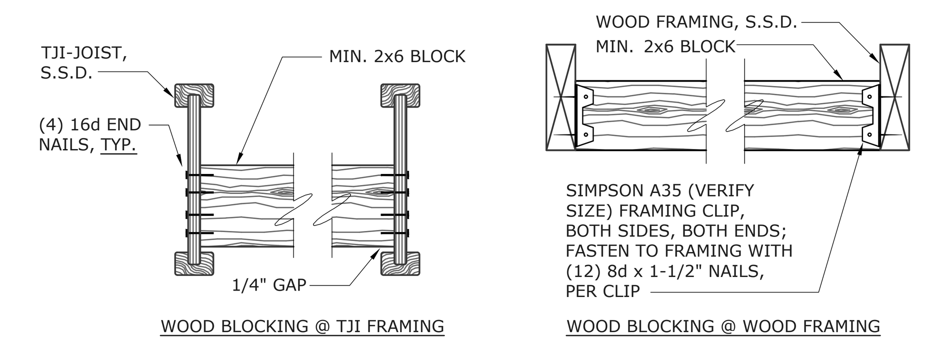
MAX WEIGHT LIMIT: 40 LBS

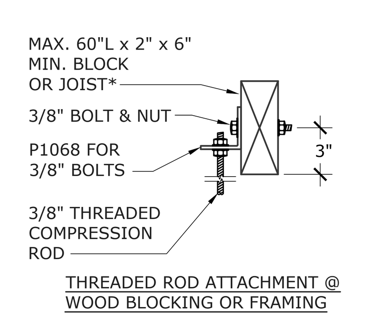
FASTENERS AND BLOCKING SHOWN MUST BE PROVIDED FOR EACH 4FT SECTION OF CONTINUOUS-RUN SURFACE LUMINAIRES

SURFACE MOUNTED LUMINAIRE

10 / E-7.2

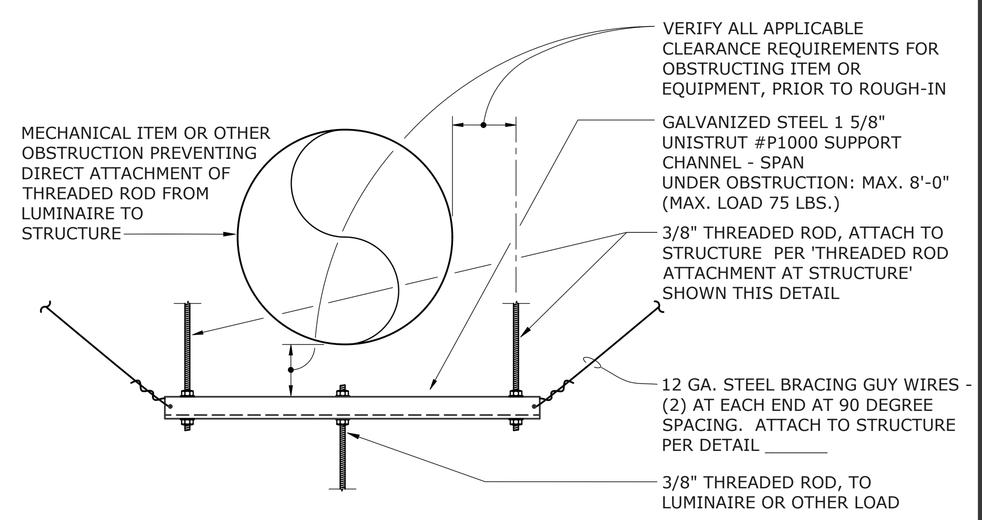
SCALE: NONE
FILE: L:\LIGHT\SURFACE\LSURF003





NOTES:
* BLOCKING IF AND WHERE REQUIRED, SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR, SECURED TO STRUCTURAL MEMBERS AS DETAILED, (WOOD BLOCKING SHALL BE SECURED USING END NAILS OR FRAMING CLIPS ONLY - TOE-NAILING IS NOT ACCEPTABLE.

THREADED ROD ATTACHMENT AT STRUCTURE



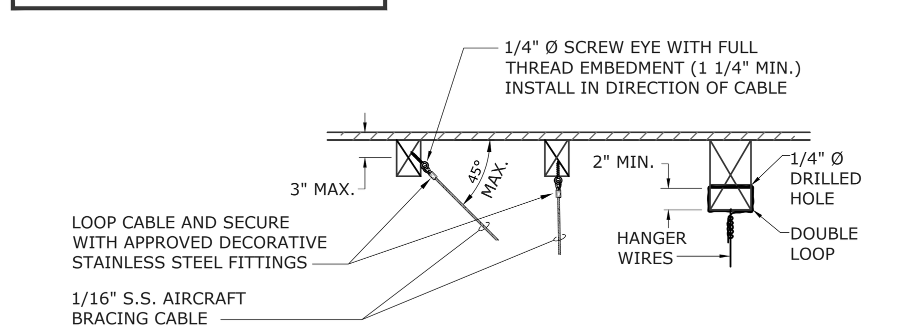
THREADED ROD ATTACHMENT AT OBSTRUCTED CONDITION

THREADED ROD CONNECTION

11 / E-7.2

SCALE: NONE
FILE: L:\DETAILS\LIGHT\BRACING\LBRAC001F

NOTES:
1. TRIM ALL EXCESS BRACING CABLES FOR A FINISHED AND TRIM FINAL INSTALLATION.
2. COORDINATE PROVISION OF STRUCTURAL BLOCKING IN CEILING FOR SWAY BRACING WITH GENERAL CONTRACTOR, PRIOR TO INSTALLATION OF SHEET ROCK.
3. SEE DETAILS 3, 7, 8/E-7.2 FOR LUMINAIRE MOUNTING.

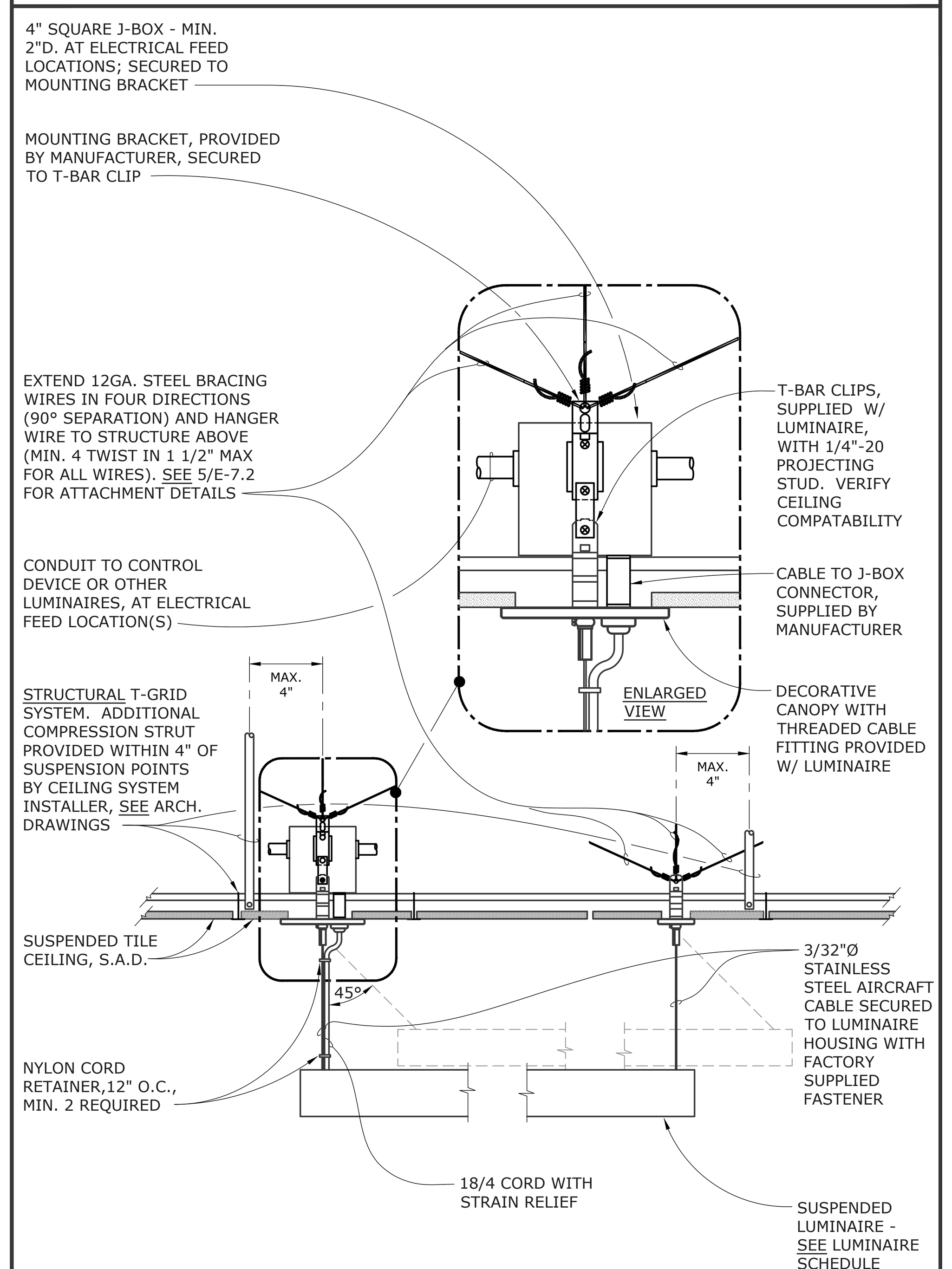


LUMINAIRE BRACING CABLES & WIRES AT WOOD FRAMING

12 / E-7.2

SCALE: NOT TO SCALE
FILE: L:\DETAILS\LIGHT\BRACING\LBRAC002C (MODIFIED FOR 219013)

NOTES:
1. LUMINAIRE SHALL BE FREE TO SWING 45° FROM THE VERTICAL IN ALL DIRECTIONS WITHOUT HITTING ANY OBSTRUCTIONS.
2. SUPPORT (NON-FEED) DETAIL SIMILAR TO ENLARGED VIEW, EXCEPT NO J-BOX OR CONDUIT.

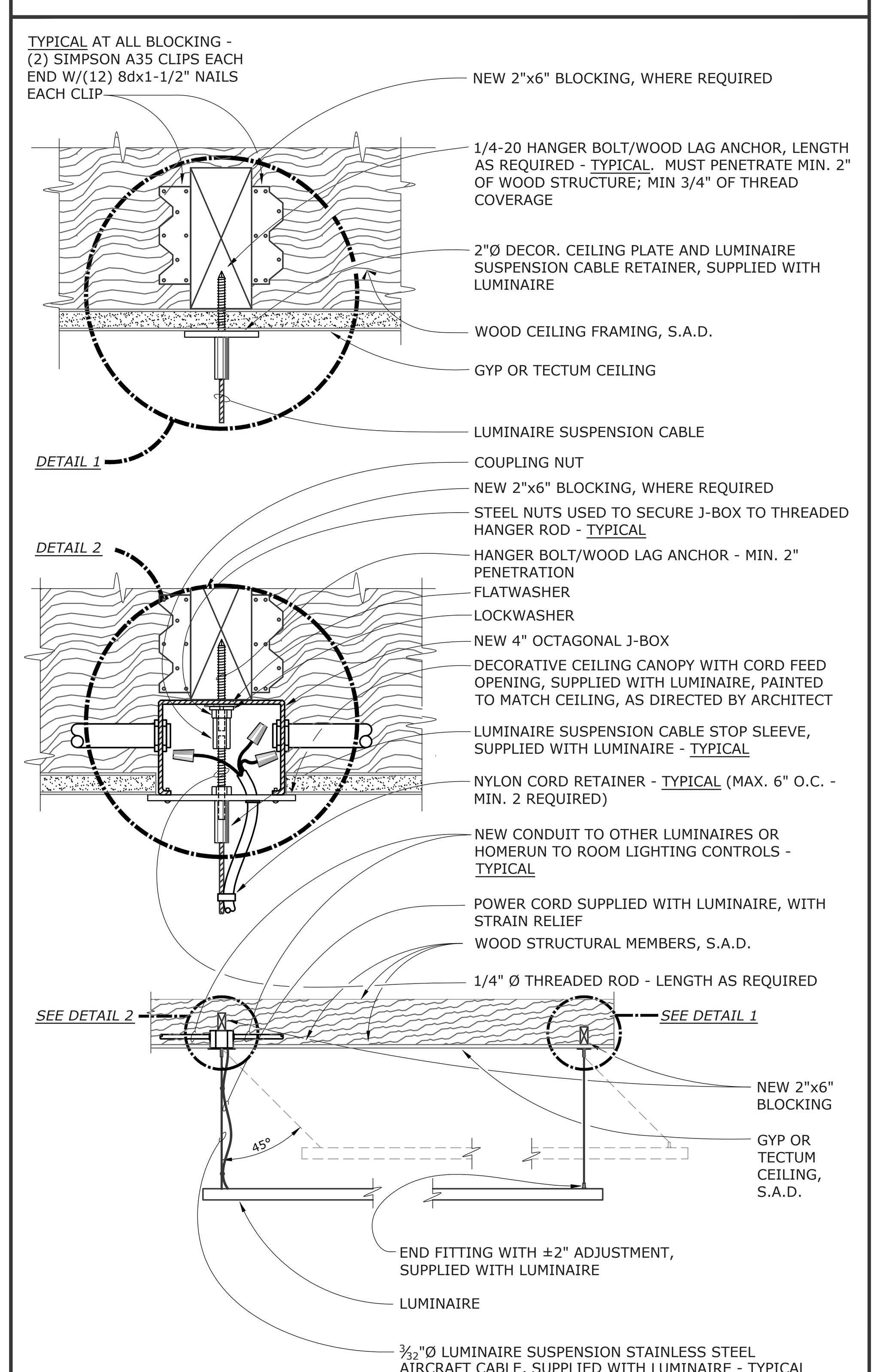


SUSPENDED LUMINAIRE: ON-GRID MOUNTING - T-BAR/SUSPENDED CEILING

8 / E-7.2

SCALE: NOT TO SCALE
FILE: L:\LIGHT\PENDANT\LPEND031 (MODIFIED FOR 219013)

NOTES:
1. LUMINAIRE SHALL BE FREE TO SWING 45° FROM THE VERTICAL IN ALL DIRECTIONS WITHOUT HITTING ANY OBSTRUCTION.
2. CONTRACTOR SHALL PROVIDE AND INSTALL 2"x6" BLOCKING AT ALL FIXTURE SUSPENSION CABLE LOCATIONS.

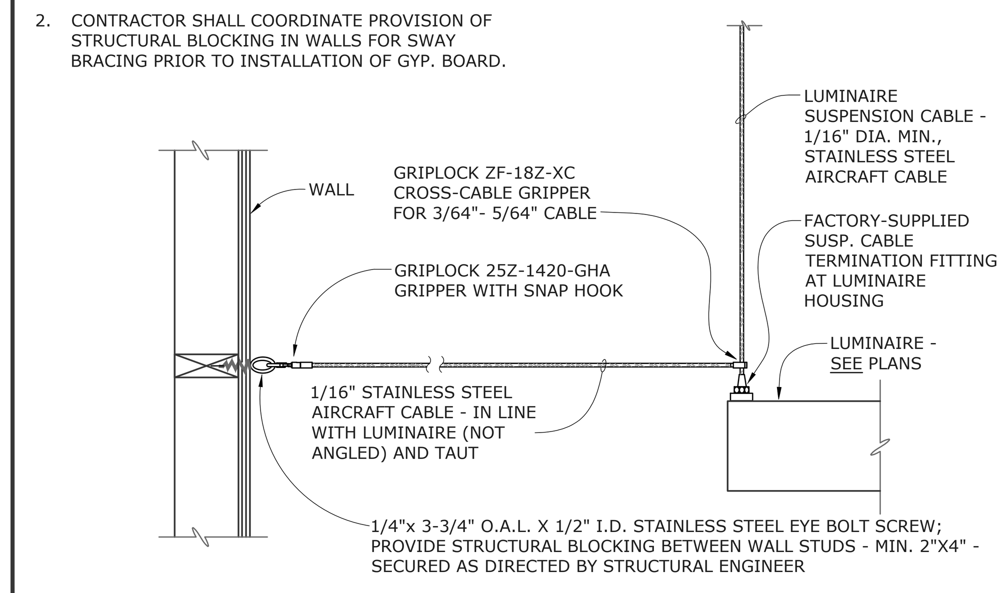


SUSPENDED LUMINAIRE MOUNTING AT HARD CEILING - DINING ROOM

9 / E-7.2

SCALE: NOT TO SCALE
FILE: L:\DETAILS\Light\PENDANT\LPEND068 (MODIFIED FOR 219013)

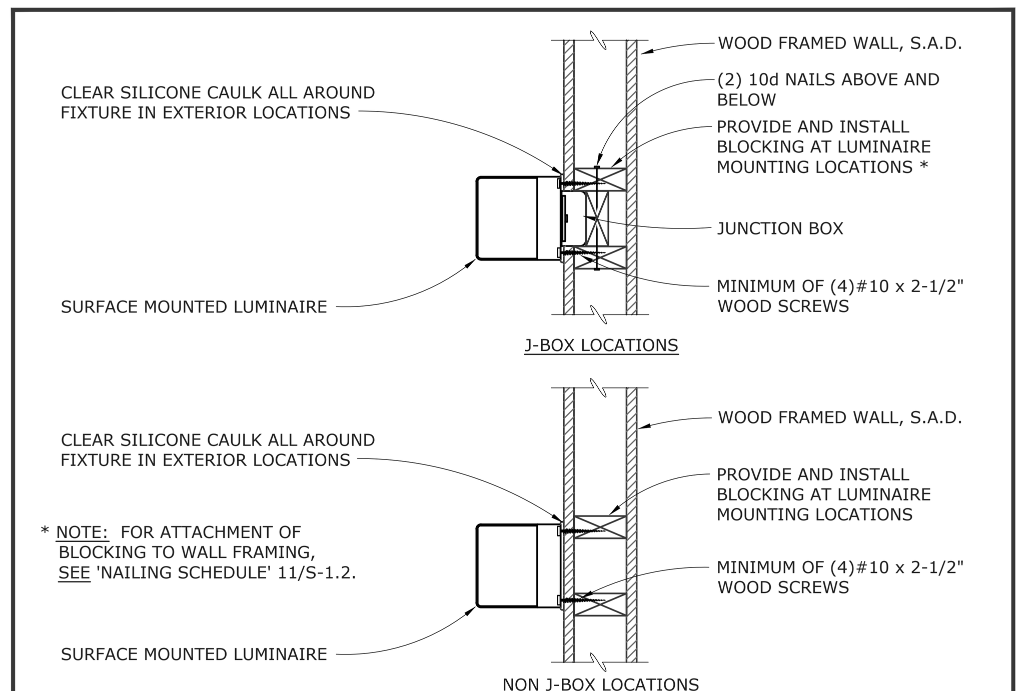
NOTES:
1. TRIM ALL EXCESS BRACING CABLES FOR A FINISHED AND TRIM FINAL INSTALLATION.
2. CONTRACTOR SHALL COORDINATE PROVISION OF STRUCTURAL BLOCKING IN WALLS FOR SWAY BRACING PRIOR TO INSTALLATION OF GYP. BOARD.



SWAY BRACE DETAIL AT WALL

4 / E-7.2

SCALE: NONE
FILE: L:\DETAILS\LIGHT\BRACING\LBRACING006 (MODIFIED FOR 219013)

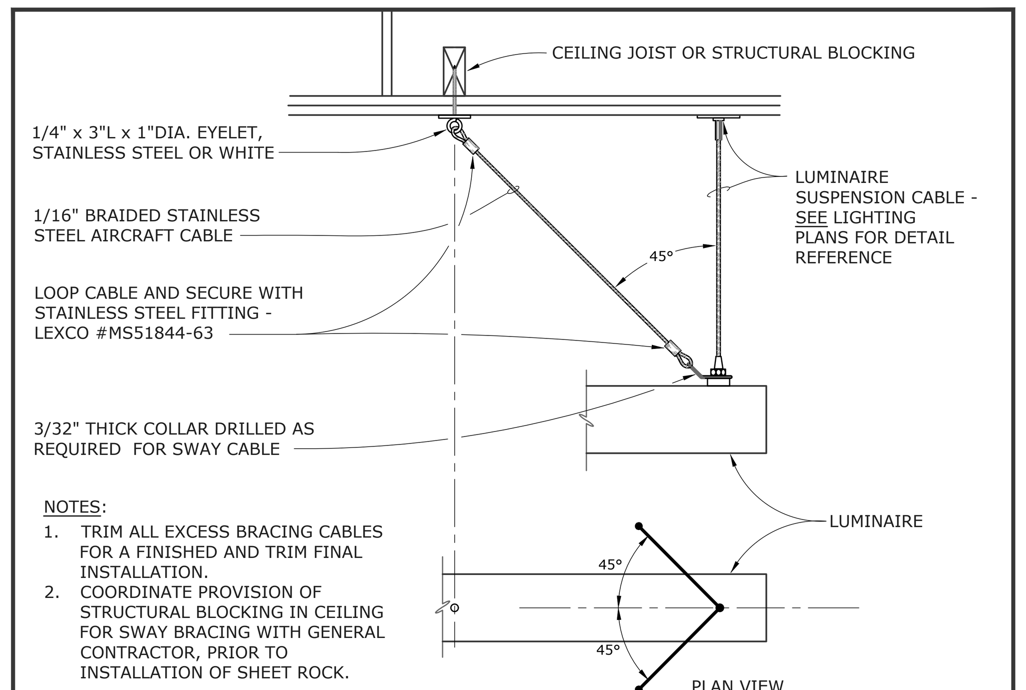


* NOTE: FOR ATTACHMENT OF BLOCKING TO WALL FRAMING, SEE 'NAILING SCHEDULE' 11/S-1.2.

SURFACE WALL MOUNTED LUMINAIRE - WOOD FRAMING

5 / E-7.2

SCALE: NONE
FILE: L:\DETAILS\LIGHT\SURFACE\LSURF021A

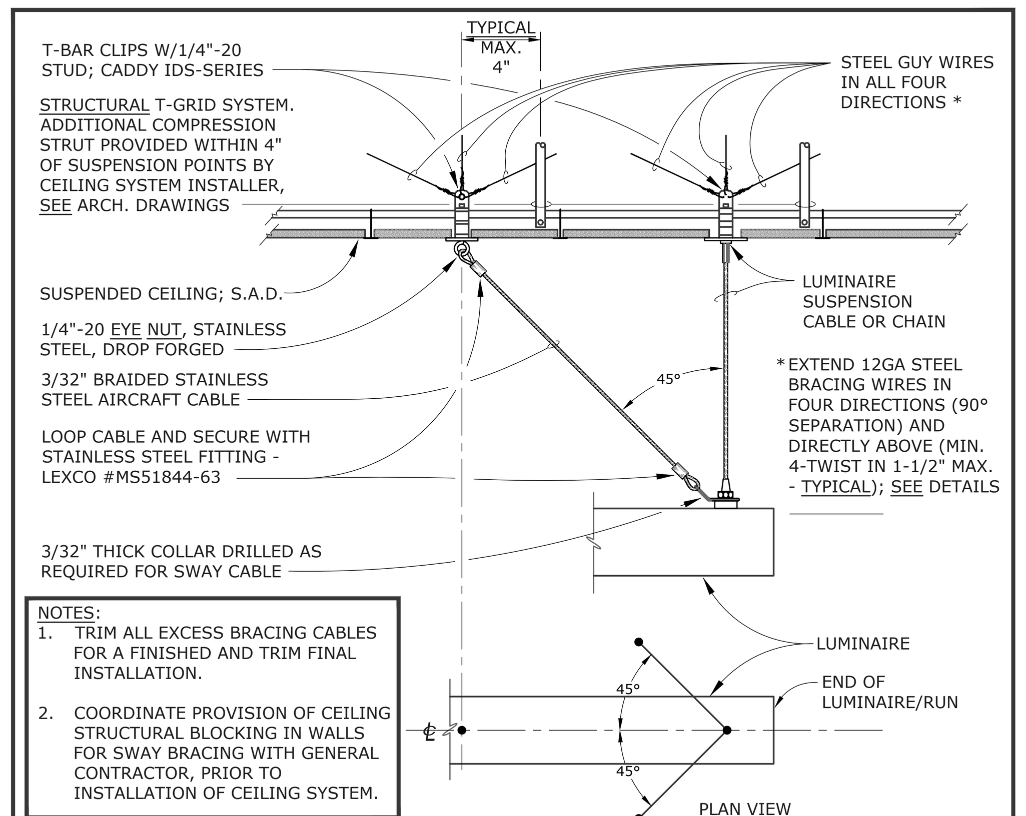


NOTES:
1. TRIM ALL EXCESS BRACING CABLES FOR A FINISHED AND TRIM FINAL INSTALLATION.
2. COORDINATE PROVISION OF STRUCTURAL BLOCKING IN CEILING FOR SWAY BRACING WITH GENERAL CONTRACTOR, PRIOR TO INSTALLATION OF SHEET ROCK.

DUAL SWAY BRACE DETAIL AT FRAMING CEILING

6 / E-7.2

SCALE: NONE
FILE: L:\DETAILS\LIGHT\BRACING\LBRAC009



NOTES:
1. TRIM ALL EXCESS BRACING CABLES FOR A FINISHED AND TRIM FINAL INSTALLATION.
2. COORDINATE PROVISION OF CEILING STRUCTURAL BLOCKING IN WALLS FOR SWAY BRACING WITH GENERAL CONTRACTOR, PRIOR TO INSTALLATION OF CEILING SYSTEM.

DUAL SWAY BRACE DETAIL AT T-BAR GRID

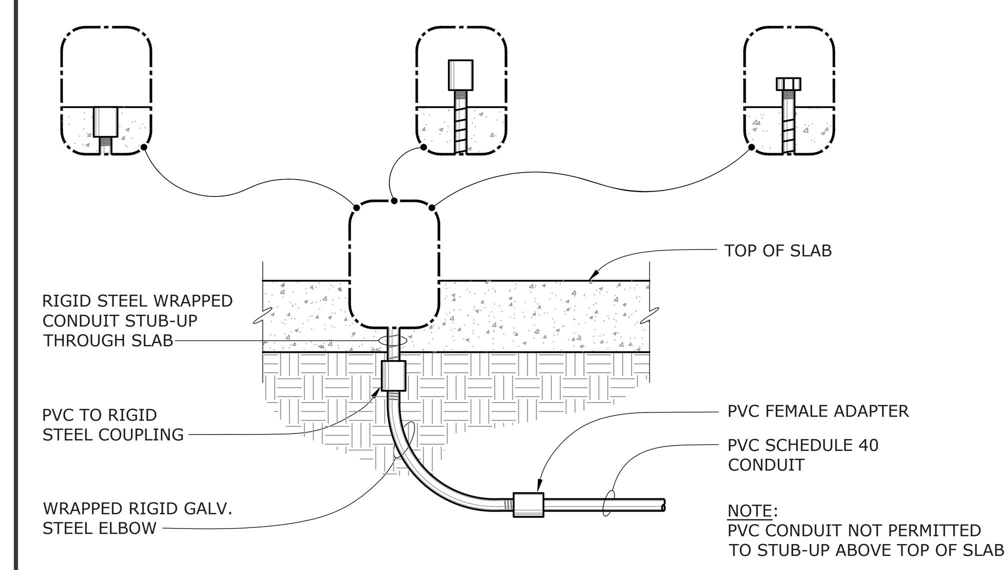
7 / E-7.2

SCALE: NONE
FILE: L:\DETAILS\LIGHT\BRACING\LBRAC009D

A. RIGID STEEL COUPLING FLUSH WITH TOP OF SLAB. PROVIDE FLUSH PLUG ON COUPLING.

B. STUB-UP 6" AT LOCATION SHOWN ON DRAWINGS. CAP WITH THREADED COMBINATION COUPLING (RIGID STEEL TO EMT AND PLUG). SET SCREW CONNECTORS NOT ALLOWED.

C. STUB-UP 6" AT LOCATION SHOWN ON DRAWINGS. BUSH END OF CONDUIT.

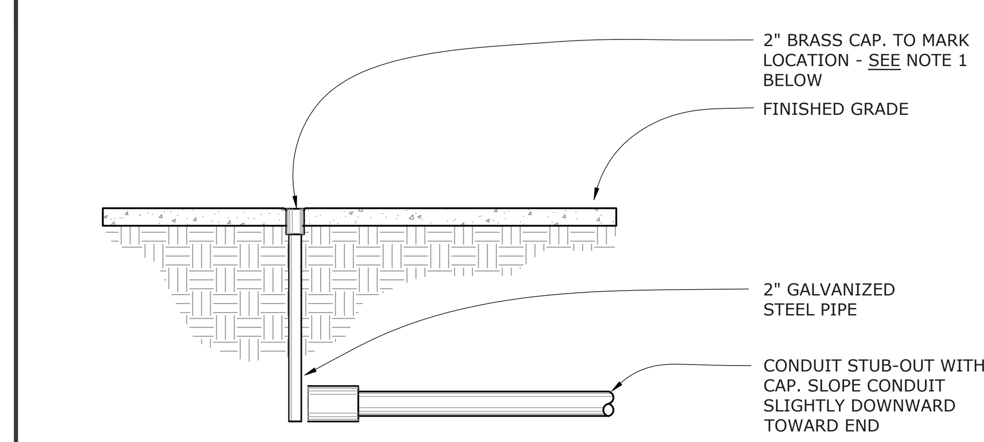


NOTE:
PVC CONDUIT NOT PERMITTED TO STUB-UP ABOVE TOP OF SLAB

CONDUIT STUB-UP DETAILS

1 / E-7.2

SCALE: NONE
FILE: L:\DETAILS\POWER\CONDUIT\PCOND007



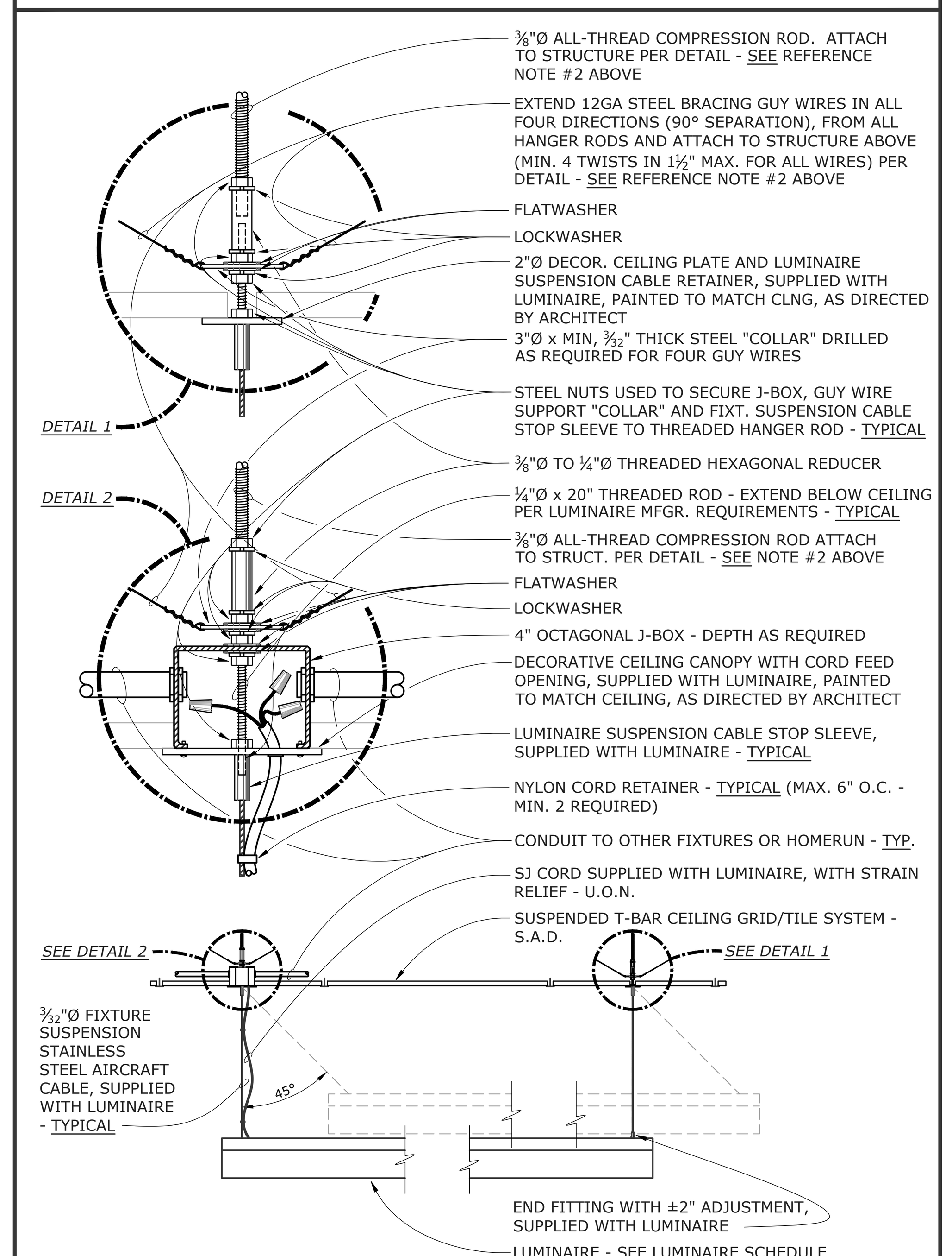
NOTES:
1. ENGRAVE BRASS CAP INDICATING FUNCTION & FINAL DESTINATION
2. RECORD ALL ACTUAL STUB-OUT LOCATIONS ON AS-BUILT DRAWINGS

CONDUIT STUB-OUT

2 / E-7.2

SCALE: NONE
FILE: L:\DETAILS\POWER\CONDUIT\PCOND018

NOTES:
1. LUMINAIRE SHALL BE FREE TO SWING 45° FROM THE VERTICAL IN ALL DIRECTIONS WITHOUT HITTING ANY OBSTRUCTION. WHERE LUMINAIRES DO ENCOUNTER AN OBSTRUCTION, SEE PLANS, SPECS, AND DETAILS 4, 6 & 7/E-7.2.
2. FOR CONNECTION OF COMPRESSION ROD AND GUY WIRES TO STRUCTURE - SEE DETAILS 11 & 12/E-7.2.



SUSPENDED LUMINAIRE: OFF-GRID MOUNTING - AT T-BAR CEILING

3 / E-7.2

SCALE: NONE
FILE: L:\DETAILS\LIGHT\PENDANT\LPEND051 (MODIFIED FOR 219013)

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DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
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STATE OF CALIFORNIA

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LIBERTY UNION HIGH SCHOOL DISTRICT

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DRAWN BY:	LN
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

CD

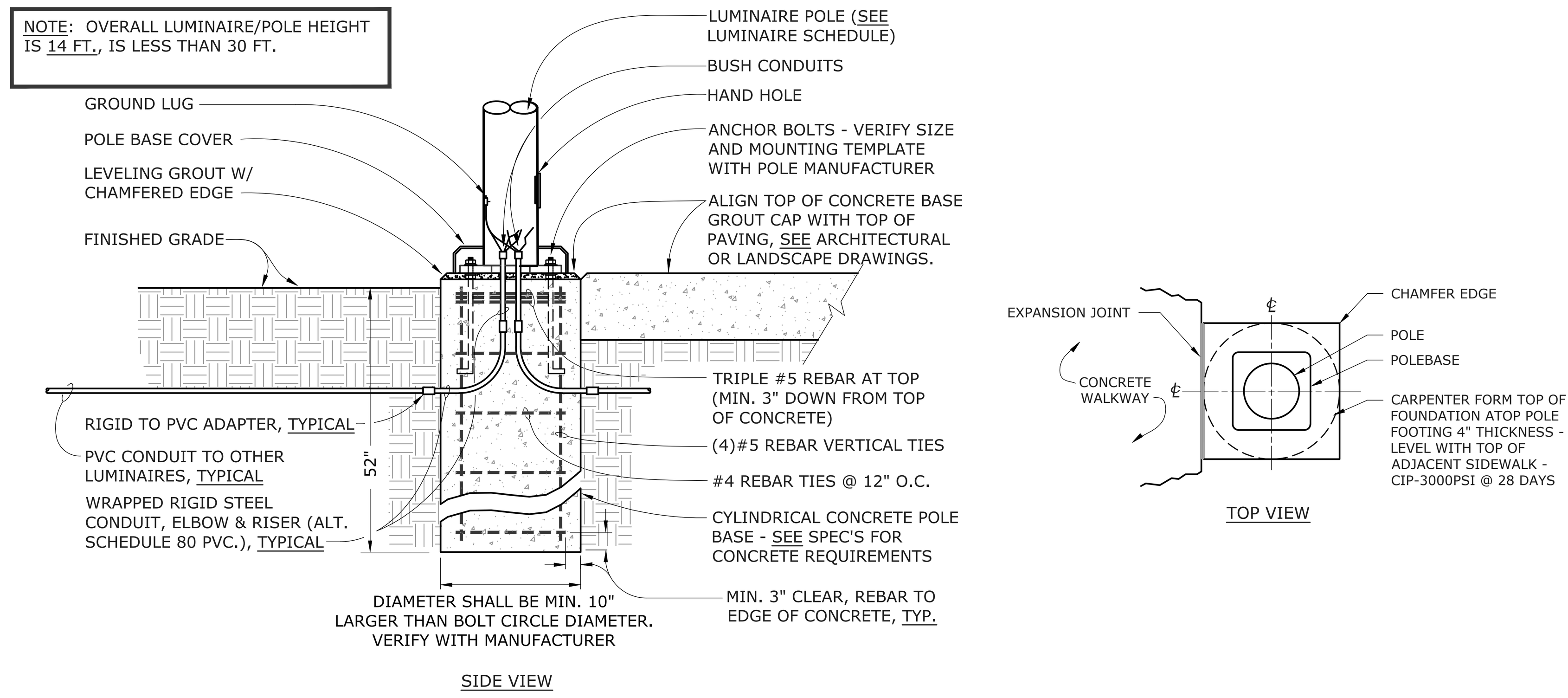
DECEMBER 2, 2020

SHEET TITLE

DETAILS

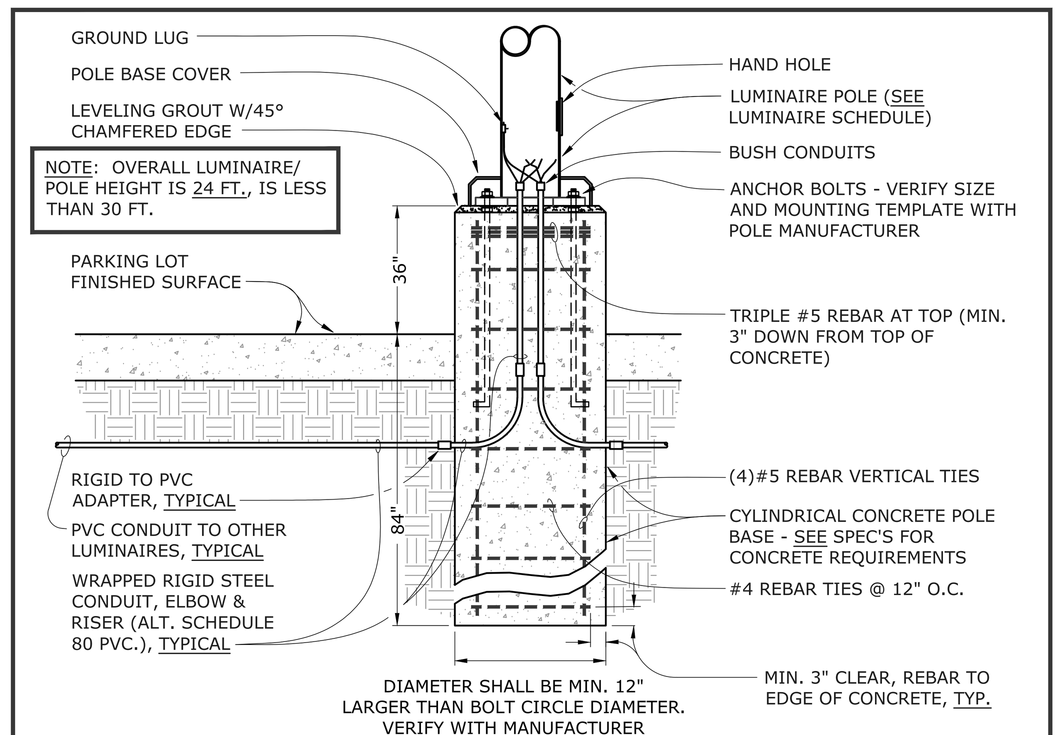
SHEET NUMBER

E-7.2



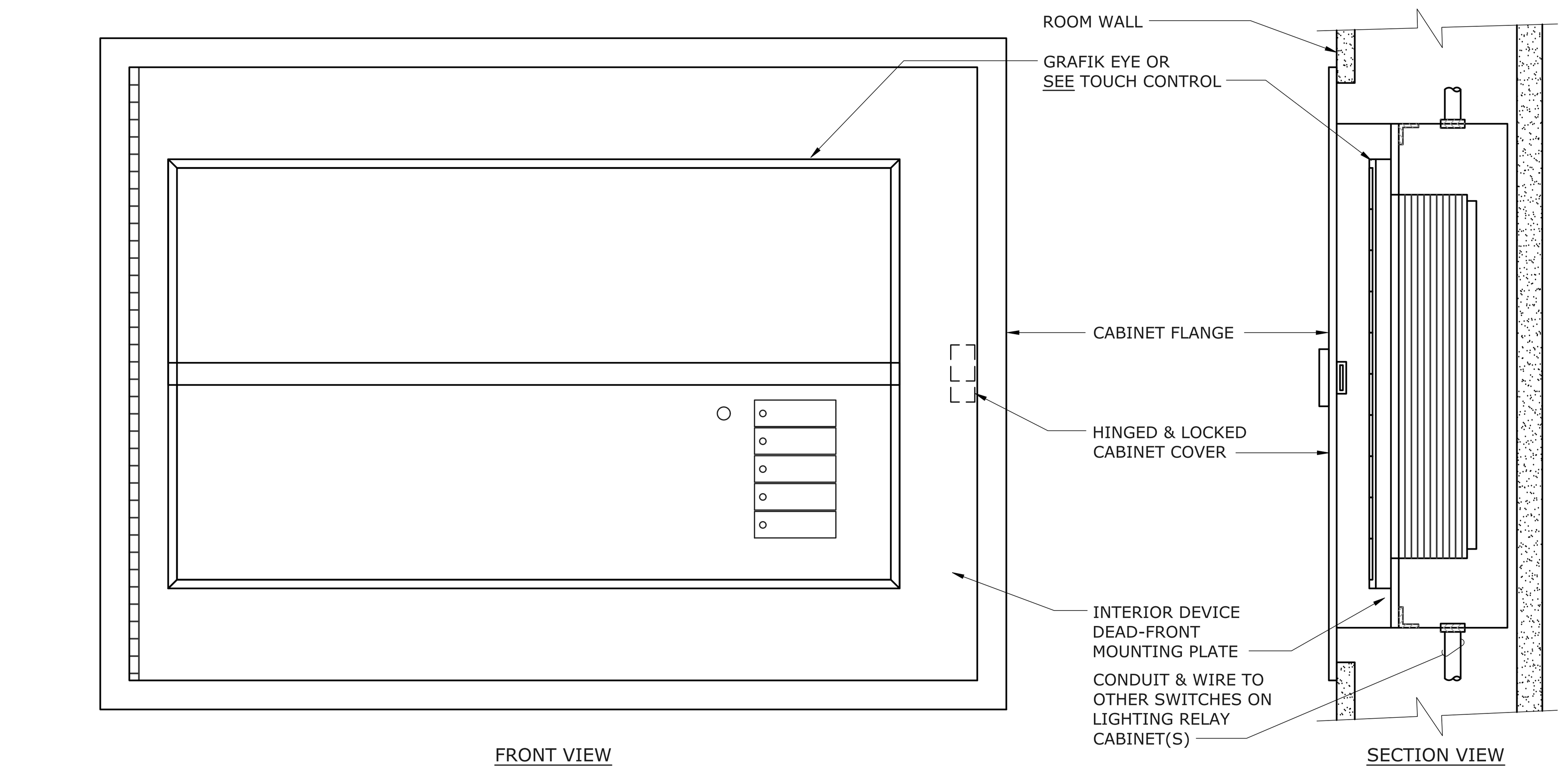
POLE BASE AT PLANTING AREA: BK-SERIES (9/E-7.3)

SCALE: NOT TO SCALE
FILE: L:\DETAILS\LIGHT\POLEBASE\LPOLE028 (MODIFIED FOR 219013)



POLE BASE - RAISED: BK-SERIES (10/E-7.3)

SCALE: NOT TO SCALE
FILE: L:\DETAILS\LIGHT\POLEBASE\LPOLE018 (MODIFIED FOR 219013)



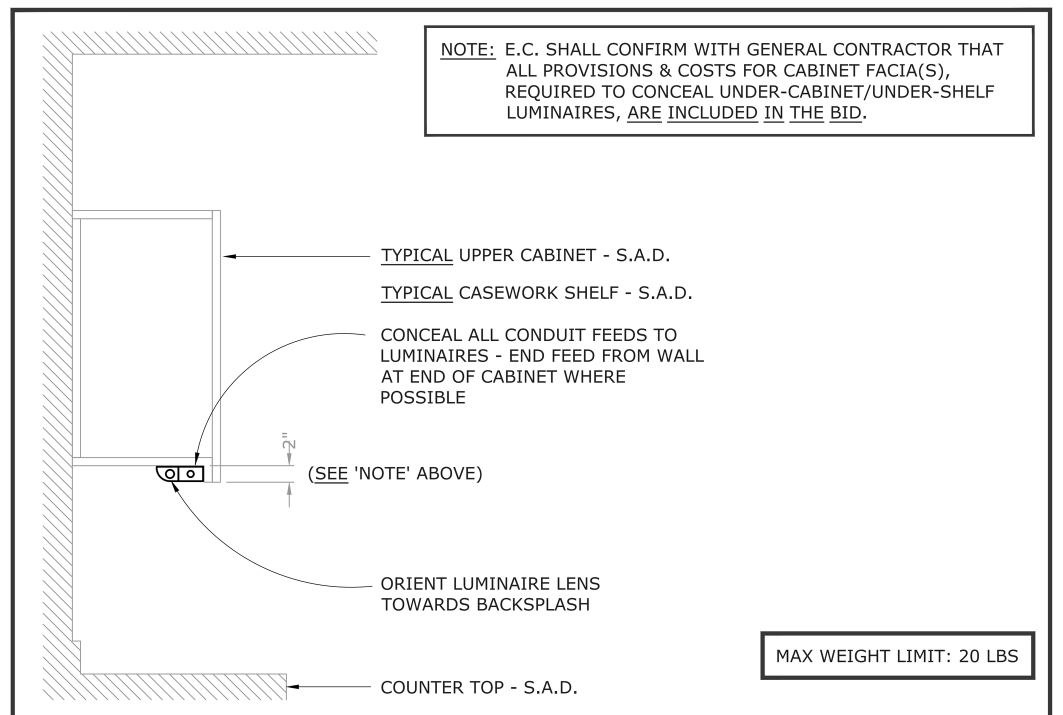
CABINET FABRICATION NOTES:

1. PROVIDE CUSTOM FABRICATED, FLUSH MOUNTED NEMA 1 ENCLOSURE W/ HINGED & LATCHED FRONT COVER, LOCKABLE, KEYED TO MATCH OTHER LIGHTING CONTROL CABINETS, AND WITH INTERIOR, DEAD FRONT DEVICE MOUNTING PLATE.
2. ENGRAVE BUTTONS PER OWNER'S INSTRUCTIONS.
3. CABINET TO BE FABRICATED FROM MIN. 18 GA. STAINLESS STEEL, FINISH AS DIRECTED BY THE ARCHITECT.

LIGHTING CONTROL ENCLOSURE CUSTOM SIZE AS REQUIRED PER DETAILS (11/E-7.3)

SCALE: NOT TO SCALE
FILE: L:\DETAILS\Light\LTG CONTROL WATTSTOPPER DLM\LLCW006 (MODIFIED FOR 219013)

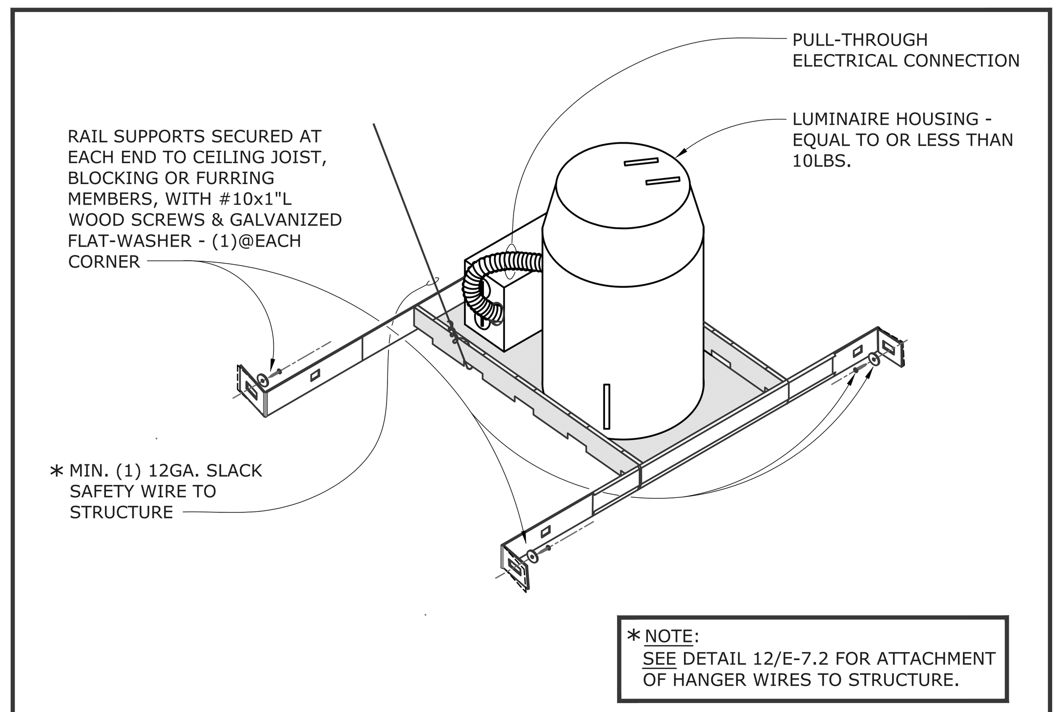
NOTE: E.C. SHALL CONFIRM WITH GENERAL CONTRACTOR THAT ALL PROVISIONS & COSTS FOR CABINET FACIA(S), REQUIRED TO CONCEAL UNDER-CABINET/UNDER-SHELF LUMINAIRES, ARE INCLUDED IN THE BID.



MAX WEIGHT LIMIT: 20 LBS

LUMINAIRE MOUNTING UNDER-CABINET OR SHELF (5/E-7.3)

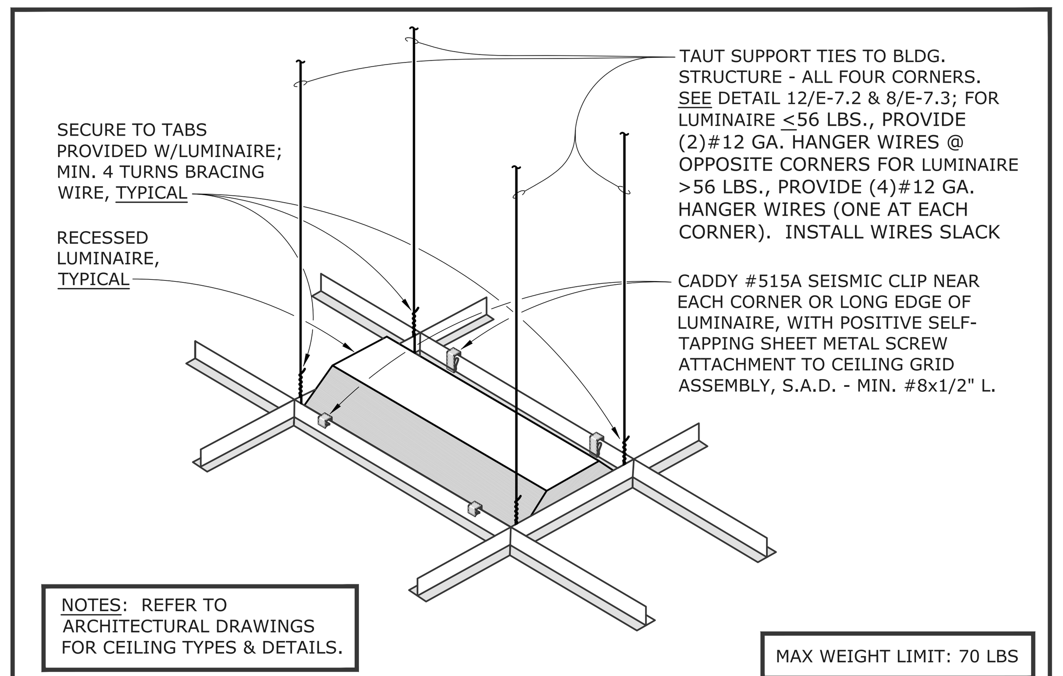
SCALE: NOT TO SCALE
FILE: L:\DETAILS\LIGHT\FIXTURE - MISC\LFIXT006 (MODIFIED FOR 219013)



* NOTE: SEE DETAIL 12/E-7.2 FOR ATTACHMENT OF HANGER WIRES TO STRUCTURE.

TYPICAL RECESSED CAN LUMINAIRE MOUNTING (6/E-7.3)

SCALE: NOT TO SCALE
FILE: L:\DETAILS\LIGHT\RECESSED\LRECE005 (MODIFIED FOR 219013)

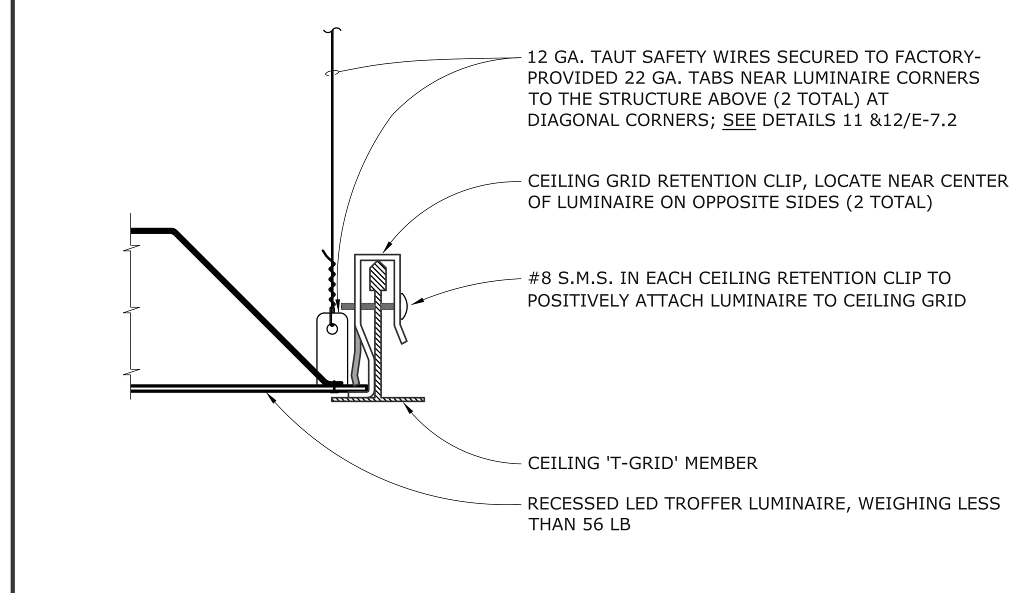


NOTES: REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES & DETAILS.

