THE LEGACY RENOVATION

COUNTY OF DEL NORTE

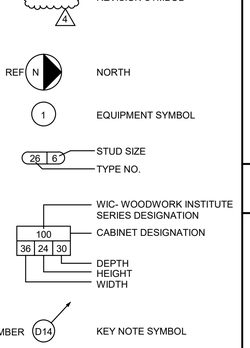
665 L STREET
CRESCENT CITY, CA 95531

ABBREVIATIONS

A.B.	ANCHOR BOLTS
ACOUS.	ACOUSTICAL
ADM.	ADMINISTRATIVE
ALS	ASSISTIVE LISTENING SYSTEM
ALT.	ALTERNATE
ALUM.	ALUMINUM
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
BLDG.	BUILDING
BLK.	BLOCK
BLKG.	BLOCKING
BM.	BEAM
B.N.	BOUNDARY NAIL
BOT.	BOTTOM
BRD.	BOARD
BTR.	BETTER
CAB.	CABINET
CAC.	CALIFORNIA ADMINISTRATIVE CODE
CAT.	CATWALK
CEM. PLAS.	CEMENT PLASTER
CER.	CERAMIC
C.J.	CONSTRUCTION JOINT
CLG.	CEILING
CLR.	CLEAR
C.O.	(GSA) CONTRACTING OFFICER
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONT.	CONTINUOUS
CONTR.	CONTRACTOR
C.M.U.	CONCRETE MASONRY UNIT
CSPE	CHLOROSULFONATED POLYETHYLENE ("HYPALON")
DBL.	DOUBLE
DET.	DETAIL
D.F.	DOUGLAS FIR
DIAG.	DIAGONAL
DIA.	DIAMETER
DIM.	DIMENSION
DN.	DOWN
DP.	DEEP
DR.	DOOR
D.S.	DOWNSPOUT
DSA	DIVISION OF THE STATE ARCHITECT
EA.	EACH
E.F.	EACH FACE
E.J.	EXPANSION JOINT
ELEV.	ELEVATION
ELEC.	ELECTRICAL
EMT	ELEC. METALLIC TUBING
E.N.	EDGE NAIL
E.Q.	EQUAL
EQPT.	EQUIPMENT
E.S.	EACH SIDE
E.W.	EACH WAY
EXIST.	EXISTING
EXP.	EXPANSION
EXT.	EXTERIOR
FDN.	FOUNDATION
FHWS	FLAT HEAD WOOD SCREW
FIN.	FINISH
FIN. FL.	FINISH FLOOR
F.J.	FLOOR JOIST
FL.	FLOOR
FLUOR.	FLUORESCENT
F.N.	FIELD NAIL
F.O.C.	FACE OF CONCRETE
F.O.F.	FACE OF FINISH
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUD
FRMG.	FRAMING
FT.	FOOT/FEET
GA.	GAUGE
GAL.	GALLON
GALV.	GALVANIZED
GSS	GALVANIZED SHEET STELL
GLB	GLUE LAMINATED BEAM
GRD.	GRADE
GSA	GENERAL SERVICES ADMINISTRATION
G.S.M.	GALVANIZED SHEET METAL
GYP. BD.	GYPSUM BOARD
H.D.	HOLD-DOWN
HMA	HAZARDOUS MATERIALS ABATEMENT
HORIZ.	HORIZONTAL
H.S.B.	HIGH STRENGTH BOLTS
HT.	HEIGHT
HDR.	HEADER
IN.	INCH(ES)
I.D.	INSIDE DIAMETER
INSUL	INSULATION
ISA	INTERNATIONAL SYMBOL OF ACCESS
JT.	JOINT
JST.	JOIST
LVT	LAMINATE VINYL TILE
MAX.	MAXIMUM
M.B.	MACHINE BOLTS
MECH.	MECHANICAL
MET.	METAL
MEZZ.	MEZZANINE
MFR.	MANUFACTURER
MIN.	MINIMUM
N/A	NOT APPLICABLE
N.I.C.	NOT IN CONTRACT
NOM.	NOMINAL
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
O.H.	OPPOSITE HAND
OLA	OFFICE OF LOCAL ASSISTANCE
OPP.	OPPOSITE
PERIM.	PERIMETER
PBS	PUBLIC BUILDINGS SERVICE
P.C.C.	PRECAST CONCRETE
PL.	PLATE
P.L.	PROPERTY LINE
P.LAM.	PLASTIC LAMINATE
PLYWD.	PLYWOOD
P.N.	PLATE NAIL
P.S.F.	POUNDS PER SQUARE FOOT
P.S.I.	POUNDS PER SQUARE INCH
P.T.	PRESSURE TREATED
PT.	POINT
R.	RISER
RAD.	RADIUS
REINF.	REINFORCEMENT
REQD.	REQUIRED
RES.	RESILIENT
R.O.	ROUGH OPENING
R.S.	ROUGH SAWN
RDWD.	REDWOOD
RO.	ROUGH
R.W.L.	RAIN WATER LEADER
SA	SUSPENDED ACOUSTICAL
SCD	SEE CIVIL DRAWINGS
SHT.	SHEET
S.H.	SINGLE HUNG
SIM.	SIMILAR
SLDR.	SLIDER
SMD	SEE MECHANICAL DRAWINGS
S.O.G.	SLAB ON GRADE
SPEC(S)	SPECIFICATION(S)
SQ.	SQUARE
S.S.	STAINLESS STELL
S.S.D	SEE STRUCTURAL DRAWINGS
S.S.P.	STANDARD STEEL PIPE
STRUC.	STRUCTURAL
SYM.	SYMMETRICAL
T.	TREAD
T.&B.	TOP AND BOTTOM
T.&G.	TONGUE AND GROOVE
T.C.	TOP OF CURB
TEL.	TELEPHONE
TERR.	TERRAZZO
T.O.C.	TOP OF CONCRETE
T.O.PL.	TOP OF PLATE LINE
T.O.S.	TOP OF STEEL
T.O.SF.	TOP OF SUBFLOOR
T.O.W.	TOP OF WALL
T.P.	TOP OF PAVEMENT
TRANSV.	TRANSVERSE
TR.	TREATED
TYP.	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
VERT.	VERTICAL
VG.	VERTICAL GRAIN
W.	WIDE
WASH.	WASHER
W/	WITH
W/C	WATER CLOSET
WD.	WOOD
W/O	WITHOUT
WP.	WATERPROOF
WPF.	WEATHERPROOF
X	CROSS

SYMBOLS

&	AND
@	AT
℄	CENTER LINE
Ø	DIAMETER OR ROUND LINE
(E)	EXISTING
⊥	PERPENDICULAR
#	POUND OR NUMBER
ℙ	PLATE
(N)	NEW
WP	WORK POINT
	NOMINAL FLOOR LEVEL OR MATCH LINE
4	COLUMN GRID
4	LOUVER SYMBOL
4	DOOR SYMBOL
4	WINDOW SYMBOL
4	GATE SYMBOL
4 / A-4	SECTION / EXTERIOR ELEVATION SYMBOL
	SECTION / ELEVATION NUMBER
	SHEET NUMBER



PROJECT DATA

GROSS AREA:
BUILDING 1:
FIRST FLOOR: 5,013 SF
SECOND FLOOR: 4,360 SF
TOTAL: 9,373 SF

BUILDING 2: 3,581 SF

TOTAL: 12,954 SF

NUMBER OF STORIES:
BUILDING 1: 2
BUILDING 2: 1

OCCUPANCY: R-2

CONSTRUCTION TYPE: TYPE V-B

SPRINKLERED: YES

GUEST ROOMS:
MOBILITY ACCESSIBLE: 2
STANDARD: 30
TOTAL: 32

PARKING SPACES:
STANDARD: 25
DISABLED: 2
TOTAL: 27

SCOPE OF WORK

REMODEL GUEST ROOMS INCLUDING ADDITION OF KITCHENETTES TO EACH ROOM.

REMODEL LOBBY TO ADD NEW OFFICE.

DECOMMISSION POOL, DEMOLISH FLOOR IN POOL HOUSE, ADD NEW CONCRETE FLOOR AND ADD NEW COMMUNITY SPACES.

MAKE ACCESSIBILITY IMPROVEMENTS TO SITE.

ADD NEW FIRE SPRINKLER SYSTEM TO BUILDINGS.

ADD NEW FIRE ALARM SYSTEM TO BUILDINGS.

DEFERRED SUBMITTALS

FIRE SPRINKLER SHOP DRAWINGS AND CALCULATIONS.

FIRE ALARM SHOP DRAWINGS AND CALCLATIONS.

PROJECT TEAM

OWNER:

COUNTY OF DEL NORTE
880 NORTHCREST DRIVE
CRESCENT CITY, CA 95531

PROJECT MANAGER: ROY JACKSON
(707) 464-3191
RJACKSON@CO.DEL-NORTE.CA.US

ARCHITECT:

CHARLES L. BEAVERS, AIA
BROKAW DESIGN
P.O. BOX 3103
ROHNERT PARK, CA 94927
(415) 860-5043

STRUCTURAL ENGINEER:

TIM LENGYEL, SE, PE
BROKAW DESIGN
P.O. BOX 3103
ROHNERT PARK, CA 94927
(415) 466-6666

ELECTRICAL ENGINEER:

COURTNEY CHUENYANE, PE
BROKAW DESIGN
P.O. BOX 3103
ROHNERT PARK, CA 94927
(707) 799-6822

MECHANICAL ENGINEER:

MATT TORRE, PE
15000, INC.
6085 STATE FARM DRIVE, #130
ROHNERT PARK, CA 94928
(707) 577-0363

CASP CONSULTANT:

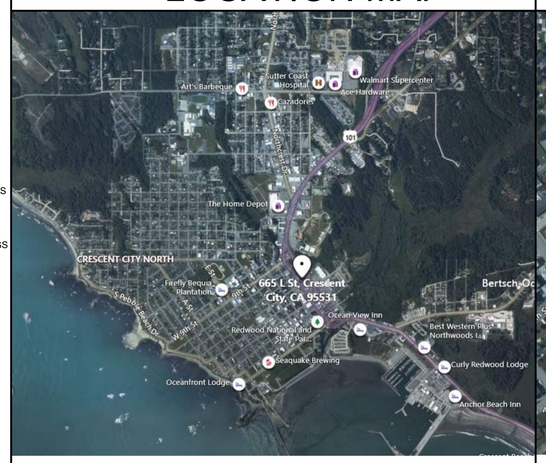
CRAIG WILLIAMS
295 NEVA STREET
SEBASTOPOL, CA 95472
(707) 823-2724

APPLICABLE CODES

2019 CALIFORNIA BUILDNG CODE, VOLUMES 1 AND 2 (CBC)
2019 CALIFORNIA RESIDENTIAL CODE (CRC)
2019 CALIFORNIA ELECTRICAL CODE (CEC)
2019 CALIFORNIA PLUMBING CODE (CPC)
2019 CALIFORNIA MECHANICAL CODE (CMC)
2019 CALIFORNIA GREEN BUILDNG STANDARDS CODE (CGBSC)
2019 CALIFORNIA ENERGY CODE SUPPLEMENT (CEnC)
2019 CALIFORNIA FIRE CODE (CFC)
AMERICANS WITH DISABILITIES ACT, TITLE II (28 CFR 35)
UNIFORM FEDERAL ACCESSIBILITY STANDARDS (UFAS), 24 CFR PART 8
HUD'S MODIFIED VERSION OF THE 2010 ADA STANDARDS FOR ACCESSIBILITY DESIGN (ALTERNATIVE 2010 ADAS), HUD-2014-0042-0001, 79 F.R. 2671 (5/27/14)

DRAWING INDEX

LOCATION MAP



VICINITY MAP

GENERAL NOTES

1. NEW CONSTRUCTION, IF SPECIFICALLY NOTED IN THE ARCHITECTURAL DRAWINGS, SHALL EITHER BE UNPREFIXED OR PREFIXED BY "NEW" OR "(N)".
2. EXISTING CONSTRUCTION, IF SPECIFICALLY NOTED IN THE ARCHITECTURAL DRAWINGS, SHALL ALWAYS BE PREFIXED BY "EXIST" OR "(E)".
3. CONTRACTOR TO VERIFY ALL CONDITIONS AND MEASUREMENTS OF AS-BUILT CONSTRUCTION AFFECTING PROPOSED WORK. ANY/ALL INCONSISTENCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING WITH WORK.
4. INFORMATION ON EXISTING CONDITIONS WAS OBTAINED FROM DRAWINGS PROVIDED BY THE OWNER AND FROM VERY LIMITED OBSERVATIONS. THE ARCHITECT ASSUMES THESE SOURCES TO BE RELIABLE AND OBSERVED CONDITIONS ARE ASSUMED TO BE REPRESENTATIVE. HOWEVER, ACTUAL CONDITIONS MAY VARY. THE CONTRACTOR SHALL EXCERCISE DUE DILIGENCE IN VERIFYING ACTUAL CONDITIONS.
5. THIS PROJECT INVOLVES REMOVAL OF PORTIONS OF EXISTING BUILDING SYSTEMS AND THEIR RECONSTRUCTION TO SUIT THE PROPOSED DESIGN. THESE DOCUMENTS INDICATE REQUIREMENTS FOR THE PRIMARY INTERFACE BETWEEN EXISTING AND CONSTRUCTION. HOWEVER, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND ESTABLISH ALL OTHER INTERFACE CONDITIONS WHICH MAY BE REQUIRED AND DEEMED MOST SUITABLE TO SUIT THE PROPOSED DESIGN.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

CONSULTANT:

BrokawDesign
P.O. BOX 3103
ROHNERT PARK, CA 94927
WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA 95531

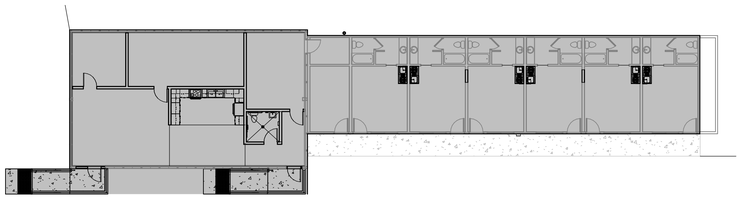
SHEET NAME:

COVERSHEET

ISSUE DATE: 3/11/22
PREPARATION AND REVIEW
DRAWN BY: CB
DESIGNER:
PROJ MGR:
PEER REVIEW: CB
SHEET NUMBER:

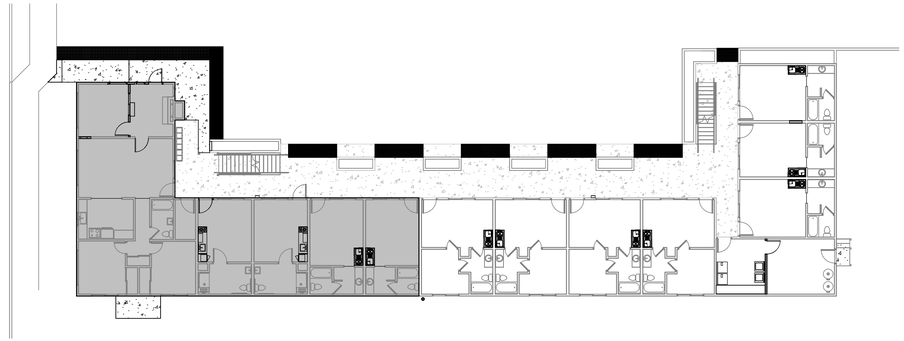
A001

PHASE 1

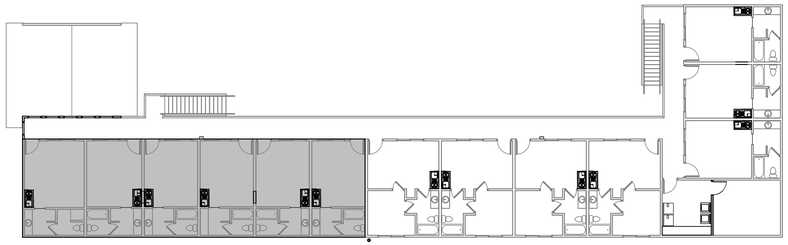


1 PHASE 1 - BLDG 2
1/16" = 1'-0"

PHASE 2

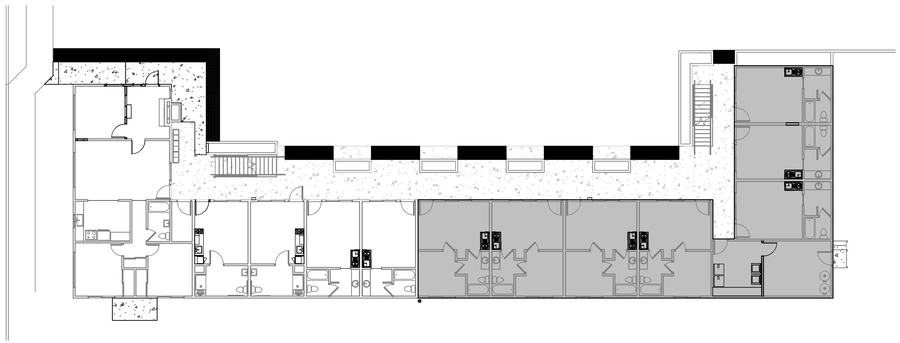


2 PHASE 2 - BLDG 1 FIRST FLOOR WEST
1/16" = 1'-0"



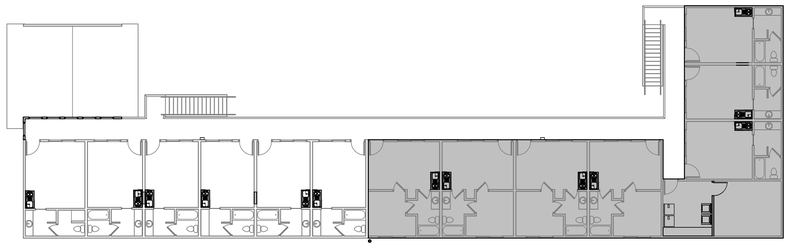
3 PHASE 2 - BLDG 1 SECOND FLOOR WEST
1/16" = 1'-0"

PHASE 3



4 PHASE 3 - BLDG 1 FIRST FLOOR EAST
1/16" = 1'-0"

PHASE 4



5 PHASE 4 - BLDG 1 - SECOND FLOOR EAST
1/16" = 1'-0"

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

CONSULTANT:

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ROHNERT PARK, CA 94927

WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

SHEET NAME:

PHASING PLAN

ISSUE DATE:	3/11/22
PREPARATION AND REVIEW	
DRAWN BY:	CB
DESIGNER:	CB
PROJ MGR:	
PEER REVIEW:	

SHEET NUMBER:

A002

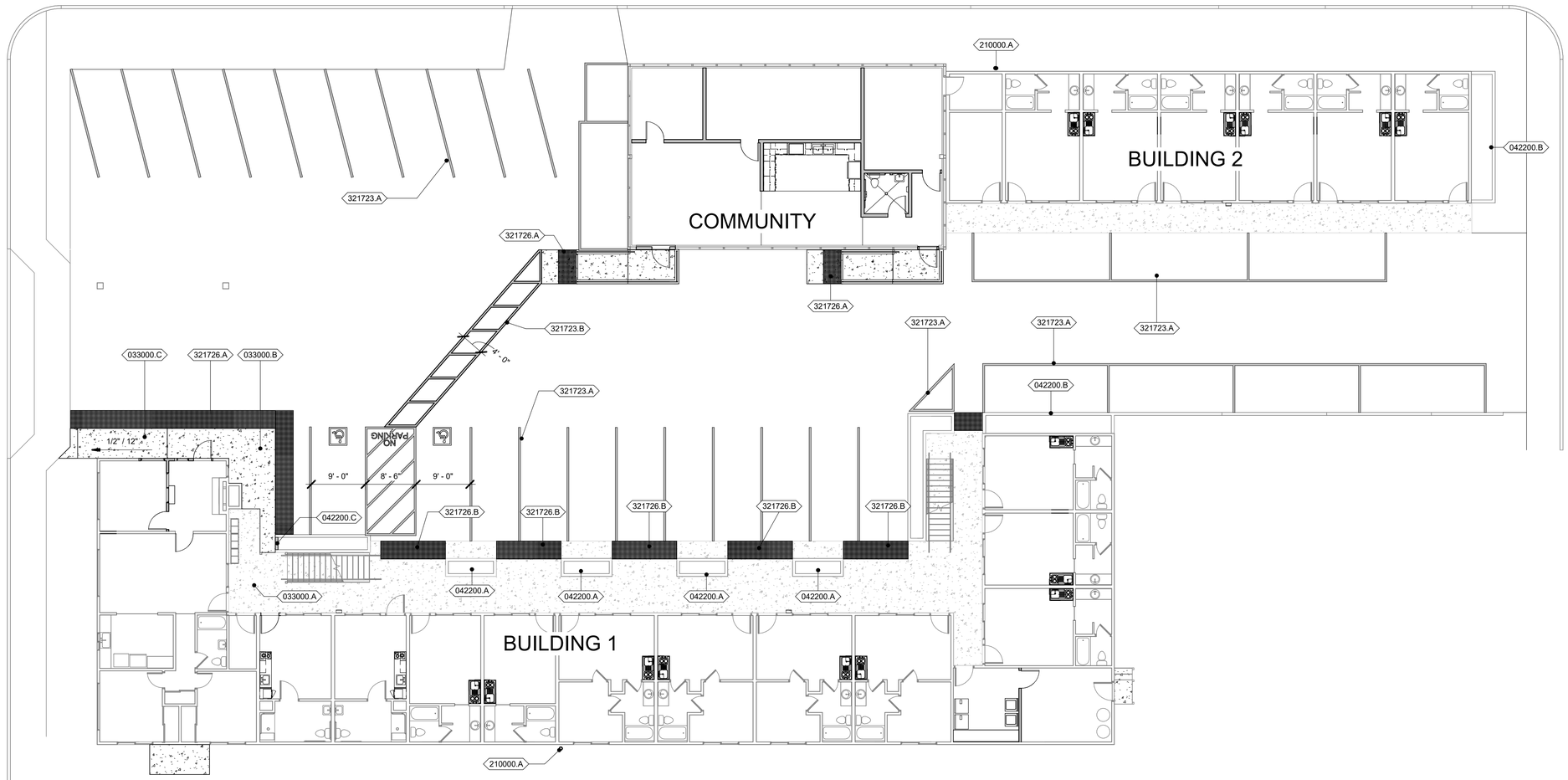
KEYNOTES

033000.A	(E) CONCRETE PAVING
033000.B	(N) CONCRETE PAVING
033000.C	SLOPE (N) CONCRETE PAVING TO (E) SIDEWALK
042200.A	(E) CMU PLANTER TO REMAIN
042200.B	(E) PLANTER TO REMAIN
042200.C	(N) SIDE OF CMU PLANTER
210000.A	(N) FIRE SPRINKLER RISER
321723.A	(E) PAVEMENT MARKING
321723.B	(N) PAVEMNT MARKING
321726.A	(N) CAST-IN-PLACE DETECTABLE WARNING TILES
321726.B	(N) SURFACE-APPLIED DETECTABLE WARNING TILES

GENERAL NOTES

A. CIVIL, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING , AND LANDSCAPE ITEMS INDICATED ON THIS SHEET ARE FOR REFERENCE ONLY. REFER TO RESPECTIVE DISCIPLINE DRAWINGS FOR CONSTRUCTION DRAWING INFORMATION.

B. PAVING AND LANDSCAPING AREAS SHOWN ON THIS SHEET ARE GENERAL IN NATURE.



1 SITE PLAN-NEW
1" = 10'-0"

REFERENCE NORTH
TRUE NORTH

1 inch = 10 feet
0 10' 20' 30' 40'

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

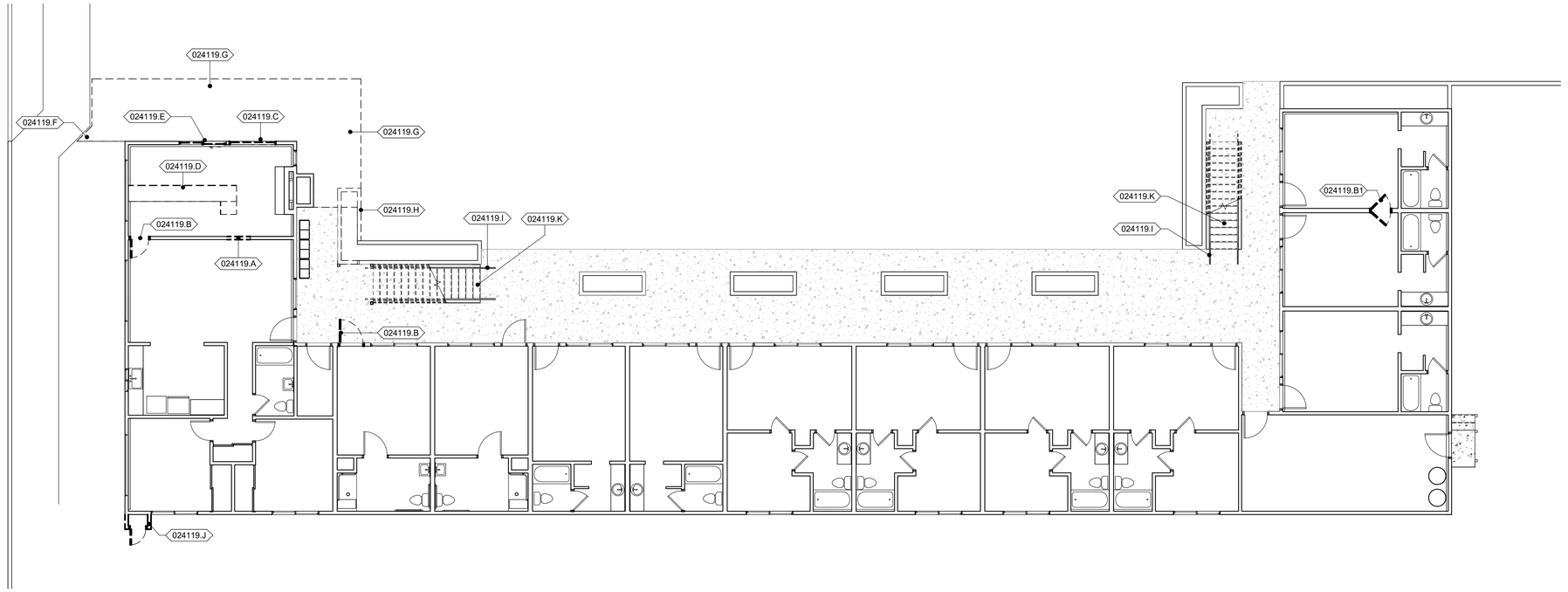
SHEET NAME:

SITE PLAN

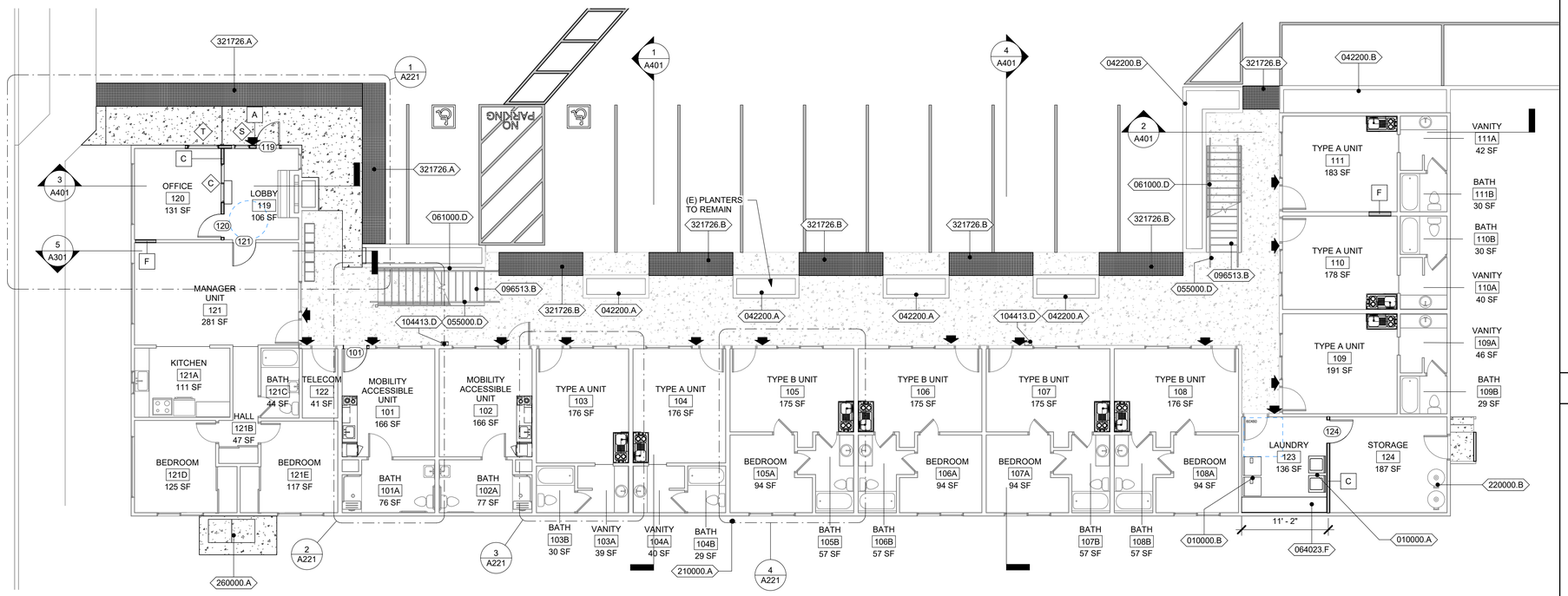
ISSUE DATE: 3/11/22
PREPARATION AND REVIEW
DRAWN BY: CB
DESIGNER: CB
PROJ MGR:
PEER REVIEW:

SHEET NUMBER:

A101



1 BLDG 1 FIRST FLOOR-DEMO
1/8" = 1'-0"



2 BLDG 1 FIRST FLOOR-NEW
1/8" = 1'-0"

GENERAL NOTES

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B. REFER TO ENLARGED FLOOR PLANS OF TOILETS FOR COMPLETE CONSTRUCTION DOCUMENTATION INFORMATION.

C. REFER TO DOOR SCHEDULE FOR DOOR TYPES AND DIMENSIONS.

D. SEE INTERIOR ELEVATIONS AND FINISH SCHEDULE FOR FINISHES AND LOCATIONS.

E. SIGNAGE LOCATION DESIGNATION , SEE SHEET AD802 FOR REQUIREMENTS.

UNIT SCOPE NOTES

1. PROVIDE HARD-WIRED ELECTRIC DOORBELL OUTSIDE EACH UNIT ENTRY DOOR. BUTTON OR SWITCH SHALL ACTIVATE AUDIBLE TONE AND VISIBLE SIGNAL WITHIN THE RESIDENTIAL UNIT.
2. RANGE HOODS: SUMMIT H1718W.
3. STANDARD ROOM KITCHENETTES: SUMMIT C48EL WITH CT661W COMPACT REFRIGERATOR WITH FREEZER COMPARTMENT.
4. MOBILITY ACCESSIBLE KITCHENETTES: SUMMIT CK72ADASINNKL.

KEYNOTES

010000.A	ELECTRIC DRYERS BY OWNER
010000.B	ELECTRIC WASHERS BY OWNER
024119.A	DEMO PORTION OF (E) WALL
024119.B	DEMO (E) DOOR
024119.B1	DEMO (E) DOORS
024119.C	DEMO (E) WINDOW
024119.D	DEMO (E) RECEPTION COUNTER
024119.E	DEMO (E) SLIDING GLASS DOOR
024119.F	DEMO (E) ASPHALT PATCH
024119.G	DEMO (E) CONCRETE PAVING
024119.H	DEMO PORTION OF (E) PLANTER
024119.I	DEMO (E) HANDRAILS
024119.J	DEMO (E) ELECTRICAL SERVICE ENCLOSURE
024119.K	DEMO (E) VINYL STAIR TREADS
042200.A	(E) CMU PLANTER TO REMAIN
042200.B	(E) PLANTER TO REMAIN
055000.D	(N) GALVANIZED STEEL HANDRAIL
061000.D	ADD WOOD TO TOP OF GUARDRAIL TO RAISE HEIGHT
064023.F	(N) PLASTIC LAMINATE COUNTERTOP
096513.B	(N) VINYL STAIR TREADS WITH CONTRASTING TOE
104413.D	LOWER (E) FIRE EXTINGUISHER CABINET, BOTTOM 27" MAX ABOVE FF
210000.A	(N) FIRE SPRINKLER RISER
220000.B	(E) HOT WATER HEATERS TO REMAIN
260000.A	(N) ELECTRICAL EQUIPMENT - SEE ELECTRICAL DRAWINGS
321726.A	(N) CAST-IN-PLACE DETECTABLE WARNING TILES
321726.B	(N) SURFACE-APPLIED DETECTABLE WARNING TILES

WALL LEGEND

(E) WALL TO REMAIN

(N) WALL

REFERENCE NORTH / TRUE NORTH

1 inch = 8 feet
0 8' 16' 24' 32'

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

CONSULTANT:

BrokawDesign
P.O. BOX 3103
ROHNERT PARK, CA 94927
WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA 95531

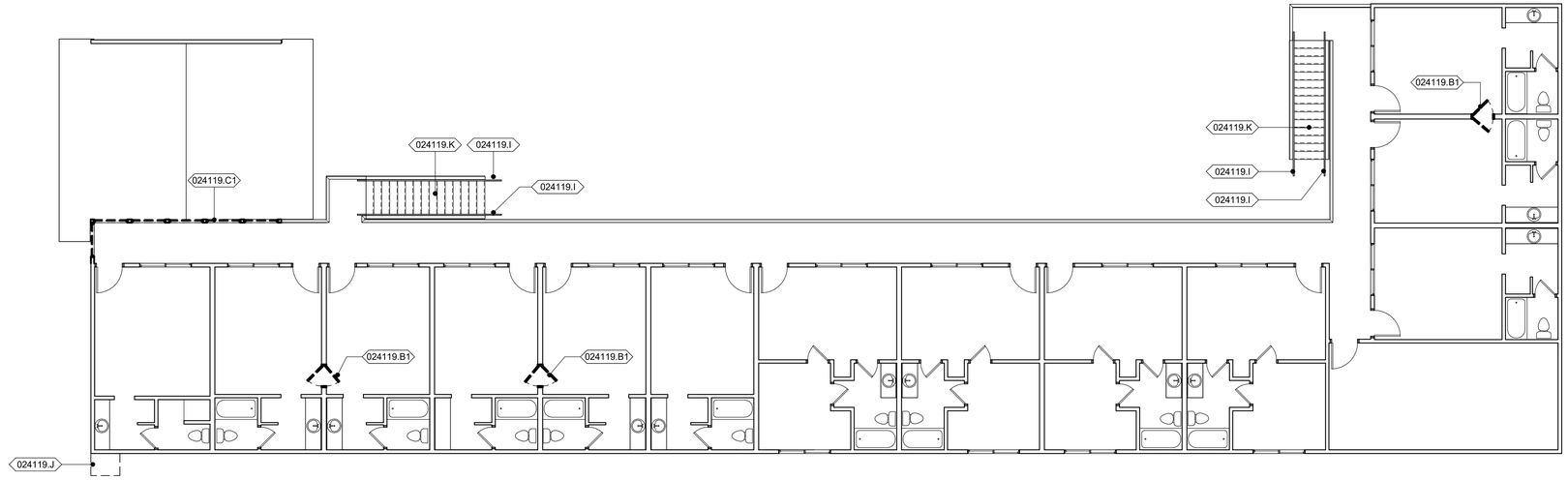
SHEET NAME:

BLDG 1 FIRST FLOOR PLANS

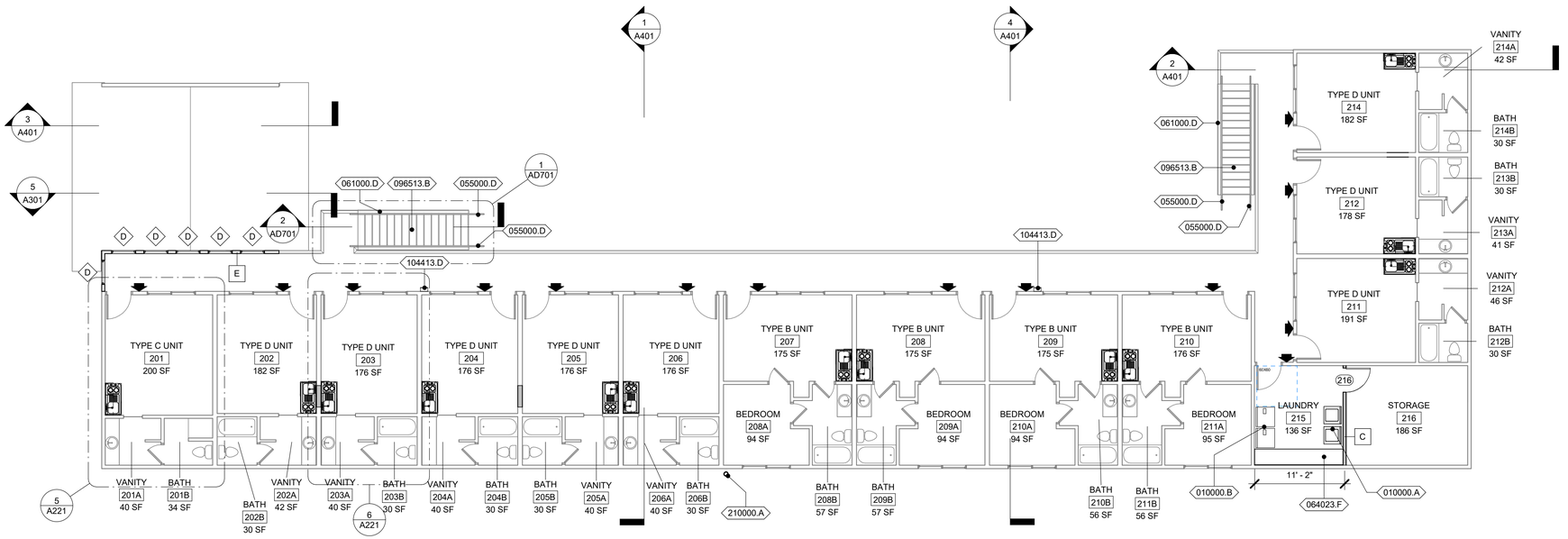
ISSUE DATE:	3/11/22
PREPARATION AND REVIEW	
DRAWN BY:	CB
DESIGNER:	CB
PROJ MGR:	
PEER REVIEW:	

SHEET NUMBER:

A201



1 BLDG 1 SECOND FLOOR-DEMO
1/8" = 1'-0"



2 BLDG 1 SECOND FLOOR-NEW
1/8" = 1'-0"

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C. REFER TO DOOR SCHEDULE FOR DOOR TYPES AND DIMENSIONS.

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KEYNOTES

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010000.B	ELECTRIC WASHERS BY OWNER
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055000.D	(N) GALVANIZED STEEL HANDRAIL
061000.D	ADD WOOD TO TOP OF GUARDRAIL TO RAISE HEIGHT
064023.F	(N) PLASTIC LAMINATE COUNTERTOP
096513.B	(N) VINYL STAIR TREADS WITH CONTRASTING TOE
104413.D	LOWER (E) FIRE EXTINGUISHER CABINET, BOTTOM 27" MAX ABOVE FF
210000.A	(N) FIRE SPRINKLER RISER

WALL LEGEND

(E) WALL TO REMAIN

(N) WALL

TRUE NORTH
REFERENCE NORTH

1 inch = 8 feet

0 8' 16' 24' 32'

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

CONSULTANT:

BrokawDesign
P.O. BOX 3103
ROHNERT PARK, CA 94927
WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

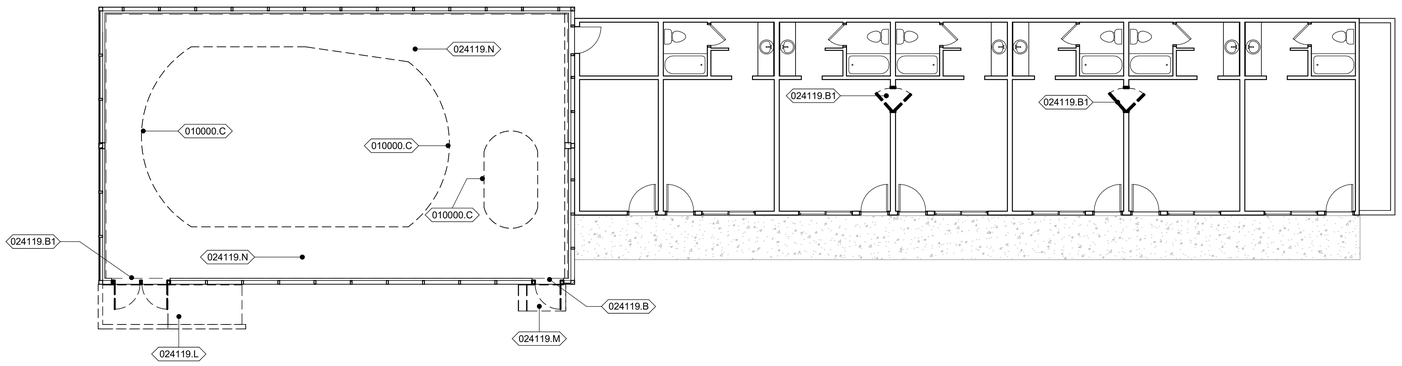
SHEET NAME:

BLDG 1 SECOND FLOOR PLANS

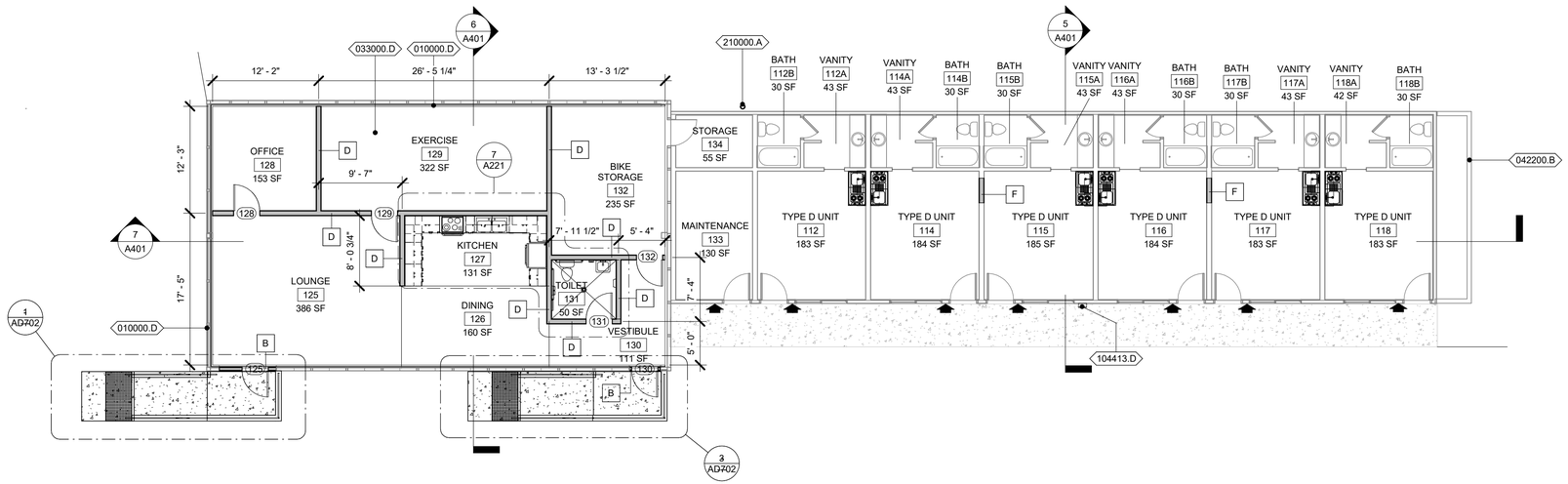
ISSUE DATE:	3/11/22
PREPARATION AND REVIEW	
DRAWN BY:	CB
DESIGNER:	CB
PROJ MGR:	
PEER REVIEW:	

SHEET NUMBER:

A202



1 BLDG 2 FIRST FLOOR-DEMO
1/8" = 1'-0"



2 BLDG 2 FIRST FLOOR-NEW
1/8" = 1'-0"

GENERAL NOTES

A. STRUCTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING ITEMS INDICATED ON THIS SHEET ARE FOR REFERENCE ONLY. REFER TO RESPECTIVE DISCIPLINE DRAWINGS FOR CONSTRUCTION DRAWING INFORMATION.

B. REFER TO ENLARGED FLOOR PLANS OF TOILETS FOR COMPLETE CONSTRUCTION DOCUMENTATION INFORMATION.

C. REFER TO DOOR SCHEDULE FOR DOOR TYPES AND DIMENSIONS.

D. SEE INTERIOR ELEVATIONS AND FINISH SCHEDULE FOR FINISHES AND LOCATIONS.

E. SIGNAGE LOCATION DESIGNATION ◢ , SEE SHEET AD802 FOR REQUIREMENTS.

UNIT SCOPE NOTES

1. PROVIDE HARD-WIRED ELECTRIC DOORBELL OUTSIDE EACH UNIT ENTRY DOOR. BUTTON OR SWITCH SHALL ACTIVATE AUDIBLE TONE AND VISIBLE SIGNAL WITHIN THE RESIDENTIAL UNIT.
2. RANGE HOODS: SUMMIT H1718W.
3. STANDARD ROOM KITCHENETTES: SUMMIT C48EL WITH CT661W COMPACT REFRIGERATOR WITH FREEZER COMPARTMENT.
4. MOBILITY ACCESSIBLE KITCHENETTES: SUMMIT CK72ADASINNKL.

KEYNOTES

010000.C	INFILL POOL & HOT TUB
010000.D	(E) WINDOW WALL TO REMAIN
024119.B	DEMO (E) DOOR
024119.B1	DEMO (E) DOORS
024119.L	DEMO (E) CONCRETE RAMP & RAILINGS
024119.M	DEMO (E) CONCRETE STAIRS & RAILINGS
024119.N	DEMO (E) POOL DECK
033000.D	(N) CONCRETE FLOOR SLAB, S.S.D.
042200.B	(E) PLANTER TO REMAIN
104413.D	LOWER (E) FIRE EXTINGUISHER CABINET, BOTTOM 27" MAX ABOVE FF
210000.A	(N) FIRE SPRINKLER RISER

WALL LEGEND

(E) WALL TO REMAIN

(N) WALL

1 inch = 8 feet

0 8' 16' 24' 32'

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

CONSULTANT:

BrokawDesign
P.O. BOX 3103
ROHNERT PARK, CA 94927
WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

SHEET NAME:

BLDG 2 FIRST FLOOR PLANS

ISSUE DATE:	3/11/22
PREPARATION AND REVIEW	
DRAWN BY:	CB
DESIGNER:	CB
PROJ MGR:	
PEER REVIEW:	

SHEET NUMBER:

A203

WALL LEGEND

(E) WALL TO REMAIN

(N) WALL

KEYNOTES

010000.E	(E) SIDEWALK
010000.F	(E) LANDSCAPE AREA
010000.G	(E) INSERT FIREPLACE TO REMAIN
010000.H	(E) MAILBOXES TO REMAIN
010000.I	(E) FURNITURE, N.I.C
010000.J	REFRIGERATOR BY OWNER
033000.A	(E) CONCRETE PAVING
033000.B	(N) CONCRETE PAVING
033000.C	SLOPE (N) CONCRETE PAVING TO (E) SIDEWALK
033000.E	SLOPE FLOOR 1% TO DRAIN
042200.C	(N) SIDE OF CMU PLANTER
064023.D	(N) WALL HUNG CABINETS
064023.G	(N) TRANSACTION COUNTER, 12" X 36"
102800.A	TOILET TISSUE (ROLL) DISPENSER
102800.F	WARM-AIR DRYER
102800.J	LIQUID-SOAP DISPENSER
102800.M	GRAD BAR, 36"
102800.N	GRAB BAR, 48"
102800.Q	SEAT-COVER DISPENSER
102800.S	MIRROR UNIT
113200.A	KITCHENETTE
113200.B	COOKTOP
113200.C	UNDERCOUNTER REFRIGERATOR
113200.D	RANGE
113200.E	OVEN
220000.A	(N) FLOOR DRAIN
321726.A	(N) CAST-IN-PLACE DETECTABLE WARNING TILES

GENERAL NOTES

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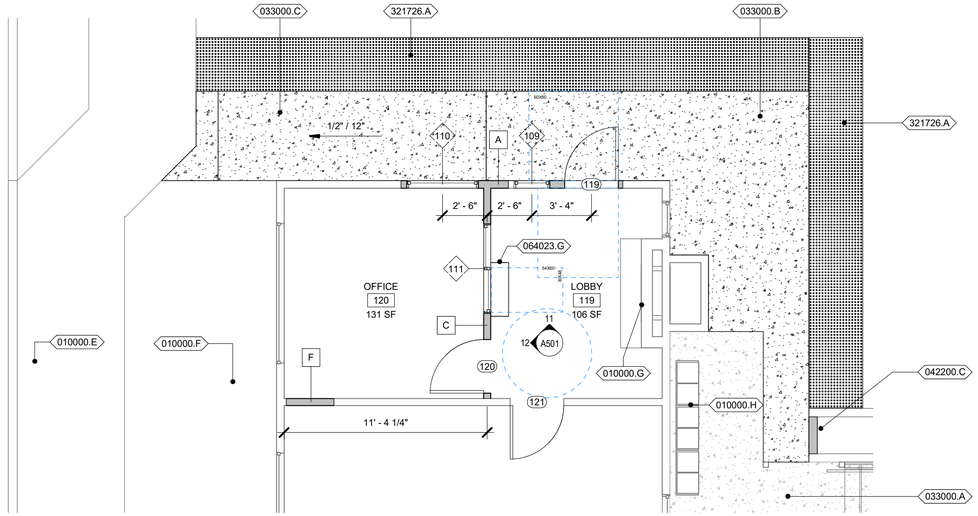
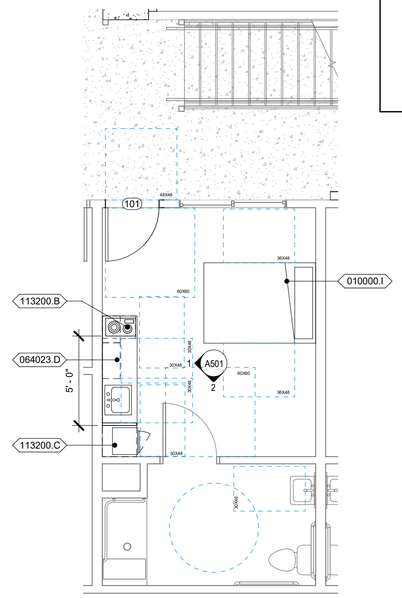
D. SEE INTERIOR ELEVATIONS AND FINISH SCHEDULE FOR FINISHES AND LOCATIONS.

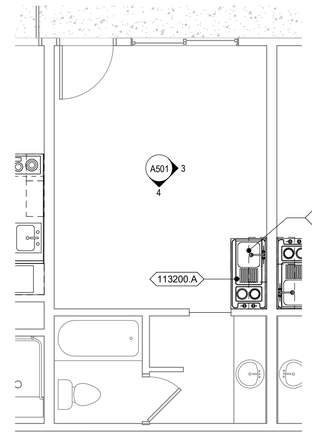
E. SIGNAGE LOCATION DESIGNATION , SEE SHEET AD802 FOR REQUIREMENTS.



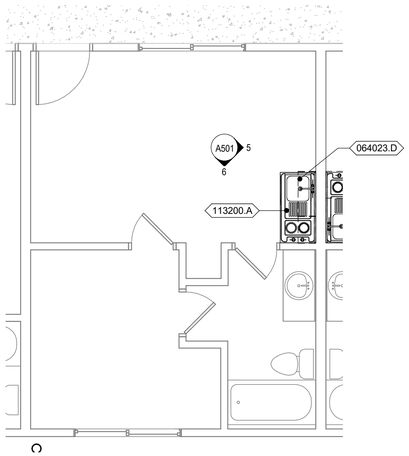
1 LOBBY PLAN
1/4" = 1'-0"



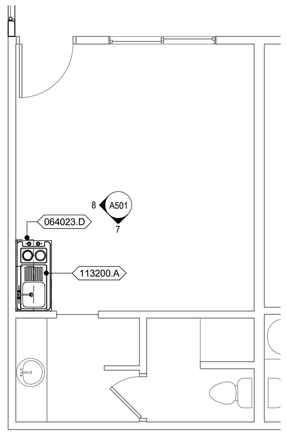
2 MOBILITY ACCESSIBLE UNIT
1/4" = 1'-0"



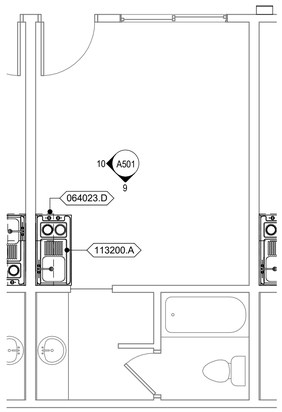
3 TYPE A UNIT
1/4" = 1'-0"



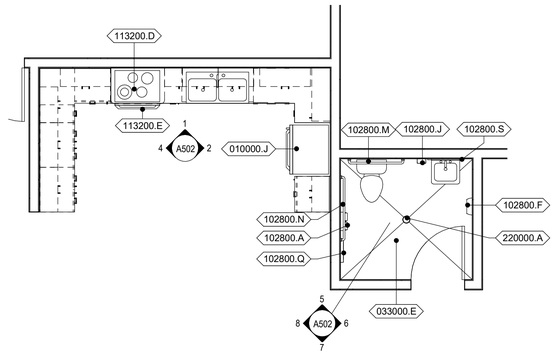
4 TYPE B UNIT
1/4" = 1'-0"



5 TYPE C UNIT
1/4" = 1'-0"



6 TYPE D UNIT
1/4" = 1'-0"



7 COMMUNITY KITCHEN & BATH
1/4" = 1'-0"

REFERENCE NORTH
TRUE NORTH

1 inch = 4 feet
0 4' 8' 12' 16'

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

CONSULTANT:

BrokawDesign
P.O. BOX 3103
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WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

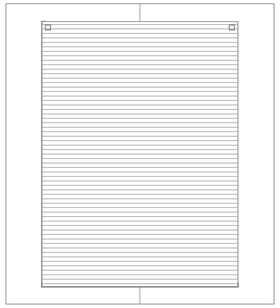
SHEET NAME:

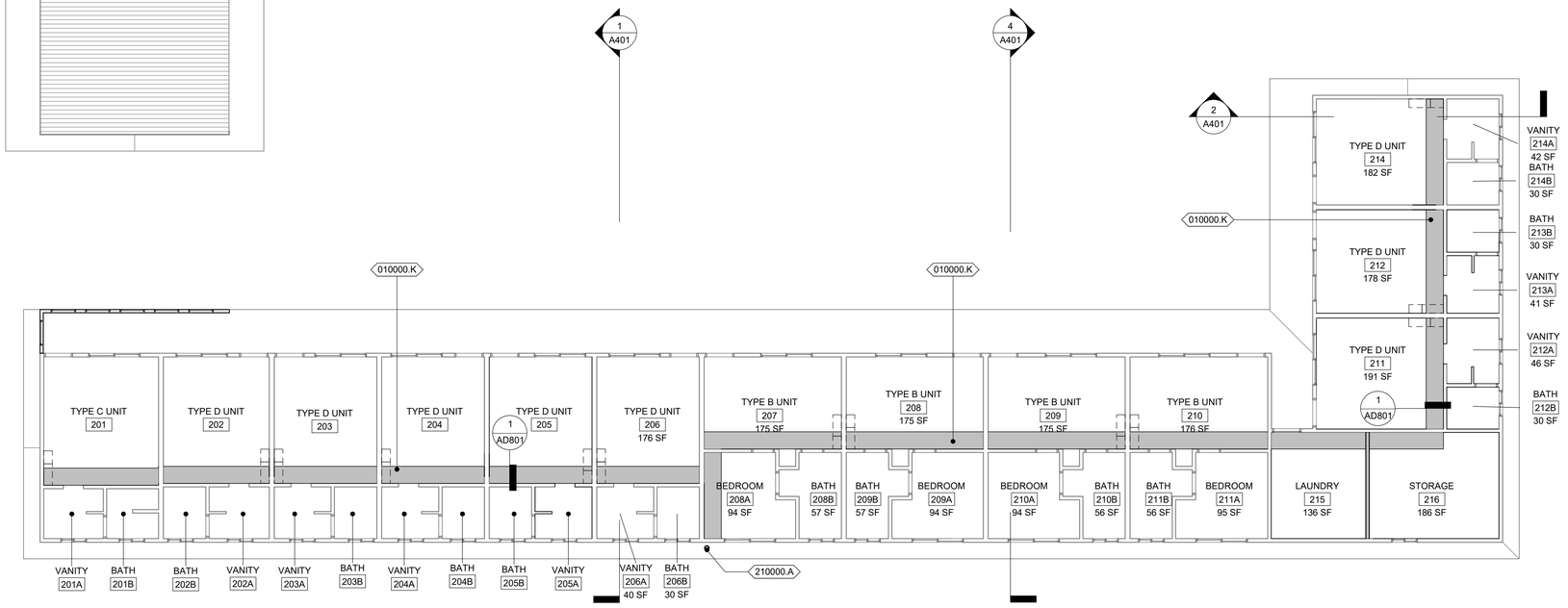
ENLARGED FLOOR PLANS

ISSUE DATE:	3/11/22
PREPARATION AND REVIEW	
DRAWN BY:	CB
DESIGNER:	CB
PROJ MGR:	
PEER REVIEW:	

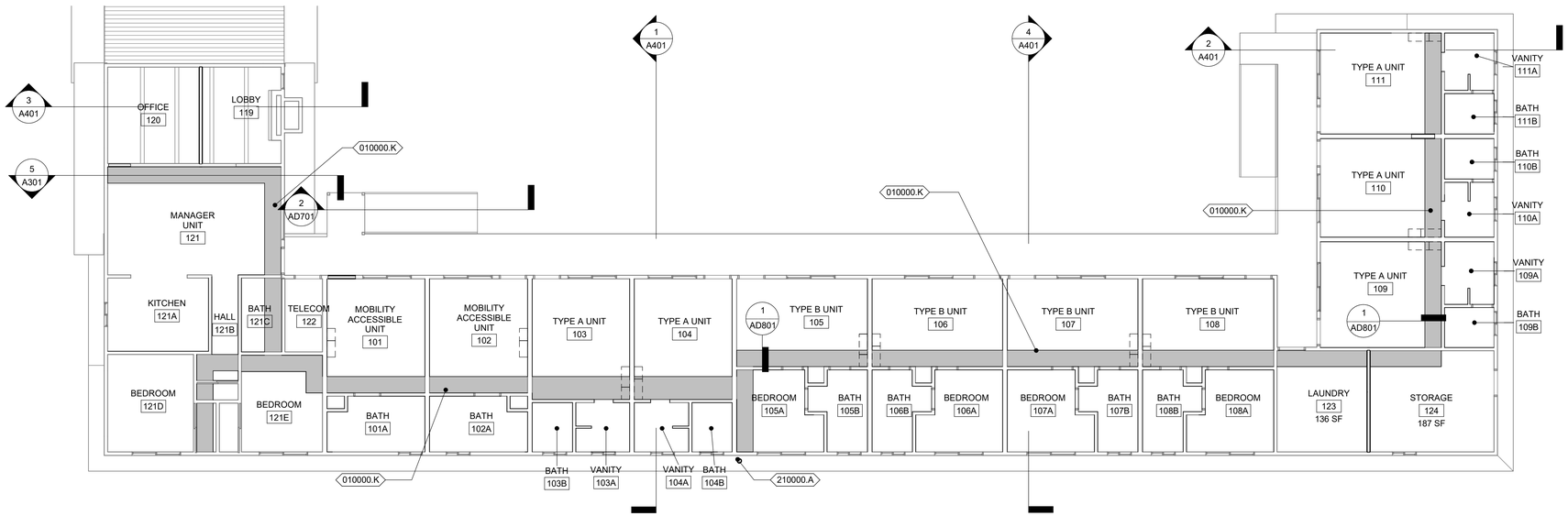
SHEET NUMBER:

A221





1 BLDG 1 SECOND FLOOR RCP
1/8" = 1'-0"



2 BLDG 1 FIRST FLOOR RCP
1/8" = 1'-0"

GENERAL NOTES

A. CEILING HEIGHT INDICATED SHALL BE MEASURED FROM THE FINISH FLOOR TO THE FINISH SURFACE OF THE CEILING. SEE FINISH SCHEDULE FOR CEILING HEIGHTS NOT SHOWN.

B. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF VARIOUS TRADE ITEMS WITHIN THE SPACE ABOVE THE CEILING, INCLUDING BUT NOT LIMITED TO; STRUCTURAL MEMBERS, MECHANICAL DUCTS, INSULATION, CONDUIT RACEWAYS, FIRE SPRINKLER PIPING, LIGHT FIXTURES, AND SUSPENDED CEILING SYSTEMS.

C. ACCESS PANELS SHALL BE PROVIDED AS REQUIRED FOR PROPER OPERATION AND MAINTENANCE OF MECHANICAL AND ELECTRICAL EQUIPMENT, WHETHER OR NOT INDICATED ON DRAWINGS.

D. WHERE FIRE SMOKE DAMPLERS ARE INDICATED ON DRAWINGS, COORDINATE FIRE RATING, POWER, FIRE ALARM, AND MECHANICAL REQUIREMENTS FOR INSTALLATION IN ACCORDANCE WITH ASSOCIATED UL LISTED ASSEMBLY.

E. REFER TO CEILING DETAIL SHEET(S) FOR GENERAL DETAILS NOT SPECIFICALLY REFERENCED ON THIS SHEET.

KEYNOTES

010000.K	(N) SOFFIT FOR SPRINKLERS & ELECTRICAL WIRING
210000.A	(N) FIRE SPRINKLER RISER

1 inch = 8 feet
0 8' 16' 24' 32'

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

CONSULTANT:

BrokawDesign
P.O. BOX 3103
ROHNERT PARK, CA 94927
WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

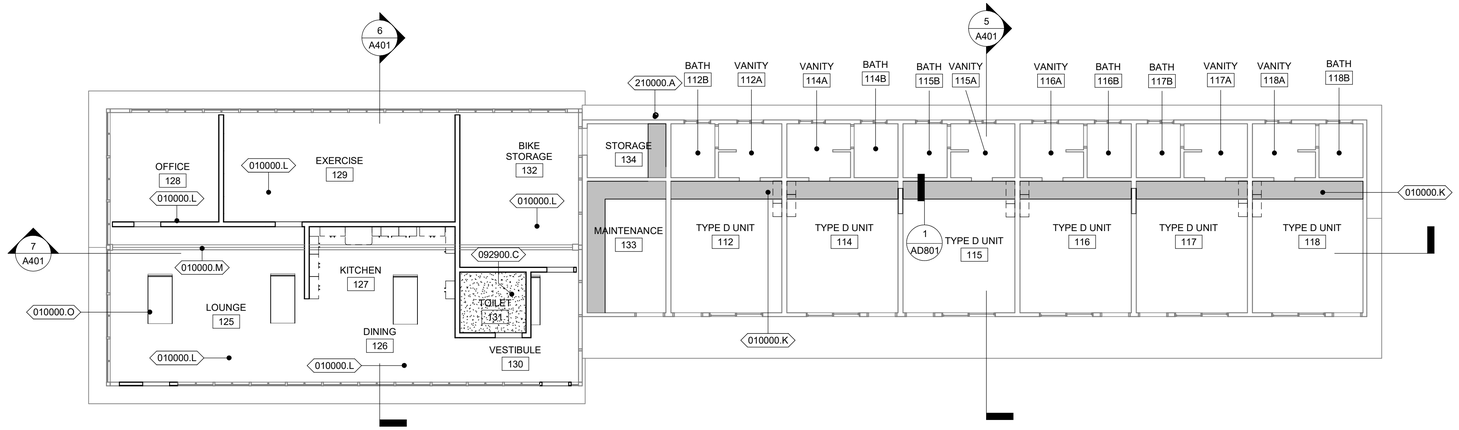
SHEET NAME:

BLDG 1 REFLECTED CEILING PLANS

ISSUE DATE:	3/11/22
PREPARATION AND REVIEW	
DRAWN BY:	CB
DESIGNER:	CB
PROJ MGR:	
PEER REVIEW:	

SHEET NUMBER:

A231



1 BLDG 2 FIRST FLOOR RCP

1/8" = 1'-0"

GENERAL NOTES

A. CEILING HEIGHT INDICATED SHALL BE MEASURED FROM THE FINISH FLOOR TO THE FINISH SURFACE OF THE CEILING. SEE FINISH SCHEDULE FOR CEILING HEIGHTS NOT SHOWN.

B. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF VARIOUS TRADE ITEMS WITHIN THE SPACE ABOVE THE CEILING, INCLUDING BUT NOT LIMITED TO: STRUCTURAL MEMBERS, MECHANICAL DUCTS, INSULATION, CONDUIT RACEWAYS, FIRE SPRINKLER PIPING, LIGHT FIXTURES, AND SUSPENDED CEILING SYSTEMS.

C. ACCESS PANELS SHALL BE PROVIDED AS REQUIRED FOR PROPER OPERATION AND MAINTENANCE OF MECHANICAL AND ELECTRICAL EQUIPMENT, WHETHER OR NOT INDICATED ON DRAWINGS.

D. WHERE FIRE SMOKE DAMPLERS ARE INDICATED ON DRAWINGS, COORDINATE FIRE RATING, POWER, FIRE ALARM, AND MECHANICAL REQUIREMENTS FOR INSTALLATION IN ACCORDANCE WITH ASSOCIATED UL LISTED ASSEMBLY.

E. REFER TO CEILING DETAIL SHEET(S) FOR GENERAL DETAILS NOT SPECIFICALLY REFERENCED ON THIS SHEET.

KEYNOTES

010000.K	(N) SOFFIT FOR SPRINKLERS & ELECTRICAL WIRING
010000.L	OPEN TO (E) CEILING ABOVE
010000.M	(E) STEEL BEAM
010000.O	(E) SKYLIGHT TO REMAIN
092900.C	(N) GYPSUM BOARD CEILING, SEE STRUCT DRAWINGS FOR FRAMING
210000.A	(N) FIRE SPRINKLER RISER

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

CONSULTANT:

BrokawDesign

P.O. BOX 3103
ROHNERT PARK, CA 94927

WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

SHEET NAME:

BLDG 2
REFLECTED
CEILING PLAN

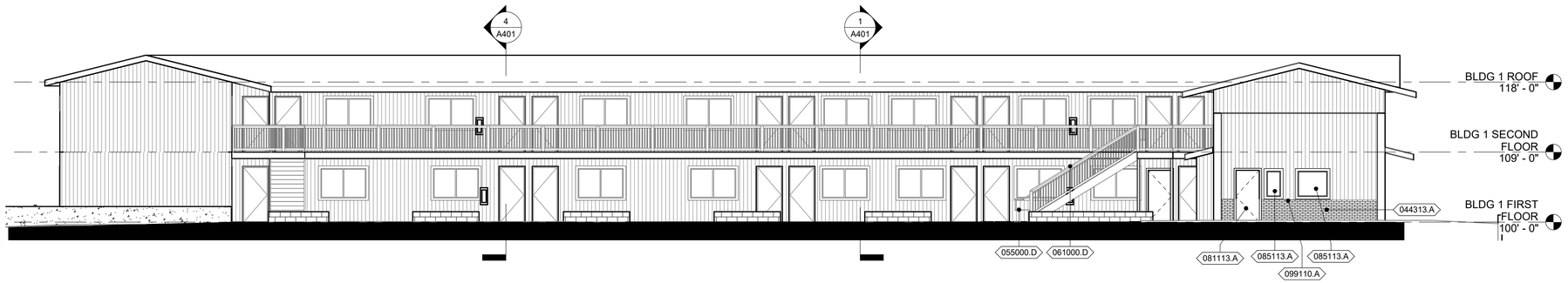
ISSUE DATE: 3/11/22

PREPARATION AND REVIEW

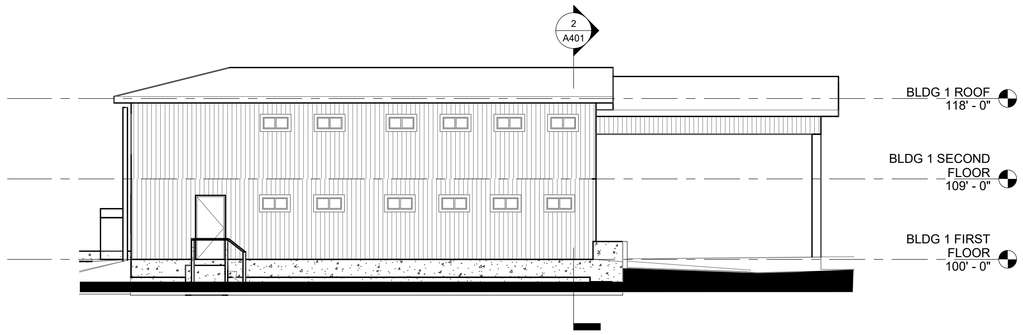
DRAWN BY: CB
DESIGNER: CB
PROJ MGR:
PEER REVIEW:

SHEET NUMBER:

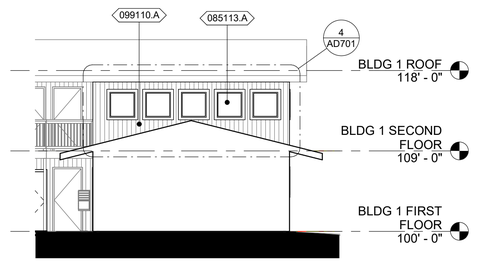
A232



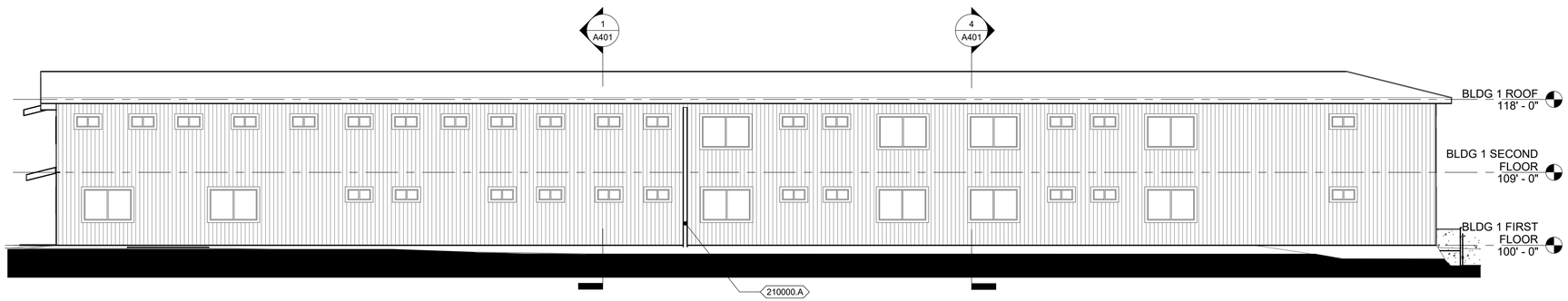
1 BLDG 1 - NORTH-NEW
1/8" = 1'-0"



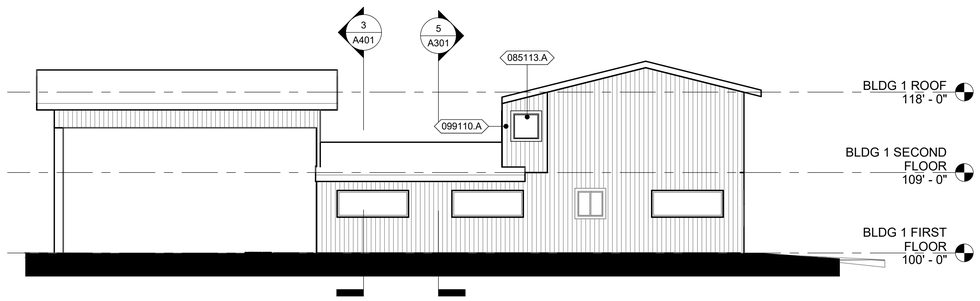
2 BLDG 1 - EAST-NEW
1/8" = 1'-0"



5 BLDG 1 - NORTH PARTIAL
1/8" = 1'-0"



3 BLDG 1 - SOUTH-NEW
1/8" = 1'-0"



4 BLDG 1 - WEST-NEW
1/8" = 1'-0"

GENERAL NOTES

A. ALL VISIBLE, EXPOSED COMPONENTS NOT FACTORY PRE-FINISHED SHALL BE FIELD PAINTED, INCLUDING DOOR FRAMES, DOORS, WALLS, COLUMNS, BEAMS, FASCIAS, SOFFITS, FLUES, PIPES, CONDUIT, RAIN WATER LEADERS, HANDRAILS, GUTTERS, FLASHING, LOUVERS, VENTS, ETC.

B. COLORS NOTED ARE TO ESTABLISH THE DESIGN INTENT FOR MATERIAL, HUE, TEXTURE, AND FINISH ARE NOT LIMITING SOURCE OF FINISH MATERIAL. ARCHITECT SHALL DETERMINE IF SUBMITTED FINISHES MEET THE DESIGN INTENT AND SHALL NOT BE LIMITED TO MANUFACTURER'S STOCK OR STANDARD COLORS.

C. DOWNSPOUTS, GUTTERS, SCUPPERS, COPINGS AND FLASHING TO MATCH ADJACENT FINISH COLORS.

D. REFER TO FINISH LEGEND FOR EXTERIOR FINISHES, MATERIALS AND COLORS.

E. REFER TO DOOR SCHEDULE FOR DOOR TYPES AND DIMENSIONS.

F. REFER TO WINDOW SCHEDULE FOR WINDOW TYPES AND DIMENSIONS.

G. REFER TO SIGNAGE DETAILS FOR SIGNAGE INFORMATION.

KEYNOTES

044313.A	PATCH STONE VENEER TO MATCH EXISTING
055000.D	(N) GALVANIZED STEEL HANDRAIL
061000.D	ADD WOOD TO TOP OF GUARDRAIL TO RAISE HEIGHT
081113.A	(N) HOLLOW METAL DOOR
085113.A	(N) ALUMINUM FIXED WINDOW(S), SEE WINDOW SCHEDULE
099110.A	PAINT (N) WALL TO MATCH ADJACENT SURFACES
210000.A	(N) FIRE SPRINKLER RISER

1 inch = 8 feet
0 8' 16' 24' 32'

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

CONSULTANT:

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WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

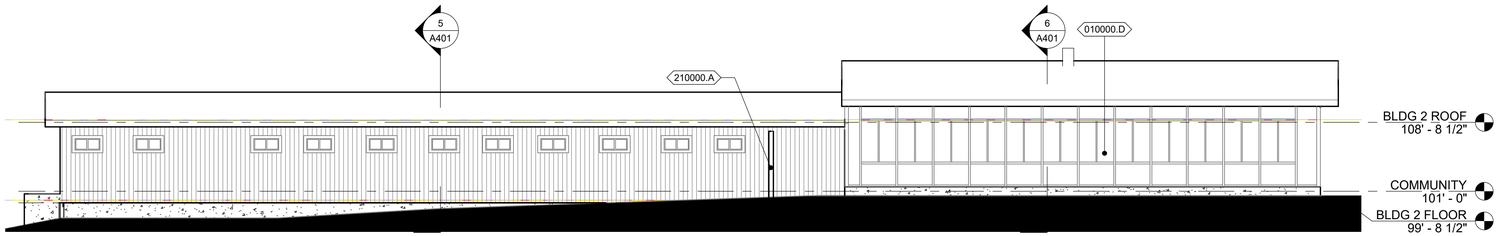
SHEET NAME:

EXTERIOR ELEVATIONS - BUILDING 1

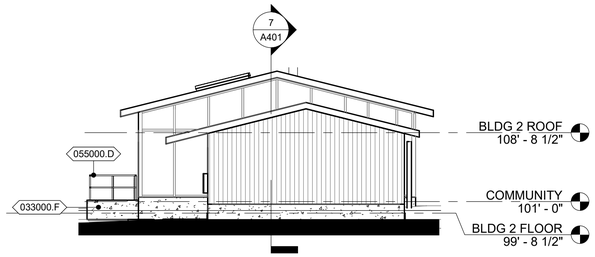
ISSUE DATE:	3/11/22
PREPARATION AND REVIEW	
DRAWN BY:	
DESIGNER:	
PROJ MGR:	
PEER REVIEW:	CB

SHEET NUMBER:

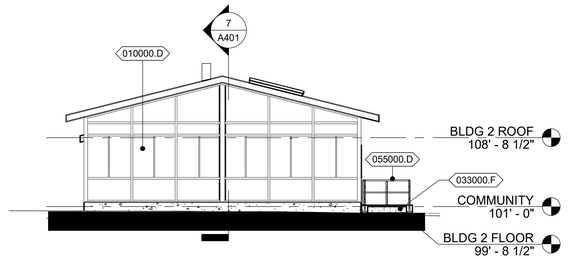
A301



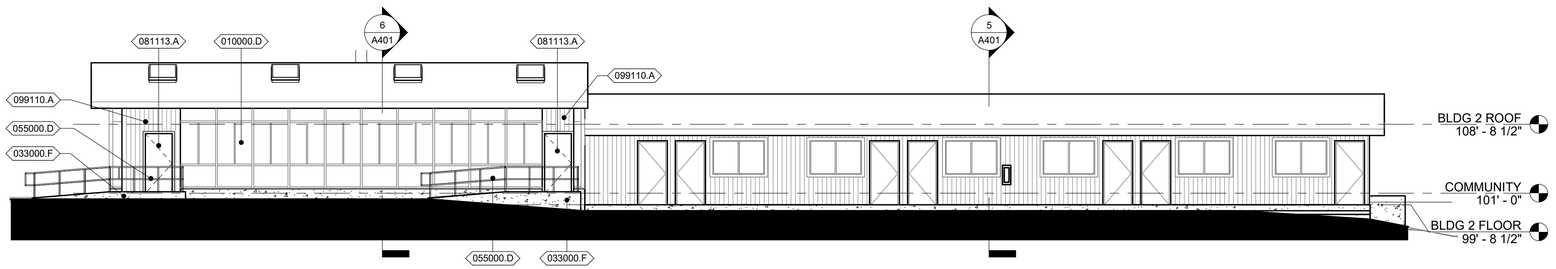
1 BLDG 2 - NORTH-NEW
1/8" = 1'-0"



2 BLDG 2 - EAST-NEW
1/8" = 1'-0"



3 BLDG 2 - WEST-NEW
1/8" = 1'-0"



4 BLDG 2 - SOUTH-NEW
1/8" = 1'-0"

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E. REFER TO DOOR SCHEDULE FOR DOOR TYPES AND DIMENSIONS.

