EXPRESS STOP - VIEW HIGH

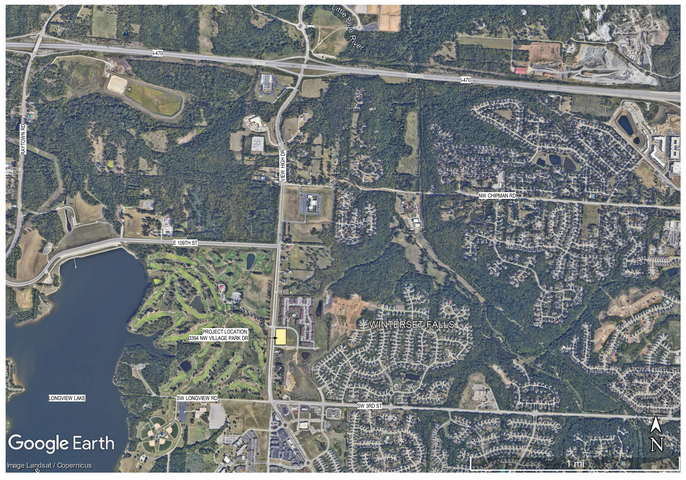
3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

PERMIT DOCUMENTS

09 JUNE 2025

COLLINS WEBB #: 23114

3D - RENDERING



VICINITY MAP

GENERAL

SHEET NUMBER	SHEET NAME	ISSUE DATE	REVISION DATE
CS	COVER SHEET		
G001	GENERAL INFORMATION		
G002	ACCESSIBILITY GUIDELINES		
G003	LIFE SAFETY PLANS AND PROJECT INFO.		
G501	SPECIFICATIONS		
G502	SPECIFICATIONS		
G503	SPECIFICATIONS		

CIVIL

SHEET NUMBER	SHEET NAME	ISSUE DATE	REVISION DATE
C.001	COVER SHEET		
C.050	ESC PHASE 1 - PRE CLEARING PLAN		
C.051	ESC PHASE 2 - INACTIVE AREA STABILIZATION PLAN		
C.052	ESC PHASE 3 - FINAL RESTORATION PLAN		
C.053	ESC - STANDARD DETAILS		
C.100	SITE PLAN		
C.200	GRADING PLAN		
C.300	UTILITY PLAN		
C.301	STORM SEWER PLAN AND PROFILE		
L.100	LANDSCAPE PLAN		
L.101	LANDSCAPE PLAN DETAILS		

STRUCTURAL

SHEET NUMBER	SHEET NAME	ISSUE DATE	REVISION DATE
S001	GENERAL NOTES		
S002	SPECIFICATIONS		
S003	SPECIFICATIONS		
S004	SPECIFICATIONS		
S100	FOUNDATION PLAN		
S101	LOWER ROOF FRAMING PLAN		
S102	UPPER ROOF FRAMING PLAN		
S200	TRUSS PROFILES		
S300	TYPICAL DETAILS		
S301	STEEL CONNECTION DETAILS		
S400	FOUNDATION DETAILS		
S401	ROOF FRAMING SECTIONS		

ARCHITECTURAL

SHEET NUMBER	SHEET NAME	ISSUE DATE	REVISION DATE
A101	FLOOR PLANS - 1ST FLOOR		
A104	ROOF PLAN		
A201	EXTERIOR ELEVATIONS		
A311	BUILDING & WALL SECTIONS		
A351	STO SYSTEM DETAILS		
A352	STO SYSTEM DETAILS		
A353	STOCAST WOOD DETAILS		
A501	DOOR AND WINDOW TYPES & DETAILS		
A601	RCP - 1ST FLOOR		
A701	INTERIOR ELEVATIONS		
A901	FINISH LEGEND & SCHEDULE		

MEP

SHEET NUMBER	SHEET NAME	ISSUE DATE	REVISION DATE
E101	ELECTRICAL NOTES, SYMBOLS & ABBREVIATIONS		
E102	ELECTRICAL DETAILS		
E201	ELECTRICAL POWER PLAN		
E301	ELECTRICAL LIGHTING PLAN		
E401	ELECTRICAL RISER DIAGRAM AND SCHEDULES		
E501	ELECTRICAL SPECIFICATIONS		
E502	ELECTRICAL SPECIFICATIONS		
M101	MECHANICAL NOTES, SYMBOLS & ABBREVIATIONS		
M201	MECHANICAL FLOOR PLAN		
M202	CAPTIVEAIRE DRAWINGS (FOR REFERENCE)		
M203	CAPTIVEAIRE DRAWINGS (FOR REFERENCE)		
M204	CAPTIVEAIRE DRAWINGS (FOR REFERENCE)		
M205	CAPTIVEAIRE DRAWINGS (FOR REFERENCE)		
M206	CAPTIVEAIRE DRAWINGS (FOR REFERENCE)		
M207	CAPTIVEAIRE DRAWINGS (FOR REFERENCE)		
M208	CAPTIVEAIRE DRAWINGS (FOR REFERENCE)		
M209	CAPTIVEAIRE DRAWINGS (FOR REFERENCE)		
M210	CAPTIVEAIRE DRAWINGS (FOR REFERENCE)		
M211	CAPTIVEAIRE DRAWINGS (FOR REFERENCE)		
M212	CAPTIVEAIRE DRAWINGS (FOR REFERENCE)		
M213	CAPTIVEAIRE DRAWINGS (FOR REFERENCE)		
M214	CAPTIVEAIRE DRAWINGS (FOR REFERENCE)		
M215	CAPTIVEAIRE DRAWINGS (FOR REFERENCE)		
M301	MECHANICAL SPECIFICATIONS		
P101	PLUMBING NOTES, SYMBOLS, & ABBREVIATIONS		
P201	PLUMBING PLANS		
P202	PLUMBING WATER AND GAS PLAN		
P301	PLUMBING SPECIFICATIONS		

collins | webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

OWNER

CONVENIENCE GROCERY GROUP 6401, LLC
3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

ARCHITECT

COLLINS | WEBB ARCHITECTURE
307B SW MARKET STREET
LEE'S SUMMIT, MISSOURI 64063
P: 816.249.2270
www.collinsandwebb.com

CONTRACTOR

MEYIER CONSULTING AND CONTRACTING LLC
21252 W 119 PI
OLATHE, KS 66061
P: 913.744.1755

CIVIL ENGINEER

ENGINEERING SOLUTIONS
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P: 816.623.9888
www.es-kc.com

STRUCTURAL ENGINEER

LEIGH + O'KANE
250 NE MULBERRY | SUITE 201
LEE'S SUMMIT, MO 64086
P: 816.444.3144
www.leok.com

MEP ENGINEER

ENGINEERED BUILDING SOLUTIONS
P.O. BOX #11101
OVERLAND PARK, KS 66207
P: 913.735.5654
www.ebsolutionskc.com

STATE OF MISSOURI
ROGER L. WEBB II
NUMBER A-2016034098
ARCHITECT
06-12-25

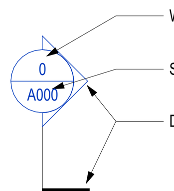
6/12/2025 8:15:09 AM

ARCHITECTURAL ABBREVIATIONS

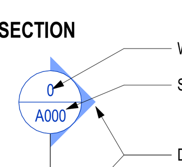
&	AND
<	ANGLE
AB	ANCHOR BOLT
ACOUS/ACST	ACOUSTIC(AL)
ACT	ACOUSTICAL CEILING TILE
ACP	ACOUSTICAL CEILING PANEL
ACS PNL	ACCESS PANEL
AD	AREA DRAIN
ADDL	ADDITIONAL
ADH	ADHESIVE
ADJ	ADJUSTABLE
ADJ	ADJACENT
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AFS	ABOVE FINISH SLAB
AGGR	AGGREGATE
ALUM, AL	ALUMINUM
ALT	ALTERNATE
ANOD	ANODIZED
APPROX	APPROXIMATE(LY)
ARCH	ARCHITECT(URAL)
ASPH	ASPHALT
ASPH	AT
AVG	AVERAGE
BB	BULLETIN BOARD
BD	BOARD
BTWN	BETWEEN
BITUM	BITUMINOIUS
BLK / BLKG	BLOCK / BLOCKING
BLDG	BUILDING
BM	BENCHMARK
BMD	BOTTOM OF METAL DECK
BO	BOTTOM OF / BY OTHERS
BOT	BOTTOM
BOS	BOTTOM OF STEEL
BRG	BEARING
BSMT	BASEMENT
BUR	BUILT UP ROOFING SYSTEM
[	CHANNEL
CAB	CABINET
CPT	CARPET
CI	CAST IRON
CB	CATCH BASIN
CCR	CARD CONTROL READER
CSWK	CASEWORK
CCT	CUBICLE CURTAIN TRACK
CCTV	CLOSED CIRCUIT TELEVISION
CSP	COMBINATION STAND PIPE
CG	CORNER GUARD
CEM	CEMENT, CEMENTITIOUS
CER	CERAMIC
CT	CERAMIC TILE
CH BD	CHALKBOARD
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR
CLO	CLOSET
CMU	CONCRETE MASONRY UNIT
CRSC	COLD ROLLED STEEL CHANNEL
CW	COLD WATER
COL	COLUMN
CNTR	COUNTER
CSK	COUNTERSUNK
CONC	CONCRETE
CONF	CONFERENCE
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CJ	CONTROL JOINT
CG	CORNER GUARD
CORR	CORRUGATED, CORRIDOR
CU	CUBIC
D	DEPTH
DBL	DOUBLE
DBL ACT	DOUBLE ACTING
DEG	DEGREE
DEMO	DEMOLISH
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIAG	DIAGONAL
DIFF	DIFFUSER
DIM	DIMENSION
DIM PT	DIMENSION POINT
DISP	DISPENSER
DIST	DISTANCE
DK	DECK
DN	DOWN
DR	DRAIN, DOOR
DS	DOWNSPOUT
DSP	DRY STANDPIPE
DT	DRAPERY TRACK
DTL	DETAIL
DW	DISHWASHER
DWG / DWGS	DRAWING / DRAWINGS
E	EAST
EA	EACH
EDR	EQUIPMENT DRAWING
EG	EDGE GUARD
EIFS	EXTERIOR INSULATION FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELAST	ELASTOMERIC
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOSURE
ENGR	ENGINEER
EOS	EDGE OF SLAB
EP	ELECTRICAL PANEL
EPB	ELECTRICAL PANEL BOARD
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EQ	EQUAL
EQL SP	EQUALLY SPACED
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ESCAL	ESCALATOR
EST	ESTIMATED(D)
EWC	ELECTRIC WATER COOLER
EXC	EXCAVATED
EXH	EXHAUST
EXIST, (E)	EXISTING
EXP	EXPANSION
EXP JT	EXPANSION JOINT
EXT	EXTERIOR
EX-BR	EXISTING BRICK
F/F	FACE TO FACE
FA	FIRE ALARM
FAS	FIRE ALARM STATION
FB	FLAT BAR
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FDN	FOUNDATION
FEC	FIRE EXTINGUISHER CABINET
FE	FIRE EXTINGUISHER
FF	FINISH FACE
FG	FINISH GRADE
FHC	FIRE HOSE CABINET
FH/FEC	FIRE HOSE / EXTINGUISHER CABINET
FHMS	FLAT HEAD MACHINE SCREW
FHWS	FLAT HEAD WOOD SCREW
FHY	FIRE HYDRANT
FIN	FINISH, FINISHED
FLAM	FLAMMABLE
FLASH	FLASHING
FLEX	FLEXIBLE
FLR	FLOOR
FLUOR	FLUORESCENT
FO	FACE OF
FRT	FIRE RETARDANT TREATMENT
FRZ	FREEZER
FSB	FOLDING SHOWER BENCH
FSTNR	FASTENER
FT	FOOT, FEET
FTG	FOOTING
FURN	FURNITURE
FXTR	FIXTURE
G	GAS
GA	GAUGE, GAGE
GAL	GALLON
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFRC	GLASS FIBER REINFORCED CONCRETE
GFRG	GLASS FIBER REINFORCED GYPSUM
GL	GLASS
GLU LAM	GLUE LAMINATED
GLZ	GLAZING
GR	GRADE OR GRADING
GVL	GRAVEL
GYP	GYPSUM
GYP BD	GYPSUM BOARD
GYP PLAS	GYPSUM PLASTER
H	HIGH
HB	HOSE BIBB
HC	HOLLOW CORE
HD	HEAD
HDBD	HARDBOARD
HDW, HDWR	HARDWARE
HDWD	HARDWOOD
HGT, HT	HEIGHT
HM	HOLLOW METAL
HNDRL	HANDRAIL
HORIZ	HORIZONTAL
HPT	HIGH POINT
HR	HOUR
HVAC	HEATING-VENTILATION-AIR CONDITIONING
HW	HOT WATER
ID	INSIDE DIAMETER
IN	INCH
INCAND	INCANDESCENT
INCL	INCLUDE, INCLUDING
INFO	INFORMATION
INSUL	INSULATION
INTR	INTERIOR
INV	INVERT
IVT	INTRAVENOUS TRACK
JAN	JANITOR
JST	JOIST
JT	JOINT
KG	KILOGRAM
KIT	KITCHEN
KPL	KICK PLATE
KS	KNEE SPACE
L	LENGHT, LONG
LAB	LABORATORY
LAM	LAMINATE, LAMINATION
LAV	LAVATORY
LB	POUND
LED	LIGHT EMITTING DIODE
LF	LINEAR FOOT
LG	LENGTH
LIN	LINEAR
LL	LEAD LINED
LPT	LOW POINT
LT	LIGHT
LT WT	LIGHT WEIGHT
LTG	LIGHTING
LVR	LOUVER
M	METERS
MACH	MACHINE
MATL	MATERIAL
MATV	MASTER ANTENNA TELEVISION SYSTEM
MAX	MAXIMUM
MB	MACHINE BOLT
MC	MEDICINE CABINET
MDO	MEDIUM DENSITY OVERLAY
MECH	MECHANICAL
MED	MEDIUM
MET, MTL	METAL
MEMB	MEMBRANE
MFR / MFG	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MLDG	MOLDING
MM	MILLIMETERS
MO	MASONRY OPENING
MOD	MODULE, MODULAR
MTD	MOUNTED
MTG	MOUNTING
MVBL	MOVABLE
MULL	MULLION
(N)	NEW
N	NORTH
NA	NOT APPLICABLE
NAT	NATURAL
NE	NORTHEAST
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NRC	NOICE REDUCTION COEFFICIENT
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
OA	OVERALL
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED-CONTRACTOR INSALLED
OFOI	OWNER FURNISHED-OWNER INSTALLED
OPNG	OPENING
OPP	OPPOSITE
ORD	OVERFLOW ROOF DRAIN
OVHD	OVERHEAD
OZ	OUNCE
PA	PUBLIC ADDRESS
PART	PARTIAL
PBD	PARTICLEBOARD
PBX	PRIVATE TELEPHONE EXCHANGE
PCF	POUNDS PER CUBIC FOOT
PCI	POUNDS PER CUBIC INCH
PERF	PERFORATED
PERIM	PERIMETER
PERM	PERMANENT
PERP	PERPENDICULAR
PI	POINT OF INTERSECTION
PL	PLATE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER, PLASTIC
PLBG	PLUMBING
PLF	POUNDERS PER LINEAR FOOT
PLYWD	PLYWOOD
PNEU	PNEUMATIC
PNL	PANEL
PNL BD	PANEL BOARD
PNT, P	PAINT
PORT	PORTABLE
PP	PUSH PLATE
PPM	PARTS PER MILLION
PR	PAIR
PRCST	PRECAST
PREP	PREPARATION
PREFAB	PREFABRICATION
PRKG	PARKING
PROJ	PROJECT
PROP	PROPERTY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT / PTD	POINT, PAINT / PAINTED
PTN	PARTITION
PTS	PNEUMATIC TUBE STATION
PVC	POLYVINYL CHLORIDE
PVG	PAVING
PVMT	PAVEMENT
PWR	POWER
QT	QUARRY TILE
QTR	QUARTER
QTY	QUANTITY
R	RISER
RA	RETURN AIR
RAD	RADIUS
RB	RESILIENT BASE
RCP	REFLECTED CEILING PLAN
RCPT	RECEPTACLE
RD	ROOF DRAIN
RECT	RECTANGULAR
REF	REFERENCE
REFR	REFRIGERATOR
REG	REGISTER
REINF	REINFORCE (D) (ING) (MENT)
REQD	REQUIRED
REQT	REQUIREMENT
RESIL	RESILIENT
RET	RETURN
REV	REVISION
RF	RESILIENT FLOORING
RH	RIGHT HAND
RHMS	ROUND HEAD MACHINE SCREW
RHWS	ROUND HEAD WOOD SCREW
RM	ROOM
RND	ROUND
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RWL	RAIN WATER LEADER
S	SOUTH
SA	SUPPLY AIR
SB	SPLASH BLOCK
SC	SOLID CORE
SCHED	SCHEDULE
SCRN	SCREEN
SD	STORM DRAIN
SE	SOUTHEAST
SECT	SECTION
SEG	SEGMENT
SEP	SEPARATION OR SEPARATE
SEP JT	SEPARATION JOINT
SHT	SHEET, SHEETING
SHWR	SHOWER
SHV	SHELVES, SHELVING
SIM	SIMILAR
SK	SINK
SMS	SHEET METAL SCEW
SP	SPACE, SPACED, SPACING
SPEC	SPECIFICATION
SPKLR	SPRINKLER
SPKR	SPEAKER
SQ	SQUARE
SS	SANITARY SEWER
SSK	SERVICE SINK
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STAG	STAGGERED
STC	SOUND TRANSMISSION COEFFICIENT
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
STS	SELF-TAPPING STEEL
SUSP	SUSPENDED
SUSP CLG	SUSPENDED CEILING
SVCE	SERVICE
SW	SOUTHWEST
SYMM	SYMMETRICAL
SYST	SYSTEM
T	TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TC	TOP OF CONCRETE, TOP OF CURB
TD	TRENCH DRAIN
TEL	TELEPHONE
TEMP	TEMPORARY
THERM	THERMAL
THK	THICK, THICKNESS
THRES	THRESHOLD
THRU	THROUGH
TMPD GL	TEMPERED GLASS
TO	TOP OF
TOR	TOP OF RAILING
TOS	TOP OF STEEL
TOT	TOTAL
TOW	TOP OF WALL
TP	TOP OF PAVEMENT
TPH	TOILET PAPER HOLDER
TRANS	TRANSPARENT
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION
TYP	TYPICAL
TW	TOP OF WALL
UC	UNDER COUNTER
UL	UNDERWRITERS LABORATORIES
UNF	UNFINISHED
UON	UNLESS OTHERWISE NOTED
UPS	UNUNTERRUPTABLE POWER SUPPLY
UR	URINAL
UTIL	UTILITY
VAC	VACUUM
VB	VALVE BOX
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
VIT	VIREOUS
VP	VENT PIPE
VOL	VOLUME
VWC	VINYL WALL COVERING
W	WEST
W/	WITH
W/O	WITHOUT
W/W	WALL TO WALL
WAINS	WAINSCOT
WC	WATER CLOSET, WALL COVERING
WD	WOOD
WDW	WINDOW
WGL	WIRE GLASS
WCHR	WHEELCHAIR
WM	WIRE MESH
WO	WHERE OCCURS
WP	WATERPROOF
WPT	WORKING POINT
WR	WATER RESISTANT
WSCT	WAINSCOT
WSP	WET STANDPIPE
WT	WEIGHT
WTHPRF	WEATHERPROOF
WTRPRF	WATERPROOF
WWF	WELDED WIRE FRABRIC
WWM	WELDED WIRE MESH
XFMR	TRANSFORMER
YD	YARD

TYPICAL ARCHITECTURAL REFERENCE SYMBOLS

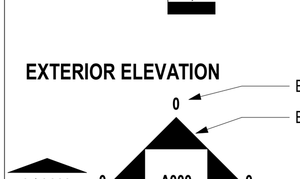
WALL SECTION



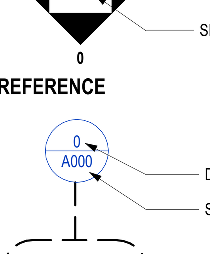
BUILDING SECTION



EXTERIOR ELEVATION

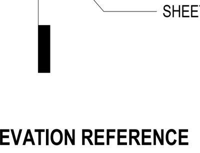


DETAIL REFERENCE

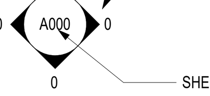


SECTION DETAIL REFERENCE

INTERIOR ELEVATION REFERENCE



PARTITION TYPE IDENTIFICATION MARK



SEE PARTITION SYMBOL DESCRIPTION ON PARTITION TYPE SHEET

EQUIPMENT/ACCESSORY IDENTIFICATION MARK

E00 — SEE CORRESPONDING NUMBERED LEGEND ON SHEET WHERE REFERENCE OCCURS

DOOR IDENTIFICATION MARK

000 — SEE DOOR SCHEDULE FOR ADDITIONAL INFORMATION

WINDOW AND LOUVER TYPE MARK

SEE CORRESPONDING NUMBER ON SCHEDULE

LEVEL LINE

ROOM NAME AND NUMBER

Room Name
101

REVISION EXTENT

KEYED NOTE MARK

SEE CORRESPONDING NUMBERED LEGEND ON SHEET WHERE REFERENCE OCCURS

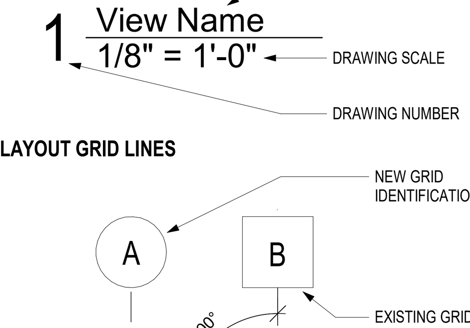
MATCH LINE REFERENCE

DRAWING TITLE SYMBOLS

1 View Name
1/8" = 1'-0"

DRAWING TITLE
DRAWING SCALE
DRAWING NUMBER

LAYOUT GRID LINES



NORTH ARROW REFERENCE

ARCHITECTURAL DIMENSIONING CONVENTIONS

1. EXCEPT WHERE DIRECTED TO PLACE ITEMS OF THE WORK AT THE "APPROXIMATE LOCATION SHOWN," DO NOT SCALE DRAWINGS FOR DIMENSIONAL INFORMATION.
2. ALL ELEMENTS OF THE DRAWINGS MAY NOT BE DRAWN TO EXACT SCALE. ALL DIMENSIONS REQUIRED ARE SHOWN (OR MAY BE DERIVED FROM THOSE SHOWN OR NOTED) ON THE FLOOR PLANS, DETAIL PLANS, ELEVATIONS, SECTIONS, SCHEDULES, CONFIGURATION DETAILS, AND SPECIFICATIONS. SEE THE NOTES BELOW FOR DIMENSIONING CONVENTIONS USED ON THIS PROJECT.
3. EXCEPT WHERE SPECIFICALLY NOTED TO THE CONTRARY, ALL DIMENSIONS SHOWN ON THE ARCHITECTURAL DRAWINGS CONFORM TO THE FOLLOWING CONVENTIONS:
   A. DIMENSIONS UTILIZING THE "CENTERLINE" SYMBOL ARE MEASURED TO:
   - STRUCTURAL OR DIMENSIONAL GRID LINES.
   - CENTERLINE OF CONCRETE OR CONC MASONRY UNIT WALLS (EXCLUSIVE OF FURRING OR APPLIED FINISHES HAVING THICKNESS). REFER TO THE ARCH PLANS AND SECTIONS, THE STRUCT DRAWINGS, OR PARTITION SCHEDULE TO DETERMINE THE THICKNESS OF CONCRETE OR CONC MASONRY UNIT WALLS.
   - CENTERLINE OF PARTITION ASSEMBLY (EXCLUSIVE OF ANY APPLIED FINISHES HAVING THICKNESS WHICH MAY BE ADDED TO SUCH WALLS) AT PARTITIONS FRAMED WITH METAL STUDS. REFER TO "PARTITION SCHEDULE" TO DETERMINE THICKNESS OF EACH PARTITION TYPE.
   - CENTERLINE OF DOOR, WINDOW, OR LOUVER OPENING.
   - CENTERLINE OF EQUIPMENT OR FURNISHING.
   - CENTERLINE OF OTHER FEATURES AS INDICATED.

   B. REFER TO ABBREVIATIONS LEGEND FOR SYMBOL USED TO INDICATE CENTERLINE DIMENSION.

   C. DIMENSIONS UTILIZING THE "FACE OF" SYMBOL ARE MEASURED TO:
   - FACE OF CONCRETE OR CONC MASONRY UNIT WALL (EXCLUSIVE OF APPLIED FINISHES HAVING THICKNESS OR FURRING WHICH MAY BE ADDED TO THE FACE OF SUCH WALLS).
   - FACE OF PARTITION ASSEMBLY (EXCLUSIVE OF ANY APPLIED FINISHES HAVING THICKNESS WHICH MAY BE ADDED TO SUCH WALL) AS DEFINED BY THE PARTITION SCHEDULE. UNLESS NOTED AS A "FACE OF FINISH" OR "CLEAR" DIMENSION (SEE NOTE 'E' BELOW), DIMENSIONS ARE NOT MEASURED TO THE FACE OF APPLIED FINISH. REFER TO THE "PARTITION SCHEDULE" TO DETERMINE THE THICKNESS OF EACH PARTITION TYPE.
   - INSIDE EDGE OF FINISHED DOOR OPENING. REFER TO THE DOOR SCHEDULE FOR ADDITIONAL DIMENSIONAL INFORMATION.
   - DIMENSION OR WORK POINT AS INDICATED ON RELATED ARCH DETAIL PLAN, SECTION, ELEVATION, LAYOUT OR CONFIGURATION DETAIL, OR CONSTRUCTION DETAIL.

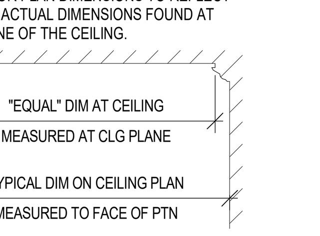
   D. REFER TO ABBREVIATIONS LEGEND FOR SYMBOL USED TO INDICATE "FACE OF" DIMENSION.

   E. WHERE "FACE OF FINISH" OR "CLEAR" DIMENSIONS ARE SPECIFICALLY NOTED, THE DIM IS MEASURED TO:
   - FINISH FACES AT THE MOST NARROW OR CONSTRICTED POINTS OF SECTION WHERE DIMENSION IS SHOWN, WHEN THE DIMENSION OCCURS ACROSS AN OPEN SPACE. THIS CASE, A "FACE OF FINISH" DIMENSION IS EQUIVALENT TO A "CLEAR" DIMENSION.
   - FINISH FACES AT THE WIDEST OR MOST EXPANSIVE POINTS OF THE SECTION THE DIMENSION IS SHOWN WHEN THE DIMENSION OCCURS ACROSS AN OBJECT OR GROUP OF OBJECTS.

   F. WHERE "EQUAL" DIMENSIONS ARE USED ON REFLECTED CEILING PLANS TO LOCATE CEILING GRID WORK POINTS, MEASURE DIMENSIONS TO:
   - EDGE OF THE INDICATED CEILING AT THE FACE OF THE ADJACENT APPLIED FINISH MEASURED AT THE PLANE OF THE CEILING.

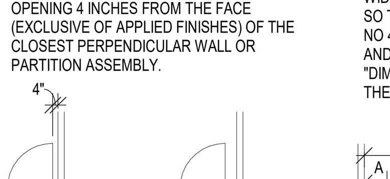
NOTE NO 3 CONTINUED:

- CAUTION: DUE TO THE POSSIBLE APPLICATION OF APPLIED FINISHES - THICKNESS OF WHICH MAY VARY BETWEEN FLOOR AND CEILING AND IS NOT ACCOUNTED FOR (EXCEPT AS INDICATED BY "FOF" OR "CLEAR") BY THE DIMENSION SHOWN ON THE FLOOR PLANS - THE CONTRACTOR MUST ADJUST, AS NECESSARY, THE FLOOR PLAN DIMENSIONS TO REFLECT THE ACTUAL DIMENSIONS FOUND AT PLANE OF THE CEILING.

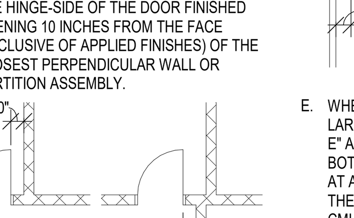


4. WHERE DIMENSIONS ARE NOT PROVIDED ON FLOOR PLANS TO LOCATE DOOR OPENINGS, APPLY THE FOLLOWING RULES, **IN ORDER**, TO DETERMINE THE LOCATION OF DOOR OPENINGS:
   A. DOOR OPENINGS MAY BE DIMENSIONED ON DRAWINGS OTHER THAN THE FLOOR PLANS. REFER TO THE SECTIONS, ELEVATIONS, DETAILS, AND DOOR SCHEDULE NOTES FOR ADDITIONAL DIMENSIONAL INFORMATION.

   B. WHERE THE HINGE-SIDE OF A DOOR IS SHOWN ADJACENT TO A WALL - OR WALLS - PERPENDICULAR TO THE WALL IN WHICH THE DOOR OPENING OCCURS:
   - AT DOORS OCCURRING IN METAL FRAMED GYPSUM BOARD PARTITIONS, LOCATE THE HINGE-SIDE OF THE DOOR FINISHED OPENING 4 INCHES FROM THE FACE (EXCLUSIVE OF APPLIED FINISHES) OF THE CLOSEST PERPENDICULAR WALL OR PARTITION ASSEMBLY.

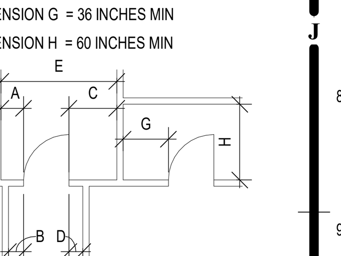


   - AT DOORS OCCURRING IN WALLS OF CONC MASONRY UNIT CONSTRUCTION, LOCATE THE HINGE-SIDE OF THE DOOR FINISHED OPENING 10 INCHES FROM THE FACE (EXCLUSIVE OF APPLIED FINISHES) OF THE CLOSEST PERPENDICULAR WALL OR PARTITION ASSEMBLY.



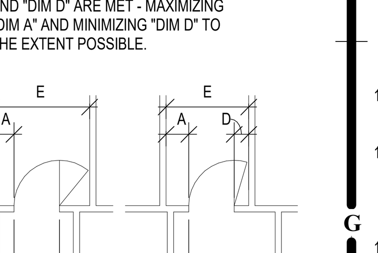
NOTE NO 4 CONTINUED:

   C. WHERE DOOR OCCURS NOT ADJACENT TO A PERPENDICULAR WALL AND EITHER "DIM E" OR "DIM F" IN DIAGRAM BELOW IS 16'-0" OR LESS, LOCATE DOOR UTILIZING THE FOLLOWING MINIMUM DIMENSIONS:
   - DIMENSION A = 18 INCHES MIN
   - DIMENSION B = 12 INCHES MIN
   - DIMENSION C = DOOR WIDTH + 2 INCHES MINIMUM
   - DIMENSION D = 4 INCHES MIN AT METAL FRAMED GYP BD PARTITIONS OR - EVEN MULTIPLE OF 1/2 CMU MODULE PLUS 2 INCHES AT CONC MASONRY UNIT WALLS
   - DIMENSIONS E AND F = AS SHOWN ON PLANS
   - DIMENSION G = 36 INCHES MIN
   - DIMENSION H = 60 INCHES MIN

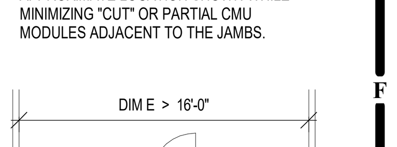


   - IF SPACE ALLOWS, CENTER DOOR IN WALL SHOWN ON THE DRAWINGS SO THAT EITHER "DIM A" EQUALS "DIM C" OR "DIM B" EQUALS "DIM D".

   D. IF "DIM E" IN DIAGRAMS BELOW IS LESS THAN THE SUM OF 2 TIMES THE DOOR WIDTH PLUS 20 INCHES, LOCATE DOOR SO THAT MINIMUMS STATED BY NOTE NO 4C ABOVE FOR "DIM A", "DIM B," AND "DIM D" ARE MET - MAXIMIZING "DIM A" AND MINIMIZING "DIM D" TO THE EXTENT POSSIBLE.



   E. WHERE DOOR IS SHOWN LOCATED IN A LARGE EXPANSE OF OPEN WALL ("DIM E" AND "DIM F" IN DIAGRAM BELOW BOTH EXCEED 16'-0"), PLACE DOOR AT APPROXIMATE LOCATION SHOWN ON THE PLANS. WHERE DOOR OCCURS IN CMU WALL, PLACE DOOR AT APPROXIMATE LOCATION SHOWN WHILE MINIMIZING "CUT" OR PARTIAL CMU MODULES ADJACENT TO THE JAMBS.



5. WHERE WALLS AND/OR PARTITIONS OF UNEQUAL THICKNESS ABUT, ALIGN EXPOSED FACES, UNLESS OTHERWISE NOTED.

TYPICAL RULES FOR DETERMINING REFLECTED CEILING PLAN LOCATIONS, DIMENSIONS, AND CONFIGURATIONS

GENERAL NOTES

A. THE A-SERIES DRAWINGS ESTABLISH AND COORDINATE THE FINISHED APPEARANCE AND LOCATION OF ALL EXPOSED ELEMENTS. THE A-SERIES DRAWINGS TAKE PRECEDENCE FOR THE FINISHED APPEARANCE AND LOCATION OF ALL PARTS OF THE WORK. **EXCEPTION:** DIMENSIONED LOCATIONS SHOWN ON DRAWINGS OF OTHER DISCIPLINES SHALL GOVERN ONLY WHERE:
   1. SPECIFICALLY AND INDIVIDUALLY INDICATED BY SYMBOL, KEYED NOTE, OR NOTATION ON THE ARCHITECTURAL DRAWINGS.
   2. OCCURRING WITHIN A ROOM OR OTHER IDENTIFIABLE SPACE FOR WHICH ARCH SHEET OR SCHEDULE NOTES INDICATE THAT DIMENSIONS PROVIDED ELSEWHERE SHALL GOVERN.

B. THE PURPOSE OF THIS SHEET IS TO ILLUSTRATE THE TYPICAL RULES WHICH GOVERN THE LOCATION, CONFIGURATION IN RELATIONSHIP TO OTHER ELEMENTS OF THE WORK, AND FINISHED ALIGNMENT OF ALL ITEMS OCCURRING ON REFLECTED CEILING PLANS OF THE PROJECT.

C. THE A-SERIES FLOOR PLANS, REFLECTED CEILING PLANS, SECTIONS, ELEVATIONS, AND DETAILS ILLUSTRATE THE DIMENSIONED LOCATION OF MANY - BUT NOT ALL - EXPOSED PARTS OF THE WORK. APPLY THE RULES ON THIS SHEET **- IN ORDER -** TO DETERMINE THE LOCATION OF EXPOSED PART OF THE WORK.
   1. WHEN UNIQUELY AND SPECIFICALLY DIMENSIONED ON THE A-SERIES PLANS, SECTIONS, OR ELEVATIONS (OR COMBINATION THEREOF), LOCATE AS DIMENSIONED.
   2. IF NOT SHOWN, OR IF SHOWN BUT NOT DIMENSIONED, BY THE A-SERIES PLANS OR ELEVATIONS, LOCATE AS INDICATED BY THE APPLICABLE RULE.

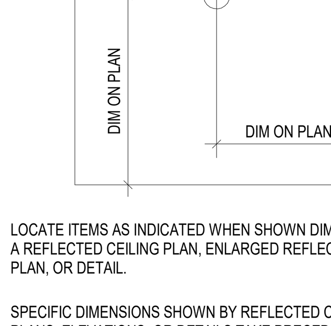
D. REFER TO THE "ARCHITECTURAL GENERAL NOTES" FOR ADDITIONAL NOTES WHICH MAY BE APPLICABLE TO THE WORK SHOWN ON THIS SHEET.

E. FOR MANY SPACES, THE ARCHITECTURAL REFLECTED CEILING PLANS ESTABLISH AN IDEAL PATTERN FOR LOCATING SPRINKLER HEADS. IN SPACES WHERE HEADS ARE SHOWN, FOLLOW PATTERN ESTABLISHED BY THE DRAWINGS. WHERE ADDL HEADS ARE REQUIRED TO CONFORM WITH CODE, PROVIDE HEADS IN GENERAL CONFORMITY WITH PATTERN ESTABLISHED BY THE DRAWINGS.

F. IN SPACES WHERE SPRINKLER HEADS ARE NOT SHOWN BY THE ARCHITECTURAL REFLECTED CEILING PLANS, PROVIDE HEADS AS REQUIRED BY CODE.

RULE 1

WHEN COMPLETELY DIMENSIONED ON REFLECTED CEILING PLAN

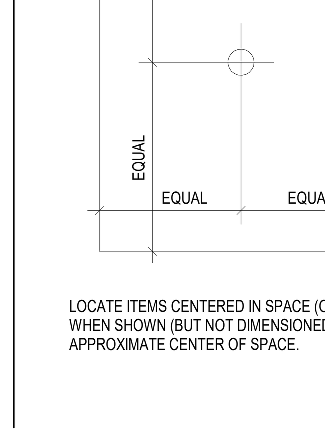


LOCATE ITEMS AS INDICATED WHEN SHOWN DIMENSIONED BY A REFLECTED CEILING PLAN, ENLARGED REFLECTED CEILING PLAN, OR DETAIL.

SPECIFIC DIMENSIONS SHOWN BY REFLECTED CEILING PLANS, ELEVATIONS, OR DETAILS TAKE PRECEDENCE OVER TYPICAL LOCATION RULES.

RULE 2

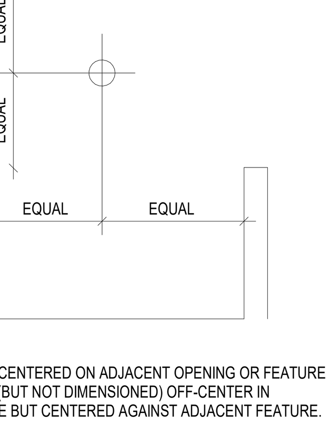
WHEN NOT DIMENSIONED BUT SHOWN CENTERED



LOCATE ITEMS CENTERED IN SPACE (OR CEILING PLANE) WHEN SHOWN (BUT NOT DIMENSIONED) VISUALLY AT APPROXIMATE CENTER OF SPACE.

RULE 3

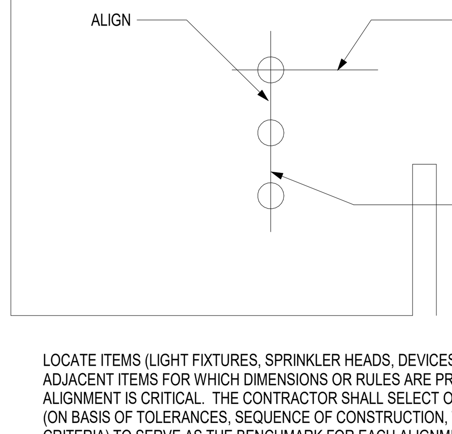
WHEN OFF-CENTER IN SPACE BUT CENTERED ON ADJACENT FEATURE



LOCATE ITEMS CENTERED ON ADJACENT OPENING OR FEATURE WHEN SHOWN (BUT NOT DIMENSIONED) OFF-CENTER IN OVERALL SPACE BUT CENTERED AGAINST ADJACENT FEATURE.

RULE 4

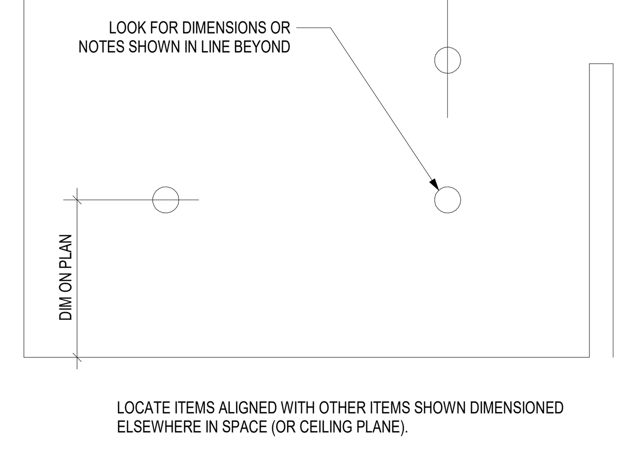
WHEN ALIGNED WITH OTHER FEATURES



LOCATE ITEMS (LIGHT FIXTURES, SPRINKLER HEADS, DEVICES, ETC) ALIGNED WITH ADJACENT ITEMS FOR WHICH DIMENSIONS OR RULES ARE PROVIDED. VISUAL ALIGNMENT IS CRITICAL. THE CONTRACTOR SHALL SELECT ONE ITEM IN EACH LINE (ON BASIS OF TOLERANCES, SEQUENCE OF CONSTRUCTION, TRADE, OR OTHER CRITERIA) TO SERVE AS THE BENCHMARK FOR EACH ALIGNMENT.

RULE 5

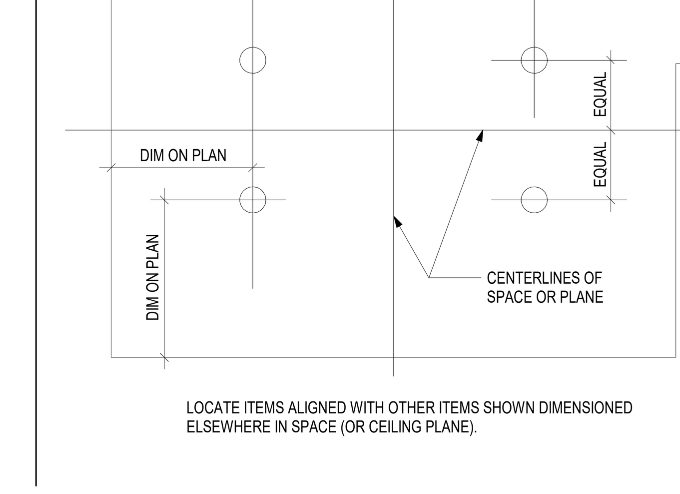
ALIGN WITH FEATURES SHOWN DIMENSIONED ELSEWHERE IN SPACE



LOCATE ITEMS ALIGNED WITH OTHER ITEMS SHOWN DIMENSIONED ELSEWHERE IN SPACE (OR CEILING PLANE).

RULE 6

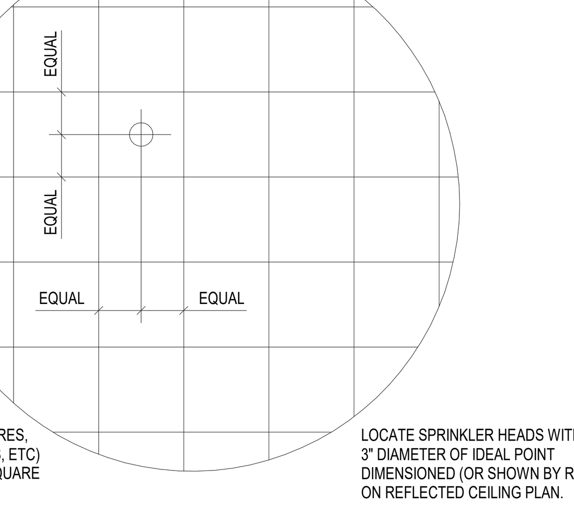
LOCATE FEATURES SYMMETRICALLY



LOCATE ITEMS ALIGNED WITH OTHER ITEMS SHOWN DIMENSIONED ELSEWHERE IN SPACE (OR CEILING PLANE).

RULE 7

WHEN NOT DIMENSIONED BUT OCCURS ON A SQUARE GRID-TYPE CEILING

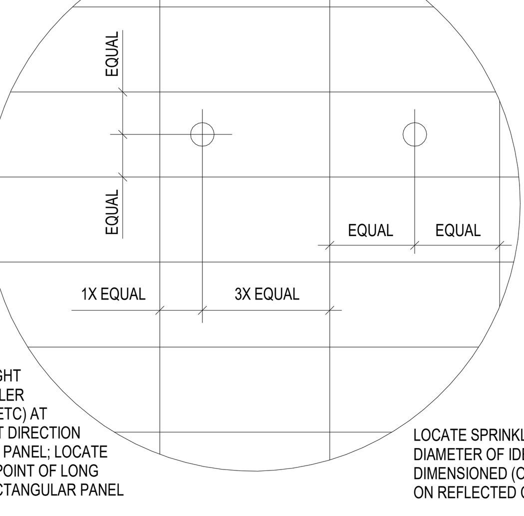


LOCATE ITEMS (LIGHT FIXTURES, SPRINKLER HEADS, DEVICES, ETC) AT CENTER OF PANEL ON SQUARE GRID-TYPE CEILINGS

LOCATE SPRINKLER HEADS WITHIN 3" DIAMETER OF IDEAL POINT DIMENSIONED (OR SHOWN BY RULE) ON REFLECTED CEILING PLAN.

RULE 8

WHEN NOT DIMENSIONED BUT OCCURS ON A RECTANGULAR GRID-TYPE CEILING

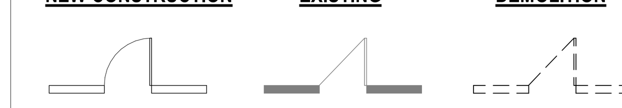


LOCATE ITEMS (LIGHT FIXTURES, SPRINKLER HEADS, DEVICES, ETC) AT CENTER OF SHORT DIRECTION OF RECTANGULAR PANEL; LOCATE AT 1/4, 1/2, OR 3/4 POINT OF LONG DIRECTION OF RECTANGULAR PANEL

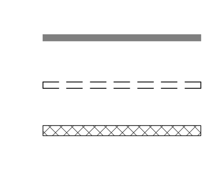
LOCATE SPRINKLER HEADS WITHIN 3" DIAMETER OF IDEAL POINT DIMENSIONED (OR SHOWN BY RULE) ON REFLECTED CEILING PLAN.

TYP DOOR LEGEND

NEW CONSTRUCTION | **EXISTING** | **DEMOLITION**



WALL TYPE LEGEND



GENERAL INFORMATION NOTES:

1. ALL CONTRACTORS AND THEIR SUPERVISORY PERSONNEL SHALL REVIEW THE GENERAL AND SUPPLEMENTARY CONDITIONS TO THE CONTRACT.
2. ALL WORK SHALL CONFORM WITH ALL APPLICABLE BUILDING CODES, LOCAL RULES AND REGULATIONS, ORDINANCES, AND ALL OTHER CODES, REGULATIONS AND GOVERNING AGENCIES HAVING JURISDICTION WITH ALL APPLICABLE AMENDMENTS UNLESS ALTERED OR CHANGED THROUGH VARIANCES OF OTHER LEGAL PRCEDURES.
3. CONTRACTOR AND/OR OWNER SHALL OBTAIN ALL REQUIRED BUILDING AND OCCUPANCY PERMITS.
4. CONTRACTOR SHALL BECOME FULLY ACQUAINTED WITH CONDITIONS RELATED TO THE WORK.
5. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, AND SEQUENCES OF CONSTRUCTION AND THE SAFETY OF ALL CONSTRUCTION PERSONNEL AND VISITORS.
6. COORDINATE ALL CONSTRUCTION PRIOR TO BEGINNING WORK AND SUBMIT PROPOSED WORK SCHEDULE TO THE OWNER & ARCHITECT FOR APPROVAL.
7. CONTRACTOR SHALL COORDINATE THE WORK OF ALL TRADES, SECURE AND PAY FOR ALL PERMITS, FEES, TAXES, INSPECTIONS & TESTING REQUIRED FOR COMPLETE RELATED WORK. THE GENERAL CONTRACTOR SHALL ALSO BE IN CHARGE OF THE OPERATION FROM THE TIME OF COMMENCEMENT UNTIL THE COMPLETION OF WORK AND TO WHOM ALL ORDERS AND DIRECTIONS SHALL BE GIVEN.
8. ALL TRADES SHALL BE RESPONSIBLE TO READ ALL DRAWINGS, DETAILS, & PLANS ASSOCIATED WITH ALL PACKAGES INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND PLUMBING ASSOCIATED WITH THIS PROJECT TO ENSURE PROPER COORDINATION. IF ANY CONFLICTS EXIST, THAT TRADE SHALL NOTIFY THE CONTRACTOR OF THE SAME PRIOR TO CONSTRUCTION WHO SHALL IN TURN NOTIFY THE G.C.
9. DRAWINGS CONTAINED IN THIS SET SHALL NOT BE REPRODUCED FOR SHOP DRAWINGS. COPIES OF THESE DRAWINGS SUBMITTED AS SHOP DRAWINGS WILL BE REJECTED AND RETURNED TO THE CONTRACTOR.
10. EACH INSTALLER MUST EXAMINE SUBSTRATE AND/OR CONDITIONS UNDER WHICH THE WORK WILL BE INSTALLED AND REPORT TO THE CONTRACTOR IN WRITING ANY CONDITIONS DETRIMENTAL TO THE PROPER AND TIMELY EXECUTION OF THAT INSTALLERS WORK. DO NOT PROCEED UNTIL UNSATISFACTORY CONDITIONS ARE CORRECTED. COMMENCING WITH INSTALLATION SHALL CONSTITUTE ACCEPTANCE OF THE SUBSTRATE AND/OR CONDITIONS.
11. DO NOT SCALE DRAWINGS: FOLLOW WRITTEN DIMENSIONS AND NOTES. CONTACT ARCHITECT FOR CLARIFICATIONS, IF REQUIRED.
12. ALL DIMENSIONS ARE TO FACE OF STUD OR STRUCTURE, UNLESS OTHERWISE NOTED OR INDICATED. ADDITIONAL NOTED DIMENSIONS WILL HAVE ABBREVIATIONS INCLUDING: FACE OF GYP. BOARD WALLS (F.O.G.), FACE OF MASONRY (F.O.M.), FACE OF CONCRETE WALLS (F.O.C.), AND COLUMN GRID LINES FOR ADDITIONAL CLARIFICATION.
13. ALL EXTERIOR MASONRY WALLS ARE DIMENSIONED FROM EXTERIOR FACE OF MASONRY TO FINISHED FACE OF INTERIOR GYPSUM BOARD UNLESS NOTED OTHERWISE.
14. ALL EXTERIOR CLADDED WALLS (VINYL SIDING, CEMENT BOARD SIDING, WOOD SIDING AND METAL WALL PANELS) ARE DIMENSIONED FROM EXTERIOR FACE OF SHEATHING TO FINISHED FACE OF INTERIOR GYPSUM BOARD UNLESS NOTED OTHERWISE.
15. ALL WALL THICKNESSES ARE ACTUAL DIMENSIONS. REFER TO WALL TYPES SHEET.
16. ANY DISCREPANCIES BETWEEN SMALL SCALE AND LARGE SCALE DRAWINGS, (PLAN, SECTION, & DETAIL DRAWINGS, ETC.) - CONTACT ARCHITECT FOR CLARIFICATION. FOR BIDDING PURPOSES: THE MOST EXPENSIVE AND/OR STRICTEST REQUIREMENTS SHALL GOVERN. FOR CLARIFICATIONS DURING CONSTRUCTION: THE MOST EXPENSIVE AND/OR STRICTEST REQUIREMENTS, AS INDICATED BY THE ARCHITECT, SHALL GOVERN.
17. ANY AND ALL DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT IN WRITING FOR RESOLUTION, PRIOR TO PROCEEDING WITH THE WORK. IN THESE INSTANCES: NO CHANGE ORDERS OR EXTENSIONS OF TIME WILL BE ALLOWED OR ACCEPTED FOR PROCEEDING WITH THE WORK WITHOUT THE ARCHITECT'S WRITTEN DIRECTION AND APPROVAL. ALSO - CONTRACTOR MUST REPAIR AND/OR REPLACE ANY UNAUTHORIZED WORK, AS INDICATED BY THE ARCHITECT, AT NO ADDITIONAL COST TO THE OWNER. **(CONTRACTOR SHALL DIRECT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO CONSTRUCTION, AND CONTRACTOR SHALL BE RESPONSIBLE FOR ANY WORK WHICH PROCEEDS WITHOUT DUE COURSE AND COORDINATION.)**
18. "TYPICAL", AS USED IN THESE DOCUMENTS, SHALL MEAN THAT THE CONDITION OR DIMENSION IS REPRESENTATIVE OF, OR THE SAME, FOR SIMILAR CONDITIONS THROUGHOUT.
19. UNLESS OTHERWISE INDICATED, ALL MATERIALS AND EQUIPMENT ON THE DRAWINGS IS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
20. ALL MATERIALS SHOWN OR CALLED FOR ON THESE CONSTRUCTION DOCUMENTS TO BE NEW AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
21. THE GENERAL CONTRACTOR SHALL SUPPLY DETAILED COMPARISON OF SUBSTITUTION ITEMS REQUESTED FOR ARCHITECT APPROVAL. COMPARISON INFORMATION SHALL INCLUDE & NOT LIMITED TO SIGNIFICANT PRODUCT QUALITIES WHICH MAY ALTER VISUAL AND/OR PERFORMANCE OF A PRODUCT INCLUDING WEIGHT, SIZE, DURABILITY, & SPECIFIC FEATURES & REQUIREMENTS OF SUCH PRODUCT.
22. OPEN EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, BETWEEN WALLS AND FOUNDATIONS, BETWEEN WALL PANELS, AND AT PENETRATIONS OF UTILITIES THROUGH THE BUILDING ENVELOPE, ETC. – SHALL BE SEALED, CAULKED, FLASHED OR WEATHER-STRIPPED AS REQUIRED FOR COMPATIBILITY WITH ADJACENT MATERIALS & TO ELIMINATE AIR LEAKAGE AND WATER ENTRY.
23. ALL DISSIMILAR METAL MATERIALS SHALL BE ISOLATED WITH AN APPROVED NONMETAL ISOLATION MATERIAL.
24. PROVIDE SEALANT AND/OR CAULKING BETWEEN DISSIMILAR ADJOINING INTERIOR MATERIALS. (I.E. WINDOW SILLS TO GYP. BD., ACT CEILINGS TO MASONRY WALLS, ETC.)
25. CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES AND THEIR SERVICE CONNECTIONS WITH THE PROPER UTILITY COMPANY.
26. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE FINAL SIZE AND DEPTH OF THE ELEVATOR PIT, SHAFT, RAIL SUPPORT, HOIST SUPPORT, OVERRUN AND MISC. ELEVATOR REQUIREMENTS WITH THE SELECTED ELEVATOR MANUFACTURER/ SUPPLIER.
27. CONTRACTOR SHALL COORDINATE SIZE, LOCATIONS AND NUMBER OF ALL ROOF OPENINGS AND ROOF ACCESSORIES WITH ALL OTHER TRADES. REFER TO THE ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS.
28. LOCATIONS AND SIZES OF ALL CONCRETE MECHANICAL AND ELECTRICAL PADS SHALL BE COORDINATED BY THE MECHANICAL AND ELECTRICAL CONTRACTORS, WITH THE SELECTED EQUIPMENT MANUFACTURER/SUPPLIER; AND ARE TO BE APPROVED BY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
29. NO BACK TO BACK JUNCTION BOXES SHALL BE PERMITTED IN SOUND PARTITIONS.
30. ELECTRICAL CONTRACTOR TO PROVIDE ALL SMOKE DETECTORS, EXIT SIGNS, EMERGENCY LIGHT AND FIRE ALARM SYSTEM IN ACCORDANCE WITH ALL APPLICABLE CODES.
31. EXCEPT AT FIRE-RATED PARTITIONS, ALL WALL AND COLUMN GYPSUM BOARD FACING SHALL BE HELD AT 5/8 INCH BELOW STRUCTURE, UNLESS DETAILED OR NOTED OTHERWISE.
32. PROVIDE INDEPENDENT FRAMING & ATTACHMENTS TO THE STRUCTURE – ADEQUATE TO SUPPORT THE CEILING SYSTEM, LIGHT FIXTURES, DUCTS, DIFFUSERS, SPRINKLER PIPING AND BUS DUCTS.
33. CONTRACTOR TO INSTALL WOOD BLOCKING AND PLYWOOD AS REQUIRED FOR THE MOUNTING OF ALL TOILET ACCESSORIES, MILLWORK/CASEWORK, HANDRAILS, FIRE EXTINGUISHERS, WALL SPEAKERS, POSTER CASES, TELEVISIONS, ELECTRICAL PANELS, FIRE ALARMS, MEP ITEMS, AND AV EQUIPMENT, ETC.
34. REFER TO SPECIFICATIONS FOR ALL REQUIRED TESTING AND INSPECTIONS.
35. ANY/ ALL PROPRIETARY PRODUCTS DESCRIBED AND/OR DRAWN IN THE DOCUMENTS (BUT NOT SPECIFIED) ARE TO MEET THE MANUFACTURER'S STANDARD CRITERIA WHICH IS NOT LIMITED TO THE FOLLOWING: PERFORMANCE REQUIREMENTS, QUALITY ASSURANCE REQUIREMENTS, APPLICABLE CODES AND INDUSTRY STANDARDS, FABRICATION, ASSEMBLY, HANDLING, DELIVERY, STORAGE, INSTALLATION, OPERATION, ADJUSTMENTS, ETC. PROVIDE THE MANUFACTURER'S STANDARD WARRANTY AND STANDARD FINISH WARRANTY. PROVIDE PRODUCT DATA, SHOP DRAWINGS, SAMPLES, AND MAINTENANCE DATA AS REQUIRED. REFER TO DIVISION 01 SPEC. SECTIONS WHICH ALSO APPLY - SUCH AS SUBSTITUTION PROCEDURES, SUBMITTAL PROCEDURES, QUALITY REQUIREMENTS, REFERENCES, EXECUTION, AND CLOSEOUT PROCEDURES. NOTE: ANY SUBSTITUTIONS MUST MEET THE DESIGN INTENT, AS WELL AS THE CRITERIA DESCRIBED ABOVE.
36. PROVIDE MINIMUM WARRANTY PERIOD OF 18 MONTHS FROM SUBSTANTIAL COMPLETION ON ALL PRODUCTS/ SERVICES.

collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

PERMIT DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

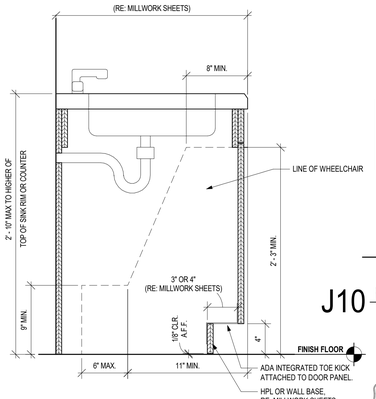
REVISION DATES:

PROFESSIONAL SEAL

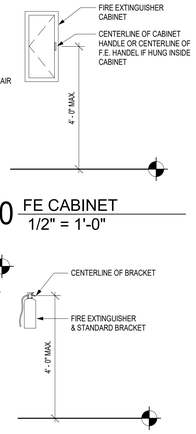
G001

ISSUE DATE: 09 JUNE 2025
COLLINS WEBB #: 23114

GENERAL INFORMATION

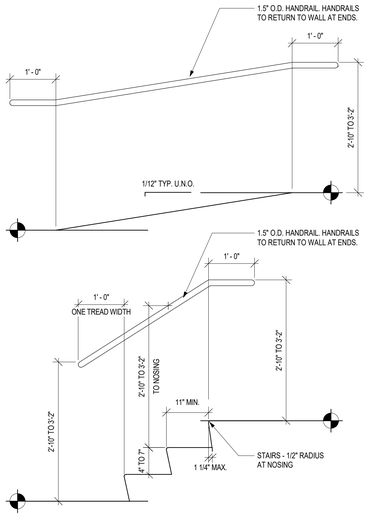


H12 ADA INTEGRATED TOE KICK
1 1/2" = 1'-0"

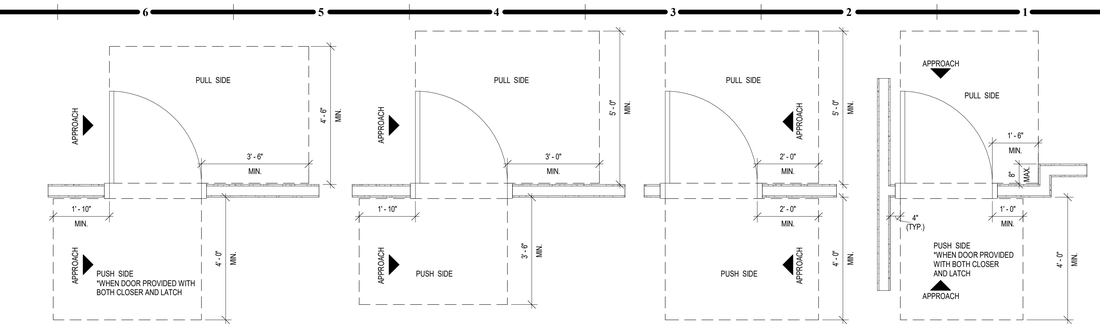


J10 FE CABINET
1/2" = 1'-0"

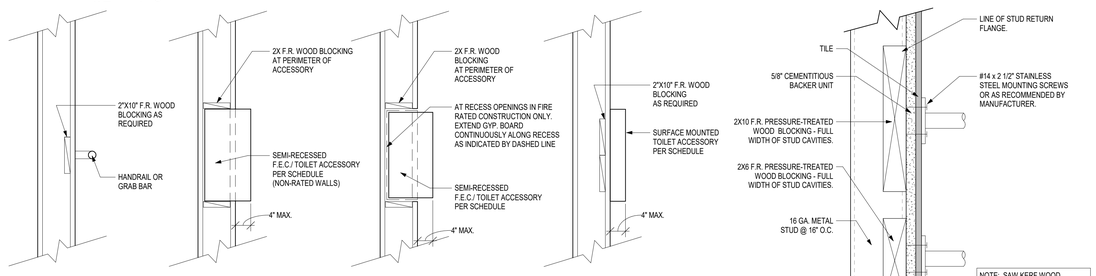
G10 FIRE EXTINGUISHER
1/2" = 1'-0"