MAX WEIGHT LIMIT: 70 LBS

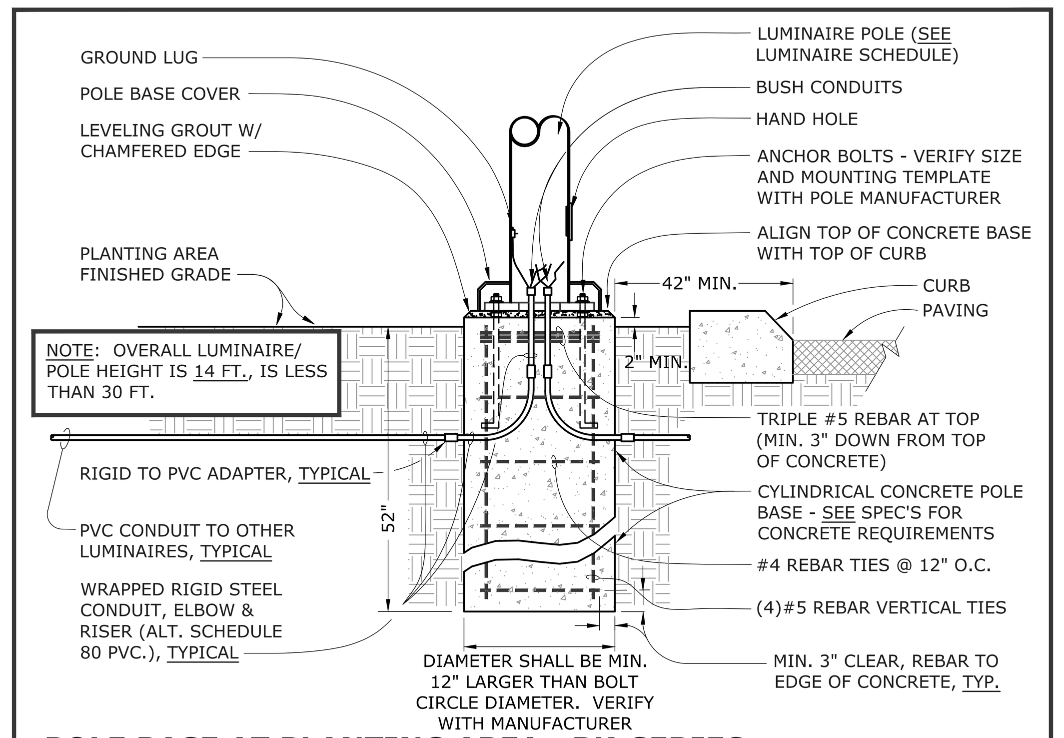
RECESSED TROFFER LUMINAIRE SUPPORT @ GRID CEILING (7/E-7.3)

SCALE: NOT TO SCALE
FILE: L:\DETAILS\LIGHT\RECESSED\RECE003A (MODIFIED FOR 219013)



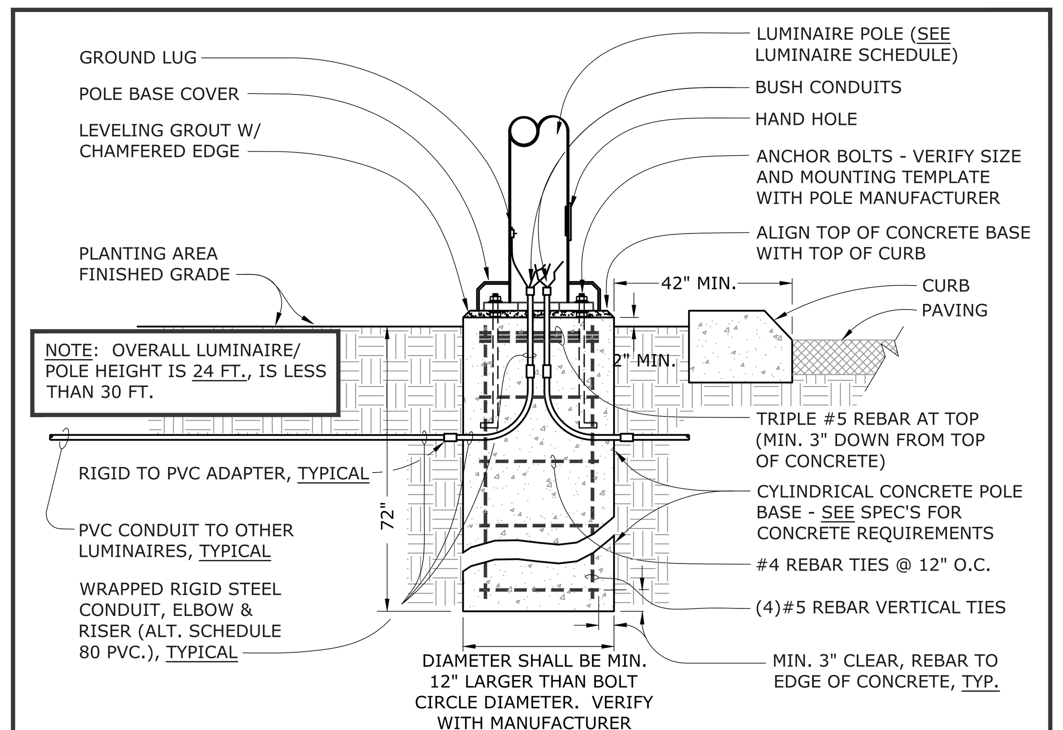
RECESSED LUMINAIRE IN SUSPENDED ACOUSTICAL CEILING SUPPORT DETAIL (8/E-7.3)

SCALE: NOT TO SCALE
FILE: L:\DETAILS\LIGHT\RECESSED-DSA\LRECE-DSA002 (MODIFIED FOR 219013)



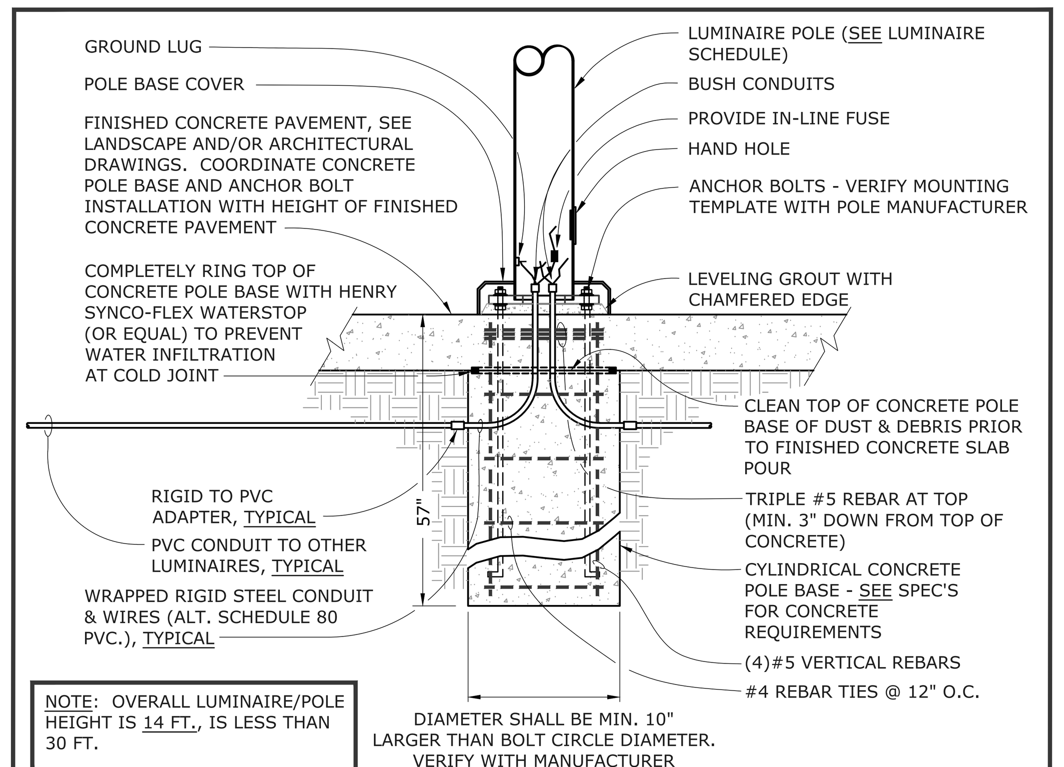
POLE BASE AT PLANTING AREA: BK-SERIES (1/E-7.3)

SCALE: NOT TO SCALE
FILE: L:\DETAILS\LIGHT\POLEBASE\LPOLE020 (MODIFIED FOR 219013)



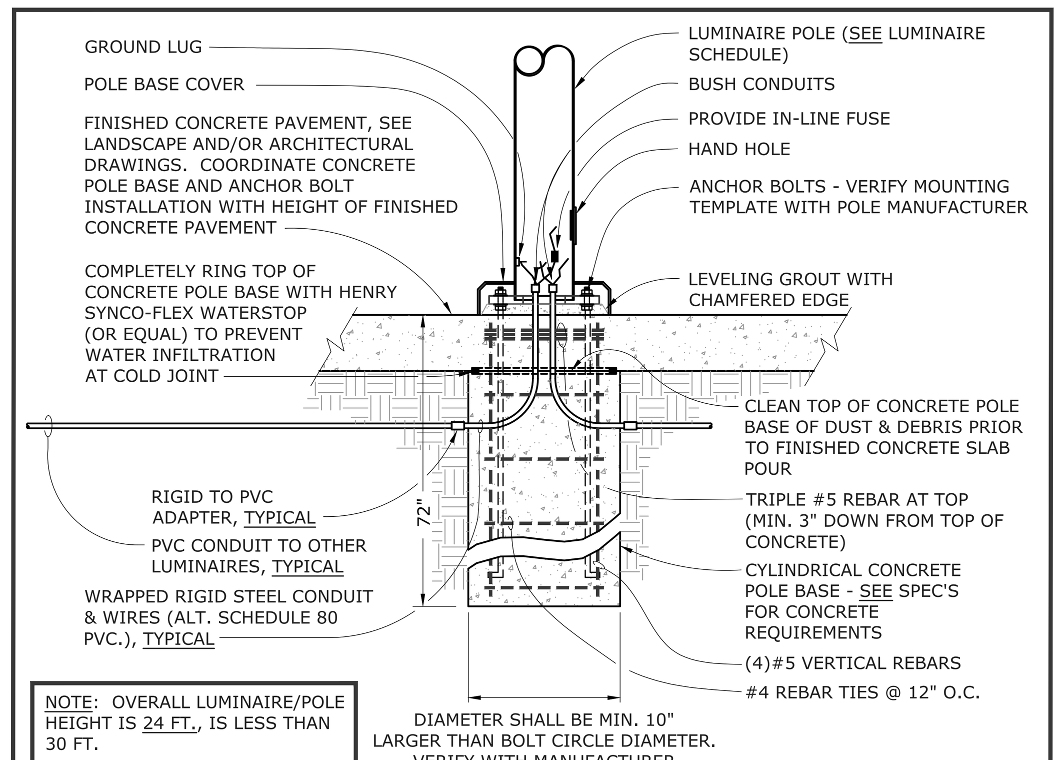
POLE BASE AT PLANTING AREA: BF-SERIES (2/E-7.3)

SCALE: NOT TO SCALE
FILE: L:\DETAILS\LIGHT\POLEBASE\LPOLE020 (MODIFIED FOR 219013)



POLE BASE IN CONCRETE PAVING: BK-SERIES (3/E-7.3)

SCALE: NOT TO SCALE
FILE: L:\DETAILS\LIGHT\POLEBASE\LPOLE015 (MODIFIED FOR 219013)



POLE BASE IN CONCRETE PAVING: BF-SERIES (4/E-7.3)

SCALE: NOT TO SCALE
FILE: L:\DETAILS\LIGHT\POLEBASE\LPOLE015 (MODIFIED FOR 219013)

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

REGISTERED PROFESSIONAL ENGINEER PIERCE J. COLEMAN No.14738 Exp. 6/21 ELECTRICAL STATE OF CALIFORNIA

O'MAHONY & MYER
ELECTRICAL ENGINEERING and LIGHTING DESIGN
4340 REDWOOD HWY, SUITE 245
SAN RAFAEL, CALIFORNIA 94903
(415) 492-0420/FAX (415) 479-9662
www.ommconsulting.com

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET,
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO: 1783.00
DRAWN BY: LN
DRAWING SCALE: AS NOTED
PTN: 61721-75 FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

DETAILS

SHEET NUMBER

E-7.3

LIBERTY HS ADMIN & STUDENT COMMONS – 219013

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Liberty HS Admin And Commons Bldg	Report Page:	(Page 7 of 11)
Project Address:	850 2nd Street	Date Prepared:	6/23/2020

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

Dining	Cafeteria/Fastfood	Manual ON/OFF	Dimmer	Occupancy Sensor	Included	Included	No	☐	☐
Lounge	Lounge Breakroom or Waiting Area	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐

*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
		Plan Sheet Showing Daylit Zones:
Restrooms	Exc 2	

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
Office-Small	Office 250 square feet or less	0.7	3,915	2,740.5	No	No
Office-Large	Office greater than 250 square feet	0.65	1,136	738.4	No	No
Conference	Convention, Conference, Multipurpose and Meeting Center Areas	0.85	2,905	2,469.25	No	No
Corridor	Corridor Area	0.6	1,618	970.8	No	No
Restrooms	Restrooms	0.65	620	403	No	No
Kitchen	Kitchen/ Food Preparation Area	0.95	1,234	1,172.3	No	No
Lobby-Entry	Main Entry Lobby	0.85	793	674.05	No	No
Storage	All Other Space Types	0.4	1,379	551.6	No	No
Nurse	Exam/Treatment Room	1.15	327	376.05	No	No
Electrical-Mechanical	Electrical Mechancial Telephone Room	0.4	162	64.8	No	No
Lounge	Lounge Breakroom or Waiting Area	0.65	657	427.05	No	No

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Liberty HS Admin And Commons Bldg	Report Page:	(Page 4 of 11)
Project Address:	850 2nd Street	Date Prepared:	6/23/2020

F. INDOOR LIGHTING FIXTURE SCHEDULE

AJ2	AJ2-LED 2X2	No	No	19	Mfr. Spec	43	No	817	☐	☐
AK1	AK1-LED LINEAR	No	No	28	Mfr. Spec	2	No	56	☐	☐
AK2	AK2-LED LINEAR	No	No	57	Mfr. Spec	30	No	1,710	☐	☐
AL1	AL1-LED 2X2	No	No	21	Mfr. Spec	8	No	168	☐	☐
AL2	AL2-LED 2X2	No	No	38	Mfr. Spec	13	No	494	☐	☐
AM1	AM1-LED 2X4	No	No	41	Mfr. Spec	11	No	451	☐	☐
AM2	AM2-LED 2X4	No	No	60	Mfr. Spec	10	No	600	☐	☐
AN1	AN1-LED-LINEAR	No	No	24	Mfr. Spec	4	No	96	☐	☐
AN2	AN2-LED-LINEAR	No	No	32	Mfr. Spec	4	No	128	☐	☐
AP1	AP1-LED-ROUND	No	No	35	Mfr. Spec	10	No	350	☐	☐
AQ1	AQ1-LED DECORATIVE DOWNLIGHT	No	No	11	Mfr. Spec	5	No	55	☐	☐
AQ2	AQ2-LED DECORATIVE DOWNLIGHT	No	No	21	Mfr. Spec	13	No	273	☐	☐
AR1	AR1-LED DOWNLIGHT	No	No	11	Mfr. Spec	1	No	11	☐	☐
AS1	AS1-LED STRIP	No	No	15	Mfr. Spec	2	No	30	☐	☐
AS2	AS2-LED STRIP	No	No	31	Mfr. Spec	4	No	124	☐	☐
AS4	AS4-LED STRIP	No	No	20	Mfr. Spec	2	No	40	☐	☐
AT1	AT1-DECORATIVE DOWNLIGHT	No	No	8	Mfr. Spec	11	No	88	☐	☐
AU2	AU2-TRACK-7	Yes	No	180	Mfr. Spec	2	No	360	☐	☐
AU3	AU3-TRACK-8	Yes	No	180	Mfr. Spec	1	No	180	☐	☐
AU4	AU4-TRACK-36	Yes	No	360	Mfr. Spec	1	No	360	☐	☐
AV1	AV1-LED RING	No	No	21	Mfr. Spec	14	No	294	☐	☐
AW1	AW1-LED SCONCE	No	No	14	Mfr. Spec	2	No	28	☐	☐
AZ1	AZ1-LED UNDER CABINET	No	No	21	Mfr. Spec	2	No	42	☐	☐
AZ2	AZ2-LED UNDER CABINET	No	No	29	Mfr. Spec	5	No	145	☐	☐
							Total Designed Watts: CONDITIONED SPACES	11,487		

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:	Liberty HS Admin And Commons Bldg	Report Page:	(Page 1 of 11)
Project Address:	850 2nd Street	Date Prepared:	6/23/2020

A. GENERAL INFORMATION

01	Project Location (city)	Brentwood	04	Total Conditioned Floor Area (ft²)	21,461
02	Climate Zone	12	05	Total Unconditioned Floor Area (ft²)	0
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1

☒ 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 (ft²)	Calculation Method	Area (ft²)
☒ New Lighting System	Area Category Method	21461	Area Category Method	0
☐ New Lighting System - Parking Garage				
Total Area of Work (ft²)	21461		0	

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Liberty HS Admin And Commons Bldg	Report Page:	(Page 8 of 11)
Project Address:	850 2nd Street	Date Prepared:	6/23/2020

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Dining	Family Dining Area	0.5	4,770	2,385	No	No
Student Store-Retail	Retail Merchandise Sales	1	473	473	Yes	No
Servery	Grocery Sales Area	1.05	1,472	1,545.6	No	No
		TOTALS:	21,461	14,991.4	See Tables J, or P for detail	

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

All areas indicated in Table I as using an additional allowance using the Area Category Method have been included in this table to calculate the additional allowance per Table 140.6-C.

Conditioned Spaces

01	02	03	04	05	06	07	08	09	10
Area Description	Primary Function Area	Applicable Qualifying Lighting System from Table 140.6-C	Allowed Density (W/ft² or W/lf or W/unit)	Ltg Area, Length or ATM/Mirror (ft², lf or #)	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire	Number of Luminaires	Total Design Watts
Student Store-Retail	Retail Merchandise Sales	DisplayLighting	0.20	473	94.60	AU2	180	2	360

Total Design Watts	Calculated Allowance (Watts):	Total Additional Allowance for this area:
360	94.60	94.60
11		
Total Additional Allowance (Watts) CONDITIONED SPACES		94.60

Unconditioned Spaces

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.

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Liberty HS Admin And Commons Bldg	Report Page:	(Page 5 of 11)
Project Address:	850 2nd Street	Date Prepared:	6/23/2020

F. INDOOR LIGHTING FIXTURE SCHEDULE

[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 table calculates wattage for modular lighting systems/ track lighting fixtures indicated on Table F and transfers wattage to Table F.

01	02	03							04
Name or Item Tag	Complete Track Description	Calculation Method per §130.0(c)6							Track Wattage
AU4	AU4-TRACK-36	☐	i Installed Luminaires vs Default 30 W/ft	☒	ii Current Limiter	☐	iii Overcurrent Protection Panel	☐ iv Power supplied by driver, power supply or transformer[1]	
		VA of current limiter: 360							360
AU2	AU2-TRACK-7	☐	i Installed Luminaires vs Default 30 W/ft	☒	ii Current Limiter	☐	iii Overcurrent Protection Panel	☐ iv Power supplied by driver, power supply or transformer[1]	
		VA of current limiter: 180							180
AU3	AU3-TRACK-8	☐	i Installed Luminaires vs Default 30 W/ft	☒	ii Current Limiter	☐	iii Overcurrent Protection Panel	☐ iv Power supplied by driver, power supply or transformer[1]	
		VA of current limiter: 180							180

[1]FOOTNOTE: For power-over-Ethernet lighting systems, power provided to installed non-lighting devices may be subtracted from the total power rating of the power-over-Ethernet system..

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Liberty HS Admin And Commons Bldg	Report Page:	(Page 2 of 11)
Project Address:	850 2nd Street	Date Prepared:	6/23/2020

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): 01 Complete Building §140.6(c)1 (See Table I)	02 Area Category §140.6(c)2 (See Table I)	03 Area Category Additional §140.6(c)2G (+) (See Table J)	04 Tailored §140.6(c)3 (+) (See Table K)	=	05 **Total Allowed** (Watts)	≥	Adjusted Lighting Power per §140.6(a) (Watts): 06 Total Designed (Watts) (See Table F)	07 Adjustments: PAF Lighting Control Credits §140.6(a)2 (-) (See Table P)	=	08 **Total Adjusted** (Watts) *Includes Adjustments	Compliance Results: 09 **05 must be >= 08 §140.6**
Conditioned		14,991.4	94.6		=	15,086	≥	11,487	0	=	11487	COMPLIES
Unconditioned					=		≥			=		
											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	
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	Field Inspector: Pass	Fail
AA1	AA1-LED-GEOMETRIC-LINEAR	No	No	274	Mfr. Spec	1	No	274	☐	☐
AA2	AA2-LED-GEOMETRIC-LINEAR	No	No	299	Mfr. Spec	1	No	299	☐	☐

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Liberty HS Admin And Commons Bldg	Report Page:	(Page 9 of 11)
Project Address:	850 2nd Street	Date Prepared:	6/23/2020

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 ALLALTERATIONS - 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.

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Liberty HS Admin And Commons Bldg	Report Page:	(Page 6 of 11)
Project Address:	850 2nd Street	Date Prepared:	6/23/2020

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	
Mandatory Demand Response §110.12(c)	Shut-off controls §130.1(c)	Field Inspector: Pass	Fail
Required > 10,000 SF	Whole Building Auto Time Switch	☐	☐

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Area Controls §130.1(a)	Multi-Level Controls §130.1(b)	Shut-Off Controls §130.1(c)	Primary/Skylit Daylighting §130.1(d)	Secondary Daylighting §140.6(d)	Interlocked Systems §140.6(a)1	Field Inspector: Pass	Fail
Office-Small	Office greater than 250 square feet	Manual ON/OFF	Dimmer	Occupancy Sensor	Included	Included	No	☐	☐
Restrooms	Restrooms	Manual ON/OFF	Exempt*	Occupancy Sensor	N/A	N/A	No	☐	☐
Conference	Convention, Conference, Multipurpose and Meeting Center Areas	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
Corridors	Corridor, Restroom, Stairs or Support Area	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
Kitchen	Kitchen/ Food Preparation Area	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
Storage	All Other Space Types	Manual ON/OFF	Dimmer	Occupancy Sensor	N/A	N/A	No	☐	☐
Lobby-Entry	Main Entry Lobby	Manual ON/OFF	Dimmer	Occupancy Sensor	Included	Included	No	☐	☐

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Liberty HS Admin And Commons Bldg	Report Page:	(Page 3 of 11)
Project Address:	850 2nd Street	Date Prepared:	6/23/2020

F. INDOOR LIGHTING FIXTURE SCHEDULE

AA3	AA3-LED-GEOMETRIC-LINEAR	No	No	198	Mfr. Spec	1	No	198	☐	☐
AA4	AA4-LED-GEOMETRIC-LINEAR	No	No	196	Mfr. Spec	1	No	196	☐	☐
AA5	AA5-LED-GEOMETRIC-LINEAR	No	No	203	Mfr. Spec	1	No	203	☐	☐
AA6	AA6-LED-GEOMETRIC-LINEAR	No	No	302	Mfr. Spec	1	No	302	☐	☐
AA7	AA7-LED-GEOMETRIC-LINEAR	No	No	184	Mfr. Spec	1	No	184	☐	☐
AB1	AB1-LED LINEAR	No	No	63	Mfr. Spec	1	No	63	☐	☐
AB10	AB10-LED LINEAR	No	No	81	Mfr. Spec	3	No	243	☐	☐
AB11	AB11-LED LINEAR	No	No	97	Mfr. Spec	1	No	97	☐	☐
AB12	AB12-LED LINEAR	No	No	113	Mfr. Spec	1	No	113	☐	☐
AB2	AB2-LED LINEAR	No	No	71	Mfr. Spec	1	No	71	☐	☐
AB3	AB3-LED LINEAR	No	No	111	Mfr. Spec	1	No	111	☐	☐
AB4	AB4-LED LINEAR	No	No	109	Mfr. Spec	1	No	109	☐	☐
AB5	AB5--LED LINEAR	No	No	149	Mfr. Spec	1	No	149	☐	☐
AB6	AB6--LED LINEAR	No	No	207	Mfr. Spec	1	No	207	☐	☐
AB8	AB8--LED LINEAR	No	No	49	Mfr. Spec	2	No	98	☐	☐
AB9	AB9-LED LINEAR	No	No	65	Mfr. Spec	3	No	195	☐	☐
AD1	AD1-LED RECESSED LINEAR	No	No	18	Mfr. Spec	2	No	36	☐	☐
AD3	AD3-LED RECESSED LINEAR	No	No	37	Mfr. Spec	5	No	185	☐	☐
AD4	AD4-LED RECESSED LINEAR	No	No	55	Mfr. Spec	1	No	55	☐	☐
AD5	AD5-LED RECESSED LINEAR	No	No	74	Mfr. Spec	1	No	74	☐	☐
AD6	AD6-LED RECESSED LINEAR	No	No	92	Mfr. Spec	1	No	92	☐	☐
AD7	AD7-LED RECESSED LINEAR	No	No	129	Mfr. Spec	1	No	129	☐	☐
AG1	AG1-LED LINEAR WALL WASH	No	No	8	Mfr. Spec	3	No	24	☐	☐
AG2	AG2-LED LINEAR WALL WASH	No	No	31	Mfr. Spec	3	No	93	☐	☐
AG3	AG3-LED LINEAR WALL WASH	No	No	38	Mfr. Spec	2	No	76	☐	☐
AG4	AG4-LED LINEAR WALL WASH	No	No	61	Mfr. Spec	1	No	61	☐	☐
AG5	AG5-LED LINEAR WALL WASH	No	No	65	Mfr. Spec	2	No	130	☐	☐
AJ1	AJ1-LED 2X2	No	No	26	Mfr. Spec	20	No	520	☐	☐

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
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REGISTERED PROFESSIONAL ENGINEER
PIERRE J. COLEMAN-ALEXANDER
No.14738
Exp. 6/21
ELECTRICAL
STATE OF CALIFORNIA

O'MAHONY & MYER
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LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET,
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	LN
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

TITLE 24 DOCUMENTATION

SHEET NUMBER

E-8.1

LIBERTY HS ADMIN & STUDENT COMMONS – 219013

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Liberty HS Admin And Commons Bldg	**Report Page:**	**(Page 5 of 10)**
Project Address:	850 2nd Street	**Date Prepared:**	6/23/2020

G. CUTOFF REQUIREMENTS (BUG)

This section does not apply to this project.

H. OUTDOOR LIGHTING CONTROLS

This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
*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
Pedestrian	Astronomical Timer	Yes	Exempt*	☐	☐
Automotive	Astronomical Timer	Yes	NA: Wall <=24 ft	☐	☐
Canopy	Astronomical Timer	Yes	Exempt*	☐	☐
Facade	Astronomical Timer	Yes	NA: Facade, etc. <=24 ft	☐	☐

** 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)

Pedestrian	<40W
Canopy	<40W

STATE OF CALIFORNIA
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NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Liberty HS Admin And Commons Bldg	**Report Page:**	**(Page 2 of 10)**
Project Address:	850 2nd Street	**Date Prepared:**	6/23/2020

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**
4,532.88	+	---	+	---	+	---	+	1,019.64	OR	---	=	5,552.52	≥	4,213	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.

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Liberty HS Admin And Commons Bldg	**Report Page:**	**(Page 10 of 11)**
Project Address:	850 2nd Street	**Date Prepared:**	6/23/2020

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	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	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)	☐	☐

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Liberty HS Admin And Commons Bldg	**Report Page:**	**(Page 6 of 10)**
Project Address:	850 2nd Street	**Date Prepared:**	6/23/2020

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 (ft²)	Allowed Density (W/ft²)	Area Allowance (Watts)	Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	Total General AWA + LWA (Watts)
Pedestrian	Concrete	50931	0.03	1527.93	3015	0.4	1206	2733.93
Automotive	Concrete	32565	0.03	976.95	1180	0.4	472	1448.95
Initial Wattage Allowance for Entire Site (Watts):								350
Total General Hardscape Allowance (Watts):								4532.88

J. LIGHTING ALLOWANCE: PER APPLICATION

This section does not apply to this project.

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Liberty HS Admin And Commons Bldg	**Report Page:**	**(Page 3 of 10)**
Project Address:	850 2nd Street	**Date Prepared:**	6/23/2020

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with §140.7 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per §141.0(b)2L only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included).

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1, 2]	How is Wattage determined	Total number luminaires [2]	Luminaire Status[3]	Excluded per §140.7(a)	Design Watts	Cutoff Req. > 6,200 initial lumen output §130.2(b) [4]	Field Inspector	
										Pass	Fail
BA1	BA1-LED ACCENT	☐ Linear	30	Mfr. Spec	2	New	☐	60	NA: < 6200 lumens	☐	☐
BA2	BA2-LED ACCENT	☐ Linear	60	Mfr. Spec	1	New	☐	60	NA: < 6200 lumens	☐	☐
BA3	BA3-LED ACCENT	☐ Linear	65	Mfr. Spec	1	New	☐	65	NA: < 6200 lumens	☐	☐
BB1	BB1-LED EXT SCONCE	☐ Linear	25	Mfr. Spec	5	New	☐	125	NA: < 6200 lumens	☐	☐
BB2	BB2-LED EXT SCONCE	☐ Linear	25	Mfr. Spec	13	New	☐	325	NA: < 6200 lumens	☐	☐
BB3	BB3-LED EXT SCONCE	☐ Linear	25	Mfr. Spec	19	New	☐	475	NA: < 6200 lumens	☐	☐
BC1	BC1-LED WALL PACK	☐ Linear	18	Mfr. Spec	2	New	☐	36	NA: < 6200 lumens	☐	☐
BD1	BD1-LED FLOODLIGHT	☐ Linear	12	Mfr. Spec	7	New	☐	84	NA: < 6200 lumens	☐	☐
BF1	BF1-LED AREA	☐ Linear	73	Mfr. Spec	3	New	☐	219	NA: < 6200 lumens	☐	☐
BF2	BF2-LED AREA	☐ Linear	73	Mfr. Spec	1	New	☐	73	NA: < 6200 lumens	☐	☐
BF3	BF3-LED AREA	☐ Linear	146	Mfr. Spec	2	New	☐	292	NA: < 6200 lumens	☐	☐

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Liberty HS Admin And Commons Bldg	**Report Page:**	**(Page 11 of 11)**
Project Address:	850 2nd Street	**Date Prepared:**	6/23/2020

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Pieter Colenbrander	Documentation Author Signature: P. Colenbrander
Company: O'Mahony & Myer	Signature Date: 2020-06-23
Address: 4340 Redwood Hwy Suite 245	CEA/ HERS Certification Identification (if applicable): 14738
City/State/Zip: San Rafael CA 94903	Phone: 415-492-0420

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: Pieter Colenbrander	Responsible Designer Signature: P. Colenbrander
Company: O'Mahony & Myer	Date Signed: 2020-06-23
Address: 4340 Redwood Hwy, Suite 245	License: 14738
City/State/Zip: San Rafael CA 94903	Phone: 415-492-0420

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Liberty HS Admin And Commons Bldg	**Report Page:**	**(Page 7 of 10)**
Project Address:	850 2nd Street	**Date Prepared:**	6/23/2020

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This table includes areas using the wattage allowance per specific area from Table 140.7-B . More than one specific area allowance may be taken in a single project, if applicable. However, multiple specific area allowances may not be taken for the exact same area on the site.

01	02	03	04	05	06	07	08	09	10
		CALCULATED ALLOWANCE (Watts)			DESIGN WATTS				
Area Description	Specific Area Type per Table 140.7-B	Specific Area (ft²)[1]	Allowed Density (W/ft²)	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire	# of Luminaires	Design Watts	Additional Allowance (Watts)
Canopy-Areas	NonSalesCanopy	3512	0.27	948.24	BB1	25	2	50	948.24
					BB2	25	2	50	
					BC1	18	2	36	
					BD1	12	7	84	
					BG1	24	13	312	
					BG2	12	3	36	
					BH1	36	22	792	
					BJ1	21	3	63	
							Total Design Watts for this Area:	1423	

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Liberty HS Admin And Commons Bldg	**Report Page:**	**(Page 4 of 10)**
Project Address:	850 2nd Street	**Date Prepared:**	6/23/2020

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	
BF4	BF4-LED AREA	☐ Linear	146	Mfr. Spec	1	New	☐	146	NA: < 6200 lumens	☐	☐
BG1	BG1-LED DOWNLIGHT	☐ Linear	24	Mfr. Spec	13	New	☐	312	NA: < 6200 lumens	☐	☐
BG2	BG2-LED DOWNLIGHT	☐ Linear	12	Mfr. Spec	3	New	☐	36	NA: < 6200 lumens	☐	☐
BH1	BH1-LED DOWNLIGHT	☐ Linear	36	Mfr. Spec	22	New	☐	792	NA: < 6200 lumens	☐	☐
BJ1	BJ1-LED DOWNLIGHT	☐ Linear	21	Mfr. Spec	3	New	☐	63	NA: < 6200 lumens	☐	☐
BK1	BK1-LED POST TOP	☐ Linear	30	Mfr. Spec	13	New	☐	390	NA: < 6200 lumens	☐	☐
BK2	BK2-LED POST TOP	☐ Linear	30	Mfr. Spec	9	New	☐	270	NA: < 6200 lumens	☐	☐
BK3	BK3-LED POST TOP	☐ Linear	30	Mfr. Spec	13	New	☐	390	NA: < 6200 lumens	☐	☐
Total Design Watts:								4213			

* 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.
[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)

STATE OF CALIFORNIA
Outdoor Lighting
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CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Liberty HS Admin And Commons Bldg	**Report Page:**	**(Page 1 of 10)**
Project Address:	850 2nd Street	**Date Prepared:**	6/23/2020

A. GENERAL INFORMATION

01	Project Location (city)	Brentwood		04	Total Illuminated Hardscape Area (ft²) 83496
02	Climate Zone	12			
03	Outdoor Lighting Zone per Title 24 Part 1 §10.114 or as designated by Authority Having Jurisdiction (AHJ):				
☐	LZ-0: Very Low - Undeveloped Parkland	☐	LZ-2: Moderate - Rural Areas	☐	LZ-4: High - Must be reviewed by CA Energy Commission for Approval
☐	LZ-1: Low - Developed Parkland	☒	LZ-3: Moderately High - Urban Areas		

B. PROJECT SCOPE

This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.7 or §141.0(b)2L for alterations.

My Project Consists of:

01	02	
☒ New Lighting System	Must Comply with Allowances from §140.7	
☐ Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)? ○ Yes ○ No	
03	04	05
% of Existing Luminaires Being Altered[1]	Sum Total of Luminaires Being Added or Altered	Calculation Method
☐ < 10% ☐ >= 10% and < 50% ☐ >= 50%		

Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.

[1] FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
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REGISTERED PROFESSIONAL ENGINEER
PIETER J. COLENBRANDER
No.14738
Exp. 6/21
ELECTRICAL
STATE OF CALIFORNIA

O'MAHONY & MYER
ELECTRICAL ENGINEERING and LIGHTING DESIGN
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LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET,
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033
ARCH PROJECT NO: 1783.00
DRAWN BY: LN
DRAWING SCALE: AS NOTED
PTN: 61721-75 FILE NO: 7-H4
CD
DECEMBER 2, 2020

SHEET TITLE
TITLE 24 DOCUMENTATION

SHEET NUMBER
E-8.2

LIBERTY HS ADMIN & STUDENT COMMONS – 219013

STATE OF CALIFORNIA

Outdoor Lighting

NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-LTO-E**
Project Name:	Liberty HS Admin And Commons Bldg	**Report Page:**	**(Page 8 of 10)**
Project Address:	850 2nd Street	**Date Prepared:**	6/23/2020

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

Facade	BuildingFacade	420	0.17	71.4	BA1	30	2	60	71.4
					BA2	60	1	60	
					BA3	65	1	65	
							Total Design Watts for this Area:	185	
							Total Allowance (Watts) All Areas:	1019.64	

[1] *FOOTNOTES: See Table 140.7-8 for rules for calculating the specific areas (ft²) for these additional lighting allowances.*

[2] *For luminaires indicated in Table F as linear, wattage in column 07 is W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 08 instead of number of luminaires.*

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection 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-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: 2019.0.001 — Schema Version: rev 20190401 — Report Generated: 2020-06-23 16:24:00

STATE OF CALIFORNIA

Outdoor Lighting

NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-LTO-E**
Project Name:	Liberty HS Admin And Commons Bldg	**Report Page:**	**(Page 9 of 10)**
Project Address:	850 2nd Street	**Date Prepared:**	6/23/2020

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	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: 2019.0.001 — Schema Version: rev 20190401 — Report Generated: 2020-06-23 16:24:00

STATE OF CALIFORNIA

Outdoor Lighting

NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-LTO-E**
Project Name:	Liberty HS Admin And Commons Bldg	**Report Page:**	**(Page 10 of 10)**
Project Address:	850 2nd Street	**Date Prepared:**	6/23/2020

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Pieter Colenbrander	Documentation Author Signature: P. Colenbrander
Company: O'Mahony & Myer	Signature Date: 2020-06-23
Address: 4340 Redwood Hwy Suite 245	CEA/ HERS Certification Identification (if applicable): 14738
City/State/Zip: San Rafael CA 94903	Phone: 415-492-0420

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: Pieter Colenbrander	Responsible Designer Signature: P. Colenbrander
Company: O'Mahony & Myer	Date Signed: 2020-06-23
Address: 4340 Redwood Hwy, Suite 245	License: 14738
City/State/Zip: San Rafael CA 94903	Phone: 415-492-0420

Registration Number: — Registration Date/Time: — Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance — Report Version: 2019.0.001 — Schema Version: rev 20190401 — Report Generated: 2020-06-23 16:24:00

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
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REGISTERED PROFESSIONAL ENGINEER No.14738 Exp. 6/21 ELECTRICAL STATE OF CALIFORNIA

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LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET,
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO: 1783.00
DRAWN BY: LN
DRAWING SCALE: AS NOTED
PTN. 61721-75 FILE NO. 7-H4

CD

DECEMBER 2, 2020

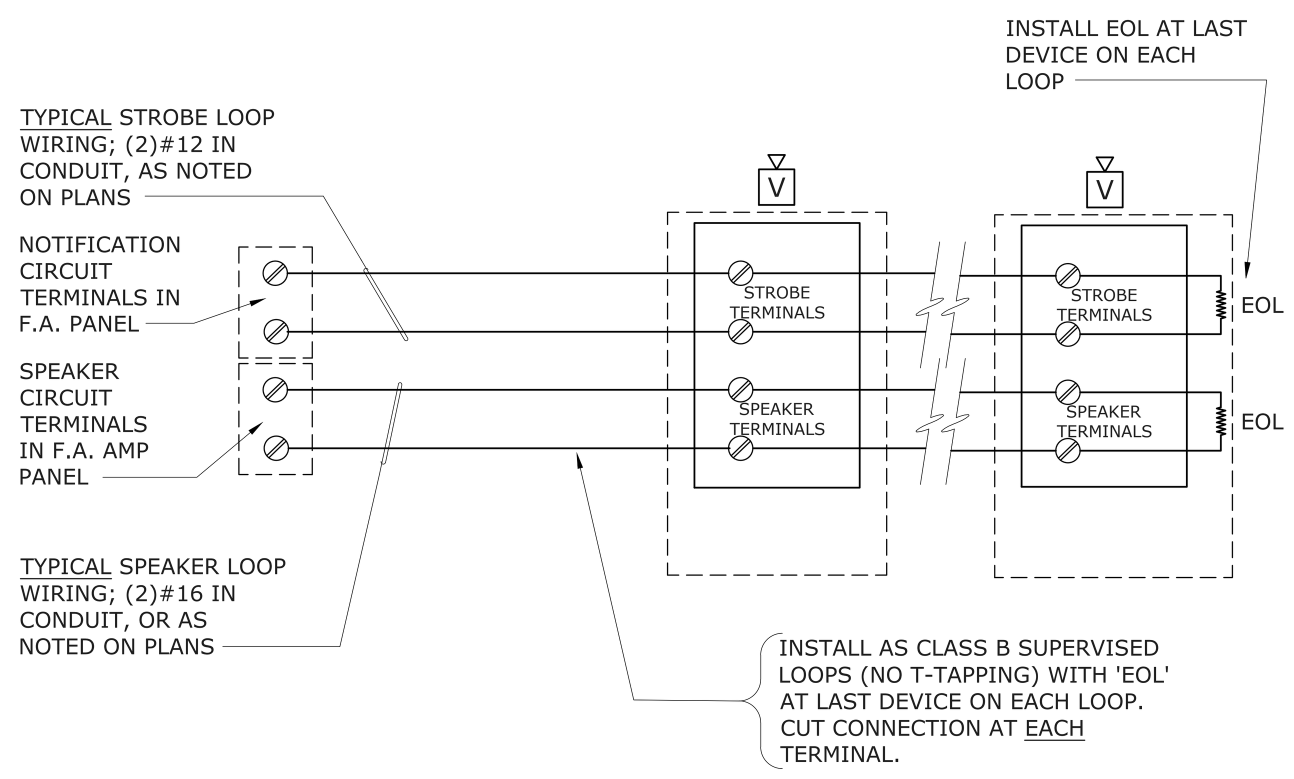
SHEET TITLE

TITLE 24 DOCUMENTATION

SHEET NUMBER

E-8.3

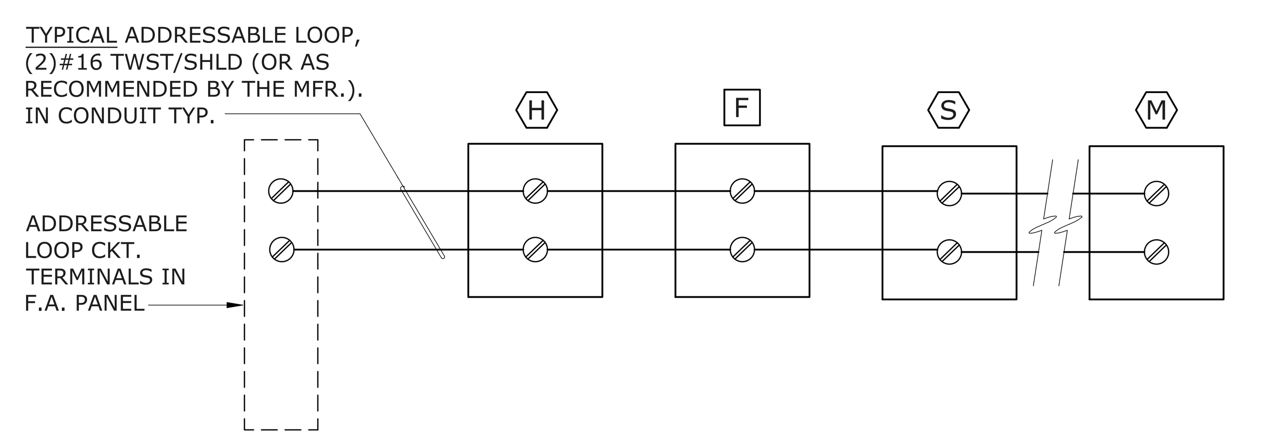
LIBERTY HS ADMIN & STUDENT COMMONS – 219013



TYPICAL NOTIFICATION / SPEAKER CIRCUIT WIRING

1 / FE-0.1

SCALE: NONE
FILE: L:\DETAILS\POWER\FIREALRM\PFIRE012A



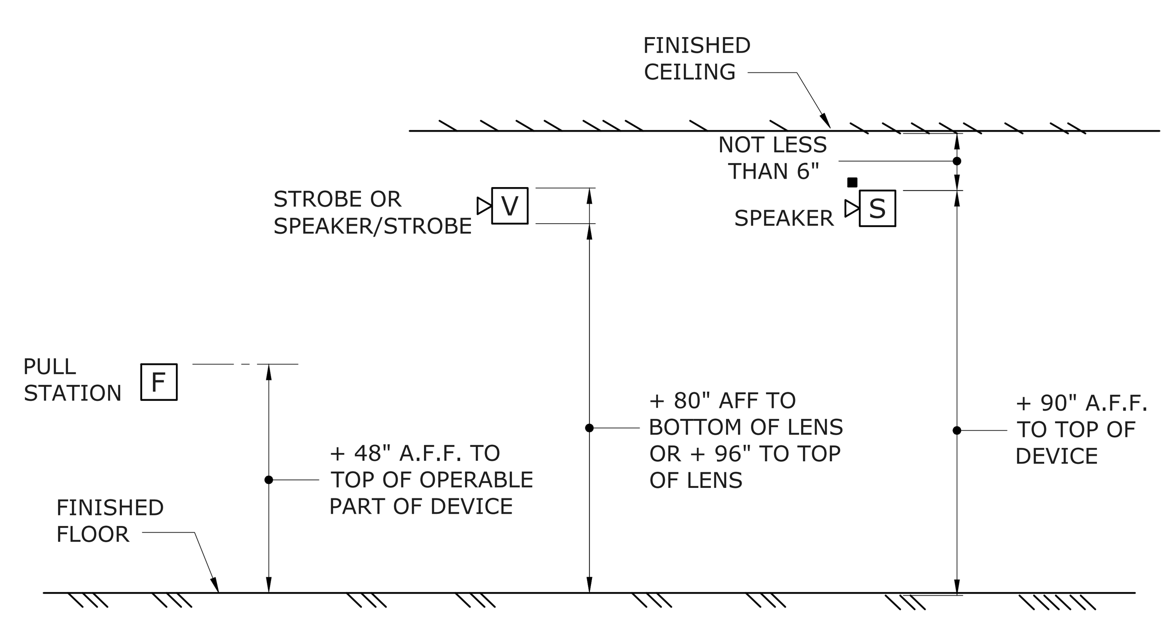
NOTE:

1. T-TAPPING ALLOWED ON ADDRESSABLE LOOPS. NO `EOL' DEVICES REQUIRED. MAXIMUM TOTAL LENGTH OF 3,000 FEET.
2. PROPERLY TERMINATE SHIELDS AND DRAINS AS PER SYSTEM SUPPLIERS RECOMMENDED INSTRUCTIONS.

TYPICAL ADDRESSABLE INITIATION LOOP WIRING

2 / FE-0.1

SCALE: NONE
FILE: L:\DETAILS\POWER\FIREALRM\PFIRE013



FIRE ALARM DEVICE MOUNTING HEIGHT DETAIL

3 / FE-0.1

SCALE: NOT TO SCALE

GENERAL FIRE ALARM NOTES

1. FINAL FIRE ALARM TEST SHALL BE MADE WITH THE DSA INSPECTOR OF RECORD (IOR). LOCAL FIRE AUTHORITY SHALL BE NOTIFIED OF DATE AND TIME OF FINAL ALARM TESTING AND SHALL ASSIST/WITNESS SUCH TESTING WHEN ABLE. DSA/ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF (48) HOURS PRIOR TO THE FINAL INSPECTION AND/OR TESTING.
2. FIRE ALARM CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 901.6.2. MONITORING SHALL BE TESTED AND VERIFIED AS SENDING THE CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST. OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING CONTRACT AND/OR PROVISIONS
3. UNDERGROUND AND EXTERIOR CONDUITS SHALL HAVE WATERTIGHT FITTINGS.
4. FIRE ALARM DEVICE MOUNTING HEIGHTS:

   PULL STATION: 48" TO TOP OF OPERATOR ABOVE FINISHED FLOOR.

   HORN INTERIOR: 90" MIN. TO TOP OF DEVICE ABOVE FINISHED FLOOR, OR 100" MAX TO TOP OF DEVICE, BUT NOT LESS THAN 6" FROM CEILING.

   WALL MOUNTED STROBE OR HORN/STROBE: BETWEEN 80" TO BOTTOM OF DEVICE LENS TO +96" TO TOP OF DEVICE LENS ABOVE FINISH FLOOR, BUT NOT LESS THAN 6" FROM CEILING.

   CONTROL PANELS / ANNUNCIATORS: 48" TO BOTTOM OF EQUIPMENT.
5. AUDIBLE FIRE ALARM SYSTEM LEVEL SHALL BE AT LEAST 15dBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL IN ALL OCCUPIABLE AREAS, OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, MEASURED AT 5 FEET ABOVE THE FLOOR. AUDIBLE SIGNALS SHALL NOT BE LESS THAN 75dBA AT 10 FEET, OR MORE THAN 110dBA AT THE MINIMUM HEARING DISTANCE.
6. AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL THREE DISTINCTIVE FIRE ALARM SOUND PER NFPA 72.
7. APPLICABLE CODES:
   a. CBC 2019; CEC 2019; CMC 2019; CFC 2019.
   b. STATE FIRE MARSHAL TITLE 19, PUBLIC SAFETY.
   c. NFPA 72, 2016 EDITION W/CA AMENDMENTS, FIRE ALARM CODE.
8. STROBES SHALL FLASH AT A RATE NOT EXCEEDING TWO FLASHES PER SECOND, AND NOT LESS THAN ONE FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELA. VISUAL DEVICES WITHIN 55 FEET OF EACH OTHER SHALL BE SYNCHRONIZED.
9. FIRE ALARM CONTRACTOR SHALL PROVIDE A COPY OF NFPA 72 SYSTEM RECORD OF COMPLETION, SYSTEM RECORD OF INSPECTION AND TESTING, AND THE "EMERGENCY COMMUNICATIONS SUPPLEMENTARY RECORD OF COMPLETION", TO THE INSPECTOR OF RECORD IOR/DSA, SCHOOL DISTRICT, ARCHITECT AND LOCAL FIRE AUTHORITY.
10. POWER SERVICE TO THE FACP, REMOTE POWER SUPPLIES, AND CENTRAL STATION AUTO DIALER SHALL BE ON A DEDICATED BRANCH CIRCUIT WITH A RED MARKING AND IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL".
11. INSTALL ALL WIRING IN CONDUIT, MIN. 3/4" CONDUIT. ALL FIRE ALARM SYSTEM WIRING SHALL BE FPL (FIRE POWER LIMITED) OR FPLP (FIRE POWER LIMITED PLENUM RATED) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE THHN OR THWN.
12. CONDUIT AND WIRING SHALL BE PER MANUFACTURERS REQUIREMENTS.
13. ALL FIRE ALARM COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURERS SPECIFICATIONS. NO SINGLE DEVICES/EQPT. SHALL EXCEED 20LBS. WITHOUT SPECIAL MOUNTING DETAILS.
14. INSTALLATION OF SYSTEM SHALL NOT BE STARTED UNTIL COMPLETE SET OF CONSTRUCTION DOCUMENTS (WITH DEVICE TYPES AND LISTINGS) HAVE BEEN REVIEWED AND APPROVED BY DSA.
15. A STAMPED SET OF APPROVED PLANS SHALL BE ON THE JOB SITE AT ALL TIMES AND SHALL BE USED FOR INSTALLATION.
16. ANY DISCREPANCIES BETWEEN THE CONTRACT DOCUMENTS AND CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND ARCHITECT/ENGINEER OF RECORD.
17. THE CONTRACTOR SHALL INSTALL AND ADJUST ALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
18. SMOKE DETECTORS SHALL NOT BE ANY CLOSER THAN 1 FOOT FROM FIRE SPRINKLER HEADS OR 3 FEET FROM ANY SUPPLY DIFFUSER. IN AREAS OF CONSTRUCTION OR POSSIBLE DAMAGE /CONTAMINATION, INSTALLED DEVICES SHALL BE COVERED UNTIL AREA IS READY TO BE TURNED OVER TO THE OWNER.
19. PER CEC STANDARDS, ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE ALARM DEVICE. DO NOT SPLICE WIRE. THERE MUST BE AT LEAST 6" OF WIRE LEAD FROM THE BOX TO THE DEVICE. ALL BOXES TO BE SIZED PER CEC FOR PROPER VOLUME WITH INSTALLED WIRING AND DEVICES.
20. SUPERVISING STATION: AUTOMATIC FIRE ALARM SYSTEMS SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION AS REQUIRED BY NFPA 72, AS AMENDED BY CFC CHAPTER 80. THE SUPERVISION STATION SHALL BE LISTED AS EITHER UUFX OR UUJS BY UNDERWRITERS LABORATORY OR SHALL MEET THE REQUIREMENTS OF FACTORY MUTUAL RESEARCH APPROVAL STANDARD 3011.
21. A DOCUMENTATION CABINET SHALL BE INSTALLED ADJACENT TO THE FACP IN THE MAIN ELECTRICAL ROOM (NFPA 72, 7.7.2.1). SPACE AGE ELECTRONICS INC, ACERBOX FAD SERIES (#SSU00685 OR EQUAL).
22. ALL RECORD DOCUMENTATION SHALL BE STORED IN THE DOCUMENTATION CABINET (NFPA 72, 7.7.2.3): PROVIDE NAMEPLATE "FIRE ALARM SYSTEM RECORD DOCUMENTS" (NFPA 72, 7.7.2.5).
23. FIRE ALARM MANUAL PULLSTATIONS SHALL MEET THE CALIFORNIA ACCESSIBILITY REQUIREMENTS OUTLINED IN THE CBC ("CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE TO ACTIVATE THE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS OF FORCE". REFER TO DSA ACCESSIBILITY STAFF FOR QUESTIONS OR CLARIFICATION.)

SEQUENCE OF OPERATION MATRIX

		RESPONSE: ANNUNCIATE AT FIRE ALARM CONTROL PANEL (FACP)	ANNUNCIATE AT FIRE ALARM ANNUNCIATOR PANEL (FAAP)	ANNUNCIATE AT OFF-SITE MONITORING STATION	ACTIVATE AUDIBLE/VISUAL DEVICES IN ALL AREAS	SHUTDOWN OF APPLICABLE HVAC EQUIPMENT AND/OR MOTORIZED DAMPERS	RELEASE MAGNETICALLY-HELD DOORS AT SMOKE, AREA AND OCCUPANCY	ELEVATOR RECALL TO FIRE FLOOR	FACILITY PERSONNEL TO NOTIFY FIRE DEPARTMENT	ACTIVATE AUDIBLE ON CO DETECTOR SOUNDER BASE
ACTIVATION OF INITIATION DEVICES	MANUAL PULLSTATION	X	X	X	X	X	X	X	X	
	AREA SMOKE OR HEAT DETECTOR	X	X	X	X	X	X	X	X	
	SPECIAL EXTINGUISHING ANSUL SYSTEM	X	X	X	X	X	X	X	X	
	DUCT SMOKE DETECTOR	X	X	X	X	X	X	X	X	
	SPRINKLER FLOW SWITCH	X	X	X	X	X	X	X	X	
	CARBON MONOXIDE (CO) DETECTOR	X	X							X
MALFUNCTIONS	INITIATION CIRCUITS	X	X	X						
	NOTIFICATION APPLICANCE CIRCUITS	X	X	X						
	FIRE ALARM CONTROL PANEL (FACP)	X	X	X						
	FIRE ALARM ANNUNCIATOR PANEL (FAAP)	X	X	X						
	FIRE ALARM EXTENDER PANEL (FAEP) OR REMOTE AMPLIFIER	X	X	X						
	POWER FAILURE	X	X	X						
SUPERVISORY SWITCHES	SPRINKLER TAMPER SWITCH	X	X	X						
	POST INDICATOR VALVE	X	X	X						
	CHECK VALVE TAMPER SWITCH	X	X	X						

SEQUENCE OF OPERATION NOTES

1. ACTIVATION OF ANY INITIATION DEVICE WILL PLACE THE FIRE ALARM CONTROL PANEL IN ALARM MODE AND WILL ACTIVATE ALL NOTIFICATION APPLIANCES. THE FIRE ALARM CONTROL PANEL SHALL DISPLAY THE ZONE (NON-ADDRESSABLE) OR DEVICE
2. UPON ALARM CONDITION, AUTO-DIALER TO NOTIFY THE OFF-SITE MONITORING STATION, AND AUTHORIZED SCHOOL PERSONNEL SHALL NOTIFY THE FIRE DEPARTMENT AND INITIATE EVACUATION OF STUDENTS AND FACULTY AS PER THE SCHOOL'S EVACUATION PLAN.
3. WHEN THE PANEL IS ALARM CONDITION, THE NOTIFICATION APPLIANCES MAY BE DEACTIVATED ("SILENCED") AT THE FIRE ALARM CONTROL PANEL. ACTIVATION OF ANOTHER INITIATION DEVICE WILL PLACE THE CONTROL PANEL BACK IN ALARM CONDITION AND WILL AGAIN ACTIVATE ALL NOTIFICATION APPLIANCES.
4. FAILURE OF THE FIRE ALARM SYSTEM COMPONENTS, WIRING OR POWER SUPPLY SHALL PLACE THE FIRE ALARM CONTROL PANEL IN TROUBLE CONDITION, RESULTING IN AN AUDIBLE AND VISUAL (LED) ALARM AT THE FIRE ALARM CONTROL PANEL ONLY.
5. UPON TROUBLE CONDITION, AUTO-DIALER TO NOTIFY THE OFF-SITE MONITORING STATION, AND AUTHORIZED SCHOOL PERSONNEL SHALL NOTIFY THE AUTHORIZED TECHNICIAN TO CORRECT THE TROUBLE CONDITION.
6. UPON CO DETECTION, IT SHALL ANNUNCIATE AN ALARM AT THE FACP AND REMOTE ANNUNCIATOR ONLY AND SHALL ACTIVATE THE CO DETECTOR SOUNDER BASE WITH TEMPORAL 4 FORM IN THE CLASSROOM. SCHOOL PERSONNEL TO NOTIFY THE OCCUPANTS IMMEDIATELY AND INITIATE EVACUATION OF STUDENTS & FACULTY.

FIRE ALARM EQUIPMENT LIST

SYMBOL	DESCRIPTION	MANUFACTURER & MODEL NUMBER	CSFM LISTING NUMBER	STANDBY CURRENT	ALARM CURRENT
FACP	FIRE ALARM CONTROL PANEL WITH INTEGRAL DAA2	NOTIFIER NFS-320	7165-0028:0243	290mA	650mA
FAEP	FIRE ALARM EXPANDER PANEL	NOTIFIER ACPS-610 W/ CAB-PS1 CABINET	7315-0028:0248	150mA	90mA
FAVEP	DIGITAL AUDIO AMPLIFIER WITH REMOTE MIC, FIBER CARD	NOTIFIER DAA2-5025	7165-0028:0234	372mA	681mA
M	ADDRESSABLE MONITOR MODULE	NOTIFIER FMM-1	7300-0028:0219	0.38mA	5.10mA
C R	ADDRESSABLE CONTROL MODULE / RELAY MODULE	NOTIFIER FCM-1/FRM-1	7300-0028:0219	0.35mA	6.50mA
S	ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR	NOTIFIER FSP-951	7272-0028:0206	0.36mA	6.50mA
H	ADDRESSABLE FIXED TEMPERATURE HEAT DETECTOR (135F)	NOTIFIER FST-951	7270-0028:0196	0.36mA	6.50mA
	DETECTOR BASE	NOTIFIER B300	7300-1653:0109		
S	VISUAL STROBE, WALL MOUNT, SELECTABLE CANDELA	SYSTEM SENSOR	7125-1653:0504	-	-
	UL 1971 PUBLIC MODE NOTIFICATION	SRL	15cd	0mA	43mA
			30cd	0mA	83mA
			75cd	0mA	136mA
			110cd	0mA	179mA
S	VISUAL STROBE, CEILING MOUNT, SELECTABLE CANDELA	SYSTEM SENSOR	7125-1653:0504	-	-
	UL 1971 PUBLIC MODE NOTIFICATION	SCR	15cd	0mA	66mA
			30cd	0mA	96mA
			75cd	0mA	153mA
			110cd	0mA	195mA
V	COMBINATION VISUAL STROBE AND SPEAKER (1W),	WHEELOCK	7125-0785:0173	-	-
	WALL MOUNT, SELECTABLE CANDELA	#E70H-24MCW-FR	STROBE CKT: 15cd	0mA	60mA
	UL 1971 PUBLIC MODE NOTIFICATION, VISUAL DEVICE	(1/4 WATT TAP)	STROBE CKT: 30cd	0mA	92mA
			STROBE CKT: 75cd	0mA	165mA
			STROBE CKT: 110cd	0mA	220mA
V	COMBINATION VISUAL STROBE AND SPEAKER (1W), CEILING MOUNT, SELECTABLE CANDELA UL 1971 PUBLIC MODE NOTIFICATION, VISUAL DEVICE	WHEELOCK #E90H-24MCC-FR (1/4 WATT TAP)	7125-0785:0173	-	-
			STROBE CKT: 15cd	0mA	65mA
			STROBE CKT: 30cd	0mA	105mA
			STROBE CKT: 75cd	0mA	189mA
			STROBE CKT: 95cd	0mA	249mA
S	EXTERIOR AUDIBLE SPEAKER (1W) WITH WEATHER-PROOF FLUSH BACKBOX	WHEELOCK #ET-1010R	7125-0785:0105	0mA	7mA
	DOCUMENTATION CABINET	SPACE AGE ACE-11	7300-0553:0110	-	-

NOTE:
DETECTOR SUBSCRIPTS:
"c" - DETECTOR IN ACCESSIBLE CEILING SPACE
"p" - DETECTOR WITHIN 36" OF PEAK

FIRE ALARM SCOPE OF WORK

1. PROVIDE A NEW FIRE ALARM CONTROL PANEL AND AUDIO AMPLIFIER PANEL AT THE RENOVATED STUDENT COMMONS / CAFETERIA BUILDING. PROVIDE A NEW POWER SUPPLY EXPANDER PANEL, AUDIO AMPLIFIER, REMOTE MIC, AND ANNUNCIATOR AT THE NEW ADMIN BUILDING. PROVIDE NEW POWER SUPPLY EXPANDER PANEL AT THE RENOVATED ADMIN BUILDING. REPROGRAM EXISTING FACP TO SUPPORT THE (N) DEVICES, FULLY NETWORKED TO THE (E) NOTIFIER FIRE ALARM NETWORK ALREADY ACTIVE AT THE CAMPUS.
2. REPROGRAM THE (E) FIRE ALARM NETWORK TO ACCOMMODATE THE (N) PANEL AND EQUIPMENT / DEVICES, TO ALLOW FULL ANNUNCIATION OF ALL (N) EQUIPMENT AT THE (E) MAIN CAMPUS FACP, (E) MAIN CAMPUS ANNUNCIATOR, AND (E) OFF-SITE MONITORING.
3. TERMINATE EACH NOTIFICATION CIRCUIT TO THE (N) FACP AND/OR FAEP AS SHOWN ON PLANS AND RISER DIAGRAMS.
4. TERMINATE THE INITIATION CIRCUITS TO THE FACP AS SHOWN ON PLANS AND RISER DIAGRAMS.
5. TERMINATE THE AUDIO SPEAKER CIRCUITS TO THE FACP / AMPLIFIER AS SHOWN ON PLANS AND RISER DIAGRAMS.