F. REFER TO WINDOW SCHEDULE FOR WINDOW TYPES AND DIMENSIONS.

G. REFER TO SIGNAGE DETAILS FOR SIGNAGE INFORMATION.

KEYNOTES

010000.D	(E) WINDOW WALL TO REMAIN
033000.F	(N) CONCRETE RAMP
055000.D	(N) GALVANIZED STEEL HANDRAIL
081113.A	(N) HOLLOW METAL DOOR
099110.A	PAINT (N) WALL TO MATCH ADJACENT SURFACES
210000.A	(N) FIRE SPRINKLER RISER

1 inch = 8 feet

0 8' 16' 24' 32'

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

CONSULTANT:

BrokawDesign

P.O. BOX 3103
ROHNERT PARK, CA 94927

WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

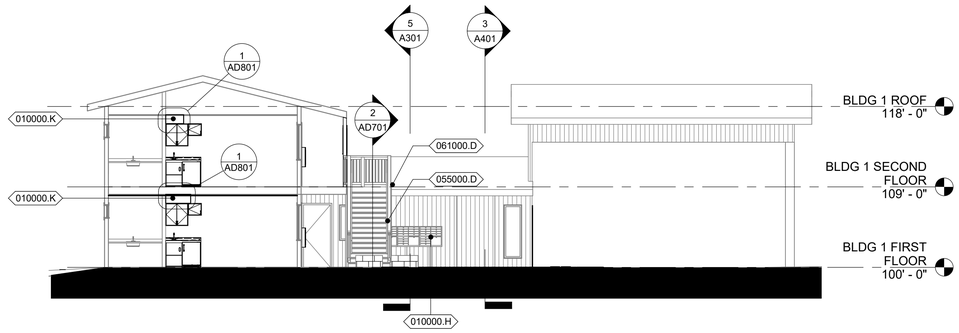
SHEET NAME:

EXTERIOR ELEVATIONS - BUILDING 2

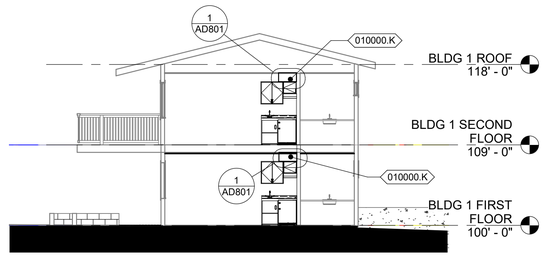
ISSUE DATE:	3/11/22
PREPARATION AND REVIEW	
DRAWN BY:	CB
DESIGNER:	CB
PROJ MGR:	
PEER REVIEW:	

SHEET NUMBER:

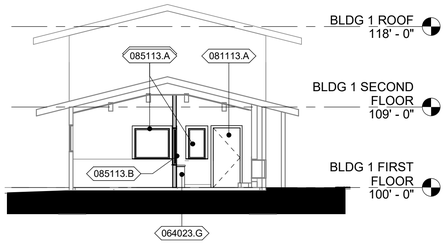
A302



1 BLDG 1 CROSS SECTION 1
1/8" = 1'-0"

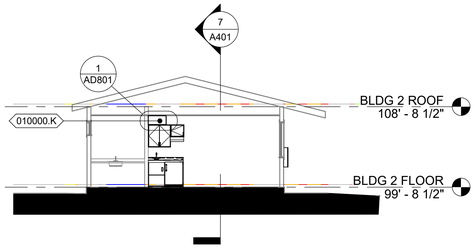


2 BLDG 1 CROSS SECTION 2
1/8" = 1'-0"

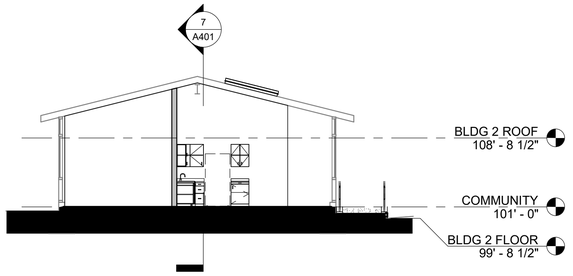


3 BLDG 1 SECTION THRU LOBBY
1/8" = 1'-0"

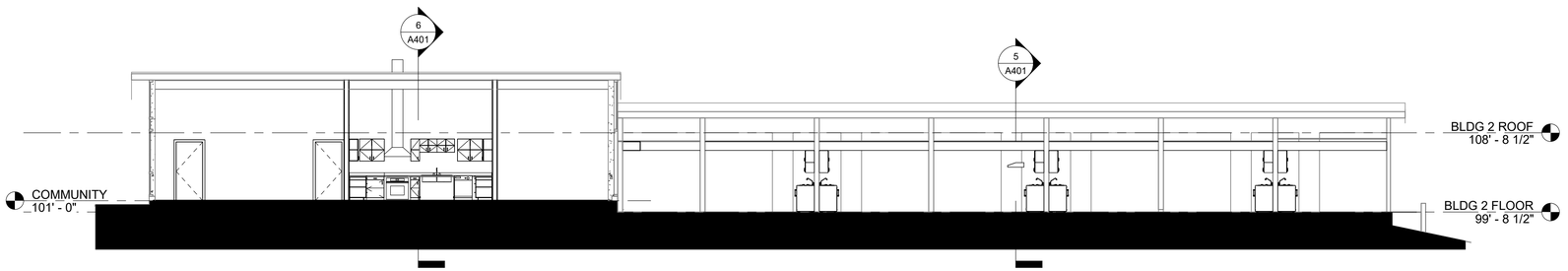
4 BLDG 1 CROSS SECTION 3
1/8" = 1'-0"



5 BLDG 2 CROSS SECTION
1/8" = 1'-0"



6 BLDG 2 CROSS SECTION THRU COMMUNITY
1/8" = 1'-0"



7 BLDG 2 LONGITUDINAL SECTION
1/8" = 1'-0"

GENERAL NOTES

A. BUILDING SECTIONS SHOW OVERALL BUILDING ENVELOPES AND REFERENCE MORE DETAILED DRAWINGS. SEE REFERENCED DETAILS FOR MORE SPECIFIC INFORMATION.

B. BUILDING COMPONENTS IN ELEVATION VIEW ARE SHOWN ON SECTIONS FOR REFERENCE ONLY. REFER TO EXTERIOR AND INTERIOR ELEVATIONS FOR MORE SPECIFIC INFORMATION.

C. HVAC UNITS AND OTHER MECHANICAL COMPONENTS ARE SHOWN IN SECTIONS FOR REFERENCE ONLY. SEE MECHANICAL DRAWINGS FOR SPECIFIC INFORMATION.

KEYNOTES

010000.H	(E) MAILBOXES TO REMAIN
010000.K	(N) SOFFIT FOR SPRINKLERS & ELECTRICAL WIRING
055000.D	(N) GALVANIZED STEEL HANDRAIL
061000.D	ADD WOOD TO TOP OF GUARDRAIL TO RAISE HEIGHT
064023.G	(N) TRANSACTION COUNTER, 12" X 36"
081113.A	(N) HOLLOW METAL DOOR
085113.A	(N) ALUMINUM FIXED WINDOW(S), SEE WINDOW SCHEDULE
085113.B	(N) ALUMINUM SLIDING WINDOW

1 inch = 8 feet

0 8' 16' 24' 32'

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

CONSULTANT:

BrokawDesign

P.O. BOX 3103
ROHNERT PARK, CA 94927

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

SHEET NAME:

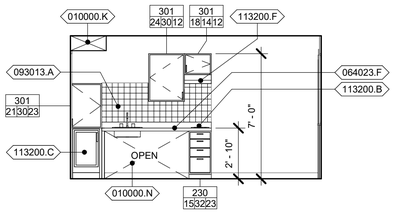
BUILDING SECTIONS

ISSUE DATE: 3/11/22
PREPARATION AND REVIEW

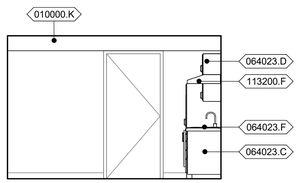
DRAWN BY: CB
DESIGNER: CB
PROJ MGR:
PEER REVIEW:

SHEET NUMBER:

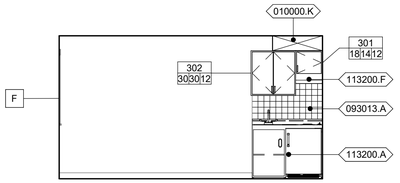
A401



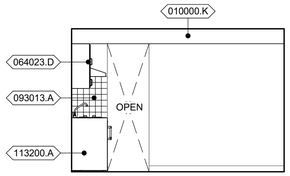
1 MOBILITY ACCESSIBLE UNIT WEST
1/4" = 1'-0"



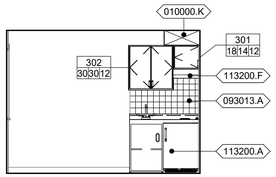
2 MOBILITY ACCESSIBLE UNIT SOUTH
1/4" = 1'-0"



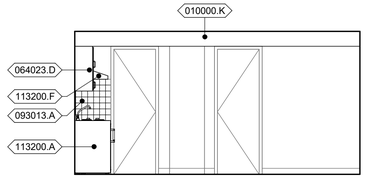
3 TYPE A UNIT EAST
1/4" = 1'-0"



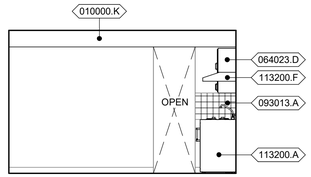
4 TYPE A UNIT SOUTH
1/4" = 1'-0"



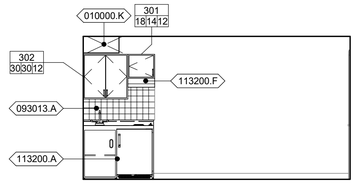
5 TYPE B UNIT EAST
1/4" = 1'-0"



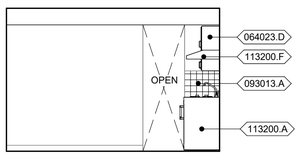
6 TYPE B UNIT SOUTH
1/4" = 1'-0"



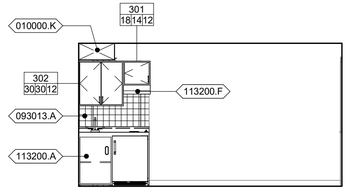
7 TYPE C UNIT SOUTH
1/4" = 1'-0"



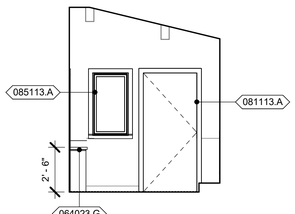
8 TYPE C UNIT WEST
1/4" = 1'-0"



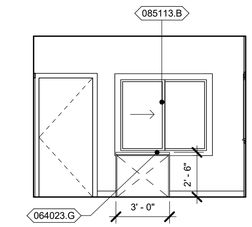
9 TYPE D UNIT SOUTH
1/4" = 1'-0"



10 TYPE D UNIT WEST
1/4" = 1'-0"



11 119 LOBBY NORTH
1/4" = 1'-0"



12 119 LOBBY EAST
1/4" = 1'-0"

GENERAL NOTES

A. REFER TO ROOM FINISH SCHEDULE AND INTERIOR DRAWINGS FOR INTERIOR FINISHES NOT SHOWN ON ELEVATIONS.

B. SEE 14/A801 FOR LAVATORY COUNTERTOP SUPPORT DETAIL.

C. SEE 13/A801 FOR TOILET PARTITION ATTACHMENT DETAIL.

D. SEE 15/A801 FOR MIRROR ATTACHMENT DETAIL.

E. SEE 17/A801 FOR CERAMIC TILE WALL BASE TRIM DETAIL.

F. FIELD PAINT ALL EXPOSED CONDUITS AND PIPES UNLESS OTHERWISE NOTED.

G. REFER TO ACCESSIBLE FIXTURE DETAILS FOR FIXTURE AND TOILET ACCESSORY MOUNTING HEIGHTS AND DIMENSIONS.

H. PROVIDE WALL BLOCKING AT ALL TOILET FIXTURE AND ACCESSORY MOUNTING LOCATIONS. REFER TO TYPICAL BACKING AND BLOCKING DETAILS, 13 / A802 AND 14 / A802.

I. WATER SUPPLY AND DRAIN PIPES ACCESSIBLE UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE OBJECTS OR SURFACES UNDER LAVATORIES, TYP.

KEYNOTES

010000.K	(N) SOFFIT FOR SPRINKLERS & ELECTRICAL WIRING
010000.N	KNEE SPACE
064023.C	(N) BASE CABINETS
064023.D	(N) WALL HUNG CABINETS
064023.F	(N) PLASTIC LAMINATE COUNTERTOP
064023.G	(N) TRANSACTION COUNTER, 12" X 36"
081113.A	(N) HOLLOW METAL DOOR
085113.A	(N) ALUMINUM FIXED WINDOW(S), SEE WINDOW SCHEDULE
085113.B	(N) ALUMINUM SLIDING WINDOW
093013.A	(N) CERAMIC WALL TILE
113200.A	KITCHENETTE
113200.B	COOKTOP
113200.C	UNDERCOUNTER REFRIGERATOR
113200.F	(N) UNDER CABINET RANGE HOOD

1 inch = 4 feet

0 4' 8' 12' 16'

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

CONSULTANT:

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

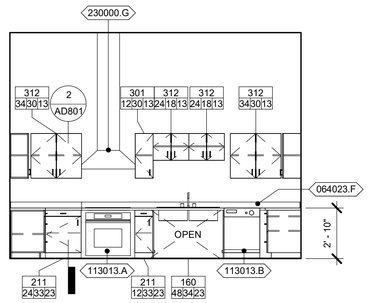
SHEET NAME:

INTERIOR ELEVATIONS

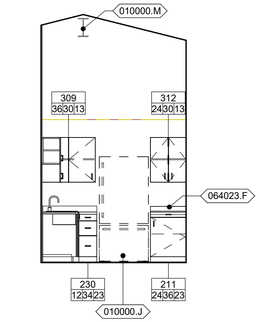
ISSUE DATE:	3/11/22
PREPARATION AND REVIEW	
DRAWN BY:	CB
DESIGNER:	CB
PROJ MGR:	
PEER REVIEW:	

SHEET NUMBER:

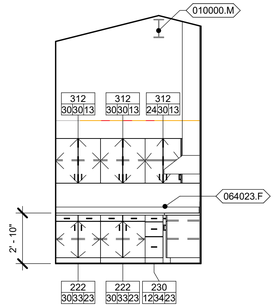
A501



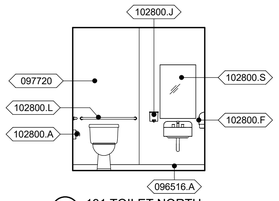
1 127 KITCHEN NORTH
1/4" = 1'-0"



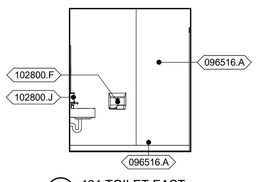
2 127 KITCHEN EAST
1/4" = 1'-0"



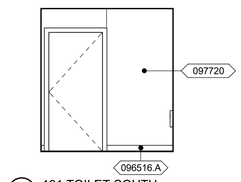
4 127 KITCHEN WEST
1/4" = 1'-0"



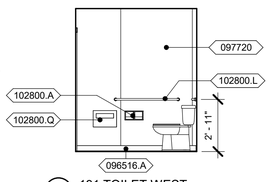
5 131 TOILET NORTH
1/4" = 1'-0"



6 131 TOILET EAST
1/4" = 1'-0"



7 131 TOILET SOUTH
1/4" = 1'-0"



8 131 TOILET WEST
1/4" = 1'-0"

GENERAL NOTES

A. REFER TO ROOM FINISH SCHEDULE AND INTERIOR DRAWINGS FOR INTERIOR FINISHES NOT SHOWN ON ELEVATIONS.

B. SEE 14/A801 FOR LAVATORY COUNTERTOP SUPPORT DETAIL.

C. SEE 13/A801 FOR TOILET PARTITION ATTACHMENT DETAIL.

D. SEE 15/A801 FOR MIRROR ATTACHMENT DETAIL.

E. SEE 17/A801 FOR CERAMIC TILE WALL BASE TRIM DETAIL.

F. FIELD PAINT ALL EXPOSED CONDUITS AND PIPES UNLESS OTHERWISE NOTED.

G. REFER TO ACCESSIBLE FIXTURE DETAILS FOR FIXTURE AND TOILET ACCESSORY MOUNTING HEIGHTS AND DIMENSIONS.

H. PROVIDE WALL BLOCKING AT ALL TOILET FIXTURE AND ACCESSORY MOUNTING LOCATIONS. REFER TO TYPICAL BACKING AND BLOCKING DETAILS, 13 / A802 AND 14 / A802.

I. WATER SUPPLY AND DRAIN PIPES ACCESSIBLE UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE OBJECTS OR SURFACES UNDER LAVATORIES, TYP.

KEYNOTES

010000.J	REFRIGERATOR BY OWNER
010000.M	(E) STEEL BEAM
064023.F	(N) PLASTIC LAMINATE COUNTERTOP
096516.A	RESILIENT SHEET INTEGRAL COVE BASE
097720	FIBERGLASS REINFORCED WALL PANELS
102800.A	TOILET TISSUE (ROLL) DISPENSER
102800.F	WARM-AIR DRYER
102800.J	LIQUID-SOAP DISPENSER
102800.L	GRAD BAR
102800.Q	SEAT-COVER DISPENSER
102800.S	MIRROR UNIT
113013.A	RANGE/OVEN
113013.B	DISHWASHER
230000.G	(N) RANGE HOOD AND EXHAUST VENT

1 inch = 4 feet

0 4' 8' 12' 16'

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

CONSULTANT:

BrokawDesign

P.O. BOX 3103
ROHNERT PARK, CA 94927

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

SHEET NAME:

INTERIOR ELEVATIONS

ISSUE DATE: 3/11/22

PREPARATION AND REVIEW

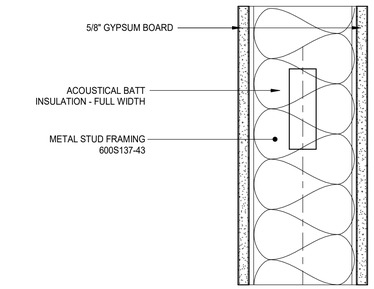
DRAWN BY:	CB
DESIGNER:	CB
PROJ MGR:	
PEER REVIEW:	

SHEET NUMBER:

A502

D — 6" INTERIOR WALLS

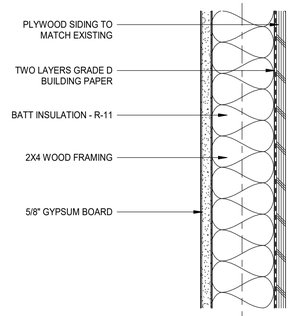
5/8" GYPSUM BOARD
ACOUSTICAL BATT INSULATION - FULL WIDTH
METAL STUD FRAMING - 600S137-43
5/8" GYPSUM BOARD



INTERIOR **INTERIOR**

A — 4" WOOD EXTERIOR WALLS - PLYWOOD SIDING

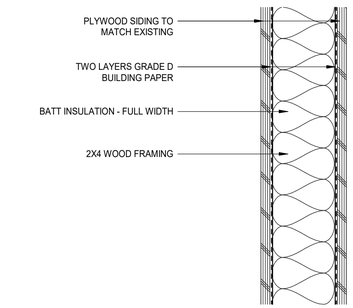
PLYWOOD SIDING TO MATCH EXISTING
TWO LAYERS GRADE D BUILDING PAPER
BATT INSULATION - R-11
2X4 WOOD FRAMING
5/8" GYPSUM BOARD



INTERIOR **EXTERIOR**

E — 2X4 EXTERIOR WALLS @ NEW WINDOWS

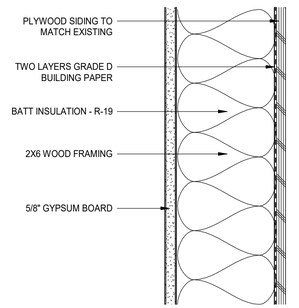
PLYWOOD SIDING TO MATCH EXISTING
GRADE D BUILDING PAPER - 2 LAYERS
2X4 WOOD FRAMING
BATT INSULATION - FULL WIDTH
GRADE D BUILDING PAPER - 2 LAYERS
PLYWOOD SIDING TO MATCH EXISTING



EXTERIOR **EXTERIOR**

B — 6" WOOD EXTERIOR WALLS - PLYWOOD SIDING

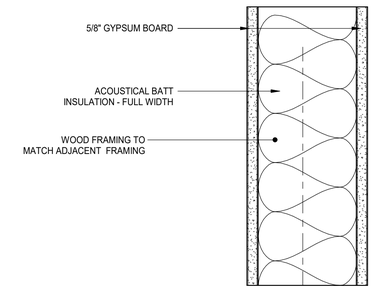
PLYWOOD SIDING TO MATCH EXISTING
TWO LAYERS GRADE D BUILDING PAPER
BATT INSULATION - R-11
2X6 WOOD FRAMING
5/8" GYPSUM BOARD



INTERIOR **EXTERIOR**

F — 6" INTERIOR INFILL WALLS

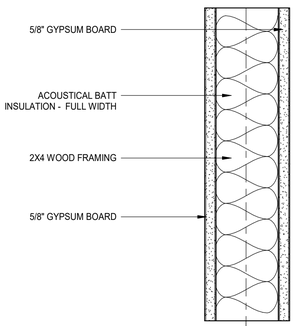
5/8" GYPSUM BOARD
ACOUSTICAL BATT INSULATION - FULL WIDTH
WOOD FRAMING TO MATCH ADJACENT FRAMING
5/8" GYPSUM BOARD



INTERIOR **INTERIOR**

C — 2x4 INTERIOR WALLS

5/8" GYPSUM BOARD
ACOUSTICAL BATT INSULATION - FULL WIDTH
2X4 WOOD FRAMING
5/8" GYPSUM BOARD



INTERIOR **INTERIOR**

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

CONSULTANT:

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P.O. BOX 3103
ROHNERT PARK, CA 94927
WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

SHEET NAME:

WALL ASSEMBLIES

ISSUE DATE: 3/11/22
PREPARATION AND REVIEW
DRAWN BY: CB
DESIGNER: CB
PROJ MGR:
PEER REVIEW:

SHEET NUMBER:

A601

ROOM FINISH SCHEDULE - BLDG 1

NUMBER	ROOM NAME	AREA	FLOOR MATERIAL	BASE		WAINSCOT		WALL		CEILING			REMARKS
				HEIGHT	MATERIAL	HEIGHT	MAT/FINISH	MATERIAL	FINISH	MATERIAL	HEIGHT	FINISH	
101	MOBILITY ACCESSIBLE UNIT	166 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
101A	BATH	76 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
102	MOBILITY ACCESSIBLE UNIT	166 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
102A	BATH	77 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
103	TYPE A UNIT	176 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
103A	VANITY	39 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
103B	BATH	30 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
104	TYPE A UNIT	176 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
104A	VANITY	40 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
104B	BATH	29 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
105	TYPE B UNIT	175 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
105A	BEDROOM	94 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
105B	BATH	57 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
106	TYPE B UNIT	175 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
106A	BEDROOM	94 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
106B	BATH	57 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
107	TYPE B UNIT	175 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
107A	BEDROOM	94 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
107B	BATH	57 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
108	TYPE B UNIT	176 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
108A	BEDROOM	94 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
108B	BATH	57 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
109	TYPE A UNIT	191 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
109A	VANITY	46 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
109B	BATH	29 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
110	TYPE A UNIT	178 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
110A	VANITY	40 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
110B	BATH	30 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
111	TYPE A UNIT	183 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
111A	VANITY	42 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
111B	BATH	30 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
119	LOBBY	106 SF	(E) VINYL PLANK	4"	(N) & (E) WOOD	--	--	(N) & (E) GYP BD	(N) & (E) PAINT	(E) GYP BD	SLOPING	(E) PAINT	NOTES 1 & 2
120	OFFICE	131 SF	(N) VINYL PLANK	4"	(N) & (E) WOOD	--	--	(N) & (E) GYP BD	(N) & (E) PAINT	(E) GYP BD	SLOPING	(E) PAINT	NOTES 1 & 2
121	MANAGER UNIT	281 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
121A	KITCHEN	111 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
121B	HALL	47 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
121C	BATH	44 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
121D	BEDROOM	125 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
121E	BEDROOM	117 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
122	TELECOM	41 SF	(E)	(E)	(E)	--	--	(E)	(E)	(E)	(E)	(E)	
123	LAUNDRY	136 SF	(N) RES SHEET	4"	(N) RES SHEET COVE	--	--	(N) & (E) GYP BD	(N) PAINT	(E)	(E)	(N) PAINT	
124	STORAGE	187 SF	(E)	(E)	(E)	--	--	(E)	(E)	(E)	(E)	(E)	
201	TYPE C UNIT	200 SF	(N) VINYL PLANK	4"	(N) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1, 2, & 3
201A	VANITY	40 SF	(N) VINYL PLANK	4"	(N) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1, 2, & 3
201B	BATH	34 SF	(N) VINYL PLANK	4"	(N) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1, 2, & 3
202	TYPE D UNIT	182 SF	(N) VINYL PLANK	4"	(N) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1, 2, & 3
202A	VANITY	42 SF	(N) VINYL PLANK	4"	(N) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1, 2, & 3
202B	BATH	30 SF	(N) VINYL PLANK	4"	(N) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1, 2, & 3
203	TYPE D UNIT	176 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
203A	VANITY	40 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
203B	BATH	30 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
204	TYPE D UNIT	176 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
204A	VANITY	40 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
204B	BATH	30 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
205	TYPE D UNIT	176 SF	(N) VINYL PLANK	4"	(N) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1, 2, & 3
205A	VANITY	40 SF	(N) VINYL PLANK	4"	(N) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1, 2, & 3
205B	BATH	30 SF	(N) VINYL PLANK	4"	(N) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1, 2, & 3
206	TYPE D UNIT	176 SF	(N) VINYL PLANK	4"	(N) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1, 2, & 3
206A	VANITY	40 SF	(N) VINYL PLANK	4"	(N) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1, 2, & 3
206B	BATH	30 SF	(N) VINYL PLANK	4"	(N) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1, 2, & 3
207	TYPE B UNIT	175 SF	(N) VINYL PLANK	4"	(N) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1, 2, & 3
208	TYPE B UNIT	175 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
208A	BEDROOM	94 SF	(N) VINYL PLANK	4"	(N) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1, 2, & 3
208B	BATH	57 SF	(N) VINYL PLANK	4"	(N) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1, 2, & 3
209	TYPE B UNIT	175 SF	(N) VINYL PLANK	4"	(N) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1, 2, & 3
209A	BEDROOM	94 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
209B	BATH	57 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
210	TYPE B UNIT	176 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
210A	BEDROOM	94 SF	(N) VINYL PLANK	4"	(N) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1, 2, & 3
210B	BATH	56 SF	(N) VINYL PLANK	4"	(N) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1, 2, & 3
211	TYPE D UNIT	191 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
211A	BEDROOM	95 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
211B	BATH	56 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
212	TYPE D UNIT	178 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
212A	VANITY	46 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
212B	BATH	30 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
213A	VANITY	41 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
213B	BATH	30 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
214	TYPE D UNIT	182 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
214A	VANITY	42 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
214B	BATH	30 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
215	LAUNDRY	136 SF	(N) RES SHEET	4"	(N) RES SHEET COVE	--	--	(N) & (E) GYP BD	(N) PAINT	(E) GYP BD	(E)	(N) PAINT	
216	STORAGE	186 SF	(E)	(E)	(E)	--	--	(E)	(E)	(E)	(E)	(E)	

FINISH SCHEDULE NOTES:

1. TOUCH UP PAINT WHERE DISTURBED BY NEW CONSTRUCTION.
2. MODIFY BASE WHERE DISTURBED BY NEW CONSTRUCTION.
3. DEMO (E) FLOORING, CARPET OR RESILIENT TILE.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

CONSULTANT:

BrokawDesign

P.O. BOX 3103
ROHNERT PARK, CA 94927

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

SHEET NAME:

SCHEDULES - ROOM FINISH BLDG 1

ISSUE DATE: 3/11/22

PREPARATION AND REVIEW

DRAWN BY: CB
DESIGNER: CB
PROJ MGR:
PEER REVIEW:

SHEET NUMBER:

A611

ROOM FINISH SCHEDULE - BLDG 2

NUMBER	ROOM NAME	AREA	FLOOR MATERIAL	BASE		WAINSCOT		WALL		CEILING			REMARKS
				HEIGHT	MATERIAL	HEIGHT	MAT/FINISH	MATERIAL	FINISH	MATERIAL	HEIGHT	FINISH	
112	TYPE D UNIT	183 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
112A	VANITY	43 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
112B	BATH	30 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
114	TYPE D UNIT	184 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
114A	VANITY	43 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
114B	BATH	30 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
115	TYPE D UNIT	185 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
115A	VANITY	43 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
115B	BATH	30 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
116	TYPE D UNIT	184 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
116A	VANITY	43 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
116B	BATH	30 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
117	TYPE D UNIT	183 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
117A	VANITY	43 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
117B	BATH	30 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
118	TYPE D UNIT	183 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	AT KITCHENETTE	(N) CERAMIC TILE	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	NOTES 1 & 2
118A	VANITY	42 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
118B	BATH	30 SF	(E) VINYL PLANK	(E) 4"	(E) WOOD	--	--	(E) GYP BD	(E) PAINT	(E) GYP BD	8'-0"	(E) PAINT	
125	LOUNGE	386 SF	(N') VINYL PLANK	4"	(N) WOOD	--	--	(N) GYP BD	(N) PAINT	(E)	SLOPED	(E)	
126	DINING	160 SF	(N') VINYL PLANK	4"	(N) WOOD	--	--	(N) GYP BD	(N) PAINT	(E)	SLOPED	(E)	
127	KITCHEN	131 SF	(N') VINYL PLANK	4"	(N) WOOD	--	--	(N) GYP BD	(N) PAINT	(E)	SLOPED	(E)	
128	OFFICE	153 SF	(N') VINYL PLANK	4"	(N) WOOD	--	--	(N) GYP BD	(N) PAINT	(E)	SLOPED	(E)	
129	EXERCISE	322 SF	(N') VINYL PLANK	4"	(N) WOOD	--	--	(N) GYP BD	(N) PAINT	(E)	SLOPED	(E)	
130	VESTIBULE	111 SF	(N') VINYL PLANK	4"	(N) WOOD	--	--	(N) GYP BD	(N) PAINT	(E)	SLOPED	(E)	
131	TOILET	50 SF	(N) RES SHEET	4"	(N) RES SHEET COVE	--	--	(N) GYP BD	(N) FRP	(N) GYP BD	8'-0"	(N) PAINT	
132	BIKE STORAGE	235 SF	(N') VINYL PLANK	4"	(N) WOOD	--	--	(N) GYP BD	(N) PAINT	(E)	SLOPED	(E)	
133	MAINTENANCE	130 SF	(E)	--	(E)	--	--	(E)	(E)	(E)	(E)	(E)	
134	STORAGE	55 SF	(E)	--	(E)	--	--	(E)	(E)	(E)	(E)	(E)	

FINISH SCHEDULE NOTES:

1. TOUCH UP PAINT WHERE DISTURBED BY NEW CONSTRUCTION.
2. MODIFY BASE WHERE DISTURBED BY NEW CONSTRUCTION.
3. DEMO (E) FLOORING, CARPET OR RESILIENT TILE.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
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CONSULTANT:

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

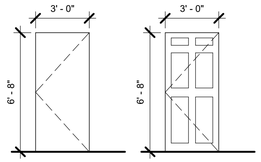
SHEET NAME:

SCHEDULES - ROOM FINISH BLDG 2

ISSUE DATE: 3/11/22
PREPARATION AND REVIEW
DRAWN BY: CB
DESIGNER: CB
PROJ MGR:
PEER REVIEW:

SHEET NUMBER:

A612



TYPE A
FLUSH PANEL

TYPE B
SIX PANEL

DOOR SCHEDULE - NEW

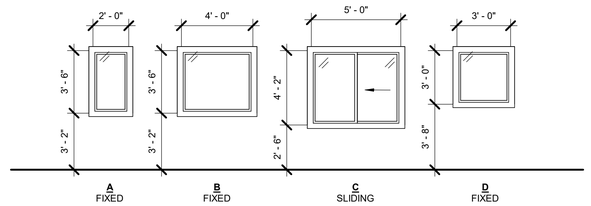
MARK	BUILDING	TYPE	WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	FRAME MAT.	FRAME FIN.	GLASS	FIRE RATING	HARDWARE SET	REMARKS
101	BLDG 1	B	3' - 0"	6' - 8"	0' - 1 3/4"	HOLLOW METAL	PAINT	METAL	PAINT	-	-	01	
119	BLDG 1	B	3' - 0"	6' - 8"	0' - 1 3/4"	HOLLOW METAL	PAINT	METAL	PAINT	-	-	02	
120	BLDG 1	A	3' - 0"	6' - 8"	0' - 1 3/4"	SOLID CORE WOOD	TRANSPARENT	METAL	PAINT	-	-	04	
121	BLDG 1	A	3' - 0"	6' - 8"	0' - 1 3/4"	SOLID CORE WOOD	TRANSPARENT	METAL	PAINT	-	-	05	
124	BLDG 1	A	3' - 0"	6' - 8"	0' - 1 3/4"	SOLID CORE WOOD	TRANSPARENT	METAL	PAINT	-	-	06	
125	BLDG 2	B	3' - 0"	6' - 8"	0' - 1 3/4"	HOLLOW METAL	PAINT	METAL	PAINT	-	-	03	
128	BLDG 2	A	3' - 0"	6' - 8"	0' - 1 3/4"	SOLID CORE WOOD	TRANSPARENT	METAL	PAINT	-	-	04	
129	BLDG 2	A	3' - 0"	6' - 8"	0' - 1 3/4"	SOLID CORE WOOD	TRANSPARENT	METAL	PAINT	-	-	08	
130	BLDG 2	B	3' - 0"	6' - 8"	0' - 1 3/4"	HOLLOW METAL	PAINT	METAL	PAINT	-	-	03	
131	BLDG 2	A	3' - 0"	6' - 8"	0' - 1 3/4"	SOLID CORE WOOD	TRANSPARENT	METAL	PAINT	-	-	09	
132	BLDG 2	A	3' - 0"	6' - 8"	0' - 1 3/4"	SOLID CORE WOOD	TRANSPARENT	METAL	PAINT	-	-	07	
216	BLDG 1	A	3' - 0"	6' - 8"	0' - 1 3/4"	SOLID CORE WOOD	TRANSPARENT	METAL	PAINT	-	-	06	

Grand total: 12

WINDOW SCHEDULE

MARK	TYPE	SIZE WIDTH	SIZE HEIGHT	SILL HEIGHT	SASH & FRAME MATERIAL	SASH & FRAME FINISH	GLAZING	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	FIRE RATING	COMMENTS
C	SLIDING	5' - 0"	4' - 2"	2' - 6"	VINYL	PREFINISHED	INSULATING				--	
D	FIXED	3' - 0"	3' - 0"	3' - 8"	VINYL	PREFINISHED	INSULATING				--	
S	FIXED	2' - 0"	3' - 6"	3' - 2"	VINYL	PREFINISHED	INSULATING				--	
T	FIXED	4' - 0"	3' - 6"	3' - 2"	VINYL	PREFINISHED	INSULATING				--	

Grand total: 9



A FIXED **B** FIXED **C** SLIDING **D** FIXED

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

CONSULTANT:

BrokawDesign
P.O. BOX 3103
ROHNERT PARK, CA 94927
WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

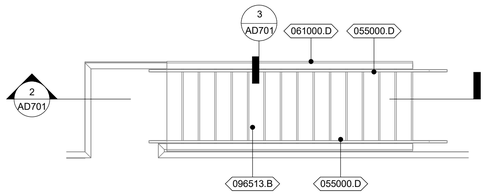
SHEET NAME:

SCHEDULES - DOOR & WINDOW

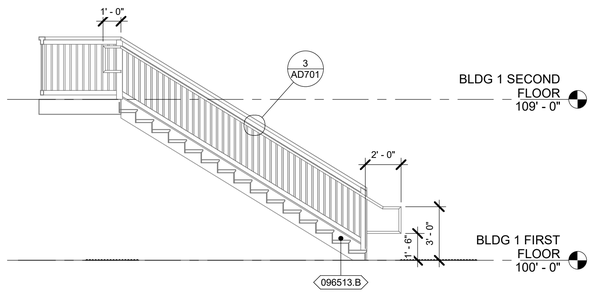
ISSUE DATE: 3/11/22
PREPARATION AND REVIEW
DRAWN BY: CB
DESIGNER: CB
PROJ MGR:
PEER REVIEW:

SHEET NUMBER:

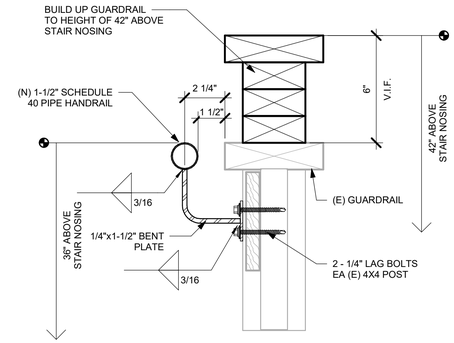
A621



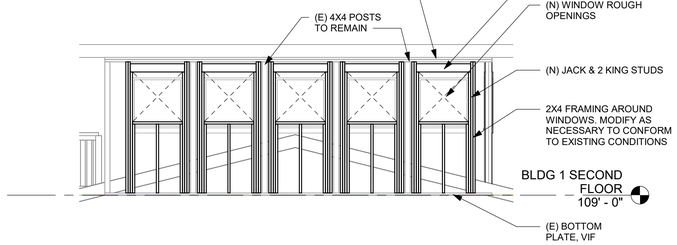
1 STAIR FLOOR PLAN
1/4" = 1'-0"



2 SECTION THRU STAIR
1/4" = 1'-0"

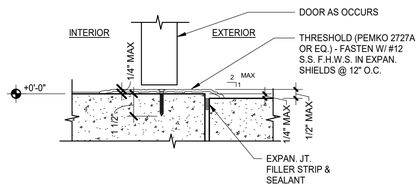


3 STAIR GUARDRAIL & HANDRAIL
3" = 1'-0"

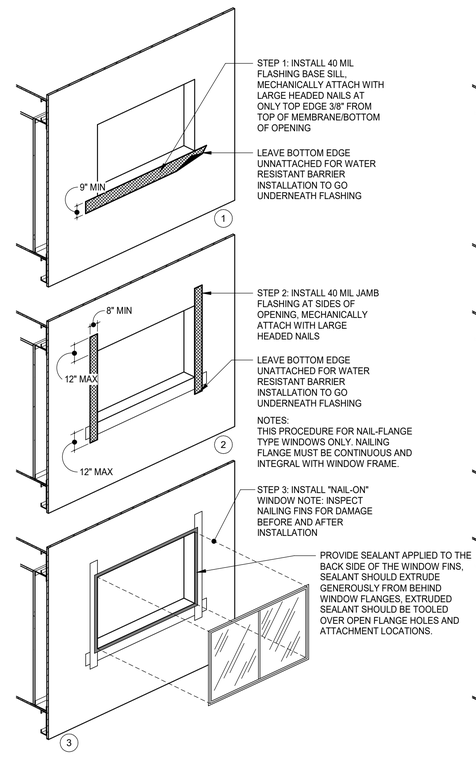


4 WALL FRAMING ELEVATION @ WINDOWS
1/4" = 1'-0"

GENERAL FLOOR TRANSITION NOTE:
PER CBC SECTION 11B-303, ABRUPT CHANGES IN LEVEL BETWEEN ANY ADJACENT FLOOR SURFACES SHALL NOT EXCEED 1/2". WHEN SUCH A CHANGE OF LEVEL OCCURS, THE TRANSITION SHALL BE BEVELED WITH A SLOPE NO GREATER THAN ONE LIMIT VERTICAL TO 2 UNITS HORIZONTAL (50%), EXCEPT THAT LEVEL CHANGES NOT EXCEEDING 1/4" MAY BE VERTICAL CHANGES IN LEVEL IN EXCESS OF 1/2" SHALL CONFORM TO THE REQUIREMENTS FOR RAMPS. THESE REQUIREMENTS APPLY TO EACH FLOOR FINISH TRANSITION CONDITION SHOWN IN THIS DETAIL BOX.



6 THRESHOLDS
3" = 1'-0"



5 WINDOW FLASHING DETAILS
1/2" = 1'-0"

GENERAL NOTES

A. STRUCTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING ITEMS INDICATED ON THIS SHEET ARE FOR REFERENCE ONLY. REFER TO RESPECTIVE DISCIPLINE DRAWINGS FOR CONSTRUCTION DRAWING INFORMATION.

B. REFER TO ENLARGED FLOOR PLANS OF TOILETS FOR COMPLETE CONSTRUCTION DOCUMENTATION INFORMATION.

C. REFER TO DOOR SCHEDULE FOR DOOR TYPES AND DIMENSIONS.

D. SEE INTERIOR ELEVATIONS AND FINISH SCHEDULE FOR FINISHES AND LOCATIONS.

E. SIGNAGE LOCATION DESIGNATION , SEE SHEET AD802 FOR REQUIREMENTS.

KEYNOTES

055000.D	(N) GALVANIZED STEEL HANDRAIL
061000.D	ADD WOOD TO TOP OF GUARDRAIL TO RAISE HEIGHT
096513.B	(N) VINYL STAIR TREADS WITH CONTRASTING TOE

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
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CONSULTANT:

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PROJECT:

THE LEGACY RENOVATION

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CRESCENT CITY, CA
95531

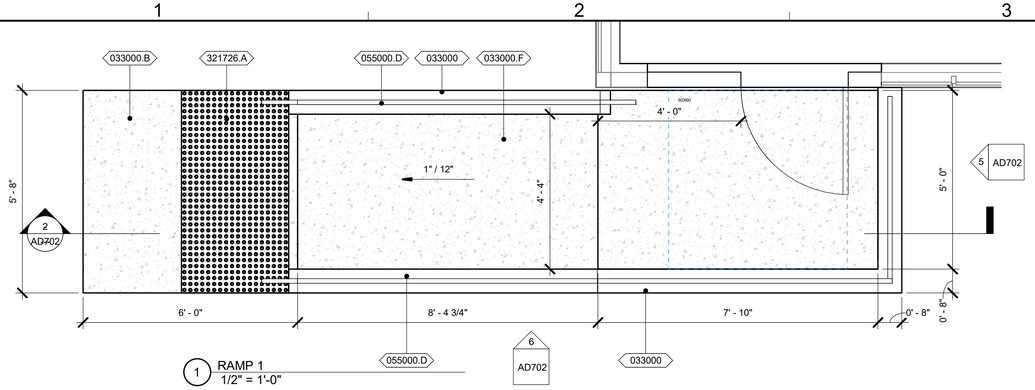
SHEET NAME:

EXTERIOR DETAILS

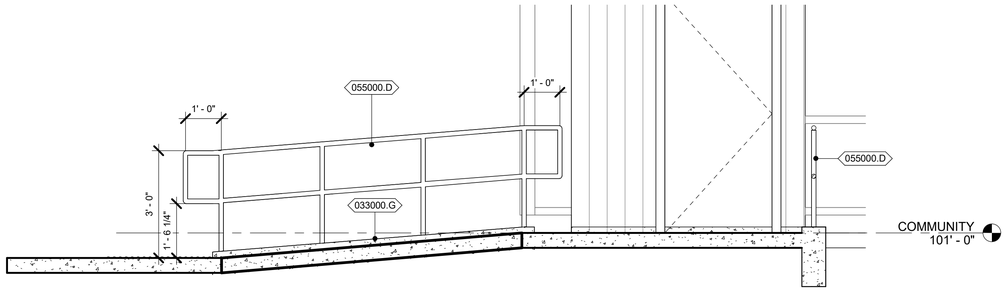
ISSUE DATE:	3/11/22
PREPARATION AND REVIEW	
DRAWN BY:	CB
DESIGNER:	CB
PROJ MGR:	
PEER REVIEW:	

SHEET NUMBER:

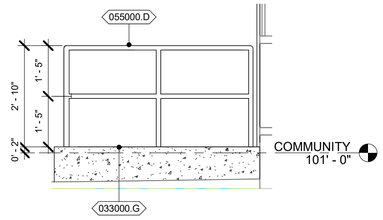
AD701



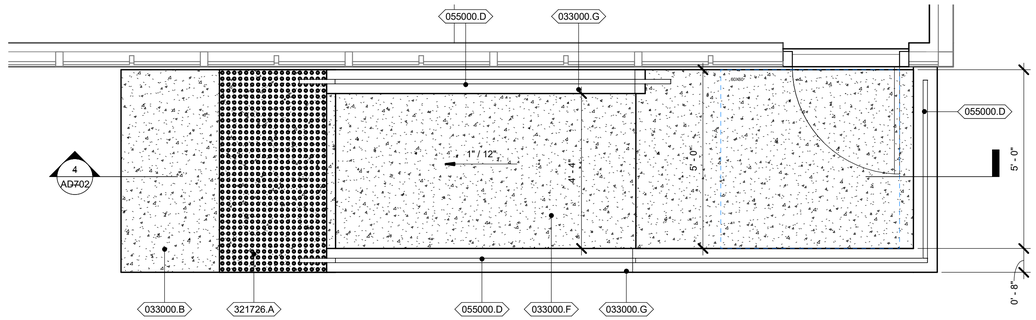
1 RAMP 1
1/2" = 1'-0"



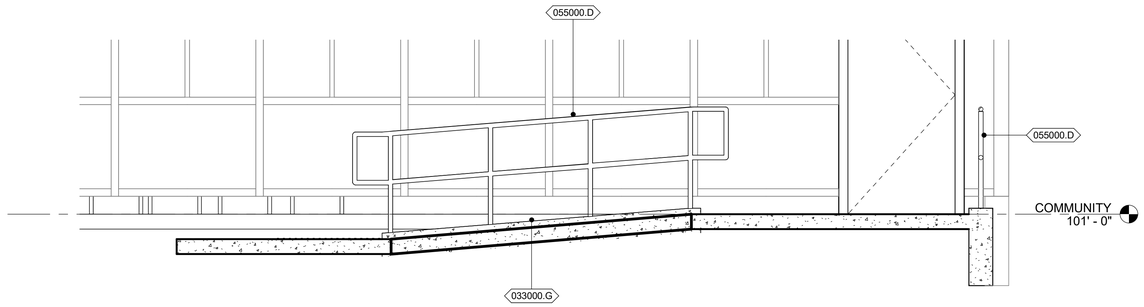
2 SECTION @ RAMP 1
1/2" = 1'-0"



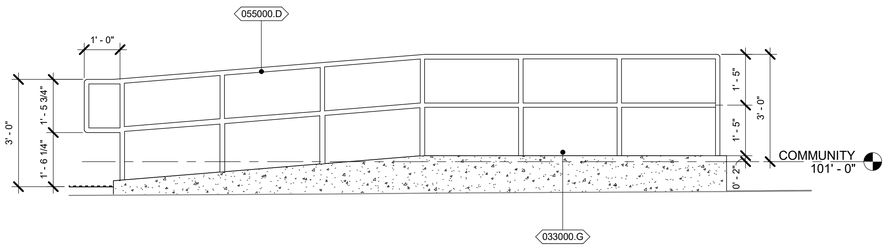
5 HANDRAIL ELEVATION B
1/2" = 1'-0"



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



4 SECTION @ RAMP 2
1/2" = 1'-0"



6 HANDRAIL ELEVATION A
1/2" = 1'-0"

1 inch = 2 feet
0 2' 4' 6' 8'

GENERAL NOTES

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C. REFER TO DOOR SCHEDULE FOR DOOR TYPES AND DIMENSIONS.

D. SEE INTERIOR ELEVATIONS AND FINISH SCHEDULE FOR FINISHES AND LOCATIONS.

E. SIGNAGE LOCATION DESIGNATION , SEE SHEET AD802 FOR REQUIREMENTS.

KEYNOTES

033000	CAST-IN-PLACE CONCRETE
033000.B	(N) CONCRETE PAVING
033000.F	(N) CONCRETE RAMP
033000.G	2" HIGH CONCRETE CURB
055000.D	(N) GALVANIZED STEEL HANDRAIL
321726.A	(N) CAST-IN-PLACE DETECTABLE WARNING TILES

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

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CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

CONSULTANT:

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

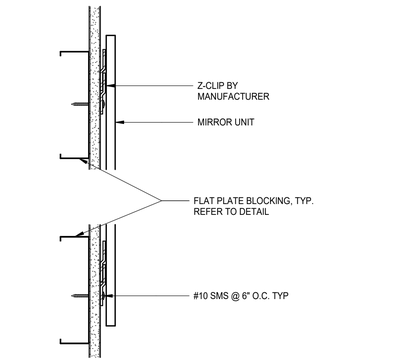
SHEET NAME:

RAMP PLANS & DETAILS

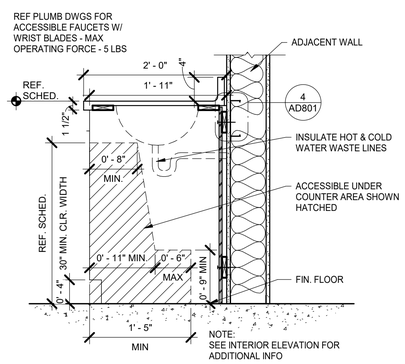
ISSUE DATE:	3/11/22
PREPARATION AND REVIEW	
DRAWN BY:	CB
DESIGNER:	CB
PROJ MGR:	
PEER REVIEW:	

SHEET NUMBER:

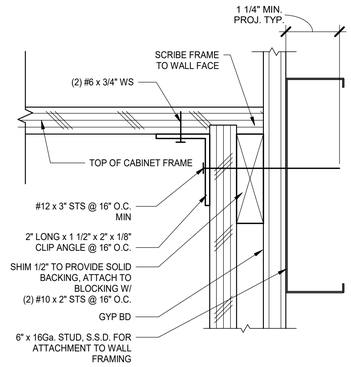
AD702



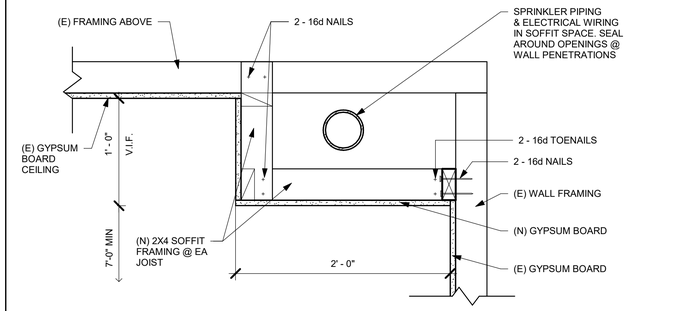
8 MIRROR ATTACHMENT
3" = 1'-0"



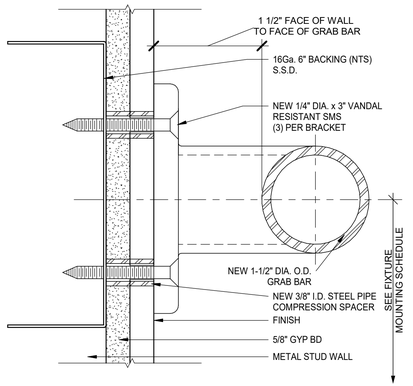
6 ACCESSIBLE SINK SECTION
1" = 1'-0"



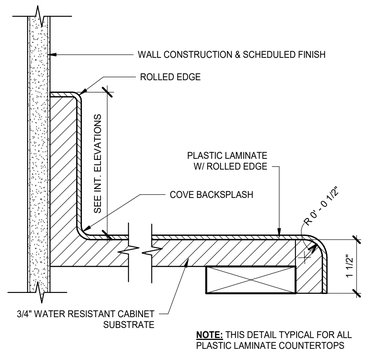
3 WALL CABINET ANCHOR
6" = 1'-0"



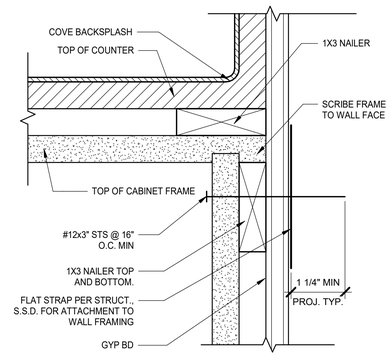
1 SOFFIT
1 1/2" = 1'-0"



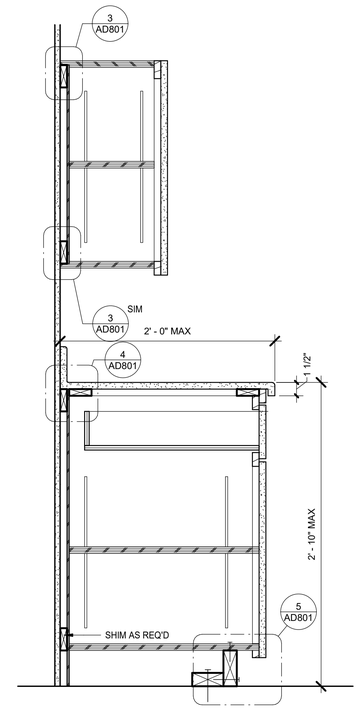
9 TOILETS - GRAB BAR
12" = 1'-0"



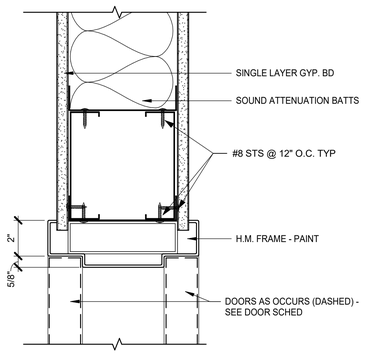
7 P.LAM COUNTERTOP
6" = 1'-0"



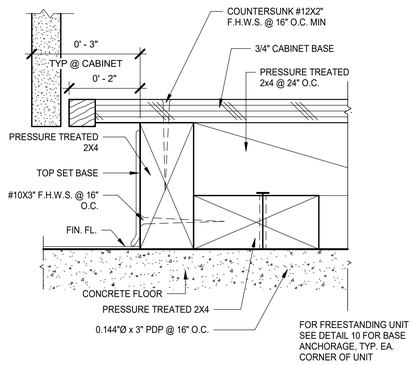
4 BASE CABINET TO WALL ANCHORAGE
6" = 1'-0"



2 CABINET SECTION
1 1/2" = 1'-0"



10 TYP INTERIOR H.M. FRAMES
3" = 1'-0"



5 BASE CABINET ANCHOR AT TOE SPACE
6" = 1'-0"

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

CONSULTANT:

BrokawDesign

P.O. BOX 3103
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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

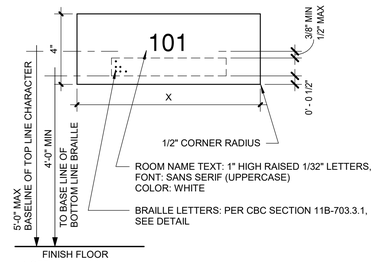
SHEET NAME:

INTERIOR DETAILS

ISSUE DATE:	3/11/22
PREPARATION AND REVIEW	
DRAWN BY:	CB
DESIGNER:	CB
PROJ MGR:	
PEER REVIEW:	

SHEET NUMBER:

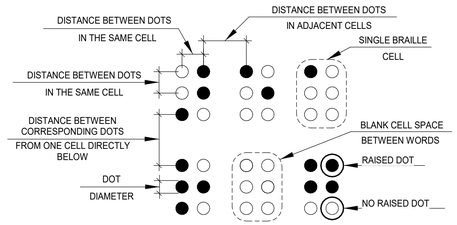
AD801



NOTE:
1. ATTACH SIGNS USING ADHESIVE ON THE LATCH SIDE OF DOOR TO ROOM.
2. SIGN MATERIAL TO BE 1/8" THICK ES PLASTIC W/ 1/32" RAISED BORDER, GRAPHICS & LETTERS, PROVIDE MECHANICAL MOUNTING W/ VANDAL RESISTANT FASTENERS.
3. 70% MIN CONTRAST BETWEEN LETTERS AND BACKGROUND, ALL NON-GLARE.

1 ACCESSIBLE ROOM ID SIGN
3" = 1'-0"

MEASUREMENT RANGE	MINIMUM IN INCHES MAXIMUM IN INCHES
DOT BASE DIAMETER	0.059 (1.5 MM) TO 0.063 (1.6 MM)
DISTANCE BETWEEN TWO DOTS IN THE SAME CELL [1]	0.100 (2.5 MM)
DISTANCE BETWEEN CORRESPONDING DOTS IN ADJACENT CELLS [1]	0.300 (7.6 MM)
DOT HEIGHT	0.025 (0.6 MM) TO 0.037 (0.9 MM)
DISTANCE BETWEEN CORRESPONDING DOTS FROM ONE CELL DIRECTLY BELOW [1]	0.395 (10 MM) TO 0.400 (10.2 MM)
1. MEASURED CENTER TO CENTER	



2 BRAILLE GUIDELINES
12" = 1'-0"

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

LICENSED ARCHITECT
CHARLES L. BEAVERS
No. C 9,601
CHARLES BEAVERS
REN. 4-30-23
STATE OF CALIFORNIA

CONSULTANT:

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PROJECT:

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665 L STREET
CRESCENT CITY, CA
95531

SHEET NAME:

SIGNAGE

ISSUE DATE: 3/11/22
PREPARATION AND REVIEW
DRAWN BY: CB
DESIGNER: CB
PROJ MGR:
PEER REVIEW:

SHEET NUMBER:

AD802

A. DESIGN BASIS

A.1. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2019 CBC THAT INCLUDES THE ICC 2018 INTERNATIONAL BUILDING CODE "IBC 2018" AND THE AMERICAN SOCIETY OF CIVIL ENGINEERS SEI/ASCE 7-16 "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES"

A.2. STRUCTURE DESIGNED FOR ROOF SNOW LOADS (INCLUDING DRIFTING) BASED ON THE FOLLOWING PARAMETERS:
SNOW LOADS NOT CONSIDERED IN THE DESIGN. THE DESIGN INCLUDES INTERIOR WORK ONLY

A.3. STRUCTURE DESIGNED FOR WIND LOADS BASED ON THE FOLLOWING PARAMETERS:
WIND LOADS NOT CONSIDERED IN THE DESIGN. THE DESIGN INCLUDES INTERIOR WORK ONLY

A.4. NO SEISMIC STRENGTHENING IS INCLUDED

A.5. INTERIOR METAL STUD WALLS DESIGNED FOR SEISMIC LOADS BASED ON THE FOLLOWING PARAMETERS:
BUILDING RISK CATEGORY = II-"STANDARD"
SITE CLASS = D (ASSUMED)
MAX. 0.2 SEC. SPECTRAL RESPONSE ACCELERATION, SS = 2.036
MAX. 1.0 SEC. SPECTRAL RESPONSE ACCELERATION, S1 = 0.97
IMPORTANCE FACTOR, Ie = 1.0
SEISMIC DESIGN CATEGORY = D
A_P = 1; R_P=2.5; FP=0.5WP

A.6. DESIGN LIVE LOADS:

GROUND FLOOR = 100 PSF

B. GENERAL NOTES

B.1. ALL WORK TO CONFORM TO REQUIREMENTS OF ALL PUBLICATIONS AND NOTES LISTED UNDER "DESIGN BASIS".

B.2. ARCHITECTURAL DRAWINGS, MECHANICAL/ELECTRICAL/PLUMBING DRAWINGS AND ALL OTHER DRAWINGS AS REQUIRED SHALL BE USED IN CONJUNCTION WITH STRUCTURAL DRAWINGS TO DEVELOP DETAILS AND DIMENSIONS FOR SHOP DRAWINGS, FABRICATION, ERECTION AND CONSTRUCTION. CONTRACTOR IS TO COORDINATE EQUIPMENT, SUPPORT CONDITIONS AND DIMENSIONS FOR SUPPORTING BEAMS, FRAMES AND OPENINGS FOR MECHANICAL EQUIPMENT AND PROVIDE THIS INFORMATION FOR REVIEW.

B.3. DO NOT SCALE DRAWINGS.

B.4. CONTRACTOR SHALL NOTIFY THE CONTRACTING OFFICER/OWNER/ENGINEER IMMEDIATELY UPON DISCOVERY OF CONFLICTS IN THE DRAWINGS AND SPECIFICATIONS.

B.5. THE CONTRACTING OFFICER/OWNER/ENGINEER MAY PERIODICALLY VISIT THE SITE TO OBSERVE THE PROGRESS AND GENERAL QUALITY OF THE CONSTRUCTION. THESE VISITS ARE NOT INTENDED TO REPLACE THE CONTRACTOR'S RESPONSIBILITY FOR QUALITY CONTROL OR SPECIAL INSPECTION.

B.6. THE CONTRACTOR IS TO VERIFY ALL EXISTING CONDITIONS AND ALL DIMENSIONS IN FIELD PRIOR TO START OF CONSTRUCTION AND PROTECT AND MAINTAIN ALL EXISTING CONSTRUCTION AND ITS CONTENTS IN FULL.

B.7. THE CONTRACTOR SHALL MAINTAIN A SET OF LATEST REVIEWED SHOP DRAWINGS ON JOB SITE.

B.8. THE STRUCTURE HAS BEEN DESIGNED TO BE STABLE AND SELF SUPPORTING AFTER THE CONSTRUCTION IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY FOR THE BUILDING'S STABILITY DURING CONSTRUCTION. THIS RESPONSIBILITY ALSO INCLUDES BUT IS NOT LIMITED TO METHOD AND SEQUENCE OF ERECTION, TEMPORARY SHORING AND TEMPORARY BRACING.

B.9. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.

B.10. SHOULD ANY INFORMATION ON THE STRUCTURAL DRAWINGS CONFLICT WITH THE SPECIFICATIONS OR ANY OTHER PART OF THE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND AN INTERPRETATION WILL BE GIVEN.

B.11. ALL SECTIONS, DETAILS, NOTES, DIMENSIONS AND CONDITIONS ARE APPLICABLE AT ANY OTHER LOCATION WHERE CONDITIONS AND DETAILS ARE SIMILAR BUT ARE NOT SPECIFICALLY NOTED AS SUCH OR ARE NOT SHOWN.

B.12. ALL HOLES INTO MASONRY OR CONCRETE WALLS FOR PROPRIETARY ANCHORING SYSTEMS (EXPANSION BOLTS, ADHESIVE ANCHORING SYSTEMS, ETC.) TO BE DRILLED AND CLEANED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

C. FOUNDATION NOTES

C.1. SOIL BEARING CAPACITY USED IN THE DESIGN OF FOUNDATIONS:

1500 PSF ASSUMED

C.2. SITE PREPARATION SHALL BE AS FOLLOWS:
C.2.1. TOPSOIL OR WEAK MATERIAL SHALL BE REMOVED FROM BUILDING FOOTPRINT.
C.2.2. STRUCTURE FOOTPRINT SHALL BE PROOF ROLLED UNDER SUPERVISION OF A COMPETENT TECHNICIAN TO IDENTIFY WEAK AREAS.
C.2.3. WEAK AREAS SHALL BE REMOVED AND REPLACED WITH APPROVED COMPACTED FILL.
C.2.4. IF UNSUITABLE SOILS ARE ENCOUNTERED, ENGINEER SHALL BE NOTIFIED.

C.3. ALL FOOTINGS TO BEAR ON NATURAL UNDISTURBED SOIL OR COMPACTED STRUCTURAL HAVING MINIMUM BEARING CAPACITY AS INDICATED.

C.4. PLACEMENT OF ALL COMPACTED FILL AND COMPACTION OF SUBGRADE SHALL BE UNDER FULL TIME DIRECTION OF A QUALIFIED GEOTECHNICAL ENGINEER. CONCRETE SLABS AND FOOTINGS SHALL NOT BE PLACED UNTIL FILL AND SUBGRADE HAVE BEEN CHECKED IN PLACE AND APPROVED BY THE GEOTECHNICAL ENGINEER.

C.5. BACKFILLING SHALL PROCEED TO EQUAL HEIGHTS ON BOTH SIDES OF FOUNDATION WALLS, PIERS, GRADE BEAMS, TO PREVENT MOVEMENT DUE TO UNBALANCED EARTH PRESSURE. WHERE EARTH IS ON ONE SIDE OF WALL ONLY, BACKFILLING AND COMPACTION SHALL NOT START UNTIL FLOOR SLABS OR ADEQUATE BRACING IS PROVIDED FOR LATERAL SUPPORT AT TOP AND BOTTOM OF WALL.

D. CONCRETE NOTES

D.1. ALL WORK TO CONFORM TO THE REQUIREMENTS OF THE FOLLOWING PUBLICATIONS:

D.1.1. ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-LATEST EDITION) AND "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT" (ACI 315-LATEST EDITION).

D.2. MINIMUM COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS:

3000 PSI (NORMAL WEIGHT) AT ALL CONCRETE ELEMENTS.

AIR CONTENT: 6% +/- 1.5% (CONCRETE EXPOSED TO FREEZING AND CONCRETE EXPOSED TO DEICER CHEMICALS)

MAXIMUM SLUMP: 5" (3" AT SLOPING SURFACES; REFER TO SPECIFICATIONS FOR SLUMP LIMITS).

MAX. WATER/CEMENT RATIO: 0.40

PRIOR TO PLACING CONCRETE, MIX DESIGNS SHALL BE SUBMITTED FOR REVIEW.

D.3. CONCRETE MIXTURE COMPONENTS SHALL CONFORM TOTHE FOLLOWING:
D.3.1. CEMENT - ASTM C150 , TYPE II
D.3.2. COURSE AGGREGATE - ASTM C33 (NORMAL WEIGHT)
D.3.3. FINE AGGREGATE - ASTM C33
D.3.4. WATER - SHALL BE POTABLE WATER
D.3.5. ADMIXTURES
D.3.5.1. ASTM C260 AIR ENTRAINMENT
D.3.5.2. ASTM C618 POZZOLAN & FLY ASH
D.3.5.3. ASTM C494 WATER REDUCING, RETARDING, ACCELERATION

D.4. LOCATE CONTROL JOINTS IN CONCRETE WALLS WHERE SHOWN ON PLAN. CONCRETE WALL CONTROL JOINTS ARE TO COINCIDE WITH MASONRY WALL CONTROL JOINTS ABOVE. ALL EXTRA REINFORCING REQUIRED AT CONTROL JOINTS MUST BE SHOWN ON REINFORCING SHOP DRAWINGS.

D.5. ALL BAR REINFORCING FOR CONCRETE TO CONFORM TO ASTM A 615 GRADE 60 (DEFORMED)

D.6.

D.7. UNLESS OTHERWISE SHOWN, LOCATE REINFORCING BARS WITH FOLLOWING CLEAR DIMENSION TO FACE OF CONCRETE:
CONCRETE ON GROUND: 3" CLEAR.

EXTERIOR EXPOSED SURFACES OR SURFACES AGAINST EARTH:
2" CLEAR FOR #6 AND GREATER
1-1/2" CLEAR FOR #5 AND SMALLER

SLABS ON GRADE: 1" CLEAR FROM TOP OF SLAB

INTERIOR SURFACES:
BEAMS AND GIRDERS: 1-1/2" CLEAR
SLABS AND WALLS: 3/4" CLEAR

PIER / PILASTER / COLUMN TIES: 1-1/2" CLEAR

D.8. CONCRETE ACCESSORIES MUST BE ADEQUATE TO MAINTAIN REINFORCING ACCURATELY IN PLACE AND BE NON-CORROSIVE, NON-STAINING TYPE.

D.9. LAP ALL BAR REINFORCING IN CONCRETE ELEMENTS 48 BAR DIAMTERS

D.10. PROVIDE ADDITIONAL REINFORCING AS SHOWN IN DETAILS AROUND ALL OPENINGS IN CONCRETE SLABS AND WALLS AND THROUGH CONSTRUCTION AND CONTROL JOINTS IN WALLS.

D.11. MAXIMUM FLOOR AREA BETWEEN CONTROL / CONSTRUCTION JOINTS IN SLAB-ON-GRADE SHALL NOT EXCEED 400 SQUARE FEET. THE MAXIMUM LENGTH-TO-WIDTH RATIO OF A FLOOR PANEL BOUNDED BY CONTROL / CONSTRUCTION JOINTS SHALL NOT EXCEED 1.5. ALL JOINTS LOCATIONS MUST BE SUBMITTED ON SHOP DRAWINGS AND RECEIVE APPROVAL OF ARCHITECT BEFORE CONSTRUCTION BEGINS. ALL EXTRA REINFORCING REQUIRED AT JOINTS MUST BE SHOWN ON REINFORCING SHOP DRAWINGS. SLABS-ON-GRADE PLACED IN CONTINUOUS STRIPS SHALL ALLOW A MINIMUM OF 48 HOURS TO ELAPSE BETWEEN PLACING OF ADJACENT STRIP.

D.12. SAW-CUT CONTROL JOINTS IMMEDIATELY AFTER CONCRETE HAS SET SUFFICIENTLY SO THAT CUTTING DOES NOT PRODUCE SHREDDING OF THE CONCRETE, BUT BEFORE CONCRETE HAS HAD A CHANCE TO CRACK DUE TO INITIAL SHRINKAGE. THE CUTTING PERIOD WILL VARY ACCORDING TO THE RATE OF SETTING OF THE CONCRETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO CUT THESE JOINTS AT THE PROPER TIME AND USING THE PROPER PROCEDURE TO MINIMIZE SHRINKAGE CRACKING AND TO PRODUCE CLEAN, STRAIGHT JOINTS.

D.13. REFERENCE SPECIFICATIONS FOR CONCRETE CURING AND PROTECTION. BEGIN CONCRETE CURING AS SOON AS FINISHING OPERATIONS ARE COMPLETE (WITHIN TWO HOURS).

D.14. IN CONCRETE SLABS OTHER THAN THOSE ON STEEL DECK, INSTALL ALL ELECTRICAL CONDUITS WITH MINIMUM 1.5" COVER BEFORE TOP REINFORCING IS PLACED. CHAIR CONDUITS SO AS TO BE LOCATED IN MIDDLE THIRD OF SLAB THICKNESS. WHERE 3 OR MORE CONDUITS RUN ADJACENT TO EACH OTHER AND HAVE NO TOP REINFORCING, ADD 6X6 - W2.9 X W2.9 WELDED WIRE FABRIC X 2'-0" WIDE OVER FULL LENGTH OF CONDUIT. THE MAXIMUM CONDUIT SIZE IS TO BE 1/3 THE THICKNESS OF THE SLAB. THE MINIMUM CLEAR DIMENSION BETWEEN CONDUITS SHALL EQUAL 3 CONDUIT DIAMETERS. CONDUIT PLACEMENT IS NOT TO AFFECT DESIGN OF CONCRETE MEMBERS.

D.15. REFER TO ARCHITECTURAL AND MECHANICAL/ELECTRICAL/PLUMBING DRAWINGS FOR ALL DEPRESSIONS, REVEALS, GROOVES, REGLETS, DOVETAILS, CURBS, TREAD INSERTS, SLAB INSERTS, PROJECTIONS, SILLS, PIPE SLEEVES, DUCT OPENINGS, CONDUIT OPENINGS, ETC. THAT ARE TO BE CAST WITH CONCRETE.

D.16. LIQUID MEMBRANE FORMING CURING COMPOUNDS SHALL COMPLY WITH ASTM C 309, TYPE I, CLASS A.

D.17. CONCRETE TESTING - THREE CYLINDERS FOR EACH CLASS OF CONCRETE PLACED EACH DAY FOR EACH 150 CY OF CONCRETE OR EACH 5000 SQ FT OF SURFACE AREA, WHICHEVER IS LESS. CONCRETE USED FOR TESTS SHALL BE REPRESENTATIVE OF CONCRETE ACTUALLY PLACED. TEST ONE CYLINDER AT 7 DAYS AND TWO AT 28 DAYS.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

01-07-2022

CONSULTANT:

BrokawDesign
P.O. BOX 3103
ROHNERT PARK, CA 94927
WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA.
95531

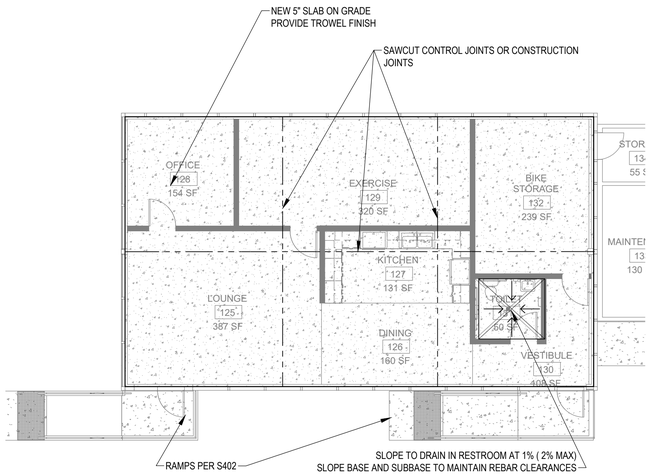
SHEET NAME:

GENERAL NOTES

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

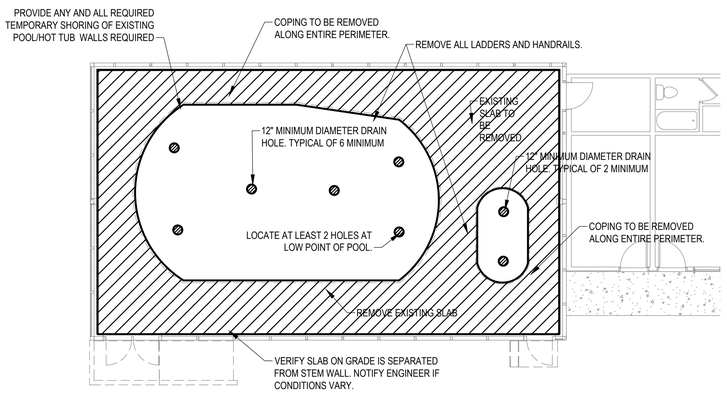
SHEET NUMBER:

S001



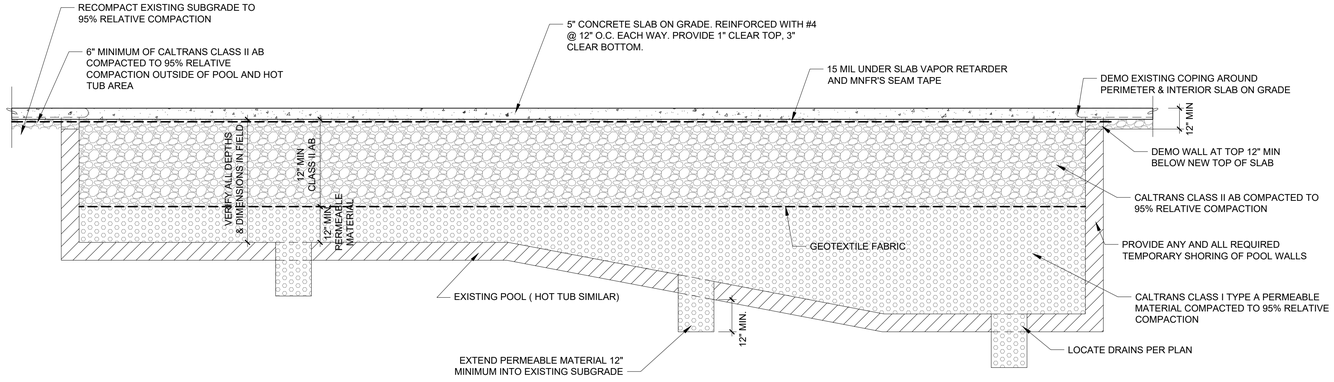
3 STRUCTURAL - BLDG 2 GROUND FLOOR

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



1 STRUCTURAL - BLDG 2 SECOND FLOOR - DEMO

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



NOTES

1. EXISTING FACILITIES ARE TO BE PROTECTED WITH SPECIAL CONSIDERATION GIVEN TO THE EXISTING BUILDING SURROUNDING THE POOL.
2. A MINIMUM OF 6 HOLES SHALL BE DRILLED THROUGH THE BOTTOM OF THE POOL AND TWO IN THE BOTTOM OF THE HOT TUB. THE HOLES SHALL EXTEND TO A DEPTH OF 1' BELOW THE BOTTOM OF CONCRETE AND BE BACKFILLED WITH CALTRANS CLASS 1, TYPE A, PERMEABLE MATERIAL
3. THE POOL SHALL BE DRAINED TO THE SANITARY SEWER SYSTEM AND THE DRAINING SHALL BE COORDINATED WITH THE PROPER SEWER DISTRICT.
4. ALL HOLES IN THE EXISTING CONCRETE CREATED BY THE REMOVAL OF HAND RAILS, LADDERS, ADA LIFTS, SHALL BE FILLED WITH GROUT TO MATCH EXISTING GRADE.

2 TYPICAL - BLDG 2 POOL AND HOT TUB INFILL SECTION

NOT TO SCALE

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

01-07-2022

CONSULTANT:

BrokawDesign

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA.
95531

SHEET NAME:

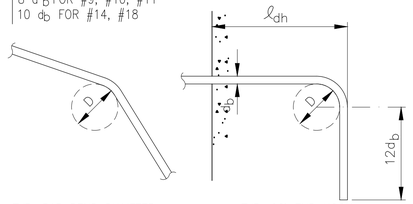
STRUCTURAL PLAN - BLDG 2

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

SHEET NUMBER:

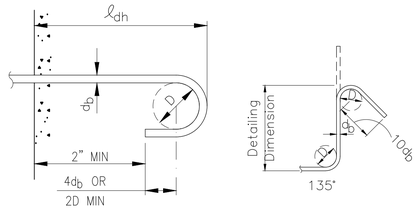
S101

D= | 6 d_b FOR #3 TO #8
8 d_b FOR #9, #10, #11
10 d_b FOR #14, #18



TYP. BAR BEND DIAMETER

TYP. 90° END HOOK

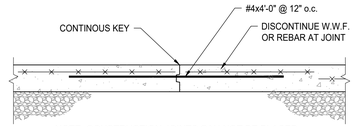


TYP. 180° END HOOK

STIRRUP / TIE

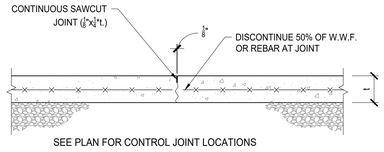
MINIMUM TENSION EMBEDMENT LENGTHS FOR STANDARD END HOOKS ON REINFORCING BARS	ℓ_{dh} (IN.)
BAR SIZE	CONCRETE, f'c NORMAL WEIGHT
	2500 PSI
#3	7
#4	9
#5	12
#6	14
#7	16
#8	19
#9	21

TYPICAL BAR BEND DETAILS
NO SCALE --- 1



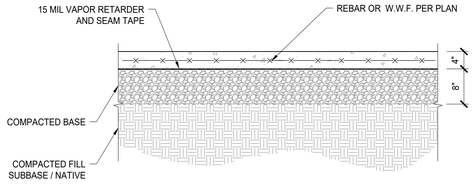
NOTE: CONSTRUCTION JOINTS CAN NOT BE PLACED AT LOCATION OF THICKENED SLABS OR GRADE BEAMS.