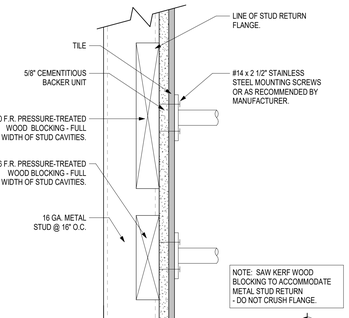
G9 HANDRAIL @ STAIRS AND RAMPS
3/4" = 1'-0"



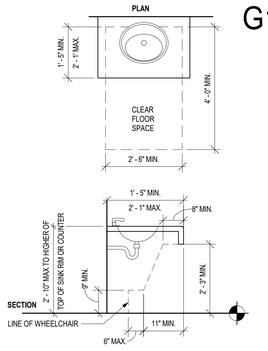
J6 TYP. DOOR APPROACH CLEARANCES
1/2" = 1'-0"



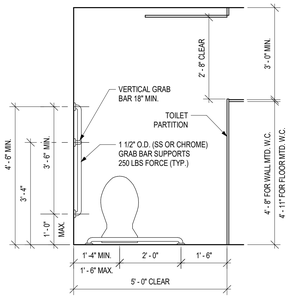
G6 TYP. BLOCKING DETAILS
3/4" = 1'-0"



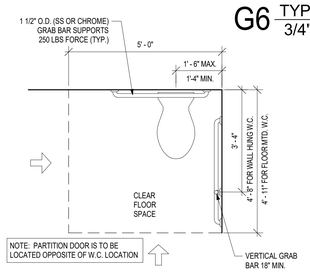
G2 BLOCKING SECTION
3" = 1'-0"



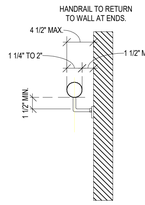
E12 SINK IN COUNTER CLEARANCES
1/2" = 1'-0"



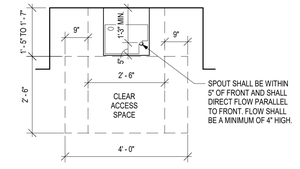
E10 ACCESSIBLE TOILET STALL
1/2" = 1'-0"



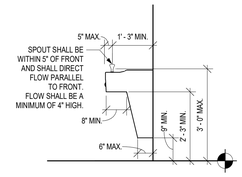
E8 ACCESSIBLE CLEAR FLOOR SPACE
1/2" = 1'-0"



E6 HANDRAIL CLEARANCES
1 1/2" = 1'-0"



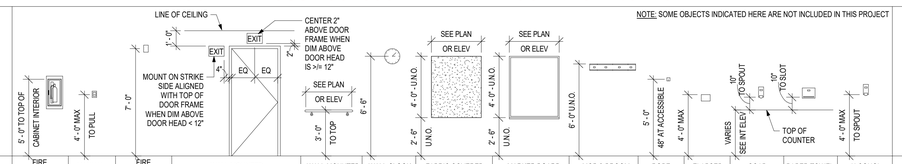
E4 E.W.C. - CLEAR SPACE
1/2" = 1'-0"



E2 E.W.C. - SECTION
1/2" = 1'-0"

MISCELLANEOUS ACCESSORY TYPICAL MOUNTING HEIGHTS

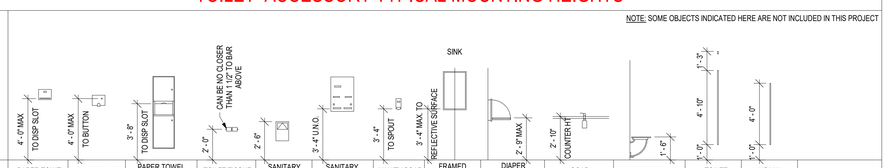
NOTE: SOME OBJECTS INDICATED HERE ARE NOT INCLUDED IN THIS PROJECT



ACCESSORY TYPE	FIRE EXTINGUISHER CABINET	MANUAL FIRE PULL	FIRE STROBE/LIGHT/ AUDIBLE ALARM	WALL MOUNTED EXIT SIGN	WALL MOUNTED HANDRAIL	WALL CLOCK	FABRIC COVERED TACK BOARD	MARKER BOARD	MOP & BROOM HOLDER	ROBE HOOK	ELAPSED TIME CLOCK	SOAP DISPENSER	PAPER TOWEL DISPENSER	ALCOHOL DISPENSER
COMMENTS	SEMI RECESSED	SURFACE MOUNTED	SURFACE MOUNTED	WALL MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED

TOILET ACCESSORY TYPICAL MOUNTING HEIGHTS

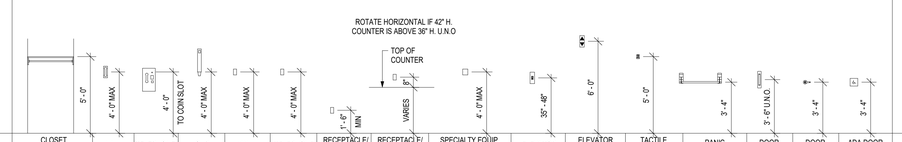
NOTE: SOME OBJECTS INDICATED HERE ARE NOT INCLUDED IN THIS PROJECT



ACCESSORY TYPE	PAPER TOWEL DISPENSER	POWER HAND DRYER	PAPER TOWEL DISPENSER & TRASH RECEPTACLE	TOILET TISSUE DISPENSER	SANITARY NAPKIN DISPOSAL	SANITARY NAPKIN DISPENSER	VANITY SOAP DISPENSER	FRAMED VANITY MIRROR	DIAPER CHANGING STATION	SOAP DISPENSER	FOLDING SHOWER SEAT	TOILET PARTITION	URINAL SCREEN
COMMENTS	SURFACE MOUNTED	SURFACE MOUNTED	SEMI RECESSED	SURFACE MOUNTED	SURFACE MOUNTED	RECESSED & SURFACE	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	COUNTERTOP MOUNTED	SURFACE MOUNTED	WALL MOUNTED	WALL MOUNTED

MISCELLANEOUS ACCESSORY TYPICAL MOUNTING HEIGHTS

NOTE: SOME OBJECTS INDICATED HERE ARE NOT INCLUDED IN THIS PROJECT



ACCESSORY TYPE	CLOSET HANGAR ROD & SHELF	WALL PHONE	TELEPHONE HOUSING	CUP DISPENSER	WALL SWITCH	TELEPHONE OUTLET	RECEPTACLE/ TELEPHONE/ DATA	RECEPTACLE/ TELEPHONE/ DATA	SPECIALTY EQUIP (IE. THERMOSTAT,CARD READER,INTERCOM)	ELEVATOR CALL BUTTON	ELEVATOR VISIBLE SIGNAL INDICATOR	TACTILE CHARACTER INDICATOR	PANIC BAR	DOOR PULL	DOOR LATCH	ADA DOOR OPERATOR
COMMENTS	WALL MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	VARIES

PLUMBING FIXTURE TYPICAL MOUNTING HEIGHTS

NOTE: SOME OBJECTS INDICATED HERE ARE NOT INCLUDED IN THIS PROJECT

ACCESSORY TYPE	SHOWER MIXING VALVE	SHOWER HEAD	HAND HELD SHOWER	LAVATORY	LAVATORY	CHILDREN'S DRINKING FOUNTAIN	SINGLE DRINKING FOUNTAIN	DOUBLE DRINKING FOUNTAIN	TOILET	URINAL
COMMENTS	WALL MOUNTED	WALL MOUNTED	WALL MOUNTED	WALL MOUNTED	COUNTER MOUNTED	WALL MOUNTED	WALL MOUNTED	WALL MOUNTED	WALL/FLOOR MOUNTED	WALL MOUNTED

GRAB BAR TYPICAL MOUNTING HEIGHTS & TOILET ACCESSORY PLANS

NOTE: SOME OBJECTS INDICATED HERE ARE NOT INCLUDED IN THIS PROJECT

ACCESSORY TYPE	ADA TOILET GRAB BAR	SHOWER STALL GRAB BAR	ROLL-IN SHOWER STALL GRAB BAR	TYPICAL ACCESSORIES AT ACCESSIBLE TOILET	TYPICAL ADA SINK ENCLOSURE PANEL CLEARANCE
COMMENTS	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	NOTE: SANITARY NAPKIN DISPOSAL AT WOMEN'S & UNISEX ONLY	

A11 TYP. MOUNTING HEIGHTS
1/4" = 1'-0"

GENERAL NOTES: ACCESSIBILITY GUIDELINES

1. NOTE: ALL DIMENSIONS ARE MEASURED FROM FLOOR, UNLESS NOTED OR SHOWN OTHERWISE.
2. ADA UNOBSTRUCTED REACH RANGES: ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.
3. ELEVATORS: STANDARD CALL BUTTONS: 35" TO 48" TO C.L. & PROTRUDE 1" MIN. ADA CALL BUTTONS: 42" TO C.L. (TYP.) & 48" MAX. (3/4" SMALLEST DIM.). ADA VISIBLE SIGNALS: 72" MIN. TO C.L. (2 1/2" SMALLEST DIM.). TACTILE SIGNAL ON HOISTWAY: 60" TO BASE OF CHARACTERS W/ TACTILE STAR & 2" HIGH CHARACTERS.
4. DOOR HARDWARE (TO CENTER OF HARDWARE): STANDARD MOUNTING HEIGHTS: PUSH PLATES = 42", PULL HANDLES = 42", KNOBS/ LEVERS = 40", PANIC EXIT = 42" CENTERLINE OF BAR, KICKPLATES: WIDTH = DOOR WIDTH MINUS 2", CENTER, HEIGHT = 16" FROM B.O. DOOR. THRESHOLDS: STANDARD = 1/2" MAX. AT EXT. SLIDING DOORS = 3/4" MAX.. ADA HARDWARE = 34" MIN. TO 48" MAX.
5. DRINKING FOUNTAINS & EWC'S (TO SPOUT): STANDARD = 40" TYP., 42" MAX. ADA =36" MAX. (27" MIN. CLEAR KNEE SPACE)
6. COUNTERTOPS (TO SINK RIM/ COUNTERTOP): ADA = 28" MIN. TO 34" MAX.
7. WATER CLOSETS (TO TOP OF SEAT): STANDARD = 14" TO 15". ADA (TO TOP OF SEAT) = 17" TO 19". ADA FLUSH CONTROLS = 44" MAX.
8. URINALS (TO RIM): STANDARD = 24" MAX. ADA =17" MAX. ADA FLUSH CONTROLS = 44" MAX.
9. LAVATORIES (TO SINK RIM/ COUNTERTOP): STANDARD = 36" MAX. ADA = 34" MAX. (29" MIN. CLEAR KNEE SPACE)
10. MIRRORS (TO B.O. REFLECTIVE SURFACE): STANDARD = VARIES. ADA = 40" MAX.
11. GRAB BARS - ADA (TO TOP OF BAR): WATER CLOSETS = 33" MIN. TO 36" MAX. SHOWERS = 33" MIN. TO 36" MAX. (FROM B.O.SHOWER). BATHTUBS: TOP BAR = 33" MIN. TO 36" MAX. BOT. BAR = 9" ABOVE T.O. TUB
12. SHOWER HEADS (FROM FLOOR TO HEAD): STANDARD = 72" TO 84". ADA = SPRAY UNIT W/ HOSE 60" LONG MIN. ADA = FIXED SHOWER HEAD = 48" AFF.
13. SHOWER CONTROLS (TO CONTROL AREA): STANDARD = 48" MAX. (TO TOP) ADA = 38" MIN. TO 48" MAX.
14. SHOWER ROD (FROM FLOOR TO C.L.): STANDARD = 78" MAX.
15. TOILET ROOM PARTITIONS: TOILETS = 12" TO BOT. & 70" TO TOP. URINALS = 18" TO BOT. & 60" TO TOP
16. TOILET PAPER DISPENSERS (TO C.L. OF OUTLET): STANDARD = 24". ADA = 19" MIN. TO 26" MAX.
17. WALL MOUNTED SOAP DISPENSERS (TO C. L. OF PUSH BUTTON): STANDARD = 40". ADA = VARIES. RE: OBSTRUCTED AND UNOBSTRUCTED REACH RANGES. ADA SIDE REACH = 46" MAX. ABOVE SINK IN COUNTER.
18. PAPER TOWEL DISPENSER/ WASTE RECEPTACLE (TO TOWEL SLOT): STANDARD = 40" MAX. ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.
19. WARM AIR HAND DRYER (TO PUSH SWITCH): STANDARD = 44" MAX. ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.
20. SANITARY NAPKIN DISPENSER (TO C.L. OF COIN SLOT): STANDARD = 40" MAX. ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.
21. SANITARY NAPKIN DISPOSAL (TO TOP OF UNIT): STANDARD = 28" MAX. ADA = 19" MIN. TO 24" MAX. (TO OPNG.)
22. TOILET SEAT COVER DISPENSERS (TO OPNG.): STANDARD = 40" MAX. ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.
23. SHELVES: ADA = 48" MAX.
24. COAT HOOKS: STANDARD = 68". ADA = 48" MAX.
25. CHALKBOARDS, TACKBOARDS & MARKERBOARDS: STANDARD = 32" TO 39" (TO B.O. BOARD OR CHALKTRAY). STANDARD = 80" (RECOMMENDED, TO T.O. BOARD)
26. THERMOSTATS & CONTROL DEVICES (TO TOP): ADA FORWARD REACH = 48" MAX. ADA SIDE REACH = 48" MAX.
27. LIGHT SWITCHES & CARD READERS (TO C.L.): LOCATE 6" FROM DOOR JAMB. ADA = 48" MAX.
28. CONVENIENCE RECEPTACLES – ELECTRICAL/ TELEPHONE/ DATA (TO C.L.): STANDARD = 18". ADA = 15" MIN.
29. EXIT LIGHTS - WALL MOUNTED: 2" MIN. BELOW CEILING. 2" MIN. ABOVE DOOR FRAME. EQUAL SPACE FROM CEILING TO TOP OF FRAME
30. FIRE EXTINGUISHERS (TO TOP, U.N.O.): GROSS WT. 40 LBS. OR LESS = 60" MAX. GROSS WT. MORE THAN 40 LBS. = 42" MAX. ADA = 40" MAX. (B.O. CABINET)
31. FIRE ALARM PULL STATIONS (TO LEVER): STANDARD = 48" MAX. ADA FORWARD REACH = 48" MAX. ADA SIDE REACH = 48" MAX.
32. SMOKE AND/OR HEAT DETECTORS: STANDARD = CEILING HEIGHT
33. HORN/ SPEAKER/ VISUAL SIGNALS: STANDARD = 80" AFF. OR 6" BELOW CEILING - WHICHEVER IS LOWER.
34. ROOM SIGNAGE (TO C.L.): STANDARD = 60" HIGH AFF. & WITHIN 18" OF LATCH SIDE OF DOOR

CWA collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

PERMIT DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB II
NUMBER A-2014034008
06-12-24
ARCHITECT
PROFESSIONAL SEAL

G002

ISSUE DATE: 09 JUNE 2025
COLLINS WEBB #: 23114

ACCESSIBILITY GUIDELINES

6/12/2025 8:15:10 AM

WALL PRIORITY LEGEND

NOTE: *THIS LEGEND IS FOR GRAPHIC REPRESENTATION ONLY.*

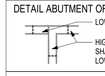
FOUR HOUR FIRE WALL (**4FW**)
THREE HOUR FIRE WALL (**3FW**)
TWO HOUR FIRE WALL (**2FW**)
FOUR HOUR FIRE BARRIER (**4FB**)
THREE HOUR FIRE BARRIER (**3FB**)

TWO HOUR FIRE BARRIER (**2FB**) *(INCLUDES THE FOLLOWING)*
- TWO HOUR SHAFT ENCLOSURE (**2SE**)

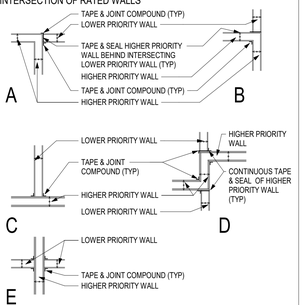
ONE HOUR FIRE BARRIER (**1FB**) *(INCLUDES THE FOLLOWING)*
- ONE HOUR SHAFT ENCLOSURE (**1SE**)

SMOKE TIGHT PARTITION (**X**) *(INCLUDES THE FOLLOWING)*
- SMOKE TIGHT PARTITION TO SMOKE TIGHT CEILING (**XC**)
- SMOKE TIGHT PARTITION WITHIN PLENUM ABOVE CEILING (**XP**)
- SMOKE TIGHT PARTITION SEPARATION OF INTERSTITIAL SPACES (**XI**)

DETAIL ABUTMENT OF DISSIMILAR WALL



INTERSECTION OF RATED WALLS



NOTES:
1. REFER TO WALL TYPES ON SHEET G121-TI FOR WALL COMPONENTS, NUMBER OF GYPSUM BOARD LAYERS, TYPE OF GYPSUM BOARD, AND OTHER SIMILAR INFO.
2. THE HIGHER PRIORITY WALL SHALL PASS THROUGH THE LOWER PRIORITY WALL.
3. TAPING AND SEALING OF HIGHER PRIORITY WALLS SHALL BE CONTINUOUS.
4. ALTERNATE LAYERS OF GYPSUM BOARD SHALL OVERLAP AT CORNER INTERSECTIONS OF MULTI-LAYERED RATED GYPSUM BOARD PARTITIONS.

FIRE & SMOKE RESISTIVE LEGEND DEFINITIONS

FIRE WALLS (FW)

DEFINITION
A FIRE RATED WALL THAT IS CONTINUOUS VERTICALLY FROM FOUNDATION TO ROOF TO SEPARATE CONSTRUCTION INTO SEPARATE BUILDINGS.

USE
FIRE WALLS SERVE TO CREATE SEPARATE BUILDINGS FOR THE FOLLOWING REASONS.
- CONSTRUCTION TYPE VARIES FROM ONE BUILDING TO ANOTHER.
- COMPLIANCE WITH MAXIMUM ALLOWABLE AREA REQUIREMENTS.
- TO SEPARATE BUILDINGS WITH DIFFERENT LEVELS OF FIRE PROTECTION.
- TO ADDRESS A PROPERTY LINE DEFINING DIFFERENT OWNERSHIP.

SPECIAL CONSIDERATIONS
- THE FIRE WALL REQUIRES SUFFICIENT STRUCTURAL STABILITY UNDER FIRE CONDITIONS TO ALLOW THE COLLAPSE OF CONSTRUCTION ON EITHER SIDE WITHOUT COLLAPSE OF THE WALL.
- OPENINGS ARE REQUIRED TO BE PROTECTED.
- OPENINGS ARE LIMITED BASED ON A PERCENTAGE OF WALL LENGTH.
- EXTENDING THE FIRE WALL THROUGH THE ROOF WITH A PARAPET IS REQUIRED FOR SOME CONSTRUCTION CLASSIFICATIONS.
- THE REQUIRED FIRE RATING OF A FIRE WALL IS BASED ON OCCUPANCY GROUPS AND CLASS OF CONSTRUCTION.
- HARDWARE FOR SWING DOORS SHALL INCLUDE A LATCH AND CLOSER.

FIRE BARRIERS (FB)

DEFINITION
A FIRE RATED WALL CONSTRUCTED TO RESTRICT THE SPREAD OF FIRE. CONTINUITY SHALL BE MAINTAINED FROM TOP OF FLOOR TO UNDERSIDE OF THE FLOOR OR ROOF DECK ABOVE.

USE
FIRE BARRIERS HAVE THE FOLLOWING APPLICATIONS.
- TO CREATE HORIZONTAL EXITS.
- TO SEPARATE EXIT PASSAGEWAYS.
- OCCUPANCY SEPARATIONS.
- TO SEPARATE INCIDENTAL USE AREAS.
- ISOLATION OF HAZARDS.
- TO SEPARATE ROOMS WITH DIFFERENT LEVELS OF FIRE PROTECTION.
- SMOKE BARRIERS AND SHAFT ENCLOSURES ARE FIRE BARRIERS. SEE ADDITIONAL REQUIREMENTS.

SPECIAL CONSIDERATIONS
- WITHIN SOME CONSTRUCTION CLASSIFICATIONS, CONSTRUCTION THAT PROVIDES STRUCTURAL SUPPORT OF A FIRE BARRIER IS REQUIRED TO BE OF THE SAME HOURLY FIRE RATING AS THE FIRE BARRIER, OR BETTER.
- OPENINGS ARE REQUIRED TO BE PROTECTED.
- HARDWARE FOR SWING DOORS SHALL INCLUDE A LATCH AND CLOSER.

SHAFT ENCLOSURES (SE)

DEFINITION
A SHAFT ENCLOSURE IS A FIRE BARRIER FORMING THE BOUNDARY OF A VERTICAL SHAFT.

USE
PROTECT OPENINGS IN FIRE RATED FLOOR/CEILING ASSEMBLIES.

SPECIAL CONSIDERATIONS
- PENETRATIONS IN SHAFT ENCLOSURES ARE PROHIBITED UNLESS NECESSARY FOR THE FUNCTION OF THE SHAFT. WHERE ALLOWED, OPENINGS ARE REQUIRED TO BE PROTECTED.
- DUCT PENETRATIONS REQUIRE COMBINATION SMOKE AND FIRE DAMPERS EXCEPT FOR EXISTING CONDITIONS THAT ARE GRANDFATHERED.
- HARDWARE FOR SWING DOORS SHALL INCLUDE A LATCH, CLOSER, AND PERIMETER SMOKE SEALS.

FIRE PARTITIONS (FP)

DEFINITION
A FIRE RATED PARTITION THAT IS USED FOR THE APPLICATIONS LISTED BELOW. IT SHALL BE CONTINUOUS FROM TOP OF FLOOR TO UNDERSIDE OF A FIRE-RATED FLOOR/CEILING OR ROOF/CEILING ASSEMBLY. WHERE ALLOWED BY CODE EXCEPTION, A FIRE PARTITION SHALL BE ALLOWED TO TERMINATE AT THE UPPER MEMBRANE OF A FIRE RATED CEILING

USE
FIRE PARTITIONS ARE USED IN CERTAIN OCCUPANCIES TO DO THE FOLLOWING.
- SEPARATE DWELLING UNITS
- SEPARATE SLEEPING SPACES
- SEPARATE CORRIDORS FROM ADJACENT SPACES
- SEPARATE ELEVATOR LOBBIES
- SEPARATE TENANT SPACES IN COVERED MALL BUILDINGS

SPECIAL CONSIDERATIONS
- OPENINGS ARE REQUIRED TO BE PROTECTED.
- HARDWARE FOR SWING DOORS SHALL INCLUDE A LATCH AND CLOSER.

BEARING WALLS (BW)

DEFINITION
AN INTERIOR OR EXTERIOR WALL DESIGNED TO SUPPORT FLOOR OR ROOF LOADS. A BEARING WALL IS FIRE-RATED ONLY TO MAINTAIN THE INTEGRITY OF ITSELF AS A FIRE RATED STRUCTURAL ELEMENT. THE WALL DOES NOT SERVE AS A FIRE SEPARATION FROM ONE SIDE TO THE OTHER SIDE.

USE
A VERTICAL, LOAD BEARING STRUCTURAL ELEMENT.

SPECIAL CONSIDERATIONS
- DOORS AND WINDOWS ARE NOT REQUIRED TO BE RATED.
- HVAC DUCT PENETRATIONS ARE NOT REQUIRED TO BE FIRE-DAMPERED.
- PLUMBING, ELECTRICAL, SPRINKLER SYSTEM, AND CABLE PENETRATIONS ARE REQUIRED TO BE FIRE-STOPPED WITH FIRE SEALANT AT BOTH SIDES, FOR WALLS CONSTRUCTED OF HOLLOW CMU OR STUD FRAMING.

GENERAL NOTES

1. THE FOLLOWING INFORMATION SERVES TO PROVIDE BUILDING OWNERS WITH CONCISE DEFINITIONS OF WALL TYPES RELATED TO LIFE SAFETY ISSUES. THIS INFORMATION IS NOT MEANT TO BE A SUBSTITUTE FOR APPLICABLE BUILDING CODES.
2. WHEN A WALL HAS MORE THAN ONE CLASSIFICATION, THE MOST RESTRICTIVE REQUIREMENTS FOR EACH CLASSIFICATION SHALL APPLY.
3. FOR NEW CONSTRUCTION, PERIMETER SMOKE-SEALS MAY BE REQUIRED AT FIRE RATED DOORS IN CERTAIN OCCUPANCIES.

GENERAL DESCRIPTION

PROJECT NAME: EXPRESS STOP - VIEW HIGH
PROJECT LOCATION: 3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081
COUNTY: JACKSON

COLLINS WEBB ARCHITECTURE
307B SW MARKET STREET
LEE'S SUMMIT, MISSOURI 64063

APPLICABLE CODES:
INTERNATIONAL BUILDING CODE - 2018 ED.
INTERNATIONAL EXISTING BUILDING CODE - 2018 ED.
INTERNATIONAL MECHANICAL CODE - 2018 ED.
UNIFORM PLUMBING CODE - 2018 ED.
INTERNATIONAL FUEL GAS CODE - 2018 ED.
INTERNATIONAL PRIVATE SEWAGE DISPOSAL CODE - 2018 ED.
INTERNATIONAL ENERGY CONSERVATION CODE - 2018 ED.
NATIONAL ELECTRICAL CODE - 2017 ED.
ADA STANDARDS FOR ACCESSIBLE DESIGN - 2010 ED.
ICC/ANSI A117.1 -2009_ACCESSIBILITY AND USABILITY CODE

PROJECT DESCRIPTION

THIS PROJECT IS A NEW-CONSTRUCTION GAS STATION AND CONVENIENCE STORE ON A VACANT SITE.

CODE INFORMATION

		TABLE / SECTION / REFERENCE
BUILDING/PROJECT USE:	CONVENIENCE STORE - NON-SPRINKLERED	IBC 2018 SECTION 304
CONSTRUCTION TYPE	TYPE II-B	
OCCUPANCY CLASSIFICATION(S)	GROUP "M" MERCANTILE	
BASE ALLOWABLE AREA	50,000 SQ. FT.	IBC 2018 SECTION 503-506, TABLE 506.2
ACTUAL TENANT AREA (GROSS)	5,340 SQ. FT.	
ALLOWABLE STORIES	3 STORIES	IBC 2018 TABLE 504.4
ACTUAL NUMBER OF STORIES	1 STORIES	
ALLOWABLE HEIGHT	75'-0"	IBC 2018 TABLE 504.3
ACTUAL HEIGHT IN FEET	21'-0"	

FIRE RESISTIVE REQUIREMENTS

		TABLE / SECTION / REFERENCE
PRIMARY FRAME	0 HRS	IBC 2018 TABLE 601
NON-BEARING WALLS	0 HRS	IBC 2018 TABLE 601
BEARING WALLS INT./ EXT.	0 INT. / 0 EXT. HRS	IBC 2018 TABLE 601
FLOOR CONSTRUCTION	0 HRS	IBC 2018 TABLE 601
CEILING/ROOF	0 HRS	IBC 2018 TABLE 601
CORRIDORS	0 HRS	IBC 2018 TABLE 1020.1

FIRE EXTINGUISHERS

1. PROVIDE PORTABLE FIRE EXTINGUISHERS IN OCCUPANCIES AND LOCATIONS AS REQUIRED BY THE LOCAL FIRE PREVENTION CODE. SEE PLANS FOR SUGGESTED LOCATIONS. NOTIFY ARCHITECT OF ANY PROPOSED RELOCATION OR IF A CONFLICT IS ENCOUNTERED.
2. PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED, INSPECTED, AND MAINTAINED IN ACCORDANCE WITH NFPA 10, STANDARD FOR PORTABLE FIRE EXTINGUISHERS.

CEILING HEIGHT NOTES: (IBC 1208)

1. ALL MEANS OF EGRESS TO HAVE A MINIMUM CEILING HEIGHT OF 7'-6" A.F.F., NOR SHALL HAVE ANY PROJECTION FROM THE CEILING BE LESS THAN 6'-8" A.F.F.
2. OCCUPIED SPACES, HABITABLE SPACES AND CORRIDORS SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7'-6" A.F.F.
3. BATHROOMS, TOILET ROOMS, KITCHENS, STORAGE ROOMS AND LAUNDRY ROOMS SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7'-0" A.F.F.

INTERIOR FINISHES

GROUP B	MAX. FLAME SPREAD	
EXIT STAIRS, RAMPS, PASSAGEWAYS	CLASS B (26-75)	IBC 803.1.2, 803.13
EXIT ACCESS CORRIDORS & ENCLOSURES	CLASS C (76-200)	IBC 803.1.2, 803.13
ALL OTHER SPACES	CLASS C (76-200)	IBC 803.1.2, 803.13
TEXTILES	CLASS A (0-25)	IBC 803.1.2, 803.1.3, 803.5, 803.6
SMOKE DEVELOPED	0-450	IBC 803.1, 803.1.2

NOTE:
DECORATIVE MATERIALS AND TRIM (INCLUDING PLASTICS) MUST COMPLY WITH IBC SECTION 806

GENERAL EXITING REQUIREMENTS

		TABLE / SECTION / REFERENCE
EXIT TRAVEL DISTANCE	250 FEET	IBC SECTION 1017.2
DEAD END CORRIDOR	50 FEET	IBC SECTION 1020.4
COMMON PATH OF TRAVEL	75 FEET IF OCC. < 50	IBC SECTION 1006.2.1
MIN. CORRIDOR WIDTH	36" IF OCC. < 50	IBC SECTION 1020.2

POSTING OF OCCUPANT LOAD

EVERY ROOM OR SPACE THAT IS AN ASSEMBLY OCCUPANCY SHALL HAVE THE OCCUPANT LOAD OF THE ROOM OR SPACE POSTED IN A CONSPICUOUS PLACE, NEAR THE MAIN EXIT OR EXIT ACCESS DOORWAY FROM THE ROOM OR SPACE. POSTED SIGNS SHALL BE OF AN APPROVED LEGIBLE PERMANENT DESIGN AND SHALL BE MAINTAINED BY THE OWNER OR AUTHORIZED AGENT.

EXIT REQUIREMENTS

	TABLE / SECTION / REFERENCE
A. REQUIRED CAPACITY	
1. STAIRS - 0.3" / PERSON	IBC SECTION 1005.3.1
2. OTHER COMPONENTS - 0.2" / PERSON	IBC SECTION 1005.3.2
B. MINIMUM NUMBER	
1. OCCUPANT LOAD OF 1-500 PERSONS - 2 EXITS PER STORY	IBC TABLE 1006.3.2
2. OCCUPANT LOAD OF 501-1000 PERSONS - 3 EXITS PER STORY	IBC TABLE 1006.3.2
3. OCCUPANT LOAD OF MORE THAN 1000 PERSONS - 4 EXITS PER STORY	IBC TABLE 1006.3.2

SIGNAGE

	TABLE / SECTION / REFERENCE
1. STAIR TACTILE AND BRAILLE SIGNAGE ON EACH FLOOR FOR EXIT STAIRWELL, FLOOR DISCHARGE, AND ROOF TOP ACCESS IN ACCORDANCE WITH CC A117.1.	
2. PROVIDE SIGNAGE "IN FIRE EMERGENCY DO NOT USE ELEVATOR, USE EXIT STAIRS" IN ACCORDANCE WITH IBC (3002.3)	
3. EVACUATION DIAGRAM PROVIDED IN ACCORDANCE WITH IBC 1001.2	

TOTAL OCCUPANT LOAD

RETAIL STORE	39 OCC	MERCANTILE	60 SF/OCC	IBC TABLE 1004.5
KITCHEN	3 OCC	KITCHEN	200 SF/OCC	
STORAGE	5 OCC	STORAGE:	300 SF/OCC	
OCCUPANT LOAD	47 OCCUPANTS			
EXITS REQUIRED THIS LEVEL	2 EXITS			2018 IBC TABLE 1006.3.2
EXITS PROVIDED THIS LEVEL	4 EXITS			

PLUMBING FIXTURE REQUIREMENTS

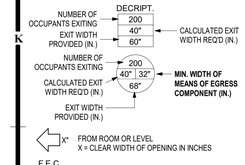
IBC TABLE 2902.1

B OCC. WATER CLOSETS (MALE):	= 1 PER 25 FOR THE FIRST 50, 1 PER 50 FOR THE REMAINDER	(24/25) = 1 REQUIRED
B OCC. WATER CLOSETS (FEMALE):	= 1 PER 25 FOR THE FIRST 50, 1 PER 50 FOR THE REMAINDER	(24/25) = 1 REQUIRED
B OCC. LAVATORIES:	= 1 PER 40 FOR THE FIRST 80, 1 PER 80 FOR THE REMAINDER	(47/40) = 2 REQUIRED
B OCC. DRINKING FOUNTAINS:	= 1 PER 100	(47/100)= 1 REQUIRED
B OCC. SERVICE SINKS:	= 1 REQUIRED	

PLUMBING FIXTURES PROVIDED

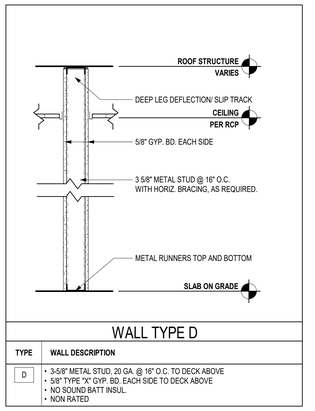
WATER CLOSETS (MALE):	= 4 PROVIDED (2 WC, 2 URINAL)
WATER CLOSETS (FEMALE):	= 4 PROVIDED
LAVATORIES:	= 4 PROVIDED
DRINKING FOUNTAINS:	= TENANT TO PROVIDE WATER DISPENSER PER LSMO ORDINANCE 7-406 IN LIEU OF A DRINKING FOUNTAIN
SERVICE SINKS:	= 1 PROVIDED

FIRE RESISTIVE LEGEND



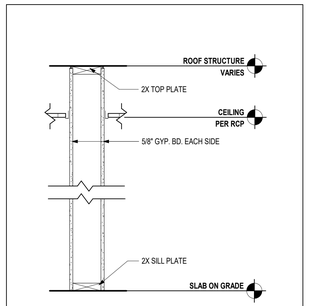
WALL TYPE NOTES:

1. DRYWALL PARTITIONS SHOULD BE CONSTRUCTED IN ACCORDANCE WITH ASTM E497 - STANDARD PRACTICE FOR INSTALLING SOUND ISOLATING GYPSUM BOARD PARTITIONS, AND ASTM C919 - STANDARD PRACTICE FOR USE OF SEALANTS IN ACOUSTICAL APPLICATIONS. ALL SOUND BARRIER PARTITIONS SHOULD EXTEND FROM FLOOR TO STRUCTURE UNLESS STATED OTHERWISE METAL STUDS SHALL BE RIGIDLY ATTACHED ONLY AT HEAD AND FOOT. STRUCTURAL CROSS BRACING MUST NOT RIGIDLY CONNECT TO BOTH METAL STUD WALLS.
2. RE: LIFE SAFETY PLAN(S) FOR RATED WALL LOCATIONS.
3. RE: WALL TYPE DETAIL SHEET FOR TYPICAL WALL DETAILS AND ADDITIONAL WALL TYPE INFORMATION.
4. FOR TYPICAL TOP OF WALL CONDITIONS AT JOISTS AND BEAMS, REFER TO THE CLOSURE DETAILS ON THE WALL TYPE DETAILS SHEET.
5. COORDINATE METAL STUD GAUGE WITH PRE-APPROVED EQUIPMENT ANCHORAGE. WHERE A DISCREPANCY OCCURS, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.
6. WHERE "ACOUSTIC SEALANT" IS INDICATED ON WALL TYPES: PROVIDE ACOUSTIC (SOUND) SEALANT ABOVE TOP TRACK, UNDER BOTTOM TRACK, AND AT ALL PENETRATIONS (BOTH SIDES). SEE SPECIFICATION FOR PRODUCT REQUIREMENTS.
7. WHERE "FIRE-RATED SEALANT" IS INDICATED ON WALL TYPES: PROVIDE FIRE-RATED SEALANT ABOVE TOP TRACK, UNDER BOTTOM TRACK, AT ALL PENETRATIONS (BOTH SIDES), AND AS REQUIRED BY FIRE RATING UL NUMBER.
8. EXTEND FIRE-RATED WALL CONSTRUCTION BEHIND RECESSED OR BUILT-IN EQUIPMENT; SUCH AS FIRE EXTINGUISHER CABINETS (FEC), ELECTRICAL WATER COOLERS (EWC), ELECTRICAL PANELS, ETC., UNLESS NOTED OTHERWISE.
9. PROVIDE AND INSTALL ALL STIFFENERS, BRACING, BACK-UP PLATES AND SUPPORTING BRACKETS REQUIRED FOR THE INSTALLATION OF ALL CASEWORK AND OF ALL FLOOR MOUNTED OR SUSPENDED MECHANICAL, ELECTRICAL OR LABORATORY EQUIPMENT.
10. WHERE HVAC OR OTHER MECHANICAL, ELECTRICAL AND PLUMBING ITEMS PENETRATE PARTITIONS: STUDS SHALL BE BRACED AND FRAMED TO STRUCTURE AS REQUIRED TO PROVIDE ADEQUATE SUPPORT. ALL PENETRATIONS THROUGH ACOUSTICAL AND FIRE RATED WALLS SHALL BE SEALED TO PROVIDE FIRE, SMOKE, AND/OR ACOUSTICAL ISOLATION OF SPACES WITH APPROPRIATE ACOUSTICAL/ FIRESTOP MATERIAL
11. THERE SHALL BE NO BACK-TO-BACK ELECTRICAL, TELEPHONE, OR OTHER OUTLETS, EXCEPT WHERE SPECIFICALLY SHOWN.
12. WALL BASE IS NOT SHOWN ON ALL WALL TYPES FOR CLARITY. REFER TO FINISH SCHEDULE.
13. PROVIDE GLASS-MAT, WATER RESISTANT BACKING BOARD AT ALL WET LOCATIONS.
14. EXCEPT AT FIRE-RATED PARTITIONS, ALL WALL AND COLUMN GYPSUM BOARD FACING SHALL BE HELD AT 5/8 INCH BELOW STRUCTURE, UNLESS NOTED OR SHOWN OTHERWISE.
15. PROVIDE AND INSTALL BLOCKING REQUIRED FOR ALL A.V. EQUIPMENT. G.C. TO COORDINATE WITH TI CONSULTANT FOR FINAL LOCATIONS AND SIZE REQUIREMENTS.
16. COMPRESSIBLE FILLER - ACCEPTABLE MATERIALS WOULD BE FIBERGLASS INSULATION OR FIRESTOPPING. VOIDS TO BE COMPLETELY FILLED AND A FIRESTOP SEALANT OVER ANY ENDS. THIS IS TYPICAL FOR ALL ACOUSTICAL WALL ASSEMBLIES WHERE "COMPRESSIBLE FILLER" IS CALLED FOR. THERE CAN BE NO VOIDS IN THE INSTALLATION.
17. MUD AND TAPE ALL 1ST AND 2ND LAYER GYP. BOARD JOINTS. PROVIDE 3RD LAYER FINISH PER GENERAL NOTES: FLOOR PLAN.
18. PROVIDE A MIN. MSG-12 STUD FOR ALL VERTICAL LONG SPAN WALL TYPES.
19. PROVIDE HORIZONTAL LATERAL BRACING WIRE WELDED TO STUD FOR ALL WALLS, AT APPROPRIATE GAGE AND SPACING SPECIFIED BY SUPPLIER.
20. PROVIDE ACOUSTICAL ISOLATION BRACKET AND/ OR ACOUSTICAL ISOLATION MAT AT ALL ACOUSTICAL WALLS BRACED BACK OR INTERRUPTED BY STRUCTURE. SEE TYPICAL DETAIL THIS SHEET. CONTRACTOR TO COORDINATE WITH STRUCTURAL DWG'S FOR TYP. CONDITIONS/ LOCATIONS.
21. FOR ALL 3 LAYER GYPSUM BOARD ACOUSTICAL WALL TYPES, REFERENCE THE G-SERIES SHEETS FOR ADDITIONAL INFORMATION PERTAINING TO DETAILS AND CLARIFICATIONS RELATED TO BRACING, TOP OF WALL, ISOLATION AND CONTINUITY OF FRAMING DETAILS. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND SPECIFICATIONS - CONTACT ARCHITECT FOR CLARIFICATION. FOR BIDDING PURPOSES: THE MOST EXPENSIVE AND/OR STRICTEST REQUIREMENTS SHALL GOVERN. FOR CLARIFICATIONS DURING CONSTRUCTION: THE MOST EXPENSIVE AND/OR STRICTEST REQUIREMENTS, AS INDICATED BY THE ARCHITECT, SHALL GOVERN.
22. BACK TO BACK ACOUSTICAL WALLS MAY NOT BE BRIDGED, BRACED OR RIGIDLY TIED TOGETHER WITHOUT AN APPROVED ISOLATION SYSTEM.



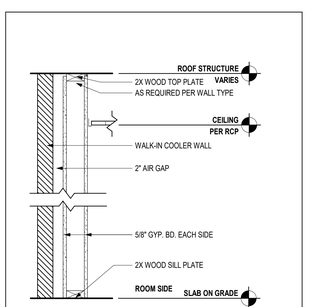
WALL TYPE D

TYPE	WALL DESCRIPTION
D	• 3-5/8" METAL STUD, 20 GA. @ 16" O.C. TO DECK ABOVE • 5/8" TYPE "X" GYP. BD. EACH SIDE TO DECK ABOVE • NO SOUND BATT INSUL. • NON RATED



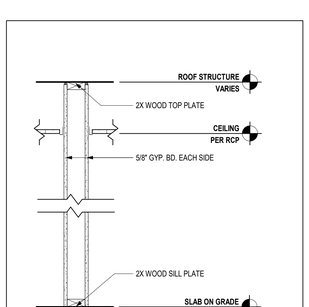
WALL TYPE B

TYPE	WALL DESCRIPTION
B	• 2X6 WOOD STUD @ 16" O.C. TO DECK ABOVE • 5/8" TYPE "X" GYP. BD. EACH SIDE TO DECK ABOVE • NO SOUND BATT INSUL. • NON RATED



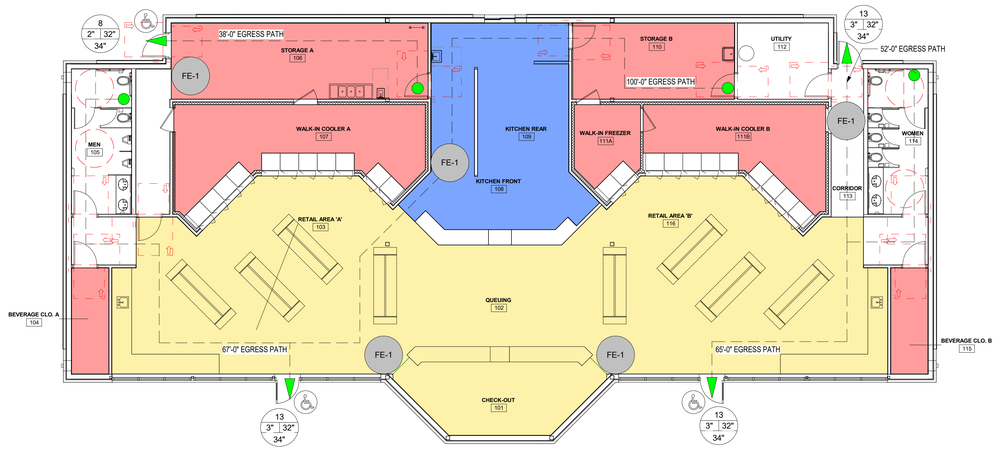
WALL TYPE C

TYPE	WALL DESCRIPTION
C	• 2X4 WOOD STUD @ 16" O.C. TO DECK ABOVE • 5/8" TYPE "X" GYP. BD. EACH SIDE TO DECK ABOVE • NO SOUND BATT INSUL. • WALK-IN COOLER WALL PANELS FROM COOLER MFR. • NON RATED
C1	• 3-5/8" METAL STUDS, 20 GA. @ 16" O.C. TO DECK ABOVE • 5/8" TYPE "X" GYP. BD. EACH SIDE TO DECK ABOVE • NO SOUND BATT INSUL. • WALK-IN COOLER WALL PANELS FROM COOLER MFR. • NON RATED



WALL TYPE A

TYPE	WALL DESCRIPTION
A	• 2X4 WOOD STUD @ 16" O.C. TO DECK ABOVE • 5/8" TYPE "X" GYP. BD. EACH SIDE TO DECK ABOVE • NO SOUND BATT INSUL. • NON RATED
A1	• 2X4 WOOD STUD @ 16" O.C. TO 48" A.F.F. • 5/8" TYPE "X" GYP. BD. EACH SIDE TO 48" A.F.F. • NO SOUND BATT INSUL. • NON RATED



MERCANTILE - 2,317 SF

COMMERCIAL KITCHEN - 508 SF

STORAGE - 1,263 SF

A7 LIFE SAFETY PLAN - C-STORE
1/8" = 1'-0"

collins|webb ARCHITECTURE
307B SW Market St. | Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

PERMIT DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB
NUMBER A-2004034008
06/02/25
ARCHITECT

PROFESSIONAL SEAL

G003

ISSUE DATE: 09 JUNE 2025
COLLINS WEBB #: 23114

LIFE SAFETY PLANS AND PROJECT INFO.

6/12/2025 8:15:11 AM

SPECIFICATIONS - PRODUCT & INSTALLATION GENERAL REQUIREMENTS

GENERAL REQUIREMENTS APPLICABLE TO ALL MATERIALS FOR THE PROJECT:

1. NO SUBSTITUTIONS OF MATERIALS WITHOUT COMPLETION OF A SUBSTITUTION REQUEST FORM & APPROVAL OF SUBSTITUTION BY BOTH ARCHITECT & OWNER PROJECT MANAGER. FORM CAN BE REQUESTED FROM ARCHITECT.
2. A CONDENSED SET OF SPECIFICATIONS ARE PROVIDED FOR THE PROJECT. STRICT ADHEARANCE TO MANUFACTURER REQUIREMENTS AND INSTALLATION ARE REQUIRED TO BE FOLLOWED WITH SECTIONS PROVIDED WITHIN. IF REQUIRED THE ARCHITECT WILL ISSUE ADDITIONAL SECTIONS TO PROVIDE CLARITY TO PRODUCTS OR INSTALLATION REQUIREMENTS.

DIVISION 1 - GENERAL REQUIREMENTS

1. SEE ADMINISTRATIVE SPECIFICATION FOR GENERAL REQUIREMENTS RELATED TO ADMINISTATION OF THIS CONTRACT.

A. CONTRACTOR LICENSES:
1. THE CONTRACTOR AND ALL SUBCONTRACTORS INVOLVED IN THE PROJECT SHALL BE REQUIRED TO OBTAIN AND PAY FOR ALL NECESSARY LICENSES AS REQUIRED BY ANY LAW OR AGENCIES HAVING JURISDICTION (AHJ) OVER THE PROJECT.

B. BUILDING PERMITS:
1. THE GENERAL CONTRACTOR WILL PAY FOR ALL PERMITS REQUIRED BY ANY AGENCY HAVING JURISDICTION (AHJ) OVER THE PROJECT FOR ALL WORK TO BE PREFORMED BY THE GENERAL CONTRACTOR.

C. UTILITY FEES:
1. THE CONTRACTOR SHALL PAY THE NECESSARY FEES TO CONNECT TO EXISTING UTILITIES AT THE PROPERTY LINE OR IN ADJACENT STREETS AND RIGHT OF WAY AS SPECIFIED, NECESSARY, AND/OR INCLUDED IN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL PAY ALL UTILITY COSTS (BILLS) DURING CONSTRUCTION UNTIL OWNER TAKES POSSESSION OF THE FACILITY OR THE FACILITY IS CERTIFIED AS SUBSTANTIALLY COMPLETE.

D. PROTECTION OF FINISHED WORK:
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT FINISHED SURFACES. PROTECTION FOR FINISHES SUCH AS DOORS, WALLS AND FLOORS SHOULD BE PROVIDED AS REQUIRED. ANY DAMAGES TO THESE AREAS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR OR REPLACE.

E. GENERAL CONDITIONS:
1. ANY DISCREPANCY OR CONFLICT WITHIN OR BETWEEN DRAWINGS AND ANY DISCREPANCY OR CONFLICT BETWEEN ANY DRAWING AND ANY SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. NOTWITHSTANDING, DISCREPANCIES OR CONFLICTS NOT BROUGHT TO THE ARCHITECT'S AND/ OWNERS ATTENTION AND CLARIFIED DURING THE BIDDING OF THE PROJECT WILL BE DEEMED TO HAVE BEEN BID OR PROPOSED IN THE MORE COSTLY OR DIFFICULT MANNER, AND THE BETTER QUALITY OR GREATER QUANTITY OF THE WORK SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH ARCHITECT'S INTERPRETATION.
2. THE GENERAL CONTRACTOR SHALL KEEP A COMPLETE SET OF DOCUMENTS ON THE PROJECT SITE AT ALL TIMES FOR REFERENCE DURING CONSTRUCTION.
3. THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING THE CONTRACTOR'S BEST SKILLS AND ATTENTION. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER CONSTRUCTION MEANS AND METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
4. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER ALL JOB SITE SAFETY PROCEDURES AND POLICIES. THE GENERAL CONTRACTOR SHALL HAVE A SAFETY COORDINATOR AND BE RESPONSIBLE TO HOLD REGULARLY SCHEDULED SAFETY TRAINING WITH ALL JOB SITE PERSONNEL, INCLUDING ALL SUB CONTRACTOR PERSONNEL.
5. NEITHER THE ARCHITECT'S OR THE OWNERS INSPECTION NOR FAILURE TO INSPECT SHALL RELIEVE THE CONTRACTOR OF ANY OBLIGATION HEREUNDER. IF ANY WORK FAILS TO CONFORM TO THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY REMEDY AND/OR REPLACE THE SAME AT THE CONTRACTOR'S EXPENSE. NO ACCEPTANCE OR PAYMENT BY THE OWNER OR ARCHITECT SHALL CONSTITUTE A WAIVER OF THE FOREGOING AND NOTHING HEREIN SHALL EXCLUDE OR LIMIT ANY WARRANTIES IMPLIED BY LAW.
6. THE GENERAL CONTRACTOR SHALL SO CONDUCT ITS OPERATIONS AS NOT TO UNREASONABLY INTERFERE WITH TRAFFIC ON PUBLIC THOROUGHFARES ADJACENT OR NEAR TO THE PROJECT SITE.
7. DO NOT SCALE DRAWINGS.

F. PROJECT REQUIREMENTS:
1. THE GENERAL CONTRACTOR REPRESENTS THAT IT POSSESSES THE SKILLS REQUIRED FOR THE WORK, ASSUMES THE RESPONSIBILITIES OF AN EMPLOYER FOR PERFORMANCE OF THE WORK, AND ACTS AS AN EMPLOYER OF ONE OR MORE EMPLOYEES BY PAYING WAGES, DIRECTING ACTIVITIES AND PERFORMING OTHER SIMILAR FUNCTIONS. THE GENERAL CONTRACTOR IS AN INDEPENDENT CONTRACTOR, FREE TO DETERMINE THE MANNER IN WHICH THE WORK IS PERFORMED.
2. THE GENERAL CONTRACTOR SHALL PROVIDE, AND MAINTAIN IN GOOD WORKING ORDER, THE FOLLOWING ITEMS FOR USE BY THE PROJECT SUPERINTENDENT DAILY DURING THE ENTIRE DURATION OF THE PROJECT:
   - A. LAPTOP WITH INTERNET ACCESS.
   - B. DIGITAL CAMERA WITH 'DATE STAMP' CAPABILITY AND WITH PROPER CABLES TO ATTACH TO LAPTOP.
   - C. EMAIL ACCESS THROUGH THE LAPTOP.
   - D. A PRINTER/SCANNER/FAX MACHINE WITH PROPER CABLES TO ATTACH TO LAPTOP.
   - E. CELL PHONE.
   - F. PROJECT INTERNET CLOUD BASED SITE FOR MANAGEMENT OF PROJECT INFORMATION. SITE WILL BE USED FOR SUBMITTAL OF SHOP DRAWINGS, RFI'S & PHOTOS. SITE SHALL BE PROCORE OR EQUAL FUNCTIONALITY.
3. THE GENERAL CONTRACTOR SHALL HAVE A CONSTRUCTION SUPERINTENDENT ASSIGNED TO THIS PROJECT, AND THIS SUPERINTENDENT SHALL BE ON SITE EVERY DAY THERE IS ANY CONSTRUCTION ON THIS PROJECT. THE SUPERINTENDENT SHALL BE REACHABLE BY PHONE DURING NORMAL BUSINESS HOURS. ONCE ASSIGNED, THE SUPERINTENDENT SHALL NOT BE REMOVED OR REPLACED WITHOUT WRITTEN APPROVAL FROM OWNER & ARCHITECT, UNLESS SPECIFICALLY REQUESTED TO BE REPLACED BY OWNER.
4. THE SUPERINTENDENT WILL BE REQUIRED TO PROVIDE PHOTOGRAPHS (VIA EMAIL USING A DIGITAL CAMERA) TO THE OWNER & ARCHITECT EACH FRIDAY BY NOON CST, SHOWING THE PROGRESS OF CONSTRUCTION. THE GENERAL CONTRACTOR IS ENCOURAGED TO TAKE PHOTOS SEVERAL TIMES EACH WEEK TO HELP MAINTAIN PROOF OF CONSTRUCTION PROGRESS, RECORD UNCOVERED CONDITIONS, RECORD CONDITION AND AMOUNTS OF VENDOR GOODS UPON RECEIPT, AND RECORD CONSTRUCTION THAT VARIES FROM THE CD'S (AS PART OF THE AS-BUILTS). ALL PHOTOS WILL HAVE A 'DATE STAMP'.

G. INSPECTIONS/OBSERVATIONS:
1. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OVERSEE CONSTRUCTION OF THE PROJECT, CONTINUALLY INSPECTING THE WORK, MATERIALS, AND WORKMANSHIP PROVIDED BY ALL OF HIS TRADESMEN, SUBCONTRACTORS, AND SUPPLIERS. EXCELLENCE IN QUALITY OF CONSTRUCTION CAN ONLY BE ACHIEVED IF THE CONTRACTOR ENFORCES HIGH STANDARDS OF ACCEPTABILITY. THE GENERAL CONTRACTOR CANNOT DELEGATE HIS RESPONSIBILITY TO THE SUBCONTRACTORS, BUT MUST CONTINUALLY MONITOR THE WORK OF EACH TRADE ON THE PROJECT.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE AND SCHEDULE ALL AGENCIES HAVING JURISDICTION (AHJ) INSPECTIONS NECESSARY TO OBTAIN THE CERTIFICATE OF OCCUPANCY (CERTIFICATE OF COMPLIANCE). PRIOR TO THE DATE OF THE AGENCY INSPECTION, THE GENERAL CONTRACTOR SHOULD INSPECT THE PROJECT TO INSURE THAT CONSTRUCTION COMPLIES WITH THE AGENCY REQUIREMENTS. SCHEDULING FINAL INSPECTIONS WITH AGENCY REPRESENTATIVES WHEN THE PROJECT IS NOT COMPLETE MUST BE AVOIDED. COPIES OF FINAL INSPECTIONS MUST BE PROVIDED TO OWNER & ARCHITECT AS THEY ARE AVAILABLE.
3. PRIOR TO REQUESTING THE SUBSTANTIAL COMPLETION INSPECTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT HIS OWN PRE-SUBSTANTIAL COMPLETION INSPECTION OF THE CONSTRUCTION FOR QUALITY OF CONSTRUCTION AND COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS.
4. THE FOLLOWING PEOPLE SHOULD BE IN ATTENDANCE FOR THE SUBSTANTIAL COMPLETION INSPECTION:
   - A. GENERAL CONTRACTOR
   - B. GENERAL CONTRACTOR SUPERINTENDENT
   - C. MECHANICAL CONTRACTOR
   - D. ELECTRICAL CONTRACTOR
   - E. PLUMBING CONTRACTOR
   - F. PAINTING CONTRACTOR
   - G. FLOORING CONTRACTOR
5. ITEMS TO BE SUBMITTED AS A PREREQUISITE TO THE REQUEST FOR THE CERTIFICATE OF SUBSTANTIAL COMPLETION AND OWNER / ARCHITECT OBSERVATION OF ITEMS TO BE COMPLETED AND CORRECTED.
   - A. GENERAL CONTRACTOR'S PUNCH LISTS
   - B. HVAC TEST AND BALANCE REPORT
   - C. SPRINKLER SYSTEM ACCEPTANCE INSPECTION REPORT
   - D. COPY OF VIDEO OF COMPLETED SEWER SYSTEM
6. THE REVIEW TEAM SHOULD PROCEED IN AN ORGANIZED MANNER THROUGHOUT THE BUILDING INSPECTING EACH SPACE OR ROOM. THE PUNCH LIST GENERATED BY THE SUBSTANTIAL COMPLETION INSPECTION TOUR IS TO BE PREPARED BY THE CONTRACTOR. ALONG WITH THE PUNCH LIST, THE ARCHITECT SHALL PREPARE THE "CERTIFICATE OF SUBSTANTIAL COMPLETION."
7. IMMEDIATELY AFTER RECEIPT OF THE PUNCH LIST, THE GENERAL CONTRACTOR AND SUBCONTRACTORS ARE EXPECTED TO BEGIN CORRECTION OF THE OUTSTANDING ITEMS. AFTER COMPLETION OF PUNCHLIST, THE CONTRACTOR SHALL NOTIFY OWNER & ARCHITECT IN WRITTING THAT FULL LIST OF ITENMS TO BE COMPLETED AND OR CORRECT IS FINALIZED.

H. RECORD (CLOSE-OUT) DOCUMENTS:
1. THE OWNER REQUIRES THE GENERAL CONTRACTOR AND SUBCONTRACTORS TO MAINTAIN AN ACCURATE, CURRENT SET OF RECORD DOCUMENTS (AS-BUILTS) AS CONSTRUCTION PROGRESSES. ALL PERTINENT INFORMATION RELATING TO THE PROJECT MUST BE TIMELY MAINTAINED ON THE AS-BUILTS. THE AS-BUILTS MUST BE MAINTAINED ON-SITE IN THE GENERAL CONTRACTOR'S OFFICE AND WILL NOT BE USED FOR ANY OTHER PURPOSE. SINCE THE OWNER WILL OWN AND OPERATE THE FACILITY, IT IS IMPERATIVE THAT ALL PARTIES MAINTAIN ACCURATE INFORMATION REGARDING THE ACTUAL CONSTRUCTION OF THE PROJECT.

   ALL DEVIATIONS FROM THE CONTRACT SET OF DRAWINGS MUST BE NOTED ON THE AS-BUILTS IN RED WITH CLOUDS FOR CLEAR IDENTIFICATION. THE OWNER WILL REVIEW THE AS-BUILTS FOR ACCURACY AND COMPLETENESS MONTHLY, DURING THE PAYMENT APPLICATION REVIEW PROCESS. FAILURE TO POST CHANGES TO THE PROJECT ON THE AS BUILTS AS IDENTIFIED DURING THE ON-SITE MONTHLY REVIEW WILL BE CAUSE TO SUSPEND PAYMENT UNTIL RECTIFIED. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ENFORCE THE TIMELY POSTING OF AS-BUILT CHANGES WITH THE SUBCONTRACTORS.

I. FINAL CLOSE-OUT OF THE PROJECT:
1. WITHIN THIRTY (30) CALENDAR DAYS AFTER THE FINAL PROJECT SUBSTANTIAL COMPLETION, THE GENERAL CONTRACTOR SHALL COMPILE ALL CLOSE-OUT DOCUMENTS AND SUBMIT THEM TO THE OWNER FOR REVIEW. IF THE CONTRACTOR FAILS TO COMPLETE ITS REQUIREMENTS WITHIN THIS TIMELINE NOTED ABOVE THE CONTRACTOR MAY BE SUBJECT TO ADDITONAL ADMINISTATION FEES.

J. CLOSE-OUT DOCUMENTS:
1. THE CATEGORIES LISTED BELOW SHOULD BE SUBMITTED AT THE SAME TIME.
   - A. A DISK WITH ALL PHOTOS TAKEN DURING CONSTRUCTION.
   - B. CHANGE ORDERS AND ALL ADDENDA ATTACHED AND POSTED TO THE AS-BUILT DRAWINGS.
   - C. AS-BUILT DRAWINGS: ONE HARD COPY TO REMAIN ON SITE AND IN PLAN TUBE; ONE ELECTRONIC COPY TO BE SENT WITH CLOSE-OUT PAPERWORK.
   - D. MATERIALS SELECTION DATA - PROVIDE ALL APPROVED SUBMITTALS.
   - E. OPERATION AND MAINTENANCE MANUALS (O&M) - PROVIDE O&M MANUALS BOXED AND BOUND. THIS ITEM IS OF SIGNIFICANT IMPORTANCE TO MSI FUTURE MAINTENANCE ACTIVITIES.
   - F. ALL HVAC TEST AND BALANCE REPORTS.
   - G. RELEASE OF LIEN (AIA FORM 706A), PAYMENT OF DEBT (AIA FORM 706),
     1. WARRANTIES, CERTIFICATES, AFFIDAVITS:
     2. ALL INFORMATION INCLUDED IN THIS CATEGORY WILL BE FURNISHED IN ONE (1) COPY AND BOUND IN A STURDY THREE-RING BINDER WITH A LABEL ON THE OUTSIDE READING "GENERAL CLOSE-OUT DOCUMENTS" TO INCLUDE AN INDEX OF THE CONTENTS. ALL AIA DOCUMENTS WILL BE ORIGINAL (WITH RED LETTERING ON THE BOTTOM OF THE FORM) AND NOTARIZED. IF THE ELECTRONIC VERSION IS USED A COPY WITH ORIGINAL SIGNATURES WILL BE SUBMITTED. THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR WILL HAVE SEPARATE TABS IDENTIFYING EACH BY NAME. THE GENERAL CONTRACTOR WILL LIST EACH SUBCONTRACTOR ALPHABETICALLY AND WILL CHECK TO INSURE THAT A "RELEASE OF LIEN" - AIA FORM G706A AND A "PAYMENT OF DEBT-AIA FORM G706 IS INCLUDED FOR HIMSELF AND EACH SUBCONTRACTOR. THE GENERAL CONTRACTOR WILL INCLUDE A "CONSENT OF SURETY" - AIA FORM G707. IN ADDITION, THE GENERAL CONTRACTOR WILL INCLUDE BEHIND HIS TAB THE FOLLOWING INFORMATION:
        - A. A LIST OF NAMES, BUISNESS ADDRESSES, PHONE NUMBERS AND EMAIL ADRESSES FOR THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR.
        - B. AN ANNOTATED COPY OF THE SUBSTANTIAL COMPLETION PUNCH LIST INDICATING ACTION TAKEN ON EACH ITEM.
        - C. WARRANTIES, CERTIFICATES AND AFFIDAVITS SHALL BE INCLUDED FOR ANY EQUIPMENT, MATERIALS OR SYSTEMS, COMBINED WITH ALL OF THE ABOVE INFORMATION AND PLACED BEHIND THE TAB OF THE CONTRACTOR THAT ISSUED IT.