FIRE ALARM SYSTEM DESCRIPTION

1. THE FIRE ALARM SYSTEM SHALL BE A NETWORKED AUTOMATIC ADDRESSABLE SYSTEM WITH STYLE 4, CLASS B WIRING FOR IDC'S, NAC'S, AND SLC'S WITH EMERGENCY VOICE / ALARM COMMUNICATIONS.
2. PROVIDE COMPLETE PROGRAMMING, AND ALL NECESSARY DEVICES FOR COMPLETE SYSTEM.
3. CIRCUIT PATHWAY SURVIVABILITY SHALL BE LEVEL 1.
4. PROVIDE AND INSTALL NEW EQUIPMENT, DEVICES AND REQUIRED MODULES AND PROVIDE CONNECTIONS COMPLETE FOR A FULLY FUNCTIONING VOICE EVAC FIRE ALARM SYSTEM.
5. THE NAME OF THE SPECIFIC PERSON RESPONSIBLE FOR THE SYSTEM DESIGN IS IAN RAWNSLEY (O'MAHONY & MYER).
6. SYSTEM INSTALLATION SHALL BE BY A LICENSED ELECTRICAL OR FIRE ALARM CONTRACTOR WITH A CALIFORNIA C-10 LICENSE, REGULARLY ENGAGED IN THE INSTALLATION AND COMMISSIONING OF FIRE ALARM SYSTEMS TO NFPA 72 STANDARDS. INSTALLING CONTRACTOR'S NAME AND CONTACT INFORMATION SHALL BE LISTED IN THE NFPA CLOSE OUT DOCUMENTATION AT COMPLETION OF PROJECT.

FIRE ALARM WIRING LEGEND

TAG	DESCRIPTION	CABLING
A	INITIATION CIRCUIT	(2) #16 TWISTED/UNSHIELDED
B	STROBE NOTIFICATION CIRCUIT(S)	(2) #12 THHN/THWN
C	SPEAKER NOTIFICATION CIRCUIT(S)	(2) #16 TWISTED/SHIELDED
MX	VOICE EVACUATION TRUNK	WEST PENN #AQ293
NX	FIRE ALARM DATA NETWORK TRUNK	WESTPENN #AQ293

NOTE:
CONTRACTOR SHALL VERIFY EXACT CABLE/WIRE TYPES WITH SYSTEM MANUFACTURER PRIOR TO ROUGH-IN.
INSTALL WIRING IN ¾" CONDUIT MIN.
ALL SITE DISTRIBUTION CABLE SHALL BE OSP-RATED.

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DATE: 12/04/2020

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850 2ND STREET,
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LIBERTY UNION HIGH SCHOOL DISTRICT

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DSA APP NO. 01-119033

ARCH PROJECT NO: 1783.00
DRAWN BY: LN
DRAWING SCALE: AS NOTED
PTN: 61721-75 FILE NO: 7-H4

CD

DECEMBER 2, 2020

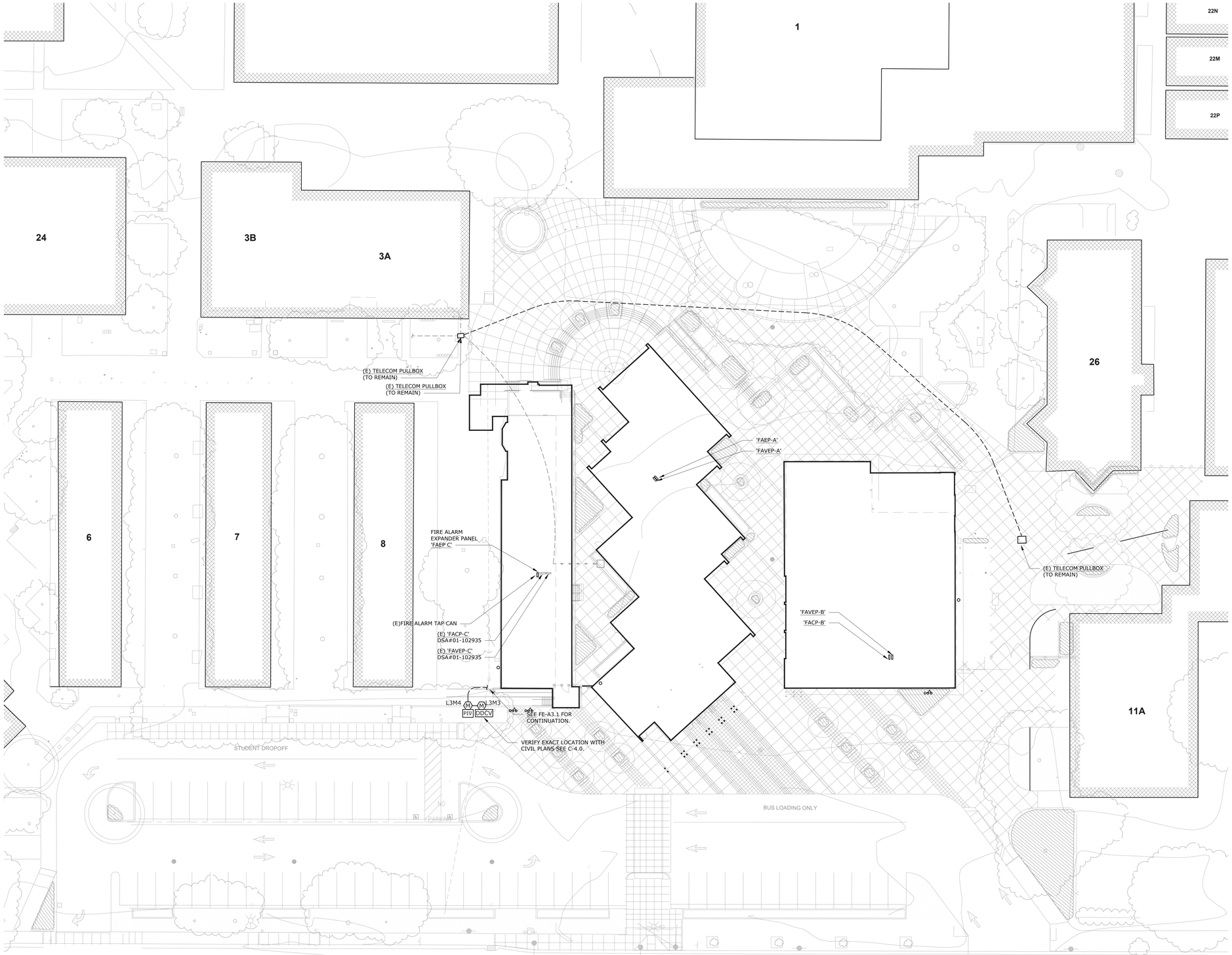
SHEET TITLE

FIRE ALARM EQUIPMNET LIST AND GENERAL NOTES

SHEET NUMBER

FE-0.1

LIBERTY HS ADMIN & STUDENT COMMONS – 219013



SITE PLAN - FIRE ALARM

SCALE: 1" = 20'-0"

1 FE-1.0

NORTH

20 0 20 40

SCALE OF FEET

NUMBERED SHEET NOTES

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DRAWN BY:	LN
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

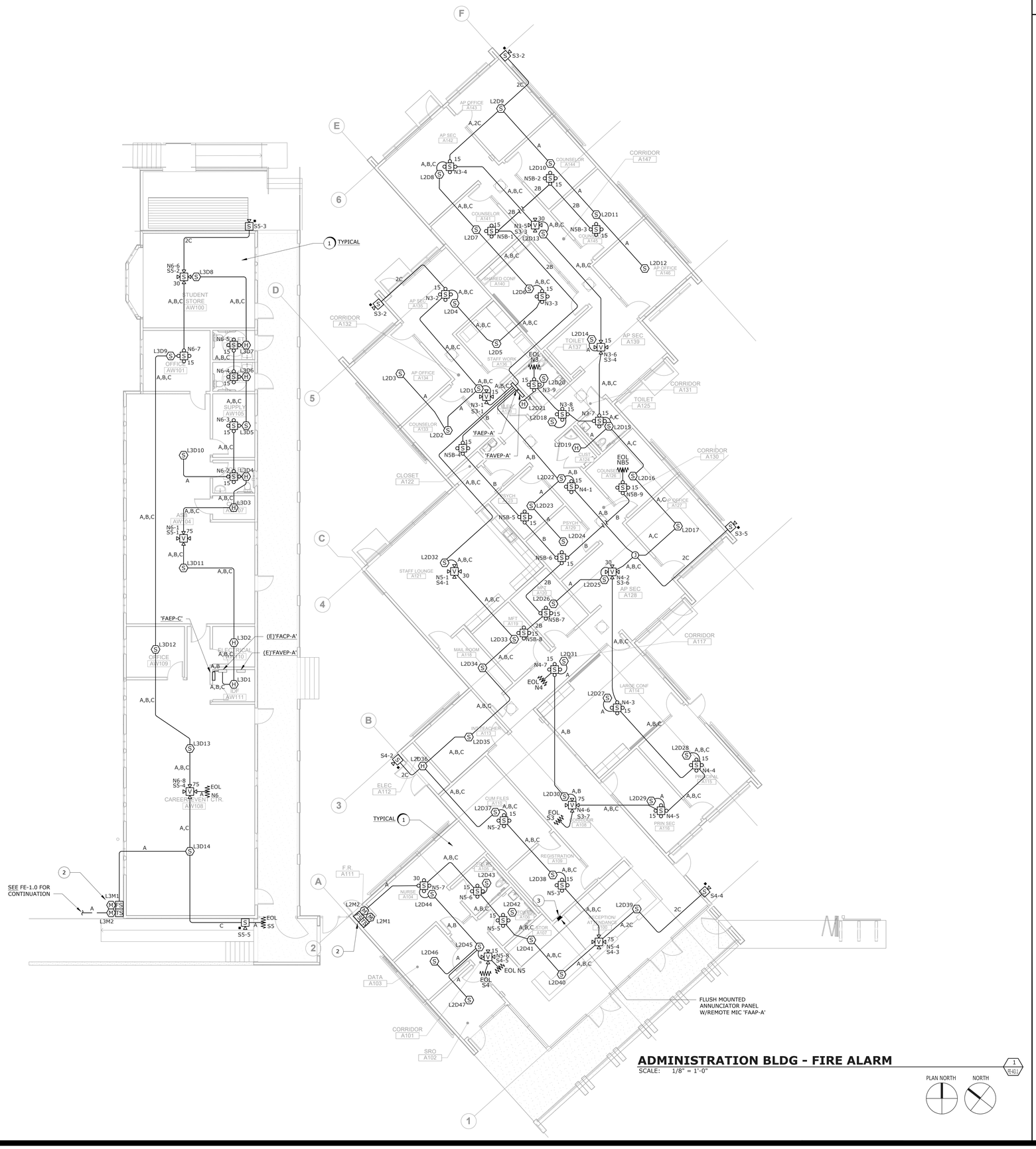
SHEET TITLE

SITE PLAN - FIRE ALARM

SHEET NUMBER

FE-1.0

LIBERTY HS ADMIN & STUDENT COMMONS - 219013



ADMINISTRATION BLDG - FIRE ALARM

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

PLAN NORTH NORTH

NUMBERED SHEET NOTES

1. COMBUSTIBLE SEALED SPACES HAVE UP-SPRINKLERED FIRE PROTECTION SYSTEM IN PLACE, NOT HEAT DETECTORS REQUIRED.
2. FIRE RISER LOCATION SEE 2/FP-6.1
3. FOR FIRE ALARM ANNUNCIATOR PANEL AND REMOTE MIC PROVIDE:
   (2) #14 THHN/THWN & (1) #16 TWISTED SHIELDED PR
   (1) EIA-485 (4-WIRES) + (2) #14 THHN/THWN

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No.14738
Exp. 6/21
ELECTRICAL
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LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET,
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	LN
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

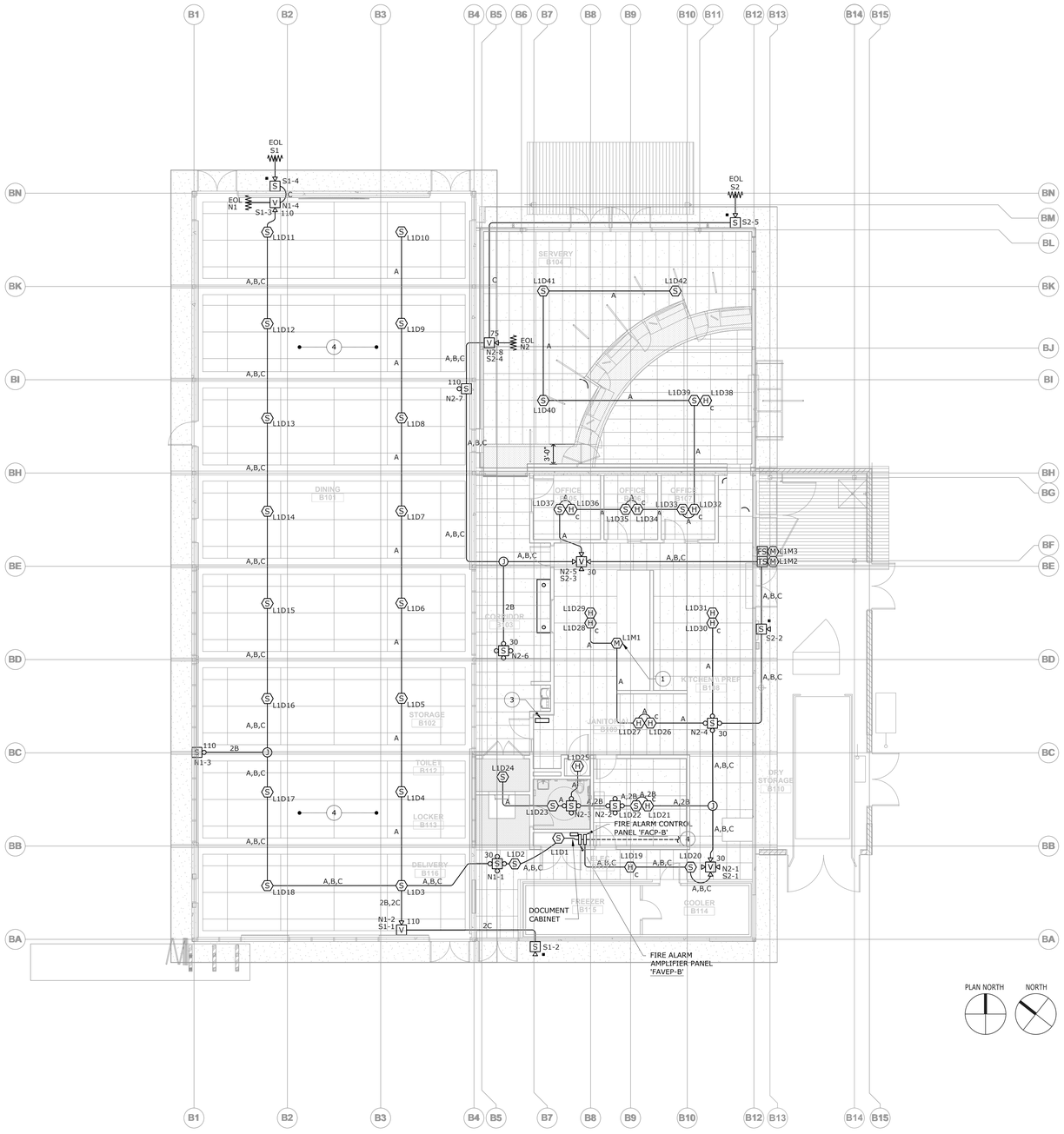
SHEET TITLE

ADMINISTRATION BLDG - FIRE ALARM

SHEET NUMBER

FE-A3.1

LIBERTY HS ADMIN & STUDENT COMMONS - 219013



CAFETERIA KITCHEN PLAN - FIRE ALARM

SCALE: 1/8" 1'-0"

1 FE-B3.1

NUMBERED SHEET NOTES

1. ADDRESSABLE FA MONITOR MODULE FOR ANSUL SYSTEM ALARM CONTACT. VERIFY EXACT LOCATION WITH ANSUL INSTALLER PRIOR TO ROUGH-IN. SEE 2/E-5.1
2. NOT USED.
3. CONTACTOR PANEL FOR SHUNT-TRIP OF HOOD CIRCUITS, SEE 2/E-5.1
4. FOR ALL FIRE ALARM ITEMS MOUNTED IN OR ON THE HIGH CEILING AREA, PROVIDE METALLIC FLEX CONDUIT UP SOUTH PERIMETER WALL FURRING AND INTO AND THROUGH CEILING CAVITY SPACE. REFER TO ARCHITECTURAL SECTIONS FOR PROFILE OF LIMITED WALL AND CEILING TRANSITION SPACE. FOR RACEWAYS IN CEILING, MAINTAIN A MINIMUM OF 1.5" CLEAR FROM THE BOTTOM OF ANY ROOFING MATERIALS, PER NEC 300.4(E).

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SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

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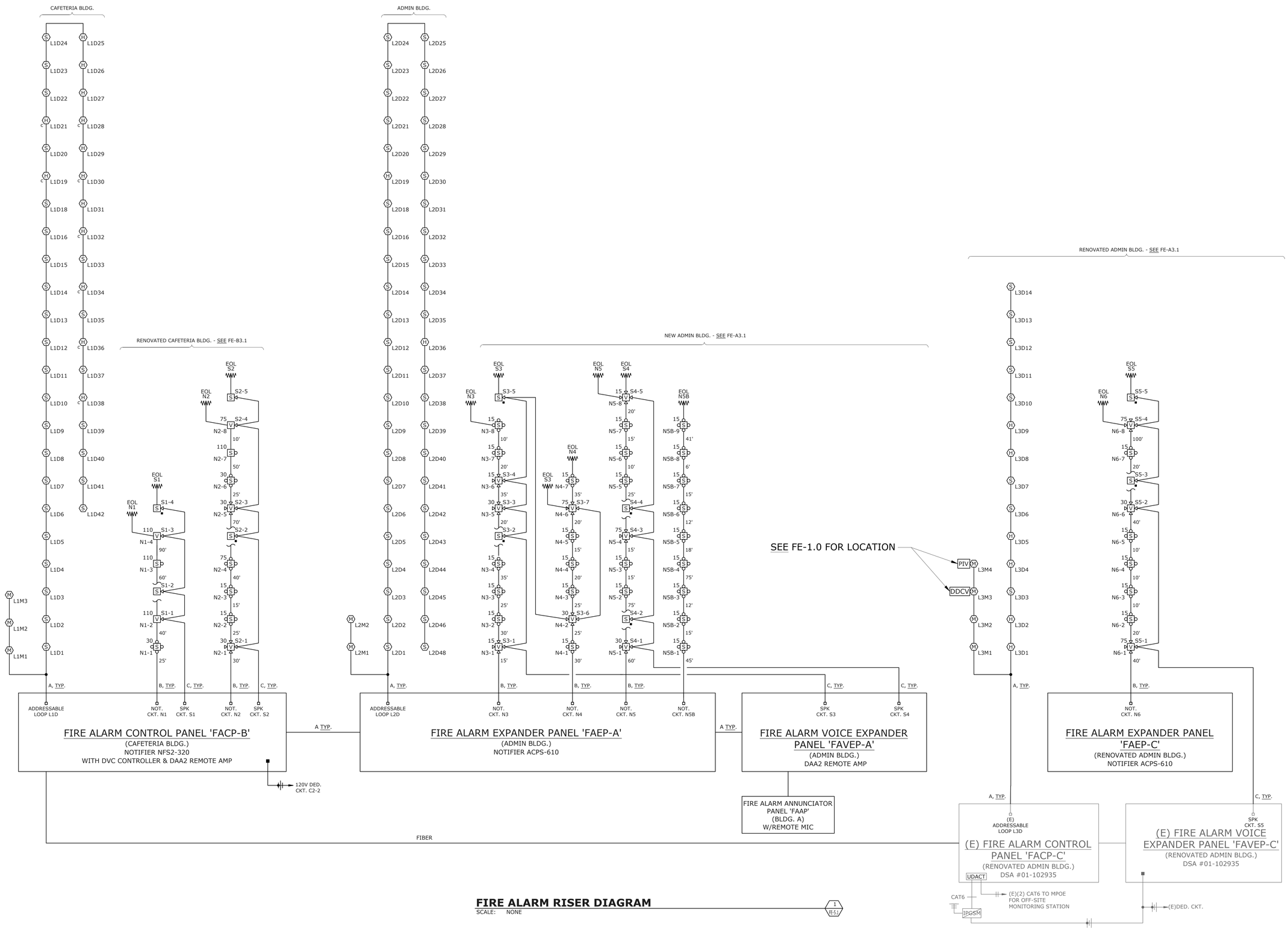
CAFETERIA KITCHEN PLAN - FIRE ALARM

SHEET NUMBER

FE-B3.1

LIBERTY HS ADMIN & STUDENT COMMONS – 219013



FIRE ALARM RISER DIAGRAM
SCALE: NONE

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SHEET TITLE

RISER DIAGRAM - FIRE ALARM

SHEET NUMBER

FE-5.1

VOLTAGE DROP CALCULATIONS

FIRE ALARM EXPANDER PANEL 'FAEP-A'

SIGNAL CIRCUIT: **N3**
TOTAL CKT CURRENT = 0.696 A
MAX VOLT-DROP = **3.20%**
SYSTEM VOLTAGE = 20.4 V

Device Address-->	N3-1	N3-2	N3-3	N3-4	N3-5	N3-6	N3-7	N3-8	
Type of Device -->	30CSPSTR	15CSTR	15CSTR	15CSTR	15CSTR	30SPSTR	15CSTR	75CSPSTR	eol
Current of Device (Amp) -->	0.105	0.061	0.061	0.061	0.061	0.092	0.061	0.189	0.005
Size of Wire (AWG) -->	#12	#12	#12	#12	#12	#12	#12	#12	#12
Distance to each Device (Ft) -->	38	60	75	35	40	75	35	40	5
Current Total (Amp) -->	0.696	0.591	0.530	0.469	0.408	0.347	0.255	0.194	0.005
Device Volt-drop -->	0.50%	1.17%	1.92%	2.23%	2.54%	3.04%	3.20%	3.35%	3.35%
Device Volt -->	20.3	20.2	20.0	19.9	19.9	19.8	19.7	19.7	19.7

SIGNAL CIRCUIT: **N4**
TOTAL CKT CURRENT = 0.604 A
MAX VOLT-DROP = **1.18%**
SYSTEM VOLTAGE = 20.4 V

Device Address-->	N4-1	N4-2	N4-3	N4-4	N4-5	N4-6	N4-7	
Type of Device -->	15CSTR	30CSPSTR	15CSTR	15CSTR	15CSTR	75CSPSTR	15CSTR	eol
Current of Device (Amp) -->	0.061	0.105	0.061	0.061	0.061	0.189	0.061	0.005
Size of Wire (AWG) -->	#12	#12	#12	#12	#12	#12	#12	#12
Distance to each Device (Ft) -->	30	25	25	20	15	20	35	5
Current Total (Amp) -->	0.604	0.543	0.438	0.377	0.316	0.255	0.066	0.005
Device Volt-drop -->	0.34%	0.60%	0.81%	0.95%	1.04%	1.14%	1.18%	1.18%
Device Volt -->	20.3	20.3	20.2	20.2	20.2	20.2	20.2	20.2

SIGNAL CIRCUIT: **N5**
TOTAL CKT CURRENT = 0.669 A
MAX VOLT-DROP = **2.02%**
SYSTEM VOLTAGE = 20.4 V

Device Address-->	N5-1	N5-2	N5-3	N5-4	N5-5	N5-6	N5-7	N5-8	
Type of Device -->	30CSPSTR	15CSTR	15CSTR	75CSPSTR	15CSTR	15CSTR	15CSTR	15CSPSTR	eol
Current of Device (Amp) -->	0.105	0.061	0.061	0.189	0.061	0.061	0.061	0.065	0.005
Size of Wire (AWG) -->	#12	#12	#12	#12	#12	#12	#12	#12	#12
Distance to each Device (Ft) -->	60	75	15	15	25	10	15	20	5
Current Total (Amp) -->	0.669	0.564	0.503	0.442	0.253	0.192	0.131	0.070	0.005
Device Volt-drop -->	0.76%	1.56%	1.70%	1.83%	1.95%	1.98%	2.02%	2.05%	2.05%
Device Volt -->	20.2	20.1	20.1	20.0	20.0	20.0	20.0	20.0	20.0

SIGNAL CIRCUIT: **N5B**
TOTAL CKT CURRENT = 0.554 A
MAX VOLT-DROP = **1.45%**
SYSTEM VOLTAGE = 20.4 V

Device Address-->	N5B-1	N5B-2	N5B-3	N5B-4	N5B-5	N5B-6	N5B-7	N5B-8	N5B-9	
Type of Device -->	15CSTR	15CSTR	15CSTR	15CSTR	15CSTR	15CSTR	15CSTR	15CSTR	15CSTR	eol
Current of Device (Amp) -->	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.005
Size of Wire (AWG) -->	#12	#12	#12	#12	#12	#12	#12	#12	#12	#12
Distance to each Device (Ft) -->	45	15	12	75	18	12	15	6	41	5
Current Total (Amp) -->	0.554	0.493	0.432	0.371	0.310	0.249	0.188	0.127	0.066	0.005
Device Volt-drop -->	0.47%	0.61%	0.71%	1.24%	1.34%	1.40%	1.45%	1.47%	1.52%	1.52%
Device Volt -->	20.3	20.3	20.3	20.1	20.1	20.1	20.1	20.1	20.1	20.1

FIRE ALARM EXPANDER PANEL 'FAEP-C'

SIGNAL CIRCUIT: **N6**
TOTAL CKT CURRENT = 0.793 A
MAX VOLT-DROP = **1.47%**
SYSTEM VOLTAGE = 20.4 V

Device Address-->	N6-1	N6-2	N6-3	N6-4	N6-5	N6-6	N6-7	N6-8	
Type of Device -->	75CSPSTR	15CSTR	15CSTR	15CSTR	15CSTR	30CSPSTR	15CSTR	75CSPSTR	eol
Current of Device (Amp) -->	0.189	0.061	0.061	0.061	0.061	0.105	0.061	0.189	0.005
Size of Wire (AWG) -->	#12	#12	#12	#12	#12	#12	#12	#12	#12
Distance to each Device (Ft) -->	40	20	10	10	10	40	20	100	5
Current Total (Amp) -->	0.793	0.604	0.543	0.482	0.421	0.360	0.255	0.194	0.005
Device Volt-drop -->	0.60%	0.83%	0.93%	1.02%	1.10%	1.37%	1.47%	1.84%	1.84%
Device Volt -->	20.3	20.2	20.2	20.2	20.2	20.1	20.1	20.0	20.0

VOLTAGE DROP CALCULATIONS

FIRE ALARM CONTROL PANEL 'FACP-B'

SIGNAL CIRCUIT: **N1**
TOTAL CKT CURRENT = 0.622 A
MAX VOLT-DROP = **1.59%**
SYSTEM VOLTAGE = 20.4 V

Device Address-->	N1-1	N1-2	N1-3	N1-4	
Type of Device -->	30CSTR	30SPSTR	110SPSTR	110SPSTR	eol
Current of Device (Amp) -->	0.085	0.092	0.220	0.220	0.005
Size of Wire (AWG) -->	#12	#12	#12	#12	#12
Distance to each Device (Ft) -->	25	40	60	90	5
Current Total (Amp) -->	0.622	0.537	0.445	0.225	0.005
Device Volt-drop -->	0.29%	0.70%	1.21%	1.59%	1.59%
Device Volt -->	20.3	20.3	20.2	20.1	20.1

SIGNAL CIRCUIT: **N2**
TOTAL CKT CURRENT = 0.988 A
MAX VOLT-DROP = **9.97%**
SYSTEM VOLTAGE = 20.4 V

Device Address-->	N2-1	N2-2	N2-3	N2-4	N2-5	N2-6	N2-7	N2-8	
Type of Device -->	30CSPSTR	15CSTR	15CSTR	75CSTR	75CSPSTR	30CSTR	110STR	75SPSTR	eol
Current of Device (Amp) -->	0.105	0.061	0.061	0.135	0.189	0.085	0.182	0.165	0.005
Size of Wire (AWG) -->	#12	#12	#12	#12	#12	#12	#12	#12	#12
Distance to each Device (Ft) -->	160	95	95	95	95	95	95	95	5
Current Total (Amp) -->	0.988	0.883	0.822	0.761	0.626	0.437	0.352	0.170	0.005
Device Volt-drop -->	2.99%	4.58%	6.06%	7.42%	8.55%	9.33%	9.97%	10.27%	10.27%
Device Volt -->	19.8	19.5	19.2	18.9	18.7	18.5	18.4	18.3	18.3

BATTERY CALCULATIONS: FIRE ALARM EXPANDER PANEL 'FAEP-A'

STANDBY MODE

		EA (A)	QTY.	CURRENT
FAEP CTRL UNIT		0.150	1	0.150

TOTAL STANDBY CURRENT = 0.150 A
REQUIRED (24 HOURS) = 3.600 AH

ALARM MODE

		EA (A)	QTY.	CURRENT
NOTIFICATION CKT	N3	0.696	1	0.696
NOTIFICATION CKT	N4	0.604	1	0.604
NOTIFICATION CKT	N5	0.669	1	0.669
NOTIFICATION CKT	N5B	0.554	1	0.554
FAEP CTRL UNIT		0.150	1	0.150

TOTAL ALARM CURRENT = 2.673 A
REQUIRED (15 MIN) = 0.668 AH

TOTAL POWER REQUIRED WITH 120% BATTERY DERATING FACTOR = 5.122 AH

PROVIDE TWO 12V, 6.0AH BATTERIES

BATTERY CALCULATIONS: FIRE ALARM EXPANDER PANEL 'FAEP-C'

STANDBY MODE

		EA (A)	QTY.	CURRENT
FAEP CTRL UNIT		0.150	1	0.150

TOTAL STANDBY CURRENT = 0.150 A
REQUIRED (24 HOURS) = 3.600 AH

ALARM MODE

		EA (A)	QTY.	CURRENT
NOTIFICATION CKT	N6	0.793	1	0.793
FAEP CTRL UNIT		0.150	1	0.150

TOTAL ALARM CURRENT = 0.943 A
REQUIRED (15 MIN) = 0.236 AH

TOTAL POWER REQUIRED WITH 120% BATTERY DERATING FACTOR = 4.603 AH

PROVIDE TWO 12V, 6.0AH BATTERIES

BATTERY CALCULATIONS: FIRE ALARM VOICE EXPANDER 'FAVEP-A'

STANDBY MODE

	EA (A)	QTY.	CURRENT
DAA CTRL UNIT	0.3720	1	0.372

TOTAL STANDBY CURRENT = 0.372 A
REQUIRED (24 HOURS) = 8.928 AH

ALARM MODE

	EA (A)	QTY.	CURRENT
DAA CTRL UNIT	0.681	1	0.681
SPEAKER CIRCUITS	0.007	12	0.084

TOTAL ALARM CURRENT = 0.765 A
REQUIRED (15 MIN) = 0.191 AH

TOTAL POWER REQUIRED WITH 120% BATTERY DERATING FACTOR = 10.943 AH

PROVIDE TWO 12V, 12.0AH BATTERIES

BATTERY CALCULATIONS: FIRE ALARM CONTROL PANEL 'FACP-B'

STANDBY MODE

		EA (A)	QTY.	CURRENT
FAEP CTRL UNIT		0.150	1	0.150
DETECTORS		0.0004	90	0.032
MODULES		0.0004	10	0.004
DAA		0.3720	1	0.372

TOTAL STANDBY CURRENT = 0.558 A
REQUIRED (24 HOURS) = 13.392 AH

ALARM MODE

		EA (A)	QTY.	CURRENT
NOTIFICATION CKT	N1	0.622	1	0.622
NOTIFICATION CKT	N2	0.988	1	0.988
FACP CTRL UNIT		0.090	1	0.650
DETECTORS		0.007	90	0.585
MODULES		0.007	10	0.065
DAA		0.814	1	0.814

TOTAL ALARM CURRENT = 3.724 A
REQUIRED (15 MIN) = 0.931 AH

TOTAL POWER REQUIRED WITH 120% BATTERY DERATING FACTOR = 28.145 AH

PROVIDE TWO 12V, 33.0AH BATTERIES
*CALCULATION INCULUDES DAA

BATTERY CALCULATIONS: DAA INSIDE 'FACP-B'

STANDBY MODE

	EA (A)	QTY.	CURRENT
DAA CTRL UNIT	0.372	1	0.372

TOTAL STANDBY CURRENT = 0.372 A
REQUIRED (24 HOURS) = 8.928 AH

ALARM MODE

	EA (A)	QTY.	CURRENT
FAAMP CTRL UNIT	0.681	1	0.681
SPEAKER CIRCUITS	0.007	19	0.133

TOTAL ALARM CURRENT = 0.814 A
REQUIRED (15 MIN) = 0.204 AH

TOTAL POWER REQUIRED WITH 120% BATTERY DERATING FACTOR = 10.958 AH

SUPPLIED BY FACP-B BATTERIES

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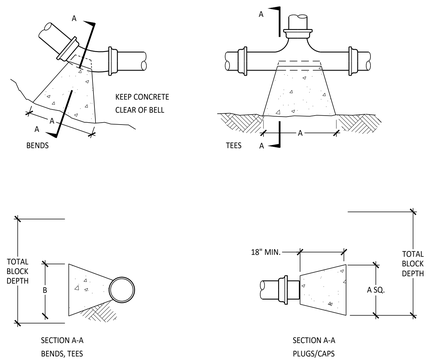
CALCULATIONS - FIRE ALARM

SHEET NUMBER

FE-6.1



SOIL BEARING CAPACITY 2000 PSF FOR SANDY CLAY SOILS TYPE IN ACCORDANCE WITH NFPA 13 TABLE-A.10.6.1(C). SEE MATERIAL DATA SUBMITTAL GEOTECHNICAL REPORT FOR DESCRIPTION OF SOIL CONDITIONS.

THRUST BLOCK CALCULATIONS PER NFPA 13-A.10.6.1(b)

6"-90 BEND AREA = (7.9 S.F.)(225PSI/100PSI)(1000PSF/2000PSF) = 8.9 S.F.
6"-45 BEND AREA = 8.9 S.F. x 0.541= 4.8 S.F.
6"-22.5 BEND AREA = 8.9 S.F. x 0.276 = 2.5 S.F.
6"-DEAD END AREA = (5.6 S.F.)(225PSI/100PSI)(1000PSF/1500PSF) = 6.3 S.F.

PIPE SIZE	90" BENDS			45" BENDS			22.5" BENDS			TEES and PLUGS		
	SIZE SQ. FT.	"A"	"B"	SIZE SQ. FT.	"A"	"B"	SIZE SQ. FT.	"A"	"B"	SIZE SQ. FT.	"A"	"B"
6"	8.9	54"	24"	4.8	39"	18"	2.5	30"	12"	6.3	43"	22"

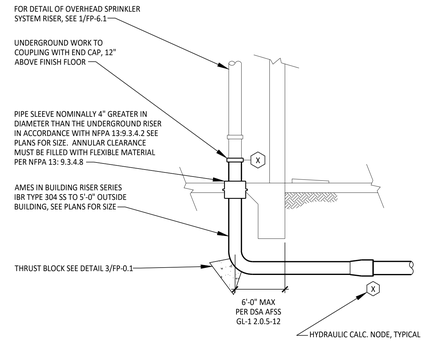
BASED ON A WATER PRESSURE OF 225 POUNDS PER SQUARE INCH AND A SOIL RESISTANCE OF 2000 POUNDS PER SQUARE FOOT, AND SAFETY FACTOR OF 1.5 IN ACCORDANCE WITH NFPA 13 (2016) TABLE A.10.6.1(b).

TOTAL BLOCK DEPTH SHALL BE AT LEAST TWICE THE BLOCK DEPTH "B" IN ACCORDANCE WITH NFPA 24.

JOINT RESTRAINT SHALL UTILIZE BOTH THRUST BLOCKS AND MEGALUG MECHANICAL JOINT RESTRAINT FITTINGS PER LOCAL FIRE MARSHAL

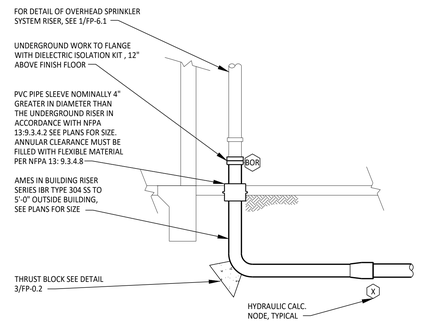
3 FP-0.1 THRUST BLOCK

NO SCALE



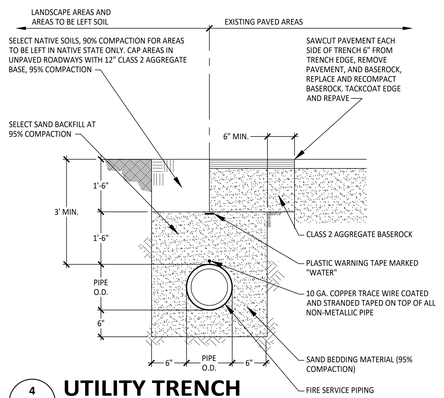
1 FP-0.1 IN BUILDING RISER

NO SCALE



2 FP-0.1 UNDERGROUND RISER

NO SCALE



4 FP-0.1 UTILITY TRENCH

NO SCALE

UNDERGROUND FIRE SERVICE GENERAL NOTES:

NFPA 24 (2016) SEC. 10.1.6 ALL FERROUS METAL PIPE SHALL BE LINED, AND STEEL PIPE SHALL BE COATED AND WRAPPED WITH JOINTS FIELD-COATED AND WRAPPED AFTER ASSEMBLY. FOR BURIED PIPE, GALVANIZING, INTERNALLY OR EXTERNALLY, DOES NOT MEET THE REQUIREMENTS OF THIS SECTION.

NFPA 24 (2016) SEC. 10.3.6.2 ALL BOLTED JOINT ACCESSORIES SHALL BE CLEANED AND THOROUGHLY COATED WITH ASPHALT OR OTHER CORROSION-RETARDING MATERIAL AFTER INSTALLATION.

NFPA 24 (2016) SEC. 10.8.3.5 AFTER INSTALLATION, RODS, NUTS, BOLTS, WASHERS, CLAMPS, AND OTHER RESTRAINING DEVICES, EXCEPT THRUST BLOCKS, SHALL BE CLEANED AND THOROUGHLY COATED WITH A BITUMINOUS OR OTHER ACCEPTABLE CORROSION-RETARDING MATERIAL.

NFPA 24 (2016) SEC. 10.8.2 THRUST BLOCKS SHALL BE OF A CONCRETE MIX NOT LEANER THAN ONE PART CEMENT, TWO AND ONE-HALF PARTS SAND, AND FIVE PARTS STONE WITH A MINIMUM COMPRESSIVE STRENGTH (Fc) OF 2500 PSI. THRUST BLOCKS SHALL BE PLACED BETWEEN UNDISTURBED EARTH AND THE FITTING TO BE RESTRAINED, AND SHALL BE OF SUCH BEARING AS TO ENSURE ADEQUATE RESISTANCE TO THE THRUST TO BE ENCOUNTERED IN GENERAL, THRUST BLOCKS SHALL BE SO PLACED THAT THE JOINTS WILL BE ACCESSIBLE FOR INSPECTION AND REPAIR.

NFPA 24 (2016) SEC. 10.10.2.1 UNDERGROUND MAINS SHALL BE COMPLETELY FLUSHED TO REMOVE FOREIGN MATERIALS THAT MIGHT HAVE ENTERED THE MAIN DURING THE COURSE OF THE INSTALLATION PER TABLE 10.10.2.1.3 TO PRODUCE A VELOCITY OF 10 FEET PER SECOND IN PIPES. LOCAL FIRE JURISDICTION SHALL BE NOTIFIED OF DATE AND TIME OF TESTING SO THEY MAY OBSERVE TESTING

NFPA 24 (2016) SEC. 10.10.2.2 ALL NEW PRIVATE UNDERGROUND FIRE SERVICE MAINS SHALL BE TESTED HYDROSTATICALLY AT NOT LESS THAN 200-PSI PRESSURE FOR A MINIMUM OF TWO HOURS. LOCAL FIRE JURISDICTION SHALL BE NOTIFIED OF DATE AND TIME OF TESTING AND SHALL OBSERVE AND/OR AND/OR ASSIST IOR WHENEVER POSSIBLE.

THE AMOUNT OF LEAKAGE IN BURIED PIPING SHALL BE MEASURED AT THE SPECIFIED TEST PRESSURE BY PUMPING FROM A CALIBRATED CONTAINER. FOR NEW PIPE, THE AMOUNT OF LEAKAGE AT THE JOINTS SHALL NOT EXCEED TWO QUARTS PER HOUR PER 100 GASKETS OR JOINTS IRRESPECTIVE OF PIPE DIAMETER. NO VISIBLE LEAKAGE SHALL BE ALLOWED IN ABOVEGROUND PIPING. (ALSO SEE SEC. 10.10.2.2.6 FOR ALLOWABLE LEAKAGE)

HYDROSTATIC TESTS SHALL BE MADE BEFORE THE JOINTS ARE COVERED SO THAT ANY LEAKS MAY BE READILY DETECTED.

NFPA 24 (2016) SEC. 10.10 BEFORE ASKING FINAL APPROVAL OF AN INSTALLATION BY THE INSPECTOR OF RECORD, THE INSTALLING COMPANY SHALL FURNISH A CONTRACTOR'S MATERIAL AND TEST CERTIFICATE TO BE SUBMITTED TO THE OWNER. A TYPICAL CERTIFICATE IS SHOWN IN FIGURE 10.10.1. THIS FORM SHALL BE GIVEN TO THE APPROVING AUTHORITY, OWNER, AND CONTRACTOR.

NFPA 24 (2016) SEC. 10.4 THE DEPTH OF COVER OVER WATER PIPES SHALL BE NOT LESS THAN 2'-6" TO PREVENT MECHANICAL DAMAGE AND SHALL BE BURIED A MINIMUM OF 3'-0" UNDER DRIVEWAYS.

* THE METHOD USED FOR UNDERGROUND FIRE-LINES WHEN ENTERING BUILDINGS UNDER CONCRETE FOOTINGS SHALL HAVE THE STRUCTURAL ENGINEER OF RECORD APPROVAL. NFPA 24 (2016) SEC. 12.2.6 NFPA 13 (2016) SEC. 9.3.4.2 REQUIRES A CLEARANCE BY A PIPE SLEEVE WITH A NOMINAL DIAMETER 4 IN. LARGER THAN THE NOMINAL DIAMETERS OF THE SUPPLY PIPING 4 IN. NOMINAL AND LARGER. (I.E.: FIRE-LINES NOMINAL 6 IN. REQUIRES 10 IN. SLEEVE)

CPC SEC. 604.1 (2016) PVC PIPING MAY BE INSTALLED TO 5 FEET OUTSIDE THE FOUNDATION OF ANY BUILDING OR STRUCTURE OR PARTS THEREOF. IT SHALL BE BURIED IN THE GROUND FOR ITS ENTIRE LENGTH. IT SHALL NOT BE INSTALLED WITHIN OR UNDER ANY BUILDING OR STRUCTURE. (DUCTILE PIPE SHALL BE INSTALLED WITHIN 5 FEET OF BUILDING)

OVERHEAD FIRE SPRINKLER SYSTEM GENERAL NOTES:

NFPA 13 (2016) SEC. 9.2.1.3.3.4 WHERE FLEXIBLE SPRINKLER HOSE FITTINGS ARE USED TO CONNECT SPRINKLERS TO BRANCH LINES IN SUSPENDED CEILINGS, A LABEL LIMITING RELOCATION OF THE SPRINKLER SHALL BE PROVIDED ON THE ANCHORING COMPONENT.

NFPA 13 (2016) SEC. 10.10.2.1 UNDERGROUND MAINS AND LEAD-IN CONNECTION MADE TO OVERHEAD SPRINKLER PIPING SYSTEMS SHALL BE COMPLETELY FLUSHED.

NFPA 13 (2016) SEC. 10.10.2.2 ALL INTERIOR PIPING AND APPURTENANCES SUBJECTED TO SYSTEM WORKING PRESSURE SHALL BE HYDROSTATIC ALLY TESTED AT 200 PSI AND SHALL MAINTAIN THAT PRESSURE WITHOUT LOSS FOR 2 HOURS. LOCAL FIRE DEPARTMENT SHOULD BE NOTIFIED OF DATE AND TESTING SO THEY MAY OBSERVE TESTING.

NFPA 13 (2016) SEC. 6.2.9 PROVIDE SPARE SPRINKLER HEAD CABINET, SPRINKLER WRENCH, AND NO FEWER THAT A TOTAL OF 6 SPARE HEADS MATCHING THE TYPES AND TEMPERATURE RATINGS IN EACH PROTECTED BUILDING FOR SYSTEMS LESS THAN 300 SPRINKLERS AND FEWER THAN 12 FOR SYSTEMS HAVING 300 TO 1000 SPRINKLERS.

NFPA 13 (2016) SEC. 9.3.6.1 PROVIDE RESTRAINT OF BRANCH LINES BY USING ONE OF THE FOLLOWING:
(1) LISTED SWAY BRACE ASSEMBLY
(2) WRAPAROUND U-HOOK SATISFYING THE REQUIREMENTS OF 9.3.5.11
(3) NO. 12, 440LB (200KG) WIRE INSTALLED AT LEAST 45 DEGREES FROM THE VERTICAL PLANE AND ANCHORED ON BOTH SIDES OF THE PIPE.
(4) CPVC HANGERS LISTED TO PROVIDE RESTRAINT
(5) HANGER NOT LESS THAN 45 DEGREES FROM VERTICAL INSTALLED WITHIN 6IN. OF THE VERTICAL HANGER ARRANGED FOR RESTRAINT AGAINST UPWARD MOVEMENT, PROVIDED IT IS UTILIZED SUCH THAT L/R DOES NOT EXCEED 400, WHERE THE ROD EXTENDS TO THE PIPE OR A SURGE CLIP HAS BEEN INSTALLED.

NFPA 72 (2016) SEC. 17.12.2 SPRINKLER FLOW SWITCH SHALL BE TESTED BY IQR TO CONFIRM THAT WHEN THE INSPECTOR'S TEST VALVE IS ACTIVATED AN ALARM WILL SOUND IN NOT MORE THAN 90 SECONDS.

NFPA 13 (2016) SEC. 6.8.3 FLOW SWITCH SHALL BE CONNECTED TO AN OUTSIDE ALARM BELL FOR EACH RISER. APPROVED IDENTIFICATION SIGN SHALL BE PROVIDED FOR OUTSIDE ALARM BELL "SPRINKLER FIRE ALARM - WHEN BELL RINGS CALL 911/FIRE DEPARTMENT".

THE PLANS SHALL INCLUDE THE INFORMATION ON THE HYDRAULIC DESIGN INFORMATION SIGN, IN COMPLIANCE WITH NFPA 13 SECTION 23.1.3 ITEM 31 AND CBC CHAPTER 35 AMENDMENTS TO NFPA 13 SECTION 25.5.1 AND 25.5.2

NFPA 13 (2016) SEC. 25.1 (3) SPRINKLER CONTRACTOR (C16) SHALL COMPLETE AND SIGN CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR THE OVERHEAD SPRINKLER SYSTEM USING FORM IN FIGURE 25.1. THIS COMPLETED FORM SHALL BE GIVEN TO THE APPROVING AUTHORITY, OWNER, AND CONTRACTOR.

NFPA 13 (2016) SEC. 25.2.3.4.1 THE MAIN DRAIN VALVE SHALL BE OPENED AND REMAIN OPENED UNTIL THE SYSTEM PRESSURE STABILIZES. THE STATIC AND RESIDUAL PRESSURES SHALL BE RECORDED ON THE CONTRACTOR'S TEST CERTIFICATE.

TITLE 19 ARTICLE (A) A LABEL OF SELF-ADHESIVE TYPE SHALL BE PLACED ON THE FIRE DEPARTMENT CONNECTION OR ON THE RISER FOR THE FIRE SPRINKLER SYSTEM WITH THE DATE OF SERVICE AND/OR DATE OF INSTALLATION WAS PREFORMED AND LICENSE NUMBER OF PERSON PERFORMING SERVICE WORK.

THE SPRINKLER CONTRACTOR SHALL HAVE A REPRESENTATIVE PRESENT AT THE ROUGH-IN/HYDRO INSPECTION.

NFPA 13 (2016) SEC. 9.3.4.2 WHERE PIPE PASSES THROUGH HOLES IN PLATFORMS, FOUNDATIONS, WALLS, OR FLOORS, THE HOLES SHALL BE SIZED SUCH THAT THE DIAMETER OF THE HOLE IS NOMINALLY 2" LARGER THAN THE PIPE FOR PIPE 1" NOMINAL TO 3 1/2" NOMINAL AND 4" LARGER THAN PIPE FOR PIPE 4" NOMINAL AND LARGER.

DSA GENERAL NOTES

1. THE INTENT OF THE CONTRACT DOCUMENTS IS TO MODERNIZE AN EXISTING BUILDING ON THE SCHOOL'S CAMPUS. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS, A CONSTRUCTION CHANGE DOCUMENT DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK.
2. ALL HANGERS AND SEISMIC SWAY BRACING SHALL BE DESIGNED AND INSTALLED PER NFPA 13 AND CHAPTER 16A CALIFORNIA BUILDING CODE.
3. WHERE ANCHORAGE DETAILS ARE NOT SHOWN ON THE DRAWINGS, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER AND THE FIELD REPRESENTATIVE OF THE DIVISION OF THE STATE ARCHITECT.

FIRE FLOW CALCULATIONS:

CODE REQUIRED SITE FLOW:

CONSTRUCTION TYPE:	V-B (WITH AUTOMATIC SPRINKLER SYSTEM)
FIRE FLOW CALCULATION AREA:	13,604 SF
2016 CFC FIRE FLOW(TABLE BB105.1):	3,250 GPM
2016 CFC MINIMUM FIRE FLOW:	1500 GPM

AVAILABLE WATER SUPPLY:

CSG CONSULTANTS	NOVEMBER 17, 2020
STATIC PRESSURE:	70 PSI SEE FP1.1 FOR LOCATION
RESIDUAL PRESSURE:	44 PSI
OBSERVED FLOW:	1682 GPM
AVAILABLE FLOW:	3112 GPM AT 20 PSI RESIDUAL

SEISMIC BRACING:

SPECTRAL RESPONSE:
LATITUDE: 37.935796 °N
LONGITUDE: 121.695261 °W
S_s = 1.37 (2010 ASCE 7 STANDARD)
SEE DESIGN CRITERIA ON STRUCTURAL DRAWING

SEISMIC COEFFICIENT:
C_p = 0.65 (2016 NFPA 13-TABLE 9.3.5.9.3)

USE C_p =0.65

SEE DRAWING FP-6.1 FOR SPECIFIC SEISMIC BRACING DETAILS AND FP-6.2 FOR CALCULATIONS.

FIRE PROTECTION LEGEND

SYMBOL	ABBRV.	IDENTIFICATION	ABBRV.	IDENTIFICATION
F	F	FIRE WATER	(E)	EXISTING
SPKR	SPKR	SPRINKLER	ELEC	ELECTRICAL
		PENDENT ON 401 EXTENSION	ELEV	ELEVATION
		RECESSED PENDENT	EQUIP	EQUIPMENT
		UPRIGHT W/ 1" OUTLET BELOW	FFE	FINISHED FLOOR ELEVATION
		UPRIGHT ON 1" SPRIG UP	FLA	FULL LOAD AMPS
		UPRIGHT ON BRANCH LINE	FLEX	FLEXIBLE
		UPRIGHT OVER PENDENT	FLR	FLOOR
		SIDEWALL	FS	FLOOR SINK
		GROOVED COUPLING	FPM	FEET PER MINUTE
SB-X		EQ BRACE LOCATION	FT	FEET
		4WAY EQ BRACE LOCATION	FT HD	FEET HEAD
		HANGER LOCATION	GPM	GALLONS PER MINUTE
		BRANCH LINE RESTRAINT	HP	HORSEPOWER
X		HYDRAULIC CALCULATION NODE	HZ	HERTZ
	CHVA	CHECK VALVE	IE	INVERT ELEVATION
		GATE VALVE	IN	INCH
	T&PRV	TEMP & PRESS RELIEF VALVE	INV	INVERT
	DCDA	DOUBLE CHECK DETECTOR ASSEMBLY	KW	KILOWATTS
		UNION	LBS	POUNDS
P		PRESSURE GAUGE	MAX	MAXIMUM
	FC	FLEXIBLE CONNECTION	MBH	1000 BTU PER HOUR
	RPBP	REDUCE PRESS BACKFLOW PREVENTER	MFR	MANUFACTURER
			MIN	MINIMUM
	FH	FIRE HYDRANT	(N)	NEW
	PIV	POST INDICATING VALVE	NC	NORMALLY CLOSED
AD	AD	ACCESS DOOR	NIC	NOT IN CONTRACT
		BACK OF ELBOW	NO	NORMALLY OPEN
Ø	DIA	DIAMETER	OC	ON CENTER
	P.O.C.	POINT OF CONNECTION	PH	PHASE
℄		CENTERLINE	PRV	PRESSURE REDUCING VALVE
	&	AND	PSI	POUNDS PER SQUARE INCH
	@	AT	P/T	PRESSURE/TEMPERATURE
	°F	DEGREES FAHRENHEIT	QTY	QUANTITY
	AFF	ABOVE FINISH FLOOR	REQD	REQUIRED
	AMP	AMPERE	RLA	RATED/RUNNING LOAD AMPS
	APPROX	APPROXIMATE	RPM	REVOLUTIONS PER MINUTE
	BHP	BRAKE HORSEPOWER	SOV	SHUT-OFF VALVE
	BLDG	BUILDING	STD	STANDARD
	CFH	CUBIC FEET PER HOUR	STRUCT	STRUCTURAL
	CI	CAST IRON	TEMP	TEMPERATURE
	CIRC	CIRCULATING	TYP	TYPICAL
	CLG	CEILING	UL	UNDERWRITER'S LABORATORIES
	CONC	CONCRETE	UON	UNLESS OTHERWISE NOTED
	CONN	CONNECTION	V	VOLT
	CONT	CONTINUED	VTR	VENT THROUGH ROOF
	COORD	COORDINATE	W/	WITH
	CONST	CONSTRUCTION	WC	WATER COLUMN
	DN	DOWN	WT	WEIGHT
	DWGS	DRAWINGS		

LIST OF GOVERNING CODES:

2019 BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24, C.C.R.
2019 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24, C.C.R.
2019 CALIFORNIA ELECTRICAL CODE, PART 3, TITLE 24, C.C.R.
2019 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24, C.C.R.
2019 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24, C.C.R.
2019 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24, C.C.R.
2019 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24, C.C.R.
2019 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24, C.C.R.
TITLE 19, C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.
2019 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR
2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 C.C.R.
2019 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 C.C.R
2016 ASME A17.1/CSA B44-13 SAFETY CODE FOR ELEVATOR AND ESCALATORS (PER 2019 CBC PART 2 CH. 35)
NOTE: CAL/OSHA ELEVATOR UNIT ENFORCES CCR TITLE 8 AND USES THE 2004 ASME A17.1 BY ADOPTION
2016 NFPA 13 - STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS (CA AMENDED)
2016 NFPA 14 - STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS (CA AMENDED)
2017 NFPA 17 - STANDARD FOR DRY CHEMICAL EXTINGUISHING SYSTEMS
2017 NFPA 17A - STANDARD FOR WET CHEMICAL EXTINGUISHING SYSTEMS
2016 NFPA 20 - STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION
2013 NFPA 22 - STANDARD FOR WATER TANKS FOR PRIVATE FIRE PROTECTION
2016 NFPA 24 - STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES (AS AMENDED)
2016 NFPA 72 - NATIONAL FIRE ALARM AND SIGNALING CODE (AS AMENDED)
2016 NFPA 80 - STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES
2016 NFPA 2001 - STANDARD ON CLEAN AGENT FIRE EXTINGUISHING SYSTEMS (AS AMENDED)
2005 (R2010) UL 300 - STANDARD FOR FIRE TESTING OF FIRE EXTINGUISHING SYSTEMS FOR PROTECTION OF COMMERCIAL COOKING EQUIPMENT
2003 UL 464 - AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND SIGNALING SYSTEMS INCLUDING ACCESSORIES
1999 EL 521 - STANDARD FOR HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS
2002 (R2010) UL 1971 - STANDARD FOR SIGNALING DEVICES FOR THE HEARING IMPAIRED
2017 ICC 300 - STANDARD FOR BLEACHERS, FOLDING AND TELESCOPIC SEATING, AND GRANDSTANDS

ALL SECTION NUMBERS BELOW REFER TO GROUP 1, CHAPTER 4, PART 1, TITLE 24, C.C.R.

1. ADDENDA, CONSTRUCTION CHANGES PER SECTION 4-338.
2. INSPECTOR APPROVED BY DSA. INSPECTOR AND CONTINUOUS INSPECTION OF WORK PER SECTION 4-333(b) AND 4-342.
3. TESTS AND TESTING LABORATORY PER SECT. 4-335.
4. SPECIAL INSPECTION PER SECT. 4-333(c).
5. CONTRACTOR SHALL SUBMIT VERIFIED REPORTS PER SECT. 4-336 AND 4-343(c).
6. ADMINISTRATION OF CONSTRUCTION PER PART 1, TITLE 24, C.C.R. - DUTIES OF ARCHITECT, STRUCTURAL ENGINEER OR PROFESSIONAL ENGINEER PER SECT. 4-333(a) AND 4-341.
7. GOVERNING CODES: TITLE 24.
8. A COPY OF PARTS 1, 2, 3, 4, AND 5 OF TITLE 24 SHALL BE KEPT AVAILABLE IN THE FIELD DURING CONSTRUCTION.
9. DSA SHALL BE NOTIFIED OF START OF CONSTRUCTION PER SECT. 4-331.
10. SUPERVISION BY THE DIVISION OF THE STATE ARCHITECTS PER SECT. 4-334.