TYPICAL CONSTRUCTION JOINT DETAIL AT SLAB-ON-GRADE
NO SCALE



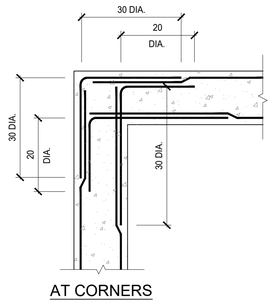
SEE PLAN FOR CONTROL JOINT LOCATIONS

TYPICAL CONTROL JOINT DETAIL AT SLAB-ON-GRADE
NO SCALE



TYPICAL SLAB-ON-GRADE DETAIL
NO SCALE

TYPICAL SLAB ON GRADE DETAILS
NO SCALE --- 2



AT CORNERS

NOTES:

1. ADDITIONAL REINFORCING IS TO MATCH SIZE AND SPACING OF TYPICAL WALL REINFORCING.
2. DETAIL APPLIES TO CONCRETE WALLS, MASONRY WALLS AND CONCRETE WALL FOOTINGS.

TYPICAL CORNER BAR DETAIL
NO SCALE --- 3

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

01-07-2022

CONSULTANT:

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
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95531

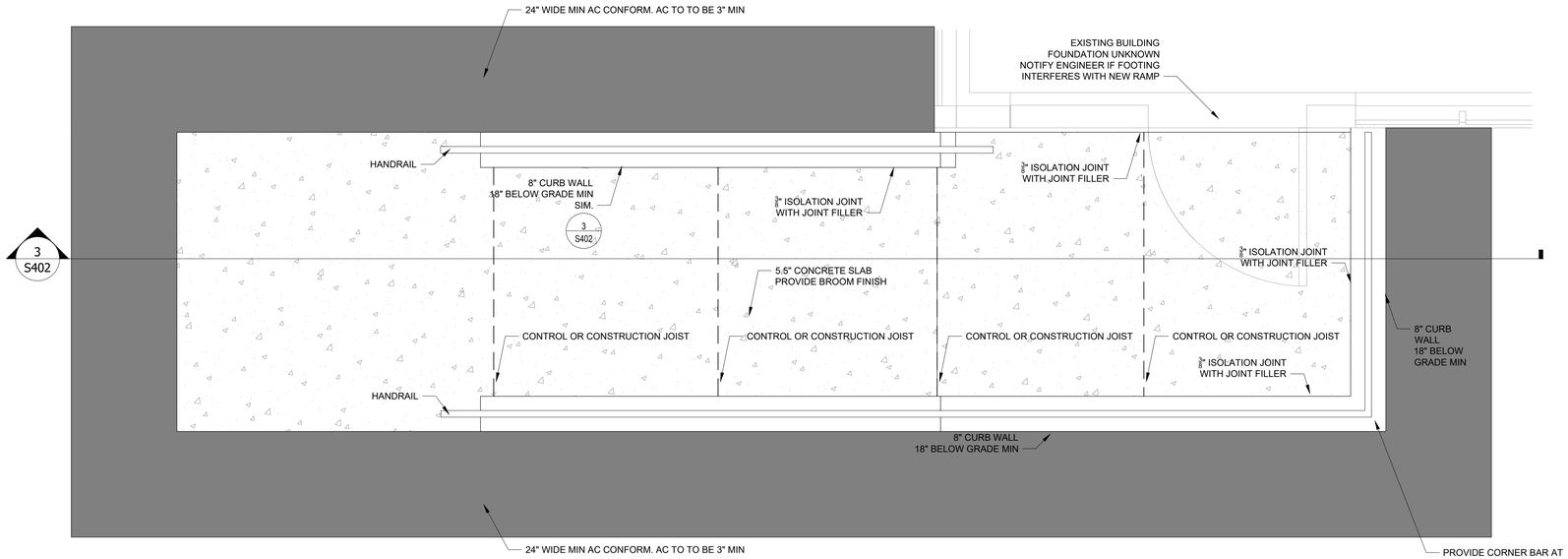
SHEET NAME:

CONCRETE DETAILS

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

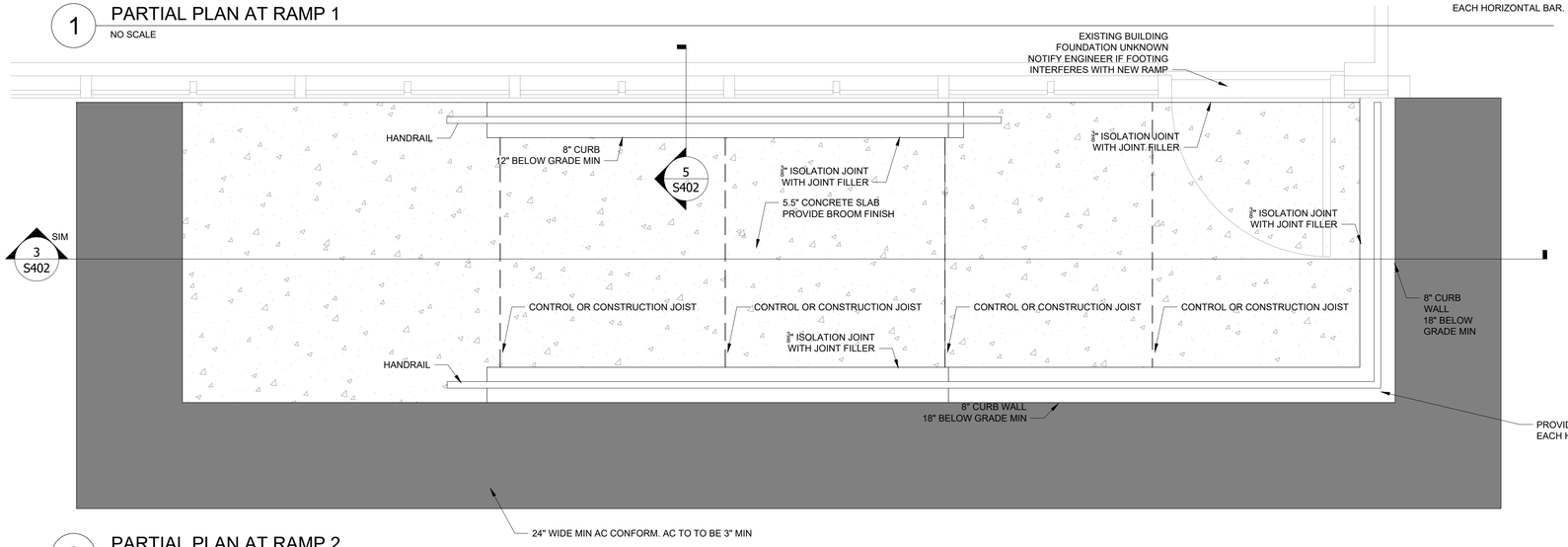
SHEET NUMBER:

S401



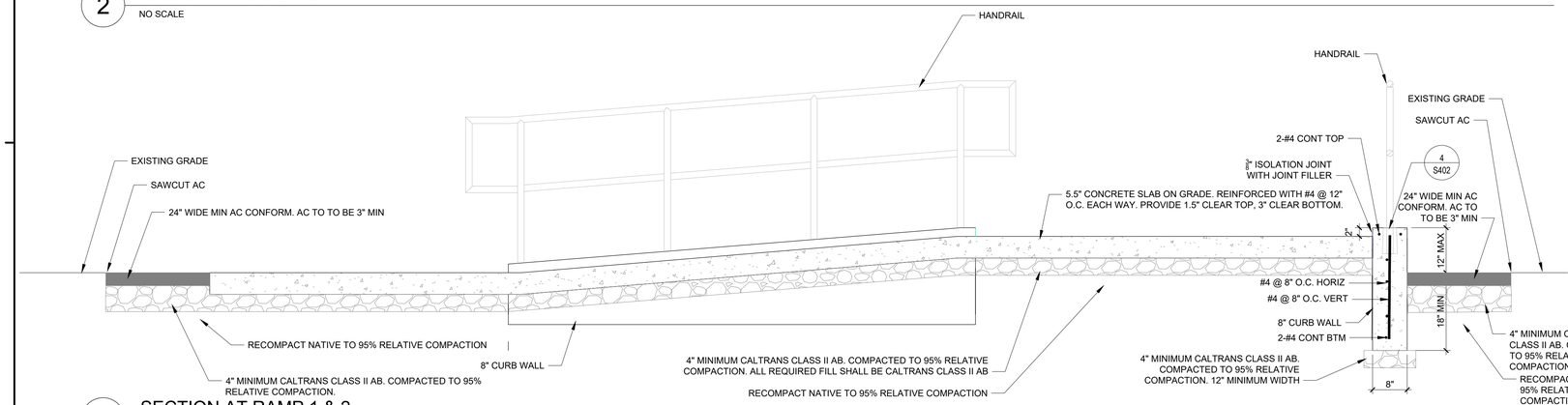
1 PARTIAL PLAN AT RAMP 1

NO SCALE



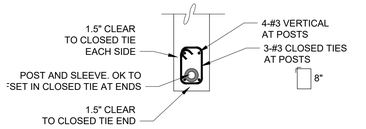
2 PARTIAL PLAN AT RAMP 2

NO SCALE

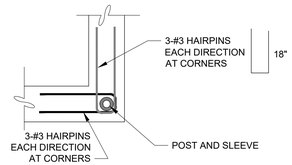


3 SECTION AT RAMP 1 & 2

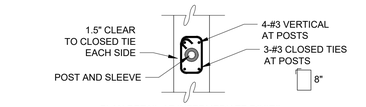
NO SCALE



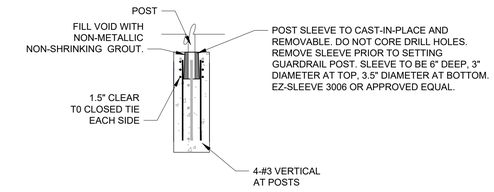
PLAN DETAIL AT WALL ENDS



PLAN DETAIL AT CORNERS



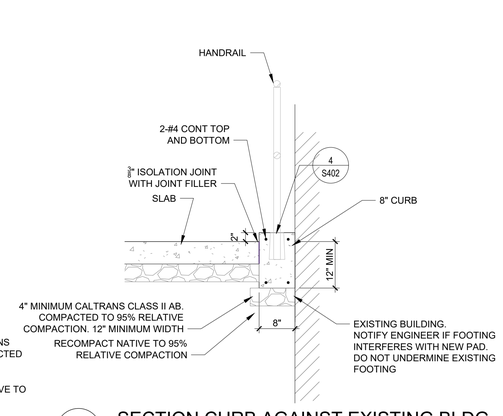
PLAN DETAIL AT INTERMEDIATE POSTS



SECTION AT EMBEDDED POSTS

4 TYPICAL EMBEDDED HANDRAIL DETAIL

NO SCALE



5 SECTION CURB AGAINST EXISTING BLDG

NO SCALE

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER TIMOTHY FRANCIS LEMEFFEL No. S5196 Exp. 9/30/23 STRUCTURAL STATE OF CALIFORNIA

01-07-2022

CONSULTANT:

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA.
95531

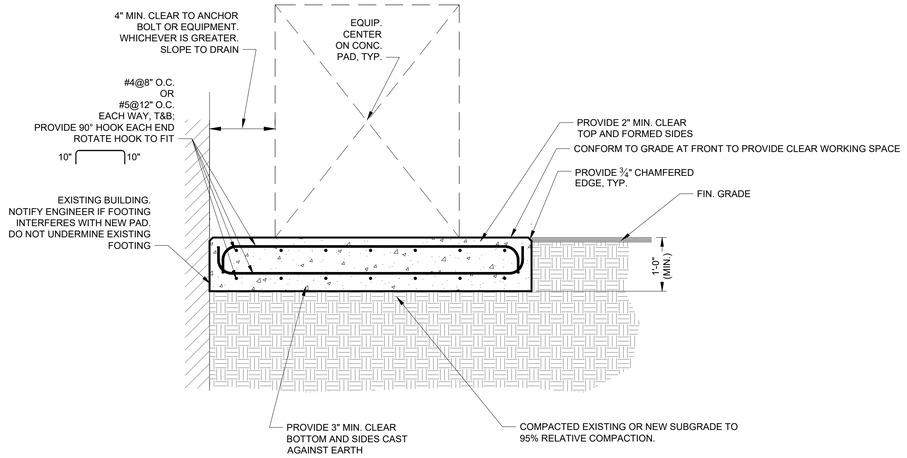
SHEET NAME:

RAMP DETAILS

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

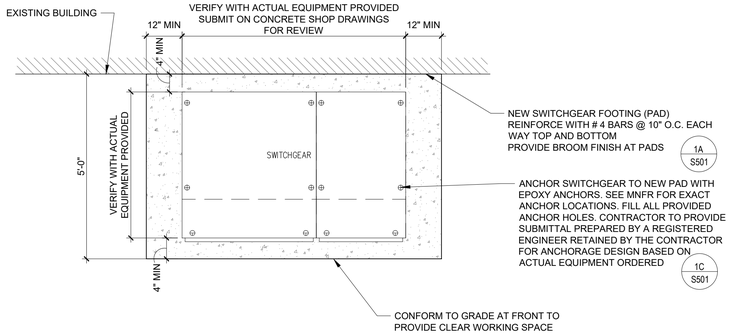
SHEET NUMBER:

S402



1A SWITCHBOARD PAD SECTION

NOT TO SCALE

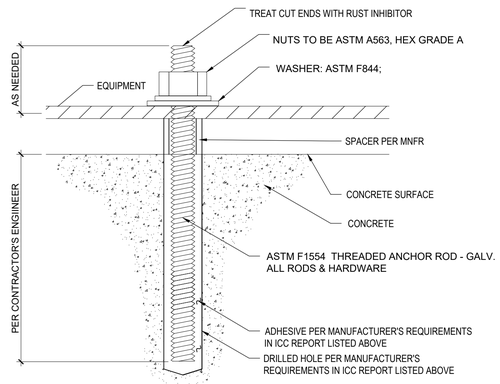


1B SWITCHBOARD PAD PLAN

NOT TO SCALE

DETAIL NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE 2019 CALIFORNIA BUILDING CODE AND THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS.
2. PROVIDE CONTINUOUS SPECIAL INSPECTION OF THE INSTALLATION OF ADHESIVE ANCHORS
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR INCONSISTENCIES.
4. ADHESIVE ANCHORS SHALL HGAVE ICC-ESR REPORT
5. WHEN INSTALLING ANCHORS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR AND/OR PIN.



SIZE	MIN. EMBED	MAX TIGHTENING TORQUE
?	?	? -- ALL INFO BY CONTRACTOR'S ENGINEER

1C SWITCHBOARD ANCHOR DETAIL

NOT TO SCALE

1 SWITCHBOARD PAD DETAILS

NOT TO SCALE

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

01-07-2022

CONSULTANT:

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA.
95531

SHEET NAME:

SWITCHGEAR PAD DETAIL

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

SHEET NUMBER:

S403

1. PROVIDE STUDS, TRACKS AND BRACING PER THE SCHEDULE BELOW:

INTERIOR METAL STUD FRAMING SCHEDULE

(REF. STEEL STUD MANUFACTURER'S ASSOCIATION (REPORT ICC 4943P) AND AISI S201)

NOMINAL SIZE	CATALOG SIZE	MINIMUM PROPERTIES			SPACING (INCHES)	MAX HT (FEET)
		Ix (in)4	Sx (in)3	Ma (in-k)		
			WALL STUDS			
3 5/8" x 18 GA	362S137-43	0.616	0.340	6.32	16	10'-0"
6" x1.375" 18 GA	600S137-43	2.042	0.681	112.74	16	15'-0"
			WALL TRACKS			
3 5/8" x 18 GA	362T125-43	0.571	0.302	4.84	TYP TRACK AT 3 5/8" STUDS	
3 5/8" x 16 GA	362T150-54	0.823	0.431	6.89	TOP TRACK	
3 5/8" x 18 GA	362T200-43	0.808	0.427	10.3400	CAPPING TRACK	
6" x 18 GA	600T125-43	1.861	0.604	9.11	TYP TRACK AT 6" STUDS	
6" x 16 GA	600T150-54	2.611	0.843	13.62	TOP TRACK	
6" x 18 GA	600T200-43	2.494	0.809	11.16	CAPPING TRACK	

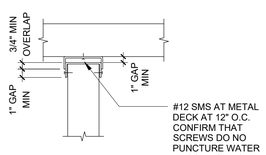
SILLS					
					SILL STUDS PER SILL DETAIL 9 / S-502
3 5/8" x 14 GA	362S162-68	1.0690	0.5900	17.6500	
6" x 14 GA	600S162-68	3.5250	1.1750	26.7800	
HEADERS					
4" x 16 GA	400S162-54	1.0980	0.5490	14.9000	HEADER STUDS PER HEADER DETAIL 7 / S-501
6" x 16 GA	600S162-54	2.8600	0.9530	25.9000	
8" x 16 GA	800S162-54	5.7360	1.4340	32.8100	

2. SEE ARCH SHEETS FOR WALL TYPES, FINISHES, RATINGS. WALL LOCATIONS.
3. ALL STUDS AND TRACKS SHALL CONFORM TO ASTM A653 OR A1003.
   a. 18 GAGE AND LIGHTER: MINIMUM YIELD OF 33 KSI
   b. 16 GAGE AND HEAVIER: MINIMUM YIELD OF 50 KSI
   c. ALL STUDS AND TRACKS SHALL BE MANUFACTURERED BY CURRENT MEMBERS OF THE STEEL STUD MANUFACTURER'S ASSOCIATION (SSMA). ALL STUDS AND TRACKS SHALL COMPLY WITH AISI S201-07.
4. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY OR ON AN ANGLE (SUCH AS BRACING) TO SQUARELY FIT AGAINST ABUTTING MEMBERS. MEMBERS SHALL BE HELD FIRMLY IN POSITION UNTIL PROPERLY FASTENED.
5. WHEN PROVIDED, FACTORY PUNCHOUTS SHALL BE LOCATED ALONG THE CENTERLINE OF THE WEBS OF STUDS AND HAVE A MINIMUM CENTER TO CENTER SPACING OF 24". PUNCHOUTS FOR MEMBERS LESS THAN 2.5" DEEP SHALL BE A MAXIMUM OF 3/4" WIDE X 4" LONG.
6. SPLICES IN STUDS AND BRACES SHALL NOT BE PERMITTED.
7. ALL FRAMING SHALL BE COORDINATED WITH GLAZING MANUFACTURER, MECHANICAL, ELECTRICAL, PLUMBING AND OTHER TRADES.
8. POWER ACTUATED FASTENERS (PAF) SHALL BE HILTIS DS (0.177" DIA. X 1 1/2" EMBEDMENT) PER ICC-ESR REPORT NO. 1663. PROVIDE 0.08" THICK X 1.1" SQ OR 1.425" ROUND WASHERS FOR ALL POWER ACTUATED FASTENERS.
9. PROVIDE SELF DRILLING SHEET METAL SCREWS (SMS) PER DETAIL 15 ON S-502.
10. SEE DETAILS 11 AND 12 ON S-502 FOR TYPICAL BRIDGING DETAILS USING EITHER COLD ROLLED CHANNELS (CRC) OR FLAT STRAPS WITH BLOCKING. BRIDGING MAY BE OMITTED WHERE THE FOLLOWING SHEATHING AND FASTENERS ARE PROVIDED OF BOTH FACES OF STUD WALLS:

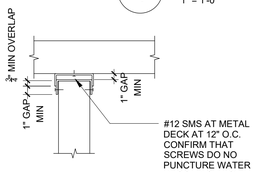
WALL SHEATHING	FASTENER
APPROVED LATH FOR PLASTER	#6 x 2 1/4" LONG x 0.437" DIA. FLAT HEAD SELF DRILLING SCREW AT EACH RIB, PER ASTM C954 AND ASTM C841.
SINGLE PLY GYPSUM WALLBOARD AND/OR GYPSUM LATH	#6 x 1 1/4" LONG x 0.3145" DIA FLAT HEAD SELF DRILLING SCREW AT 8" O.C. PER ASTM C954 AND ASTM C1280
TWO PLY GYPSUM WALL BOARD	#6 x 1 3/4" LONG x 0.3145" DIA FLAT HEAD SELF DRILLING SCREW AT 8" O.C. PER ASTM C954 AND ASTM C1280
PLYWOOD	#6 PHILLIPS BUGLE HEAD x 1 1/4" SCREWS SPACED PER TABLE ASTM C1280 AT 8" O.C.

1 TYPICAL INTERIOR STUD WALL FRAMING SCHEDULE AND NOTES

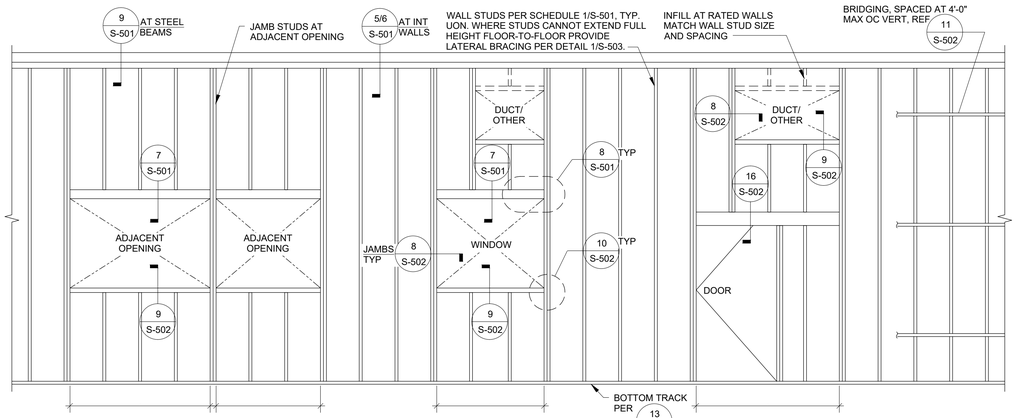
1" = 1'-0"



METAL ROOF DECK



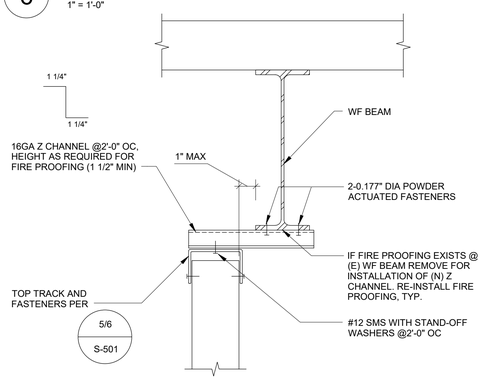
FLAT SLAB OR DECK PERPENDICULAR



FRAMING ELEVATION

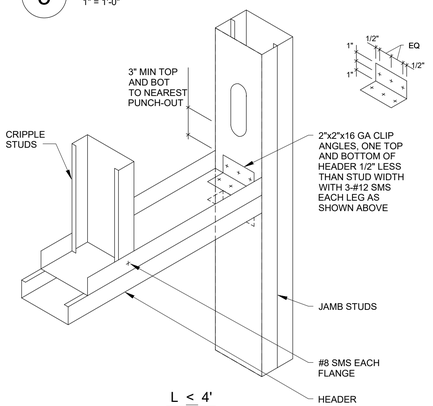
6 TYPICAL ALTERNATE TOP TRACK

1" = 1'-0"



5 TYPICAL INTERIOR TOP TRACK

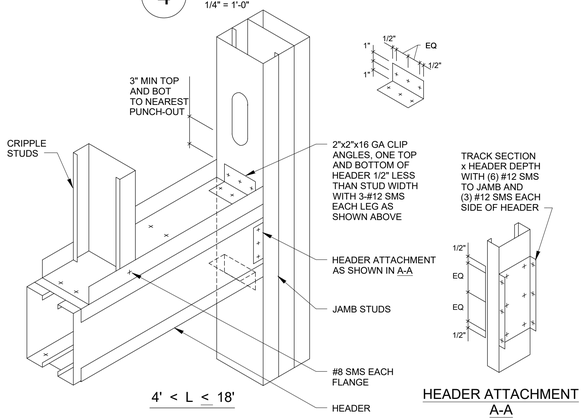
1" = 1'-0"



L < 4'

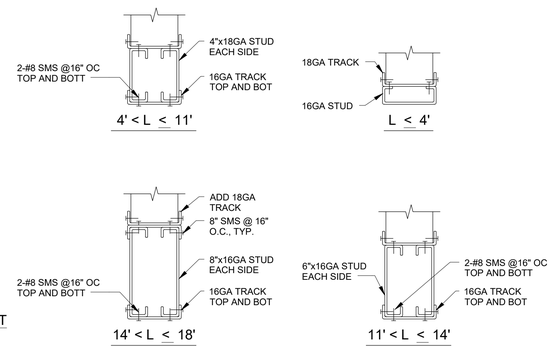
4 TYPICAL INTERIOR METAL STUD FRAMING ELEVATION

1/4" = 1'-0"



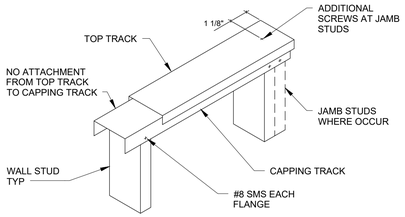
4' < L < 18'

HEADER ATTACHMENT
A-A



9 TYPICAL TOP TRACK AT PARALLEL WF BEAM

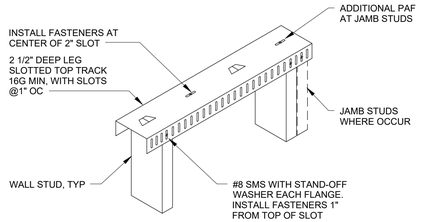
1 1/2" = 1'-0"



NOTE: INSIDE DIMENSION OF OUTER TRACK TO BE 1/8" MORE THAN STUD WIDTH.

8 TYPICAL HEADER AND JAMB CONNECTION

1 1/2" = 1'-0"



NOTE: INSIDE DIMENSION OF OUTER TRACK TO BE 1/8" MORE THAN STUD WIDTH.

7 TYPICAL HEADERS

1 1/2" = 1'-0"

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER JOHN FRANCIS LEMEFEL No. S5196 Exp. 9/30/23 STRUCTURAL STATE OF CALIFORNIA

01-07-2022

CONSULTANT:

BrokawDesign

P.O. BOX 3103
ROHNERT PARK, CA 94927

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA.
95531

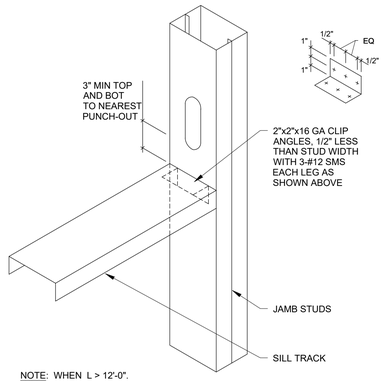
SHEET NAME:

METAL STUD DETAILS

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

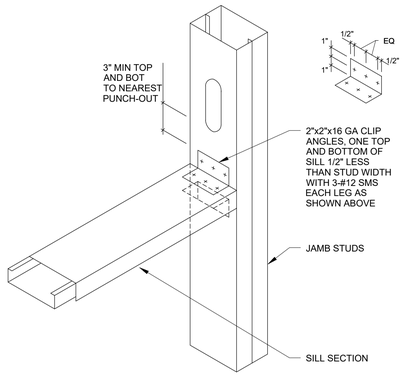
SHEET NUMBER:

S501



NOTE: WHEN L > 12'-0".

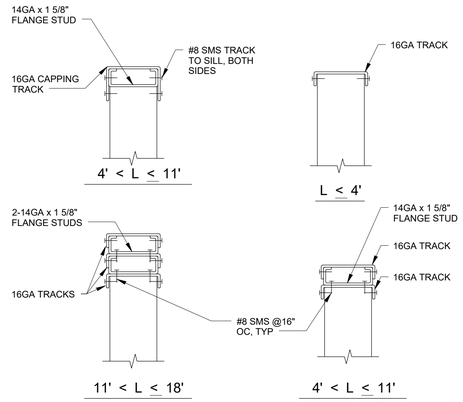
L ≤ 4'



4' < L ≤ 18'

10 TYPICAL SILL AND JAMB CONNECTION

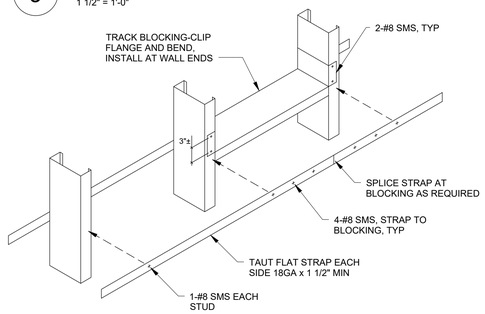
1 1/2" = 1'-0"



SCREW OPTION

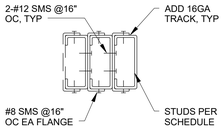
9 SILLS

1 1/2" = 1'-0"



12 BRIDGING - ALTERNATE

1" = 1'-0"



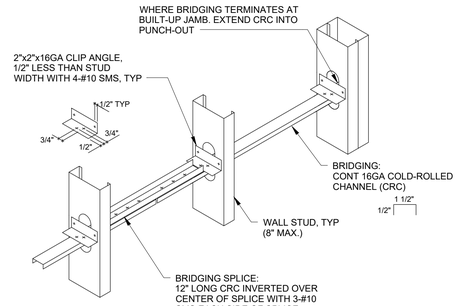
JAMB STUD SCHEDULE

NUMBER OF STUDS AND GAGE	MAX ALLOWABLE OPENING WIDTH, L OR MAX ALLOWABLE COMBINE OPENING WIDTH L1 + L2 AT ADJACENT OPENING	MIN JAMB STUD DEPTH (1)
(2) STUDS 16GA	6' - 0"	-------
(2) STUDS 16GA	12' - 0"	3 5/8" MIN
(3) STUDS 16GA	18' - 0"	6" MIN

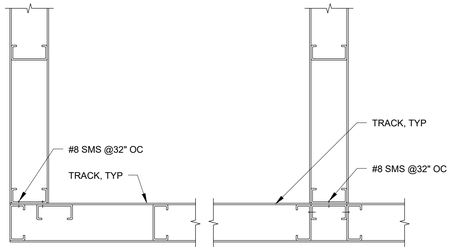
NOTE:
1. JAMB STUD DEPTHS SHALL MATCH TYPICAL WALL STUD DETPHS, UNLESS NOTED OTHERWISE.

8 JAMBS

1 1/2" = 1'-0"



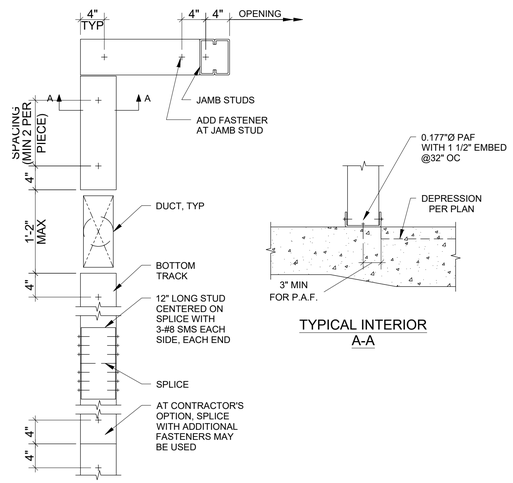
NOTE: DETAIL 17 ON THIS SHEET MAY BE USED AS AN ALTERNATE.



CORNER A-A INTERSECTION B-B

14 WALL CORNERS AND INTERSECTION

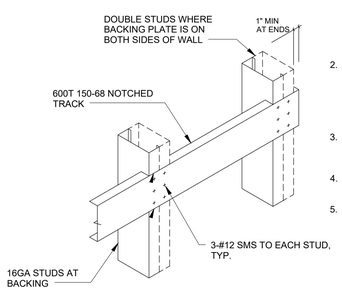
1" = 1'-0"



TYPICAL INTERIOR
A-A

13 BOTTOM TRACK

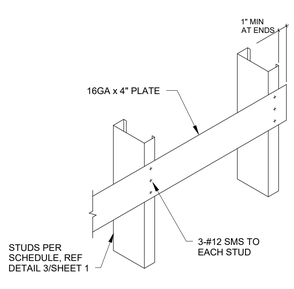
1" = 1'-0"



NOTES:
1. USE FOR UPPER WALL HUNG CABINET, FULL HEIGHT CABINET, GRAB BARS, HANDRAILS, WALL HUNG EQUIPMENT, ETC. MAX WT 300 LBS/LN FT.
2. LENGTH, HEIGHT AND LOCATION TO SUIT ITEMS BEING FASTENED. SEE ANCHORAGE DETAIL OF SPECIFIC ITEMS FOR ADDITIONAL INFORMATION.
3. ATTACH TO THREE STUDS MIN (DOUBLE STUD COUNTS AS ONE STUD).
4. USE #12 SCREWS MIN WHEN ATTACHING ITEMS.
5. USE DOUBLE STUDS WHEN STUD IS SUPPORTING BACKING ON BOTH SIDES.

18 BACKING TYPE 2

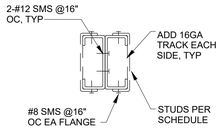
1" = 1'-0"



NOTES:
1. USE FOR MISC ITEMS (EG. SURFACE MOUNTED MIRROR, WASTE RECEPTACLE, TOWEL DISPENSERS, WALL MOUNTED DOOR STOPS, ETC. MAX WT 50 LB POINT LOAD.
2. VERIFY NUMBER, LENGTH, HEIGHT AND LOCATION OF BACKING PLATE REQUIRED WITH ACCESSORY MANUFACTURERS.
3. USE #12 SHEET METAL SCREWS MIN WHEN ATTACHING ITEMS TO BACKING.

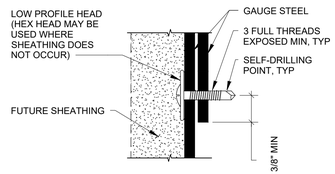
17 BACKING TYPE 1

1" = 1'-0"

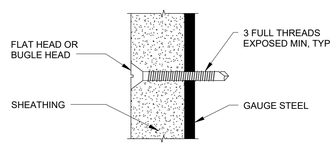


16 BUILT UP POST @ LOW WALLS

1 1/2" = 1'-0"



STEEL TO STEEL



SHEATHING TO STEEL

11 BRIDGING

1" = 1'-0"

15 SHEET METAL SCREW (SMS)

1 1/2" = 1'-0"

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER
MARK FRANCIS LEMEFEL
No. S5196
Exp. 9/30/23
STRUCTURAL
STATE OF CALIFORNIA
01-07-2022

CONSULTANT:

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA.
95531

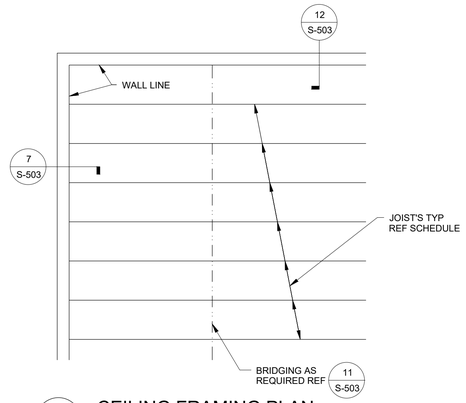
SHEET NAME:

METAL STUD DETAILS

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

SHEET NUMBER:

S502



4 CEILING FRAMING PLAN

1" = 1'-0"

INTERIOR CEILING / SOFFIT JOIST SCHEDULE

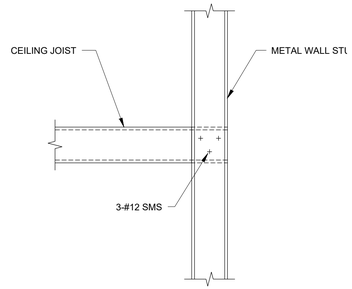
REF: STEEL STUD MANUFACTURER'S ASSOCIATE

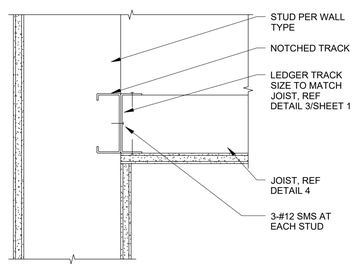
CEILING/SOFFIT TYPE	SPAN	JOIST SIZE AND SPACING (2)	MIDSPAN LATERAL BRIDGING (1)
5/8" GYPSUM BOARD (6 PSF MAX)	0'-0" TO 6'-0"	362S125-33 @24" OC	NO
	6'-1" TO 10'-0"	362S125-33 @24" OC	YES
	10'-1" TO 14'-0"	600S125-43 @24" OC	YES
	14'-1" TO 16'-6"	600S162-33 @16" OC	YES
CEMENT PLASTER (13 PSF MAX)	0'-0" TO 6'-0"	362S125-33 @24" OC	NO
	6'-1" TO 10'-0"	600S125-43 @24" OC	YES
	10'-1" TO 14'-0"	600S125-43 @24" OC	YES
	14'-1" TO 16'-6"	600S162-33 @16" OC	YES

NOTES:
1. PROVIDE MIDSPAN LATERAL BRIDGING WITH U-CHANNEL 1/2" x 2 1/2" x 18GA WHERE REQUIRED.
2. JOISTS SHALL COMPLY WITH SSMA. JOIST MANUFACTURER SHALL BE A MEMBER OF THE STEEL STUD MANUFACTURER'S ASSOCIATION (SSMA).

3 CEILING FRAMING SCHEDULE

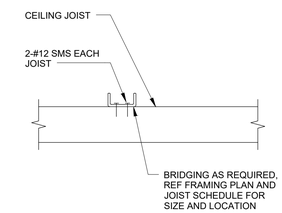
1" = 1'-0"





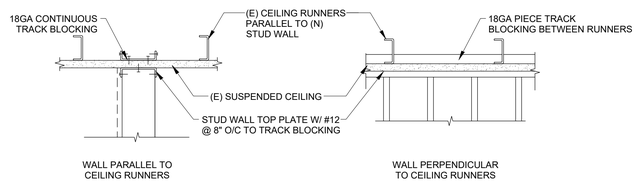
12 CEILING JOIST TO WALL STUD PARALLEL

1" = 1'-0"



7 CLG JOIST TO WALL STUD PERPENDICULAR

1 1/2" = 1'-0"



13 TRACK BLOCKING @ STUD WALLS

NTS

11 BRIDGING AT CEILING JOISTS

1 1/2" = 1'-0"

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

01-07-2022

CONSULTANT:

BrokawDesign

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ROHNERT PARK, CA 94927

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PROJECT:

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SHEET NAME:

METAL STUD DETAILS

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

SHEET NUMBER:

S503

LOCAL CONNECTION SCHEDULE

TAG #	TYPE TYPE	SS	V	CW	HW	GAS	IW	REMARKS
WC 1	WATER CLOSET	4"	2"	3/4"	-	-	-	1,5,6
L 1	LAVATORY COUNTERTOP	2"	1-1/2"	1/2"	1/2"	-	-	1,7,10
SK 1	SINK KITCHENETTE	2"	1-1/2"	1/2"	1/2"	-	-	7,10
SK 2	SINK (ADA) KITCHENETTE	2"	1-1/2"	1/2"	1/2"	-	-	1, 7,10
SK 3	SINK COMMUNITY BUILDING	2"	1-1/2"	1/2"	1/2"	-	-	7,10
FD 1	FLOOR DRAIN	2"	1-1/2"	-	-	-	-	2,13
MB 1	MACHINE BOX CLOTHES WASHER	2"	1-1/2"	1/2"	1/2"	-	-	9

REMARKS:

1. ADA ACCESSIBLE FIXTURE
2. PROVIDE WITH TRAP PRIMER CONNECTION
3. MOUNT AT +12" TO FINISHED FLOOR.
4. PROVIDE VACUUM BREAKER ON OUTLET
5. FLOOR MOUNTED
6. 1.1 GALLONS PER FLUSH
7. 0.5 GALLONS PER FLUSH
8. 0.35 GALLONS PER FLUSH
9. S.A.D. FOR FIXTURE MOUNTING HEIGHTS
10. WATTS LFMMV TEMPERING VALVE AT ALL LAVS AND PUBLIC SINKS.
11. WOODFORD B65 ANTI-SIPHON, FREEZE-LESS, SELF-DRAINING, CHROME BOX AND DOOR.
12. J.R. SMITH MODEL 210-10

INSTANTANEOUS ELECTRIC WATER HEATER SCHEDULE

TAG #	MANUFACTURER MODEL #	TURN ON GPM	V/PH/Hz	KW	AMPS	TEMP RISE AT 0.5 GPM	WEIGHT	OUTLET TEMP (°F)	REMARKS
WH 1	CHRONOMITE CM-15L/120	0.20	208/1/60	3.12	15	43	5	105	ALL
WH 2	CHRONOMITE CM-30L/120	0.35	208/1/60	3.60	30	43	5	105	ALL

REMARKS:

1. WALL MOUNTED
2. INTERNAL TEMPERATURE CONTROL
3. DISCONNECT SWITCH
4. WATTS LFMMV MIXING VALVE.
5. SAFETY THERMAL CUT-OFFS.
6. 1/2" HW & CW CONNECTIONS

PLUMBING LEGEND

- PIPE DROP
- PIPE UP
- PIPE BREAK
- FLOOR CLEANOUT
- CLEANOUT TO GRADE
- GATE VALVE
- BALL VALVE
- CHECK VALVE
- UNION
- THERMOMETER
- PRESSURE/TEMPERATURE RELIEF VALVE
- HOSE BIBB (DIAGRAM)
- HOSE BIBB
- FLOOR DRAIN
- POINT OF CONNECTION
- CAP INSTALLED ON (E) PIPE
- WALL CLEAN OUT
- 2% — DIRECTION OF PITCH IN PIPING, AT % GRADE
- SANITARY SEWER PIPE, BG
- SANITARY SEWER PIPE, AFG OR AFF
- GW — KITCHEN GREASE WASTE PIPE, BG
- PW — PROCESS WASTE
- G — P — FUEL GAS PIPE (NATURAL OR PROPANE)
- DOMESTIC COLD WATER PIPE
- DOMESTIC HOT WATER PIPE
- DOMESTIC HOT WATER RETURN PIPE
- VENT PIPE, ABOVE FINISHED GRADE

ABBREVIATIONS

NOT ALL ABBREVIATIONS LISTED HEREIN APPEAR ON THE DRAWINGS.

(N)	NEW
(E)	EXISTING
AD	ACCESS DOOR
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AL	ACOUSTICALLY LINED
ALM	ALUMINUM
AP	ACCESS PANEL
APSI	ABSOLUTE PRESSURE
ATR	ALL THREAD ROD
BF	BELOW FLOOR
BG	BELOW GRADE
BHP	BRAKE HORSEPOWER
BLKG	BLOCKING
BO	BY OTHERS
BTU	BRITISH THERMAL UNITS
BTUH	BRITISH THERMAL UNITS PER HOUR
BV	BALL VALVE
CD	CONDENSATE DRAIN PIPING
CFF	CAPPED FOR FUTURE
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CK	CHECK VALVE
COTG	CLEANOUT TO GRADE
CTE	CONNECT TO EXISTING
CV	CONSTANT VOLUME
CW	DOMESTIC COLD WATER
CWV	COMBINATION WASTE & VENT
DB	DRY BULB TEMPERATURE
DH	DUCT HEATER
DIA	DIAMETER
DN	DOWN
DWV	DRAIN, WASTE, AND VENT
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ECM	ELECTRONIC COMMUTATED MOTOR
EDH	ELECTRIC DUCT HEATER
EFF	EFFICIENCY
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
F	DEGREES FAHRENHEIT
FBO	FURNISHED BY OTHERS
FC	FLEXIBLE CONNECTION
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FD	FIRE DAMPER
FLA	FULL LOAD AMPERES
FS	FLOOR SINK
FSD	COMBINATION FIRE/SMOKE DAMPER
FPM	FEET PER MINUTE
FT	FEET
FT2	SQUARE FEET
G	GAS PIPING
GC	GAS COCK
GC	GENERAL CONTRACTOR
GPF	GALLONS PER FLUSH
GPM	GALLONS PER MINUTE
GSMS	GALVANIZED SHEET METAL SCREW
GV	GATE VALVE
GW	GREASE WASTE
HB	HOSE BIBB
HHWR	HEATING HOT WATER RETURN
HR	HEAT RECOVERY
HWS	HEATING HOT WATER SUPPLY
HP	HORSEPOWER
HW	DOMESTIC HOT WATER
HX	HEAT EXCHANGER
IFC	IN FURRED CEILING
IN	INCH
INS	INCHES
INS	INSULATION
IS	IN SOFFIT
IS.	ISSUE.
IW	INDIRECT WASTE
K	KILOGRAMS
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LWT	LEAVING WATER TEMPERATURE
MAT	MIXED AIR TEMPERATURE
MAX	MAXIMUM
MBH	BTUH, THOUSANDS
MCA	MINIMUM CIRCUIT AMPERES
MFR	MANUFACTURER
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
OA	OUTSIDE AIR
OC	ON CENTER
OD	OVERFLOW DRAIN
OP	OWNER PROVIDED
PH	PRE-HEAT
POC	POINT OF CONNECTION
PRTV	PRESSURE/TEMPERATURE RELIEF VALVE
PRV	PRESSURE RELIEF VALVE
PSI	GAUGE PRESSURE (POUNDS PER SQUARE INCH)
PTDF	PRESSURE TREATED DOUGLAS FIR
RA	RETURN AIR
RD	ROOF DRAIN
RVD	RELIEF VALVE DISCHARGE
RL	REFRIGERANT LIQUID PIPING
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION PIPING
RWL	RAINWATER LEADER
S	SENSOR
SA	SHOCK ABSORBER
SA	SUPPLY AIR
SAD	SEE ARCHITECTURAL DRAWINGS
SCD	SEE CIVIL DRAWINGS
SD	STORM DRAIN
SD	SMOKE DETECTOR
SED	SEE ELECTRICAL DRAWINGS
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SHGF	SOLAR HEAT GAIN FACTOR
SHR	SENSIBLE HEAT RATIO
SMD	SEE MECHANICAL DRAWINGS
SMS	SHEET METAL SCREW
SOV	SHUT OFF VALVE
SP	SPRINKLER
SP	STATIC PRESSURE
SPD	SEE PLUMBING DRAWINGS
SQFT	SQUARE FEET
SS	SANITARY SEWER
SSD	SEE STRUCTURAL DRAWINGS
T	THERMOSTAT
TH	THERMOMETER
TPV	TRAP PRIMER VALVE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
U	UNION
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VENT PIPING
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD
V/P/H	VOLTS/PHASE/HERTZ
VSD	VARIABLE SPEED DRIVE
VTR	VENT THROUGH ROOF
W/	WITH
W/O	WITHOUT
WA	WATER HAMMER ARRESTOR
WB	WET BULB TEMPERATURE
WC	WATER COLUMN
WCO	WALL CLEANOUT
WT	WEIGHT

PIPE MATERIAL SCHEDULE

DOMESTIC WATER	ABOVE GRADE: TYPE-L COPPER BELOW GRADE: HDPE, DR 13.5
NATURAL GAS	ABOVE GRADE: GALVANIZED, SCHEDULE 40 BELOW GRADE: HDPE YELLOW PIPE
SANITARY SEWER	CAST IRON, SCHEDULE 40
VENT	CAST IRON, SCHEDULE 40 / TYPE-DWV COPPER

1. DOMESTIC WATER PIPING MATERIAL SHALL BE IN ACCORDANCE WITH STANDARDS AS LISTED WITHIN 2019 CPC, TABLE 604.1.
2. GAS PIPING MATERIAL SHALL BE IN ACCORDANCE WITH STANDARDS AS LISTED WITHIN 2019 CPC, SECTION 1208.6.
3. DRAIN, WASTE AND VENT PIPING MATERIAL SHALL BE IN ACCORDANCE WITH STANDARDS AS LISTED WITHIN 2019 CPC, TABLE 701.2.
4. MISCELLANEOUS FITTINGS, SOLVENTS, JOINING MATERIALS AND ALL OTHER PIPING COMPONENT MATERIAL SHALL BE IN ACCORDANCE WITH STANDARDS AS LISTED IN TABLE 1701.1.
5. BELOW GRADE DOMESTIC WATER PIPE SHALL CONFORM WITH ANSI/NSF-61 STANDARDS AND BE UL LISTED

DOMESTIC WATER PIPE SIZE

PIPE MATERIAL: TYPE "L" COPPER

PRESSURE LOSS: 5.0 PSI / 100 FT.

MAXIMUM WSFU ALLOWANCE TABLE

SIZE	FLUSH VALVE COLD WATER	FLUSH TANK COLD WATER	FLUSH TANK HOT WATER
1/2"	0	3	3
3/4"	0	7	5
1"	0	16	16
1-1/4"	5	30	25
1-1/2"	20	60	40
2"	124	200	100

NOTE:
HOT WATER PIPING SHALL NOT EXCEED VELOCITY OF 5 FT/SEC AND
COLD WATER PIPING SHALL NOT EXCEED VELOCITY OF 8 FT/SEC.

CALGREEN NOTES

IN ACCORDANCE WITH CALGREEN REQUIREMENTS, ALL PLUMBING FIXTURES SHALL COMPLY WITH THE FOLLOWING MINIMUM REQUIREMENTS. NOTE ACTUAL DESIGN MAY EXCEED THE MINIMUMS NOTED BELOW. SEE PLANS AND SPECIFICATIONS FOR ACTUAL FIXTURE SPECIFCATIONS.

a. WATER CLOSETS (TOILETS) - FLUSHOMETER VALVE-TYPE SINGLE FLUSH, MAXIMUM FLUSH VOLUME: ASME A 112.19.2/CSA B45.1 - 1.28 GAL (4.8 L)

b. WATER CLOSETS (TOILETS) - FLUSHOMETER VALVE-TYPE DUAL FLUSH, MAXIMUM FLUSH VOLUME: ASME A 112.19.14 AND U.S. EPA WATERSENSE TANK-TYPE HIGH-EFFICIENCY TOILET SPECIFICATION - 1.28 GAL (4.8 L).

c. WATER CLOSETS (TOILETS) -TANK TYPE: U.S. EPA WATERSENSE TANK-TYPE HIGH-EFFICIENCY TOILET SPECIFICATION

d. URINALS, MAXIMUM FLUSH VOLUME: ASME A 112.19.2/CSA B45.1 - 0.5 GAL (1.9 L)

e. URINALS, NONWATER URINALS: ASME A 112.19.19 (VITREOUS CHINA); ANSI Z124.9-2004 OR IAPMO Z124.9 (PLASTIC)

f. PUBLIC LAVATORY FAUCETS: MAXIMUM FLOW RATE - 0.5 GPM (1.9 L/MIN), ASME A 112.18.1/CSA B125.1

g. PUBLIC METERING SELF-CLOSING FAUCETS: MAXIMUM WATER USE - 0.25 GAL (1.0 L) PER METERING CYCLE, ASME A 112.18.1/CSA B 125.1

h. RESIDENTIAL BATHROOM LAVATORY SINK FAUCETS: MAXIMUM FLOW RATE - 1.5 GPM (5.7 L/MIN), ASME A 112.18.1/CSA B 125.1

EQUIPMENT ANCHORAGE NOTES

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1615A. 1.12 THROUGH 1.22 AND ASCE 7-10 CHAPTER 6 AND 13.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS, OR WATER.
3. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE ATTACHMENT OF THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER 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 HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTES

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.8. 13.6.7, 13.6.5.6, AND 2019 CBC, SECTION 1616.

THE BRACING ATTACHMENTS TO THE STRUCTURE SHALL BE DETAILED ON THE APPROVED DRAWINGS OR THEY SHALL COMPLY WITH ONE OF THE PRE-APPROVALS (OPA #) AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318, APPENDIX D.

COPIES OF THE MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF HANGING AND BRACING OF THE PIPE, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS.

THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

DESIGN ASSUMPTIONS/CRITERIA

1. DOMESTIC COLD WATER IS ASSUMED TO BE AT A TEMPERATURE OF ±60°F. CONTRACTOR SHALL FIELD VERIFY AND CONFIRM DOMESTIC WATER TEMPERATURE AT BUILDING MAIN PRIOR TO CONSTRUCTION.
2. HOT WATER DELIVERY SHALL BE AT A TEMPERATURE 120°F, DESIGNED WITH A 60°F TEMPERATURE RISE (WITH THE EXCEPTION OF PUBLIC LAVATORIES WHERE AN ASSE 1070 MIXING VALVE IS REQUIRED TO TEMPER THE WATER TO 105°F).
3. SANITARY SEWER PIPING SHALL SLOPE AT 1/4" PER FOOT IN THE DIRECTION OF FLOW UNLESS INDICATED OTHERWISE.
4. PENETRATIONS THROUGH FOOTINGS AND/OR FOUNDATIONS SHALL BE SLEEVED AND COORDINATED WITH THE STRUCTURAL ENGINEER OF RECORD.

PLUMBING GENERAL NOTES

1. DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO BE USED AS A GUIDE FOR THE INSTALLATION OF A COMPLETE PLUMBING SYSTEM. CONTRACTOR SHALL AMEND ALL INFORMATION AS REQUIRED AS SITE CONDITIONS WARRANT.
2. PROVIDE ALL EQUIPMENT AND LABOR NECESSARY FOR A COMPLETE AND WORKABLE INSTALLATION OF ALL SPECIFIED AND OWNER SUPPLIED EQUIPMENT AND FIXTURES.
3. ALL WORK SHALL BE PERFORMED IN FULL ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES.
4. ALL PLUMBING SHALL BE RUN PERPENDICULAR TO STRUCTURE UNLESS OTHERWISE NOTED.
5. PLUMBING SHALL AVOID ARCHITECTURAL OPENINGS AND SHALL BE RUN CONCEALED UNLESS OTHERWISE NOTED.
6. PLUMBING SHALL MAINTAIN A CLEARANCE OF 1" MINIMUM FROM ALL COMBUSTIBLE SURFACES.
7. CONTRACTOR SHALL VISIT SITE, AND FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO ORDERING OR FABRICATING. ANY DISCREPANCIES BETWEEN CONTRACT DOCUMENTS AND ACTUAL CONDITIONS SHALL BE ADDRESSED IN WRITING PRIOR TO COMMENCING WORK.
8. VALVES SHALL BE INSTALLED AT A SIZE EQUAL TO THE LINE SIZE OF THE PIPING SHOWN.
9. VALVES, SHOCK ABSORBERS, IN-LINE EQUIPMENT, ETC., SHALL NOT BE USED AS A LOCATION FOR SUPPORTS.
10. PIPING SHALL BE INSTALLED AS HIGH AS POSSIBLE AND AS CLOSE TO STRUCTURE AS POSSIBLE UNLESS OTHERWISE NOTED.
11. PROVIDE SEISMIC BRACING ON ALL PIPING GREATER THAN 12" FROM STRUCTURE.
12. MINIMUM INDIRECT WASTE AIR GAPS OVER FLOOR SINKS/DRAINS SHALL BE TWICE THE PIPE DIAMETER OF WASTE PIPE.
13. EACH VENT PIPE SHALL TERMINATE NOT LESS THAN TEN (10) FEET FROM, OR AT LEAST (3) FEET ABOVE ANY OPERABLE WINDOW, DOOR, OPENING, AIR INTAKE, OR VENT SHAFT, NOR LESS THAN (3) FEET IN EVERY DIRECTION FROM ANY LOT LINE; ALLEY AND STREET EXCEPTED. PER CPC 906.2
14. VALVES USED IN CONNECTION WITH GAS PIPING SHALL BE APPROVED TYPES AND SHALL BE ACCESSIBLE. PER CPC 1211.5
15. AN ACCESSIBLE SHUTOFF VALVE OF A TYPE SET FORTH IN CPC SECTION 1211.5, SHALL BE INSTALLED IN THE FUEL SUPPLY PIPING OUTSIDE OF EACH APPLIANCE AND AHEAD OF THE UNION CONNECTION THERETO, AND IN ADDITION TO ANY VALVE ON THE APPLIANCE. SHUTOFF VALVES SHALL BE WITHIN SIX (6) FEET OF THE APPLIANCE IT SERVES, AND IN THE SAME ROOM OR SPACE WHERE THE APPLIANCE IS LOCATED. PER CPC 1211.5
16. CONDENSATE WASTE DISPOSAL: THE WASTE PIPING SHALL HAVE A SLOPE OF NOT LESS THAN 1/8" PER FOOT OR ONE PERCENT SLOPE AND SHALL BE OF APPROVED CORROSION-RESISTANT MATERIAL NOT SMALLER THAN THE OUTLET SIZE AS REQUIRED IN CPC TABLE 814.1. CONDENSATE OR WASTE WATER SHALL NOT DRAIN OVER A PUBLIC WAY. PER CPC 814.3.
17. THE DRAWINGS REPRESENT THE DIAGRAMMATIC GRAPHICAL REPRESENTATION OF THE SCOPE OF WORK AND SHOULD NOT BE USED SOLELY TO DETERMINE SCOPE. CONTRACTORS SHALL BID THE ENTIRE SET OF CONTRACT DOCUMENTS INCLUDING CROSS DISCIPLINE INFORMATION. ALL BIDS BASED UPON DRAWING INFORMATION ONLY CAN BE ASSUMED TO BE INCOMPLETE AND INCONCLUSIVE TO DETERMINE ENTIRE SCOPE OF WORK.
18. DESIGN AND EQUIPMENT PERFORMANCES ARE BASED ON THE EQUIPMENT SCHEDULED AND SPECIFIED HEREIN. ANY ALTERATIONS OR SUBSTITUTIONS OF ANY EQUIPMENT SHALL BE SUBMITTED, REVIEWED AND APPROVED BY THE ENGINEER OF RECORD PRIOR TO ORDERING OF EQUIPMENT.
19. PROVIDE LINE OR LOW VOLTAGE POWER WIRING FOR ALL CONTROLS. COORDINATE CONTROL SYSTEM POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR INCLUDING DAMPER MOTORS, CONTROL PANELS AND ALL DEVICES REQUIRING POWER. ALL WIRING AND COMPONENTS SHALL BY INSTALLED IN STRICT ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE LATEST EDITION.
20. COORDINATE FINAL ELECTRICAL AMPERAGES AND VOLTAGES WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
21. PROVIDE NAIL PLATES AT ALL STUD PIPING PENETRATIONS.
22. AT PUBLIC-USE LAVATORIES, PROVIDE MIXING VALVE (WATTS LFMMV OR APPROVED EQUAL) TO LIMIT HOT WATER SUPPLY TEMPERATURE TO A MAXIMUM OF 120°F. PER 2016 CPC, SECTION 407.3, THE WATER HEATER THERMOSTAT SHALL NOT BE CONSIDERED A CONTROL FOR HOT WATER SUPPLY TEMPERATURE.
23. DRAWINGS, SPECIFICATIONS, NOTES AND CALCULATIONS ARE FOR PERMIT SUBMITTAL ONLY TO THE AUTHORITY HAVING JURISDICTION. PLANS ARE NOT INTENDED FOR CONSTRUCTION, BIDDING AND/OR ESTIMATING UNTIL STAMPED AND SIGNED BY A LICENSED MECHANICAL ENGINEER AND THIS NOTE IS REMOVED.
24. PROVIDE ALL CONTROL WIRING AND DEVICES AS REQUIRED FOR A COMPLETE AND WORKABLE SYSTEM. ALL WIRING AND DEVICES SHALL BE IN STRICT ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL SUBCONTRACTOR.

DOCUMENT LIST

CONTRACTOR SHALL REVIEW ENTIRE CONSTRUCTION SET, INCLUDING, BUT NOT LIMITED TO ALL SPECIFICATIONS, DRAWINGS, PROJECT MANUAL, CALCULATIONS AND CUT-SHEETS. ADDITIONAL LIST OF DOCUMENTS AND DRAWINGS CONTAINED HEREIN, INCLUDE;

P0.01 PLUMBING NOTES, LEGEND, SCHEDULES, ABBREVIATIONS
P0.02 PLUMBING SPECIFICATIONS
P0.03 PLUMBING SPECIFICATIONS
P1.01 PLUMBING PLANS - BUILDING 1 FIRST FLOOR - DRAIN, WASTE, AND VENT
P1.02 PLUMBING PLANS - BUILDING 1 SECOND FLOOR - DRAIN, WASTE, AND VENT
P1.03 PLUMBING PLANS - BUILDING 2 - DRAIN, WASTE, AND VENT
P1.04 PLUMBING PLANS - BUILDING 1 FIRST FLOOR - DOMESTIC WATER
P1.05 PLUMBING PLANS - BUILDING 1 SECOND FLOOR - DOMESTIC WATER
P1.06 PLUMBING PLANS - BUILDING 2 - DOMESTIC WATER
P5.01 PLUMBING DETAILS

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER — MATTHEW J. TORRE — M 36955 — Exp 9/30/22 — MECHANICAL — STATE OF CALIFORNIA

CONSULTANT:

15000 INC.
heating, ventilation, air conditioning + plumbing design and engineering
6085 STATE FARM DR. #130 phone: 707.577.0363
ROHNERT PARK, CA 94928 fax: 707.577.0364

BrokawDesign
P.O. BOX 3103
ROHNERT PARK, CA 94927
WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

SHEET NAME:

PLUMBING NOTES, LEGEND, SCHEDULES, & ABBREVIATIONS

ISSUE DATE: 03/11/22

PERMIT SET

DRAWN BY: CK
DESIGNER:
PROJ MGR:
PEER REVIEW: JT/MT

SHEET NUMBER:

P0.01

220000 - GENERAL REQUIREMENTS

SECTION 22 00 00

GENERAL REQUIREMENTS - PLUMBING

PART 1 - GENERAL

1.01 DESCRIPTION - This Section 22 00 00 includes General Requirements for the work.

1.02 WORK INCLUDED

A. Provide all materials, equipment, labor, fabrication, specialties, and items necessary and incidental to the installations.

B. Work included shall also include transportation, storage, utilities and required licenses and permits.

1.03 RELATED WORK AND REQUIREMENTS

A. The work of this Section shall require work in coordination with other Divisions outside of this Section as follows:

1. Division 1 - General Requirements
2. Division 26 - Electrical

1.04 QUALITY ASSURANCE

A. Comply with Division 1 requirements regarding Quality Control and Assurance.

B. Products Criteria:

1. Standard Products: Material and equipment shall be the standard products of a manufacturer regularly engaged in the manufacture of the products for at least 3 years. However, digital electronics devices, software and systems such as controls, instruments, computer work station, shall be the current generation of technology and basic design that has a proven satisfactory service record of at least three years.
2. Equipment Service: There shall be permanent service organizations, authorized and trained by manufacturers of the equipment supplied, located within 100 miles of the project. These organizations shall come to the site and provide acceptable service to restore operations within four hours of receipt of notification by phone, e-mail or fax in event of an emergency, such as the shut-down of equipment; or within 24 hours in a non-emergency. Names, mail and e-mail addresses and phone numbers of service organizations providing service under these conditions for (as applicable to the project): pumps, critical instrumentation, computer workstation and programming shall be submitted for project record and inserted into the operations and maintenance manual.
3. All items furnished shall be free from defects that would adversely affect the performance, maintainability and appearance of individual components and overall assembly.
4. Nameplates: Nameplate bearing manufacturer's name or identifiable trademark shall be securely affixed in a conspicuous place on equipment, or name or trademark cast integrally with equipment, stamped or otherwise permanently marked on each item of equipment.
5. Asbestos products or equipment or materials containing asbestos shall not be used.

C. Manufacturer's Recommendations: Where installation procedures or any part thereof are required to be in accordance with the recommendations of the manufacturer of the material being installed, printed copies of these recommendations shall be furnished to the Engineer of Record prior to installation. Installation of the item will not be allowed to proceed until the recommendations are received. Failure to furnish these recommendations can be cause for rejection of the material.

D. Execution (Installation, Construction) Quality:

1. All items shall be applied and installed in accordance with manufacturer's written instructions. Conflicts between the manufacturer's instructions and the contract drawings and specifications shall be referred to the Engineer of Record for resolution. Written hard copies or computer files of manufacturer's installation instructions shall be provided to the Engineer of Record at least two weeks prior to commencing installation of any item.

1.05 SUBMITTALS

A. Comply with Division 1 requirements regarding submittals and the requirements herein.

B. Contractor shall make all necessary field measurements and investigations to assure that the equipment and assemblies will meet contract requirements.

C. If equipment is submitted which differs in arrangement from that shown, provide drawings that show the rearrangement of all associated systems. Approval will be given only if all features of the equipment and associated systems, including accessibility, are equivalent to that required by the contract.

D. Prior to submitting layout drawings for approval, contractor shall certify in writing that manufacturers of all major items of equipment have each reviewed drawings and specifications, and have jointly coordinated and properly integrated their equipment and controls to provide a complete and efficient installation.

E. Upon request by Engineer of Record, lists of previous installations for selected items of equipment shall be provided. Contact persons who will serve as references, with telephone numbers and e-mail addresses shall be submitted with the references.

F. Manufacturer's Literature and Data: Manufacturer's literature shall be submitted under the pertinent section rather than under this section.

1. Electric motor data and variable speed drive data shall be submitted with the driven equipment.
2. Equipment and materials identification.
3. Fire stopping materials.
4. Hangers, inserts, supports and bracing. Provide load calculations for variable spring and constant support hangers.
5. Wall, floor, and ceiling plates.

G. Maintenance Data and Operating Instructions:

1. Maintenance and operating manuals in accordance with Division 01 for systems and equipment and as stated herein.
2. Listing of recommended replacement parts for keeping in stock supply, including sources of supply, for equipment shall be provided.
3. The listing shall include belts for equipment: Belt manufacturer, model number, size and style, and distinguished whether of multiple belt sets.

H. Clearly and neatly strike out of irrelevant information. Clearly and neatly tag and mark equipment, options and specialties and special features. Key tags to match tags on Drawings.

1. If substituting on Specified equipment provide comprehensive written comparison of characteristics between specified and substituted equipment. Doing a data "dump" of Operation and Maintenance manuals, and similar "total catalog dumps" shall not be an acceptable method of submission.

I. Provide information in an easily readable and legible format presentation.

J. Provide an index with corresponding labeled and tabbed dividers for sections, in a three ring hard cover binder or hard cover binding folder. Loose leaf sections, provided separately, shall not be acceptable. Front index shall include, at a minimum:

1. Full, formal, name and address, including zip code, for job.
2. Company name, address, phone and fax numbers of General Contractor, including phone land line number of job trailer and cellular phone number and name of job site Superintendent. Also provide contact name of office Project Manager.
3. Name, address, phone and fax number of Plumbing Contractor, including phone land line of job trailer, if applicable, and cellular phone number and name of job site Superintendent. Also provide contact name of office Project Manager.

K. Submit all items at the same time.

L. Unless specified otherwise in Division 1 requirements submit 5 copies of data. Engineer will return 4 copies while retaining one for internal office use as a Project Record Document.

M. Paper copies shall be the only acceptable submittal medium.

N. Submittals shall be prepared and submitted in a timely fashion to allow adequate time for ordering of long lead time equipment and materials.

1.06 DELIVERY, STORAGE AND HANDLING

A. Protection of Equipment:

220000 - GENERAL REQUIREMENTS

A. Protection of Equipment:

1. Equipment and material placed on the job site shall remain in the custody of the Contractor until phased acceptance, whether or not the Owner has reimbursed the Contractor for the equipment and material. The Contractor is solely responsible for the protection of such equipment and material against any damage.
2. Damaged equipment shall be replaced with an identical unit as determined and directed by the Engineer of Record. Such replacement shall be at no additional cost to the Owner.
3. Interiors of new equipment and piping systems shall be protected against entry of foreign matter. Both inside and outside shall be cleaned before painting or placing equipment in operation.
4. Existing equipment and piping being worked on by the Contractor shall be under the custody and responsibility of the Contractor and shall be protected as required for new work.

B. Cleanliness of Piping and Equipment Systems:

1. Care shall be exercised in the storage and handling of equipment and piping material to be incorporated in the work. Debris arising from cutting, threading and welding of piping shall be removed.
2. Piping systems shall be flushed, blown or pigged as necessary to deliver clean systems.
3. The interior of all tanks shall be cleaned prior to delivery and beneficial use by the Owner. All piping shall be tested in accordance with the specifications and the California Plumbing Code (CPC), latest edition. All filters, strainers, fixture faucets shall be flushed of debris prior to final acceptance.
4. Contractor shall be fully responsible for all costs, damage, and delay arising from failure to provide clean systems.

1.07 APPLICABLE PUBLICATIONS

A. The publications listed below shall form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.

B. American Society of Mechanical Engineers (ASME):

1. Boiler and Pressure Vessel Code (BPVC):

C. California Building Codes

1. CBC - California Building Code
2. CMC - California Mechanical Code
3. CPC - California Plumbing Code
4. CEC - California Electrical Code
5. CFC - California Fire Code
6. CEC - California Energy Commission (Title 24)

D. When the work calls for more stringent requirements than the above listings the Specifications and Drawings shall have precedence.

1.08 SITE VISIT AND FAMILIARIZATION

A. Visit the site and become familiar with the Drawings and Specifications. Examine the site and understand the conditions under which the Contract shall be performed.

B. Refer to Division 1 for Pre-Bid Conference requirements.

1.09 REVIEW OF CONSTRUCTION

A. Work may be reviewed, without prior notice, at any time by representatives of Owner.

B. Advise Owner and Owner Representative when work is ready for review at the following times:

1. Prior to concealment of Work in walls and above ceilings and any other enclosable spaces. Conceal Work only after obtaining Owner and Architect consent.

C. Maintain an on the job set of Specifications and Drawings for use by Owner and representatives.

1.10 BID DOCUMENT DESCRIPTION

A. Specifications describe quality of materials and equipment.

B. Drawings describe the work in diagrammatic form. Drawings do not show exact detail and arrangements. Final requirements of the Work shall be determined by the Contractor after coordination with other trades.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Materials, equipment and supplies shall be new and latest types and models of manufacturers and shall bear identification markings, nameplates and labels.

B. Equipment specified by manufacturer's number shall include all accessories, controls, etc., listed in catalog as standard with equipment. Provide optional or additional accessories as specified or scheduled incidental to the Work such as, but not limited to, caulking, gaskets, sealants, fasteners, etc.

C. Where no specific make of material or equipment is mentioned, any first class product of good reputable manufacturer may be used, provided it conforms to requirements of system and meets acceptance of Owner.

D. Equipment, material and supplies damaged during transportation, installation and operation is considered as totally damaged and shall be replaced with new. Variance from this is permitted only with approval of Owner.

E. Provide an authorized representative to constantly supervise work of this Division, check all materials prior to installation for conformance with Drawings, Specifications, reviewed Submittals and reviewed Coordination Drawings as referenced in Part 1.

F. Electrical Work performed in the service of the plumbing and piping installation shall conform to Division 26 Electrical requirements. Provide weatherproof devices and installations for Work exposed to the elements.

2.02 FACTORY-ASSEMBLED PRODUCTS

A. Standardization of components shall be maximized to reduce spare part requirements.

B. Manufacturers of equipment assemblies that include components made by others shall assume complete responsibility for final assembled unit.

1. All components of an assembled unit need not be products of same manufacturer.
2. Constituent parts that are alike shall be products of a single manufacturer.
3. Components shall be compatible with each other and with the total assembly for intended service.
4. Contractor shall guarantee performance of assemblies of components, and shall repair or replace elements of the assemblies as required to deliver specified performance of the complete assembly.

C. Components of equipment shall bear manufacturer's name and trademark, model number, serial number and performance data on a name plate securely affixed in a conspicuous place, or cast integral with, stamped or otherwise permanently marked upon the components of the equipment.

D. Major items of equipment, which serve the same function, shall be the same make and model

2.03 EQUIPMENT AND MATERIALS IDENTIFICATION

A. Interior (Indoor) Equipment: Engraved nameplates, with letters not less than 3/16_inch high of brass with black_filled letters, or rigid black plastic with white letters.

B. Exterior (Outdoor) Equipment: Brass nameplates, with engraved black filled letters, not less than 3/16_inch high riveted or bolted to the equipment.

C. Control Items: All temperature, pressure, and controllers shall be labeled and the component's function identified. Identify and label each item as they appear on the control diagrams.

D. Valve Tags and Lists:

1. Plumbing: All valves shall be provided with valve tags and listed on a valve list (Fixture stops not included).
2. Valve tags: Engraved black filled numbers and letters not less than 1/2_inch high for number designation, and not less than 1/4_inch for service designation on 19 gage, 1_1/2 inches round brass disc, attached with brass "S" hook or brass chain.

220000 - GENERAL REQUIREMENTS

2.04 PIPE AND EQUIPMENT SUPPORTS AND RESTRAINTS

A. Model numbers listed are by Cooper Industries.

B. For Attachment to Concrete Construction:

1. Concrete insert: Type 18, MSS SP_58.
2. Self_drilling expansion shields and machine bolt expansion anchors: Permitted in concrete not less than 4 inches thick when approved by the Structural Engineer of Record for each job condition.
3. Power_driven fasteners: Permitted in existing concrete or masonry not less than 4 inches thick when approved by the Structural Engineer of Record for each job condition.

C. For Attachment to Steel Construction: MSS SP_58.

1. Welded attachment: Type 22.
2. Beam clamps: Types 20, 21, 28 or 29. Type 23 C_clamp may be used for individual copper tubing up to 7/8_inch outside diameter.

D. For Attachment to Wood Construction: Wood screws or lag bolts.

E. Hanger Rods: Hot-rolled steel, ASTM A36 or A575 for allowable load listed in MSS SP-58. For piping, provide adjustment means for controlling level or slope. Types 13 or 15 turn_buckles shall provide 1_1/2 inches minimum of adjustment and incorporate locknuts. All_thread rods are acceptable.

F. Pipe Hangers and Supports: (MSS SP_58), use hangers sized to encircle insulation on insulated piping. To protect insulation, provide Type 39 saddles for roller type supports or insulated calcium silicate shields. Provide Type 40 insulation shield or insulated calcium silicate shield at all other types of supports and hangers including those for insulated piping.

1. General Types (MSS SP_58):
   a. Standard clevis hanger: Type 1; provide locknut.
   b. Copper Tube:
1. Hangers, clamps and other support material in contact with tubing shall be painted with copper colored epoxy paint, plastic coated or taped with isolation tape to prevent electrolysis.
2. For vertical runs use epoxy painted or plastic coated riser clamps.
3. For supporting tube to strut: Provide epoxy painted pipe straps for copper tube or plastic inserted vibration isolation clamps.
4. Insulated Lines: Provide pre-insulated calcium silicate shields sized for copper tube.
   c. Spring hangers are required on all plumbing system pumps one horsepower and greater.
2. Plumbing Piping (Other Than General Types):
   a. Horizontal piping: Type 1, 5, 7, 9, and 10.
   b. Chrome plated piping: Chrome plated supports.
   c. Hangers and supports in pipe chase: Prefabricated system ABS self_extinguishing material, not subject to electrolytic action, to hold piping, prevent vibration and compensate for all static and operational conditions.
   d. Blocking, stays and bracing: Angle iron or preformed metal channel shapes, 18 gage minimum.

G. Pre-insulated Calcium Silicate Shields:

1. Provide 360 degree water resistant high density 140 psi compressive strength calcium silicate shields encased in galvanized metal.

2.05 PIPE PENETRATIONS

A. Pipe penetration sleeves shall be installed for all piping other than rectangular blocked out floor openings for risers in mechanical bays.

B. Pipe penetration sleeve materials shall comply with all fire stopping requirements for each penetration.

C. To prevent accidental liquid spills from passing to a lower level, provide the following:

1. For sleeves: Extend sleeve 1 inch above finished floor and provide sealant for watertight joint.
2. For blocked out floor openings: Provide 1_1/2 inch angle set in silicone adhesive around opening.
3. For drilled penetrations: Provide 1_1/2 inch angle ring or square set in silicone adhesive around penetration.

D. Penetrations are not allowed through beams or ribs, but may be installed in concrete beam flanges. Any deviation from these requirements must receive prior approval of Structural Engineer of Record.

E. Sheet metal, plastic, or moisture resistant fiber sleeves shall be provided for pipe passing through floors, interior walls, and partitions, unless brass or steel pipe sleeves are specifically called for below.

F. Cast iron or zinc coated pipe sleeves shall be provided for pipe passing through exterior walls below grade. The space between the sleeve and pipe shall be made watertight with a modular or link rubber seal. The link seal shall be applied at both ends of the sleeve.

G. Galvanized steel or an alternate black iron pipe with asphalt coating sleeves shall be for pipe passing through concrete beam flanges, except where brass pipe sleeves are called for. A galvanized steel Sleeve shall be provided for pipe passing through floor of mechanical rooms, laundry work rooms, and animal rooms above basement. Except in mechanical rooms, sleeves shall be connected with a floor plate.

H. Brass Pipe Sleeves shall be provided for pipe passing through quarry tile, terrazzo or ceramic tile floors. The sleeve shall be connected with a floor plate.

I. Sleeve clearance through floors, walls, partitions, and beam flanges shall be 1 inch greater in diameter than external diameter of pipe. Sleeve for pipe with insulation shall be large enough to accommodate the insulation plus 1 inch in diameter. Interior openings shall be caulked tight with fire stopping material and sealant to prevent the spread of fire, smoke, and gases.