DIVISION 04 - MASONRY

04 0550 - MASONRY VENEERS & SIMULATED STONES
- A. SUBMITTALS: SHOP DRAWINGS AND CALCULATIONS INDICATING PRODUCTS TYPES AND LAYOUT, VERTICAL AND HORIZONTAL DIMENSIONS, EDGE CONDITIONS, AND CONNECTION DETAILS TO SUBSTRATES. PROVIDE GROUT TYPES AND COLOR SAMPLES.
- B. BASIS OF DESIGN: ELDORADE STONE, TUNDRABRICK IN HARTFORD COLOR. MATCH THE MODULAR CONFIGURATIONS INDICATED IN THE CONSTRUCTION DOCUMENTS.
  - A. MATERIALS:
    1. MORTAR: TYPE "N" TINTED TO A COLOR SELECTED BY THE ARCHITECT.
    2. METAL LATH SHALL BE MINIMUM 2.5 LB. PAPER BACKED GALVANIZED METAL LATH (DIAMOND MESH) ATTACHED WITH 1-1/4" TYPE S-12 GALVANIZED NAILS. GALVANIZED FLASHING MAY ALSO BE USED.
    3. IN WALL AND CAP FLASHING SHALL BE CARLISLE "PRE-KLEENED" EPDM OR COMPARABLE PRODUCTS
       - A. MANUFACTURED BY W.R. GRACE OR ALCO.
    4. BUILDING FELT SHALL BE 15# ASPHALT IMPREGNATED BUILDING FELT OVER WEATHER BARRIER OVER WALL
       - A. SHEATHING.
- C. FABRICATIONS: FABRICATE ITEMS IN LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE.
- D. INSTALLATION:
  1. FOLLOW MANUFACTURER RECOMMENDED INSTALLATION INSTRUCTIONS TO MAINTAIN WARRANTY.
  2. APPLY MORTAR 1/2" TO 3/4" THICK TO PREPARED SURFACE AREA USING A PLASTERER'S OR MASON'S TROWEL AND LAY SIMULATED STONE UNITS LEVEL AND TRUE TO LINE IN FULL BEDS OF MORTAR. ALL JOINTS MUST BE COMPLETELY FILLED. APPLY ONLY ENOUGH MORTAR TO ALLOW STONES TO BE SET BEFORE MORTAR BEGINS TO HARDEN.
  3. ALL JOINTS IN SIMULATED STONE WORK SHALL NOT EXCEED AN AVERAGE OF 1/2" IN WIDTH.
  4. RETAIN 1/2" DEEP X 1/4" WIDE SEALANT JOINTS AT PERIMETER OF EXTERIOR DOORS, WINDOW FRAMES AND OTHER WALL OPENINGS.
  5. DO NOT ALLOW MORTAR DROPPINGS TO HARDEN ON EXPOSED SURFACES.
  6. WALLS SHALL BE COVERED WITH 15 LB. BUILDING FELT AND GALVANIZED METAL LATH SHALL BE INSTALLED PRIOR TO APPLICATION OF THE MORTAR BASE. MORTAR BASE MAY BE APPLIED DIRECTLY TO MASONRY BACK-UP.

DIVISION 5 - METALS

05 6000 - STRUCTURAL METAL STUDS AND TRACK

THIS SECTION IS A DELEGATED DESIGN SUBMITTAL. CONTRACTOR SHALL ENGAGE A STRUCUTRAL ENGINEER LICENSED IN THE JURISDICTION WHRE THIS PROJECT IS LOCATED. ALL FEES SUBJECT OF THIS SERVICE WILL BE PART OF BASE CONTRACT.
- A. SUBMITTALS: PRODUCT DATA: MANUFACTURER'S DATA SHEETS ON EACH PRODUCT TO BE USED, INCLUDING:
  1. SHOWING PLANS, SECTIONS, ELEVATIONS, LAYOUTS, PROFILES AND PRODUCT COMPONENT LOCATIONS, INCLUDING ANCHORAGE, BRACING, FASTENERS, ACCESSORIES AND FINISHES.
  2. INDICATE COMPONENT DETAILS, FRAMED OPENINGS, BEARING, ANCHORAGE, LOADING, WELDS, TYPE AND LOCATION OF FASTENERS, AND ACCESSORIES.
  3. INDICATE METHOD FOR SECURING STUDS AND OTHER COMPONENTS TO TRACKS AND FOR FRAMING CONNECTIONS.
  4. SUBMIT CALCULATIONS FOR LOADINGS AND STRESSES UNDER PROFESSIONAL ENGINEER'S SEAL REGISTERED IN THE STATE OF THE PROJECT.
- B. QUALITY STANDARD:
  1. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM FIVE YEARS DOCUMENTED EXPERIENCE.
  2. INSTALLER QUALIFICATIONS: COMPANY SPECIALIZING IN PERFORMING WORK OF THIS SECTION WITH MINIMUM 3 YEARS DOCUMENTED EXPERIENCE.
  3. DESIGN STRUCTURAL ELEMENTS UNDER DIRECT SUPERVISION OF PROFESSIONAL ENGINEER EXPERIENCED IN DESIGN OF THIS WORK AND REGISTERED IN THE STATE OF THE PROJECT.
- C. INSTALLATION:
  1. FOLLOW MANUFACTURER INSTALLATION GUIDLINES. INSTALLATION SHALL BE COMPLIANT WITH APPLICABLE BUILDING CODES.

DIVISION 6 - WOOD AND PLASTICS

06 1000 - ROUGH CARPENTRY
1. PROVIDE SUFFICIENT FIRE RETARDANT TREATED WOOD BLOCKING AT ALL STUDS FOR SECURING OF WALL & CEILING ITEMS, WHETHER FURNISHED BY OWNER OR CONTRACTOR.
2. CONCEALED WOOD IS TO BE FIRE RETARDANT TREATED UNLESS NOTED OTHERWISE.
3. PRESERVATIVE TREATED LUMBER IS REQUIRED FOR ALL ITEMS TO REMAIN IN CONTACT WITH CONCRETE OR MASONRY TO CONFORM TO AWPA STANDARD 5.
4. PLYWOOD SHALL BE CD GRADE APA FIR OR YELLOW PINE. ALL PLY-WOOD TO BE FIRE RATED WHERE WALLS ARE INDICATED AS RATED CONSTRUCTION.
5. BLOCKING SHALL BE CLOSELY FITTED, ACCURATELY SET TO REQUIRED LINES & LEVELS, SECURELY CONNECTED & RIGIDLY FIXED IN PLACE, USING NAILS, SCREWS, &/OR BOLTS AS INDICATED OR REQUIRED BY GOOD PRACTICE AND MANUFACTURER'S RECOMMENDATIONS.

06 2000 - FINISH CARPENTRY
- A. SUBMITTALS: SAMPLES OF FINISH MATERIALS, CATALOG CUTS OF HARDWARE, AND SHOP DRAWINGS INCLUDING DIMENSIONED PLANS, ELEVATIONS, AND SECTIONS.
- B. QUALITY STANDARD: ARCHITECTURAL WOODWORK INSTITUTE'S "ARCHITECTURAL WOODWORK QUALITY STANDARDS"
- C. MATERIALS:
  1. SOFTWOOD LUMBER: MAXIMUM MOISTURE CONTENT OF 6 PERCENT; WITH VERTICAL GRAIN, OF QUALITY SUITABLE FOR SCHEDULED FINISH.
  2. HARDWOOD LUMBER:MAXIMUM MOISTURE CONTENT OF 6 PERCENT; WITH VERTICAL GRAIN, OF QUALITY SUITABLE FOR SCHEDULED FINISH.
  3. SHEET MATERIALS: SOFTWOOD PLYWOOD, EXPOSED TO VIEW: FACE SPECIES AS INDICATED, PLAIN SAWN, MEDIUM DENSITY FIBERBOARD CORE; PS 1 GRADE A-B, GLUE TYPE AS RECOMMENDED FOR APPLICATION.
- D. INTERIOR WOODWORK:
  1. COMPLETE FABRICATION BEFORE SHIPPING TO PROJECT SITE TO MAXIMUM EXTENT FEASIBLE. DISASSEMBLE ONLY AS NEEDED FOR SHIPPING AND INSTALLING. WHERE NECESSARY FOR FITTING AT PROJECT SITE, PROVIDE FOR SCRIBING AND TRIMMING.
  2. BACKOUT AND GROOVE BACKS OF FLAT MEMBERS, KERF BACKS OF OTHER WIDE, FLAT MEMBERS, EXCEPT WHERE ENDS WILL BE EXPOSED IN FINISHED WORK.
- E. INSTALLATION:
  1. DO NOT DELIVER OR INSTALL WOODWORK UNTIL BUILDING IS ENCLOSED, WET WORK IS COMPLETED, HVAC IS OPERATING, AND WOODWORK IS CONDITIONED TO PREVAILING CONDITIONS OF SPACE WHERE INSTALLED. MAINTAIN TEMPERATURE BETWEEN 55 F. AND 75 F. FOR 72 HOURS BEFORE BEGINNING INSTALLATION AND FOR DURATION OF PROJECT.
  2. INSTALL WOODWORK LEVEL AND PLUMB AND SHIM AS REQUIRED WITH CONCEALED SHIMS TO 8 TOLERANCE OF 1 "/96" AND TO COMPLY WITH REFERENCED QUALITY STANDARD FOR GRADE SPECIFIED.
  3. SCRIBE AND CUT WOODWORK TO FIT ADJOINING WORK, SEAL CUT SURFACES, AND REPAIR DAMAGED FINISH AT CUTS.
  4. INSTALL TRIM WITH MINIMUM NUMBER OF JOINTS POSSIBLE USING FULL-LENGTH PIECES TO GREATEST EXTENTPOSSIBLE. STAGGER JOINTS IN ADJACENT AND RELATED MEMBERS.
  5. LUMBER FOR TRANSPARENT FINISH (STAINED OR CLEAR): USE PIECES MADE OF SOLID LUMBER STOCK.
  6. LUMBER FOR PAINTED FINISH: AT CONTRACTOR'S OPTION, USE PIECES WHICH ARE EITHER GLUED-UP OR MADE OF SOLID LUMBER STOCK.
  7. DISCARD UNITS OF MATERIAL WHICH ARE UNSOUND, WARPED, BOWED, TWISTED, IMPROPERLY TREATED, NOT ADEQUATELY SEASONED OR TOO SMALL TO FABRICATE WORK WITH MINIMUM OF JOINTS OR OPTIMUM JOINTING ARRANGEMENTS, OR WHICH ARE DEFECTIVELY MANUFACTURED WITH RESPECT TO SURFACES, SIZES OR PATTERNS.
  8. INSTALL THE WORK PLUMB, LEVEL, TRUE AND STRAIGHT WITH NO DISTORTIONS. SHIM AS REQUIRED USING CONCEALED SHIMS.
  9. SCRIBE AND CUT WORK TO FIT ADJOINING WORK, AND REFINISH CUT SURFACES OR REPAIR DAMAGED FINISH AT CUTS.
  10. SAND WORK SMOOTH AND SET EXPOSED NAILS AND SCREWS.
  11. APPLY WOOD FILLER IN EXPOSED NAIL AND SCREW INDENTATIONS.
  12. FINISH WORK SHALL BE SMOOTH, FREE FROM ABRASION, TOOL MARKS, RAISED GRAIN MARKINGS, OR SIMILAR DEFECTS ON EXPOSED SURFACES.

06 4250 - INTERIOR ARCHITECTURAL WOODWORK
- A. SUBMITTALS: SAMPLES OF FINISH MATERIALS, CATALOG CUTS OF HARDWARE, AND SHOP DRAWINGS INCLUDING DIMENSIONED PLANS, ELEVATIONS, AND SECTIONS. INDICATE COMPONENT PROFILES, FASTENING METHODS, JOINTING DETAILS, AND ACCESSORIES.
  1. SCALE OF DRAWINGS: 1-1/2 INCH TO 1 FOOT, MINIMUM.
  2. PROVIDE THE INFORMATION REQUIRED BY AWI/AWMAC/WI (AWS) OR AWMAC/WI (NAAWS).
  3. SAMPLES: SUBMIT ACTUAL SAMPLES OF ARCHITECTURAL CABINET CONSTRUCTION, MINIMUM 12 INCHES SQUARE, ILLUSTRATING PROPOSED CABINET, COUNTERTOP, AND SHELF UNIT SUBSTRATE AND FINISH.
  4. SHOW LOCATIONS AND SIZES OF FURRING, BLOCKING, AND HANGING STRIPS, INCLUDING CONCEALED BLOCKING AND REINFORCEMENT SPECIFIED IN OTHER SECTIONS.
- B. QUALITY STANDARD: ARCHITECTURAL WOODWORK INSTITUTE'S "ARCHITECTURAL WOODWORK QUALITY STANDARDS"
- C. QUALITY ASSURANCE:
  1. FABRICATOR QUALIFICATIONS: COMPANY SPECIALIZING IN FABRICATING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM FIVE YEARS OF DOCUMENTED EXPERIENCE.
- D. PROJECT CONDITIONS:
  1. ENVIRONMENTAL LIMITATIONS: DO NOT DELIVER OR INSTALL WOODWORK UNTIL BUILDING IS ENCLOSED, WET WORK IS COMPLETE, AND HVAC SYSTEM IS OPERATING AND MAINTAINING TEMPERATURE BETWEEN 60 AND 90 DEG F (16 AND 32 DEG C) AND RELATIVE HUMIDITY BETWEEN 25 AND 55 PERCENT DURING THE REMAINDER OF THE CONSTRUCTION PERIOD.
  2. FIELD MEASUREMENTS: WHERE WOODWORK IS INDICATED TO FIT TO OTHER CONSTRUCTION, VERIFY DIMENSIONS OF OTHER CONSTRUCTION BY FIELD MEASUREMENTS BEFORE FABRICATION, AND INDICATE MEASUREMENTS ON SHOP DRAWINGS. COORDINATE FABRICATION SCHEDULE WITH CONSTRUCTION PROGRESS TO AVOID DELAYING THE WORK.
  3. LOCATE CONCEALED FRAMING, BLOCKING, AND REINFORCEMENTS THAT SUPPORT WOODWORK BY FIELD MEASUREMENTS BEFORE BEING ENCLOSED, AND INDICATE MEASUREMENTS ON SHOP DRAWINGS.
- E. MATERIALS:
  1. GENERAL: PROVIDE MATERIALS THAT COMPLY WITH REQUIREMENTS OF AWI'S QUALITY STANDARD FOR EACH TYPE OF WOODWORK AND QUALITY GRADE SPECIFIED, UNLESS OTHERWISE INDICATED.
  2. INTERIOR WOODWORK GRADE: UNLESS OTHERWISE INDICATED, PROVIDE CUSTOM-GRADE INTERIOR OODWORK COMPLYING WITH REFERENCED QUALITY STANDARD.
  3. PRODUCTS: COMPLY WITH DRAWING DETAILS AND SPECIES OF WOOD OR LAMINATED PRODUCTS DENTIFIED.
  4. COMPONENTS AND THEIR ASSEMBLY SHALL MEET STRUCTURAL PERFORMANCE OF INTENDED PRODUCT USE.
  5. IN THE ABSENCE OF SPECIFIED THICKNESS VALUES, ALL COMPONENTS AND ASSEMBLIES SHALL MEET THE MINIMUM THICKNESS AND MATERIAL REQUIREMENTS OF THOSE TESTED AND USED TO ESTABLISH THE STRUCTURAL PERFORMANCE VALUES.
  6. FURRING, BLOCKING, SHIMS, AND HANGING STRIPS: SOFTWOOD OR HARDWOOD LUMBER, KILN DRIED TO LESS THAN 15 PERCENT MOISTURE CONTENT.
  7. ANCHORS: SELECT MATERIAL, TYPE, SIZE, AND FINISH REQUIRED FOR EACH SUBSTRATE FOR SECURE ANCHORAGE.PROVIDE NONFERROUS-METAL OR HOT-DIP GALVANIZED ANCHORS AND INSERTS ON INSIDE FACE OF EXTERIOR WALLS AND ELSEWHERE AS REQUIRED FOR CORROSION RESISTANCE. PROVIDE TOOTHED-STEEL OR LEADEXPANSION SLEEVES FOR DRILLED-IN-PLACE ANCHORS.
  8. ADHESIVES, GENERAL: ADHESIVES SHALL NOT CONTAIN UREA FORMALDEHYDE.
- F. INSTALLATION:
  1. BEFORE INSTALLATION, CONDITION WOODWORK TO AVERAGE PREVAILING HUMIDITY CONDITIONS IN INSTALLATION AREAS.
  2. VERIFY ADEQUACY OF BACKING AND SUPPORT FRAMING.
  3. INSTALL WOODWORK LEVEL, PLUMB, TRUE, AND STRAIGHT. SHIM AS REQUIRED WITH CONCEALED SHIMS. INSTALL LEVEL AND PLUMB (INCLUDING TOPS) TO A TOLERANCE OF 1/8 INCH IN 96 INCHES (3 MM IN 2400 MM).
  4. VERIFY LOCATION AND SIZES OF UTILITY ROUGH-IN ASSOCIATED WITH WORK OF THIS SECTION.
  5. USE FIXTURE ATTACHMENTS IN CONCEALED LOCATIONS FOR WALL MOUNTED COMPONENTS.
  6. USE CONCEALED JOINT FASTENERS TO ALIGN AND SECURE ADJOINING CABINET UNITS.
  7. CAREFULLY SCRIBE CASEWORK ABUTTING OTHER COMPONENTS, WITH MAXIMUM GAPS OF 1/32 INCH. DO NOT USE ADDITIONAL OVERLAY TRIM FOR THIS PURPOSE. REFINISH CUT SURFACES, AND REPAIR DAMAGED FINISH AT CUTS.
  8. ANCHOR WOODWORK TO ANCHORS OR BLOCKING BUILT IN OR DIRECTLY ATTACHED TO SUBSTRATES. SECURE WITH COUNTERSUNK, CONCEALED FASTENERS AND BLIND NAILING AS REQUIRED FOR COMPLETE INSTALLATION. USE FINE FINISHING NAILS OR FINISHING SCREWS FOR EXPOSED FASTENING, COUNTERSUNK AND FILLED FLUSH WITH WOODWORK AND MATCHING FINAL FINISH IF TRANSPARENT FINISH IS INDICATED.
  9. REPAIR DAMAGED AND DEFECTIVE WOODWORK, WHERE POSSIBLE, TO ELIMINATE FUNCTIONAL AND VISUAL DEFECTS; WHERE NOT POSSIBLE TO REPAIR, REPLACE WOODWORK. ADJUST JOINERY FOR UNIFORM APPEARANCE.
  10. CLEAN WOODWORK ON EXPOSED AND SEMIEXPOSED SURFACES. TOUCH UP SHOP-APPLIED FINISHES TO RESTORE DAMAGED OR SOILED AREAS.

DIVISION 6 - WOOD AND PLASTICS (CONTINUED)

06 8316 - FIBERGLASS REINFORCED PANELING
- A. SUBMITTALS:
  1. PRODUCT DATA: PROVIDE DATA ON SPECIFIED PRODUCTS, DESCRIBING PHYSICAL AND PERFORMANCE CHARACTERISTICS; INCLUDING SIZES, PATTERNS AND COLORS AVAILABLE; AND INSTALLATION INSTRUCTIONS.
  2. SAMPLES: SUBMIT TWO SAMPLES ILLUSTRATING MATERIAL AND SURFACE DESIGN OF PANELS.
- B. BASIS OF DESIGN:
  1. INPRO, MARLITE, NUDO, FRY REGLET, ARMSTRONG, ETC.; REFER TO FINISH LEGEND.
- C. MATERIALS:
  1. PANELS: FIBERGLASS REINFORCED PLASTIC (FRP), COMPLYING WITH ASTM D5319.
     - A. SURFACE BURNING CHARACTERISTICS: MAXIMUM FLAME SPREAD INDEX OF 25 AND SMOKE DEVELOPED INDEX OF 450; WHEN SYSTEM TESTED IN ACCORDANCE WITH ASTM E84.
     - B. CLASS 1 FIRE RATED WHEN TESTED IN ACCORDANCE WITH FM 4880.
     - C. MOLD RESISTANCE: SCORE OF 10, WHEN TESTED IN ACCORDANCE WITH ASTM D3273.
     - D. IMPACT STRENGTH: GREATER THAN 6 FT LB FORCE PER INCH (320 J PER M), WHEN TESTED IN ACCORDANCE WITH ASTM D256.
     - E. CHEMICAL CLEANABILITY: EXCELLENT CHEMICAL RESISTANCE TO COMMON CLEANERS AND DETERGENTS WHEN TESTED IN ACCORDANCE WITH ISO 2812-1.
     - F. BIOLOGICAL RESISTANCE: RATING OF 0, WHEN TESTED IN ACCORDANCE WITH ISO 846.
  2. CEILING SUSPENSION SYSTEM: FIBERGLASS REINFORCED PLASTIC (FRP) LAY-IN GRID.
     - A. PROFILE: TEE; 1-3/8 INCH (35 MM) OR 1-1/2 INCH (38 MM) WIDE FACE.
     - B. SUPPORT CHANNELS AND HANGERS: GALVANIZED OR STAINLESS STEEL, SIZE AND TYPE TO SUIT APPLICATION.
     - C. PLASTIC HOLD-DOWN CLIPS.
  3. TRIM: VINYL; COLOR COORDINATING WITH PANEL.
  4. FASTENERS: NYLON RIVETS.
  5. ADHESIVE: TYPE RECOMMENDED BY PANEL MANUFACTURER.
  6. SEALANT: TYPE RECOMMENDED BY PANEL MANUFACTURER; WHITE.
- D. INSTALLATION - WALLS:
  1. INSTALL PANELS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
  2. SEAL GAPS AT FLOOR, CEILING, AND BETWEEN PANELS WITH APPLICABLE SEALANT TO PREVENT MOISTURE INTRUSION.
- E. INSTALLATION - CEILINGS:
  1. INSTALL SUSPENSION SYSTEM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

07 1300 - SHEET WATERPROOFING
- A. SUBMITTALS:
  1. PRODUCT DATA: PROVIDE DATA FOR MEMBRANE.
  2. PROVIDE SHOP DRAWINGS: INDICATE SPECIAL JOINT OR TERMINATION CONDITIONS AND CONDITIONS OF INTERFACE WITH OTHER MATERIALS.
  3. CERTIFICATE: CERTIFY THAT PRODUCTS MEET OR EXCEED SPECIFIED REQUIREMENTS.
- B. SURFACE BURNING CHARACTERISTICS:
  1. FLAME SPREAD INDEX: 25 OR LESS
  2. SMOKE DEVELOPED INDEX: 50 OR LESS IN EXPOSED AREAS AND PLENUMS; 450 OR LESS WHERE CONCEALED.
- C. FIELD CONDITIONS:
  1. MAINTAIN AMBIENT TEMPERATURES ABOVE 40 DEGREES F FOR 24 HOURS BEFORE AND DURING APPLICATION AND UNTIL LIQUID OR MASTIC ACCESSORIES HAVE CURED.
- D. WARRANTY:
  1. CONTRACTOR SHALL CORRECT DEFECTIVE WORK WITHIN A FIVE YEAR PERIOD AFTER DATE OF SUBSTANTIAL COMPLETION; REMOVE AND REPLACE MATERIALS CONCEALING WATERPROOFING AT NO EXTRA COST TO OWNER.
- E. BASIS OF DESIGN:
  1. W.R. MEADOWS, INC; MEL-ROL: WWW.WRMEADOWS.COM
- F. MATERIALS:
  1. SELF-ADHERED MODIFIED BITUMINOUS SHEET MEMBRANE: LOCATION: LOCATIONS AS IDENTIFIED IN DRAWINGS.
  2. ROLLED,SELF-ADHERED MODIFIED BITUMINOUS SHEET MEMBRANE: THICKNESS: 60 MIL, 0.060 INCH, MINIMUM. THICKNESS: 60 MIL, 0.060 INCH, MINIMUM. CARRIER FILM: 4 MILS, POLYMERIC MEMBRANE:56 MILS, SHEET WIDTH: 36 INCH, MINIMUM.
  3. SEAMING MATERIALS: AS RECOMMENDED BY MEMBRANE MANUFACTURER.
  4. MEMBRANE SEALANT: AS RECOMMENDED BY MEMBRANE MANUFACTURER.
  5. TERMINATION BARS: ALUMINUM; COMPATIBLE WITH MEMBRANE AND ADHESIVES.
  6. SURFACE CONDITIONER: COMPATIBLE WITH MEMBRANE.
  7. ADHESIVES: AS RECOMMENDED BY MEMBRANE MANUFACTURER.
  8. THINNER AND CLEANER: AS RECOMMENDED BY ADHESIVE MANUFACTURER, COMPATIBLE WITH SHEET MEMBRANE.
- G. ACCESSORIES:
  1. SEALANT FOR CRACKS AND JOINTS IN SUBSTRATES: RESILIENT ELASTOMERIC JOINT SEALANT COMPATIBLE WITH SUBSTRATES AND WATERPROOFING MATERIALS.
  2. PROTECTION BOARD: PROVIDE TYPE CAPABLE OF PREVENTING DAMAGE TO WATERPROOFING DUE TO BACKFILLING AND CONSTRUCTION TRAFFIC.
- H. INSTALLATION:
  1. DO NOT INSTALL INSULATION ADHESIVES WHEN TEMPERATURE OR WEATHER CONDITIONS ARE DETRIMENTAL TO SUCCESSFUL INSTALLATION. DO NOT APPLY WATERPROOFING TO SURFACES UNACCEPTABLE TO MEMBRANE MANUFACTURER.
  2. CLEAN AND PREPARE SURFACES TO RECEIVE WATERPROOFING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS; VACUUM SUBSTRATE CLEAN.
  3. FILL NON-MOVING JOINTS AND CRACKS WITH A FILLER COMPATIBLE WITH WATERPROOFING MATERIALS.SEAL MOVING CRACKS WITH SEALANT AND NON-RIGID FILLER, USING PROCEDURES RECOMMENDED BY SEALANT AND WATERPROOFING MANUFACTURERS.
  4. INSTALL MEMBRANE WATERPROOFING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND NRCA (WM) APPLICABLE REQUIREMENTS.
  5. SELF-ADHERING MEMBRANE: REMOVE RELEASE PAPER LAYER, AND ROLL OUT ONTO SUBSTRATE WITH A MECHANICAL ROLLER TO PROVIDE FULL CONTACT BOND.
  6. OVERLAP EDGES AND ENDS, MINIMUM 3 INCHES, SEAL PERMANENTLY WATERPROOF BY METHOD RECOMMENDED BY MANUFACTURER, AND APPLY UNIFORM BEAD OF SEALANT TO JOINT EDGE.
  7. REINFORCE MEMBRANE WITH MULTIPLE THICKNESS OF MEMBRANE MATERIAL OVER JOINTS, WHETHER JOINTS ARE STATIC OR DYNAMIC.
  8. WEATHER LAP JOINTS ON SLOPED SUBSTRATE IN DIRECTION OF DRAINAGE, AND SEAL JOINTS AND SEAMS.
  9. FLEXIBLE FLASHINGS: SEAL ITEMS WATERTIGHT THAT PENETRATE THROUGH WATERPROOFING MEMBRANE WITH FLEXIBLE FLASHINGS.
  10. SEAL MEMBRANE AND FLASHINGS TO ADJOINING SURFACES. INSTALL TERMINATION BAR ALONG EDGES. INSTALL COUNTERFLASHING OVER EXPOSED EDGES.
  11. INSTALLATION OF DRAINAGE PANEL AND PROTECTION BOARD. INSTALLER TO FOLLOW MANUFACTURERS INSTALLATION PROCEDURES.
  12. UPON COMPLETION OF HORIZONTAL MEMBRANE INSTALLATION, DAM INSTALLATION AREA IN PREPARATION FOR FLOOD TESTING. FLOOD TO MINIMUM DEPTH OF 1 INCH WITH CLEAN WATER, AND AFTER 48 HOURS INSPECT FOR LEAKS. IF LEAKING IS FOUND, REMOVE WATER, REPAIR LEAKING AREAS WITH NEW WATERPROOFING MATERIALS AS DIRECTED BY ARCHITECT; REPEAT FLOOD TEST, AND REPAIR DAMAGE TO BUILDING. WHEN AREA IS PROVEN WATERTIGHT, DRAIN WATER AND REMOVE DAM.

07 2100 - THERMAL INSULATION
- A. SUBMITTALS: PRODUCT DATA FOR EACH TYPE OF INSULATION SPECIFIED.
  SURFACE BURNING CHARACTERISTICS:
  1. FLAME SPREAD INDEX: 25 OR LESS
  2. SMOKE DEVELOPED INDEX: 50 OR LESS IN EXPOSED AREAS AND PLENUMS; 450 OR LESS WHERE CONCEALED.
- B. INSULATION PRODUCTS:
  1. MINERAL FIBER OR GLASS FIBER BLANKET INSULATION: TYPE I, UNFACED WHERE SPECIFIED WITH SEPARATE VAPOR BARRIER.FIBERS MANUFACTURED FROM GLASS, SLAG WOOL, OR ROCK WOOL. FLEXIBLE PREFORMED BATT OR BLANKET, COMPLYING WITH ASTM C665; FRICTION FIT.SEE DRAWINGS FOR SPECIFIC TYPES.
     - A. FLAME SPREAD INDEX: 25 OR LESS, WHEN TESTED IN ACCORDANCE WITH ASTM E84.
     - B. SMOKE DEVELOPED INDEX: 450 OR LESS, WHEN TESTED IN ACCORDANCE WITH ASTM E84.
     - C. COMBUSTIBILITY: NON-COMBUSTIBLE, WHEN TESTED IN ACCORDANCE WITH ASTM E136, EXCEPT FOR FACING, IF ANY.
  2. BOARD INSULATION: BOARD INSULATION AT CAVITY WALL CONSTRUCTION, EXTERIOR WALL BEHIND [RATED AND ACOUSTIC CONDITIONS] WALL FINISH, AND INTERIOR WALL WITH FACER PROVIDING EXPOSED FINISH.
     - A. EXPANDED POLYSTYRENE (EPS) BOARD INSULATION: COMPLIES WITH ASTM C578.
       1. FLAME SPREAD INDEX (FSI): CLASS A - 0 TO 25, WHEN TESTED IN ACCORDANCE WITH ASTM E84.
       2. SMOKE DEVELOPED INDEX (SDI): 450 OR LESS, WHEN TESTED IN ACCORDANCE WITH ASTM E84.
       3. BOARD SIZE: 48 INCH BY 96 INCH.
       4. BOARD THICKNESS: 1-1/2 INCH.
       5. TYPE AND COMPRESSIVE RESISTANCE: TYPE XI, 5 PSI (35 KPA), MINIMUM.
       6. TYPE AND WATER ABSORPTION: TYPE XI, 4.0 PERCENT BY VOLUME, MAXIMUM, BY TOTAL IMMERSION.
- C. ACCESSORIES:
  1. VAPOR RETARDER: 6 MIL POLYETHYLENE AT CONCEALED AREAS (FLAME SPREAD/SMOKE DEVELOPED: 25/450), FOIL/SCRIM AT PLENUMS AND EXPOSED AREAS (FLAME SPREAD/SMOKE DEVELOPED: 25/50). PROVIDE WHERE INDICATED IN DRAWINGS.
  2. TAPE: REINFORCED POLYETHYLENE FILM WITH ACRYLIC PRESSURE SENSITIVE ADHESIVE. APPLICATION: SEALING OF INTERIOR CIRCULAR PENETRATIONS, SUCH AS PIPES OR CABLES.
- D. INSTALLATION:
  1. DO NOT INSTALL INSULATION ADHESIVES WHEN TEMPERATURE OR WEATHER CONDITIONS ARE DETRIMENTAL TO SUCCESSFUL INSTALLATION.
  2. INSTALL INSULATION IN AREAS AND IN THICKNESSES INDICATED OR REQUIRED TO PRODUCE R-VALUES WHERE INDICATED. CUT AND FIT TIGHTLY AROUND OBSTRUCTIONS AND FILL VOIDS WITH INSULATION.
  3. INSTALL IN EXTERIOR WALL AND CEILING SPACES WITHOUT GAPS OR VOIDS. DO NOT COMPRESS INSULATION.
  4. TRIM INSULATION NEATLY TO FIT SPACES. INSULATE MISCELLANEOUS GAPS AND VOIDS.
  5. EXTEND VAPOR RETARDER TO EXTREMITIES OF AREAS TO BE PROTECTED FROM VAPOR TRANSMISSION. SECURE IN PLACE WITH ADHESIVES OR OTHER ANCHORAGE AS RECOMMENDED BY MANUFACTURER. LOCATE SEAMS AT FRAMING MEMBERS, OVERLAP AND SEAL WITH SUITABLE TAPE (DUCT TAPE IS NOT SUITABLE).
  6. DO NOT PERMIT INSTALLED INSULATION TO BE DAMAGED PRIOR TO ITS CONCEALMENT.

07 2500 - WEATHER BARRIERS
- A. SUBMITTALS: PRODUCT DATA: PROVIDE DATA ON MATERIAL CHARACTERISTICS. SHOP DRAWINGS: PROVIDE DRAWINGS OF SPECIAL JOINT CONDITIONS.
- B. MOCK-UP: INSTALL AIR BARRIER, VAPOR RETARDER, AND WATER-RESISTIVE BARRIER MATERIALS IN MOCK-UP.
- C. PRODUCTS: AIR BARRIER, FLUID APPLIED: VAPOR PERMEABLE, ELASTOMERIC WATERPROOFING.
- D. BASIS OF DESIGN: BASF CORPORATION; MASTERSEAL AWB 665:
- E. ACCESSORIES:
  1. SEALANTS, TAPES, AND ACCESSORIES FOR SEALING WEATHER BARRIER AND SEALING WEATHER BARRIER TO ADJACENT SUBSTRATES: AS SPECIFIED OR AS RECOMMENDED BY WEATHER BARRIER MANUFACTURER.
  2. FLEXIBLE FLASHING: SHEATHING FABRIC SATURATED WITH AIR BARRIER COATING AND COMPLYING WITH THE APPLICABLE REQUIREMENTS OF ICC-ES AC148.
  3. LIQUID FLASHING: ONE PART, FAST CURING, NON-SAG, ELASTOMERIC, GUN GRADE, TROWELABLE LIQUID FLASHING.
- F. PREPARATION:
  1. VERIFY THAT SURFACES AND CONDITIONS ARE READY TO ACCEPT THE WORK OF THIS SECTION.
  2. REMOVE PROJECTIONS, PROTRUDING FASTENERS, AND LOOSE OR FOREIGN MATTER THAT MIGHT INTERFERE WITH PROPER INSTALLATION.
  3. CLEAN AND PRIME SUBSTRATE SURFACES TO RECEIVE ADHESIVES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- G. INSTALLATION:
  1. INSTALL MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
  2. AIR BARRIERS: INSTALL CONTINUOUS AIR TIGHT BARRIER OVER SURFACES INDICATED, WITH SEALED SEAMS AND WITH SEALED JOINTS TO ADJACENT SURFACES.
  3. PREPARE SUBSTRATE IN MANNER RECOMMENDED BY COATING MANUFACTURER; TREAT JOINTS IN SUBSTRATE AND BETWEEN DISSIMILAR MATERIALS AS RECOMMENDED BY MANUFACTURER.
  4. MASTIC COATING: INSTALL BY TROWEL OR ROLLER TO MINIMUM THICKNESS OF 1/4 INCH; USE SHEET SEAL TO JOIN TO ADJACENT CONSTRUCTION, SEAL AIR TIGHT WITH SEALANT.
  5. USE FLASHING TO SEAL TO ADJACENT CONSTRUCTION AND TO BRIDGE JOINTS.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION (CONTINUED)

07 2500 - WEATHER BARRIERS (CONTINUED)
- G. INSTALLATION (CONTINUED):
  6. INSTALL FLASHING OVER SILLS, COVERING ENTIRE SILL FRAME MEMBER, EXTENDING AT LEAST 5 INCHES ONTO WEATHER BARRIER AND AT LEAST 6 INCHES UP JAMBS; MECHANICALLY FASTEN STRETCHED EDGES.
  7. AT OPENINGS TO BE FILLED WITH FRAMES HAVING NAILING FLANGES, SEAL HEAD AND JAMB FLANGES USING A CONTINUOUS BEAD OF SEALANT COMPRESSED BY FLANGE AND COVER FLANGES WITH SEALING TAPE AT LEAST 4 INCHES WIDE; DO NOT SEAL SILL FLANGE.
  8. AT OPENINGS TO BE FILLED WITH NON-FLANGED FRAMES, SEAL WEATHER BARRIER TO EACH SIDE OF OPENING FRAMING, USING FLASHING AT LEAST 9 INCHES WIDE, COVERING ENTIRE DEPTH OF FRAMING.
  9. AT HEAD OF OPENINGS, INSTALL FLASHING UNDER WEATHER BARRIER EXTENDING AT LEAST 2 INCHES BEYOND FACE OF JAMBS; SEAL WEATHER BARRIER TO FLASHING.
  10. AT INTERIOR FACE OF OPENINGS, SEAL GAP BETWEEN WINDOW/DOOR FRAME AND ROUGH FRAMING, USING JOINT SEALANT OVER BACKER ROD.

07 4020 - EXTERIOR INSULATION AND FINISH SYSTEMS
- A. SUBMITTALS: PRODUCT DATA: PROVIDE DATA ON SYSTEM MATERIALS, PRODUCT CHARACTERISTICS, PERFORMANCE CRITERIA.
  1. SHOP DRAWINGS: INDICATE WALL AND SOFFIT JOINT PATTERNS, JOINT DETAILS, AND MOLDING PROFILES
  2. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE SPECIAL PROCEDURES.
- B. MOCK- UP:
  1. CONSTRUCT MOCK-UP OF TYPICAL EIFS APPLICATION ON SPECIFIED SUBSTRATE, SIZE AS INDICATED ON DRAWINGS, AND INCLUDING FLASHINGS, JOINTS, AND EDGE CONDITIONS.
  2. MOCK-UP MAY REMAIN AS PART OF THE WORK.
- C. FIELD CONDITIONS:
  1. DO NOT PREPARE MATERIALS OR APPLY EIFS UNDER CONDITIONS OTHER THAN THOSE DESCRIBED IN THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
  2. DO NOT PREPARE MATERIALS OR APPLY EIFS DURING INCLEMENT WEATHER UNLESS AREAS OF INSTALLATION ARE PROTECTED. PROTECT INSTALLED EIFS AREAS FROM INCLEMENT WEATHER UNTIL DRY.
- D. WARRANTY:
  1. PROVIDE MANUFACTURER'S STANDARD MATERIAL WARRANTY, COVERING A PERIOD OF NOT LESS THAN 5 YEARS.
- E. PRODUCTS:
  1. EXTERIOR INSULATION AND FINISH SYSTEM: DRAINAGE TYPE; REINFORCED FINISH COATING ON FLAT-BACKED INSULATION BOARD ADHESIVE-APPLIED DIRECTLY TO WATER-RESISTIVE COATING OVER SUBSTRATE;PROVIDE A COMPLETE SYSTEM THAT HAS BEEN TESTED TO SHOW COMPLIANCE WITH THE FOLLOWINGCHARACTERISTICS; INCLUDE ALL COMPONENTS OF SPECIFIED SYSTEM AND SUBSTRATE(S) IN TESTED SAMPLES.
  2. FIRE CHARACTERISTICS:
     - A. FLAMMABILITY: PASS, WHEN TESTED IN ACCORDANCE WITH NFPA 285.
     - B. IGNITIBILITY: NO SUSTAINED FLAMING WHEN TESTED IN ACCORDANCE WITH NFPA 268.
- F. MATERIALS:
  1. FINISH COATING TOP COAT: WATER-BASED, AIR CURING, ACRYLIC OR POLYMER-BASED FINISH WITH INTEGRAL COLOR AND TEXTURE.
  2. REINFORCING MESH: BALANCED, OPEN WEAVE GLASS FIBER FABRIC, TREATED FOR COMPATIBILITY AND IMPROVED BOND WITH COATING, WEIGHT, STRENGTH, AND NUMBER OF LAYERS AS REQUIRED TO MEET REQUIRED SYSTEM IMPACT RATING.
  3. EXTRUDED POLYSTYRENE (XPS) BOARD INSULATION: COMPLIES WITH ASTM C578, WITH NATURAL SKIN SURFACES.
  4. WATER-RESISTIVE BARRIER COATING: FLUID-APPLIED AIR AND WATER BARRIER MEMBRANE; APPLIED TO SHEATHING; FURNISHED OR APPROVED BY EIFS MANUFACTURER.
- G. ACCESSORY MATERIALS:
  1. INSULATION ADHESIVE: TYPE REQUIRED BY EIFS MANUFACTURER FOR PROJECT SUBSTRATE.
- H. INSTALLATION:
  1. GENERAL: INSTALL IN ACCORDANCE WITH EIFS MANUFACTURER'S INSTRUCTIONS AND ASTM C1397.
  2. WATER RESISTIVE BARRIER: APPLY BARRIER COATING AS RECOMMENDED BY COATING MANUFACTURER; PRIME SUBSTRATE AS REQUIRED BEFORE APPLICATION.
  3. INSULATION:
     - A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
     - B. PLACE BOARDS IN A METHOD TO MAXIMIZE TIGHT JOINTS. STAGGER VERTICAL JOINTS AND INTERLOCK AT CORNERS. BUTT EDGES AND ENDS TIGHT TO ADJACENT BOARD AND TO PROTRUSIONS. ACHIEVE A CONTINUOUS FLUSH INSULATION SURFACE, WITH NO GAPS IN EXCESS OF 1/16.
     - C. FILL GAPS GREATER THAN 1/16 INCH WITH STRIPS OR SHIMS CUT FROM THE SAME INSULATION MATERIAL.
  4. CLASS PM FINISH:
     - A. REINFORCING MESH: INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
     - B. BASE COAT: INSTALL TO MINIMUM THICKNESS SPECIFIED, FOLLOWING MANUFACTURER'S INSTRUCTIONS. LEAVE BASE COAT IN CONDITION SUITABLE TO RECEIVE FINISH COAT.
     - C. FINISH COAT: APPLY FINISH COAT AFTER BASE COAT HAS DRIED NOT LESS THAN 24 HOURS, EMBED FINISH AGGREGATE, AND FINISH TO A UNIFORM TEXTURE AND COLOR.

07 4113 - ROOFING MATERIALS & ACCESSORIES
- A. SUBMITTALS: PRODUCT DATA, AND SAMPLES OF EACH PRODUCT AND COLOR OPTIONS.
- B. WARRANTY:
  1. SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF METAL PANEL SYSTEMS THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
     - A. WARRANTY PERIOD: TWO YEARS FROM DATE OF SUBSTANTIAL COMPLETION.
  2. SPECIAL WARRANTY ON PANEL FINISHES: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR FINISH OR REPLACE METAL PANELS THAT SHOW EVIDENCE OF DETERIORATION OF FACTORY-APPLIED FINISHES WITHIN SPECIFIED WARRANTY PERIOD.
     - A. FINISH WARRANTY PERIOD: 20 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.
  3. SPECIAL WEATHERTIGHTNESS WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE STANDING-SEAM METAL ROOF PANEL ASSEMBLIES THAT FAIL TO REMAIN WEATHERTIGHT, INCLUDING LEAKS, WITHIN SPECIFIED WARRANTY PERIOD.
     - A. WARRANTY PERIOD: 20 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.
- C. BASIS OF DESIGN: VERTICAL-RIB, SNAP-JOINT, STANDING-SEAM METAL ROOF PANELS:SUBJECT TO COMPLIANCE WITH REQUIREMENTS PROVIDE HIGH SEAM TEE-PANEL ROOFING, WITH 18-1/4 INCH COVERAGE AND 1" HIGH RIBS AS MANUFACTURED BY BERRIDGE MANUFACTURING COMPANY OR APPROVED EQUAL.
  1. METALLIC-COATED STEEL SHEET: ZINC-COATED (GALVANIZED) STEEL SHEET COMPLYING WITH ASTM A 653/A 653M, G90 (Z275) COATING DESIGNATION, OR ALUMINUM-ZINC ALLOY-COATED STEEL SHEET COMPLYING WITH ASTM A 792/A 792M, CLASS AZ50 (CLASS AZM150) COATING DESIGNATION; STRUCTURAL QUALITY. PREPAINTED BY THE COIL-COATING PROCESS TO COMPLY WITH ASTM A 755/A 755M.
     - A. NOMINAL THICKNESS: 0.034 INCH, 22 GA.
     - B. EXTERIOR FINISH: TWO-COAT FLUOROPOLYMER.
     - C. COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.
     - D. PANEL COVERAGE: NOMINAL 18 INCHES.
     - E. PANEL HEIGHT: 1.0 INCH.
- D. MATERIALS:
  1. SELF-ADHERING, HIGH-TEMPERATURE UNDERLAYMENT: PROVIDE SELF-ADHERING, COLD-APPLIED, SHEET UNDERLAYMENT, A MINIMUM OF 30 MILS THICK, CONSISTING OF SLIP-RESISTANT, POLYETHYLENE-FILM TOP SURFACE LAMINATED TO A LAYER OF BUTYL OR SBS-MODIFIED ASPHALT ADHESIVE, WITH RELEASE-PAPER BACKING. PROVIDE PRIMER WHEN RECOMMENDED BY UNDERLAYMENT MANUFACTURER.
  2. FELT UNDERLAYMENT: ASTM D 226/D 22M, TYPE II (NO. 30), ASPHALT-SATURATED ORGANIC FELTS.
  3. SLIP SHEET: MANUFACTURER'S RECOMMENDED SLIP SHEET, OF TYPE REQUIRED FOR APPLICATION.
  4. MISCELLANEOUS METAL SUBFRAMING AND FURRING: ASTM C 645; COLD-FORMED, METALLIC-COATED STEEL SHEET, ASTM A 653/A 653M, G90 (Z275 HOT-DIP GALVANIZED) COATING DESIGNATION OR ASTM A 792/A 792M, CLASS AZ50 (CLASS AZM150) COATING DESIGNATION UNLESS OTHERWISE INDICATED. PROVIDE MANUFACTURER'S STANDARD SECTIONS AS REQUIRED FOR SUPPORT AND ALIGNMENT OF METAL PANEL SYSTEM.
- E. ACCESSORIES:
  1. PANEL ACCESSORIES: PROVIDE COMPONENTS REQUIRED FOR A COMPLETE, WEATHERTIGHT PANEL SYSTEM INCLUDING TRIM, COPINGS, FASCIAE, MULLIONS, SILLS, CORNER UNITS, CLIPS, FLASHINGS, SEALANTS, GASKETS, FILLERS, CLOSURE STRIPS, AND SIMILAR ITEMS. MATCH MATERIAL AND FINISH OF METAL PANELS UNLESS OTHERWISE INDICATED.
     - A. CLOSURES: PROVIDE CLOSURES AT EAVES AND RIDGES, FABRICATED OF SAME METAL AS METAL PANELS.
     - B. BACKING PLATES: PROVIDE METAL BACKING PLATES AT PANEL END SPLICES, FABRICATED FROM MATERIAL RECOMMENDED BY MANUFACTURER.
     - C. FLASHING AND TRIM: PROVIDE FLASHING AND TRIM FORMED FROM SAME MATERIAL AS METAL PANELS AS REQUIRED TO SEAL AGAINST WEATHER AND TO PROVIDE FINISHED APPEARANCE. LOCATIONS INCLUDE, BUT ARE NOT LIMITED TO, EAVES, RAKES, CORNERS, BASES, FRAMED OPENINGS, RIDGES, FASCIAE, AND FILLERS. FINISH FLASHING AND TRIM WITH SAME FINISH SYSTEM AS ADJACENT METAL PANELS.
     - D. PANEL FASTENERS: SELF-TAPPING SCREWS DESIGNED TO WITHSTAND DESIGN LOADS.
     - E. PANEL SEALANTS: PROVIDE SEALANT TYPE RECOMMENDED BY MANUFACTURER THAT ARE COMPATIBLE WITH PANEL MATERIALS, ARE NONSTAINING, AND DO NOT DAMAGE PANEL FINISH.
       1. SEALANT TAPE: PRESSURE-SENSITIVE, 100 PERCENT SOLIDS, GRAY POLYISOBUTYLENE COMPOUND SEALANT TAPE WITH RELEASE-PAPER BACKING; 1/2 INCH WIDE AND 1/8 INCH THICK.
       2. JOINT SEALANT: ASTM C 920; AS RECOMMENDED IN WRITING BY METAL PANEL MANUFACTURER.
       3. BUTYL-RUBBER-BASED, SOLVENT-RELEASE SEALANT: ASTM C 1311.
- F. INSTALLATION:
  1. INSTALL ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

07 5423 - TPO MEMBRANE ROOFING & ACCESSORIES
- A. SUBMITTALS: PRODUCT DATA, AND SHOP DRAWINGS: INDICATE JOINT OR TERMINATION DETAIL CONDITIONS, CONDITIONS OF INTERFACE WITH OTHER MATERIALS, AND PAVER OR WALKWAY PAD LAYOUT.
  1. MANUFACTURER'S FIELD REPORTS: INDICATE PROCEDURES FOLLOWED, AMBIENT TEMPERATURES, HUMIDITY, WIND VELOCITY DURING APPLICATION, AND SUPPLEMENTARY INSTRUCTIONS GIVEN.SUBMIT FINAL MANUFACTURER'S PUNCH -LIST FIELD REPORT WHEN COMPLETE SYSTEM IS INSTALLED.
  2. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE MEMBRANE SEAMING PRECAUTIONS AND PERIMETER CONDITIONS REQUIRING SPECIAL ATTENTION.
- B. WARRANTY:
  1. MATERIAL WARRANTY: PROVIDE MEMBRANE MANUFACTURER'S WARRANTY AGREEING TO REPLACE MATERIAL THAT SHOWS MANUFACTURING DEFECTS WITHIN 10 YEARS AFTER INSTALLATION.
  2. SYSTEM WARRANTY: PROVIDE MANUFACTURER'S SYSTEM WARRANTY AGREEING TO REPAIR OR REPLACE ROOFING THAT LEAKS OR IS DAMAGED DUE TO WIND OR OTHER NATURAL CAUSES. WARRANTY TERM: 20 YEARS.
     - A. FOR REPAIR AND REPLACEMENT INCLUDE COSTS OF BOTH MATERIAL AND LABOR IN WARRANTY.
     - B. INCLUDE ACCIDENTAL PUNCTURES ACCORDING TO THE MANUFACTURER'S STANDARD WARRANTY TERMS.
     - C. INCLUDE HAIL DAMAGE ACCORDING TO THE MANUFACTURER'S STANDARD WARRANTY TERMS.
     - D. EXCEPTIONS NOT PERMITTED: DAMAGE DUE TO ROOF TRAFFIC. DAMAGE DUE TO WIND OF SPEED GREATER THAN 56 MPH BUT LESS THAN 90 MPH.
- C. BASIS OF DESIGN: GAF: WWW.GAF.COM, TPO MEMBRANE ROOFING: ONE PLY MEMBRANE, MECHANICALLY ATTACHED, OVER PROTECTION BOARD/OVER TAPERED INSULATION.
  1. WIND UPLIFT: DESIGNED TO WITHSTAND WIND UPLIFT FORCES CALCULATED WITH ASCE 7.
  2. INSULATION THERMAL RESISTANCE (R-VALUE): 3 PER INCH, MINIMUM; PROVIDE INSULATION OF THICKNESS REQUIRED. MINIMUM R-30
- D. ROOFING MEMBRANE MATERIALS:
  1. MATERIAL: THERMOPLASTIC POLYOLEFIN (TPO) COMPLYING WITH ASTM D6878/D6878M.
     - A. REINFORCING: INTERNAL FABRIC.
     - B. THICKNESS: 45 MILS (0.045 INCH), MINIMUM.
     - C. SHEET WIDTH: FACTORY FABRICATED INTO LARGEST SHEETS POSSIBLE.COLOR: WHITE.
     - D. PRODUCT: GAF EVERGUARD TPO
  2. SEAMING MATERIALS: AS RECOMMENDED BY MEMBRANE MANUFACTURER.
  3. VAPOR RETARDER: MATERIAL APPROVED BY ROOF MANUFACTURER COMPLYING WITH REQUIREMENTS OF FIRE RATING CLASSIFICATION; COMPATIBLE WITH ROOFING AND INSULATION MATERIALS. INSTALL WITH FIRE-RETARDANT ADHESIVE.
  4. FLEXIBLE FLASHING MATERIAL: SAME MATERIAL AS MEMBRANE.
  5. BASE FLASHING: PROVIDE WATERPROOF, FULLY ADHERED BASE FLASHING SYSTEM AT ALL PENETRATIONS, PLANE TRANSITIONS, AND TERMINATIONS.
- E. DECK SHEATHING AND COVER BOARDS:
  1. DECK SHEATHING: GYPSUM SHEATHING, ASTM C1396/C1396M, TYPE X SPECIAL FIRE RESISTANT TYPE, PAPER FACE, 1/2 INCH THICK. PRODUCT: SECUROCK, DISTRIBUTED BY CARLISLE.
  2. COVERBOARD: POLYISO COVERBOARD BY GAF, COMPLYING WITH ASTM C1325.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION (CONTINUED)

07 5423 - TPO MEMBRANE ROOFING & ACCESSORIES (CONTINUED)
- F. INSULATION:
  1. INSULATION COMPLYING WITH MANUFACTURERES RECOMMENDATIONS.
  2. CELLULOSE FIBER BOARD INSULATION: ASTM C208, TYPE II; NATURAL FINISH.
  3. EXPANDED POLYSTYRENE (EPS) BOARD INSULATION: COMPLIES WITH ASTM C578 WITH DRAINAGE CHANNELS ON ONE FACE.
  4. TAPERED BOARD: SLOPE AS INDICATED; MINIMUM THICKNESS 1/2 INCH; FABRICATE OF FEWEST LAYERS POSSIBLE.
     - A. PRODUCT: CARLISLE INSULFOAM.
  5. EXTRUDED POLYSTYRENE (XPS) BOARD INSULATION: COMPLIES WITH ASTM C578 WITH NATURAL SKIN SURFACE, DRAINAGE CHANNELS ON ONE FACE.
- G. ACCESSORIES:
  1. PROVIDE AND INSTALL ONLY ACCESSORIES WHICH COMPLY WITH MANUFACTURERS RECOMMENDATIONS.
- H. INSTALLATION:
  1. VERIFY THAT SURFACES AND SITE CONDITIONS ARE READY TO RECEIVE WORK.
  2. VERIFY DECK IS SUPPORTED AND SECURE.
  3. ## INCHES WIDE WITH SELF-SEALING STRIP FACE UP AT ROOF EDGE. INSTALL STARTER STRIP ALONG RAKE EDGE.
  4. VERIFY DECK IS CLEAN AND SMOOTH, FLAT, FREE OF DEPRESSIONS, WAVES, OR PROJECTIONS, PROPERLY SLOPED AND SUITABLE FOR INSTALLATION OF ROOF SYSTEM.
  5. VERIFY DECK SURFACES ARE DRY AND FREE OF RAIN, SNOW OR ICE.
  6. VERIFY THAT ROOF OPENINGS, CURBS, AND PENETRATIONS THROUGH ROOF ARE SOLIDLY SET, AND CANT STRIPS ARE IN PLACE.
  7. CLEAN SUBSTRATE THOROUGHLY PRIOR TO ROOF APPLICATION.
  8. DO NOT BEGIN WORK UNTIL OTHER WORK THAT REQUIRES FOOT OR EQUIPMENT TRAFFIC ON ROOF IS COMPLETE.
  9. APPLY MANUFACTURER'S RECOMMENDED VAPOR RETARDER OR TEMPORARY ROOF BEFORE ROOF INSTALLATION.
  10. PERFORM WORK IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND NRCA (RM) APPLICABLE REQUIREMENTS.
  11. REMOVE WRAPPINGS, EMPTY CONTAINERS, PAPER, AND OTHER DEBRIS FROM THE ROOF DAILY. DISPOSE OF DEBRIS IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
  12. REMOVE BITUMINOUS MARKINGS FROM FINISHED SURFACES.
  13. IN AREAS WHERE FINISHED SURFACES ARE SOILED BY WORK OF THIS SECTION, CONSULT MANUFACTURER OF SURFACES FOR CLEANING ADVICE AND CONFORM TO THEIR DOCUMENTED INSTRUCTIONS.
  14. REPAIR OR REPLACE DEFACED OR DAMAGED FINISHES CAUSED BY WORK OF THIS SECTION.
- I. PROTECTION:
  1. PROTECT INSTALLED ROOFING AND FLASHINGS FROM CONSTRUCTION OPERATIONS.
  2. WHERE TRAFFIC MUST CONTINUE OVER FINISHED ROOF MEMBRANE, PROTECT SURFACES USING DURABLE MATERIALS.

07 6200 - SHEET METAL FLASHING AND TRIM
- A. STANDARDS:
  1. FABRICATED SHEET METAL ITEMS, INCLUDING FLASHINGS, COUNTERFLASHINGS, AND OTHER ITEMS INDICATED IN SCHEDULE.
     - AAMA 611 - VOLUNTARY SPECIFICATION FOR ANODIZED ARCHITECTURAL ALUMINUM 2014 (2015 ERRATA).
     - ASTM C920 - STANDARD SPECIFICATION FOR ELASTOMERIC JOINT SEALANTS 2018.
     - CDA A4050 - COPPER IN ARCHITECTURE - HANDBOOK CURRENT EDITION.
     - SMACNA (ASMM) - ARCHITECTURAL SHEET METAL MANUAL 2012.
- B. SUBMITTALS:
  1. SHOP DRAWINGS: INDICATE MATERIAL PROFILE, JOINTING PATTERN, JOINTING DETAILS, FASTENING METHODS, FLASHINGS, TERMINATIONS, AND INSTALLATION DETAILS.
- C. QUALITY ASSURANCE:
  1. 1. PERFORM WORK IN ACCORDANCE WITH SMACNA (ASMM) AND CDA A4050 REQUIREMENTS AND STANDARD DETAILS, EXCEPT AS OTHERWISE INDICATED.
- D. DELIVERY, STORAGE, AND HANDLING:
  1. 1. STACK MATERIAL TO PREVENT TWISTING, BENDING, AND ABRASION, AND TO PROVIDE VENTILATION. SLOPE METAL SHEETS TO ENSURE DRAINAGE.
  2. 2. PREVENT CONTACT WITH MATERIALS THAT COULD CAUSE DISCOLORATION OR STAINING.
- E. PRODUCTS:
  1. PRE-FINISHED ALUMINUM: ASTM B209 (ASTM B209M); 20 GAGE, (0.032 INCH) THICK; PLAIN FINISH SHOP PRE COATED WITH MODIFIED SILICONE COATING.
     - A. FLUOROPOLYMER COATING: HIGH PERFORMANCE ORGANIC FINISH, AAMA 2604; MULTIPLE COAT, THERMALLY CURED FLUOROPOLYMER FINISH SYSTEM.
     - B. COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS.
- F. FABRICATION:
  1. FORM SECTIONS TRUE TO SHAPE, ACCURATE IN SIZE, SQUARE, AND FREE FROM DISTORTION OR DEFECTS.
  2. FORM PIECES IN LONGEST POSSIBLE LENGTHS.
  3. HEM EXPOSED EDGES ON UNDERSIDE 1/2 INCH; MITER AND SEAM CORNERS.
  4. FORM MATERIAL WITH FLAT LOCK SEAMS, EXCEPT WHERE OTHERWISE INDICATED; AT MOVING JOINTS, USE SEALED LAPPED, BAYONET-TYPE OR INTERLOCKING HOOKED SEAMS.
  5. FABRICATE FLASHINGS TO ALLOW TOE TO EXTEND 2 INCHES OVER ROOFING GRAVEL. RETURN AND BRAKE EDGES.
- G. ACCESSORIES:
  1. FASTENERS: GALVANIZED STEEL, WITH SOFT NEOPRENE WASHERS.
  2. PRIMER: ZINC CHROMATE TYPE.
  3. CONCEALED SEALANTS: NON-CURING BUTYL SEALANT.
  4. EXPOSED SEALANTS: ASTM C920; ELASTOMERIC SEALANT, WITH MINIMUM MOVEMENT CAPABILITY AS
  5. RECOMMENDED BY MANUFACTURER FOR SUBSTRATES TO BE SEALED; COLOR TO MATCH ADJACENT MATERIAL.
- H. INSTALLATION:
  1. SECURE FLASHINGS IN PLACE USING CONCEALED FASTENERS, AND USE EXPOSED FASTENERS ONLY WHERE PERMITTED.
  2. APPLY PLASTIC CEMENT COMPOUND BETWEEN METAL FLASHINGS AND FELT FLASHINGS.
  3. FIT FLASHINGS TIGHT IN PLACE; MAKE CORNERS SQUARE, SURFACES TRUE AND STRAIGHT IN PLANES, AND LINES ACCURATE TO PROFILES.
  4. SEAL METAL JOINTS WATERTIGHT.