FIRE DEPARTMENT CONNECTIONS:

NFPA 13 (2016) SEC. 8.17.2.5.1 CHECK-VALVE SHALL BE PROVIDED AT FIRE DEPARTMENT CONNECTION ASSEMBLY (FDC) TO PREVENT WATER (PRESSURE) AT INLET OF FDC VALVE.

TITLE 19 ARTICLE 906 (A) A LABEL OF THE SELF-ADHESIVE TYPE SHALL BE PLACED ON THE FIRE DEPARTMENT CONNECTION OR ON THE RISER FOR FIRE SPRINKLER SYSTEMS WITH THE DATE OF SERVICE AND/OR DATE INSTALLATION WAS PERFORMED AND LICENSE NUMBER OF PERSON PERFORMING SERVICE WORK.

FIRE DEPARTMENT SIGNAGE:

CONTRACTOR SHALL PROVIDE SIGNS AT FIRE DEPARTMENT CONNECTIONS SERVING THIS SYSTEM. SIGNS SHALL INDICATE BUILDINGS SERVED BY FIRE DEPARTMENT CONNECTIONS.

CONTRACTOR SHALL PROVIDE SIGNS AT EXISTING BACKFLOW PREVENTER. SIGNS SHALL INDICATE BUILDINGS AND HYDRANTS SERVED BY BACKFLOW PREVENTER.

SEE SITE PLAN FOR BUILDING AND HYDRANT MARKS/IDENTIFICATIONS.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

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EXP. JUNE 30, 2021
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DECEMBER 2, 2020

SHEET TITLE

LEGEND, NOTES, AND DETAILS - FIRE PROTECTION

SHEET NUMBER

FP-0.1

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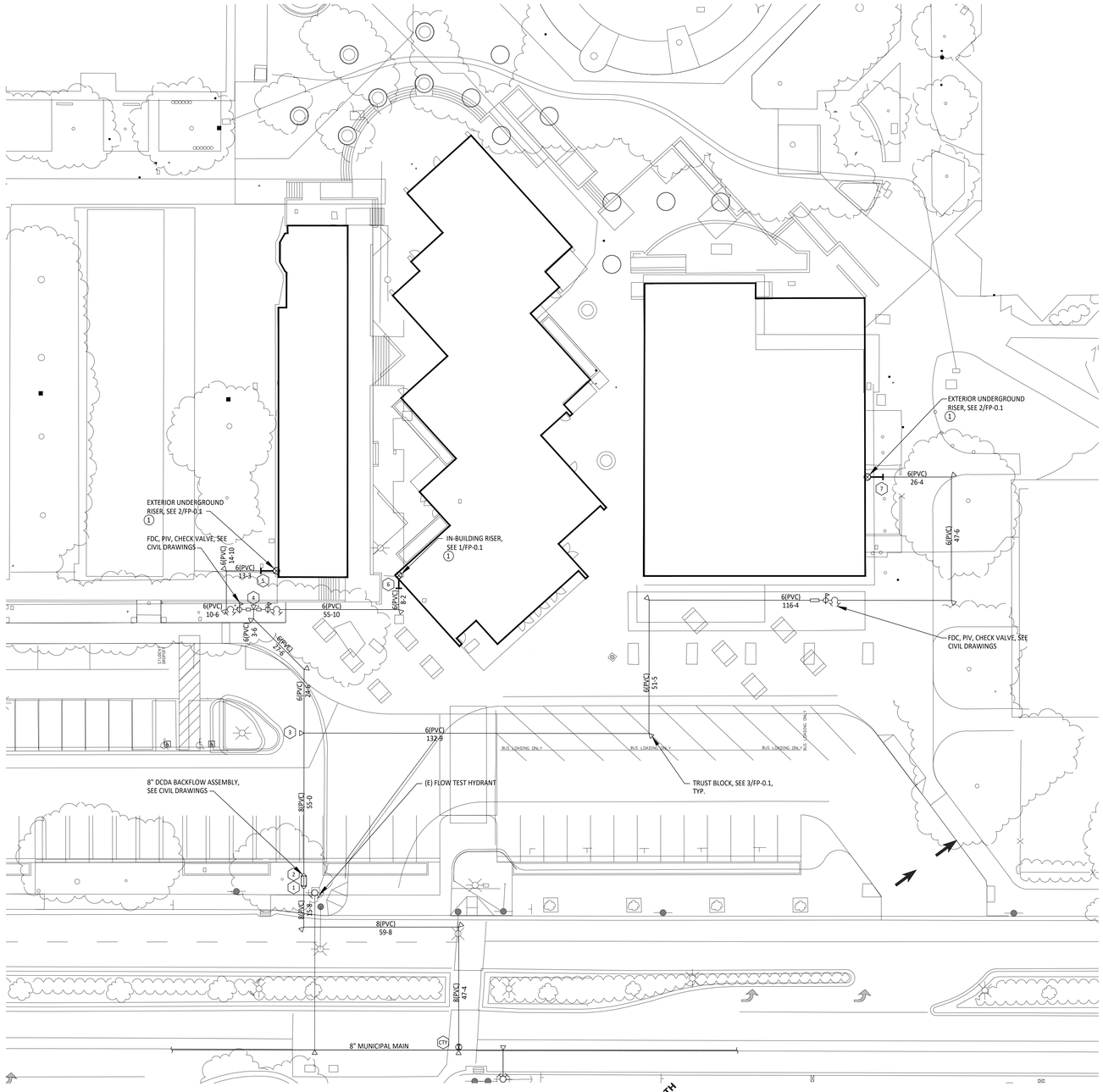
NOTES

1. FIRE SERVICE PIPING IS SHOWN ON DRAWING FP-1.1 TO SHOW NODE LOCATIONS REQUIRED FOR OVERHEAD FIRE SPRINKLER HYDRAULIC CALCULATIONS. DESIGN AND SPECIFICATION NEW UNDERGROUND FIRE SERVICE PIPING IS BY THE PROJECT CIVIL ENGINEER, SEE CIVIL DRAWINGS AND SPECIFICATIONS.

KEY NOTES

1. FIRE RISER WITH CONTROL VALVE AND FLOW SWITCH THAT REQUIRES MONITORING BY THE FIRE ALARM SYSTEM



SITE PLAN - FIRE PROTECTION

SCALE: 1" = 20'-0"

NORTH

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SITE PLAN - FIRE PROTECTION

SHEET NUMBER

FP-1.1

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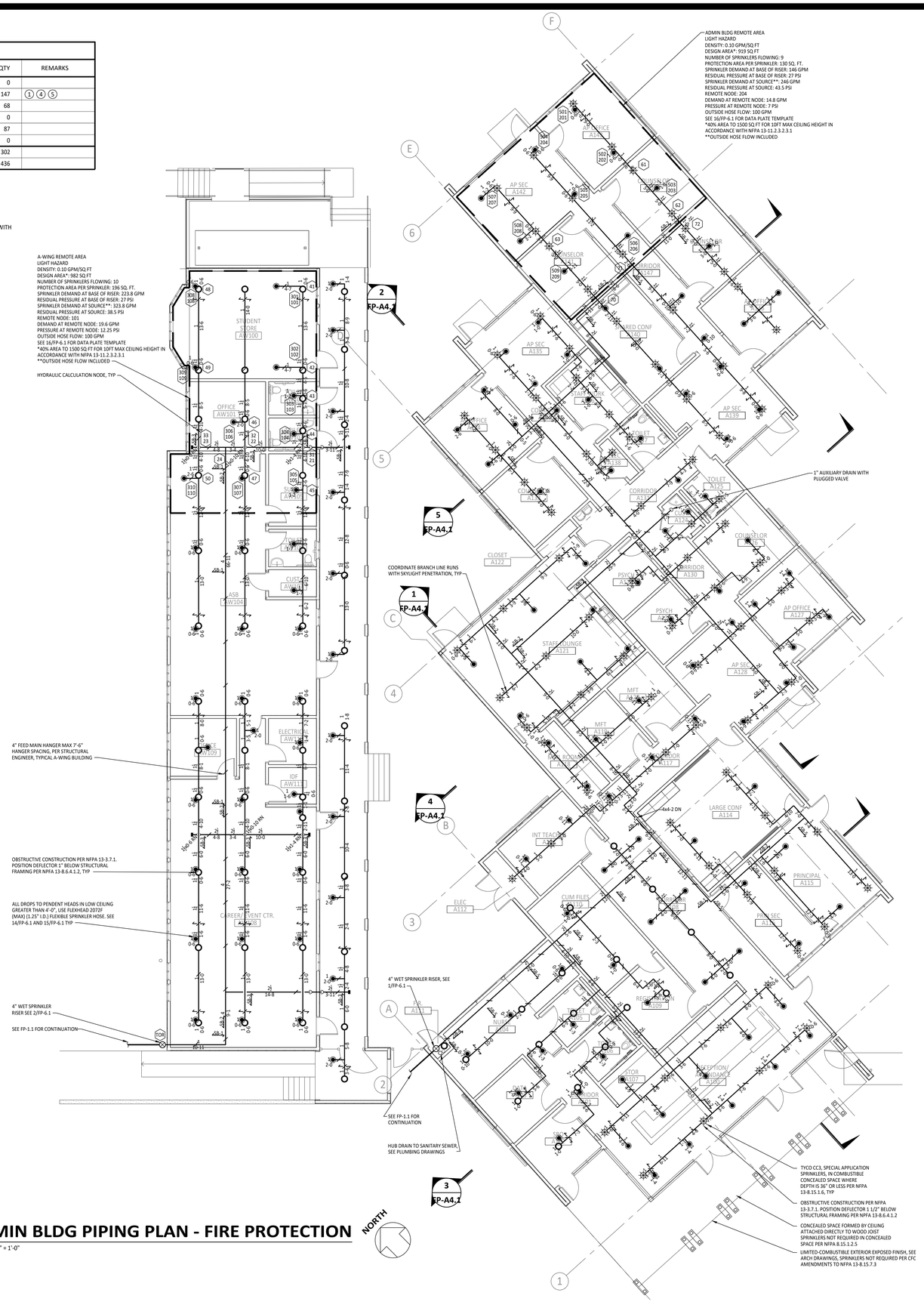
SPRINKLERS

SYMBOL	DESCRIPTION	MANF.	MODEL	SIN	TYPE	K FACTOR	TEMP. RATING	QTY	REMARKS
●	PENDENT ON 401 EXTENSION	TYCO	TY-FRB	3231	SSP	5.6	155° F	0	
◉	RECESSED PENDENT	TYCO	TY-FRB	3231	SSP	5.6	155° F	147	1 4 5
○	UPRIGHT IN CONCEALED SPACE	TYCO	TY-FRB	3131	SSU	5.6	200° F	68	
○	UPRIGHT ON BRANCH LINE	TYCO	TY-FRB	3131	SSU	5.6	155° F	0	
✳	FLAT SPRAY UPRIGHT	TYCO	CC3	3199	FSU	5.6	200° F	87	
▣	DRY PENDENT	TYCO	DS-1	3935	SSP	5.6	200° F	0	
TOTAL SPRINKLERS (THIS SHEET)								302	
TOTAL SPRINKLERS (JOB)								436	

1. FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT
2. PENDENT ON 401 EXTENSION
3. PROVIDE PLUGGED TEE IN DROP IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTION
4. PROVIDE STYLE 10 RECESSED ESCUTCHEON. FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT
5. FOR LAY IN PANEL SUSPENDED CEILINGS PROVIDE 1" ANNULAR CLEARANCE AROUND RECESSED ESCUTCHEON. CONCEAL OVERSIZE HOLE WITH VIKING 12620 EXPANSION PLATE. FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT

NOTES:

1. ALL DIMENSIONS ARE CENTERLINE TO CENTERLINE UNLESS OTHERWISE NOTED.
2. ALL PIPE 1-1/2" AND SMALLER SHALL BE SCHEDULE 40 BLACK STEEL WITH CAST IRON THREADED FITTINGS IN ACCORDANCE WITH ANSI B16.4.
3. ALL PIPE 2" AND GREATER SHALL BE SCHEDULE 10 BLACK WITH GROOVED COUPLINGS AND WELDED OUTLETS.
4. ALL PIPE 1-1/2" AND SMALLER SHALL HAVE SUPPORT SPACING LESS THAN 12 FEET.
5. ALL PIPE 2" AND GREATER SHALL HAVE SUPPORT SPACING LESS THAN 15 FEET.
6. BRANCH LINES SHALL BE RESTRAINED AT END OF BRANCH LINE, AND AT INTERVALS NOT EXCEEDING 36 FT. SEE 9/FP-6.1 FOR RESTRAINT.
7. PROVIDE 1" ANNULAR CLEARANCE AT ALL SPRINKLER PENETRATIONS OF LAY IN PANEL SUSPENDED CEILINGS.



ADMIN BLDG PIPING PLAN - FIRE PROTECTION

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

IDENTIFICATION STAMP
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DECEMBER 2, 2020

SHEET TITLE

ADMIN BLDG PIPING PLAN - FIRE PROTECTION

SHEET NUMBER

FP-A2.1

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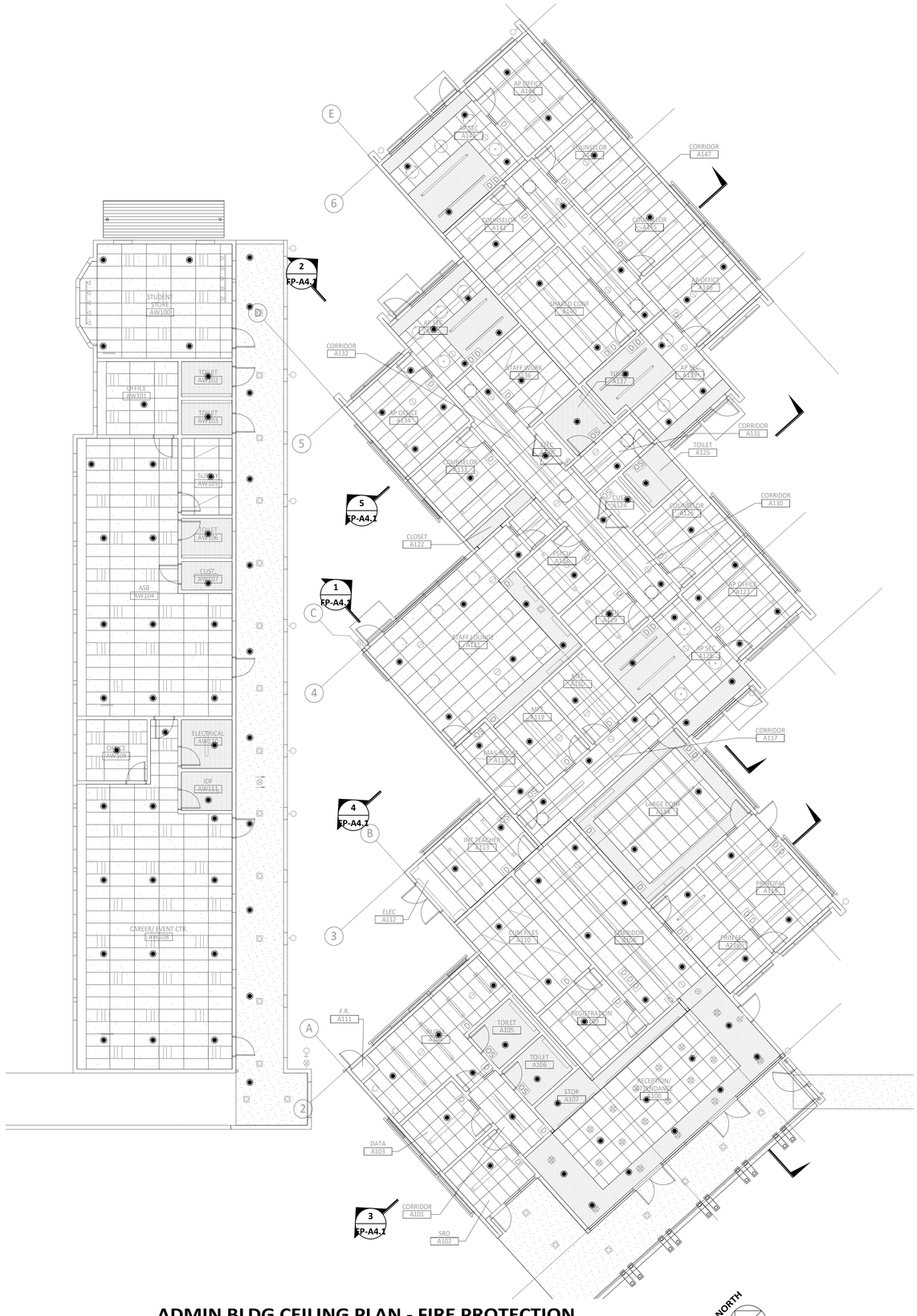

ADMIN BLDG CEILING PLAN - FIRE PROTECTION

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

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DATE: 12/04/2020

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ARCH PROJECT NO:	1783.00
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SHEET TITLE

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FP-A3.1

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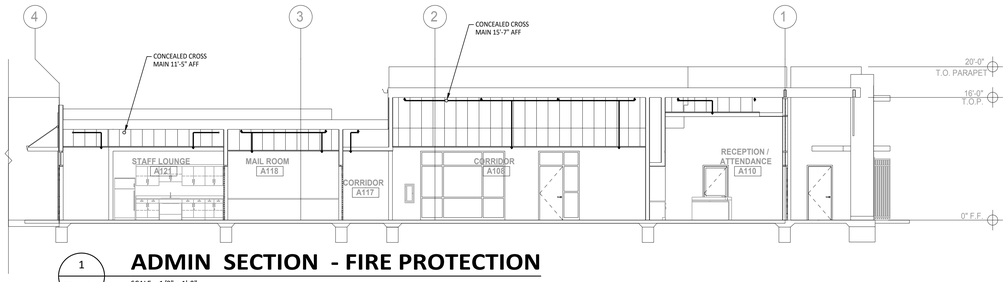

1 FP-A4.1

ADMIN SECTION - FIRE PROTECTION

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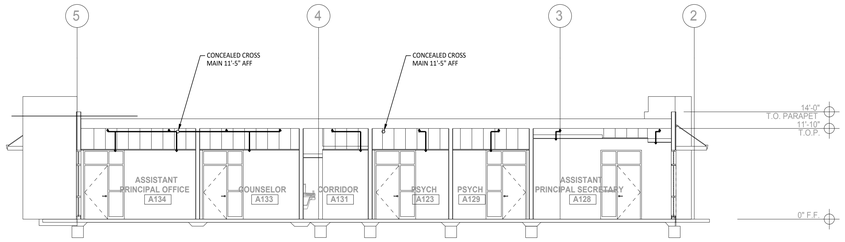

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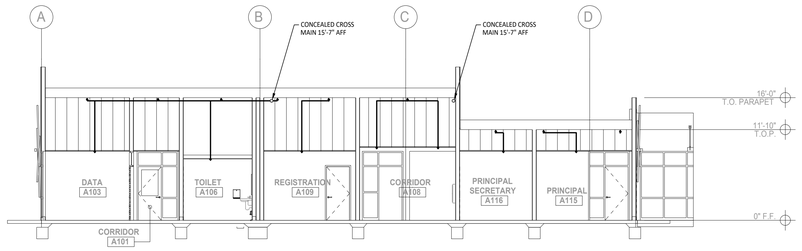

3 FP-A4.1

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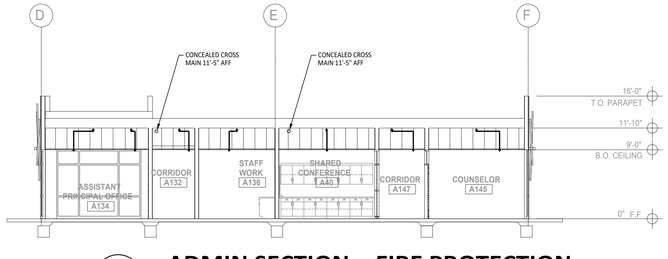

5 FP-A4.1

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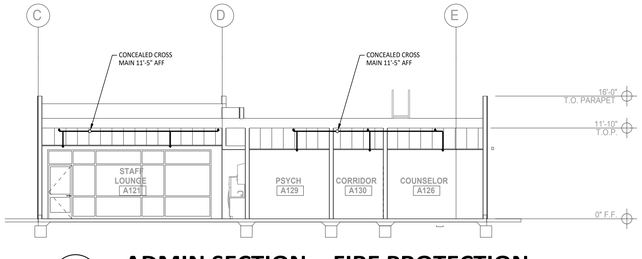

4 FP-A4.1

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SHEET TITLE

ADMIN BLDG SECTIONS - FIRE PROTECTION

SHEET NUMBER

FP-A4.1

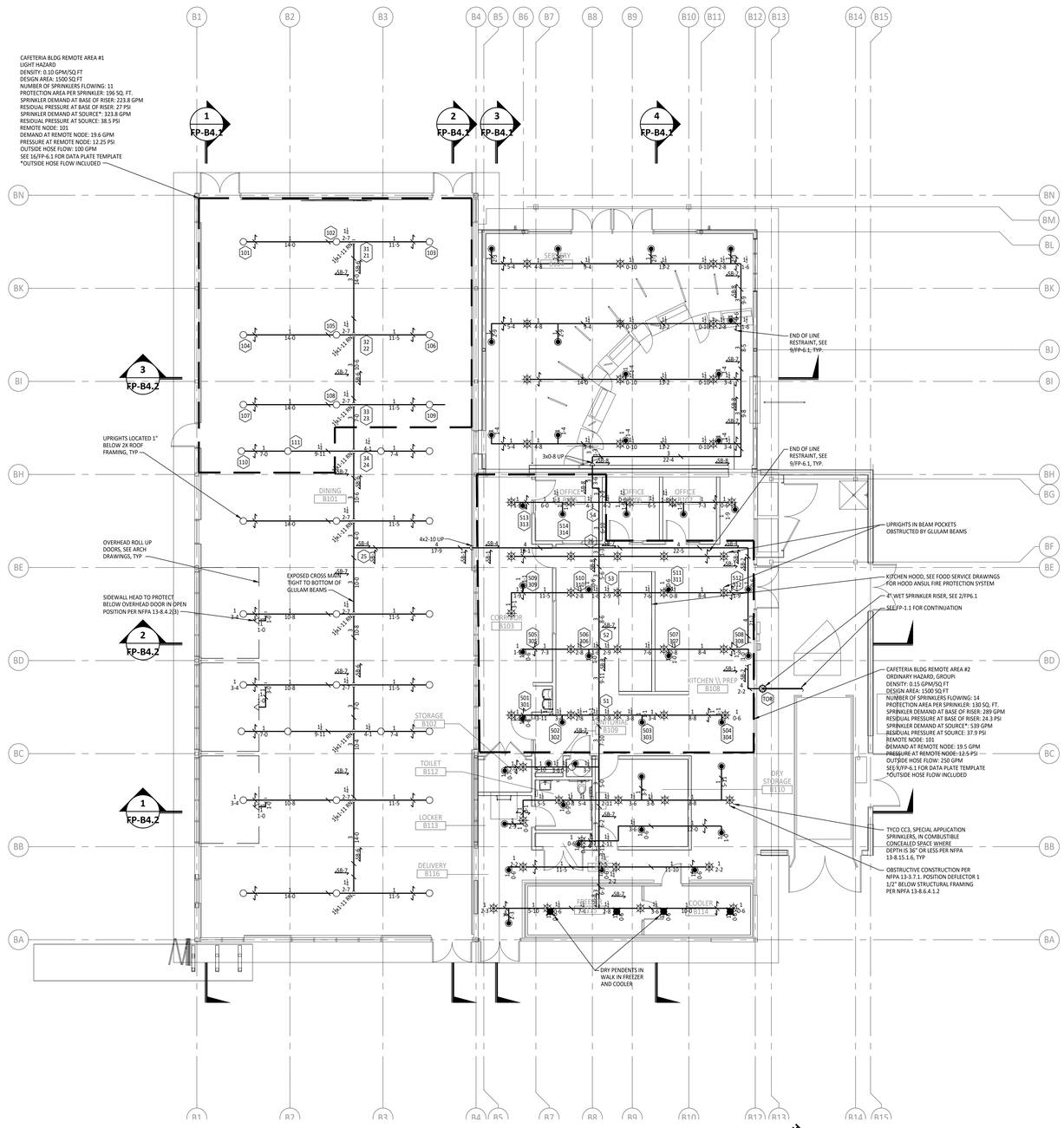
SPRINKLERS

SYMBOL	DESCRIPTION	MANF.	MODEL	SIN	TYPE	K FACTOR	TEMP. RATING	QTY	REMARKS
●	PENDENT ON 401 EXTENSION	TYCO	TY-FRB	3231	SSP	5.6	155° F	0	
◉	RECESSED PENDENT	TYCO	TY-FRB	3231	SSP	5.6	155° F	45	1 4 5
○	UPRIGHT IN CONCEALED SPACE	TYCO	TY-FRB	3131	SSU	5.6	200° F	0	
○	UPRIGHT ON BRANCH LINE	TYCO	TY-FRB	3131	SSU	5.6	155° F	35	
✳	FLAT SPRAY UPRIGHT	TYCO	CC3	3199	FSU	5.6	200° F	50	
■	DRY PENDENT	TYCO	DS-1	3935	SSP	5.6	200° F	4	1 3 6
TOTAL SPRINKLERS (THIS SHEET)								134	
TOTAL SPRINKLERS (JOB)								436	

1. FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT
2. PENDENT ON 401 EXTENSION
3. PROVIDE PLUGGED TEE IN DROP IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTION
4. PROVIDE STYLE 10 RECESSED ESCUTCHEON. FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT
5. FOR LAY IN PANEL SUSPENDED CEILINGS PROVIDE 1" ANNULAR CLEARANCE AROUND RECESSED ESCUTCHEON. CONCEAL OVERSIZE HOLE WITH VIKING 12620 EXPANSION PLATE. FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT
6. WALK-IN REFRIGERATOR SHALL BE 35°F. WALK-IN FREEZER SHALL BE 0°F. PER NFPA 13: TABLE 8.4.9.1(a) BARREL LENGTH FOR BOTH CONDITIONS IS 0 INCHES

NOTES:

1. ALL DIMENSIONS ARE CENTERLINE TO CENTERLINE UNLESS OTHERWISE NOTED.
2. ALL PIPE 1-1/2" AND SMALLER SHALL BE SCHEDULE 40 BLACK STEEL WITH CAST IRON THREADED FITTINGS IN ACCORDANCE WITH ANSI B16.4.
3. ALL PIPE 2" AND GREATER SHALL BE SCHEDULE 10 BLACK WITH GROOVED COUPLINGS AND WELDED OUTLETS.
4. ALL PIPE 1-1/2" AND SMALLER SHALL HAVE SUPPORT SPACING LESS THAN 12 FEET.
5. ALL PIPE 2" AND GREATER SHALL HAVE SUPPORT SPACING LESS THAN 15 FEET.
6. BRANCH LINES SHALL BE RESTRAINED AT END OF BRANCH LINE, AND AT INTERVALS NOT EXCEDDING 36 FT. SEE 9/FP6.1 FOR RESTRAINT.
7. PROVIDE 1" ANNULAR CLEARANCE AT ALL SPRINKLER PENETRATIONS OF LAY IN PANEL SUSPENDED CEILINGS.



CAFETERIA BUILDING PIPING PLAN - FIRE PROTECTION

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

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DECEMBER 2, 2020

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SHEET NUMBER

FP-B2.1

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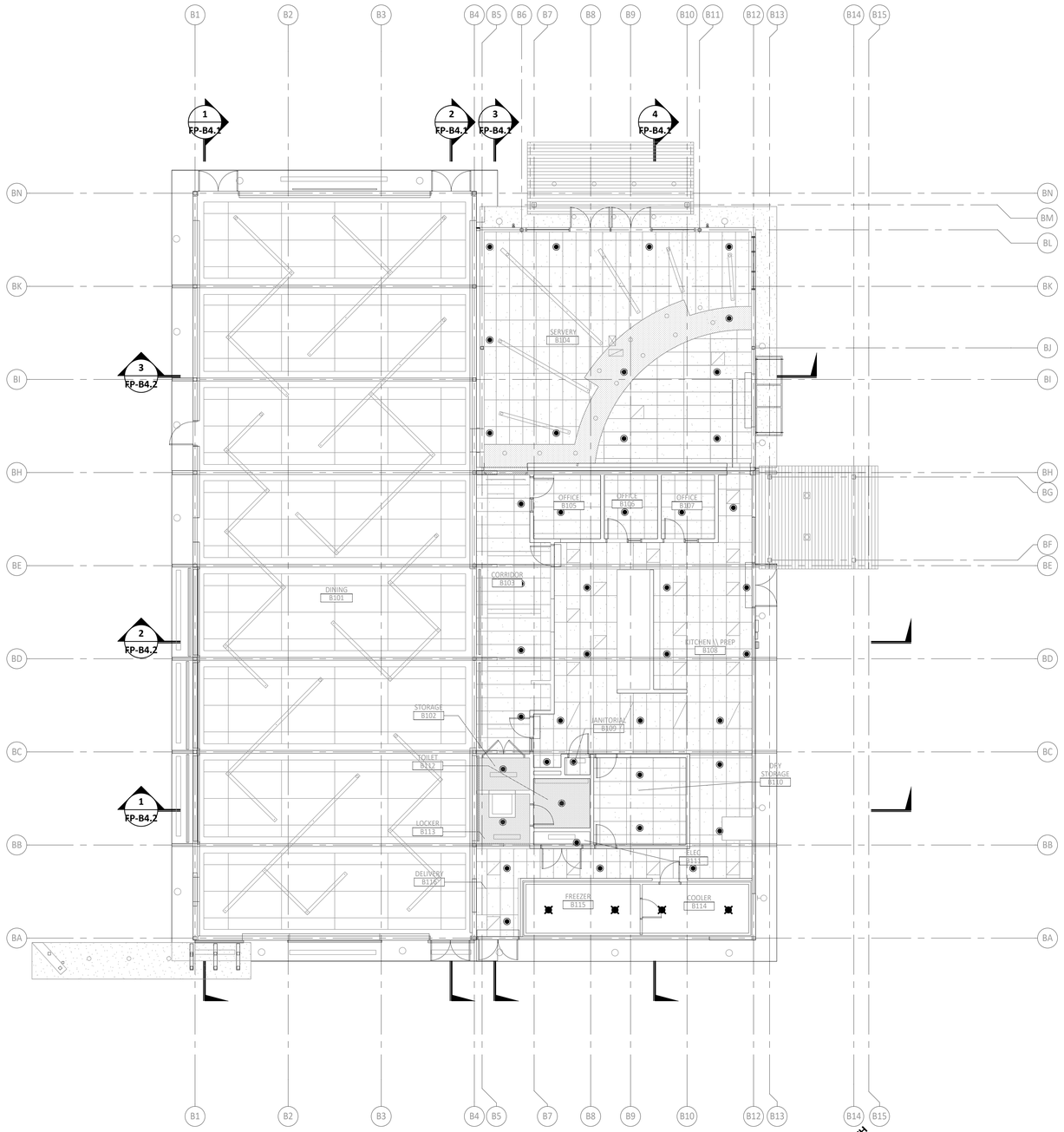

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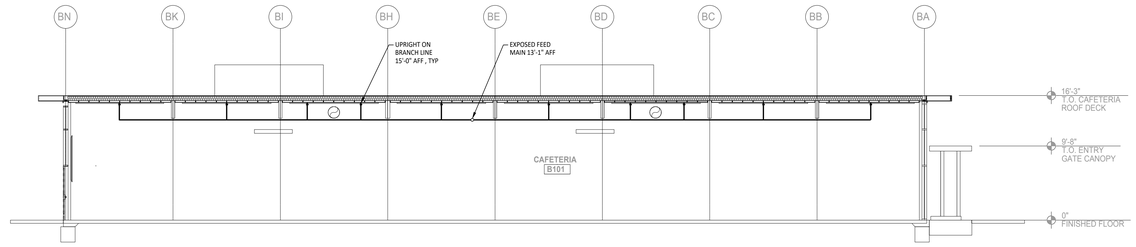

1 FP-B4.1 **CAFETERIA SECTION - FIRE PROTECTION**

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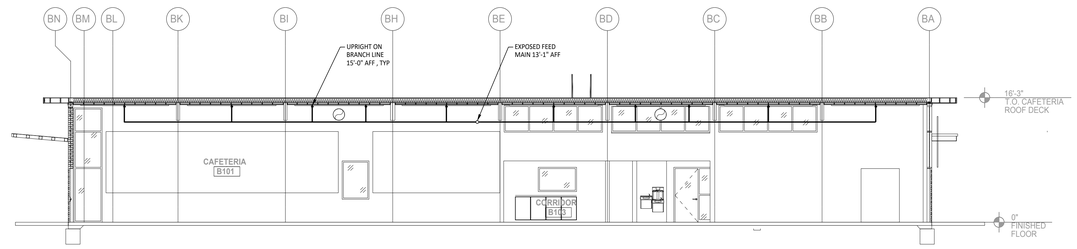

2 FP-B4.1 **CAFETERIA SECTION - FIRE PROTECTION**

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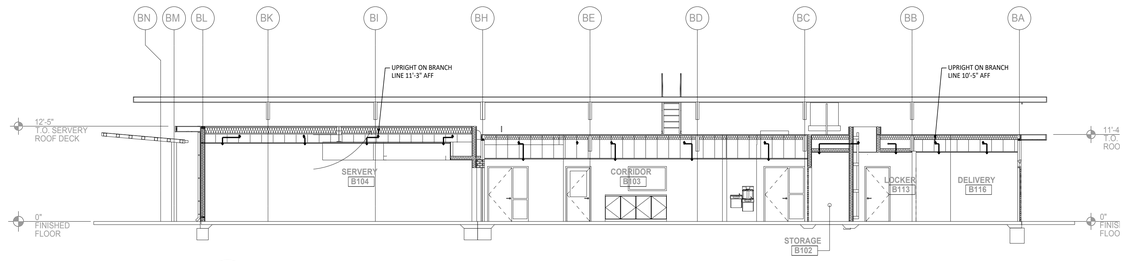

3 FP-B4.1 **CAFETERIA SECTION - FIRE PROTECTION**

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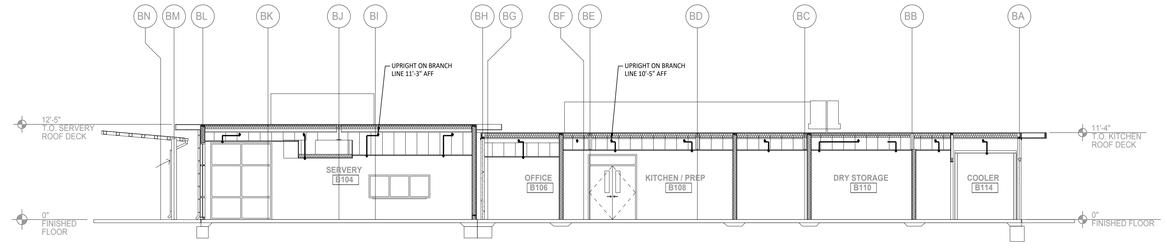

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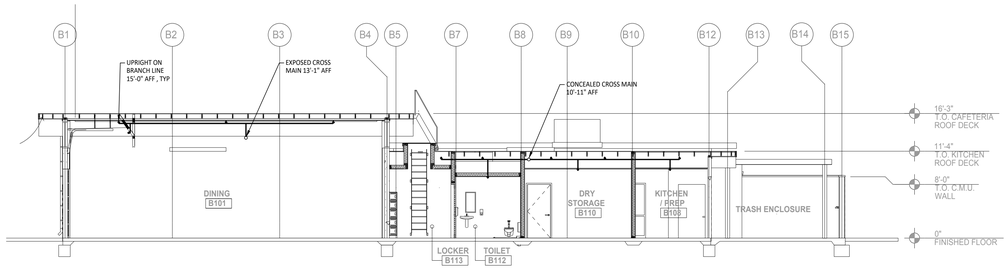

1 FP-B4.2 **CAFETERIA SECTION - FIRE PROTECTION**

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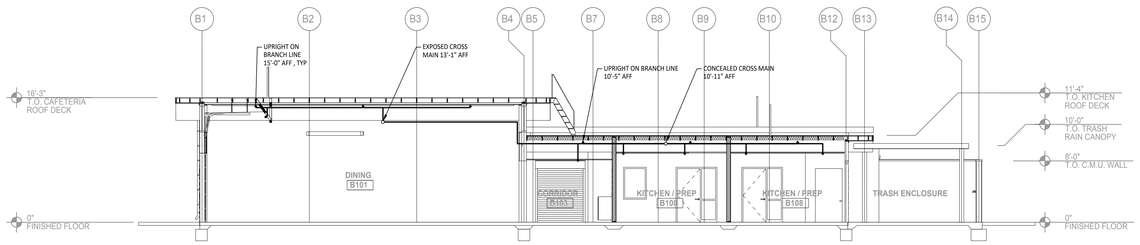

2 FP-B4.2 **CAFETERIA SECTION - FIRE PROTECTION**

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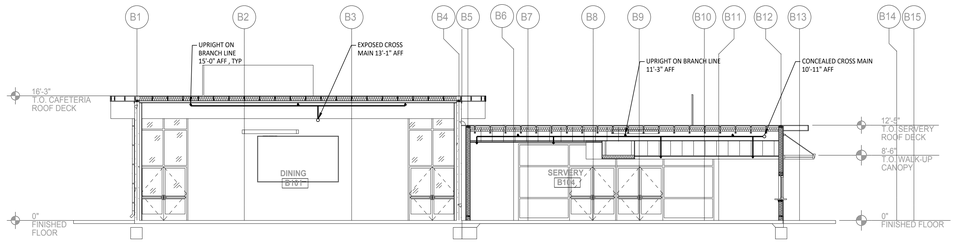

3 FP-B4.2 **CAFETERIA SECTION - FIRE PROTECTION**

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CAFETERIA BLDG SECTIONS - FIRE PROTECTION

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FP-B4.2

HYDRAULIC - SYSTEM

THIS BUILDING IS PROTECTED BY A HYDRAULIC DESIGN AUTOMATIC SPRINKLER SYSTEM

CONTRACTOR: X LOCATION: XXXXX

SPRINKLER INFORMATION

NUMBER OF FLOWING SPRINKLERS: XXXXXXX

MANUFACTURER: XXXXX MODEL: 32131/3131 TEMPERATURE: 155 °F

TYPE: QUICK RESPONSE K-FACTOR: 5.6

ORIFICE: XX

BASIS OF DESIGN

STANDARD: NFPA 13, 2016 EDITION HAZARD GROUP: XXX COVERAGE PER SPRINKLER: XXX SQ. FT.

DENSITY: XXX DESIGN AREA OF DISCHARGE: XXX SQ. FT.

SYSTEM DEMAND

FLOW AT THE BASE OF THE RISER
THE BASE OF THE RISER: XXX GPM
RESIDUAL PRESSURE AT THE BASE OF THE RISER: XXX PSI

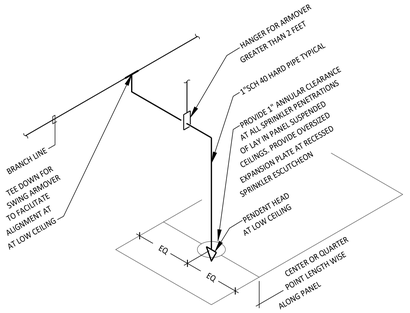
HOSE STREAM ALLOWANCE:
INSIDE: XXX GPM
OUTSIDE: XXX GPM
TOTAL XXX GPM

FLOW AT THE WATER SOURCE: XXX GPM
RESIDUAL PRESSURE AT WATER SOURCE XXX PSI

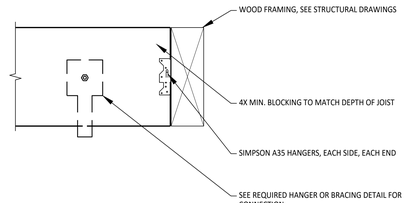
REMOTE SPRINKLER FLOW GPM: XXX GPM @: XXX PSI

NOTE: SEE FP-A2.1 AND FP-B2.1 FOR DATA PLATE INFORMATION

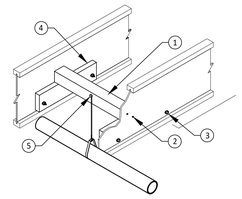
16 FP-6.1 **HYDRAULIC DATA TEMPLATE**
NO SCALE



12 FP-6.1 **TYPICAL DROP TO CEILING**
NO SCALE



8 FP-6.1 **WOOD FRAMING BLOCKING**
NO SCALE

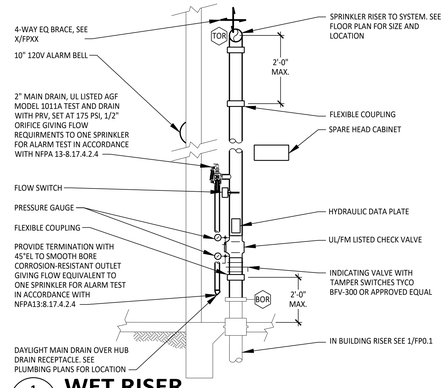


MAIN PERPENDICULAR OR PARALLEL TO TJI
(FOR PIPE SIZES UP TO 6" WITH A MAXIMUM SUPPORT SPACING OF 15 FEET)

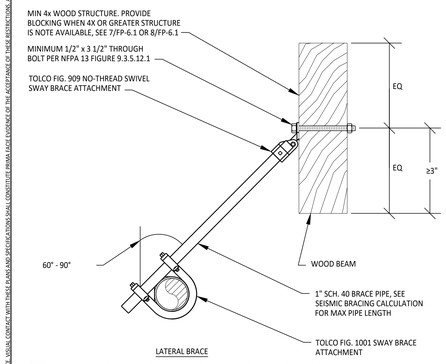
KEY NOTES:

1. 4x6 DOUGLAS FIR NO. 2 WOOD HANGER BLOCK AS REQUIRED
2. TWO 16D COMMON NAILS
3. TWO $\frac{3}{8}$" DIAMETER MACHINE BOLTS PER JOISTS WITH 1" WASHERS-CINCH TIGHT
4. 2X6 X 18" LONG MINIMUM
5. SEE DETAIL 3/FP-6.1 FOR THROUGH BOLT, SIDE BEAM CLIP AND RING HANGER (LOCATE FASTENER CENTERED BETWEEN TRUSSES)

5 FP-6.1 **STRUCTURE ATTACHMENT**
NO SCALE

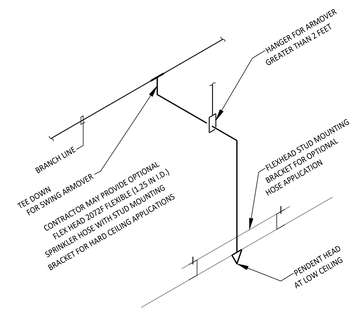


1 FP-6.1 **WET RISER**
NO SCALE

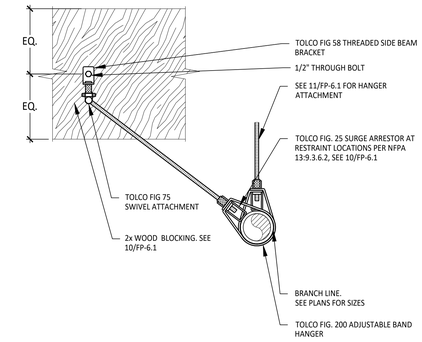


LATERAL BRACE

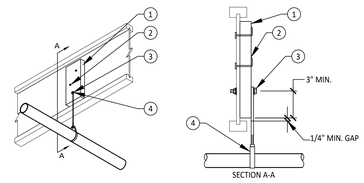
17 FP-6.1 **SEISMIC BRACE SB-1, SB-5**
NO SCALE



13 FP-6.1 **DROP HARD CEILING**
NO SCALE



9 FP-6.1 **BRANCH LINE RESTRAINT**
NO SCALE

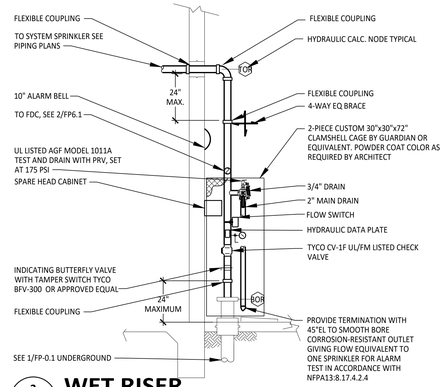


MAIN PERPENDICULAR OR PARALLEL TO TJI
(AT MAXIMUM HANGER SPACING, MAX. PIPE SIZE IS 2" WITH A 3/8" MACHINE BOLT, OR 4" WITH 1/2" MACHINE BOLT)

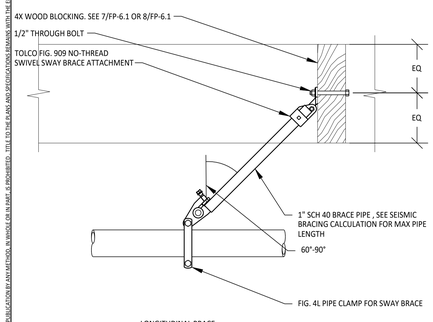
KEY NOTES:

1. 2x6 DOUGLAS FIR NO. 2 WOOD HANGER BLOCK AS REQUIRED, GRAIN ORIENTED VERTICALLY WITH MINIMUM 1/4" GAP BETWEEN BLOCK AND FLANGE.
2. TWO 10D COMMON NAILS (0.148"x3"), CLINCHED
3. ONE 3/8" OR 1/2" DIAMETER MACHINE BOLT WITH WASHERS, TURNED TIGHT
4. SEE 3/FP-6.1 AND 4/FP-6.1 FOR THROUGH BOLT, SIDE BEAM CLIP AND RING HANGER

6 FP-6.1 **STRUCTURE ATTACHMENT**
NO SCALE

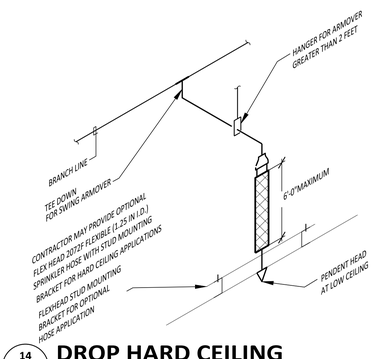


2 FP-6.1 **WET RISER**
NO SCALE

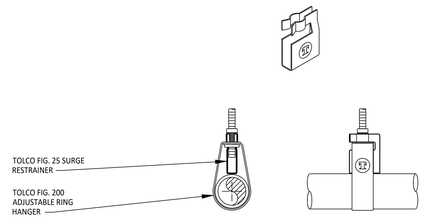


LONGITUDINAL BRACE

18 FP-6.1 **SEISMIC BRACE SB-2, SB-6**
NO SCALE



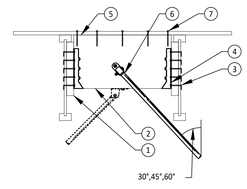
14 FP-6.1 **DROP HARD CEILING**
NO SCALE



NOTES:

1. USE TYPE 1 - FOR 1" AND 1-1/4" PIPE AND HANGERS
2. USE TYPE 2 - FOR 1-1/2" AND 2" PIPE AND HANGERS
3. NOT REQUIRED IF ALL THREAD ROD IS INSTALLED TIGHT TO TOP OF PIPE

10 FP-6.1 **SURGE RESTRAINT**
NO SCALE



KEY NOTES:

1. 2X12 X 1'-0" FILLER BLOCK.
2. 4X12 DOUGLASS FIR HANGER BLOCK.
3. ATTACH HANGER ASSEMBLY WITH TEN 10D COMMON NAILS CLINCHED
4. SIMPSON STRONG-TIE U410 HANGER (OR EQUIVALENT).
5. GLUED SURFACE
6. SEE 17/FP-6.1, 18/FP-6.1, 19/FP-6.1 OR 1/FP-6.2 FOR BRACE
7. 10D COMMON NAIL AT 6" ON CENTER

ALLOWABLE HORIZONTAL SEISMIC LOADS (LBS)
(REDBUILT SPRINKLER SYSTEM INSTALLATION GUIDE)

SPECIES	ANGLE TO VERTICAL (Ø)		
	30°	45°	60°
DF	400	690	1195

ALLOWABLE HORIZONTAL SEISMIC LOADS (LBS)
(WEYERHAEUSER FIRE RATED ASSEMBLIES AND SPRINKLER SYSTEM TJ-1500)

SPECIES	ANGLE TO VERTICAL (Ø)		
	30°	45°	60°
DF	465	720	980

- LOADS ARE BASED ON THE CONTROLLING CONNECTION TO THE JOIST.
- THE CAPACITY OF THE BRACE FASTENER TO THE WOOD BLOCK MAY LIMIT THE CAPACITY OF THE DETAIL (SEE NFPA 13).
- LOADS INCLUDE A 1.60 DURATION OF LOAD FACTOR ADJUSTMENT

GENERAL NOTES:
BEFORE INSTALLING, TOP EDGE OF 4X BLOCKING WITH A SUBFLOOR ADHESIVE THAT MEETS THE REQUIREMENTS OF ASTM D 3498. FOLLOW MANUFACTURES'S RECOMMENDATIONS.

GLUED SURFACES MUST BE CLEAN AND DUST FREE.

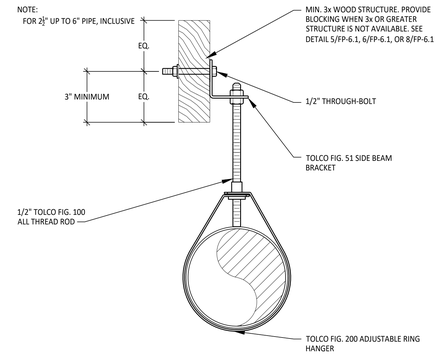
ATTACHED 4X HANGER BLOCK BY NAILING THROUGH EACH HANGER, FILLER BLOCK, AND TJI JOIST WEB WITH TEN 10 COMMON NAILS AND CLINCHED.

FOR LOADS PERPENDICULAR TO JOISTS, THE BRACE MUST BE LOCATED A DISTANCE OF AT LEAST 7X THE HOLE DIAMETER USED FOR BRACE ATTACHMENT, MEASURED FROM THE END OF THE BLOCK.

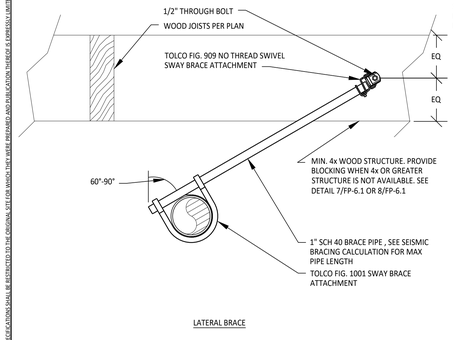
FOR LOADS PARALLEL TO JOIST, THE BRACE MUST BE ATTACHED TO THE UPPER HALF OF THE 4X BLOCKING. THE SAME END AND EDGE DISTANCE AS THOSE NOTED ABOVE FOR LOADS PERPENDICULAR TO JOIST MUST ALSO BE MAINTAINED.

MAINTAIN A 4-HOLE-DIAMETER DISTANCE FROM ALL OTHER EDGES. FOR LOADS PARALLEL TO JOIST, THE BRACE MUST BE ATTACHED TO THE UPPER HALF OF THE 4X BLOCKING.

7 FP-6.1 **BRACE WITH NAILED BLOCKING**
NO SCALE



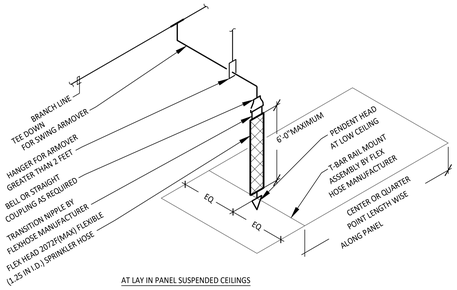
3 FP-6.1 **RING HANGER**
NO SCALE



LATERAL BRACE

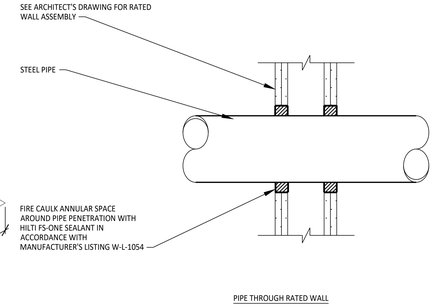
19 FP-6.1 **SEISMIC BRACE SB-3, SB-7**
NO SCALE

NOTE: WHERE FLEXIBLE SPRINKLER HOSE FITTINGS ARE INSTALLED AND SUPPORTED BY SUSPENDED CEILINGS, THE CEILING SHALL MEET ASTMC635 AND ASTMC636 PER NFPA13:9.2.1.3.3.2. ADDITIONALLY A LABEL LIMITING RELOCATION OF THE SPRINKLER SHALL BE PROVIDED ON THE ANCHORING COMPONENT PER NFPA13:9.2.1.3.3.2.