PART 3 - EXECUTION

3.01 ARRANGEMENT AND INSTALLATION OF EQUIPMENT AND PIPING

A. Location of piping, sleeves, inserts, hangers, and equipment, access provisions shall be coordinated with the work of all trades. Piping, sleeves, inserts, hangers, and equipment shall be located clear of windows, doors, openings, light outlets, and other services and utilities. Equipment layout drawings shall be prepared to coordinate proper location and personnel access of all facilities. The drawings shall be submitted for review.

B. Manufacturer's published recommendations shall be followed for installation methods not otherwise specified.

C. Operating Personnel Access and Observation Provisions: All equipment and systems shall be arranged to provide clear view and easy access, without use of portable ladders, for maintenance and operation of all devices including, but not limited to: all equipment items, valves, filters, strainers, transmitters, sensors, and control devices. All gages and indicators shall be clearly visible by personnel standing on the floor or on permanent platforms. Maintenance and operating space and access provisions that are shown on the drawings shall not be changed nor reduced.

D. Structural systems necessary for pipe and equipment support shall be coordinated to permit proper installation.

E. Location of pipe sleeves, trenches and chases shall be accurately coordinated with equipment and piping locations.

F. Cutting Holes:

1. Holes through concrete and masonry shall be cut by rotary core drill. Pneumatic hammer, impact electric, and hand or manual hammer type drill will not be allowed, except as permitted by Structural Engineer of Record where working area space is limited.
2. Holes shall be located to avoid interference with structural members such as beams or grade beams. Holes shall be laid out in advance and drilling done only after approval by Structural Engineer of Record. If the Contractor considers it necessary to drill through structural members, this matter shall be referred to Structural Engineer of Record for approval.
3. Waterproof membrane shall not be penetrated. Pipe floor penetration block outs shall be provided outside the extents of the waterproof membrane.

220000 - GENERAL REQUIREMENTS

G. Minor Piping: Generally, small diameter pipe runs from drips and drains, water cooling, and other service are not shown but must be provided.

H. Protection and Cleaning:

1. Equipment and materials shall be carefully handled, properly stored, and adequately protected to prevent damage before and during installation, in accordance with the manufacturer's recommendations and as approved by the Engineer of Record. Damaged or defective items in the opinion of the Engineer of Record, shall be replaced.
2. Protect all finished parts of equipment, such as shafts and bearings where accessible, from rust prior to operation by means of protective grease coating and wrapping. Close pipe openings with caps or plugs during installation. Pipe openings, equipment, and plumbing fixtures shall be tightly covered against dirt or mechanical injury. At completion of all work thoroughly clean fixtures, exposed materials and equipment.

3.02 PIPE AND EQUIPMENT SUPPORTS

A. Where hanger spacing does not correspond with joist or rib spacing, use structural steel channels secured directly to joist and rib structure that will correspond to the required hanger spacing, and then suspend the equipment and piping from the channels. Holes shall be drilled or burned in structural steel ONLY with the prior written approval of the Structural Engineer of Record.

B. The use of chain pipe supports, wire or strap hangers; wood for blocking, stays and bracing, or hangers suspended from piping above shall not be permitted. Rusty products shall be replaced.

3.03 CLEANING AND PAINTING

A. Prior to final inspection and acceptance of the plant and facilities for beneficial use by the Owner, the plant facilities, equipment and systems shall be thoroughly cleaned and painted.

3.04 STARTUP AND TEMPORARY OPERATION

A. Startup of equipment shall be performed as described in the equipment specifications. Vibration within specified tolerance shall be verified prior to extended operation.

3.05 OPERATING AND PERFORMANCE TESTS

A. Should evidence of malfunction in any tested system, or piece of equipment or component part thereof, occur during or as a result of tests, make proper corrections, repairs or replacements, and repeat tests at no additional cost to the Owner.

B. When completion of certain work or system occurs at a time when final control settings and adjustments cannot be properly made to make performance tests, then make performance tests such systems respectively during first actual seasonal use of respective systems following completion of work.

3.06 OPERATION AND MAINTENANCE MANUALS

A. Provide four bound copies. The Operations and maintenance manuals shall be delivered to the Owner not less than 30 days prior to completion of a phase or final inspection.

B. All new and temporary equipment and all elements of each assembly shall be included.

C. Data sheet on each device listing model, size, capacity, pressure, speed, horsepower, impeller size, and other information shall be included.

3.07 PROTECTION OF WORK

A. Cap all fixture, pipe and equipment openings daily to protect from dust, moisture and incidental debris.

B. Porous materials that become wetted shall be replaced with new. Drying is not sufficient as it introduces the possibility of microbial growth. This applies to insulation and any material that acts as a sponge.

C. All air distribution shall be capped during construction to prevent accumulation of dirt, dust and debris.

3.08 SAFETY

A. The contractor shall be solely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This shall also apply to non-normal working hours.

3.09 RECORD DRAWINGS

A. Contractor is required to provide record Drawings in accordance with Division 01 - General Requirements and this section.

B. Keep and accurate record of job progress including as-built locations and of the Work. Keep record up-to-date on legible full size copies as job progresses. Make available to Owner and Owner representatives during project.

C. In addition to any other requirements, include on as-built Drawings the following:

1. Changes in location of piping or equipment.
2. Ceiling access panel locations.
3. Position of buried or concealed mains accurately dimensioned, both horizontally and vertically.

3.10 COMPLETION

A. When Work is completed, or when Owner or Owner representative directs, remove surplus equipment, material, waste, and rubbish and leave building in satisfactory condition.

B. Adjust faucets and flush valves to give proper supply of water and leave in first class condition.

3.11 WARRANTIES AND GUARANTEES

A. Contractor is required to provide warranties in accordance with Division 1 - General Requirements.

1. Collect all warranties and guarantees for materials and equipment and neatly fill out all required information for the Owner. Provide one copy of each certificate for turn over to Architect. Arrange certificates in a tabbed and indexed binder for Architect ease of use.

B. At the completion of the work contractor shall guarantee to repair or replace materials and workmanship found defective for a period of one year from date of filing of Notice of Completion. This work shall be performed at no cost to the Owner

1. Work of other trades damaged as a result of faulty workmanship or materials shall be repaired at no cost to the Owner.

END OF SECTION

220700 - PLUMBING INSULATION

SECTION 22 07 00

PLUMBING INSULATION

PART 1 - GENERAL

1.01 DESCRIPTION

A. Provide complete plumbing system insulation work for piping, equipment, and other items where shown on the drawings.

B. Insulation work shall comply with the requirements of the latest edition of the Califofnia Energy Code.

C. All insulation that is exposed to weather shall be protected with weather covers of stainless steel or aluminum jacketing. PVC jacketing may be used for this project but shall be subject to Engineer approval.

D. Insulate all hot water and hot water recirculation piping. Insulate all cold water piping where it occurs in un-conditioned spaces (attics, crawl spaces, etc.). Insulate all condensate drainage piping. Insulate all piping, equipment, valves, tanks, etc., that come uninsulated from the manufacturer.

E. Insulate all roof drain piping and all roof overflow drain piping.

F. All work of this section shall comply with Section 22 00 00 GENERAL REQUIREMENTS - PLUMBING

PART 2 - PRODUCTS

2.01 GENERAL

A. The type of insulation and its installation shall be in accordance with this Specification for each service and the application technique shall be as recommended by the manufacturer.

B. Fire Rating of all insulation shall have a composite (insulation, jacket or facing and adhesive used to adhere facing or jacket to insulation) fir and smoke hazard, as tested by ASTM E84, NFPA 255, and U.L. 723, not to exceed a flame spread of 25 and smoke developed by 50.

1. Accessories such as adhesives, mastics, tapes, and cements shall have the same component ratings as listed.
2. Products shall have integral factory labeling indicating that flame spread and smoke developed ratings do not exceed the above requirements.

2.02 FIXTURE INSULATION

A. ADA accessible fixtures shall have the hot water supply and waste piping insulated from connections at sink to connections at wall, building, or cabinetry surfaces. ADA-conforming, wheelchair accessible lavatory P-trap and angle valve assemblies shall be covered with the molded, antimicrobial TRUEBRO, INC. Lav-Guard undersink protective pipe covering of white color. Covers shall be secured with Snap-Clip flush reusable fasteners, angle stop shall have Lock-Lid locking access covers. Provide with accessory covers to fit standard 5" offset wheelchair strainers and 6" Kohler offset wheelchair strainers, where occurs.

1. There shall be no sharp or abrasive surfaces under lavatories.

2.03 PIPING INSULATION

A. Type A: Molded fiberglass

1. Maximum K factor: 0.23 at 75 deg. F mean temperature
2. Minimum Density: 4 lb/PCF
3. Factory applied all service or all purpose jacket (ASJ): Fire retardant laminate of white Kraft facing, glass scrim reinforcing and aluminum foil.
4. Similar to Owens-Corning 650 ASJ.

B. Type B: Molded fiberglass fittings

1. Maximum K Factor: 0.23 at 75 deg. F mean temperature
2. Minimum Density: 4 lb/PCF
3. Similar to Epolux Hamfab molded fittings

C. Finishes, Adhesives, Sealants and Jackets for Piping Insulation:

1. Type 1: Fitting covers
   a. Molded white PVC jacket
   b. U.L. Class 1
   c. Maximum permeance: 0.05
   d. Similar to Manville Zeston
2. Type 2: Vapor barrier coating
   a. White vapor barrier coating with 10 x 10 or 20 x 20 mesh white glass, polyester or nylon cloth reinforcing membranes.
   b. 31 mil dry film thickness
   c. Maximum permeance: 0.05
   d. Similar to Foster Tite-Fit 30-35, U.L. Label

Insulation Schedule - Low Temperature
Hot and Cold Water Piping Systems

	INDOOR
Type:	A
Finish:	1 or 2
Fittings and Valves:	
Type	B
Finish	1 or 2
Thickness: Up to 1 in. IPS	1 In.
Thickness: 1-1/2 - 4 in. IPS	2 in.
Vaporseal	Not required

3. Miscellaneous Cold Piping:
   a. Including:
1. Domestic cold water concealed in unconditioned spaces and exposed outside to the elements.
   b. Insulation Requirements.
1. Insulation: Type A
2. Vapor seal required.
3. Fittings: Type B with Type 2 finish
4. Non-Insulated Piping: Natural gas, vents and drains.

PART 3 - EXECUTION

3.01 GENERAL INSTALLATION REQUIREMENTS

A. Install insulation products in accordance with the manufacturer's written instruction, Commercial and Industrial Standards, and recognized industry practices to ensure that the insulation serves the intended purpose. Surfaces shall be thoroughly cleaned with all testing successfully completed prior to insulating.

B. In addition to where specified provide insulation by type and locations as indicated on the Drawings.

C. After the installation of insulation protect the insulation from moisture and weather damage.

220700 - PLUMBING INSULATION

A. Before applying insulation:

1. Required pressure and leakage tests of joints and connections shall be completed.
2. Surfaces shall be clean of dust, grease and foreign matter and dry before application of insulation.
3. All insulation joints shall be butted firmly together and all jackets shall be smoothly and securely installed.
4. Insulate each pipe individually. Do not use scrap pieces of insulation where a full-length section will fit. Except for specific exceptions, insulate entire piping system as specified.

B. Piping:

1. Longitudinal Overlaps:
   a. 2 in. minimum.
   b. For exposed work: toward ceiling or wall.
2. Continuous insulation passing through sleeves or other openings.
3. Penetration of fire or smoke barriers: Wrap pipe with rock wool insulation, seal jacket seam and seal joints to adjacent sections of insulation.
   a. For piping systems insulated with fiberglass:
1. Secure insulation with wire.
2. Under 3 in. pipe size, built up coating of Keene Superslick insulating and finishing cement applied over hexagonal wire mesh to match thickness of adjoining pipe insulation, may be used.
3. Finishes:
   a) Type 1: Apply factory pre-molded cover and seal edges with Foster Foam seal 30-45 vapor barrier sealer.
   b) Type 2: Apply uniform layer of finish coating to cover entire surface of fitting insulation and embed layer of fiber glass tape into wet coating, extending 2 in. over adjoining pipe covering. Apply finish layer of coating over entire surface.
   b. Flanged: Insulation sleeve of same material as pipe insulation, to cover flange and overlap insulation on adjacent piping.

F. Adhesives and Coatings:

1. Apply at following rates in accordance with manufacturer's recommendations:
   a. Vapor barrier coatings: 50 sq ft/gal.
   b. Vaporseal adhesives: 100 sq. ft/gal.
2. Adhesive jackets and facings with wet coat of Foster Foam seal 30-45 adhesive.
3. Lap Sealing: Full width of lap.
4. Surfaces to be adhered: Completely coated with adhesive.

3.02 PROTECTING AND REPLACEMENT

A. Replace damaged insulation that cannot be repaired satisfactorily, including units with vapor barrier damage and moisture saturated units.

B. Protection: Insulation Installer shall advise Contractor of required protection for insulation work during remainder of construction period, to avoid damage and deterioration.

END OF SECTION

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. TORRE
M 36958
Exp 9/30/22
MECHANICAL
STATE OF CALIFORNIA

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PROJECT:

THE LEGACY RENOVATION

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CRESCENT CITY, CA
95531

SHEET NAME:

PLUMBING SPECIFICATIONS

ISSUE DATE: 03/11/22
PERMIT SET
DRAWN BY: CK
DESIGNER:
PROJ MGR:
PEER REVIEW: JT/MT

SHEET NUMBER:

P0.02

221316 - DRAIN, WASTE AND VENT

SECTION 22 13 16

DRAIN, WASTE, AND VENT SYSTEMS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Provide complete drain, waste, and vent systems from point of connection to site plumbing to all fixtures, services and termination points.

B. System shall be complete with piping and related specialties required for an operational system

C. All work of this section shall comply with Section 22 00 00 GENERAL REQUIREMENTS - PLUMBING

D. Cast iron soil pipe shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute (CISPI) and manufactured by AB&I, Charlotte or Tyler or receive prior written approval of the engineer.

1.02 SUBMITTALS

A. Submit in accordance with general conditions and Section 22 00 00.

B. Manufacturer's Literature and Data:

1. Piping.
2. Floor Drains.
3. Grease Removal Unit.
4. Cleanouts.
5. All items listed in PART 2 - PRODUCTS.

C. Detailed coordinated drawing of clamping device and extensions when required in connection with the waterproofing membrane or for floor drains.

PART 2 - PRODUCTS

2.01 SANITARY WASTE, DRAIN AND VENT PIPING

A. Above and Below Ground: No-hub cast iron soil pipe and fittings manufactured from gray cast iron with a tensile strength of not less than 21,000 psi, bituminous coated interior and exterior, conforming to the requirements of ASTM A888 and CISPI Standard 301. Each length of pipe shall be hydrostatically (water) tested by the manufacturer to verify compliance. All pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute and listed by NSF international. All pipe and fittings shall be the same manufacturer.

B. No Hub Couplings:

1. (Medium Duty) Above Ground: No-Hub couplings shall comply with requirements of Factory Mutual 1680 Class 1, 15 PSI rated pressure. No-Hub couplings shall be constructed of Type 304 stainless steel worm drive screws. The worm drive clamps shall have a hexagon head to accept a 5/16 Inch socketed torque wrench. The clamps shall be tightened to a minimum of 80 inch pounds. (Single corrugated shield, 4 band 80 inch pound torque or 2 band 80 inch pound torque minimum). The gasket material shall be neoprene rubber meeting the requirements of ASTM C-564. Submittal to include copy of compliance to requirements of FM 1680 Class I by certified independent third party testing laboratory. No-Hub couplings shall be Mission Blue HW, Husky SD2000, or Clamp-All High Torq 80. No coupling reducing fittings allowed.

2. Below Ground: No-Hub couplings shall comply with requirements of Factory Mutual 1680 Class 1, 15 PSI rated pressure. No-Hub coupling shall be constructed of Type 304 stainless steel (28 gauge) with 305 stainless worn drive screws. The worm drive clamps shall have a hexagon head to accept a 3/8 inch socketed torque wrench. The clamps shall be tightened to a minimum of 80 inch pounds. (Single corrugated shield, 4 band 80 inch pound torque or 2 band 125 inch pound torque minimum). The gasket material shall be neoprene rubber meeting the requirements of ASTM C-564. Submittal to include copy of compliance to the requirements of FM 1680 Class 1, by certified independent third party testing laboratory. No-Hub couplings shall be Mission SUMO HW, Husky SD4000 or Clamp-All High Torq 125. No Coupling reducing fittings allowed.

C. Refer to geotechnical report for recommendations for corrosion protection. If soil is noted as "corrosive" or "moderately corrosive", all underground cast iron drain piping shall be wrapped in a polyethylene wrapping conforming to AWWA C105-10, ANSI A21.5-10, ASTM D4976 and NT4112-10.

D. Copper Tube, (DWV):

1. Copper DWV tube sanitary waste, drain and vent pipe may be used for piping above ground, except for urinal drains.
2. The copper DWV tube shall be drainage type, drawn temper conforming to ASTM B306.
3. The copper drainage fittings shall be cast copper or wrought copper conforming to ASME B16.23 or ASME 16.29.
4. The joints shall be lead free, using a water flushable flux, and conforming to ASTM B32.

E. Polyvinyl Chloride (PVC)

1. Polyvinyl chloride (PVC) pipe and fittings are permitted where the waste temperature is below 140F.
2. PVC piping and fittings shall NOT be used for the following applications:
   a. Waste collected from steam condensate drains.
   b. Spaces such as mechanical equipment rooms, kitchens, and sterilizer areas or any application subject to elevated temperatures.
   c. Vertical waste and soil stacks serving more than two floors
   d. Exposed in mechanical equipment rooms.
   e. Exposed inside of ceiling return plenums
3. Polyvinyl chloride sanitary waste, drain, and vent pipe and fittings shall be schedule 40 solid core sewer piping conforming to ASTM D 1785 and ASTM D2665, sewer and drain series with ends for solvent cemented joints.
4. Fittings:
   a. PVC fittings shall be solvent welded socket type using solvent cement conforming to ASTM D2564.

2.02 EXPOSED WASTE PIPING

A. Full iron pipe size chrome plated brass piping shall be used in finished rooms for exposed waste piping connecting fixtures, casework, cabinets, equipment and reagent racks when not concealed by apron including those furnished by the Owner or specified in other sections.

1. The Fittings shall conform to ANSI B16.15, cast bronze threaded fittings with chrome finish, (125 and 250).
2. Nipples shall conform to ASTM B 687, Chromium-plated.
3. Unions shall be brass or bronze with chrome finish. Unions 2_1/2 inches and larger shall be flange type with approved gaskets.

B. In unfinished Rooms such as mechanical Rooms and Kitchens, Chrome_plated brass piping is not required. The pipe materials specified under the paragraph "Sanitary Waste, Drain, and Vent Piping" can be used.

2.03 SPECIALTY PIPE FITTINGS

A. Transition pipe couplings shall join piping with small differences in outside diameters or different materials. End connections shall be of the same size and compatible with the pipes being joined. The transition coupling shall be elastomeric, sleeve type reducing or transition pattern and include shear and corrosion resistant metal, tension band and tightening mechanism on each end. The transition coupling sleeve coupling shall be of the following material:

1. For cast iron soil pipes, the sleeve material shall be rubber conforming to ASTM C564.
2. For PVC soil pipes, the sleeve material shall be elastomeric seal or PVC, conforming to ASTM F 477 or ASTM D5926.
3. For dissimilar pipes, the sleeve material shall be PVC conforming to ASTM D5926, or other material compatible with the pipe materials being joined.

B. The dielectric fittings shall conform to ASSE 1079 with a pressure rating of 125 psig at a minimum temperature of 180°F. The end connection shall be solder joint copper alloy and threaded ferrous.

C. Dielectric flange insulating kits shall be of non-conducting materials for field assembly of companion flanges with a pressure rating of 150 psig. The gasket shall be neoprene or phenolic. The bolt sleeves shall be phenolic or polyethylene. The washers shall be phenolic with steel backing washers.

221316 - DRAIN, WASTE AND VENT

A. The di-electric nipples shall be electroplated steel nipple complying with ASTM F 1545 with a pressure ratings of 300 psig 225°F. The end connection shall be male threaded. The lining shall be inert and noncorrosive propylene.

2.04 CLEANOUTS

A. Cleanouts shall be the same size as the pipe, up to 4 inches; and not less than 4 inches for larger pipe. Cleanouts shall be easily accessible and shall be gastight and watertight. Minimum clearance of 24 inches shall be provided for clearing a clogged sanitary line.

B. Floor cleanouts shall be gray iron housing with clamping device and round, secured, scoriated, gray iron cover conforming to ASME A112.36.2M. A gray iron ferrule with hubless, socket, inside calk or spigot connection and counter sunk, taper-thread, brass or bronze closure plug shall be included. The frame and cover material and finish shall be nickel-bronze copper alloy with a square shape. The cleanout shall be vertically adjustable for a minimum of 2 inches. When a waterproof membrane is used in the floor system, clamping collars shall be provided on the cleanouts. Cleanouts shall consist of wye fittings and eighth bends with brass or bronze screw plugs. Cleanouts in the resilient tile floors, quarry tile and ceramic tile floors shall be provided with square top covers recessed for tile insertion. In the carpeted areas, carpet cleanout markers shall be provided. Two way cleanouts shall be provided where indicated on drawings and at every building exit. The loading classification for cleanouts in sidewalk areas or subject to vehicular traffic shall be heavy duty type.

C. Cleanouts shall be provided at or near the base of the vertical stacks with the cleanout plug located approximately 24 inches above the floor. If there are no fixtures installed on the lowest floor, the cleanout shall be installed at the base of the stack. The cleanouts shall be extended to the wall access cover. Cleanout shall consist of sanitary tees. Nickel_bronze square frame and stainless steel cover with minimum opening of 6 by 6 inche) shall be furnished at each wall cleanout. Where the piping is concealed, a fixture trap or a fixture with integral trap, readily removable without disturbing concealed pipe, shall be accepted as a cleanout equivalent providing the opening to be used as a cleanout opening is the size required.

D. In horizontal runs above grade, cleanouts shall consist of cast brass tapered screw plug in fitting or caulked/hubless cast iron ferrule. Plain end (hubless) piping in interstitial space or above ceiling may use plain end (hubless) blind plug and clamp.

2.05 ACID WASTE AND VENT PIPING SYSTEM

A. General

1. Acid waste drain and vent system, as shown on drawings, shall be NSF listed and CSA certified Schedule 40, polypropylene as manufactured by IPEX. System to include pipe supplied in 10 ft. lengths (or 20 ft lengths if NFRPP is specified), fittings, traps, dilution tanks and/or neutralization tanks from the same manufacturer. It shall also include recommended adapters to connect to other piping materials, where applicable.

B. Material

1. Pipe shall be made from NSF listed Type 110 or 210, flame retardant polypropylene conforming to ASTM D4101, with a maximum average flame spread of zero seconds and a maximum extent of burning of 13 mm, in accordance with ASTM D635. Matched fittings shall be made from NSF listed flame retardant polypropylene with average maximum burn time of 80 seconds and maximum extent of burning of 20 mm in accordance with ASTM D635.
2. Pipe shall comply with ASTM F1412 and material used shall comply with the material requirements of ASTM D4101.

C. Fittings

1. Fittings shall be NSF listed and have an integral heavy gauge, nickel/chrome electrical resistance wire molded in place in the fitting body. Copper wire elements, loose wire or other loose joint components, are prohibited. Fittings shall be Enfield or approved equal.

D. Joints

1. Connections between polypropylene pipe and fittings shall be made using the Enfield joint. All joints shall have a fusion cycle controlled by a microprocessor operated, waterproof, Enfusion control unit equipped with input and output voltage sensors, ambient temperature sensors to automatically adjust fusion time and audible alarms to indicate cycle interruptions and completion of the joining process. The unit shall be capable of fusing multiple joints and with a minimum capability of eight 2" joints with the same fusion time as a single joint.
2. Connections between polypropylene and other piping materials shall be made using Enfield adapters according to manufacturer's (IPEX) recommendations. All electrofusion machines shall be third party certified by UL and CSA.

E. Installation and Testing

1. Installation and testing shall be in accordance with the contract documents, the manufacturer's recommendations and the local plumbing codes. Testing with compressed air is prohibited. The entire system shall be installed free of stress and in proper alignment. Horizontal supports shall provide a wide bearing area and be free of burrs or sharp edges. Support spacing shall be in accordance with the manufacturer's recommendations and local plumbing codes. Vertical piping shall have riser clamps at each floor. Pipe supports should be installed so that horizontal piping is in uniform alignment and with a uniform slope of at least 1/4" per foot, unless specified otherwise, and in accordance with the local plumbing codes

2.06 ACID WASTE DILUTION TANK

A. Dilution tank shall be XXX gallons and manufactured from polypropylene with fiberglass reinforcement. Provide 8" access port and standard bolted dome cover.

2.07 PENETRATIONS AT FIRE RATED CONSTRUCTION

A. Through penetrations shall be fire stopped with Hilti brand fire-stop systems/materials selected to suit construction type.

2.08 TRAPS

A. Traps shall be provided on all sanitary branch waste connections from fixtures or equipment not provided with traps. Exposed brass shall be polished brass chromium plated with nipple and set screw escutcheons. Concealed traps may be rough cast brass or same material as pipe connected to. Slip joints are not permitted on sewer side of trap. Traps shall correspond to fittings on cast iron soil pipe or steel pipe respectively, and size shall be as required by connected service or fixture.

2.09 TRAP SEAL PRIMER VALVES AND TRAP SEAL PRIMER SYSTEMS

A. The inlet and outlet connections shall be NPS ½ inch.

B. The trap seal primer valve shall be fully automatic with an all brass or bronze body.

C. The trap seal primer valve shall be activated by a drop in building water pressure, no adjustment required.

D. The trap seal primer valve shall include a manifold when serving two, three, or four traps.

E. The manifold shall be omitted when serving only one trap.

2.10 WATERPROOFING

A. A sleeve flashing device shall be provided at points where pipes pass through membrane waterproofed floors or walls. The sleeve flashing device shall be manufactured, cast iron fitting with clamping device that forms a sleeve for the pipe floor penetration of the floor membrane. A galvanized steel pipe extension shall be included in the top of the fitting that will extend 2 inches above finished floor and galvanized steel pipe extension in the bottom of the fitting that will extend through the floor slab. A waterproof caulked joint shall be provided at the top hub.

B. Walls: See detail shown on drawings.

PART 3 - EXECUTION

3.01 INSTALLATION

A. The pipe installation shall comply with the requirements of the California Plumbing Code (CPC) and these specifications.

B. Branch piping shall be installed for waste from the respective piping systems and connect to all fixtures, valves, cocks, outlets, casework, cabinets and equipment, including those furnished by the Government or specified in other sections.

C. Pipe shall be round and straight. Cutting shall be done with proper tools. Pipe shall be reamed to full size after cutting.

D. All pipe runs shall be laid out to avoid interference with other work.

E. The piping shall be installed above accessible ceilings where possible.

F. The piping shall be installed to permit valve servicing or operation.

G. Unless specifically indicated on the drawings, the minimum slope shall be 2% slope.

H. The piping shall be installed free of sags and bends.

I. Seismic restraint shall be installed where required by code.

221316 - DRAIN, WASTE AND VENT

A. Changes in direction for soil and waste drainage and vent piping shall be made using appropriate branches, bends and long sweep bends. Sanitary tees and short sweep quarter bends may be used on vertical stacks if change in direction of flow is from horizontal to vertical. Long turn double wye branch and eighth bend fittings shall be used if two fixtures are installed back to back or side by side with common drain pipe. Straight tees, elbows, and crosses may be used on vent lines. Do not change direction of flow more than 90 degrees. Proper size of standard increaser and reducers shall be used if pipes of different sizes are connected. Reducing size of drainage piping in direction of flow is prohibited.

B. Buried soil and waste drainage and vent piping shall be laid beginning at the low point of each system. Piping shall be installed true to grades and alignment indicated with unbroken continuity of invert. Hub ends shall be placed upstream. Required gaskets shall be installed according to manufacturer's written instruction for use of lubricants, cements, and other installation requirements.

C. Cast iron piping shall be installed according to the latest edition of CISPI's "Cast Iron Soil Pipe and Fittings Handbook," Chapter IV, "Installation of Cast Iron Soil Pipe and Fittings"

D. Aboveground copper tubing shall be installed according to CDA's "Copper Tube Handbook".

E. Aboveground PVC piping shall be installed according to ASTM D2665. Underground PVC piping shall be installed according to ASTM D2321.

3.02 JOINT CONSTRUCTION

A. Hub and spigot, cast iron piping with gasket joints shall be joined in accordance with CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for compression joints.

B. Hub and spigot, cast iron piping with calked joints shall be joined in accordance with CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for lead and oakum calked joints.

C. Hubless or No-hub, cast iron piping shall be joined in accordance with CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for hubless piping coupling joints.

D. For threaded joints, thread pipe with tapered pipe threads according to ASME B1.20.1. The threads shall be cut full and clean using sharp disc cutters. Threaded pipe ends shall be reamed to remove burrs and restored to full pipe inside diameter. Pipe fittings and valves shall be joined as follows:

1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is required by the pipe service
2. Pipe sections with damaged threads shall be replaced with new sections of pipe.

E. Copper tube and fittings with soldered joints shall be joined according to ASTM B828. A water flushable, lead free flux conforming to ASTM B813 and a lead free alloy solder conforming to ASTM B32 shall be used.

F. For PVC piping, solvent cement joints shall be used for joints. All surfaces shall be cleaned and dry prior to applying the primer and solvent cement. Installation practices shall comply with ASTM F402. The joint shall conform to ASTM D2855 and ASTM D2665 appendixes.

3.03 SPECIALTY PIPE FITTINGS

A. Transition coupling shall be installed at pipe joints with small differences in pipe outside diameters.

B. Dielectric fittings shall be installed at connections of dissimilar metal piping and tubing.

3.04 PIPE HANGERS, SUPPORTS AND ACCESSORIES

A. All piping shall be supported according to the California Plumbing Code (CPC) and these specifications. Where conflicts arise between the documents and the code, the most restrictive or the requirement that specifies supports with highest loading or shortest spacing shall apply.

B. Hangers, supports, rods, inserts and accessories used for pipe supports shall be shop coated with zinc chromate primer paint. Electroplated copper hanger rods, hangers and accessories may be used with copper tubing.

C. Horizontal piping and tubing shall be supported within 12 inches of each fitting or coupling.

D. Horizontal cast iron piping shall be supported with the following maximum horizontal spacing and minimum hanger rod diameters:

1. NPS 1-1/2 inch to NPS 2 inch: 60 inches with 3/8 inch rod.
2. NPS 3 inch: 60 inches with ½ inch rod.
3. NPS 4 to NPS 5: 60 inches with 5/8 inch rod.
4. NPS 6 inch to NPS 8 inch: 60 inches with ¾ inch rod.
5. NPS 10 inch to NPS 12 inch: 60 inch with 7/8 inch rod.

E. The maximum spacing for plastic pipe shall be 4 feet.

F. Vertical piping and tubing shall be supported at the base, at each floor, and at intervals no greater than 15 feet.

G. In addition to the requirements in Section 22 00 00, floor, Wall and Ceiling Plates, Supports, Hangers shall have the following characteristics:

1. Solid or split un-plated cast iron.
2. All plates shall be provided with set screws.
3. Height adjustable clevis type pipe hangers.
4. Adjustable floor rests and base flanges shall be steel.
5. Hanger rods shall be low carbon steel, fully threaded or threaded at each end with two removable nuts at each end for positioning rod and hanger and locking each in place.
6. Riser clamps shall be malleable iron or steel.
7. Rollers shall be cast iron.

H. Miscellaneous materials shall be provided as specified, required, directed or as noted on the drawings for proper installation of hangers, supports and accessories. If the vertical distance exceeds 20 feet for cast iron pipe additional support shall be provided in the center of that span. All necessary auxiliary steel shall be provided to provide that support.

I. Cast escutcheon with set screw shall be provided at each wall, floor and ceiling penetration in exposed finished locations and within cabinets and millwork.

J. Penetrations:

1. Fire Stopping: Where pipes pass through fire partitions, fire walls, smoke partitions, or floors, a fire stop shall be installed that provides an effective barrier against the spread of fire, smoke and gases as manufactured by Hilti and shall be UL Listed. Clearances between raceways and openings shall be completely filled and sealed with the fire stopping materials.

K. Piping shall conform to the following:

1. Waste and Vent Drain to main stacks:
   a. All: 2%
2. Exhaust vents shall be extended separately through roof. Sanitary vents shall not connect to exhaust vents.

3.05 TESTS

A. Sanitary waste and drain systems shall be tested either in its entirety or in sections.

B. Waste System tests shall be conducted before trenches are backfilled or fixtures are connected. A water test or air test shall be conducted, as directed.

1. If entire system is tested for a water test, tightly close all openings in pipes except highest opening, and fill system with water to point of overflow. If the waste system is tested in sections, tightly plug each opening except highest opening of section under test, fill each section with water and test with at least a 10 foot head of water. In testing successive sections, test at least upper 10 feet of next preceding section so that each joint or pipe except upper most 10 feet of system has been submitted to a test of at least a 10 foot head of water. Water shall be kept in the system, or in portion under test, for at least 15 minutes before inspection starts. System shall then be tight at all joints.
2. After installing all fixtures and equipment, open water supply so that all p-traps can be observed. For 15 minutes of operation, all p-traps shall be inspected for leaks and any leaks found shall be corrected.
3. Final Tests:
   a. Smoke Test: After fixtures are permanently connected and traps are filled with water, fill entire drainage and vent systems with smoke under pressure of 1.3 kPa (1 inch of water) with a smoke machine. Chemical smoke is prohibited.

END OF SECTION

224000 - PLUMBING FIXTURES

SECTION 22 40 00

PLUMBING FIXTURES

PART 1 - GENERAL

1.01 DESCRIPTION

A. Include all labor, materials, tools, equipment and services required to furnish, deliver and install all work under this Section as required by the Contract Drawings and as specified herein.

B. Following is a brief outline descriptive of the work included, but shall not be considered as complete and all inclusive.

1. Plumbing Fixtures
2. Plumbing Fixture Carriers
3. Trim
4. Accessories

PART 2 - PRODUCTS

2.01 GENERAL:

A. Vitreous china fixtures shall conform to ANSI A112.192; stainless steel fixtures shall conform to ANSI A112.193; acid resisting enameled cast iron fixtures shall conform to ANSI A112.19.1; fixture supports shall conform to ANSI A117.1.

B. All exposed piping, fittings, traps, escutcheons, valves and accessories shall be polished chrome plated brass construction.

C. Locations and elevations of all fixtures shall be as shown on the Architectural Drawings.

D. Force to activate all handicapped accessible fixture controls shall be no greater than 5 lbs.

E. Self closing faucets shall remain open for at least 10 seconds when activated unless otherwise specified.

F. No sharp or abrasive surfaces shall be allowed under lavatories or wash fountains. Hot water and drain pipes exposed under lavatories and sinks shall be insulated (2010 CBC 1134A.8, 6)

2.02 STAINLESS STEEL

A. Corrosion-resistant Steel (CRS):

1. Plate, Sheet and Strip: CRS flat products shall conform to chemical composition requirements of any 300 series steel specified in ASTM A276.
2. Finish: Exposed surfaces shall have standard polish (ground and polished) equal to NAAMM finish Number 4.

B. Die-cast zinc alloy products are prohibited.

2.03 STOPS

A. Provide lock, shield loose key or screw driver pattern angle stops, straight stops or stops integral with faucet, with each compression type faucet whether specifically called for or not, including sinks in wood and metal casework, laboratory furniture and pharmacy furniture. Locate stops centrally above or below fixture in accessible location.

B. Furnish keys for lock shield stops to Engineer of Record.

C. Supply from stops not integral with faucet shall be chrome plated copper flexible tubing or flexible stainless steel with inner core of non-toxic polymer.

D. Supply pipe from wall to valve stop shall be rigid threaded IPS copper alloy pipe, i.e. red brass pipe nipple.

2.04 ESCUTCHEONS

A. Heavy type, chrome plated, with set screws. Provide for piping serving plumbing fixtures and at each wall, ceiling and floor penetrations in exposed finished locations and within cabinets and millwork.

2.05 LAMINAR FLOW CONTROL DEVICE

A. Smooth, bright stainless steel or satin finish, chrome plated metal laminar flow device shall provide non-aeration, clear, coherent laminar flow that will not splash in basin. Device shall also have a flow control restrictor and have vandal resistant housing.

B. Flow Control Restrictor:

1. Capable of restricting flow to 0.35 gpm for lavatories; 0.5 to 1.5 gpm for sinks and 2.75 to 3.0 gpm for dietary food preparation and rinse sinks.
2. Compensates for pressure fluctuation maintaining flow rate specified above within 10 percent between 25 and 80 psi.
3. Operates by expansion and contraction, eliminates mineral/sediment build-up with self-clearing action, and is capable of easy manual cleaning.

2.06 CARRIERS

A. ASME/ANSI A112.6.1M, with adjustable gasket faceplate chair carriers for wall hung closets with auxiliary anchor foot assembly, hanger rod support feet, and rear anchor tie down.

B. ASME/ANSI A112.6.1M, lavatory, chair carrier for thin wall construction or steel plate as detailed on drawing. All lavatory chair carriers shall be capable of supporting the lavatory with a 250-pound vertical load applied at the front of the fixture.

C. Where water closets, lavatories or sinks are installed back_to_back and carriers are specified, provide one carrier to serve both fixtures in lieu of individual carriers. The drainage fitting of the back to back carrier shall be so constructed that it prevents the discharge from one fixture from flowing into the opposite fixture.

2.07 FIXTURES

A. REFER TO LOCAL CONNECTION SCHEDULE FOR FIXTURE MODEL NUMBERS.

PART 3 - EXECUTION

3.01 INSTALLATION

A. All exposed piping, fittings, traps, escutcheons, valves and accessories shall be polished chrome plated brass construction.

B. Locations and elevations of all fixtures shall be as shown on the Architectural Drawings and as required for ADA compliance.

C. Each fixture shall be separately controlled with loose key handles or stops except for mop sink faucets which shall have integral stops.

D. Force to activate all handicapped accessible fixture controls shall be no greater than 5 lbs.

E. No sharp or abrasive surfaces shall be allowed under and ADA compliant fixture.

F. All carriers for plumbing fixtures shall be bolted to the floor.

G. Install all fixtures and equipment according to the manufacturers' written instructions, and in good workmanship.

H. The Contractor shall be responsible for protecting against injury from building materials, acid, tools, equipment, etc., all plumbing fixtures included in these specifications.

I. Upon completion of installation, fixtures shall be cleaned, left in first class condition and in good working order.

J. Where water closet waste pipe has to be offset due to beam interference, provide correct and additional piping necessary to eliminate relocation of water closet.

K. Toggle Bolts: For hollow masonry units, finished or unfinished.

L. Expansion Bolts: For brick or concrete or other solid masonry. Shall be 1/4-inch diameter bolts, and to extend at least 3-inches into masonry and be fitted with loose tubing or sleeves extending into masonry. Wood plugs, fiber plugs, lead or other soft metal shields are prohibited.

M. Spaces between wall mounted fixtures and wall surfaces shall be neatly pointed up with non-shrinking no stain water resistant caulking with a color to match the fixture or surface mounted to. Any other color besides white shall be approved by the Architect prior to construction.

END OF SECTION

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

SHEET NAME:

PLUMBING SPECIFICATIONS

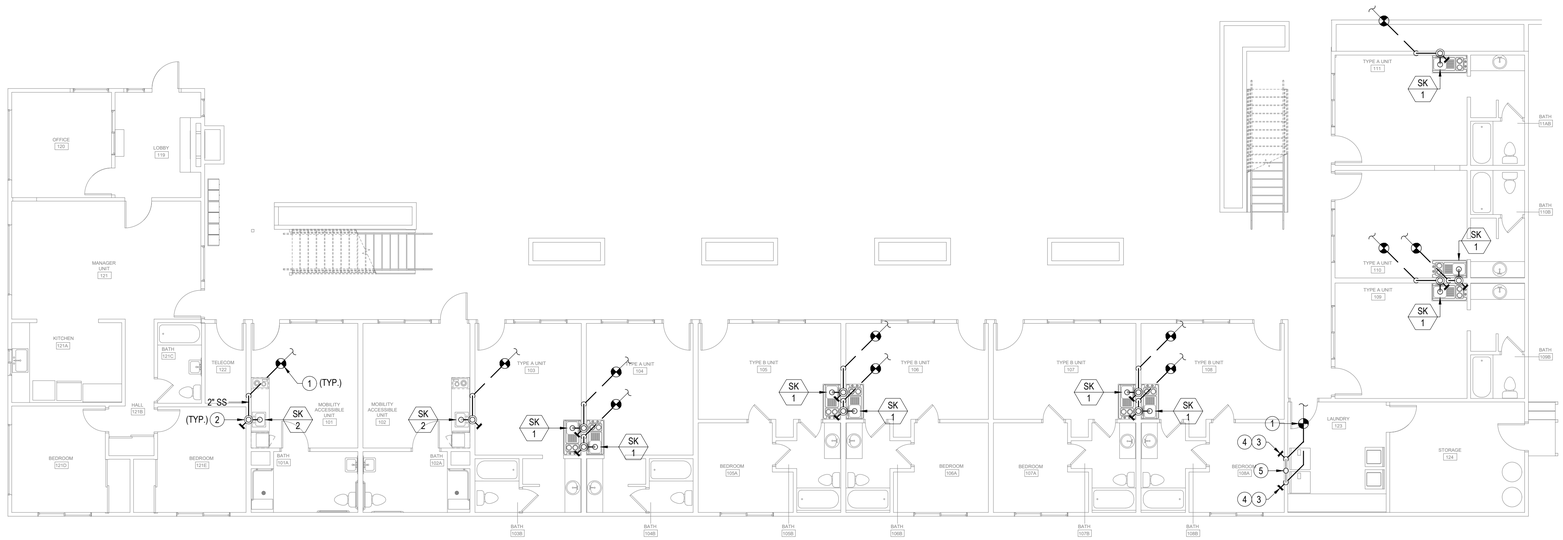
ISSUE DATE: 03/11/22

PERMIT SET

DRAWN BY: CK
DESIGNER:
PROJ MGR:
PEER REVIEW: JT/MT

SHEET NUMBER:

P0.03



1 PLUMBING PLAN - BUILDING 1 FIRST FLOOR - DRAIN, WASTE AND VENT

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

GENERAL SHEET NOTES

A. NOTES FOR UNIT 101 SHALL BE TYPICAL FOR ALL UNITS, UNLESS OTHERWISE NOTED.

B. EXISTING SHOWERS/TUBS, WATER CLOSETS, AND LAVATORIES SHALL REMAIN.

C. CONFIRM EXISTING LAUNDRY CONNECTIONS. DEMO SS AND VENT LINES. CAP AND SEAL BRANCH LINES WATER-TIGHT.

PLUMBING SHEET NOTES

1. SANITARY SEWER LINE P.O.C. FOR ADDED FIXTURE. CONTRACTOR SHALL VERIFY EXACT P.O.C. VERIFY LOCATION, SIZE, AND INVERT ELEVATION IN FIELD PRIOR TO CONSTRUCTION.
2. 1-1/2" AIR ADMITTANCE VALVE (OATEY SURE-VENT OR EQUAL). INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND INSTALLATION INSTRUCTIONS.
3. WALL CLEANOUT, TYPICAL.
4. PROVIDE OATEY UTILITY MIXING BOX (FIRE RATED) WITH 2" S.S.
5. 2" VENT UP, SEE P1.02 FOR CONTINUATION.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

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PROJECT:

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665 L STREET
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SHEET NAME:

PLUMBING PLAN BUILDING 1 FIRST FLOOR DRAIN, WASTE, & VENT

ISSUE DATE:	03/11/22
PERMIT SET	
DRAWN BY:	CK
DESIGNER:	
PROJ MGR:	
PEER REVIEW:	JT/MT

SHEET NUMBER:

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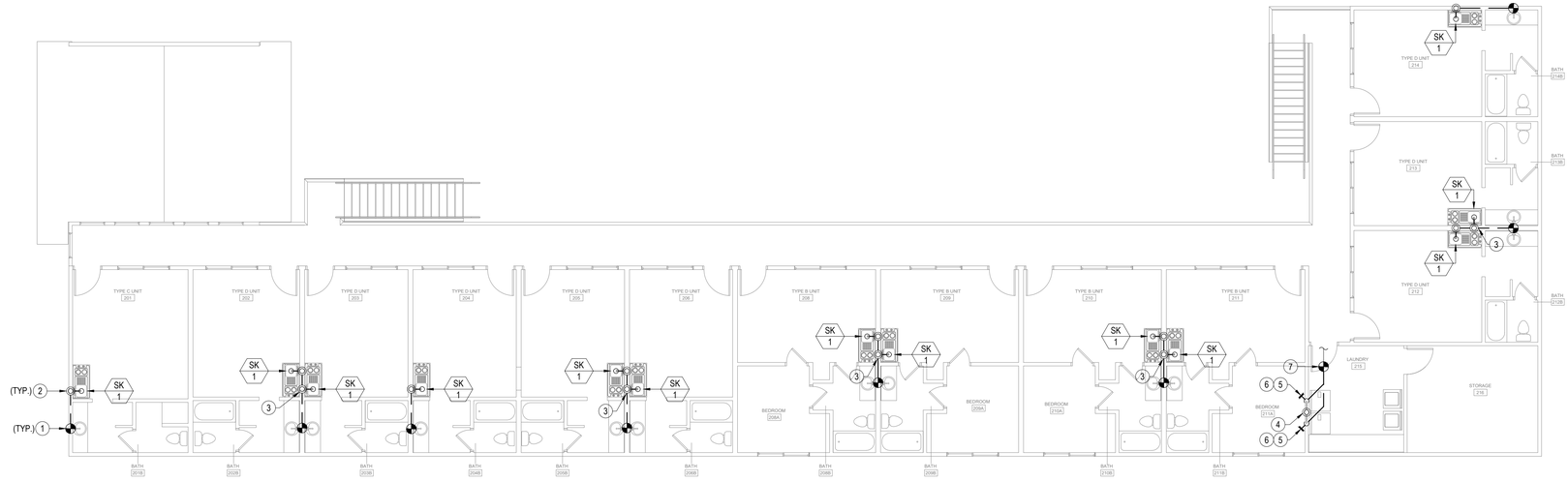

1 PLUMBING PLAN - BUILDING 1 SECOND FLOOR - DRAIN, WASTE, AND VENT

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

GENERAL SHEET NOTES

- (A) NOTES FOR UNIT 201 SHALL BE TYPICAL FOR ALL UNITS, UNLESS OTHERWISE NOTED.
- (B) EXISTING SHOWERS/TUBS, WATER CLOSETS, AND LAVATORIES SHALL REMAIN.

PLUMBING SHEET NOTES

1. CONNECT TO EXISTING S.S. RISER. VERIFY LOCATION IN FIELD. OFFSET WITHIN WALL AS REQUIRED.
2. 1-1/2" AIR ADMITTANCE VALVE (OATEY SURE-VENT OR EQUAL). INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND INSTALLATION INSTRUCTIONS.
3. COMBINE S.S. TO SINGLE 1-1/2" S.S. AND ROUTE TO CEILING ASSEMBLY BELOW. OFFSET AS REQUIRED TO CONNECT TO (E) S.S. RISER.
4. 2" VENT UP THROUGH ROOF, FLASH AND SEAL WEATHERIGHT. REFER TO DETAIL 5/P5.01.
5. WALL CLEANOUT, TYPICAL.
6. PROVIDE OATEY UTILITY MIXING BOX (FIRE RATED) WITH 2" S.S.
7. SANITARY SEWER LINE P.O.C. FOR ADDED FIXTURE. CONTRACTOR SHALL VERIFY EXACT P.O.C. VERIFY LOCATION, SIZE, AND INVERT ELEVATION IN FIELD PRIOR TO CONSTRUCTION.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
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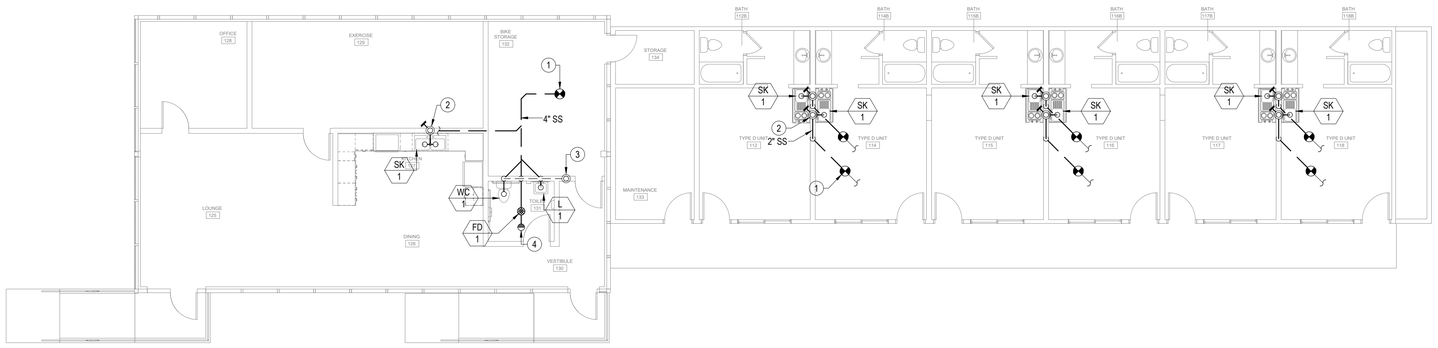
SHEET NAME:

PLUMBING PLANS BUILDING 1 SECOND FLOOR DRAIN, WASTE, & VENT

ISSUE DATE:	03/11/22
PERMIT SET	
DRAWN BY:	CK
DESIGNER:	
PROJ MGR:	
PEER REVIEW:	JT/MT

SHEET NUMBER:

P1.02



1 PLUMBING PLAN - BUILDING 2 - DRAIN, WASTE, AND VENT

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

GENERAL SHEET NOTES

(A) NOTES FOR UNIT 112 SHALL BE TYPICAL FOR ALL UNITS, UNLESS OTHERWISE NOTED.

(B) EXISTING SHOWERS/TUBS, WATER CLOSETS, AND LAVATORIES SHALL REMAIN.

PLUMBING SHEET NOTES

(1) SANITARY SEWER LINE P.O.C. FOR ADDED FIXTURE. CONTRACTOR SHALL VERIFY EXACT P.O.C. VERIFY LOCATION, SIZE, AND INVERT ELEVATION IN FIELD PRIOR TO CONSTRUCTION.

(2) 1-1/2" AIR ADMITTANCE VALVE (OATEY SURE-VENT OR EQUAL). INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND INSTALLATION INSTRUCTIONS.

(3) 2" VENT UP THOUGH ROOF, FLASH AND SEAL WEATHERTIGHT. REFER TO DETAIL 4/P5.01.

(4) FLOOR CLEANOUT.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

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PROJECT:

THE LEGACY RENOVATION

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CRESCENT CITY, CA
95531

SHEET NAME:

PLUMBING PLANS BUILDING 2 DRAIN, WASTE, & VENT

ISSUE DATE:	03/11/22
PERMIT SET	
DRAWN BY:	CK
DESIGNER:	
PROJ MGR:	
PEER REVIEW:	JT/MT

SHEET NUMBER:

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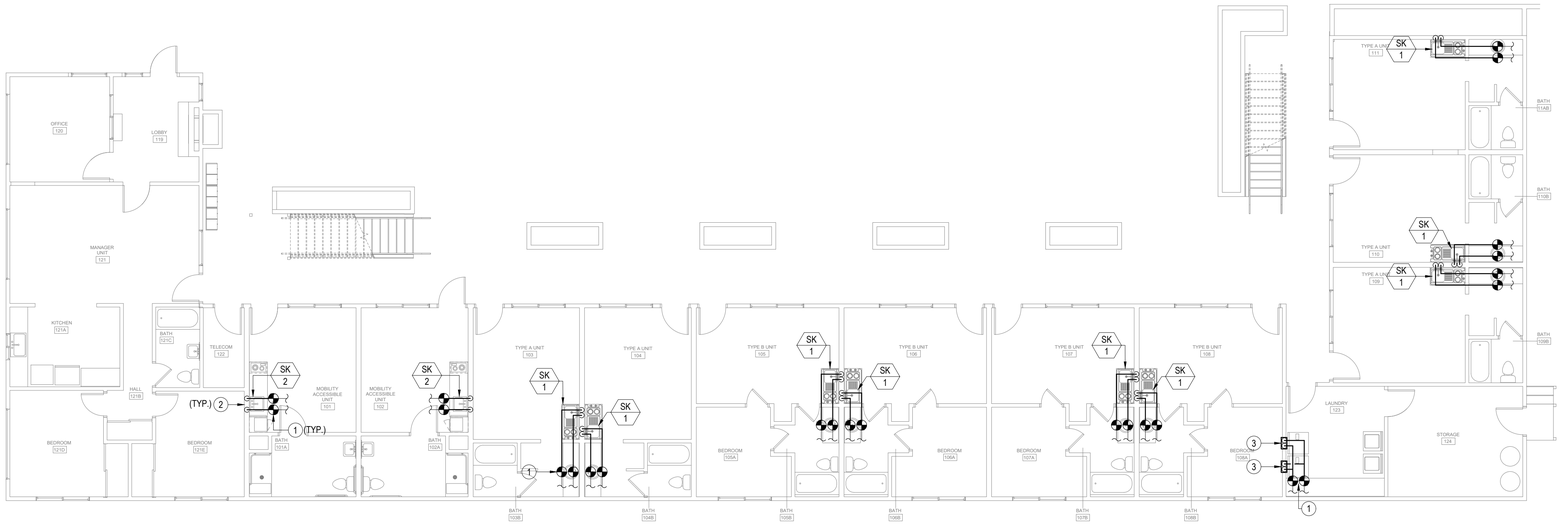

1 PLUMBING PLAN - BUILDING 1 FIRST FLOOR - DOMESTIC WATER

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

GENERAL SHEET NOTES

A. NOTES FOR UNIT 101 SHALL BE TYPICAL FOR ALL UNITS, UNLESS OTHERWISE NOTED.

B. EXISTING SHOWERS/TUBS, WATER CLOSETS, AND LAVATORIES SHALL REMAIN.

C. CONFIRM EXISTING LAUNDRY CONNECTIONS. DEMO EXISTING DOMESTIC WATER LINES. CAP AND SEAL BRANCH LINES WATER-TIGHT.

PLUMBING SHEET NOTES

1. 1/2" CW AND HW P.O.C. TO WATER MAINS A.F.C. CONTRACTOR SHALL VERIFY EXACT P.O.C. LOCATIONS IN FIELD AND CONFIRM SIZING PRIOR TO CONSTRUCTION.
2. 1/2" CW AND HW LINES DOWN TO NEW FIXTURE. PROVIDE WITH 2-WAY ANGLE STOPS AND FLEXIBLE BRAIDED HOSES TO SINK.
3. 1/2" CW/HW DOWN IN WALL, OFFSET TO MIXING BOX.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

SHEET NAME:

PLUMBING PLANS
BUILDING 1
FIRST FLOOR
DOMESTIC
WATER

ISSUE DATE:	03/11/22
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DRAWN BY:	CK
DESIGNER:	
PROJ MGR:	
PEER REVIEW:	JT/MT

SHEET NUMBER:

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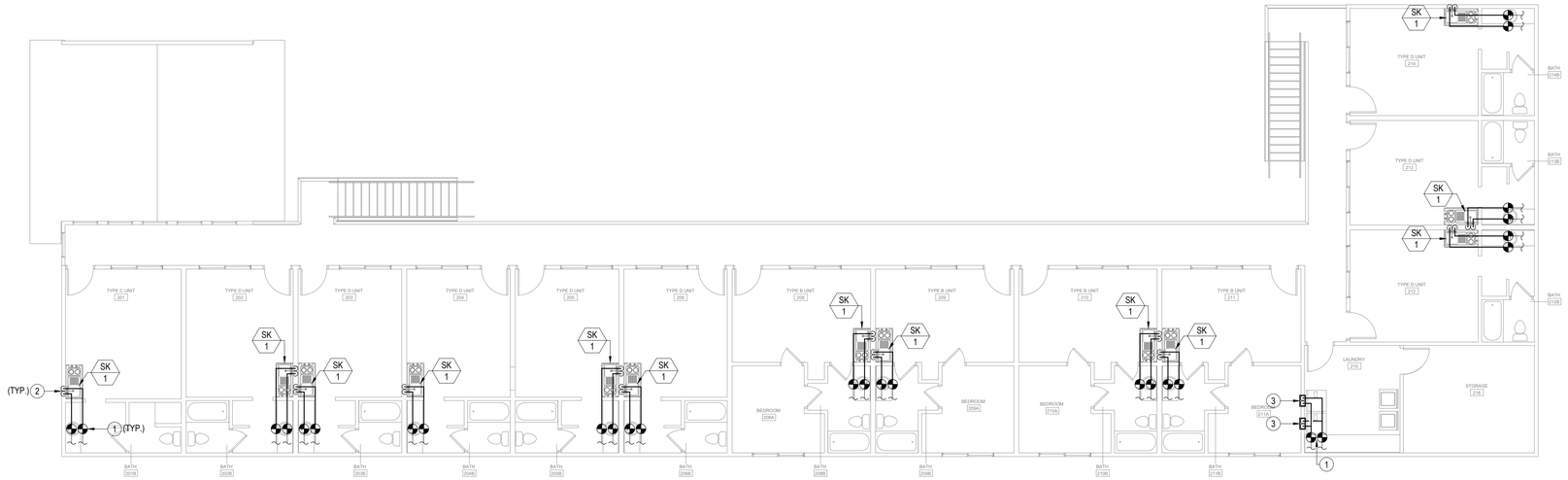

1 PLUMBING PLAN - BUILDING 1 SECOND FLOOR - DOMESTIC WATER

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

GENERAL SHEET NOTES

A. NOTES FOR UNIT 201 SHALL BE TYPICAL FOR ALL UNITS, UNLESS OTHERWISE NOTED.

B. EXISTING SHOWERS/TUBS, WATER CLOSETS, AND LAVATORIES SHALL REMAIN.

C. CONFIRM EXISTING LAUNDRY CONNECTIONS. DEMO EXISTING DOMESTIC WATER LINES. CAP AND SEAL BRANCH LINES WATER-TIGHT.

PLUMBING SHEET NOTES

1. 1/2" CW AND HW P.O.C. TO WATER MAINS A.F.C. CONTRACTOR SHALL VERIFY EXACT P.O.C. LOCATIONS IN FIELD AND CONFIRM SIZING PRIOR TO CONSTRUCTION.
2. 1/2" CW AND HW LINES DOWN TO NEW FIXTURE. PROVIDE WITH 2-WAY ANGLE STOPS AND FLEXIBLE BRAIDED HOSES TO SINK.
3. 1/2" CW/HW DOWN IN WALL, OFFSET TO MIXING BOX.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

SHEET NAME:

PLUMBING PLANS BUILDING 1 SECOND FLOOR DOMESTIC WATER

ISSUE DATE:	03/11/22
PERMIT SET	
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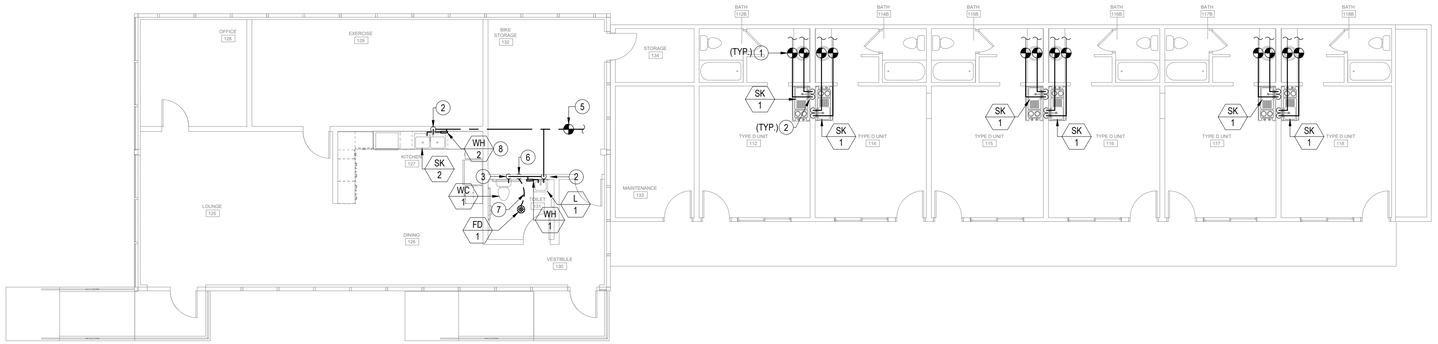
DESIGNER:	
PROJ MGR:	
PEER REVIEW:	JT/MT

SHEET NUMBER:

P1.05



1 PLUMBING PLAN - BUILDING 2 - DOMESTIC WATER

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

GENERAL SHEET NOTES

(A) NOTES FOR UNIT 112 SHALL BE TYPICAL FOR ALL UNITS, UNLESS OTHERWISE NOTED.

(B) EXISTING SHOWERS/TUBS, WATER CLOSETS, AND LAVATORIES SHALL REMAIN.

PLUMBING SHEET NOTES

1. 1/2" CW AND HW P.O.C. TO WATER MAINS A.F.C. CONTRACTOR SHALL VERIFY EXACT P.O.C. LOCATIONS IN FIELD AND CONFIRM SIZING PRIOR TO CONSTRUCTION.
2. 1/2" CW AND HW LINES DOWN TO NEW FIXTURE. PROVIDE WITH 2-WAY ANGLE STOPS AND FLEXIBLE BRAIDED HOSES TO SINK.
3. 1/2" CW/HW DOWN TO FIXTURE. OFFSET TO MAKE FINAL CONNECTIONS.
4. 3/4" CW DOWN TO FIXTURE. OFFSET TO MAKE FINAL CONNECTION.
5. 3/4" CW TO WATER MAINS A.F.C. CONTRACTOR SHALL VERIFY EXACT P.O.C. LOCATIONS IN FIELD AND CONFIRM SIZING PRIOR TO CONSTRUCTION.
6. 1/2" CW DROP TO BALL TYPE S.O.V. AND TRAP PRIMER ASSEMBLY WITH 4-PORT DISTRIBUTION UNIT. PROVIDE WITH PLUG SCREWS AT UNUSED PORTS.
7. 1/2" TRAP PRIMER PIPE. ROUTE ONE CONTINUOUS PIECE OF PEX PIPING WITHIN SCHEDULE 80 PVC SLEEVE FROM TRAP PRIMER OUTLET TO CONNECTION AT FLOOR DRAIN.
8. MOUNT WATER HEATER UNDER SINK AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SEE DETAIL 2/P5.01 FOR ADDITIONAL INFORMATION.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. TORRE
M 36958
Exp 9/30/22
MECHANICAL
STATE OF CALIFORNIA

CONSULTANT:

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heating, ventilation, air conditioning + plumbing design and engineering
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ROHNERT PARK, CA 94928 fax: 707.577.0364

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

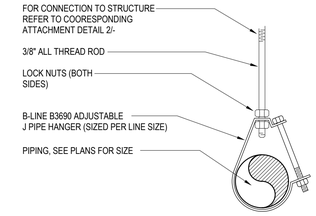
SHEET NAME:

PLUMBING PLANS BUILDING 2 DOMESTIC WATER

ISSUE DATE:	03/11/22
PERMIT SET	
DRAWN BY:	CK
DESIGNER:	
PROJ MGR:	
PEER REVIEW:	JT/MT

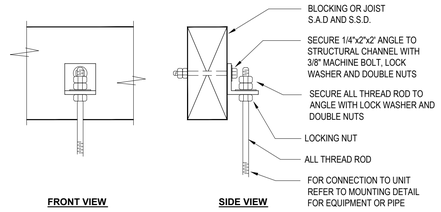
SHEET NUMBER:

P1.06



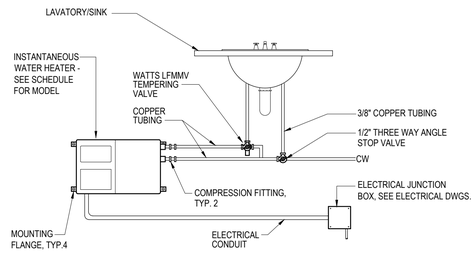
1 PIPE HANGING DETAIL

SCALE: NONE



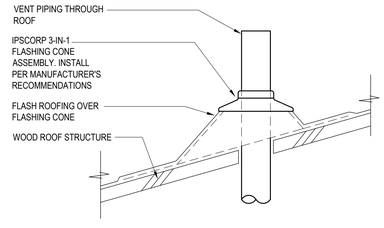
2 ROD ATTACHMENT TO WOOD STRUCTURE FRAMING

SCALE: NONE



3 INSTANTANEOUS WATER HEATER DETAIL

SCALE: NONE



4 VENT THROUGH ROOF

SCALE: NONE

REVISION SCHEDULE		
NO.	DESCRIPTION	DATE

SEAL:

CONSULTANT:

15000 INC.
heating, ventilation, air conditioning + plumbing design and engineering
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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

SHEET NAME:

PLUMBING DETAILS

ISSUE DATE:	03/11/22
PERMIT SET	
DRAWN BY:	CK
DESIGNER:	
PROJ MGR:	
PEER REVIEW:	JT/MT

SHEET NUMBER:

P5.01

HVAC LEGEND

DUCT, ROUND OR RECTANGULAR (AS NOTED PER PLANS)

DUCT, ROUND OR RECTANGULAR (AS NOTED PER PLANS)

VOLUME DAMPER

DUCT, INTERNALLY INSULATED (ROUND OR RECTANGULAR)

DUCT, INTERNALLY INSULATED (ROUND OR RECTANGULAR)

FLEXIBLE DUCT/EQUIPMENT CONNECTION

FLEXIBLE DUCTWORK

TURNING VANES IN RECTANGULAR DUCTWORK

TYPE / CFM / SIZE — AIR OUTLET/INLET CALL-OUT (SEE AIR OUTLET SCHEDULE FOR TYPE)

DUCTWORK CROSS SECTION

SUPPLY DIFFUSER OUTLET (CEILING)

RETURN GRILLE INLET (CEILING)

EXHAUST GRILLE INLET (CEILING)

T — THERMOSTAT @ 48" AFF

DT / DWG — DETAIL REFERENCE (1 / M2.1): DETAIL NUMBER, SHEET NUMBER

EQ / # — EQUIPMENT TAG (AC 1): EQUIPMENT TAG, EQUIPMENT #

TAG / CFM / SIZE — AIR OUTLET TAG

U.S. GREEN BUILDING COUNCIL LOGO (PRODUCT APPROVED FOR LEEDS CREDIT)

RECYCLING LOGO (PRODUCT CONTAINS RECYCLED MATERIAL)

FSD — FIRE/SMOKE DAMPER

M — LOW LEAKAGE OPPOSED BLADE MOTORIZED DAMPER

ARROWS INDICATE BLOW PATTERN — SUPPLY DIFFUSER OUTLET (CEILING)

CFM(+) — CFM INDICATES MINIMUM UNIT OA QUANTITY IN A FULL ECONOMIZER CAPABLE SYSTEM

POINT OF CONNECTION

SD — DUCT SMOKE DETECTOR

ABBREVIATIONS

NOT ALL ABBREVIATIONS LISTED HEREIN APPEAR ON THE DRAWINGS.

(N)	NEW
(E)	EXISTING
AD	ACCESS DOOR
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AL	ACOUSTICALLY LINED
ALM	ALUMINUM
AP	ACCESS PANEL
APSI	ABSOLUTE PRESSURE
ATR	ALL THREAD ROD
BDD	BACKDRAFT DAMPER
BF	BELOW FLOOR
BG	BELOW GRADE
BHP	BRAKE HORSEPOWER
BLKG	BLOCKING
BO	BY OTHERS
BTU	BRITISH THERMAL UNITS
BTUH	BRITISH THERMAL UNITS PER HOUR
BV	BALL VALVE
CD	CONDENSATE DRAIN PIPING
CFF	CAPPED FOR FUTURE
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CK	CHECK VALVE
COTG	CLEANOUT TO GRADE
CTE	CONNECT TO EXISTING
CV	CONSTANT VOLUME
CW	DOMESTIC COLD WATER
CWV	COMBINATION WASTE & VENT
DB	DRY BULB TEMPERATURE
DH	DUCT HEATER
DIA	DIAMETER
DN	DOWN
DWV	DRAIN, WASTE, AND VENT
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ECM	ELECTRONIC COMMUTATED MOTOR
EDH	ELECTRIC DUCT HEATER
EFF	EFFICIENCY
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
F	DEGREES FAHRENHEIT
FBO	FURNISHED BY OTHERS
FC	FLEXIBLE CONNECTION
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FD	FIRE DAMPER
FLA	FULL LOAD AMPERES
FS	FLOOR SINK
FSD	COMBINATION FIRE/SMOKE DAMPER
FPM	FEET PER MINUTE
FT	FEET
FT2	SQUARE FEET
G	GAS PIPING
GC	GAS COCK
GC	GENERAL CONTRACTOR
GPF	GALLONS PER FLUSH
GPM	GALLONS PER MINUTE
GSMS	GALVANIZED SHEET METAL SCREW
GV	GATE VALVE
GW	GREASE WASTE
HB	HOSE BIBB
HHWR	HEATING HOT WATER RETURN
HR	HEAT RECOVERY
HWS	HEATING HOT WATER SUPPLY
HP	HORSEPOWER
HW	DOMESTIC HOT WATER
HX	HEAT EXCHANGER
IFC	IN FURRED CEILING
IN	INCH
INS	INCHES
INS	INSULATION
IS	IN SOFFIT
IS.	ISSUE.
IW	INDIRECT WASTE
K	KILOGRAMS
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LWT	LEAVING WATER TEMPERATURE
MAT	MIXED AIR TEMPERATURE
MAX	MAXIMUM
MBH	BTUH, THOUSANDS
MCA	MINIMUM CIRCUIT AMPERES
MFR	MANUFACTURER
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
OA	OUTSIDE AIR
OC	ON CENTER
OD	OVERFLOW DRAIN
OP	OWNER PROVIDED
PH	PRE-HEAT
POC	POINT OF CONNECTION
PRTV	PRESSURE/TEMPERATURE RELIEF VALVE
PRV	PRESSURE RELIEF VALVE
PSI	GAUGE PRESSURE (POUNDS PER SQUARE INCH)
PTDF	PRESSURE TREATED DOUGLAS FIR
RA	RETURN AIR
RD	ROOF DRAIN
RVD	RELIEF VALVE DISCHARGE
RL	REFRIGERANT LIQUID PIPING
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION PIPING
RWL	RAINWATER LEADER
S	SENSOR
SA	SHOCK ABSORBER
SA	SUPPLY AIR
SAD	SEE ARCHITECTURAL DRAWINGS
SCD	SEE CIVIL DRAWINGS
SD	STORM DRAIN
SD	SMOKE DETECTOR
SED	SEE ELECTRICAL DRAWINGS
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SHGF	SOLAR HEAT GAIN FACTOR
SHR	SENSIBLE HEAT RATIO
SMD	SEE MECHANICAL DRAWINGS
SMS	SHEET METAL SCREW
SOV	SHUT OFF VALVE
SP	SPRINKLER
SP	STATIC PRESSURE
SPD	SEE PLUMBING DRAWINGS
SQFT	SQUARE FEET
SS	SANITARY SEWER
SSD	SEE STRUCTURAL DRAWINGS
T	THERMOSTAT
TH	THERMOMETER
TPV	TRAP PRIMER VALVE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
U	UNION
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VENT PIPING
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD
V/PH	VOLTS/PHASE/HERTZ
VSD	VARIABLE SPEED DRIVE
VTR	VENT THROUGH ROOF
W/	WITH
W/O	WITHOUT
WA	WATER HAMMER ARRESTOR
WB	WET BULB TEMPERATURE
WC	WATER COLUMN
WCO	WALL CLEANOUT
WT	WEIGHT

CALGREEN NOTES

1. HVAC SYSTEM INSTALLERS SHALL BE TRAINED AND CERTIFIED IN THE PROPER INSTALLATION OF HVAC SYSTEMS.
2. PROVIDE DOCUMENTATION TO SHOW COMPLIANCE WITH CONSTRUCTION DOCUMENTS, PLANS, INSTALLER CERTIFICATIONS, INSPECTION REPORTS, TO DEMONSTRATE SUBSTANTIAL CONFORMANCE. WHEN SPECIFIC DOCUMENTATION OR SPECIAL INSPECTION IS NECESSARY TO VERIFY COMPLIANCE, THAT METHOD OF COMPLIANCE WILL BE SPECIFIED IN THE APPROPRIATE SECTION OR IDENTIFIED IN THE APPLICATION CHECKLIST
3. AABC COMPLIANCE: COMPLY WITH AABC'S MANUAL MN_1 "AABC NATIONAL STANDARDS", AS APPLICABLE TO MECHANICAL AIR DISTRIBUTION SYSTEMS AND ASSOCIATED EQUIPMENT AND APPARATUS, EXCEPT AS OTHERWISE SPECIFIED. DEVELOP A WRITTEN PLAN OF PROCEDURES TO BE INCLUDED FOR TESTING AND BALANCING. SUBMIT CERTIFIED TEST REPORTS SIGNED BY THE TEST AND BALANCE SUPERVISOR WHO PERFORMED TESTING AND BALANCING WORK. PROVIDE A COPY OF THE FINAL TEST REPORT TO THE ENFORCING AGENCY.
4. PROVIDE VENTILATION DURING CONSTRUCTION THRU OPENINGS IN THE BUILDING SHELL USING TEMPORARY FANS TO PRODUCE A MINIMUM OF 3 AIR CHANGES PER HOUR. DO NOT USE THE PERMANENT HVAC EQUIPMENT FOR THIS PURPOSE.
5. COVER ALL DUCT OPENINGS WITH SHEET METAL OR PLASTIC DURING CONSTRUCTION TO REDUCE DUST AND DEBRIS IN DUCTWORK.
6. ALL AIR FILTERS SHALL BE MINIMUM MERV 13. A HIGHER MERV RATING MAY BE REQUIRED ON SCHEDULES OR SPECIFICATIONS.
7. NO HVAC REFRIGERANT SYSTEMS USING HYDROCHLOROFLUOROCARBONS SHALL BE USED ON THE PROJECT.
8. PROVIDE THE BUILDING OWNER WITH DETAILED OPERATION AND MAINTENANCE INSTRUCTIONS AND COPIES OF GUARANTEES/WARRANTIES FOR EACH SYSTEM PRIOR TO FINAL INSPECTION.

END.

EQUIPMENT ANCHORAGE NOTES

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1615. 1.12 THROUGH 1.22 AND ASCE 7-10 CHAPTER 6 AND 13.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS, OR WATER.
3. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE ATTACHMENT OF THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER 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 HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTES

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.8. 13.6.7, 13.6.5.6, AND 2019 CBC, SECTION 1616.

THE BRACING ATTACHMENTS TO THE STRUCTURE SHALL BE DETAILED ON THE APPROVED DRAWINGS OR THEY SHALL COMPLY WITH ONE OF THE PRE-APPROVALS (OPA #) AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318, APPENDIX D.

COPIES OF THE MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF HANGING AND BRACING OF THE PIPE, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS.

THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

HVAC GENERAL NOTES

PERFORM FULL SERVICE DIAGNOSTIC CHECK, INCLUDING BUT NOT LIMITED TO:

1. TIGHTEN ELECTRICAL CONNECTIONS TO ORIGINAL EQUIPMENT MINIMUM REQUIREMENTS.
2. CHECK AIRFLOW, REFRIGERANT LEVEL, CURRENT (AMP.) DRAW.
3. CLEAN EVAPORATOR AND CONDENSER COILS.
4. INSPECT INDOOR FAN COIL DRAIN PAN AND DRAIN LINES.
5. CLEAN FAN BLADES AND CHECK FOR DUCT LEAKS.
6. CHECK AND VERIFY ECONOMIZER OPERATION.
7. PROGRAM THERMOSTATS TO OWNER SETPOINT AND TIME REQUIREMENTS.
8. LUBRICATE ALL MOVING PARTS PER MANUFACTURER'S RECOMMENDATIONS.
9. REPLACE BELTS AND FILTERS.
10. CLEAN COOLING COILS (ROOFTOP UNIT ONLY).
11. COMB EVAPORATIVE SECTIONS (ROOFTOP UNIT ONLY).
12. INSPECT HEAT EXCHANGER AND BURNER COMBUSTION (HEATING SPECIFIC).
13. CHECK AND ENSURE REFRIGERANT LEVEL AND CHARGE ARE WITHIN THE MANUFACTURER'S OPERATIONAL GUIDELINES.
14. DYNAMICALLY BALANCE BLOWER MOTOR.