07 4113 - ROOFING MATERIALS & ACCESSORIES
- A. SUBMITTALS: PROVIDE DATA ON SHAPE OF COMPONENTS, MATERIALS AND FINISHES, ANCHOR TYPES AND LOCATIONS.
- B. SHOP DRAWINGS: INDICATE CONFIGURATION AND DIMENSION OF COMPONENTS, ADJACENT CONSTRUCTION, REQUIRED CLEARANCES AND TOLERANCES, AND OTHER AFFECTED WORK.
- C. WARRANTY: SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF SYSTEMS THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
  1. WARRANTY PERIOD: TWO YEARS FROM DATE OF SUBSTANTIAL COMPLETION.
- D. PRODUCTS:
  1. ROOF EDGE FLASHINGS: FACTORY FABRICATED TO SIZES REQUIRED; CORNERS MITERED; CONCEALED FASTENERS.
     - A. CONFIGURATION: FASCIA, CANT, AND EDGE SECUREMENT FOR ROOF MEMBRANE.
     - B. PULL-OFF RESISTANCE: TESTED IN ACCORDANCE WITH ANSI/SPRI/FM 4435/ES-1 USING TEST METHODS RE-1 AND RE-2 TO POSITIVE AND NEGATIVE DESIGN WIND PRESSURE AS DEFINED BY APPLICABLE LOCAL BUILDING CODE.
  2. COPINGS: FACTORY FABRICATED TO SIZES REQUIRED; CORNERS MITERED; CONCEALED FASTENERS.
     - A. CONFIGURATION: CONCEALED CONTINUOUS HOLD DOWN CLEAT AT BOTH LEGS; INTERNAL SPLICE PIECE AT JOINTS OF SAME MATERIAL, THICKNESS, AND FINISH AS CAP; CONCEALED STAINLESS STEEL FASTENERS.
     - B. PULL-OFF RESISTANCE: TESTED IN ACCORDANCE WITH ANSI/SPRI/FM 4435/ES-1 USING TEST METHOD RE-3 TO POSITIVE AND NEGATIVE DESIGN WIND PRESSURE AS DEFINED BY APPLICABLE LOCAL BUILDING CODE.
     - C. 24 GA. GALVALUME WITH KYNAR 500, 2.0 MILS THICK FLOUROCARBON FINISH.
  3. ROOF PENETRATION SEALING SYSTEMS: PREMANUFACTURED COMPONENTS AND ACCESSORIES AS REQUIRED TO PRESERVE INTEGRITY OF ROOFING SYSTEM AND MAINTAIN ROOF WARRANTY; SUITABLE FOR CONDUITS AND ROOFING SYSTEM TO BE INSTALLED; DESIGNED TO ACCOMMODATE EXISTING PENETRATIONS WHERE APPLICABLE.
- E. FINISHES:
  1. PVDF (POLYVINYLIDENE FLUORIDE) COATING: SUPERIOR PERFORMANCE ORGANIC FINISH, AAMA 2605; MULTIPLE COAT, THERMALLY CURED FLUOROPOLYMER FINISH SYSTEM; COLOR AS INDICATED.
- F. INSTALLATION:
  - A. INSTALL COMPONENTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND NRCA (RM) APPLICABLE REQUIREMENTS.
  - B. SEAL JOINTS WITHIN COMPONENTS WHEN REQUIRED BY COMPONENT MANUFACTURER.
  - C. COORDINATE INSTALLATION OF COMPONENTS OF THIS SECTION WITH INSTALLATION OF ROOFING MEMBRANE AND BASE FLASHINGS.

collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

PERMIT DOCUMENTS

EXPRESS STOP - VIEW HIGH
3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB II
NUMBER A-2016004008
ARCHITECT
06-12-24

PROFESSIONAL SEAL

G501

ISSUE DATE: 09 JUNE 2025
COLLINS WEBB #: 23114

SPECIFICATIONS

6/12/2025 8:15:12 AM

SPECIFICATIONS - PRODUCT & INSTALLATION GENERAL REQUIREMENTS

DIVISION 7 - THERMAL AND MOISTURE PROTECTION (CONT.)

07 9200 - JOINT SEALANTS

A. SUBMITTALS: PRODUCT DATA, AND SCHEDULE OF LOCATIONS FOR EACH TYPE OF SEALANT SUBMITTED.
   1. JOINT-SEALANT SCHEDULE: INCLUDE THE FOLLOWING INFORMATION:
      A. JOINT-SEALANT APPLICATION, JOINT LOCATION, AND DESIGNATION.
      B. JOINT-SEALANT MANUFACTURER AND PRODUCT NAME.
      C. JOINT-SEALANT FORMULATION.
      D. JOINT-SEALANT COLOR.

B. ENVIRONMENTAL LIMITATIONS: DO NOT PROCEED WITH INSTALLATION OF JOINT SEALANTS WHEN AMBIENT AND SUBSTRATE TEMPERATURE CONDITIONS ARE OUTSIDE LIMITS PERMITTED BY JOINT SEALANT MANUFACTURER OR ARE BELOW 40 deg F (4.4 deg C).

C. COMPATIBILITY: PROVIDE JOINT SEALANTS, JOINT FILLERS, AND OTHER RELATED MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH JOINT SUBSTRATES UNDER SERVICE AND APPLICATION CONDITIONS.

D. JOINT SEALANTS:
   1. COLORS OF EXPOSED JOINT SEALANTS: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE. INTERIOR JOINTS IN CERAMIC TILE AND OTHER HARD SURFACES IN KITCHENS, TOILET ROOMS, AND AROUND PLUMBING FIXTURES: SINGLE COMPONENT, MILDEW-RESISTANT SILICONE SEALANT, ASTM C 920, TYPE S; GRADE NS, CLASS 25; USES NT, G, A, AND O; FORMULATED WITH FUNGICIDE.
   2. INTERIOR JOINTS AROUND PERIMETERS OF DOORS AND FRAMES: LATEX SEALANT, SINGLE COMPONENT, NONSAG, MILDEW-RESISTANT, PAINTABLE, ACRYLIC EMULSION SEALANT COMPLYING WITH ASTM C 834.
   3. ACOUSTICAL SEALANT FOR EXPOSED INTERIOR JOINTS: NONSAG, PAINTABLE, NONSTAINING, LATEX SEALANT COMPLYING WITH ASTM C 834.
   4. ACOUSTICAL SEALANT FOR CONCEALED JOINTS: NONDRYING, NONHARDENING, NONSKINNING, NONSTAINING, GUNNABLE, SYNTHETIC-RUBBER SEALANT RECOMMENDED FOR SEALING INTERIOR CONCEALED JOINTS TO REDUCE TRANSMISSION OF AIRBORNE SOUND.
   5. EXTERIOR CONCRETE PANELS, NATURAL STONES, MASONRY, ALUMINUM CURTAINWALLS, METAL PANELS AND WINDOW PERIMETERS.
      A. BASIS OF DESIGN PRODUCTS:
         - TREMCO INCORPORATED; SPECTREM 1.
         - DOW CORNING CORPORATION; 790.
         - PECORA CORPORATION; 890NST.
   6. EXTERIOR JOINTS IN HORIZONTAL TRAFFIC SURFACES. ISOLATION AND CONTRACTION JOINTS IN CAST-IN-PLACE CONCRETE SLABS. URETHANE JOINT SEALANT: MULTICOMPONENT, NONSAG, TRAFFIC GRADE, CLASS 25.
   7. FIRESTOP SEALANTS:INSTALL AT FIRE RATED ASSEMBLIES AND AS DIRECTED WITHIN UL REFERENCES
      A. BASIS OF DESIGN PRODUCTS:
         - HILTI
         - 3M

E. JOINT SEALANT BACKING:
   1. GENERAL: PROVIDE SEALANT BACKINGS OF MATERIAL THAT ARE NONSTAINING; ARE COMPATIBLE WITH JOINT SUBSTRATES, SEALANTS, PRIMERS, AND OTHER JOINT FILLERS; AND ARE APPROVED FOR APPLICATIONS INDICATED BY SEALANT MANUFACTURER BASED ON FIELD EXPERIENCE AND LABORATORY TESTING.
   2. CYLINDRICAL SEALANT BACKINGS: ASTM C 1330, TYPE C (CLOSED-CELL MATERIAL WITH A SURFACE SKIN), AND OF SIZE AND DENSITY TO CONTROL SEALANT DEPTH AND OTHERWISE CONTRIBUTE TO PRODUCING OPTIMUM SEALANT PERFORMANCE.
   3. BOND-BREAKER TAPE: POLYETHYLENE TAPE OR OTHER PLASTIC TAPE RECOMMENDED BY SEALANT
   4. MANUFACTURER FOR PREVENTING SEALANT FROM ADHERING TO RIGID, INFLEXIBLE JOINT-FILLER MATERIALS OR JOINT SURFACES AT BACK OF JOINT. PROVIDE SELF-ADHESIVE TAPE WHERE APPLICABLE.

F. MISCELLANEOUS MATERIALS:
   1. PRIMER: MATERIAL RECOMMENDED BY JOINT-SEALANT MANUFACTURER WHERE REQUIRED FOR ADHESION OF SEALANT TO JOINT SUBSTRATES INDICATED, AS DETERMINED FROM PRECONSTRUCTION JOINT-SEALANT-SUBSTRATE TESTS AND FIELD TESTS.
   2. CLEANERS FOR NONPOROUS SURFACES: CHEMICAL CLEANERS ACCEPTABLE TO MANUFACTURERS OF SEALANTS AND SEALANT BACKING MATERIALS, FREE OF OILY RESIDUES OR OTHER SUBSTANCES CAPABLE OF STAINING OR HARMING JOINT SUBSTRATES AND ADJACENT NONPOROUS SURFACES IN ANY WAY, AND FORMULATED TO PROMOTE OPTIMUM ADHESION OF SEALANTS TO JOINT SUBSTRATES.
   3. BOND-BREAKER TAPE: POLYETHYLENE TAPE OR OTHER PLASTIC TAPE RECOMMENDED BY SEALANT MFR. FOR PREVENTING SEALANT FROM ADHERING TO RIGID, INFLEXIBLE JOINT-FILLER MATERIALS OR JOINT SURFACES AT BACK OF JOINT.
   4. MASKING TAPE: NONSTAINING, NONABSORBENT MATERIAL COMPATIBLE WITH JOINT SEALANTS AND SURFACES ADJACENT TO JOINTS.

G. INSTALLATION: COMPLY WITH ASTM C 1193; ASTM C 919 FOR ACOUSTICAL JOINTS; AND AS FOLLOWS:
   1. REMOVE ALL LOOSE MATERIAL, CLEAN AND PRIME JOINTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, AND PROTECT ADJACENT SURFACES.
   2. INSTALL BOND-BREAKER TAPE WHERE JOINT BACKINGS ARE NOT USED.
   3. INSTALL SEALANT TOOLED CONCAVE, FREE OF AIR POCKETS, FOREIGN EMBEDDED MATTER, RIDGES, AND SAGS, AND PROTECT UNTIL FULLY CURED. SEALANT WITH DUST AND DEBRIS EMBEDDED IN SURFACE SHALL BE CAUSE FOR REJECTION.

DIVISION 8 - OPENINGS

08 0671 - DOOR HARDWARE

A. SUBMITTALS: PRODUCT DATA AND HARDWARE SCHEDULE INDICATING HARDWARE ITEM, FINISH, AND QUANTITY LOCATED ON EACH DOOR WITH DOOR AND HARDWARE SET NUMBERING CORRESPONDING TO THOSE USED IN CONSTRUCTION DOCUMENTS. REFER TO ARCHITECTURAL PLANS AND HARDWARE SCHEDULES PROVIDED.
   1. HARDWARE SUPPLIER SHALL SUBMIT FOUR COPIES OF FINAL HARDWARE SCHEDULE AT EARLIEST POSSIBLE DATE PARTICULARLY WHERE ACCEPTANCE OF HARDWARE SCHEDULE MUST PRECEDE FABRICATION OF OTHER WORK WHICH IS CRITICAL IN THE PROJECT CONSTRUCTION SCHEDULE. INCLUDE WITH SCHEDULE SHOP DRAWINGS OF OTHER WORK AFFECTED BY BUILDERS HARDWARE, AND OTHER INFORMATION ESSENTIAL TO THE COORDINATE REVIEW OF HARDWARE SCHEDULE.
   2. KEYING SCHEDULE. SUBMIT SEPARATE DETAILED SCHEDULE INDICATING CLEARLY HOW THE OWNER'S FINAL INSTRUCTIONS ON KEYING OF LOCKS HAS BEEN FULFILLED. ALL KEYING SHALL BE COORDINATED WITH THE OWNER.

B. PRODUCTS: REFER TO HARDWARE SCHEDULE AND ARCHITECTURAL DRAWINGS.
   1. STRIKES. PROVIDE MANUFACTURER'S STANDARD WROUGHT BOX STRIKE FOR EACH LATCH OR LOCK BOLT, WITH STRIKE PLATES FOR INTERIOR DOORS WHERE WOOD DOOR FRAMES ARE USED.
   2. IN GENERAL, HARDWARE FINISH SHALL BE US15 (SATIN NICKEL) UNLESS SPECIFIED DIFFERENTLY ON HARDWARE SCHEDULE.
   3. SUPPLY OUT SWINGING EXTERIOR DOORS WITH NON REMOVABLE PINS.

C. INSTALLATION:
   1. MOUNT HARDWARE UNITS AT HEIGHTS INDICATED IN "RECOMMENDED LOCATIONS FOR BUILDERS HARDWARE FOR STANDARD STEEL DOORS AND FRAMES" BY THE DOOR AND HARDWARE INSTITUTE, EXCEPT AS SPECIFICALLY INDICATED OR REQUIRED TO COMPLY WITH GOVERNING REGULATIONS, AND EXCEPT AS MAY BE OTHERWISE DIRECTED BY ARCHITECT. MOUNT HARDWARE IN UNITS DESIGNATED FOR USE BY THE HANDICAPPED AT HEIGHTS RECOMMENDED FOR USE BY THE HANDICAPPED.
   2. INSTALL EACH HARDWARE ITEM IN COMPLIANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. WHEREVER CUTTING AND FITTING IS REQUIRED TO INSTALL HARDWARE ONTO OR INTO SURFACES WHICH ARE LATER TO BE PAINTED OR FINISHED IN ANOTHER WAY, COORDINATE REMOVAL, STORAGE AND REINSTALLATION OR APPLICATION OF SURFACE PROTECTIONS WITH FINISHING WORK SPECIFIED IN THE DIVISION 9 SECTIONS. DO NOT INSTALL SURFACE MOUNTED ITEMS UNTIL FINISHES HAVE BEEN COMPLETED ON THE SUBSTRATE.
   3. SET UNITS LEVEL, PLUMB AND TRUE TO LINE AND LOCATION. ADJUST AND REINFORCE THE ATTACHMENT SUBSTRATE AS NECESSARY FOR PROPER INSTALLATION AND OPERATION.
   4. DRILL AND COUNTERSINK UNITS WHICH ARE NOT FACTORY PREPARED FOR ANCHORAGE FASTENERS. SPACE FASTENERS AND ANCHORS IN ACCORDANCE WITH INDUSTRY STANDARDS.
   5. METAL THRESHOLDS SHALL BE SET IN A SOLID BED OF NON STAINING THIOKOL BASE CAULKING.
   6. ADJUST AND CHECK EACH OPERATING ITEM OF HARDWARE AND EACH DOOR, TO ENSURE PROPER OPERATION
   7. OR FUNCTION OF EVERY UNIT. REPLACE UNITS WHICH CANNOT BE ADJUSTED TO OPERATE FREELY AND SMOOTHLY AS INTENDED FOR THE APPLICATION MADE.
   8. FINAL ADJUSTMENT: WHEREVER HARDWARE INSTALLATION IS MADE MORE THAN ONE MONTH PRIOR TO ACCEPTANCE OR OCCUPANCY OF A SPACE OR AREA, RETURN TO THE WORK DURING THE WEEK PRIOR TO ACCEPTANCE OR OCCUPANCY, AND MAKE FINAL CHECK AND ADJUSTMENT OF ALL HARDWARE ITEMS IN SUCH SPACE OR AREA. CLEAN OPERATING ITEMS AS NECESSARY TO RESTORE PROPER FUNCTION AND FINISH OF HARDWARE AND DOORS. ADJUST DOOR CONTROL DEVICES TO COMPENSATE FOR FINAL OPERATION OF HEATING AND VENTILATING EQUIPMENT.

3.8 DOOR HARDWARE SETS

A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

1. Quantities listed are for each pair of doors, or for each single door.
2. The supplier is responsible for handing and sizing all products.
3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.
4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.

B. Manufacturer's Abbreviations:

1. MK - McKinney
2. AD - Adams Rite
3. YA - ASSA ABLOY ACCENTRA
4. RO - Rockwood
5. RF - RIXSON
6. PE - Pemko
7. OT - Other

Hardware Sets

Set: 1.0

Doors: 200, 201
(ALD/ALF) Exterior: Deadlatch (paddle) x Push/Pull x Closer

1 Continuous Hinge	_FM__SLF-HD1 x Door Height		PE
1 Deadlatch	451_	628	AD
1 Paddle Operator	4591	628	AD
1 Cylinder	x Type Required		SA
1 Push/Pull Bar	BF15747	US32D	RO
1 Surface Closer	UNI4400	689	YA
1 Rain Guard	346_		PE
1 Sweep	345_PK		PE
1 Threshold	252 x__FG		PE
1 Set Weatherstrip	(door manufacturer's heavy duty standard)		00

Set: 2.0

Doors: 105, 114
Description: SGL RR PUSH/PULL - CLOSER

3	Hinge, Full Mortise, Hvy Wt	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1	Pull Plate	107x70C	US26D	RO
1	Push Plate	70C-RKW	US26D	RO
1	Surface Closer	4400	689	YA
1	Kick Plate	K1050 10" x 2" LDW	US26D	RO
1	Wall Stop	409	US26D	RO
3	Silencer	608		RO

Set: 3.0

Doors: 110
Description: PASSAGE W/ CLOSER

3 Hinge	TA2714 4-1/2"x 4-1/2"	US26D	MK
1 Passage Latch	AU 4701LN	US26D	SA
1 Surface Closer	4400	EN	SA
1 Kick Plate	K1050 10" x 2" LDW	US32D	RO
1 Wall Stop	409	US26D	RO
1 Gasketing	S88		PE

Set: 4.0

Doors: 104, 106 , 112, 115, 109A, 109B
Description: STOREROOM W/ CLOSER w/ HOLD OPEN

3 Hinge	TA2714 4-1/2"x 4-1/2"	US26D	MK
1 Storeroom Lockset	AU 4705LN	US26D	SA
1 Surface Closer	4420	EN	SA
1 Kick Plate	K1050 10" x 2" LDW	US32D	RO
1 Wall Stop	RM860 / RM861	US26D	RO
1 Gasketing	S88		PE

Set: 5.0

Doors: 107A, 107B, 111C, 111B, 111A
Description: CLASSROOM W/ CLOSER w/ HOLD OPEN

3 Hinge	TA2714 4-1/2"x 4-1/2"	US26D	MK
1 Classroom Lockset	AU 4708LN	US26D	SA
1 Surface Closer	4420	EN	SA
1 Kick Plate	K1050 10" x 2" LDW	US32D	RO
1 Gasketing	S88		PE

Set: 6.0

Doors: 202, 203

1 Continuous Hinge	CFMxxxHD1		PE
1 Rim Exit Device, Nightlatch	7100 AU627F 1109	626	YA
1 Surf Overhead Stop	9-X36	689	RF
1 Parallel Surface Closer	PRO 4400	689	YA
1 Kick Plate	K1050 10" x 2" LDW	US32D	RO
1 Gasketing	2891APK		PE
1 Rain Guard	346A		PE
1 Sweep	3452ANB		PE
1 Threshold	2005AT		PE

08 1113 - HOLLOW METAL DOORS AND FRAMES

A. SUBMITTALS: PRODUCT DATA AND SHOP DRAWINGS WITH DETAILS OF EACH OPENING, SHOWING ELEVATIONS, GLAZING, FRAME PROFILES, AND ANY INDICATED FINISH REQUIREMENTS.

B. HOLLOW METAL DOOR AND FRAME MANUFACTURERS:
   1. CECO DOOR, AN ASSA ABLOY GROUP COMPANY: WWW.ASSAABLOYDSS.COM.
   2. DE LA FONTAINE INC: WWW.DELAFONTAINE.COM
   3. REPUBLIC DOORS, AN ALLEGION BRAND: WWW.REPUBLICDOOR.COM
   4. STEELCRAFT, AN ALLEGION BRAND: WWW.ALLEGION.COM

C. SOUND-RATED HOLLOW METAL DOORS AND FRAMES:
   1. OVERLY DOOR COMPANY: WWW.OVERLY.COM

D. DESIGN CRITERIA:
   1. STEEL USED FOR FABRICATION OF DOORS AND FRAMES SHALL COMPLY WITH ONE OR MORE OF THE FOLLOWING REQUIREMENTS; GALVANNEALED STEEL CONFORMING TO ASTM A653/A653M, COLD-ROLLED STEEL CONFORMING TO ASTM A1008/A1008M, OR HOT-ROLLED PICKLED AND OILED (HRPO) STEEL CONFORMING TO ASTM A1011/A1011M, COMMERCIAL STEEL (CS) TYPE B FOR EACH.
   2. TYPICAL DOOR FACE SHEETS: FLUSH.
   3. GLAZED LIGHTS: NON-REMOVABLE STOPS ON NON-SECURE SIDE; SIZES AND CONFIGURATIONS AS INDICATED ON DRAWINGS. STYLE: MANUFACTURERS STANDARD.
   4. HARDWARE PREPARATIONS, SELECTIONS AND LOCATIONS: COMPLY WITH NAAMM HMMA 830 AND NAAMM HMMA 831 OR BHMA A156.115 AND ANSI/SDI A250.8 (SDI-100) IN ACCORDANCE WITH SPECIFIED REQUIREMENTS.
   5. ZINC COATING FOR TYPICAL INTERIOR AND/OR EXTERIOR LOCATIONS: PROVIDE METAL COMPONENTS ZINC COATED (GALVANIZED) AND/OR ZINC-IRON ALLOY-COATED (GALVANNEALED) BY THE HOT-DIP PROCESS IN ACCORDANCE WITH ASTM A653/A653M, WITH MANUFACTURER'S STANDARD COATING THICKNESS, UNLESS NOTED OTHERWISE FOR SPECIFIC HOLLOW METAL DOORS AND FRAMES.
   6. HOLLOW METAL PANELS: SAME CONSTRUCTION, PERFORMANCE, AND FINISH AS DOORS.
   7. COMBINED REQUIREMENTS: IF A PARTICULAR DOOR AND FRAME UNIT IS INDICATED TO COMPLY WITH MORE THAN ONE TYPE OF REQUIREMENT, COMPLY WITH THE SPECIFIED REQUIREMENTS FOR EACH TYPE; FOR INSTANCE, AN EXTERIOR DOOR THAT IS ALSO INDICATED AS BEING SOUND-RATED MUST COMPLY WITH THE REQUIREMENTS SPECIFIED FOR EXTERIOR DOORS AND FOR SOUND-RATED DOORS; WHERE TWO REQUIREMENTS CONFLICT, COMPLY WITH THE MOST STRINGENT.

E. HOLLOW METAL DOOR:
   1. EXTERIOR DOORS: THERMALLY INSULATED.
      A. ASED ON SDI STANDARDS: ANSI/SDI A250.8 (SDI-100).
      B. LEVEL 1 - STANDARD-DUTY.
      C. PHYSICAL PERFORMANCE LEVEL C, 250,000 CYCLES; IN ACCORDANCE WITH ANSI/SDI A250.4.
      D. MODEL 1 - FULL FLUSH.
      E. DOOR FACE METAL THICKNESS: 20 GAGE, 0.032 INCH, MINIMUM.
      F. DOOR CORE MATERIAL: MANUFACTURERS STANDARD CORE MATERIAL/CONSTRUCTION AND IN COMPLIANCE WITH REQUIREMENTS.
      G. DOOR THICKNESS: 1-3/4 INCH, NOMINAL.
      H. TOP CLOSURES FOR OUTSWINGING DOORS: FLUSH WITH TOP OF FACES AND EDGES.
      I. WEATHERSTRIPPING: REFER TO SECTION 08 7100.
      J. DOOR FINISH: FACTORY PRIMED AND FIELD FINISHED.
   2. INTERIOR DOORS, NON-FIRE RATED:
      A. BASED ON SDI STANDARDS: ANSI/SDI A250.8 (SDI-100).
      B. LEVEL 1 - STANDARD-DUTY.
      C. PHYSICAL PERFORMANCE LEVEL C, 250,000 CYCLES; IN ACCORDANCE WITH ANSI/SDI A250.4.
      D. MODEL 1 - FULL FLUSH.
      E. DOOR FACE METAL THICKNESS: 20 GAGE, 0.032 INCH, MINIMUM.
      F. DOOR THICKNESS: 1-3/4 INCH, NOMINAL.
      G. DOOR FINISH: FACTORY PRIMED AND FIELD FINISHED.
   3. FIRE-RATED DOORS:
      A. BASED ON SDI STANDARDS: ANSI/SDI A250.8 (SDI-100).
      B. LEVEL 1 - STANDARD-DUTY.
      C. PHYSICAL PERFORMANCE LEVEL C, 250,000 CYCLES; IN ACCORDANCE WITH ANSI/SDI A250.4.
      D. MODEL 1 - FULL FLUSH.
      E. DOOR FACE METAL THICKNESS: 20 GAGE, 0.032 INCH, MINIMUM.
      F. FIRE RATING: AS INDICATED ON DOOR SCHEDULE, TESTED IN ACCORDANCE WITH UL 10C AND NFPA 252 ("POSITIVE PRESSURE FIRE TESTS").
      G. TEMPERATURE-RISE RATING (TRR) ACROSS DOOR THICKNESS: IN ACCORDANCE WITH LOCAL BUILDING CODE AND AUTHORITIES HAVING JURISDICTION.
      H. PROVIDE UNITS LISTED AND LABELED BY UL (DIR) OR ITS (DIR). ATTACH FIRE RATING LABEL TO EACH FIRE RATED UNIT.
      I. SMOKE AND DRAFT CONTROL DOORS (INDICATED WITH LETTER "S" ON DRAWINGS AND/OR DOOR SCHEDULE): SELF-CLOSING OR AUTOMATIC CLOSING DOORS IN ACCORDANCE WITH NFPA 80 AND NFPA 105, WITH FIRE-RESISTANCE-RATED WALL CONSTRUCTION RATED THE SAME OR GREATER THAN THE FIRE-RATED DOORS, AND THE FOLLOWING;
         1. MAXIMUM AIR LEAKAGE: 3.0 CFM/SQ FT OF DOOR OPENING AT 0.10 INCH W.G. PRESSURE, WHEN TESTED IN ACCORDANCE WITH UL 1784 AT BOTH AMBIENT AND ELEVATED TEMPERATURES.
         2. GASKETING: PROVIDE GASKETING OR EDGE SEALING AS NECESSARY TO ACHIEVE LEAKAGE LIMIT.
         3. LABEL: INCLUDE THE "S" LABEL ON FIRE-RATING LABEL OF DOOR.
      J. DOOR CORE MATERIAL: MANUFACTURERS STANDARD CORE MATERIAL/CONSTRUCTION IN COMPLIANCE WITH REQUIREMENTS.
      K. DOOR THICKNESS: 1-3/4 INCH, NOMINAL.
      L. DOOR FINISH: FACTORY PRIMED AND FIELD FINISHED.

F. HOLLOW METAL FRAMES:
   1. COMPLY WITH STANDARDS AND/OR CUSTOM GUIDELINES AS INDICATED FOR CORRESPONDING DOOR IN ACCORDANCE WITH APPLICABLE DOOR FRAME REQUIREMENTS.
   2. INTERIOR DOOR FRAMES, NON-FIRE RATED: FACE WELDED TYPE. FRAME FINISH: FACTORY FINISHED.
      A. FULL LENGTH STOPS
      B. FRAME METAL THICKNESS: 18 GAGE, 0.042 INCH, MINIMUM.
   3. DOOR FRAMES, FIRE-RATED: FACE WELDED TYPE. FIRE RATING: SAME AS DOOR, LABELED.
      A. FULL LENGTH STOPS
      B. FRAME METAL THICKNESS: 18 GAGE, 0.042 INCH, MINIMUM.
   4. SOUND-RATED DOOR FRAMES: FULL PROFILE/CONTINUOUSLY WELDED TYPE.
      A. FRAME METAL THICKNESS: 18 GAGE, 0.042 INCH, MINIMUM.
   5. FRAMES FOR WOOD DOORS: COMPLY WITH FRAME REQUIREMENTS IN ACCORDANCE WITH CORRESPONDING DOOR.
   6. BORROWED LITES GLAZING FRAMES: CONSTRUCTION AND FACE DIMENSIONS TO MATCH DOOR FRAMES, AND AS INDICATED ON DRAWINGS.
   7. FRAMES IN MASONRY WALLS: SIZE TO SUIT MASONRY COURSING WITH HEAD MEMBER 4 INCH HIGH TO FILL OPENING WITHOUT CUTTING MASONRY UNITS.
   8. FRAMES WIDER THAN 48 INCHES: REINFORCE WITH STEEL CHANNEL FITTED TIGHTLY INTO FRAME HEAD, FLUSH WITH TOP.

G. FINISHES:
   1. PRIMER: RUST-INHIBITING, COMPLYING WITH ANSI/SDI A250.10, DOOR MANUFACTURER'S STANDARD.

H. ACCESSORIES:
   1. GLAZING: AS INDICATED IN DRAWINGS OR AS SPECIFIED.
   2. REMOVABLE STOPS: FORMED SHEET STEEL, SHAPE AS INDICATED ON DRAWINGS, MITERED OR BUTTED CORNERS; PREPARED FOR COUNTERSINK STYLE TAMPER PROOF SCREWS.
   3. SILENCERS: RESILIENT RUBBER, FITTED INTO DRILLED HOLE; PROVIDE THREE ON STRIKE SIDE OF SINGLE DOOR, THREE ON CENTER MULLION OF PAIRS, AND TWO ON HEAD OF PAIRS WITHOUT CENTER MULLIONS.
   4. TEMPORARY FRAME SPREADERS: PROVIDE FOR FACTORY- OR SHOP-ASSEMBLED FRAMES.

I. INSTALLATION:
   1. INSTALL DOORS AND FRAMES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND RELATED REQUIREMENTS OF SPECIFIED DOOR AND FRAME STANDARDS OR CUSTOM GUIDELINES INDICATED.
   2. INSTALL PREFINISHED FRAMES AFTER PAINTING AND WALL FINISHES ARE COMPLETE.
   3. INSTALL FIRE RATED UNITS IN ACCORDANCE WITH NFPA 80.
   4. COORDINATE FRAME ANCHOR PLACEMENT WITH WALL CONSTRUCTION.

08 1416 - FLUSH WOOD DOORS

A. SUBMITTALS: PRODUCT DATA, PREFINISHED DOOR SKIN SAMPLES, AND DOOR SCHEDULE INDICATING DOOR AND FRAME SIZES. TYPES, ELEVATIONS, DETAILS, AND HARDWARE WITH DOOR AND HARDWARE NUMBERING CORRESPONDING TO THOSE USED IN CONSTRUCTION DOCUMENTS.

B. BASIS OF DESIGN: LINCOLN PARK, MASONITE, LE CHATEAU COLLECTION. HOLLOW CORE DOORS OR APPROVED EQUAL

C. DOORS: 1-3/8" THICK PREHING. SIZES, SPECIES, AND DESIGNS AS INDICATED COMPLYING WITH WDMA I.S.1-A
   1. GRADE: PREMIUM
   2. VENEER MATCHING: BOOK AND RUNNING
   3. PAIR MATCHING AND SET MATCHING
   4. CONSTRUCTION:
      A. INTERIOR VENEER: FIVE OR SEVEN PLY, STRUCTURAL COMPOSITE LUMBER CORES.
   5. SIZES AS INDICATED IN DRAWINGS

D. FABRICATION AND FINISHING:
   1. FACTORY FIT DOORS TO SUIT FRAME OPENINGS TO COMPLY WITH REFERENCED STANDARD. COMPLY WITH NFPA 80 FOR FIRE-RESISTANCE RATED DOORS.
   2. FACTORY MACHINE DOORS FOR HARDWARE THAT IS NOT SURFACE APPLIED.
   3. CUT AND TRIM OPENINGS TO COMPLY WITH REFERENCED STANDARDS.
   4. LITE KITS: MATCHING WOOD STOPS
   5. FACTORY FINISH DOORS FOR TRANSPARENT FINISH WITH STAIN AND MANUFACTURER'S STANDARD FINISH COMPARABLE TO AWI, SYSTEM TR-4, CONVERSION VARNISH OR AWI SYSTEM TR-6, CATALYZED POLYURETHANE.

E. INSTALLATION:
   1. COMPLY WITH WDMA'S "HOW TO STORE, HANDLE, FINISH, INSTALL, AND MAINTAIN WOOD DOORS" ALIGNED AND FITTED IN FRAMES WITH UNIFORM CLEARANCES.
   2. SET IN TWO PIECE W.P. SPLIT JAMB FRAMES WITH 1X4 WOOD CASING.

08 3100 - ACCESS DOORS AND PANELS

A. SUBMITTALS: PRODUCT DATA.

B. PRODUCTS: PRIME-PAINTED FLUSH, UNINSULATED ACCESS DOORS FOR WALLS AND CEILINGS WITH TRIMLESS FRAME AND SCREWDRIVER OPERATED LOCK FLUSH WITH FINISHED SURFACE. FIRE-RATED, SELF-LATCHING. AUTOMATIC CLOSING AT FIRE-RATED WALLS OR CEILINGS.

C. INSTALLATION: INSTALL FLUSH TO FINISHED DRYWALL SURFACE WITH FRAME TAPED AND SANDED FLUSH WITH WALL OR CEILING SURFACE AND FINISH TO MATCH ADJACENT SURFACE.

08 4313 - ALUMINUM FRAMED STOREFRONTS

A. SUBMITTALS: PRODUCT DATA: PROVIDE COMPONENT DIMENSIONS, DESCRIBE COMPONENTS WITHIN ASSEMBLY, ANCHORAGE AND FASTENERS, GLASS AND INFILL, DOOR HARDWARE, INTERNAL DRAINAGE DETAILS.
   1. HARDWARE SCHEDULE: COMPLETE ITEMIZATION OF EACH ITEM OF HARDWARE TO BE PROVIDED FOR EACH DOOR, CROSS-REFERENCED TO DOOR IDENTIFICATION NUMBERS IN CONTRACT DOCUMENTS.
   2. SHOP DRAWINGS: INDICATE SYSTEM DIMENSIONS, FRAMED OPENING REQUIREMENTS AND TOLERANCES, AFFECTED RELATED WORK, EXPANSION AND CONTRACTION JOINT LOCATION AND DETAILS, AND FIELD WELDING REQUIRED.

B. WARRANTY: WARRANTY: SUBMIT MANUFACTURER WARRANTY AND ENSURE FORMS HAVE BEEN COMPLETED IN OWNER'S NAME AND REGISTERED WITH MANUFACTURER.
   1. CORRECT DEFECTIVE WORK WITHIN A FIVE YEAR PERIOD AFTER DATE OF SUBSTANTIAL COMPLETION.
   2. PROVIDE FIVE YEAR MANUFACTURER WARRANTY AGAINST FAILURE OF GLASS SEAL ON INSULATING GLASS UNITS, INCLUDING INTERPANE DUSTING OR MISTING. INCLUDE PROVISION FOR REPLACEMENT OF FAILED UNITS.
   3. PROVIDE FIVE YEAR MANUFACTURER WARRANTY AGAINST EXCESSIVE DEGRADATION OF EXTERIOR FINISH. INCLUDE PROVISION FOR REPLACEMENT OF UNITS WITH EXCESSIVE FADING, CHALKING, OR FLAKING.
   A. BASIS OF DESIGN: KAWNEER TRIFAB VERSAGLAZE 451/451T, ANODIZED. VERIFY FINISH WITH OWNER. / KAWNEER_ ENCORE-MEDIUM STILE , ANODIZED.VERIFY FINISH WITH OWNER.
   1. OTHER MANUFACTURERS: PROVIDE EITHER THE PRODUCT IDENTIFIED AS "BASIS OF DESIGN" OR AN EQUIVALENT PRODUCT.

C. MATERIALS:
   1. ALUMINUM-FRAMED STOREFRONT: FACTORY FABRICATED, FACTORY FINISHED ALUMINUM FRAMING MEMBERS WITH INFILL, AND RELATED FLASHINGS, ANCHORAGE AND ATTACHMENT DEVICES.
   2. ALUMINUM FRAMING MEMBERS: TUBULAR ALUMINUM SECTIONS[<>], DRAINAGE HOLES AND INTERNAL WEEP DRAINAGE SYSTEM.
   3. EXTRUDED ALUMINUM: ASTM B221 (ASTM B221M).
   4. STRUCTURAL STEEL SECTIONS: ASTM A36/A36M; SHOP PRIMED.
   5. FASTENERS: STAINLESS STEEL.
   6. CONCEALED FLASHINGS: STAINLESS STEEL, 26 GAGE, 0.0187 INCH MINIMUM THICKNESS.
   7. SEALANT FOR SETTING THRESHOLDS: NON-CURING BUTYL TYPE.
   8. GLAZING GASKETS: TYPE TO SUIT APPLICATION TO ACHIEVE WEATHER, MOISTURE, AND AIR INFILTRATION REQUIREMENTS.

08 4313 - ALUMINUM FRAMED STOREFRONTS (CONTINUED)

D. FINISHES:
   1. CLASS I COLOR ANODIZED FINISH: AAMA 611 AA-M12C22A44 ELECTROLYTICALLY DEPOSITED COLORED ANODIC COATING NOT LESS THAN 0.7 MILS THICK. COLOR AS SELECTED BY OWNER & ARCHITECT.

E. HARDWARE:
   1. FOR EACH DOOR, INCLUDE WEATHERSTRIPPING, SILL SWEEP STRIP, AND THRESHOLD.
   2. OTHER DOOR HARDWARE: STOREFRONT MANUFACTURER'S STANDARD TYPE TO SUIT APPLICATION.
      A. FINISH ON HAND-CONTACTED ITEMS: POLISHED CHROME.
      B. FOR EACH DOOR, INCLUDE BUTT HINGES, PIVOTS, PUSH HANDLE, PULL HANDLE, EXIT DEVICE, NARROW STILE HANDLE LATCH, AND CLOSER. COORDINATE ADA PUSH BUTTON LOCATION.

F. INSTALLATION:
   1. VERIFY DIMENSIONS, TOLERANCES, AND METHOD OF ATTACHMENT WITH OTHER WORK.
   2. VERIFY THAT WALL OPENINGS AND ADJOINING AIR AND VAPOR SEAL MATERIALS ARE READY TO RECEIVE WORK OF THIS SECTION.
   3. INSTALL WALL SYSTEM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
   4. ATTACH TO STRUCTURE TO PERMIT SUFFICIENT ADJUSTMENT TO ACCOMMODATE CONSTRUCTION TOLERANCES AND OTHER IRREGULARITIES.
   5. ALIGN ASSEMBLY PLUMB AND LEVEL, FREE OF WARP OR TWIST. MAINTAIN ASSEMBLY DIMENSIONAL TOLERANCES, ALIGNING WITH ADJACENT WORK.
   6. PROVIDE THERMAL ISOLATION WHERE COMPONENTS PENETRATE OR DISRUPT BUILDING INSULATION.
   7. INSTALL SILL FLASHINGS. TURN UP ENDS AND EDGES; SEAL TO ADJACENT WORK TO FORM WATER TIGHT DAM.
   8. WHERE FASTENERS PENETRATE SILL FLASHINGS, MAKE WATERTIGHT BY SEATING AND SEALING FASTENER HEADS TO SILL FLASHING.
   9. PACK FIBROUS INSULATION IN SHIM SPACES AT PERIMETER OF ASSEMBLY TO MAINTAIN CONTINUITY OF THERMAL BARRIER.
   10. SET THRESHOLDS IN BED OF SEALANT AND SECURE.
   11. INSTALL HARDWARE USING TEMPLATES PROVIDED. ADJUST OPERATING HARDWARE AND SASH FOR SMOOTH OPERATION.
   12. WASH DOWN SURFACES WITH A SOLUTION OF MILD DETERGENT IN WARM WATER, APPLIED WITH SOFT, CLEAN WIPING CLOTHS, AND TAKE CARE TO REMOVE DIRT FROM CORNERS AND TO WIPE SURFACES CLEAN.
   13. PROTECT INSTALLED PRODUCTS FROM DAMAGE UNTIL DATE OF SUBSTANTIAL COMPLETION.

08 8000 - GLAZING

A. SUBMITTALS: PRODUCT DATA ON INSULATING GLASS UNIT, GLAZING UNIT, AND [SPANDREL] GLAZING TYPES: PROVIDE STRUCTURAL, PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS, SIZE LIMITATIONS, SPECIAL HANDLING AND INSTALLATION REQUIREMENTS.
   1. PRODUCT DATA ON GLAZING COMPOUNDS AND ACCESSORIES: PROVIDE CHEMICAL, FUNCTIONAL, AND ENVIRONMENTAL CHARACTERISTICS, LIMITATIONS, SPECIAL APPLICATION REQUIREMENTS, AND IDENTIFY AVAILABLE COLORS.
   2. SAMPLES: SUBMIT TWO SAMPLES [12] BY [12] INCH IN SIZE OF GLASS UNITS.

B. WARRANTY: WARRANTY DOCUMENTATION: SUBMIT MANUFACTURER WARRANTY AND ENSURE THAT FORMS HAVE BEEN COMPLETED IN OWNER'S NAME AND REGISTERED WITH MANUFACTURER.
   1. INSULATING GLASS UNITS: PROVIDE A FIVE (5) YEAR MANUFACTURER WARRANTY TO INCLUDE COVERAGE FOR SEAL FAILURE, INTERPANE DUSTING OR MISTING, INCLUDING PROVIDING PRODUCTS TO REPLACE FAILED UNITS

C. STOREFRONT GLAZING BASIS OF DESIGN: GUARDIAN -SUNGUARD _ SNX 62/27 _COATED GLASS, CLEAR. WITH .24 U-VALUE ARGON FILLED.

D. QUALITY STANDARDS:
   1. SAFETY GLASS: CATEGORY II MATERIALS COMPLYING WITH TESTING REQUIREMENTS IN 16 CFR 1201 AND ANSI Z97.1.
   2. GLAZING PUBLICATIONS: WHERE APPLICABLE, COMPLY WITH WITH THE PUBLISHED RECOMMENDATIONS OF THE FOLLOWING:
      A. GANA PUBLICATIONS: "GLAZING MANUAL" AND "LAMINATED GLASS DESIGN GUIDE".
      B. SIGMA PUBLICATIONS: SIGMA TM-3000, "VERTICAL GLAZING GUIDELINES".

E. GLASS:
   1. FLOAT GLASS: ASTM C 1036, TYPE I, QUALITY q3
   2. HEAT-TREATED FLOAT GLASS: ASTM C 1048, TYPE I, QUALITY q3, HEAT STRENGTHENED OR FULLY TEMPERED WHERE INDICATED AND WHERE REQUIRED BY CODE OR INSTALLATION CONDITIONS.
   3. MIRROR GLASS: ASTM C 1036, TYPE I, CLASS 1, QUALITY q1, SILVER COATED PER FS DDM411C, 6.0mm THICK, WITH EDGES FLAT POLISHED.

F. FABRICATED GLASS PRODUCTS:
   1. SEALED INSULATING-GLASS UNITS: PREASSEMBLED UNITS COMPLYING WITH ASTM E 774 FOR CLASS CBA UNITS WITH TWO SHEETS OF GLASS SEPARATED BY A 1/2-INCH DEHYDRATED SPACE FILLED WITH AIR. EXTERIOR GLASS COLOR TO MATCH EXISTING. INTERIOR GLASS SHALL BE CLEAR.

G. INSTALLATION:
   1. COMPLY WITH COMBINED RECOMMENDATIONS OF MANUFACTURERS OF GLASS, SEALANTS, GASKETS, AND OTHER GLAZING MATERIALS, UNLESS MORE STRINGENT REQUIREMENTS ARE CONTAINED IN GANA'S "GLAZING MANUAL".
   2. SET GLASS LITES IN EACH SERIES WITH UNIFORM PATTERN, DRAW, BOW, AND SIMILAR CHARACTERISTICS.
   3. AFTER GLASS INSTALLATION IS COMPLETE, REMOVE GLAZING MATERIALS AND LABELS FROM FINISHED SURFACES, AND THOROUGHLY CLEAN GLASS AND ADJACENT FRAMING AND SURFACES. REPEAT AS NECESSARY PRIOR TO FINAL WALK-THROUGH.

08 8100 - MIRRORS

A. SUBMITTALS: FOR EACH TYPE OF PRODUCT INDICATED.THE CONTRACTOR SHALL PREPARE, AND SUBMIT TO THE ARCHITECT FOR APPROVAL, COMPLETE SHOP DRAWINGS: INCLUDE MIRROR ELEVATIONS, EDGE DETAILS, MIRROR HARDWARE, AND ATTACHMENTS TO OTHER WORK. WARRANTY: SAMPLE OF SPECIAL WARRANTY.

B. QUALITY ASSURANCE: VINYL CASEMENT WINDOWS- BASIS OF DESIGN: MI 3500 VINYL SINGLE- HUNG WINDOWS.
   1. GLAZING PUBLICATIONS: COMPLY WITH GANA'S "GLAZING MANUAL" AND "MIRRORS, HANDLE WITH EXTREME CARE: TIPS FOR THE PROFESSIONAL ON THE CARE AND HANDLING OF MIRRORS."
   2. SAFETY GLAZING PRODUCTS: FOR MIRRORS, PROVIDE PRODUCTS COMPLYING WITH TESTING REQUIREMENTS IN 16 CFR 1201 FOR CATEGORY II MATERIALS.
   3. PRECONSTRUCTION MIRROR MASTIC COMPATIBILITY TEST: SUBMIT MIRROR MASTIC PRODUCTS TO MIRROR MANUFACTURER FOR TESTING TO DETERMINE COMPATIBILITY OF MASTIC WITH MIRROR BACKING AND SUBSTRATES ON WHICH MIRRORS ARE INSTALLED.

C. WARRANTY: SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MIRROR MANUFACTURER AGREES TO REPLACE MIRRORS THAT DETERIORATE WITHIN SPECIFIED WARRANTY PERIOD. DETERIORATION OF MIRRORS IS DEFINED AS DEFECTS DEVELOPED FROM NORMAL USE THAT ARE NOT ATTRIBUTED TO MIRROR BREAKAGE OR TO MAINTAINING AND CLEANING MIRRORS CONTRARY TO MANUFACTURER'S WRITTEN INSTRUCTIONS. DEFECTS INCLUDE DISCOLORATION, BLACK SPOTS, AND CLOUDING OF THE SILVER FILM.
   1. WARRANTY PERIOD: FIVE YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

D. BASIS OF DESIGN: SILVERED FLAT GLASS MIRRORS
   1. GLASS MIRRORS, GENERAL: ASTM C 1503; MANUFACTURED USING COPPER FREE, LOW LEAD MIRROR COATING PROCESS.
   2. CLEAR GLASS: MIRROR GLAZING QUALITY; ULTRACLEAR (LOW IRON) FLOAT GLASS WITH A MINIMUM 91 PERCENT VISIBLE LIGHT TRANSMISSION. NOMINAL THICKNESS: 1/4 INCH.
   3. TEMPERED CLEAR GLASS: MIRROR GLAZING QUALITY, FOR BLEMISH REQUIREMENTS; AND COMPLY WITH ASTM C 1048 FOR KIND FT, CONDITION A, TEMPERED FLOAT GLASS BEFORE SILVER COATING IS APPLIED. NOMINAL THICKNESS: 1/4 INCH.

E. MIRROR HARDWARE: TOP AND BOTTOM ALUMINUM J CHANNELS: ALUMINUM EXTRUSIONS WITH A RETURN DEEP ENOUGH TO PRODUCE A GLAZING CHANNEL TO ACCOMMODATE MIRRORS OF THICKNESS INDICATED AND IN LENGTHS REQUIRED TO COVER BOTTOM AND TOP EDGES OF EACH MIRROR IN A SINGLE PIECE. FINISH: CLEAR BRIGHT ANODIZED.
   1. TOP AND BOTTOM MIRROR MOUNTING CLIPS: #277 MIRROR CLIPS AS MANUFACTURED BY KNAPE & VOGT OR APPROVED EQUAL.
   2. FASTENERS: FABRICATED OF SAME BASIC METAL AND ALLOY AS FASTENED METAL AND MATCHING IT IN FINISHED COLOR AND TEXTURE WHERE FASTENERS ARE EXPOSED.

F. INSTALLATION: GENERAL: EXAMINE SUBSTRATES, OVER WHICH MIRRORS ARE TO BE MOUNTED, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH INSTALLATION TOLERANCES, SUBSTRATE PREPARATION, AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.
   A. VERIFY COMPATIBILITY WITH AND SUITABILITY OF SUBSTRATES, INCLUDING COMPATIBILITY OF MIRROR MASTIC WITH EXISTING FINISHES OR PRIMERS.
   B. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED AND SURFACES ARE DRY.
   1. INSTALL MIRRORS TO COMPLY WITH MIRROR MANUFACTURER'S WRITTEN INSTRUCTIONS AND WITH REFERENCED GANA PUBLICATIONS. MOUNT MIRRORS ACCURATELY IN PLACE IN A MANNER THAT AVOIDS DISTORTING REFLECTED IMAGES.
   2. INSTALL WALL MOUNTED ANNEALED GLASS MIRRORS IN THE APARTMENT UNITS WITH MIRROR CLIPS. ATTACH MIRROR HARDWARE SECURELY TO MOUNTING SURFACES WITH MECHANICAL FASTENERS INSTALLED WITH ANCHORS OR INSERTS AS APPLICABLE.
   3. INSTALL FASTENERS SO HEADS DO NOT IMPOSE POINT LOADS ON BACKS OF MIRRORS.
   4. PROTECT MIRRORS FROM BREAKAGE AND CONTAMINATING SUBSTANCES RESULTING FROM CONSTRUCTION OPERATIONS.
   5. MAINTAIN ENVIRONMENTAL CONDITIONS THAT WILL PREVENT MIRRORS FROM BEING EXPOSED TO MOISTURE FROM CONDENSATION OR OTHER SOURCES FOR CONTINUOUS PERIODS OF TIME.
   6. WASH EXPOSED SURFACE OF MIRRORS NOT MORE THAN FOUR DAYS BEFORE DATE SCHEDULED FOR INSPECTIONS THAT ESTABLISH DATE OF SUBSTANTIAL COMPLETION. WASH MIRRORS AS RECOMMENDED IN WRITING BY MIRROR MANUFACTURER.

DIVISION 9 - FINISHES

09 2116 - GYPSUM BOARD ASSEMBLIES

A. STEEL FRAMING MEMBERS: COMPLY WITH ASTM C754 IN DEPTHS AND GAGES AS INDICATED IN THE CONSTRUCTION DRAWINGS AND AS FOLLOWS:
   1. STEEL SHEET COMPONENTS: COMPLY WITH ASTM C645 WITH MANUFACTURER'S STANDARD CORROSION-RESISTANT ZINC COATING.
   2. TIE WIRE: ASTM A 641/A 641M, CLASS 1 ZINC COATING, SOFT TEMPER. .0625" DIAMETER OR DOUBLE STRAND OF .0475" DIAMETER WIRE.
   3. WIRE HANGERS: ASTM A 641/A 641M, CLASS 1 ZINC COATING, SOFT TEMPER. .0162" DIAMETER.

B. PANEL PRODUCTS: PROVIDE IN THICKNESS AND TYPE INDICATED IN THE CONSTRUCTION DRAWINGS IN MAXIMUM LENGTHS AVAILABLE TO MINIMIZE END-TO-END BUTT JOINTS AND AS FOLLOWS:
   1. GYPSUM WALLBOARD: ASTM C 36, TYPE 'X' WITH TAPERED EDGES, SAG-RESISTANT TYPE FOR CEILING SURFACES.
   2. WATER-RESISTANT GYPSUM BACKING BOARD: ASTM C 630, TYPE 'X' ON ALL TOILET ROOM AND SHOWER ROOM WALLS, BEHIND ALL PLUMBING FIXTURES, AND AS INDICATED.

C. ACCESSORIES:
   1. TRIM: ASTM 1047, FORMED FROM GALVANIZED OR ALUMINUM COATED STEEL SHEET, ROLLED ZINC, OR PLASTIC
      A. OUTSIDE CORNERS: PROVIDE CORNER BEAD UNLESS NOTED OTHERWISE
      B. EXPOSED PANEL EDGES: PROVIDE LC-BEAD (J-BEAD) UNLESS NOTED OTHERWISE; USE TEAR-AWAY BEAD WHERE GYP. BD. MEETS WINDOW FRAMES OR CEILING GRID.
      C. CONTROL JOINTS: PROVIDE WHERE INDICATED OR APPROXIMATELY 30'-0" MAX. CONTACT ARCHITECT FOR LOCATIONS IF NOT INDICATED.
   2. SOUND-ATTENUATION BLANKETS: ASTM C 665, TYPE I (UNFACED)
   3. ACOUSTICAL SEALANT: COMPLY WITH ASTM C 834, NONSAG, PAINTABLE, NONSTAINING LATEX.

D. INSTALLATION:
   1. FRAMING: COMPLY WITH ASTM C 754 AND ASTM C 840 AND WITH U.S. GYPSUM'S "GYPSUM CONSTRUCTION HANDBOOK" ISOLATE FRAMING FROM BUILDING STRUCTURE TO PREVENT TRANSFER OF LOADING IMPOSED BY STRUCTURAL MOVEMENT AND PROVIDE BRACING AS NECESSARY FOR PROPER SUPPORT WHETHER INDICATED OR NOT.
   2. GYPSUM PANELS AND FINISH: COMPLY WITH ASTM C 840 AND GA-216. ISOLATE GYPSUM BOARD ASSEMBLIES FROM ABUTTING STRUCTURAL AND MASONRY WORK AND FINISH AS FOLLOWS:
      A. LEVEL 1 (EMBED TAPE AT JOINTS): AT CONCEALED AREAS UNLESS A HIGHER LEVEL IS INDICATED OR REQUIRED FOR FIRE-RESISTANCE-RATED ASSEMBLY.
      B. LEVEL 2 (EMBED TAPE AND APPLY SEPARATE FIRST COAT OF JOINT COMPOUND TO TAPE. FASTENERS, AND TRIM FLANGES AND SAND SMOOTH AFTER EACH COAT): AT SUBSTRATES BEHIND TILE.
      C. LEVEL 4 (EMBED TAPE AND APPLY SEPARATE FIRST, FILL, AND FINISH COATS OF JOINT COMPOUND TO TAPE, FASTENERS, AND TRIM FLANGES AND SAND SMOOTH AFTER EACH COAT): AT ALL WALLS RECEIVING FLAT, EGGSHELL, OR SATIN SHEEN PAINT OR WALLCOVERING)
      D. LEVEL 5 (EMBED TAPE, APPLY SEPARATE FIRST, FILL, AND FINISH COATS OF JOINT COMPOUND TO TAPE, FASTENERS, AND TRIM FLANGES, AND APPLY THIN SKIM COAT OF JOINT COMPOUND OVER ENTIRE SURFACE AND SAND SMOOTH AFTER EACH COAT): AT ALL WALLS RECEIVING SEMI-GLOSS OR GLOSS SHEEN PAINT, AND ALL GYPSUM BOARD CEILINGS)

DIVISION 9 - FINISHES (CONTINUED)

09 2216 - NON-STRUCTURAL METAL FRAMING

A. SUBMITTALS: SHOP DRAWINGS: INDICATE PREFABRICATED WORK, COMPONENT DETAILS, STUD LAYOUT, FRAMED OPENINGS, ANCHORAGE TO STRUCTURE, ACOUSTIC DETAILS, TYPE AND LOCATION OF FASTENERS, ACCESSORIES, AND ITEMS OF OTHER RELATED WORK. DESCRIBE METHOD FOR SECURING STUDS TO TRACKS, SPLICING, AND FOR BLOCKING AND REINFORCEMENT OF FRAMING CONNECTIONS.
   1. PRODUCT DATA: PROVIDE MANUFACTURER'S DATA ON PARTITION HEAD TO STRUCTURE CONNECTORS, SHOWING COMPLIANCE WITH REQUIREMENTS.
   2. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE SPECIAL PROCEDURES AND PERIMETER CONDITIONS REQUIRING SPECIAL ATTENTION.

B. MANUFACTURERS:
   1. CLARKDIETRICH BUILDING SYSTEMS: WWW.CLARKDIETRICH.COM.
   2. CEMCO: WWW.CEMCOSTEEL.COM.
   3. JAIMES INDUSTRIES: WWW.JAIMESIND.COM
   4. STEEL CONSTRUCTION SYSTEMS: WWW.STEELCONSYSTEMS.COM

C. FRAMING MATERIALS:
   1. FIRE RATED ASSEMBLIES: COMPLY WITH APPLICABLE CODE AND AS FOLLOWS:
      A. TOP OF FIRE RATED PARTITIONS: LISTED ASSEMBLY BY UL, NO. [ON DRAWINGS]; [1 AND 2] HOUR RATING.
      B. FIRE RATED SHAFT WALL REQUIREMENTS: LISTED ASSEMBLY BY UL, NO. [ON DRAWINGS]; [1] HOUR RATING.
   2. NON-LOADBEARING FRAMING SYSTEM COMPONENTS: ASTM C645; GALVANIZED SHEET STEEL, OF SIZE AND PROPERTIES NECESSARY TO COMPLY WITH ASTM C754 FOR THE SPACING INDICATED, WITH MAXIMUM DEFLECTION OF WALL FRAMING OF L/240 AT 5 PSF.
      A. TRACKS AND RUNNERS: SAME MATERIAL AND THICKNESS AS STUDS, BENT LEG RETAINER NOTCHED TO RECEIVE STUDS WITH PROVISION FOR CRIMP LOCKING TO STUD.
      B. STUDS: C SHAPED WITH FLAT OR FORMED WEBS WITH KNURLED FACES.
      C. CEILING CHANNELS: C SHAPED.
      D. FURRING: HAT-SHAPED SECTIONS, MINIMUM DEPTH OF 7/8 INCH.
      E. CONTRACTOR TO PROVIDE BRACING AS REQUIRED TO COMPLETE SYSTEM.
      F. WHERE INDICATED IN DRAWINGS, SHAFT WALL STUDS AND ACCESSORIES: ASTM C645; GALVANIZED SHEET STEEL, OF SIZE AND PROPERTIES NECESSARY TO COMPLY WITH ASTM C754 AND SPECIFIED PERFORMANCE REQUIREMENTS.
      G. CEILING HANGERS: TYPE AND SIZE AS SPECIFIED IN ASTM C754 FOR SPACING REQUIRED.
      H. PARTITION HEAD TO STRUCTURE CONNECTIONS: PROVIDE MECHANICAL ANCHORAGE DEVICES THAT ACCOMMODATE DEFLECTION USING SLOTTED HOLES, SCREWS AND ANTI-FRICTION BUSHINGS, PREVENTING ROTATION OF STUDS WHILE MAINTAINING STRUCTURAL PERFORMANCE OF PARTITION.
      I. FIT, REINFORCE, AND BRACE FRAMING MEMBERS TO SUIT DESIGN REQUIREMENTS.

D. INSTALLATION:
   1. COMPLY WITH REQUIREMENTS OF ASTM C754.
   2. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK.
   3. VERIFY THAT ROUGH-IN UTILITIES ARE IN PROPER LOCATION.
   4. EXTEND PARTITION FRAMING TO STRUCTURE WHERE INDICATED AND TO CEILING IN OTHER LOCATIONS.
   5. PARTITIONS TERMINATING AT CEILING: ATTACH CEILING RUNNER SECURELY TO CEILING TRACK IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
   6. PARTITIONS TERMINATING AT STRUCTURE: ATTACH TOP RUNNER TO STRUCTURE, MAINTAIN CLEARANCE BETWEEN TOP OF STUDS AND STRUCTURE, AND CONNECT STUDS TO TRACK USING SPECIFIED MECHANICAL DEVICES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS; VERIFY FREE MOVEMENT OF TOP OF STUD CONNECTIONS; DO NOT LEAVE STUDS UNATTACHED TO TRACK.
   7. FIT RUNNERS UNDER AND ABOVE OPENINGS; SECURE INTERMEDIATE STUDS TO SAME SPACING AS WALL STUDS.
   8. ALIGN STUD WEB OPENINGS HORIZONTALLY.
   9. SECURE STUDS TO TRACKS USING CRIMPING METHOD. DO NOT WELD.
   10. STUD SPLICING IS NOT PERMISSIBLE.
   11. FABRICATE CORNERS USING A MINIMUM OF THREE STUDS.
   12. DOUBLE STUD AT WALL OPENINGS, DOOR AND WINDOW JAMBS, NOT MORE THAN 2 INCHES FROM EACH SIDE OF OPENINGS.
   13. BRACE STUD FRAMING SYSTEM RIGID.
   14. COORDINATE ERECTION OF STUDS WITH REQUIREMENTS OF DOOR FRAMES; INSTALL SUPPORTS AND ATTACHMENTS.
   15. COORDINATE INSTALLATION OF BUCKS, ANCHORS, AND BLOCKING WITH ELECTRICAL, MECHANICAL, AND OTHER WORK TO BE PLACED WITHIN OR BEHIND STUD FRAMING.
   16. BLOCKING: USE WOOD BLOCKING SECURED TO STUDS. PROVIDE BLOCKING FOR SUPPORT OF PLUMBING FIXTURES, WALL CABINETS, TOILET ACCESSORIES, HARDWARE, AND OPENING FRAMES.