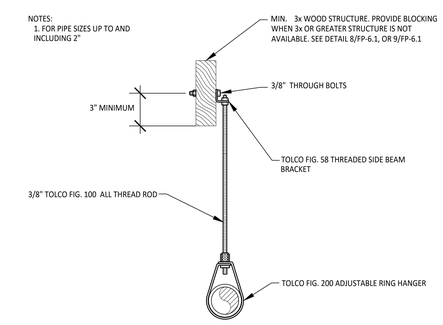
AT LAY IN PANEL SUSPENDED CEILINGS

15 FP-6.1 **DROP SUSPENDED CEILING**
NO SCALE



PIPE THROUGH RATED WALL

11 FP-6.1 **FIRE CAULKING**
NO SCALE



4 FP-6.1 **RING HANGER**
NO SCALE

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DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
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DATE: 12/04/2020

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Main Office:
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REGISTERED PROFESSIONAL ENGINEER
RAYMOND D. LEE
No. M21229
EXP. JUNE 30, 2021
MECHANICAL
STATE OF CALIFORNIA

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AE Project # : 20190186

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	CADD
DRAWING SCALE:	NONE
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

DETAILS - FIRE PROTECTION

SHEET NUMBER

FP-6.1

Seismic Bracing Calculations

Sheet 7 of 8

Project: LIBERTY HIGH SCHOOL ADMINISTRATION AND STUDENT COMMONS
Address: 850 2ND STREET BRENTWOOD, CA 94513

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing: 15'-0"
Maximum Brace Length: 7'-0"
Bracing Material: 1" Sch. 40
Angle from Vertical: 60° MINIMUM
Least radius of gyration:* 0.421"
L/R value:* 200
Maximum Horizontal load: 1604 lbs
NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 1001 SWAY CLAMP
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type I
Type: THROUGH BOLT
Diameter: 1/2 in
Length: 3 1/2 in
Maximum load: 485 lbs
NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail

(Provide detail on plans)

SEE DETAIL 19/FP-6.1
SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON FP-0.1

Brace identification no. (to be used on plans) SB-7

☒ Lateral brace ☐ Longitudinal brace

Seismic Coefficient Cp= 0.65 **(See Attached NFPA13: Table 9.3.5.9.3)**

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
3 in	Sch. 10 Steel	.	15	7.94 lb/ft	119.1 lb
1.5 in	Sch. 40 Steel	.	5	3.61 lb/ft	18.1 lb
1.25 in	Sch. 40 Steel	.	42	2.93 lb/ft	123.1 lb
1 in	Sch. 40 Steel	.	24	2.05 lb/ft	49.2 lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
Total Weight of Water Filled Piping					309.5 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					355.9 lb
Horizontal Force (NFPA13:9.3.5.9.3) Fpw = Cp x Wp =					231.4 lb

*Excludes tension-only bracing systems

Seismic Bracing Calculations

Sheet 5 of 8

Project: LIBERTY HIGH SCHOOL ADMINISTRATION AND STUDENT COMMONS
Address: 850 2ND STREET BRENTWOOD, CA 94513

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing: 10'-0"
Maximum Brace Length: 7'-0"
Bracing Material: 1" Sch. 40
Angle from Vertical: 60° MINIMUM
Least radius of gyration:* 0.421"
L/R value:* 200
Maximum Horizontal load: 1604 lbs
NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 1001 SWAY CLAMP
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type F
Type: THROUGH BOLT
Diameter: 1/2 in
Length: 3 1/2 in
Maximum load: 600 lbs
NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail

(Provide detail on plans)

SEE DETAIL 17/FP-6.1
SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON FP-0.1

Brace identification no. (to be used on plans) SB-5

☒ Lateral brace ☐ Longitudinal brace

Seismic Coefficient Cp= 0.65 **(See Attached NFPA13: Table 9.3.5.9.3)**

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
2.5 in	Sch. 10 Steel	.	10	5.89 lb/ft	58.90 lb
1.5 in	Sch. 40 Steel	.	2	3.61 lb/ft	7.22 lb
1.25 in	Sch. 40 Steel	.	19	2.89 lb/ft	54.93 lb
1 in	Sch. 40 Steel	.	32	2.05 lb/ft	65.6 lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
Total Weight of Water Filled Piping					186.65 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					214.65 lb
Horizontal Force (NFPA13:9.3.5.9.3) Fpw = Cp x Wp =					139.52 lb

*Excludes tension-only bracing systems

Seismic Bracing Calculations

Sheet 3 of 8

Project: LIBERTY HIGH SCHOOL ADMINISTRATION AND STUDENT COMMONS
Address: 850 2ND STREET BRENTWOOD, CA 94513

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing: 10'-0"
Maximum Brace Length: 7'-0"
Bracing Material: 1" Sch. 40
Angle from Vertical: 60° MINIMUM
Least radius of gyration:* 0.421"
L/R value:* 200
Maximum Horizontal load: 1604 lbs
NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 1001 SWAY CLAMP
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type I
Type: THROUGH BOLT
Diameter: 1/2 in
Length: 3 1/2 in
Maximum load: 485 lbs
NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail

(Provide detail on plans)

SEE DETAIL 19/FP-6.1
SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON FP-0.1

Brace identification no. (to be used on plans) SB-3

☒ Lateral brace ☐ Longitudinal brace

Seismic Coefficient Cp= 0.65 **(See Attached NFPA13: Table 9.3.5.9.3)**

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
2.5 in	Sch. 10 Steel	.	10	5.89 lb/ft	58.9 lb
1.25 in	Sch. 40 Steel	.	32	2.93 lb/ft	93.76 lb
1 in	Sch. 40 Steel	.	28	2.05 lb/ft	57.4 lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
Total Weight of Water Filled Piping					210.06 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					241.57 lb
Horizontal Force (NFPA13:9.3.5.9.3) Fpw = Cp x Wp =					157.02 lb

*Excludes tension-only bracing systems

Seismic Bracing Calculations

Sheet 1 of 8

Project: LIBERTY HIGH SCHOOL ADMINISTRATION AND STUDENT COMMONS
Address: 850 2ND STREET BRENTWOOD, CA 94513

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing: 40'-0"
Maximum Brace Length: 7'-0"
Bracing Material: 1" Sch. 40
Angle from Vertical: 60° MINIMUM
Least radius of gyration:* 0.421"
L/R value:* 200
Maximum Horizontal load: 1604 lbs
NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 1001 SWAY CLAMP
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type F
Type: THROUGH BOLT
Diameter: 1/2 in
Length: 3 1/2 in
Maximum load: 600 lbs
NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail

(Provide detail on plans)

SEE DETAIL 17/FP-6.1
SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON FP-0.1

Brace identification no. (to be used on plans) SB-1

☒ Lateral brace ☐ Longitudinal brace

Seismic Coefficient Cp= 0.65 **(See Attached NFPA13: Table 9.3.5.9.3)**

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
4 in	Sch. 10 Steel	.	40	11.78 lb/ft	471.2 lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
Total Weight of Water Filled Piping					471.2 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					541.9 lb
Horizontal Force (NFPA13:9.3.5.9.3) Fpw = Cp x Wp =					352.24 lb

*Excludes tension-only bracing systems

Seismic Bracing Calculations

Sheet 8 of 8

Project: LIBERTY HIGH SCHOOL ADMINISTRATION AND STUDENT COMMONS
Address: 850 2ND STREET BRENTWOOD, CA 94513

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing: 35'-0"
Maximum Brace Length: 7'-0"
Bracing Material: 1" Sch. 40
Angle from Vertical: 60° MINIMUM
Least radius of gyration:* 0.421"
L/R value:* 200
Maximum Horizontal load: 1604 lbs
NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 4L IN-LINE SWAY BRACE
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type F
Type: THROUGH BOLT
Diameter: 1/2 in
Length: 3 1/2 in
Maximum load: 600 lbs
NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail

(Provide detail on plans)

SEE DETAIL 1/FP-6.2
SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON FP-0.1

Brace identification no. (to be used on plans) SB-4

☐ Lateral brace ☒ Longitudinal brace

Seismic Coefficient Cp= 0.65 **(See Attached NFPA13: Table 9.3.5.9.3)**

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
3 in	Sch. 10 Steel	.	35	7.94 lb/ft	277.9 lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
Total Weight of Water Filled Piping					277.9 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					319.59 lb
Horizontal Force (NFPA13:9.3.5.9.3) Fpw = Cp x Wp =					207.73 lb

*Excludes tension-only bracing systems

Seismic Bracing Calculations

Sheet 6 of 8

Project: LIBERTY HIGH SCHOOL ADMINISTRATION AND STUDENT COMMONS
Address: 850 2ND STREET BRENTWOOD, CA 94513

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing: 40'-0"
Maximum Brace Length: 7'-0"
Bracing Material: 1" Sch. 40
Angle from Vertical: 60° MINIMUM
Least radius of gyration:* 0.421"
L/R value:* 200
Maximum Horizontal load: 1604 lbs
NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 4L IN-LINE SWAY BRACE
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type F
Type: THROUGH BOLT
Diameter: 1/2 in
Length: 3 1/2 in
Maximum load: 600 lbs
NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail

(Provide detail on plans)

SEE DETAIL 18/FP-6.1
SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON FP-0.1

Brace identification no. (to be used on plans) SB-6

☐ Lateral brace ☒ Longitudinal brace

Seismic Coefficient Cp= 0.65 **(See Attached NFPA13: Table 9.3.5.9.3)**

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
3	Sch. 10 Steel	.	40	7.94 lb/ft	317.6 lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
Total Weight of Water Filled Piping					317.6 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					365.24 lb
Horizontal Force (NFPA13:9.3.5.9.3) Fpw = Cp x Wp =					237.4 lb

*Excludes tension-only bracing systems

Seismic Bracing Calculations

Sheet 4 of 8

Project: LIBERTY HIGH SCHOOL ADMINISTRATION AND STUDENT COMMONS
Address: 850 2ND STREET BRENTWOOD, CA 94513

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing: 35'-0"
Maximum Brace Length: 7'-0"
Bracing Material: 1" Sch. 40
Angle from Vertical: 60° MINIMUM
Least radius of gyration:* 0.421"
L/R value:* 200
Maximum Horizontal load: 1604 lbs
NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 4L IN-LINE SWAY BRACE
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type F
Type: THROUGH BOLT
Diameter: 1/2 in
Length: 3 1/2 in
Maximum load: 600 lbs
NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail

(Provide detail on plans)

SEE DETAIL 1/FP-6.2
SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON FP-0.1

Brace identification no. (to be used on plans) SB-4

☐ Lateral brace ☒ Longitudinal brace

Seismic Coefficient Cp= 0.65 **(See Attached NFPA13: Table 9.3.5.9.3)**

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
4 in	Sch. 10 Steel	.	35	11.78 lb/ft	412.3 lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
Total Weight of Water Filled Piping					412.3 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					474.1 lb
Horizontal Force (NFPA13:9.3.5.9.3) Fpw = Cp x Wp =					308.2 lb

*Excludes tension-only bracing systems

Seismic Bracing Calculations

Sheet 2 of 8

Project: LIBERTY HIGH SCHOOL ADMINISTRATION AND STUDENT COMMONS
Address: 850 2ND STREET BRENTWOOD, CA 94513

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing: 40'-0"
Maximum Brace Length: 7'-0"
Bracing Material: 1" Sch. 40
Angle from Vertical: 60° MINIMUM
Least radius of gyration:* 0.421"
L/R value:* 200
Maximum Horizontal load: 1604 lbs
NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 4L IN-LINE SWAY BRACE
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type F
Type: THROUGH BOLT
Diameter: 1/2 in
Length: 3 1/2 in
Maximum load: 600 lbs
NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail

(Provide detail on plans)

SEE DETAIL 18/FP-6.1
SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON FP-0.1

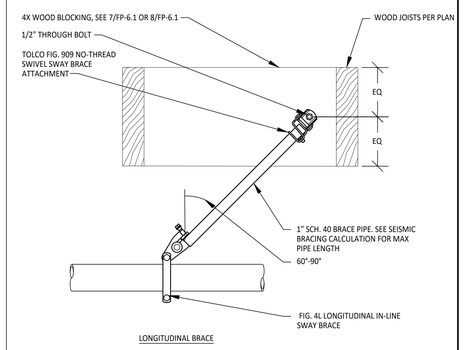
Brace identification no. (to be used on plans) SB-2

☐ Lateral brace ☒ Longitudinal brace

Seismic Coefficient Cp= 0.65 **(See Attached NFPA13: Table 9.3.5.9.3)**

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
4	Sch. 10 Steel	.	40	11.78 lb/ft	471.20 lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
Total Weight of Water Filled Piping					471.20 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					541.88 lb
Horizontal Force (NFPA13:9.3.5.9.3) Fpw = Cp x Wp =					352.23 lb

*Excludes tension-only bracing systems



LONGITUDINAL BRACE

1 / FP-6.2

SEISMIC BRACE SB-4, SB-8

NO SCALE

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
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REGISTERED PROFESSIONAL ENGINEER
RAYMOND D. LEE
No. M21229
EXP. JUNE 30, 2021
MECHANICAL
STATE OF CALIFORNIA

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AXIOM ENGINEERS™ CONSULTING ENGINEERS
22 Lower Ragsdale Dr., Suite A
Monterey, California 93940-5768
AE Project # : 20190186

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO: 1783.00
DRAWN BY: CADD
DRAWING SCALE: NONE
PTN: 61721-75 FILE NO: 7-H4

CD

DECEMBER 2, 2020

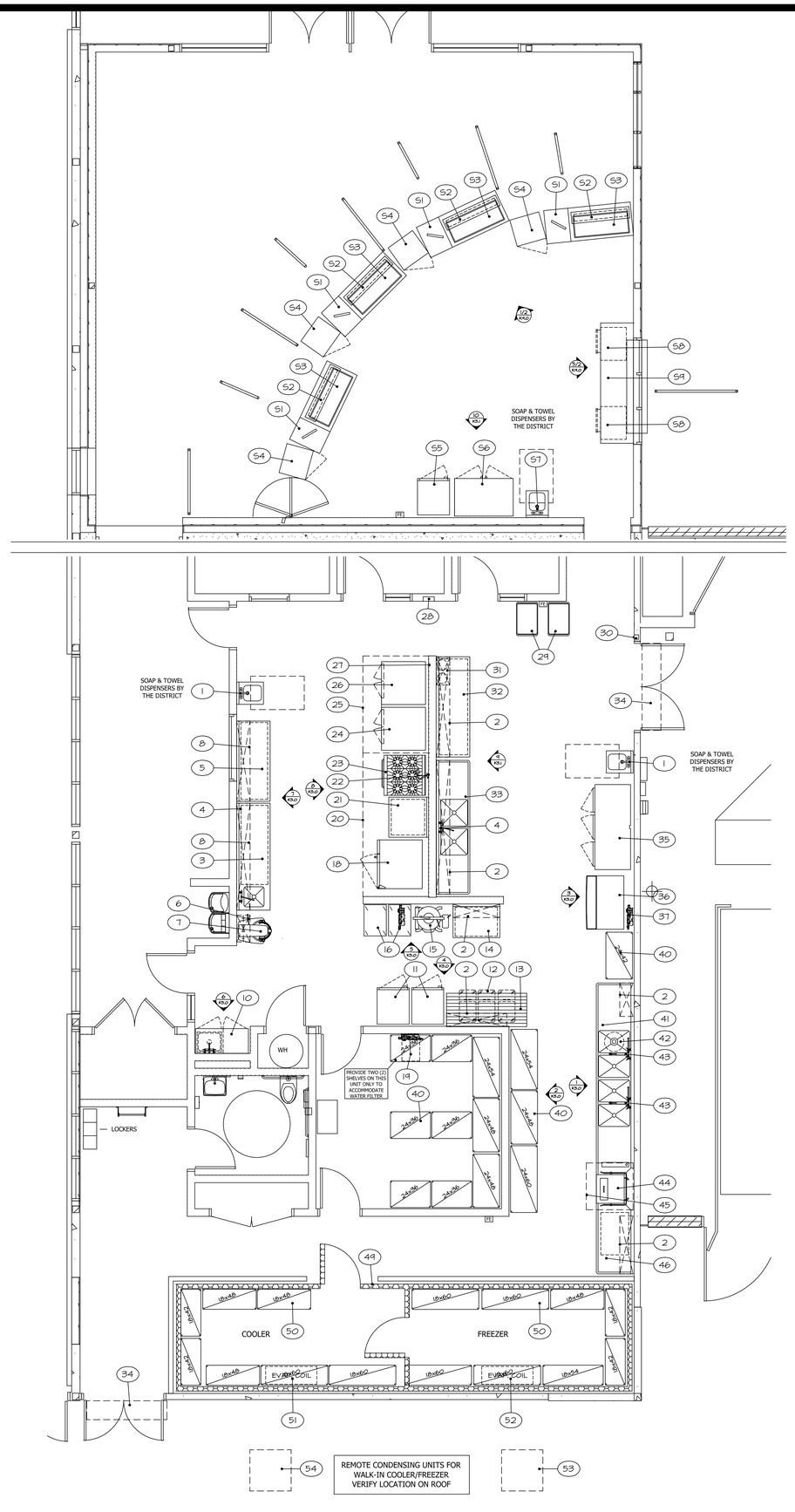
SHEET TITLE

DETAILS AND SEISMIC BRACING CALCULATIONS-FIRE PROTECTION

SHEET NUMBER

FP-6.2

THE USE OF THESE PLANS AND SPECIFICATIONS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY WERE PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE. REUSE, REPRODUCTION, OR PUBLICATION BY ANY METHOD, IN WHOLE OR IN PART, IS PROHIBITED. TITLE TO THE PLANS AND SPECIFICATIONS REMAINS WITH THE ENGINEER WITHOUT PREJUDICE. VISUAL CONTACT WITH THESE PLANS AND SPECIFICATIONS SHALL CONSTITUTE PRIMA FACIE EVIDENCE OF THE ACCEPTANCE OF THESE RESTRICTIONS. AXIOM ENGINEERS INC. CONSULTING MECHANICAL ENGINEERS



FABRICATION NOTES

ALL CUSTOM STAINLESS EQUIPMENT TO BE FABRICATED TO NSF STANDARDS BY AN NSF APPROVED FABRICATOR.

NSF CONSTRUCTION

GENERAL NOTES

1. BALLINGER RESTAURANT EQUIPMENT DOES NOT PERFORM ARCHITECTURAL, MECHANICAL, ELECTRICAL, HEATING OR STRUCTURAL ENGINEERING SERVICES. THE PURPOSE OF THESE PLANS IS TO ASSIST THE PLUMBER, ELECTRICIAN, GENERAL CONTRACTOR AND OTHERS UTILIZING THESE DRAWINGS TO COMPLETE THEIR WORK IN CONNECTION WITH THIS PROJECT.

2. THESE PLANS ARE NOT TO BE REPRODUCED OR DISTRIBUTED IN WHOLE OR IN PART WITHOUT THE EXPRESS WRITTEN PERMISSION OF BALLINGER RESTAURANT EQUIP. NOR BE USED BY ANY PERSONS EXCEPT UNDER OUR DIRECT SUPERVISION.

3. ALL FOODSERVICE AND RELATED EQUIPMENT SHALL BE NSF APPROVED AND IN CONFORMITY WITH LOCAL HEALTH REGULATIONS. INSTALLATION OF EQUIPMENT SHALL MEET SAME REQUIREMENTS. OWNER WILL HAVE TO APPLY FOR A SEPARATE HEALTH PERMIT ALTHOUGH HEALTH REQUIREMENTS WILL BE REVIEWED DURING BUILDING DEPARTMENT APPROVAL.

4. ALL FINISHED BUILDING DIMENSIONS SHALL BE VERIFIED BEFORE FABRICATION AND/OR INSTALLATION OF EQUIPMENT AND FIXTURES.

5. ALL ADJOINING EQUIPMENT AND COUNTERS SHALL BE SEALED TOGETHER TO PREVENT ENTRANCE OF MOISTURE AND VERMIN. ALL EQUIPMENT SHALL BE SMOOTHLY SEALED TO WALLS. FREE STANDING UNITS SHALL BE REMOVABLE AND EASILY ACCESSIBLE FOR CLEANING.

6. ALL WORKING SURFACES SHALL BE SMOOTH AND IMPERVIOUS.

7. ALL CUTTING BOARDS SHALL BE SANITARY NSF APPROVED CUTTING SURFACES.

8. ALL REFRIGERATED AND HEATED FOOD HOLDING EQUIPMENT SHALL BE PROVIDED WITH THERMOMETERS WHICH ARE EASILY READABLE.

9. STORAGE SHELVING SHALL HAVE THE LOWEST SHELF SET AT A MINIMUM OF 6" ABOVE THE FINISHED FLOOR.

10. STORAGE SHELVING, OTHER THAN WIRE OR SOLID FLAT METAL, MUST BE PROVIDED WITH A SMOOTH SURFACE, AND HAVE A NON-ABSORBANT AND NON-TOXIC FINISH.

11. ALL FLOOR MOUNTED FOODSERVICE EQUIPMENT, SUCH AS WORK TABLES, COUNTERS, ETC., SHALL BE MOUNTED ON MINIMUM 6" HIGH NSF APPROVED STAINLESS STEEL LEGS WITH ADJUSTABLE BULLET FEET. ALL CUSTOM FABRICATED STAINLESS STEEL WORK TABLES AND COUNTERS PLACED AGAINST WALLS SHALL HAVE BACKSPLASHES AND/OR RISERS SEALED TO WALL. NOTE: SEE CUSTOM FABRICATED FOODSERVICE EQUIPMENT DETAILS FOR HEIGHT OF BACKSPLASHES; UNLESS OTHERWISE SPECIFIED, MOBILE COOKING EQUIPMENT SHALL BE MOUNTED ON NSF APPROVED CASTERS AND EQUIPPED WITH AGA APPROVED GAS HOSES, CONNECTORS, AND RESTRAINING DEVICES.

12. WRITTEN DIMENSIONS ON THESE DRAWINGS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB.

13. LAST DATED REVISION VOIDS ALL PREVIOUS DRAWINGS.

14. ANY ERRORS, OMISSIONS, OR AMBIGUITIES ARE TO BE REPORTED TO B.R.E.I. FOR CORRECTION OR RESOLUTION PRIOR TO COMMENCEMENT OF THE AFFECTED WORK. UNLESS EXPRESSLY STIPULATED OTHERWISE, NO OTHER ALLOWANCE WILL BE MADE BY THE KEC TO ANOTHERS FAVOR BY VIRTUE OF SUCH DISCREPANCIES, EVEN IF ACCEPTED BY CONTRACTORS. ALL CHANGES MADE NECESSARY BY ANY BUILDING, SAFETY, SANITARY, FIRE, LABOR, INSURANCE, NON-CONTRACTS, REGULATIONS, GOVERNMENT AGENCIES, AND/OR EQUIPMENT LAYOUT CHANGES.

15. WHERE A REVISION TO DETAILS NOTED ON THESE PLANS MIGHT FACILITATE THE WORK OF ANOTHER TRADE, IT IS THE RESPONSIBILITY OF THE PARTY TO BE AFFECTED TO SUBMIT FOR APPROVAL PRIOR TO PROCEEDING WITH THE CHANGE. B.R.E.I. SHALL ASSUME NO RESPONSIBILITY FOR ANY COSTS INCURRED DUE TO FAILURE BY THE PRINCIPAL RESPONSIBLE FOR THE CHANGE(S) TO NOTIFY B.R.E.I.

GENERAL CONTRACTOR NOTES

1. BALLINGER RESTAURANT EQUIPMENT DOES NOT REPRESENT ITSELF AS ARCHITECTS OR ENGINEERS. THESE DRAWINGS ARE PROVIDED FOR THE CONVENIENCE OF THE ARCHITECT, CONTRACTOR, AND/OR SUB-CONTRACTORS TO SHOW GENERAL PLACEMENT OF EQUIPMENT, FIXTURES, FURNISHINGS AND/OR MATERIALS PROVIDED FOR THE KITCHEN. THE PURPOSE OF THESE PLANS ARE TO ASSIST THE G.C., E.C., P.C., AND OTHERS TO COMPLETE THEIR WORK IN CONNECTION WITH THIS PROJECT. THESE PLANS HAVE BEEN PREPARED FROM INFORMATION AND TECHNICAL DATA THAT HAS CURRENT AND AVAILABLE AT THE TIME THESE PLANS WERE DRAWN. UTILITY ROUGH-INS HAVE BEEN LOCATED AS ACCURATELY AS POSSIBLE TO SUIT THE ARRANGEMENT OF THE AFORESAID ITEMS. CONTRACTORS MUST VERIFY ALL DIMENSIONS AND JOBSITE CONDITIONS FOR CONFORMANCE TO THESE PLANS.

2. IF REQUIRED, THE G.C. SHALL PROVIDE ALL SUITABLE HOOD BACKING AND/OR BLOCKINGS IN WALLS AND CEILING FOR THE INSTALLATION OF WALL MOUNTED EQUIPMENT SUCH AS SHELVES, CABINETS, EXHAUST HOODS, ETC.

3. THE G.C. SHALL PROVIDE NON-COMBUSTIBLE WALLS BEHIND, ABOVE, AND ADJACENT TO COOKING EQUIPMENT AND SHALL BE IN ACCORDANCE WITH THE LOCAL BUILDING CODES.

4. UNLESS OTHERWISE SPECIFIED, THE FLOOR AREA BELOW ALL MOBILE COOKING EQUIPMENT SHALL BE FINISHED FLAT AND LEVEL.

5. VERIFY WITH THE ARCHITECT OR G.C. FOR THE EXACT LOCATION OF THE REMOTE REFRIGERATION SYSTEM. THE MAXIMUM DISTANCE BETWEEN REMOTE COMPRESSOR AND EVAPORATOR SHALL NOT EXCEED 75 LINEAL FEET. IF LOCATION OF COMPRESSOR RACK EXCEEDS 75 FEET, B.R.E.I. MUST BE ADVISED BY THE ARCHITECT OR G.C.

EQUIPMENT SCHEDULE

ITEM	QTY	DESCRIPTION	STATUS	WEIGHT LBS
1	2	S/S HAND SINK	NEW	25
2	7	S/S WALL SHELF	NEW	35
3	1	S/S PREP TABLE W/SINK	NEW	165
4	2	FAUCETS	NEW	8
5	1	S/S WORKTABLE	NEW	155
6	1	S/S WALL SHELF W/UTENSIL SHELF	NEW	16
7	1	MIXER	EXISTING	453
8	2	S/S OVERSHELF	NEW	38
9	--	SPARE	--	--
10	1	S/S MOP SINK CABINET	NEW	544
11	2	WARMING CABINETS	EXISTING	350
12	3	INGREDIENT BINS	EXISTING	22
13	1	MAPLE TOP WORKTABLE	EXISTING	320
14	1	S/S WORKTABLE	NEW	136
15	1	FOOD PROCESSOR	EXISTING	22
16	2	SHEET PAN RACKS	EXISTING	58
17	--	SPARE	--	--
18	1	COMBI-OVEN	NEW	680
19	1	WATER FILTER FOR COMBI-OVEN	NEW	125
20	1	S/S TYPE I EXHAUST HOOD	NEW	581
21	1	S/S WORKTABLE	NEW	130
22	1	POT FILLER FAUCET	NEW	12
23	1	6-BURNER RANGE	EXISTING	636
24	1	DOUBLE STACK CONVECTION OVEN	EXISTING	1320
25	1	S/S TYPE I EXHAUST HOOD	NEW	436
26	1	DOUBLE STACK CONVECTION OVEN	EXISTING	1320
27	1	S/S WALL LINER	NEW	36
28	1	EXHAUST SYSTEM CONTROL PANEL	NEW	2
29	2	UTILITY CARTS	EXISTING	34
30	1	FIRE SUPPRESSION SYSTEM PULL STATION	NEW	2
31	1	FIRE SUPPRESSION SYSTEM-WALL MOUNTED	NEW	36
32	1	S/S WORKTABLE	NEW	220
33	1	S/S PREP TABLE W/SINKS	EXISTING	260
34	2	AIR CURTAINS	NEW	82
35	1	3-DOOR REFRIGERATOR	NEW	630
36	1	ICE MACHINE AND BIN	NEW	440
37	1	WATER FILTER ASSEMBLY	NEW	12
38	--	SPARE	--	--
39	--	SPARE	--	--
40	1	(LOT) DRY STORAGE SHELVING	EXISTING	250/EA
41	1	S/S 4-TUB SINK	NEW	388
42	1	GARBAGE DISPOSAL	NEW	81
43	2	PRERINSE UNIT WITH FAUCET	NEW	12
44	1	HIGH-TEMP DISHMACHINE	NEW	343
45	1	S/S TYPE II EXHAUST HOOD	NEW	158
46	1	S/S CLEAN SIDE DISHTABLE	NEW	120
47	--	SPARE	--	--
48	--	SPARE	--	--
49	1	WALK-IN COOLER/FREEZER	NEW	5525
50	1	(LOT) WALK-IN SHELVING	NEW	250/EA
51	1	EVAP COIL FOR W/I COOLER	NEW	55
52	1	EVAP COIL FOR W/I FREEZER	NEW	58
53	1	CONDENSING UNIT FOR W/I COOLER	NEW	205
54	1	CONDENSING UNIT FOR W/I FREEZER	NEW	245
		SERVERY EQUIPMENT		
51	4	MILLWORK SERVING COUNTER	NEW	470
52	4	SNEEZE GUARD W/WARMER AT TOP	NEW	55
53	4	DROP-IN HOT FOOD SHELF	NEW	50
54	4	1-DOOR REACH-IN REFRIGERATOR	NEW	275
55	1	WARMING CABINET	EXISTING	168
56	1	2-DOOR REACH-IN REFRIGERATOR	NEW	465
57	1	S/S HAND SINK	NEW	25
58	2	WARMING DRAWER UNITS	NEW	168
59	1	S/S SERVING COUNTER	NEW	560

LEGEND

- FULL HEIGHT WALLS AND PARTITIONS
- STUB WALLS AND CURBS (VERIFY HEIGHT)
- X — ITEM NUMBER IDENTIFICATION SYMBOLS
- B — ELEVATION SYMBOLS
- 1 — PLUMBING MARK SYMBOL (SEE PLUMBING PLAN)
- 1 — ELECTRICAL MARK SYMBOL (SEE ELECTRICAL PLAN)
- 1 — REVISION NUMBER

ABBREVIATIONS

B.R.E.I. = BALLINGER REST. EQUIP. INC.
PC = PLUMBING CONTRACTOR
EC = ELECTRICAL CONTRACTOR
GC = GENERAL CONTRACTOR
O = OWNER
HVAC = HEATING/VENTILATION CONTRACTOR
NTS = NOT TO SCALE
EXIST = EXISTING

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP. JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

BALLINGER
RESTAURANT EQUIPMENT, INC.
1000 APOLLO WAY, SUITE 170
SANTA ROSA, CA 95407
(707) 544-8924

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	LB
DRAWING SCALE:	1/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

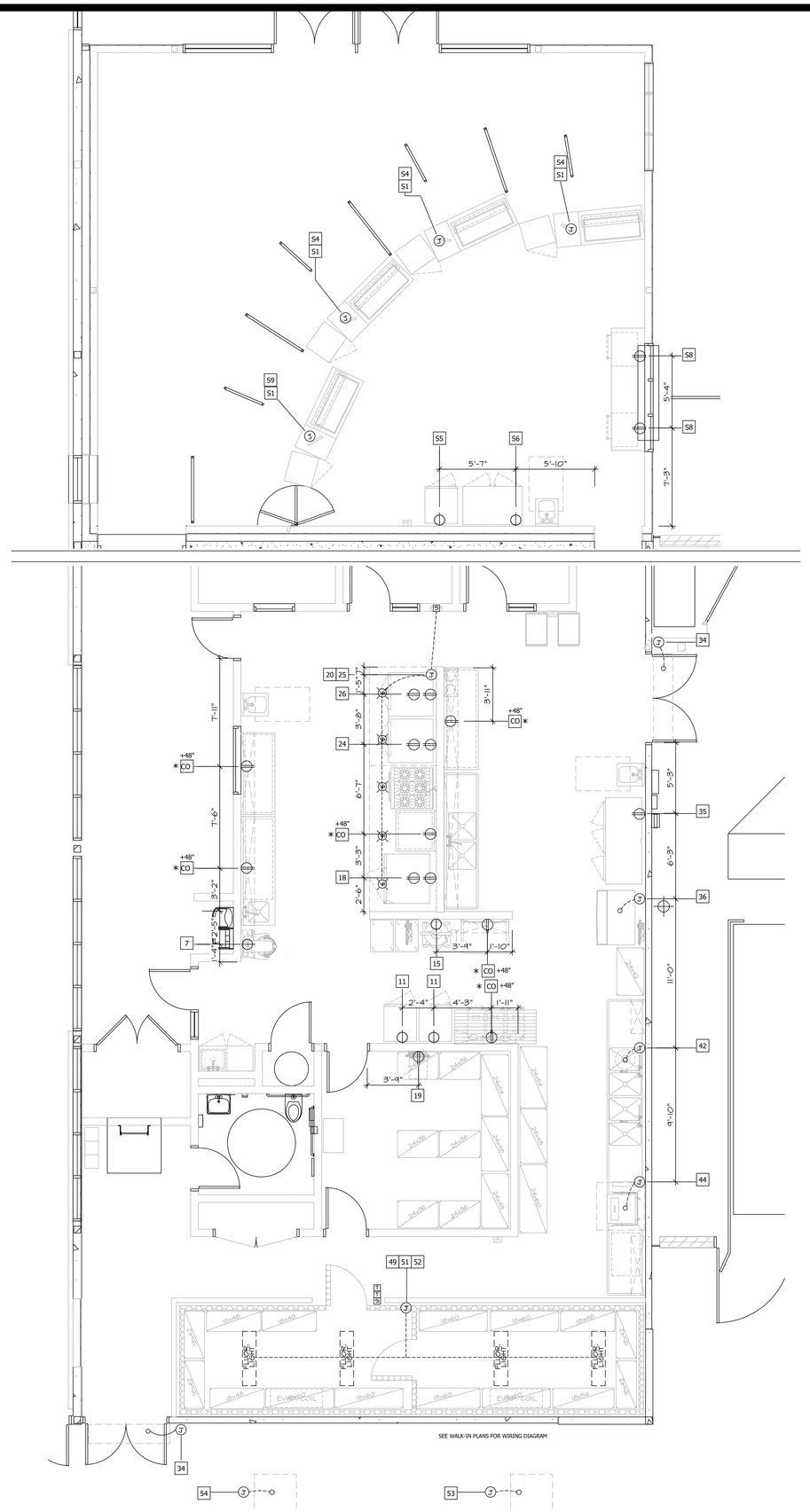
DECEMBER 2, 2020

SHEET TITLE

FOODSERVICE EQUIPMENT FLOOR PLAN

SHEET NUMBER

K1.0



ELECTRICAL NOTES

1. BALLINGER RESTAURANT EQUIPMENT DOES NOT PERFORM ARCHITECTURAL, MECHANICAL, ELECTRICAL, HEATING OR STRUCTURAL ENGINEERING SERVICES. THE PURPOSE OF THESE PLANS IS TO ASSIST THE PLUMBING, ELECTRICAL, GENERAL CONTRACTOR AND OTHERS UTILIZING THESE DRAWINGS TO COMPLETE THEIR WORK IN CONNECTION WITH THIS PROJECT.

2. ALL ELECTRICAL WORK AND FINAL CONNECTIONS TO ALL KITCHEN EQUIPMENT AND FIXTURES INCLUDING BUT NOT LIMITED TO SWITCHES, WIRING, CONDUIT OR SEAL TIGHT FLEX CONDUIT, MAGNETIC STARTERS, DISCONNECTS, ELECTRICAL PANELS THERMAL OVERLOAD PROTECTION CORD & PLUGS, ETC., SHALL BE PROVIDED AND INSTALLED BY THE E.C., UNLESS OTHERWISE SPECIFIED.

3. ALL ELECTRICAL ROUGH-INS SHOWN ON THIS PLAN PERTAINS ONLY TO THE EQUIPMENT BEING FURNISHED BY THE K.E.C. ANY ADDITIONAL REQUIREMENTS SHALL BE SPECIFIED BY THE ARCHITECT AND/OR THE GENERAL CONTRACTOR.

4. ELECTRICAL ROUGH-IN LOCATIONS AND CHARACTERISTICS ARE SUBJECT TO CHANGE PENDING THE FINAL SELECTION OF EQUIPMENT AND LOCATION OF SAME.

5. ELECTRICAL SYMBOLS SHOWN +12" (UP 12") OR +48" (UP 48"), ETC., DENOTES HEIGHT FROM FINISHED FLOOR TO CENTER LINE OF OUTLET IN WALL. SYMBOLS SHOWN (STUB) DENOTES TO TERMINATE ROUGH-INS APPROXIMATELY 4" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED.

6. ALL DIMENSIONS SHOWN ARE FROM FINISHED FACE OF WALLS, FLOORS, CEILINGS, OR CENTER LINE OF COLUMNS, UNLESS OTHERWISE NOTED

7. E.C. TO PROVIDE ALL NECESSARY COMPONENTS AND WIRING REQUIRED TO HOOK-UP FIRE SUPPRESSION SYSTEM TO BUILDING ALARM, EXHAUST BLOWER, & MAKE-UP AIR SYSTEM. VERIFY REQUIREMENTS WITH FIRE MARSHALL.

8. E.C. SHALL PROVIDE POWER, DISCONNECT SWITCHES, MOTOR STARTERS, ETC. AND MAKE ALL FINAL CONNECTIONS REQUIRED FOR EXHAUST, RETURN AIR SYSTEMS AND REFRIGERATION SYSTEMS, UNLESS OTHERWISE NOTED.

9. E.C. SHALL FURNISH AND INSTALL CONTACTORS AND/OR SHUNT TRIP BREAKERS FOR ELECTRICAL COOKING EQUIPMENT LOCATED BELOW THE EXHAUST HOODS. IF APPLICABLE, FIRE PROTECTION SYSTEM SHALL INCLUDE SWITCHING DEVICE IN THE EXHAUST HOOD FIRE PROTECTION SYSTEM TO FACILITATE SHUT-DOWN OF APPLIANCES BY THE E.C., UNLESS OTHERWISE SPECIFIED.

10. THE E.C. SHALL COMPLY WITH ALL LOCAL COUNTY, STATE AND FEDERAL CODES, ORDINANCES, RULES AND REGULATIONS INCLUDING ALL REQUIREMENTS OF GOVERNING AGENCIES. ELECTRICAL CONTRACTOR SHALL PAY ALL COSTS, ASSOCIATED WITH THE INSTALLATION, INCLUDING METER INSTALLATION, BUILDING APPLICATION FEES, ETC.

11. E.C. SHALL MAKE ALL FINAL CONNECTIONS TO REFRIGERATION SYSTEMS, REMOTE COMPRESSORS, BLOWER COILS, SOLENOIDS, TEMPERATURE CONTROLS, HEAT STRIP SYSTEMS AND PRESSURE SWITCHES. DISCONNECTS, SHALL BE SUPPLIED BY THE E.C. AND MUST BE INCLUDED AS PART OF HIS SCOPE OF WORK. E.C. SHALL FURNISH ALL NECESSARY WIRING AND MATERIALS IN ORDER TO PROVIDE A COMPLETE AND FINISHED WORKING SYSTEM. PRESSURE CONTROL SWITCHES FOR EACH COMPRESSOR ARE FURNISHED BY THE K.E.C. AND SHALL BE WIRED BY THE E.C. DISCONNECT SWITCHES FOR EACH COMPRESSOR SHALL BE FURNISHED AND INSTALLED BY THE E.C.

12. IN ALL KITCHEN FOOD PREP AREAS, E.C. SHALL PROVIDE STAINLESS STEEL OUTLET COVER PLATES. IN OTHER AREAS VERIFY WITH ARCHITECT OR INTERIOR DESIGNER.

13. ALL JUNCTION BOXES AND ELECTRICAL OUTLETS AS WELL AS ELECTRICAL CONNECTIONS SHALL BE PROPERLY PROTECTED FROM AMBIENT HEAT, HUMIDITY AND ANY SIMILAR CONDITIONS WHICH MAY AFFECT THE SAFETY OF THE OPERATION. ALL FLEXIBLE HARD WIRED ELECTRICAL CONNECTIONS IN THE EXPOSED KITCHEN AREAS SHALL BE DONE IN SEAL TIGHT CONDUIT AND FITTINGS.

14. ALTHOUGH WE HAVE ENDEAVORED TO SHOW ALL UTILITIES AT THE PROJECT SITE, ALL UTILITY LOCATIONS ARE NOT NECESSARILY KNOWN OR SHOWN. ELECTRICAL CONTRACTOR SHALL DETERMINE ELECTRICAL SERVICE FOR ALL PROJECT SITES.

14. ELECTRICAL SYMBOLS SHOWN WITH AN ASTERISK (*) DENOTES THAT THOSE OUTLETS SHALL BE MOUNTED ON WALL ON THE HORIZONTAL PLANE, AS SHOWN BELOW.

ELECTRICAL SCHEDULE

ITEM	QTY	DESCRIPTION	ELECTRICAL				
			VOLTS	PHASE	AMPS	CONN	HT
1	2	S/S HAND SINK					
2	7	S/S WALL SHELF					
3	1	S/S PREP TABLE W/SINK					
4	2	FAUCETS					
5	1	S/S WORKTABLE					
6	1	S/S WALL SHELF W/UTENSIL SHELF					
7	1	MIXER	208	1	15.0	PLUG	+15"
8	2	S/S OVERSHELF					
9	--	SPARE					
10	1	S/S MOP SINK CABINET					
11	2	WARMING CABINETS	120	1	16.0	PLUG	+15"
12	3	INGREDIENT BINS					
13	1	MAPLE TOP WORKTABLE					
14	1	S/S WORKTABLE					
15	1	FOOD PROCESSOR	208	1	12.0	PLUG	+15"
16	2	SHEET PAN RACKS					
17	--	SPARE					
18	1	COMBI-OVEN	(2) 120	1	7.0	PLUG	+15"
19	1	WATER FILTER FOR COMBI-OVEN	(2) 120	1	3.0	PLUG	+76"
20	1	S/S TYPE I EXHAUST HOOD	120	1	5.0	JBOX	+110"
21	1	S/S WORKTABLE					
22	1	POT FILLER FAUCET					
23	1	6-BURNER RANGE					
24	1	DOUBLE STACK CONVECTION OVEN	(2) 120	1	7.0	PLUG	+15"
25	1	S/S TYPE I EXHAUST HOOD	120	1	5.0	JBOX	+110"
26	1	DOUBLE STACK CONVECTION OVEN	(2) 120	1	7.0	PLUG	+15"
27	1	S/S WALL LINER					
28	1	EXHAUST SYSTEM CONTROL PANEL	SEE HOOD PLANS				
29	2	UTILITY CARTS					
30	1	FIRE SUPPRESSION SYSTEM PULL STATION					
31	1	FIRE SUPPRESSION SYSTEM-WALL MOUNTED					
32	1	S/S WORKTABLE					
33	1	S/S PREP TABLE W/SINKS					
34	2	AIR CURTAINS	120	1	3.4	JBOX	+110"
35	1	3-DOOR REFRIGERATOR	120	1	11.8	PLUG	+88"
36	1	ICE MACHINE AND BIN	208-230	1	15.4	JBOX	+88"
37	1	WATER FILTER ASSEMBLY					
38	--	SPARE					
39	--	SPARE					
40	1	(LOT) DRY STORAGE SHELVING					
41	1	S/S 4-TUB SINK					
42	1	GARBAGE DISPOSAL	208	1	7.7	JBOX	+15"
43	2	PRERINSE UNIT WITH FAUCET					
44	1	HIGH-TEMP DISHMACHINE	208	1	51.8	JBOX	+80"
45	1	S/S TYPE II EXHAUST HOOD					
46	1	S/S CLEAN SIDE DISHTABLE					
47	--	SPARE					
48	--	SPARE					
49	1	WALK-IN COOLER/FREEZER	120	1	5.0	JBOX	+110"
50	1	(LOT) WALK-IN SHELVING					
51	1	EVAP COIL FOR WI COOLER	SEE REFRIGERATION SCHEDULE				
52	1	EVAP COIL FOR WI FREEZER	SEE REFRIGERATION SCHEDULE				
53	1	CONDENSING UNIT FOR WI COOLER	SEE REFRIGERATION SCHEDULE				
54	1	CONDENSING UNIT FOR WI FREEZER	SEE REFRIGERATION SCHEDULE				
		SERVERY EQUIPMENT					
51	4	MILLWORK SERVING COUNTER					
52	4	SNEEZE GUARD W/WARMER AT TOP	120	1	XXX	PLUG	VER.
53	4	DROP-IN HOT FOOD SHELF	120	1	XXX	PLUG	VER.
54	4	1-DOOR REACH-IN REFRIGERATOR	120	1	2.2	PLUG	VER.
55	1	WARMING CABINET	120	1	16.0	PLUG	+15"
56	1	2-DOOR REACH-IN REFRIGERATOR	120	1	5.4	PLUG	+15"
57	1	S/S HAND SINK					
58	2	WARMING DRAWER UNITS	120	1	5.3	PLUG	+15"
59	1	S/S SERVING COUNTER					

ELECTRICAL LEGEND

- SINGLE OUTLET
- DUPLEX OUTLET
- JUNCTION BOX (ON WALL)
- CO — CONVENIENCE OUTLET
- CONNECTION POINT (ON FIXTURE) WIRING BY E.C.
- T/C SOL — SOLENOID & TEMP. CONTROLS
- SWITCH
- VP — VAPOR PROOF LIGHT FIXTURE

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850 2ND STREET
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REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	LB
DRAWING SCALE:	1/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

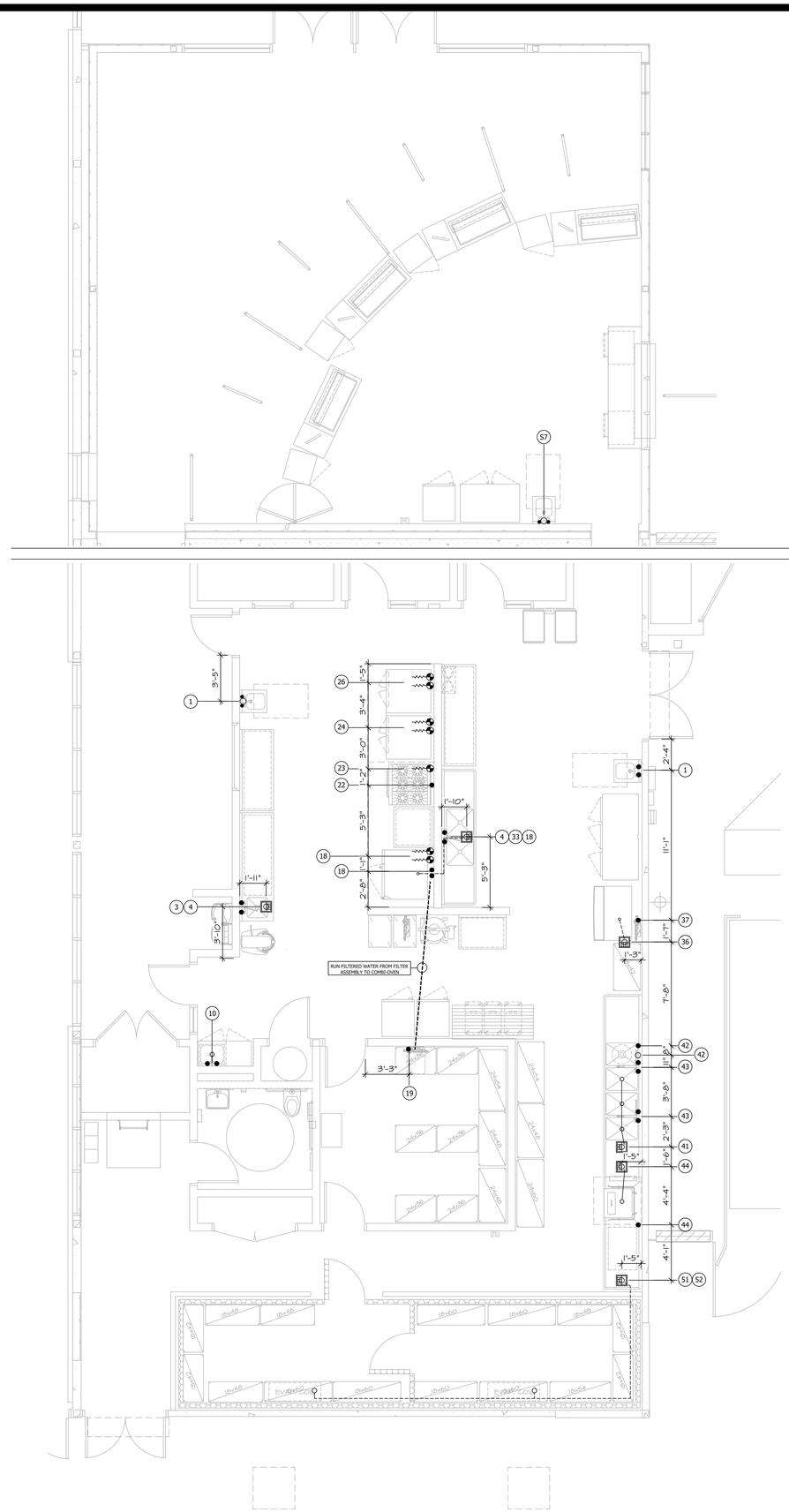
DECEMBER 2, 2020

SHEET TITLE

FOODSERVICE EQUIPMENT ELECTRICAL PLAN

SHEET NUMBER

K2.0



PLUMBING NOTES

1. BALLINGER RESTAURANT EQUIPMENT DOES NOT PERFORM ARCHITECTURAL, MECHANICAL, ELECTRICAL, HEATING OR STRUCTURAL ENGINEERING SERVICES. THE PURPOSE OF THESE PLANS IS TO ASSIST THE PLUMBING, ELECTRICAL (GENERAL CONTRACTOR AND OTHERS UTILIZING THESE DRAWINGS TO COMPLETE THEIR WORK IN CONNECTION WITH THIS PROJECT.

2. ALL PLUMBING ROUGH-IN WORK, FINAL CONNECTIONS TO ALL FOOD-SERVICE EQUIPMENT AND FIXTURES, INCLUDING FAUCETS, SHUT-OFF VALVES, GREASE TRAPS, MISCELLANEOUS FITTINGS, VACUUM BREAKERS, PRESSURE REGULATORS, PRESSURE REDUCING VALVES, TAIL PIECES, DIRECT AND INDIRECT WASTE LINES, ETC., SHALL BE FURNISHED AND INSTALLED BY THE P.C., UNLESS OTHERWISE NOTED.

3. MECHANICAL ROUGH-INS ARE SUBJECT TO CHANGE PENDING THE FINAL SELECTION OF EQUIPMENT AND LOCATION OF SAME.

4. MECHANICAL SYMBOLS SHOWN +12. (UP 12") OR +16" (UP 16"), ETC. DENOTES HEIGHT FROM FINISHED FLOOR TO CENTER LINE OF OUTLET OR PLUMBING CONNECTION IN WALL. SYMBOLS SHOWN (5TUB) DENOTES TO TERMINATE ROUGH-INS APPROXIMATELY 4" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED.

5. ALL DIMENSIONS SHOWN ARE FROM FINISHED FACE OF WALLS, FLOORS, CEILINGS, OR CENTER LINE OF COLUMNS, UNLESS OTHERWISE NOTED.

6. ALL FINISHED BUILDING DIMENSIONS SHALL BE VERIFIED BEFORE FABRICATION AND/OR INSTALLATION OF EQUIPMENT AND FIXTURES.

7. ESCUTCHEON COVERS, RINGS, ETC. AT ALL FLOOR, WALL & CEILING PENETRATIONS FOR PLUMBING LINES AND/OR FIXTURES SHALL BE PROVIDED BY THE P.C. ALL FLOOR GAPS, HOLES, ETC. AROUND LINES AT PENETRATIONS SHALL BE SEALED AND CAULKED SOLIDLY AS PER HEALTH DEPT. REQUIREMENTS.

8. GAS SHUT-OFF VALVES ARE FURNISHED BY THE FIRE SUPPRESSION EQUIPMENT CONTRACTOR AND INSTALLED BY THE P.C.

9. P.C. SHALL SIZE, FURNISH, AND LOCATE GREASE TRAP IF REQUIRED BY LOCAL CODE. GREASE TRAPS SHALL BE LOCATED BELOW OR SET FLUSH WITH FINISHED FLOOR. LOCATION TO BE COORDINATED AND VERIFIED WITH THE KEC.

10. HOT AND COLD WATER SUPPLIED TO DISHWASHER, GLASS WASHERS, AND CONVECTION STEAMERS SHOULD BE TREATED AND SOFTENED TO A MINIMUM OF (1-5) PPM (0-3 GRAINS/GAL.) VERIFY WITH THE ARCHITECT AND/OR G.C. IF APPLICABLE.

11. P.C. SHALL COMPLY WITH ALL LOCAL COUNTY, STATE, AND FEDERAL CODES, ORDINANCES, RULES AND REGULATIONS, INCLUDING ALL REQUIREMENTS OF SERVING AGENCIES; PAY ALL COSTS REQUIRED FOR METER INSTALLATION, SEWER TAPS, BUILDING APPLICATION FEES, ETC.

12. P.C. SHALL INSTALL INSULATION AROUND ALL HOT WATER PIPING IN WALLS OR ABOVE CEILINGS. INSULATE DRAIN LINES FROM ICE SINKS, ICE BINS, OR ICE PANS TO ELIMINATE CONDENSATION ON THOSE ITEMS.

13. HOT AND COLD RUNNING WATER UNDER PRESSURE SHALL BE PROVIDED IN ALL AREAS IN WHICH FOOD IS PREPARED OR UTENSILS ARE WASHED. ALL HANDWASHING FACILITIES SHALL BE EQUIPPED WITH HOT AND COLD WATER. UNLESS OTHERWISE SPECIFIED, G.C. SHALL PROVIDE PAPER TOWEL AND SOAP DISPENSERS PER HEALTH DEPT. REQUIREMENTS.

14. P.C. TO RUN ALL INDIRECT WASTE LINES AND DRAINS TO APPROPRIATE FLOOR SINK. (NUMBER OF DRAINS TO MATCH FLOOR SINK CAPACITY).

15. MOBILE COOKING EQUIPMENT SHALL BE MOUNTED ON NSF APPROVED CASTERS. THE KEC SHALL PROVIDE ASA APPROVED GAS HOSES, QUICK DISCONNECT COUPLINGS, AND SECURE EQUIPMENT TO WALL WITH RESTRAINING DEVICES.

16. NOTE CONCERNING UTILITY CHASES, IF APPLICABLE. ALL FINAL CONNECTIONS FROM UTILITY CHASE TO PLUMBING CONNECTION POINTS REQUIRED AT CHEF'S COUNTER, ETC. SHALL BE MADE BY THE P.C.

17. FLOOR SINKS SHALL BE INSTALLED AS PER HEALTH DEPT. CODES. ALL FLOOR SINKS ARE 12" X 12" UNLESS OTHERWISE NOTED. IN LOCATIONS WHERE FLOOR SINKS FLUSH LEVEL WITH FINISHED FLOOR ARE PERMITTED, THEY SHALL BE LOCATED AS SHOWN ON PLAN. (ONE HALF GRATE EXPOSED ON THE WORKING SIDE, AND ONE HALF OPEN ON THE UNEXPOSED SIDE BELOW EQUIPMENT).

PLUMBING SCHEDULE

ITEM	QTY	DESCRIPTION	WATER			WASTE			GAS		
			HOT	COLD	HT	DIRECT	INDIRECT	HT	SIZE	BTU	HT
1	2	S/S HAND SINK	1/2"	1/2"	+24"	1-1/2"		+20"			
2	7	S/S WALL SHELF									
3	1	S/S PREP TABLE W/SINK					2"	FS			
4	2	FAUCETS	1/2"	1/2"	+16"						
5	1	S/S WORKTABLE									
6	1	S/S WALL SHELF W/UTENSIL SHELF									
7	1	MIXER									
8	2	S/S OVERSHELF									
9	--	SPARE									
10	1	S/S MOP SINK CABINET	1/2"	1/2"	+16"	2"		+0"			
11	2	WARMING CABINETS									
12	3	INGREDIENT BINS									
13	1	MAPLE TOP WORKTABLE									
14	1	S/S WORKTABLE									
15	1	FOOD PROCESSOR									
16	2	SHEET PAN RACKS									
17	--	SPARE									
18	1	COMBI-OVEN		3/4"	+36"		2"	FS	(2) 3/4"	85,000	+24"
19	1	WATER FILTER FOR COMBI-OVEN		1/2"	+76"						
20	1	S/S TYPE I EXHAUST HOOD									
21	1	S/S WORKTABLE									
22	1	POT FILLER FAUCET		1/2"	+58"						
23	1	6-BURNER RANGE							1"	225,000	+24"
24	1	DOUBLE STACK CONVECTION OVEN							1"	230,000	+24"
25	1	S/S TYPE I EXHAUST HOOD									
26	1	DOUBLE STACK CONVECTION OVEN							1"	230,000	+24"
27	1	S/S WALL LINER									
28	1	EXHAUST SYSTEM CONTROL PANEL									
29	2	UTILITY CARTS									
30	1	FIRE SUPPRESSION SYSTEM PULL STATION									
31	1	FIRE SUPPRESSION SYSTEM-WALL MOUNTED									
32	1	S/S WORKTABLE									
33	1	S/S PREP TABLE W/SINKS					2"	FS			
34	2	AIR CURTAINS									
35	1	3-DOOR REFRIGERATOR									
36	1	ICE MACHINE AND BIN	FROM FILTER				1"	FS			
37	1	WATER FILTER ASSEMBLY		3/4"	+16"						
38	--	SPARE									
39	--	SPARE									
40	1	(LOT) DRY STORAGE SHELVING									
41	1	S/S 4-TUB SINK					2"	FS			
42	1	GARBAGE DISPOSAL		1/2"	+16"	2"		+12"			
43	2	PRERINSE UNIT WITH FAUCET	1/2"	1/2"	+16"						
44	1	HIGH-TEMP DISHMACHINE	1/2"		+76"		1-1/2"	FS			
45	1	S/S TYPE II EXHAUST HOOD									
46	1	S/S CLEAN SIDE DISHTABLE									
47	--	SPARE									
48	--	SPARE									
49	1	WALK-IN COOLER/FREEZER									
50	1	(LOT) WALK-IN SHELVING									
51	1	EVAP COIL FOR WI COOLER					1"	FS			
52	1	EVAP COIL FOR WI FREEZER					1"	FS			
53	1	CONDENSING UNIT FOR WI COOLER									
54	1	CONDENSING UNIT FOR WI FREEZER									
		SERVERY EQUIPMENT									
51	4	MILLWORK SERVING COUNTER									
52	4	SNEEZE GUARD W/WARMER AT TOP									
53	4	DROP-IN HOT FOOD SHELF									
54	4	1-DOOR REACH-IN REFRIGERATOR									
55	1	WARMING CABINET									
56	1	2-DOOR REACH-IN REFRIGERATOR									
57	1	S/S HAND SINK	1/2"	1/2"	+24"	1-1/2"		+20"			
58	2	WARMING DRAWER UNITS									
59	1	S/S SERVING COUNTER									

PLUMBING LEGEND

- GAS CONNECTION
- GAS CONNECTION WITH QUICK DISCONNECT
- HOT & COLD WATER SUPPLY (H & CW)
- WASTE (DIRECT CONNECTED)
- DRAIN (INDIRECT CONN. TO FS BY OTHERS)
- FLOOR DRAIN (FD)
- FLOOR SINK (FS) WITH HALF GRATE

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JIM THEISS
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DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	LB
DRAWING SCALE:	1/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

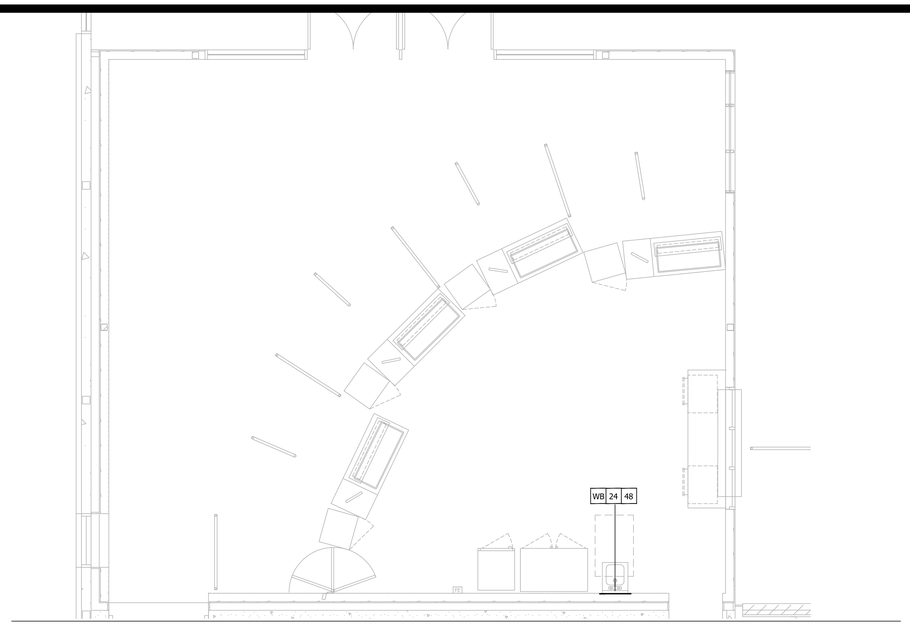
DECEMBER 2, 2020

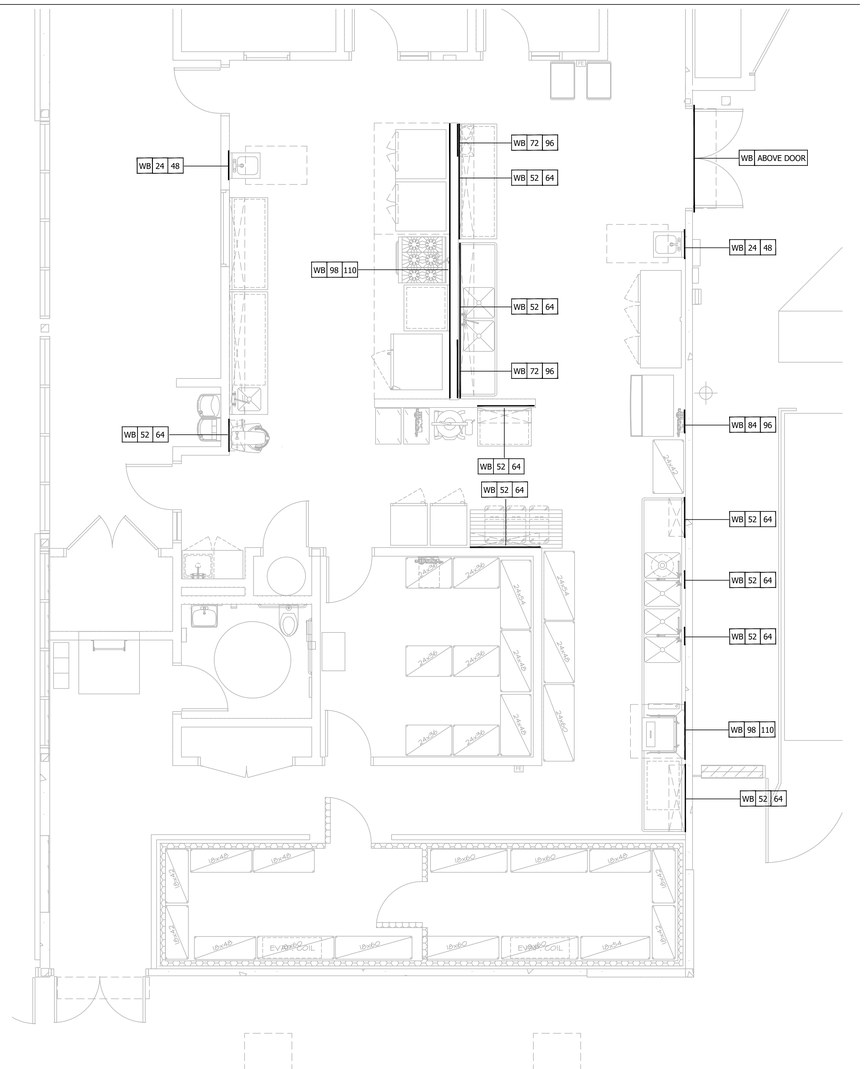
SHEET TITLE

FOODSERVICE EQUIPMENT PLUMBING PLAN

SHEET NUMBER

K3.0





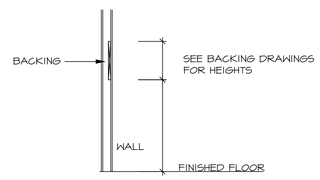
WALL BACKING NOTES

1. GC TO PROVIDE WALL BACKING PER THIS DRAWING.
2. IF FIELD CONDITIONS DO NOT ALLOW BACKING TO BE INSTALLED PER THIS PLAN GC TO ADVISE TRIMARK. TRIMARK WILL ADVISE HOW TO PROCEED.
3. THIS WALL BACKING PLAN SHOWS WALL BACKING REQUIRED FOR FOODSERVICE EQUIPMENT ONLY. CONTACT ARCHITECT FOR ANY OTHER BACKING REQUIREMENTS.