REPORT ANY DEFICIENCIES TO OWNER. **SUBMIT TO MEOR.**

HVAC GENERAL NOTES

1. DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO BE USED AS A GUIDE FOR THE INSTALLATION OF A COMPLETE MECHANICAL SYSTEM. CONTRACTOR SHALL AMEND ALL INFORMATION AS REQUIRED AS SITE CONDITIONS WARRANT.
2. WHERE INDICATED BY "**SUBMIT TO MEOR**", PROVIDE DETAILED SUBMITTALS FOR REVIEW BY MECHANICAL ENGINEER OF RECORD. ALL DRAWINGS SHALL BE IN 1/4"=1'-0" SCALE AND ELECTRONIC. ALL SUBMITTALS SHALL BE ELECTRONIC.
3. PROVIDE ALL EQUIPMENT AND LABOR NECESSARY FOR THE COMPLETE AND WORKABLE INSTALLATION OF ALL SPECIFIED AND OWNER SUPPLIED EQUIPMENT AND FIXTURES.
4. ALL WORK SHALL BE PERFORMED IN FULL ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES.
5. ALL DAMPERS INSTALLED OVER AREAS WITH HARD CEILINGS SHALL BE PROVIDED WITH EITHER REMOTE OPERATORS OR ACCESS PANELS.
6. COORDINATE LOCATION OF ALL ACCESS PANELS WITH ARCHITECTURAL PLANS
7. DO NOT CUT ANY STRUCTURAL MEMBERS OR STUDS WITHOUT PROPER COORDINATION WITH GENERAL CONTRACTOR AND STRUCTURAL DRAWINGS.
8. ALL DUCTWORK SHALL BE RUN PERPENDICULAR TO STRUCTURE UNLESS OTHERWISE NOTED.
9. DUCTWORK SHALL AVOID ARCHITECTURAL OPENINGS AND SHALL BE RUN CONCEALED UNLESS OTHERWISE NOTED.
10. DUCTWORK SHALL MAINTAIN A CLEARANCE OF 1" MINIMUM FROM ALL COMBUSTIBLE SURFACES.
11. ALL DUCT SIZES SHOWN REPRESENT CLEAR INSIDE DIMENSIONS UNLESS OTHERWISE NOTED. WHERE DUCT LINING OCCURS, INCREASE DUCT SIZE INDICATED TO SUIT.
12. CONTRACTOR SHALL VISIT SITE, AND FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BID. ANY DISCREPANCIES BETWEEN CONTRACT DOCUMENTS AND ACTUAL CONDITIONS SHALL BE SUBMITTED IN WRITING TO THE OWNER'S REPRESENTATIVE PRIOR TO BID.
13. ROOF MOUNTED DUCTWORK SHALL BE SLOPED TO SHED WATER.
14. ALL EQUIPMENT INSTALLED WITH SEISMIC VIBRATION ISOLATORS SHALL HAVE A MINIMUM 2" STATIC DEFLECTION.
15. REFRIGERANT PIPING SHALL BE SIZED AS RECOMMENDED BY THE MANUFACTURER.
16. PROVIDE COMBINATION FIRE/SMOKE DAMPERS AT ALL PENETRATIONS THROUGH FIRE RATED SHAFTS AND SEPARATIONS PER CALIFORNIA STATE FIRE MARSHAL REQUIREMENTS.
17. THE DRAWINGS REPRESENT THE DIAGRAMMATIC GRAPHICAL REPRESENTATION OF THE SCOPE OF WORK AND SHOULD NOT BE USED SOLELY TO DETERMINE SCOPE. CONTRACTORS SHALL BID THE ENTIRE SET OF CONTRACT DOCUMENTS INCLUDING CROSS DISCIPLINE INFORMATION AND WRITTEN SPECIFICATIONS. ALL BIDS BASED UPON DRAWING INFORMATION ONLY CAN BE ASSUMED TO BE INCOMPLETE AND INCONCLUSIVE TO DETERMINE ENTIRE SCOPE OF WORK.
18. AIR MOVING SYSTEMS SUPPLYING IN EXCESS OF 2000 CUBIC FEET PER MINUTE TO ENCLOSED SPACES WITHIN BUILDINGS SHALL BE EQUIPPED WITH AN AUTOMATIC SHUTOFF. SHUTOFFS SHALL STOP THE AIR-MOVING EQUIPMENT WHEN SMOKE IS DETECTED IN A SUPPLY-AIR DUCT OR WHEN SMOKE IS DETECTED IN ROOMS SERVED BY THE SYSTEM. EXCEPTIONS: (1) ROOMS HAVE A DIRECT EXIT TO THE EXTERIOR OF THE BUILDING, OR (2) SYSTEMS ARE DESIGNED FOR SMOKE CONTROL (SEC. 608, 2019 CMC)
19. CONTRACTOR SHALL VERIFY VOLTAGES AND ALL OTHER ELECTRICAL CHARACTERISTICS WITH ELECTRICAL PRIOR TO ORDERING EQUIPMENT.
20. DESIGN AND EQUIPMENT PERFORMANCES ARE BASED ON THE EQUIPMENT SCHEDULED AND SPECIFIED HEREIN. ANY ALTERATIONS OR SUBSTITUTIONS OF ANY EQUIPMENT SHALL BE SUBMITTED, REVIEWED AND APPROVED BY THE ENGINEER OF RECORD PRIOR TO ORDERING OF EQUIPMENT.
21. PROVIDE LINE OR LOW VOLTAGE POWER WIRING FOR ALL CONTROLS. COORDINATE CONTROL SYSTEM POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR INCLUDING DAMPER MOTORS, CONTROL PANELS AND ALL DEVICES REQUIRING POWER. ALL WIRING AND COMPONENTS SHALL BY INSTALLED IN STRICT ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE LATEST EDITION.
22. COORDINATE FINAL ELECTRICAL AMPERAGES AND VOLTAGES WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
23. FACTORY-MADE FLEXIBLE AIR DUCTS AND CONNECTORS SHALL BE NOT MORE THAN 5 FEET IN LENGTH AND SHALL NOT BE USED IN LIEU OF RIGID ELBOWS OR FITTINGS, PER 2019 CMC 603.4.1.
24. CALIFORNIA ENERGY CODE ACCEPTANCE TESTING: THE CALIFORNIA ENERGY CODE REQUIRES ACCEPTANCE TESTING ON MECHANICAL SYSTEMS. THE REQUIRED TESTS ARE INDICATED ON THE TITLE 24 DOCUMENTATION FORMS. ACCEPTANCE TESTING SHALL BE PERFORMED BY A CALIFORNIA CERTIFIED ACCEPTANCE TEST TECHNICIAN. ANY TESTS THAT DO NOT PASS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER FRO REVIEW. ALL NOTED ACCEPTANCE TESTING MUST BE PERFORMED PRIOR TO BENEFICIAL OCCUPANCY. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ACCEPTANCE TESTING AND SUBMIT COMPLETED ACCEPTANCE TEST FORMS TO THE AUTHORITY HAVING JURISDICTION.
25. DRAWINGS, SPECIFICATIONS, NOTES AND CALCULATIONS ARE FOR PERMIT SUBMITTAL ONLY TO THE AUTHORITY HAVING JURISDICTION. PLANS ARE NOT INTENDED FOR CONSTRUCTION, BIDDING AND/OR ESTIMATING UNTIL STAMPED AND SIGNED BY A LICENSED MECHANICAL ENGINEER AND THIS NOTE IS REMOVED.
26. PROVIDE ALL CONTROL WIRING AND DEVICES AS REQUIRED FOR A COMPLETE AND WORKABLE SYSTEM. ALL WIRING AND DEVICES SHALL BE IN STRICT ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL SUBCONTRACTOR.

DOCUMENT LIST

CONTRACTOR SHALL REVIEW ENTIRE CONSTRUCTION SET, INCLUDING, BUT NOT LIMITED TO ALL SPECIFICATIONS, DRAWINGS, PROJECT MANUAL, CALCULATIONS AND CUT-SHEETS. ADDITIONAL LIST OF DOCUMENTS AND DRAWINGS CONTAINED HEREIN, INCLUDE;

M0.01 HVAC NOTES, LEGEND, SCHEDULES, AND ABBREVIATIONS
M0.02 HVAC SCHEDULE
M0.03 HVAC SPECIFICATIONS
M1.01 HVAC PLAN - BUILDING 1 FIRST FLOOR
M1.02 HVAC PLAN - BUILDING 1 SECOND FLOOR
M1.03 HVAC PLAN - BUILDING 2

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER — MATTHEW J. TORRE — M 36958 — Exp 9/30/22 — MECHANICAL — STATE OF CALIFORNIA

CONSULTANT:

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

SHEET NAME:

HVAC NOTES, LEGEND, & ABBREVIATIONS

ISSUE DATE:	03/11/22
PERMIT SET	
DRAWN BY:	CK
DESIGNER:	
PROJ MGR:	
PEER REVIEW:	JT/MT

SHEET NUMBER:

M0.01

EXHAUST FAN SCHEDULE

TAG #	MANUFACTURER MODEL #	CFM	ESP (IN. WC)	CFM / WATTS	WATTS	MOTOR TYPE	SONES	V/Ø/H	WT. (LBS)	REMARKS
EF 1	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 2	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 3	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 4	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 5	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 6	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 7	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 8	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 9	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 10	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 11	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 12	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 13	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 14	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 15	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 16	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 17	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 18	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 19	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 20	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 21	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 22	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 23	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 24	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 25	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 26	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 27	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 28	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 29	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 30	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 31	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 32	PANASONIC FV-0511VKL2	80	0.25	8.2	9.9	ECM	0.5	120/1/60	12	1,2,3,4,5
EF 33	GREENHECK G-080-VG	220	0.25	-	-	DIRECT	4.8	120/1/60	30	3,6
EF 34	GREENHECK G-099-VG	600	0.25	-	-	DIRECT	6.4	120/1/60	40	3,6
EF 35	GREENHECK G-080-VG	140	0.25	-	-	DIRECT	4.2	120/1/60	30	3,6
EF 36	GREENHECK G-099-VG	600	0.25	-	-	DIRECT	6.4	120/1/60	40	3,6

REMARKS:

1. ENERGY STAR RATED.
2. OPERATED VIA INDEPENDENT SWITCH W/ 30 MIN TIME DELAY.
3. PROVIDE WITH DISCONNECT.
4. 6"Ø DUCT DIAMETER OUTLET.
5. INTEGRAL LIGHT WITH SEPARATE SWITCH
6. INTERLOCK WITH LIGHT SWITCH

WALL HEATER

TYPE #	MANUFACTURER MODEL #	BTU	AMPS	WATTS	V/Ø/H	WEIGHT	REMARKS
WH 1	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 2	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 3	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 4	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 5	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 6	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 7	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 8	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 9	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 10	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 11	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 12	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 13	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 14	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 15	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 16	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 17	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 18	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 19	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 20	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 21	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 22	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 23	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 24	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 25	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 26	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 27	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 28	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 29	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 30	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 31	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 32	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 33	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 34	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 35	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 36	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 37	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 38	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 39	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 40	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 41	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 42	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 43	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 44	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL
WH 45	QMARK CZ1048T	3410/1705	8.4/4.2	1000/500	240/1/60	13	ALL

REMARKS:

1. DOUBLE POLE BUILT-IN THERMOSTAT KIT
2. SURFACE MOUNTING FRAME

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. TORRE
M 36958
Exp 9/30/23
MECHANICAL
STATE OF CALIFORNIA

CONSULTANT:

15000 INC.
heating, ventilation, air conditioning + plumbing design and engineering
6085 STATE FARM DR. #130 phone: 707.577.0363
ROHNERT PARK, CA 94928 fax: 707.577.0364

BrokawDesign
P.O. BOX 3103
ROHNERT PARK, CA 94927
WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

SHEET NAME:

HVAC SCHEDULES

ISSUE DATE: 03/11/22
PERMIT SET
DRAWN BY: CK
DESIGNER:
PROJ MGR:
PEER REVIEW: JT/MT

SHEET NUMBER:

M0.02

230000 - GENERAL REQUIREMENTS

SECTION 23 00 00

GENERAL REQUIREMENTS - HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

PART 1 - GENERAL

1.01 DESCRIPTION

A. The requirements of this section apply to all sections of Division 23.

1.02 WORK INCLUDED

A. Provide all materials, equipment, labor, fabrication, specialties, and items necessary and incidental to the installations of a complete system or piece of equipment.

B. Work included shall also include transportation, storage, utilities and required licenses and permits.

1.03 RELATED WORK AND REQUIREMENTS

A. The work of this Section shall require work in coordination with other Divisions outside of this Section as follows:

1. Section 01 00 00 General Requirements

2. Section 26 00 00 General Requirements, Electrical

1.04 QUALITY ASSURANCE

A. Comply with Division 01 requirements regarding Quality Control.

B. Mechanical, electrical and associated systems shall be safe, reliable, efficient, durable, easily and safely operable and maintainable, easily and safely accessible, and in compliance with applicable codes as specified. The systems shall be comprised of high quality institutional-class and industrial-class products of manufacturers that are experienced specialists in the required product lines. All construction firms and personnel shall be experienced and qualified specialists in their respective industrial and institutional HVAC system, as applicable.

C. Products Criteria:

1. Standard Products: Material and equipment shall be the standard products of a manufacturer regularly engaged in the manufacture of the products for at least 3 years. The design, model and size of each item shall have been in satisfactory and efficient operation on at least three installations for approximately three years. However, digital electronics devices, software and systems such as controls, instruments, computer work station, shall be the current generation of technology and basic design that has a proven satisfactory service record of at least three years. See other specification sections for any exceptions.

2. All items furnished shall be free from defects that would adversely affect the performance, maintainability and appearance of individual components and overall assembly.

3. Conform to codes and standards as required by the specifications. Conform to local codes, if required by local authorities such as the natural gas supplier, if the local codes are more stringent than those specified, the more stringent requirement shall be used.

4. Nameplates: Nameplate bearing manufacturer's name or identifiable trademark shall be securely affixed in a conspicuous place on equipment, or name or trademark cast integrally with equipment, stamped or otherwise permanently marked on each item of equipment.

1.05 SUBMITTALS

A. Comply with Division 01 requirements regarding submittals.

B. Contractor shall make all necessary field measurements and investigations to assure that the equipment and assemblies will meet contract requirements.

C. If equipment is submitted which differs in arrangement from that shown, provide drawings that show the rearrangement of all associated systems. Approval will be given only if all features of the equipment and associated systems, including accessibility, are equivalent to that required by the contract.

D. Prior to submitting layout drawings for approval, contractor shall certify in writing that manufacturers of all major items of equipment have each reviewed drawings and specifications, and have jointly coordinated and properly integrated their equipment and controls to provide a complete and efficient installation.

E. Upon request by Engineer, provide lists of previous installations for selected items of equipment. Include contact persons who will serve as references, with telephone numbers and e-mail addresses.

F. Submittals and layout drawings for interdependent items, containing applicable descriptive information, shall be furnished together and complete in a group. Coordinate and properly integrate materials and equipment in each group to provide a completely compatible and efficient installation. Final review and approvals will be made only by groups. Submittals and shop drawings shall also incorporate the following items

1. Clear and neat strike out of irrelevant information.

2. Clearly and neatly tag and mark equipment, options and specialties and special features.

3. Key tags to match tags on Drawings.

a. If substituting on Specified equipment provide comprehensive written comparison of characteristics between specified and substituted equipment.

4. Provide information in an easily readable and legible format presentation.

5. Provide an index with corresponding labeled and tabbed dividers for sections, in a three ring hard cover binder or hard cover binding folder. Loose leaf sections, provided separately, shall not be acceptable. Front index shall include, at a minimum:

a. Full, formal, name and address, including zip code, for job.

b. Company name, address, phone and fax numbers of General Contractor, including phone land line number of job trailer and cellular phone number and name of job site Superintendent.

6. Submit all items at same time, including all controls information, in one binder/folder. Excluding controls for a later, separate, review shall not be acceptable.

7. Unless specified otherwise in Division 01 requirements submit 5 copies of data. Engineer will return 4 copies while retaining one for internal office use as a Project Record Document.

8. Paper copies shall be the only acceptable submittal medium, electronic submittals are not permitted unless specifically required by Division 01.

9. Submittals shall be prepared and submitted in a timely fashion to allow adequate time for ordering of long lead time equipment and materials.

1.06 CODES, REGULATIONS, STANDARDS, AND GUIDELINES

A. Work shall be in accordance with requirements of the latest jurisdiction adopted editions of the following:

1. CBC - California Building Code, 2016 Edition

2. CMC - California Mechanical Code, 2016 Edition

3. CPC - California Plumbing Code, 2016 Edition

4. CEC - California Electrical Code, Latest Edition

5. CFC - California Fire Code, Latest Edition

6. CEC - California Energy Commission, Title 24, Part VI

230000 - GENERAL REQUIREMENTS

B. The work shall comply with the latest editions of the following guidelines and standards:

1. AABC Associated Air Balance Council

2. AMCA Air Movement and Control Association

3. ANSI American National Standards Institute

4. ARI American Refrigeration Institute

5. ASHRAE American Society of Heating Refrigerating and Air Conditioning Engineers

6. ASME American Society of Mechanical Engineers

7. ASTM American Society for Testing and Materials

8. NFPA National Fire Protection Association

9. SMACNA Sheetmetal and Air-Conditioning Contractors National Association

10. UL Underwriters Laboratories

C. When the work calls for more stringent requirements than the above listings the Specifications and Drawings shall take precedence.

1.07 SITE VISIT AND FAMILIARIZATION

A. Visit the site and become familiar with the Drawings and Specifications. Examine the site and understand the conditions under which the Contract shall be performed.

B. Refer to Division 01 for any Pre-Bid Conference requirements.

PART 2 - PRODUCTS

2.01 NOT USED

PART 3 - EXECUTION

3.01 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Delivery and handling shall be performed in accordance with manufacturer's recommendations. Provide dust and weather covers.

B. Protect materials from loss or damage. Lost or damaged materials shall be replaced with new at no increase in Contract Sum.

C. All mechanical equipment requiring power shall be installed with the required working spaces clearances required by the California Electrical Code, Table 110.26 (A)(1) Working Spaces.

D. All facility service piping and conduits shall be concealed behind finishes. No exposed piping or raceways will be permitted unless specifically noted in writing on the drawings. Coordinate with pertinent sections of other Divisions providing demolition and new finishes. Jointly determine extent of demolition and finish removal necessary to install all indicated facilities services systems concealed behind wall, floor, ceiling finishes.

3.02 PROTECTION OF WORK

A. Cap all duct, pipe and equipment openings daily to protect from dust, moisture and incidental debris. Equipment not capped shall be thoroughly cleaned prior to recommencing construction.

B. Porous materials that become wetted shall be replaced with new. Drying is not sufficient as it introduces the possibility of microbial growth. This applies to duct liner, insulation wrap, flex duct and any material that has the potential to absorb moisture.

C. All air distribution shall be capped during construction to prevent accumulation of dirt, dust and debris.

3.03 CLEANING AND PRESENTATION

A. Prepare Work for painting by leaving surfaces free of oil, dust, rust, scale, adhesions and debris.

B. Remove all shipping labels and tags.

C. Exterior surfaces of piping, insulation, ducting and equipment shall be left clean.

D. Inside visible portions of grille cans and adjacent ducting including insulation stick pins, dampers and specialties shall be painted with two coats of flat black paint.

E. Scratched and marred surfaces of factory painted equipment and materials shall be touched up with matching color/type paint.

1. Clean as recommended by manufacturer. Do not use material or methods which may damage finish surface or surrounding construction.

F. Cut ends of strut pieces and uncoated/non-galvanized steel materials exposed to the elements shall be painted with two coats of rust inhibiting paint with color and type matched to installation.

3.04 SAFETY

A. The contractor shall be solely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This shall also apply to normal and non-normal working hours.

3.05 CUTTING OF STRUCTURE

A. Do not cut beams, girders, columns, or any other structural members, or run any pipes, ducts or work through slabs, unless specifically shown on the Drawings, or unless written approval is obtained from the Owner.

B. Cutting of walls, floors, or other parts of the building or repairing any work due to neglect of properly directing the locations of necessary openings and framing beforehand shall be done at no additional cost to the Owner.

3.06 RECORD DRAWINGS

A. Contractor is required to provide record Drawings in accordance with Division 01 and this section.

B. Keep and accurate record of job progress including as-built locations and of the Work. Keep record up-to-date on legible copies as job progresses. Drawings shall be of the same size as provided to the contractor. Make available to Owner and Owner representatives during job.

3.07 COMPLETION

A. When work is completed, or when Owner or Owner representative directs, remove surplus equipment, material, waste, and rubbish and leave building in satisfactory condition.

B. Adjust and program thermostats and controls per owner direction and as indicated within Division 23 requirements.

3.08 WARRANTEES AND GUARANTEES

A. Contractor is required to provide warranties in accordance with Division 01 - General Requirements.

1. Collect all warranties and guarantees for materials and equipment and neatly fill out all required information for the Owner. Provide one copy of each certificate for turn over to Architect. Arrange certificates in a tabbed and indexed binder for Architect ease of use.

B. At the completion of the work contractor shall guarantee to repair or replace materials and workmanship found defective for a period of one year from date of filing of Notice of Completion. This work shall be performed at no cost to the Owner.

1. Work of other trades damaged as a result of faulty workmanship or materials shall be repaired at no cost to the Owner.

END OF SECTION

230001 - COORDINATION

SECTION 23 00 01

COORDINATION

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Provision of coordination of the Work of the Contract.

1.02 GENERAL COORDINATION

A. Contractor shall be responsible for all project coordination.

B. Coordinate schedules, submittals and work of the various trades to ensure efficient and orderly sequence of installation of construction, with provisions for accommodating items to be installed later. Coordinate the work among the Specifications and Drawings. Work shown on any drawing or specification is required by the Contract irrespective of the trade sub-division. Contractor shall require each trade subcontractor to review all other subdivisions of the documents for related work and shall coordinate the subcontracts accordingly.

C. Require all parties involved in the performance of the Work to cooperate in the overall coordination of the work under the direction of the Contractor. Each party, when requested to do so, shall furnish information concerning its portion of the work and shall respond promptly and reasonably to the decisions and requests of persons designated with coordination, supervisory, administrative, or similar authority.

D. The Drawings use graphic symbols to show certain physical relationships of the various elements and systems and their interfacing with other elements and systems. Establishing and coordinating the actual physical relationships is the responsibility of the Contractor. Layout and arrange all elements to contribute to safety and efficiency while maintaining the intent of the design. Before work proceeds in areas of potential conflict for installing different components of the work, Contractor shall prepare supplementary drawings for review by the Architect and resolve the conflict.

E. Coordinate continuous checking of architectural and structural clearances for accessibility of equipment and mechanical and electrical systems. No allowances of any kind will be made for the Contractor's failure to coordinate sequence of installing materials/equipment into position. Contractor shall verify that equipment will fit within the prescribed equipment room spaces.

F. Prior to installation of each major unit of work which requires coordination and interfacing with other work, meet at project site with installer and representatives of manufacturers and fabricators who are involved in or affected by unit of work. Review progress of other work and preparations for particular work under consideration.

G. Coordinate the tolerances of all materials to ensure a proper fit in achieving the requirements of the Contract Documents.

H. Coordinate matching finish, texture, color, etc. for the new work on existing components in the project.

I. Coordinate work of like materials by submitting pilot samples to the Architect for review of acceptable ranges of finish textures and color variation.

J. Coordinate completion and cleanup Work of various trades in preparation for the Substantial Completion and for occupancy of the Building.

1.03 SUBCONTRACT COORDINATION

A. The General Contractor shall coordinate the Work and do not delegate responsibility for coordination to any Subcontractor.

B. Anticipate the interrelationship of all Subcontractors and their relationship with the Work.

C. Resolve differences or disputes between Subcontractors concerning coordination, interference, or extent of work between sections of the specifications. Contractor's decisions, if consistent with the Contract Document requirements, shall be final.

D. Coordinate the work of Subcontractors so that their portions of the work are performed in a manner that minimizes interference with the progress of the Work.

1.04 ADMINISTRATION

A. General: Prepare a written memorandum on required coordination activities. Include such items as required notices, reports and attendance at meetings. Distribute this memorandum to each trade performing work at the project site. Prepare similar memorandum for separate contractors where interfacing of their work is required.

B. Coordination Meetings: Conduct general project coordination meetings with Subcontractors at least weekly at regularly scheduled times convenient for all parties involved. These meetings are in addition to specific meetings held for other purposes, such as regular project meetings and special preinstallation meetings. Request representation at each meeting by every party currently involved in coordination or planning for the work of the entire project. Keep the Owner Representatives informed about coordination meetings. Conduct meetings in a manner which will resolve coordination problems. Record results and minutes of each meeting and distribute copies to everyone in attendance and to the Owner Representatives. Owner Representatives may attend weekly jobsite meetings with subcontractors.

C. Superintendent: Provide a full-time Superintendent experienced in administration and supervision of building construction. This Superintendent shall be authorized to act as general coordinator of interfaces between units of work. This Superintendent shall be on site, continuously during the construction period. Construction coordination shall be his/her principal duty.

1. For the purpose of this provision, "interface" is defined to include scheduling and sequencing of work, sharing of access to work spaces, installations, protection of each other's work, cutting and patching, tolerances, cleaning, selections for compatibility, preparation of coordination drawings, inspections, tests and temporary facilities and services.

2. Mechanical/Electrical Coordinator: Provide a single individual, a mechanical/ electrical coordinator, experienced in administrative and supervisory coordination of mechanical and electrical work. This experience in coordination shall include coordination of the type of mechanical/electrical work required for this project. The mechanical/electrical coordinator is required to act as the specialized coordinator of interfaces both within mechanical/electrical work and between that work and other trades. The Mechanical/Electrical Coordinator shall be on site, full time during the construction period. Project Superintendent may serve as mechanical/electrical coordinator.

1.05 COORDINATION DRAWINGS AND SUBMISSION

A. Prepare Coordination Drawings where required before beginning fabrication or delivery of materials and equipment to the jobsite.

1. Coordination Drawings shall clearly indicate coordination of mechanical, plumbing, fire protection, electrical, lighting, signal and equipment installations with structural, architectural and finish elements.

2. Scale: 1/2" = 1'-0". Scale may be revised to 1/4"=1'-0" with consent of all involved subcontractors.

B. Keep copies of Coordination Drawings at the jobsite.

C. Contractor shall provide the Owner with a record copy of initial Coordination Drawings and with revisions to Coordination Drawings, within three (3) working days of completion of each drawing or revised drawing and 30 days before work begins. The Owner will verify that Coordination Drawings have been made, but no approval of these drawings will be made. Include in submission of drawings the names of coordination staff.

D. Coordination Drawings shall include, but are not limited to: structural, fire protection, plumbing, heating, ventilation and air conditioning, electrical power and lighting, security, life safety, data, telephone system, existing or reinstalled equipment and new equipment.

E. Coordination Drawings, shall indicate layout of Work for all trades, for purposes of showing overlays and potential conflicts of crossover work and adjoining work.

F. Conditionally revise Coordination Drawings as subsequent work is added to areas containing existing work.

G. Provide dimensions and elevations where conflicts may exist and coordinate conflicts on Coordination Drawings to prevent conflicts in the field.

H. Contractor shall require Subcontractors to develop Subcontractor Coordination Plans of the same scale as Contractor's Coordination Drawings to assist in making transcripts for transfer to Coordination Drawings; use approved Shop Drawings for Coordination Drawings where available.

I. Coordination Drawings shall include dates and signatures of Contractor and Subcontractors involved in coordination; signed Coordination Drawings shall be subject to examination by the Owner at any time. Failure to maintain up_to_date drawings will be considered non-conformance with Contract Documents and progress payment will be withheld.

230001 - COORDINATION

A. Failure of Contractor to provide adequate coordination and Coordination Drawings shall not be grounds for adjustment of Project cost or extension of time.

1.06 STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL COORDINATION

A. Use Coordination Drawings of structural, mechanical, plumbing and electrical Work, together with shop drawings and layout drawings of affected Work to check, coordinate and integrate the Work to prevent interferences.

B. Coordinate space requirements and installation of mechanical and electrical Work which are indicated by graphic symbols on Contract Documents.

C. Routing shown for pipes, ducts and conduits on Drawings are shown by graphic symbols only; make runs parallel with lines of building.

D. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance and for repairs.

E. Conceal pipes, ducts and wiring in finished areas, unless otherwise indicated; coordinate locations of fixtures and outlets with finish elements.

F. Where there is a potential conflict in the layout or interferences between the work, including structural and architectural, layout the work with tape or other means to depict the layout on site to reduce or resolve the conflict and to allow the Owner to review the work prior to execution. The tape or other means to depict layout shall not cause any damage, change in color or appearance of any work to remain, or leave a residue.

G. Contractor shall coordinate steel shop drawings to include any and all penetrations of framing members resulting from the coordination of and with the work of the mechanical and electrical subcontractors. See Section 05120 for additional structural coordination requirements.

1. Steel shop drawings shall be reviewed and approved by the mechanical, electrical and plumbing subcontractors prior to submission and fabrication.

1.07 INTERSTITIAL SPACE COORDINATION

A. Contractor shall provide Coordination Drawings for the Interstitial Spaces to resolve installation conflicts prior to final approval of any shop drawings.

B. All conflicts shall be brought to the attention of the Architect.

C. Elements to include in the Coordination Drawings:

1. Mechanical ducts and pipes, including floor penetrations.

2. Plumbing pipes.

3. Fire branch lines and sprinkler heads.

4. Electrical bus ducts.

5. Telephone communication and data lines.

6. Interstitial space access.

7. Structural elements including, but not limited to, beams, columns, slabs, hangers and seismic bracing.

8. Suspended ceilings.

9. Insulation.

10. Security system elements.

11. Others as necessary.

D. Schedule of Submission

1. Refer to ACoordination Drawings and Submission@ specified in this Section.

2. Review of the coordinated drawings shall be required prior to approval of any of the sub-system shop drawings for the elements listed above.

E. An as-built version of this drawing should be required at the end of installation.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

233113 - METAL DUCTS

SECTION 23 31 13

METAL DUCTS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Provide complete materials, equipment, fabrications, installation and tests in conformity with applicable codes and authorities having jurisdiction for the following:

1. Ductwork and Plenums

2. Balancing dampers

3. Backdraft dampers

4. All duct accessories

1.02 QUALITY ASSURANCE

A. In addition to Section 23 00 00 GENERAL REQUIREMENTS - HEATING, VENTILATING, AND AIR-CONDITIONING quality assurance requirements the ductwork shall:

1. Duct System Construction and Installation: Referenced SMACNA Standards are the minimum acceptable quality.

2. Duct Sealing, Air Leakage Criteria, and Air Leakage Tests: Ducts shall be sealed as per duct sealing requirements of SMACNA HVAC Air Duct Leakage Test Manual for duct pressure classes shown on the drawings.

3. Duct accessories exposed to the air stream, such as dampers of all types (except smoke dampers) and access openings, shall be of the same material as the duct or provide at least the same level of corrosion resistance.

1.03 APPLICABLE PUBLICATIONS

PART 2 - PRODUCTS

2.01 DUCT MATERIALS AND SEALANTS

A. General: Except for systems specified otherwise, construct ducts, casings, and accessories of galvanized sheet steel, ASTM A653, coating G90; or, aluminum sheet, ASTM B209, alloy 1100, 3003 or 5052.

2.01 DUCT MATERIALS AND SEALANTS

A. General: Except for systems specified otherwise, construct ducts, casings, and accessories of galvanized sheet steel, ASTM A653, coating G90; or, aluminum sheet, ASTM B209, alloy 1100, 3003 or 5052.

2.02 DUCT CONSTRUCTION AND INSTALLATION

A. Kitchen and Grill Hood (Ventilator) Exhaust Ducts: Comply with NFPA 96.

1. Material: 16 gauge steel sheet (black iron), ASTM A1011, or 18 gage stainless steel. Use stainless steel for exposed duct in occupied areas. See Optional Duct Materials.

2. Construction: Liquid tight with continuous external weld for all seams and joints. Provide access doors or panels for duct cleaning inside of horizontal duct at 20 feet intervals, and at each change of direction.

3. Access doors or panels shall be of the same material and thickness of the duct with gaskets and sealants that are rated 1500 degrees F and shall be grease-tight.

233113 - METAL DUCTS

A. Round Ducts: Furnish duct and fittings made by the same manufacturer to insure good fit of slip joints. When submitted and approved in advance, round and flat oval duct, with size converted on the basis of equal pressure drop, may be furnished in lieu of rectangular duct design shown on the drawings.

B. Casings and Plenums: Construct in accordance with SMACNA HVAC Duct Construction Standards Section 6, including curbs, access doors, pipe penetrations, eliminators and drain pans. Access doors shall be hollow metal, insulated, with latches and door pulls, 20 inches wide by 48 _ 54 inches high. Provide view port in the doors where shown. Provide drain for outside air louver plenum. Outside air plenum shall have exterior insulation. Drain piping shall be routed to the nearest floor drain.

C. Volume Dampers: Single blade or opposed blade, multi_louver type as detailed in SMACNA Standards. Refer to SMACNA Detail Figure 2-12 for Single Blade and Figure 2.13 for Multi-blade Volume Dampers.

D. Duct Hangers and Supports: Refer to SMACNA Standards Section IV. Avoid use of trapeze hangers for round duct.

2.03 DUCT LINER

A. Duct sizes shown on drawings for lined duct are clear opening inside lining.

2.04 DUCT ACCESS DOORS, PANELS AND SECTIONS

A. Provide access doors, sized and located for maintenance work, upstream, in the following locations:

1. Each duct mounted coil.

2. Each fire damper (for link service), smoke damper and automatic control damper.

3. Each duct mounted smoke detector.

4. For kitchen hood exhaust duct, locate access doors at 20 feet intervals and at each change in duct direction.

B. Openings shall be as large as feasible in small ducts, 12 inch by 12 inch minimum where possible. Access sections in insulated ducts shall be double_wall, insulated. Transparent shatterproof covers are preferred for uninsulated ducts.

1. For rectangular ducts: Refer to SMACNA HVAC Duct Construction Standards (Figure 2_12).

2. For round and flat oval duct: Refer to SMACNA HVAC duct Construction Standards (Figure 2-11).

2.05 FIRE DAMPERS

A. Galvanized steel, interlocking blade type, UL listing and label, 1_1/2 hour rating, 160 degrees F fusible line, 100 percent free opening with no part of the blade stack or damper frame in the air stream.

B. Fire dampers in wet air exhaust shall be of stainless steel construction, all others may be galvanized steel.

C. Minimum requirements for fire dampers:

1. The damper frame may be of design and length as to function as the mounting sleeve, thus eliminating the need for a separate sleeve, as allowed by UL 555. Otherwise provide sleeves and mounting angles, minimum 14 gage, required to provide installation equivalent to the damper manufacturer's UL test installation.

2. Submit manufacturer's installation instructions conforming to UL rating test.

2.06 SMOKE DAMPERS

A. Maximum air velocity, through free area of open damper, and pressure loss: Low pressure and medium pressure duct (supply, return, exhaust, outside air): 1500 fpm. Maximum static pressure loss: 0.13 inch W.G.

B. Maximum air leakage, closed damper: 4.0 CFM per square foot at 3 inch W.G. differential pressure.

C. Minimum requirements for dampers:

1. Shall comply with requirements of Table 6-1 of UL 555S, except for the Fire Endurance and Hose Stream Test.

2. Blades: Galvanized steel, parallel type preferably, 12 inch maximum width, edges sealed with neoprene, rubber or felt, if required to meet minimum leakage. Airfoil (streamlined) type for minimum noise generation and pressure drop are preferred for duct mounted dampers.

D. Motor operator (actuator): Provide electric as required by the automatic control system, externally mounted on stand-offs to allow complete insulation coverage.

2.07 COMBINATION FIRE AND SMOKE DAMPERS

A. Combination fire and smoke dampers: Multi_blade type units meeting all requirements of both fire dampers and smoke dampers shall be used where shown and may be used at the Contractor's option where applicable.

PART 3 - EXECUTION

3.01 GENERAL INSTALLATION

A. Fabricate and install ductwork and accessories in accordance with referenced SMACNA Standards:

1. Drawings show the general layout of ductwork and accessories but do not show all required fittings and offsets that may be necessary to connect ducts to equipment, boxes, diffusers, grilles, etc., and to coordinate with other trades. Fabricate ductwork based on field measurements. Provide all necessary fittings and offsets at no additional cost to the owner. Coordinate with other trades for space available and relative location of HVAC equipment and accessories on ceiling grid. Duct sizes on the drawings are inside dimensions which shall be altered by Contractor to other dimensions with the same air handling characteristics where necessary to avoid interferences and clearance difficulties.

2. Provide duct transitions, offsets and connections to dampers, coils, and other equipment in accordance with SMACNA Standards, Section II. Provide streamliner, when an obstruction cannot be avoided and must be taken in by a duct. Repair galvanized areas with galvanizing repair compound.

3. Provide bolted construction and tie_rod reinforcement in accordance with SMACNA Standards.

4. Construct casings, eliminators, and pipe penetrations in accordance with SMACNA Standards, Chapter 6. Design casing access doors to swing against air pressure so that pressure helps to maintain a tight seal.

B. Install duct hangers and supports in accordance with SMACNA Standards, Chapter 4.

C. Install fire dampers, smoke dampers and combination fire/smoke dampers in accordance with the manufacturer's instructions to conform to the installation used for the rating test. Install fire dampers, smoke dampers and combination fire/smoke dampers at locations indicated and where ducts penetrate fire rated and/or smoke rated walls, shafts and where required by the Resident Engineer. Install with required perimeter mounting angles, sleeves, breakaway duct connections, corrosion resistant springs, bearings, bushings and hinges per UL and NFPA. Demonstrate re_setting of fire dampers and operation of smoke dampers to the Engineer.

D. Where diffusers, registers and grilles cannot be installed to avoid seeing inside the duct, paint the inside of the duct with flat black paint to reduce visibility.

E. Low Pressure Duct Liner: Install in accordance with SMACNA, Duct Liner Application Standard.

F. Ducts exposed to the weather:

1. Make ducts watertight with tops sloped to shed water. Standing pools of water on top of ducts shall not be allowed.

a. Arrange seams to not act as dams.

b. Place longitudinal seams at bottom of ducts.

c. Insure water runoff by sloping entire top of duct down toward sides.

d. Longitudinal seams and non-bolted joints shall be sealed with SMACNA approved duct sealant for both interior and exterior applications.

e. Bolted duct joints: Top of duct shall have a continuous metal cleat from corner to corner to provide a weather cap. The sides, end and bottom shall have intermediate 6" pieces of metal cleats so that any water can drain away.

233113 - METAL DUCTS

G. Construct with gauges, joints, bracing, reinforcing, and other details per latest edition of the CMC, AHSRAE, SMACNA and NFPA. Comply with most stringent requirement. Provide ducts with CMC required gauges when penetrating rated construction.

H. Provide for duct rigidity by either beading at 12 inches on center, maximum, or crossbreaking outward in ducts with positive pressures and crossbreaking inward for ducts having negative pressures. The exception is for ducts exposed to weather which shall crossbreak outward on top of duct.

I. At exposed duct penetrations of walls, floors and ceilings provide sheet metal angle type escutcheons with no sharp corners or edges. For round duct factory angle rings may be used.

J. Frame, trim, caulk and seal all duct penetrations through acoustical walls and partitions.

K. Tapers:

1. Pitch sides of ducts in diverging or converging airflow with a maximum 1 to 4 taper. Abrupt bushing type fitting shall not be permitted.

L. Duct openings:

1. Provide openings to accommodate instrumentation, thermometers, smoke detectors, controllers and miscellaneous components. Insert through airtight rubber grommets.

2. Where openings are provided in insulated ductwork for insertion of instruments install insulation material inside metal ring for use as a plug.

3. At fire dampers allow adequate length of duct to install access door.

M. Rectangular duct joints:

1. In medium pressure ductwork transverse joints shall be Ductmate. In low pressure ductwork transverse joints shall be Ductmate except that slip and drive may be used at contractor's option for ducts less than 24 inches longest side.

2. Longitudinal seams shall be Pittsburge type. Snaplock shall not be allowed.

N. Connections to air distribution (grilles, registers and diffusers) shall be by full radius elbow or by a straight duct connection for one duct diameter or greater.

1. Where space is tight use side inlet plenums (cans) fabricated of minimum 24 gauge galvanized sheet metal, at least as tall as the connecting duct, with turning vanes.

O. Duct hangers and supports

1. Support horizontal ducts with hangers of size and spacing per SMACNA HVAC Duct Construction Standards with attachments to suit structure type and seismic restraints where required.

P. Volume and Dampers shall be provided at locations shown on the drawings. In addition, volume dampers shall be provided for each air terminal per the following requirements;

1. Volume dampers shall be installed as far away from air outlets as functionally reasonable to avoid noise in the occupied spaces.

2. Provide also in wyes and spin-ins to outlets whether shown on drawings or not, except:

a. Where dampers are not shown above inaccessible ceilings.

b. To sidewall outlets in exposed ducts (opposed blade dampers in outlets shall be provided).

END OF SECTION

238000 - HVAC EQUIPMENT

SECTION 23 80 00

DECENTRALIZED HVAC EQUIPMENT

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section covers the furnishing and installation of Heating, Ventilating and Air Conditioning (HVAC) equipment as indicated on the contract drawings, schedules and as specified herein.

1.02 SUBMITTALS

A. Manufacturer's literature and data:

1. Sufficient information, including capacities, pressure drops and piping connections clearly presented, shall be included to determine compliance with drawings and specifications for units noted below:

a. Unitary air conditioners:

1. Split systems

2. Rooftop units

3. Gas fired furnaces

2. Unit Dimensions required clearances, operating weights accessories and start-up instructions.

3. Electrical requirements, wiring diagrams, interlocking and control wiring showing factory installed and portions to be field installed.

4. Mounting and flashing of the roof curb to the roofing structure with coordinating requirements for the roof membrane system.

B. Operating and Maintenance Manual: Submit three copies of Operating and Maintenance manual to Resident Engineer three weeks prior to final inspection.

PART 2 - PRODUCTS

2.01 EQUIPMENT - REFER TO SCHEDULES.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Roof Curb: Install where indicated on the Drawings, level and secure, according to ARI Guideline B. Secure rooftop units to upper curb rail, and secure curb base to roof framing or concrete base with anchor bolts.

B. Rooftop Unit Support: Install unit level on structural curbs, unless otherwise indicated on the Drawings. Coordinate wall penetrations and flashing with wall construction. Secure rooftop units to structural support with anchor bolts.

C. Install units level and plumb maintaining manufacturer's recommended clearances and tolerances.

D. Install ground-mounting, compressor-condenser components on 4-inch thick, reinforced concrete base; 4 inches larger on each side than unit.

E. Install seismic restraints.

F. Install and connect pre-charged refrigerant tubing to component's quick-connect fittings. Install tubing to allow access to unit.

G. Install wall sleeves in finished wall assembly and weatherproof. Install and anchor wall sleeves to withstand, without damage seismic forces as required by code.

3.02 CONNECTIONS

A. Verify condensate drainage requirements.

B. Install condensate drain, minimum connection size, with trap and indirect connection to nearest roof drain or area drain or as indicated on the Drawings.

C. Install ducts to termination at top of roof curb. Cut roof decking only as required for passage of ducts. Do not cut out decking under entire roof curb.

D. Connect refrigerant piping to coils with shutoff valves on the suction and liquid lines at the coil and a union or flange at each connection at the coil and condenser.

E. Install ducts to the units with flexible duct connections.

END OF SECTION

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER
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Exp 9/30/22
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PROJECT:

THE LEGACY RENOVATION

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SHEET NAME:

HVAC SPECIFICATIONS

ISSUE DATE: 03/11/22

PERMIT SET

DRAWN BY: CK

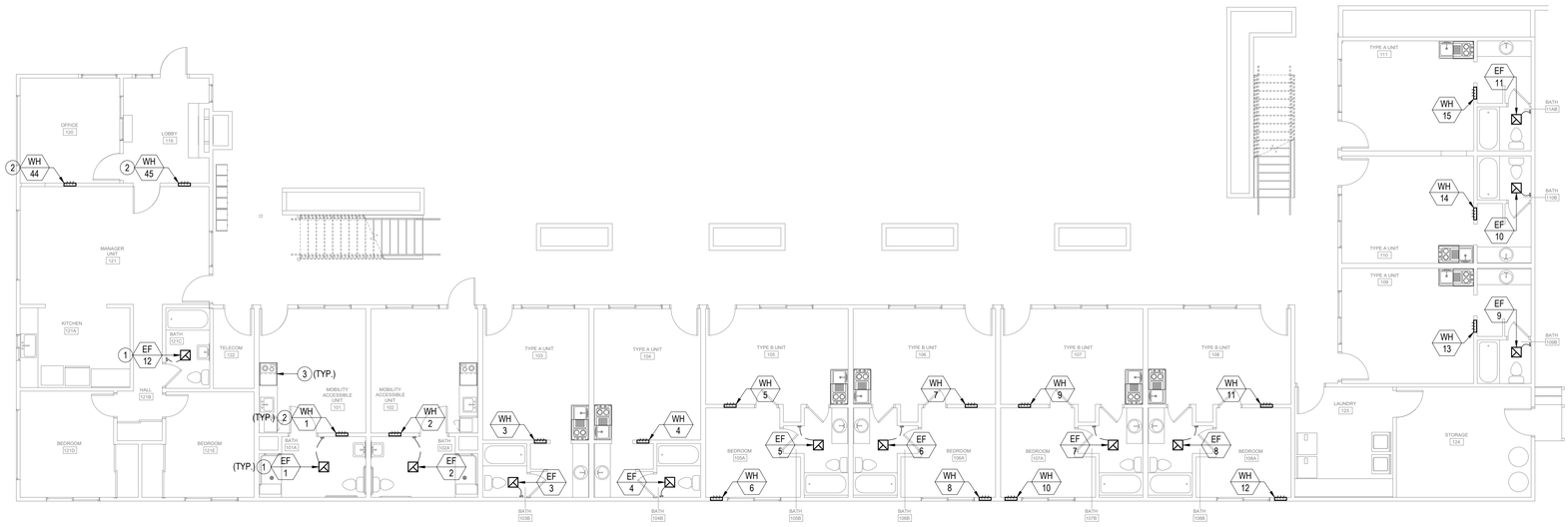
DESIGNER:

PROJ MGR:

PEER REVIEW: JT/MT

SHEET NUMBER:

M0.03



1 HVAC PLAN - BUILDING 1 FIRST FLOOR

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

GENERAL SHEET NOTES

A. NOTES FOR UNIT 103 SHALL BE TYPICAL FOR ALL UNITS, UNLESS OTHERWISE NOTED.

B. EXISTING WALL HEATERS TO BE REMOVED AND REPLACED. NEW LOCATION OF WALL HEATERS SHOWN.

C. EXISTING EXHAUST FANS TO BE REMOVED AND REPLACED. NEW EXHAUST FANS TO BE PROVIDED.

HVAC SHEET NOTES

1. PROVIDE NEW RESTROOM EXHAUST FAN AT PREVIOUS FAN LOCATION. PROVIDE WITH NEW 30 MINUTE TIME DELAY SWITCH. CONNECT NEW FAN INTO EXISTING RESTROOM EXHAUST DUCTWORK. PATCH ADJACENT SURFACES.

2. MOUNT ELECTRIC WALL HEATER IN WALL PER MANUFACTURERS RECOMMENDATIONS. REFER TO MANUFACTURER'S INSTALL MANUAL FOR ADDITIONAL MOUNTING DETAILS. CONFIRM LOCATION WITH ARCHITECT BEFORE CONSTRUCTION.

3. MECHANICAL RE-CIRCULATION HOOD WITH CHARCOAL FILTRATION. INSTALL PER MANUFACTURER'S IOM.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER
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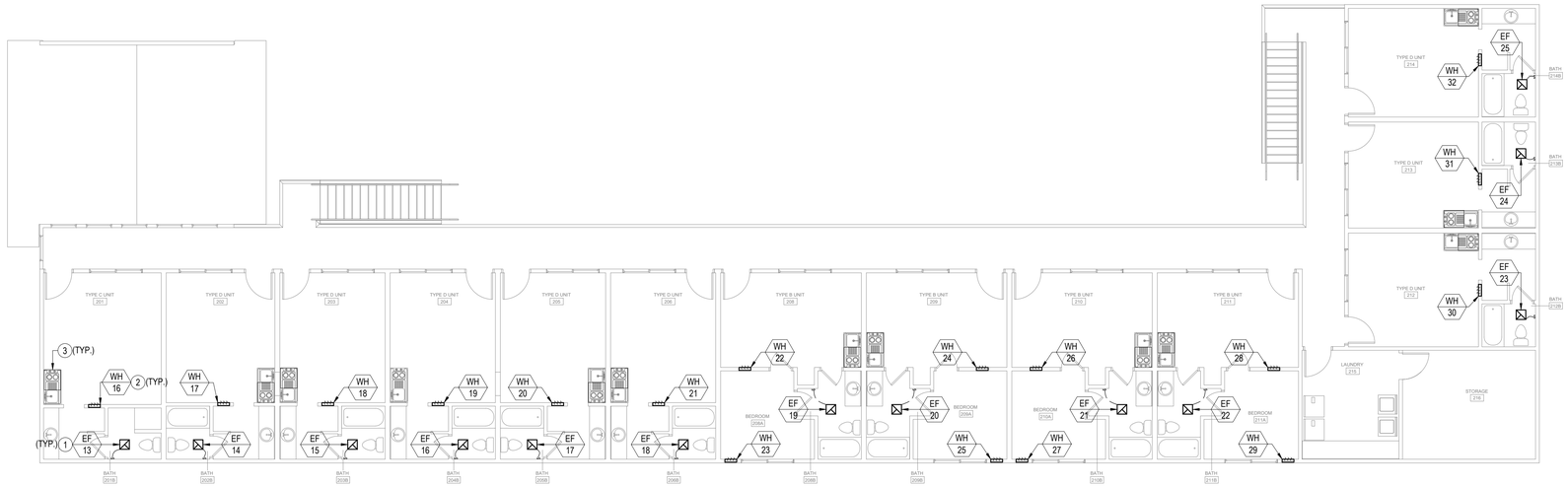
SHEET NAME:

HVAC PLAN
BUILDING 1
FIRST FLOOR

ISSUE DATE:	03/11/22
PERMIT SET	
DRAWN BY:	CK
DESIGNER:	
PROJ MGR:	
PEER REVIEW:	JT/MT

SHEET NUMBER:

M1.01



1 HVAC PLAN - BUILDING 1 SECOND FLOOR

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

GENERAL SHEET NOTES

A. NOTES FOR UNIT 101 SHALL BE TYPICAL FOR ALL UNITS, UNLESS OTHERWISE NOTED.

B. EXISTING WALL HEATERS TO BE REMOVED AND REPLACED. NEW LOCATION OF WALL HEATERS SHOWN.

C. EXISTING EXHAUST FANS TO BE REMOVED AND REPLACED. NEW EXHAUST FANS TO BE PROVIDED.

HVAC SHEET NOTES

1. PROVIDE NEW RESTROOM EXHAUST FAN AT PREVIOUS FAN LOCATION. PROVIDE WITH NEW 30 MINUTE TIME DELAY SWITCH. CONNECT NEW FAN INTO EXISTING RESTROOM EXHAUST DUCTWORK. PATCH ADJACENT SURFACES.

2. MOUNT ELECTRIC WALL HEATER IN WALL PER MANUFACTURERS RECOMMENDATIONS. REFER TO MANUFACTURER'S INSTALL MANUAL FOR ADDITIONAL MOUNTING DETAILS. CONFIRM LOCATION WITH ARCHITECT BEFORE CONSTRUCTION.

3. MECHANICAL RE-CIRCULATION HOOD WITH CHARCOAL FILTRATION. INSTALL PER MANUFACTURER'S IOM.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER
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PROJECT:

THE LEGACY RENOVATION

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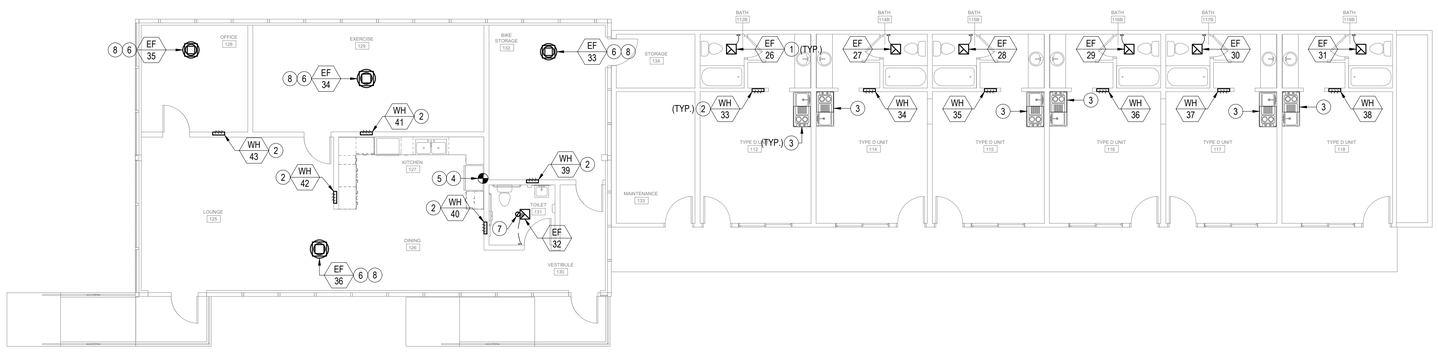
SHEET NAME:

HVAC PLAN
BUILDING 1
SECOND FLOOR

ISSUE DATE:	03/11/22
PERMIT SET	
DRAWN BY:	CK
DESIGNER:	
PROJ MGR:	
PEER REVIEW:	JT/MT

SHEET NUMBER:

M1.02



1 HVAC PLAN - BUILDING 2

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

GENERAL SHEET NOTES

A. NOTES FOR UNIT 112 SHALL BE TYPICAL FOR ALL UNITS, UNLESS OTHERWISE NOTED.

B. EXISTING WALL HEATERS TO BE REMOVED AND REPLACED. NEW LOCATION OF WALL HEATERS SHOWN.

C. EXISTING EXHAUST FANS TO BE REMOVED AND REPLACED. NEW EXHAUST FANS TO BE PROVIDED.

HVAC SHEET NOTES

1. PROVIDE NEW RESTROOM EXHAUST FAN AT PREVIOUS FAN LOCATION. PROVIDE WITH NEW 30 MINUTE TIME DELAY SWITCH. CONNECT NEW FAN INTO EXISTING RESTROOM EXHAUST DUCTWORK.
2. MOUNT ELECTRIC WALL HEATER IN WALL PER MANUFACTURERS RECOMMENDATIONS. REFER TO MANUFACTURER'S INSTALL MANUAL FOR ADDITIONAL MOUNTING DETAILS. CONFIRM LOCATION WITH ARCHITECT BEFORE CONSTRUCTION.
3. MECHANICAL RE-CIRCULATION HOOD WITH CHARCOAL FILTRATION. INSTALL PER MANUFACTURER'S IOM.
4. ROUTE KITCHEN EXHAUST DUCT UP THROUGH ROOF TO GREENHECK GRS-6 GRAVITY VENTILATOR. FLASH AND SEAL WEATHERTIGHT.
5. S.A.D. FOR KITCHEN EXHAUST HOOD. ADAPT AND TRANSITION AS REQUIRED
6. PROVIDE ROOF EXHAUST FAN. INSTALL PER MANUFACTURE'S RECOMMENDATIONS. REFER TO MANUFACTURER'S INSTALL MANUAL FOR ADDITIONAL MOUNTING DETAILS. CONFIRM LOCATION WITH ARCHITECT BEFORE CONSTRUCTION.
7. 6"Ø EXHAUST AIR DUCT UP THROUGH ROOF TO A GREENHECK GRAVITY RELIEF VENTILATOR (GRSR-8 OR APPROVED), FLASH AND SEAL WEATHERTIGHT.
8. TRANSITION EXHAUST AIR DOWN TO 24" X 24" TITUS 50FF EXHAUST GRILLE AT CEILING/ROOF.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER
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PROJECT:

THE LEGACY RENOVATION

665 L STREET
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95531

SHEET NAME:

HVAC PLAN BUILDING 2

ISSUE DATE:	03/11/22
PERMIT SET	
DRAWN BY:	CK
DESIGNER:	
PROJ MGR:	
PEER REVIEW:	JT/MT

SHEET NUMBER:

M1.03

ANCHORAGE & BRACING NOTES

M/E/P Component Anchorage Note

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

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

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

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

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

Piping, Ductwork, and Electrical Distribution System Bracing Note

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

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

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

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

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

APPLICABLE CODES & STANDARDS REFERENCES

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

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

PARTIAL LIST OF APPLICABLE STANDARDS

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

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

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

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

ELECTRICAL DEVICES

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

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

CONTROLS

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

LOW VOLTAGE

- CEILING SPEAKER
- WALL MOUNTED SPEAKER: +96" A.F.F. U.O.N., 3/4" CONDUIT STUBBED INTO ACCESSIBLE SPACE ABOVE CEILING
- WP EXTERIOR SPEAKER: +96" A.F.F. U.O.N., 3/4" CONDUIT STUBBED INTO ACCESSIBLE SPACE ABOVE CEILING
- SPEAKER/ CLOCK: +96" A.F.F. U.O.N., 1" CONDUIT STUBBED INTO ACCESSIBLE SPACE ABOVE CEILING
- DATA OUTLET - WALL MOUNTED +18" A.F.F.
- DATA OUTLET - NOTED MOUNTED
- WP WAP DATA OUTLET FOR EXTERIOR WIRELESS ACCESS POINT, +10'-0" A.F.F.
- VOICE/DATA OUTLET - WALL MOUNTED +18" A.F.F.
- VOICE/DATA OUTLET - NOTED MOUNTING
- VOICE OUTLET - WALL MOUNTED +18" A.F.F.
- VOICE OUTLET - +48" A.F.F. TO CENTER WITH PHONE MOUNT KEYSTONE WALL PLATE, SINGLE GANG, 1-PORT STAINLESS STEEL
- DATA OUTLET - FLOOR MOUNTED
- VOICE OUTLET - FLOOR MOUNTED
- VOICE/DATA OUTLET - FLOOR MOUNTED
- DATA OUTLET - CEILING MOUNTED
- WAP DATA OUTLET - CEILING MOUNTED FOR WIRELESS ACCESS POINT.
- TV OUTLET, WALL MOUNTED +18" A.F.F., U.O.N., 3/4" CONDUIT STUBBED INTO ACCESSIBLE SPACE ABOVE CEILING
- AV1 4-GANG IN-WALL A/V CONNECTION ENCLOSURE (HUBBELL #NSAV124M) WITH (1) RECEPTACLE POWER KIT MOUNTED AT +60" AT FLAT PANEL LOCATION. PROVIDE 1" CONDUIT TO ACCESSIBLE CEILING SPACE

SECURITY

- MS SECURITY MOTION SENSOR: +84" AFF TO TOP OF SINGLE GANG BOX, 3/4" CONDUIT STUBBED TO ACCESSIBLE SPACE ABOVE CEILING
- K INTRUSION ALARM KEYPAD: +44" TO TOP OF SINGLE GANG BOX, 3/4" CONDUIT STUBBED TO ACCESSIBLE SPACE ABOVE CEILING
- C SINGLE GANG BOX FOR SECURITY CAMERA: 3/4" CONDUIT TO ACCESSIBLE SPACE ABOVE CEILING, MOUNT HIGH ON WALL, VERIFY BOX LOCATIONS AND HEIGHTS WITH DISTRICT PRIOR TO ROUGH-IN
- DC SECURITY DOOR CONTACT: 1/2" CONDUIT FROM DOOR FRAME STUBBED TO ACCESSIBLE SPACE ABOVE CEILING

CIRCUITING

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

EQUIPMENT

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

LIGHT FIXTURES

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

ADA REQUIREMENTS

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

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

DIAGRAMS

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

MISCELLANEOUS

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

ABBREVIATIONS

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

ELECTRICAL SHEET INDEX

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER — COURTNEY A. CUNNINGHAM — No. E18225 Exp. 12-31-23 — ELECTRICAL — STATE OF CALIFORNIA

1/7/22

CONSULTANT:

BrokawDesign
P.O. BOX 3103
ROHNERT PARK, CA 94927
WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA.
95531

SHEET NAME:

ELECTRICAL LEGEND AND ABBREVIATIONS

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

SHEET NUMBER:

E001

ELECTRICAL SPECIFICATIONS 26 00 00

1.01- RELATED DOCUMENTS
- A. The General Conditions, Supplementary Conditions and Division 1 apply to the electrical work.

1.02 - WORK INCLUDES
- A. Work included in this section: All materials, labor, equipment, services, and incidentals necessary to install the Electrical Work as shown on the drawings and as specified hereinafter, including, but not limited to the following:
  1. Distribution system, including main switchboard, panelboards, and feeders.
  2. Branch circuit wiring, wiring devices and connections to all equipment requiring electrical service.
  3. Lighting fixtures with hangers, anchors and supports. Lighting Controls.
  4. Electrical equipment grounding system.
  5. Mechanical equipment power and control connections as stated in the mechanical and electrical specifications and as shown on the mechanical and electrical drawings.
  6. Sleeves, inserts and blocking in cast concrete as required for work in this section.
  7. All required incidental work, such as excavating and backfilling, roof flashing, and testing.
  8. Any other electrical work as might reasonably be implied as required, even though not specifically mentioned herein or shown on the drawings.

1.03 - INCORPORATED DOCUMENTS
- A. Requirements of the General Conditions, Supplementary Conditions, and Division 1. Sections apply to all work in this Section, unless modified herein.
- B. Published specifications, standard tests or recommended methods of trade, industry or government organizations apply to work of this Section where cited by abbreviations noted below, unless modified herein.
  1. National Electrical Code, latest edition, (NEC).
  2. NEMA standards
  3. Underwriters' Laboratories, Inc. (UL).
  4. Local Utility Company regulations.
  5. National Fire Protection Association (NFPA)
  6. California Administrative Code (CAC)
- C. All State and Municipal Codes and Ordinances recognized by the Authority Having Jurisdiction, including but not limited to:
  1. Latest Edition - BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE C.C.R.
  2. Latest Edition - CALIFORNIA BUILDING CODE (CBR), PART 2, TITLE 24 C.C.R.
  3. Latest Edition - CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R.
  4. Latest Edition - CALIFORNIA ENERGY CODE, PART 6, TITLE 24 C.C.R.
  5. Latest Edition - CALIFORNIA HISTORICAL BUILDING CODE, PART 8, TITLE 24 C.C.R.
  6. Latest Edition - CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R.
  7. Latest Edition - CALIFORNIA REFERENCE STANDARDS, PART 12, TITLE 24 C.C.R.
  8. Latest Edition - TITLE 19 C.C.R.

1.05 - QUALITY ASSURANCE
- A. Conformance:
  1. All work shall conform to the applicable requirements of Article 1.03 above.
  2. The Contractor shall notify the Architect, prior to submission of bid, about any part of the design which fails to comply with abovementioned requirements.
  3. If after contract is awarded, minor changes and additions are required by aforementioned authorities, even though such work is not shown on drawings or covered in specifications, they shall be included at Contractor's expense.
- B. Coordination:
  1. The Contractor shall become familiar with the conditions at the job site, and with the drawings and specifications and plan the installation of the electrical work to conform with the existing conditions and that shown and specified so as to provide the best possible assembly of the combined work of all trades.
  2. The Contractor shall work out in advance all "tight" conditions, involving all trades and if found necessary, supplementary drawings shall be prepared by this Contractor, for the Architect's approval, before work proceeds in these areas. No additional costs will be considered for work which must be relocated due to conflicts with the work of other trades.

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

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

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

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

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

1.11 - REQUIREMENTS
- A. The contract drawings indicate the extent and general arrangements of the conduit wiring systems, etc. If any departures from the contract drawings are deemed necessary by the Contractor, details of such departures and the reasons therefore shall be submitted as soon as practicable, and within 10 days after award of the electrical contract.
- B. UNLESS MATERIAL LIST AND DATA IS RECEIVED AS A COMPLETE AND ALL INCLUSIVE SUBMITTAL WITHIN THE STIPULATED TIME ALL ITEMS SHALL BE PROVIDED AS SPECIFIED- WITH NO DEVIATIONS PERMITTED.
- C. Any and all additional costs incurred by the substitution of electrical material or equipment, or installation thereof, whether architectural, structural, plumbing, mechanical or electrical, shall be borne by the Contractor under this section.

1.12 - IDENTIFICATION
- A. Switchboards, feeder circuit breakers in switchboards, panels, disconnect switches, motor starters and motor disconnect switches, cabinets, and other apparatus used for the operation of, or control of circuits, appliances or equipment, shall be properly identified by means of engraved laminated plastic descriptive nameplates mounted on apparatus using stainless steel screws. Nameplates shall have white letters with black background and be submitted to the Architect for approval. Cardholders in any form are not acceptable.
- B. Each branch circuit of panelboards to have a permanently fixed number with directory, mounted under celluloid on inside of cabinet door, showing circuit numbers, room number feed and typewritten description of equipment supplied by breakers.

PART 2 - PRODUCTS:

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

2.02 - MATERIALS
- A. Conduit
  1. Conduit shall be delivered to the site of construction in the original bundles. Each length shall bear the label of the National Board of Fire Underwriters. All conduit subjected to rough usage while on the job, before installation, shall be removed from the premises upon notice.
  2. Raceway and boxes located as indicated on drawings and at other locations required for splices, taps, wire pulling, equipment connections, and compliance with regulatory requirements. Raceway and boxes are shown in approximate locations unless dimensioned. Provide raceway to complete wiring system.
  3. Properties:
     - a. Rigid Steel: Hot dipped galvanized with completely watertight fittings.
       - Couplings and elbows in soil or under membrane to be 1/2 tape wrapped with Scotch #50 tape and threaded ends coated with red lead prior to installation of couplings
     - b. "Schedule 40" PVC shall be provided with code size minimum bare No. 12 ground wire
       - "Schedule 40 or 80" elbows
       - "Schedule 40 or 80" or RGS stub-ups.
     - c. Flexible metal type:
       - Flexible metal type provide with code size (minimum No. 12) bare ground wire in all flexible conduit.
  4. Installation:
     - a. Install no more than the equivalent of three 90 degree bends between boxes or outlets
     - b. Use flush mounting outlet boxes in finished areas.
       - Do not install flush mounting boxes back-to-back in walls.
       - Provide minimum 6-inch separation between adjacent boxes.
       - Provide minimum 24-inch separation in acoustic rated walls.
       - Secure flush mounting box to interior wall and partition studs.
       - Accurately position to allow for surface finish thickness.
       - Install flush mounting box without damaging wall insulation or reducing its effectiveness.
     - c. Support boxes independently of conduits.
     - d. Conduit Bends - Long Radius.
     - e. Provide conduit seals at all concrete slab penetrations.
  5. Installation Location:
     - a. Outdoor Locations:
       - Above Grade: Provide RGS conduit tape wrapped.
       - In Soil: Provide Sched 40 or 80 PVC with Sched 40 or 80 PVC elbows. Tape wrapped RGS may be used for stub-up.
       - In Concrete: Provide hot dipped galvanized rigid steel or Sched 40 PVC Conduit.
       - Motor / Flexible Connection: WP Flexible metal conduit.
       - Watertight and corrosion resistant fittings, couplings, boxes, etc.
     - b. Indoor Locations:
       - Exposed Dry Locations: Provide EMT or RGS.
       - Concealed Dry Locations: Provide electrical metallic tubing unless otherwise noted. MC cable may be used as described below under Power and Wiring.
     - c. Locations subject to Corrosive Atmosphere: Provide PVC coated, galvanized rigid steel or intermediate steel conduit. Provide PVC coated cast or sheet metal boxes.
     - d. Hazardous Locations (Per NEC Article 500): Galvanized rigid steel conduit. Cast iron boxes with threaded hubs for conduit entry. Conduit seals.

- D. Power Wire and Cable:
  1. Installation:
     - a. Feeders from Building Switchboard to Individual Apartment Complex:
       - Design based on Aluminum SER Cable with the assumption the contractor can route cabling to have no contact with insulation.
       - •• If contractor believes contact with insulation will occur contractor shall state in bid as separate line item cost of design modification including increase or modified wire size and/ or wire type.
       - May substitute MC Cable (AL or CU) or THHN Copper cable in conduit.
     - b. Indoor Feeders from Building Switchboard to House Panel:
       - Shall be Conduit with THHN or THWN Cu Conductors.
       - Sized as shown on Single Line Diagram.
     - c. House Panel Branch Circuits
       - Shall be Conduit with THHN or THWN Cu Conductors.
       - Minimum #12 AWG for power wiring.
     - d. Apartment Branch Circuits
       - Copper Conductors
       - MC Cable, Romex or Conduit and Wire are acceptable.
       - Min #14 AWG for power wiring. See Panel schedules for wire sizes.
     - e. Connections to devices from "through_feed" branch circuit conductors to be made with pigtails, with no interruption of the branch circuit conductors.
     - f. Neutral conductor identified by white outer covering braid, with different tracers of "EZ" numbering tags used where more than one neutral conductor is contained in a single unit.
     - g. Neatly arrange and "marlin" wired in panels and other equipment with "T and B Ty-rap" or approved equal plastic type strapping.
     - h. Label each wire of each electrical system in each pull box, junction box, outlet box, terminal cabinet, and panelboard in which it appears with "EZ" numbering tags.
  2. Properties:
     - a. Copper 90% conductivity. Solid copper for conductors smaller than No. 10 AWG. Stranded copper for conductors No. 10 AWG and larger. No conductors smaller than No. 12 AWG, except as noted.
     - b. Insulation type: #12 to #1/0 AWG: THWN for wet locations and THHN for dry locations. #1/0 through #4/0 AWG: XHHW (55 Mils). 250MCM and larger: XHHW (65 Mils).
     - c. All wire and cable shall bear the Underwriters' Label, brought to the job in unbroken packages; wire color coded as follows:

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

- E. Grounding:
  1. Provide and install grounding system as noted on the Drawings.
  2. Provide and install a grounding electrode system on all separate buildings.
  3. Grounding electrode conductor: bare stranded copper type, #1/0 minimum or per NEC Table 250.66.
  4. Install ground wires in rigid conduit. Provide physical protection for grounding electrode and bonding conductors in accordance with NEC 250-64. Grounding conductors shall be in conduit and installed in accordance with NEC 250-64(e).
  5. All grounding electrode conductor connections "thermite" or "cad_weld" welded.
  6. Use approved pressure type solderless connector or use fusion welding for all connections to and bonding of grounding electrode system. All connections shall be visible, readily accessible for testing purposes.
  7. Terminate grounding conduits at equipment with ground bushing, with ground wire connected through bushing.
  8. Provide No. 12 stranded (green) THHN conductor from outlet box to ground screw of every receptacle.
  9. Ground all isolated sections of metallic raceways.
  10. Provide #12 minimum stranded (green) THHN conductor sized per NEC, or as noted, connected continuously throughout branch circuit for all circuits, bonded to panel ground bus, and to all electrical devices and equipment enclosures.
  11. Provide an unspliced grounding electrode conductor to the grounding electrode system
  12. Where the transformer supplying the service is located outside the building, at least one additional grounding connection shall be made from the grounded service conductor to a grounded electrode at the transformer.
  13. After installation, test system, using the three-point fall of potential method only. Record results and submit to Architect for approval. If resistance to ground exceeds three (3) ohms, install additional ground rods, bonded and interconnected to grounding electrode system. Provide additional grounding until resistance is less than three (3) ohms.
  14. Provide a bonding jumper to the building interior metal water piping, exposed interior structural steel, interior metal gas piping, and other interior metal piping in accordance with nec 250-68. establish the connections at accessible locations and provide bonding jumpers across removable or electrically non-continuous joints.
  15. Connect grounding electrode system to metallic water service entry metallic cold water pipe (if available) with nonferrous clamp and 1-#4 B.C. in conduit, connection shall be accessible for inspection.
  16. Connect grounding electrode system to building steel . Use exothermic weld, connection shall be accessible for inspection.
  17. Grounding Electrode System shall be as follows:
      - a. The grounding electrode system shall consist of a ufer ground (if feasible), all available building metal structure, all available metal underground water piping, and ground rods (made electrodes) or ground ring (if ufer ground it not available, in existing building or if resistance needs to be lowered). bond the electrodes together in accordance with NEC 250-50.
        - Ufer Ground:
          Provide a concrete encased (ufer) grounding electrode per NEC 250-52(3) consisting of at least 30' of bare copper conductor min #1/0 awg (or sized per nec table 250.66) encased in concrete, conductor located 2-inch min from bottom. concrete foundation shall be in direct contact with the earth. This ufer ground shall be of the same size and continuous with the grounding electrode conductor as indicated. Embed in foundation with a loop at approximate center, brought out at top of foundation adjacent to building service equipment for connection to service equipment and for bonding to other parts of the grounding system.
        - Ground Ring:
          Provide a ground ring encircling the building per NEC 250-52(4) consisting of at least 40' of bare copper conductor min #4/0 awg. the ground ring shall be buried at a depth not less than 30 inches below the earths surface.
        - Ground Rod:
          Furnish and install two "Copperweld" 3/4" x 10'-0" ground rods a minimum of 10'-0" apart. Install ground rods in accessible boxes with covers. Furnish and install 2-#4/0 bare copper cables between ground rods and main switchboard ground bus. Provide an additional ground rod if resistance of ground rod exceeds 25 ohms. Ground rod spaced a minimum of 6-feet apart in accordance with NEC 250-56.

- B. Conduit Fittings:
  1. Metal Conduit Fittings shall conform to the requirements of UL 514B where this standard applies. Galvanized steel fittings shall be used with steel conduit. Threaded fittings shall engage a minimum of five threads made up wrench-tight and be compatible with conduit. EMT fittings shall be compression type, UL approved for rain tight applications and setscrew type with insulated throat for indoor applications.
  2. Liquid-Tight Flexible Conduit Fittings shall be galvanized steel, T&B 53XX series insulated throat, and shall bear the UL label. Die-cast malleable fittings are not acceptable.
  3. Liquid-Tight Flexible Metal Conduit Fittings shall be galvanized steel..
  4. Non-Metallic Conduit Fittings shall be of same material and strength characteristics as the conduit and shall be solvent welded as recommended by manufacturer. End bells shall be plastic, high impact, tapered to fit. Where conduit transition from non-metallic to metallic is required, provide non-metallic female “terminal” adapter. Non-metallic “male” adapters are not acceptable.

- C. Outlet Boxes and Junction Boxes:
  1. Galvanized one piece steel knockout type, unless otherwise noted, sizes as required for conditions at each outlet or as noted, not smaller than 2 inches wide by 4 inches high, ganged where multiple switch locations are indicated.
  2. Outlet boxes located on exterior to be flush type with Weatherproof extra duty In-Use cover with lockable covers for receptacles.
  3. All connectors from conduit to junction or outlet boxes shall have integral insulated throats.
  4. Outlet boxes for telephone and cable TV outlets shall be 4" square minimum with single gang plaster rings.
  5. Concrete pull boxes and hand holes for power, lighting, controls and telecommunications shall be pre-cast concrete boxes, sized as indicated on the drawing or per NEC requirements. Pull boxes shall be equipped with a concrete cover for non traffic rated locations OR cast-in frame, galvanized steel, adjustable, high impact traffic cover (H-20 load rated), lifting lugs, and conduit knock-outs. Knockout location and sizes shall be coordinated with the duct bank for each location. Cover shall be engraved with the words - - “POWER”, “LIGHTING”, “CONTROLS”, "COMM/DATA", “TELEPHONE” or similar as applicable.

- E. Telecommunication Wiring/ Receptacles:
  1. Category 6 UTP cable: Unshielded, 4 twisted-pair, 24 AWG copper, Category 6
  2. Indoor Fiber Optic backbone cable: 12 strand, 62.5/125 m, multi-mode, riser type, NEC rated OFNR/FT4, color coded, ripcord, 900 m buffer coating
  2. Telephone single port: Leviton 40644-00W or equal.
  3. For Indoor TV outlets: single gang with cable TV jack.

- F. Receptacles: Leviton Decora style or equal, 125 volts, specification grade, conventional style, white color, unless otherwise noted:
  1. 15A 3PG 125 volt duplex TP - Leviton T5325-W or equal
  2. 15A 3PG 125 volt duplex TP with USB - Leviton T5632-W
  3. 20A 3PG 125 volt duplex TP - Leviton T5825-W or equal
  2. 20A 3PG 125 volt duplex TP with USB - Leviton T5832-W
  3. 15A 3PG 125 volt duplex AFCI TP - Leviton AFTR1-W or equal
  4. 20A 3PG 125 volt duplex AFCI TP - Leviton AFTR2-W or equal
  3. 20A 3PG 125 volt duplex GFCI/AFCI TP - Leviton AGTR2-W or equal
  4. 20A 3PG 125 volt duplex GFCI TP - Leviton GFWT2-W or equal
  5. 15A 3PG 125 volt duplex TP Pop-up floor box - Leviton PFTR1 (verify color)
  5. 15A 3PG 125 volt duplex TP with USB Pop-up floor box - Leviton PFUS1 (verify color)
  6. 20A 3PG 125 volt duplex TP Pop-up floor box - Leviton PFTR2 (verify color)
  6. 20A 3PG 125 volt duplex TP with USB Pop-up floor box - Leviton PFUS2 (verify color)
  7. 20A 3PG 125 volt isolated ground receptacle, 3 wire, orange color 1 I.G.
  8. Special appliances receptacles: Match NEMA configuration of equipment plug.

- H. Plates: Leviton white, or equal, except as noted:
  1. For Indoor flush outlet boxes: Decora Style.
     - 1.1. Single gang: Leviton 80301-SW (snap) or equal
     - 1.2. Double gang: Leviton 80309-SW (snap) or equal
  2. Plates for surface mounted outlets: galvanized steel unless otherwise noted.
  3. Exterior Locations - Weatherproof extra duty In-Use cover - Leviton 5980-UCL or equal.

- I. Main Switchboard:
  1. The switchboard shall be constructed of National Electrical Code (NEC) gauge steel.
  2. All connections between bus bars shall be of a bolted type using Belleville washers. Clamps will not be accepted. All bus bars shall be accurately formed, and all holes shall be made in a manner which will permit bus bars and connections to be fitted into place without being forced.
  3. The design of all current_carrying devices or parts of the switchboard shall conform to the standard specified in the related sections of Underwriters' Laboratories, Inc. (UL) No. UL_891 and National Electric Manufacturer's Association (NEMA) Standard PB_2, except as these characteristics may be modified herein.
  4. Bus bars, connection bars and wiring on the back of the switchboard shall be arranged so that maximum accessibility is provided for cable connections from the front.
  5. Ampere ratings for rectangular bus bars shall be in accordance with the temperature rise standard of National Electric Manufacturer's Association (NEMA) and the Underwriters' Laboratories, Inc. (UL).
  6. The enclosure shall be chemically cleaned by parkerizing, bonderizing or phoshorizing as a unit after all welding has been completed. The enclosure shall then be painted with a rust_ resisting primer coat of paint and shall be finished with a coat of light gray/ wall color baked enamel.
  7. Each section shall be bussed for the full connected load of that section. Extend bussing to spare circuit breaker "Spaces." Drill busses for future circuit breakers, and provide breaker connector hardware as required.
  8. Provide copper bus bars on Panels and connections with silver_plated contact surfaces. Aluminum Bus bars may be substituted in the Main Switchboard and Apartment Panels only.
  9. The contact surfaces and studs of all devices to which bus connections are made shall also have silver_plated surfaces.
  10. Locate ground bus, with a cross_section equal to at least 25 percent of the capacity of the main bus rating, in the back of the switchboard and extend bus throughout the length of the switchboard assembly. Ground each housing of the assembly directly to this bus.
  11. Rigidly support all bus and connection bars and current transformers.
  12. Fit all nuts and connections with locking devices to prevent loosening.
  13. Provide load connections with solderless lugs. Factory_install all devices shown on Drawings as specified herein.
  14. Provide half-inch copper braid pigtail at side of switchboard enclosure for termination of signal system ground cables. Pigtail to be located on side of distribution section.
  21. Provide transient voltage surge protection, integral to or adjacent to the the main switchboard when indicated on the plans or where otherwise noted on the plans. Provide surge protection on all new dwelling unit services.
  22. If multiple disconnects are present, each shall be in a dedicated compartment.