09 6813 - TILE CARPETING

A. SUBMITTALS: PRODUCT DATA AND SAMPLES OF EACH CARPET PRODUCT INDICATED. SUBMIT ACTUAL TILE SAMPLES OF EACH CARPET REQUIRED

B. WARRANTY: PROVIDE SPECIAL PROJECT WARRANTY, SIGNED BY CONTRACTOR, INSTALLER AND MANUFACTURER (CARPET MILL), AGREEING TO REPAIR OR REPLACE DEFECTIVE MATERIALS AND WORKMANSHIP OF CARPETING WORK DURING 1-YEAR WARRANTY PERIOD FOLLOWING SUBSTANTIAL COMPLETION. ATTACH COPIES OF PRODUCT WARRANTIES.

C. ATTIC STOCK: FURNISH ONE (1) BOX FOR EACH 50 BOXES OR FRACTION THEREOF OF EACH TYPE OF FLOOR TILE PACKAGED WITH PROTECTIVE COVERING AND LABELED FOR STORAGE

D. PRODUCTS: PROVIDE CARPET IN PATTERNS AND COLORS AND WITH BACKINGS AS INDICATED IN THE CONSTRUCTION DOCUMENTS WITH CRITICAL RADIANT FLUX CLASSIFICATION CLASS I, NOT LESS THAN 0.45 W/SQ. CM PER ASTM E 648. ORDER ALL MATERIALS FROM THE SAME FACTORY DYE LOT.

E. INSTALLATION ACCESSORIES:
   1. TROWELABLE LEVELING AND PATCHING COMPOUNDS: LATEX-MODIFIED, HYDRAULIC-CEMENT-BASED FORMULATION PROVIDED OR RECOMMENDED BY CARPET MANUFACTURER.
   2. ADHESIVES: WATER-RESISTANT, MILDEW-RESISTANT, NONSTAINING TYPE TO SUIT PRODUCTS AND SUBFLOOR CONDITIONS INDICATED, THAT COMPLIES WITH FLAMMABILITY REQUIREMENTS FOR INSTALLED CARPET AND IS RECOMMENDED OR PROVIDED BY CARPET MANUFACTURER.

F. INSTALLATION: FOR CARPET TILE COMPLY CRI 104, SECTION 13 "CARPET MODULES (TILES)".
   1. GENERAL: COMPLY WITH CRI'S "CRI CARPET INSTALLATION STANDARD" AND WITH CARPET MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR PREPARING SUBSTRATES.
   2. USE TROWELABLE LEVELING AND PATCHING COMPOUNDS, ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS, TO FILL CRACKS, HOLES, DEPRESSIONS, AND PROTRUSIONS IN SUBSTRATES. FILL OR LEVEL CRACKS, HOLES AND DEPRESSIONS 1/8 INCH WIDE OR WIDER, AND PROTRUSIONS MORE THAN 1/32 INCH, UNLESS MORE STRINGENT REQUIREMENTS ARE REQUIRED BY MANUFACTURER'S WRITTEN INSTRUCTIONS.
   3. BROOM AND VACUUM CLEAN SUBSTRATES TO BE COVERED IMMEDIATELY BEFORE INSTALLING CARPET.
   4. LAY CARPET TILE IN PATTERN AS INDICATED ON CONSTRUCTION DOCUMENTS AND SO WIDTHS AT OPPOSITE EDGES OF ROOM ARE EQUAL AND NOT LESS THAN HALF-WIDTH.
   5. TRIM CARPET NEATLY AND TIGHT TO WALLS AND AROUND INTERRUPTIONS.
   6. INSTALL PATTERN PARALLEL TO WALLS AND BORDERS UNLESS OTHERWISE INDICATED.
   7. DO NOT BRIDGE BUILDING EXPANSION JOINTS WITH CARPET.
   8. CUT AND FIT CARPET TO BUTT TIGHTLY TO VERTICAL SURFACES, PERMANENT FIXTURES, AND BUILT-IN FURNITURE INCLUDING CABINETS, PIPES, OUTLETS, EDGINGS, THRESHOLDS, AND NOSINGS. BIND OR SEAL CUT EDGES AS RECOMMENDED BY CARPET MANUFACTURER.
   9. EXTEND CARPET INTO TOE SPACES, DOOR REVEALS, CLOSETS, OPEN-BOTTOMED OBSTRUCTIONS, REMOVABLE FLANGES, ALCOVES, AND SIMILAR OPENINGS.
   10. MAINTAIN REFERENCE MARKERS, HOLES, AND OPENINGS THAT ARE IN PLACE OR MARKED FOR FUTURE CUTTING BY REPEATING ON CARPET AS MARKED ON SUBFLOOR. USE NONPERMANENT, NONSTAINING MARKING DEVICE.
   11. PROTECT CARPET AGAINST DAMAGE FROM CONSTRUCTION OPERATIONS AND PLACEMENT OF EQUIPMENT AND FIXTURES DURING THE REMAINDER OF CONSTRUCTION PERIOD. USE PROTECTION METHODS RECOMMENDED IN WRITING BY CARPET MANUFACTURER.
   12. INSTALL TRANSITION STRIPS AT CARPET TERMINATIONS AS SPECIFIED ON THE CONSTRUCTION DOCUMENTS.

collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

PERMIT DOCUMENTS

EXPRESS STOP - VIEW HIGH
3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB II
NUMBER A-2016004008
06-12-24
ARCHITECT

PROFESSIONAL SEAL

G502

ISSUE DATE: 09 JUNE 2025
COLLINS WEBB #: 23114

SPECIFICATIONS

6/12/2025 8:15:13 AM

SPECIFICATIONS - PRODUCT & INSTALLATION GENERAL REQUIREMENTS

DIVISION 9 - FINISHES (continued)

09 9000 - PAINTING AND COATING

A. SUBMITTALS: PRODUCT DATA AND THREE (3) DRAW-DOWN SAMPLES OF EACH COLOR AND SHEEN SPECIFIED.
B. ATTIC STOCK: FURNISH ONE (1) GALLON OF EACH PAINT COLOR AND SHEEN, IN CONTAINERS, PROPERLY LABELED AND SEALED.
C. PRODUCTS: PROVIDE MANUFACTURER'S BEST QUALITY PAINTS OF COLOR AND SHEEN AS INDICATED IN THE CONSTRUCTION DOCUMENTS THAT ARE FORMULATED AND RECOMMENDED BY MANUFACTURER FOR APPLICATION INDICATED. PROVIDE MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH SUBSTRATES.
D. PAINT SYSTEMS:
   1. ALL PAINT, STAIN, AND VARNISH SHALL BE PRODUCTS OF DEVOE, SHERWIN WILLIAMS, PPG INDUSTRIES, BENJAMIN MOORE OR APPROVED EQUAL.
   2. ALL MATERIAL SHALL BE OF THE STANDARD COMMERCIAL GRADE OF THE TYPES DESIGNATED.
   3. ALL MATERIAL SHALL BE DELIVERED TO THE JOB SITE IN THE ORIGINAL, UNOPENED, LABELED CONTAINERS. COLORS NOT SPECIFICALLY CALLED FOR IN THE PAINT SCHEDULE WILL BE SELECTED BY THE ARCHITECT.
E. APPLICATION / INSTALLATION:
   1. EQUIPMENT: APPLY COATINGS BY BRUSH, ROLLER, SPRAY, OR OTHER APPLICATORS ACCORDING TO COATING MANUFACTURER'S WRITTEN INSTRUCTIONS. WHEN SPRAYED, EXTERIOR COATINGS SHALL BE BACK-ROLLED FOLLOWING SPRAY APPLICATION. USE ROLLERS FOR FINISH COAT ON INTERIOR WALLS AND CEILINGS.
   2. PREPARE CONCRETE MASONRY BLOCK TO BE COATED. REMOVE EFFLORESCENCE, CHALK, DUST, DIRT, GREASE, OILS, AND RELEASE AGENTS. ROUGHEN AS REQUIRED TO REMOVE GLAZE. IF HARDENERS OR SEALERS HAVE BEEN USED TO IMPROVE CURING, USE MECHANICAL METHODS TO PREPARE SURFACES.
   3. PIGMENTED (OPAQUE) FINISHES: COMPLETELY COVER SURFACES TO PROVIDE A SMOOTH, OPAQUE SURFACE OF UNIFORM APPEARANCE. PROVIDE A FINISH FREE OF CLOUDINESS, SPOTTING, HOLIDAYS, LAPS, BRUSH MARKS, RUNS, SAGS, ROPINESS, OR OTHER SURFACE IMPERFECTIONS.
   4. APPLY PRODUCTS PER MANUFACTURER RECOMMENDED GUIDELINES. PRODUCT COVERAGE MINIMUM ONE COAT OF PRIMER AND TWO FINAL COATS ON MATERIALS. APPLY PRODUCTS TO MATERIALS APPROVED BY MANUFCTURER PRODUCT DATA SHEETS.

EXTERIOR WORK:

1. ALL EXTERIOR GALVANIZED METAL FLASHINGS, CONNECTORS, ETC.	ONE COAT COMMERCIAL METAL ETCH. ONE COAT EXTERIOR METAL PRIMER. TWO COATS EXTERIOR SEMI-GLOSS METAL PAINT.
2. ALL EXPOSED STEEL FRAMES, ANGLES, ETC.	TWO COATS SEMI-GLOSS METAL PAINT. (PRIME COAT CHANNELS, POSTS, RAILINGS, BEAMS, ETC., SURFACES THAT ARE NOT PRIMED.)
3. ALL EXPOSED MISC. FERROUS METAL ITEMS INCLUDING RAILS, PLATES, ANGLES, BOLTS, GRATES, CONDUITS, POSTS, PIPING, ETC.	TWO COATS SEMI-GLOSS METAL PAINT. (PRIME COAT SURFACES THAT ARE NOT PRIMED.)
4. ALL UNPRIMED EXTERIOR MILLWORK,TRIM, SMOOTH WOOD MATERIALS, ETC.	PRIME AND BACK LATEX PRIMER. TWO COATS OF EXTERIOR LATEX SATIN OR SEMI-GLOSS PAINT.
5. PRIMED MILLWORK AND TRIM.	TOUCH-UP PRIME. TWO COATS OF EXTERIOR 100% SATIN OR SEMI-GLOSS ACRYLIC LATEX PAINT.
6. ROUGH SAWN TRIM, BEAMS, COLUMNS, ETC.	ONE COAT PRIMER. TWO COATS HEAVY BODIED STAIN.
7. PRIMED METAL ENTRY DOORS, FRENCH DOORS AND METAL FRAMES, GARAGE DOORS.	PATCH DENTS, TOUCH UP PRIMER. TWO COATS OF OIL BASE SEMI-GLOSS PAINT INSIDE AND OUTSIDE.
8. ANY OTHER PAINTING REQUIRED BY SURFACES.	TWO COATS TO MATCH ADJACENT THE DRAWINGS.

INTERIOR WORK:

1. GYPSUM BOARD WALLS EXCEPT IN KITCHENS, BATHROOMS, LAUNDRIES AND COMMON AREA CORRIDORS, UNLESS SCHEDULED FOR WALLCOVERING.	ONE COAT OF PRIME LATEX PAINT AND ONE FINISH COAT OF LATEX EGGSHELL WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVERAGE.) ONE WALL IN EACH APARTMENT UNIT LIVING SPACE AND EACH BEDROOM SHALL BE PAINTED ACCENT COLORS.
2. GYPSUM BOARD WALLS IN KITCHENS, BATHROOMS, AND LAUNDRIES UNLESS SCHEDULED FOR WALLCOVERING OR TILE.	ONE COAT OF EPOXY COMPATABLE PRIMER PAINT AND ONE FINISH COAT OF EPOXY EGGSHELL WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVERAGE.)
3. GYPSUM BOARD WALLS IN COMMON AREA CORRIDORS.	ONE COAT OF PRIME LATEX PAINT AND ONE FINISH COAT OF SCRUBABLE LATEX FLAT WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVERAGE.)
4. GYPSUM BOARD CEILINGS.	TWO COATS OF LATEX FLAT PAINT. TWO COATS OF CLASS II VAPOR RETARDER PAINT AT CEILINGS ADJACENT TO ATTICS.
5. DOOR CASINGS, BASE, WOOD, MILL-WORK, ETC. (PRE-PRIMED.)	ONE PRIME COAT OF LATEX PAINT, ONE COAT LATEX PAINT AND ONE FINISH COAT OF SEMI-GLOSS PAINT.
6. PRIMED HARDWOOD DOORS.	ONE COAT OF LATEX PAINT AND ONE FINISH COAT OF LATEX SEMI-GLOSS PAINT.
7. ALL MISCELLANEOUS FERROUS METAL, GRILLES, REGISTERS, ETC.	TWO COATS METAL PAINT TO MATCH INCLUDING ADJACENT SURFACES UNLESS FACTORY PREFINISHED WHITE.
8. ANY OPEN STRUCTURE PAINTING.	ONE COAT APPLICABLE PRIMER FOR SURFACES TO BE PAINTED UNLESS FACTORY PRIMED; TWO COATS OF DRYFALL PAINT SPRAY APPLIED.
9. ANY OTHER PAINTING WORK REQUIRED BY THE DRAWINGS.	FINISH TO MATCH SIMILAR CONDITIONS.

09 3000 - TILING

A. SUBMITTALS: PRODUCT DATA FOR SETTING AND GROUTING MATERIALS AND THREE (3) SAMPLES OF EACH TILE SPECIFIED FOR VERIFICATION PURPOSES.
B. ATTIC STOCK: FURNISH 2% OF EACH TYPE OF CERAMIC TILE PACKAGED WITH PROTECTIVE COVERING AND LABELED FOR STORAGE.
C. BASIS OF DESIGN: SEE DRAWING SCHEDULES.
D. TILE: COMPLY WITH STANDARD GRADE REQUIREMENTS IN ANSI A137.1 "SPECIFICATIONS FOR CERAMIC TILE" FOR PRODUCTS AND SIZES INDICATED IN THE CONSTRUCTION DOCUMENTS.
E. INSTALLATION MATERIALS:
   1. THIN-SET MORTAR:
      A. TYPICAL INTERIOR INSTALLATIONS: LATEX/POLYMER MODIFIED PORTLAND CEMENT COMPLYING WITH ANSI A108.5 AND ANSI 118.4.
   2. GROUT: UNSANDED FOR JOINTS 1/16" WIDTH OR LESS, SANDED FOR JOINTS GREATER THAN 1/16" IN COLOR INDICATED IN SCHEDULE OR TO BE SELECTED BY ARCHITECT AND OWNER.
      A. TYPICAL INTERIOR INSTALLATIONS: STANDARD CEMENT GROUT WITH INTEGRAL STAIN INHIBITORS (TEC ACCUCOLOR XT, OR EQUAL)
   3. SETTING BED ACCESSORIES: ANSI A 108.1A
F. INSTALLATION METHODS: COMPLY WITH TILE INSTALLATION STANDARDS IN ANSI'S "SPECIFICATIONS FOR THE INSTALLATIONS OF CERAMIC TILE" AND TCA'S "HANDBOOK FOR CERAMIC TILE INSTALLATION" THAT APPLY TO THE MATERIALS AND METHODS INDICATED BELOW:
G. TERMINATIONS:
   1. WHERE CUT TILE IS SPECIFIED AS THE TOP COURSE ON WALL WAINSCOTING OR WALL BASE WITH AN EXPOSED TOP EDGE, THE FACTORY EDGE SHALL BE USED AS THE EXPOSED EDGE.
H. CONFLICTS: IF NOT ADDRESSED ON DRAWINGS, WHERE ELECTRICAL DEVICES OR TOILET ACCESSORIES STRADDLE THE TRANSITION FROM THE TOP EDGE OF WAINSCOT WALL TILE TO GYPSUM BOARD SUBSTRATE, CONTACT ARCHITECT FOR RESOLUTION.
I. GROUT JOINTS:
   1. JOINT SIZE: SET TILE WITH THE SMALLEST GROUT JOINT ACHIEVABLE AND AS RECOMMENDED BY THE MFR. BASED ON THE TILE PRODUCT AND SUBSTRATE CONDITIONS, UNLESS NOTED OTHERWISE.
   2. TILE PATTERN: LAY TILE IN PATTERNS AS INDICATED IN THE CONSTRUCTION DOCUMENTS. ALIGN JOINTS WHERE ADJOINING TILES ON FLOOR, BASE, WALLS, AND TRIM ARE THE SAME SIZE, UNLESS INDICATED OTHERWISE.
   3. INSTALLATION: INSTALL GROUT PER MANUFACTURER'S INSTRUCTIONS, EXERCISING CARE TO AVOID REMOVAL OF GROUT COLOR BY USE OF EXCESS WATER DURING INSTALLATION. FADED OR CHALKY GROUT SHALL BE CAUSE FOR REJECTION.
   4. SEALER: AFTER FULLY CURED, GROUT SHALL BE SEALED WITH TWO (2) COATS OF COMMERCIAL QUALITY PENETRATING SILICONE SEALER.

09 5100 - ACOUSTICAL CEILINGS

A. SUBMITTALS: PRODUCT DATA ONLY
B. ATTIC STOCK: FURNISH 2% OF EACH TYPE OF CEILING TILE PACKAGED WITH PROTECTIVE COVERING AND LABELED FOR STORAGE.
C. ACOUSTICAL TILE PRODUCTS: PROVIDE CEILING TILE IN TYPE AND SIZES INDICATED IN THE CONSTRUCTION DOCUMENTS COMPLYING WITH ASTM E 1264, CLASS A MATERIALS, TESTED PER ASTM E 84.
D. SUSPENSION SYSTEM: PROVIDE HEAVY DUTY, DIRECT-HUNG, SUSPENSION SYSTEMS AS INDICATED IN THE CONSTRUCTION DOCUMENTS COMPLYING WITH ASTM C 635. FURNISH ALUMINUM GRID IN SHOWERS, KITCHENS, AND OTHER HIGH-HUMIDITY AREAS.
   1. ATTACHMENT DEVICES: SIZE FOR FIVE (5) TIMES THE DESIGN LOAD INDICATED IN ASTM C 635, TABLE 1, DIRECT HUNG UNLESS OTHERWISE INDICATED.
   2. WIRE HANGERS, BRACES, AND TIES: ZINC-COATED CARBON-STEEL WIRE; ASTM A 641/ (A 641 M), CLASS 1 ZINC COATING, SOFT TEMPER WITH A YIELD STRENGTH AT LEAST THREE (3) TIMES THE HANGER DESIGN LOAD (ASTM C 635, TABLE 1, DIRECT HUNG), BUT NOT LESS THAN 0.135" DIAMETER WIRE.
   3. SEISMIC STRUTS: MANUFACTURER'S STANDARD PRODUCT DESIGNED TO ACCOMMODATE SEISMIC FORCES.
   4. HOLD-DOWN CLIPS: PROVIDE HOLD-DOWN CLIPS ON CEILING TILE IN ENTRANCE VESTIBULES, COMPUTER ROOMS EMPLOYING DRY CHEMICAL FIRE-SUPPRESSION SYSTEMS, AND OTHER AREAS AS INDICATED.
E. INSTALLATION: COMPLY WITH ASTM C 636 AND CISCA'S "CEILING SYSTEMS HANDBOOK".
   1. SEQUENCE WORK TO ENSURE ACOUSTICAL CEILINGS ARE NOT INSTALLED UNTIL BUILDING IS ENCLOSED, SUFFICIENT HEAT IS PROVIDED, DUST GENERATION ACTIVITIES HAVE TERMINATED, AND OVERHEAD WORK IS COMPLETED, TESTED, AND APPROVED.
   2. INSTALL CEILING GRID AS INDICATED TO BE SYMMETRICAL ABOUT BOTH AXES OF EACH ROOM USING NOT LESS THAN HALF-SIZE TILE UNLESS INDICATED OTHERWISE ON THE REFLECTED CEILING PLAN.
   3. SUPPORT SUSPENSION SYSTEM INDEPENDENTLY OF DUCTS, PIPES, AND CONDUITS.
   4. SUPPORT FIXTURE LOADS USING SUPPLEMENTARY HANGERS LOCATED WITHIN 6" OF EACH CORNER OR SUPPORT FIXTURES INDEPENDENTLY.
   5. PROVIDE MATCHING PERIMETER MOLDING INSTALLED IN BEAD OF ACOUSTICAL SEALANT AT ALL LOCATIONS WHERE CEILING INTERSECTS VERTICAL SURFACES. USE MATCHING PRE-FORMED CLOSURES AT ROUND OR CURVED OBSTRUCTIONS.
   6. FIELD-CUT EDGES SHALL MATCH PROFILE OF FACTORY EDGES.

DIVISION 10 - SPECIALTIES

10 2800 - TOILET AND BATH ACCESSORIES

A. REFERENCE CONSTRUCTION DRAWINGS & SCHEDULES FOR TYPE, QUANTITY, AND LOCATIONS OF TOILET AND BATH ACCESSORIES.
B. SUBMITTALS:
   1. PRODUCT DATA: MANUFACTURER'S DATA SHEETS ON EACH PRODUCT TO BE USED, INCLUDING:
   2. PREPARATION INSTRUCTIONS AND RECOMMENDATIONS.
   3. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS.
   4. INSTALLATION METHODS.
C. INSTALLATION:
   1. INSTALLER MUST EXAMINE SUBSTRATES, PREVIOUSLY INSTALLED INSERTS AND ANCHORAGES NECESSARY FOR MOUNTING OF TOILET ACCESSORIES, AND OTHER CONDITIONS UNDER WHICH INSTALLATION IS TO OCCUR, AND MUST NOTIFY CONTRACTOR IN WRITING OF CONDITIONS DETRIMENTAL TO PROPER AND TIMELY COMPLETION OF WORK. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN MANNER ACCEPTABLE TO INSTALLER.
   2. INSTALL ACCESSORIES ACCORDING TO RESPECTIVE MANUFACTURERS' WRITTEN INSTRUCTIONS, USING FASTENERS APPROPRIATE TO SUBSTRATE INDICATED AND RECOMMENDED BY UNIT MANUFACTURER. INSTALL UNITS LEVEL, PLUMB, AND FIRMLY ANCHORED IN LOCATIONS AND AT HEIGHTS INDICATED. ADHESIVE INSTALLATIONS ARE NOT PERMITTED.
   3. MOUNTING HEIGHTS SHALL BE AS RECOMMENDED BY THE ACCESSORY MANUFACTURER AND AT HEIGHTS RECOMMENDED BY USE FOR PHYSICALLY HANDICAPPED TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT.
   4. GRAB BARS: INSTALL TO WITHSTAND A DOWNWARD LOAD OF AT LEAST 250 LBF, WHEN TESTED ACCORDING TO ASTM F 446.
   5. ADJUST ACCESSORIES FOR PROPER OPERATION AND VERIFY THAT MECHANISMS FUNCTION SMOOTHLY.
   6. CLEAN AND POLISH ALL EXPOSED SURFACES AFTER REMOVING PROTECTIVE COATINGS.

10 3000 - SOLID PLASTIC TOILET COMPARTMENTS

A. REFERENCE CONSTRUCTION DRAWINGS & SCHEDULES FOR TYPE, QUANTITY, AND LOCATIONS OF TOILET AND BATH ACCESSORIES.
B. PRODUCTS:
   1. BASIS OF DESIGN: ECLIPSE TOILET PARTITIONS AS MANUFACTURED BY AND SUPPLIED BY SCRANTON
      A. STYLE: FLOOR MOUNTED OVERHEAD-BRACED TOILET COMPARTMENTS.
   2. DOORS AND PANELS: HIGH DENSITY POLYETHYLENE (HDPE), FABRICATED FROM SEQ CHAPTER 1 EXTRUDED POLYMER RESINS, FORMING SINGLE THICKNESS PANEL.
      A. WATERPROOF AND NONABSORBENT, WITH SELF-LUBRICATING SURFACE, RESISTANT TO MARKS BY PENS, PENCILS, MARKERS, AND OTHER WRITING INSTRUMENTS.
      B. THICKNESS: 1 INCH (25 MM).
      C. EDGES: SHIPLAP.
   3. PANEL COLOR:
      A. TRADITIONAL SERIES
      B. SHALE - ORANGE PEEL.
   4. DOORS AND PANELS:
      A. HIGH PRIVACY
      B. HEIGHT: 62 INCHES (1575 MM) HIGH AND MOUNTED AT 8 TO 14 INCHES (203 TO 356 MM) ABOVE THE FINISHED FLOOR.
C. SUBMITTALS:
   1. PRODUCT DATA: MANUFACTURER'S DATA SHEETS ON EACH PRODUCT TO BE USED, INCLUDING:
   2. PREPARATION INSTRUCTIONS AND RECOMMENDATIONS.
   3. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS.
   4. INSTALLATION METHODS.
   5. SHOP DRAWINGS: PROVIDE LAYOUT DRAWINGS AND INSTALLATION DETAILS WITH LOCATION AND TYPE OF HARDWARE REQUIRED.
   6. SELECTION SAMPLES: FOR EACH FINISH PRODUCT SPECIFIED, TWO COMPLETE SETS OF COLOR CHIPS REPRESENTING MANUFACTURER'S FULL RANGE OF AVAILABLE COLORS AND PATTERNS.
D. POSTS, RAILS AND HARDWARE:
   1. METAL POSTS: 82.75 INCHES (2102 MM) HIGH, HEAVY DUTY EXTRUDED ALUMINUM, CLEAR ANODIZED FINISH, FASTENED TO FOOT WITH STAINLESS STEEL TAMPER RESISTANT SCREW.
   2. HIDDEN SHOE (FOOT): ONE-PIECE MOLDED POLYETHYLENE INVISIBLE SHOE INSERTED INTO METAL POST AND SECURED TO METAL POST WITH STAINLESS STEEL TAMPER RESISTANT SCREW.
   3. HEADRAIL CAP AND CORNER CAP: ONE-PIECE MOLDED POLYETHYLENE SECURED TO METAL POST WITH STAINLESS STEEL TAMPER RESISTANT SCREW; ADJUSTABLE TO LEVEL HEADRAIL TO FINISHED FLOOR.
   4. WALL BRACKETS: CONTINUOUS HEAVY DUTY EXTRUDED ALUMINUM, CLEAR ANODIZED FINISH, INSERTED INTO SLOTTED PANEL AND FASTENED TO PANELS WITH STAINLESS STEEL TAMPER RESISTANT SCREWS.
   5. HEADRAIL: HEAVY DUTY EXTRUDED ALUMINUM, CLEAR ANODIZED FINISH, SECURED TO WALL WITH STAINLESS STEEL TAMPER SCREWS.
   6. DOOR HARDWARE:
      A. HINGES:
         - EDGE-MOUNTED HELIX STYLE STAINLESS STEEL CONTINUOUS HINGE.
         - CLOSING DEGREE: 5 DEGREES.
         - COMES TO A FULL CLOSE ON ITS OWN WEIGHT.
      B. OCCUPANCY INDICATOR LATCH AND HOUSING:
         - MATERIAL: SATIN STAINLESS STEEL.
         - OCCUPANCY INDICATORS: GREEN FOR OCCUPIED AND RED NOT OCCUPIED.
         - SLIDE BOLT AND BUTTON.
      C. COAT HOOK AND DOOR BUMPER COMBINATION:
         - MATERIAL: CHROME PLATED ZAMAK.
         - HANDICAP DOOR: EQUIP WITH SECOND DOOR PULL AND DOOR STOP.
      D. DOOR PULLS:
         - CHROME PLATED ZAMAK.
E. INSTALLATION:
   1. CLEAN SURFACES THOROUGHLY PRIOR TO INSTALLATION.
   2. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND APPROVED SHOP DRAWINGS.
   3. INSTALL PARTITIONS RIGID, STRAIGHT, PLUMB, AND LEVEL.
   4. LOCATE BOTTOM EDGE OF DOORS AND PANELS ___ INCHES ABOVE FINISHED FLOOR.
   5. CLEARANCE AT VERTICAL EDGES OF DOORS SHALL BE UNIFORM TOP TO BOTTOM AND SHALL NOT EXCEED 3/8 INCH (9.5 MM).
   6. NO EVIDENCE OF CUTTING, DRILLING, AND/OR PATCHING SHALL BE VISIBLE ON THE FINISHED WORK.
   7. FINISHED SURFACES SHALL BE CLEANED AFTER INSTALLATION AND BE LEFT FREE OF IMPERFECTIONS.
   8. ADJUST DOORS AND LATCHES TO OPERATE CORRECTLY.
   9. PROTECT INSTALLED PRODUCTS UNTIL COMPLETION OF PROJECT.
   10. TOUCH-UP, REPAIR OR REPLACE DAMAGED PRODUCTS BEFORE SUBSTANTIAL COMPLETION.

10 4400 - FIRE PROTECTION SPECIALTIES

A. REFERENCE CONSTRUCTION DRAWINGS FOR TYPE, SIZE AND LOCATIONS OF FIRE EXTINGUISHERS AND CABINETS.
B. SUBMITTALS: PRODUCT DATA ONLY
C. FIELD CONDITIONS: DO NOT INSTALL EXTINGUISHERS WHEN AMBIENT TEMPERATURE MAY DROP BELOW 40 DEGREES FAHRENHEIT.
D. MANUFACTURERS:
   1. FIRE EXTINGUISHERS:
      A. ANSUL, A TYPO BUSINESS: WWW.ANSUL.COM/.
      B. KIDDE, A UNIT OF UNITED TECHNOLOGIES CORP.: WWW.KIDDE.COM/.
      C. NYSTROM, INC.: WWW.NYSTROM.COM/.
      D. SUBSTITUTIONS: SEE SECTION 106000 - PRODUCT REQUIREMENTS.
   2. FIRE EXTINGUISHER CABINETS AND ACCESSORIES:
      A. ACTIVAR CONSTRUCTION PRODUCTS GROUP - JL INDUSTRIES: WWW.ACTIVARCPG.COM
      B. ANSUL, A TYCO BUSINESS: WWW.ANSUL.COM
      C. LARSEN'S MANUFACTURING CO.: WWW.LARSENSMFG.COM
      D. NYSTROM, INC.: WWW.NYSTROM.COM
      E. PYRO-CHEM, A TYCO BUSINESS: WWW.PYROCHEM.COM
      F. SUBSTITUTIONS: SEE SECTION 106000 - PRODUCT REQUIREMENTS
E. FIRE EXTINGUISHERS:
   1. FIRE EXTINGUISHERS - GENERAL: COMPLY WITH PRODUCT REQUIREMENTS OF NFPA 10 AND APPLICABLE CODES, WHICHEVER IS MORE STRINGENT.
   2. MULTIPURPOSE DRY CHEMICAL TYPE FIRE EXTINGUISHERS: CARBON STEEL TANK, WITH PRESSURE GAUGE.
      A. CLASS: A:B:C TYPE.
      B. SIZE: 10 POUND (4.54 kg)
      C. FINISH: BAKED POLYESTER POWDER COAT, COLOR AS SELECTED
      D. TEMPERATURE RANGE: MINUS 40 DEGREES F T0 120 DEGREES F.
   3. DRY CHEMICAL TYPE FIRE EXTINGUISHERS: STAINLESS STEEL TANK, WITH PRESSURE GAUGE.
      A. CLASS: K TYPE
      B. SIZE: 2.5 POUND (1.13 kg)
      C. FINISH: POLISHED STAINELSS STEEL
      D. TEMPERATURE RANGE: MINUS 20 DEGREES F TO 120 DEGREES F.
F. FIRE EXTINGUISHER CABINETS:
   1. FIRE RATING: LISTED AND LABELED IN ACCORDANCE WITH ASTM E814 REQUIREMENTS FOR FIRE RESISTANCE REATING OF WALLS WHERE BEING INSTALLED.
   2. CABINET CONSTRUCTION: NON-FIRE RATED.
      A. FORMED STAINELSS STEEL SHEET; 0.036 INCH THICK BASE METAL.
   3. FIRE RATED CABINET CONSTRUCTION: ONE-HOUR FIRE RATED.
      A. STEEL; DOUBLE WALL OR OUTER ADN INNER BOXES WITH 5/8 INCH THICK FIRE BARRIER MATERIAL.
   4. CABINET CONFIGURATION: RECESSED TYPE.
      A. SIZE TO ACCOMMODATE ACCESSORIES.
      B. TRIMLESS TYPE.
      C. PROVIDE CABINET ENCLOSURE WITH RIGHT ANGLE INSIDE CORNERS AND SEAMS, AND WITH FORMED PERIMETER TRIM AND DOOR STILES.
   5. DOOR: 0.036 INCH METAL THICKNESS, REINFORCED FOR FLATNESS AND RIGIDITY WITH NYLON CATCH HINGE DOORS FOR 180 DEGREE OPENING WITH TWO BUTT HINGE.
   6. DOOR GLAZING: ACRYLIC PLASTIC, CLEAR, 1/8 INCH THCK, FLAT SHAPE AND SET IN RESILIENT CHANNEL GLAZING GASKET.
   7. CABINET MOUNTING HARDWARE: APPROPRIATE TO CABINET, WITH PRE-DRILLED HOLES FOR PLACEMENT OF ANCHORS.
   8. FINISH OF CABINET EXTERIOR TRIM AND DOOR: NO. 4 - BRUSHED STAINLESS STEEL.
   9. FINISH OF CABINET INTERIOR: WHITE COLORED ENAMEL.
G. ACCESSORIES:
   1. EXTINGUISHER BRACKETS: FORMED STEEL, CHROME-PLATED
H. INSTALLATION:
   1. INSTALL IN ACCORDANCE WITH MFG'S INSTRUCTIONS.
   2. SECURE RIGIDLY IN PLACE.

DIVISION 11 - EQUIPMENT

11 3000 - APPLIANCES

A. REFERENCE CONSTRUCTION DRAWINGS FOR QUANTITY, AND LOCATION OF APPLIANCES TO BE FURNISHED BY OWNER.

DIVISION 12 - FURNISHINGS

12 3661 COUNTERTOPS

A. REFERENCE CONSTRUCTION DRAWINGS & SCHEDULES FOR TYPE, QUANTITY, AND LOCATIONS OF TOILET AND BATH ACCESSORIES.
B. SUBMITTALS: INCLUDE PLANS, SECTIONS, DETAILS, AND ATTACHMENTS TO OTHER WORK:
   1. PRODUCT DATA :FOR EACH STONE, STONE ACCESSORY, AND MANUFACTURED PRODUCT.
   2. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS.
   3. SAMPLES: FOR EACH STONE TYPE INDICATED.
C. FIELD CONDITIONS:
   1. FIELD MEASUREMENTS: VERIFY DIMENSIONS OF CONSTRUCTION TO RECEIVE STONE COUNTERTOPS BY FIELD MEASUREMENTS BEFORE FABRICATION.
D. PRODUCTS:
   - SOURCE LIMITATIONS FOR STONE: OBTAIN FROM A SINGLE SOURCE TO PROVIDE MATERIALS OF CONSISTENT QUALITY IN APPEARANCE AND PHYSICAL PROPERTIES.
E. COUNTERTOPS:
   1. QUALITY STANDARD: PREMIUM GRADE, IN ACCORDANCE WITH AWI/AWMAC/WI (AWS) OR AWMAC/WI (NAAWS), UNLESS NOTED OTHERWISE.
   2. QUALITY STANDARD: SEFA 3 FOR LABORATORY WORKSURFACES.
   3. PLASTIC LAMINATE COUNTERTOPS: HIGH-PRESSURE DECORATIVE LAMINATE (HPDL) SHEET BONDED TO SUBSTRATE.
      A. LAMINATE SHEET: NEMA LD 3, GRADE HGS, 0.048 INCH NOMINAL THICKNESS.
      B. EXPOSED EDGE TREATMENT: AS NOTED , SUBSTRATE BUILT UP TO MINIMUM 1-1/4 INCH THICK; COVERED WITH MATCHING LAMINATE.
      C. BACK AND END SPLASHES: SAME MATERIAL, SAME CONSTRUCTION.
      D. FABRICATE IN ACCORDANCE WITH AWI/AWMAC/WI (AWS) OR AWMAC/WI (NAAWS), SECTION 11 - COUNTERTOPS, CUSTOM GRADE.
      E. MANUFACTURERS:
         A. REFER TO FINISH LEGEND.
   4. NATURAL QUARTZ AND RESIN COMPOSITE COUNTERTOPS: SHEET OR SLAB OF NATURAL QUARTZ AND PLASTIC RESIN OVER CONTINUOUS SUBSTRATE.
      A. FLAT SHEET THICKNESS: 1-1/4 INCH, MINIMUM.
      B. NATURAL QUARTZ AND RESIN COMPOSITE SHEETS, SLABS AND CASTINGS: COMPLYING WITH ISFA 3-01 AND NEMA LD 3; ORTHOPHTHALIC POLYESTER RESIN, MINERAL FILLER, AND PIGMENTS; HOMOGENOUS, NON-POROUS AND CAPABLE OF BEING WORKED AND REPAIRED USING STANDARD WOODWORKING TOOLS; NO SURFACE COATING; COLOR AND PATTERN CONSISTENT THROUGHOUT THICKNESS.
      C. MANUFACTURERS:
         A. REFER TO FINISH LEGEND FOR SOLID SURFACE AND CORIAN QUARTZ DESCRIPTIONS, MANUFACTURERS, PRODUCT NUMBERS, COLORS, SIZES AND CONTACT INFORMATION.
      D. FACTORY FABRICATE COMPONENTS TO THE GREATEST EXTENT PRACTICAL IN SIZES AND SHAPES INDICATED; COMPLY WITH THE MIA DIMENSION STONE DESIGN MANUAL.
      E. FINISH ON EXPOSED SURFACES: POLISHED.
      F. COLOR AND PATTERN: AS INDICATED ON DRAWINGS.
   5. CULTURED MARBLE AND RESIN COMPOSITE VANITY COUNTERTOP WITH INEGRATED BOWL OVER CONTINUOUS SUBSTRATE.
      A. CULTURED MARBLE AND RESIN COMPOSITE SHEETS, SLABS AND CASTINGS: ORTHOPHTHALIC POLYESTER RESIN, MINERAL FILLER, AND PIGMENTS; HOMOGENOUS, NON-POROUS AND CAPABLE OF BEING WORKED AND REPAIRED USING STANDARD WOODWORKING TOOLS; NO SURFACE COATING; COLOR AND PATTERN CONSISTENT THROUGHOUT THICKNESS.
      B. MANUFACTURERS:
         A. REFER TO FINISH LEGEND FOR DESCRIPTIONS, MANUFACTURERS, PRODUCT NUMBERS, COLORS, SIZES AND CONTACT INFORMATION.
      C. FINISH ON EXPOSED SURFACES: POLISHED.
      D. COLOR AND PATTERN: AS INDICATED ON DRAWINGS.
F. INSTALLATION:
   1. SECURELY ATTACH COUNTERTOPS TO CABINETS OR SUPPORTS USING CONCEALED FASTENERS. MAKE FLAT SURFACES LEVEL; SHIM WHERE REQUIRED.
   2. ATTACH PLASTIC LAMINATE COUNTERTOPS USING SCREWS WITH MINIMUM PENETRATION INTO SUBSTRATE BOARD OF 5/8 INCH.
   3. SEAL JOINT BETWEEN BACK/END SPLASHES AND VERTICAL SURFACES.
   4. GENERAL: INSTALL COUNTERTOPS OVER PLYWOOD SUBTOPS WITH FULL SPREAD OF WATER CLEANABLE EPOXY ADHESIVE.
   5. GENERAL: INSTALL COUNTERTOPS BY ADHERING TO SUPPORTS WITH WATER CLEANABLE EPOXY ADHESIVE.
   6. SET STONE TO COMPLY WITH REQUIREMENTS INDICATED. SHIM AND ADJUST STONE TO LOCATIONS INDICATED, WITH UNIFORM JOINTS OF WIDTHS INDICATED AND WITH EDGES AND FACES ALIGNED ACCORDING TO ESTABLISHED RELATIONSHIPS.
   7. SPACE JOINTS WITH 1/16‧ INCH GAP FOR FILLING WITH SEALANT. USE TEMPORARY SHIMS TO ENSURE UNIFORM SPACING. CLAMP UNITS TO TEMPORARY BRACING, SUPPORTS, OR EACH OTHER TO ENSURE THAT COUNTERTOPS ARE PROPERLY ALIGNED AND JOINTS ARE OF SPECIFIED WIDTH.
   8. COMPLETE CUTOUTS NOT FINISHED IN SHOP. MASK AREAS OF COUNTERTOPS ADJACENT TO CUTOUTS TO PREVENT DAMAGE WHILE CUTTING. USE POWER SAWS WITH DIAMOND BLADES TO CUT STONE. MAKE CUTOUTS TO ACCURATELY FIT ITEMS TO BE INSTALLED, AND AT RIGHT ANGLES TO FINISHED SURFACES UNLESS BEVELING IS REQUIRED FOR CLEARANCE. EASE EDGES SLIGHTLY TO PREVENT SNIPPING.
   9. INSTALL BACKSPLASHES AND END SPLASHES BY ADHERING TO WALL WITH WATER‧ CLEANABLE EPOXY ADHESIVE. LEAVE 1/16‧ INCH GAP BETWEEN COUNTERTOP AND SPLASHES FOR FILLING WITH SEALANT. USE TEMPORARY SHIMS TO ENSURE UNIFORM SPACING.
   10. GROUT JOINTS TO COMPLY WITH ANSI A108.10. REMOVE TEMPORARY SHIMS BEFORE GROUTING. TOOL GROUT UNIFORMLY AND SMOOTHLY WITH PLASTIC TOOL.
   11. APPLY SEALANT TO JOINTS AND GAPS SPECIFIED FOR FILLING WITH SEALANT; COMPLY WITH SECTION 079200 "JOINT SEALANTS." REMOVE TEMPORARY SHIMS BEFORE APPLYING SEALANT.
   12. ASSURE THAT SEAMS ARE SMOOTH, LEVEL AND TIGHT. SEAMS SHALL BE FILLED ENTIRELY SO FLUSH WITH COUNTERTOP. POLISH SURFACE AT SEAM. ASSURE THAT FILLER IS "NON‧ YELLOWING."
   13. CLEANING: CLEAN COUNTERTOPS AS WORK PROGRESSES. REMOVE ADHESIVE, GROUT, MORTAR, AND SEALANT SMEARS IMMEDIATELY. CLEAN STONE COUNTERTOPS NO FEWER THAN SIX DAYS AFTER COMPLETION OF INSTALLATION, USING CLEAN WATER AND SOFT RAGS. DO NOT USE WIRE BRUSHES, ACID TYPE CLEANING AGENTS, CLEANING COMPOUNDS WITH CAUSTIC OR HARSH FILLERS, OR OTHER MATERIALS OR METHODS THAT COULD DAMAGE STONE.
   14. SEALER APPLICATION: APPLY STONE SEALER TO COMPLY WITH STONE PRODUCER'S AND SEALER MANUFACTURER'S WRITTEN INSTRUCTIONS.

DIVISION 32 - EXTERIOR IMPROVEMENTS

32 3113 - FENCES, GATES & HARDWARE

A. REFERENCE CONSTRUCTION DRAWINGS FOR QUANTITY, AND LOCATIONS
B. SUBMITTALS: THE CONTRACTOR SHALL PREPARE, AND SUBMIT TO THE ARCHITECT FOR APPROVAL, COMPLETE SHOP DRAWINGS FOR ALL WORK INCLUDED.PROVIDE PRODUCT DATA IN THE FORM OF MANUFACTURER'S TECHNICAL DATA, SPECIFICATIONS, AND INSTALLATIONS FOR FENCE, POSTS, GATE UPRIGHTS, POST CAPS, GATES, GATE HARDWARE AND ACCESSORIES.VERIFY LAYOUT INFORMATION FOR FENCES AND GATES SHOWN ON THE DRAWINGS IN RELATION TO THE PROPERTY SURVEY AND EXISTING STRUCTURES. VERIFY DIMENSIONS BY FIELD MEASUREMENTS. PROVIDE SAMPLES IN THE FORM OF 3" LENGTHS OF ACTUAL PRODUCT USED.
C. WARRANTY: LIFETIME NON-PRORATED LIMITED TRANSFERABLE WARRANTY APPLIES TO ORIGINAL HOMEOWNER/CONSUMER, OR 30 YEAR NON-PRORATED LIMITED WARRANTY APPLIES TO COMMERCIAL APPLICATIONS.
D. BASIS OF DESIGN: DIGGER SPECIALTIES INC.(DSI), POLYVINYL FENCE SYSTEMS. TRI-MAX II, HEIGHT -72"
E. MATERIALS:
   1. POSTS, RAILS, PICKETS, GATE UPRIGHTS, POST CAPS, AND ACCESSORIES SHALL BE OF HIGH IMPACT, ULTRA VIOLET (U.V.) RESISTANT, RIGID PVC, AND SHALL COMPLY WITH ASTM D 1784, CLASS 14344B.
   2. FENCE POSTS: ONE PIECE EXTRUDED, OF LENGTHS INDICATED AND PRE-ROUTED TO RECEIVE RAILS AT SPACING INDICATED. PROVIDE CROSS SECTION, WALL THICKNESS AND CORNER RADIUS MINIMUM TOLERANCES.
   3. RAILS: ONE PIECE EXTRUDED, OF LENGTHS INDICATED PRE-ROUTED TO RECEIVE PICKETS AT SPACING INDICATED. PROVIDE CROSS SECTION, WALL THICKNESS AND CORNER RADIUS MINIMUM TOLERANCES.
   4. PICKETS: ONE PIECE EXTRUDED, OF LENGTHS INDICATED. PROVIDE CROSS SECTION, WALL THICKNESS AND CORNER RADIUS MINIMUM TOLERANCES. PICKET SPACING FULL PRIVACY.
   5. GATE UPRIGHTS: ONE PIECE EXTRUDED, OF LENGTHS INDICATED WITH ALUMINUM U CHANNEL INSERT. PROVIDE CROSS SECTION, WALL THICKNESS AND CORNER RADIUS MINIMUM TOLERANCES.
   6. POST CAPS: MOLDED, ONE PIECE. CROSS SECTION TO MATCH POST OR GATE SECTION. PROVIDE MINIMUM THICKNESS REQUIREMENTS. CONFIGURATION: FLAT OR FOUR-SIDED AS REQUIRED FOR INSTALLATION TO TOP OF POSTS AND GATE. ACCESSORIES: MANUFACTURERS' STANDARD GATE BRACE, SCREW CAPS, RAIL END REINFORCERS, AND OTHER ACCESSORIES AS REQUIRED.
   7. STIFFENER CHANNELS, GALVANIZED STEEL STRUCTURAL CHANNEL. CONFIGURE CHANNELS FOR CONCEALED INSTALLATION WITHIN PVC RAILS WITH PRE-DRILLED HOLES FOR DRAINAGE. ALUMINUM EXTRUDED CHANNEL AVAILABLE UPON REQUEST CROSS SECTION: 1.775 X 1.700 GALVANIZED STEEL CHANNEL THICKNESS: 0.040 GAUGE (MINIMUM).
   8. FASTENERS AND ANCHORAGE: STAINLESS STEEL. ALL FASTENERS TO BE CONCEALED OR COLORED HEADS TO MATCH. PROVIDE SIZES AS RECOMMENDED BY FENCE MANUFACTURER.
   9. PVC CEMENT: AS RECOMMENDED BY FENCE MANUFACTURER.
F. HARDWARE:
   1. GENERAL: PROVIDE HARDWARE AND ACCESSORIES FOR EACH GATE ACCORDING TO THE FOLLOWING REQUIREMENTS:
   2. HINGES: COLOR- BLACK, SIZE AND MATERIAL TO SUIT GATE SIZE, NON LIFT-OFF TYPE, SELF CLOSING, GLASS FILLED NYLON WITH ADJUSTER PLATE, OFFSET TO PERMIT 120 DEGREE GATE OPENING. PROVIDE ONE PAIR OF HINGES FOR EACH GATE.
   3. LATCH: FINISH TO MATCH HINGE. MANUFACTURERS' STANDARD SELF LATCHING, GLASS FILLED NYLON AND STAINLESS STEEL COMPOSITION SINGLE OR DUAL ACCESS GRAVITY LATCH. PROVIDE ONE LATCH PER GATE.
   4. HARDWARE: FINISH TO MATCH HINGE.STAINLESS STEEL. PROVIDE SIZES AS RECOMMENDED BY FENCE MANUFACTURER.
G. CONCRETE:
   1. CONCRETE: PROVIDE CONCRETE CONSISTING OF PORTLAND CEMENT PER ASTM C 150, AGGREGATES PER ASTM C 33, AND POTABLE WATER. MIX MATERIALS TO OBTAIN CONCRETE WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2000 PSI. USE AT LEASE FOUR SACKS OF CEMENT PER CUBIC YARD, 1-INCH MAXIMUM SIZE AGGREGATE, 3-INCH MAXIMUM SLUMP. USE ½ INCH MAXIMUM SIZE AGGREGATE IN POST WHERE REQUIRED.
   2. PACKAGES CONCRETE MIX: MIX DRY-PACKAGED NORMAL-WEIGHT CONCRETE CONFORMING TO ASTM C 387 WITH CLEAN WATER TO OBTAIN A 2 TO 3 INCH SLUMP.
H. INSTALLATION:
   1. INSTALL FENCE IN COMPLIANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. DURING INSTALLATION, PVC COMPONENTS SHALL BE CAREFULLY HANDLED AND STORED TO AVOID CONTACT WITH ABRASIVE SURFACES. INSTALL COMPONENTS IN SEQUENCE AS RECOMMENDED BY FENCE MANUFACTURER.
      A. INSTALL FENCING AS INDICATED ON THE DRAWINGS PROVIDED.
      B. VARIATIONS FROM THE INSTALLATION INDICATED MUST BE APPROVED.
      C. VARIATIONS FROM THE FENCE AND GATE INSTALLATION INDICATED AND ALL COSTS FOR REMOVAL AND REPLACEMENT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
      D. ALLOW MINIMUM 72 HOURS TO LET CONCRETE SET-UP BEFORE OPENING GATES.
      E. CLEANING, REMOVE ALL TRACES OF DIRT AND SOILED AREAS.

collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

PERMIT DOCUMENTS

EXPRESS STOP - VIEW HIGH
3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB II
NUMBER A-2016004008
ARCHITECT
06-12-24

PROFESSIONAL SEAL

G503

ISSUE DATE: 09 JUNE 2025
COLLINS WEBB #: 23114

SPECIFICATIONS

6/12/2025 8:15:13 AM

3394 NW VILLAGE PARK DR

Final Development Plan

Section 3, Township 47 North, Range 32 West

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

PROPERTY DESCRIPTION

All of Lot 2B of, Minor Plat of Village at View High-Lots 2A & 2B, in Lee's Summit, Jackson County, Missouri, Recorded as Document Number 2017E0113945.

ALL PAVING ON THE PRIVATE PARKING LOT WILL COMPLY WITH THE UNIFIED DEVELOPMENT ORDINANCE ARTICLE 8 IN TERMS OF PAVING THICKNESS AND BASE

OIL - GAS WELLS
ACCORDING TO EDWARD ALTON MAY JR'S ENVIRONMENTAL IMPACT STUDY OF ABANDONED OIL AND GAS WELLS IN LEE'S SUMMIT, MISSOURI IN 1995, THERE ARE NOT OIL AND GAS WELLS WITHIN 185 FEET OF THE PROPERTY AS SURVEYED HEREON.

SURVEY AND PLAT NOTES:
THE SUBJECT PROPERTY SURVEYED LIES WITHIN A FLOOD ZONE DESIGNATED ZONE (X), AREAS LOCATED OUTSIDE THE 100 YEAR FLOOD PLAIN, PER F.E.M.A. MAP, COMMUNITY PANEL NO. 29095C0412G **EFFECTIVE DATE: JANUARY 20, 2017.**

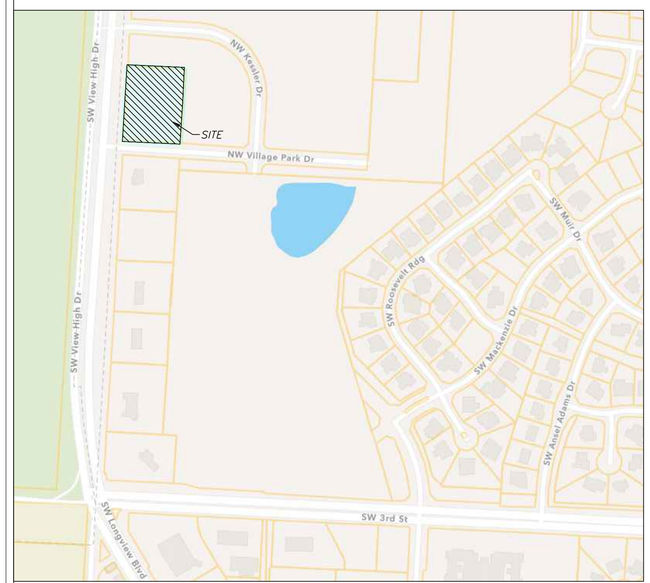
UTILITY COMPANIES:

THE FOLLOWING LIST OF UTILITY COMPANIES IS PROVIDED FOR INFORMATION ONLY. WE DO NOT OFFER ANY GUARANTEE OR WARRANTY THAT THIS LIST IS COMPLETE OR ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES THAT MAY BE AFFECTED BY THE PROPOSED CONSTRUCTION AND VERIFYING THE ACTUAL LOCATION OF EACH UTILITY LINE. THE CONTRACTOR SHALL NOTIFY ENGINEERING SOLUTIONS AT 816.623.9888 OF ANY CONFLICT WITH PROPOSED IMPROVEMENTS.

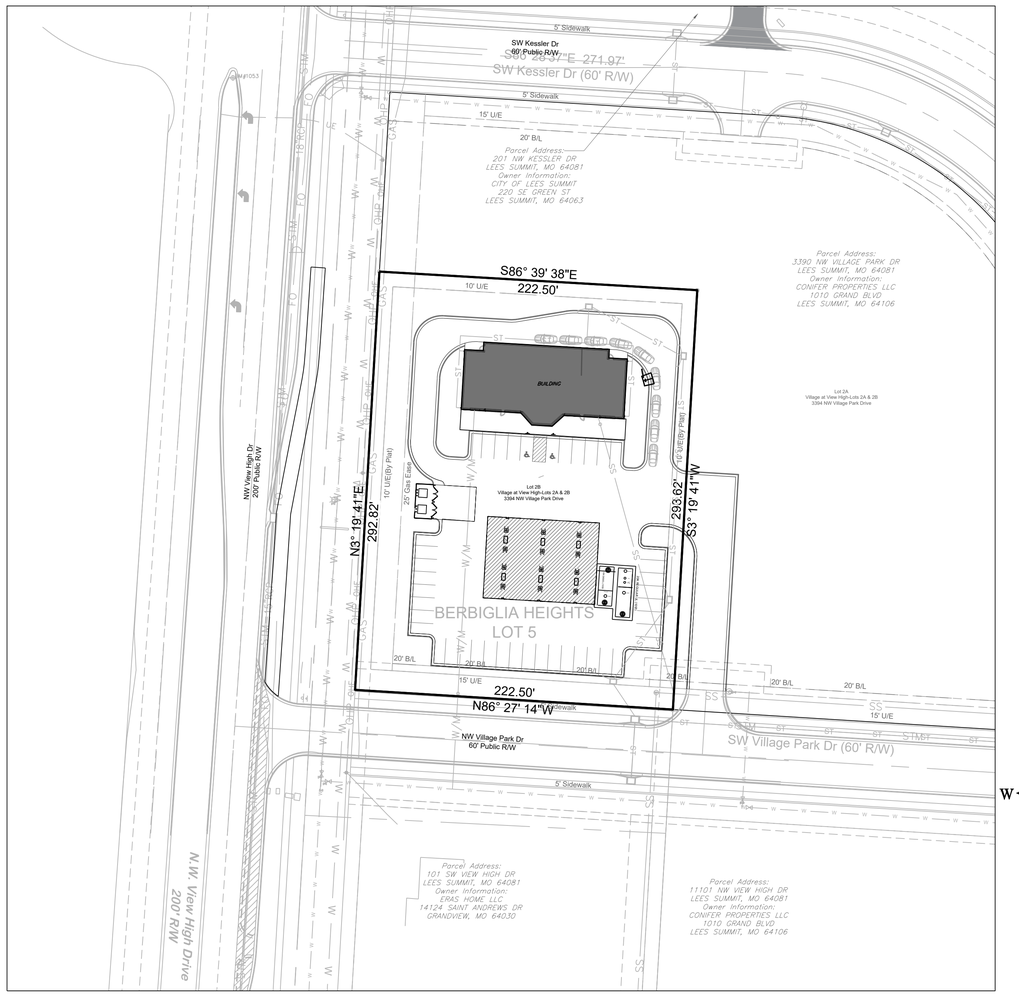
EVERGY ~ 298-1196
MISSOURI GAS ENERGY ~ 756-5261
SOUTHWESTERN BELL TELEPHONE ~ 761-5011
COMCAST CABLE ~ 795-1100
WILLIAMS PIPELINE ~ 422-6300
CITY OF LEE'S SUMMIT PUBLIC WORKS ~ 969-1800
CITY OF LEE'S SUMMIT PUBLIC WORKS INSPECTIONS ~ 969-1800
CITY OF LEE'S SUMMIT WATER UTILITIES ~ 969-1900
MISSOURI ONE CALL (DIG RITE) ~ 1-800-344-7483

GENERAL NOTES:

1 ~ ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
2 ~ ALL REQUIRED EASEMENTS WITHIN THE BOUNDARY OF THIS PROJECT SHALL BE PROVIDED BY SEPARATE DOCUMENT
3 ~ ANY REQUIRED EASEMENT LOCATED OUTSIDE OF THE BOUNDARY OF THIS PROJECT SHALL BE PROVIDED FOR BY SEPARATE INSTRUMENT PRIOR TO ISSUANCE OF CONSTRUCTION PERMITS.
4 ~ THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTORS 48 HOURS PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.
5 ~ THE CONTRACTOR SHALL NOTIFY ENGINEERING SOLUTIONS AT 816.623.9888 OF ANY CONFLICT WITH THE IMPROVEMENTS PROPOSED BY THESE PLANS AND SITE CONDITIONS.
6 ~ THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND OBTAIN THE APPROPRIATE BLASTING PERMITS FOR A REQUIRED BLASTING. IF BLASTING IS ALLOWED, ALL BLASTING SHALL CONFORM TO STATE REGULATIONS AND LOCAL ORDINANCES.



Vicinity Map



SITE LOCATION MAP

SCALE: 1"=50'

INDEX OF SHEETS:

C.001 ~ COVER SHEET
C.050 ~ ESC PHASE 1 - PRE CLEARING PLAN
C.051 ~ ESC PHASE 2 - INACTIVE AREA STABILIZATION PLAN
C.052 ~ ESC PHASE 3 - FINAL RESTORATION PLAN
C.053 ~ ESC - STANDARD DETAILS
C.100 ~ SITE PLAN
C.200 ~ GRADING PLAN
C.300 ~ UTILITY PLAN
C.301 ~ STORM SEWER PLAN AND PROFILE
L.100 ~ LANDSCAPE PLAN
L.101 ~ LANDSCAPE PLAN DETAILS

Site Impervious Area

Total Area	*1.50 acres (65,241.23 sq. ft.)*
Commercial Office Site	
Site Area	*1.50 Acres*
Building	*6,668 sq. ft.*
Parking	*38,254 sq. ft*
Sidewalk	*0 sq. ft*
Impervious Area	*44,922 sq. ft (68.9% of Site)*
Floor-Area-Ratio	*10.2%*

Parking:
Provided
40 Standard (2 ADA Accessible)
Required
40 Standard (2 ADA Accessible)

Total Parking Spaces 40

Current Zoning: PMIX
Proposed Zoning: PMIX

Site Improvement Notes

Sanitary Sewer Improvements
-The site will utilize the existing sanitary sewer on the north side of SW Village Park Dr.

Water Main Improvements
-The site will utilize the existing water on the south side of SW Village Park Dr.

Storm Sewer
-Enclosed pipe systems and inlets will collect and convey the onsite storm water runoff and direct it toward the existing public storm sewer system.

Storm Water Detention
-N/A

LEGEND:

Existing Underground Power	UGP
Existing Conc. Curb & Gutter	
Existing Wood Fence	X
Existing Gas Main	GAS
Existing Water Main	W
Existing Storm Sewer	STM
Existing Sanitary Sewer	SAN
Existing Underground Telephone	UGT
Existing Overhead Power	OHE
Proposed Storm Sewer	ST
Proposed Sanitary Sewer	SS
Proposed Underground Power	UGT
Proposed Gas Service	GAS
Proposed 8" D.I.P. Water	W
Proposed Electrical Service	UGP

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

3394 NW Village Park Dr
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Project: 3394 NW VILLAGE PARK
Issue Date: November 20, 2024

COVER SHEET
Construction Plans for:
3394 NW VILLAGE PARK DR
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226

REVISIONS

0 10' 20' 40'

ESC PHASE 1

SCALE: 1" = 20'

SF-1 — SILT FENCE PROTECTION TO BE MAINTAINED BY CONTRACTOR

LEGEND

PHASE 1 SILT FENCE — SF – 1 — SF – 1

PHASE 2 SILT FENCE — SF – 2 — SF – 2

INLET PROTECTION

DURING ALL PHASES OF CONSTRUCTION, INACTIVE AREA STABILIZATION METHODS AS DESCRIBED IN APWA SECTION 5111.3 SHALL BE USED TO CONTROL EROSION AND SILTATION.

NOTES: The Land Disturbance Plans indicates the Final placement of erosion control devices. The contractor(s) may proceed with construction prior to the final placement of these devices by providing additional devices to control erosion on their items of work. These devices shall be maintained until the final devices are in place.