BOTTOM = THE LOWEST EDGE OF THE WALL BACKING ABOVE THE FINISHED FLOOR.

TOP = THE HIGHEST EDGE OF THE WALL BACKING ABOVE THE FINISHED FLOOR.

TYPICAL BACKING DETAIL



SHELVING ANCHORAGE NOTE

SINCE THE SHELVING UNITS ARE LESS THAN 5'-9" HIGH THEY DO NOT REQUIRE ANCHORAGE PER CBC 105.2.12.

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PTN: 61721-75	FILE NO: 7-H4

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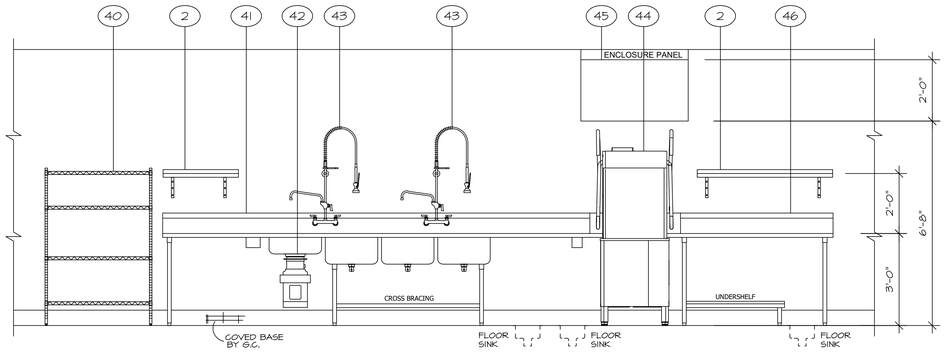
SHEET TITLE

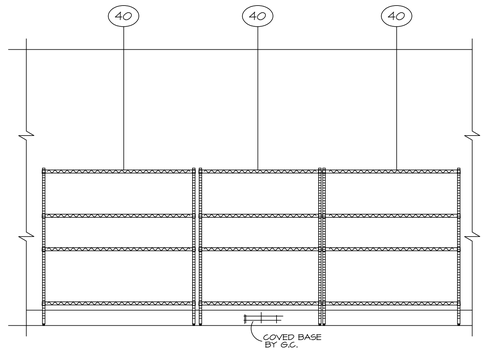
FOODSERVICE EQUIPMENT WALL BACKING

SHEET NUMBER

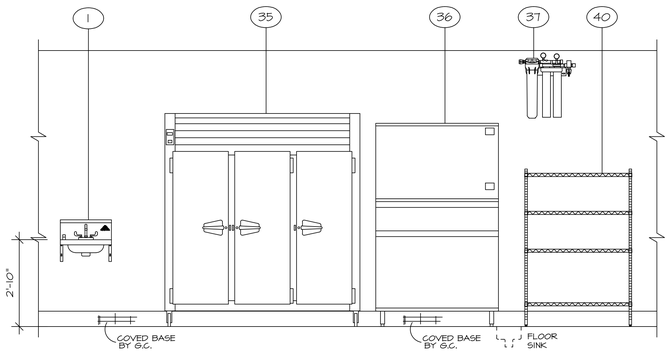
K4.0



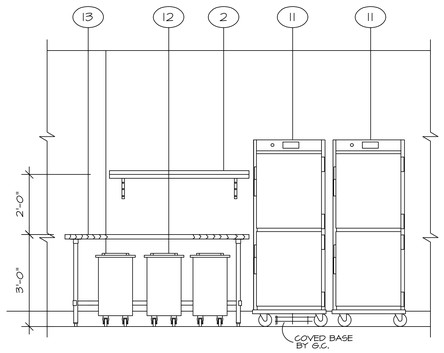
1 ELEVATION - SCULLERY
1/2" = 1'-0"



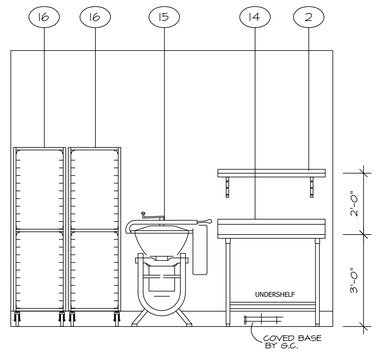
2 ELEVATION - SHELVING
1/2" = 1'-0"



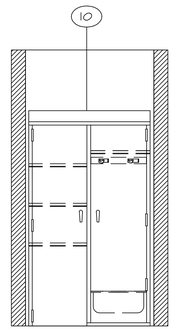
3 ELEVATION - REFRIGERATION - ICE
1/2" = 1'-0"



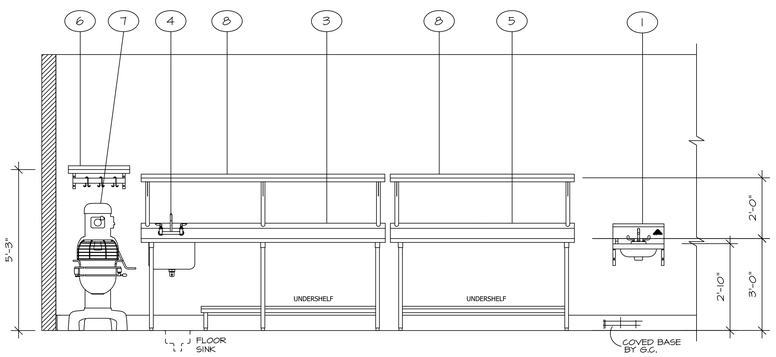
4 ELEVATION - PREP - WARMING CABINETS
1/2" = 1'-0"



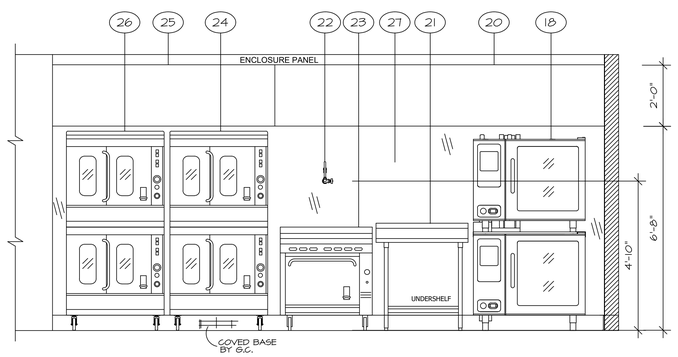
5 ELEVATION - PREP
1/2" = 1'-0"



6 ELEVATION - MOP SINK
1/2" = 1'-0"



7 ELEVATION - PREP
1/2" = 1'-0"



8 ELEVATION - COOKLINE
1/2" = 1'-0"

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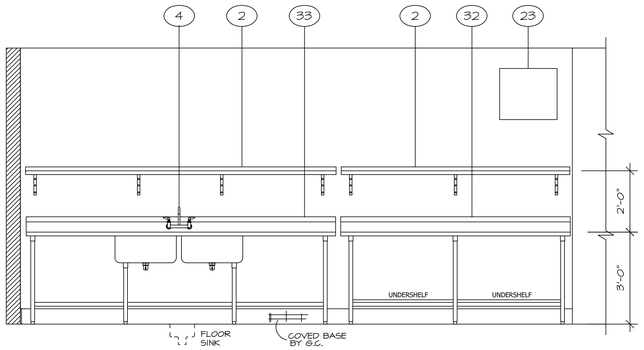
SHEET TITLE

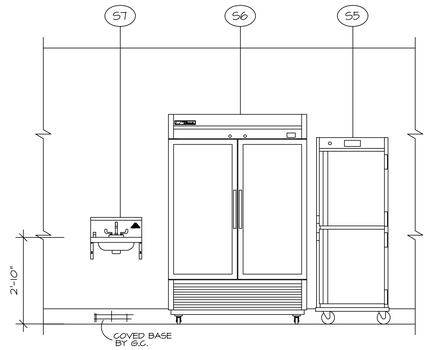
FOODSERVICE EQUIPMENT ELEVATIONS

SHEET NUMBER

K5.0



9 ELEVATION - COOKLINE
1/2" = 1'-0"



10 ELEVATION - SERVERY FOOD CABINETS
1/2" = 1'-0"

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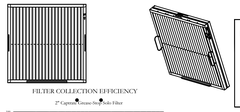
SHEET TITLE

FOODSERVICE EQUIPMENT ELEVATIONS

SHEET NUMBER

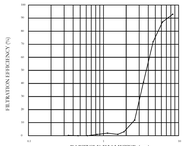
K5.1

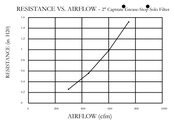
CAPTRATE SOLO FILTERS



CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH

NFPA #96
NSF STANDARD #2
UL STANDARD #1046
INT. MECH. CODE (IMC)





SPECIFICATION: CAPTRATE GREASE-STOP SOLO FILTER

THE CAPTRATE GREASE-STOP SOLO FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-BAFFLE DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

FILTER IS CONSTRUCTED OF 430 STAINLESS STEEL, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

***GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 40% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

FILTER INFORMATION – CAPTRATE® GREASE-STOP® SOLO

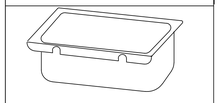
NOMINAL SIZE (H x W)	ACTUAL DIMENSIONS (H x W x D)	FREE AREA (SQ. FEET)	WEIGHT (POUNDS)	VELOCITY (FEET PER MINUTE)	STATIC PRESSURE (WATER GAUGE)
20 x 20	19-5/8" x 19-5/8" x 1-7/8"	2.28	11	100	0.25
20 x 16	19-5/8" x 15-5/8" x 1-7/8"	1.78	8.9	125	0.35
16 x 20	15-5/8" x 19-5/8" x 1-7/8"	1.78	9.1	150	0.45
16 x 16	15-5/8" x 15-5/8" x 1-7/8"	1.34	7.4	175	0.75
12 x 20	11-5/8" x 19-5/8" x 1-7/8"	1.23	6.6	200	0.90
12 x 16	11-5/8" x 15-5/8" x 1-7/8"	0.90	5.6	225	1.00
10 x 20	9-5/8" x 19-5/8" x 1-7/8"	1.00	5.6	250	1.30
10 x 16	9-5/8" x 15-5/8" x 1-7/8"	0.78	4.6	275	1.50

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH:

- NFPA #96
- NSF
- ETL Listed
- CALIFORNIA MECHANICAL CODE
- INTERNATIONAL MECHANICAL CODE

UL 710CD NSF NFPA

BUILDING CODES



Grease cup will be supported by 2 studs on the inside wall of the hood. The grease will drain through a concealed grease trough and into this removeable cup.

1/2 Pint Grease Cup Detail

*ROD AND NUTS TO BE SUPPLIED BY INSTALLING CONTRACTOR
HANGING ANGLE IS PRE-PUNCHED AT FACTORY

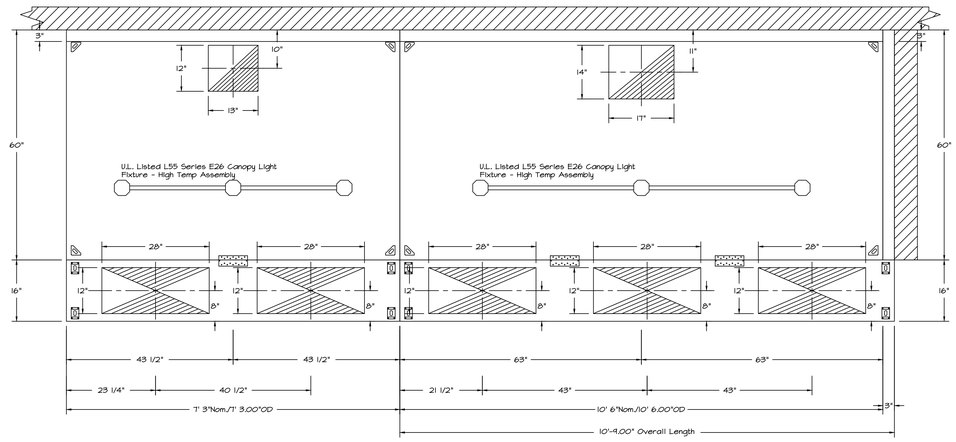
ND-2 HANGING ANGLE DETAIL

HANGING ANGLES WILL BE LOCATED IN THE FOLLOWING LOCATIONS FOR WALL CANOPIES

HOOD STYLE	DIM FROM REAR	DIM FROM FRONT (24" High Hood)	DIM FROM SIDES (24" High Hood)
ND-2 (-WI) Exhaust only	4.125"	2.25"	2.25"
VHB (-B)	2.25"	2.25"	2.25"

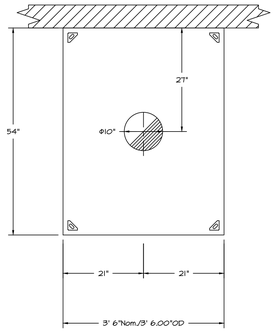
ALL OTHER HOOD MODELS CONTACT CAPTIVE AIRE FOR HANGING ANGLE LOCATIONS

HANGING ANGLE LOCATIONS

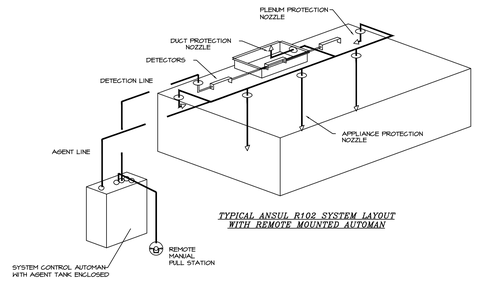


PLAN VIEW – Hood #1
7' 3.00" LONG 6024ND-2-PSP-F

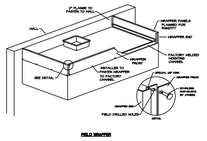
PLAN VIEW – Hood #2
10' 6.00" LONG 6024ND-2-PSP-F

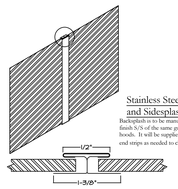


PLAN VIEW – Hood #3
3' 6.00" LONG 5424VHB-G



TYPICAL ANSUL R102 SYSTEM LAYOUT WITH REMOTE MOUNTED AUTOMAN





Stainless Steel Backsplash and Sidesplash

Backsplash is to be manufactured from #3 or #4 finish 3/4 of the same gauge and material as the hoods. It will be supplied with Batton strips and end strips as needed to close all seams and edges.

Batton Strip Detail

HOOD INFORMATION – Job#3996346

HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	APPLIANCE DUTY	DESIGN CFM/ft	TOTAL EXH. CFM	EXHAUST PLENUM RISER(S) WIDTH	LENG.	HEIGHT	DIA.	CFM	VEL.	S.P.	TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG. END TO END	ROW
1		6024 ND-2-PSP-F	7' 3"	600 Deg.	Heavy	225	1631	12"	13"	4"		1631	1506	-0.617"	1305	430 SS Where Exposed	LEFT	ALONE
2		6024 ND-2-PSP-F	10' 6"	600 Deg.	Heavy	240	2520	14"	17"	4"		2520	1525	-0.753"	1991	430 SS Where Exposed	RIGHT	ALONE
3		5424 VHB-G	3' 6"	700 Deg.	N/A	150	525			4"	10"	525	463	-0.069"	0	304 SS 100%	ALONE	ALONE

PERFORATED SUPPLY PLENUM(S)

HOOD NO.	TAG	POS.	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S) WIDTH	LENG.	DIA.	CFM	S.P.
1		Front	87"	16"	6"	M/A	12"	28"		652	0.162"
						M/A	12"	28"		652	0.162"
2		Front	124"	16"	6"	M/A	12"	28"		663	0.167"
						M/A	12"	28"		663	0.167"
						M/A	12"	28"		663	0.167"
						M/A	12"	28"		663	0.167"

HOOD INFORMATION

HOOD NO.	TAG	FILTER(S) TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	LIGHT(S) QTY	TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	SIZE	FIRE SYSTEM TYPE	FIRE SYSTEM SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WGHT
1		Captrate Solo Filter	5	20"	16"	85% See Filter Spec.	3	L55 Series E26	NO							YES	436 LBS
2		Captrate Solo Filter	7	20"	16"	85% See Filter Spec.	3	L55 Series E26	NO							YES	581 LBS
3							0									NO	158 LBS

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE
Northern California Office
1110 Burnett Ave. Suite G, Concord, CA. 94520 PHONE: (925) 962-1999 FAX: (925) 566-8565 EMAIL: reg92@captiveaire.com
www.captiveaire.com

Liberty High School - Brentwood
BRENTWOOD, CA.

DATE: 9/25/2019

DWG.#: 3996346

DRAWN BY: triet.tran

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

MASTER DRAWING

SHEET NO. 1

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0929

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP. JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

BALLINGER
RESTAURANT EQUIPMENT, INC.
1000 APOLLO WAY, SUITE 170
SANTA ROSA, CA 95407
(707) 544-8924

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO: 1783.00
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DRAWING SCALE: 1/4" = 1'-0"
PTN: 61721-75 FILE NO: 7-H4

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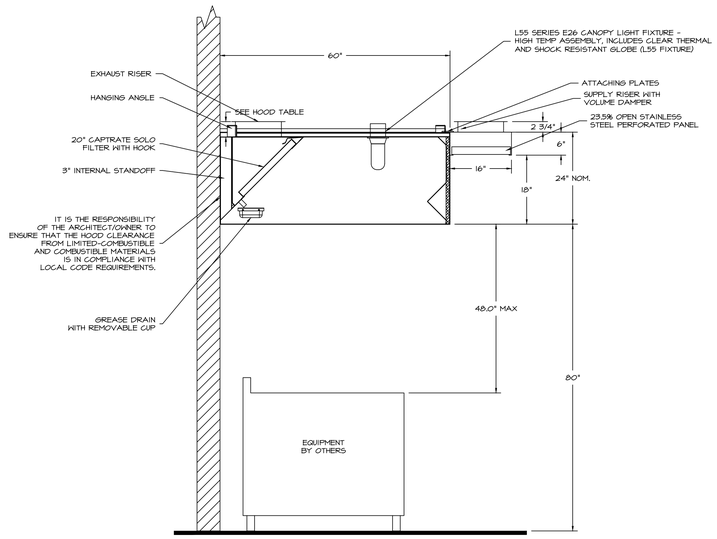
DECEMBER 2, 2020

SHEET TITLE

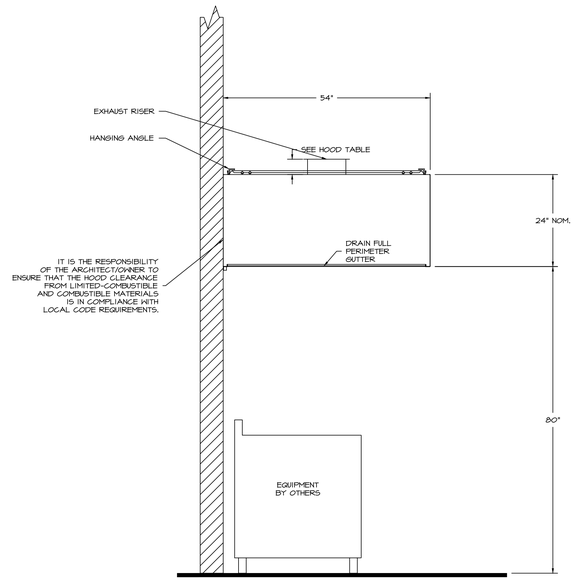
FOODSERVICE EQUIPMENT HOOD PLAN

SHEET NUMBER

K6.0



SECTION VIEW - MODEL 6024ND-2-PSP-F
HOOD - #1/#2



SECTION VIEW - MODEL 5424VHB-G
HOOD - #3

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Liberty High School - Brentwood
BRENTWOOD, CA,

DATE: 9/25/2019

DWG.#: 3996346

DRAWN BY: trlet.tran

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

MASTER DRAWING

SHEET NO. 2

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DECEMBER 2, 2020

SHEET TITLE

FOODSERVICE EQUIPMENT HOOD PLAN

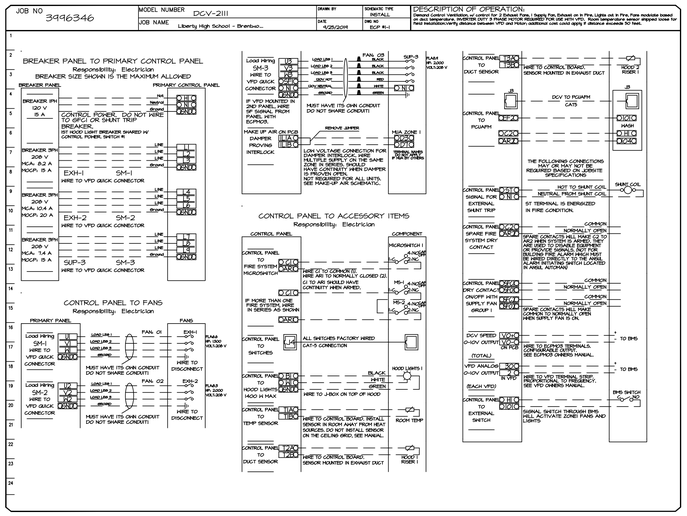
SHEET NUMBER

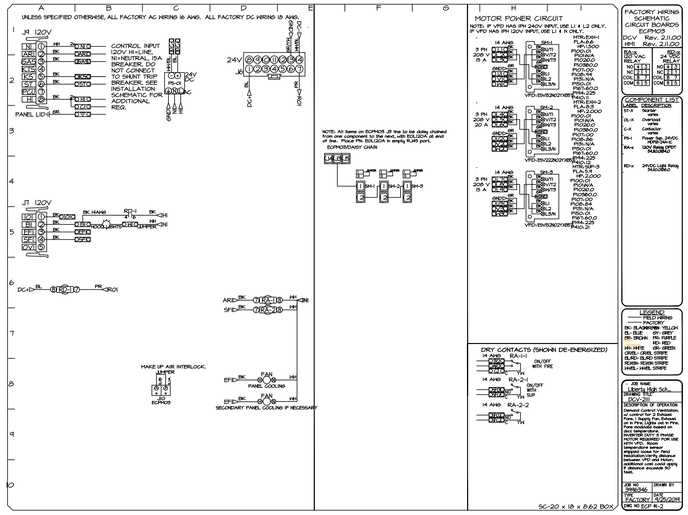
K6.1

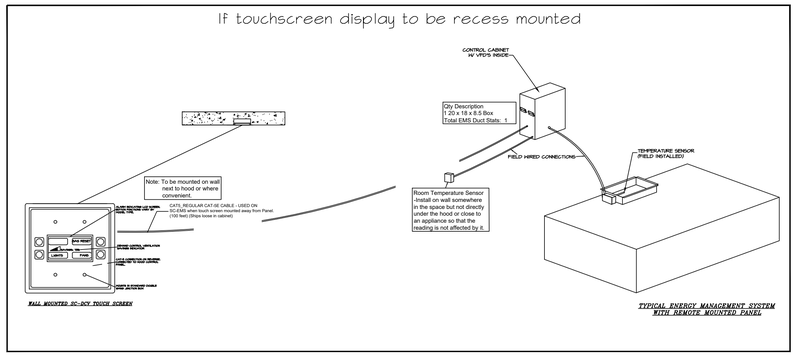
ELECTRICAL PACKAGE – Job#3996346

NO.	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		TYPE	Ø	H.P.	VOLT	FLA
1		DCV-2111	Wall Mount In SS Box	05 - SS Wall Mount Box	1 Light 1 Fan	Smart Controls DCV	Exhaust	3	1.500	208	6.6
							Exhaust	3	2.000	208	8.3
							Supply	3	2.000	208	5.4

All fans must have inverter duty motors, and all conduits from the load side of the VFDs must be seperate and dedicated.







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Liberty High School - Brentwood
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PTN: 61721-75	FILE NO: 7-H4

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DECEMBER 2, 2020

SHEET TITLE

FOODSERVICE EQUIPMENT HOOD DETAILS

SHEET NUMBER

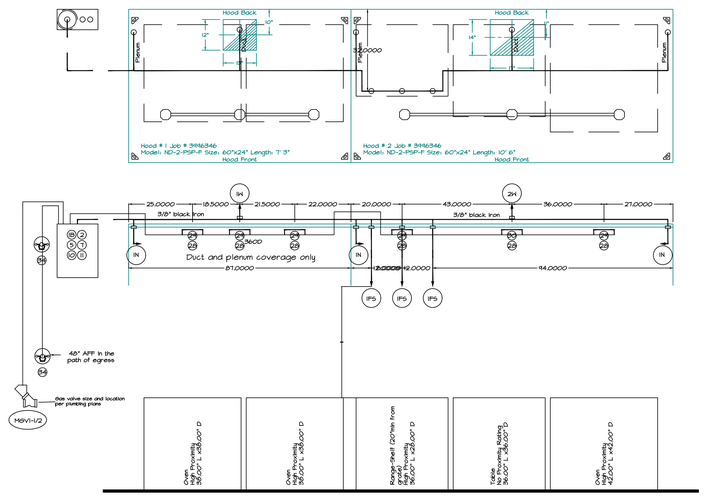
K6.2

Fire System Information – Job#3996346

FIRE SYSTEM NO.	Tag	TYPE	SIZE	FLOW POINTS	INSTALLATION	
					SYSTEM	LOCATION ON HOOD
1		Ansul R102	3.0	9	Wall Mount Left	N/A

Fire System Parts List Key

FIRE SYSTEM NO.	TAG	KEY NUMBER - PART DESCRIPTION	QTY. BY FACTORY	QTY. BY DIST.
1		1 - 1 - AT - 3.0 TANK(WB) - 3.0 Gallon SS Tank (for use with Automan Release, Actuator, or SS Enclosure (UL/ULC)) Macola # 01-424862	0	1
		2 - 2 - AP - AR AUTOMAN RELEASE - Ansul Automan Mechanical Release (UL). Tank sold separately. Ansul Part # 424853, Macola # 01-424853	0	1
		3 - 3 - LIQ-3.0 AGENT - Ansulex Low PH Wet Chemical Agent, 3 Gallon (UL) 79372	0	1
		7 - 7 - 101-20 CARTRIDGE - Carbon Dioxide 101-20, 3 Gallon Cartridge (R-102)	0	1
		10 - 10 - TLINK LINK - Test Link (1 test link) Ansul Part # 24416, Macola # 20-24416	0	1
		11 - 11 - MICRO-SDA MICROSWITCH KIT- Includes 2 switches and Mounting Hardware, Single Pole Electric Switch, One Standard Switch, One Alarm Duty Switch Ansul Part # 43755, Macola # 08-43755	0	1
		21 - 21 - QRSA-1/2 PULLEY SEAL - 1/2" Hood Seal (UL) Ansul Part # 423253, Macola # 32-74168	5	0
		34 - 34 - RPS-A REMOTE PULL STATION - Red composite (without wire rope) 434616 (Old Macola #06-4835)	0	1
		35 - 35 - PE-1/2 PULLEY ELBOW - Low Temp. Pulley Elbow, Set Screw Type Ansul Part # 415610, Macola # 11-41561I	3	10
		36 - 36 - PE-HT PULLEY ELBOW - High Temp Pulley Elbow, Compression Type, Ansul Part # 423251, Macola # 10-45711	4	0



System Designed by
Matt Eidson
Ansul Certified Designer
Certificate valid until
9/04/2019

9 FLOWPOINTS USED ON AN 11 FP UL300 ANSUL R102 3.0 GALLON SYSTEM

Flowpoint Chart Nozzle	FP	QTY	TTL FP
2W	2	1	2
1W	1	1	1
IN	1	3	3
IFS	1	3	3
Total			9FP

FIRE SYSTEM NOTES

GENERAL:
1. OWNER RESPONSIBLE FOR ADDITIONAL LABOR AND PARTS CHARGES AS A RESULT OF COOKING EQUIPMENT LAYOUT CHANGES OR MISINFORMATION PROVIDED UNDER:
DISTRIBUTOR DUE TO JOB SITE DELAYS,
UNION LABOR CHARGES, IF REQUIRED, ARE EXTRA.

GAS VALVE:
MECHANICAL OR ELECTRICAL GAS VALVE IS TO BE INSTALLED BY A LICENSED PLUMBER. PLUMBING PERMIT REQUIRED FOR GAS VALVE INSTALLATION.

ELECTRIC SHUT OFF:
ELECTRICAL COOKING EQUIPMENT MUST BE SHUT OFF WHEN FIRE SYSTEM IS ACTUATED. ELECTRICAL CONTRACTOR IS TO PROVIDE SHUT OFF CONTACTS OR SHUNT TRIP BREAKERS. THE DESIGN OF THE ELECTRICAL SHUT OFF MUST ALLOW THE ELECTRICAL POWER FOR SERVICE REMYAINS OF MECHANICAL SYSTEMS, COOKING APPLIANCES AND/OR RELATED SUPPORTS AND BRACING OF PIPE WORK.

IF APPLICABLE TO LOCAL CODE:
CARTRIDGE FIRE ALARM SYSTEM MUST BE INTERCONNECTED TO THE BUILDING ALARM.

FIRE EXTINGUISHER CONSTRUCTION:
THE EXTINGUISHER CONSISTS OF A FRONT OF A SYSTEM MAYBE,NOW WITH A NITROGEN CARTRIDGE WITH BALLOONS COVERING THE NOZZLES. THE FRONT OF THE SYSTEM CAN BE CONNECTED SIMULATING THE REMOTE AND AUTOMATIC ACTUATION.

REMOTE PULL STATION:
THE REMOTE PULL STATION POSITIONED AS SHOWN MTR TAKE IN THE UPPER RIGHT AND LOWER LEFT OF BOX, TO BE 48" ABOVE FINISHED FLOOR. LEF BYF, TO BE 12" ABOVE FINISHED DROP CEILING. ONE REMOTE PULL STATION TO BE PROVIDED. TO BE PROVIDED FOR EACH REMOTE PULL STATION WHEN TWO REMOTE PULLS ARE MOUNTED SIDE BY SIDE, THE DISTANCE BETWEEN CENTERS TO BE NO LESS THAN 7".

INSTALLATION NOTES:
REGULATED RELEASE ASSEMBLY, REGULATED ACTUATOR MUST BE INSTALLED IN A LOCATION THAT IS NOT SUBJECT TO AREAS WHERE AIR TEMPERATURE WILL NOT FALL BELOW 32 DEGREES F OR EXCEED 120 DEGREES F.

1. MOUNT THE REGULATED RELEASE ASSEMBLE AND EACH REGULATED ACTUATOR ASSEMBLY REQUIRED BY COMPLETING THE FOLLOWING STEPS:

A. SELECT A RIGID SURFACE FOR MOUNTING THE ENCLOSURE. THE MOUNTING LOCATIONS MUST ALLOW THE REGULATED RELEASE ASSEMBLY TO BE MOUNTED WITHIN 3 FEET OF THE FIRST TANK WITHIN THE LIMITATION OF THE ACTUATION AND EXPELLANT GAS LINE LENGTHS AND MUST BE ABLE TO SUPPORT THE WEIGHT OF THE ENCLOSURE, TANK AND ACTUATION ASSEMBLY.

B. DETACH THE COVER FROM THE ENCLOSURE. REMOVE AGENT TANK FROM ENCLOSURE AND THE EXPELLANT GAS LINE NOZZ FROM THE ENCLOSURE PACKAGE.

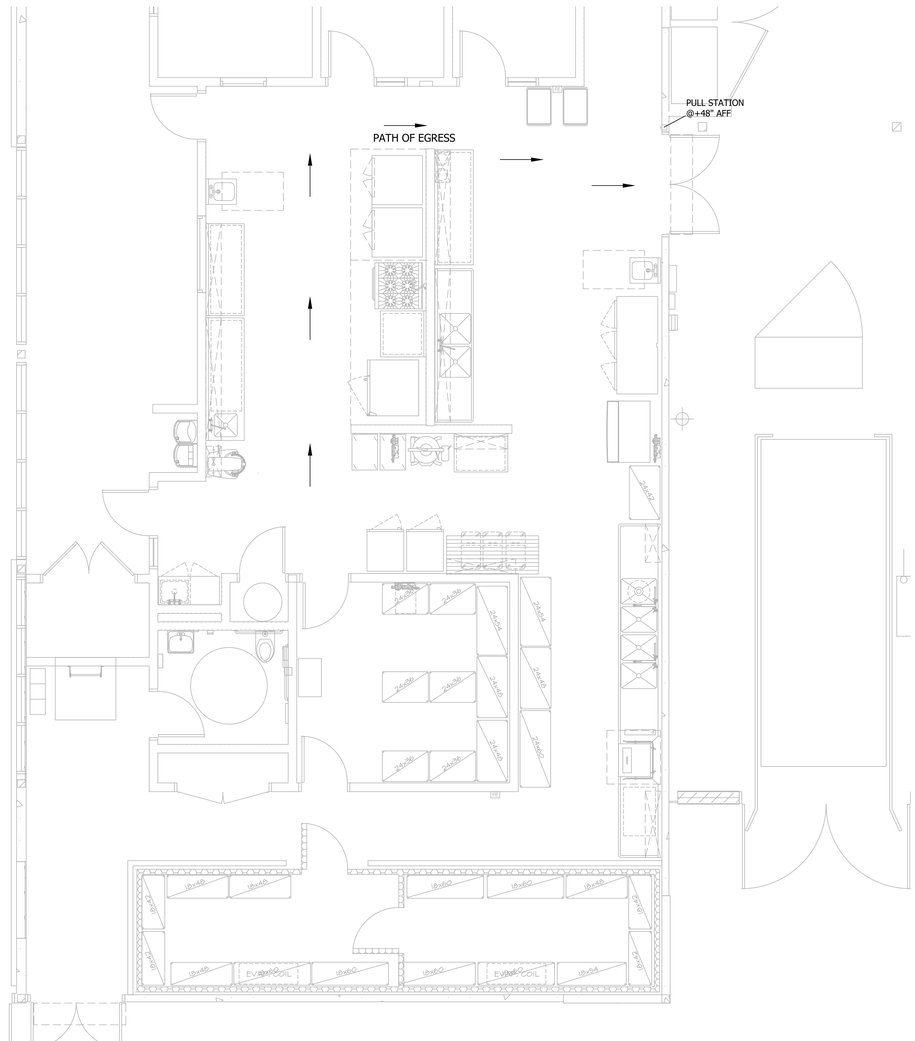
C. SECURE ENCLOSURE BOX TO SELECTED MOUNTING LOCATION USING THE FOUR MOUNTING HOLES. USE APPROPRIATE TYPE OF FASTENERS FOR SURFACE TO BE MOUNTED TO. NOTE:UL 1254, MOUNTED SYSTEMS.

SUPPLIED BY OTHERS:
ELECTRICAL CONDUIT AND NOZZLES SUPPLIED BY GAS OR FIRE DISTRIBUTOR.

ALL PIPE FOR 150 # GALLON SYSTEM IS 1/4".
ALL PIPE FOR 3.0/3.5 GALLON SYSTEM IS 3/8".
ALL PIPE SHALL BE BLACK IRON SCHEDULE-40.
ALL EXPOSED PIPE SHALL BE CHROME SLEEVED.
ALL PIPE SHALL BE MOUNTED 1/2" ABOVE SURFACE OF COOKING EQUIPMENT.

LEGEND – WALL MOUNTED ANSUL SYSTEM

1A	1.5 GALLON TANK
1B	3.0 GALLON TANK
2	AUTOMAN RELEASE
3	3 GALLON TANK ENCLOSURE
3A	6 GALLON TANK ENCLOSURE
4	REGULATED ACTUATOR
5	ANSULEX LIQUID AGENT (3 GAL)
6	ANSULEX LIQUID AGENT (1.5 GAL)
7	CARTRIDGE (101-20)
8	CARTRIDGE (101-10)
9	CARTRIDGE (101-30)
9A	CARTRIDGE (LT-A-101-30)
9B	DOUBLE TANK CARTRIDGE
10	TEST LINK
11	DOUBLE MICROSWITCH
2W	DUCT NOZZLE (419337)
1W	NOZZLE ASSEMBLY (419336)
1F	NOZZLE ASSEMBLY (419333)
1N	NOZZLE ASSEMBLY (419335)
1/2N	NOZZLE ASSEMBLY (419334)
3N	NOZZLE ASSEMBLY (419338)
24S	NOZZLE ASSEMBLY (419340)
23O	NOZZLE ASSEMBLY (419339)
21O	NOZZLE ASSEMBLY (419343)
29O	NOZZLE ASSEMBLY (419342)
26O	NOZZLE ASSEMBLY (419341)
28	DETECTOR BRACKET
29	LOW TEMP FUSIBLE LINK
30	HIGH TEMP FUSIBLE LINK
MGV	MECHANICAL GAS VALVE
EGV	ELECTRICAL GAS VALVE
34	REMOTE MANUAL PULL STATION
5	SWIVEL ADAPTOR



NOTES
- FIELD PIPE DROPS AS SHOWN
  SLEEVINS, ELBOWS, TEES, AND NOZZLES SUPPLIED BY GAS
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- MAXIMUM 4 ELBOWS IN SUPPLY LINE.

- IF APPLICABLE, PRE-PIPED CHARBROILER DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

- THIS FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS

Job #: 3996346
Job Name: Liberty High School - Brentwood

System Size: ANSUL-3.0 Total FP required: 9
Hood # 1 T' 3.00" Long x 60" Wide x 24" High
Riser # 1 Size: 12" x 13"
Hood # 1 Metal Blow-Off Caps Included.
Hood # 2 10' 6.00" Long x 60" Wide x 24" High
Riser # 1 Size: 14" x 17".
Hood # 2 Metal Blow-Off Caps Included.

REVISIONS

DESCRIPTION	DATE:

CAPTIVEAIRE
www.captiveaire.com
Northern California Office
1110 Burnett Ave. Suite G, Concord, CA. 94520 PHONE: (925) 962-1999 FAX: (925) 566-8565 EMAIL: reg92@captiveaire.com

Liberty High School - Brentwood
BRENTWOOD, CA.

DATE: 9/25/2019

DWG.#: 3996346

DRAWN BY: trlet.tran

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

MASTER DRAWING

SHEET NO. 4

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP. JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

BALLINGER
RESTAURANT EQUIPMENT, INC.
1000 APOLLO WAY, SUITE 170
SANTA ROSA, CA 95407
(707) 544-8924

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	LB
DRAWING SCALE:	1/4" = 1'-0"
PTN: 61721-75	FILE NO: 7-H4

CD

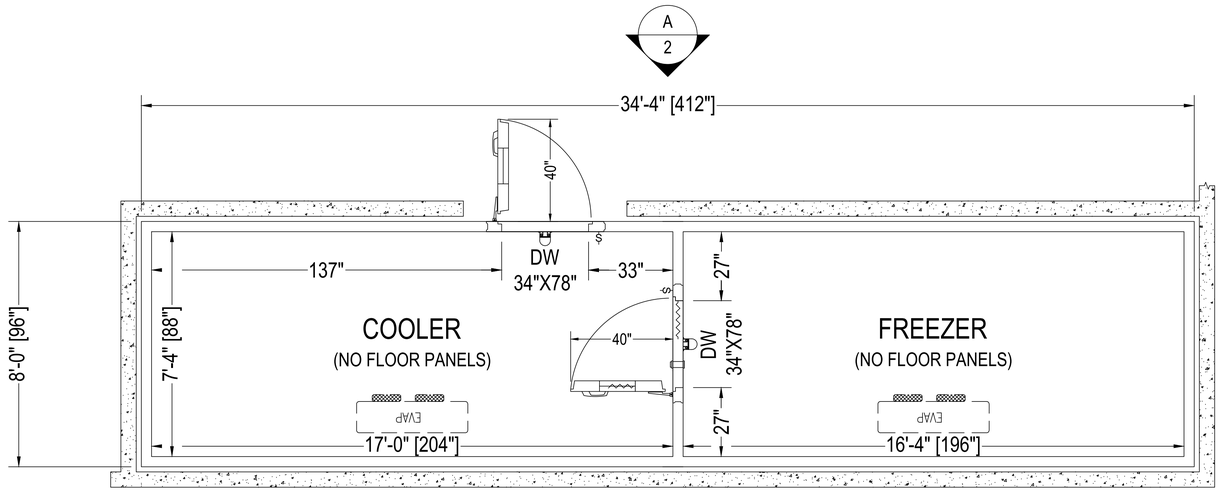
DECEMBER 2, 2020

SHEET TITLE

FOODSERVICE EQUIPMENT FIRE SUPPRESSION PLAN

SHEET NUMBER

K7.0



1 PLAN VIEW

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

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PHONE: (305) 883-5581

LOS ANGELES, CALIFORNIA
PHONE: (626) 508-0920
www.arcticwalkins.com

Intertek CONFORMS TO NSF STD 7

Intertek CONFORMS TO UL STD 471

EISA

Revisions:

No.	DATE & BY
1	12/04/19 EPM
2	12/05/19 ET
3	06/04/20 ET
4	
5	
6	
7	

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Customer Name:
BALLINGER RESTAURANT EQUIPMENT

Project Name: P.O#:
LIBERTY HIGH SCHOOL - BRENTWOOD, CA

Drawn By:	Checked By:	DRW No:
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Scale:	Created:	Sheet No:
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850 2ND STREET
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REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO: 1783.00
DRAWN BY: LB
DRAWING SCALE: 1/4" = 1'-0"
PTN: 61721-75 FILE NO: 7-H4

CD

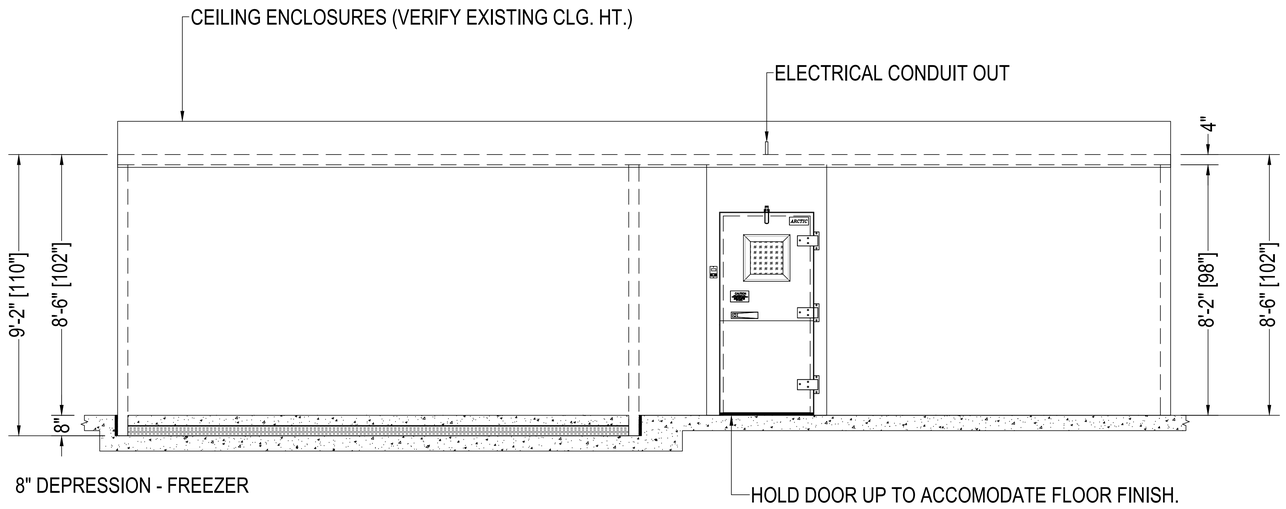
DECEMBER 2, 2020

SHEET TITLE

FOODSERVICE EQUIPMENT WALK-IN PLAN

SHEET NUMBER

K8.0



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

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Intertek CONFORMS TO UL STD 471
EISA

Revisions:

No.	DATE & BY
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LIBERTY HIGH SCHOOL - BRENTWOOD, CA

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DSA APP NO. 01-119033

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DRAWN BY:	LB
DRAWING SCALE:	1/4" = 1'-0"
PTN: 61721-75	FILE NO. 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

FOODSERVICE EQUIPMENT WALK-IN PLAN

SHEET NUMBER

K8.1

CONSTRUCTION: _

PANEL FINISHES

WALL INTERIOR: 26 GA WHITE EMBOSSED GALVANIZED STEEL
WALL EXTERIOR: 26 GA WHITE EMBOSSED GALVANIZED STEEL
WALL EXPOSED:

CEILING INTERIOR: 26 GA WHITE EMBOSSED GALVANIZED STEEL
CEILING EXTERIOR: 26 GA STUCCO EMBOSSED GALVANIZED STEEL

FLOOR INTERIOR: SMOOTH ALUMINUM - NSF APPROVED
FLOOR EXTERIOR: 26 GA MILL EMBOSSED ACRYLUME

DOOR DESCRIPTION

FREEZER DOOR:
INTERIOR FINISH: 26 GA WHITE EMBOSSED GALVANIZED STEEL
EXTERIOR FINISH: 26 GA WHITE EMBOSSED GALVANIZED STEEL

COOLER DOOR:
INTERIOR FINISH: 26 GA WHITE EMBOSSED GALVANIZED STEEL
EXTERIOR FINISH: 26 GA WHITE EMBOSSED GALVANIZED STEEL

NOTES:

ACCESSORIES:
HINGE MODEL: 1255 BRUSHED CHROME (3)
DOOR CLOSURE 1094 W/HOOK
HANDLE 1229C BRUSHED CHROME
36" STAINLESS STEEL KICKPLATE INT. & EXT.
VAPOR PROOF LIGHT - (1804LB) W/NIGHT LIGHT

HEATED WIRE & PRV (FREEZER)
14" X 14" HEATED GLASS VISION PANEL, TRIPLE PANE – FREEZER
14" X 14" NON–HEATED GLASS VISION PANEL, TRIPLE PANE – COOLER

WALK-IN ACCESSORIES

(1) - EA AIR CURTAIN, PLASTIC STRIP (UP TO 41" X 80" DOOR)
(89') - FT 4" SCREED - NSF
(4) - EA LED 4' LIGHT FIXTURE
(10) - SQ.FT TRIM STRIPS - MATCHING EXTERIOR FINISH
(10) - SQ.FT CLOSURE PANELS - MATCHING EXTERIOR FINISH
(136) - SQ.FT.MASS INSULATION AND VISQUEEN

SEISMIC PROVISIONS INCLUDED

NOTE: SEE LAST PAGE FOR DETAILS

GENERAL NOTES

FLOOR MUST BE LEVEL WITHIN 3/16" PER 10', SMOOTH, AND CLEAR OF OBSTRUCTIONS PRIOR TO INSTALLING WALK-IN PANELS.

A 2" MINIMUM GAP ALL AROUND WALK-IN IS REQUIRED FOR PROPER AIR CIRCULATION. HIGH HUMIDITY ENVIRONMENTS MAY REQUIRE FORCED VENTILATION IN GAP TO PREVENT CONDENSATION.

FLOOR PANELS (WHEN PROVIDED) ARE DESIGNED TO WITHSTAND A 600 POUND PER SQUARE FOOT STATIONARY LOAD. DAMAGE DUE TO FORKLIFTS, PALLET JACKS, CARTS, OR ANY TYPE OF ROLLING TRAFFIC IS NOT COVERED BY WARRANTY.

STANDARD PANELS HAVE A STUCCO-EMBOSSED FINISH (TEXTURE) THAT HELPS REDUCE IRREGULARITIES IN THE PANEL SURFACE. ON REQUEST WE WILL PROVIDE A NON-TEXTURED (SMOOTH FINISH). SMOOTH FINISH PANELS TYPICALLY EXPERIENCE WRINKLING AND OTHER FLATNESS IMPERFECTIONS SUCH AS OIL-CANNING WHICH IS NOT COVERED BY WARRANTY.

WALK-IN ROOF IS NOT DESIGNED FOR FOOT TRAFFIC OR STORAGE. SNOW/ICE LOADS (OUTDOOR BOXES): TO AVOID CEILING FAILURE/COLLAPSE DUE TO SNOW OR ICE (NOT COVERED BY PANEL WARRANTY), SNOW OR ICE ACCUMULATION OF MORE THAN 3" MUST BE CAREFULLY REMOVED IN A MANNER WHICH DOES NOT CAUSE DAMAGE OR TEAR THE MEMBRANE ROOF COVER.

FOR QUARRY TILE OR CONCRETE FLOORS, THE METAL FACING MAY BE SUSCEPTIBLE TO STAINING DUE TO MOISTURE CREATED BY HYDRATION OF CONCRETE-TYPE MATERIALS. EACH ROOM MUST BE PROPERLY VENTILATED AND SPECIAL PRECAUTIONS TAKEN WHEN USING MURIATIC ACID DUE TO ITS EFFECTS ON ALUMINUM, GALVANIZED STEEL, AND STAINLESS STEEL. METAL SURFACES MUSTS BE PROTECTED FROM LIME AND CONCRETE RELATED COMPONENTS. PETROLEUM-BASED PROTECTION MUST BE APPLIED BETWEEN THE CONCRETE AND THE METAL SURFACES (LIQUID TAR BRUSHED OR SPRAYED ABOVE CONCRETE LINE, HEAVY EPOXY PAINT, 8 MIL POLYETHYLENE, OR DOUBLE LAYERED 30 LB ASPHALT IMPREGNATED ROOFING PAPER).

☐ APPROVED AS DRAWN
☐ APPROVED AS NOTED
☐ RESUBMIT

SIGNED _____

DATE: _____

REFRIGERATION DATA SHEET

ITEM	QTY	HP	MANUFACTURE	MODEL	REFRIG	V/P/H	MCA	FANS	CONNECTION INLET	CONNECTION SUCTION	DIMENSIONS(IN) LENGTH	DIMENSIONS(IN) DEEP	DIMENSIONS(IN) HEIGHT	WEIGHT LBS	BTUH
HERMETIC,REMOTE PRE-ASSEMBLED,AIR-COOLED,35°,OUTDOOR															
1	1	1-3/4	RUSSELL C/U	RFO180E4SDA	R448	208/230/1/60	15.5		1/2	7/8	38 1/4	28 1/4	18 3/4	210	13690
2	1		RUSSELL COIL	RL6A117ADASL		115/1/60 EC	1.6	2	3/8	5/8	43 5/8	15 1/2	16 3/4		
ACCESSORIES															
3	1	4	RUSSELL C/U	RFO400L4SDA	R448	208/230/1/60			1-1/8	1/2	42-1/4	33	35	352	12990
4	1		RUSSELL COIL	RL6E105DDASL		208/230/1/60 EC	10.8	2	3/8	7/8	43-5/8	12-1/2	16-3/4		
ACCESSORIES															
			6.56 FT DRAIN LINE HEATER MODEL HB02-2,240/1/60, 46 WATTS, 0.19 AMP(SHIPPED LOOSE)												

NOTE: A LICENSED REFRIGERATION INSTALLER MUST DECIDE PLACEMENT OF EVAPORATOR(S) BASE ON SITE CONDITIONS.
EVAPORATOR PLACEMENT ON DRAWING SHOULD BE USED FOR REFERENCE ONLY.
DETAILED REFRIGERATION SPECIFICATIONS ARE AVAILABLE UPON REQUEST

Arctic WALK-IN COOLERS AND FREEZERS
MIAMI, FLORIDA PHONE: (305) 883-5581
LOS ANGELES, CALIFORNIA PHONE: (626) 306-0920
www.arcticwalkins.com

Customer Name: BALLINGER RESTAURANT EQUIPMENT
Project Name: LIBERTY HIGH SCHOOL - BRENTWOOD, CA
P.O#:

Drawn By:	Checked By:	DRW No:
ET	AH	Q156964 V002
Scale:	Created:	Sheet No:
As Shown	12/02/10	

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Pleasanton Office:
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Pleasanton, CA 94566
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SANTA ROSA, CA 95407
(707) 544-8924

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

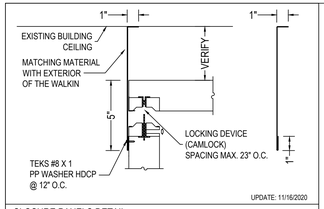
LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

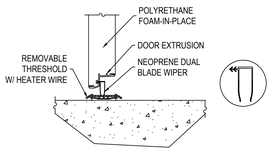
DSA APP NO. 01-119033
ARCH PROJECT NO: 1783.00
DRAWN BY: LB
DRAWING SCALE: 1/4" = 1'-0"
PTN: 61721-75 FILE NO: 7-H4
CD
DECEMBER 2, 2020

SHEET TITLE
FOODSERVICE EQUIPMENT WALK-IN DETAILS

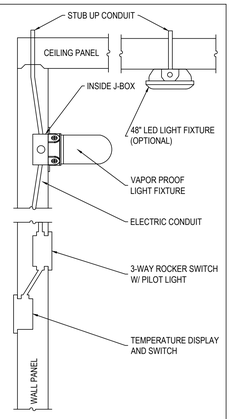
SHEET NUMBER
K8.2



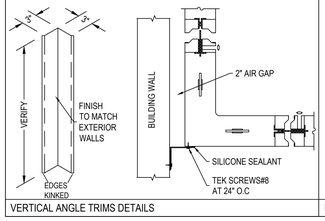
CLOSURE PANELS DETAIL



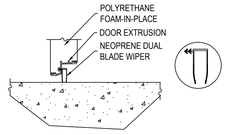
DOOR SILL ON GROUND W/HEATER WIRE



DOOR DETAIL STUB UP CONDUIT



VERTICAL ANGLE TRIMS DETAILS



DOOR SILL ON GROUND NON HEATER

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MIAMI, FLORIDA PHONE: (305) 885-0381 sales@arcticfreezers.com
LOS ANGELES, CALIFORNIA PHONE: (626) 938-0500
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Customer Name: BALLINGER RESTAURANT EQUIPMENT		
Project Name: LIBERTY HIGH SCHOOL - BRENTWOOD, CA	P.O#:	
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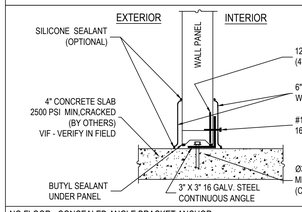
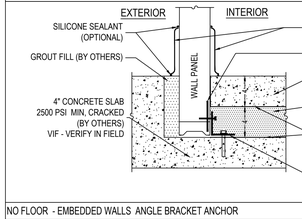


IMPORTANT NOTE:
ANCHOR DETAILS ARE NOT FOR SEISMIC APPLICATIONS UNLESS SEISMIC ENGINEERING IS PERFORMED BY ARCTIC AND DRAWINGS ARE STAMPED

AB REQUIRES SPECIAL INSPECTIONS IN CERTAIN JURISDICTIONS. SEE PROFIS REPORT FOR CALCS AND INSTALLATION INSTRUCTIONS

NO FLOOR - CONCEALED ANGLE BRACKET ANCHOR



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NO FLOOR - EMBEDDED WALLS ANGLE BRACKET ANCHOR

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☐ RESUBMIT

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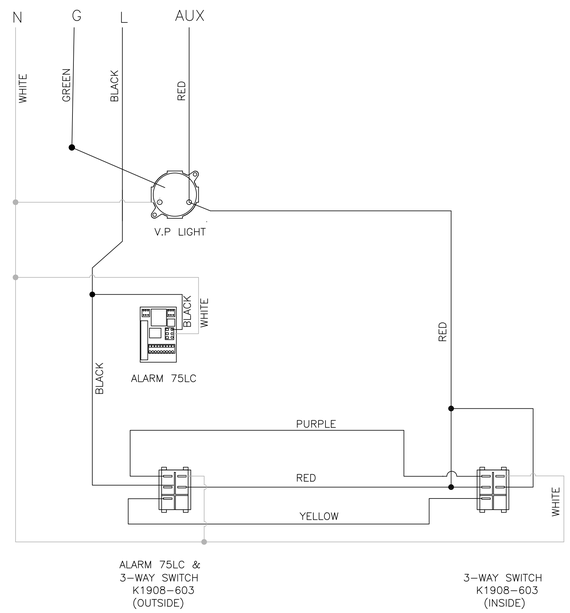
DECEMBER 2, 2020

SHEET TITLE

FOODSERVICE EQUIPMENT WALK-IN DETAILS

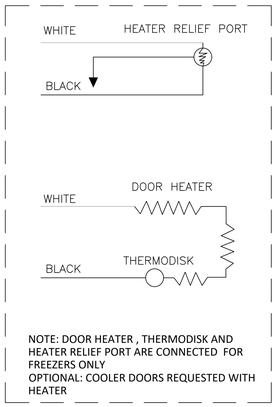
SHEET NUMBER

K8.3



This is a 120VAC, 15 amp circuit auxiliary lights max combined draw 10 amps	
Manufacturer	**Model**
Keil (Component Hardware)	LED48X754
Kason	1802, 1802NL,1803, 1804, 1806, 1807, 1808,
	1808NM, 1808FM, 1809, 1810EZ Series,
	1810LX, 1810LC, 1820
MaxLite	LSV Series, JJ Series
Osram Sylvania	30099 Series
Various	UL Listed 120VAC, no greater than 60 watts

NOTE: If Auxiliary Lights are not powered from the WIB Electrical Circuit, the Red Aux Wire must be removed by Qualified Electrician



NOTE: DOOR HEATER , THERMODISK AND HEATER RELIEF PORT ARE CONNECTED FOR FREEZERS ONLY
OPTIONAL: COOLER DOORS REQUESTED WITH HEATER

Arctic®
WALK-IN COOLERS AND FREEZERS
FLORIDA, USA (305) 883-5581
CALIFORNIA, USA (626)508-0920

WIRING DIAGRAM 3-WAY

DOOR MUST BE DISCONNECTED FROM ELECTRICAL SUPPLY FOR INSTALLATION AND ADJUSTMENTS.
CONDUIT PENETRATIONS MUST BE SEALED INTERNALLY AND EXTERNALLY WHERE THEY ENTER THE WALK-IN BOX.