- F. Circuit Breakers:
  1. General: Circuit breakers shall be molded case rated for 240 volts, multiple or single pole and amperage rating as shown on the drawings, bolt on, manually operated with "de-ion" arc chutes.
  2. Main circuit breaker shall be shall be rated to interrupt the available short circuit current from utility company requirements. Main Circuit breaker shall be in it's own compartment.
  3. Branch circuit breakers shall be fully rated for the amps interrupting capacity or U.L. series rated with the main circuit breakers.
  4. Where mechanical equipment is U.L. listed for overcurrent protection with fuses or HACR type circuit breakers, provide fuses where a fused switch is shown. Where the overcurrent protection is a circuit breaker provide HACR, (HACR means Heating, Air-Conditioning and Refrigeration) type.
  5. Provide AFCI circuit breakers in all bedrooms.
  6. Provide tamper resistant receptacles for all 125V, 15 and 20A receptacles less than 5.5ft AFF. Tamper resistance receptacles are not required where the receptacle is dedicated to a specific appliance.
  7. Provide GFCI rated circuit breakers in all locations within 6-feet of water.

- Q. Lighting Fixtures:
  As listed in fixture schedule, and on drawings as indicated by type letter, completely lamped with new lamps, properly operating at time of acceptance of electrical work. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
  - a) Standards:
    - ENERGY STAR certified.
    - California Title 24 compliant.
    - UL Listing: Listed for damp location.
    - Recessed luminaires shall comply with NEMA LE 4.
  1. Lamps:
     - a. Unless otherwise noted, lamps described on the Drawings and in these Specifications, are ANSI nomenclature; lamps shall be manufactured by Osram/Sylvania, North American Philips, or approved equal.
     - b. All incandescent lamps and tungsten halogen lamps shall be 125 -130 volt rated extended life or 2,000 hour life whenever such designs are available.
     - c. T8 fluorescent lamps shall be 3500K-4100K color temperature, energy saving type suitable.
     - d. Compact fluorescent lamps shall be 3500K-4100K color temperature, twin-tube and double twin tube (as required for each fixture), as manufactured by North American Philips, approved equal.
     - e. LED lamps shall be 3000K-4100K color temperature. All LED shall be 0-10V dimming unless specifically stated otherwise. If contractor finds a fixture is not available with 0-10V dimming and the contractor shall alert the GC prior to Bid.
     - f. CRI of minimum 80. CCT
     - g. Rated lamp life of 35,000 hours to L70.
     - h. Lamps dimmable from 100 percent to 1 percent of maximum light output.

- Q. Lighting/Fan Control Devices:
  - Q.A. Residential Dwelling Units:
    1. Dimmer - Single, Decora, (Interior Dimmer switch) Acuity WPD WH or equal. can be 3-way when paired with toggle switch.
    2. Timer switch - Decora, Leviton LTB60-1LZ or equal (Exterior Porch light, Balcony light when paired with photocell, Bathroom Fan)
    3. Fan Timer switch - 60 min max. Acuity PTSA 60 WH or equal.
    4. Astronomical - programmable Timer switch, Decora Leviton VPT24-1PZ (Exterior Porch, Balcony)
    5. Toggle switch - Leviton 18201-W or equal (For 3-way)

PART 3 - EXECUTION

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

3.02 - PREPARATION
- A. Drawings
  1. The general arrangement and location of wiring and equipment is shown on the electrical drawings and shall be installed in accordance therewith, except for minor changes required by conflict with the work of other trades.
  2. Control wiring is generally not shown on the plans. Contractor shall refer to control diagrams and provide and install all wiring and raceways required to make all interconnections.
  3. All dimensions, together with locations of doors, partitions, etc. are to be taken from the Architectural Drawings, verified at site by this Contractor.
  4. Maintain "as-constructed" Record Drawings at all times, showing the exact location of concealed conduits and feeders installed under this contract, and actual numbering of each circuit. Upon completion of work and before acceptance can be considered, this Contractor must forward to the Owner's Representative corrected Record Drawings in Autocad format indicating the electrical work as installed.

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

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

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

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

3.07 - TESTING
- A. Grounding System:
  1. All ground connections shall be checked and the entire system shall be checked for continuity. The resistance of the ground system shall be measured using a 3 point fall_of_potential method. The maximum ground resistance shall be three ohms. If the measured ground resistance exceeds three ohms, additional ground rods shall be installed until a value of three ohms or less is obtained.
  2. Ground tests shall meet the requirements of the National Electric Code.
- B. Lighting Systems:
  1. The interior and exterior lighting systems shall be checked for proper local controls and operation of entire installation, including the operation of the low voltage lighting control system.
- C. Power Distribution System:
  1. Tests: Test main switchboard, distribution boards,and panelboards for grounds and shorts with mains disconnected from feeders, branch circuits connected and circuit breakers closed, all fixtures in place and permanently connected and grounding jumper to neutral lifted and with all wall switches closed.
  2. Test each individual circuit at each panelboard with equipment connected for proper operation. Inspect the interior of each panel.
  3. Check verification of color coding, tagging, numbering, and splice make up.
  4. Verify that all conductors associated with each circuit are in same conduit.
  5. Demonstrate that all lights, jacks, switches, outlets,and equipment operate satisfactorily and as called for.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER
COURTNEY A. CHUVENYANE
No. E18225
Exp. 12-31-23
ELECTRICAL
STATE OF CALIFORNIA

1/7/22

CONSULTANT:

BrokawDesign

P.O. BOX 3103
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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA.
95531

SHEET NAME:

ELECTRICAL SHEET SPECIFICATION

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

SHEET NUMBER:

E002

KEYED NOTES - SITE (X)

1. (E) MAIN SEREVICE PANEL AND METER - COORDIANTE POWER OUTAGES WITH PG&E FOR REPLACEMENT OF (E) SERVICE RISER AND WEATHERHEAD. PROVIDE NEW WEATHERHEAD PER PG&E REQUIREMENTS. SEE E601 FOR SINGLE LINE DIAGRAM.

2. BRANCH SERVICE PANELS. SEE SINGLE LINE DIAGRAM E601.

SHEET NOTES - SITE ELECTRICAL

A. LOCATION OF INDICATED (E) U/G UTILITIES IS DIAGRAMMATIC. THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES AND LOCATE NEW EQUIPMENT TO SUIT THE PROJECT CONDITIONS.

B. PROJECT INFORMATION HAS BEEN SENT TO THE UTILITY COMPANIES FOR THEIR ENGINEERING. COORDINATE EXACT SERVICE REQUIREMENTS WITH THE FOLLOWING:
   - ELECTRICAL SERVICE: _____
   - TELEPHONE SERVICE: _____
   - CABLE TELEVISION: _____

C. COORDINATE ALL REQUIRED INSPECTIONS WITH THE UTILITY COMPANIES PRIOR TO UTILITY COMPANY TRENCH(S) BACKFILLING.

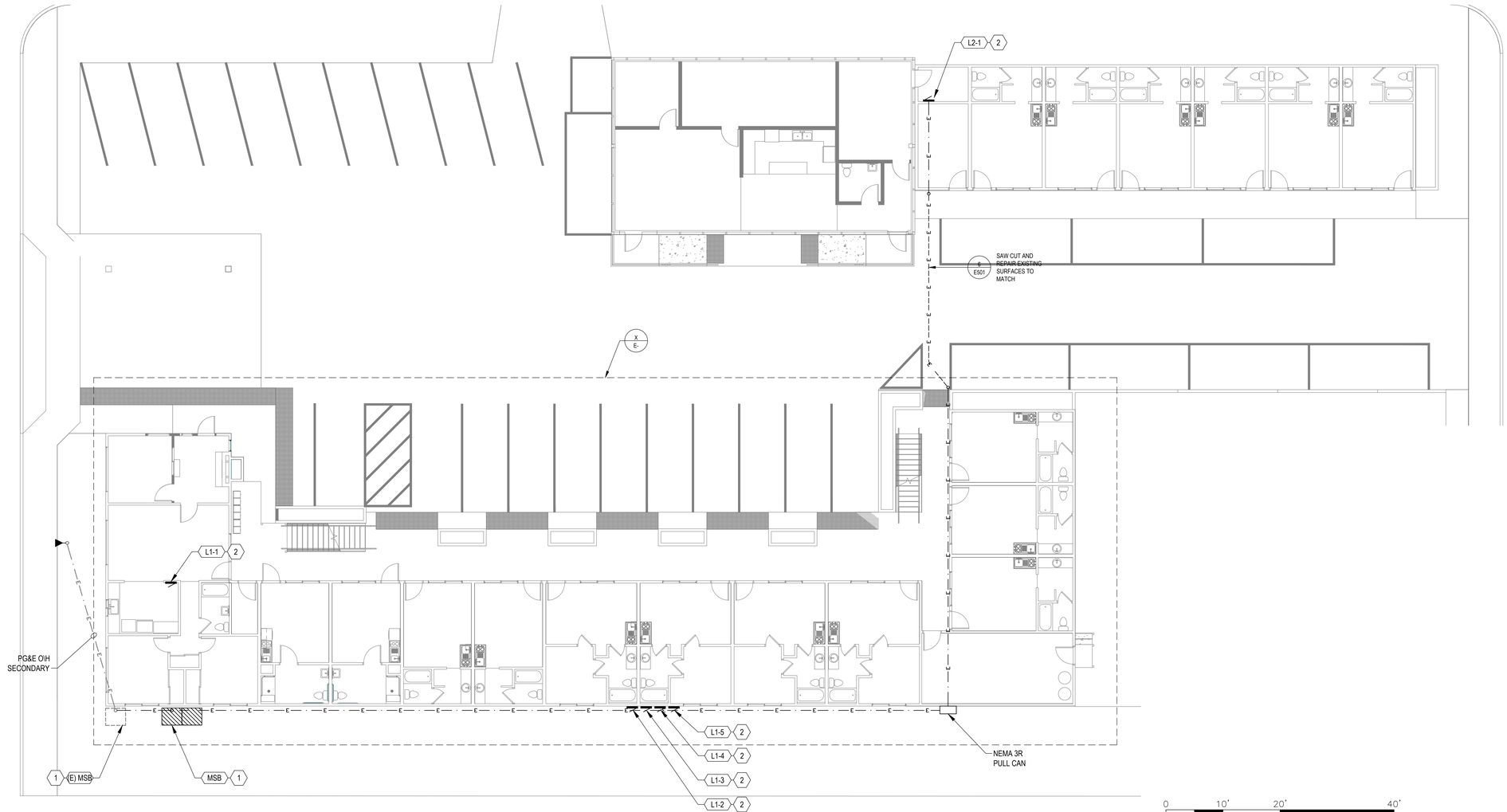
D. PROVIDE ALL NECESSARY SAW CUTTING AND REPAIR TO (E) FINISHED SURFACES REQUIRED TO PROVIDE ELECTRICAL AND TELEPHONE UTILITIES.

E. COORDINATE ALL REQUIRED WORK AND LOCATIONS OF SERVICE REQUIREMENTS WITH THE UTILITY COMPANIES PRIOR TO BEGINNING ANY EXCAVATION.

F. THE CONTRACTOR SHALL PROVIDE SCALE SHOP DRAWINGS FOR ALL SITE REQUIRED PULL BOX LOCATIONS. SHOP DRAWING SHALL INDICATE PULL BOX ORIENTATION, NOMENCLATURE, SIZE AND TRAFFIC RATING WHEN APPLICABLE.

G. MINIMUM SIZE OF UNDERGROUND CONDUIT SHALL BE 1".

H. TYPICAL 11X17 FLUSH-WITH-GRADE CONCRETE PULLBOX WITH BOLT-ON LID. PROVIDE TRAFFIC RATED WHERE IN VEHICULAR AREAS.



1 ELECTRICAL SITE PLAN

SCALE: 1" = 10'

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

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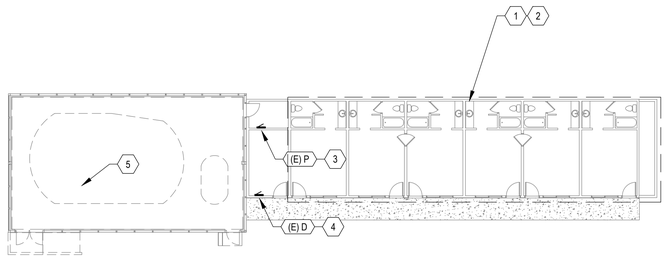
SHEET NAME:

SITE ELECTRICAL PLAN

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

SHEET NUMBER:

E101



3 ELECTRICAL - BLDG 1 SECOND FLOOR - DEMO

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

PLAN NORTH

0 16' 32' 64'

SCALE : 1/16 = 1'-0"

SHEET NOTES - DEMOLITION

A. DEMOLITION DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION AND EXISTING AVAILABLE RECORD DOCUMENTS.

B. REMOVE CONDUIT, WIRE, BOXES, AND FASTENING DEVICES TO AVOID ANY INTERFERENCE WITH NEW INSTALLATION.

C. DISCONNECT, REMOVE AND/ OR EXTEND ELECTRICAL SYSTEMS IN WALLS, FLOORS, AND CEILINGS SCHEDULED FOR REMOVAL.

D. RECONNECT EQUIPMENT BEING DISTURBED BY RENOVATION WORK AND REQUIRED FOR CONTINUE SERVICE TO NEAREST AVAILABLE PANEL.

E. DISCONNECT OR SHUT OFF SERVICE TO AREAS WHERE ELECTRICAL WORK IS TO BE REMOVED. REMOVE ELECTRICAL FIXTURES, EQUIPMENT, AND RELATED SWITCHES, OUTLETS, CONDUIT AND WIRING WHICH ARE NOT PART OF FINAL PROJECT.

F. INSTALL TEMPORARY WIRING AND CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION.

G. DO NOT PERFORM WORK ON ENERGIZED EQUIPMENT OR CIRCUITS.

H. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

I. REPAIR ADJACENT CONSTRUCTION AND FINISHES DAMAGED DURING DEMOLITION AND EXTENSION WORK.

J. REMOVE EXPOSED ABANDONED GROUNDING AND BONDING COMPONENTS, FASTENERS AND SUPPORTS, AND ELECTRICAL IDENTIFICATION COMPONENTS[, INCLUDING ABANDONED COMPONENTS ABOVE ACCESSIBLE CEILING FINISHES. CUT EMBEDDED SUPPORT ELEMENTS FLUSH WITH WALLS AND FLOORS.

K. CLEAN AND REPAIR EXISTING EQUIPMENT TO REMAIN OR TO BE REINSTALLED.

L. PROTECT AND RETAIN POWER TO EXISTING ACTIVE EQUIPMENT REMAINING.

M. CAP ABANDONED EMPTY CONDUIT AT BOTH ENDS.

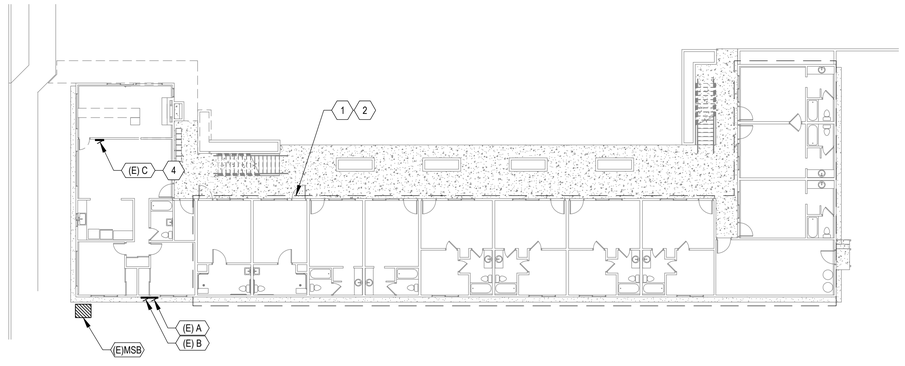
N. SEAL ANY PENETRATIONS IN FIRE RATED WALLS.

O. PATCH, REPAIR AND RE-FINISH (E) SURFACES DAMAGED DUE TO DEMOLITION.

P. ALL (E) TELECOM AND CCTV SYSTEM SHALL REMAIN. PROTECT FROM DAMAGE DURING CONSTRUCTION.

KEYED NOTES - DEMOLITION

1. DEMOLISH (E) BRANCH CIRCUITS AND REPLACE IN EACH UNIT. PATCH AND REPAIR ANY DAMAGED SURFACES TO MATCH EXISTING.
2. ALL DEVICES SHALL BE REMOVED AND REPLACES WITH NEW AS INDICATED.
3. DEMOLISH PANEL AND FEEDER.
4. DEMOLISH (E) PANEL. RELOCATE PANEL AND EXTEND (E) BRANCH CIRCUITS.
5. DEMOLISH ALL ELECTRICAL AND LIGHTING.



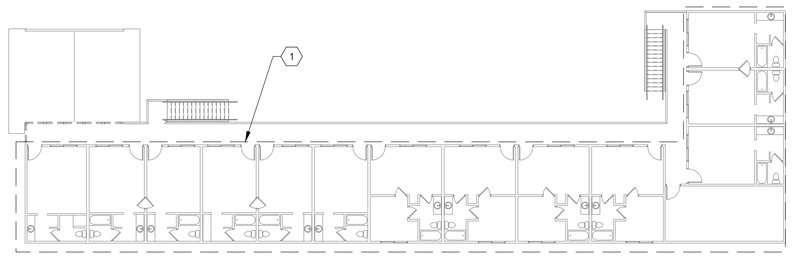
1 ELECTRICAL - BLDG 1 FIRST FLOOR - DEMO

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

PLAN NORTH

0 16' 32' 64'

SCALE : 1/16 = 1'-0"



2 ELECTRICAL - BLDG 2 SECOND FLOOR - NEW

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

PLAN NORTH

0 16' 32' 64'

SCALE : 1/16 = 1'-0"

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER
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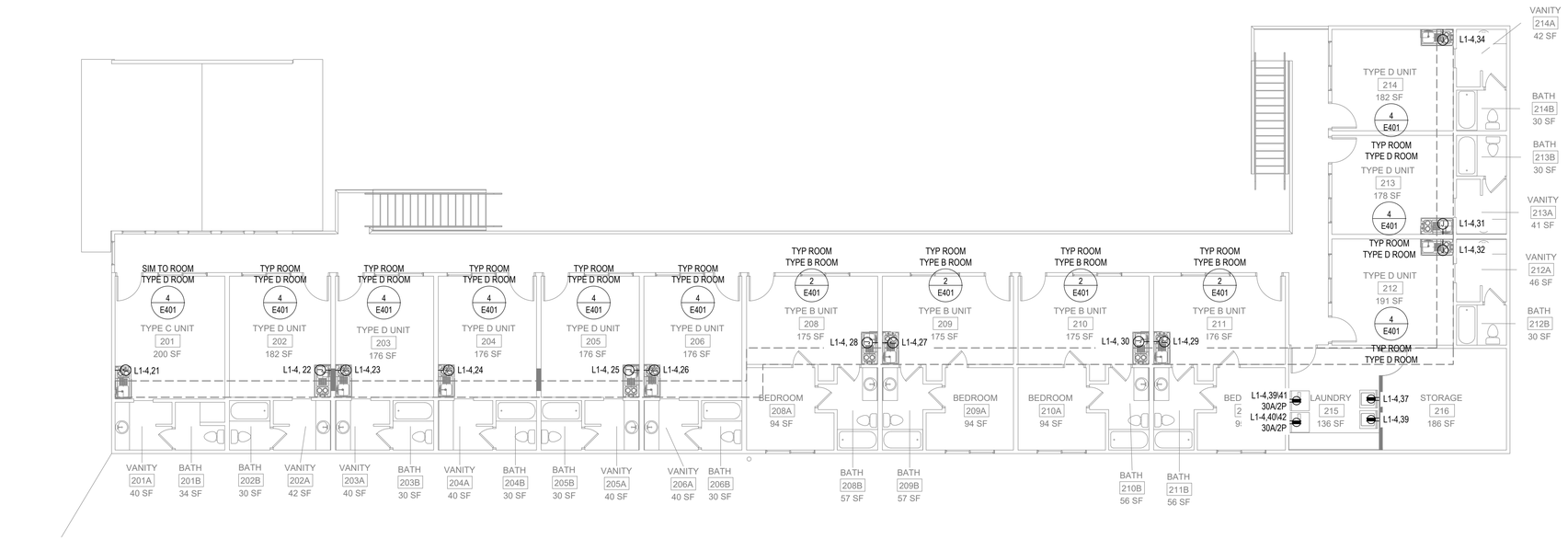
SHEET NAME:

ELECTRICAL DEMOLITION PLAN - BLDG 1

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

SHEET NUMBER:

E102



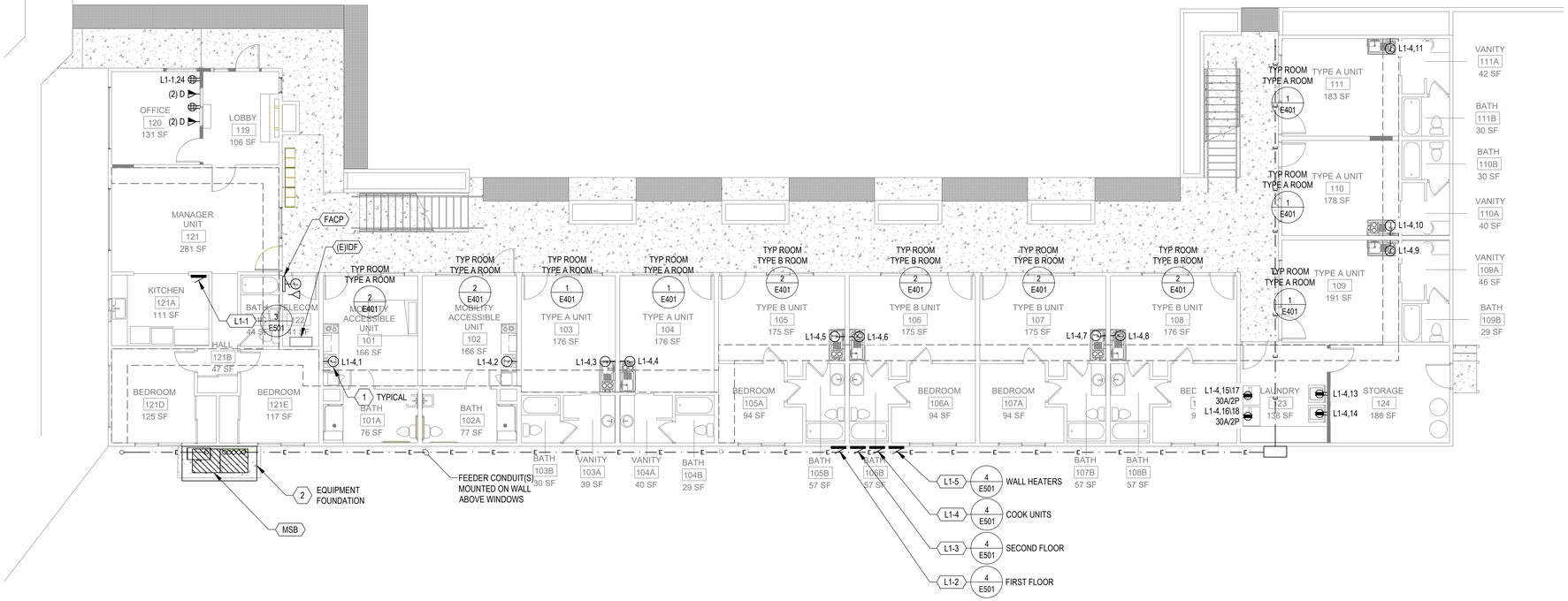
2 ELECTRICAL - BLDG 1 SECOND FLOOR - NEW

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

PLAN NORTH

0 8' 16' 32'

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



1 ELECTRICAL - BLDG 1 FIRST FLOOR - NEW

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

PLAN NORTH

0 8' 16' 32'

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

SHEET NOTES - ELECTRICAL

A. ALL EXTERIOR MOUNTED DEVICES SHALL BE PROVIDED WITH WP OR NEMA 3R RATING.

B. PROVIDE HUB TYPE FITTINGS ON EXTERIOR CONDUITS.

C. ALL EMPTY BOXES SHALL BE PROVIDED WITH BLANK COVER PLATES.

D. VERIFY COLOR OF ALL DEVICES AND COVER PLATES WITH THE OWNER'S REPRESENTATIVE PRIOR TO ORDERING.

E. ALL EXTERIOR COVER PLATES SHALL BE STAINLESS STEEL.

F. RECEPTACLES PROVIDED AT COUNTER TOPS SHALL BE LOCATED AT +6" ABOVE BACK SPLASH. VERIFY EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.

G. PROVIDE DUPLEX MECHANICAL EQUIPMENT MAINTENANCE RECEPTACLE WITHIN 25-FEET OF ALL EQUIPMENT TO BE SERVICED. LOCATE ON THE SAME LEVEL AS EQUIPMENT, INCLUDING ALL ATTICS, BASEMENTS AND CRAWL SPACES. IF LOCATED OUTDOOR OR BELOW GRADE GFCI PROTECTION IS REQUIRED.

H. ALL ELECTRICAL CONSTRUCTION SHALL BE COORDINATED TO MAINTAIN WALL AND CEILING RATING INDICATED ON THE ARCHITECTURAL DOCUMENTS.

I. PROVIDE TAMPER-RESISTANT RECEPTACLES ON ALL 15-20A 125-250V NON LOCKING TYPE RECEPTACLES IN THE FOLLOWING LOCATIONS PER ARTICLE 406.12 DWELLING UNITS, GUEST ROOMS OF HOTELS AND MOTELS, CHILD CARE FACILITIES, PRESCHOOLS AND ELEMENTARY EDUCATION FACILITIES, BUSINESS OFFICES, CORRIDORS, WAITING ROOMS AND THE LIKE IN CLINICS, MEDICAL AND DENTAL OFFICES AND OUTPATIENT FACILITIES, SUBSET OF ASSEMBLY OCCUPANCIES INCLUDING GYMNASIUMS, SKATING RINKS AND AUDITORIUMS AND DORMITORIES.

J. WORKING CLEARANCE FOR SERVICE ENTRANCE EQUIPMENT FLOOR MOUNTED OR OVER 225A SHALL BE A MINIMUM OF 48-INCHES DEEP BY 105-INCHES HEIGHT PER PG&E GREENBOOK 5.4.4 REQUIREMENTS. CONTRACTOR SHALL VERIFY WITH SUBMITTALS WORKING CLEARANCE IS MAINTAINED.

J. WORKING CLEARANCES FOR PANELBOARDS AND DISTRIBUTION BOARDS (NOT SERVICE ENTRANCE) UNDER 600V SHALL BE AS FOLLOWS:
FOR 240V OR 480V SYSTEMS MAINTAIN A MINIMUM OF 48-INCHES ON FRONT OF EQUIPMENT.
PROVIDE MINIMUM 6'-6" HEADROOM AT ALL LOCATIONS.

L. ALL NON-DWELLING KITCHEN RECEPTACLES, RATED 150V TO GROUND OR LESS, 50A OR LESS AND THREE PHASE RECP RATED 150V TO GROUND OR LESS AND 100A OR LESS SHALL BE GFCI PROTECTED PER CEC 210.8(B)(2).

M. PAINT ALL NEW ELECTRICAL EQUIPMENT AND EXPOSED CONDUITS TO MATCH EXISTING SURFACE(S) AFTER INSTALLATION.

N. PROVIDE NEW COVER PLATES ON ALL NEW AND EXISTING DEVICES.

KEYED NOTES - ELECTRICAL (X)

1. POWER FOR NEW COOK UNIT.
2. SEE STRUCTURAL DRAWINGS FOR ELECTRICAL EQUIPMENT FOUNDATION.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

1/7/22

CONSULTANT:

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA.
95531

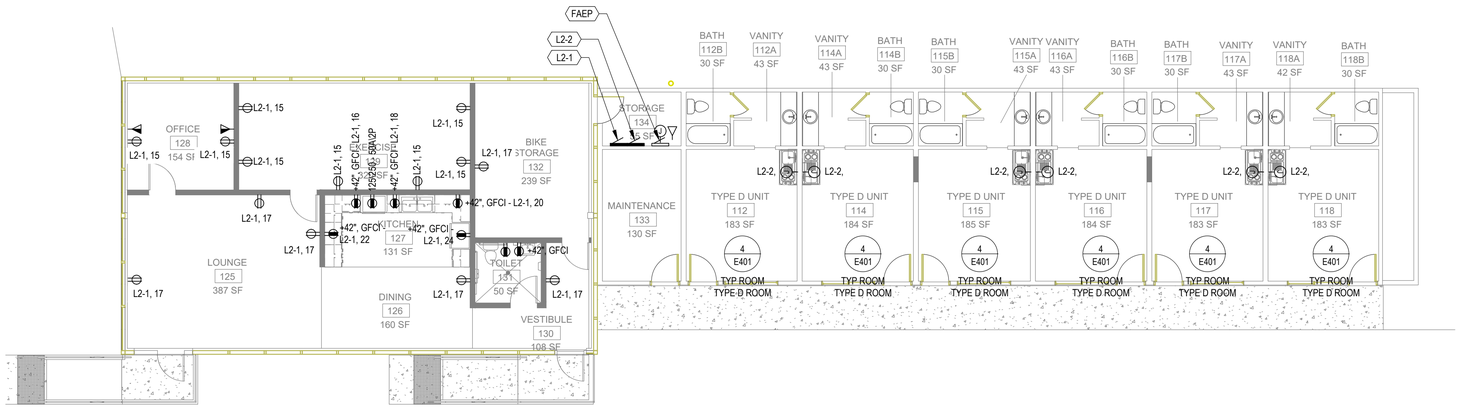
SHEET NAME:

ELECTRICAL PLAN - BLDG 1

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

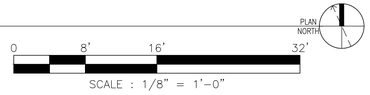
SHEET NUMBER:

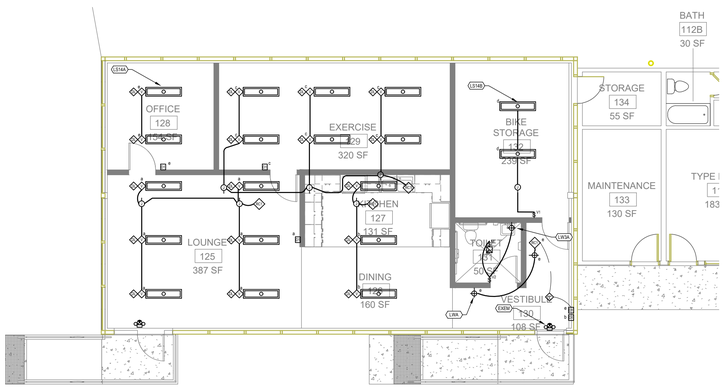
E103



2 ELECTRICAL - BLDG 2 SECOND FLOOR - NEW

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



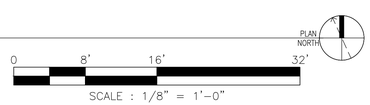


LIGHTING FIXTURE SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL NUMBER	LAMP	LAMP WATTAGE	FIXTURE INPUT WATTS	DIMMING TYPE	MOUNTING	NOTES
LS14A	4' SURFACE MOUNT LED FIXTURE WITH INTERGRAL OCCUPANCY/ DAY LIGHT SENSOR	LITHONIA	BLWP4-48L-ADSM-EZ1-LP835-NIES7ADCX	LED	40	40	0-10V	CEILING/SURFACE	
LS14B	4' SURFACE MOUNT LED	LITHONIA	BLWP4-48L-ADSM-EZ1-LP835	LED	40	40	NONE	CEILING/SURFACE	
LWA	WALL MOUNT LED	HEALTHCARE LIGHTING	HPSB-MVOLT-35K-ZT-DARK-BA	LED	17	17	0-10V	WALL	
LW3A	3' WALL MOUNT LED VANITY	LITHONIA	FMVCSL-36IN-MVOLT-30K-90CRI-BN	LED	25	25	NONE	WALL	
EXEM	WHITE EXIT SIGN WITH INTEGRAL EMERGENCY LAMPS WITH 90-MINUTE BATTERY BACK-UP, RED LETTERING (REMOTE HEADS, , ORDER WHERE SHOWN, INDOOR WHITE ERE T RD, OUTDOOR BLACK ERE T WP SD)	LITHONIA OR EQUAL	ECC R M6 (ADD REM FOR ANY REMOTE HEADS)	LED		5	NONE	UNIVERSAL	

1 ELECTRICAL - BLDG 2 SECOND FLOOR - NEW

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



SHEET NOTES - DEMOLITION

A. DEMOLITION DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION AND EXISTING AVAILABLE RECORD DOCUMENTS.

B. REMOVE CONDUIT, WIRE, BOXES, AND FASTENING DEVICES TO AVOID ANY INTERFERENCE WITH NEW INSTALLATION.

C. DISCONNECT, REMOVE AND/ OR EXTEND ELECTRICAL SYSTEMS IN WALLS, FLOORS, AND CEILINGS SCHEDULED FOR REMOVAL.

D. RECONNECT EQUIPMENT BEING DISTURBED BY RENOVATION WORK AND REQUIRED FOR CONTINUE SERVICE TO NEAREST AVAILABLE PANEL.

E. DISCONNECT OR SHUT OFF SERVICE TO AREAS WHERE ELECTRICAL WORK IS TO BE REMOVED. REMOVE ELECTRICAL FIXTURES, EQUIPMENT, AND RELATED SWITCHES, OUTLETS, CONDUIT AND WIRING WHICH ARE NOT PART OF FINAL PROJECT.

F. INSTALL TEMPORARY WIRING AND CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION.

G. DO NOT PERFORM WORK ON ENERGIZED EQUIPMENT OR CIRCUITS.

H. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

I. REPAIR ADJACENT CONSTRUCTION AND FINISHES DAMAGED DURING DEMOLITION AND EXTENSION WORK.

J. REMOVE EXPOSED ABANDONED GROUNDING AND BONDING COMPONENTS, FASTENERS AND SUPPORTS, AND ELECTRICAL IDENTIFICATION COMPONENTS(, INCLUDING ABANDONED COMPONENTS ABOVE ACCESSIBLE CEILING FINISHES. CUT EMBEDDED SUPPORT ELEMENTS FLUSH WITH WALLS AND FLOORS.

K. CLEAN AND REPAIR EXISTING EQUIPMENT TO REMAIN OR TO BE REINSTALLED.

L. PROTECT AND RETAIN POWER TO EXISTING ACTIVE EQUIPMENT REMAINING.

M. CAP ABANDONED EMPTY CONDUIT AT BOTH ENDS.

N. SEAL ANY PENETRATIONS IN FIRE RATED WALLS.

O. PATCH, REPAIR AND RE-FINISH (E) SURFACES DAMAGED DUE TO DEMOLITION.

P. ALL (E) TELECOM AND CCTV SYSTEM SHALL REMAIN. PROTECT FROM DAMAGE DURING CONSTRUCTION.

SHEET NOTES - ELECTRICAL

A. ALL EXTERIOR MOUNTED DEVICES SHALL BE PROVIDED WITH WP OR NEMA 3R RATING.

B. PROVIDE HUB TYPE FITTINGS ON EXTERIOR CONDUITS.

C. ALL EMPTY BOXES SHALL BE PROVIDED WITH BLANK COVER PLATES.

D. VERIFY COLOR OF ALL DEVICES AND COVER PLATES WITH THE OWNER'S REPRESENTATIVE PRIOR TO ORDERING.

E. ALL EXTERIOR COVER PLATES SHALL BE STAINLESS STEEL.

F. RECEPTACLES PROVIDED AT COUNTER TOPS SHALL BE LOCATED AT +6" ABOVE BACK SPLASH. VERIFY EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.

G. PROVIDE DUPLEX MECHANICAL EQUIPMENT MAINTENANCE RECEPTACLE WITHIN 25-FEET OF ALL EQUIPMENT TO BE SERVICED. LOCATE ON THE SAME LEVEL AS EQUIPMENT, INCLUDING ALL ATTICS, BASEMENTS AND CRAWL SPACES. IF LOCATED OUTDOOR OR BELOW GRADE GFCI PROTECTION IS REQUIRED.

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L. WORKING CLEARANCES FOR PANELBOARDS AND DISTRIBUTION BOARDS

KEYED NOTES - ELECTRICAL (X)

1. POWER FOR NEW COOK UNIT.

2. SEE STRUCTURAL DRAWINGS FOR ELECTRICAL EQUIPMENT FOUNDATION.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER — RODNEY A. CUNNINGHAM — No. E18225 Exp. 12-31-23 — ELECTRICAL — STATE OF CALIFORNIA

1/7/22

CONSULTANT:

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PROJECT:

THE LEGACY RENOVATION

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CRESCENT CITY, CA.
95531

SHEET NAME:

ELECTRICAL PLAN - BLDG 2

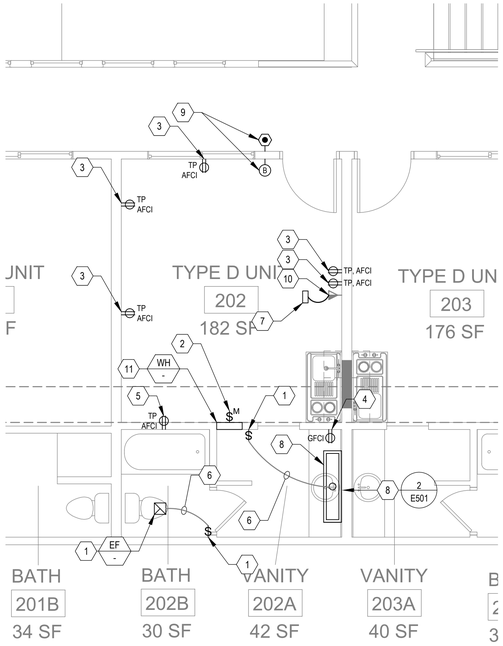
ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

SHEET NUMBER:

E104

KEYED NOTES - PARTIAL PLANS (X)

1. REPLACE (E) SWITCH WITH VACANCY CONTROL. LEVITON IPS02-1LW OR EQ.
2. BRANCH CIRCUIT TO NEW WALL HEATER - RECONNECT TO (E) BRANCH CIRCUIT.
3. REPLACE (E) OUTLET WITH 20AMP TAMPER RESISTANT AFCI PROTECTION RATED DEVICE. LEVITON SMARTLOCK PRO SERIES OR EQ. PROVIDE NEW BRANCH CIRCUIT TO NEW PANEL. SEE SCHEDULE.
4. REPLACE (E) OUTLET WITH 20AMP TAMPER RESISTANT AFCI/GFCI PROTECTION RATED DEVICE. LEVITON SMARTLOCK PRO SERIES OR EQ. PROVIDE NEW BRANCH CIRCUIT TO NEW PANEL. SEE SCHEDULE.
5. PROVIDE NEW OUTLET IN LOCATION INDICATED. CONNECT TO TO NEW BRANCH CIRCUIT FOR THE ROOM
6. USE (E) WIRING BETWEEN SWITCH AND LIGHT. CONNECT TO (N) BRANCH CIRCUIT. CONNECT COMPLETE.
7. EXISTING ROOM WIFI TO REMAIN.
8. REPLACE (E) WALL MOUNTED STRIP FIXTURE WITH NEW LED FIXTURE. LITHONIA : FMLWL 48 840 ZT MVOLT OR EQ. PROVIDE NEW BRANCH CIRCUIT TO NEW PANEL. SEE SCHEDULE.
9. PROVIDE 120V CIRCUIT CONNECTED TO THE (N) BRANCH OUTLET CIRCUIT FOR THE ROOM, TRANSFORMER, DOOR BELL AND OPERATING BUTTON. BUTTON SHALL BE MOUNTED 48" ABOVE FINISH FLOOR. WHERE VISIBLE DOORBELL SIGNALS ARE LOCATED IN SLEEPING AREAS, THEY SHALL HAVE CONTROLS TO DEACTIVATE THE SIGNAL CONNECT COMPLETE.
10. EXISTING ROOM WIFI TO REMAIN.
11. POWER FOR NEW WALL HEATER. PROVIDE NEW BRANCH CIRCUIT TO NEW PANEL. SEE SCHEDULES

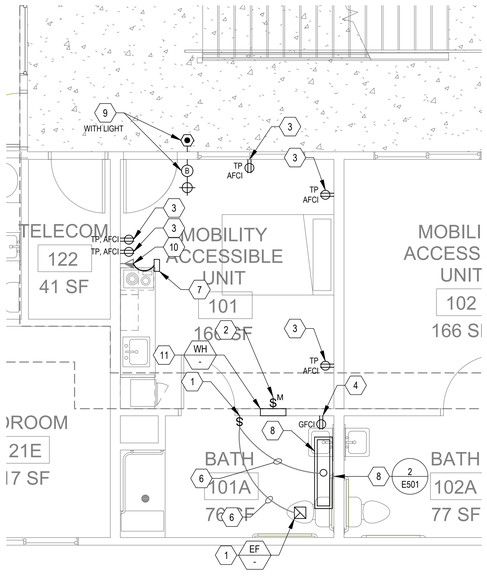


4 PARTIAL PLAN - D UNIT (C UNIT SIM)

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

0 4' 8' 16'

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

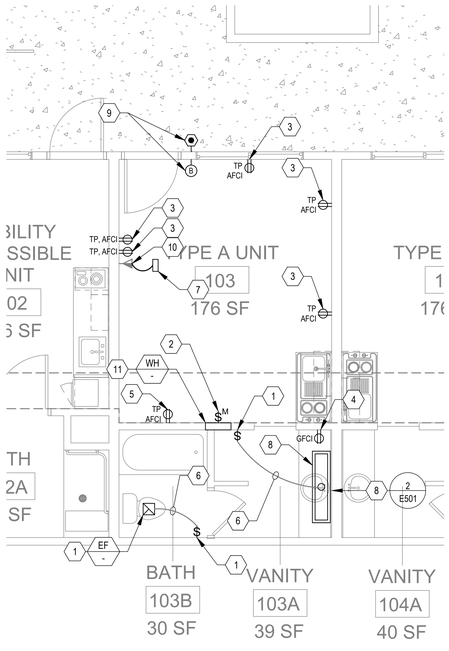


1 PARTIAL PLAN - ACCESSIBLE

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

0 4' 8' 16'

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

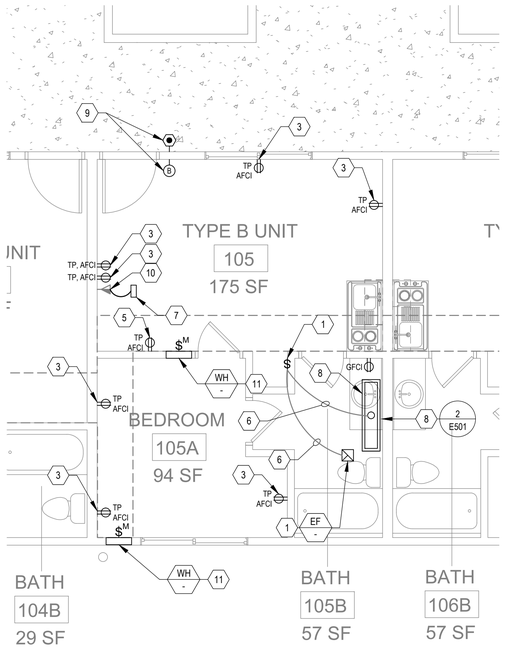


2 PARTIAL PLAN - A UNIT

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

0 4' 8' 16'

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



3 PARTIAL PLAN - B UNIT

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

0 4' 8' 16'

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

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER — RODNEY A. BROKAW — No. E18225 Exp. 12-31-23 — ELECTRICAL — STATE OF CALIFORNIA

1/7/22

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
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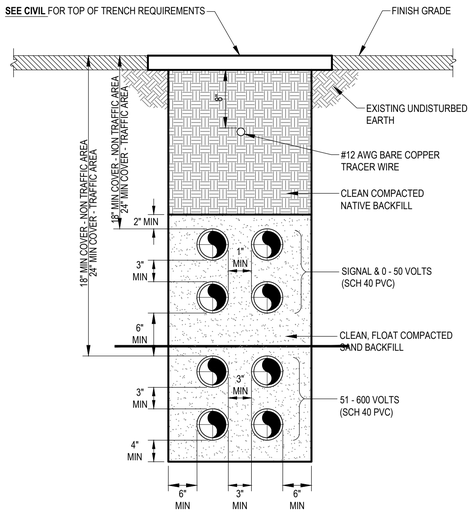
SHEET NAME:

ELECTRICAL PARTIAL PLANS

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

SHEET NUMBER:

E401



DETAIL NOTES

A. THE CONFIGURATION INDICATED IS DIAGRAMMATIC TO ILLUSTRATE THE REQUIRED MINIMUM SEPARATIONS FOR TRENCH UTILITIES.

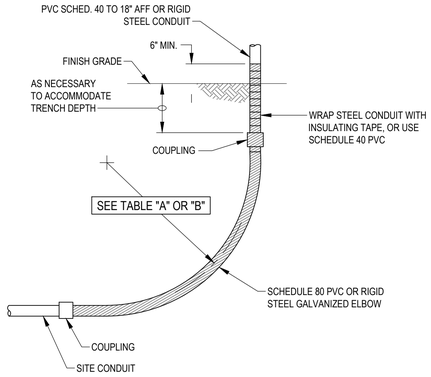
B. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED CONDUITS PURSUANT TO THE PLANS AND DIAGRAMS.

4 TYPICAL TRENCH REQUIREMENTS

NOT TO SCALE

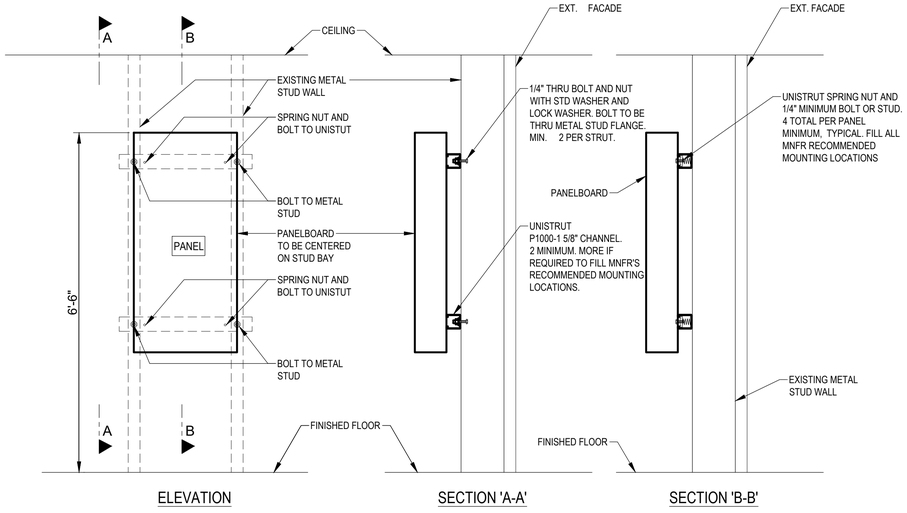
TABLE "A" - PVC		
CONDUIT SIZE	MINIMUM ELBOW RADIUS REQUIREMENTS	
	RUNS 0-100 FEET	RUNS GREATER THAN 101 FEET
1/2"	18"	24"
3/4"	18"	24"
1"	24"	36"
1 1/4"	24"	36"
1 1/2"	24"	36"
2"	24"	36"
2 1/2"	24"	36"
3"	36"	48"
4"	36"	48"
5"	36"	48"
6"	36"	48"

TABLE "B" - RSG		
CONDUIT SIZE	MINIMUM ELBOW RADIUS REQUIREMENTS	
	RUNS 0-100 FEET	RUNS GREATER THAN 101 FEET
1/2"	4"	4"
3/4"	4 1/2"	4 1/2"
1"	5 3/4"	5 3/4"
1 1/4"	7 1/4"	7 1/4"
1 1/2"	8 1/4"	8 1/4"
2"	9 1/2"	9 1/2"
2 1/2"	10 1/2"	11 7/16"
3"	13"	13 3/4"
4"	16"	18 1/4"
5"	24"	-
6"	30"	-



5 CONDUIT SWEEP REQUIREMENTS

NOT TO SCALE

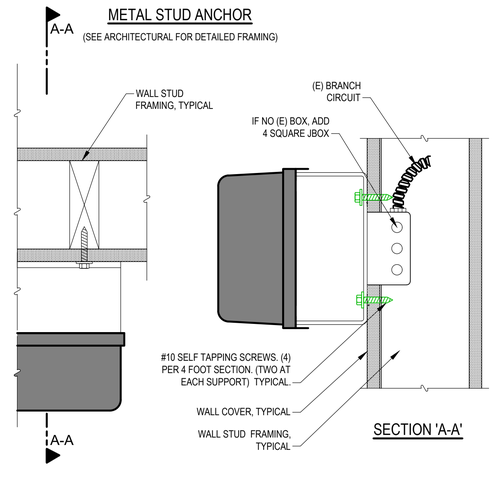


ELEVATION SECTION 'A-A' SECTION 'B-B'

1. PROVIDE # 10 SCREWS TO FASTEN ELECTRICAL PANEL TO METAL STUDS AS FOLLOWS:
   1.1. FASTEN WITH 6-#10 SCREWS INTO EACH OF A MINIMUM OF TWO VERTICAL STUDS.
   1.2. FASTEN WITH 4-#10 SCREWS INTO EACH OF A MIN OF TWO HORIZONTAL BLOCKING.
2. METAL STUDS TO BE 33 MIL MINIMUM.
3. PANEL BOARD TO BE 300 LB MAX. WHEN LOADED WITH BREAKERS AND WIRE.

1 PANELBOARD MOUNTING

NOT TO SCALE



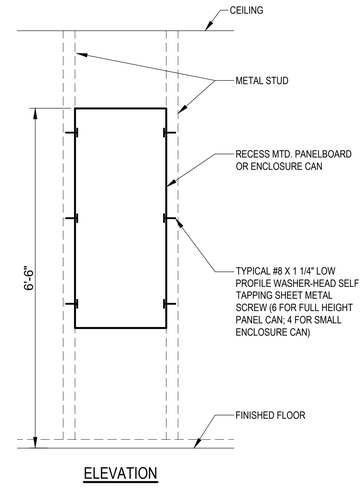
SECTION 'A-A'

DETAIL KEYED NOTES

1. THIS DETAIL IS APPLICABLE TO FIXTURES THAT WEIGH 30 LBS OR LESS AND ARE RIGIDLY ATTACHED TO THE SUPPORTING STRUCTURE.
2. FASTEN LIGHT FIXTURE ON METAL STUD WALL CONSTRUCTION WITH (2) #10 SELF TAPPINF SCREWS INTO MINIMUM OF TWO VERTICAL STUDS.

2 SURFACE WALL FIXTURE

NOT TO SCALE



ELEVATION

2 FLUSH PANELBOARD MOUNTING

NOT TO SCALE

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER — COURTNEY A. CUNNINGHAME — No. E18225 Exp. 12-31-23 — ELECTRICAL — STATE OF CALIFORNIA

1/7/22

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
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95531

SHEET NAME:

ELECTRICAL DETAILS

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

SHEET NUMBER:

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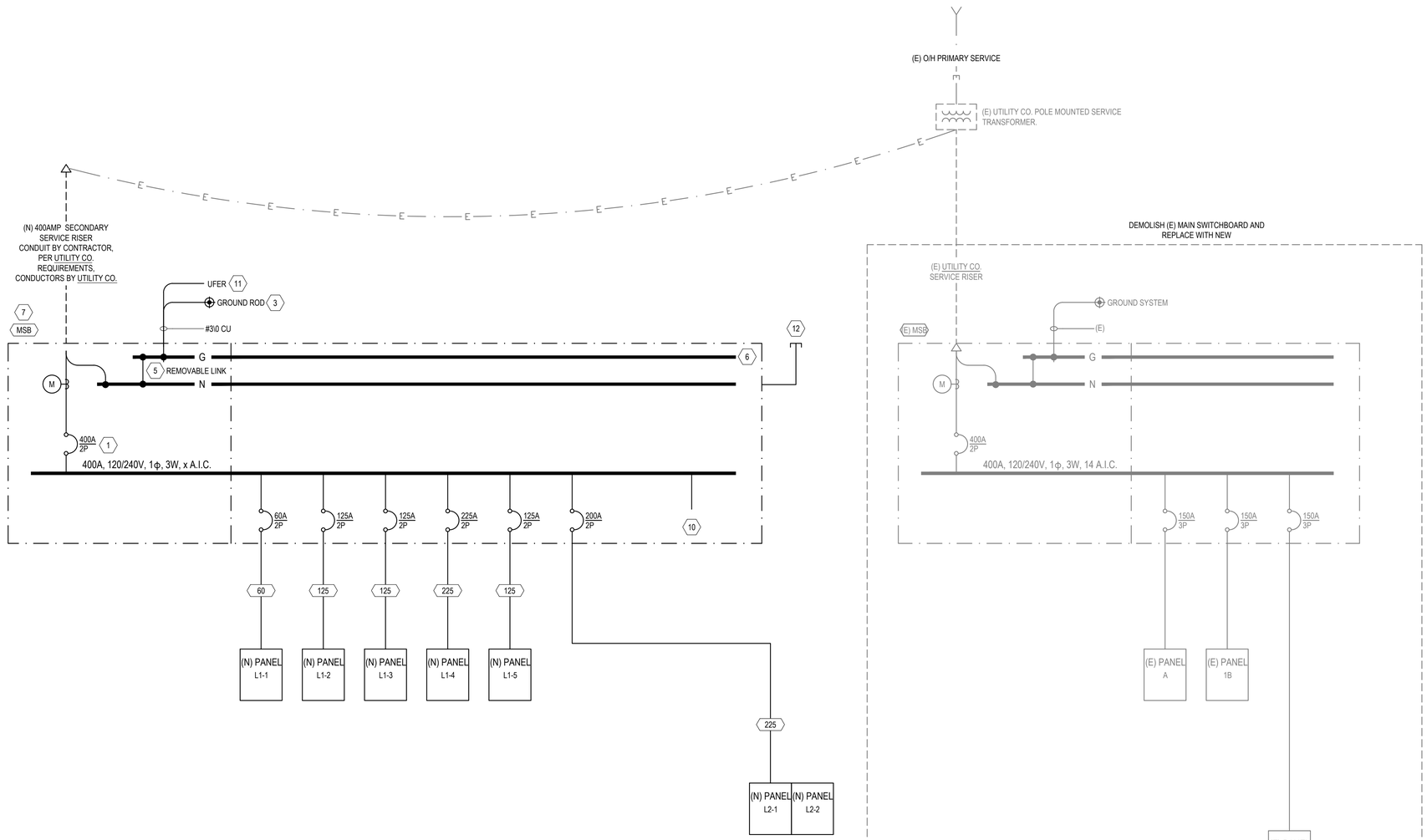

KEYED NOTES

1. LABEL MAIN CIRCUIT BREAKER AS "MAIN BUILDING DISCONNECT"
2. PROVIDE AN UNSPLICED GROUNDING ELECTRODE CONDUCTOR TO THE GROUNDING ELECTRODE SYSTEM. THE GROUNDING ELECTRODE SYSTEM SHALL CONSIST OF A UFER GROUND AS DESCRIBED BELOW, 3/4-INCH x 10-FOOT COPPER WELDGROUND ROD, ALL AVAILABLE METAL UNDERGROUND WATER PIPING. BOND THE ELECTRODES TOGETHER IN ACCORDANCE WITH NEC 250-50. BOND THE INTERIOR METAL WATER PIPING SYSTEM AND BUILDING STEEL.
3. PROVIDE GROUND ROD AND CONCRETE WELL WITH STEEL LID LABELED "GROUND". RESISTANCE OF GROUND ROD SHALL NOT EXCEED 0-25 OHMS. IF A SINGLE ROD EXCEEDS 25 OHMS, PROVIDE ADDITIONAL GROUND ROD(S) SPACED A MINIMUM OF 6-FEET APART IN ACCORDANCE WITH NEC 250-56. SEE DSA PC #02-116162 DETAIL 2/E5.01.
4. PROVIDE A SEPARATE BUILDING GROUND IN ACCORDANCE WITH NEC 250-32. DO NOT BOND THE SYSTEM NEUTRAL CONDUCTOR TO THE EQUIPMENT GROUND CONDUCTOR OR TO THE GROUND ELECTRODE SYSTEM AT THE BUILDNG.
5. PROVIDE REMOVABLE LINK FOR TESTING.
6. GROUND BUS SHALL BE CONTINUOUS AND 100% RATED THROUGHOUT.
7. THE CONTRACTOR SHALL SUBMIT THE MAIN SWITCHBOARD SHOP DRAWINGS TO RCE FOR FINAL APPROVAL AND AIC VERIFICATION PRIOR TO RELEASE FOR MANUFACTURING. THE SWITCHBOARD SHALL MEET ALL REQUIREMENTS OF RCE FOR A COMPLETE AND PERMANENT INSTALLATION.
8. THE CONTRACTOR SHALL PERFORM ELECTRICAL DISTRIBUTION SYSTEM TESTING PRIOR TO ENERGIZING ANY FEEDERS.
9. PROVIDE TITLE 24 COMPLIANT SUB METER THAT PROVIDES: 1) INSTANTANEOUS (AT THE TIME) kW DEMAND, AND 2) TRACKING kWh FOR A USER DEFINABLE PERIOD. METER BY AKUVIM (OR EQUAL) WITH ENCLOSURE.
10. RESERVED DOUBLE POLE BREAKER SPACE FOR FUTURE SOLAR ELECTRIC INSTALLATION. LABEL "FOR FUTURE SOLAR ELECTRIC".
11. PROVIDE A CONCRETE ENCASED (UFER) GROUNDING ELECTRODE PER NEC 250-52(3) CONSISTING OF AT LEAST 20' OF BARE COPPER CONDUCTOR ENCASED IN CONCRETE, CONDUCTOR LOCATED 2-INCH MIN FROM BOTTOM. CONCRETE FOUNDATION SHALL BE IN DIRECT CONTACT WITH THE EARTH. THIS UFER GROUND SHALL BE OF THE SAME SIZE AND CONTINUOUS WITH THE GROUNDING ELECTRODE CONDUCTOR AS INDICATED.
12. PROVIDE (2) 2" CONDUITS TO ROOF TO SERVE AS PATHWAY FOR FUTURE SOLAR ELECTRIC INSTALLATION.

LOAD SUMMARY - BUILDING

			LOAD (VA)							
UNIT TYPE	SQFT	# OF UNITS IN BUILDING	LIGHTING / RECEPTACLE	AC	ELECTRIC RANGE	WATER HEATER	FIXED APPLIANCE	ELECTRIC DRYER	SOLAR	EV CHARGING
			-	-	-	-	-	-	-	-
Studio	250	22	16,500	22,000	38,500	-	-	-	-	-
1-Bedroom	340	8	8,160	8,000	14,000	-	-	-	-	-
			-	-	-	-	-	-	-	-
HOUSE (H)		1	7,000							
TOTAL		30	31,660	30,000	52,500	-	-	-	-	-

NEC STANDARD DEMAND LOAD CALCULATION

			LOAD (VA)							
			LIGHTING/RECP	AC	RANGE	WH	APPLIANCE	DRYER	SOLAR	EV CHARGING
TOTAL			31,660	30,000	52,500	-	-	-	-	-
					DEMAND (220.55)	DEMAND (220.53)	DEMAND (220.53)	DEMAND (220.54)	DEMAND (690)	DEMAND
MULTIPLIER		FIRST 3 KVA @100%			30%	75%	75%	32%	125%	125%
			3,000.00		15,750	-	-	-	-	-
		UP TO 120K KVA @35%								
			10,031							
		ABOVE 120K REMAINING KVA @25%								
			-							
TOTAL		Demand	13,031	30,000	15,750	-	-	-	-	-
Standard Total Load Calculation	58,781	VA								
									TOTAL DEMAND LOAD (KVA)	58.8
SERVICE VOLTAGE:	240								TOTAL DEMAND LOAD (A)	244.9
PHASE	1								BUS SIZE	400A

FEEDER AMPACITY CALCULATIONS (3P,1N,1G) - Copper Conductors (CU)

Standard Circuit Breaker or Fuse Size (240.6)	Wire Size CU (Phase(s) and Nuetral)	Min GND (CU) Feeder/ Equipment (250.122)	Parallel Runs (Quantity)	Total Cable (CU) Ampacity	Min Conduit Size (EMT) (up to 5 wire)	Min Conduit Size (PVC) (up to 5 wire)	Min Conduit Size (IMC) (up to 5 wire)	MAX CIRCUIT LENGTH (HORIZONTAL) 2% VOLTAGE DROP *BUILDING NOT OVER 30FT HIGH, IN CONDUIT			Notes
								480V, 3P	208V, 3P	240V, 3P	
60	4	10	1	70	1 1/2"	1 1/2"	1 1/4"	300 ft	130 ft	150 ft	
100	2	8	1	95	1 1/2"	1 1/2"	1 1/4"	290 ft	125 ft	145 ft	
125	1/0	8	1	136	2"	2"	1 1/2"	370 ft	160 ft	185 ft	
150	2/0	6	1	156	2"	2"	2"	370 ft	160 ft	185 ft	
175	3/0	6	1	180	2 1/2"	2 1/2"	2"	410 ft	175 ft	205 ft	
200	3/0	6	1	180	2 1/2"	2 1/2"	2"	360 ft	155 ft	180 ft	
225	4/0	4	1	208	2 1/2"	2 1/2"	2 1/2"	395 ft	170 ft	195 ft	
250	250	4	1	232	2 1/2"	3"	2 1/2"	425 ft	185 ft	215 ft	
300	350	4	1	280	3"	3"	3"	485 ft	210 ft	245 ft	
350	500	2	1	344	3 1/2"	3 1/2"	3 1/2"	585 ft	255 ft	295 ft	
400	3/0	2	2	360	2 1/2"	2 1/2"	2"	180 ft	75 ft	90 ft	
400	4/0	2	2	416	2 1/2"	2 1/2"	2 1/2"	220 ft	95 ft	110 ft	
400	600	2	1	380	4"	4"	3 1/2"	600 ft	260 ft	300 ft	

1 SINGLE LINE DIAGRAM - BUILDING POWER

NOT TO SCALE

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

1/7/22

CONSULTANT:

BrokawDesign

P.O. BOX 3103
ROHNERT PARK, CA 94927

WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA.
95531

SHEET NAME:

DIAGRAMS ELECTRICAL SITE

ISSUE DATE: 1/7/22
PREPARATION AND REVIEW
DRAWN BY: MOB
DESIGNER: MOB
PROJ MGR:
PEER REVIEW: CAC

SHEET NUMBER:

E601

PANEL SCHEDULE

PANEL NAME: **L1-1**
MAINS RATING: MLO (A)
BUS RATING: 100 (A)
VOLTAGE: 240
PHASE: 1
WIRE: 3
NEMA RATING: 3R
AIC RATING: 10KAIC
NOTES: MANAGERS UNIT \ GENERAL
LOCATION:

CKT NO	PHASE WIRE	NEUT WIRE	USE	DESCRIPTION	BKR SIZE	BKR OPTS	BKR KVA	PHASE:	BKR KVA	BKR OPTS	BKR SIZE	DESCRIPTION	USE	NEUT WIRE	PHASE WIRE	CKT NO
1	EXIST	EXIST	-	LGTS - LANDSCAPE	20/1		0.50	A	0.50		20/1	RM 121 - RECPTS	R	EXIST	EXIST	2
3	-	-	-	SPARE	20/1		-	B	1.00		20/1	EXT LGTS @ DOORS	L	EXIST	EXIST	4
5	-	-	-	SPARE	20/1		-	A	1.00		20/1	EXT LGTS @ STAIRS	L	EXIST	EXIST	6
7	-	-	-	SPARE	20/1		1.00	B	1.00		20/1	ROM 121 - HEATERS	H	EXIST	EXIST	8
9	EXIST	EXIST	-	RM 121 - DISPOSER	20/1		1.00	A	0.50		20/1	RM 121 - RECPTS\LGTS	R	EXIST	EXIST	10
11	EXIST	EXIST	-	RM 121 - KITCH	20/1		1.00	B	1.00		20/1	RM 121 - HOOD\RANGE	K	EXIST	EXIST	12
13	-	-	-	SPARE	20/1		-	A	0.50		20/1	RM 121 - RECPTS	R	EXIST	EXIST	14
15	EXIST	EXIST	-	ROM 121 - HEATER	20/1		1.00	B	0.50		20/1	RM 120 - RECPTS	R	EXIST	EXIST	16
17	-	-	-	SPARE	20/1		-	A	-		20/1	SPARE	-	-	-	18
19	-	-	-	SPARE	20/1		-	B	0.50		20/1	RM 121 - LGTS	L	EXIST	EXIST	20
21	-	-	-	SPARE	20/1		-	A	-		20/1	SPARE	-	-	-	22
23	-	-	-	SPARE	20/1		-	B	0.4		20/1	R- RM 120	R	12	12	24

LOADS:
PHASE A: 4.0 (KVA)
PHASE B: 7.4 (KVA)
PHASE C: (KVA)
TOTAL: 11.4 (CONNECTED KVA)
47.5 (CONNECTED A)

USE LEGEND	LOAD TYPE	BREAKER OPTIONS:
"H"	HVAC	GFCI - GROUND FAULT CIRCUIT INTERRUPTER
"L"	LIGHTING	HACR - HEATING/AIR CONDITIONING RATED
"M"	MOTOR	LO - LOCK-ON DEVICE
"O"	OTHER	PA - PADLOCK ATTACHMENT
"R"	RECEPTACLE	ST - SHUNT TRIP
"P"	PANEL	HT - HANDLE TIE
"C"	COOKING	FA - DEDICATED CIRCUIT FOR FIRE ALARM, RED HANDLE, MARKED
"E"	EV LOADS	"FIRE ALARM CIRCUIT", LOCK-ON DEVICE. PERMANENTLY IDENTIFY
"W"	WATER HEATER	CIRCUIT AT FIRE ALARM EQUIPMENT.

NEC DEMAND LOAD	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": MOTOR. LOADS (LARGEST MOTOR)		125%	
TYPE "M": MOTOR. LOADS (REMAINING)		100%	
TYPE "L": LIGHTING LOADS	2.50	125%	3.13
TYPE "R": RECEPTACLES (FIRST 10KVA)	2.40	100%	2.40
TYPE "R": RECEPTACLES (OVER 10KVA)		50%	
TYPE "H": HVAC LOADS	1.00	100%	1.00
TYPE "P": PANEL LOADS		100%	
TYPE "C": COOKING LOADS		65%	
TYPE "E": EV LOADS		125%	
TYPE "W": WATER HEATING LOADS		100%	
TYPE "O": OTHER LOADS		100%	
DEMAND KVA:			6.53
DEMAND AMPS:			27.2

PANEL SCHEDULE

PANEL NAME: **L1-2**
MAINS RATING: MLO (A)
BUS RATING: 125 (A)
VOLTAGE: 240
PHASE: 1
WIRE: 3
NEMA RATING: 3R
AIC RATING: 10 KAIC
NOTES: FIRST FLOOR
LOCATION:

CKT NO	PHASE WIRE	NEUT WIRE	USE	DESCRIPTION	BKR SIZE	BKR OPTS	BKR KVA	PHASE:	BKR KVA	BKR OPTS	BKR SIZE	DESCRIPTION	USE	NEUT WIRE	PHASE WIRE	CKT NO
1	12	12	R	RECP - RM 101	20/1		0.90	A	0.90		20/1	RECP - RM 102	R	12	12	2
3	12	12	R	DED RECP - RM 101	20/1		0.18	B	0.18		20/1	DED RECP - RM 102	R	12	12	4
5	12	12	R	RECP - RM 103	20/1		0.90	A	0.90		20/1	RECP - RM 104	R	12	12	6
7	12	12	R	DED RECP - RM 103	20/1		0.18	B	0.18		20/1	DED RECP - RM 104	R	12	12	8
9	12	12	R	RECP - RM 105	20/1		0.90	A	0.90		20/1	RECP - RM 106	R	12	12	10
11	12	12	R	DED RECP - RM 105	20/1		0.18	B	0.18		20/1	DED RECP - RM 106	R	12	12	12
13	12	12	R	RECP - RM 107	20/1		0.90	A	1.20		20/1	RECP - RM 108	R	12	12	14
15	12	12	R	DED RECP - RM 107	20/1		0.18	B	0.18		20/1	DED RECP - RM 108	R	12	12	16
17	12	12	R	RECP - RM 109	20/1		1.20	A	0.90		20/1	RECP - RM 110	R	12	12	18
19	12	12	R	DED RECP - RM 109	20/1		0.18	B	1.20		20/1	DED RECP - RM 110	R	12	12	20
21	12	12	R	RECP - RM 111	20/1		1.20	A	-		20/1	SPARE	-	-	-	22
23	12	12	R	DED RECP - RM 111	20/1		0.18	B	-		20/1	SPARE	-	-	-	24
25	-	-	-	SPARE	20/1		-	A	-		20/1	SPARE	-	-	-	26
27	-	-	-	SPARE	20/1		-	B	-		20/1	SPARE	-	-	-	28
29	-	-	-	SPARE	20/1		-	A	-		20/1	SPARE	-	-	-	30
31	-	-	-	SPARE	20/1		-	B	-		20/1	SPARE	-	-	-	32
33	-	-	-	SPARE	20/1		-	A	-		20/1	SPARE	-	-	-	34
35	-	-	-	SPARE	20/1		-	B	-		20/1	SPARE	-	-	-	36
37	-	-	-	SPARE	20/1		-	A	-		20/1	SPARE	-	-	-	38
39	-	-	-	SPARE	20/1		-	B	-		20/1	SPARE	-	-	-	40
41	-	-	-	SPARE	20/1		-	A	-		20/1	SPARE	-	-	-	42

LOADS:
PHASE A: 10.8 (KVA)
PHASE B: 3.0 (KVA)
PHASE C: (KVA)
TOTAL: 13.8 (CONNECTED KVA)
57.5 (CONNECTED A)

USE LEGEND	LOAD TYPE	BREAKER OPTIONS:
"H"	HVAC	GFCI - GROUND FAULT CIRCUIT INTERRUPTER
"L"	LIGHTING	HACR - HEATING/AIR CONDITIONING RATED
"M"	MOTOR	LO - LOCK-ON DEVICE
"O"	OTHER	PA - PADLOCK ATTACHMENT
"R"	RECEPTACLE	ST - SHUNT TRIP
"P"	PANEL	HT - HANDLE TIE
"C"	COOKING	FA - DEDICATED CIRCUIT FOR FIRE ALARM, RED HANDLE, MARKED
"E"	EV LOADS	"FIRE ALARM CIRCUIT", LOCK-ON DEVICE. PERMANENTLY IDENTIFY
"W"	WATER HEATER	CIRCUIT AT FIRE ALARM EQUIPMENT.

NEC DEMAND LOAD	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": MOTOR. LOADS (LARGEST MOTOR)		125%	
TYPE "M": MOTOR. LOADS (REMAINING)		100%	
TYPE "L": LIGHTING LOADS		125%	
TYPE "R": RECEPTACLES (FIRST 10KVA)	10.00	100%	10.00
TYPE "R": RECEPTACLES (OVER 10KVA)	3.80	50%	1.90
TYPE "H": HVAC LOADS		100%	
TYPE "P": PANEL LOADS		100%	
TYPE "C": COOKING LOADS		65%	
TYPE "E": EV LOADS		125%	
TYPE "W": WATER HEATING LOADS		100%	
TYPE "O": OTHER LOADS		100%	
DEMAND KVA:			11.90
DEMAND AMPS:			49.6

PANEL SCHEDULE

PANEL NAME: **L1-3**
MAINS RATING: MLO (A)
BUS RATING: 125 (A)
VOLTAGE: 240
PHASE: 1
WIRE: 3
NEMA RATING: 3R
AIC RATING: 10 KAIC
NOTES: SECOND FLOOR
LOCATION:

CKT NO	PHASE WIRE	NEUT WIRE	USE	DESCRIPTION	BKR SIZE	BKR OPTS	BKR KVA	PHASE:	BKR KVA	BKR OPTS	BKR SIZE	DESCRIPTION	USE	NEUT WIRE	PHASE WIRE	CKT NO
1	12	12	R	RECP - RM 201	20/1		0.90	A	0.90		20/1	RECP - RM 202	R	12	12	2
3	12	12	R	DED RECP - RM 201	20/1		0.18	B	0.18		20/1	DED RECP - RM 202	R	12	12	4
5	12	12	R	RECP - RM 203	20/1		0.90	A	0.90		20/1	RECP - RM 204	R	12	12	6
7	12	12	R	DED RECP - RM 203	20/1		0.18	B	0.18		20/1	DED RECP - RM 204	R	12	12	8
9	12	12	R	RECP - RM 205	20/1		0.90	A	0.90		20/1	RECP - RM 206	R	12	12	10
11	12	12	R	DED RECP - RM 205	20/1		0.18	B	0.18		20/1	DED RECP - RM 206	R	12	12	12
13	12	12	R	RECP - RM 207	20/1		0.90	A	1.20		20/1	RECP - RM 208	R	12	12	14
15	12	12	R	DED RECP - RM 207	20/1		0.18	B	0.18		20/1	DED RECP - RM 208	R	12	12	16
17	12	12	R	RECP - RM 209	20/1		1.20	A	0.90		20/1	RECP - RM 210	R	12	12	18
19	12	12	R	DED RECP - RM 209	20/1		0.18	B	1.20		20/1	DED RECP - RM 210	R	12	12	20
21	12	12	R	RECP - RM 211	20/1		1.20	A	0.90		20/1	RECP - RM 212	R	12	12	22
23	12	12	R	DED RECP - RM 211	20/1		0.18	B	1.20		20/1	DED RECP - RM 212	R	12	12	24
25	12	12	R	RECP - RM 213	20/1		1.20	A	0.90		20/1	RECP - RM 214	R	12	12	26
27	12	12	R	DED RECP - RM 213	20/1		0.18	B	1.20		20/1	DED RECP - RM 214	R	12	12	28
29	-	-	-	SPARE	20/1		-	A	-		20/1	SPARE	-	-	-	30
31	-	-	-	SPARE	20/1		-	B	-		20/1	SPARE	-	-	-	32
33	-	-	-	SPARE	20/1		-	A	-		20/1	SPARE	-	-	-	34
35	-	-	-	SPARE	20/1		-	B	-		20/1	SPARE	-	-	-	36
37	-	-	-	SPARE	20/1		-	A	-		20/1	SPARE	-	-	-	38
39	-	-	-	SPARE	20/1		-	B	-		20/1	SPARE	-	-	-	40
41	-	-	-	SPARE	20/1		-	A	-		20/1	SPARE	-	-	-	42

LOADS:
PHASE A: 13.8 (KVA)
PHASE B: 5.6 (KVA)
PHASE C: (KVA)
TOTAL: 19.4 (CONNECTED KVA)
80.8 (CONNECTED A)

USE LEGEND	LOAD TYPE	BREAKER OPTIONS:
"H"	HVAC	GFCI - GROUND FAULT CIRCUIT INTERRUPTER
"L"	LIGHTING	HACR - HEATING/AIR CONDITIONING RATED
"M"	MOTOR	LO - LOCK-ON DEVICE
"O"	OTHER	PA - PADLOCK ATTACHMENT
"R"	RECEPTACLE	ST - SHUNT TRIP
"P"	PANEL	HT - HANDLE TIE
"C"	COOKING	FA - DEDICATED CIRCUIT FOR FIRE ALARM, RED HANDLE, MARKED
"E"	EV LOADS	"FIRE ALARM CIRCUIT", LOCK-ON DEVICE. PERMANENTLY IDENTIFY
"W"	WATER HEATER	CIRCUIT AT FIRE ALARM EQUIPMENT.

NEC DEMAND LOAD	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": MOTOR. LOADS (LARGEST MOTOR)		125%	
TYPE "M": MOTOR. LOADS (REMAINING)		100%	
TYPE "L": LIGHTING LOADS		125%	
TYPE "R": RECEPTACLES (FIRST 10KVA)	10.00	100%	10.00
TYPE "R": RECEPTACLES (OVER 10KVA)	9.38	50%	4.69
TYPE "H": HVAC LOADS		100%	
TYPE "P": PANEL LOADS		100%	
TYPE "C": COOKING LOADS		65%	
TYPE "E": EV LOADS		125%	
TYPE "W": WATER HEATING LOADS		100%	
TYPE "O": OTHER LOADS		100%	
DEMAND KVA:			14.69
DEMAND AMPS:			61.2

PANEL SCHEDULE

PANEL NAME: **L1-4**
MAINS RATING: MLO (A)
BUS RATING: 225 (A)
VOLTAGE: 240
PHASE: 1
WIRE: 3
NEMA RATING: 3R
AIC RATING: 10 KAIC
NOTES:
LOCATION:

CKT NO	PHASE WIRE	NEUT WIRE	USE	DESCRIPTION	BKR SIZE	BKR OPTS	BKR KVA	PHASE:	BKR KVA	BKR OPTS	BKR SIZE	DESCRIPTION	USE	NEUT WIRE	PHASE WIRE	CKT NO
1	10	10	C	COOK UINT - 101	20/1		1.70	A	1.70		20/1	COOK UINT - 102	C	10	10	2
3	10	10	C	COOK UINT - 103	20/1		1.70	B	1.70		20/1	COOK UINT - 104	C	10	10	4
5	10	10	C	COOK UINT - 105	20/1		1.70	A	1.70		20/1	COOK UINT - 106	C	10	10	6
7	10	10	C	COOK UINT - 107	20/1		1.70	B	1.70		20/1	COOK UINT - 108	C	10	10	8
9	10	10	C	COOK UINT - 109	20/1		1.70	A	1.70		20/1	COOK UINT - 110	C	10	10	10
11	10	10	C	COOK UINT - 111	20/1		1.70	B	-		20/1	COOK UINT - 110		10	10	12
13	10	10	R	WASHER - 123	20/1		1.50	A	1.50		20/1	WASHER - 123	R	10	10	14
15	10		R	DRYER - 123	30/2		2.50	B	2.50		30/2	DRYER - 123	R		10	16
17	10		R				2.50	A	2.50				R		10	18
19	-	-	-	SPARE	20/1		-	B	-		20/1	SPARE	-	-	-	20
21	10	10	C	COOK UINT - 201	20/1		1.70	A	1.70		20/1	COOK UINT - 202	C	10	10	22
23	10	10	C	COOK UINT - 203	20/1		1.70	B	1.70		20/1	COOK UINT - 204	C	10	10	24
25	10	10	C	COOK UINT - 205	20/1		1.70	A	1.70		20/1	COOK UINT - 206	C	10	10	26
27	10	10	C	COOK UINT - 209	20/1		1.70	B	1.70		20/1	COOK UINT - 208	C	10	10	28
29	10	10	C	COOK UINT - 211	20/1		1.70	A	1.70		20/1	COOK UINT - 210	C	10	10	30
31	10	10	C	COOK UINT - 213	20/1		1.70	B	1.70		20/1	COOK UINT - 212	C	10	10	32
33	-	-	-	SPARE	20/1		-	A	1.70		20/1	COOK UINT - 214	C	10	10	34
35	-	-	-	SPARE	20/1		-	B	-		20/1	SPARE	-	-	-	36
37	10	10	R	WASHER - 215	20/1		1.50	A	1.50		20/1	WASHER - 215	R	10	10	38
39	10		R	DRYER - 215	30/2		2.50	B	2.50		30/2	DRYER - 215	R		10	40
41	10		R				2.50	A	2.50				R		10	42

LOADS:
PHASE A: 38.1 (KVA)
PHASE B: 28.7 (KVA)
PHASE C: (KVA)
TOTAL: 66.8 (CONNECTED KVA)
278.3 (CONNECTED A)

USE LEGEND	LOAD TYPE	BREAKER OPTIONS:
"H"	HVAC	GFCI - GROUND FAULT CIRCUIT INTERRUPTER
"L"	LIGHTING	HACR - HEATING/AIR CONDITIONING RATED
"M"	MOTOR	LO - LOCK-ON DEVICE
"O"	OTHER	PA - PADLOCK ATTACHMENT
"R"	RECEPTACLE	ST - SHUNT TRIP
"P"	PANEL	HT - HANDLE TIE
"C"	COOKING	FA - DEDICATED CIRCUIT FOR FIRE ALARM, RED HANDLE, MARKED
"E"	EV LOADS	"FIRE ALARM CIRCUIT", LOCK-ON DEVICE. PERMANENTLY IDENTIFY
"W"	WATER HEATER	CIRCUIT AT FIRE ALARM EQUIPMENT.