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008319-D
Kansas
Engineering E-1886
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2621

3394 NW Village Park Dr
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Project: 3394 NW VILLAGE PARK
Issue Date: November 20, 2024

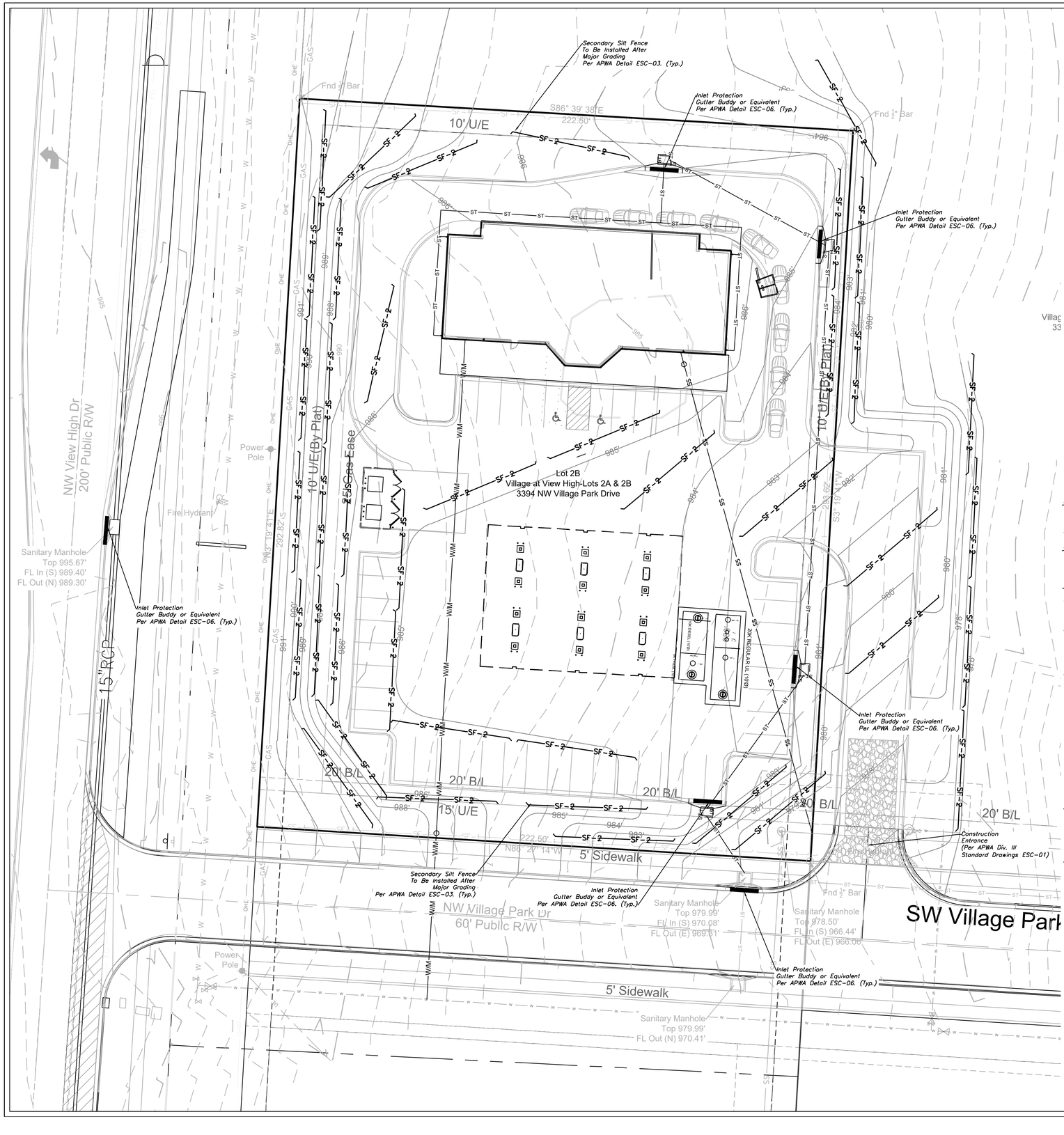
ESC PHASE 1 – Pre Clearing Plan
Construction Plans for:
3394 NW VILLAGE PARK DR
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI — MATTHEW J. SCHLICHT — NUMBER PE-2006019708 — PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226

REVISIONS

C.050



0 10' 20' 40'

ESC PHASE 2

SCALE: 1" = 20'

SILT FENCE PROTECTION
TO BE MAINTAINED BY CONTRACTOR

LEGEND

PHASE 1 SILT FENCE — SF-1 — SF-1

PHASE 2 SILT FENCE — SF-2 — SF-2

INLET PROTECTION

DURING ALL PHASES OF CONSTRUCTION, INACTIVE AREA STABILIZATION METHODS AS DESCRIBED IN APWA SECTION 5111.3 SHALL BE USED TO CONTROL EROSION AND SILTATION.

NOTES: The Land Disturbance Plans indicates the final placement of erosion control devices. The contractor(s) may proceed with construction prior to to the final placement of these devices by providing additional devices to control erosion on their items of work. These devices shall be maintained until the final devices are in place.

EROSION CONTROL DESCRIPTION:

1.) SILT FENCE SHALL BE PLACE AT THE PERIMETER OF THE GRADING AND AT INTERMEDIATE AREAS THROUGHOUT THE SITE AS SHOWN ON THE PLAN. INLET SEDIMENT TRAPS SHALL BE PLACED SURROUNDING ALL STORM INLETS

2.) INSTALL TEMPORARY CONSTRUCTION ENTRANCE AS SHOWN ON PLAN

EROSION CONTROL PROCEDURE:

1.) SILT FENCE AND TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED AT THE PERIMETER OF THE GRADED AREAS PRIOR TO BEGINNING OF CLEARING OR DEMOLITION OPERATIONS. THE CONTRACTOR SHALL INSTALL SILT FENCE AS SHOWN ON PLANS AS GRADING PROGRESSES.

TEMPORARY CONSTRUCTION ENTRANCE NOTES:

A.) INSTALLATION
1.) AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC STREETS. IF POSSIBLE, LOCATE WHERE PERMANENT ROADS WILL EVENTUALLY BE CONSTRUCTED
2.) REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE AND CROWN FOR POSITIVE DRAINAGE.
3.) IF SLOPE TOWARDS THE PUBIC ROAD EXCEED 2% CONSTRUCT A 6 TO 8 INCH HIGH RIDGE WITH 3H : 1V SIDE SLOPES ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE EDGE OF THE PUBLIC ROAD TO DIVERT RUNOFF AWAY FROM IT.
4.) INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES ALONG PUBLIC ROADS
5.) PLACE STONE TO DIMENSIONS AND GRADES AS SHOWN ON PLANS, LEAVE SURFACE SMOOTH AND SLOPED FOR DRAINAGE
6.) DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE
7.) IF WET CONDITIONS ARE ANTICIPATED PLACE GEOTEXTILE FABRIC ON THE GRADED FOUNDATION TO IMPROVE STABILITY

B.) TROUBLESHOOTING
1.) CONSULT WITH A QUALIFIED DESIGN PROFESSIONAL IF ANY OF THE FOLLOWING OCCUR.
-INADEQUATE RUNOFF CONTROLS TO THE EXTENT THAT SEDIMENT WASHES ONTO PUBLIC ROADS
- INSTALL DIVERSIONS OR OTHER RUNOFF CONTROL MEASURES
-SMALL STONE, THIN PAD, OR ABSENCE OF GEOTEXTILE FABRIC RESULTS IN RUTS AND MUDDY CONDITIONS AS STONE IS PRESSED INTO SOIL - INCREASE STONE SIZE OR PAD THICKNESS OR ADD GEOTEXTILE FABRIC
-PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC - EXTEND PAD BEYOND THE MINIMUM 50 FOOT LENGTH AS NECESSARY

C.) INSPECTION AND MAINTENANCE
1.) INSPECT STONE PAD AND SEDIMENT DISPOSAL AREA WEEKLY AND AFTER ANY RAIN EVENT
2.) RESHAPE PAD AS NEEDED FOR PROPER DRAINAGE AND RUNOFF CONTROL
3.) TOP DRESS WITH CLEAN 2 AND 3 INCH STONE AS NEEDED
4.) IMMEDIATELY REMOVE MUD OR SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADWAY. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY
5.) REMOVE ALL TEMPORARY ROAD MATERIALS FROM AREAS WHERE PERMANENT VEGETATION WILL BE ESTABLISHED

MAINTENANCE:

TO MAINTAIN THE EROSION AND SEDIMENT CONTROLS, THE FOLLOWING PROCEDURES WILL BE PERFORMED:
SEDIMENT CAPTURE DEVICES: *SEDIMENT WILL BE REMOVED FROM THE UPSTREAM OR UPSLOPE SIDE OF THE FILTER FABRIC FENCES, WHEN THE DEPTH OF ACCUMULATED SEDIMENT REACHES ABOUT ONE-THIRD THE HEIGHT OF THE STRUCTURE.*
STORM SEWER INLETS: *ANY SEDIMENT IN THE STORM SEWER INLETS WILL BE REMOVED AND DISPOSED OF PROPERLY.*
TEMPORARY CONTROLS: *ALL TEMPORARY CONTROLS WILL BE REMOVED AFTER THE DISTURBED AREAS HAVE BEEN STABILIZED.*

INSPECTION PROCEDURES:

INSPECTIONS WILL BE DONE BY THE RESPONSIBLE PERSON(S) AT LEAST ONCE EVERY WEEK AND WITHIN 24 HOURS EACH STORM EVENT PRODUCING ANY AMOUNT OF RAINFALL. AREAS THAT HAVE BEEN RESEEDED WILL BE INSPECTED REGULARLY AFTER SEED GERMINATION TO ENSURE COMPLETE COVERAGE OF EXPOSED AREAS. DISTURBED AREAS THAT HAVE NOT BEEN FINALLY STABILIZED SHALL HAVE ALL POLLUTION CONTROL MEASURES INSPECTED FOR PROPER INSTALLATION, OPERATION AND MAINTENANCE. LOCATIONS WHERE STORM WATER LEAVES THE SITE SHALL BE INSPECTED FOR EVIDENCE OF EROSION OR SEDIMENT DEPOSITION. ANY DEFICIENCIES SHALL BE NOTED IN A REPORT OF THE INSPECTION AND CORRECTED WITHIN SEVEN CALENDAR DAYS OF THE INSPECTION. THE PERMITTEE SHALL PROMPTLY NOTIFY THE SITE CONTRACTORS RESPONSIBLE FOR OPERATION AND MAINTENANCE OF POLLUTION CONTROL DEVICES OF DEFICIENCIES.

IF THE EXISTING GROUND COVER IS NATURAL GRASS, DISTURBED AREAS SHALL BE TEMPORARILY SEEDED WITH WHEATRYE AT A RATE OF 1.5 POUNDS PER 1000 SQUARE FEET. PERMANENT SEEDING SHALL CONSIST OF 90% IN THREE EQUAL PARTS OF THIN BLADE, TURF-TYPE, TALL FESCUE AND 10% BLUEGRASS SEED AT A RATE OF 10 POUNDS PER 1000 SQUARE FEET. BOTH TEMPORARY AND PERMANENT SEEDED AREAS SHALL BE MULCHED AND WATERED TO MAINTAIN THE PROPER MOISTURE LEVEL OF THE SOIL TO ESTABLISH GRASS. NEW GRASS SHALL BE WATERED AND MAINTAINED UNTIL IT REACHES A HEIGHT OF 3 INCHES. ANY BARE AREAS SHALL BE RESEEDED.

ALL EROSION CONTROL DEVICES SHALL BE REMOVED BY GENERAL CONTRACTOR AFTER SITE STABILIZATION IS COMPLETE AND APPROVED BY ENGINEER.

THE DEVELOPER WILL DESIGNATE A QUALIFIED PERSON OR PERSONS TO PERFORM THE FOLLOWING INSPECTIONS:
STABILIZATION MEASURES: *DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION WILL BE INSPECTED FOR EVIDENCE OF OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. AFTER A PORTION OF THE SITE IS FINALLY STABILIZED, INSPECTIONS WILL BE CONDUCTED AT LEAST ONCE EVERY MONTH THROUGHOUT THE LIFE OF THE PROJECT. CONTRACTOR CAN CONTACT ENGINEERING SOLUTIONS FOR COPIES OF THE INSPECTION FORM TO BE USED FOR STABILIZATION MEASURES.*
STRUCTURAL CONTROLS: *FILTER FABRIC FENCES AND ALL OTHER EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN WILL BE INSPECTED REGULARLY FOR PROPER POSITIONING, ANCHORING, AND EFFECTIVENESS IN TRAPPING SEDIMENTS. SEDIMENT WILL BE REMOVED FROM THE UPSTREAM OR UPSLOPE SIDE OF THE FILTER FABRIC. CONTRACTOR CAN CONTACT ENGINEERING SOLUTIONS FOR COPIES OF THE INSPECTION FORM TO BE USED FOR STABILIZATION MEASURES.*
DISCHARGE POINTS: *DISCHARGE POINTS OR LOCATIONS WILL BE INSPECTED TO DETERMINE WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT AMOUNTS OF POLLUTANTS FROM ENTERING RECEIVING WATERS.*
CONSTRUCTION ENTRANCE: *LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE WILL BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING.*

A LOG OF EACH INSPECTION SHALL BE KEPT. THE INSPECTION REPORT IS TO INCLUDE THE FOLLOWING MINIMUM INFORMATION: INSPECTOR'S NAME, DATE OF INSPECTION, OBSERVATIONS RELATIVE TO THE EFFECTIVENESS OF THE POLLUTION CONTROL DEVICES, ACTIONS TAKEN OR NECESSARY TO CORRECT DEFICIENCIES, AND A LISTING OF AREAS WHERE LAND DISTURBANCE OPERATIONS HAVE PERMANENTLY OR TEMPORARILY STOPPED. THE INSPECTION REPORT SHALL BE SIGNED BY THE PERMITTEE OR BY THE PERSON PERFORMING THE INSPECTION IF DULY AUTHORIZED TO DO SO.

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008319-D
Kansas
Engineering E-1886
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

3394 NW Village Park Dr
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Project: 3394 NW VILLAGE PARK
Issue Date: November 20, 2024

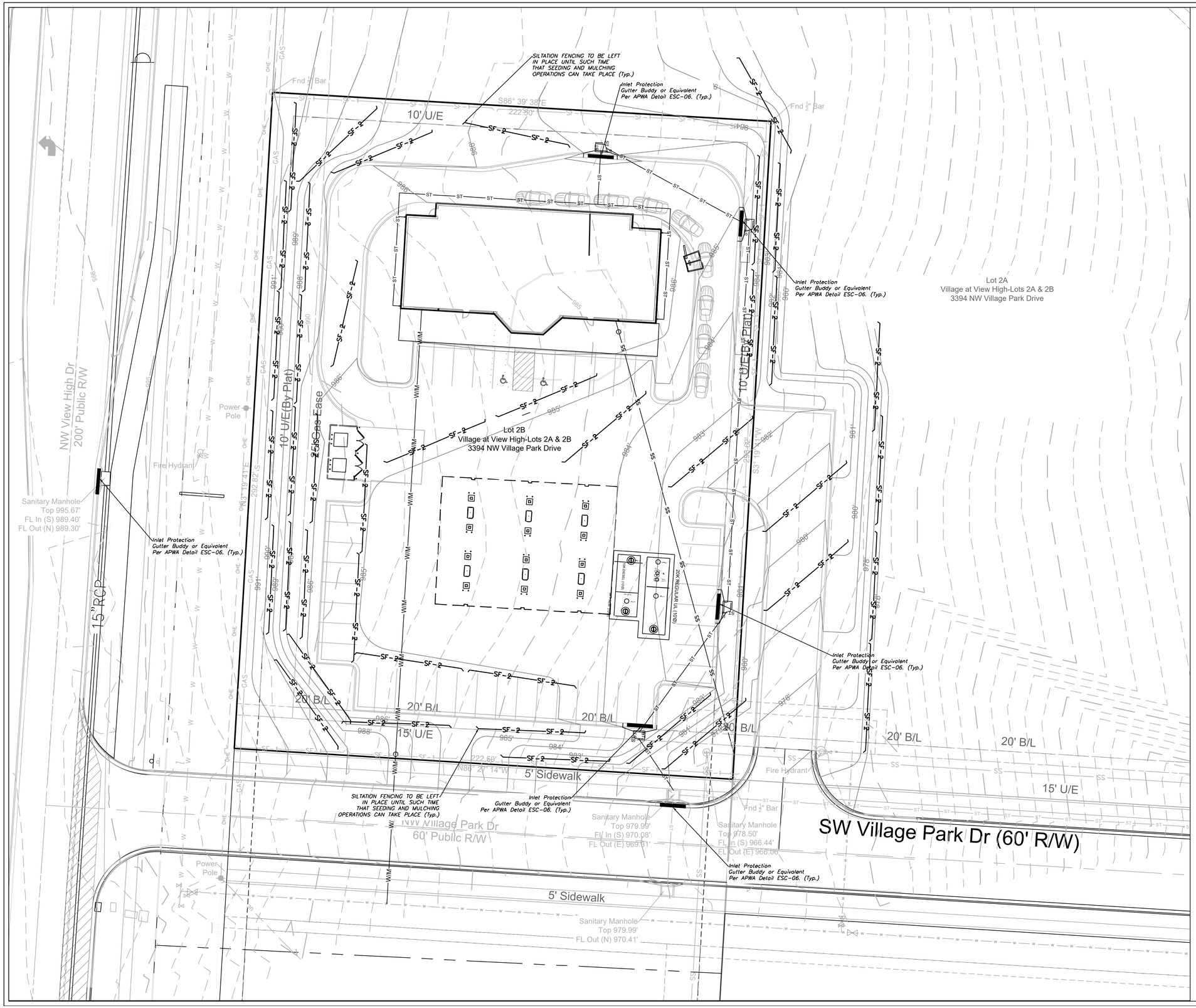
ESC PHASE 2
Inactive Area Stabilization Plan
Construction Plans for:
3394 NW VILLAGE PARK DR
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226

REVISIONS

C.051



0 10' 20' 40'

ESC PHASE FINAL

SCALE: 1" = 20'

SF-1

SILT FENCE PROTECTION TO BE MAINTAINED BY CONTRACTOR

LEGEND

PHASE 1 SILT FENCE — SF-1 — SF-1

PHASE 2 SILT FENCE — SF-2 — SF-2

INLET PROTECTION

DURING ALL PHASES OF CONSTRUCTION, INACTIVE AREA STABILIZATION METHODS AS DESCRIBED IN APWA SECTION 5111.3 SHALL BE USED TO CONTROL EROSION AND SILTATION.

NOTES: The Land Disturbance Plans indicates the Final placement of erosion control devices. The contractor(s) may proceed with construction prior to the final placement of these devices by providing additional devices to control erosion on their items of work. These devices shall be maintained until the final devices are in place.

SEED AND MULCH NOTES:

All areas disturbed by construction activities shall be seeded and mulched. Seeding shall be done before the proposed seedbed becomes eroded, crusted over, or dried out and shall not be done when the ground is frozen, or covered with snow. The seed shall comply with the requirements of the Missouri Seed Law and the Federal Seed Act. Also, it shall contain no seed of any plant on the Federal Noxious Weed List. Other weed seeds shall not exceed one percent by weight of mix

Seed and Fertilizer Rate:
Mix I – Rye Grass / Blue Grass ---------
100 lbs. per Acre
Mix II – Tall Fescue / Blue Grass ------- 195 lbs. per Acre
Lime
---------2000 lbs per Acre (50 lbs. per 1000 sq. ft.)
Fertilizer
---------800 to 1200 lbs per Acre (25 lbs per 1000 sq. ft.)

During the dates December 15th through May 31 ALL lime fertilizer, seed and mulch shall be applied to finished slopes of disturbed areas. During the months of June, July, October and November 1st through December 15th, lime fertilizer, seed and mulch shall be applied at the following rates:
Lime – 100% of specified quantity
Fertilizer – 75% of the specified quantity
Seed – 50% of the specified quantity
Mulch – 100% of the specified quantity

Mulch shall be Vegetative type, cereal straw from stalks of oats, rye, or barley, or approved equal. The straw shall be free of prohibited weed seed and relatively free of all other noxious and undesirable seed. Mulch shall be applied at the rate of 2 tons per acre, (70 to 90 lbs per 1000 sq. ft.). Mulch shall be embedded by a mulch anchoring tool or disk type roller having flat serrated disks spaced not more than 10 inches apart and cleaning scrapers shall be provided

ONCE SITE IS 90% VEGETATED ALL ESC DEVICES SHALL BE REMOVED AND ANY DISTURBED AREAS SHALL BE RESTORED

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008319-D
Kansas
Engineering E-1886
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2621

3394 NW Village Park Dr
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

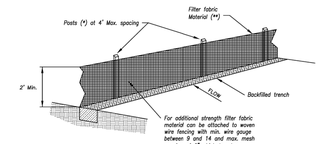
ESC PHASE 3 – Final Restoration Plan
Construction Plans for:
3394 NW VILLAGE PARK DR
Lee's Summit, Jackson County, Missouri

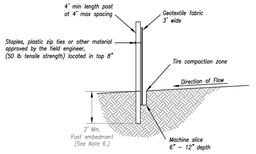
Project: 3394 NW VILLAGE PARK
Issue Date: November 20, 2024

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226

REVISIONS





(*) POSTS
- MIN. LENGTH 4'
- HARDWOOD 1 ⅜" x 1 ⅜"
- NO.2 SOUTHERN PINE 2 ⅜" x 2 ⅜"
- STEEL 1.33 LB/FT

(**) – Geotextile Fabric shall meet the requirements of AASHTO M288

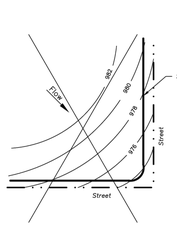
Notes:

1. In order to contain water, the ends of the silt fence must be turned uphill (Figure A).
2. Long perimeter runs of silt fence must be limited to 100'. Runs should be broken up into several smaller segments to minimize water concentrations (Figure A).
3. Long slopes should be broken up with intermediate rows of silt fence to slow runoff velocities.
4. Attach fabric to upstream side of post.
5. Install posts a minimum of 2" into the ground.
6. Trenching will only be allowed for small or difficult installation, where slicing machine cannot be reasonably used.

Maintenance:

1. Remove and dispose of sediment deposits when the deposit approaches ½ the height of silt fence.
2. Repair as necessary to maintain function and structure.

SILT FENCE DETAILS
Not to Scale



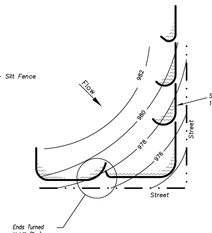
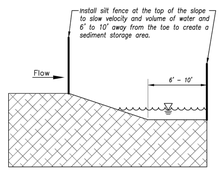
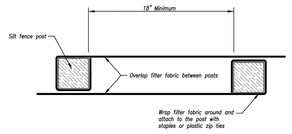


Figure A

SILT FENCE LAYOUT
Not to Scale

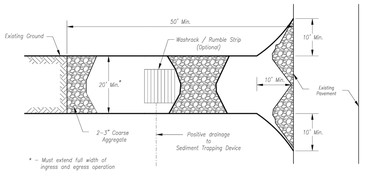




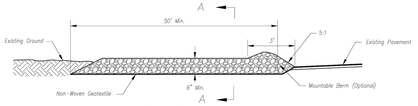
JOINING FENCE SECTIONS
Not to Scale

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

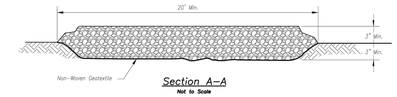
AMERICAN PUBLIC WORKS ASSOCIATION	
Kansas City Metro Chapter APWA AMERICAN PUBLIC WORKS ASSOCIATION	KANSAS CITY METRO CHAPTER
SILT FENCE	STANDARD DRAWING NUMBER ESC-03
	ADOPTED: 10/24/2016



Plan View
Not to Scale



Side Elevation
Not to Scale



Section A–A
Not to Scale

Notes for Construction Entrance:

1. Avoid locating on steep slopes, at curves on public roads, or downhill of disturbed area.
2. Remove all vegetation and other unsuitable material from the foundation area, grade, and crown for positive drainage.
3. If slope towards the public road exceeds 2%, construct a 6– to 8–inch high ridge with 3H:1V side slopes across the foundation approximately 15 feet from the edge of the public road to divert runoff from it.
4. Install pipe under the entrance if needed to maintain drainage ditches along public roads.
5. Place stone to dimensions and grade as shown on plans. Leave surface sloped for drainage.
6. Divert all surface runoff and drainage from the entrance to a sediment control device.
7. If conditions warrant, place geotextile fabric on the graded foundation to improve stability.

Maintenance for Construction Entrance:

1. Reshape entrance as needed to maintain function and integrity of installation. Top dress with clean aggregate as needed.

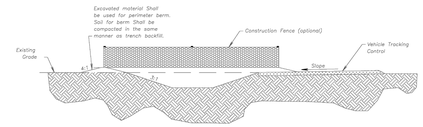
CONSTRUCTION ENTRANCE

Notes for Concrete Washout:

1. Concrete washout areas shall be installed prior to any concrete placement on site.
2. Concrete washout area shall include a flat subsurface pit sized relative to the amount of concrete to be placed on site. The slopes leading out of the subsurface pit shall be 3:1. The vehicle tracking pad shall be sloped towards the concrete washout area.
3. Vehicle tracking control is required at the access point to all concrete washout areas.
4. Signs shall be placed at the construction site entrance, washout area and elsewhere as necessary to clearly indicate the location(s) of the concrete washout area(s) to operators of concrete truck and pump rips.
5. A one–piece impervious liner may be required along the bottom and sides of the subsurface pit in sandy or gravelly soils.

Maintenance for Concrete Washout:

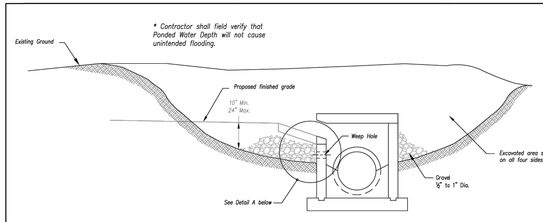
1. Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
2. Concrete washout areas shall be enlarged as necessary to maintain capacity for wasted concrete.
3. Concrete washout water, wasted pieces of concrete and all other debris in the subsurface pit shall be transported from the job site in a water–tight container and disposed of properly.
4. Concrete washout areas shall remain in place until all concrete for the project is placed.
5. When concrete washout areas are removed, excavations shall be filled with suitable compacted backfill and topsoil, any disturbed areas associated with the installation, maintenance, and/or removal of the concrete washout areas shall be stabilized.

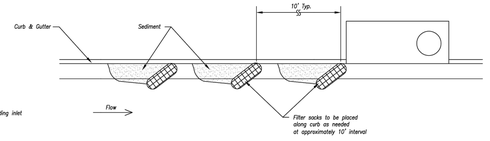


CONCRETE WASHOUT

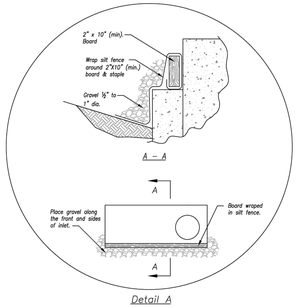
Construction Entrance modified from 2015 Overland Park Standard Details for Erosion and Sediment Control; Concrete Washout modified from 2009 City of Great Bend Standard Drawings.

AMERICAN PUBLIC WORKS ASSOCIATION	
Kansas City Metro Chapter APWA AMERICAN PUBLIC WORKS ASSOCIATION	KANSAS CITY METRO CHAPTER
CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT	STANDARD DRAWING NUMBER ESC-01
	ADOPTED: 10/24/2016





On Grade Curb Inlet Protection



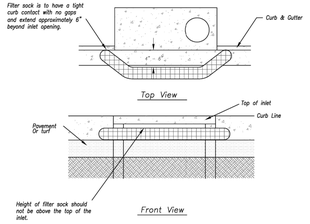
EARLY STAGE CURB INLET
(Open Box and Prior to Pouring Curb and Inlet Throat)

Notes:

1. Immediately following inlet construction and prior to construction of curb and inlet throat, protect inlet opening by installing 2" X 10" (min.) board wrapped in silt fence. Structures shall have excavated storage area on all four sides to allow settling of sediment (Early Stage Curb Inlet).
2. When inlet is completed and curb poured, filter socks or approved equal should be used (Late Stage Curb Inlet). Straw wattles are not approved for curb inlet use.
3. Contractor to field verify ponding water shall not create a traffic hazard.

Maintenance:

1. Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
2. Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
3. Repair or replace as necessary to maintain function and integrity of installation.

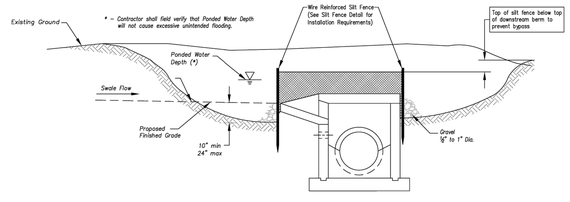


Sump Inlet Sediment Filter

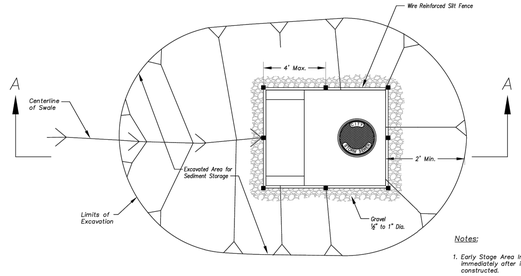
LATE STAGE CURB INLET
(After Pouring Curb and Inlet Throat)

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

AMERICAN PUBLIC WORKS ASSOCIATION	
Kansas City Metro Chapter APWA AMERICAN PUBLIC WORKS ASSOCIATION	KANSAS CITY METRO CHAPTER
CURB INLET PROTECTION	STANDARD DRAWING NUMBER ESC-06
	ADOPTED: 10/24/2016

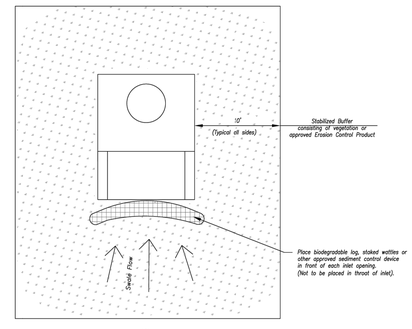


Section A–A
Not to Scale

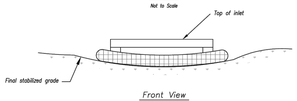


Plan
Not to Scale

EARLY STAGE AREA INLET
(All open boxes and inlets not at final grade)



Plan
Not to Scale



Front View

LATE STAGE AREA INLET
(Area inlets at final grade and existing inlets)

Notes:

1. Early Stage Area Inlet Sediment Barrier to be installed immediately after inlet or junction box is constructed.
2. Silt fence shall remain in place until excavated area is removed and Late Stage Area Inlet is being installed.
3. Backfill excavated area ONLY after final grading of the site. Stabilization of the site is to immediately follow.
4. Wire reinforced silt fence may be used in place of silt fence attached to wood frame.

Maintenance:

1. Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
2. Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
3. Repair or replace as necessary to maintain function and integrity of installation.

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

AMERICAN PUBLIC WORKS ASSOCIATION	
Kansas City Metro Chapter APWA AMERICAN PUBLIC WORKS ASSOCIATION	KANSAS CITY METRO CHAPTER
AREA INLET AND JUNCTION BOX PROTECTION	STANDARD DRAWING NUMBER ESC-07
	ADOPTED: 10/24/2016

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005032186-D
Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

3394 NW Village Park Dr
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

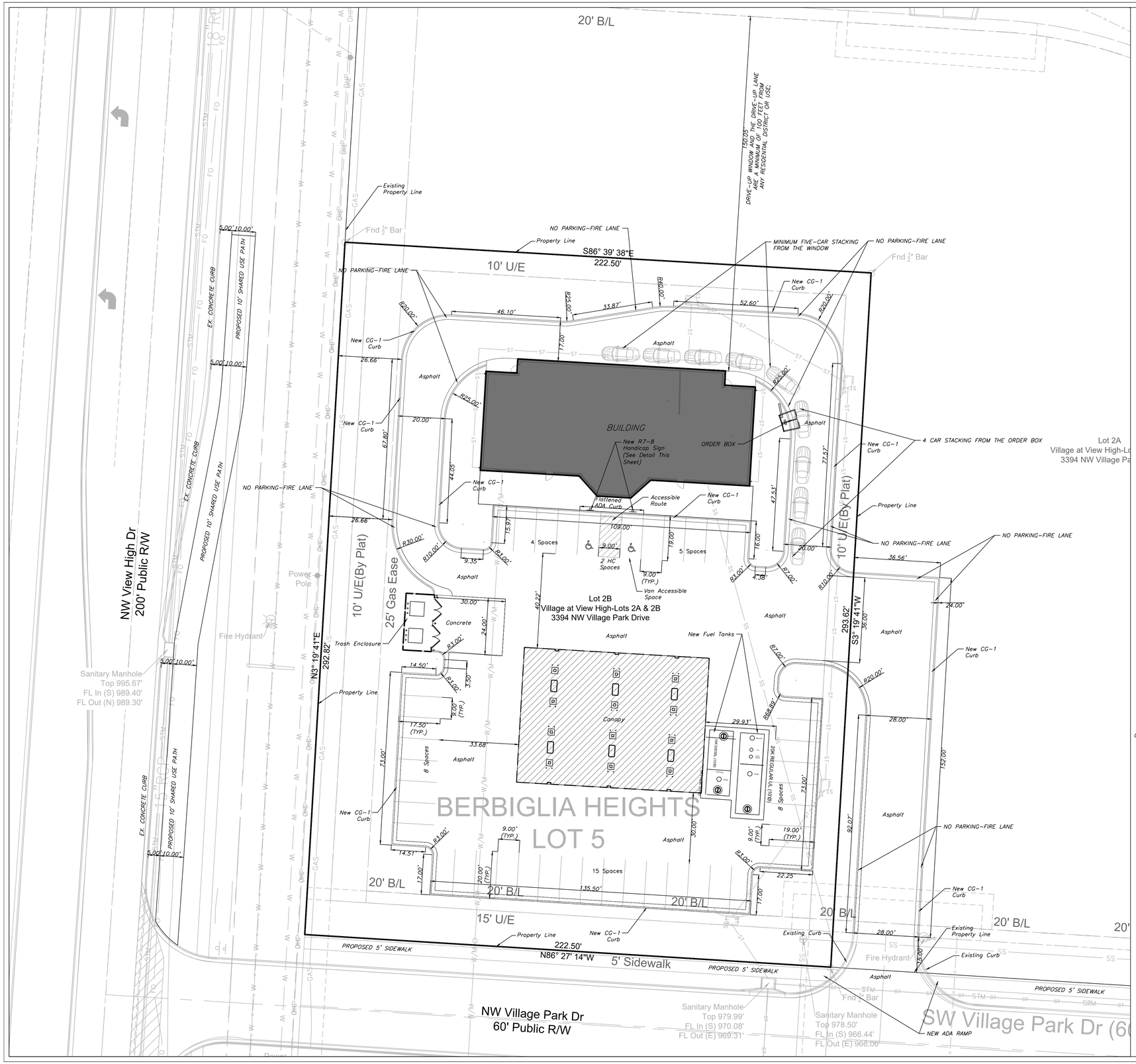
Project: 3394 NW VILLAGE PARK
Issue Date: November 20, 2024

ESC – Standard Details
Construction Plans for:
3394 NW VILLAGE PARK DR
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER PE-2006019708
10/24/2024
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226

REVISIONS

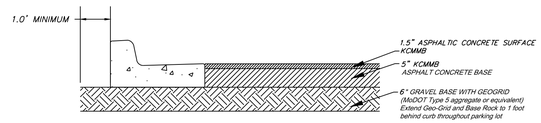


North

0 10' 20' 40'

Site Plan

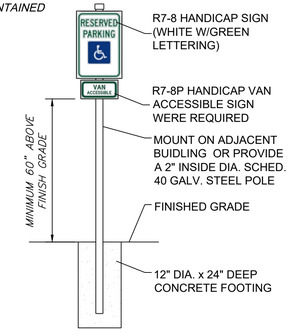
SCALE: 1" = 20'



PRIVATE ASPHALT PAVEMENT

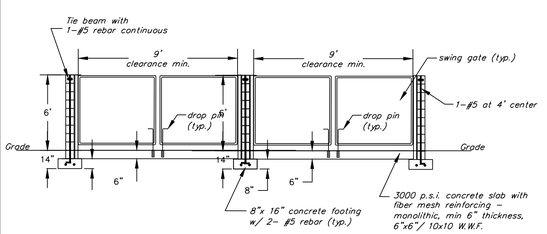
NOT TO SCALE

SIGN MAY BE WALL MOUNTED DIRECTLY TO BUILDING. DIMENSIONS MUST BE MAINTAINED



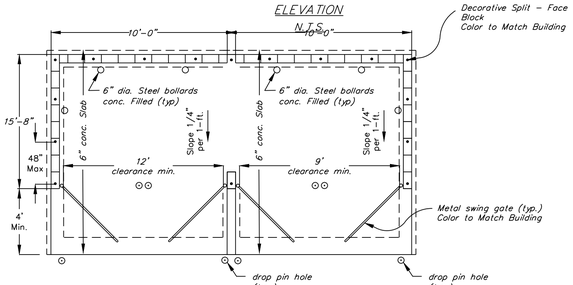
HANDICAP SIGN DETAIL

NOT TO SCALE



ELEVATION

N.T.S.



PLAN

N.T.S.

DUMPSTER ENCLOSURE

N.T.S.

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

3394 NW Village Park Dr
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Project: 3394 NW VILLAGE PARK
Issue Date: November 20, 2024

SITE PLAN
Construction Plans for:
3394 NW VILLAGE PARK DR
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226

REVISIONS

C.100

North

0 15' 30' 60'

GRADING PLAN

SCALE: 1" = 30'

Notes

1. Contractor is responsible for verifying all existing utility locations prior to excavation
2. There are no known natural or artificial water storage detention areas, or wetlands in the area designated for construction
3. No part of the project lies within the 100 year flood plain
4. All erosion and sediment control measures need to be implemented prior to construction
5. Additional erosion control may be required by the City Engineer, Design Engineer or Owner at any time problematic areas are noted in the field or existing measures are found to be ineffective
6. Soil Stabilization of disturbed areas shall be completed within 14 days of construction inactivity
7. Contractor responsible for all density testing of roadway subgrade and granular base.

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008319-D
Kansas
Engineering E-1886
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2621

3394 NW Village Park Dr
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Project: 3394 NW VILLAGE PARK
Issue Date: November 20, 2024

Grading Plan
Construction Plans for:
3394 NW VILLAGE PARK DR
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER PE-2006019708
DIVISION OF PROFESSIONAL ENGINEERS

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226

REVISIONS

C.200

UTILITY PLAN

SCALE: 1" = 20'

0 10' 20' 40'

North

S86° 39' 38"E
222.50'

10' U/E

Fnd ½" Bar

Fnd ½" Bar

NEW PRIVATE STORM CURB INLET
Top: 985.00
FL In (S): 981.50
FL Out (SE): 981.00

140'
10" HDPE
Roof Drain

New 15" Private
Storm Line

NEW PRIVATE STORM
CURB INLET

FL 982.06

88.44'
@ 0.50%

FL 981.62

32.42'
@ 0.50%

FL 981.78

10.58'
@ 0.50%

23.94'

FL 982.11

Connect to
Downspout

105'
10" HDPE
Roof Drain

Connect to
Downspout

FL 981.84

39.75'
@ 0.50%

38.49'
@ 0.50%

300.00

300' FIRE HOSE
LENGTH

Connect to
Downspout

FL 982.30

300' FIRE HOSE
LENGTH

FL 982.03

CLEANOUT

300' FIRE HOSE
LENGTH

Village
3394

Lot 2B
Village at View High-Lots 2A & 2B
3394 NW Village Park Drive

NW View High Dr
200' Public R/W

10' U/E(By Plat)

25' Gas Ease

Power
Pole

Ex. FH
Fire Hydrant

N3° 19' 41"E
292.82'

Sanitary Manhole
Top 995.67'
FL In (S) 989.40'
FL Out (N) 989.30'

New 15" Private
Storm Line

S3° 19' 41"W
293.62'

200 L.F.
6" SAN.
SERVICE LINE

1" WATER
SERVICE LINE

20K REGULAR UL (10.0)

NEW PRIVATE STORM
CURB INLET

BERBIGLIA HEIGHTS
LOT 5

20' B/L

20' B/L

20' B/L

20' B/L

20' B/L

INSTALL WATER
METER

15' U/E

NEW PRIVATE STORM
CURB INLET

222.50'
N86° 27' 14"W

5' Sidewalk

Ex. FH

Ex. Public
8" San. line

Fire Hydrant

Ex. City Sanitary
MH #27-280

STM

Fnd ½" Bar

NW Village Park Dr
60' Public R/W

Sanitary Manhole
Top 979.99'
FL In (S) 970.08'
FL Out (E) 969.31'
NEW FL In (NW): 969.81

Sanitary Manhole
Top 978.50'
FL In (S) 966.44'
FL Out (E) 966.06

SW Village Park

Power
Pole

Ex. Public
8" San. line

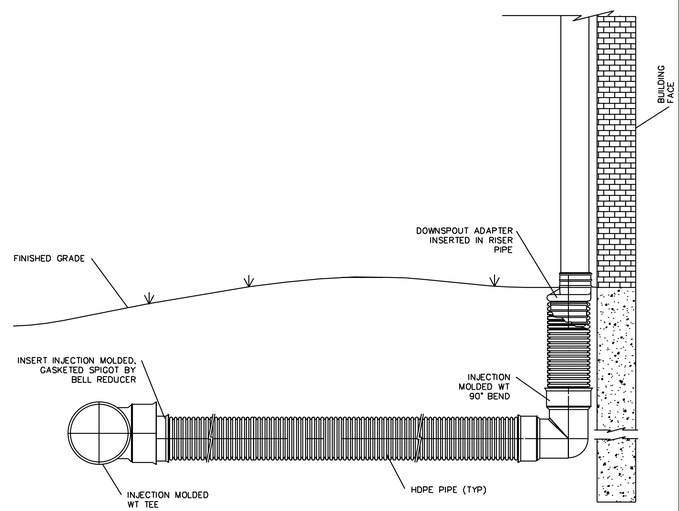
5' Sidewalk

Ex. 12" Water

INSTALL 1" TAP

Ex. 12" Water

Sanitary Manhole
Top 979.99'
FL Out (N) 970.41'



ROOF DRAIN DETAIL
N.T.S.

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008310-D
Kansas
Engineering E-1886
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

3394 NW Village Park Dr
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Project: 3394 NW VILLAGE PARK
Issue Date: November 20, 2024

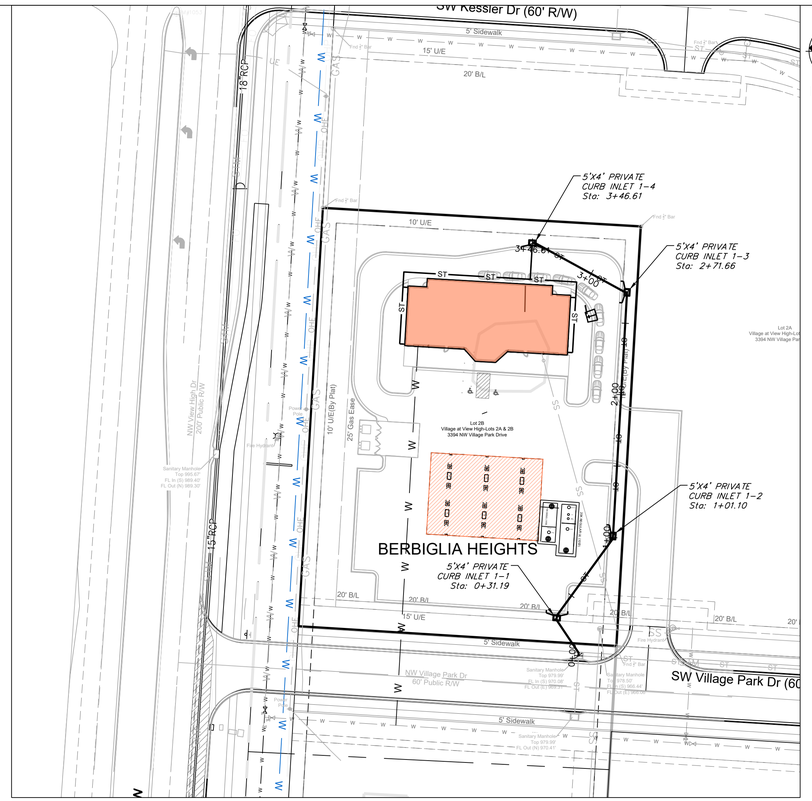
Utility Plan
Construction Plans for:
3394 NW VILLAGE PARK DR
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER
PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226

REVISIONS

C.300



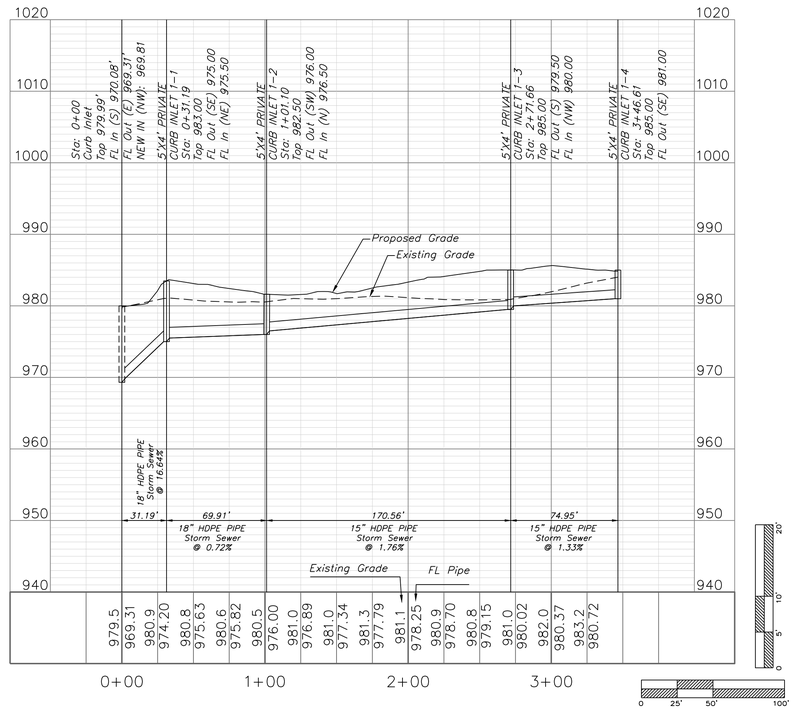
North

STORM SEWER PLAN AND PROFILE

SCALE: 1" = 40'

0 20' 40' 80'

STORM LINE 1



ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005032186-D
Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

3394 NW Village Park Dr
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Project: 3394 NW VILLAGE PARK
Issue Date: November 20, 2024

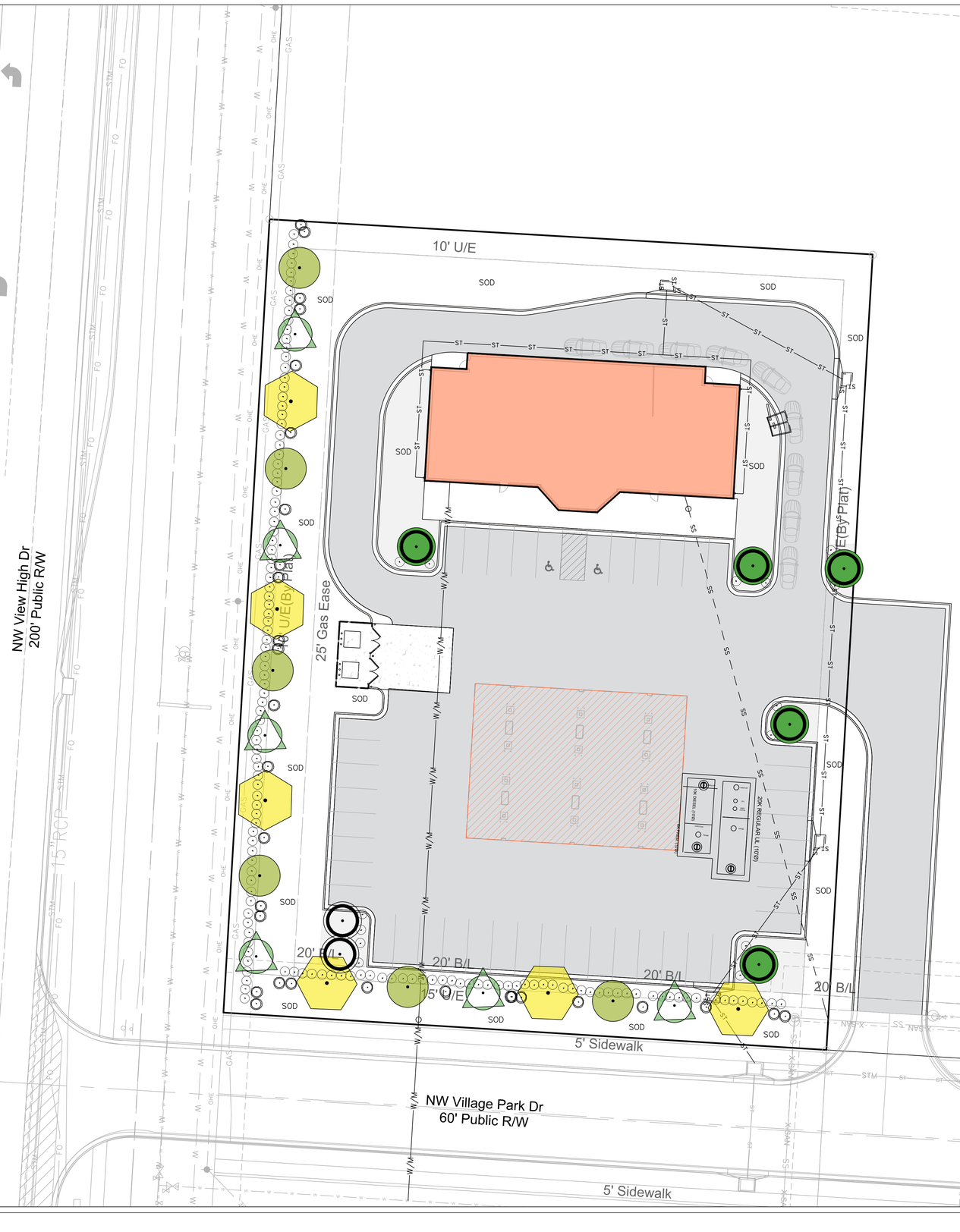
Storm Sewer Plan and Profile
Construction Plans for:
3394 NW VILLAGE PARK DR
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226

REVISIONS

C.301



North

0 10' 20' 40'

LANDSCAPE PLAN

SCALE: 1" = 20'

LANDSCAPE WORKSHEET

	ORDINANCE REQUIREMENT	REQUIRED FOR THIS SITE	PROPOSED LANDSCAPE
14.090.A.1 Street Frontage Trees (NW View High Dr)	1 tree per 30 feet of street frontage	293 ft. of street frontage /30= 10 trees required	11 Trees Provided
14.090.A.3 Street Frontage Shrubs (NW View High Dr)	1 shrub per 20 feet of street frontage	293 ft. of street frontage /20= 15 shrubs required	18 shrubs provided
14.090.A.1 Street Frontage Trees(SW Village Park Dr)	1 tree per 30 feet of street frontage	223 ft. of street frontage /30= 7 trees required	7 Trees Provided
14.090.A.3 Street Frontage Shrubs (SW Village Park Dr)	1 shrub per 20 feet of street frontage	223 ft. of street frontage /20= 11 shrubs required	11 shrubs provided
14.090.B.1 Open Yard Shrubs	2 shrubs per 5000 sq. ft. of total lot area excluding building and parking	65,241 sq. ft. of total lot area minus 44,922 sq.ft. of bldg. & parking= 20,319 sq.ft. /5,000 x 2 = 8 shrubs	14 shrubs
14.090.B.3 Open Yard Trees	1 tree per 5000 sq. ft. of total lot area excluding building and parking.	65,241 sq. ft. of total lot area minus 44,922 sq. ft. of bldg. & parking= 20,319 sq. ft./5,000 = 4 trees	7 Provided
14.110. Parking Lot Landscape	5% of entire parking area (spaces, aisles &: drives); 1 island at end of every parking bay, min. 9' wide	38,254 sq. ft. of parking area x .05 = 1,912 sq. ft. of landscape parking lot islands required	1,933 sq. ft.
14.120 Screening of Parking Lot, Road	12 shrubs per 40 linear feet (must be 2.5 feet tall; berms may be combined with shrubs)	296 linear feet/40 x 12 89 shrubs required.	134 shrubs provided
•STREET SHRUBS ARE SATISFIED WITH PARKING LOT SCREENING REQUIREMENTS.			

NOTE:

BUFFER/SCREEN REQUIRED BETWEEN LAND USES

Proposed use PMIX
Adjoining use PMIX

Medium impact screening. A 70 percent semi-opaque screen between land uses which are dissimilar in character. Semi-opaque screening should partially block views from adjoining land uses and create a separation between the adjoining land uses. For medium impact screening either a landscape screen or fencing is required.

PLANTING SCHEDULE:

IS FOR PHASE I ONLY. AT FULL BUILD THE UNIFIED DEVELOPMENT ORDINANCE REQUIREMENTS SHALL BE MEET.

	SYMBOL	QUANT.	KEY	NAME	SIZE
tree		6	TA	AMERICAN BASSWOOD LINDEN TILIA AMERICANA	3.0" CAL
evergreen		29	SR	SKYROCKET JUNIPER JUNIPERUS SCOPULORUM "SKYROCKET"	8' Ht.
tree		6	RB	OKLAHOMA REDBUD CERCIS RENIFORMIS "OKLAHOMA"	3.0" CAL
shrub		148	BB	BURNING BUSH EUONYMUS ALATA "COMPACTUS"	2 Gallon Pot
ornamental tree		6	SC	SPRING SNOW CRABAPPLE MALUS SP "SPRING SHOW"	1.5" CAL
tree		6	CG	COLORADO GREEN SPRUCE PICEA PUNGENS	2.5" CAL

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005032186-D
Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

3394 NW Village Park Dr
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Project: 3394 NW VILLAGE PARK
Issue Date: November 20, 2024

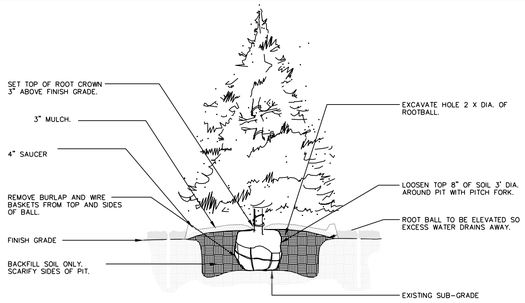
LANDSCAPE PLAN
Construction Plans for:
3394 NW VILLAGE PARK DR
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226

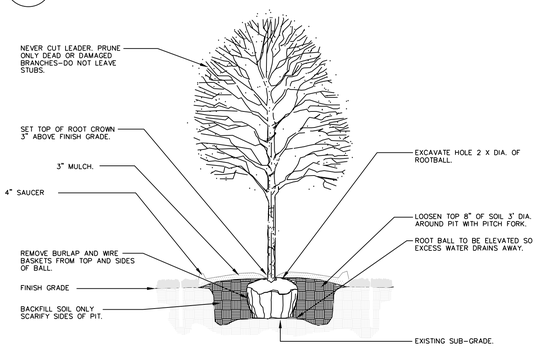
REVISIONS

L.100



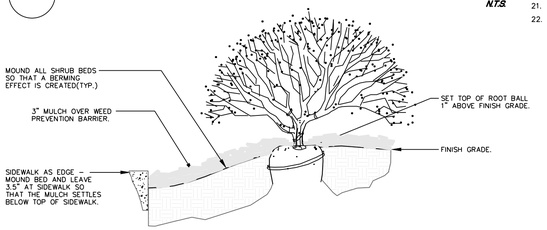
1 EVERGREEN TREE PLANTING

N.T.S.



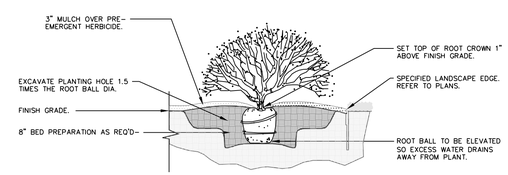
2 DECIDUOUS TREE PLANTING

N.T.S.



3 SIDEWALK EDGE AT PLANT BED

N.T.S.



4 SHRUB PLANTING

N.T.S.

GENERAL LANDSCAPE NOTES:

PLANT MATERIAL

1. ALL PLANT MATERIAL SHALL BE FIRST CLASS REPRESENTATIVES OF SPECIFIED SPECIES, VARIETY OR CULTIVAR, IN HEALTHY CONDITION WITH NORMAL WELL DEVELOPED BRANCHES AND ROOT PATTERNS. PLANT MATERIAL MUST BE FREE OF OBJECTIONABLE FEATURES. PLANTS SHALL COMPLY IN ALL APPLICABLE RESPECTS WITH PROPER STANDARDS AS SET FORTH IN THE AMERICAN ASSOCIATION OF NURSERYMEN'S "AMERICAN STANDARD OF NURSERY STOCK", ANSI Z60.1-2004.
2. SHRUBS SHALL BE CONTAINER GROWN AND WILL BE FREE OF DISEASE AND PESTS. NO BARE ROOT. ALL PLANT BEDS TO BE MULCHED TO A DEPTH OF 3" WITH DARK BROWN, HARDWOOD MULCH. PLANTING BEDS ARE TO BE FREE OF WEEDS AND GRASS. TREAT BEDS WITH A PRE-EMERGENT HERBICIDE PRIOR TO PLANTING AND MULCH PLACEMENT. APPLY IN ACCORDANCE WITH STANDARD TRADE PRACTICE.
3. HOLE AREA FOR TREE TO BE TWICE (2x) THE DIAMETER OF THE ROOT BALL AND ROOT BALL SHALL BE SLIGHTLY MOUNDED FOR WATER RUN-OFF.
4. ALL PLANT MATERIALS SHALL BE PROTECTED FROM THE DRYING ACTION OF THE SUN AND WIND AFTER BEING DUG, WHILE BEING TRANSPORTED, AND WHILE AWAITING PLANTING. BALLS OF PLANTS WHICH CANNOT BE PLANTED IMMEDIATELY SHALL BE PROTECTED FROM DRYING ACTION BY COVERING THEM WITH MOIST MULCH. PERIODICALLY, APPLY WATER TO MULCH-COVERED BALLS TO KEEP MOIST. IF PLANTING SHOULD OCCUR DURING GROWING SEASON, APPLY ANTI-DESICCANT TO LEAVES BEFORE TRANSPORT TO REDUCE THE LIKELIHOOD OF WINDBURN. REAPPLY ANTI- DESICCANT AFTER PLANTING TO REDUCE TRANSPIRATION. REMOVE TWINE AND BURLAP FROM ROOT BALLS. SOIL ON TOP OF CONTAINERIZED OR BALLED PLANTS IS TO BE REMOVED UNTIL ALL PLANTS' ROOT FLARES ARE EXPOSED. THIS IS THE NATIVE SOIL LINE AT WHICH PLANTING DEPTHS SHOULD BE MEASURED.
5. AFTER PLANTING IS COMPLETED, PRUNE MINIMALLY TO REMOVE DEAD OR INJURED TWIGS AND BRANCHES. PRUNE IN SUCH A MANNER AS NOT TO CHANGE THE NATURAL HABIT OR SHAPE OF THE PLANT. MAKE CUTS BACK TO BRANCH COLLAR, NOT FLUSH. DO NOT PAINT ANY CUTS WITH WITH TREE PAINT. CENTRAL LEADERS SHALL NOT BE REMOVED.
6. GUARANTEE TREES, SHRUBS, GROUND COVER PLANTS FOR ONE CALENDAR YEAR FOLLOWING PROVISIONAL ACCEPTANCE OF THE OVERALL PROJECT. DURING THE GUARANTEE PERIOD, PLANTS THAT DIE DUE TO NATURAL CAUSES OR THAT ARE UNHEALTHY OR UNSIGHTLY IN CONDITION, SHALL BE REPLACED BY THE CONTRACTOR.