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APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0929

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP. JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

BALLINGER
RESTAURANT EQUIPMENT, INC.
1000 APOLLO WAY, SUITE 170
SANTA ROSA, CA 95407
(707) 544-8924

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO: 1783.00
DRAWN BY: LB
DRAWING SCALE: 1/4" = 1'-0"
PTN: 61721-75 FILE NO: 7-H4

CD

DECEMBER 2, 2020

SHEET TITLE

FOODSERVICE EQUIPMENT WALK-IN WIRING

SHEET NUMBER

K8.4

FEATURES/COMPONENTS

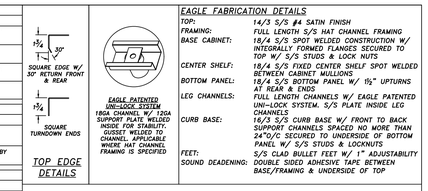
TAG	QTY	MANU/VENDOR	MODEL #	DESCRIPTION	SUPPLIED	INSTALLED	DETAIL/REMARKS
1	1	EAGLE	#DCS3-CF-GT-MOD	SNEEZEGUARD	EAGLE	EAGLE	CAFETERIA STYLE SERVING SNEEZEGUARD W/ 3/8" GLASS TOP. 1/4" TEMPERED GLASS PANELS. ADJ. FRONT PANEL & FULL END PANELS
2	1	HATCO	#HRGB-48IB	HEATED BASE GLASS SHELF	EAGLE	EAGLE	TOP CUTOUT & REINFORCEMENT PROVIDED BY EAGLE FOR CUSTOMER SUPPLIED & INSTALLED DROP-IN
3	1	(REC TO SPECIF)	(REC TO SPECIF)	REFRIGERATOR	OTHERS	OTHERS	EAGLE TO PROVIDE A DEDICATED DUPLEX RECEPTACLE FOR CUSTOMER SUPPLIED & INSTALLED REFRIGERATOR
4	1	EAGLE	#RHHL-60-120	HEATLAMP	EAGLE	EAGLE	HEATLAMP SUPPLIED AND FACTORY INSTALLED BY EAGLE, FINAL CONNECTIONS TO BE MADE BY OTHERS IN FIELD

ELECTRICAL SCHEDULE

TAG	QTY	DESCRIPTION	ELECTRICAL INFO	SUPPLIED	WIRED	DETAIL/REMARKS
A	1	HATCO #HRGB-48IB	1050W/120V/8.8A	EAGLE	EAGLE	HEATED SHELF TO BE PROVIDED & FACTORY WIRED TO COMMON SINGLE POINT CONNECTION BY EAGLE. FINAL CONNECTIONS TO BE MADE BY OTHERS IN FIELD.
B	1	EAGLE #RHHL-48-120	1050W/120V/8.75A	EAGLE	EAGLE	HEATLAMP SUPPLIED AND FACTORY WIRED TO COMMON SINGLE POINT CONNECTION BY EAGLE. FINAL CONNECTIONS TO BE MADE BY OTHERS IN FIELD

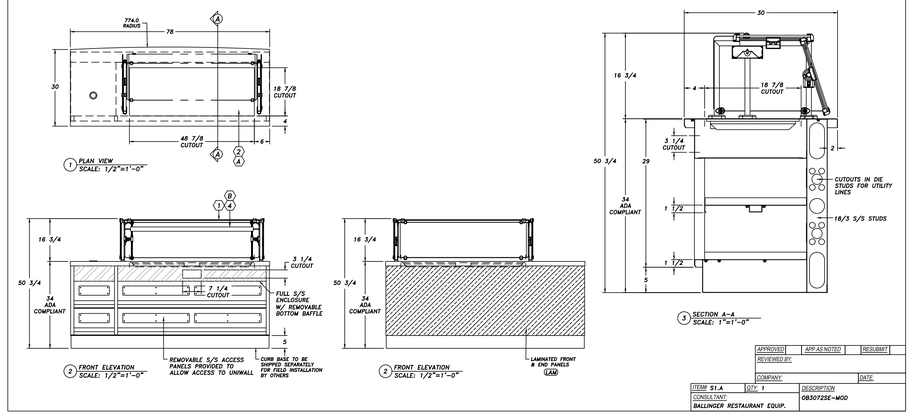
FINISH

TAG	MANU/VENDOR	MODEL #	DESCRIPTION	SUPPLIED	INSTALLED	DETAIL/REMARKS
LAM	(REC TO SPECIF)	(REC TO SPECIF)	LAMINATE	EAGLE	EAGLE	LAMINATE TO BE APPLIED AT REAR, LEFT & RIGHT HAND ENDS



EAGLE FABRICATION DETAILS

TOP:	14/3 S/S #4 SATIN FINISH
FRAMING:	FULL LENGTH S/S HAT CHANNEL FRAMING
BASE CABINET:	18/4 S/S SPOT WELDED CONSTRUCTION W/ INTEGRALLY FORMED FLANGES SECURED TO TOP W/ S/S STUDS & LOCK NUTS
CENTER SHELF:	18/4 S/S FIXED CENTER SHELF SPOT WELDED BETWEEN CABINET MULLIONS
BOTTOM PANEL:	18/4 S/S BOTTOM PANEL W/ 1½" UPTURNS AT REAR & ENDS
LEG CHANNELS:	FULL LENGTH CHANNELS W/ EAGLE PATENTED UNI-LOCK SYSTEM. S/S PLATE INSIDE LEG CHANNELS
CURB BASE:	16/3 S/S CURB BASE W/ FRONT TO BACK SUPPORT CHANNELS SPACED NO MORE THAN 24"O/C SECURED TO UNDERSIDE OF BOTTOM PANEL W/ S/S STUDS & LOCKNUTS
FEET:	S/S CLAD BULLET FEET W/ 1" ADJUSTABILITY
SOUND DEADENING:	DOUBLE SIDED ADHESIVE TAPE BETWEEN BASE/FRAMING & UNDERSIDE OF TOP



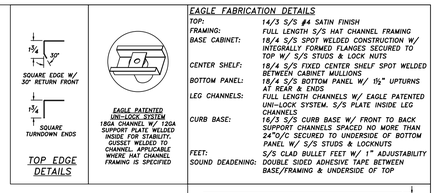
APPROVED	APP AS NOTED	RESUBMIT
REVIEWED BY:		
COMPANY:		DATE:

ITEM S1.A	QTY: 1	DESCRIPTION
CONSULTANT: BALLINGER RESTAURANT EQUIP.		083072SE-MOD

1

FEATURES/COMPONENTS

TAG	QTY	MANU/VENDOR	MODEL #	DESCRIPTION	SUPPLIED	INSTALLED	DETAIL/REMARKS
1	1	(REC TO SPECIF)	(REC TO SPECIF)	WARMING DRAWERS	OTHERS	OTHERS	CLEARANCE PROVIDED BY EAGLE FOR CUSTOMER SUPPLIED & INSTALLED DRAWER WARMERS



EAGLE FABRICATION DETAILS

TOP:	14/3 S/S #4 SATIN FINISH
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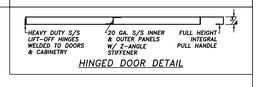
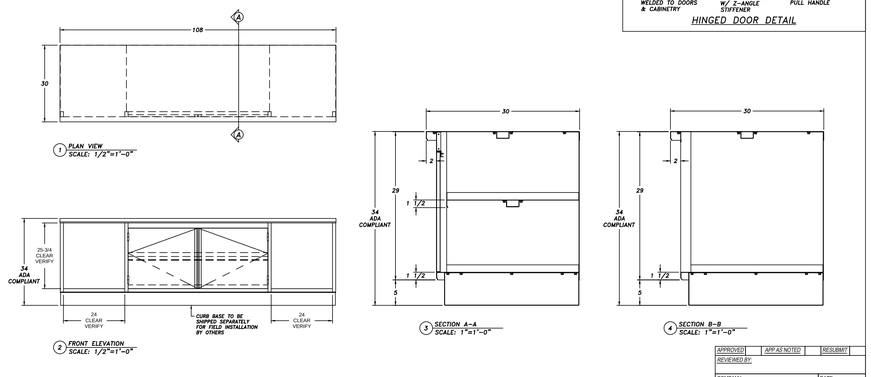


HINGED DOOR DETAIL



APPROVED	APP AS NOTED	RESUBMIT
REVIEWED BY:		
COMPANY:		DATE:

ITEM S9	QTY: 1	DESCRIPTION
CONSULTANT: BALLINGER RESTAURANT EQUIP.		083078SE-MOD

5

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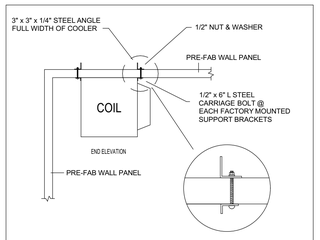
DECEMBER 2, 2020

SHEET TITLE

FOODSERVICE EQUIPMENT SERVERY COUNTERS

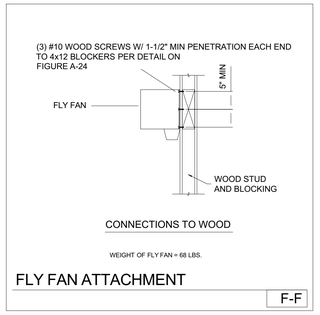
SHEET NUMBER

K9.0



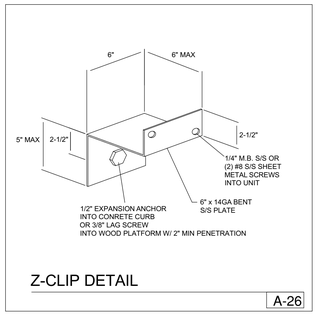
EVAPORATOR COIL HANGING DETAIL

EC



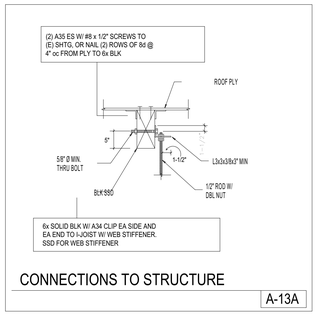
FLY FAN ATTACHMENT

F-F



Z-CLIP DETAIL

A-26

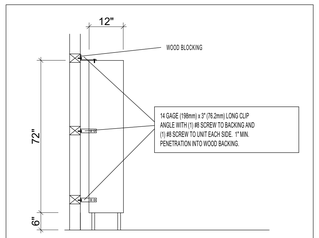


CONNECTIONS TO STRUCTURE

A-13A

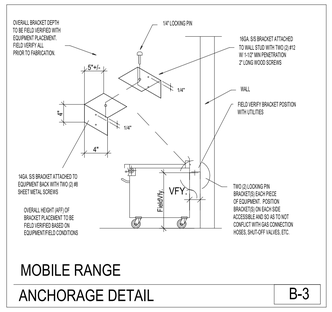
FREE STANDING TABLE
ANCHORAGE DETAIL

A-1



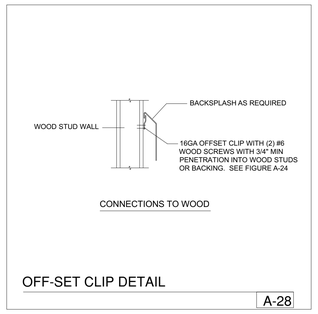
EMPLOYEE LOCKER
ANCHORAGE DETAIL

L-1



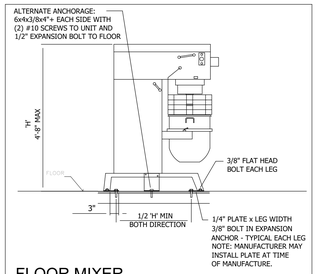
MOBILE RANGE
ANCHORAGE DETAIL

B-3



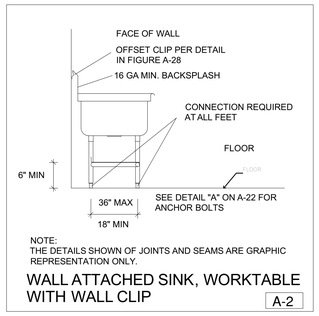
OFF-SET CLIP DETAIL

A-28



FLOOR MIXER
ANCHORAGE DETAIL

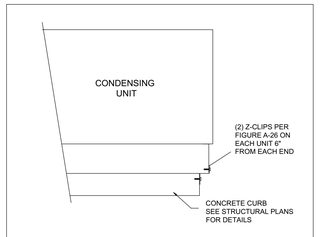
A-19



NOTE:
THE DETAILS SHOWN OF JOINTS AND SEAMS ARE GRAPHIC REPRESENTATION ONLY.

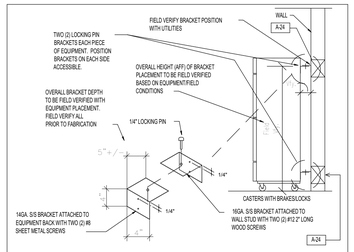
WALL ATTACHED SINK, WORKTABLE
WITH WALL CLIP

A-2



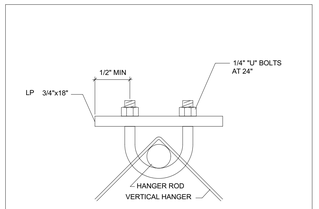
REFRIGERATION CONDENSING UNIT
ANCHORAGE DETAILS

R-1



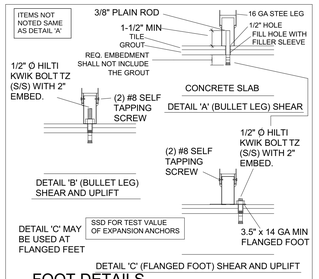
MOBILE REFRIGERATOR
ANCHORAGE DETAIL

B-4



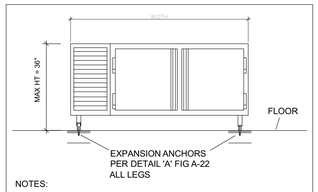
ALTERNATE ROD STIFFENER

A-31



FOOT DETAILS

A-22

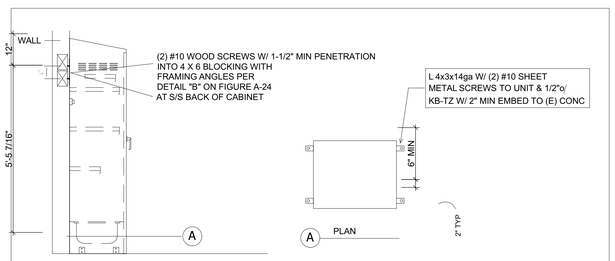


NOTES:

1. THE LEAST PLAN DIMENSION MUST BE GREATER THAN OR EQUAL TO 6/10 HEIGHT OR USE FIGURE A-8
2. APPLIANCE WITHING COUNTER MUST BE ATTACHED TO COUNTER IF THE COUNTER IS ATTACHED TO FLOOR WITHIN 24" OF APPLICANCE EACH SIDE

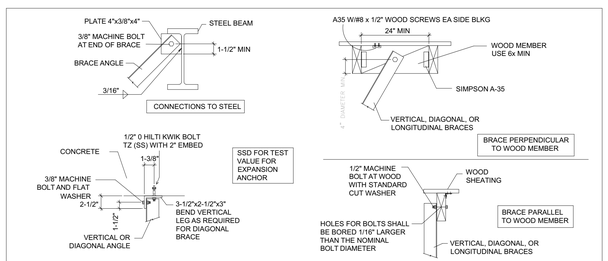
FLOOR MOUNTED APPLIANCE

A-7



MOP SINK CABINET
AGAINST WALL

MSC

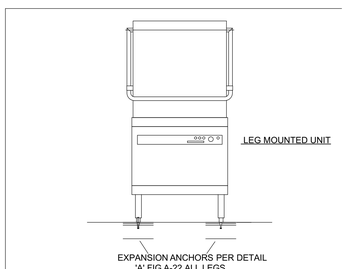


CONNECTIONS TO STRUCTURE

A-32

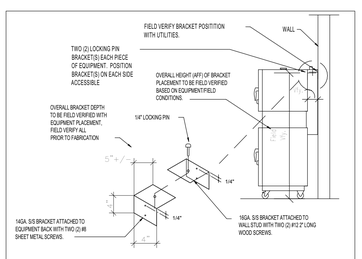
WALL SUPPORT BACKING

A-24



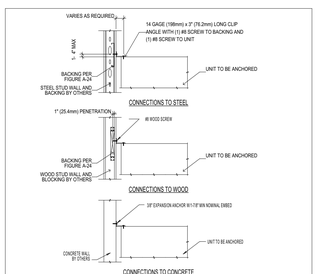
FLOOR MOUNTED APPLIANCE

A-8



COMBI OVEN/CONVECTION OVEN
ANCHORAGE DETAIL

B-6



TOP ANGLE CONNECTION

A-25

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK
ARCHITECTS

Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
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LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
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SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
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LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	CH
DRAWING SCALE:	AS NOTED
PTN: 61721-75	FILE NO: 7-H4

CD

DECEMBER 2, 2020

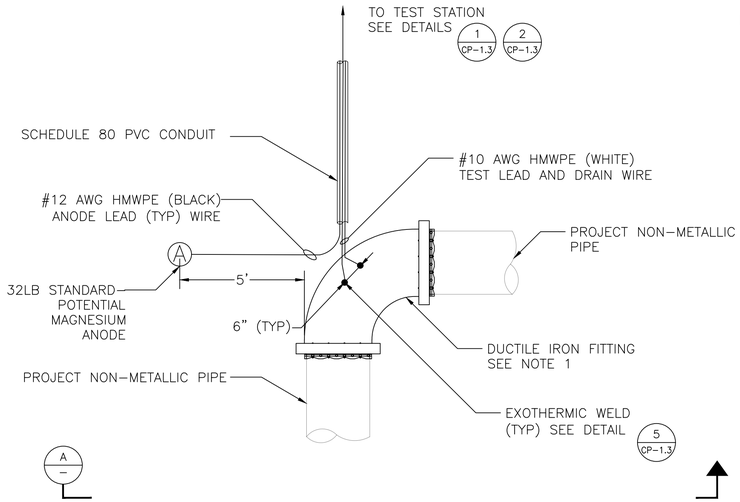
SHEET TITLE

FOOD SERVICE ATTACHMENT DETAILS

SHEET NUMBER

K10.0

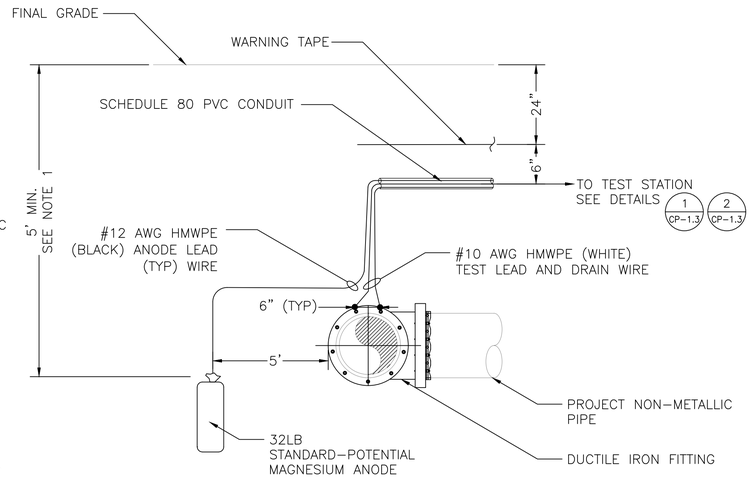
BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS_22-11/24/2020/5:09 PM



NOTE:

1. DUCTILE IRON FITTING MAY BE DIFFERENT GEOMETRY, SUCH AS TEE OR INLINE.
2. WRAP FITTING IN PETROLATUM WAX TAPE AND OVERLAP PIPE BY 2 TIMES THE PIPE DIAMETER.

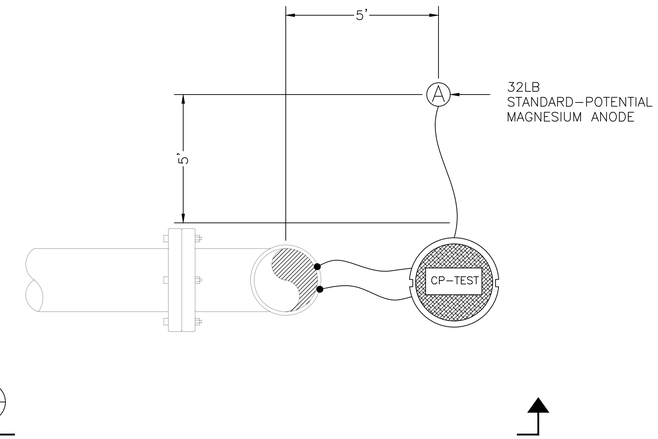
ANODE TEST STATION (ATS) FOR METALLIC FITTING OR VALVE ON NON-METALLIC PIPE PLAN VIEW (1)
NTS



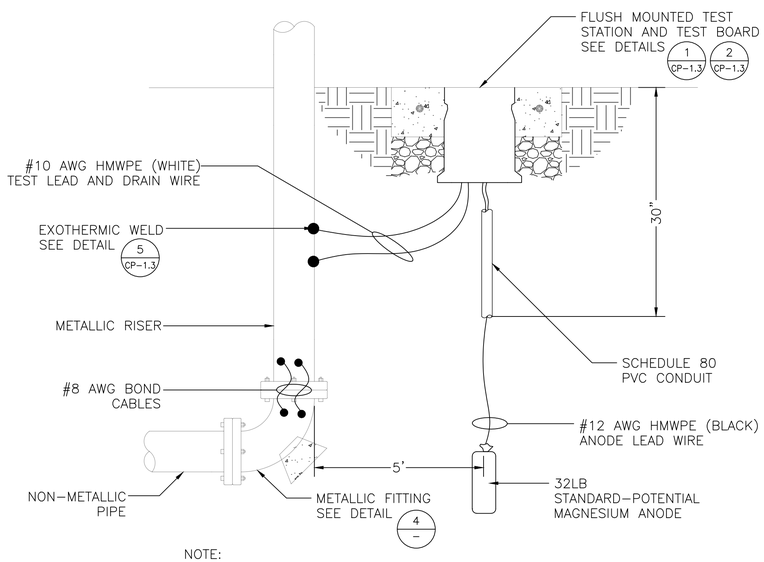
NOTE:

1. TOP OF ANODE SHALL BE AT OR BELOW PIPE INVERT.

ANODE TEST STATION (ATS) FOR METALLIC FITTING OR VALVE ON NON-METALLIC PIPE SECTION VIEW (A)
NTS



ANODE TEST STATION (ATS) FOR RISER PLAN VIEW (2)
NTS



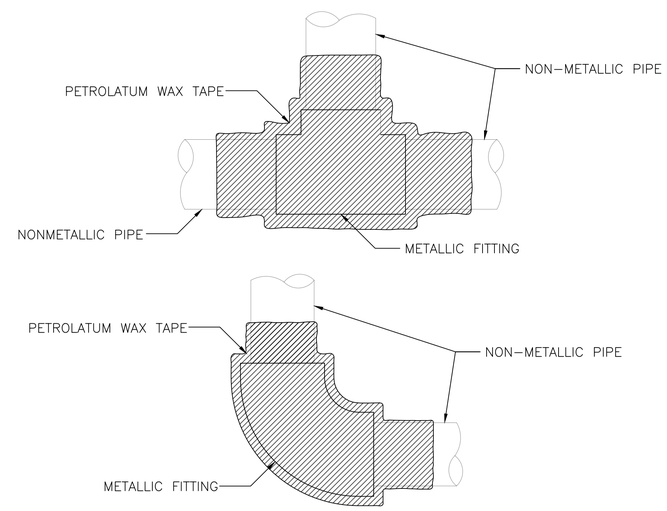
NOTE:

1. IF RISER IS DUCTILE IRON, BOND PIPE AND FITTINGS. RISER MAY HAVE 90 DEGREE ELBOW OR TEE. DUCTILE IRON PIPE AND FITTINGS SHALL HAVE POLYETHYLENE ENCASEMENT.
2. IF RISER IS STAINLESS STEEL, WRAP IN PETROLATUM WAX TAPE.

ANODE TEST STATION (ATS) FOR RISER SECTION VIEW (B)
NTS

DETAIL NOT USED

(3)



NOTES:

1. PETROLATUM WAX TAPE SHALL OVERLAP PIPE BY 2 TIMES THE PIPE DIAMETER.
2. ENCASE FITTING AND PETROLATUM WAX TAPE IN CONCRETE WITH 2-INCH COVER AT MINIMUM

CORROSION CONTROL FOR 2-INCH DIAMETER METALLIC FITTING (4)
NTS

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REGISTERED PROFESSIONAL ENGINEER
GLENN H. WILSON
NO. CR1076
CORROSION
STATE OF CALIFORNIA
06/26/2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
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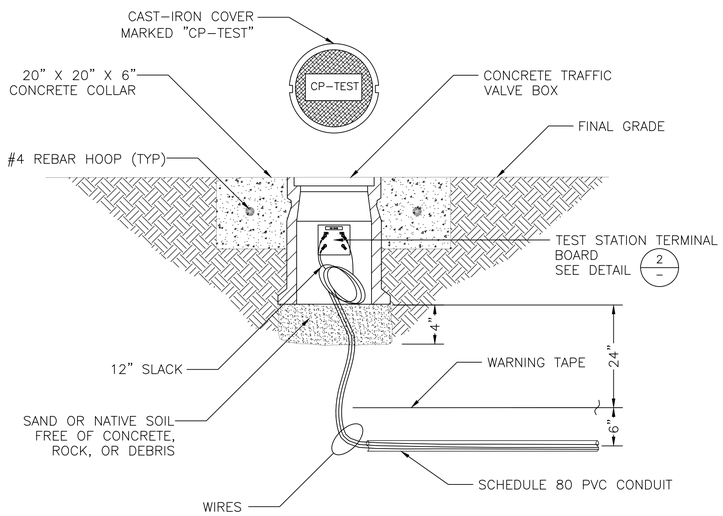
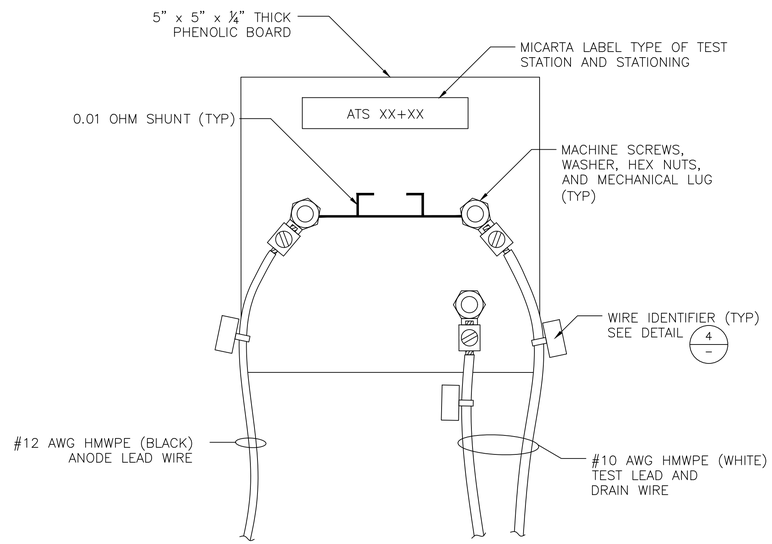
PTN: 61721-75 FILE NO: 7-H4
DSA SUBMITTAL
JUNE 26, 2020

SHEET TITLE
CP DETAILS

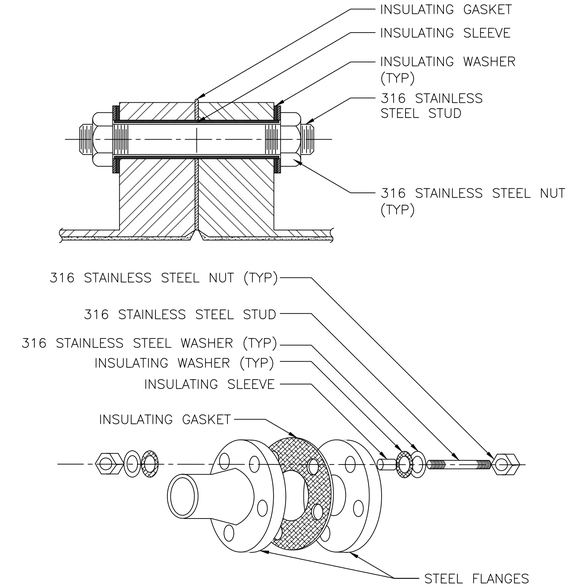
SHEET NUMBER
CP-1.2



FLUSH MOUNTED TEST STATION DETAIL 1
NTS



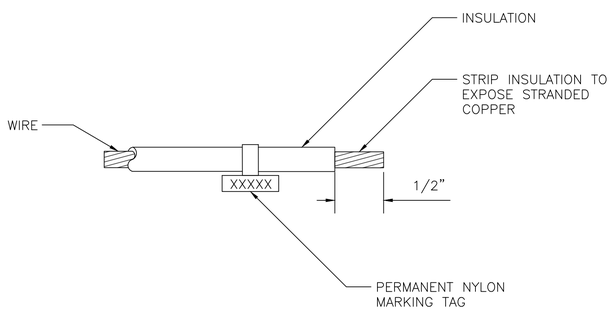
FLUSH-MOUNTED ANODE TEST STATION (ATS) TERMINAL BOARD DETAIL 2
NTS



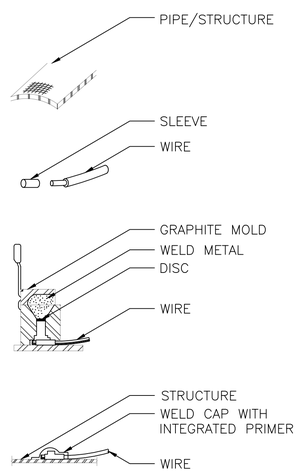
NOTE:

PETROLATUM WAX TAPE NOT SHOWN

DIELECTRIC INSULATING FLANGE KIT DETAIL WITH SECTION VIEW 3
NTS



WIRE IDENTIFIER DETAIL 4
NTS



1. GRIND PIPE/STRUCTURE TO BARE METAL AND CLEAN SURFACE. GROUND AREA SHALL BE LARGE ENOUGH FOR EXOTHERMIC WELD AND SMALL ENOUGH TO BE COMPLETELY COVERED BY WELD CAP.
2. STRIP INSULATION FROM WIRE AND ATTACH SLEEVE.
3. HOLD MOLD FIRMLY WITH OPENING AWAY FROM OPERATOR. IGNITE WITH FLINT GUN. REMOVE SLAG FROM CONNECTION WITH CHIPPING HAMMER. TEST WELD WITH 22 OZ HAMMER.
4. COVER CONNECTION WITH WELD CAP WITH INTEGRATED PRIMER. REPAIR ALL DAMAGE TO COATING AND LINING IN ACCORDANCE WITH COATING AND LINING MFG RECOMMENDATIONS.

EXOTHERMIC WELD DETAIL FOR DUCTILE IRON AND STEEL PIPE 5
NTS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
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REGISTERED PROFESSIONAL ENGINEER
GLENN H. WILSON
NO. CR1076
CORROSION
STATE OF CALIFORNIA
06/26/2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119033

ARCH PROJECT NO:	1783.00
DRAWN BY:	ACR
DRAWING SCALE:	NTS
PTN: 61721-75	FILE NO: 7-H4

DSA SUBMITTAL

JUNE 26, 2020

SHEET TITLE

CP DETAILS

SHEET NUMBER

CP-1.3

A. GENERAL INFORMATION

1.	Project Location (city)	Brentwood	8.	Standards Version	Compliance2019
2.	CA Zip Code	94513	9.	Compliance Software (version)	EnergyPro 8.1
3.	Climate Zone	12	10.	Weather File	LIVERMORE_724927_CZ2010.epw
4.	Total Conditioned Floor Area in Scope	9,083 ft²	11.	Building Orientation (deg)	(S) 180 deg
5.	Total Unconditioned Floor Area	0 ft²	12.	Permitted Scope of Work	NewEnvelopeAndMechanical
6.	Total # of Stories (Habitable Above Grade)	1	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	☒ Performance	Covered Process: Commercial Kitchens	☐ Performance	*The following building components are ONLY eligible for prescriptive compliance and should be documented on the NRCC form listed if within the scope of the permit application (i.e. compliance will not be shown on the NRCC-PRF-E).*	
	☐ Not Included		☒ Not Included		
Mechanical	☒ Performance	Covered Process: Computer Rooms	☐ Performance	Indoor Lighting (Unconditioned)§140.6	*NRCC-LTI -E is required*
	☐ Not Included		☒ Not Included	Outdoor Lighting §140.7	*NRCC-LTO-E is required*
Domestic Hot Water	☒ Performance	Covered Process: Laboratory Exhaust	☐ Performance	Sign Lighting §140.8	*NRCC -LTS-E is required*
	☐ Not Included		☒ Not Included	Mandatory Measures	
Lighting (Indoor Conditioned)	☐ Performance			*Electrical power systems, commissioning and solar ready requirements are mandatory and should be documented on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E.)*	
	☒ Not Included			Electrical Power Distribution S110.11	*NRCC-ELC-E is required*
Solar Thermal Water Heating	☐ Performance			Commissioning S120.8	*NRCC-CXR-E is required*
	☒ Not Included			Solar Ready S110.10	*NRCC-SRA-E is required*

C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft ²-yr)

COMPLIES

Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Space Heating	10.91	21.42	-10.51
Space Cooling	78.34	67.16	11.18
Indoor Fans	152.44	84.68	67.76
Heat Rejection	--	--	--
Pumps & Misc.	--	--	--
Domestic Hot Water	6.89	6.47	0.42
Indoor Lighting	46.39	46.39	--
ENERGY STANDARDS COMPLIANCE TOTAL	**294.97**	**226.12**	**68.85 (23.3%)**

[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	89.98	89.98	--
Process	--	--	--
Other Ltg	--	--	--
Process Motors	--	--	--
COMPLIANCE TOTAL PLUS MISCELLANEOUS COMPONENTS	**384.95**	**316.10**	**68.9 (17.9%)**

[1] Notes: This table is used to document compliance with programs OTHER THAN Title 24 Part 6, if applicable.

D. EXCEPTIONAL CONDITIONS

This project includes partial performance compliance scope options. The building must show compliance with all other applicable compliance scope options (performance or prescriptively) before occupying.

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.

The user model includes space(s) without sufficient cooling equipment. Cooling equipment has been added to the model to meet cooling loads.

E. HERS VERIFICATION

This Section Does Not Apply

F. ADDITIONAL REMARKS

This Section Does Not Apply

G. ENVELOPE GENERAL INFORMATION

1	2	3	4
Opaque Surfaces & Orientation	Total Gross Surface Area (ft²)	Total Fenestration Area (ft²)	Window to Wall Ratio (%)
North-Facing[1]	1,633 ft²	793 ft²	48.6%
East-Facing[2]	1,763 ft²	391 ft²	22.2%
South-Facing[3]	1,890 ft²	1,349 ft²	71.3%
West-Facing[4]	1,806 ft²	362 ft²	20.1%
Total	**7,092 ft²**	**2,895 ft²**	**40.8%**
Roof	9,083 ft²	32 ft²	00.4%

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).

H. FENESTRATION ASSEMBLY SUMMARY §110.6

1. Fenestration Assembly Name / Tag or I.D.	2. Fenestration Type / Product Type / Frame Type	3. Certification Method[1]	4. Assembly Method	5. Area ft²	6. Overall U-factor	7. Overall SHGC	8. Overall VT	9. Status[2]
NFRC door .45/.23/.17	VerticalFenestration GlazedDoor N/A	NFRC Rated	Manufactured	252	0.45	0.23	0.17	N
NFRC strft .41/.26/.46	VerticalFenestration CurtainWall N/A	NFRC Rated	Manufactured	2643	0.41	0.26	0.46	N
Tubular Skylight	Skylight FixedWindow MetalFraming	Default Performance	Manufactured	32	1.30	0.60	1.00	N
NFRC strft .41/.26/.46_Clerestory	VerticalFenestration CurtainWall N/A			NaN	0.41	0.26	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 (CDG) 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

I. ENVELOPE DETAILS §120.7 & §140.3

I1. OPAQUE SURFACE ASSEMBLY SUMMARY

1 Surface Name	2 Surface Type	3 Description of Assembly Layers	4 Area (ft²)	5 Framing Type	6 Cavity R-Value	7 Continuous R-Value	8 U-Factor / F-Factor / C-Factor	9 Status[1]
R-21 Wall8	ExteriorWall	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Wood framed wall, 16in. OC, 5.5in., R-21 Gypsum Board - 1/2 in.	7092	Wood	21	NA	U-Factor: 0.069	N
R-24 BUR Roof CRRC17	Roof	Built-up roofing - 3/8 in. Vapor permeable felt - 1/8 in. Compliance Insulation R24.00 Plywood - 3/4 in.	9083	NA	0	24	U-Factor: 0.038	N
Slab On Grade19	UndergroundFloor	Slab Type = UnheatedSlabOnGrade Insulation Orientation = None Insulation R-Value = R0	9083	NA	0	NA	F-Factor: 0.730	N

I. ENVELOPE DETAILS §120.7 & §140.3

I1. OPAQUE SURFACE ASSEMBLY SUMMARY

1 Surface Name	2 Surface Type	3 Description of Assembly Layers	4 Area (ft²)	5 Framing Type	6 Cavity R-Value	7 Continuous R-Value	8 U-Factor / F-Factor / C-Factor	9 Status[1]
interior R-0 Wall23	InteriorWall	Gypsum Board - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Gypsum Board - 1/2 in.	1700	NA	0	NA	U-Factor: 0.314	N

[1] Status: N - New, A – Altered, E – Existing

I2. OVERHANG DETAILS

1 Fenestration Tag/ID	2 Fenestration Orientation	3 Overhang Dimensions: Horizontal Projection	3 Overhang Dimensions: Distance Above Window	4 Side fin: Vertical Projection
21 door33	South	6.0 ft.	0.1 ft.	Left: 0 ft., Right: 0 ft.
215 strfrnt w/shield11	South	6.0 ft.	0.1 ft.	Left: 0 ft., Right: 0 ft.
182.4 strfrnt15	West	6.0 ft.	0.1 ft.	Left: 0 ft., Right: 0 ft.

I3. OPAQUE DOOR SUMMARY

This Section Does Not Apply

J. CRRC ROOFING PRODUCT SUMMARY S140.3

This Section Does Not Apply

K. HVAC SYSTEM SUMMARY §110.1 & §110.2

K1. Dry System Equipment (furnaces, air handling units, heat pumps, VRF, etc.)

Dry System Equipment [1] (Fan & Economizer info included below in Table N)

1 Equipment Name	2 Equipment Type	3 Qty	4 Heating: Total Heating Output (kBtu/h)	5 Heating: Supp Heat Source (Y/N)	6 Heating: Supp Heat Output (kBtuh)	7 Heating: Efficiency	8 Cooling: Total Cooling Output (kBtu/h)	9 Cooling: Efficiency	10 Status[2]
FC-A100	SZHP (Split1Phase)	1	30	No	0	HSPF-8.200	27	SEER-14.000 / EER-12.200	N
FC-A102 + A103	SZHP (Split1Phase)	2	6	No	0	HSPF-8.200	5	SEER-14.000 / EER-12.200	N
FC-A104	SZHP (Split1Phase)	1	14	No	0	HSPF-8.200	12	SEER-14.000 / EER-12.200	N
FC-A109	SZHP (Split1Phase)	1	9	No	0	HSPF-8.200	8	SEER-14.000 / EER-12.200	N
FC-A110	SZHP (Split1Phase)	1	14	No	0	HSPF-8.200	12	SEER-14.000 / EER-12.200	N
FC-A113	SZHP (Split1Phase)	1	9	No	0	HSPF-8.200	8	SEER-14.000 / EER-12.200	N
FC-A116	SZHP (Split1Phase)	1	9	No	0	HSPF-8.200	8	SEER-14.000 / EER-12.200	N
FC-A115	SZHP (Split1Phase)	1	14	No	0	HSPF-8.200	12	SEER-14.000 / EER-12.200	N
FC-A114	SZHP (Split1Phase)	1	17	No	0	HSPF-8.200	15	SEER-14.000 / EER-12.200	N
FC-A117	SZAC (Split1Phase)	1	0	No	0	NA	12	SEER-14.000 / EER-12.200	N
FC-A119 + A120	SZHP (Split1Phase)	2	6	No	0	HSPF-8.200	5	SEER-14.000 / EER-12.200	N
FC-A121	SZHP (Split1Phase)	1	27	No	0	HSPF-8.200	24	SEER-14.000 / EER-12.200	N
FC-A123 + A129	SZHP (Split1Phase)	2	6	No	0	HSPF-8.200	5	SEER-14.000 / EER-12.200	N
FC-A126 + A127	SZHP (Split1Phase)	2	9	No	0	HSPF-8.200	8	SEER-14.000 / EER-12.200	N

K1. Dry System Equipment (furnaces, air handling units, heat pumps, VRF, etc.)

Dry System Equipment [1] (Fan & Economizer info included below in Table N)

1 Equipment Name	2 Equipment Type	3 Qty	4 Heating: Total Heating Output (kBtu/h)	5 Heating: Supp Heat Source (Y/N)	6 Heating: Supp Heat Output (kBtuh)	7 Heating: Efficiency	8 Cooling: Total Cooling Output (kBtu/h)	9 Cooling: Efficiency	10 Status[2]
FC-A133 + A134	SZHP (Split1Phase)	2	9	No	0	HSPF-8.200	8	SEER-14.000 / EER-12.200	N
FC-A136	SZHP (Split1Phase)	1	9	No	0	HSPF-8.200	8	SEER-14.000 / EER-12.200	N
FC-A140	SZHP (Split1Phase)	1	14	No	0	HSPF-8.200	12	SEER-14.000 / EER-12.200	N
FC-A141	SZHP (Split1Phase)	1	9	No	0	HSPF-8.200	8	SEER-14.000 / EER-12.200	N
FC-A143	SZHP (Split1Phase)	1	14	No	0	HSPF-8.200	12	SEER-14.000 / EER-12.200	N
FC-A144 + A145 + A146	SZHP (Split1Phase)	3	9	No	0	HSPF-8.200	8	SEER-14.000 / EER-12.200	N
FC-A128	SZHP (Split1Phase)	1	14	No	0	HSPF-8.200	12	SEER-14.000 / EER-12.200	N
FC-A135	SZHP (Split1Phase)	1	17	No	0	HSPF-8.200	15	SEER-14.000 / EER-12.200	N
FC-A139	SZHP (Split1Phase)	1	14	No	0	HSPF-8.200	12	SEER-14.000 / EER-12.200	N

[2] Status: N - New, A – Altered, E – Existing

K2. ECONOMIZER & FAN SYSTEMS SUMMARY §140.4[1]

1 Name or Item Tag	2 System Type packaged, DOAS, etc.	3 Design OA CFM	4 Supply Fan CFM	5 Supply Fan BHP	6 Supply Fan Watts	7 Supply Fan Control	8 Return Fan CFM	9 Return Fan BHP	10 Return Fan Watts	11 Return Fan Control	12 Economizer Type (if present)	13 Status[2]
FC-A100	SZHP	444	790	0.338	291.4	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A102 + A103	SZHP	18	280	0.119	103.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N

K2. ECONOMIZER & FAN SYSTEMS SUMMARY §140.4[1]

1 Name or Item Tag	2 System Type packaged, DOAS, etc.	3 Design OA CFM	4 Supply Fan CFM	5 Supply Fan BHP	6 Supply Fan Watts	7 Supply Fan Control	8 Return Fan CFM	9 Return Fan BHP	10 Return Fan Watts	11 Return Fan Control	12 Economizer Type (if present)	13 Status[2]
FC-A104	SZHP	52	390	0.166	144.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A109	SZHP	23	350	0.149	128.4	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A110	SZHP	36	390	0.166	144.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A113	SZHP	27	350	0.149	128.4	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A116	SZHP	94	350	0.149	128.4	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A115	SZHP	39	390	0.166	144.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A114	SZHP	66	494	0.211	183.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A117	SZAC	17	425	0.181	156.1	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A119 + A120	SZHP	20	280	0.119	103.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A121	SZHP	95	671	0.287	249.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A123 + A129	SZHP	18	280	0.119	103.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A126 + A127	SZHP	29	350	0.149	128.4	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A133 + A134	SZHP	29	350	0.149	128.4	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A136	SZHP	21	350	0.149	128.4	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A140	SZHP	127	390	0.166	144.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A141	SZHP	26	350	0.149	128.4	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A143	SZHP	34	390	0.166	144.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A144 + A145 + A146	SZHP	29	350	0.149	128.4	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A128	SZHP	102	371	0.158	137.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A135	SZHP	54	494	0.211	183.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FC-A139	SZHP	144	371	0.158	137.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N

[2] Status: N - New, A – Altered, E – Existing

K3. EXHAUST FAN SUMMARY

This Section Does Not Apply

K4. Wet System Equipment (boilers, chillers, cooling towers, etc.)

1 Name or Item Tag	2 Equipment Type	3 Qty	4 Vol (gal)	5 Rated Capacity (kBtu/h)	6 Efficiency	7 Standby Loss	8 Pumps: Qty	9 Pumps: GPM	10 Pumps: HP	11 Pumps: VSD (Y/N)	12 Status[1]

[1] Status: N - New, A – Altered, E – Existing

K5. SYSTEM FEATURES §120.2

1 System Name	2 Optimum Start	3 Window Interlocks per §140.4(n)	4 Evaporative Cooling	5 Heat Recovery	6 Other Controls
FC-A100	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A102 + A103	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A104	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A109	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A110	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A113	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A116	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0629

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA
SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033
ARCH PROJECT NO: 1783.00
DRAWN BY:
DRAWING SCALE:
PTN: 61721-75 FILE NO: 7-H4
CD
DECEMBER 2, 2020
SHEET TITLE

TITLE 24 BLDG A

SHEET NUMBER

T-1.1

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS_22:11/24/2020:5:02 PM

Project Name:	Liberty High School Administration	NRCC-PRF-01-E	Page 10 of 20
Project Address:	850 2nd Street Brentwood 94513	Calculation Date/Time:	20:57, Mon, Jun 22, 2020
Input File Name:	Liberty HS Admin Bldg.cibd19x		

K5. SYSTEM FEATURES §120.2

1	2	3	4	5	6
System Name	Optimum Start	Window Interlocks per §140.4(n)	Evaporative Cooling	Heat Recovery	Other Controls
FC-A115	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A114	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A117	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A119 + A120	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A121	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A123 + A129	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A126 + A127	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A133 + A134	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A136	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A140	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A141	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control

Project Name:	Liberty High School Administration	NRCC-PRF-01-E	Page 11 of 20
Project Address:	850 2nd Street Brentwood 94513	Calculation Date/Time:	20:57, Mon, Jun 22, 2020
Input File Name:	Liberty HS Admin Bldg.cibd19x		

K5. SYSTEM FEATURES §120.2

1	2	3	4	5	6
System Name	Optimum Start	Window Interlocks per §140.4(n)	Evaporative Cooling	Heat Recovery	Other Controls
FC-A143	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A144 + A145 + A146	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A128	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A135	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-A139	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
DHW1 - 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.

K6. MECHANICAL VENTILATION AND REHEAT §120.1

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-A100 A107 Reception	Office - Main entry lobbies General - Corridors Exhaust - Toilets, private	0	29.57	0	444	0	996	NA
2-A102 SRO + A103 Data Offi	Office - Office space	0	1.20	0	36	0	240	NA
3-A104 Nurse Office	Office - Office space Exhaust - Toilets, private	0	2.04	0	52	0	408	NA
4-A109 Registration Office	Office - Office space	0	0.78	0	23	0	156	NA

Project Name:	Liberty High School Administration	NRCC-PRF-01-E	Page 12 of 20
Project Address:	850 2nd Street Brentwood 94513	Calculation Date/Time:	20:57, Mon, Jun 22, 2020
Input File Name:	Liberty HS Admin Bldg.cibd19x		

K6. MECHANICAL VENTILATION AND REHEAT §120.1

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)	
5-A110 CUM Files	Office - Occupiable storage rooms for dry materials	0	0.24	0	36	0	240	NA
6-A113 Int Teacher	Office - Office space	0	0.90	0	27	0	180	NA
7-A116 Prin Sec	Office - Office space General - Corridors	0	3.15	0	94	0	629	NA
8-A115 Principal	Office - Office space	0	1.30	0	39	0	260	NA
9-A114 Large Conference	Office - Office space	0	2.19	0	66	0	437	NA
10-A118 Mail	Office - Office space	0	0.56	0	17	0	113	NA
11-A119 + A120 MFT Offices	Office - Office space	0	1.30	0	39	0	260	NA
12-A121 Staff Lounge	Office - Office space	0	3.17	0	95	0	633	NA
13-A123 + A129 Psych Offices	Office - Office space	0	1.21	0	36	0	242	NA
14-A126 Councelor	Office - Office space	0	1.93	0	58	0	386	NA
15-A133 Councelor	Office - Office space	0	1.93	0	58	0	386	NA
16-A136 Staff Work	Office - Office space	0	0.70	0	21	0	140	NA
17-A140 Shared Conf	General - Conference/meeting	0	8.47	0	127	0	254	NA
18-A141 Councelor	Office - Office space	0	0.88	0	26	0	176	NA
19-A143 Ap Office	Office - Office space	0	1.12	0	34	0	224	NA
20-A144 Councelor	Office - Office space	0	2.88	0	87	0	577	NA
21-A128 Ap Sec	Office - Office space General - Corridors	0	3.39	0	102	0	678	NA
22-A135 Ap Sec	Office - Office space General - Corridors General - Unoccupied	0	1.84	0	54	0	382	NA
23-A139 Ap Sec	Office - Office space General - Corridors Exhaust - Toilets, private	0	5.43	0	144	0	1086	NA

Project Name:	Liberty High School Administration	NRCC-PRF-01-E	Page 13 of 20
Project Address:	850 2nd Street Brentwood 94513	Calculation Date/Time:	20:57, Mon, Jun 22, 2020
Input File Name:	Liberty HS Admin Bldg.cibd19x		

K7. DISTRIBUTION SUMMARY §120.4/140.4(l)

This Section Does Not Apply

Multifamily or Hotel/Motel Occupancy? (if "Yes", see DOMESTIC/SERVICE HOT WATER SYSTEM SUMMARY)	No
Does the Project include Zonal Systems?	Yes

K8. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY § 140.4

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
1-A100 A107 Reception-Trm	1-A100 A107 Reception	Uncontrolled	NA	NA	790	NA	0.00	NA	NA	NA	☐
2-A102 SRO + A103 Data Offi-Trm	2-A102 SRO + A103 Data Offi	Uncontrolled	NA	NA	560	NA	0.00	NA	NA	NA	☐
3-A104 Nurse Office-Trm	3-A104 Nurse Office	Uncontrolled	NA	NA	390	NA	0.00	NA	NA	NA	☐
4-A109 Registration Office-Trm	4-A109 Registration Office	Uncontrolled	NA	NA	350	NA	0.00	NA	NA	NA	☐
5-A110 CUM Files-Trm	5-A110 CUM Files	Uncontrolled	NA	NA	390	NA	0.00	NA	NA	NA	☐
6-A113 Int Teacher-Trm	6-A113 Int Teacher	Uncontrolled	NA	NA	350	NA	0.00	NA	NA	NA	☐
7-A116 Prin Sec-Trm	7-A116 Prin Sec	Uncontrolled	NA	NA	350	NA	0.00	NA	NA	NA	☐
8-A115 Principal-Trm	8-A115 Principal	Uncontrolled	NA	NA	390	NA	0.00	NA	NA	NA	☐
9-A114 Large Conference-Trm	9-A114 Large Conference	Uncontrolled	NA	NA	494	NA	0.00	NA	NA	NA	☐
10-A118 Mail-Trm	10-A118 Mail	Uncontrolled	NA	NA	425	NA	0.00	NA	NA	NA	☐
11-A119 + A120 MFT Offices-Trm	11-A119 + A120 MFT Offices	Uncontrolled	NA	NA	560	NA	0.00	NA	NA	NA	☐
12-A121 Staff Lounge-Trm	12-A121 Staff Lounge	Uncontrolled	NA	NA	671	NA	0.00	NA	NA	NA	☐

Project Name:	Liberty High School Administration	NRCC-PRF-01-E	Page 14 of 20
Project Address:	850 2nd Street Brentwood 94513	Calculation Date/Time:	20:57, Mon, Jun 22, 2020
Input File Name:	Liberty HS Admin Bldg.cibd19x		

K8. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY § 140.4

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
13-A123 + A129 Psych Offices-Trm	13-A123 + A129 Psych Offices	Uncontrolled	NA	NA	560	NA	0.00	NA	NA	NA	☐
14-A126 Councelor-Trm	14-A126 Councelor	Uncontrolled	NA	NA	700	NA	0.00	NA	NA	NA	☐
15-A133 Councelor-Trm	15-A133 Councelor	Uncontrolled	NA	NA	700	NA	0.00	NA	NA	NA	☐
16-A136 Staff Work-Trm	16-A136 Staff Work	Uncontrolled	NA	NA	350	NA	0.00	NA	NA	NA	☐
17-A140 Shared Conf-Trm	17-A140 Shared Conf	Uncontrolled	NA	NA	390	NA	0.00	NA	NA	NA	☐
18-A141 Councelor-Trm	18-A141 Councelor	Uncontrolled	NA	NA	350	NA	0.00	NA	NA	NA	☐
19-A143 Ap Office-Trm	19-A143 Ap Office	Uncontrolled	NA	NA	390	NA	0.00	NA	NA	NA	☐
20-A144 Councelor-Trm	20-A144 Councelor	Uncontrolled	NA	NA	1050	NA	0.00	NA	NA	NA	☐
21-A128 Ap Sec-Trm	21-A128 Ap Sec	Uncontrolled	NA	NA	371	NA	0.00	NA	NA	NA	☐
22-A135 Ap Sec-Trm	22-A135 Ap Sec	Uncontrolled	NA	NA	494	NA	0.00	NA	NA	NA	☐
23-A139 Ap Sec-Trm	23-A139 Ap Sec	Uncontrolled	NA	NA	371	NA	0.00	NA	NA	NA	☐

K9. EVAPORATIVE COOLER SUMMARY

This Section Does Not Apply

L. DOMESTIC/SERVICE HOT WATER SYSTEM SUMMARY

L1. DHW EQUIPMENT SUMMARY

1	2	3	4	5	6	7	8	9	10	11
DHW Name	Heater Element Type	Tank Type	Qty	Tank Vol (gal)	Rated Input (kBtu/h)	Efficiency	Tank Insulation R-value (Int/Ext)	Standby Loss Fraction	Heat Pump Type	Tank Location or Ambient Condition
AOSmith DEL 40 gal 3.8 kw2	Electricity	Storage	1	40.00	4.5 (kW)	UEF: 0.94	NA	SBLF: NA	NA	NA

Project Name:	Liberty High School Administration	NRCC-PRF-01-E	Page 15 of 20
Project Address:	850 2nd Street Brentwood 94513	Calculation Date/Time:	20:57, Mon, Jun 22, 2020
Input File Name:	Liberty HS Admin Bldg.cibd19x		

L2. MULTI-FAMILY CENTRAL DHW SYSTEM DETAILS

This Section Does Not Apply

L3. SOLAR HOT WATER HEATING SUMMARY

This Section Does Not Apply

M. COVERED PROCESS SUMMARY §140.9

This Section Does Not Apply

N. INDOOR LIGHTING SUMMARY §140.6

This Section Does Not Apply

Project Name:	Liberty High School Administration	NRCC-PRF-01-E	Page 16 of 20
Project Address:	850 2nd Street Brentwood 94513	Calculation Date/Time:	20:57, Mon, Jun 22, 2020
Input File Name:	Liberty HS Admin Bldg.cibd19x		

O. 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 must 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	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
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	☐	☐
	☐	☒	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 system distribution systems to be recognized for compliance	☐	☐
	☐	☒	NRCI-PLB-21-E - Must be HERS verified for central systems in high-rise residential hotel/ motel application	☐	☐
	☐	☒	NRCI-PLB-22-E - Must be HERS verified for single dwelling unit systems in high-rise residential, hotel/motel application	☐	☐
	☐	☒	NRCI-STH-01-E - Must be submitted for solar hot water heating systems	☐	☐
Indoor Lighting	☐	☒	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	☐	☐
Covered Process	☐	☒	NRCI-PRC-01-E - Must be submitted for all Covered Processes	☐	☐

Project Name:	Liberty High School Administration	NRCC-PRF-01-E	Page 17 of 20
Project Address:	850 2nd Street Brentwood 94513	Calculation Date/Time:	20:57, Mon, Jun 22, 2020
Input File Name:	Liberty HS Admin Bldg.cibd19x		

P. 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	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
Envelope	☒	☐	NRCA-ENV-02-F - NRFC label verification for fenestration	☐	☐
	☐	☐	NRCA-ENV-03-F - Daylighting Design PAFs	☐	☐
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	☐	☐
	☐	☒	NRCA-LTI-05-A - Institutional Tuning Power Adjustment Factor (PAF)	☐	☐
Covered Process	☐	☒	NRCA-PRC-02-F - Kitchen Exhaust	☐	☐
	☐	☒	NRCA-PRC-03-F - Garage Exhaust	☐	☐
	☐	☒	NRCA-PRC-12-F – Elevator Lighting and Ventilation Controls	☐	☐
	☐	☒	NRCA-PRC-13-F –Escalator and Moving Walkways Speed Control	☐	☐
	☐	☒	NRCA-PRC-14-F – Lab Exhaust Ventilation System	☐	☐
	☐	☒	NRCA-PRC-15-F - Fume Hood Automatic Sash Closures System	☐	☐

Project Name:	Liberty High School Administration	NRCC-PRF-01-E	Page 18 of 20
Project Address:	850 2nd Street Brentwood 94513	Calculation Date/Time:	20:57, Mon, Jun 22, 2020
Input File Name:	Liberty HS Admin Bldg.cibd19x		

P. 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	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
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-04(a)-H Air Distribution Duct Leakage - HERS Verification required	☐	☐
	☐	☐	NRCA-MCH-04(b)-A Air Distribution Duct Leakage - ATT only	☐	☐
	☐	☒	NRCA-MCH-05-A Air Economizer Controls	☐	☐
	☐	☒	NRCA-MCH-06-A Demand Control Ventilation Systems Acceptance must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)3) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints	☐	☐
	☐	☒	NRCA-MCH-07-A Supply Fan Variable Flow Controls	☐	☐
	☐	☒	NRCA-MCH-08-A Valve Leakage Test	☐	☐
	☐	☒	NRCA-MCH-09-A Supply Water Temperature Reset Controls	☐	☐
	☐	☒	NRCA-MCH-10-A Hydronic System Variable Flow Controls	☐	☐
	☐	☒	NRCA-MCH-11-A Automatic Demand Shed Controls	☐	☐
	☐	☒	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	☐	☐
	☐	☒	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance	☐	☐
	☐	☒	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance	☐	☐
	☐	☒	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance	☐	☐
	☐	☒	NRCA-MCH-16-A Supply Air Temperature Reset Controls	☐	☐
	☐	☒	NRCA-MCH-17-A Condenser Water Temperature Reset Controls	☐	☐
	☐	☒	NRCA-MCH-18 Energy Management Control Systems	☐	☐
	☐	☒	NRCA-MCH-19 Occupancy Sensor Controls	☐	☐

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS_22.11.24/2020.5.02 PM

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA
SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033
ARCH PROJECT NO: 1783.00
DRAWN BY:
DRAWING SCALE:
PTN: 61721-75 FILE NO: 7-H4
CD
DECEMBER 2, 2020
SHEET TITLE

TITLE 24 BLDG A

SHEET NUMBER

T-1.2

Project Name:	Liberty High School Administration	NRCC-PRF-01-E	Page 19 of 20
Project Address:	850 2nd Street Brentwood 94513	Calculation Date/Time:	20:57, Mon, Jun 22, 2020
Input File Name:	Liberty HS Admin Bldg.cibd19x		

Q. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online at: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCV/

Building Component	YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
Mechanical	☐	☒	NRCV-MCH-04-H Duct Leakage Test	☐	☐
	☐	☒	NRCV-MCH-24-H Enclosure Air Leakage	☐	☐
	☐	☒	NRCV-MCH-27 Indoor Air Quality & Mechanical Ventilation	☐	☐
	☐	☒	NRCV-MCH-32-H Local Mechanical Exhaust	☐	☐
Plumbing	☐	☒	NRCV-PLB-21-H - HERS verified central systems in high-rise residential, hotel/motel application	☐	☐
	☐	☒	NRCV-PLB-22-H - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application	☐	☐

R. UNMET LOAD HOURS

This Section Does Not Apply

Project Name:	Liberty High School Administration	NRCC-PRF-01-E	Page 20 of 20
Project Address:	850 2nd Street Brentwood 94513	Calculation Date/Time:	20:57, Mon, Jun 22, 2020
Input File Name:	Liberty HS Admin Bldg.cibd19x		

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Sarah Pernula	Signature: Sarah Pernula
Company: SOLDATA Energy Consulting	
Address: 2227 Capricorn Way	Signature Date: 2020-06-22
City/State/Zip: Santa Rosa CA 95407	CEA/ HERS Certification Identification (if applicable): NR16-90-20043
Phone: 707.545.4440	

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:	Signature:
Company: Quattrocchi Kwok Architects	
Address: 636 Fifth Street	Date Signed: 11/25/2020
City/State/Zip: Santa Rosa CA 95404	
Phone: 707 576-0829	Title: Architect License #: C- 22643
Responsible Lighting Designer Name: Pieter Colenbrander	Signature: NOT IN SCOPE
Company: O'Malhony & Myer Electrical Eng & Lighting Dsgn	
Address: 4340 Redwood Hwy, Suite 245	Date Signed: 11/24/20
City/State/Zip: San Rafael CA 94903	
Phone: 415 492-0420	Title: Principal License #: E14738
Responsible Mechanical Designer Name: - specify - Chris Del Core	Signature:
Company: Costa Engineers Inc.	
Address: 3274 Villa Lane	Date Signed: 6.24.2020
City/State/Zip: Napa CA 94558	
Phone: 707-252-9177	Title: Principal Engineer License #: CA M 31600

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-SRA-E**
Project Name:	Liberty High School Administration	**Report Page:**	**(Page 1 of 5)**
Project Address:	850 2nd Street	**Date Prepared:**	6/22/2020

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 ft^2 of roof area. Alterations or additions of less than 2,000ft^2 are not required to comply with §110.10.