NEC DEMAND LOAD	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": MOTOR. LOADS (LARGEST MOTOR)		125%	
TYPE "M": MOTOR. LOADS (REMAINING)		100%	
TYPE "L": LIGHTING LOADS		125%	
TYPE "R": RECEPTACLES (FIRST 10KVA)	10.00	100%	10.00
TYPE "R": RECEPTACLES (OVER 10KVA)	16.00	50%	8.00
TYPE "H": HVAC LOADS		100%	
TYPE "P": PANEL LOADS		100%	
TYPE "C": COOKING LOADS	40.80	65%	26.52
TYPE "E": EV LOADS		125%	
TYPE "W": WATER HEATING LOADS		100%	
TYPE "O": OTHER LOADS		100%	
DEMAND KVA:			44.52
DEMAND AMPS:			185.5

PANEL SCHEDULE

PANEL NAME: **L1-5**
MAINS RATING: MLO (A)
BUS RATING: 125 (A)
VOLTAGE: 240
PHASE: 1
WIRE: 3
NEMA RATING: 3R
AIC RATING: 10 KAIC
NOTES: WALL HEATERS
LOCATION:

CKT NO	PHASE WIRE	NEUT WIRE	USE	DESCRIPTION	BKR SIZE	BKR OPTS	BKR KVA	PHASE:	BKR KVA	BKR OPTS	BKR SIZE	DESCRIPTION	USE	NEUT WIRE	PHASE WIRE	CKT NO
1	10	-	H	WH-1	20/2		0.50	A	0.50		20/2	WH-8	H	-	10	2
3	10		H				0.50	B	0.50				H		10	4
5	10	-	H	WH-2	20/2		0.50	A	0.50		20/2	WH-9	H	-	10	6
7	10		H				0.50	B	0.50				H		10	8
9	10	-	H	WH-3	20/2		0.50	A	0.50		20/2	WH-10	H	-	10	10
11	10		H				0.50	B	0.50				H		10	12
13	10	-	H	WH-4	20/2		0.50	A	0.50		20/2	WH-11	H	-	10	14
15	10		H				0.50	B	0.50				H		10	16
17	10	-	H	WH-5	20/2		0.50	A	0.50		20/2	WH-12	H	-	10	18
19	10		H				0.50	B	0.50				H		10	20
21	10	-	H	WH-6	20/2		0.50	A	0.50		20/2	WH-13	H	-	10	22
23	10		H				0.50	B	0.50				H		10	24
25	10	-	H	WH-7	20/2		0.50	A	0.50		20/2	WH-14	H	-	10	26
27	10		H				0.50	B	0.50				H		10	28
29	-	-	-	SPARE	20/1		-	A	0.50		20/2	WH-15	H	-	10	30
31	-	-	-	SPARE	20/1		-	B	0.50				H		10	32
33	-	-	-	SPARE	20/1		-	A	-		20\1	SPARE	-		-	34
35	-	-	-	SPARE	20/1		-	B	-		20\1	SPARE	-		-	36
37	-	-	-	SPARE	20/1		-	A	-		20\1	SPARE	-		-	38
39	-	-	-	SPARE	20/1		-	B	-		20\1	SPARE	-		-	40
41	-	-	-	SPARE	20/1		-	A	-		20\1	SPARE	-		-	42

LOADS:
PHASE A: 7.5 (KVA)
PHASE B: 7.5 (KVA)
PHASE C: (KVA)
TOTAL: 15.0 (CONNECTED KVA)
62.5 (CONNECTED A)

USE LEGEND	LOAD TYPE	BREAKER OPTIONS:
"H"	HVAC	GFCI - GROUND FAULT CIRCUIT INTERRUPTER
"L"	LIGHTING	HACR - HEATING/AIR CONDITIONING RATED
"M"	MOTOR	LO - LOCK-ON DEVICE
"O"	OTHER	PA - PADLOCK ATTACHMENT
"R"	RECEPTACLE	ST - SHUNT TRIP
"P"	PANEL	HT - HANDLE TIE
"C"	COOKING	FA - DEDICATED CIRCUIT FOR FIRE ALARM, RED HANDLE, MARKED
"E"	EV LOADS	"FIRE ALARM CIRCUIT", LOCK-ON DEVICE. PERMANENTLY IDENTIFY
"W"	WATER HEATER	CIRCUIT AT FIRE ALARM EQUIPMENT.

NEC DEMAND LOAD	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": MOTOR. LOADS (LARGEST MOTOR)		125%	
TYPE "M": MOTOR. LOADS (REMAINING)		100%	
TYPE "L": LIGHTING LOADS		125%	
TYPE "R": RECEPTACLES (FIRST 10KVA)		100%	
TYPE "R": RECEPTACLES (OVER 10KVA)		50%	
TYPE "H": HVAC LOADS	15.00	100%	15.00
TYPE "P": PANEL LOADS		100%	
TYPE "C": COOKING LOADS		65%	
TYPE "E": EV LOADS		125%	
TYPE "W": WATER HEATING LOADS		100%	
TYPE "O": OTHER LOADS		100%	
DEMAND KVA:			15.00
DEMAND AMPS:			62.5

PANEL SCHEDULE

PANEL NAME: **L2-1**
MAINS RATING: 125 (A)
BUS RATING: 125 (A)
VOLTAGE: 240
PHASE: 1
WIRE: 3
NEMA RATING: 1
AIC RATING: 10 KAIC
FEED THRU LUGS TO L2-2
NOTES: BUILDING 2
LOCATION:

CKT NO	PHASE WIRE	NEUT WIRE	USE	DESCRIPTION	BKR SIZE	BKR OPTS	BKR KVA	PHASE:	BKR KVA	BKR OPTS	BKR SIZE	DESCRIPTION	USE	NEUT WIRE	PHASE WIRE	CKT NO
1	12	12	R	RECP - RM 101	20/1		0.90	A	0.90		20/1	RECP - RM 102	R	12	12	2
3	12	12	R	DED RECP - RM 101	20/1		0.18	B	0.18		20/1	DED RECP - RM 102	R	12	12	4
5	12	12	R	RECP - RM 103	20/1		0.90	A	0.90		20/1	RECP - RM 104	R	12	12	6
7	12	12	R	DED RECP - RM 103	20/1		0.18	B	0.18		20/1	DED RECP - RM 104	R	12	12	8
9	12	12	R	RECP - RM 105	20/1		0.90	A	0.90		20/1	RECP - RM 106	R	12	12	10
11	12	12	R	DED RECP - RM 105	20/1		0.18	B			20/1	SPARE	-	-	-	12
13	12	12		SPARE	20/1			A			20/1	SPARE	-	-	-	14
15	12	12	R	R - RM 128,129	20/1		1.40	B	0.18		20/1	DED RECP - RM 127	R	12	12	16
17	12	12	R	R - RM 125,125,130,132	20/1		1.10	A	0.18		20/1	DED RECP - RM 127	R	12	12	18
19	12	12	L	L - REC AREA	20/1		0.80	B	0.18		20/1	DED RECP - RM 127	R	12	12	20
21	-	-	-	SPARE	20/1			A	0.18		20/1	DED RECP - RM 127	R	12	12	22
23	6	6	C	RANGE - RM127	50/2		4.20	B	0.18		20/1	DED RECP - RM 127	R	12	12	24
25	6		C				4.20	A	0.18		20/1	SPARE	-	-	-	26
27	-	-	-	SPARE	20/1		-	B	0.18		20/1	DED RECP - RM 131	R	12	12	28
29	-	-	-	SPARE	20/1		-	A	1.00		20/1	RM 131 HANDRYER	R	12	12	30
31	-	-	-	SPARE	20/1		-	B	-		20/1	SPARE	-	-	-	32
33	-	-	-	SPARE	20/1		-	A	-		20/1	SPARE	-	-	-	34
35	-	-	-	SPARE	20/1		-	B	0.30	FA	20/1	FAEP	O	12	12	36

LOADS:
PHASE A: 12.2 (KVA)
PHASE B: 8.3 (KVA)
PHASE C: (KVA)
TOTAL: 20.6 (CONNECTED KVA)
85.7 (CONNECTED A)

USE LEGEND	LOAD TYPE	BREAKER OPTIONS:
"H"	HVAC	GFCI - GROUND FAULT CIRCUIT INTERRUPTER
"L"	LIGHTING	HACR - HEATING/AIR CONDITIONING RATED
"M"	MOTOR	LO - LOCK-ON DEVICE
"O"	OTHER	PA - PADLOCK ATTACHMENT
"R"	RECEPTACLE	ST - SHUNT TRIP
"P"	PANEL	HT - HANDLE TIE
"C"	COOKING	FA - DEDICATED CIRCUIT FOR FIRE ALARM, RED HANDLE, MARKED
"E"	EV LOADS	"FIRE ALARM CIRCUIT", LOCK-ON DEVICE. PERMANENTLY IDENTIFY
"W"	WATER HEATER	CIRCUIT AT FIRE ALARM EQUIPMENT.

NEC DEMAND LOAD	CONN. KVA	DEMAND FACTOR	DEMAND KVA		
TYPE "M": MOTOR. LOADS (LARGEST MOTOR)		125%			
TYPE "M": MOTOR. LOADS (REMAINING)		100%			
TYPE "L": LIGHTING LOADS	0.80	125%	1.00		
TYPE "R": RECEPTACLES (FIRST 10KVA)	10.00	100%	10.00		
TYPE "R": RECEPTACLES (OVER 10KVA)	0.88	50%	0.44		
TYPE "H": HVAC LOADS		100%			
TYPE "P": PANEL LOADS		100%			
TYPE "C": COOKING LOADS	8.40	65%	5.46		
TYPE "E": EV LOADS		125%			
TYPE "W": WATER HEATING LOADS		100%			
TYPE "O": OTHER LOADS	0.30	100%	0.30		
DEMAND KVA:			17.20	12.63	29.83
DEMAND AMPS:			71.7	52.625	124.29

PANEL SCHEDULE

PANEL NAME: **L2-2**
MAINS RATING: MLO (A)
BUS RATING: 125 (A)
VOLTAGE: 240
PHASE: 1
WIRE: 3
NEMA RATING: 1
AIC RATING: 10 KAIC
NOTES: BUILDING 2
LOCATION:

CKT NO	PHASE WIRE	NEUT WIRE	USE	DESCRIPTION	BKR SIZE	BKR OPTS	BKR KVA	PHASE:	BKR KVA	BKR OPTS	BKR SIZE	DESCRIPTION	USE	NEUT WIRE	PHASE WIRE	CKT NO
1	10	-	H	WH-26	20/2		0.50	A	0.50		20/2	WH-29	H	-	10	2
3	10		H				0.50	B	0.50				H		10	4
5	10	-	H	WH-27	20/2		0.50	A	0.50		20/2	WH-30	H	-	10	6
7	10		H				0.50	B	0.50				H		10	8
9	10	-	H	WH-28	20/2		0.50	A	0.50		20/2	WH-31	H	-	10	10
11	10		H				0.50	B	0.50				H		10	12
13	10	10	C	COOK UINT - 112	20/1		1.70	A	1.70		20/1	COOK UINT - 116	C	10	10	14
15	10	10	C	COOK UINT - 114	20/1		1.70	B	1.70		20/1	COOK UINT - 117	C	10	10	16
17	10	10	C	COOK UINT - 115	20/1		1.70	A	1.70		20/1	COOK UINT - 118	C	10	10	18
19	-	-	-	SPARE	20/1		-	B	-		20/1	SPARE	-	-	-	20
21	-	-	-	SPARE	20/1		-	A	-		20/1	SPARE	-	-	-	22

LOADS:
PHASE A: 9.8 (KVA)
PHASE B: 6.4 (KVA)
PHASE C: (KVA)
TOTAL: 16.2 (CONNECTED KVA)
67.5 (CONNECTED A)

USE LEGEND	LOAD TYPE	BREAKER OPTIONS:
"H"	HVAC	GFCI - GROUND FAULT CIRCUIT INTERRUPTER
"L"	LIGHTING	HACR - HEATING/AIR CONDITIONING RATED
"M"	MOTOR	LO - LOCK-ON DEVICE
"O"	OTHER	PA - PADLOCK ATTACHMENT
"R"	RECEPTACLE	ST - SHUNT TRIP
"P"	PANEL	HT - HANDLE TIE
"C"	COOKING	FA - DEDICATED CIRCUIT FOR FIRE ALARM, RED HANDLE, MARKED
"E"	EV LOADS	"FIRE ALARM CIRCUIT", LOCK-ON DEVICE. PERMANENTLY IDENTIFY
"W"	WATER HEATER	CIRCUIT AT FIRE ALARM EQUIPMENT.

NEC DEMAND LOAD	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": MOTOR. LOADS (LARGEST MOTOR)		125%	
TYPE "M": MOTOR. LOADS (REMAINING)		100%	
TYPE "L": LIGHTING LOADS		125%	
TYPE "R": RECEPTACLES (FIRST 10KVA)		100%	
TYPE "R": RECEPTACLES (OVER 10KVA)		50%	
TYPE "H": HVAC LOADS	6.00	100%	6.00
TYPE "P": PANEL LOADS		100%	
TYPE "C": COOKING LOADS	10.20	65%	6.63
TYPE "E": EV LOADS		125%	
TYPE "W": WATER HEATING LOADS		100%	
TYPE "O": OTHER LOADS		100%	
DEMAND KVA:			12.63
DEMAND AMPS:			52.6

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:
COURTNEY A. CHUENYANE
No. E18225
Exp. 12-31-23
1/7/22

CONSULTANT:

BrokawDesign
P.O. BOX 3103
ROHNERT PARK, CA 94927
WWW.BROKAWDESIGN.COM

PROJECT:
THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA.
95531

SHEET NAME:
ELECTRICAL SCHEDULES

ISSUE DATE: 1/7/22
PREPARATION AND REVIEW
DRAWN BY: MOB
DESIGNER: MOB
PROJ MGR:
PEER REVIEW: CAC

SHEET NUMBER:
E701

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	The Legacy Renovation	Report Page:	(Page 1 of 7)
Project Address:	655 L Street	Date Prepared:	12/21/2021

This document is used to demonstrate compliance with requirements in §110.5, §110.12(c), §130.0, §130.1, §140.6 and §141.0(b)2 for indoor lighting scopes using the prescriptive path.

A. GENERAL INFORMATION

01	Project Location (city)	Crescent City	04	Total Conditioned Floor Area (ft²)	1,375
02	Climate Zone	1	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				
☐ New Lighting System - Parking Garage				
☒ Altered Lighting System	Area Category Method	1375	Area Category Method	0
Total Area of Work (ft²)	1375		0	

STATE OF CALIFORNIA
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CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
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C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per §140.6(b)1	Allowed Lighting Power per §140.6(b) (Watts)						Adjusted Lighting Power per §140.6(a) (Watts)				Compliance Results
	01	02	03	04		05	06	07		08	09
	Complete Building §140.6(c)1	Area Category §140.6(c)2	Area Category Additional §140.6(c)2G (+)	Tailored §140.6(c)3 (+)	=	**Total Allowed** (Watts)	Total Designed (Watts)	Adjustments PAF Lighting Control Credits §140.6(a)2 (-)	=	**Total Adjusted** (Watts) *Includes Adjustments	**05 must be >= 08 §140.6**
	(See Table I)	(See Table I)	(See Table J)	(See Table K)			(See Table F)	(See Table P)			
Conditioned		874	0		=	874	819	0	=	819	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
LS14A	40w LED	No	No	40	CEC Default	17	No	680	☐	☐
LS14B	40w LED	No	No	40	CEC Default	2	No	80	☐	☐

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
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STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	The Legacy Renovation	Report Page:	(Page 3 of 7)
Project Address:	655 L Street	Date Prepared:	12/21/2021

F. INDOOR LIGHTING FIXTURE SCHEDULE

LW3A	25w LED	No	No	25	CEC Default	1	No	25	☐ ☐
LWA	17w LED	No	No	17	CEC Default	2	No	34	☐ ☐
					Total Designed Watts: CONDITIONED SPACES			819	

[1]*FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per §140.6(a)4B is adjusted to be 75% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.*

[2]*Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c) Wattage used must be the maximum rated for the luminaire, not the lamp.*

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

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
*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:				

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
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STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	The Legacy Renovation	Report Page:	(Page 4 of 7)
Project Address:	655 L Street	Date Prepared:	12/21/2021

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
Kitchen	Kitchen/ Food Preparation Area	0.95	127	120.6	No	No
Office	Office 250 square feet or less	0.7	137	95.9	No	No
Lounge	Lounge Breakroom or Waiting Area	0.65	406	263.9	No	No
Gym	Exercise/Fitness Center GymnasiumArea	0.5	319	159.5	No	No
Storage	Warehouse	0.6	233	139.8	No	No
Restroom	Restrooms	0.65	50	32.5	No	No
Vestibule	Corridor Area	0.6	103	61.8	No	No
		TOTALS:	1,375	874	See Tables J, or P for detail	

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This section does not apply to this project.

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This section does not apply to this project.

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STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	The Legacy Renovation	Report Page:	(Page 5 of 7)
Project Address:	655 L Street	Date Prepared:	12/21/2021

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAMENTAL/SPECIAL EFFECTS

This section does not apply to this project.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR ALTERATIONS

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
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STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	The Legacy Renovation	Report Page:	(Page 6 of 7)
Project Address:	655 L Street	Date Prepared:	12/21/2021

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)	☐	☐

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2021-12-21 11:01:37

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	The Legacy Renovation	Report Page:	(Page 7 of 7)
Project Address:	655 L Street	Date Prepared:	12/21/2021

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Company: Brokaw Design	Signature Date:
Address:	CEA/ HERS Certification Identification (if applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Courtney Chuenyane	Responsible Designer Signature:
Company: Browkaw Design	Date Signed: 2021-12-21
Address: PO Box 3103	License: E18225
City/State/Zip: Rohnert Park CA	Phone:

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2021-12-21 11:01:37

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER COURTNEY A. CHUENYANE No. E18225 Exp. 12-31-23 ELECTRICAL STATE OF CALIFORNIA

1/7/22

CONSULTANT:

BrokawDesign
P.O. BOX 3103
ROHNERT PARK, CA 94927
WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA.
95531

SHEET NAME:

T24 LIGHTING COMPLIANCE

ISSUE DATE: 1/7/22
PREPARATION AND REVIEW
DRAWN BY: MOB
DESIGNER: MOB
PROJ MGR:
PEER REVIEW: CAC

SHEET NUMBER:

E801

ANCHORAGE & BRACING NOTES

M/E/P Component Anchorage Note

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

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

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

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

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

Piping, Ductwork, and Electrical Distribution System Bracing Note

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

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

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

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

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

APPLICABLE CODES & STANDARDS REFERENCES

PARTIAL LIST OF APPLICABLE CODES AS OF January 1, 2020*
2019 California Administrative Code (CAC), Part 1, Title 24 CCR*
2019 California Building Code (CBC), Part 2, Title 24 CCR
(2018 International Building Code, Vol. 1 & 2, and 2019 California amendments)
2019 California Electrical Code (CEC), Part 3, Title 24 CCR
(2017 National Electrical Code and 2019 California Amendments)
2019 California Mechanical Code (CMC), Part 4, Title 24 CCR
(2018 IAPMO Uniform Mechanical Code and 2019 California amendments)
2019 California Plumbing Code (CPC), Part 5, Title 24 CCR
(2018 IAPMO Uniform Plumbing Code and 2019 California amendments)
2019 California Energy Code (CEC), Part 6, Title 24 CCR
2019 California Fire Code (CFC), Part 9, Title 24 CCR
(2018 International Fire Code and 2019 California Amendments)
2019 California Existing Building Code (CEBC), Part 10, Title 24 CCR
(2018 International Existing Building Code and 2019 California Amendments)
2019 California Green Building Standards Code (CALGreen), Part 11, Title 24 CCR
2019 California Referenced Standards Code, Part 12, Title 24 CCR
Title 19 CCR, Public Safety, State Fire Marshal Regulations
2016 ASME A17.1/CSA B44-13 Safety Code for Elevators and Escalators *(per 2019 CBC Part 2 Ch 35)*
Note: Cal/OSHA Elevator Unit enforces CCR Title 8 and uses the 2004 ASME A17.1 by adoption

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

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

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

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

GENERAL FIRE ALARM NOTES

1. FINAL FIRE ALARM TEST SHALL BE MADE WITH THE INSPECTOR OF RECORD. THE LOCAL FIRE AUTHORITY SHALL BE NOTIFIED OF DATE AND TIME OF DATE AND TIME OF FINAL ALARM TESTING AND SHALL ASSIST/WITNESS SUCH AS TESTING WHEN ABLE.
2. UNDERGROUND AND EXTERIOR CONDUITS WILL HAVE WATERTIGHT FITTINGS. (CEC 110-11 AND 300-6).
3. FIRE ALARM DEVICE MOUNTING HEIGHTS:
   PULL STATION: 48" TO CENTER LINE OF DEVICE ABOVE FINISHED FLOOR. (CEC 907.4.2).
   HORN INTERIOR: BETWEEN 80" TO 96" TO TOP OF DEVICE ABOVE FINISHED FLOOR, NOT LESS THAN 6" FROM CEILING. (NFPA 72-7.4.7.1).
   WALL MOUNTED STROBE OR HORN/STROBE: 80" TO BOTTOM OF DEVICE LENS TO +96" TO TOP OF DEVICE LENS ABOVE FINISH FLOOR, BUT NOT LESS THAN 6" FROM CEILING. (NFPA 72-7.5.4.1).
4. AUDIBLE FIRE ALARM SYSTEM LEVEL SHALL BE AT LEAST 15dBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL IN ALL OCCUPIABLE AREAS. (NFPA 72 SEC (i.e. CLASSROOM AVERAGE AMBIENT ROOM NOISE IS 45 dBA PLUS 15 dBA EQUAL 60DBA MINIMUM ALARM TONE REQUIRED).
5. THE OPERATION OF ANY INITIATION DEVICE SHALL AUTOMATICALLY SOUND AN ALERT TONE FOLLOWED BY VOICE INSTRUCTIONS GIVING APPROVED INFORMATION AND DIRECTIONS FOR A GENERAL OR STAGED EVACUATION PER CBC 907.5.2.2..
6. APPLICABLE CODES: CBC, NFPA EDITIONS RECOGNIZED BY THE AUTHORITY HAVING JURISDICTION.
7. STROBES SHALL BE SYNCHRONIZED AND FLASH AT A RATE NOT EXCEEDING TWO FLASHES PER SECOND, NOR BE LESS THAN ONE FLASH EVERY SECOND. (NFPA 72).
8. FIRE ALARM CONTRACTOR SHALL PROVIDE A "RECORD OF COMPLETION" AFTER COMPLETION OF OPERATIONAL ACCEPTANCE TESTS. (NFPA 72 SEC 4.5.2 & FIGURE 4.5.2.1).
9. POWER SERVICE TO THE FACP, REMOTE POWER SUPPLIES, AND CENTRAL STATION AUTO DIALER SHALL BE ON A DEDICATED BRANCH CIRCUIT WITH A RED MARKING AND IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL". (NFPA SEC 4.4.1.4).
10. AUDIBLE SIGNALS INTENDED FOR OPERATION IN THE PUBLIC MODE SHOULD HAVE A SOUND LEVEL OF NOT LESS THAN 75 dBA AT 10 FEET OR MORE THAN 110 dBA AT THE MINIMUM HEARING DISTANCE FROM THE AUDIBLE APPLIANCE.
11. PROVIDE A NEW FULLY ADDRESSABLE FIRE ALARM SYSTEM AND EMERGENCY VOICE ALARM COMMUNICATIONS SYSTEM. THE NEW SYSTEM ADDITIONS SHALL INCLUDE, BUT NOT BE LIMITED TO, POWER SUPPLY(S), TERMINAL CABINETS, OUTLETS, DEVICES AND WIRING FOR THE PROJECT AS SHOWN.
12. MONITOR THE EMERGENCY VOICE AND COMMUNICATIONS SYSTEM FOR TROUBLE CONDITIONS.
13. ALL CABLING BETWEEN BUILDINGS SHALL BE CONTINUOUS AND WITHOUT SPLICES.
14. FIRE ALARM CABLING RUN ABOVE CEILINGS SHALL BE HUNG ON J-HOOKS AT 10'-0" CENTERS.
15. PROVIDE ENT PATHWAYS WITHIN WALLS TO TO WALL DEVICE LOCATIONS AND ABOVE WALLS TO ACCESSIBLE CEILING SPACE.
16. ALL BATTERIES SHALL BE MARKED WITH MONTH AND YEAR OF MANUFACTURE (NFPA 72 10.6.10.1.1).

FIRE ALARM SCOPE OF WORK

1. TERMINATE EACH NOTIFICATION LOOP TO FIRE ALARM PANEL, BOOSTER PANEL, OR EVACS PANEL AS SHOWN ON PLANS AND DIAGRAMS.
2. TERMINATE EACH INITIATION LOOP AT THE FIRE ALARM CONTROL PANEL AS SHOWN ON PLANS AND DIAGRAMS.
3. PROVIDE A NEW FULLY ADDRESSABLE FIRE ALARM SYSTEM AND EMERGENCY VOICE ALARM COMMUNICATIONS SYSTEM. THE NEW SYSTEM SHALL INCLUDE, BUT NOT BE LIMITED TO, POWER SUPPLY(S), TERMINAL CABINETS, OUTLETS, DEVICES AND WIRING FOR THE PROJECT AS SHOWN.

SEQUENCE OF OPERATIONS

1. ACTIVATION OF ANY INITIATION DEVICE WILL PLACE THE FIRE ALARM CONTROL PANEL IN ALARM MODE AND WILL ACTIVATE ALL NOTIFICATION APPLIANCES. THE FIRE ALARM CONTROL PANEL SHALL DISPLAY THE ZONE (NON-ADDRESSABLE) OR DEVICE (ADDRESSABLE) OF THE ACTIVATED INITIATION DEVICE(S).
2. UPON ALARM CONDITION, AUTO-DIALER TO NOTIFY THE OFF-SITE MONITORING STATION, AND AUTHORIZED SCHOOL PERSONNEL SHALL NOTIFY THE FIRE DEPARTMENT AND INITIATE EVACUATION OF STUDENTS AND FACULTY AS PER SCHOOL'S EVACUATION PLAN.
3. WHEN THE PANEL IS IN ALARM CONDITION, THE NOTIFICATION APPLIANCES MAY BE DEACTIVATED ("SILENCED") AT THE FIRE ALARM CONTROL PANEL. ACTIVATION OF ANOTHER INITIATION DEVICE WILL PLACE THE CONTROL PANEL BACK IN ALARM CONDITION AND WILL AGAIN ACTIVATE ALL NOTIFICATION APPLIANCES.
4. FAILURE OF THE FIRE ALARM SYSTEM COMPONENTS, WIRING OR POWER SUPPLY SHALL PLACE THE FIRE ALARM CONTROL PANEL IN TROUBLE CONDITION, RESULTING IN AN AUDIBLE AND VISUAL (LED) ALARM AT THE FIRE ALARM CONTROL PANEL ONLY. THE AUDIBLE ALARM MAY BE SILENCED AT THE CONTROL PANEL, BUT THE VISUAL ALARM WILL REMAIN ACTIVE UNTIL THE FAILED CONDITIONS ARE CORRECTED AND CLEARED.
5. UPON TROUBLE CONDITION, AUTO-DIALER TO NOTIFY THE OFF-SITE MONITORING STATION, AND AUTHORIZED SCHOOL PERSONNEL SHALL NOTIFY THE AUTHORIZED TECHNICIAN TO CORRECT THE TROUBLE CONDITIONS.

FIRE ALARM SYSTEM MATRIX & SEQUENCE OF OPERATIONS

	ANNUNCIATE DEVICE TYPE & ZONE AT FACP	ACTIVATE SPEAKERS & STROBES THROUGHOUT ENTIRE COMPLEX	ANNUNCIATE TROUBLE CONDITION AT FACP	ANNUNCIATE DEVICE TYPE & ZONE AT ANNUNCIATOR	ANNUNCIATE SUPERVISORY COND. AT FACP & ANNUNCIATOR	ANNUNCIATE TROUBLE CONDITION AT ANNUNCIATOR	SEND ALARM SIGNAL TO CENTRAL MONITORING STATION	SEND SUPERVISORY SIGNAL TO CENTRAL MONITORING STATION	SEND TROUBLE SIGNAL TO CENTRAL MONITORING STATION	SHUTDOWN ASSOCIATED FAN & FSD
MANUAL PULL STATION	●	●		●			●			
SMOKE DETECTOR	●	●		●			●			
DUCT DETECTOR	●	●		●			●			●
HEAT DETECTOR	●	●		●			●			
SYSTEM TROUBLE			●			●			●	
COMMUNICATION FAILURE			●			●			●	
OPENS OR SHORTS			●			●			●	
GROUND FAULTS			●			●			●	
FIRE SPRINKLER FLOW SWITCH	●	●		●			●			
FIRE SPRINKLER TAMPER SWITCH	●		●	●	●				●	

ABBREVIATIONS

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

ELECTRICAL SHEET INDEX

FIRE ALARM

- (B)←(R) BEAM DETECTOR AND REFLECTOR - WALL MOUNTED
- (D) DUCT DETECTOR (PROVIDED BY MECHANICAL, MONITORED BY FA)
- (H) AC HEAT DETECTOR - ABOVE CEILING MOUNTED, HIGH TEMPERATURE TYPE
- (H) HEAT DETECTOR - CEILING MOUNTED
- (M) MONITOR MODULE
- (F) PULL STATION - WALL MOUNTED
- (S) SMOKE DETECTOR - CEILING MOUNTED
- (SC) COMBO SMOKE/CARBON MONOXIDE DETECTOR - CEILING MOUNTED
- (D) DOOR HOLD
- (C) CONTROL MODULE
- (R) RELAY MODULE
- (SP) SPEAKER - WALL MOUNTED
- (SP) SPEAKER - CEILING MOUNTED
- (SS) SPEAKER/STROBE - WALL MOUNTED
- (SS) SPEAKER/STROBE - CEILING MOUNTED
- (S) STROBE - WALL MOUNTED
- (S) STROBE - CEILING MOUNTED

(X / FA-) MOUNTING

- (DS&V) OS&Y VALVE
- (PIV) POST INDICATOR VALVE
- (T) TAMPER SWITCH
- (W) SPRINKLER WATER FLOW
- (EOL) END OF LINE RESISTOR
- RISER BELL
- (FI) FAULT ISOLATOR MODULE
- (FSD) FIRE SMOKE DAMPER (FSD AND DETECTOR PROVIDED BY MECHANICAL, MONITORED BY FA, UNIT SHUT-DOWN BY MECHANICAL)

EQUIPMENT

- (FACP) (FACP) FIRE ALARM CONTROL PANEL
- (FAAP) (FAAP) FIRE ALARM ANNUNCIATOR PANEL
- (FAEP) (FAEP) FIRE ALARM NAC EXPANDER POWER SUPPLY
- (FATC) (FATC) FIRE ALARM TERMINAL CABINET
- (EVACS) (EVACS) EMERGENCY VOICE AND COMMUNICATIONS SYSTEM
- (EVACA) (EVACA) EMERGENCY VOICE AND COMMUNICATIONS SYSTEM AMPLIFIER

CIRCUITING

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

MISCELLANEOUS

- (XX) DEMO KEYED NOTE TAG
- (X) ELECTRICAL EQUIPMENT TAG
- (1) KEYED NOTE TAG
- (X / X) MECHANICAL EQUIPMENT TAG
- (X) REVISION DELTA
- (X / FA-) DETAIL REFERENCE
- (J) JUNCTION BOX - WALL MOUNTED +18" A.F.F.
- (J) JUNCTION BOX - WALL MOUNTED (NOTED MOUNTING)
- (J) JUNCTION BOX - FLOOR MOUNTED
- (J) JUNCTION BOX - CEILING MOUNTED

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER — RODNEY A. BROKAW — No. E18225 Exp. 12-31-23 — ELECTRICAL — STATE OF CALIFORNIA

1/7/22

CONSULTANT:

BrokawDesign
P.O. BOX 3103
ROHNERT PARK, CA 94927
WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA.
95531

SHEET NAME:

FIRE ALARM LEGEND AND ABBREVIATIONS

ISSUE DATE: 1/7/22
PREPARATION AND REVIEW
DRAWN BY: MOB
DESIGNER: MOB
PROJ MGR:
PEER REVIEW: CAC

SHEET NUMBER:

FA001

1.01- RELATED DOCUMENTS
A. The General Conditions, Supplementary Conditions and Division 1 apply to the electrical work.

1.02 - WORK INCLUDES
A. Work included in this section: All materials, labor, equipment, services, and incidentals necessary to install the Electrical Work as shown on the drawings and as specified hereinafter, including, but not limited to the following:
1. Distribution system, including panelboards, and feeders.
2. Branch circuit wiring, wiring devices and connections to all equipment requiring electrical service.
3. Lighting fixtures with hangers, anchors and supports. Lighting Controls.
4. Electrical equipment grounding system.
5. Mechanical equipment power and control connections as stated in the mechanical and electrical specifications and as shown on the mechanical and electrical drawings.
6. Sleeves, inserts and blocking in cast concrete as required for work in this section.
7. All required incidental work, such as excavating and backfilling, roof flashing, and testing.
8. Any other electrical work as might reasonably be implied as required, even though not specifically mentioned herein or shown on the drawings.

1.03 - INCORPORATED DOCUMENTS
A. Requirements of the General Conditions, Supplementary Conditions, and Division 1. Sections apply to all work in this Section, unless modified herein.
B. Published specifications, standard tests or recommended methods of trade, industry or government organizations apply to work of this Section where cited by abbreviations noted below, unless modified herein.
1. National Electrical Code, latest edition, (NEC).
2. NEMA standards
3. Underwriters' Laboratories, Inc. (UL).
4. Local Utility Company regulations.
5. National Fire Protection Association (NFPA)
6. California Administrative Code (CAC)
C. All State and Municipal Codes and Ordinances recognized by the Authority Having Jurisdiction, including but not limited to:
1. Latest Edition - BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE C.C.R.
2. Latest Edition - CALIFORNIA BUILDING CODE (CBR), PART 2, TITLE 24 C.C.R.
3. Latest Edition - CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R.
4. Latest Edition - CALIFORNIA ENERGY CODE, PART 6, TITLE 24 C.C.R.
5. Latest Edition - CALIFORNIA HISTORICAL BUILDING CODE, PART 8, TITLE 24 C.C.R.
6. Latest Edition - CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R.
7. Latest Edition - CALIFORNIA REFERENCE STANDARDS, PART 12, TITLE 24 C.C.R.
8. Latest Edition - TITLE 19 C.C.R.

1.05 - QUALITY ASSURANCE
A. Conformance:
1. All work shall conform to the applicable requirements of Article 1.03 above.
2. The Contractor shall notify the Architect, prior to submission of bid, about any part of the design which fails to comply with abovementioned requirements.
3. If after contract is awarded, minor changes and additions are required by aforementioned authorities, even though such work is not shown on drawings or covered in specifications, they shall be included at Contractor's expense.

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

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

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

1.08 - ACCEPTABLE MANUFACTURERS
A. Materials shall be of make mentioned elsewhere in this specification. All materials shall be the best of their several kinds, perfectly new and approved by the Underwriters' Laboratories.

B. Where material, equipment, apparatus or other products are specified by manufacturer, brand name, type or catalog number, such designation is to establish standards of desired quality, style and utility and shall be the basis of the bid. Materials so specified shall be furnished under the contract unless changed by written approval of the Owner's Representative. Where two or more designations are listed, choice shall be optional with this Contractor, but this Contractor must submit his choice for final approval.

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

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

1.11 - REQUIREMENTS
A. The contract drawings indicate the extent and general arrangements of the conduit wiring systems, etc. If any departures from the contract drawings are deemed necessary by the Contractor, details of such departures and the reasons therefore shall be submitted as soon as practicable, and within 10 days after award of the electrical contract.
B. UNLESS MATERIAL LIST AND DATA IS RECEIVED AS A COMPLETE AND ALL INCLUSIVE SUBMITTAL WITHIN THE STIPULATED TIME ALL ITEMS SHALL BE PROVIDED AS SPECIFIED-WITH NO DEVIATIONS PERMITTED.
C. Any and all additional costs incurred by the substitution of electrical material or equipment, or installation thereof, whether architectural, structural, plumbing, mechanical or electrical, shall be borne by the Contractor under this section.

1.12 - IDENTIFICATION
A. Switchboards, feeder circuit breakers in switchboards, panels, disconnect switches, motor starters and motor disconnect switches, cabinets, and other apparatus used for the operation of, or control of circuits, appliances or equipment, shall be properly identified by means of engraved laminated plastic descriptive nameplates mounted on apparatus using stainless steel screws. Nameplates shall have white letters with black background and be submitted to the Architect for approval. Cardholders in any form are not acceptable.
B. Each branch circuit of panelboards to have a permanently fixed number with directory, mounted under celluloid on inside of cabinet door, showing circuit numbers, room number feed and typewritten description of equipment supplied by breakers.

PART 2 - PRODUCTS:

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

2.02 - MATERIALS
A. Conduit
1. Conduit shall be delivered to the site of construction in the original bundles. Each length shall bear the label of the National Board of Fire Underwriters. All conduit subjected to rough usage while on the job, before installation, shall be removed from the premises upon notice.
2. Raceway and boxes located as indicated on drawings and at other locations required for splices, taps, wire pulling, equipment connections, and compliance with regulatory requirements. Raceway and boxes are shown in approximate locations unless dimensioned. Provide raceway to complete wiring system.
3. Properties:
a. Rigid Steel: Hot dipped galvanized with completely watertight fittings.
- Couplings and elbows in soil or under membrane to be 1/2 tape wrapped with Scotch #50 tape and threaded ends coated with red lead prior to installation of couplings
b. "Schedule 40" PVC shall be provided with code size minimum bare No. 12 ground wire
- "Schedule 40 or 80" elbows
- "Schedule 40 or 80" or RGS stub-ups.
c. Flexible metal type:
- Flexible metal type provide with code size (minimum No. 12) bare ground wire in all flexible conduit.
4. Installation:
a. Install no more than the equivalent of three 90 degree bends between boxes or outlets
b. Use flush mounting outlet boxes in finished areas.
- Do not install flush mounting boxes back-to-back in walls.
- Provide minimum 6-inch separation between adjacent boxes.
- Provide minimum 24-inch separation in acoustic rated walls.
- Secure flush mounting box to interior wall and partition studs.
- Accurately position to allow for surface finish thickness.
- Install flush mounting box without damaging wall insulation or reducing its effectiveness.
c. Support boxes independently of conduits.
d. Conduit Bends - Long Radius.
e. Provide conduit seals at all concrete slab penetrations.
5. Installation Location:
a. Outdoor Locations:
- Above Grade: Provide RGS conduit tape wrapped.
- In Soil: Provide Sched 40 or 80 PVC with Sched 40 or 80 PVC elbows. Tape wrapped RGS may be used for stub-up.
- In Concrete: Provide hot dipped galvanized rigid steel or Sched 40 PVC Conduit.
- Motor / Flexible Connection: WP Flexible metal conduit.
- Watertight and corrosion resistant fittings, couplings, boxes, etc.
b. Indoor Locations:
- Exposed Dry Locations: Provide EMT or RGS.
- Concealed Dry Locations: Provide electrical metallic tubing unless otherwise noted. MC cable may be used as described below under Power and Wiring.
c. Locations subject to Corrosive Atmosphere: Provide PVC coated, galvanized rigid steel or intermediate steel conduit. Provide PVC coated cast or sheet metal boxes.
d. Hazardous Locations (Per NEC Article 500): Galvanized rigid steel conduit. Cast iron boxes with threaded hubs for conduit entry. Conduit seals.

D. Power Wire and Cable:
1. Installation:
a. Feeders from Building Switchboard to Individual Apartment Complex:
- Design based on Aluminum SER Cable with the assumption the contractor can route cabling to have no contact with insulation.
- If contractor believes contact with insulation will occur contractor shall state in bid as separate line item cost of design modification including increase or modified wire size and/ or wire type.
- May substitute MC Cable (AL or CU) or THHN Copper cable in conduit.
b. Indoor Feeders from Building Switchboard to House Panel:
- Shall be Conduit with THHN or THWN Cu Conductors.
- Sized as shown on Single Line Diagram.
c. House Panel Branch Circuits
- Shall be Conduit with THHN or THWN Cu Conductors.
- Minimum #12 AWG for power wiring.
d. Apartment Branch Circuits
- Copper Conductors
- MC Cable, Romex or Conduit and Wire are acceptable.
- Min #14 AWG for power wiring. See Panel schedules for wire sizes.
e. Connections to devices from "through_feed" branch circuit conductors to be made with pigtails, with no interruption of the branch circuit conductors.
f. Neutral conductor identified by white outer covering braid, with different tracers of "EZ" numbering tags used where more than one neutral conductor is contained in a single unit.
g. Neatly arrange and "marlin" wired in panels and other equipment with "T and B Ty-rap" or approved equal plastic type strapping.
h. Label each wire of each electrical system in each pull box, junction box, outlet box, terminal cabinet, and panelboard in which it appears with "EZ" numbering tags.

2. Properties:
a. Copper 90% conductivity. Solid copper for conductors smaller than No. 10 AWG. Stranded copper for conductors No. 10 AWG and larger. No conductors smaller than No. 12 AWG, except as noted.
b. Insulation type: #12 to #1/0 AWG: THWN for wet locations and THHN for dry locations. #1/0 through #4/0 AWG: XHHW (55 Mils). 250MCM and larger: XHHW (65 Mils).
c. All wire and cable shall bear the Underwriters' Label, brought to the job in unbroken packages; wire color coded as follows:

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

E. Grounding:
1. Provide and install grounding system as noted on the Drawings.
2. Provide and install a grounding electrode system on all separate buildings.
3. Grounding electrode conductor: bare stranded copper type, #1/0 minimum or per NEC Table 250.66.
4. Install ground wires in rigid conduit. Provide physical protection for grounding electrode and bonding conductors in accordance with NEC 250-64. Grounding conductors shall be in conduit and installed in accordance with NEC 250-64(e).
5. All grounding electrode conductor connections "thermite" or "cad_weld" welded.
6. Use approved pressure type solderless connector or use fusion welding for all connections to and bonding of grounding electrode system. All connections shall be visible, readily accessible for testing purposes.
7. Terminate grounding conduits at equipment with ground bushing, with ground wire connected through bushing.
8. Provide No. 12 stranded (green) THHN conductor from outlet box to ground screw of every receptacle.
9. Ground all isolated sections of metallic raceways.
10. Provide #12 minimum stranded (green) THHN conductor sized per NEC, or as noted, connected continuously throughout branch circuit for all circuits, bonded to panel ground bus, and to all electrical devices and equipment enclosures.
11. Provide an unspliced grounding electrode conductor to the grounding electrode system
12. Where the transformer supplying the service is located outside the building, at least one additional grounding connection shall be made from the grounded service conductor to a grounded electrode at the transformer.
13. After installation, test system, using the three-point fall of potential method only. Record results and submit to Architect for approval. If resistance to ground exceeds three (3) ohms, install additional ground rods, bonded and interconnected to grounding electrode system. Provide additional grounding until resistance is less than three (3) ohms.

F. Conduit Fittings:
1. Metal Conduit Fittings shall conform to the requirements of UL 514B where this standard applies. Galvanized steel fittings shall be used with steel conduit. Threaded fittings shall engage a minimum of five threads made up wrench-tight and be compatible with conduit. EMT fittings shall be compression type, UL approved for rain tight applications and setscrew type with insulated throat for indoor applications.
2. Liquid-Tight Flexible Conduit Fittings shall be galvanized steel, T&B 53XX series insulated throat, and shall bear the UL label. Die-cast malleable fittings are not acceptable.
3. Liquid-Tight Flexible Metal Conduit Fittings shall be galvanized steel. .
4. Non-Metallic Conduit Fittings shall be of same material and strength characteristics as the conduit and shall be solvent welded as recommended by manufacturer. End bells shall be plastic, high impact, tapered to fit. Where conduit transition from non-metallic to metallic is required, provide non-metallic female "terminal" adapter. Non-metallic "male" adapters are not acceptable.

G. Outlet Boxes and Junction Boxes:
1. Galvanized one piece steel knockout type, unless otherwise noted, sizes as required for conditions at each outlet or as noted, not smaller than 2 inches wide by 4 inches high, ganged where multiple switch locations are indicated.
2. Outlet boxes located on exterior to be flush type with cast aluminum gasketed covers; spring lid with lockable covers for receptacles.
3. All connectors from conduit to junction or outlet boxes shall have integral insulated throats.
4. Outlet boxes for telephone and cable TV outlets shall be 4" square minimum with single gang plaster rings.
5. Concrete pull boxes and hand holes for power, lighting, controls and telecommunications shall be pre-cast concrete boxes, sized as indicated on the drawing or per NEC requirements. Pull boxes shall be equipped with a concrete cover for non traffic rated locations OR cast-in frame, galvanized steel, adjustable, high impact traffic cover (H-20 load rated), lifting lugs, and conduit knock-outs. Knockout location and sizes shall be coordinated with the duct bank for each location. Cover shall be engraved with the words - - "POWER", "LIGHTING", "CONTROLS", "COMM/DATA", "TELEPHONE" or similar as applicable.

H. Circuit Breakers:
4. General: Circuit breakers shall be molded case rated for 240 volts, multiple or single pole and amperage rating as shown on the drawings, bolt on, manually operated with "de-ion" arc chutes.
5. Main circuit breaker shall be shall be rated to interrupt the available short circuit current from utility company requirements.
6. Distribution circuit breakers shall be U.L. series rated with the main circuit breaker.
7. Where mechanical equipment is U.L. listed for overcurrent protection with fuses or HACR type circuit breakers, provide fuses where a fused switch is shown. Where the overcurrent protection is a circuit breaker provide HACR, (HACR means Heating, Air-Conditioning and Refrigeration) type.
8. Provide AFCI circuit breakers in all bedrooms.
9. Provide tamper resistant receptacles for all 125V, 15 and 20A receptacles less than 5.5ft AFF. Tamper resistance receptacles are not required where the receptacle is dedicated to a specific appliance.
10. Provide GFCI rated circuit breakers in all locations within 6-feet of water.

I. Lighting Fixtures:
1. As listed in fixture schedule completely lamped with new lamps, properly operating at time of acceptance of electrical work.
2. Contractor shall burn in lamps per manufacturer's instructions.
3. Ballasts in refrigerated spaces or outdoors shall be zero (0) degree F. temperature rated.

PART 3 - EXECUTION

3.01 - INSPECTION

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

3.02 - PREPARATION
A. Drawings
1. The general arrangement and location of wiring and equipment is shown on the electrical drawings and shall be installed in accordance therewith, except for minor changes required by conflict with the work of other trades.
2. Control wiring is generally not shown on the plans. Contractor shall refer to control diagrams and provide and install all wiring and raceways required to make all interconnections.
3. All dimensions, together with locations of doors, partitions, etc. are to be taken from the Architectural Drawings, verified at site by this Contractor.
4. Maintain "as-constructed" Record Drawings at all times, showing the exact location of concealed conduits and feeders installed under this contract, and actual numbering of each circuit. Upon completion of work and before acceptance can be considered, this Contractor must forward to the Owner's Representative corrected Record Drawings in Autocad format indicating the electrical work as installed.

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

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

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

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

3.07 - TESTING
A. Grounding System:
1. All ground connections shall be checked and the entire system shall be checked for continuity. The resistance of the ground system shall be measured using a 3 point fall_of_potential method. The maximum ground resistance shall be three ohms. If the measured ground resistance exceeds three ohms, additional ground rods shall be installed until a value of three ohms or less is obtained.
2. Ground tests shall meet the requirements of the National Electric Code.
B. Lighting Systems:
1. The interior and exterior lighting systems shall be checked for proper local controls and operation of entire installation, including the operation of the low voltage lighting control system.
C. Power Distribution System:
1. Tests: Test main switchboard, distribution boards,and panelboards for grounds and shorts with mains disconnected from feeders, branch circuits connected and circuit breakers closed, all fixtures in place and permanently connected and grounding jumper to neutral lifted and with all wall switches closed.
2. Test each individual circuit at each panelboard with equipment connected for proper operation. Inspect the interior of each panel.
3. Check verification of color coding, tagging, numbering, and splice make up.
4. Verify that all conductors associated with each circuit are in same conduit.
5. Demonstrate that all lights, jacks, switches, outlets,and equipment operate satisfactorily and as called for.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER
RODNEY A. BROKAW
No. E18225
Exp. 12-31-23
ELECTRICAL
STATE OF CALIFORNIA

1/7/22

CONSULTANT:

BrokawDesign

P.O. BOX 3103
ROHNERT PARK, CA 94927

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA.
95531

SHEET NAME:

FIRE ALARM SHEET SPECIFICATION

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

SHEET NUMBER:

FA002

SHEET NOTES - SITE FIRE ALARM

A. ALL WIRING INSTALLED UNDERGROUND SHALL BE RATED FOR UNDERGROUND USE.

B. ALL EXTERIOR EQUIPMENT SHALL BE WEATHER-PROOF OR NEMA 3R RATED.

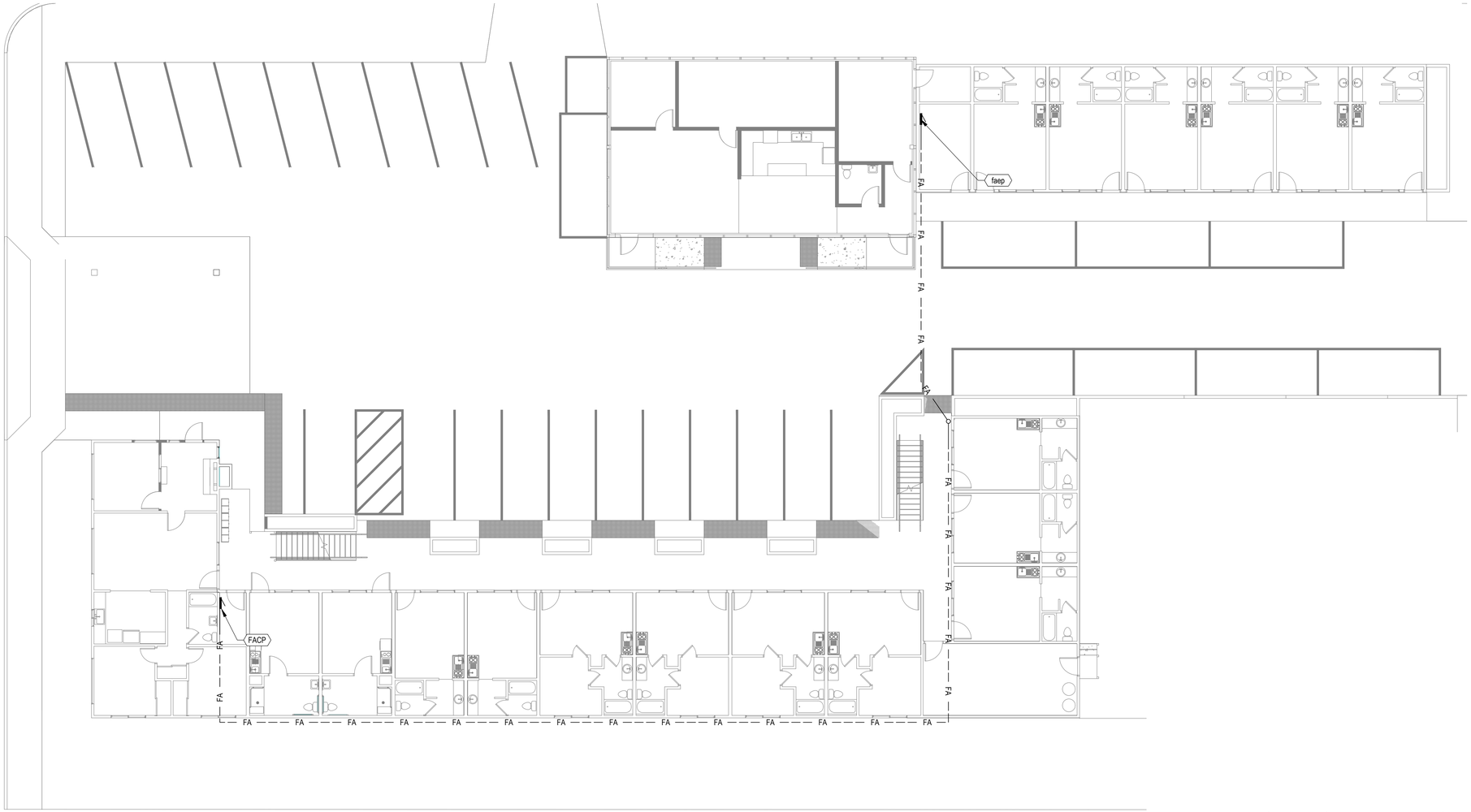
C. PROVIDE LABELING ON ALL SITE CABLING TO INDICATE BUILDING SERVED AND BUILDING FEEDING.

D. ALL CABLING BETWEEN BUILDINGS SHALL BE CONTINUOUS AND WITHOUT SPLICES.

E. PROVIDE NEW 120VOLT DEVICE POWER WHERE REQUIRED FOR ROOM CO2 AND SMOKE DETECTORS.

F. PROVIDE NEW WIRING FOR ALL INITIATION AND NOTIFICATION DEVICES PER THE MANUFACTURERS REQUIREMENTS.

G. THE FIRE ALARM DRAWINGS ARE A DEFERRED SUBMITTAL AND PROVIDED FOR CONTRACTOR SCOPE AND BIDDING PURPOSES. THE CONTRACTOR SHALL SUBMIT TO THE AHJ FOR FINAL PERMIT.



0 20' 40' 80'

SCALE : 1" = 20'

PLAN NORTH

1 ELECTRICAL SITE PLAN

SCALE: 1" = 20'

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER
RODNEY A. BROKAW
No. E18225
Exp. 12-31-23
ELECTRICAL
STATE OF CALIFORNIA

1/7/22

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA.
95531

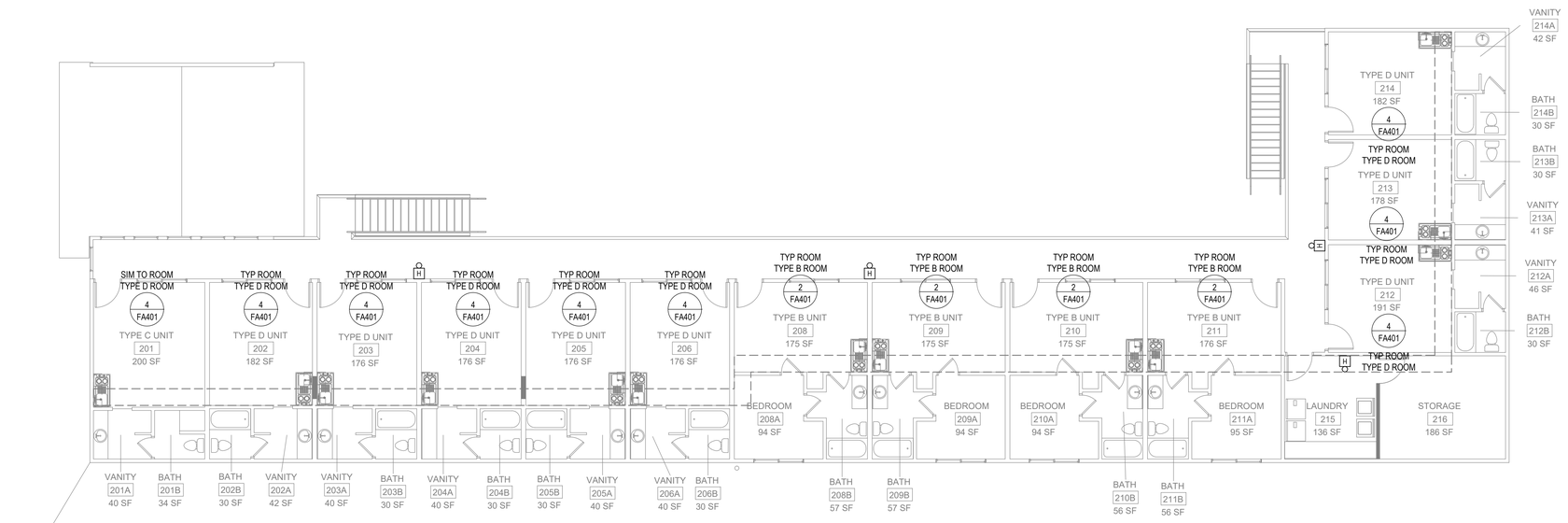
SHEET NAME:

FIRE ALARM SITE PLAN

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

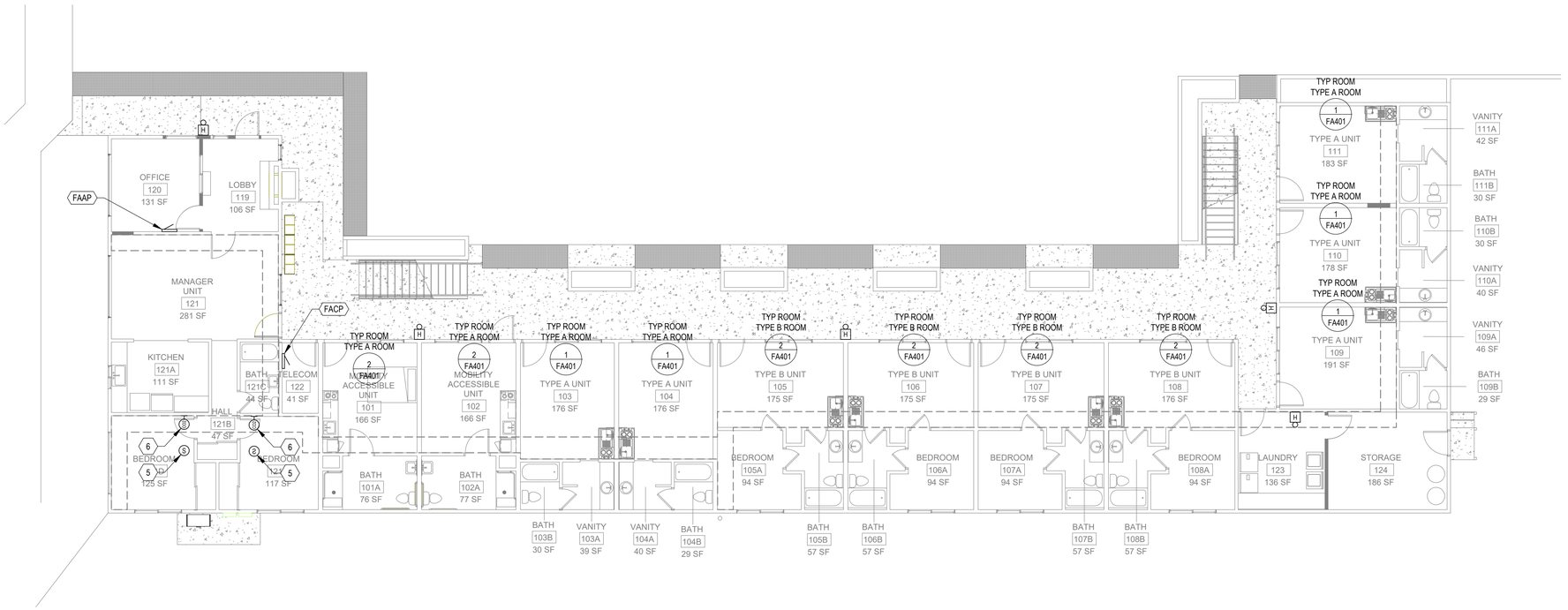
SHEET NUMBER:

FA101



2 FIRE ALARM - BLDG 1 SECOND FLOOR - NEW

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



1 FIRE ALARM - BLDG 1 FIRST FLOOR - NEW

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

FIRE ALARM WIRING LEGEND

TYPE	DESCRIPTION
A	2#16 AWG SHIELDED TWISTED FOR DATA
B	2#12 AWG SHIELDED STRANDED COPPER FOR SPEAKER & STROBE
C	2#14 AWG STRANDED COPPER FOR 24 VDC DOOR HOLDS
D	(3) 2 PR #16 AWG SHIELDED FOR REMOTE PAGING STATION
E	2#14 AWG SHIELDED TWISTED FOR DATA (SITE DISTRIBUTION)
F	TBD
G	TBD

SHEET NOTES - SITE FIRE ALARM

A. ALL WIRING INSTALLED UNDERGROUND SHALL BE RATED FOR UNDERGROUND USE.

B. ALL EXTERIOR EQUIPMENT SHALL BE WEATHER-PROOF OR NEMA 3R RATED.

C. PROVIDE LABELING ON ALL SITE CABLING TO INDICATE BUILDING SERVED AND BUILDING FEEDING.

D. ALL CABLING BETWEEN BUILDINGS SHALL BE CONTINUOUS AND WITHOUT SPLICES.

E. PROVIDE NEW 120VOLT DEVICE POWER WHERE REQUIRED FOR ROOM CO2 AND SMOKE DETECTORS.

F. PROVIDE NEW WIRING FOR ALL INITIATION AND NOTIFICATION DEVICES PER THE MANUFACTURERS REQUIREMENTS.

G. THE FIRE ALARM DRAWINGS ARE A DEFERRED SUBMITTAL AND PROVIDED FOR CONTRACTOR SCOPE AND BIDDING PURPOSES. THE CONTRACTOR SHALL SUBMIT TO THE AHJ FOR FINAL PERMIT.

KEYED NOTES - BUILDNG FIRE ALARM (X)

1. PROVIDE DEDICATED 20A, 120VAC BRANCH CIRCUIT TO FIRE EQUIPMENT. THE CIRCUIT BREAKER SHALL BE COLORED RED. PROVIDE CIRCUIT BREAKER LOCK-ON DEVICE.
2. PROVIDE FIRE ALARM RECORDS CABINET MOUNTED ADJACENT TO FIRE ALARM CONTROL PANEL.
3. PROVIDE SIGN INDICATING "FIRE ALARM CONTROL PANEL INSIDE".
4. SWITCHES AT FIRE SPRINKLER RISER. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN
5. PROVIDE SMOKE ALARMS IN THE FOLLOWING LOCATIONS: IN EACH BEDROOM, OUTSIDE EACH SLEEPING AREA ON EVERY LEVEL OF THE HOUSE, ON EACH LEVEL OF THE HOUSE, IN LIVING ROOM, DEN OR FAMILY ROOM OR NEAR THE STAIRWAY. SMOKE ALARMS SHALL BE AC POWERED AND INTERCONNECTED WITHIN EACH UNIT.
6. PROVIDE CARBON MONOXIDE (CO2) OUTSIDE EACH SLEEPING AREA, WITHIN EACH BEDROOM. ALARMS SHALL BE HARDWIRED, UL2034, 2075 LISTED, AND MEET ALL REQUIREMENTS OF CBC 915.
7. PROVIDE FA HORN CONNECTED TO THE BUILDING FACP.
8. IN ADA / HEARING IMPAIRED UNITS. PROVIDE VISUAL ALARMS IN BEDROOMS, BATHROOMS, AND LIVING AREAS.
9. REMOVE ALL EXISTING FIRE ALL DEVICES AND PROVIDE BLANK COVER PLATE FOR DEVICES NOT REPLACED.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER — RODNEY A. CUNNINGHAM — No. E18225 Exp. 12-31-23 — ELECTRICAL — STATE OF CALIFORNIA

1/7/22

CONSULTANT:

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA.
95531

SHEET NAME:

FIRE ALARM PLAN - BLDG 1

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

SHEET NUMBER:

FA102

KEYED NOTES - BUILDNG FIRE ALARM (X)

1. PROVIDE DEDICATED 20A, 120VAC BRANCH CIRCUIT TO FIRE EQUIPMENT. THE CIRCUIT BREAKER SHALL BE COLORED RED. PROVIDE CIRCUIT BREAKER LOCK-ON DEVICE.
2. PROVIDE FIRE ALARM RECORDS CABINET MOUNTED ADJACENT TO FIRE ALARM CONTROL PANEL.
3. PROVIDE SIGN INDICATING "FIRE ALARM CONTROL PANEL INSIDE".
4. SWITCHES AT FIRE SPRINKLER RISER. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN
5. PROVIDE SMOKE ALARMS IN THE FOLLOWING LOCATIONS: IN EACH BEDROOM, OUTSIDE EACH SLEEPING AREA ON EVERY LEVEL OF THE HOUSE, ON EACH LEVEL OF THE HOUSE, IN LIVING ROOM, DEN OR FAMILY ROOM OR NEAR THE STAIRWAY. SMOKE ALARMS SHALL BE AC POWERED AND INTERCONNECTED WITHIN EACH UNIT.
6. PROVIDE CARBON MONOXIDE (CO2) OUTSIDE EACH SLEEPING AREA, WITHIN EACH BEDROOM. ALARMS SHALL BE HARDWIRED, UL2034, 2075 LISTED, AND MEET ALL REQUIREMENTS OF CBC 915.
7. PROVIDE FA HORN CONNECTED TO THE BUILDING FACP.
8. IN ADA / HEARING IMPAIRED UNITS. PROVIDE VISUAL ALARMS IN BEDROOMS, BATHROOMS, AND LIVING AREAS.
9. REMOVE ALL EXISTING FIRE ALL DEVICES AND PROVIDE BLANK COVER PLATE FOR DEVICES NOT REPLACED.

FIRE ALARM WIRING LEGEND

TYPE	DESCRIPTION
A	2#16 AWG SHIELDED TWISTED FOR DATA
B	2#12 AWG SHIELDED STRANDED COPPER FOR SPEAKER & STROBE
C	2#14 AWG STRANDED COPPER FOR 24 VDC DOOR HOLDS
D	(3) 2 PR #16 AWG SHIELDED FOR REMOTE PAGING STATION
E	2#14 AWG SHIELDED TWISTED FOR DATA (SITE DISTRIBUTION)
F	TBD
G	TBD

SHEET NOTES - SITE FIRE ALARM

A. ALL WIRING INSTALLED UNDERGROUND SHALL BE RATED FOR UNDERGROUND USE.

B. ALL EXTERIOR EQUIPMENT SHALL BE WEATHER-PROOF OR NEMA 3R RATED.

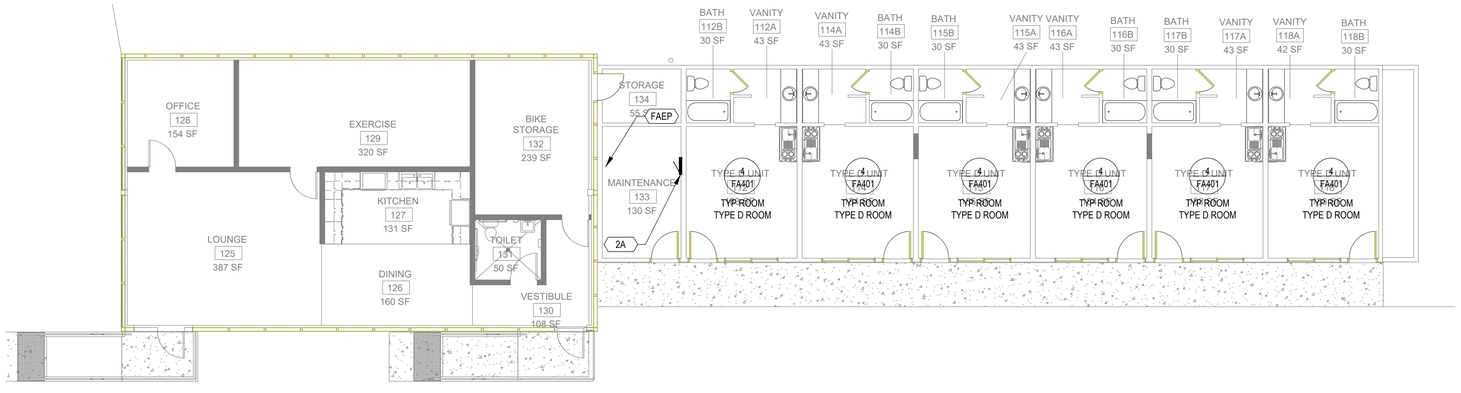
C. PROVIDE LABELING ON ALL SITE CABLING TO INDICATE BUILDING SERVED AND BUILDING FEEDING.

D. ALL CABLING BETWEEN BUILDINGS SHALL BE CONTINUOUS AND WITHOUT SPLICES.

E. PROVIDE NEW 120VOLT DEVICE POWER WHERE REQUIRED FOR ROOM CO2 AND SMOKE DETECTORS.

F. PROVIDE NEW WIRING FOR ALL INITIATION AND NOTIFICATION DEVICES PER THE MANUFACTURERS REQUIREMENTS.

G. THE FIRE ALARM DRAWINGS ARE A DEFERRED SUBMITTAL AND PROVIDED FOR CONTRACTOR SCOPE AND BIDDING PURPOSES. THE CONTRACTOR SHALL SUBMIT TO THE AHJ FOR FINAL PERMIT.



1 ELECTRICAL - BLDG 2 SECOND FLOOR - NEW

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

PLAN NORTH

0 8' 16' 32'

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

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER
RODNEY A. CUNNINGHAM
No. E18225
Exp. 12-31-23
ELECTRICAL
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PROJECT:

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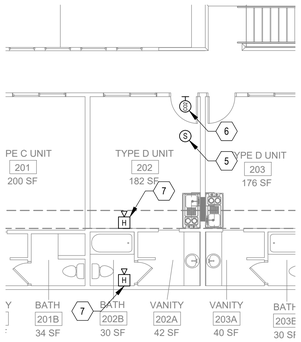
SHEET NAME:

FIRE ALARM PLAN - BLDG 2

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

SHEET NUMBER:

E103

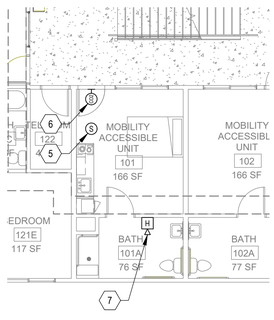


4 PARTIAL PLAN - D UNIT (C UNIT SIM)

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

0 4' 8' 16'

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

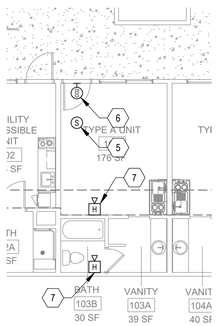


1 PARTIAL PLAN - ACCESSIBLE

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

0 4' 8' 16'

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

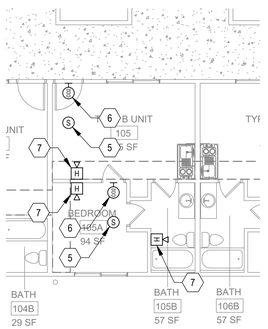


2 PARTIAL PLAN - A UNIT

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

0 4' 8' 16'

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



3 PARTIAL PLAN - B UNIT

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

0 4' 8' 16'

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

KEYED NOTES - BUILDNG FIRE ALARM (X)

1. PROVIDE DEDICATED 20A, 120VAC BRANCH CIRCUIT TO FIRE EQUIPMENT. THE CIRCUIT BREAKER SHALL BE COLORED RED. PROVIDE CIRCUIT BREAKER LOCK-ON DEVICE.
2. PROVIDE FIRE ALARM RECORDS CABINET MOUNTED ADJACENT TO FIRE ALARM CONTROL PANEL.
3. PROVIDE SIGN INDICATING "FIRE ALARM CONTROL PANEL INSIDE".
4. SWITCHES AT FIRE SPRINKLER RISER. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN
5. PROVIDE SMOKE ALARMS IN THE FOLLOWING LOCATIONS: IN EACH BEDROOM, OUTSIDE EACH SLEEPING AREA ON EVERY LEVEL OF THE HOUSE, ON EACH LEVEL OF THE HOUSE, IN LIVING ROOM, DEN OR FAMILY ROOM OR NEAR THE STAIRWAY. SMOKE ALARMS SHALL BE AC POWERED AND INTERCONNECTED WITHIN EACH UNIT.
6. PROVIDE CARBON MONOXIDE (CO2) OUTSIDE EACH SLEEPING AREA, WITHIN EACH BEDROOM. ALARMS SHALL BE HARDWIRED, UL2034, 2075 LISTED, AND MEET ALL REQUIREMENTS OF CBC 915.
7. PROVIDE FA HORN CONNECTED TO THE BUILDING FACP.
8. IN ADA / HEARING IMPAIRED UNITS. PROVIDE VISUAL ALARMS IN BEDROOMS, BATHROOMS, AND LIVING AREAS.
9. REMOVE ALL EXISTING FIRE ALL DEVICES AND PROVIDE BLANK COVER PLATE FOR DEVICES NOT REPLACED.

FIRE ALARM WIRING LEGEND

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B	2#12 AWG SHIELDED STRANDED COPPER FOR SPEAKER & STROBE
C	2#14 AWG STRANDED COPPER FOR 24 VDC DOOR HOLDS
D	(3) 2 PR #16 AWG SHIELDED FOR REMOTE PAGING STATION
E	2#14 AWG SHIELDED TWISTED FOR DATA (SITE DISTRIBUTION)
F	TBD
G	TBD

SHEET NOTES - SITE FIRE ALARM

A. ALL WIRING INSTALLED UNDERGROUND SHALL BE RATED FOR UNDERGROUND USE.

B. ALL EXTERIOR EQUIPMENT SHALL BE WEATHER-PROOF OR NEMA 3R RATED.

C. PROVIDE LABELING ON ALL SITE CABLING TO INDICATE BUILDING SERVED AND BUILDING FEEDING.

D. ALL CABLING BETWEEN BUILDINGS SHALL BE CONTINUOUS AND WITHOUT SPLICES.

E. PROVIDE NEW 120VOLT DEVICE POWER WHERE REQUIRED FOR ROOM CO2 AND SMOKE DETECTORS.

F. PROVIDE NEW WIRING FOR ALL INITIATION AND NOTIFICATION DEVICES PER THE MANUFACTURERS REQUIREMENTS.

G. THE FIRE ALARM DRAWINGS ARE A DEFERRED SUBMITTAL AND PROVIDED FOR CONTRACTOR SCOPE AND BIDDING PURPOSES. THE CONTRACTOR SHALL SUBMIT TO THE AHJ FOR FINAL PERMIT.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

REGISTERED PROFESSIONAL ENGINEER — COURTNEY A. CUNNINGHAME — No. E18225 Exp. 12-31-23 — ELECTRICAL — STATE OF CALIFORNIA

1/7/22

CONSULTANT:

BrokawDesign

P.O. BOX 3103
ROHNERT PARK, CA 94927

WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA.
95531

SHEET NAME:

FIRE ALARM PARTIAL PLANS

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

SHEET NUMBER:

FA401

DETAIL KEYED NOTES

1. PROVIDE DEDICATED 20 AMP CIRCUIT IWTH LOCKING CIRCUIT BREAKER.
2. PROVIDE COMPLETE CONNECTION FOR VOICE DIAL OUT LINE.
3. ALL CONDUIT TERMINATIONS AND SPLICING SHALL BE DONE IN A FIRE ALARM TERMINAL CAN (FATC) AND NOT WITHIN THE FACP OR FAEP.
4. VERIFY FIRE SPRINKLER STAND PIPE MONITOR AND POWER.
5. TYPICAL NOTIFICATION LOOP WIRING. PROVIDE THHN / THWN CU CONDUCTORS SIZED FOR A MAXIMUM VOLTAGE DROP OF 5%. DO NOT "T" TAP NOTIFICATION LOOP.
6. TYPICAL INITIATION LOOP WIRING. PROVIDE CONDUCTORS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
7. TYPICAL DEDICATED ANNUNCIATOR PANEL CONDUCTOR. PROVIDE PER MANUFACTURER'S RECOMMENDATIONS.

FIRE ALARM SYSTEM NOTES

A. ALL NON CONCEALED FIRE ALARM SYSTEM WIRING SHALL BE IN 3/4" C MINIMUM.

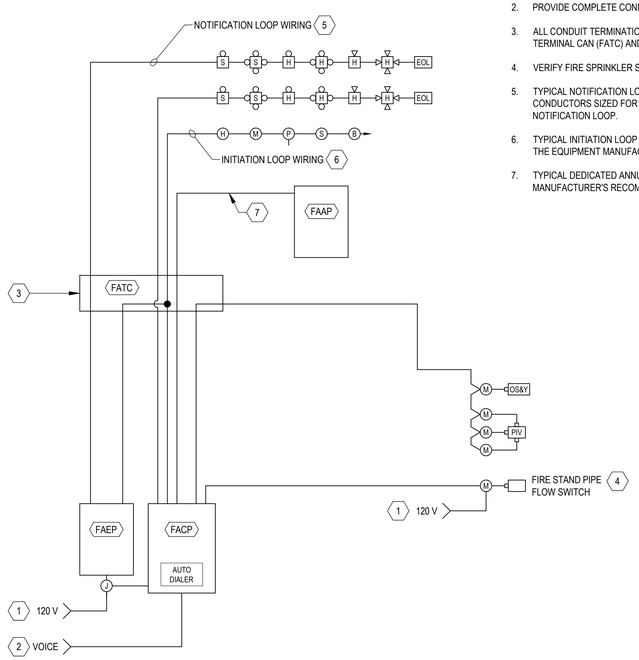
B. CONDUIT AND WIRING SHALL BE PER MANUFACTURER'S REQUIREMENTS.