LAWN AND TURF AREAS

7. ALL LAWN AREAS TO BE SODDED AS SHOWN ON PLANS. SOD SHALL COMPLY WITH US DEPT. OF AGRICULTURE RULES AND REGULATIONS UNDER THE FEDERAL SEED ACT AND EQUAL IN QUALITY TO STANDARDS FOR CERTIFIED SEED. SOD SHALL BE HEALTHY, THICK TURF HAVING UNDERGONE A PROGRAM OF REGULAR FERTILIZING, MOWING AND WEED CONTROL. SEED AND SOD SHALL BE A TURF-TYPE TALL FESCUE (3 WAY) BLEND. SEED BLEND SHALL CONSIST OF THE FOLLOWING:

TURF-TYPE TALL FESCUE	90%
KENTUCKY BLUEGRASS	10%

8. ALL AREAS DISTURBED SHALL BE SODDED.

INSTALLATION

9. THE INSTALLATION OF ALL PLANT MATERIALS SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS OF THE CITY OF LEE'S SUMMIT, MO. AND LANDSCAPE INDUSTRY STANDARDS.
10. ALL LANDSCAPE AREAS TO BE FREE OF ALL BUILDING DEBRIS AND TRASH, BACK FILLED WITH CLEAN FILL SOIL AND TOP DRESSED WITH 4" OF TOPSOIL. TOPSOIL SHALL HAVE A pH RANGE OF 5.5 TO 7 AND A 4% ORGANIC MATERIAL MINIMUM, ASTM D5268.
11. PLANT BEDS TO BE "MOUNDED". ALL PLANT MATERIAL, PLANT BEDS, MULCH AND DUG EDGE ARE TO BE INSTALLED PER LANDSCAPE PLANS, DETAILS, AND MANUFACTURER'S RECOMMENDATIONS.
12. REESTABLISH FINISH GRADES TO WITHIN ALLOWABLE TOLERANCES ALLOWING 3/4" FOR SOD AND 3" FOR MULCH IN PLANT BEDS. HAND RAKE ALL AREAS TO SMOOTH EVEN SURFACES FREE OF DEBRIS, CLODS, ROCKS, AND VEGETATIVE MATTER GREATER THAN 1".
13. ALL PLANT BEDS, SHRUBS AND TREES SHALL BE MULCHED WITH 3" OF DARK BROWN, HARDWOOD MULCH, EXCEPT IF NOTED AS ROCK. DARK BROWN, HARDWOOD MULCH SHALL BE INSTALLED OVER DEWITT PRO 5 WEED CONTROL FABRIC IN PLANT BEDS ONLY.
14. CONTRACTOR IS RESPONSIBLE FOR INITIAL WATERING UPON INSTALLATION.
15. DUG EDGES ARE TO BE DUG WHERE MULCH BEDS ARE ADJACENT TO TURF AREAS. NO EDGING IS REQUIRED ADJACENT TO PAVEMENT OR CURB.
16. THE EXACT LOCATION OF ALL UTILITIES, STRUCTURES, AND UNDERGROUND UTILITIES SHALL BE DETERMINED AND VERIFIED ON SITE BY THE LANDSCAPE CONTRACTOR PRIOR TO INSTALLATION OF THE MATERIALS. DAMAGE TO EXISTING UTILITIES AND OR STRUCTURES SHALL BE REPLACED TO THEIR ORIGINAL CONDITION BY THE LANDSCAPE CONTRACTOR AT NO COST TO THE OWNER.
17. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR OBTAINING NECESSARY PERMITS AND APPROVALS AND REQ'D INSPECTIONS BY LEGAL AUTHORITIES.
18. PROVISIONS SHALL BE MADE FOR READILY ACCESSIBLE IRRIGATION WITHIN 100' MAX. OF ALL LANDSCAPED AREAS INCLUDING ALL PLANT BEDS, INDIVIDUAL TREES, AND TURF AREAS. ALL LAWN AREAS (AS SHOWN ON PLANS) WILL BE IRRIGATED BY AN AUTOMATIC SPRINKLER SYSTEM. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL IRRIGATION COMPONENTS, SLEEVING, PIPE AND CONTROL. DESIGN DRAWINGS OF IRRIGATION SYSTEM SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT AND OWNER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
19. ANY SUBSTITUTIONS OR DEVIATIONS SHALL BE REQUESTED IN WRITING BY THE CONTRACTOR FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF PLANT MATERIALS. ALL PLANTS ARE TO BE LOCATED AS SPECIFIED ON DRAWINGS.

MAINTENANCE BY OWNER

20. ALL SHRUBS ARE TO BE MAINTAINED IN THEIR NATURAL SHAPE TO ALLOW EVENTUAL GROWTH INTO A HEDGE.
21. MAINTAIN NATURAL HABIT OF ALL SPECIFIED PLANT MATERIAL.
22. NEW SOD TO BE THOROUGHLY WATERED UNTIL ROOTS "TAKE HOLD" OF SOD BED. CONTINUE WATERING AS REQUIRED, UNTIL COMPLETELY ESTABISHED.

IRRIGATION PERFORMANCE SPECIFICATION:

THE FOLLOWING CRITERIA SHALL BE CONSIDERED MINIMUM STANDARDS FOR DESIGN AND INSTALLATIONOF LANDSCAPE IRRIGATION SYSTEM:

1. GENERAL - IRRIGATION SYSTEM TO INCLUDE DRIP IRTRIGATION OF SHRUB BEDS ADJACENT TO BUILDINGS, SPRAY HEADS IN THE PARKING ISLANDS, AND ROTORS AROUND THE PERIMETER OF THE PARKING LOTS. HEADS SHALL THROW AWAY FROM BUILDING AND ACCID SPRAYING OVER SIDEWALKS.
2. IRRIGATION SYSTEM SHALL CONFORM TO ALL INDUSTRY STANDARDS AND ALL FEDERAL, STATE AND LOCAL LAWS GOVERNING DESIGN AND INSTALLATION.
3. WATERLINE TYPW, SIZE LOCATION, PRESSURE AND FLOW SHALL BE FIELD VERIFIED PRIOR TO SYSTEM DESIGN AND INSTALLATION.
4. ALL MATERIALS SHALL BE FROM NEW STOCK FREE OF DEFECTS AND CARRY A MINIMUM ONE YEAR WARRANTY FROM THE DATE OF SUBSTANTIAL COMPLETION.
5. THE IRRIGATION SYSTEM SHALL BE DESIGNED AND INSTALLED IN SUCH A WAY THAT ALL SYSTEM COMPONENTS OPERATE WITHIN THE GUIDELINES ESTABLISHED BY THE MANUFACTURER.
6. LAWN AREA AND SHRUB BEDS SHALLBE ON SEPARATE CIRCUITS.
7. PROVIDE WATER TAP, METER SET, METER VAULT AND ALL OTHER OPERATIONS NECESSARY TO PROVIDE WATER FOR IRRIGATION SHALL CONFORM TO LOCAL WATER GOVERNING AUTHORITY CUIDELINES AND STANDARDS.
8. BACKFLOW PREVENTION SHALL BE PROVIDED IN ACCORDANCE WITH STATE AND LOCAL REQUIATIONS.
9. IRRIGATION CONTROLLER TO BE LOCATED IN UTILITY ROOM INSIDE BUILDING, AS IDENTIFIED BY OWNER.
10. IRRIGATION CONTROLLER STATIONS SHALL BE LABELED TO CORRESPOND WITH THE CIRCUIT IT CONTROLS.
11. CONTRACTOR SHALL PROVIDE TO THE OWNER WRITTEN OPERATION INFORMATION FOR ALL SYSTEM COMPONENTS.
12. CONTRACTOR SHALL PROVIDE O THE OWNER ALL KEYS, ACCESS TOOLS, WRENCHES AND ADJUSTING TOOLS NECESSARY TO GAIN ACCESS, ADJUST AND CONTROL THE SYSTEM.
13. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
14. AN AUTOMATIC RAIN SHUT-OFF OR MOISTURE DEVICE SHALL BE INSTALLED.
15. INSTALL SCHEDULE 40 PVC SLEEVES UNDER ALL CURBS, PAVING AND SIDEWALKS. SLEEVES TO BE TWICE THE SIZE OF THE LINE IT HOUSES.
16. INSTALL MANUAL DRAIN BALBES AT LOWEST POSSIBLE ELEVATION ON IRRIGATION MAIN TO ALLOW GRAVITY DRAINING OF MAIN DURING WINTER MONTHS. PROVIE QUICK COUPLERS AT MULTIPLE LOCATIONS TO ALLOW FOR EASY "BLOWING OUT" OF LATERAL AND MAIN LINES.
17. ZONES OR NOZZLES SHALL BE DESIGNED WITH MATCHED PRECIPITATION RATES.
18. MINIMUM LATERAL DEPTH IS 15" AND MAIN DEPTH IS 18".
19. SUBMIT DESGN DRAWING WITH BID TO ALLOW OWNER TO EVALUATE SYSTEM. INCLUDE CUT SHEETS OF ALL COMPONENTS AND ZONE TABLE ILLUSTRATING FLOWS AND ANTICIPATED PRESSURE AT FURTHEST HEAD.
20. AN "AS-BUILT" SCALED DRAWING SHALL BE PROVIDED TO THE OWNER BY THE CONTRACTOR AND SHALL INCLUDE UT NOT BE LIMITED TO THE FOLLOWING:
    a. AS CONSTRUCTED LOCATION OF ALL COMPONENTS
    b. COMPONENT NAME, MANUFACTURER, MODEL INFORMATION, SIZE AND QUANTITY
    c. PIPE SIZE AND QUANTITY
    d. INDICATION OF SPRINKLER HEAD SPRAY PATTERN
    e. CIRCUIT IDENTIFICATION SYSTEM
    f. DETAILED METHOD OF WINTERIZED SYSTEM

SUBMIT AS-BUILT DRAWING IN FULL SIZE DRAWING FORM AS WELL AS PDF ELECTRONIC FORMAT. (SCANNING FULL SIZE COPY OF PLAN IS ACCEPTABLE IF IT CAN BE PRINTED TO SCALE.

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005032186-D
Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

3394 NW Village Park Dr
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Project: 3394 NW VILLAGE PARK
Issue Date: November 20, 2024

LANDSCAPE PLAN DETAILS
Construction Plans for:
3394 NW VILLAGE PARK DR
Lee's Summit, Jackson County, Missouri

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226

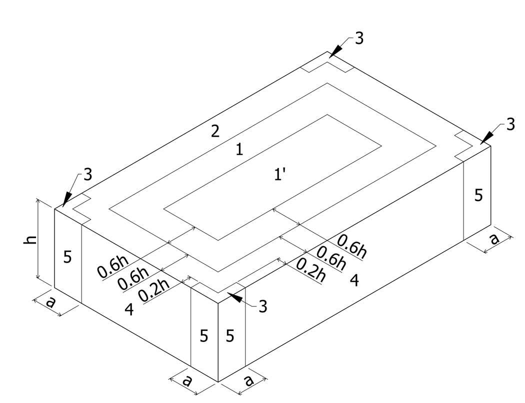
REVISIONS

L.101

1. ALL WORK SHALL CONFORM TO 2018 INTERNATIONAL BUILDING CODE AS ADOPTED AND AMENDED BY THE CITY OF LEE'S SUMMIT, MISSOURI.
2. DESIGN LOADS
   A. OVERALL BUILDING CLASSIFICATIONS
      1. RISK CATEGORY — II
      2. SNOW IMPORTANCE FACTOR, I_s — 1.00
      3. ICE IMPORTANCE FACTOR - WIND, I_w — 1.00
      4. SEISMIC IMPORTANCE FACTOR, I_e — 1.00
   B. SLAB ON GRADE FLOOR LOADS
      1. LIVE LOAD — 100 PSF
      2. CONCENTRATED LOAD — 3000 LB ACTING ON AN AREA 4.5 IN. BY 4.5 IN.
   C. ROOF DEAD AND LIVE LOADS
      1. DEAD LOAD TOP CHORD — 20 PSF
      2. DEAD LOAD BOT. CHORD — 10 PSF
      3. LIVE LOAD TOP CHORD — 20 PSF
      4. LIVE LOAD BOT. CHORD — 0 PSF (U.N.O)
   D. ROOF SNOW LOADS
      1. GROUND SNOW LOAD, P_g — 20 PSF
      2. FLAT ROOF SNOW LOAD, P_f — 14 PSF
      3. SNOW EXPOSURE FACTOR, C_e — 1.0
      4. THERMAL FACTOR, C_t — 1.0
      5. SLOPE FACTOR, C_s — 1.0
      6. DRIFTING — PER CODE
   E. WIND LOADS
      1. BASIC WIND SPEED (3 SECOND GUST) — 109 MPH
      2. EXPOSURE CATEGORY — C
      3. INTERNAL PRESSURE COEFFICIENT, GC_{pi} — +/- 0.18
      4. COMPONENTS AND CLADDING PER ASCE 7-16. SEE DIAGRAM ON THIS SHEET.
   F. SEISMIC LOADS
      1. S_S — 0.099 g
      2. S_1 — 0.068 g
      3. SITE CLASS — D
      4. S_{DS} — 0.105 g
      5. S_{D1} — 0.109 g
      6. SEISMIC DESIGN CATEGORY — B
      7. SEISMIC FORCE RESISTING SYSTEM — WOOD WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR AND ORDINARY STEEL MOMENT FRAMES
      8. DESIGN BASE SHEAR — C_SW
      9. DESIGN RESPONSE COEFFICIENT, C_S — 0.016 & 0.035
      10. RESPONSE MODIFICATION COEFFICIENT, R — 6.5 & 3
      11. ANALYSIS PROCEDURE USED — EQUIVALENT LATERAL FORCE (ELF) PROCEDURE
   G. ROOF RAIN LOADS
      1. 60-MIN DURATION/100 YEAR RAIN INTENSITY, i — 3.53 IN/HR
      2. 15-MIN DURATION/100 YEAR RAIN INTENSITY, i — 7.51 IN/HR
3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS PRIOR TO FABRICATION.
4. IF DISCREPANCIES EXIST BETWEEN CONTRACT DRAWINGS, AND/OR SHOP DRAWINGS NOTIFY THE ENGINEER OF RECORD.
5. THE CONTRACTOR SHALL REVIEW DRAWINGS FROM ALL OTHER DISCIPLINES FOR PERTINENT MISC. ITEMS OR INFORMATION RELATED TO THE STRUCTURAL WORK AND COORDINATE AS REQUIRED.
6. THE BUILDING IS NOT STRUCTURALLY STABLE UNTIL ALL CONNECTIONS, FRAMING, SHEAR WALLS, PERMANENT BRACING, AND EXTERIOR LOAD-BEARING WALLS ARE COMPLETE AND HAVE ACHIEVED THEIR RESPECTIVE DESIGN STRENGTHS. CONTRACTOR IS SOLELY RESPONSIBLE FOR MAINTAINING STRUCTURAL STABILITY DURING ERECTION AND CONSTRUCTION. TEMPORARY BRACING SYSTEMS ARE NOT TO BE REMOVED UNTIL STRUCTURAL WORK IS COMPLETE.
7. PROVIDE ADEQUATE SHORING DURING CONSTRUCTION TO RESIST FORCES SUCH AS WIND AND UNBALANCED LOADS DUE TO CONSTRUCTION. DO NOT BACKFILL UNTIL CONCRETE HAS CURED 14 DAYS.
8. FOUNDATIONS
   A. FOUNDATIONS ARE DESIGNED TO BEAR ON 1500 PSF FOR STRIP FOOTINGS ON SOIL AND SPREAD FOOTINGS ON SOIL.
   B. COMPLY WITH ALL ASPECTS OF SOILS REPORT XXXXXXXX DATED XXXXXXX XX, XXXX PREPARED BY XXXXXXXXXX.
   C. CONTRACTOR SHALL REMOVE EXISTING FOOTINGS AND FOUNDATIONS THAT ARE LOCATED WITHIN THE FOOTPRINT OF THE NEW BUILDING.
   D. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY UNUSUAL SOIL CONDITIONS THAT ARE IN VARIANCE WITH THE GEOTECHNICAL REPORT OR WHEN DIFFERENT BEARING MATERIAL IS EVIDENT AND THERE IS A QUESTION OF BEARING CAPACITY.
9. CONCRETE
   A. CAST-IN-PLACE CONCRETE CONSTRUCTION SHALL CONFORM TO LATEST APPLICABLE AMERICAN CONCRETE INSTITUTE DOCUMENTS, ACI-301, 305, 306, 315, 318, AND 347 UNLESS NOTED OTHERWISE IN THESE CONTRACT DOCUMENTS.
   B. ALL CONCRETE, UNLESS NOTED OTHERWISE, SHALL DEVELOP A 28 DAY COMPRESSIVE STRENGTH AND HAVE MAXIMUM DRY SHRINKAGE PER ASTM C157 AS FOLLOWS:
      1. FOOTINGS, GRADE BEAMS, WALLS, BEAMS, COLUMNS: — 4000 PSI (DS MAX 0.05%)
      2. SLAB ON GRADE: — 4000 PSI (DS MAX 0.05%)
      3. REFER TO THE SPECIFICATION FOR AIR-ENTRAINED CONCRETE.
   C. SLABS-ON-GRADE SHALL DEVELOP A 90 DAY COMPRESSIVE STRENGTH.
   D. IT IS THE INTENT OF THESE CONCRETE SPECIFICATIONS THAT THE CONTRACTOR SUPPLY CONCRETE MIXES WITH A MINIMUM AMOUNT OF WATER IN ORDER TO LIMIT PLASTIC SHRINKAGE CRACKING IN FRESHLY PLACED CONCRETE. IT IS EXPECTED THAT PRODUCING WORKABILITY FOR CONCRETE MIXES WILL REQUIRE THE ADDITION OF WATER-REDUCING CHEMICAL ADMIXTURES.
   E. CONCRETE MIX DESIGNS SHALL INCLUDE ALL APPLICABLE ADMIXTURES.
   F. CONCRETE SLUMP SHALL BE A MAXIMUM OF 4" +/- 1" (ASTM C-145) AS DELIVERED IN THE FIELD. CONTRACTOR MAY USE CHEMICAL ADMIXTURES TO ATTAIN A MAXIMUM SLUMP OF 8" FOR WORKABILITY IF ADMIXTURE IS TO BE ADDED IN THE FIELD IS SHALL BE ADDED THROUGH THE USE OF AN EXTERNAL MEASURING DEVICE (I.E. 5 GALLON BUCKET).
   G. CONCRETE EXPOSED TO WEATHER, PARKED VEHICLES, AND/OR DEICING CHEMICAL SHALL CONTAIN 6% (+/- 1%) ENTRAINED AIR BY VOLUME.
   H. CHAMFER ALL EXPOSED CORNERS OF CONCRETE WALLS, 3/4" UNLESS NOTED OTHERWISE.
   I. ALL CONTROL JOINTS IN CONCRETE SLABS-ON-GRADE SHALL BE CUT TO 1/3 OF DEPTH WHEN USING WET-CUTTING PROCESS AND 1/4 OF DEPTH WHEN USING EARLY-ENTRY DRY-CUT PROCESS. CUT JOINTS AS SOON AS APPLICABLE PER PROCESS USED AFTER CONCRETE HAS BEEN PLACED WITHOUT DISLODGING AGGREGATE, OR USE A KEYED COLD JOINT.
   J. CUT SLABS-ON-GRADE INTO AREAS OF APPROXIMATELY 225 SQUARE FEET MAINTAINING AS CLOSE TO SQUARE AREAS AS POSSIBLE. LENGTH TO WIDTH RATIOS OF JOINTED PANELS SHALL NOT EXCEED 1.5:1. COORDINATE LOCATIONS OF CONTROL JOINTS WITH ARCHITECT.
   K. CONTROL JOINTS IN WALLS SHALL BE PLACED AT 20'-0" O.C. MAXIMUM UNLESS NOTED OTHERWISE. LOCATE JOINTS BESIDE PIERS INTEGRAL WITH WALLS, NEAR CORNERS, AND IN CONCEALED LOCATIONS WHERE POSSIBLE. CONSTRUCTION JOINTS MAY BE PLACED IN LIEU OF CONTROL JOINTS AT CONTRACTOR'S DISCRETION. COORDINATE LOCATION OF CONTROL JOINTS WITH ARCHITECT.
   L. PRIOR TO PLACING CONCRETE IN ANY LOCATION, IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO HAVE THOROUGHLY CHECKED AND COORDINATED ALL DIMENSIONS, ELEVATIONS, OPENINGS, RECESS, AND BLOCKOUTS AS SHOWN ON ANY CONTRACT DRAWINGS. IN THE EVENT ERRORS, CONFLICTS, OR OMISSIONS EXIST, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE ARCHITECT OR ENGINEER FOR NECESSARY CORRECTIVE ACTION.
   M. EMBEDDED ITEMS ARE TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR PRIOR TO PLACING CONCRETE.
   N. ANCHOR RODS AND ANCHOR BOLTS SHALL BE HELD IN PLACE WITH A RIGID TEMPLATE
   O. HORIZONTAL JOINTS BEYOND THOSE SHOWN IN THE CONTRACT DOCUMENTS SHALL NOT BE CONSTRUCTED WITHOUT THE APPROVAL OF THE ARCHITECT AND ENGINEER.
10. REINFORCING STEEL
   A. ALL REINFORCING SHALL BE ASTM A615 GRADE 60, EXCEPT WELDED REINFORCING WHICH SHALL BE ASTM A706 GRADE 60.
   B. ALL WELDED WIRE FABRIC SHALL BE ASTM A82 COLD DRAWN WIRE.
   C. ALL ACCESSORIES FOR SUPPORTING REINFORCING SHALL BE GALVANIZED OR HAVE PLASTIC-COATED FEET.
   D. PROVIDE CORNER BARS AT THE EXTERIOR FACE OF ALL WALL AND FOOTING CORNERS EQUAL TO HORIZONTAL BARS.
   E. REINFORCING SHALL BE DETAILED, FABRICATED, PLACED, AND SUPPORTED IN ACCORDANCE WITH ACI 315, LATEST APPLICABLE EDITION.
   F. STANDARD COVERAGE OF REINFORCING SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE.
      1. PERMANENTLY EXPOSED TO WEATHER
         A. CAST AGAINST EARTH — 3"
         B. IN CONTACT WITH WATER — 3"
         C. FORMED — 2"
      2. NOT EXPOSED TO EARTH OR WEATHER
         A. SLABS AND WALLS — 3/4"
         B. BEAMS AND COLUMNS — 1 1/2"
   G. SPLICE LENGTH
      1. 3000 PSI CONCRETE
         A. NON-COATED — 55 db (BAR DIAMETER)
         B. EPOXY COATED — 83 db
      2. 4000 PSI CONCRETE
         A. NON-COATED — 48 db
         B. EPOXY COATED — 72 db
      3. 5000 PSI CONCRETE
         A. NON-COATED — 43 db
         B. EPOXY COATED — 64 db
   H. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT, EXCEPT AS SHOWN AND NOTED ON THE CONTRACT DRAWINGS OR PERMITTED BY THE ENGINEER OF RECORD.
   I. ALL REINFORCEMENT AND EMBEDDED ITEMS INCLUDING PLATES AND ANCHOR RODS SHALL BE ACCURATELY PLACED, ADEQUATELY SUPPORTED, AND SECURED AGAINST DISPLACEMENT BEFORE CONCRETE IS PLACED. NEITHER REINFORCEMENT NOR EMBEDDED ITEMS SHALL BE PLACED INTO FRESHLY PLACED CONCRETE UNLESS APPROVED BY THE ENGINEER OF RECORD.
11. STRUCTURAL STEEL
   A. STEEL FABRICATOR SHALL PARTICIPATE IN THE AISC QUALITY CERTIFICATION PROGRAM AND BE DESIGNATED AN AISC-CERTIFIED PLANT, CATEGORY BU.
   B. STEEL INSTALLER SHALL PARTICIPATE IN THE AISC QUALITY CERTIFICATION PROGRAM AND BE DESIGNATED AN AISC-CERTIFIED ERECTOR, CATEGORY CSE.
   C. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, LATEST APPLICABLE EDITION AND AISC CODE OF STANDARD PRACTICE.
   D. ALL STRUCTURAL STEEL FOR WIDE FLANGE SHALL BE A992 GRADE 50 UNLESS NOTED OTHERWISE. ALL ANGLES, PLATES AND CHANNELS SHALL BE ASTM A36 UNLESS NOTED OTHERWISE. ALL RECTANGULAR AND ROUND HSS SHAPES SHALL BE ASTM A500, GRADE B.
   E. ALL BOLTS SHALL BE 3/4" Ø A-325 BOLTS WITH HEAVY HEX HEADS UNLESS NOTED OTHERWISE. ALL CONNECTIONS SHALL HAVE A MINIMUM OF (2) 3/4" Ø BOLTS, BEARING TYPE CONNECTIONS ONLY.
   F. ALL STRUCTURAL STEEL WELDS IN THE SHOP OR IN THE FIELD SHALL BE PERFORMED BY A QUALIFIED WELDER AND SHALL CONFORM TO THE CURRENT REQUIREMENTS OF A.W.S.
   G. SHOP WELDED AND FIELD BOLTED CONNECTIONS ARE PREFERRED UNLESS NOTED OTHERWISE.
   H. ALL STEEL EXPOSED TO THE EXTERIOR, EXHIBITS, POOLS, AND LSS AREAS SHALL BE HOT-DIP GALVANIZED AND PAINTED PER ARCHITECT UNLESS NOTED OTHERWISE. WEEP HOLES PROVIDED FOR GALVANIZATION OF HSS MEMBERS SHALL REMAIN OPEN.
   I. THE CONTRACTOR SHALL PROVIDE SHELF ANGLES, GLASS SUPPORTS, LINTELS, AND OTHER MISC. STEEL AS SHOWN ON THESE DRAWINGS AS REQUIRED TO PROVIDE SUPPORT (STABILIZATION) AROUND AND THROUGHOUT THE BUILDING. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL MISC. STEEL DETAILS.
12. ROUGH CARPENTRY
   A. HEADERS, JOISTS, AND RAFTERS SHALL MEET OR EXCEED THE FOLLOWING MINIMUM REQUIREMENTS.
      1. F_B — 875 PSI
      2. F_V — 135 PSI
      3. F_C — 1150 PSI
      4. E — 1400 KSI
   B. INTERIOR WALLS AND EXTERIOR WALLS SHALL MEET OR EXCEED THE FOLLOWING MINIMUM REQUIREMENTS.
      1. F_B — 875 PSI
      2. F_V — 135 PSI
      3. F_C — 1150 PSI
      4. E — 1400 KSI
   C. TIMBER FRAMING MEMBERS SHALL MEET OR EXCEED THE FOLLOWING MINIMUM REQUIREMENTS.
      1. F_B — 875 PSI
      2. F_V — 135 PSI
      3. F_C — 1150 PSI
      4. E — 1400 KSI
   D. ALL LVL MEMBERS SHALL BE BOISE CASCADE VERSA-LAM 2.1E 3100 OR APPROVED EQUAL.
   E. ALL WOOD FRAMING MEMBERS INDICATED ARE NOMINAL SIZES. PROVIDE ACTUAL DRESSED SIZES, KILN-DRIED, WITH MAXIMUM IN-PLACE MOISTURE CONTENT OF 19%.
   F. ALL BOLTS ARE A36 OR A307, GRADE 1, AND ALL NAILS ARE COMMON WIRE NAILS UNLESS NOTED OTHERWISE.
   G. LAY ALL STRUCTURAL PANELS WITH FACE GRAIN PERPENDICULAR TO SUPPORTING MEMBERS AND OFFSET END JOINTS 4'-0". PANELS TO BE APA RATED AND STAMPED FOR THE LOADING SHOWN IN SECTION 2 "DESIGN" AND SHOULD MATCH THE SUPPORT SPACING SHOWN ON THE PLANS.
   H. ROOF DECKING SHALL BE 3/4" THICK APA RATED EXTERIOR GRADE SHEATHING FASTENED WITH 10d NAILS AT 6" O.C. ON EDGES AND 12" O.C. IN FIELD UNLESS NOTED OTHERWISE.
   I. FASTENER QUALITY, QUANTITY, SIZE, AND SPACING SHALL COMPLY WITH IBC FASTENING SCHEDULE (TABLE 2304.10) UNLESS NOTED OTHERWISE.
   J. ALL WOOD IN CONTACT WITH CONCRETE OR EXPOSED TO WEATHER SHALL BE PRESERVATIVE TREATED.
13. PREFABRICATED WOOD TRUSSES
   A. TRUSS SPACING TO BE AS SHOWN ON DRAWINGS.
   B. LOADS SHOWN IN SECTION 2 "DESIGN LOADS" ARE A MINIMUM. TRUSS DESIGNER IS RESPONSIBLE FOR ESTABLISHING FINAL LOADS USED FOR DESIGN, INCLUDING LIVE, DEAD, SNOW (WITH DRIFTS), WIND, AND SEISMIC LOADS. TRUSS FABRICATOR IS TO SUPPLY SEALED TRUSS SHOP DRAWINGS AND SEALED PLAN PLACEMENT DRAWINGS PREPARED UNDER THE SUPERVISION OF THE SAME LICENSED PROFESSIONAL ENGINEER IN THE STATE OF THE PROJECT.
   C. TRUSS MANUFACTURER IS RESPONSIBLE FOR DESIGNING, DETAILING, AND PROVIDING ALL TRUSS-TO-TRUSS, TRUSS-TO-WALL, AND TRUSS-TO-BEAM CONNECTIONS, UNLESS NOTED OTHERWISE.
   D. ROOF SHOP DRAWINGS SHALL INCLUDE DETAILED ERECTION DRAWINGS, AS WELL AS DESIGN INFORMATION FOR EACH TRUSS. PROVIDE ALL INFORMATION AS REQUIRED IN THE INTERNATIONAL BUILDING CODE SECTION 2303.4 "TRUSSES", INCLUDING CONNECTION DESIGN.
   E. TRUSS MEMBERS AND COMPONENTS SHALL NOT BE CUT, NOTCHED, DRILLED, SPLICED, OR OTHERWISE ALTERED IN ANY WAY WITHOUT WRITTEN CONCURRENCE AND APPROVAL OF THE LICENSED PROFESSIONAL ENGINEER RESPONSIBLE FOR THE TRUSS DESIGN AND THE ENGINEER OF RECORD.
   F. REFERENCE SECTION "SUBMITTALS" FOR MORE INFORMATION.
14. POST CONSTRUCTION ANCHORS
   A. POST INSTALLED ANCHORS ARE NOT TO BE SUBSTITUTED FOR ANCHORS SHOWN ON THE DRAWINGS. IF CAST IN PLACE ANCHOR IS DETERMINED TO BE OUT OF TOLERANCE OR OMITTED, CONTRACTOR MUST GENERATE A REQUEST FOR INFORMATION IN REGARDS TO THE SOLUTION.
   B. EMBEDMENT DEPTH SHALL BE DEFINED AS THE DISTANCE FROM THE SURFACE OF THE LOAD-BEARING BASE MATERIAL TO THE DEEPEST PART OF THE ANCHOR AFTER THE ANCHOR HAS BEEN DRIVEN INTO THE HOLE.
   C. OBSERVATION AND VERIFICATION OF EMBEDMENT HOLE CLEANING, DEPTH, AND ANCHOR INSTALLATION IS REQUIRED FOR ALL EPOXY ANCHORS.
   D. EQUIVALENT ANCHORS MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL. SUBMITTALS ARE THE CONTRACTOR'S RESPONSIBILITY AND MUST INCLUDE EVALUATION REPORTS FROM THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS, CURRENT WITH THE REQUIREMENTS OF THE PROJECT.
15. STRUCTURAL ENGINEER SITE OBSERVATIONS
   A. THE CONTRACT STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE AND, EXCEPT WHERE SPECIFICALLY SHOWN, DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, AND SEQUENCES.
   B. THE ENGINEER SHALL NOT HAVE CONTROL NOR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, PROCEDURES,TECHNIQUES, OR SEQUENCES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSION OF THE CONTRACTOR, SUBCONTRACTOR, OR AN OTHER PERSONS PERFORMING ANY OF THE WORK, OR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
   C. PERIODIC SITE OBSERVATION BY FIELD REPRESENTATIVES OF LEIGH & O'KANE L.L.C. IS SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION SHOULD NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY OR QUANTITY OF WORK, BUT RATHER PERIODIC IN AN EFFORT TO GUARD THE OWNER AGAINST DEFECTS AND DEFICIENCIES IN THE WORK OF THE CONTRACTOR.
16. SUBMITTALS
   A. ALL SHOP DRAWINGS AND SUBMITTALS MUST BE REVIEWED AND APPROVED BY THE CONTRACTOR PRIOR TO SUBMITTAL. ENGINEER'S REVIEW OF SHOP DRAWINGS IS LIMITED TO CHECKING FOR GENERAL CONFORMANCE WITH DESIGN DRAWINGS AND STRENGTH OF COMPONENTS AND MATERIALS. CONTRACTOR IS RESPONSIBLE FOR ANY CHANGES FROM THE DESIGN DRAWINGS, QUANTITIES, DIMENSIONAL ERRORS, OR OMISSIONS IN THE SHOP DRAWINGS.
   B. ALL SHOP DRAWINGS MUST BE ORIGINAL DOCUMENTS AND SHALL NOT BE REPRODUCTIONS OF THESE CONTRACT DOCUMENTS.
   C. SUBMIT SHOP DRAWINGS DETAILING FABRICATION OF EACH MEMBER AND ITS CONNECTIONS. DETAIL DRAWINGS ARE TO BE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF THE PROJECT FOR THE FOLLOWING ITEMS.
      1. STRUCTURAL STEEL CONNECTIONS
      2. PREFABRICATED WOOD TRUSSES
   D. CONTRACTOR SHALL SUBMIT STRUCTURAL SHOP DRAWINGS FOR THE FOLLOWING ITEMS.
      1. CONCRETE MIX DESIGN AND MATERIALS
      2. CONCRETE REINFORCING STEEL
      3. STRUCTURAL STEEL
      4. PREFABRICATED WOOD TRUSSES
   E. PROVIDE A FINAL, "FOR CONSTRUCTION" SET OF ALL SHOP DRAWINGS TO THE ENGINEER OF RECORD PRIOR TO FABRICATION OR CONSTRUCTION OF THOSE ITEMS.
17. SPECIAL INSPECTIONS
   A. THE FOLLOWING MINIMUM ITEMS REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH THE BUILDING CODE.
      1. CONCRETE PLACING
      2. CONCRETE REINFORCING
      3. STEEL BOLTING
      4. STEEL WELDING
      5. BOLTS EMBEDDED IN CONCRETE / POST-INSTALLED ANCHORS
      6. ANCHOR RODS
      7. ROOF DIAPHRAGM ATTACHMENT
      8. SOIL VERIFICATION
      9. STEEL FRAME
   B. THE CONTRACTOR SHALL REQUEST SPECIAL INSPECTION OF THE ITEMS LISTED ABOVE PRIOR TO THOSE ITEMS BECOMING INACCESSIBLE AND UNOBSERVABLE DUE TO PROGRESSION OF THE WORK.

SCHEDULE OF MINIMUM SPECIAL INSPECTIONS

	INSPECTION FREQUENCY	
	CONTINUOUS	PERIODIC
REQUIRED VERIFICATION AND INSPECTION OF STRUCTURAL STEEL CONSTRUCTION		
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS:		
A. IDENTIFICATION MARKING TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	-	X
2. INSPECTION OF HIGH-STRENGTH BOLTING: (INSPECTION SHALL BE IN ACCORDANCE WITH AISC SPECIFICATIONS)		X
A. SNUG-TIGHT JOINTS.	-	X
B. PRE-TENSIONED AND SLIP-CRITICAL JOINTS USING THE TURN-OF-NUT WITH MATCHMARKING, TWIST-OFF BOLT DIRECT TENSION INDICATOR METHODS OF INSTALLATION.	-	X
C. PRE-TENSIONED AND SLIP-CRITICAL JOINTS USING THE CALIBRATED WRENCH OR TURN-OF-NUT METHOD WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION.	X	-
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:		
A. FOR STRUCTURAL STEEL, IDENTIFICATION MARKING TO CONFORM TO AISC 360.	-	X
B. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X
C. MANUFACTURERS' CERTIFIED TEST REPORTS.	-	X
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:		
A. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE.	-	X
5. INSPECTION OF WELDING: (WELDING INSPECTION SHALL BE IN COMPLIANCE WITH AWS D1.1)(IN COOPERATION WITH OWNER'S TESTING LAB)		
A. STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:		
1. COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS.	X	-
2. MULTIPASS FILLET WELDS.	X	-
3. SINGLE-PASS FILLET WELDS > 5/16.	X	-
4. PLUG AND SLOT WELDS.	X	-
5. SINGLE PASS FILLET WELDS ≤ 5/16.	-	X
6. FLOOR AND ROOF DECK WELDS.	-	X
B. REINFORCING STEEL:		
1. VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706.	-	X
2. REINFORCING STEEL-RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT.	X	-
3. SHEAR REINFORCEMENT.	X	-
4. OTHER REINFORCING STEEL.	-	X
6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE:		
A. DETAILS SUCH AS BRACING AND STIFFENING.	-	X
B. MEMBER LOCATIONS.	-	X
C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION.	-	X
7. INSPECTION OF COLD-FORMED STEEL TRUSSES SPANNING 60 FT OR GREATER:		
A. VERIFY TEMPORARY INSTALLATION RESTRAINT/BRACING AND THE PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING ARE INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE.	-	X
REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION		
1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT. VERIFY GRADE, SIZE, QUANTITY, AND SPACING OF REINFORCING BARS FOR COMPLIANCE WITH CONTRACT DOCUMENTS AS WELL AS APPROVED SHOP DRAWINGS. REPORT ANY NOTED CONFLICT BEFORE CONCRETE IS POURED SO THAT CORRECTIONS MAY BE MADE. (INSPECTION MAY BE PERIODIC BUT ALL REBAR TO BE INSPECTED).	X	-
2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.3 (REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION, INSPECTION OF WELDING, REINFORCING STEEL).	X	-
3. INSPECTION OF BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED.	X	-
4. INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE.	X	-
5. VERIFYING USE OF REQUIRED DESIGN MIX.	X	-
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X
9. INSPECTION OF PRESTRESSED CONCRETE:		
A. APPLICATION OF PRESTRESSING FORCES.	-	X
B. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC-FORCE-RESISTING SYSTEM.	-	X
10. ERECTION OF PRECAST CONCRETE MEMBERS.	-	X
11. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POSTTENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	-	X
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF CONCRETE MEMBER BEING FORMED.	-	X
REQUIRED VERIFICATION AND INSPECTION OF SOILS (IN COOPERATION WITH OWNERS' GEOTECHNICAL TESTING AGENCY)		
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X
3. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS.	-	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X



FLAT/HIP/GABLE 0° ≤ Θ ≤ 7°

COMPONENTS & CLADDING EXTERNAL PRESSURE ULTIMATE (LRFD) LOADS (PSF)

EFFECTIVE WIND AREA (SQ. FT.)	LOCATION PER ASCE 7-16					
	1	1'	2	3	4	5
≤ 10	16.0, -41.3	16.0, -23.7	23.7, -54.5	23.7, -54.5	23.7, -25.7	23.7, -31.6
20	16.0, -38.6	16.0, -23.7	22.7, -51.0	22.7, -51.0	22.7, -24.7	22.7, -29.5
50	16.0, -35.0	16.0, -23.7	21.3, -46.4	21.3, -46.4	21.3, -23.3	21.3, -26.8
≥100	16.0, -32.3	16.0, -23.7	20.2, -42.9	20.2, -42.9	20.2, -22.2	20.2, -24.7

NOTES:
1. a = 10% OF LEAST HORIZONTAL DIMENSION OR 0.4h, WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 4% OF THE LEAST HORIZONTAL DIMENSION OR 3 FT.
2. WIND LOADS ARE ULTIMATE (LRFD) LOADS. FOR ALLOWABLE STRESS DESIGN MULTIPLY LOADS PROVIDED BY 0.6.
3. LOADING PROVIDED IS FOR WORST CASE ROOF HEIGHT. DELEGATED DESIGNERS MAY RECALCULATE LOADS FOR SPECIFIC COMPONENT HEIGHTS USING PARAMETERS SPECIFIED.
4. PRESSURES SHOWN ARE APPLIED NORMAL TO THE SURFACE.
5. PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE SURFACES, RESPECTIVELY.
6. EACH COMPONENT MUST BE DESIGNED FOR MAXIMUM POSITIVE AND NEGATIVE FORCES.
7. FOR COMPONENTS HAVING EFFECTIVE AREAS IN BETWEEN THE TABULATED VALUES, DESIGN LOADS MAY BE INTERPOLATED. OTHERWISE DESIGN LOAD MUST BE TAKEN FROM THE NEXT LOWEST EFFECTIVE AREA.
8. INTERNAL PRESSURE FOR ENCLOSED BUILDING IS INCLUDED IN ABOVE VALUES.
9. THE NET C&C PRESSURE (INCLUDING INTERNAL PRESSURE) FOR ANY COMPONENT SHALL NOT BE TAKEN LESS THAN 16 PSF ACTING IN EITHER DIRECTION NORMAL TO THE SURFACE.
10. PARAPET PRESSURES ARE NOT SHOWN ABOVE. DELEGATED DESIGN ENGINEERS SHALL CALCULATE PARAPET PRESSURES IN ACCORDANCE WITH ASCE 7-16 USING CRITERIA ABOVE TO DETERMINE DESIGN LOADS FOR USE IN THEIR DESIGN AND SUBMIT CALCULATIONS.

HATCH PATTERN KEY

= CONCRETE IN SECTION
= EARTH IN SECTION
= EPOXY IN SECTION
= EXISTING IN PLAN AND SECTION
= GRANULAR FILL IN SECTION
= GRATING IN PLAN AND SECTION
= GROUT IN SECTION
= INSULATION IN SECTION
= PLYWOOD IN SECTION
= SNOW DRIFT LOADING IN PLAN
= STEEL IN SECTION
= TOPPING IN SECTION
= WOOD END GRAIN IN SECTION
= WOOD FACE GRAIN IN SECTION

WALL TYPE KEY

= LOAD BEARING WALL
= NON-LOAD BEARING WALL
= SHEAR WALL

STANDARD ABBREVIATIONS

ALT.	ALTERNATE
A.B.	ANCHOR BOLT
ARCH.	ARCHITECT
@	AT
BM.	BEAM
BOT.	BOTTOM
B.O.	BOTTOM OF
BLDG.	BUILDING
CL.	CENTER LINE
CLR.	CLEAR
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONT.	CONTINUOUS
C.J.	CONTROL JOINT
DET.	DETAIL
DIA.	DIAMETER
DIM.	DIMENSION
DWG(S)	DRAWING(S)
EA.	EACH
ELEV.	ELEVATION
EL.	ELEVATION
EQ.	EQUAL
EQUIP.	EQUIPMENT
EXIST.	EXISTING
EXT.	EXTERIOR
F.S.	FAR SIDE
FIN.	FINISH
FLR.	FLOOR
FTG.	FOOTING
FOUND.	FOUNDATION
GALV.	GALVANIZED
GYP.	GYPSUM
H.S.	HEADED STUD
HI	HIGH
HORIZ.	HORIZONTAL
INSUL.	INSULATION
INT.	INTERIOR
LOC.	LOCATION
LLH	LONG LEG HORIZONTAL
LLO	LONG LEG OUT
LLV	LONG LEG VERTICAL
LONG.	LONGITUDINAL
LO	LOW
MSRY.	MASONRY
MAX.	MAXIMUM
MECH.	MECHANICAL
MIN.	MINIMUM
MIR.	MIRRORED
N.S.	NEAR SIDE
N.A.	NOT APPLICABLE
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
OPNG.	OPENING
PL.	PLATE
R.	RADIUS
RE:	REFERENCE
REINF.	REINFORCING
REQ'D	REQUIRED
SCHED.	SCHEDULE
SEC.	SECTION
SHT.	SHEET
SIM.	SIMILAR
SQ.	SQUARE
S.S.	STAINLESS STEEL
STL.	STEEL
T&B	TOP & BOTTOM
T.O.	TOP OF
TRANS.	TRANSVERSE
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
W/	WITH
W/O	WITHOUT

PLAN SYMBOL KEY

F? = FOOTING TYPE (REFER TO FOOTING SCHEDULE)
C? = COLUMN TYPE (REFER TO COLUMN SCHEDULE)
W? = WALL TYPE (REFER TO WALL SCHEDULE)
SW? = SHEAR WALL TYPE (REFER TO SHEAR WALL SCHEDULE)
CW? = CONCRETE WALL TYPE (REFER TO CONCRETE WALL SCHEDULE)
MW? = MASONRY WALL TYPE (REFER TO MASONRY WALL SCHEDULE)
= SHEAR WALL HOLDOWN
= MOMENT FRAME CONNECTION
= BEAM SPLICE CONNECTION

10 K — W18X35 (30) C=0.75 — 10 K
CAMBER (INCHES)
NUMBER OF SHEAR STUDS
BEAM SIZE
REACTION EACH END

DS? XXX'-XX" — TOP OF DRILLED SHAFT ELEVATION
XXX'-XX" — ESTIMATED BOTTOM OF DRILLED SHAFT ELEVATION
DRILLED SHAFT TYPE (REFER TO DRILLED SHAFT SCHEDULE)

collins | webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH
3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

PROFESSIONAL SEAL

S001

ISSUE DATE: 16 JUNE 2025
COLLINS WEBB #: 23114

GENERAL NOTES

6/16/2025 4:54:25 PM

DIVISION 03 - CONCRETE

SECTION 033000
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 Section Includes

A. Concrete formwork.
B. Floors and slabs on grade.
C. Concrete foundation walls.
D. Concrete reinforcement.
E. Joint devices associated with concrete work.
F. Concrete curing.

1.02 Related Requirements

A. Section 033511 - Concrete Floor Finishes: Densifiers, hardeners, applied coatings, and polishing.
B. Section 079200 - Joint Sealants: Products and installation for sealants and joint fillers for saw cut joints and isolation joints in slabs.

1.03 Reference Standards

A. ACI CODE-318 - Building Code Requirements for Structural Concrete and Commentary; 2019 (Reapproved 2022).
B. ACI PRC-211.1 - Selecting Proportions for Normal-Density and High Density-Concrete - Guide; 2022.
C. ACI PRC-302.1 - Guide to Concrete Floor and Slab Construction; 2015.
D. ACI PRC-304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000 (Reapproved 2009).
E. ACI PRC-305 - Guide to Hot Weather Concreting; 2020.
F. ACI PRC-306 - Guide to Cold Weather Concreting; 2016.
G. ACI PRC-308 - Guide to External Curing of Concrete; 2016.
H. ACI PRC-347 - Guide to Formwork for Concrete; 2014 (Reapproved 2021).
I. ACI SPEC-117 - Specification for Tolerances for Concrete Construction and Materials; 2010 (Reapproved 2015).
J. ACI SPEC-301 - Specifications for Concrete Construction; 2020.
K. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2022.
L. ASTM A775/A775M - Standard Specification for Epoxy-Coated Steel Reinforcing Bars; 2022.
M. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2022.
N. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2023.
O. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2023.
P. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 50 mm [2 in.] Cube Specimens); 2023.
Q. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete; 2020.
R. ASTM C150/C150M - Standard Specification for Portland Cement; 2022.
S. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2023.
T. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2010a (Reapproved 2016).
U. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2019.
V. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2019, with Editorial Revision (2022).
W. ASTM C618 - Standard Specification for Coal Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2023, with Editorial Revision.
X. ASTM C881/C881M - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete; 2020a.
Y. ASTM C989/C989M - Standard Specification for Slag Cement for Use in Concrete and Mortars; 2024.
Z. ASTM C1107/C1107M - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink); 2020.
AA. ASTM C1240 - Standard Specification for Silica Fume Used in Cementitious Mixtures; 2020.
BB. ASTM C1315 - Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete; 2019.
CC. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete; 2022.
DD. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types); 2023.
EE. ASTM D2103 - Standard Specification for Polyethylene Film; 2023a.
FF. ASTM D3963/D3963M - Standard Specification for Fabrication and Jobsite Handling of Epoxy-Coated Steel Reinforcing Bars; 2021.
GG. ASTM E1155 - Standard Test Method for Determining FF Floor Flatness and FL Floor Levelness Numbers; 2020.
HH. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs; 2018a.
II. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs; 2017 (Reapproved 2023).
JJ. COE CRD-C 572 - Handbook for Concrete and Cement Corps of Engineers Specifications for Polyvinylchloride Waterstop; 1974.
KK. ICRI 310.2R - Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair; 2013.

1.04 Submittals

A. See Section 013000 - Administrative Requirements for submittal procedures.
B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.
   1. For curing compounds, provide data on method of removal in the event of incompatibility with floor covering adhesives.
   2. For membrane-forming, moisture emission-reducing, curing and sealing compound, provide manufacturer's installation instructions,.
C. Mix Design: Submit proposed concrete mix design.
   1. Indicate proposed mix design complies with requirements of ACI SPEC-301, Section 4 - Concrete Mixtures.
   2. Indicate proposed mix design complies with requirements of ACI CODE-318, Chapter 5 - Concrete Quality, Mixing and Placing.
   3. Indicate proposed mix design complies with admixture manufacturer's written recommendations.
D. Samples: Submit samples of underslab vapor retarder to be used.
E. Test Reports: Submit report for each test or series of tests specified.
F. Manufacturer's Installation Instructions: For concrete accessories, indicate installation procedures and interface required with adjacent construction.
G. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

1.05 Quality Assurance

A. Perform work of this section in accordance with ACI SPEC-301 and ACI CODE-318.
   1. Maintain one copy of each document on site.
B. Follow recommendations of ACI PRC-305 when concreting during hot weather.
C. Follow recommendations of ACI PRC-306 when concreting during cold weather.

PART 2 PRODUCTS

2.01 Formwork

A. Formwork Design and Construction: Comply with guidelines of ACI PRC-347 to provide formwork that will produce concrete complying with tolerances of ACI SPEC-117.
B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
   1. Form Facing for Exposed Finish Concrete: Contractor's choice of materials that will provide smooth, stain-free final appearance.
   2. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.
   3. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches (38 mm) of concrete surface.

2.02 Reinforcement Materials

A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi) (420 MPa).
   1. Type: Deformed billet-steel bars.
   2. Finish: Unfinished, unless otherwise indicated.
   3. Finish: Epoxy coated in accordance with ASTM A775/A775M.
B. Steel Welded Wire Reinforcement (WWR): Galvanized, plain type, ASTM A1064/A1064M.
C. Reinforcement Accessories:
   1. Tie Wire: Annealed, minimum 16 gauge, 0.0508 inch (1.29 mm).
   2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.
   3. Provide stainless steel, galvanized, plastic, or plastic coated steel components for placement within 1-1/2 inches (38 mm) of weathering surfaces.
   4. Coupler Systems: Mechanical devices for splicing reinforcing bars; capable of developing full steel reinforcing design strength in tension and compression.

2.03 Concrete Materials

A. Cement: ASTM C150/C150M, Type I - Normal Portland type.
   1. Acquire cement for entire project from same source.
B. Fine and Coarse Aggregates: ASTM C33/C33M.
   1. Acquire aggregates for entire project from same source.
C. Fly Ash: ASTM C618, Class C or F.
D. Ground Granulated Blast Furnace Slag: ASTM C989/C989M.
E. Silica Fume: ASTM C1240, proportioned in accordance with ACI PRC-211.1.
F. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

2.04 Admixtures

A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
B. Air Entrainment Admixture: ASTM C260/C260M.
C. High Range Water Reducing and Retarding Admixture: ASTM C494/C494M Type G.
D. High Range Water Reducing Admixture: ASTM C494/C494M Type F.
E. Water Reducing and Accelerating Admixture: ASTM C494/C494M Type E.
F. Water Reducing and Retarding Admixture: ASTM C494/C494M Type D.
G. Accelerating Admixture: ASTM C494/C494M Type C.
H. Retarding Admixture: ASTM C494/C494M Type B.
I. Water Reducing Admixture: ASTM C494/C494M Type A.

2.05 Accessory Materials

A. Underslab Vapor Retarder:
   1. Sheet Material: ASTM E1745, Class A; stated by manufacturer as suitable for installation in contact with soil or granular fill under concrete slabs. Single-ply polyethylene is prohibited.
   2. Accessory Products: Vapor retarder manufacturer's recommended tape, adhesive, mastic, prefabricated boots, etc., for sealing seams and penetrations.
   3. Products:
      a. Henry Company; Moistop Ultra 15: www.henry.com/#sle.
      b. Stego Industries, LLC; 15 mil: www.stegoindustries.com/#sle.
      c. W. R. Meadows, Inc; PERMINATOR Class A - 15 mils (0.38 mm): www.wrmeadows.com/#sle.
B. Non-Shrink Cementitious Grout: Premixed compound consisting of nonmetallic aggregate, cement, water reducing and plasticizing agents.
   1. Grout: Comply with ASTM C1107/C1107M.
   2. Minimum Compressive Strength at 48 Hours: 2,000 pounds per square inch (13.7 MPa).
   3. Minimum Compressive Strength at 28 Days: 7,000 pounds per square inch (48 MPa).
   4. Products containing aluminum powder are not permitted.

2.06 Bonding and Jointing Products

A. Epoxy Bonding System:
   1. Complying with ASTM C881/C881M and of Type required for specific application.
   2. Products:
      a. Euclid Chemical Company; DURALFLEX GEL: www.euclidchemical.com/#sle.
      b. SpecChem, LLC; SpecPoxy 1000, SpecPoxy 2000, SpecPoxy 3000, or SpecPoxy 3000FS: www.specchemllc.com/#sle.
      c. W. R. Meadows, Inc; Rezi-Weld Gel Paste, Rezi-Weld Gel Paste State, Rezi-Weld 1000: www.wrmeadows.com/#sle.
B. Waterstops: PVC, complying with COE CRD-C 572.
   1. Configuration: Ribbed with center bulb.
   2. Size: 6 inches by 3/8 inch thick; nontapered.
C. Waterstops: Synthetic rubber; swells to 1000 percent of original size in clean water.
   1. Configuration: Rectangular or trapezoidal strip, bentonite-free hydrophilic polymer-modified chloroprene rubber, for adhesive bonding to concrete.
   2. Size: 3/8 by 3/4 inch.
D. Slab Isolation Joint Filler: 1/2-inch (13 mm) thick, height equal to slab thickness, with removable top section forming 1/2-inch (13 mm) deep sealant pocket after removal.
   1. Material: ASTM D1751, cellulose fiber.
   2. Products:
      a. Nomaco, Inc; Nomaflex Expansion Joint Filler with Void Cap Option: www.nomaco.com/#sle.
      b. W. R. Meadows, Inc; Fibre Expansion Joint: www.wrmeadows.com/#sle.
      c. W. R. Meadows, Inc; X-Foam: www.wrmeadows.com/#sle.
E. Slab Construction Joint Devices: Combination keyed joint form and screed, galvanized steel, with rectangular or round knockout holes for conduit or rebar to pass through joint form at 6 inches (150 mm) on center; ribbed steel stakes for setting.

2.07 Curing Materials

A. Evaporation Reducer: Liquid thin-film-forming compound that reduces rapid moisture loss caused by high temperature, low humidity, and high winds; intended for application immediately after concrete placement.
   1. Products:
      a. Euclid Chemical Company ; EUCOBAR: www.euclidchemical.com/#sle.
      b. SpecChem, LLC; SpecFilm Concentrate or SpecFilm: www.specchemllc.com/#sle.
      c. W. R. Meadows, Inc; Evapre or Evapre-RTU: www.wrmeadows.com/#sle.
B. Curing Compound, Naturally Dissipating: Clear, water-based, liquid membrane-forming compound; complying with ASTM C309.
   1. Product dissipates within 4 to 6 weeks.
   2. Products:
      a. Euclid Chemical Company; COLOR-CRETE CURE AND SEAL VOC: www.euclidchemical.com/#sle.
      b. SpecChem, LLC; SpecRez: www.specchemllc.com/#sle.
      c. W. R. Meadows, Inc; 1100: www.wrmeadows.com/#sle.
C. Curing and Sealing Compound, Moisture Emission-Reducing, Membrane-Forming: Clear, liquid sealer for application to newly-placed concrete; capable of providing adequate bond for flooring adhesives, initially and over the long term; with sufficient moisture vapor impermeability to prevent deterioration of flooring adhesives due to moisture emission.
   1. Use this product to cure and seal all slabs to receive adhesively applied flooring or roofing.
   2. Comply with ASTM C309 and ASTM C1315 Type I Class A.
   3. VOC Content: Less than 100 g/L.
   4. Solids Content: 25 percent, minimum.
D. Polyethylene Film: ASTM D2103, 4 mil, 0.004 inch (0.102 mm) thick, clear.
E. Water: Potable, not detrimental to concrete.

2.08 Concrete Mix Design

A. Proportioning Normal Weight Concrete: Comply with ACI PRC-211.1 recommendations.
B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI SPEC-301.
   1. For trial mixtures method, employ independent testing agency acceptable to Architect for preparing and reporting proposed mix designs.
C. Admixtures: Add acceptable admixtures as recommended in ACI PRC-211.1 and at rates recommended or required by manufacturer.
D. Normal Weight Concrete: for footings, grade beams, tie beams, walls.
   1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: 4,000 pounds per square inch (27.6 MPa).
   2. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.
   3. Silica Fume Content: Maximum 5 percent of cementitious materials by weight.
   4. Water-Cement Ratio: Maximum 45 percent by weight.
   5. Total Air Content: 6 percent plus or minus 1.5 percent at point of delivery, determined in accordance with ASTM C173/C173M.
   6. Maximum Slump: 8 inches, plus or minus 1 inch for concrete with verified slump 3 inches (75 mm) plus or minus 1 inch before adding water-reducing admixture or plasticizing admixture at Project Site.
   7. Maximum Nominal Aggregate Size: 3/4 inch (19 mm).
   8. Maximum Dry Shrinkage in Accordance with ASTM C157: 0.05%

2.09 Mixing

A. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the amount held out at the plant.

PART 3 EXECUTION

3.01 Examination

A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 Preparation

A. Formwork: Comply with requirements of ACI SPEC-301. Design and fabricate forms to support all applied loads until concrete is cured and for easy removal without damage to concrete.
B. Verify that forms are clean and free of rust before applying release agent.
C. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.
D. Prepare existing concrete surfaces to be repaired according to ICRI 310.2R.
E. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning and applying bonding agent in according to bonding agent manufacturer's instructions.
   1. Use epoxy bonding system for bonding to damp surfaces, for structural load-bearing applications, and where curing under humid conditions is required.
F. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.
G. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Comply with ASTM E1643. Lap joints minimum 6 inches (150 mm). Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.
   1. Vapor Retarder Over Granular Fill: Install compactible granular fill before placing vapor retarder as indicated on drawings. Do not use sand.

3.03 Installing Reinforcement and Other Embedded Items

A. Fabricate and handle epoxy-coated reinforcing in accordance with ASTM D3963/D3963M.
B. Comply with requirements of ACI SPEC-301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.
C. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.
D. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.

3.04 Placing Concrete

A. Place concrete in accordance with ACI PRC-304.
B. Place concrete for floor slabs in accordance with ACI PRC-302.1.
C. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
D. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.
E. Place concrete continuously without construction (cold) joints wherever possible; where construction joints are necessary, before next placement prepare joint surface by removing laitance and exposing the sand and sound surface mortar, by sandblasting or high-pressure water jetting.
F. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

3.05 Slab Jointing

A. Locate joints as indicated on drawings.
B. Anchor joint fillers and devices to prevent movement during concrete placement.
C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.
   1. Install wherever necessary to separate slab from other building members, including columns, walls, equipment foundations, footings, stairs, manholes, sumps, and drains.
D. Saw Cut Contraction Joints: Saw cut joints before concrete begins to cool, within 4 to 12 hours after placing; use 3/16 inch (5 mm) thick blade and cut at least 1 inch (25 mm) deep but not less than one quarter (1/4) the depth of the slab.
E. Construction Joints: Where not otherwise indicated, use metal combination screed and key form, with removable top section for joint sealant.

3.06 Floor Flatness and Levelness Tolerances

A. An independent testing agency, as specified in Section 014000, will inspect finished slabs for compliance with specified tolerances.
B. Minimum F(F) Floor Flatness and F(L) Floor Levelness Values:
   1. Exposed to View and Foot Traffic: F(F) of 20; F(L) of 15.
   2. Under Thick-Bed Tile: F(F) of 20; F(L) of 15.
   3. Under Carpeting: F(F) of 25; F(L) of 20.
   4. Under Thin Resilient Flooring and Thinset Tile: F(F) of 35; F(L) of 25.
C. Measure F(F) Floor Flatness and F(L) Floor Levelness in accordance with ASTM E1155, within 48 hours after slab installation; report both composite overall values and local values for each measured section.
D. Correct the slab surface if composite overall value is less than specified and if local value is less than two-thirds of specified value or less than F(F) 13/F(L) 10.
E. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.07 Concrete Finishing

A. Repair surface defects, including tie holes, immediately after removing formwork.
B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch (6 mm) or more in height.
C. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch (6 mm) or more in height. Provide finish as follows:
   1. Smooth Rubbed Finish: Wet concrete and rub with carborundum brick or other abrasive, not more than 24 hours after form removal.
D. Concrete Slabs: Finish to requirements of ACI PRC-302.1 and as follows:
   1. Surfaces to Receive Thick Floor Coverings: "Wood float" as described in ACI PRC-302.1; thick floor coverings include quarry tile, ceramic tile, and Portland cement terrazzo with full bed setting system.
   2. Surfaces to Receive Thin Floor Coverings: "Steel trowel" as described in ACI PRC-302.1; thin floor coverings include carpeting, resilient flooring, seamless flooring, resinous matrix terrazzo, thin set quarry tile, and thin set ceramic tile.
   3. Decorative Exposed Surfaces: Trowel as described in ACI PRC-302.1; take measures necessary to avoid black-burnish marks; decorative exposed surfaces include surfaces to be stained or dyed, pigmented concrete, surfaces to receive liquid hardeners, surfaces to receive dry-shake hardeners, surfaces to be polished, and all other exposed slab surfaces.
E. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains at 1:100 nominal.

3.08 Curing and Protection

A. Comply with requirements of ACI PRC-308. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
   1. Normal concrete: Not less than seven days.
C. Surfaces Not in Contact with Forms:
   1. Slabs and Floors To Receive Adhesive-Applied Flooring: Curing compounds and other surface coatings are usually considered unacceptable by flooring and adhesive manufacturers. If such materials must be used, either obtain the approval of the flooring and adhesive manufacturers prior to use or remove the surface coating after curing to flooring manufacturer's satisfaction.
   2. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
   3. Final Curing: Begin after initial curing but before surface is dry.
      a. Moisture-Retaining Sheet: Lap strips not less than 3 inches (75 mm) and seal with waterproof tape or adhesive; secure at edges.
      b. Curing Compound: Apply in two coats at right angles, using application rate recommended by manufacturer.

3.09 Field Quality Control

A. An independent testing agency will perform field quality control tests, as specified in Section 014000 - Quality Requirements.
B. Provide free access to concrete operations at project site and cooperate with appointed firm.
C. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.
D. Tests of concrete and concrete materials may be performed at any time to ensure compliance with specified requirements.
E. Compressive Strength Tests: ASTM C39/C39M, for each test, mold and cure five concrete test cylinders. Obtain test samples for every 50 cubic yards (38 cu m) or less of each class of concrete placed.
F. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.
G. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C143/C143M.

3.10 Defective Concrete

A. Test Results: The testing agency shall report test results in writing to Architect, Engineer, and Contractor within 24 hours of test.
B. Defective Concrete: Concrete not complying with required lines, details, dimensions, tolerances or specified requirements.
C. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.
D. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect for each individual area.