Project Name:	Liberty High School Administration	**Report Page:**	**(Page 1 of 5)**
Project Address:	850 2nd Street	**Date Prepared:**	6/22/2020

A. GENERAL INFORMATION

01	Project Location (city)	Brentwood	04	Building Type	Other nonresidential bldg 3 stories or fewer
02	Climate Zone	12	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.

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-SRA-E**
Project Name:	Liberty High School Administration	**Report Page:**	**(Page 2 of 5)**
Project Address:	850 2nd Street	**Date Prepared:**	6/22/2020

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 01		02	OR	Installed PV System 03		04	OR	Installed SWH System 05		06	OR	Smart Tstat and Alternative EE Measure 07	08	09
Required Minimum Area (ft^2)	<=	Designated Area (ft^2)		Required Minimum DC Power Rating (Watts)	<=	Designed DC Power Rating (Watts)		Required Minimum Solar Savings Fraction	<=	Designed/Rated Solar Savings Fraction		JA5 Compliant Thermostat Specified?	Alternative Energy Efficiency Measure	
(See Table F)				(See Table G)				(See Table H)				(See Table I)		COMPLIES
1357.65	<=	1375	OR				OR				OR			
A-A4.1				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.

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20190401 Report Generated: 2020-06-22 21:00:42

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-SRA-E**
Project Name:	Liberty High School Administration	**Report Page:**	**(Page 3 of 5)**
Project Address:	850 2nd Street	**Date Prepared:**	6/22/2020

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
					Potential Solar Zone Areas: Roof areas with >= 70% Solar Access				
Minimum Solar Zone Area Calculation Method	Total New or Added Roof Area (ft^2)	Total New or Added Roof Area Covered with Skylights (ft^2)	Minimum Solar Zone Based on Total or Added Roof Area (0.15 x (Roof-Skylit)) (ft^2)	Method/ Tools Used to Determine Annual Solar Access for Potential Zones[1]	Low-Sloped Area (<= 2:12 pitch) (ft^2)	Steep-Sloped Area (> 2:12 pitch) Oriented 90 ° - 300 ° (ft^2)	Total Potential Solar Zone Area (ft^2)	Minimum Solar Zone Based on Potential Zone (0.5 x (Total Potential Zone)) (ft^2)	Required Minimum Solar Zone Area (ft^2)
Total New or Added Roof Area	9083	32	1357.65						1357.65

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)1A	Subarea is Required Distance from Potential Obstructions per §110.10(b)3B	Is the Smallest Dimension 5 feet or greater?	Min. Area Required per Subarea (ft^2)	Designated Area (ft^2)	Subarea Complies?
Solar Zone	Roof Plan	LowSlope	No	Yes	Yes	Yes	Yes	80	1375	COMPLIES
Total Designated Solar Zone Area (ft^2):									1375	

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20190401 Report Generated: 2020-06-22 21:00:42

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-SRA-E**
Project Name:	Liberty High School Administration	**Report Page:**	**(Page 4 of 5)**
Project Address:	850 2nd Street	**Date Prepared:**	6/22/2020

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).	A-A4.1

[1]FOOTNOTE: This field is used to document how the percentage of annual solar access was determined per §110.10(b)1B. Solar access is the ratio of solar insolation including shade to the solar insolation without shade. Shading from obstructions located on the roof or any other part of the building shall not be included in the determination of annual solar access.

G. PERMANENTLY INSTALLED SOLAR PHOTOVOLTAIC (PV) SYSTEM

This section does not apply 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

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	Field Inspector Fail
○	●	NRCI-SPV-01-E - Must be submitted for all newly installed Photovoltaic Systems (PV) being used to comply with §110.10(b)1B for high-rise multifamily, Hotel/Motel buildings less than 10 stories and nonresidential buildings less than 4 stories.	☐	☐
○	●	NRCI-STH-01-E - Must be submitted for all newly installed Solar Water Heating systems being used to comply with §110.10(b)1B for high-rise multifamily, Hotel/Motel buildings less than 10 stories and nonresidential buildings less than 4 stories.	☐	☐

K. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no Certificates of Acceptance applicable to solar ready requirements.

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20190401 Report Generated: 2020-06-22 21:00:42

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-SRA-E**
Project Name:	Liberty High School Administration	**Report Page:**	**(Page 5 of 5)**
Project Address:	850 2nd Street	**Date Prepared:**	6/22/2020

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Sarah Pernula	Documentation Author Signature:
Company: SOLDATA Energy Consulting	Signature Date: 2020-06-22
Address: 2227 Capricorn Way	CEA/ HERS Certification Identification (if applicable): NR16-90-20043
City/State/Zip: Santa Rosa CA 95407	Phone: 707.545.4440

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:
Company: Quattrocchi Kwok Architects	Date Signed: 2020-06-22
Address: 636 Fifth Street	License:
City/State/Zip: Santa Rosa CA 95404	Phone: 707 576-0829

Registration Number: Registration Date/Time: Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20190401 Report Generated: 2020-06-22 21:00:42

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033
ARCH PROJECT NO: 1783.00
DRAWN BY:
DRAWING SCALE:
PTN: 61721-75 FILE NO: 7-H4
CD
DECEMBER 2, 2020
SHEET TITLE
TITLE 24 BLDG A
SHEET NUMBER
T-1.3

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STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ENV-E
Project Name:	Liberty High School Cafeteria	Report Page: (Page 1 of 14)
Project Address:	850 2nd Street	Date Prepared: 6/24/2020

This document is used to demonstrate compliance with mandatory requirements in §110.8(g) and §120.7(b) for newly constructed buildings, and §141.0(b)1 for alterations, related to roof, wall and floor assemblies. It is also used to demonstrate compliance with prescriptive requirements in §140.3 for newly constructed buildings, and §141.0 for additions and alterations, related to roof, wall, floor, door, fenestration and daylighting requirements.

A. GENERAL INFORMATION

01	Project Location (city)	Brentwood	05	# of Stories (Habitable Above Grade)	1
02	Zipcode	94513	06	Total Conditioned Floor Area (ft²)	9216
03	Climate Zone	12	07	Total Unconditioned Floor Area (ft²)	0
04	Occupancy Types Within Project: (select all that apply): If one occupancy constitutes >= 80% of the conditioned floor area, the entire building envelope may be designed to comply with the provisions of that occupancy per §100.0(f).		08	☐ Project includes unconditioned enclosed space(s) > 5,000 ft² under a roof with a ceiling height of at least 15 ft.[1]	

☒ All Nonresidential, including Relocatable Public School Building certified for use in one climate zone Occupancy: A / B / E / F / H / M / S / U ☐ Relocatable Public School Building for use in all climate zones Occupancy: E ☐ High-Rise Residential Occupancy: R-2 / R-3 ☐ Hotel/Motel Guest Rooms Occupancy: R-1

[1] FOOTNOTE: Enclosed spcases > 5,000 ft² directly under roof with ceiling height > 15 ft in climate zones 2 through 15 are required to meet the minimum daylighting requirements defined in §140.3(c). Compliance with §140.3(c) is documented in Table L. This is the only prescriptive requirement which applies to unconditioned spaces.

B. PROJECT SCOPE

This table specifies project envelope components within the permit application demonstrating compliance using the prescriptive paths outlined in §140.3, and §141.0(a)1 and §141.0(b)1 and 2 for additions and alterations.

My project consists of (check all that apply)		Component Types					
01		02					
☐	New Construction or Newly Conditioned Space	☐	Roof	☐	Walls	☐	Exterior Doors
	☐ One or more enclosed spaces > 5,000 ft² directly under roof with ceiling height > 15ft			☐	Floors	☐	Fenestration/ Glazing Doors[1]
☐	Addition of conditioned space	☐	Roof	☐	Walls	☐	Exterior Doors
	☐ One or more enclosed spaces > 5,000 ft² directly under roof with ceiling height > 15ft			☐	Floors	☐	Fenestration/ Glazing Doors[1]
☒	Alteration of conditioned space	☒	Roof Assembly	☒	Walls		Exterior Doors NA. for Alts.
	☐ One or more enclosed spaces > 5,000 ft² directly under roof with ceiling height > 15ft and lighting system installed for the first time	☐	Roofing Material	☐	Floors	☒	Fenestration/ Glazing Doors

[1]FOOTNOTE: Doors that are more than one-half glass in area are considered Glazed Doors and should be documented on table K with fenestration.

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ENV-E
Project Name:	Liberty High School Cafeteria	Report Page: (Page 2 of 14)
Project Address:	850 2nd Street	Date Prepared: 6/24/2020

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through L. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see the applicable table referenced below.

Opaque Envelope Components					Fenestration	Daylighting Spaces > 5,000ft²	Compliance Results
Roof Assembly	Roofing Materials	Walls	Floors	Doors			
01	02	03	04	05	06	07	08
(See Table F)	(See Table G)	(See Table H)	(See Table I)	(See Table J)	(See Table K)	(See Table L)	COMPLIES
Yes	Yes	Yes		Yes	Yes		

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. ROOF ASSEMBLY SCHEDULE
This table demonstrates compliance for prescriptive roof assembly requirements in §140.3(a)1B for new construction or additions, or §141.0(b)2Bii for alterations,

01 Indicate roof types included in the project: ☒ Framed ☐ SIPS ☐ Span Deck & Concrete ☐ Metal Panels ☐ Metal Building

Framed Roof Assemblies

01	☒	Include Framed Roof Assemblies in Area-Weighted Average U-factor Calculation[1]			
02	03	04	05		06
Tag/Plan Detail ID	Name/Description	Status	Exception to Roof Insulation Requirements in §141.0(b)2Biii (Alts. Only)		Occupancy Type
alt Roof BUR rafters R30	alt Roof low-sloped	Altered			Nonresidential/ Relocatable 1 CZ
alt Roof BUR rafters R30	alt Roof low-sloped	Altered			Nonresidential/ Relocatable 1 CZ
alt Roof BUR rafters R30	alt Roof low-sloped	Altered			Nonresidential/ Relocatable 1 CZ
alt Roof BUR rafters R30	alt Roof low-sloped	Altered			Nonresidential/ Relocatable 1 CZ

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ENV-E
Project Name:	Liberty High School Cafeteria	Report Page: (Page 3 of 14)
Project Address:	850 2nd Street	Date Prepared: 6/24/2020

F. ROOF ASSEMBLY SCHEDULE

Framed Roof Assemblies

alt Roof BUR rafters R30	alt Roof low-sloped	Altered		Nonresidential/ Relocatable 1 CZ
alt Roof BUR rafters R30	alt Roof low-sloped	Altered		Nonresidential/ Relocatable 1 CZ
alt Roof BUR rafters R30	alt Roof low-sloped	Altered		Nonresidential/ Relocatable 1 CZ
alt Roof BUR rafters R30	alt Roof low-sloped	Altered		Nonresidential/ Relocatable 1 CZ
alt Roof BUR rafters R30	alt Roof low-sloped	Altered		Nonresidential/ Relocatable 1 CZ
alt Roof BUR rafters R30	alt Roof low-sloped	Altered		Nonresidential/ Relocatable 1 CZ
alt Roof BUR rafters R30	alt Roof low-sloped	Altered		Nonresidential/ Relocatable 1 CZ
alt Roof BUR rafters R30	alt Roof low-sloped	Altered		Nonresidential/ Relocatable 1 CZ
alt Roof BUR rafters R30	alt Roof low-sloped	Altered		Nonresidential/ Relocatable 1 CZ
alt Roof BUR rafters R30	alt Roof low-sloped	Altered		Nonresidential/ Relocatable 1 CZ

07	08	09	10	11	12	13	14	15		16
Tag/Plan Detail ID	How Design U-factor was determined	Roof Type & Frame Material	Frame Spacing Depth	Cavity Insulation per Design	Continuous Insulation per Design	Thermal Performance Unit	Required Thermal Performance	U-factor per Design		Net Area[3] ft²
alt Roof low-sloped	JA4 Tables	Wood		30.0	0.0	U-factor	0.055	per JA4 per Software/ Other	0.034	2352

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ENV-E
Project Name:	Liberty High School Cafeteria	Report Page: (Page 4 of 14)
Project Address:	850 2nd Street	Date Prepared: 6/24/2020

F. ROOF ASSEMBLY SCHEDULE

07	08	09	10	11	12	13	14	15		16
Tag/Plan Detail ID	How Design U-factor was determined	Roof Type & Frame Material	Frame Spacing Depth	Cavity Insulation per Design	Continuous Insulation per Design	Thermal Performance Unit	Required Thermal Performance	U-factor per Design		Net Area[3] ft²
alt Roof low-sloped	JA4 Tables	Wood		30.0	0.0	U-factor	0.055	per JA4 per Software/ Other	0.034	2352
alt Roof low-sloped	JA4 Tables	Wood		30.0	0.0	U-factor	0.055	per JA4 per Software/ Other	0.034	1512
alt Roof low-sloped	JA4 Tables	Wood		30.0	0.0	U-factor	0.055	per JA4 per Software/ Other	0.034	1297
alt Roof low-sloped	JA4 Tables	Wood		30.0	0.0	U-factor	0.055	per JA4 per Software/ Other	0.034	72
alt Roof low-sloped	JA4 Tables	Wood		30.0	0.0	U-factor	0.055	per JA4 per Software/ Other	0.034	504
alt Roof low-sloped	JA4 Tables	Wood		30.0	0.0	U-factor	0.055	per JA4 per Software/ Other	0.034	294
alt Roof low-sloped	JA4 Tables	Wood		30.0	0.0	U-factor	0.055	per JA4 per Software/ Other	0.034	32
alt Roof low-sloped	JA4 Tables	Wood		30.0	0.0	U-factor	0.055	per JA4 per Software/ Other	0.034	196

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ENV-E
Project Name:	Liberty High School Cafeteria	Report Page: (Page 5 of 14)
Project Address:	850 2nd Street	Date Prepared: 6/24/2020

F. ROOF ASSEMBLY SCHEDULE

07	08	09	10	11	12	13	14	15		16
Tag/Plan Detail ID	How Design U-factor was determined	Roof Type & Frame Material	Frame Spacing Depth	Cavity Insulation per Design	Continuous Insulation per Design	Thermal Performance Unit	Required Thermal Performance	U-factor per Design		Net Area[3] ft²
alt Roof low-sloped	JA4 Tables	Wood		30.0	0.0	U-factor	0.055	per JA4 per Software/ Other	0.034	27
alt Roof low-sloped	JA4 Tables	Wood		30.0	0.0	U-factor	0.055	per JA4 per Software/ Other	0.034	72
alt Roof low-sloped	JA4 Tables	Wood		30.0	0.0	U-factor	0.055	per JA4 per Software/ Other	0.034	110
alt Roof low-sloped	JA4 Tables	Wood		30.0	0.0	U-factor	0.055	per JA4 per Software/ Other	0.034	63
alt Roof low-sloped	JA4 Tables	Wood		30.0	0.0	U-factor	0.055	per JA4 per Software/ Other	0.034	333

[1]FOOTNOTES: If any individual assembly is non-compliant, assemblies may show compliance using an area-weighted calculation. Metal building roofs may not be combined with other roof types. The area-weighted compliance option is not available for alterations demonstrating compliance with R-values in Table 141.0-C.

[2] If "R-value" is shown in cell 13 as the Thermal Performance Unit, the R-value shown here is for continuous insulation per Table 141.0-C.

[3] Roof area minus any fenestration/ skylight area

Structural Insulated Panels (SIPS) Roof/Ceiling Assemblies
This section does not apply to this project.

Structural Insulated Panels (SIPS) Roof/Ceiling Assemblies
This section does not apply to this project.

Metal Panel Assemblies

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ENV-E
Project Name:	Liberty High School Cafeteria	Report Page: (Page 6 of 14)
Project Address:	850 2nd Street	Date Prepared: 6/24/2020

F. ROOF ASSEMBLY SCHEDULE
This section does not apply to this project.

Metal Building Roof Assemblies
This section does not apply to this project.

Area-Weighted Average U-factor Compliance Calculation for Framed/ SIPs/ Span Deck & Concrete/ Metal Panel Roofs

01	02	03	04	05
Roof Type	Total Area of Roof Type (ft²)	Area-weighted U-factor for Roof Type		Compliance Results Using Area-Weighted Calculation Option
		Required	Designed	
Framed	9216	0.055	0.034	
Total for all Roof Types:	**9216**	**0.055**	**0.034**	**COMPLIES**

Area-Weighted Average U-factor Compliance Calculation for Metal Building Roof
This section does not apply to this project.

G. RATED ROOFING MATERIAL (COOL ROOF)
This section does not apply to this project.

H. WALL ASSEMBLY SCHEDULE
This table demonstrates compliance with prescriptive wall assembly requirements in §140.3(a)2 and §140.3(a)3 for new constructions or additions, or mandatory wall assembly requirements in §141.0(b)1B for alterations.

01 Indicate wall types included in the project:[1] ☐ Framed ☒ Mass (new only) ☐ Concrete Sandwich Panel (new only) ☐ SIPS ☐ ICF (new only) ☐ Metal Panels ☐ Metal Building ☐ Spandrel/ Curtain Wall ☐ Straw Bale ☐ Log Home (new only)

[1] FOOTNOTES: Wall types indicated above as "(new only)" do not have Title 24, Part 6 requirements for alterations. New construction and additions do have requirements and should be clicked above and compliance demonstrated within this table.

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ENV-E
Project Name:	Liberty High School Cafeteria	Report Page: (Page 7 of 14)
Project Address:	850 2nd Street	Date Prepared: 6/24/2020

H. WALL ASSEMBLY SCHEDULE

Mass Walls (new walls only)

01 ☒ Calculate Area-Weighted Average U-factor for Mass Walls[1]

02	03	04	05	06	07	08	09	10	11		12
Tag/Plan Detail ID	Occupancy Type	How Design U-factor was determined	Mass Information			Additional Insulation Information		Maximum U-factor Allowed[2]	U-factor per Design		Net Area[3] ft²
			Mass Material	Fill Options	Thickness (in)	Frame Material & Thickness	Cavity Insulation per Design				
NE Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 0.50 in	13.0	0.63	per JA4 per Software/ Other	0.3588	488
SE Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 0.50 in	13.0	0.63	per JA4 per Software/ Other	0.3588	244
NW Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 0.50 in	13.0	0.63	per JA4 per Software/ Other	0.3588	727
SE Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 0.50 in	13.0	0.63	per JA4 per Software/ Other	0.3588	145
SW Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 0.50 in	13.0	0.63	per JA4 per Software/ Other	0.3588	259

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ENV-E
Project Name:	Liberty High School Cafeteria	Report Page: (Page 8 of 14)
Project Address:	850 2nd Street	Date Prepared: 6/24/2020

H. WALL ASSEMBLY SCHEDULE

02	03	04	05	06	07	08	09	10	11		12
Tag/Plan Detail ID	Occupancy Type	How Design U-factor was determined	Mass Information			Additional Insulation Information		Maximum U-factor Allowed[2]	U-factor per Design		Net Area[3] ft²
			Mass Material	Fill Options	Thickness (in)	Frame Material & Thickness	Cavity Insulation per Design				
NW Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 0.50 in	13.0	0.63	per JA4 per Software/ Other	0.3588	388.5

[1]FOOTNOTES: If any individual assembly is non-compliant, assemblies may show compliance using an area-weighted calculation. Mass walls are combined with concrete sandwich panel, log and ICF wall types. Mass walls must meet mandatory requirements in §120.7(b), but may area-weight to comply with prescriptive requirements in Table 140.3 for new construction.

[2] Mass walls are defined as "light" or "heavy" depending on their Heat Capacity. Heat Capacity is determined in Tables 4.3.5 and 4.3.6 in Joint Appendix 4. Walls with Heat Capacity of 15 or greater are "heavy" while walls with Heat Capacity from 7 to less than 15 are "light". Walls with heat capacity less than 7 would be categorized as "Wood framed and Other" for compliance purposes.

[3] Wall area minus any fenestration area

Area-Weighted Average U-factor Compliance Calculation for Mass/ Concrete Sandwich Panel/ Log/ ICF Walls

01	02	03	04	05	06
Wall Type	Total Area of Wall Type (ft²)	Mandatory U-factor Required	Area-weighted U-factor for Wall Type		Compliance Results Using Area-Weighted Calculation Option
			Required	Designed	
Light Mass	0	??	0	0	COMPLIES
Heavy Mass	2252	??	0.63	0.359	COMPLIES

I. FLOOR ASSEMBLY SCHEDULE
This section does not apply to this project.

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ENV-E
Project Name:	Liberty High School Cafeteria	Report Page: (Page 9 of 14)
Project Address:	850 2nd Street	Date Prepared: 6/24/2020

J. EXTERIOR DOOR SCHEDULE
This section does not apply to this project.

K. FENESTRATION AND GLAZED DOOR SCHEDULE
This table demonstrates compliance with prescriptive fenestration requirements in §140.3(a)5 for new constructions or additions, or §140.1(b)2A for alterations. Exterior doors that are more than one-half glass in area are considered Glazed Doors and should be documented on this table with fenestration.

01 Indicate fenestration types included in the project:[1] ☒ Vertical (alterations) ☐ Vertical (new) ☐ Skylights ☐ Glazed Doors (new only)

[1] FOOTNOTES: Floor types indicated above as "(new only)" do not have Title 24, Part 6 requirements for alterations. New construction and additions do have requirements and should be clicked above and compliance demonstrated within this table.

Vertical Fenestration- U-factor, Solar Heat Gain Coefficient (RSHGC/ SHGC), Visible Transmittance (VT)

01	☒	Calculate Area-Weighted Average U-factor for Vertical Fenestration[1]
02	☒	Calculate Area-Weighted Average (R)SHGC for Vertical Fenestration[1]
03	☒	Calculate Area-Weighted Average VT for Vertical Fenestration[1]

Vertical Fenestration- U-factor, Solar Heat Gain Coefficient (RSHGC/ SHGC), Visible Transmittance (VT)

04	05	06	07	08	09		10	11	12	13
Tag/Plan Detail ID	Fenestration Type	Occupancy & Status	(R)SHGC Compliance Method	VT Compliance Method	Calculation Method for Performance Values per Design[2]		Product Performance Unit	Required Product Performance	Product Performance per Design	Area ft²
42 door x 2	Fixed window	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.45	84
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.23	
							VT (min)	0.17	0.17	
50 x 2 strfrnt	Curtain wall	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.41	100
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.26	
							VT (min)	0.46	0.46	
55 strfrnt	Curtain wall	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.41	55
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.26	
							VT (min)	0.46	0.46	

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA
SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033
ARCH PROJECT NO: 1783.00
DRAWN BY:
DRAWING SCALE:
PTN: 61721-75 FILE NO: 7-H4
CD
DECEMBER 2, 2020
SHEET TITLE

TITLE 24 BLDG B

SHEET NUMBER
T-1.4

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS, 22:11/24/2020:5:02 PM

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-ENV-E**
Project Name:	Liberty High School Cafeteria	**Report Page:**	**(Page 10 of 14)**
Project Address:	850 2nd Street	**Date Prepared:**	6/24/2020

K. FENESTRATION AND GLAZED DOOR SCHEDULE
Vertical Fenestration- U-factor, Solar Heat Gain Coefficient (RSHGC/ SHGC), Visible Transmittance (VT)

04	05	06	07	08	09		10	11	12	13
Tag/Plan Detail ID	Fenestration Type	Occupancy & Status	(R)SHGC Compliance Method	VT Compliance Method	Calculation Method for Performance Values per Design[2]		Product Performance Unit	Required Product Performance	Product Performance per Design	Area ft[2]
56 strfrnt	Curtain wall	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.41	56
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.26	
							VT (min)	0.46	0.46	
24 door	Fixed window	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.45	24
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.23	
							VT (min)	0.17	0.17	
34 strfrnt	Curtain wall	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.41	34
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.26	
							VT (min)	0.46	0.46	
55 strfrnt	Curtain wall	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.41	55
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.26	
							VT (min)	0.46	0.46	
135 strfrnt	Curtain wall	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.41	135
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.26	
							VT (min)	0.46	0.46	
42 door	Fixed window	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.45	42
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.23	
							VT (min)	0.17	0.17	

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STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-ENV-E**
Project Name:	Liberty High School Cafeteria	**Report Page:**	**(Page 11 of 14)**
Project Address:	850 2nd Street	**Date Prepared:**	6/24/2020

K. FENESTRATION AND GLAZED DOOR SCHEDULE
Vertical Fenestration- U-factor, Solar Heat Gain Coefficient (RSHGC/ SHGC), Visible Transmittance (VT)

04	05	06	07	08	09		10	11	12	13
Tag/Plan Detail ID	Fenestration Type	Occupancy & Status	(R)SHGC Compliance Method	VT Compliance Method	Calculation Method for Performance Values per Design[2]		Product Performance Unit	Required Product Performance	Product Performance per Design	Area ft[2]
60 strfrnt	Curtain wall	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.41	60
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.26	
							VT (min)	0.46	0.46	
209 strfrnt	Curtain wall	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.41	209
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.26	
							VT (min)	0.46	0.46	
102 strfrnt	Curtain wall	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.41	102
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.26	
							VT (min)	0.46	0.46	
24.5 strfrnt	Curtain wall	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.41	24.5
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.26	
							VT (min)	0.46	0.46	
116 door x 3	Fixed window	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.45	348
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.23	
							VT (min)	0.17	0.17	
45 strfrnt x 3	Curtain wall	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.41	135
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.26	
							VT (min)	0.46	0.46	

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20190401 | Report Generated: 2020-06-24 09:03:10

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-ENV-E**
Project Name:	Liberty High School Cafeteria	**Report Page:**	**(Page 12 of 14)**
Project Address:	850 2nd Street	**Date Prepared:**	6/24/2020

K. FENESTRATION AND GLAZED DOOR SCHEDULE
Vertical Fenestration- U-factor, Solar Heat Gain Coefficient (RSHGC/ SHGC), Visible Transmittance (VT)

04	05	06	07	08	09		10	11	12	13
Tag/Plan Detail ID	Fenestration Type	Occupancy & Status	(R)SHGC Compliance Method	VT Compliance Method	Calculation Method for Performance Values per Design[2]		Product Performance Unit	Required Product Performance	Product Performance per Design	Area ft[2]
42 door x 2	Fixed window	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.45	84
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.23	
							VT (min)	0.17	0.17	
141 strfrnt	Curtain wall	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.41	141
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.26	
							VT (min)	0.46	0.46	
80 strfrnt	Curtain wall	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.41	80
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.26	
							VT (min)	0.46	0.46	
24 op	Operable window	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified		U-factor (max)	0.47	0.46	24
					☐	Overhang used for RSHGC	(R)SHGC (max)	0.31	0.22	
							VT (min)	0.32	0.32	

22	Total Skylight Area using NA6 Default:[2]		
20	Total Glazed Door Area using NA6 Default:[2]		

Area-Weighted Average U-factor, SHGC, VT Compliance Calculation for Vertical Fenestration And Glazed Doors

01	02	03	04	05
Product Performance Unit	Total Area of Fenestration (ft[2])	Area-weighted Calculation for Fenestration		Compliance Results Using Area-Weighted Calculation Option
		Required	Designed	
U-Factor	1792.5	0.47	0.424	COMPLIES
(R)SHGC	1792.5	0.31	0.25	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 20190401 | Report Generated: 2020-06-24 09:03:10

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-ENV-E**
Project Name:	Liberty High School Cafeteria	**Report Page:**	**(Page 13 of 14)**
Project Address:	850 2nd Street	**Date Prepared:**	6/24/2020

K. FENESTRATION AND GLAZED DOOR SCHEDULE
Area-Weighted Average U-factor, SHGC, VT Compliance Calculation for Vertical Fenestration And Glazed Doors

01	02	03	04	05
Product Performance Unit	Total Area of Fenestration (ft[2])	Area-weighted Calculation for Fenestration		Compliance Results Using Area-Weighted Calculation Option
		Required	Designed	
VT				

L. DAYLIGHT IN LARGE ENCLOSED SPACES
This section does not apply to this project.

M. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION
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 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-ENV-01-E - Must be submitted for all buildings	☐	☐

N. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE
Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, form user must provide an explanation in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/. Individuals who perform the field testing and verification work, and provide the information required for completion of the fenestration Certificate of Acceptance documentation are not required to be licensed professionals. However, the person who signs the Certificate of Acceptance document to certify compliance with the acceptance requirements shall be licensed as specified in Standards Section 10-103(a)4 and NA7.3.1

Yes	No	Form/Title	Field Inspector Pass	Field Inspector Fail
●	○	NRCA-ENV-02-F must be submitted for all new, added or altered fenestration.	☐	☐

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20190401 | Report Generated: 2020-06-24 09:03:10

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-ENV-E**
Project Name:	Liberty High School Cafeteria	**Report Page:**	**(Page 14 of 14)**
Project Address:	850 2nd Street	**Date Prepared:**	6/24/2020

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Sarah Pernula	Documentation Author Signature: Sarah Pernula
Company: SOLDATA Energy Consulting	Signature Date: 6/24/20
Address: 2227 Capricorn Way	CEA/ HERS Certification Identification (if applicable): NR16-90-20043
City/State/Zip: Santa Rosa CA 95407	Phone: 707.545.4440

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: James Theiss	Responsible Designer Signature:
Company: Quattrocchi Kwok Architects	Date Signed: 2020-06-24
Address: 636 Fifth Street	License: C-22643
City/State/Zip: Santa Rosa CA 95404	Phone: 707 576-0829

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20190401 | Report Generated: 2020-06-24 09:03:10

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)2 for alterations.			
Project Name:	Liberty High School Cafeteria	**Report Page:**	**(Page 1 of 15)**
Project Address:	850 2nd Street	**Date Prepared:**	6/24/2020

A. GENERAL INFORMATION

01	Project Location (city)	Brentwood	04	Total Conditioned Floor Area	9216
02	Climate Zone	12	05	Total Unconditioned Floor Area	0
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	1

☒ Office (B) ☐ Retail (M) ☒ Non-refrigerated Warehouse (S)
☐ Hotel/ Motel Guest Rooms (R-1) ☐ School (E) ☐ Healthcare Facility (I)
☐ High-Rise Residential (R-2/R-3) ☐ Relocatable Class Bldg (E) ☒ Other (write in) — See Table J

B. PROJECT SCOPE
This table includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)2 for alterations.

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

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20190401 | Report Generated: 2020-06-24 09:03:11

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Liberty High School Cafeteria	**Report Page:**	**(Page 2 of 15)**
Project Address:	850 2nd Street	**Date Prepared:**	6/24/2020

C. COMPLIANCE RESULTS
Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D., or the table indicated as not compliant for guidance.

01		02		03		04		05		06		07		08	09
System Summary §110.1, §110.2, §140.4	AND	Pumps §140.4(k)	AND	Fans/ Economizers §140.4(c), §140.4(e)	AND	System Controls §110.2, §120.2, §140.4(f)	AND	Ventilation §120.1	AND	Terminal Box Controls §140.4(d)	AND	Distribution §120.3, §140.4(l)	AND	Cooling Towers §110.2(e)2	Compliance Results
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)	
Yes	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND		AND		COMPLIES
Mandatory Measures Compliance (See Table Q for Details)														COMPLIES	

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

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

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20190401 | Report Generated: 2020-06-24 09:03:11

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Liberty High School Cafeteria	**Report Page:**	**(Page 3 of 15)**
Project Address:	850 2nd Street	**Date Prepared:**	6/24/2020

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)
This table is used to demonstrate compliance for mechanical equipment with mandatory requirements found in §110.1 and §110.2(a) and prescriptive requirements found in §140.4(a), §140.4(b) and §140.4(k) or §141.0(b)2 for alterations.

Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters)

01	02	03	04	05	06	07	08	09	10	11
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 & Title 20	Smallest Size Available[1] §140.4(a)	Equipment Sizing per Mechanical Schedule (kBtu/h) §140.4 (a&b)						
				Heating Output[2,3]		Cooling Output[2,3]		Load Calculations[3,4]		
				Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
AC-1 Carrier 48TCDD12	Unitary AC/ Condensers	AC, air cooled, split (3 phase)	NA: Load Controls	180	180	0	107.28	96.2	113.75	124.85
AC-2 Carrier 48TCDD12	Unitary AC/ Condensers	AC, air cooled, split (3 phase)	NA: Load Controls	180	180	0	107.38	96.2	123.6	148.4
AC-3 Carrier 48FCLA06	Unitary AC/ Condensers	AC, air cooled, split (3 phase)	NA: Load Controls	60	60	0	41.28	34.3	65.86	76.79
AC-4 Carrier 48FCLA05	Unitary AC/ Condensers	AC, air cooled, split (3 phase)	NA: Load Controls	60	60	0	43.95	34.3	109.36	76.19

[1]FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per §140.4(a). Healthcare facilities are excepted.
[2]It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.
[3] If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.
[4] Authority Having Jurisdiction may ask for load calculations used for compliance per §140.4(b).

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20190401 | Report Generated: 2020-06-24 09:03:11

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Liberty High School Cafeteria	**Report Page:**	**(Page 4 of 15)**
Project Address:	850 2nd Street	**Date Prepared:**	6/24/2020

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)
Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))

01	02	03	04	05	06	07	08	09
Name or Item Tag	Size Category (Btu/h)	Heating Mode				Cooling Mode		
		Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
AC-1 Carrier 48TCDD12	>=65,000 and <135,000		AFUE	0.80	0.8	EER IEER	11 12.7	12.2 12.7
AC-2 Carrier 48TCDD12	>=65,000 and <135,000		AFUE	0.80	0.8	EER IEER	11 12.7	12.2 12.7
AC-3 Carrier 48FCLA06	<65,000		AFUE	0.80	0.78	SEER	13.0	14
AC-4 Carrier 48FCLA05	<65,000		AFUE	0.80	0.78	SEER	13.0	14

G. PUMPS
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 20190401 | Report Generated: 2020-06-24 09:03:11

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS

Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA
SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033
ARCH PROJECT NO: 1783.00
DRAWN BY:
DRAWING SCALE:
PTN: 61T21-75 FILE NO: 7-H4
CD
DECEMBER 2, 2020
SHEET TITLE
TITLE 24 BLDG B
SHEET NUMBER
T-1.5

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS, 22:11/24/2020:5:02 PM

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Liberty High School Cafeteria	**Report Page:**	**(Page 5 of 15)**
Project Address:	850 2nd Street	**Date Prepared:**	6/24/2020

H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in §140.4(c), §140.4(e) and §140.4(m) for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name:	AC-1 Carrier 48TCDD12	Economizer:[1]	NA: Special OA filtration	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B: Device	Design Airflow through Device (CFM)
SF	Supply	1	4000	BHP	2		
Total System Design Supply Airflow (CFM):			4000	Total System Design (B)HP:	2	**Maximum System Fan Power (B)HP:**	3.76
System Name:	AC-2 Carrier 48TCDD12	**Economizer:[1]**	NA: Special OA filtration	**Economizer Controls:**	Designed per §140.4(e) and (m)	**System Fan Type:**	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B: Device	Design Airflow through Device (CFM)
SF	Supply	1	4000	BHP	2		
Total System Design Supply Airflow (CFM):			4000	Total System Design (B)HP:	2	**Maximum System Fan Power (B)HP:**	3.76
System Name:	AC-3 Carrier 48FCLA06	**Economizer:[1]**	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)	**System Fan Type:**	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B: Device	Design Airflow through Device (CFM)
SF	Supply	1	1800	BHP	0.9		
Total System Design Supply Airflow (CFM):			1800	Total System Design (B)HP:	0.9	**Maximum System Fan Power (B)HP:**	1.69

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20190401 | Report Generated: 2020-06-24 09:03:11

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Liberty High School Cafeteria	**Report Page:**	**(Page 6 of 15)**
Project Address:	850 2nd Street	**Date Prepared:**	6/24/2020

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	AC-4 Carrier 48FCLA05	Economizer:[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B: Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.8		
EF	Exhaust	1	0	BHP	0.19		
Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:	0.99	**Maximum System Fan Power (B)HP:**	1.5

[1] *FOOTNOTES: Computer room economizers must meet requirements of §140.9(a) and will be documented on the NRCC-PRC-E document.*
[2] *The unit used for HP must be consistent for all fans within a system.*

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20190401 | Report Generated: 2020-06-24 09:03:11

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Liberty High School Cafeteria	**Report Page:**	**(Page 7 of 15)**
Project Address:	850 2nd Street	**Date Prepared:**	6/24/2020

I. SYSTEM CONTROLS

This table is used to demonstrate compliance with mandatory controls in §110.2 and §120.2 and prescriptive controls in §140.4(f) and (n) or requirements in §141.0(b)2E for altered space conditioning systems.

01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft^2)	Thermostats §110.2(b) & (c)[1], §120.2(a)or §141.0(b)2E	Shut-Off Controls §120.2(e)	Isolation Zone Controls §120.2(g)	Demand Response §110.12 and §120.2(b)	Supply Air Temp. Reset §140.4(f)	Window Interlocks per §140.4(n)
AC-1 Carrier 48TCDD12	Single zone	<= 25,000 ft^2	EMCS	NA: 7 day per §120.2(e)1	4 Hour Timer	EMCS	NA: Single Zone	NA: No operable windows
AC-2 Carrier 48TCDD12	Single zone	<= 25,000 ft^2	EMCS	NA: 7 day per §120.2(e)1	4 Hour Timer	EMCS	NA: Single Zone	NA: No operable windows
AC-3 Carrier 48FCLA06	Single zone	<= 25,000 ft^2	EMCS	NA: 7 day per §120.2(e)1	4 Hour Timer	EMCS	NA: Single Zone	NA: No operable windows
AC-4 Carrier 48FCLA05	Single zone	<= 25,000 ft^2	EMCS	NA: 7 day per §120.2(e)1	4 Hour Timer	EMCS	NA: Single Zone	NA: No operable windows

[1] *FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.*
*Notes: Controls with a * require a note in the space below explaining how compliance is achieved. EX: system 1: SA Temp Reset: Exempt because zones compliant with §140.4(d) ; EXCEPTION 1 to §140.4(f)

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20190401 | Report Generated: 2020-06-24 09:03:11

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Liberty High School Cafeteria	**Report Page:**	**(Page 8 of 15)**
Project Address:	850 2nd Street	**Date Prepared:**	6/24/2020

J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in §120.1 and §120.2(e)3B for all nonresidential, high-rise residential and hotel/motel occupancies. For alterations, only ventilation systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required outdoor ventilation rates and airflows may be shown on the plans or the calculations can be presented in a spreadsheet.

01	☐	Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.
02	☒	Check this box if the project included Nonresidential or Hotel/Motel spaces
	☐	Check this box if the project included new or altered high-rise residential dwelling units.
03	☐	Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per §120.1(c)2.

Nonresidential and Hotel/ Motel Ventilation Systems

04	05				06			07
System Name	AC-1 Carrier 48TCDD12	System Design OA CFM Airflow[1]		1176	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2]; Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]: Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Exh. Vent per §120.1(c)4: Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]: DCV / Occ Sensor
B101 North Dining		2352			1176	0	0	DCV: NA: Not required per §120.1(d)3; Occ Sensor: NA: Not required space type
17	Total System Required Min OA CFM				1176	18	Ventilation for this System Complies?	Yes
04	05				06			07
System Name	AC-2 Carrier 48TCDD12	System Design OA CFM Airflow[1]		1176	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2]; Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20190401 | Report Generated: 2020-06-24 09:03:11

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Liberty High School Cafeteria	**Report Page:**	**(Page 9 of 15)**
Project Address:	850 2nd Street	**Date Prepared:**	6/24/2020

J. VENTILATION AND INDOOR AIR QUALITY

Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]: Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Exh. Vent per §120.1(c)4: Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]: DCV / Occ Sensor
B101 South Dining		2352			1176	0	0	DCV: NA: Not required per §120.1(d)3; Occ Sensor: NA: Not required space type
17	Total System Required Min OA CFM				1176	18	Ventilation for this System Complies?	Yes
04	05				06			07
System Name	AC-3 Carrier 48FCLA06	System Design OA CFM Airflow[1]		756	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2]; Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]: Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Exh. Vent per §120.1(c)4: Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]: DCV / Occ Sensor
B104 Servery		1512			756	0	0	DCV: NA: Not required per §120.1(d)3; Occ Sensor: NA: Not required space type
17	Total System Required Min OA CFM				756	18	Ventilation for this System Complies?	Yes
04	05				06			07
System Name	AC-4 Carrier 48FCLA05	System Design OA CFM Airflow[1]		236	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2]; Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16

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CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20190401 | Report Generated: 2020-06-24 09:03:11

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Liberty High School Cafeteria	**Report Page:**	**(Page 10 of 15)**
Project Address:	850 2nd Street	**Date Prepared:**	6/24/2020

J. VENTILATION AND INDOOR AIR QUALITY

Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]: Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Exh. Vent per §120.1(c)4: Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]: DCV / Occ Sensor
B108 Kitchen	Kitchenettes	1297			0	389.1	390	DCV: NA: Not required per §120.1(d)3; Occ Sensor: NA: Not required space type
B102 Storage	All others	72			10.8	0	0	DCV: NA: Not required per §120.1(d)3; Occ Sensor: NA: Not required space type
B103 Corridor		504			75.6	0	0	DCV: NA: Not required per §120.1(d)3; Occ Sensor: NA: Not required space type
B105 6 7 Three Offices	Office space	294			44.1	0	0	DCV: NA: Not required per §120.1(d)3; Occ Sensor: NA: Not required space type
B109 Janitorial	All others	32			0	0	0	DCV: NA: Not required per §120.1(d)3; Occ Sensor: NA: Not required space type
B110 Dry Storage	All others	196			29.4	0	0	DCV: NA: Not required per §120.1(d)3; Occ Sensor: NA: Not required space type

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Mechanical Systems
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CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Liberty High School Cafeteria	**Report Page:**	**(Page 11 of 15)**
Project Address:	850 2nd Street	**Date Prepared:**	6/24/2020

J. VENTILATION AND INDOOR AIR QUALITY

B111 Electrical	All others	27			0	0	0	DCV: NA: Not required per §120.1(d)3; Occ Sensor: NA: Not required space type
B112 Toilet	Toilet, private	72			0	0	0	DCV: NA: Not required per §120.1(d)3; Occ Sensor: NA: Not required space type
B113 Locker		110			16.5	0	0	DCV: NA: Not required per §120.1(d)3; Occ Sensor: NA: Not required space type
B116 Delivery	All others	63			9.4	0	0	DCV: NA: Not required per §120.1(d)3; Occ Sensor: NA: Not required space type
B114 5 Refrigerated Storage	All others	333			49.9	0	0	DCV: NA: Not required per §120.1(d)3; Occ Sensor: NA: Not required space type
17	Total System Required Min OA CFM				236	18	Ventilation for this System Complies?	Yes

[1] *FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system*
[2] *Air filtration requirements apply to the following three system types per §120.1(c)1A : space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.*
[3] *Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.*
[4] *See Standards Tables 120.1-A and 120.1-B.*
[5] *For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code.*

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Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Liberty High School Cafeteria	**Report Page:**	**(Page 12 of 15)**
Project Address:	850 2nd Street	**Date Prepared:**	6/24/2020

J. VENTILATION AND INDOOR AIR QUALITY

[6] §120.2(e)3 requires systems serving rooms that are required by §130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by §130.1(c).

K. TERMINAL BOX CONTROLS
This section does not apply to this project.

L. DISTRIBUTION (DUCTWORK and PIPING)
This section does not apply to this project.

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

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Yes	No	Form/Title	Field Inspector: Pass	Fail
●	○	NRCI-MCH-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 20190401 | Report Generated: 2020-06-24 09:03:11

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Liberty High School Cafeteria	**Report Page:**	**(Page 13 of 15)**
Project Address:	850 2nd Street	**Date Prepared:**	6/24/2020

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Yes	No	Form/Title	Field Inspector: Pass	Fail
●	○	NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.	☐	☐
●	○	NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically move to "Yes". If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".	☐	☐
○	●	NRCA-MCH-04-A - Air Distribution Duct Leakage	☐	☐
○	●	NRCA-MCH-05-A - Air Economizer Controls	☐	☐
○	●	NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)3) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO_2) concentration setpoints.	☐	☐
○	●	NRCA-MCH-07-A Supply Fan Variable Flow Controls	☐	☐
○	●	NRCA-MCH-08-A Valve Leakage Test	☐	☐
○	●	NRCA-MCH-09-A Supply Water Temperature Reset Controls	☐	☐
○	●	NRCA-MCH-10-A Hydronic System Variable Flow Controls	☐	☐
○	●	NRCA-MCH-11-A Automatic Demand Shed Controls	☐	☐
○	●	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	☐	☐
○	●	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance	☐	☐
○	●	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance NOTE: This form does not automatically move to "Yes". If Distributed Energy System DX AC Systems are included in teh scope permit applicant should move this form to "Yes".	☐	☐
○	●	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance NOTE: This form does not automatically move to "Yes". If Chilled water Storage, Ice-on-Coil Internal Melt, Ice-on-Coil External melt, Ice Harvester, Brine, Ice-Slurry, Eutecti Salt, Clathrate Hydrate Slurry (CHS), Cryogenic or Encapsulated (Ice Ball) Systems are included in the scope, permit applicant should move this form to "Yes".	☐	☐
○	●	NRCA-MCH-16-A Supply Air Temperature Reset Controls	☐	☐
○	●	NRCA-MCH-17-A Condenser Water Temperature Reset Controls	☐	☐
○	●	NRCA-MCH-18-A Energy Management Control Systems	☐	☐

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20190401 | Report Generated: 2020-06-24 09:03:11

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA
SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033
ARCH PROJECT NO: 1783.00
DRAWN BY:
DRAWING SCALE:
PTN: 61721-75 FILE NO: 7-H4
CD
DECEMBER 2, 2020
SHEET TITLE

TITLE 24 BLDG B

SHEET NUMBER
T-1.6

BIMcloud: archiserver - BIMcloud Basic for ARCHICAD 22/1783.00_DD_LHS ADMIN STUDENT COMMONS 22-11/24/2020 5:02 PM

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Liberty High School Cafeteria	Report Page:	(Page 14 of 15)
Project Address:	850 2nd Street	Date Prepared:	6/24/2020

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

○	●	NRCA-MCH-19-A Occupancy Sensor Controls	☐	☐
○	●	NRCA-MCH-20 Multi-Family Ventilation	☐	☐
○	●	NRCA-MCH-21 Multi-Family Envelope Leakage	☐	☐

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

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 Provider's 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	Field Inspector Fail
○	●	NRCV-MCH-04-H Duct Leakaage Test *NOTE: Must be completed by a HERS Rater*	☐	☐
○	●	NRCV-MCH-24 Enclosure Air Leakaage Worksheet *NOTE: Must be completed by a HERS Rater*	☐	☐
○	●	NRCV-MCH-27 High-rise Residential *NOTE: Must be completed by a HERS Rater*	☐	☐
○	●	NRCV-MCH-32 Local Mechanical Exhaust *NOTE: Must be completed by a HERS Rater*	☐	☐

Q. MANDATORY MEASURES DOCUMENTATION LOCATION

This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

01		02
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	Yes	Plan sheet or construction document location M-Sheets

Registration Number: — Registration Date/Time: — Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance — Report Version: 2019.1.003 Schema Version: rev 20190401 — Report Generated: 2020-06-24 09:03:11

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Liberty High School Cafeteria	Report Page:	(Page 15 of 15)
Project Address:	850 2nd Street	Date Prepared:	6/24/2020

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Sarah Pernula	Documentation Author Signature: Sarah Pernula
Company: SOLDATA Energy Consulting	Signature Date: 6/24/20
Address: 2227 Capricorn Way	CEA/ HERS Certification Identification (if applicable): NR16-90-20043
City/State/Zip: Santa Rosa CA 95407	Phone: 707.545.4440

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: Chris Del Core	Responsible Designer Signature:
Company: Costa Engineers Inc.	Date Signed: 2020-06-24
Address: 3274 Villa Lane	License: CA M 31600
City/State/Zip: Napa CA 94558	Phone: 707-252-9177

Registration Number: — Registration Date/Time: — Registration Provider: Energysoft
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STATE OF CALIFORNIA
Domestic Water Heating System
NRCC-PLB-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-PLB-E
Project Name:	Liberty High School Cafeteria	Report Page:	(Page 1 of 6)
Project Address:	850 2nd Street	Date Prepared:	6/24/2020

This document is used to demonstrate compliance for nonresidential occupancies with requirements in §110.1, §110.3, §120.3, and §140.5, and with requirements in §141.0 for additions and alterations, for domestic water heating scopes using the prescriptive path. For high-rise residential and hotel/motel occupancies compliance is demonstrated with requirements in §110.1, §110.3, §120.3, §150.0 and §150.1(c)8, and with requirements §150.2 for additions.

A. GENERAL INFORMATION

01	Project Location (city)	Brentwood	02 Climate Zone	12
03	Occupancy Types Within Project (select all that apply):			
☒ Nonresidential	☐ High-Rise Residential	☐ Hotel/Motel		
☐ State Building	☐ Healthcare Facility	☐ Other (Write In)		

B. PROJECT SCOPE

This table includes domestic water heating systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive paths outlined in §140.5, §150.1(c)8, and §141.0(a), or §141.0(b)2N for additions or alterations. Solar water heating systems are documented on the NRCC-SRA compliance document. Combined hydronic water heating systems are documented on the NRCC-MCH compliance document.

01	02	03
My project consists of (check all that apply):	System Type[1,2]	System Components
☐ New system (DHW system being installed for the first time in newly constructed building)		☐ Equipment ☐ Distribution ☐ Controls
☒ System Alteration (equipment, distribution or controls)	Individual System (serving nonresidential spaces)	☒ Equipment ☒ Distribution ☒ Controls

[1] *FOOTNOTES: Point of use water heaters, or other non-central systems used to serve nonresidential spaces, are considered individual systems.*
[2] *Dwelling units refers to hotel/motel guest rooms and units in a high-rise residential occupancy.*

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NRCC-PLB-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-PLB-E
Project Name:	Liberty High School Cafeteria	Report Page:	(Page 2 of 6)
Project Address:	850 2nd Street	Date Prepared:	6/24/2020

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with water heating requirements. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. or the table indicated as not compliant for guidance.

01	02	03	04
Domestic Hot Water Equipment	Distribution Systems	Controls	**Compliance Results**
Table F	Table G	Table H	
Yes	Yes	Yes	COMPLIES

D. EXCEPTIONAL CONDITIONS

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

E. ADDITIONAL REMARKS

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

Registration Number: — Registration Date/Time: — Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance — Report Version: 2019.1.003 Schema Version: rev 20190401 — Report Generated: 2020-06-24 09:03:08

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Project Address:	850 2nd Street	Date Prepared:	6/24/2020

F. DOMESTIC HOT WATER EQUIPMENT

This table is used to demonstrate compliance with mandatory equipment requirements in §110.1 and §110.3. For high-rise residential and hotel/motel occupancies, compliance with prescriptive requirements in §150.1(c)8 must also be demonstrated and with §150.2 for addition and alteration scopes.

Equipment Schedule: Individual Systems

01	02	03	04	05	06
Name or Item Tag	Equipment Type	Volume (gal)	Max GPM/ First Hour Rating (FHR)	Rated Uniform Energy Factor (UEF)	Minimum Required Uniform Energy Factor (UEF)[1]
AO Smith BTX-80	Residential-Duty Commercial Gas-Fired Storage (75,000-105,000 BTUH)	41-50	GPM >= 4.0	0.94	0.61

[1] *FOOTNOTE: Compliant equipment may be found in the Modernized Appliance Efficiency Database System (MAEDBS) on the Energy Commission website: https://cacertappliances.energy.ca.gov/Pages/Search/AdvancedSearch.aspx*

Water Heating Equipment All Occupancies

	Yes	No	Not Applicable	Requirement
18	☐	☐	☒	Unfired storage tank insulation shall have Internal + External >=R-16 OR External >=R-12. Label required per §110.3(c)3
19	☐	☐	☒	New state buildings 60% of energy for service water heating from site solar energy or recovered energy per §110.3(c)5
20	☐	☐	☒	Isolation valves for instantaneous water heater with input rating <6.8 kBTUH or 2 kW has been specified per §110.3(c)6

G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM

This table is used to demonstrate compliance for nonresidential occupancies with distribution requirements in §120.3 and §140.5. For high-rise residential and hotel/motel occupancies, compliance is demonstrated with requirements §110.3(c), §120.3, §150.0, §150.1

Mandatory Pipe Insulation All Occupancies

12	☒	For systems serving nonresidential spaces, pipe insulation for the following applications is specified to comply with Table 120.3-A (see below) per §120.3 : • Recirculating system piping, including supply and return piping of the water heater • The first 8 ft of hot and cold outlet piping, including between storage tank and heat trap, for a nonrecirculating storage system • Pipes that are externally heated
13	☒	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service per §120.3(b) and §150.0(j)3

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CERTIFICATE OF COMPLIANCE			NRCC-PLB-E
Project Name:	Liberty High School Cafeteria	Report Page:	(Page 4 of 6)
Project Address:	850 2nd Street	Date Prepared:	6/24/2020

G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM

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 CONTROLS

This table is used to demonstrate compliance with control requirements in §110.3 for all occupancies. For high-rise residential and hotel/motel occupancies, compliance is also demonstrated with requirements in §150.1(c)8.

	Yes	No	Not Applicable	Requirement
01	☒	☐	☐	Construction documents require manufacturer certification that service water-heating systems are equipped with automatic temperature controls capable of adjusting temperature settings per §110.3(a).
02	☐	☐	☒	Systems with capacity > 167,000 BTUH equipped with outlet temperature controls per §110.3(c)1 unless covered by California Plumbing Code 613.0.
03	☐	☐	☒	Controls for circulating pumps or electrical heat trace systems are capable of automatically turning off the system per §110.3(c)2 unless systems serves healthcare facility.
04	☐	☐	☒	For recirculation systems serving multiple dwelling units, design includes automatic pump controls per §150.1(c)8Bii, or §150.2 for additions or alterations.
05	☐	☐	☒	For recirculation systems serving individual dwelling units, design includes manual on/off controls as specified in Reference Appendix RA4.4.9 per §150.1(c)8.
06	☐	☐	☒	For replacement single heat pump water heaters serving individual dwelling units in climate zone 1-15, design includes communication interface that meets demand responsive control requirements of §110.12(a) per §150.2(b)1Hiii.

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Project Address:	850 2nd Street	Date Prepared:	6/24/2020

I. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Yes	No	Form/Title	Field Inspector Pass	Field Inspector 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 Certifcates of Acceptance applicable to service water heating requirements.

K. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

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 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/NRCI/

Yes	No	Form/Title	Field Inspector Pass	Field Inspector 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	☐	☐

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Sarah Pernula	Documentation Author Signature: Sarah Pernula
Company: SOLDATA Energy Consulting	Signature Date: 2020-06-24
Address: 2227 Capricorn Way	CEA/ HERS Certification Identification (if applicable): NR16-90-20043
City/State/Zip: Santa Rosa CA 95407	Phone: 707.545.4440

RESPONSIBLE PERSON'S DECLARATION STATEMENT
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IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119033 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 12/04/2020

QUATTROCCHI KWOK ARCHITECTS
Main Office:
636 Fifth Street, Santa Rosa, CA 95404
Pleasanton Office:
600 Main Street, Suite E,
Pleasanton, CA 94566
(707) 576-0829

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: DECEMBER 2, 2020

LIBERTY HIGH SCHOOL

ADMINISTRATION & STUDENT COMMONS

850 2ND STREET
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119033
ARCH PROJECT NO: 1783.00
DRAWN BY:
DRAWING SCALE:
PTN: 61721-75 FILE NO: 7-H4
CD
DECEMBER 2, 2020
SHEET TITLE

TITLE 24 BLDG B

SHEET NUMBER

T-1.7

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