C. SUBMITTALS
1. PRODUCT DATA: COMPONENTS FOR SENSING, DETECTING, AND CONTROL, INCLUDING DIMENSIONS AND DATA ON FEATURES, PERFORMANCE, ELECTRICAL CHARACTERISTICS, RATINGS, AND FINISHES.
2. SHOP DRAWINGS: CONTRACTOR SHALL SUBMIT COMPLETE SHOP DRAWINGS FOR THE INTRUSION DETECTION SYSTEM:
3. RACEWAY RISER DIAGRAMS: DETAIL RACEWAY RUNS REQUIRED FOR INTRUSION DETECTION. INCLUDE DESIGNATION OF DEVICES CONNECTED BY RACEWAY, RACEWAY TYPE AND SIZE, AND TYPE AND SIZE OF WIRE AND CABLE FILL FOR EACH RACEWAY RUN.
4. BATTERY\UPS: SIZING CALCULATIONS.
5. SITE AND FLOOR PLANS: INDICATE FINAL OUTLET AND DEVICE LOCATIONS, ROUTING OF RACEWAYS, AND CABLES INSIDE AND OUTSIDE THE BUILDING.
6. DEVICE ADDRESS LIST WHEN SYSTEM IS ADDRESSABLE: COORDINATE WITH FINAL SYSTEM PROGRAMMING.
7. SYSTEM WIRING DIAGRAMS: INCLUDE SYSTEM DIAGRAMS UNIQUE TO PROJECT. SHOW CONNECTIONS FOR ALL DEVICES, COMPONENTS, AND AUXILIARY EQUIPMENT. INCLUDE DIAGRAMS FOR EQUIPMENT AND FOR SYSTEM WITH ALL TERMINALS AND INTERCONNECTIONS IDENTIFIED.
8. DETAILS OF SURGE-PROTECTION DEVICES AND THEIR INSTALLATION.
9. SENSOR DETECTION PATTERNS AND ADJUSTMENT RANGES.
10. DESIGN DATA: INCLUDE METHOD OF OPERATION AND SUPERVISION OF EACH COMPONENT AND EACH TYPE OF CIRCUIT. SHOW SEQUENCE OF OPERATIONS FOR MANUALLY AND AUTOMATICALLY INITIATED SYSTEM OR EQUIPMENT INPUTS. DESCRIPTION MUST COVER THIS SPECIFIC PROJECT; MANUFACTURER'S STANDARD DESCRIPTIONS FOR GENERIC SYSTEMS ARE UNACCEPTABLE.
11. CONTRACTOR SHALL SUBMIT COMPLETE FIRE ALARM DRAWINGS INCLUDING VOLTAGE DROP AND BATTERY CALCULATIONS TO THE AUTHORITY HAVING JURISDICTION FOR REVIEW AND APPROVAL.

D. NOTIFICATION CIRCUITS SHALL BE SYNCRONIZED.

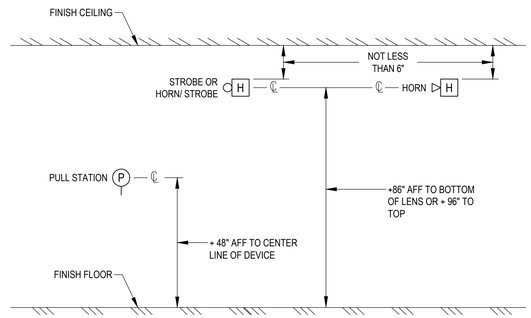
E. NO "T" TAPPING ON SUPERVISED LOOPS.

F. THE CONTRACTOR DESIGNING AND INSTALLING THE SYSTEM SHALL HAVE A MINIMUM 5 YEARS EXPERIENCE.



1 FIRE ALARM DESIGN BUILD SINGLE LINE DIAGRAM

SCALE: NONE



2 FIRE ALARM DEVICE MOUNTING

SCALE: NONE

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

1/7/22

CONSULTANT:

BrokawDesign

P.O. BOX 3103
ROHNERT PARK, CA 94927

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA.
95531

SHEET NAME:

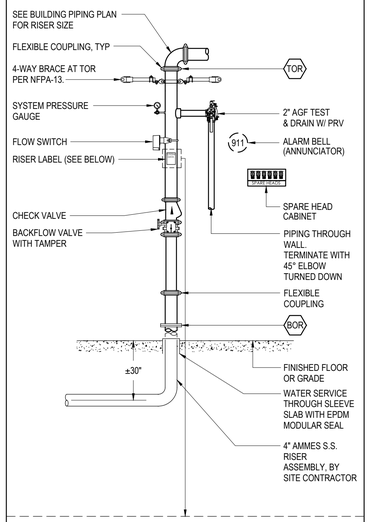
FIRE ALARM DIAGRAMS

ISSUE DATE:	1/7/22
PREPARATION AND REVIEW	
DRAWN BY:	MOB
DESIGNER:	MOB
PROJ MGR:	
PEER REVIEW:	CAC

SHEET NUMBER:

FA601

RISER DIAGRAM



RISER DATA PLATE REQ'S

HYDRAULIC DESIGN INFORMATION SIGN

NFPA 13 2019, AMENDED PER CBC 2019, CHAPTER 35, SECTION 25.5.1 & SECTION 25.5.2 THE INSTALLING CONTRACTOR SHALL IDENTIFY A HYDRAULICALLY DESIGNED SYSTEM WITH A PERMANENTLY MARKED WEATHERPROOF METAL OR RIGID PLASTIC SIGN SECURED WITH CORROSION-RESISTANT WIRE, CHAIN, OR OTHER APPROVED MEANS.

SUCH SIGNS SHALL BE PLACED AT THE ALARM VALVE, DRY PIPE VALVE, PREACTION VALVE, OR DELUGE VALVE SUPPLYING THE CORRESPONDING HYDRAULICALLY DESIGNED AREA.

PIPE SCHEDULE SYSTEMS SHALL BE PROVIDED WITH A SIGN INDICATING THAT THE SYSTEM WAS DESIGNED AND INSTALLED AS A PIPE SCHEDULE SYSTEM AND THE HAZARD CLASSIFICATION(S) INCLUDED IN THE DESIGN.

THE SIGN SHALL INCLUDE THE FOLLOWING INFORMATION:

1. LOCATION OF THE DESIGN AREA OR AREAS.
2. DISCHARGE DENSITIES OVER THE DESIGN AREA OR AREAS.
3. REQUIRED FLOW AND PRESSURE OF THE SYSTEM AT THE BASE OF RISER.
4. OCCUPANCY CLASSIFICATION OR COMMODITY CLASSIFICATION AND MAXIMUM PERMITTED STORAGE HEIGHT AND CONFIGURATION.
5. HOSE STREAM ALLOWANCE INCLUDED IN ADDITION TO THE SPRINKLER DEMAND.
6. THE NAME OF THE INSTALLING CONTRACTOR.
7. REQUIRED FLOW AND RESIDUAL PRESSURE OF THE SYSTEM AT THE WATER SUPPLY SOURCE.
8. REQUIRED FLOW AND PRESSURE OF THE SYSTEM AT THE DISCHARGE SIDE OF THE FIRE PUMP WHERE A FIRE PUMP IS INSTALLED.
9. TYPE OR TYPES AND NUMBER OF SPRINKLERS OR NOZZLES INSTALLED INCLUDING THE ORIFICE SIZE, TEMPERATURE RATING, ORIENTATION, K-FACTOR, SPRINKLER IDENTIFICATION NUMBER (SIN) FOR SPRINKLER HEADS WHEN APPLICABLE, AND RESPONSE TYPE.
10. THE MINIMUM DISCHARGE FLOW RATE AND PRESSURE REQUIRED FROM THE HYDRAULICALLY MOST DEMANDING SPRINKLER.
11. THE REQUIRED PRESSURE SETTINGS FOR PRESSURE SETTINGS FOR PRESSURE REDUCING VALVES.
12. FOR DELUGE SPRINKLER SYSTEMS, THE REQUIRED FLOW AND PRESSURE AT THE HYDRAULICALLY MOST REMOTE DEMANDING SPRINKLER OR NOZZLE.
13. THE PROTECTION AREA PER SPRINKLER BASED ON THE HYDRAULIC CALCULATIONS.
14. THE EDITION OF NFPA 13 TO WHICH THE SYSTEM WAS DESIGNED AND INSTALLED.

GENERAL INFORMATION SIGN

NFPA 13 2019, AMENDED PER CBC 2019, CHAPTER 35, SECTION 25.6.1, SECTION 25.6.1.1, SECTION 25.6.1.2, & SECTION 25.6.2

THE INSTALLING CONTRACTOR SHALL PROVIDE A GENERATION INFORMATION SIGN USED TO DETERMINE SYSTEM DESIGN BASIS AND INFORMATION RELEVANT TO THE INSPECTION, TESTING, AND MAINTENANCE REQUIREMENTS REQUIRED BY NFPA 25, STANDARD FOR THE INSPECTION, TESTING, AND MAINTENANCE OF WASTER-BASED FIRE PROTECTION SYSTEMS, 2013 CALIFORNIA EDITION.

NFPA 13 2019 SECTION 25.6.1.2, & SECTION 25.6.2

SUCH GENERAL INFORMATION SHALL BE PROVIDED WITH A PERMANENTLY MARKED WEATHERPROOF METAL OR RIGID PLASTIC SIGN, SECURED WITH CORROSION-RESISTANT WIRE, CHAIN, OR OTHER ACCEPTABLE MEANS.

SUCH SIGNS SHALL BE PLACED AT EACH SYSTEM CONTROL RISER, ANTIFREEZE LOOP, AND AUXILIARY SYSTEM CONTROL VALVE.

THE SIGN SHALL INCLUDED THE FOLLOWING INFORMATION:

1. NAME AND LOCATION OF THE FACILITY PROTECTED
2. OCCUPANCY CLASSIFICATION
3. COMMODITY CLASSIFICATION
4. PRESENCE OF HIGH-PILED AND/OR RACK STORAGE
5. MAXIMUM HEIGHT OF STORAGE PLANNED
6. AISLE WIDTH PLANNED
7. ENCAPSULATION OF PALLET LOADS
8. PRESENCE OF SOLID SHELVING
9. FLOW TEST DATA
10. PRESENCE OF FLAMMABLE/COMBUSTIBLE LIQUIDS
11. PRESENCE OF HAZARDOUS MATERIALS
12. PRESENCE OF OTHER SPECIAL STORAGE
13. LOCATION OF VENTING VALVE
14. LOCATION OF AUXILIARY DRAINS AND LOW POINT DRAINS ON DRY PIPE AND PREACTION SYSTEMS
15. ORIGINAL RESULTS OF MAIN DRAIN FLOW TEST
16. ORIGINAL RESULTS OF DRY PIPE AND DOUBLE INTERLOCK PREACTION VALVE TEST
17. NAME OF INSTALLING CONTRACTOR OR DESIGNER
18. INDICATION OR PRESENCE AND LOCATION OF ANTIFREEZE OR OTHER AUXILIARY SYSTEMS
19. WHERE INJECTION SYSTEMS ARE INSTALLED TO TREAT MIC OR CORROSION, THE TYPE OF CHEMICAL, CONCENTRATION OF THE CHEMICAL, AND WHERE INFORMATION CAN BE FOUND AS TO THE PROPER DISPOSAL OF THE CHEMICAL

LEGEND

	EXISTING HYDRANT/FDC
	FIRE DEPARTMENT CONNECTION
GV	EXISTING GATE VALVE
GV	GATE VALVE
	POST INDICATOR VALVE (NORMALLY OPEN)
	CHECK VALVE
	DOUBLE CHECK DETECTOR ASSEMBLY
	POINT OF CONNECTION
	THRUST BLOCK
	SPRINKLER PIPE, ABOVE GRADE
	SPRINKLER PIPE, UNDERGROUND
	PIPING - DOWN
	PIPING - UP
	PIPING - TEE DOWN
	RECESSED PENDENT HEAD
	UPRIGHT HEAD
	EXPOSED PENDENT HEAD
1	HYDRAULIC NODE
1 / 10-0	PIPE SIZE, DISTANCE BETWEEN NODES (X" / X'-X")
	AUTOMATIC SPRINKLER RISER (ASR)
	GROOVED COUPLING
	GROOVED ELBOW
	GROOVED TEE
	BUTTERFLY VALVE
	CHECK VALVE
	HANGER
	SLEEVE or CORE THROUGH WALL
La / Lo / Lr	LATERAL BRACE
	LONGITUDINAL BRACE
	LINE RESTRAINT
	4 WAY BRACE

ABBREVIATIONS

NOT ALL ABBREVIATIONS LISTED HEREIN APPEAR ON THE DRAWINGS.

(N)	NEW
(E)	EXISTING
AD	ACCESS DOOR
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AL	ACOUSTICALLY LINED
ALM	ALUMINUM
AP	ACCESS PANEL
APSI	ABSOLUTE PRESSURE
ATR	ALL THREAD ROD
BF	BELOW FLOOR
BG	BELOW GRADE
BHP	BRAKE HORSEPOWER
BLKG	BLOCKING
BO	BY OTHERS
BOR	BOTTOM OF RISER
BTU	BRITISH THERMAL UNITS
BTUH	BRITISH THERMAL UNITS PER HOUR
BV	BALL VALVE
CD	CONDENSATE DRAIN PIPING
CFF	CAPPED FOR FUTURE
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CK	CHECK VALVE
COTG	CLEANOUT TO GRADE
CTE	CONNECT TO EXISTING
CV	CONSTANT VOLUME
CW	DOMESTIC COLD WATER
CWV	COMBINATION WASTE & VENT
DB	DRY BULB TEMPERATURE
DH	DUCT HEATER
DI	DUCTILE IRON
DIA	DIAMETER
DN	DOWN
DWV	DRAIN, WASTE, AND VENT
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ECM	ELECTRONIC COMMUTATED MOTOR
EDH	ELECTRIC DUCT HEATER
EFF	EFFICIENCY
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
F	DEGREES FAHRENHEIT
FBO	FURNISHED BY OTHERS
FC	FLEXIBLE CONNECTION
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FD	FIRE DAMPER
FLA	FULL LOAD AMPERES
FS	FLOOR SINK
FSD	COMBINATION FIRE/SMOKE DAMPER
FPM	FEET PER MINUTE
FT	FEET
FT2	SQUARE FEET
G	GAS PIPING
GC	GAS COCK
GC	GENERAL CONTRACTOR
GPF	GALLONS PER FLUSH
GPM	GALLONS PER MINUTE
GSMS	GALVANIZED SHEET METAL SCREW
GV	GATE VALVE
GW	GREASE WASTE
HB	HOSE BIBB
HHWR	HEATING HOT WATER RETURN
HR	HEAT RECOVERY
HWS	HEATING HOT WATER SUPPLY
HP	HORSEPOWER
HW	DOMESTIC HOT WATER
HX	HEAT EXCHANGER
IFC	IN FURRED CEILING
IN	INCH
INS	INCHES
INS	INSULATION
IS	IN SOFFIT
IW	INDIRECT WASTE
K	KILOGRAMS
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LWT	LEAVING WATER TEMPERATURE
MAT	MIXED AIR TEMPERATURE
MAX	MAXIMUM
MBH	BTUH, THOUSANDS
MCA	MINIMUM CIRCUIT AMPERES
MFR	MANUFACTURER
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
OA	OUTSIDE AIR
OC	ON CENTER
OD	OVERFLOW DRAIN
OP	OWNER PROVIDED
PH	PRE-HEAT
POC	POINT OF CONNECTION
PRTV	PRESSURE/TEMPERATURE RELIEF VALVE
PRV	PRESSURE RELIEF VALVE
PSI	GAUGE PRESSURE (POUNDS PER SQUARE INCH)
PTDF	PRESSURE TREATED DOUGLAS FIR
RA	RETURN AIR
RD	ROOF DRAIN
RVD	RELIEF VALVE DISCHARGE
RL	REFRIGERANT LIQUID PIPING
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION PIPING
RWL	RAINWATER LEADER
S	SENSOR
SA	SHOCK ABSORBER
SA	SUPPLY AIR
SAD	SEE ARCHITECTURAL DRAWINGS
SCD	SEE CIVIL DRAWINGS
SD	STORM DRAIN
SD	SMOKE DETECTOR
SED	SEE ELECTRICAL DRAWINGS
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SHGF	SOLAR HEAT GAIN FACTOR
SHR	SENSIBLE HEAT RATIO
SMD	SEE MECHANICAL DRAWINGS
SMS	SHEET METAL SCREW
SOV	SHUT OFF VALVE
SP	SPRINKLER
SP	STATIC PRESSURE
SPD	SEE PLUMBING DRAWINGS
SQFT	SQUARE FEET
SS	SANITARY SEWER
SSD	SEE STRUCTURAL DRAWINGS
T	THERMOSTAT
TH	THERMOMETER
TOR	TOP OF RISER
TPV	TRAP PRIMER VALVE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
U	UNION
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VENT PIPING
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD
V/P/H	VOLTS/PHASE/HERTZ
VSD	VARIABLE SPEED DRIVE
VTR	VENT THROUGH ROOF
W/	WITH
W/O	WITHOUT
WA	WATER HAMMER ARRESTOR
WB	WET BULB TEMPERATURE
WC	WATER COLUMN
WCO	WALL CLEANOUT
WT	WEIGHT

OVERHEAD AFSS NOTES

1. ALL DEVIATIONS FROM THE PREVIOUSLY APPROVED PLANS SHALL BE JUSTIFIED AND SUBMITTED TO DSA BY WAY OF THE CCD PROCESS AS APPLICABLE.
2. THE UNDERGROUND PIPING IS NOT PART OF THIS CONTRACT. INFORMATION PROVIDED BY THE CLIENT REGARDING INCOMING PRESSURE, FLOW, SIZE AND INSTALLATION OF THE UNDERGROUND PIPING IS ASSUMED TO BE CORRECT AND ADEQUATE BASED ON CURRENT DATA PROVIDED TO THE DESIGN TEAM.
3. 2019 NFPA 13, SEC 8.16.4.1: THE DESIGNER SHALL INDICATE ON THE PLANS, ALL PIPING SUBJECT TO FREEZING (WHERE WATER TEMPERATURE CANNOT BE MAINTAINED ABOVE 40° F) AND PROVIDE APPROVED PROTECTION. PROVIDE HEAT TRACING AS REQUIRED FOR ALL PIPING SUBJECT TO FREEZING. ALL EXTERIOR PIPING SHALL BE PROVIDED WITH HEAT TRACE TO PREVENT FREEZING IN ACCORDANCE WITH THIS SECTION.
4. 2019 NFPA 13, SECTION 10.10.2.1.1: UNDERGROUND MAINS AND LEAD-IN CONNECTIONS TO SYSTEM RISERS SHALL BE FLUSHED AND CAPPED OR OTHERWISE PROTECTED TO PREVENT DEBRIS, DIRT, OR ANIMALS FROM ENTERING INTO THE UNDERGROUND PIPING (THIS MUST BE WITNESSED BY THE PROJECT INSPECTOR.)
5. PROVIDE "WET SIGNED" WATER FLOW INFORMATION NO MORE THAN 6-MONTHS OLD, AND INDICATE THE LOCATIONS AND HEIGHT ELEVATION(S) OF THE TEST AND RESIDUAL FLOW HYDRANTS. WATER FLOW TEST INFORMATION MUST BE PROVIDED BY, OR WITNESSED BY, THE LOCAL WATER PURVEYOR, UTILITY COMPANY OR LOCAL FIRE DEPARTMENT (2019 CFC, 507.4).
6. ARCHITECT OF RECORD (AOR), MECHANICAL ENGINEER (MEOR) AND FIRE PROTECTION CONTRACTOR (C-16) SHALL AFFIX THEIR SEAL, STAMP AND SIGN ALL SUBMITTALS, OR PROVIDE DOCUMENTATION PER DSA IR A-18.
7. 2019 NFPA 13, SEC 6.2.9: PROVIDE A SPARE SPRINKLER HEAD CABINET, SPRINKLER WRENCH, AND NO FEWER THAN SIX (6) SPRINKLER HEADS MATCHING THE TYPES AND TEMPERATURE RATING IN EACH PROTECTED AREA FOR SYSTEMS LESS THAN 300 SPRINKLERS. (12 SPARE SPRINKLER HEADS FOR SYSTEMS OF 300 TO 1,000 SPRINKLERS.)
8. 2019 NFPA 13, SEC 6.7.4: IDENTIFICATION OF VALVES SHALL BE PROVIDED AS REQUIRED, INCLUDING "RISER ROOM" IDENTIFICATION.
9. 2019 NFPA 13, SEC 9.3.6.3: THE END (LAST) SPRINKLER ON EACH LINE SHALL BE RESTRICTED AGAINST EXCESSIVE VERTICAL AND LATERAL MOVEMENT.
10. 2019 NFPA 13, SEC 10.10.1: A COPY OF COMPLETED AND SIGNED "CONTRACTORS MATERIAL & TEST CERTIFICATE FOR UNDERGROUND PIPING" SHALL BE INCLUDED WITH THE SUBMITTAL.
11. 2019 NFPA13, SEC 10.10.2.2: ALL PIPING AND ATTACHED APPURTENANCES SUBJECTED TO WORKING PRESSURE SHALL BE HYDROSTATICALLY TESTED AT 200 PSI, OR 50 PSI IN EXCESS OF SYSTEM WORKING PRESSURE, WHICH EVER IS GREATER, AND SHALL MAINTAIN THAT PRESSURE WITHOUT LOST FOR 2 HOURS. (TEST TO BE WITNESSED BY THE PROJECT INSPECTOR.)
12. 2019 NFPA 13, FIGURE 24.1: SPRINKLER CONTRACTOR SHALL COMPLETE AND SIGN THE CONTRACTOR'S MATERIAL & TEST CERTIFICATE FOR THE ABOVEGROUND PIPING. THIS FORM SHALL BE GIVEN TO THE PROJECT INSPECTOR WHO WILL FORWARD IT TO DSA FOR FILLING IN PROJECT RECORDS.
13. 2019 NFAP 13, SEC 24.5 A PERMANENT HYDRAULIC CALCULATION DESIGN INFORMATION PLACARD SHALL BE ATTACHED TO EACH RISER.
14. 2019 NFPA 13, SEC 24.2.3.1: THE SPRINKLER FLOW SWITCH SHALL BE TESTED TO CONFIRM THAT WHEN THE INSPECTOR'S TEST VALVE IS OPENED, AN ALARM WILL SOUND NO MORE THAN 90 SECONDS AFTER THE INITIAL FLOW. (TEST TO BE WITNESSED BY THE PROJECT INSPECTOR.)
15. 2019 CBC, SEC 903.4.1: THE MAIN FIRE ALARM PANEL VALVE MONITORING, WATER FLOW AND TROUBLE SIGNALS SHALL BE DISTINCTLY DIFFERENT, AND SHALL AUTOMATICALLY BE TRANSMITTED TO AN APPROVED CENTRAL STATION MONITORING COMPANY.
16. 2019 NFPA 13, SEC 6.9.1, AND 2010 CBC, 903.4.2: THE FLOW SWITCH SHALL BE CONNECTED TO AN APPROVED EXTERIOR ALARM BELL OR OTHER AUDIBLE ALARM DEVICE (SIZE MANDATED BY CODE), AT EACH RISER. APPROVED IDENTIFICATION SIGNS STATING, "SPRINKLER FIRE ALARM-WHEN ALARM SOUNDS CALL 911/FIRE DEPARTMENT" SHALL BE INSTALLED ON THE EXTERIOR ALARM BELL.
17. 2019 CBC, SEC 904.4: VALVES CONTROLLING THE WATER SUPPLY FOR THE AUTOMATIC SPRINKLER SYSTEMS SHALL ELECTRICALLY SUPERVISED BY A LISTED FIRE ALARM CONTROL UNIT. SIGNALS FROM AUTOMATIC FIRE EXTINGUISHING SYSTEMS. (TEST TO BE WITNESSED BY THE (PROJECT INSPECTOR.)
18. 2019 CBC, 903.4.2, AND 2019 NFPA 13, SEC 8.17.4.2.1 THROUGH 8.17.4.2.3: THE INSPECTORS TEST VALVE LOCATION SHALL BE INSTALLED WITHIN THE MOST HYDRAULICALLY REMOTE SYSTEM AREA. THE PIE SIZE SHALL BE NO LESS THAN 1", WITH A SMOOTH BORE, CORROSION-RESISTANT ORIFICE. PROVIDING EQUIVALENT FLOW OF THE SMALLEST ORIFICE OF THE SPRINKLER TYPES INSTALLED ON THE SYSTEM. THE DISCHARGE SHALL BE TO THE EXTERIOR OF THE BUILDING.
19. CCR TITLE-19 (PUBLIC SAFETY), ARTICLE 906(A): A LABEL OF THE SELF ADHESIVE TYPE SHALL BE PLACED ON THE FIRE DEPARTMENT CONNECTION (FDC) OR ON THE RISER FOR THE SPRINKLER SYSTEM, INDICATING THE DATE OF INSTALLATION AND/OR THE DATE SERVICE WAS PERFORMED, AND THE LICENSE NUMBER OF THE PERSON PERFORMING THE SERVICE WORK.

HANGER AND BRACING NOTES

1. PROVIDE HANGERS AND BRACES PER NFPA-13, 1019, CHAPTER 9. SEE DETAIL SHEET FOR TYPES AND FASTENERS.
2. PIPING HUNG WITH HANGERS 6" OR LESS IN LENGTH SHALL QUALIFY AS LATERAL BRACING.
3. PROVIDE SURGE PROTECTION AT ENDS OF ALL BRANCH LINES WITH HANGERS GREATER THAN 6" IN LENGTH, WHETHER SHOWN OR NOT.
4. PROVIDE HANGERS ON ALL ARM-OVERS GREATER THAN 2'-0" IN LENGTH.
5. PROVIDE ANNULAR CLEARNACE AROUND ALL PIPING EXTENDING THROUGH WALLS, FLOORS, PLATFORMS, CEILINGS, AND FOUNDATIONS IN ACCORDANCE WITH SECTION 9.3.4.

STEEL PIPING NOTES

1. USE ASTM A53 BLACK STEEL PIPING WITH ANY COMBINATION OF FITTINGS.
2. USE 125# ASTM B16.4 CAST IRON SCRED FITTINGS WITH SCHEDULE 40 BLACK STEEL PIPING.
3. USE GROOVED OR WELDED FITIGNS WITH SCHEDULE 10 BLACK STEEL PIPING.
4. ALL WELDED OUTLETS TO BE FREE OF WELDING SLAG AND CUT OFFS.
5. USE RIDGED GROOVED COUPLINGS THROUGHOUT UNLESS OTHERWISE NOTED.

PROJECT DESCRIPTION

REMODEL OF EXISTING HOTEL TO TRANSITIONING HOUSING.

BUILDING NAME:	THE LEGACY RENOVATION
STORIES:	BUILDING 1 - 2 STORIES, BUILDING 2, 1 STORY
OCCUPANCY TYPE(S):	R-2
SQUARE FOOTAGE:	BUILDING 1 - 9,373 SF, BUILDING 2 - 3,581 SF

PROJECT DELIVERY METHOD SHALL BE DESIGN-BUILD CONSTRUCTION. CONTRACTOR SHALL PROVIDE CALCULATIONS AND DESIGN AS REQUIRED FOR A COMPLETE AND OPERATIONAL AUTOMATIC FIRE SUPPRESSION SYSTEM INCLUSIVE OF MATERIAL, LABOR, DESIGN, ENGINEERING AND HYDRAULIC CALCULATIONS.

WATER FLOW INFORMATION

WATER FLOW INFORMATION HAS NOT BEEN PROVIDED. CONTRACTOR SHALL DETERMINE THE FOLLOWING:

DATE OF REPORT:	<<X>>
ELEVATION OF STREET POC (FT):	<<X>>
STATIC PRESSURE AT POC (PSI):	<<X>>
RESIDUAL PSI AT 750 GPM:	<<X>>
RESIDUAL PSI AT 1500 GPM:	<<X>>

CODE REFERENCES

ALL WORK SHALL CONFIRM TO THE REQUIREMENTS OF:

2019 CALIFORNIA BUILDING CODE, TITLE 24, PART 2, VOLUME 1 & 2
2019 CALIFORNIA ELECTRICAL CODE, TITLE 24, PART 3
2019 CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4
2019 CALIFORNIA PLUMBING CODE, TITLE 24, PART 5
2020 NATIONAL ELECTRIC CODE
2019 CALIFORNIA BUILDING STANDARDS, TITLE 24, PART 12

2019 NFPA-13, INSTALLATION OF SPRINKLER SYSTEM + CA AMENDMENTS
2019 NFPA-14, INSTALLATION OF STANDPIPIES, PRIVATE HYDRANT AND HOSE SYSTEMS

- TITLE 19, CCR STATE FIRE MARSHAL REGULATIONS
- DEPARTMENT OF THE STATE ARCHITECT (DGS)
- DEVICES SHALL BE UL LISTED, AS INDICATED
- DEVICES SHALL BE FM APPROVED, AS INDICATED

ALL PIPING SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH NFPA-13, 2019, SECTION 24.2 AND INSPECTED BY THE AUTHORITY HAVING JURISDICTION (AHJ) PRIOR TO CLOSE IN.

ALARMS, MONITORING, DETECTORS, EXTINGUISHERS, HEAT ALARMS, FIRE STOPPING, PAINTING, ETC., AND ALL NON-AUTOMATIC FIRE SUPPRESSION SYSTEM COMPONENTS ARE NOT INCLUDED AS A PART OF THIS SCOPE OF WORK.

SUBMIT WELDING CERTIFICATIONS (COMPLETE WITH WELDERS STAMP ON PIPE ADJACENT WELDS) IN ACCORDANCE WITH NFPA-13, 6.5.2.5.

PROVIDE UL VERIFICATION AT CENTRAL STATION MONITORING, AS REQUIRED.

SHEET INDEX

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

CONSULTANT:

15000 INC.
heating, ventilation, air conditioning + plumbing design and engineering
6085 STATE FARM DR. #130 phone: 707.577.0363
ROHNERT PARK, CA 94928 fax: 707.577.0364

BrokawDesign
P.O. BOX 3103
ROHNERT PARK, CA 94927
WWW.BROKAWDESIGN.COM

PROJECT:

THE LEGACY RENOVATION

665 L STREET
CRESCENT CITY, CA
95531

SHEET NAME:

FIRE PROTECTION LEGEND, RISER DIAGRAM, NOTES, & ABBR.

ISSUE DATE:	01/06/22
PERMIT SET	
DRAWN BY:	CK
DESIGNER:	Designer
PROJ MGR:	
PEER REVIEW:	JT/MT

SHEET NUMBER:

F0.01

SECTION 21 13 13
WET-PIPE SPRINKLER SYSTEMS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section Includes:

1. Pipes, fittings, and specialties.

2. Fire-protection valves.

3. Other fire sprinkler related appurtenances

B. Related Sections:

1. Division 01 Section "Submittal Procedures"

2. Division 26 Section Electrical

1.03 DESCRIPTION OF WORK

A. Scope: Provide a complete wet-pipe automatic sprinkler system, and associated equipment, ready for operation as described on the documents and drawings.

B. Description of Work: The work includes the proposed layout and installation of a new automatic fire suppression system for complete fire protection throughout the Legacy rehabilitation project, both buildings.

C. Compliance: The entire wet-pipe automatic sprinkler system shall be designed in accordance with the specification and current NFPA codes applicable for the occupancy and construction type. Any reference to "authority having jurisdiction" or "AHJ" shall be interpreted to mean the City of Crescent City and the State Fire Marshal. All material and equipment used shall be listed or approved by UL, FM or another nationally recognized testing agency approved by the AHJ, for their intended use and service.

1.04 PERFORMANCE REQUIREMENTS

A. General: Design automatic sprinkler systems in accordance with all required and advisory provisions of NFPA 13-R, including all the Annexes, except where modified herein, by hydraulic calculations for ordinary hazard occupancy with uniform water distribution over the design area. Each system shall be designed using the area/density design approach as defined by NFPA 13. The room design method shall not be used. Design and provide each system to give full consideration to blind spaces, piping, electrical equipment, ducts and other construction and equipment in accordance with detailed working drawings to be submitted for approval.

1. General Design Area Sizes and Densities

a. Provide the appropriate sprinkler design density based on the occupancy hazard or commodity classification of the space being protected in accordance with NFPA 13.

b. The discharge area shall be the hydraulically most demanding 1,500 sq ft except as specifically noted below if indicated. There shall be no reduction in area for the use of quick response sprinklers.

2. Specific Design Area Sizes and Densities

a. Storage Rooms in excess of 1,500 sq. ft. [140 sq. m.] shall be sprinkler protected in accordance to NFPA 13 Ordinary Hazard Group II.

b. Trash collection rooms shall be sprinkler protected in accordance to NFPA 13 Ordinary Hazard Group II.

c. Kitchens shall be sprinkler protected in accordance to NFPA 13 Ordinary Hazard Group I.

B. Total Combined Inside & Outside Hose Allowances: Hydraulic calculations shall include an allowance of 250 gpm for hose streams, added at the point of connection to the water supply.

C. Water Supply Information

1. Fire flow tests have **not** been previously performed and shall include the following conditions. All components below shall be tested prior to design to confirm previous results.

a. Date: **Unknown.**

b. Time: **Unknown**.

c. Performed by: **Unknown.**

d. Location of Residual Fire Hydrant: **Unknown.**

e. Location of Flow Fire Hydrant: **Unknown.**

f. Static Pressure at Residual Fire Hydrant: **Unknown.**

g. Measured Flow at Flow Fire Hydrant: **Unknown.**

h. Residual Pressure at Residual Fire Hydrant: **Unknown.**

2. Fire pump test records are not available. Test the following conditions prior to design and installation.

a. Date: **Unknown.**

b. Time: **Unknown.**

c. Performed by: **Unknown.**

d. Static Pressure at Fire Pump: **Unknown.**

e. Measured Flow at Fire Pump: **Unknown.**

f. Residual Pressure at Fire Pump: **Unknown.**

D. Sprinkler System Layout: Approved by the local AHJ.

E. Other Design Criteria:

1. Margin of Safety for Available Water Flow and Pressure: 10 percent, including losses through water-service piping, valves, and backflow preventers.

2. Maximum protection area per sprinkler shall be per NFPA 13 unless noted otherwise.

3. Velocities in all piping shall not exceed 20 ft/sec (6.1 m/sec).

4. Interior pipe coatings are specifically prohibited where not listed for fire protection use.

5. Total Combined Hose-Stream Demand Requirement shall be according to NFPA 13.

6. For areas subject to temperatures below 40 degrees F::

a. Provide dry pendent or dry sidewall sprinklers.

b. Anti-Freeze systems shall not be installed.

c. Heat Tape systems shall not be installed.

F. Seismic Performance: Sprinkler piping shall withstand the effects of earthquake motions determined according to NFPA 13.

1. Seismic Expansion Joints: Provide flexible piping systems of a length that exceeds the maximum design movement of seismic expansion joints. The use of 90 degree fittings in pipe as shown in NFPA 13 is specifically prohibited.

1.05 SUBMITTALS

A. Submittals to be in accordance with Division 1, Submittal Procedures unless otherwise indicated by this section.

B. Product Data: Submit six (6) bound sets of submittals to the Project Manager or Architect for each type of product indicated. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories. Partial submittals will not be acceptable and will be returned without review. Before any work is commenced, the submittal must be approved by the AHJ. Manufacturer's data shall be provided for all products listed in Part 2 of this specification and annotated to show the specific model, type and size of each item:

C. Coordination Drawings: For wet-pipe sprinkler systems, submit six (6) set of drawings to the Project Manager or Architect that include all information as required by NFPA 13. The drawings shall be prepared on uniform sized sheets not less than 24 in by 36 in. Partial submittals will not be acceptable and will be returned without review. Before any work is commenced, the submittal must be approved by the AHJ. Include plans, elevations, sections, details, isometric diagram of sprinkler system riser piping showing all control valve locations, and attachments to other work.

1. Layout indicating details, plan view, elevations, supports and sections of the system piping. Indicate the location of sprinklers and piping in relation to the ceiling layout, showing pipe lengths and sizes.

2. Detailed riser diagram including isometric diagrams showing schematic of systems supply, supply connection, devices, valves, pipe, and fittings.

3. Provide three (3) sets of CAD based electronic shop drawings to the Project Manager or Architect; each set shall include DWG file formats, including all associated externally referenced electronic files ("Xrefs"). These files shall contain externally referenced files that have been inserted (do not bind the Xref's). Provide DWG file formats on three (3) separate recordable CD-R's (do not use CD-RW's or DVD-R/RW's). In addition, provide in each set a read only PDF copy of each As-Built drawing for archiving purposes. PDF files shall be created using the PDF Creator utility. These three (3) CD-R's shall be formatted, written to, and the recording session closed in such a manner as to prevent additional electronic file transfers to the recordable CD-R's.]

D. Hydraulic Calculations. Submit name of hydraulic program and comply with the following:

1. Where a single riser supplies water to more than one floor or level, separate calculations shall be performed for the hydraulically most demanding area of each floor or level served.

2. Minimum operating pressure of any sprinkler shall be according to NFPA 13 and appropriate UL listing or FM approval.

E. Verification of Qualification. Prior to installation, submit documentation, to the Project Manager, showing that the Contractor has successfully installed automatic fire suppression sprinkler systems of comparable size, type and design as specified herein or that the Contractor has a firm contractual agreement with a Subcontractor having such experience.

1. The data shall include the names and locations of at least three installations where the Contractor, or Subcontractor, installed such systems.

2. The Contractor, or Subcontractor, shall certify that each system has performed satisfactorily for a period of not less than one year.

3. The Contractor of Subcontract shall submit the NICET/PE certification/license number and expiration date.

F. As Built Drawings:

1. General: Prepare and submit to the Project Manager six (6) sets of detailed "As-Built Drawings". The drawings shall show the system as installed, including all deviations from both the project drawings and the approved shop drawings. The drawings shall also include all information as required by NFPA 13. The drawings shall be prepared on uniform sized sheets not less than 30 in by 42 in (760 by 1070 mm). Submit these drawings within two weeks after the final acceptance test of the system.

2. Provide three (3) sets of CAD based electronic shop drawings to the Project Manager or Architect; each set shall include DWG file formats, including all associated externally referenced electronic files ("Xrefs"). These files shall contain externally referenced files that have been inserted (do not bind the Xref's). Provide DWG file formats on three (3) separate recordable CD-R's (do not use CD-RW's or DVD-R/RW's). In addition, provide in each set a read only PDF copy of each As-Built drawing for archiving purposes. PDF files shall be created using the PDF Creator utility. These three (3) CD-R's shall be formatted, written to, and the recording session closed in such a manner as to prevent additional electronic file transfers to the recordable CD-R's.]

G. Field Test Reports and Certificates: Submit test certification, to the Project Manager or Architect, for all pipe and fittings. Indicate and interpret test results for compliance with performance requirements and as described in NFPA 13. Include "Contractor's Material and Test Certificate for Aboveground Piping."

H. Operation and Maintenance Data: Not less than fourteen calendar days prior to the final acceptance testing of the entire system, and for use during the instruction period hereinafter specified, provide six (6) bound copies of an Operation and Maintenance Manual to the Project Manager. The manual shall include an index, copies of all approved shop drawings and submittal materials (updated to as_built), and a complete parts list of all components. The manual shall also include, for each item, the manufacturer's name, the serial number of the part, an ordering number, if appropriate, and a physical description of the part. The manual shall include all data relative to alarm valves, water-flow switches, and tamper switches. Electronic versions of the above will not be accepted and will be rejected without review.

1.06 QUALITY ASSURANCE

A. Qualifications:

1. Layout and hydraulic calculation shall be performed by a NICET Level III or IV Technician certified in Automatic Sprinkler Systems Layout or a Registered Fire Protection Engineer.

2. Installation shall be performed by a licensed sprinkler contractor who is experienced in the layout and installation of automatic sprinkler systems (minimum 5 years) of comparable size and type.

3. Installer's responsibilities include layout, fabrication, and installation of sprinkler systems. Layout calculations shall be based on the test data as performed in Part 1.

4. Drawings shall be sealed by a licensed Professional Fire Protection Engineer or be stamped by a NICET Level III or IV Technician certified in Automatic Sprinkler Systems Layout. Contractors shall specifically request in writing any waiver of this provision directly to the Project Manager or Architect.

B. Applicable References: Sprinkler system equipment, specialties, accessories, installation, and testing shall comply with the latest editions of the following codes and standards:

1. National Fire Protection Association (NFPA), including all amendments and annexes

a. NFPA 13, "Installation of Sprinkler Systems."

2. Underwriter's Laboratories (UL)

a. "Fire Protection Equipment Directory"

3. Factory Mutual Global (FM)

a. Approval Guide

b. Property Loss Prevention Data Sheet 2-2, "Installation Rules For Suppression Mode Automatic Sprinklers"

4. American Standard for Testing Materials (ASTM)

a. ASTM A53/A53M, "Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless"

b. ASTM A47/A47M, "Standard Specification for Ferritic Malleable Iron Castings"

c. ASTM A153, "Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware"

d. ASTM A234/A234M, "Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service"

e. ASTM A536, "Standard Specification for Ductile Iron Castings"

f. ASTM A733, "Standard Specification for Welded and Seamless Carbon Steel and Austenitic Stainless Steel Pipe Nipples"

g. ASTM A795, "Standard Specification for Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Fire Protection Use"

h. ASTM A865, "Standard Specification for Threaded Couplings, Steel, Black or Zinc-Coated (Galvanized) Welded or Seamless, for Use in Steel Pipe Joints"

i. ASTM B75/B75M, "Standard Specification for Seamless Copper Tube"

j. ASTM B88, "Standard Specification for Seamless Copper Water Tube"

k. ASTM B584, "Standard Specification for Copper Alloy Sand Castings for General Applications"

l. ASTM B633, "Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel"

m. ASTM F2014, "Standard Specification for Non-Reinforced Extruded Tee Connections for Piping Applications"

5. American Water Works Association (AWWA)

a. AWWA C110, "Standard for Ductile Iron and Gray Iron Fittings for Water"

b. AWWA C606, "Standard for Grooved and Shouldered Joints"

6. American Society of Mechanical Engineers (ASME)

a. ASME B1.20.1, "Pipe Threads, General Purpose"

b. ASME B16.1, "Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250"

c. ASME B16.3, "Malleable Iron Threaded Fittings"

d. ASME B16.4, "Gray Iron Threaded Fittings"

e. ASME B16.5, "Pipe Flanges and Flanged Fittings: NPS 1/2 through 24"

f. ASME B16.9, "Factory-Made Wrought Buttwelding Fittings"

g. ASME B16.21, "Nonmetallic Flat Gaskets for Pipe Flanges"

h. ASME B16.22, "Wrought Copper and Copper Alloy Solder Joint Pressure Fittings"

i. ASME B16.24, "Cast Copper Alloy Pipe Flanges and Flanged Fittings: Classes 150, 300, 600, 900, 1500 and 2500"

j. ASME B18.2.1, "Square and Hex Bolts and Screws, Inch Series"

7. American Welding Society (AWS)

a. A5.8, "Specification for Filler Metals for Brazing and Braze Welding"

b. D10.12/D10.12M, "Guide for Welding Mild Steel Pipe"

8. Manufacturer's Standardization Society (MSS)

a. SP-123, "Non-Ferrous Threaded and Solder-Joint Unions for Use With Copper Water Tube"

9. Copper Development Association (CDA)

a. Copper Tube Handbook

10. Federal Specifications

a. TT-P-636

11. International Code Council (ICC)

a. International Building Code (IBC)]

C. Guarantee. The Contractor shall guarantee labor, materials, and equipment provided under this contract against defects for a period of one year after the date of final acceptance of this work by the Owner. Final Acceptance includes, but is not limited to, the receipt of as-built drawings and operation and maintenance manuals Contractor shall be able to provide qualified personnel to site within a two (2) hour time frame and be available 24 hours a day, 7 days a week.

D. Conflicts. The system shall be installed in accordance with the drawings, specifications and referenced publications. Any conflicts between these documents shall be brought to the attention of the Project Manager, Architect, and the AHJ.

1.07 PROJECT CONDITIONS

A. Interruption of Existing Sprinkler Service: Do not interrupt sprinkler service to facilities without prior approval of the Owner and AHJ and the facility's Property Manager:

1. Existing Sprinkler Equipment: Existing sprinkler equipment shall be maintained fully operational until the new equipment has been tested and accepted by the Government as indicated in the contract drawings

2. When sprinkler interruption is necessary, a written plan for putting the system back into service shall be submitted to the Owner, AHJ and the facility's Property Manager.

3. Equipment Removal: After acceptance of the new system by the Owner, all existing equipment so indicated shall be removed and all damaged surfaces shall be restored as herein specified.

1.08 COORDINATION

A. Coordinate layout and installation of sprinklers with other construction that penetrates ceilings, including light fixtures, HVAC equipment, and partition assemblies.

B. Sprinklers shall be located in center of ceiling tile in all acoustical tile drop ceilings.

PART 2 - PRODUCTS

2.01 All Products shall be UL listed or FM approved for Fire Protection Service unless specifically allowed otherwise by this specification.

2.02 PIPING MATERIALS

A. Materials shall be steel, ductile iron, or copper.

2.03 STEEL PIPE AND FITTINGS

A. Schedule 40, Black-Steel Pipe: ASTM A795, in NPS 2 in (DN 50) and smaller. Pipe ends may be factory or field formed to match joining method.

B. Black-Steel Pipe Nipples: ASTM A733, made of ASTM A795, Schedule 40 steel pipe with threaded ends.

C. Steel Couplings: ASTM A865, threaded.

D. Gray-Iron Threaded Fittings: ASME B16.4, Class 125, standard pattern.

E. Malleable- or Ductile-Iron Unions: UL listed.

F. Cast-Iron Flanges: ASME 16.1, Class 125.

G. Steel Flanges and Flanged Fittings: ASME B16.5, Class 150.

H. Steel Welding Fittings: ASTM A234/A234M and ASME B16.9.

I. Malleable Iron Fittings: ASMT B16.3, Class 150

J. Grooved-Joint, Steel-Pipe Appurtenances:

1. Pressure Rating: 250 psig (1725 kPa)

2. Grooved-End Fittings for Steel Piping: ASTM A47/A47M, malleable-iron casting or ASTM A536, ductile-iron casting; with dimensions matching steel pipe.

3. Grooved-End-Pipe Couplings for Steel Piping: AWWA C606 rigid pattern, unless otherwise indicated by this specification, for steel-pipe dimensions. Include ferrous housing sections, EPDM-rubber gasket, and bolts and nuts.

2.04 COPPER TUBE AND FITTINGS

A. Hard Copper Tube: ASTM B88, Type K drawn copper.

B. Wrought-Copper, Solder-Joint Fittings: ASME B16.22, pressure fittings.

C. Bronze Flanges: ASME B16.24, Class 150, with solder-joint ends.

D. Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body, with ball-and-socket, metal-to-metal seating surfaces, and solder-joint or threaded ends.

E. Grooved-Joint, Copper-Tube Appurtenances:

1. Grooved-End, Copper Fittings: ASTM B75 (ASTM B75M), copper tube or ASTM B584, bronze castings.

2. Grooved-End-Tube Couplings: To fit copper-tube dimensions, with design similar to AWWA C606. Include ferrous housing sections, EPDM-rubber gasket suitable for fire protection service, and bolts and nuts.

F. Copper-Tube, Extruded-Tee Connections:

1. Description: Tee formed in copper tube according to ASTM F2014.

2.05 PIPING JOINING MATERIALS

A. Pipe-Flange Gasket Materials: AWWA C110, rubber, flat face, 1/8 inch (3.2 mm) thick.

1. Class 125, Cast-Iron Flanges and Class 150, Bronze Flat-Face Flanges: Full-face gaskets.

2. Class 250, Cast-Iron Flanges and Class 300, Steel Raised-Face Flanges: Ring-type gaskets.

B. Metal, Pipe-Flange Bolts and Nuts: ASME B18.2.1, carbon steel unless otherwise indicated by this specification.

C. Brazing Filler Metals: AWS A5.8/A5.8M, BCuP Series, copper-phosphorus alloys for general-duty brazing unless otherwise indicated by this specification.

D. Welding Filler Metals: Comply with AWS D10.12M/D10.12 for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

2.06 VALVES

A. General Requirements:

1. Minimum Pressure Rating for Standard-Pressure Piping: 175 psig (1200 kPa).

B. Ball Valves:

1. Standard: UL listed, except with ball instead of disc.

2. Valves NPS 1-1/2 (DN 40) and Smaller: Bronze body with threaded ends.

3. Valves NPS 2 and NPS 2-1/2 (DN 50 and DN 65): Bronze body with threaded ends or ductile-iron body with grooved ends.

4. Valves NPS 3 (DN 80): Ductile-iron body with grooved ends.

C. Bronze Butterfly Valves:

1. Pressure Rating: 175 psig (1200 kPa).

2. Body Material: Bronze.

3. End Connections: Threaded.

D. Iron Butterfly Valves:

1. Pressure Rating: 175 psig (1200 kPa).

2. Body Material: Cast or ductile iron.

3. Retain one of two subparagraphs below.

4. Style: Lug or wafer.

5. End Connections: Grooved.

E. Check Valves:

1. Pressure Rating: 250 psig (1725 kPa) minimum

2. Type: Swing check.

3. Body Material: 2-1/2 (DN 65) inches or more: Cast iron.

4. Body Material: 2 inches or less (DN 50): Bronze with screw ends

5. End Connections: Flanged or grooved.

F. Bronze OS&Y Gate Valves:

1. Pressure Rating: 175 psig (1200 kPa).

2. Body Material: Bronze.

3. End Connections: Threaded.

G. Iron OS&Y Gate Valves:

1. Pressure Rating: 250 psig (1725 kPa) minimum

2. Body Material: Cast or ductile iron.

3. End Connections: Flanged or grooved.

H. Indicating-Type Butterfly Valves:

1. Pressure Rating: 175 psig (1200 kPa) minimum.

2. Valves NPS 2 (DN 50) and Smaller:

a. Valve Type: Ball or butterfly.

b. Body Material: Bronze.

c. End Connections: Threaded.

3. Valves NPS 2-1/2 (DN 65) and Larger:

a. Valve Type: Butterfly.

b. Body Material: Cast or ductile iron.

c. End Connections: Flanged, grooved, or wafer.

4. Valve Operation: Integral [electrical, 115-V ac, prewired, two-circuit, supervisory switch] visual indicating device.

I. Indicator Posts:

1. Type: Horizontal for wall mounting.

2. Body Material: Cast iron with extension rod and locking device.

3. Operation: Wrench

2.07 TRIM AND DRAIN VALVES

A. General Requirements:

1. Pressure Rating: 175 psig (1200 kPa) minimum.

B. Provide Angle Valves, Ball Valves, Globe Valves, Plug Valves

2.08 SPECIALTY VALVES

A. General Requirements:

1. Pressure Rating:

a. Standard-Pressure Piping Specialty Valves: 175 psig (1200 kPa) minimum.

b. High-Pressure Piping Specialty Valves 300 psig (2070 kPa).

2. Body Material: Cast or ductile iron.

3. Size: Same as connected piping.

4. End Connections: Flanged or grooved.

B. Alarm Valves:

1. Design: For horizontal or vertical installation.

2. Include trim sets for bypass, drain, electrical sprinkler alarm switch, pressure gages,[and fill-line attachment with strainer.

3. Drip Cup Assembly: Pipe drain with check valve to main drain piping.

C. Automatic (Ball Drip) Drain Valves:

1. Pressure Rating: 175 psig (1200 kPa) minimum.

2. Type: Automatic draining, ball check.

3. Size: NPS ¾ (DN 20).

4. End Connections: Threaded.]

2.09 FIRE DEPARTMENT CONNECTIONS

A. Exposed-Type, Fire-Department Connection:

1. Type: Exposed, projecting, for wall mounting.

2. Pressure Rating: 175 psig (1200 kPa) minimum.

3. Body Material: Corrosion-resistant metal.

4. Inlets: Brass with threads according to local fire-department sizes and threads. Include extension pipe nipples, brass lugged swivel connections, and check devices or clappers.

5. Caps: Brass, lugged type, with gasket and chain or plastic.

6. Escutcheon Plate: Round, brass, wall type.

7. Outlet: Back, with pipe threads.

8. Number of Inlets: Two.

9. Escutcheon Plate Marking: Similar to "AUTO SPKR & STANDPIPE"

10. Finish: Rough Brass or Bronze.

2.10 SPRINKLER SPECIALTY PIPE FITTINGS

A. Branch Outlet Fittings:

1. Use welded, threaded or grooved outlets only.

2. Mechanical fastened tees are not permitted.

3. Where welded outlets are used, cutouts shall be fastened to the pipe from which they are cut.

B. Flow Detection and Test Assemblies:

1. Pressure Rating: 175 psig (1200 kPa) minimum

2. Body Material: Cast- or ductile-iron housing with orifice, sight glass, and integral test valve.

3. Size: Same as connected piping.

4. Inlet and Outlet: Threaded.

C. Sprinkler Inspector's Test Fittings:

1. Pressure Rating: 175 psig (1200 kPa) minimum

2. Body Material: Cast- or ductile-iron housing with sight glass.

3. Size: Same as connected piping.

4. Inlet and Outlet: Threaded.

2.11 SPRINKLERS

A. General Requirements:

1. Pressure Rating for Automatic Sprinklers: 175 psig (1200 kPa) minimum.

2. Pressure Rating for High-Pressure Automatic Sprinklers: 250 psig (1725 kPa)

3. Sprinklers with O-rings are not permitted.

B. Automatic Sprinklers with Heat-Responsive Element:

1. Early-Suppression, Fast-Response Applications: FM Global Loss Prevention Data Sheet 2-2.

2. Characteristics: Nominal ½-inch (12.7-mm) orifice with Discharge Coefficient K of 5.6, and 8.0 for "Ordinary" temperature classification rating unless otherwise indicated by this specification or required by application.

3. Provide ½ inch NPS thread for K5.6 and ¾ inch NPS thread for K8.0.

C. Sprinkler Finishes:

1. Chrome plated.

2. Bronze.

3. Painted.

D. Special Coatings:

1. Corrosion resistant coating.

E. Sprinkler Escutcheons: Materials, types, and finishes for the following sprinkler mounting applications. Escutcheons for concealed, flush, and recessed-type sprinklers are specified with sprinklers.

1. Ceiling Mounting: Chrome-plated steel, one piece, flat.

2. Sidewall Mounting: Chrome-plated steel, one piece, flat.

F. Sprinkler Guards:

1. Type: Wire cage with fastening device for attaching to sprinkler.

2.12 ALARM DEVICES

A. Water-Flow Indicators:

1. Water-Flow Detector: Electrically supervised.

2. Components: Two double-throw circuit switches for isolated alarm and auxiliary contacts, complete with factory-set, field-adjustable retard element to prevent false signals and tamperproof cover that sends signal if removed.

3. Type: Paddle operated with screw terminals.

4. Pressure Rating: 250 psig (1725 kPa).

5. Design Installation: Horizontal or vertical.

6. Time Delay Feature: from 0 to 30 seconds

B. Valve Supervisory Switches:

1. Type: Electrically supervised with screw terminals.

2. Components: Double-pole, double-throw switch with normally closed contacts.

3. Design: Signals that control valve is in other than fully open position.

C. Indicator-Post Supervisory Switches:

1. Type: Electrically supervised with screw terminals.

2. Components: Double-throw switch with normally closed contacts.

3. Design: Signals that controlled indicator-post valve is in other than fully open position.

2.13 PRESSURE GAGES

A. Type: Liquid filled

B. Dial Size: 4-1/2-inch (90- to 115-mm) diameter.

C. Pressure Gage Range: 0 to 250 psig (0 to 1725 kPa) minimum.

D. Water System Piping Gage: Include "WATER" or "AIR/WATER" label on dial face.

2.14 PIPE ESCUTCHEONS

A. General: Manufactured ceiling, floor, and wall escutcheons and floor plates.

B. One-Piece, Cast-Brass Escutcheons: Polished chrome-plated finish with set-screws.

C. One-Piece, Deep-Pattern Escutcheons: Deep-drawn, box-shaped brass with chrome-plated finish.

D. One-Piece, Stamped-Steel Escutcheons: Chrome-plated finish with set-screw.

E. Split-Casting, Cast-Brass Escutcheons: Polished chrome-plated.

F. Split-Plate, Stamped-Steel Escutcheons: Chrome-plated finish with concealed hinge.

G. One-Piece Floor Plates: Cast-iron flange with holes for fasteners.

H. Split-Casting Floor Plates: Cast brass with concealed hinge.

2.15 SLEEVES

A. Steel-Pipe Sleeves: ASTM A53/A53M, Type E, standard weight, plain ends.

2.16 HANGERS

A. Materials available by product type. Provide materials to comply with location and application requirements unless noted otherwise on drawings and schedules.

1. Pipe rings - Malleable iron, carbon steel.

2. Clevis - Carbon steel.

3. Steel pipe clamps - Carbon steel, alloy, stainless steel.

4. Socket clamps - Carbon steel.

5. Beam clamps - Malleable/ductile iron, hardened steel, carbon steel, forged steel.

6. Structural attachments - Carbon steel, malleable iron.

7. Ceiling plates/ceiling flanges - Plastic, cast iron, malleable iron.

8. Concrete inserts and attachments - Malleable iron, carbon steel; stainless steel body, fiberglass bars, polypropylene disc (iron cross design).

9. Rod attachments - Carbon steel, malleable iron, forged steel.

10. Pipe supports - Carbon steel, cast iron.

11. Pipe shields and saddles - Carbon steel, alloy steel, stainless steel.

12. Pipe rolls - Cast iron, carbon steel.

13. Guides - Carbon steel; slides, carbon steel with PTFE slide plates.

14. Engineered hangers - Carbon steel, stainless steel, chrome molybdenum steel.

15. Powder driven studs - Not permitted

B. Finishes: Provide finishes to comply with location and application requirements unless noted otherwise on drawings and schedules.

1. Electro-plating galvanizing process per ASTM B633.

2. Hot Dipped galvanizing process per ASTM A153.

3. Epoxy paint.

4. Zinc-rich paint.

5. Copper

6. Standard primer shall meet Fed Spec TT-P-636.

2.17 SIGNAGE

A. Provide plastic signs for each valve and to identify hydraulic design. Signs shall have white lettering on a red background with holes for easy attachment. Enter pertinent data for each system on the hydraulic placard.

2.18 SPRINKLER CABINET

A. Provide metal cabinet(s) as required containing a stock of spare sprinkler heads of all types and ratings installed as well as any special tools required for removal or replacement of the heads. The number of spare sprinklers shall conform to NFPA 13. The cabinet shall be located, in an area where the temperature will not exceed 100 degrees F (38 degrees C), and approved by the GSA Regional Fire Protection Engineer.

PART 3 - EXECUTION

3.01 WATER-SUPPLY CONNECTIONS

A. Install shutoff valve, check valve, pressure gage, and drain at connection to water supply.

3.02 PIPING INSTALLATION

A. Locations and Arrangements: It is the responsibility of the design-build contractor to provide, coordinate and implement the intent of the drawings and this specification. Drawing plans, schematics, and diagrams only indicate general location and arrangement of piping.

1. Deviations from approved working plans for piping require written approval from authorities having jurisdiction. File written approval with the AHJ before deviating from approved working plans.

B. Where required to be protected against damage from earthquakes, install seismic restraints on piping in accordance with NFPA 13.

C. Use listed fittings to make changes in direction, branch takeoffs from mains, and reductions in pipe sizes. Reductions in pipe sizes shall be made with tapered fittings, bushings shall not be permitted.

D. Install hangers and supports for sprinkler system piping according to NFPA 13. Comply with requirements for hanger materials in NFPA 13. Trapeze type supports shall utilize angle iron. Use of pipe for trapeze supports is prohibited.

E. Install pressure gages on riser or feed main, at each sprinkler test connection, and at top of each standpipe. Include pressure gages with connection not less than NPS 1/4 (DN 8) and with soft metal seated globe valve, arranged for draining pipe between gage and valve. Install gages to permit removal, and install where they will not be subject to temperatures below 40 degrees F. Install pressure gages on both sides of every pressure reducing valve.

F. Provide a check valve at the connection to the system riser(s) at each floor connection.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

SEAL:

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PROJECT:

THE LEGACY RENOVATION

665 L STREET
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SHEET NAME:

FIRE PROTECTION SPECIFICATIONS

ISSUE DATE:	01/06/22
PERMIT SET	
DRAWN BY:	CK
DESIGNER:	Designer
PROJ MGR:	
PEER REVIEW:	JT/MT

SHEET NUMBER:

F0.02

3.03 JOINT CONSTRUCTION

A. Install couplings, flanges, flanged fittings, unions, nipples, transition and special fittings that have finish and pressure ratings same as or higher than system's pressure rating for aboveground applications unless otherwise indicated by this specification.

B. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having NPS 2-1/2 (DN 65) and larger end connections.

C. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.

D. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.

E. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:

1. Apply appropriate tape or thread compound to external pipe threads.

2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.

F. Welded Joints: Construct joints according to AWS D10.12M/D10.12, using qualified processes and welding operators according to the requirements and recommendations of NFPA 13.

1. Shop weld pipe joints where welded piping is indicated. Do not weld to galvanized-steel pipe.

2. Affix cutout disks, which are created by cutting holes in the walls of pipe for flow switches and non-threaded pipe connections to the respective water flow switch or pipe connection near to the pipe from where they were cut.

G. Steel-Piping, Roll-Grooved Joints: Roll rounded-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe grooved joints.

H. Brazed Joints: Join copper tube and fittings according to CDA's "Copper Tube Handbook," "Brazed Joints" Chapter.

I. Copper-Tubing Grooved Joints: Roll rounded-edge groove in end of tube according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join copper tube and grooved-end fittings according to AWWA C606 for steel-pipe grooved joints.

J. Dissimilar-Material Piping Joints: Make joints using adapters compatible with materials of both piping systems.

3.04 SPRINKLER INSTALLATION

A. Temperature Rating: Install ordinary temperature sprinklers, unless modified herein the specification. Sprinklers installed in higher ambient temperature areas shall be installed in accordance with NFPA 13.

1. For sprinklers installed directly underneath skylights, install intermediate temperature sprinklers.

2. Elevator Machine Rooms: Install intermediate temperature sprinklers.

B. Sprinkler Guards: Provide mechanical guards as required to prevent mechanical damage in accordance with NFPA 13, and as follows:

1. All sprinklers installed below 7 ft. (2.1 m.)

2. All sprinklers installed in elevator machine rooms.

3. All sprinklers installed in electrical distribution rooms.

C. Corrosion Protection: Provide corrosion-resistant sprinklers in locations where chemicals, moisture, or other corrosive vapors sufficient to cause corrosion of such devices exist, and as follows:

1. Install corrosion-resistant sprinklers in all showers.

2. Install corrosion-resistant sprinklers where exposed to the exterior.

D. Quick Response Sprinklers:

1. Install in all areas where listed for use and in accordance with NFPA 13.

2. Do not install in elevator machine rooms.

E. Flexible sprinkler fittings shall not be used.

3.05 DRAINS

A. Pipe drains to discharge at safe points outside of the building or to sight cones attached to drains of adequate size to readily carry the full flow from each drain under maximum pressure. Do not provide a direct drain connection to sewer system or discharge into sinks. Install drips and drains where necessary and required by NFPA 13.

1. All drain discharge outlets on the outside of the building shall be located no higher than 1 foot (0.3 meters) above grade level.

2. Drains provided as part of floor control valves shall discharge to an express drain located adjacent to the sprinkler riser. Drains shall be of the combination inspector's test/drain type.

3.06 SIGNAGE

A. Securely attach identification signs to control valves, drain valves, and test valves. Locate hydraulic placard information signs at each sectional control valve where there is a zone water flow switch. Where more than one sprinkler zone is provided, signs shall indicate the specific zone served by the valve.

3.07 FIRESTOPPING AND FIREPROOFING

A. Firestop all holes for piping, or other penetrations which pass through floor slabs, fire-rated walls, partitions with fire-rated doors, vertical service shafts, or any fire-rated assemblies in accordance with Firestopping divisions if published. Existing holes through which new piping for this project passes shall be totally firestopped in a manner that restores the fire protection rating of the penetrated wall, floor, ceiling or other structure.

B. Where structural fireproofing is disturbed, damaged, or destroyed as a result of the sprinkler system installation, the contractor shall be responsible for restoring the fire proofing to the required fire resistance rating in an approved manner. This restoration shall be done in accordance with the UL listing or FM approval of the fireproofing materials, requirements of the building, fire, and life safety codes in effect for the project, and in accordance with Fireproofing specification.

3.08 SLEEVE INSTALLATION

A. General Requirements: Install sleeves for pipes and tubes passing through penetrations in concrete or masonry walls and floors.

B. Cut sleeves to length for mounting flush with both surfaces unless otherwise indicated by this specification.

C. Install sleeves that are large enough to provide 1/4-inch (6.4-mm) annular clear space between sleeve and pipe. In seismic zones, for pipe 2½ inch (65 mm) and smaller install sleeves that are large enough to provide 1 inch (25 mm) annular clear space between sleeve and pipe, for pipe larger than 2½ (65 mm) inch install sleeves that are large enough to provide 2 inch (50 mm) annular clear space between sleeve and pipe.

D. Sleeves in Masonry and Concrete Walls, Floors, and Roofs: Provide hot-dip galvanized steel, ductile-iron, or cast-iron sleeves. Core drilling of masonry and concrete may be provided in lieu of pipe sleeves when cavities in the core-drilled hole are completely grouted smooth.

E. Sleeves in Other Than Masonry and Concrete Walls, Floors, and Roofs: Provide 26 gauge galvanized sheet steel.

F. Escutcheon plates shall be installed where exposed piping penetrates through walls, ceilings and floors.

3.09 FIELD QUALITY CONTROL

A. Tests and Inspections:

1. Hydrostatically test wet-pipe sprinkler system, as required by NFPA 13, in the presence of the GSA Regional Fire Protection Engineer or their designated representative. The Contractor and an authorized representative from each supplier of equipment shall be in attendance at the preliminary test. Test water flow alarms, tamper switches, and all other devices for smooth and correct operation. Test the water flow alarms by flowing water through the inspector's test connection. When tests are completed and corrections made, submit signed and dated "Contractor's Material and Test Certificates" in accordance with NFPA 13, with a request for final inspection and tests.

2. Test and adjust controls. Replace damaged and malfunctioning controls and equipment.

3. Flush, test, and inspect sprinkler systems according to NFPA 13.

4. Energize circuits to electrical equipment and devices.

5. Coordinate with fire-alarm tests. Operate as required.

6. Coordinate with fire-pump tests. Operate as required.

7. Verify that equipment hose threads are same as local fire-department equipment.

B. Final Inspection and Testing: Advise the AHJ and Owner when hydrostatic and alarm tests have been completed and all necessary corrections made, so as to permit final inspection and testing. Submit request for testing at least 15 calendar days prior to test date. A final acceptance test WILL NOT BE SCHEDULED until operation and maintenance manuals have been received by the Contracting Officer or designated representative.

1. At the final test, a material and test certificate must be provided in accordance with NFPA 13.

2. Submit up-to-date red-lined shop drawings to the AHJ, Owner or designated representative at the final test. These drawings shall be undamaged sets of prints of the shop drawings, with changes from the original drawings marked in red. Up-to-date drawings shall be maintained on site throughout construction.

3. The final test shall be witnessed by Owner or Project Manager. The Contractor and an authorized representative from each supplier of equipment shall be in attendance at the final test.

4. Final testing shall include, but is not limited to, full flow testing through both the main drain and the inspector's test connection as well as testing of all water flow and tamper switches.

5. Provide all equipment, services and labor to properly perform all required tests.

C. Coordination of Installation:

1. The Contractor shall coordinate this sprinkler system work with other trades to avoid conflicts, assure system completion and testing within the project schedule and to assure a quality, workmanlike finished product. This may mean altered scheduling, after hours work, and/or sequencing construction activities to avoid disruptions to occupants of the building.

2. Disruptions to existing automatic sprinkler systems shall be kept to a minimum or avoided. Sprinkler systems outside of the construction project shall be kept in service at all times.

3. Delineate phasing of construction to ensure that installations of new systems are expedited, and existing systems are kept in service until the replacement system is operational.

3.10 CLEANING AND PAINTING

A. Clean dirt and debris from sprinklers.

B. Remove and replace sprinklers with paint other than factory finish.

END OF SECTION

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

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SHEET NAME:

FIRE PROTECTION SPECIFICATIONS

ISSUE DATE:	01/06/22
PERMIT SET	
DRAWN BY:	CK
DESIGNER:	Designer
PROJ MGR:	
PEER REVIEW:	JT/MT

SHEET NUMBER:

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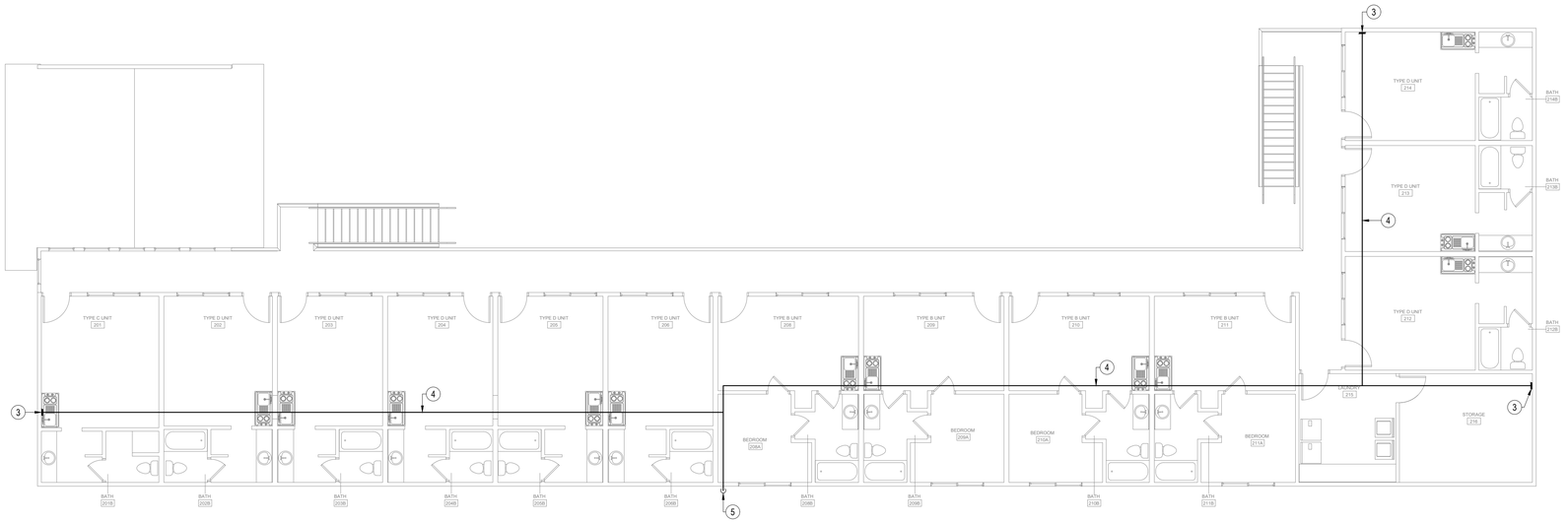
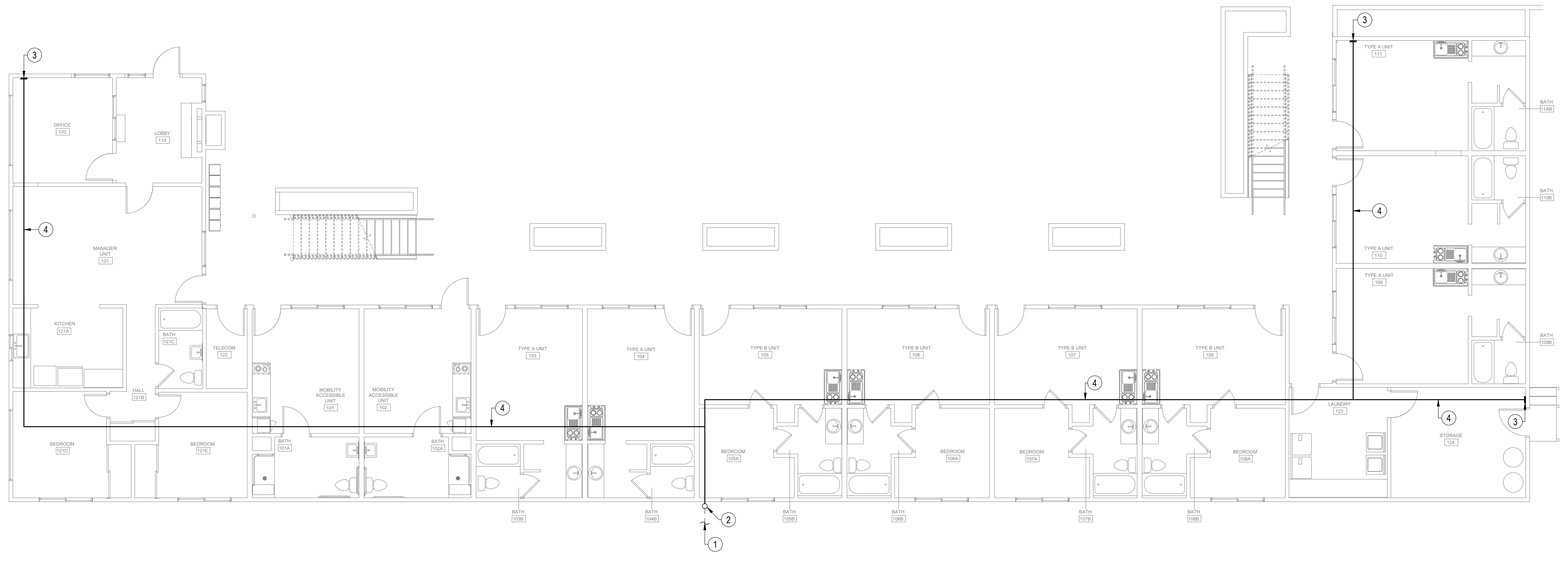


2 BUILDING 1 SECOND FLOOR - FIRE PROTECTION

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



1 BUILDING 1 FIRST FLOOR - FIRE PROTECTION PLAN

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

FIRE PROTECTION SHEET NOTES

1. UNDERGROUND FIRE LINE SHALL BE INCLUDED IN HYDRAULIC CALCULATION FROM MOST REMOTE AREA BACK TO P.O.C. OF FIRE LINE ON SITE.
2. FIRE RISER. CONFIRM LOCATION WITH OWNER AND ARCHITECT.
3. END LINE BRACE, TYP.
4. RATE A.F.S.S. PIPING CONCEALED THROUGHOUT WITH PENDANT HEADS. COORDINATE WITH OWNER AND ARCHITECT.
5. FIRE RISER, SEE 1/- FOR CONTINUATION.

REVISION SCHEDULE

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SHEET NAME:

FIRE PROTECTION BUILDING 1

ISSUE DATE:	01/06/22
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DRAWN BY:	CK
DESIGNER:	Designer
PROJ MGR:	
PEER REVIEW:	JT/MT

SHEET NUMBER:

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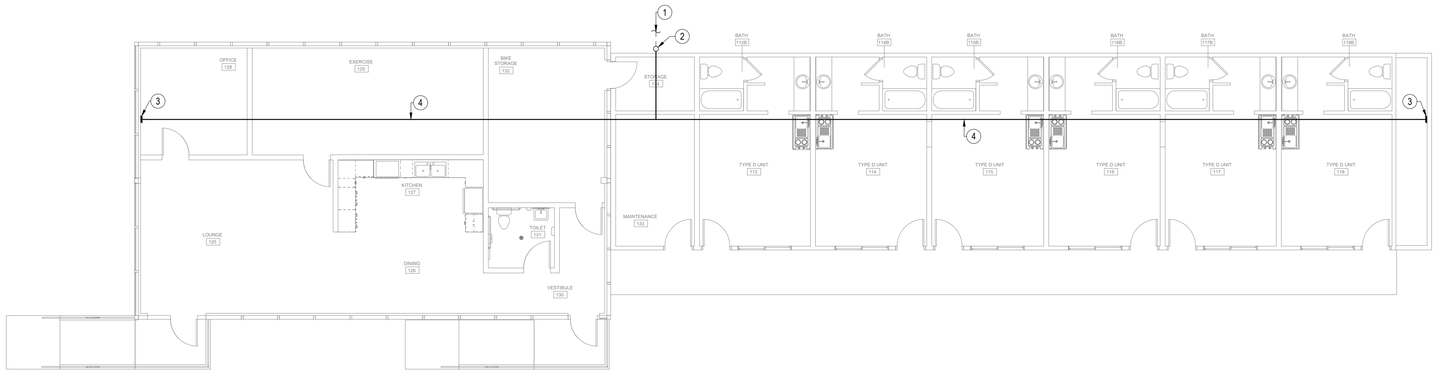

1 BUILDING 2 - FIRE PROTECTION

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

FIRE PROTECTION SHEET NOTES

1. UNDERGROUND FIRE LINE SHALL BE INCLUDED IN HYDRAULIC CALCULATION FROM MOST REMOTE AREA BACK TO P.O.C. OF FIRE LINE ON SITE.
2. FIRE RISER. CONFIRM LOCATION WITH OWNER AND ARCHITECT.
3. END LINE BRACE, TYP.
4. RATE A.F.S.S. PIPING CONCEALED THROUGHOUT WITH PENDANT HEADS. COORDINATE WITH OWNER AND ARCHITECT.

REVISION SCHEDULE

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FIRE PROTECTION BUILDING 2

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PERMIT SET	
DRAWN BY:	CK
DESIGNER:	Designer
PROJ MGR:	
PEER REVIEW:	JT/MT

SHEET NUMBER:

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