3.11 Protection

A. Do not permit traffic over unprotected concrete floor surface until fully cured.

END OF SECTION 033000

DIVISION 05 - METALS

SECTION 051200
STRUCTURAL STEEL FRAMING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Structural steel framing members.
B. Structural steel support members and struts.
C. Base plates, expansion joint plates.
D. Grouting under base plates.

collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH
3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ADAM CHRISTOPHER HOYKANE
NUMBER A-2007211
PROFESSIONAL ENGINEER
06/16/25
PROFESSIONAL SEAL

S002

ISSUE DATE: 16 JUNE 2025
COLLINS WEBB #: 23114

SPECIFICATIONS

6/16/2025 4:54:25 PM

1.02 RELATED REQUIREMENTS

A. Section 055000 - Metal Fabrications: Steel fabrications affecting structural steel work.

1.03 REFERENCE STANDARDS

A. AISC (MAN) - Steel Construction Manual; 2023, with Errata (2024).

B. AISC 303 - Code of Standard Practice for Steel Buildings and Bridges; 2022.

C. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.

D. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2022.

E. ASTM A108 - Standard Specification for Steel Bar, Carbon and Alloy, Cold-Finished; 2018.

F. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2017.

G. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2023.

H. ASTM A563/A563M - Standard Specification for Carbon and Alloy Steel Nuts (Inch and Metric); 2021a.

I. ASTM A992/A992M - Standard Specification for Structural Steel Shapes; 2022.

J. ASTM E94/E94M - Standard Guide for Radiographic Examination Using Industrial Radiographic Film; 2017.

K. ASTM E164 - Standard Practice for Contact Ultrasonic Testing of Weldments; 2019.

L. ASTM E165/E165M - Standard Practice for Liquid Penetrant Testing for General Industry; 2023.

M. ASTM E709 - Standard Guide for Magnetic Particle Testing; 2021.

N. ASTM F436/F436M - Standard Specification for Hardened Steel Washers Inch and Metric Dimensions; 2019.

O. ASTM F1554 - Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength; 2020.

P. ASTM F3125/F3125M - Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength; 2023.

Q. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; 2020.

R. AWS B2.1/B2.1M - Specification for Welding Procedure and Performance Qualification; 2021, with Errata (2023).

S. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2020, with Errata (2023).

T. IAS AC172 - Accreditation Criteria for Fabricator Inspection Programs for Structural Steel AC172; 2019.

U. RCSC (HSBOLT) - Specification for Structural Joints Using High-Strength Bolts; Research Council on Structural Connections; 2020.

V. SSPC-SP 2 - Hand Tool Cleaning; 2024.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings:
1. Indicate profiles, sizes, spacing, locations of structural members, openings, attachments, and fasteners.
2. Connections.
3. Indicate cambers and loads.
4. Indicate welded connections with AWS A2.4 welding symbols. Indicate net weld lengths.

C. Manufacturer's Mill Certificate: Certify that products meet or exceed specified requirements.

D. Mill Test Reports: Indicate structural strength, destructive test analysis and non-destructive test analysis.

E. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated no more than 12 months before start of scheduled welding work.

F. Designer's Qualification Statement.

G. Fabricator's Qualification Statement.

1.05 QUALITY ASSURANCE

A. Fabricate structural steel members in accordance with AISC (MAN) "Steel Construction Manual."

B. Maintain one copy of each document on site.

C. Welder Qualifications: Welding processes and welding operators qualified in accordance with AWS D1.1/D1.1M and no more than 12 months before start of scheduled welding work.

D. Fabricator Qualifications: A qualified steel fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category BU or is accredited by the International Accreditation Service (IAS) Fabricator Inspection Program for Structural Steel in accordance with IAS AC172.

E. Erector: Company specializing in performing the work of this section with minimum 5 years of documented experience, participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector, Category CSE .

F. Design connections not fully detailed on drawings under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located.

PART 2 PRODUCTS

2.01 MATERIALS

A. Steel Angles and Plates: ASTM A36/A36M.

B. Steel W Shapes and Tees: ASTM A992/A992M.

C. Rolled Steel Structural Shapes: ASTM A992/A992M.

D. Cold-Formed Structural Tubing: ASTM A500/A500M, Grade B.

E. Pipe: ASTM A53/A53M, Grade B, Finish black.

F. Shear Stud Connectors: Made from ASTM A108 Grade 1015 bars.

G. High-Strength Structural Bolts, Nuts, and Washers: A325 or A490 ASTM F3125/F3125M, Type 1, with matching compatible ASTM A563/A563M nuts and ASTM F436/F436M washers. As required by design.

H. Tension Control Bolts: Twist-off type; ASTM F3125/F3125M.

I. Unheaded Anchor Rods: ASTM F1554, Grade 36, plain, with matching ASTM A563/A563M nuts and ASTM F436/F436M Type 1 washers.

J. Headed Anchor Rods: ASTM F1554 Grade 36, plain.

K. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.

L. Grout: ASTM C1107/C1107M; Non-shrink; premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents.
1. Minimum Compressive Strength at 48 Hours: 2,000 pounds per square inch (13.7 MPa).
2. Minimum Compressive Strength at 28 Days: 7,000 pounds per square inch (48 MPa).

M. Shop and Touch-Up Primer: Fabricator's standard, complying with VOC limitations of authorities having jurisdiction.

N. Touch-Up Primer for Galvanized Surfaces: Fabricator's standard, complying with VOC limitations of authorities having jurisdiction.

2.02 FABRICATION

A. Shop fabricate to greatest extent possible.

B. Continuously seal joined members by continuous welds. Grind exposed welds smooth.

C. Fabricate connections for bolt, nut, and washer connectors.

D. Develop required camber for members.

2.03 FINISH

A. Prepare structural component surfaces in accordance with SSPC-SP 2.

B. Shop prime structural steel members. Do not prime surfaces that will be fireproofed, field welded, or in contact with concrete.

C. Galvanize structural steel members at exterior locations to comply with ASTM A123/A123M.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that conditions are appropriate for erection of structural steel and that the work may properly proceed.

3.02 ERECTION

A. Erect structural steel in compliance with AISC 303.

B. Allow for erection loads and provide sufficient temporary bracing to maintain structure in safe condition, plumb, and in true alignment until completion of erection and installation of permanent bracing.

C. Field weld components indicated on shop drawings.

D. Do not field cut or alter structural members without approval of Architect and Engineer.

E. After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete.

F. Grout solidly between column plates and bearing surfaces, complying with manufacturer's instructions for nonshrink grout. Trowel grouted surfaces smooth, splaying neatly to 45 degrees.

3.03 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch (6 mm) per story, non-cumulative.

B. Maximum Offset From True Alignment: 1/4 inch (6 mm).

3.04 FIELD QUALITY CONTROL

A. High-Strength Bolts: Provide testing and verification of field-bolted connections in accordance with RCSC (HSBOLT) "Specification for Structural Joints Using High-Strength Bolts."

B. Welded Connections: Visually inspect all field-welded connections and test at least 25 percent of welds using one of the following:
1. Radiographic testing performed in accordance with ASTM E94/E94M.
2. Ultrasonic testing performed in accordance with ASTM E164.
3. Liquid penetrant inspection performed in accordance with ASTM E165/E165M.
4. Magnetic particle inspection performed in accordance with ASTM E709.

END OF SECTION 051200

SECTION 055000
METAL FABRICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Shop fabricated steel items.

1.02 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete: Placement of metal fabrications in concrete.

B. Section 051200 - Structural Steel Framing: Structural steel column anchor bolts.

1.03 REFERENCE STANDARDS

A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.

B. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2022.

C. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2017.

D. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2023.

E. ASTM F3125/F3125M - Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength; 2023.

F. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; 2020.

G. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2020, with Errata (2023).

H. AWS D1.2/D1.2M - Structural Welding Code - Aluminum; 2014, with Errata (2020).

I. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer; 2004.

J. SSPC-Paint 20 - Zinc-Rich Coating (Type I - Inorganic, and Type II - Organic); 2019.

K. SSPC-SP 2 - Hand Tool Cleaning; 2024.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
1. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
2. Design data: Submit drawings and supporting calculations, signed and sealed by a qualified professional structural engineer.
   a. Include the following, as applicable:
      1) Design criteria.
      2) Engineering analysis depicting stresses and deflections.
      3) Member sizes and gauges.
      4) Details of connections.
      5) Support reactions.
      6) Bracing requirements.

C. Designer's Qualification Statement.

1.05 QUALITY ASSURANCE

A. Design stairs, handrails, guardrails, and ladders under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located.

B. Welder Qualifications: Welding processes and welding operators qualified in accordance with AWS D1.1/D1.1M and AWS D1.2/D1.2M and dated no more than 12 months before start of scheduled welding work.

PART 2 PRODUCTS

2.01 MATERIALS - STEEL

A. Steel Sections: ASTM A36/A36M.

B. Steel Tubing: ASTM A500/A500M Grade B cold-formed structural tubing.

C. Plates: ASTM A36/A36M.

D. Pipe: ASTM A53/A53M, Grade B Schedule 40, black finish.

E. Bolts, Nuts, and Washers: ASTM F3125/F3125M, Type 1, plain.

F. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.

G. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.

H. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

2.02 FABRICATION

A. Fit and shop assemble items in largest practical sections, for delivery to site.

B. Fabricate items with joints tightly fitted and secured.

C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

D. Furnish components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.03 FABRICATED ITEMS

A. Ledge Angles, Shelf Angles, Channels, and Plates Not Attached to Structural Framing: For support of masonry; galvanized finish.

B. Lintels: As detailed; galvanized finish.

C. Elevator Hoistway Divider Beams: Beam sections; prime paint finish.

D. Toilet Partition Suspension Members: Steel angle sections; prime paint finish.

2.04 FINISHES - STEEL

A. Prime paint steel items.
1. Exceptions: Galvanize items to be embedded in concrete and items to be embedded in masonry.
2. Exceptions: Do not prime surfaces in direct contact with concrete, where field welding is required, and items to be covered with sprayed fireproofing.

B. Prepare surfaces to be primed in accordance with SSPC-SP2.

C. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.

D. Prime Painting: One coat.

E. Galvanizing of Structural Steel Members: Galvanize after fabrication to ASTM A123/A123M requirements. Provide minimum 1.7 oz/sq ft galvanized coating. (Provide minimum 530 g/sq m galvanized coating.)

F. Galvanizing of Non-structural Items: Galvanize after fabrication to ASTM A123/A123M requirements.

2.05 FABRICATION TOLERANCES

A. Squareness: 1/8 inch (3 mm) maximum difference in diagonal measurements.

B. Maximum Offset Between Faces: 1/16 inch (1.5 mm).

C. Maximum Misalignment of Adjacent Members: 1/16 inch (1.5 mm).

D. Maximum Bow: 1/8 inch (3 mm) in 48 inches (1.2 m).

E. Maximum Deviation From Plane: 1/16 inch (1.5 mm) in 48 inches (1.2 m).

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

3.02 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

B. Furnish setting templates to the appropriate entities for steel items required to be cast into concrete or embedded in masonry.

3.03 INSTALLATION

A. Install items plumb and level, accurately fitted, free from distortion or defects.

B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.

C. Perform field welding in accordance with AWS D1.1/D1.1M.

D. Obtain approval prior to site cutting or making adjustments not scheduled.

E. After erection, prime welds, abrasions, and surfaces not shop primed , except surfaces to be in contact with concrete.

3.04 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch (6 mm) per story, non-cumulative.

B. Maximum Offset From True Alignment: 1/4 inch (6 mm).

C. Maximum Out-of-Position: 1/4 inch (6 mm).

END OF SECTION 055000

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

SECTION 061000
ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Structural dimension lumber framing.

B. Rough opening framing for doors, windows, and roof openings.

C. Sheathing.

D. Subflooring.

E. Preservative treated wood materials.

F. Miscellaneous framing and sheathing.

G. Communications and electrical room mounting boards.

H. Concealed wood blocking, nailers, and supports.

I. Miscellaneous wood nailers, furring, and grounds.

1.02 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete: Setting anchors in concrete.

B. Section 051200 - Structural Steel Framing: Prefabricated beams and columns for support of wood framing.

C. Section 055000 - Metal Fabrications: Miscellaneous steel connectors and support angles for wood framing.

D. Section 061753 - Shop-Fabricated Wood Trusses.

E. Section 072500 - Weather Barriers: Water-resistive barrier over sheathing.

F. Section 076200 - Sheet Metal Flashing and Trim: Sill flashings.

G. Section 092116 - Gypsum Board Assemblies: Gypsum-based sheathing.

1.03 REFERENCE STANDARDS

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.

B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.

C. ASTM D3498 - Standard Specification for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor System Framing; 2019a.

D. AWPA U1 - Use Category System: User Specification for Treated Wood; 2024.

E. PS 2 - Performance Standard for Wood Structural Panels; 2018.

F. PS 20 - American Softwood Lumber Standard; 2025.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Structural Composite Lumber: Submit manufacturer's published structural data including span tables, marked to indicate which sizes and grades are being used; if structural composite lumber is being substituted for dimension lumber or timbers, submit grading agency structural tables marked for comparison.

C. Manufacturer's Certificate: Certify that wood products supplied for rough carpentry meet or exceed specified requirements.

1.05 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

B. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, and installation.

1.06 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
1. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
2. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
3. Lumber of other species or grades is acceptable provided structural and appearance characteristics are equivalent to or better than products specified.

B. Provide sustainably harvested wood.

2.02 DIMENSION LUMBER

A. Sizes: Nominal sizes as indicated on drawings, S4S.

B. Moisture Content: S-dry or MC19.

2.03 STRUCTURAL COMPOSITE LUMBER

A. Structural Composite Lumber: Factory fabricated beams, headers, and columns, of sizes and types indicated on drawings; structural capacity as published by manufacturer.

2.04 CONSTRUCTION PANELS

A. Subflooring: Oriented strand board wood structural panel; PS 2, rated Single Floor.
1. Bond Classification: Exterior.
2. Performance Category: 23/32 PERF CAT.
3. Span Rating: 24.
4. Edges: Tongue and groove.
5. Exposure Time: Sheathing will not delaminate or require sanding due to moisture absorption from exposure to weather for up to 200 days.
6. Warranty: Manufacturer's standard lifetime limited warranty against manufacturing defects and that panels will not delaminate or require sanding due to moisture absorption damage from exposure to weather for up to the stated period.

B. Subflooring: PS 2 type, rated Sheathing.
1. Bond Classification: Exterior.
2. Span Rating: 48.
3. Performance Category: 3/4 PERF CAT.

C. Roof Sheathing: PS 2 type, rated Structural I Sheathing.
1. Bond Classification: Exterior.
2. Span Rating: 48.
3. Performance Category: 3/4 PERF CAT.

D. Roof Sheathing: Oriented strand board wood structural panel; PS 2.

collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ADAM CHRISTOPHER LOVAGNE
NUMBER E-29211
PROFESSIONAL ENGINEER
6/16/25

PROFESSIONAL SEAL

S003

ISSUE DATE: 16 JUNE 2025
COLLINS WEBB #: 23114

SPECIFICATIONS

6/16/2025 4:54:25 PM

1. Grade: Structural 1 Sheathing.
2. Performance Category: 5/8 PERF CAT.
3. Span Rating: 40/20.
4. Edges: Tongue and groove.
5. Exposure Time: Sheathing will not delaminate or require sanding due to moisture absorption from exposure to weather for up to 500 days.

E. Wall Sheathing: PS 2 type.
1. Bond Classification: Exterior.
2. Grade: Structural I Sheathing.
3. Span Rating: 24.
4. Performance Category: 1/2 PERF CAT.
5. Edge Profile: Square edge.

2.05 ACCESSORIES

A. Fasteners and Anchors:
1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.

B. Die-Stamped Connectors: Hot dipped galvanized steel, sized to suit framing conditions.
1. For contact with preservative treated wood in exposed locations, provide minimum G185 (Z550) galvanizing complying with ASTM A653/A653M.

C. Joist Hangers: Hot dipped galvanized steel, sized to suit framing conditions.
1. For contact with preservative treated wood in exposed locations, provide minimum G185 (Z550) galvanizing complying with ASTM A653/A653M.

D. Sill Gasket on Top of Foundation Wall: 3/8 inch (9.5 mm) thick, closed-cell plastic foam.
1. Width: Matching the width of wall sill plate.
2. Ultraviolet (UV) and Weathering Resistance: Approved in writing by manufacturer for up to 30 days of weather exposure.

E. Subfloor Adhesives: Gap-filling construction adhesive for bonding wood structural panels to wood-based floor system framing; complying with ASTM D3498.

2.06 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

B. Preservative Treatment:
1. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative.
a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
b. Treat lumber exposed to weather.
c. Treat lumber in contact with roofing, flashing, or waterproofing.
d. Treat lumber in contact with masonry or concrete.

PART 3 EXECUTION

3.01 PREPARATION

A. Install sill gasket under sill plate of framed walls bearing on foundations; puncture gasket cleanly to fit tightly around protruding anchor bolts.

B. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.03 FRAMING INSTALLATION

A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.

B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.

C. Install structural members full length without splices unless otherwise specifically detailed.

D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes.

E. Install horizontal spanning members with crown edge up and not less than 3 inches (76 mm) of bearing at each end.

F. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.

G. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.04 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to authorities having jurisdiction may be used in lieu of solid wood blocking.

C. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

D. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.

3.05 INSTALLATION OF CONSTRUCTION PANELS

A. Subflooring/Underlayment Combination: Glue and nail to framing; staples are not permitted.

B. Subflooring: Glue and nail to framing; staples are not permitted.

C. Roof Sheathing: Secure panels with long dimension perpendicular to framing members, with ends staggered and over firm bearing.
1. Nail panels to framing; staples are not permitted.

D. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails or screws.

E. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches (610 mm) on center on all edges and into studs in field of board.
1. At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly.
2. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.
3. Install adjacent boards without gaps.

3.06 TOLERANCES

A. Framing Members: 1/4 inch (6 mm) from true position, maximum.

B. Surface Flatness of Floor: 1/8 inch in 10 feet (1 mm/m) maximum, and 1/4 inch in 30 feet (7 mm in 10 m) maximum.

C. Variation from Plane, Other than Floors: 1/4 inch in 10 feet (2 mm/m) maximum, and 1/4 inch in 30 feet (7 mm in 10 m) maximum.

END OF SECTION 061000

SECTION 061753
SHOP-FABRICATED WOOD TRUSSES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Shop-fabricated wood trusses.

B. Truss bridging.

1.02 RELATED REQUIREMENTS

A. Section 061000 - Rough Carpentry: Installation requirements for miscellaneous framing.

B. Section 061000 - Rough Carpentry: Material requirements for blocking, bridging, plates, and miscellaneous framing.

1.03 REFERENCE STANDARDS

A. ANSI/TPI 1 - National Design Standard for Metal-Plate-Connected Wood Truss Construction; 2014.

B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.

C. SBCA (BCSI) - Building Component Safety Information: Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses; 2018 (Updated 2020).

D. TPI DSB-89 - Recommended Design Specification for Temporary Bracing of Metal Plate Connected Wood Trusses; 1989.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's data sheets on plate connectors, bearing plates, and metal bracing components.

C. Shop Drawings: Show truss configurations, sizes, spacing, size and type of plate connectors, cambers, framed openings, bearing and anchor details, and bridging and bracing.
1. Include identification of engineering software used for design.
2. Provide shop drawings stamped or sealed by design engineer.
3. Submit design calculations.

D. Designer's Qualification Statement.

E. Fabricator's Qualification Statement.

1.05 QUALITY ASSURANCE

A. Designer Qualifications: Perform design by or under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed in the State in which the Project is located.

B. Fabricator Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Handle trusses in accordance with SBCA (BCSI).

B. Store trusses in vertical position resting on bearing ends.

PART 2 PRODUCTS

2.01 TRUSSES

A. Wood Trusses: Design and fabricate trusses in accordance with ANSI/TPI 1 and to achieve specified design requirements indicated.
1. Design and fabricate temporary bracing in accordance with TPI DSB-89.
2. Connectors: Steel plate.
3. Structural Design: Comply with applicable code for structural loading criteria.
4. Floor Deflection: 1/360, maximum.
5. Roof Deflection: 1/240, maximum.

2.02 MATERIALS

A. Lumber:
1. Moisture Content: Between 7 and 9 percent.
2. Lumber fabricated from old growth timber is not permitted.
3. Provide sustainably harvested lumber, certified or labeled as specified in Section 016000.

B. Steel Connectors: Hot-dipped galvanized steel sheet, ASTM A653/A653M Structural Steel (SS) Grade 33/230, with G90/Z275 coating; die stamped with integral teeth; thickness as indicated.

C. Truss Bridging: Type, size and spacing recommended by truss manufacturer.

2.03 ACCESSORIES

A. Wood Blocking, Bridging, Plates, and Miscellaneous Framing: Softwood lumber, any species, construction grade, 19 percent maximum and 7 percent minimum moisture content.

B. Fasteners: Electrogalvanized steel, type to suit application.

C. Bearing Plates: Electrogalvanized steel.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that supports and openings are ready to receive trusses.

3.02 PREPARATION

A. Coordinate placement of support items.

3.03 ERECTION

A. Install trusses in accordance with manufacturer's instructions, SBCA (BCSI); maintain a copy of applicable documents on site until installation is complete.

B. Set members level and plumb, in correct position.

C. Make provisions for erection loads, and for sufficient temporary bracing to maintain structure plumb, and in true alignment until completion of erection and installation of permanent bracing.

D. Do not field-cut or alter structural members without approval of Architect and Engineer.

E. Install permanent bridging and bracing.

F. Install headers and supports to frame openings required.

G. Coordinate placement of decking with work of this section.

H. After erection, touch-up primed surfaces with primer consistent with shop coat.

3.04 TOLERANCES

A. Framing Members: 1/2 inch (12 mm) maximum, from true position.

END OF SECTION 061753

collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ADAM CHRISTOPHER HOLKAMP
NUMBER A-2021034
PROFESSIONAL ENGINEER
06/16/25

PROFESSIONAL SEAL

S004

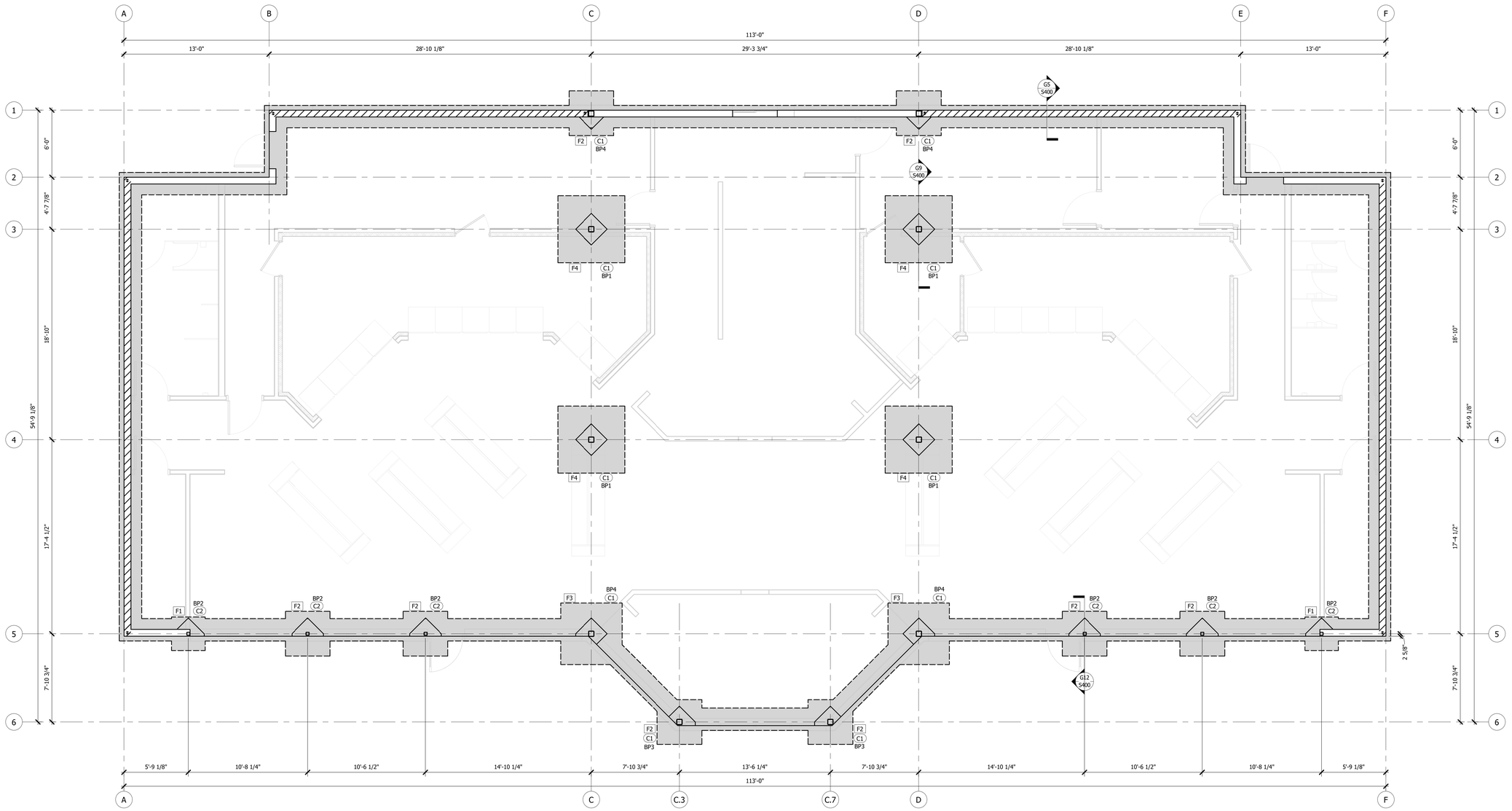
ISSUE DATE: 16 JUNE 2025
COLLINS WEBB #: 23114

SPECIFICATIONS

6/16/2025 4:54:26 PM

ISOLATED FOOTING SCHEDULE					
CALLOUT	COUNT	LENGTH	WIDTH	THICKNESS	REINFORCING
F1	2	3'-0"	3'-0"	3'-0"	(4) #8 EACH WAY T&B
F2	8	4'-0"	4'-0"	3'-0"	(5) #8 EACH WAY T&B
F3	2	5'-6"	5'-6"	3'-0"	(6) #8 EACH WAY T&B
F4	4	6'-0"	6'-0"	1'-0"	(7) #8 EACH WAY BOTTOM

STEEL COLUMN SCHEDULE		
CALLOUT	SIZE	COUNT
C1	HSS6X6X3/8	10
C2	HSS3-1/2X3-1/2X1/4	6



A12 FOUNDATION PLAN
1/4" = 1'-0"

FOUNDATION PLAN NOTES

1. TOP OF CONCRETE SLAB ELEVATION = 100'-0" U.N.O.
2. TOP OF FOOTING ELEVATION = 99'-2" U.N.O.
3. 4" SLAB ON GRADE TO BE REINFORCED WITH #4 @ 16" O.C. OVER 4" GRANULAR FILL AND 15 MIL VAPOR BARRIER, UNLESS NOTED OTHERWISE.
4. VERIFY ALL LOCATIONS OF THICKENED SLAB AREAS PRIOR TO POURING CONCRETE.
5. ALL LOAD-BEARING WALLS TO BE 2X8 @ 16" O.C. UNLESS NOTED OTHERWISE. ALL LOAD-BEARING WALLS TO HAVE DOUBLE TOP PLATE AND SINGLE BOTTOM PLATE.
6. ALL EXTERIOR WALLS TO BE SHEATHED WITH 15/32" APA RATED STRUCTURAL I OSB, UNLESS NOTED OTHERWISE.
7. COORDINATE LOCATION OF ALL NON-LOAD-BEARING STUD WALLS WITH ARCHITECTURAL DRAWINGS.
8. ALL SILL ANCHORS TO BE 4" LONG X 1/2" Ø SIMPSON TITEN HD @ 36" O.C.
9. PROVIDE #4 X 5'-0" LONG AT ALL RE-ENTRANT CORNERS.
10. DURING INSTALLATION OF POST CONSTRUCTION ANCHORS, CARE MUST BE TAKEN TO AVOID ALL REINFORCING.
11. REFER TO SHEET S300 FOR TYPICAL DETAILS.
12. REFER TO SHEET S300 FOR SHEAR WALL INFORMATION.
13. COORDINATE ALL FLOOR AND WALL PENETRATIONS WITH ALL OTHER DISCIPLINES.
14. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN ON THESE DRAWINGS.

WALL TYPE KEY

= LOAD BEARING WALL

= NON-LOAD BEARING WALL

= SHEAR WALL

THE FOUNDATION DESIGN SHOWN ON THIS PLAN HAS BEEN DEVELOPED WITHOUT A SITE SPECIFIC GEOTECHNICAL REPORT. THE DESIGN IS BASED ON A 1500 PSF BEARING CAPACITY WHICH MUST BE CONFIRMED BY A TESTING AGENCY PRIOR TO PLACING FOUNDATIONS.

collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ADAM CHRISTOPHER LOVAGLIO
NUMBER A-2012038911
PROFESSIONAL ENGINEER
06/16/25

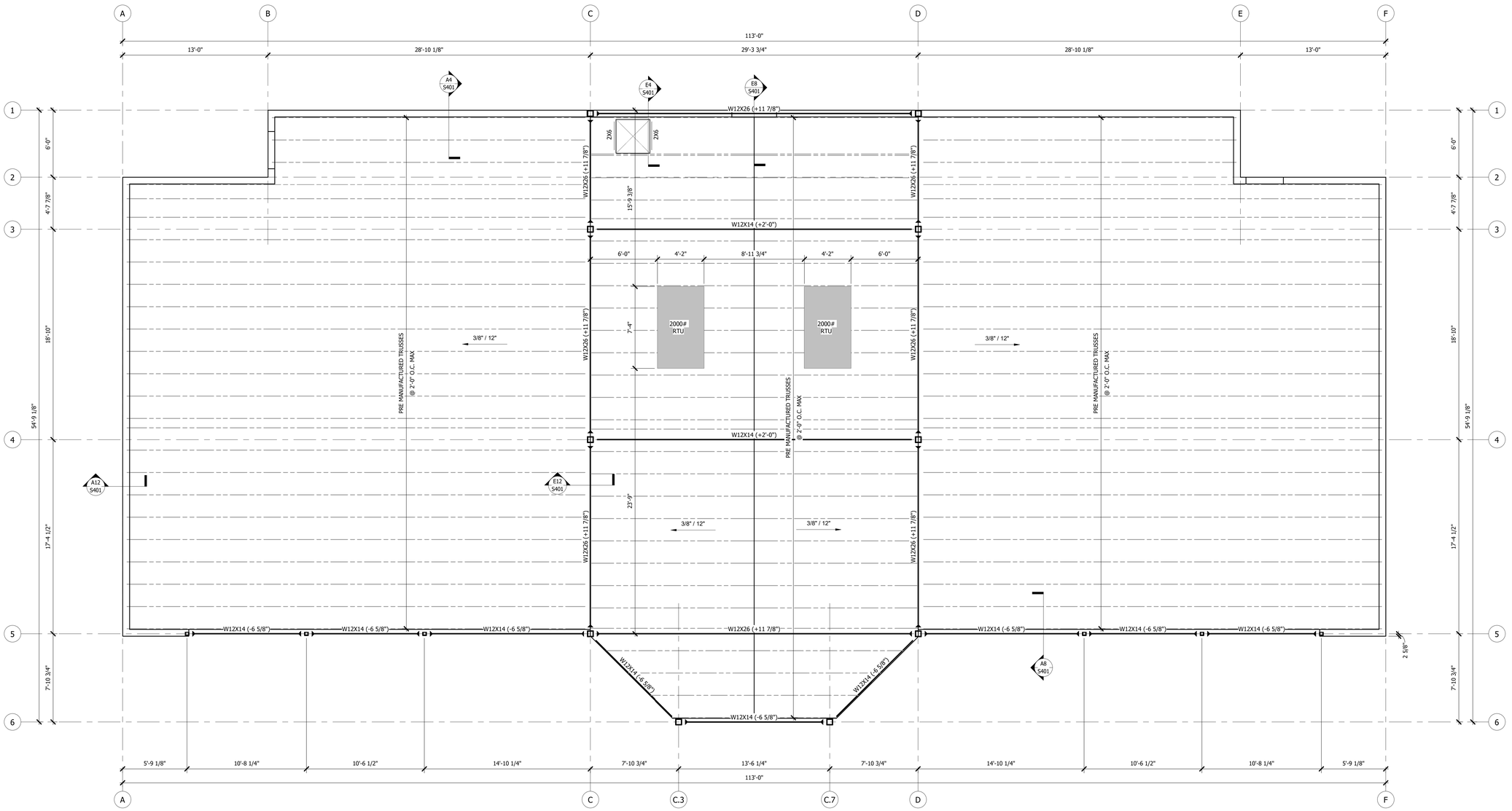
PROFESSIONAL SEAL

S100

ISSUE DATE: 16 JUNE 2025
COLLINS WEBB #: 23114

FOUNDATION PLAN

6/16/2025 4:54:34 PM



A12 LOWER ROOF FRAMING PLAN
1/4" = 1'-0"

ROOF FRAMING PLAN NOTES

1. STEEL OFFSETS ARE RELATIVE TO THE TRUSS BEARING ELEVATION OF 111'-10".
2. ROOF DECK TO BE 3/4" OSB DECK. REFER TO PLAN AND SECTIONS FOR ELEVATIONS AND SLOPING INFORMATION.
3. ALL LOAD-BEARING WALLS TO BE 2X8 @ 16" O.C. UNLESS NOTED OTHERWISE. ALL LOAD-BEARING WALLS TO HAVE DOUBLE TOP PLATE AND SINGLE BOTTOM PLATE.
4. ALL EXTERIOR WALLS TO BE SHEATHED WITH 15/32" APA RATED STRUCTURAL I OSB, UNLESS NOTED OTHERWISE.
5. COORDINATE LOCATION OF ALL NON-LOAD-BEARING STUD WALLS WITH ARCHITECTURAL DRAWINGS. PROVIDE A 1" GAP BETWEEN TOP OF STUD AND BOTTOM OF FLOOR FRAMING.
6. HEADERS TO BE (3) 2X6 UNLESS NOTED OTHERWISE.
7. PROVIDE (2) JACK STUDS UNDER ALL HEADERS AND BEAMS UNLESS NOTED OTHERWISE.
8. ALL JACK STUDS TO BE CARRIED DOWN TO THE FOUNDATION LEVEL.
9. REFER TO SHEET S300 FOR TYPICAL DETAILS.
10. REFER TO SHEET S300 FOR SHEAR WALL INFORMATION.
11. COORDINATE ALL ROOF AND WALL PENETRATIONS WITH ALL OTHER DISCIPLINES.
12. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN ON THESE DRAWINGS.

collins | webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ADAM CHRISTOPHER LOVAGLIO
NUMBER A-2012038911
PROFESSIONAL ENGINEER
06/16/25

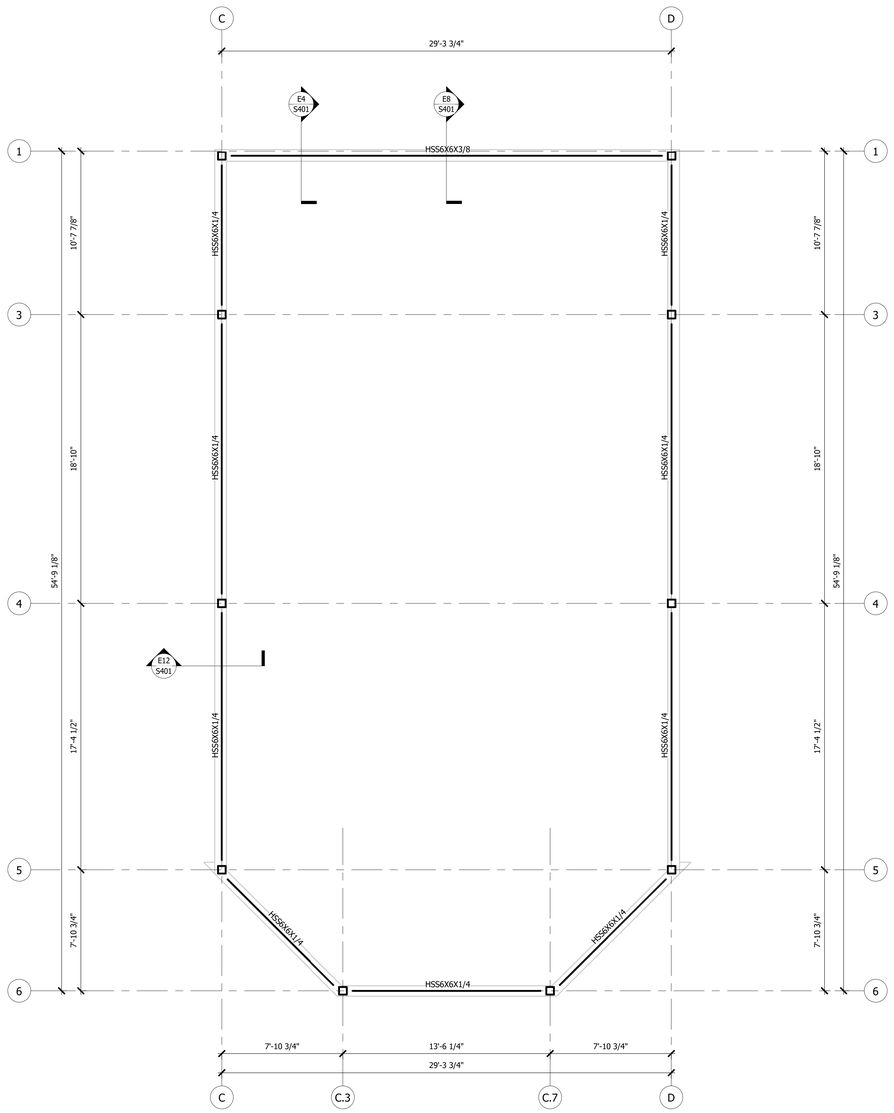
PROFESSIONAL SEAL

S101

ISSUE DATE: 16 JUNE 2025
COLLINS WEBB #: 23114

LOWER ROOF FRAMING PLAN

6/16/2025 4:54:40 PM



A12 UPPER ROOF FRAMING PLAN
1/4" = 1'-0"

6/16/2025 4:54:47 PM

ROOF FRAMING PLAN NOTES

1. TOP OF STEEL ELEVATION = 120'-10"
2. COPE ALL HSS BEAMS TO COLUMNS AND CJP WELD ALL AROUND

collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

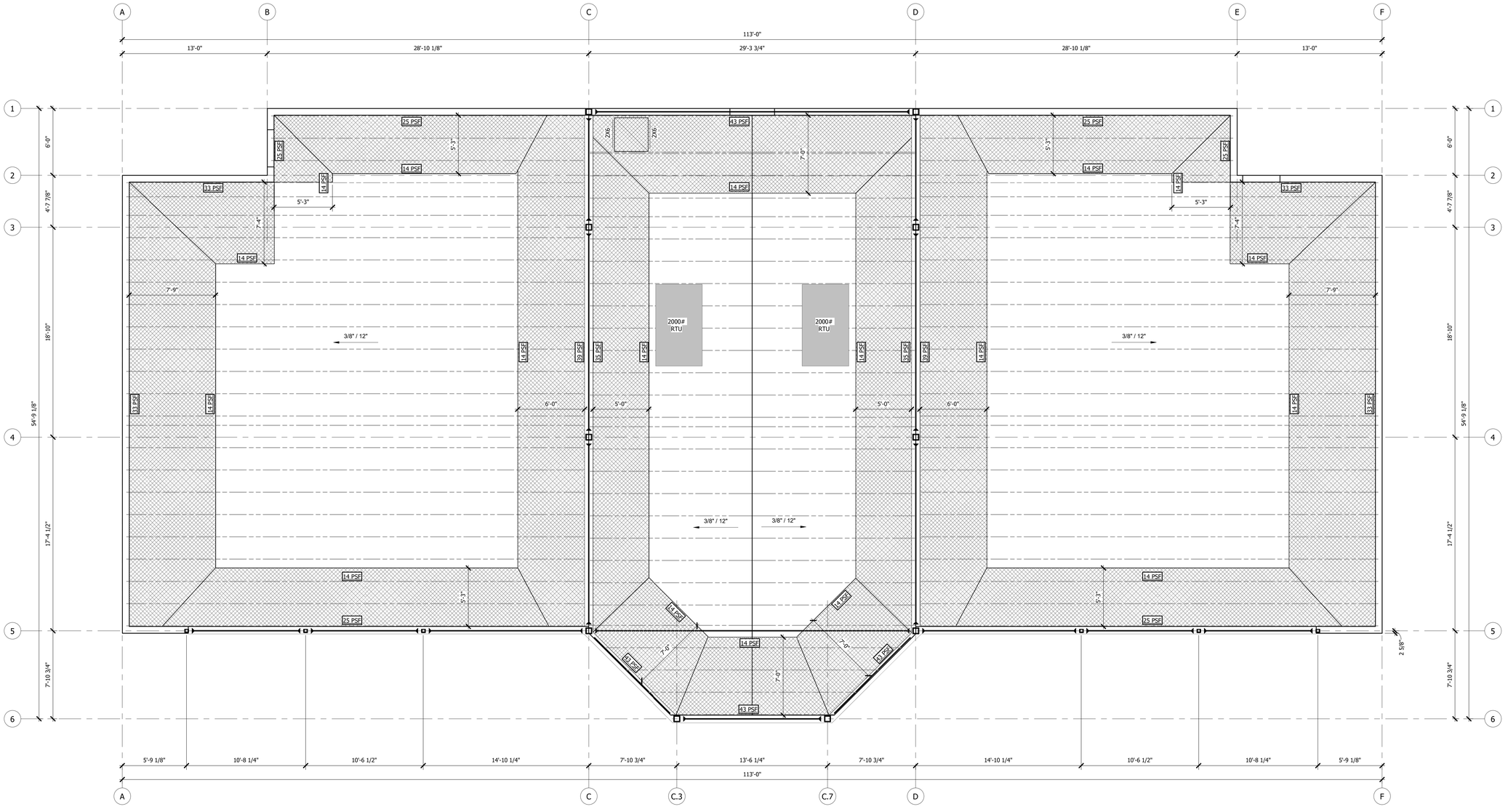
STATE OF MISSOURI
ADAM CHRISTOPHER HOLKAMP
NUMBER A-2021154
PROFESSIONAL ENGINEER
04/14/25

PROFESSIONAL SEAL

S102

ISSUE DATE: 16 JUNE 2025
COLLINS WEBB #: 23114

UPPER ROOF FRAMING PLAN



A12 SNOW LOADING PLAN
1/4" = 1'-0"

SNOW LOADING PLAN NOTES

1. LOADING SHOWN ON THIS PLAN IS FOR SNOW DRIFT ONLY. VALUES SHOWN AGAINST WALLS ARE A COMBINED TOTAL OF THE SNOW DRIFT AND THE BALANCED SNOW LOAD. LOADING SHOWN AT THE END OF THE DRIFT IS EQUAL TO THE BALANCED SNOW LOAD.
2. THE PREFABRICATED TRUSS MANUFACTURER MUST CONSIDER THE EFFECTS OF SNOW DRIFT PLUS BALANCED SNOW LOAD SHOWN ON THIS PLAN VS. THE MINIMUM SNOW LOADING SHOWN IN THE GENERAL NOTES.

collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ADAM CHRISTOPHER LOVAINE
NUMBER A-2007211
PROFESSIONAL ENGINEER
06/16/25

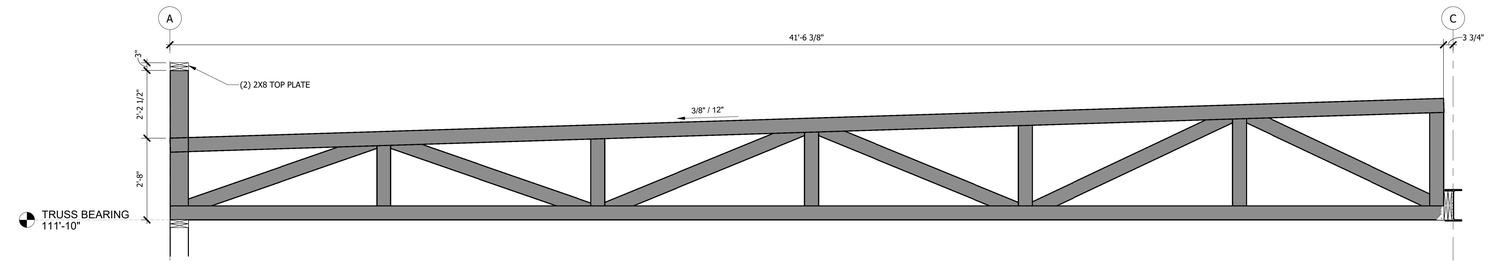
PROFESSIONAL SEAL

S110

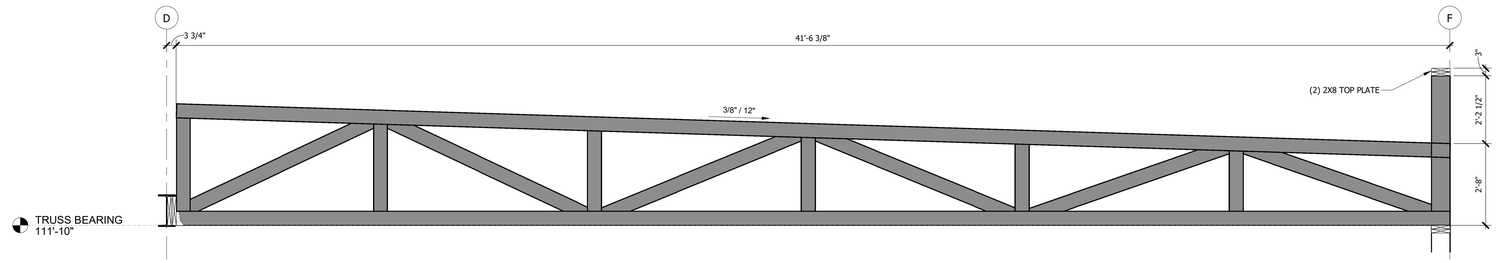
ISSUE DATE: 16 JUNE 2025
COLLINS WEBB #: 23114

ROOF TRUSS SNOW LOADING PLAN

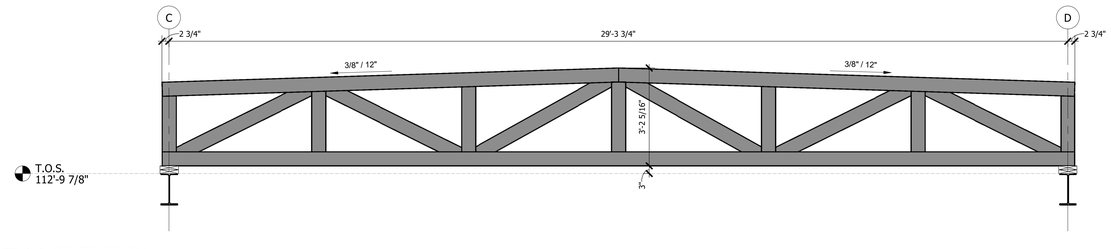
6/16/2025 4:54:54 PM



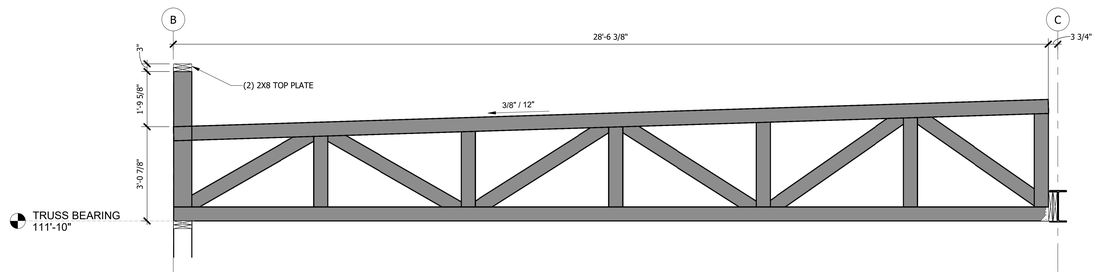
J12 WEST TRUSS
1/2" = 1'-0"



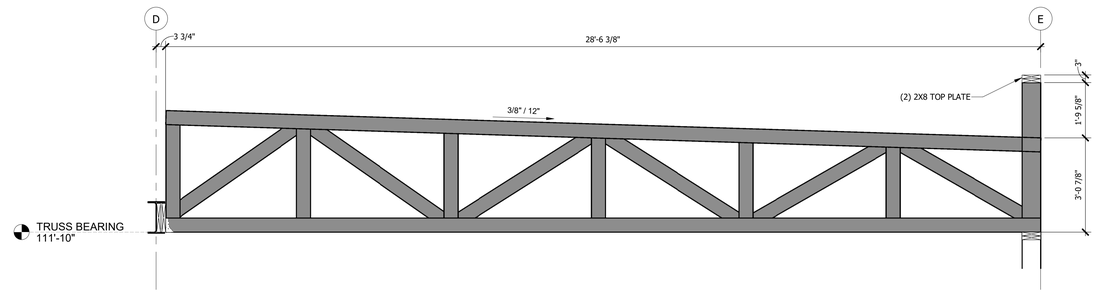
G12 EAST TRUSS
1/2" = 1'-0"



E12 CENTER TRUSS
1/2" = 1'-0"



C12 NORTH WEST TRUSS
1/2" = 1'-0"



A12 NORTH EAST TRUSS
1/2" = 1'-0"

6/16/2025 4:55:01 PM

CW/ collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

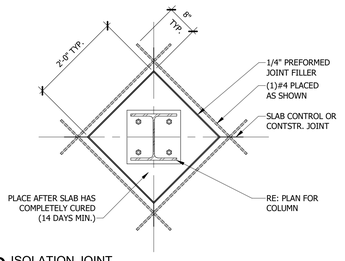
STATE OF MISSOURI
ADAM CHRISTOPHER LOVAGNE
NUMBER A-2012038911
PROFESSIONAL ENGINEER
06/16/25

PROFESSIONAL SEAL

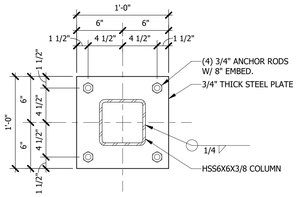
S200

ISSUE DATE: 16 JUNE 2025
COLLINS WEBB #: 23114

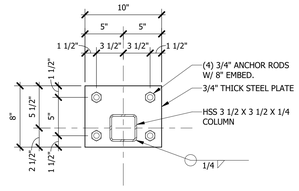
TRUSS PROFILES



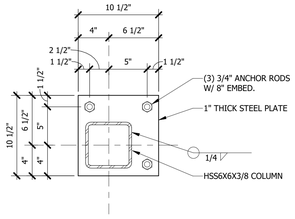
H12 ISOLATION JOINT
3/4" = 1'-0"



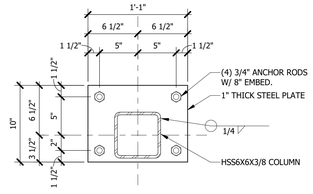
BP1 - TYPICAL HSS6X6



BP2 - TYPICAL 3" PIPE

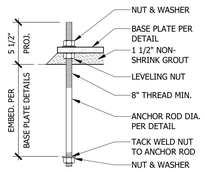


BP3 - CORNER HSS6X6

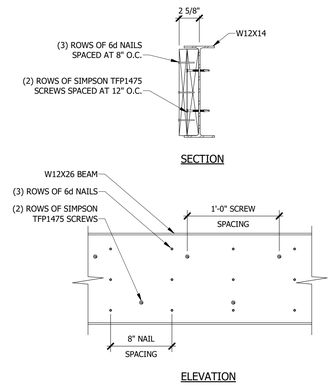


BP4 - EDGE HSS6X6

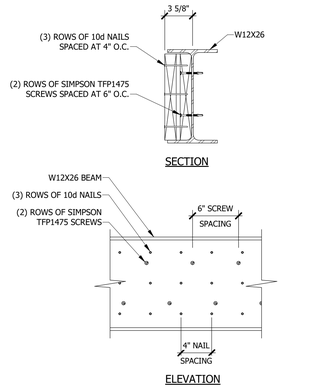
F9 BASE PLATE DETAILS
1 1/2" = 1'-0"



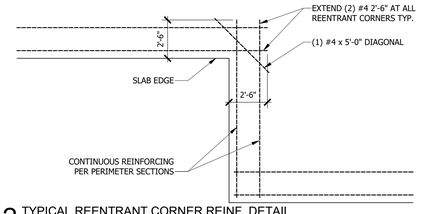
F12 ANCHOR BOLT DETAIL
1 1/2" = 1'-0"



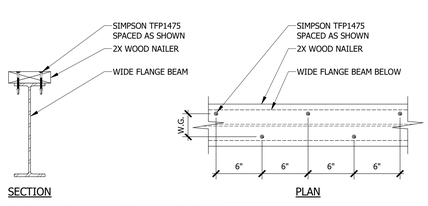
F5 W12X14 BLOCKING ALONG STOREFRONT
1 1/2" = 1'-0"



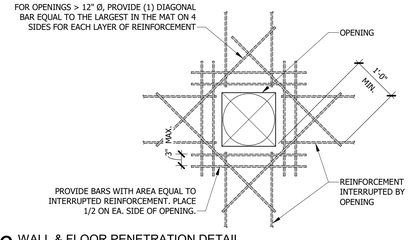
F3 W12X26 BLOCKING ALONG GRIDS C AND D
1 1/2" = 1'-0"



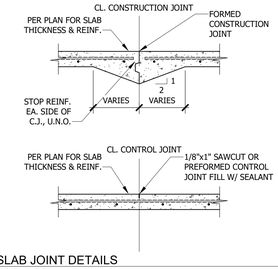
D12 TYPICAL REENTRANT CORNER REINF. DETAIL
1/4" = 1'-0"



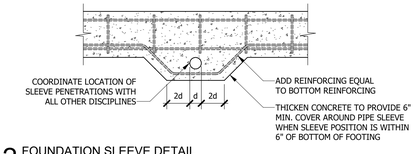
D9 WOOD NAILER ON WIDE FLANGE BEAM
1 1/2" = 1'-0"



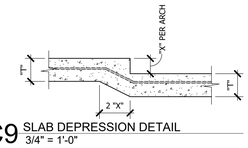
D6 WALL & FLOOR PENETRATION DETAIL
3/4" = 1'-0"



D3 SLAB JOINT DETAILS
3/4" = 1'-0"

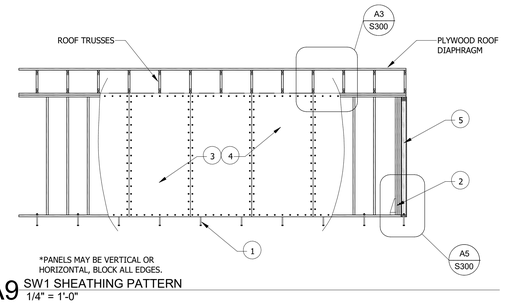


C12 FOUNDATION SLEEVE DETAIL
3/4" = 1'-0"

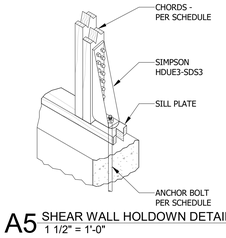


C9 SLAB DEPRESSION DETAIL
3/4" = 1'-0"

SHEAR WALL TYPE			SHEAR WALL SW1		
LOCATION	ITEM	ITEM	SIZE	SPACING	REMARKS
1ST STORY	5	CHORDS	(2) 2X8	EA. CHORD	SPF #2 GRADE
	4	SHEATHING ATTACHMENT	8d 8d	12" O.C. 6" O.C.	ALL INTERMEDIATE SUPPORTS ALL PANEL EDGES
	3	SHEATHING TYPE	15/32"	BLOCKED	APA RATED STRUCT. I OSB SHEATHING
	2	SIMPSON HOLDOWN	HDUE3-SDS3	EA. CHORD	FASTEN TO CHORD WITH (7) 1/4 X 3 SDS. 6" X 5/8"ø ANCHOR ROD PER A5/S300, DRILL AND EPOXY W/ SIMPSON SET-3G
	1	BASE CONNECTION	1/2" Ø	16" O.C.	4" LONG SIMPSON TITEN-HD



A9 SW1 SHEATHING PATTERN
1/4" = 1'-0"



A5 SHEAR WALL HOLDOWN DETAIL
1 1/2" = 1'-0"

collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ADAM CHRISTOPHER LOCKNE
NUMBER 2014014
PROFESSIONAL ENGINEER
06/16/25

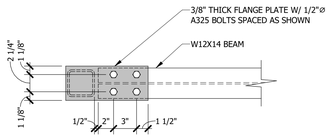
PROFESSIONAL SEAL

S300

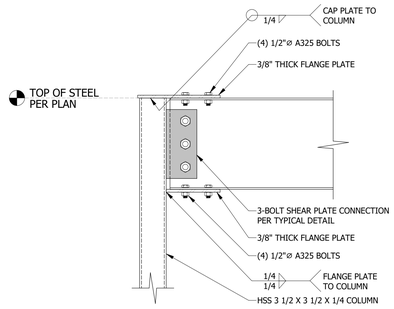
ISSUE DATE: 16 JUNE 2025
COLLINS WEBB #: 23114

TYPICAL DETAILS

6/16/2025 4:55:02 PM

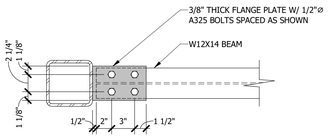


PLAN

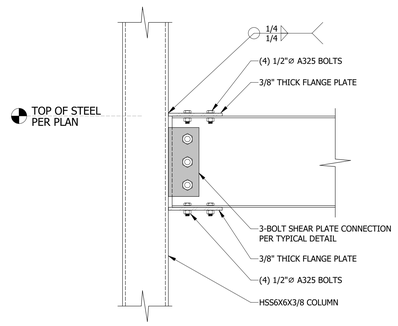


SECTION

F12 STOREFRONT MOMENT CONNECTION (2 LOCATIONS)
1 1/2" = 1'-0"

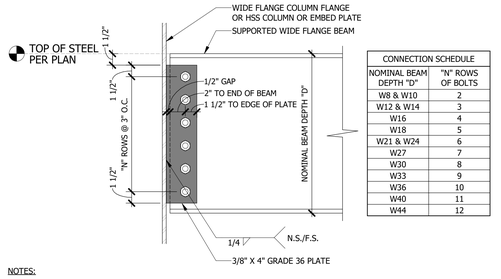


PLAN



SECTION

F8 STOREFRONT MOMENT CONNECTION (4 LOCATIONS)
1 1/2" = 1'-0"

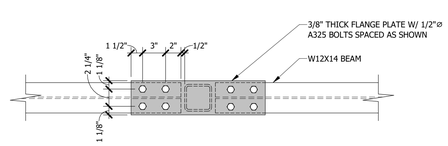


CONNECTION SCHEDULE	
NOMINAL BEAM DEPTH "D"	"N" ROWS OF BOLTS
W8 & W10	2
W12 & W14	3
W16	4
W18	5
W21 & W24	6
W27	7
W30	8
W33	9
W36	10
W40	11
W44	12

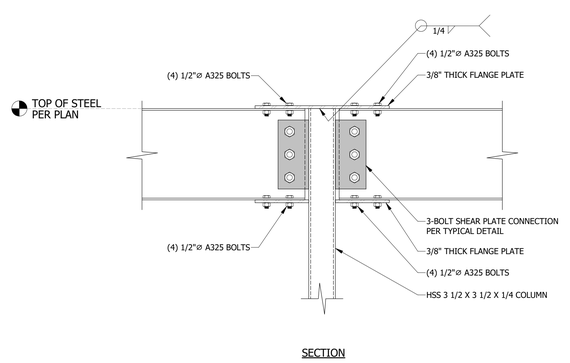
NOTES:

1. PROVIDE MINIMUM NUMBER OF BOLTS AS SHOWN IN SCHEDULE. ALL BOLTS TO BE 3/4" Ø A325N.
2. HOLES IN THE SHEAR PLATE SHALL BE STANDARD HOLES. HOLES IN THE WEB OF THE SUPPORTED MEMBER ARE PERMITTED TO BE HORIZONTAL SHORT SLOTTED, EXPECT AT CONNECTIONS WITH AXIAL LOAD AS SHOWN IN THE PLANS. FOR THESE CASES, HOLES IN THE WEB OF THE SUPPORTED MEMBER SHALL BE STANDARD HOLES.

F4 TYP. BEAM-TO-COLUMN SHEAR PLATE
1 1/2" = 1'-0"

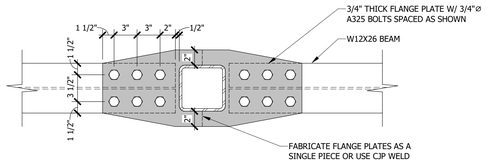


PLAN

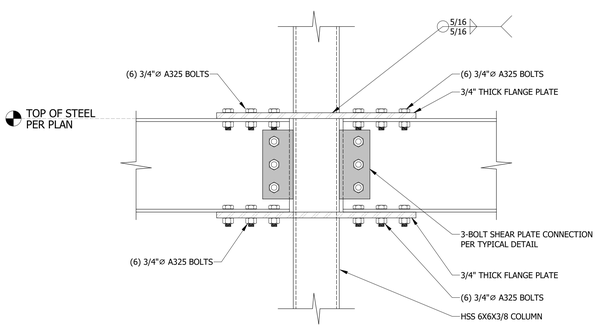


SECTION

A12 STOREFRONT MOMENT CONNECTION (4 LOCATIONS)
1 1/2" = 1'-0"

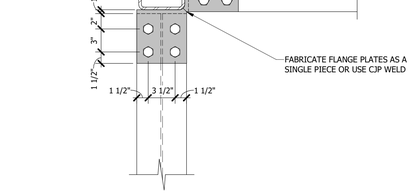


PLAN

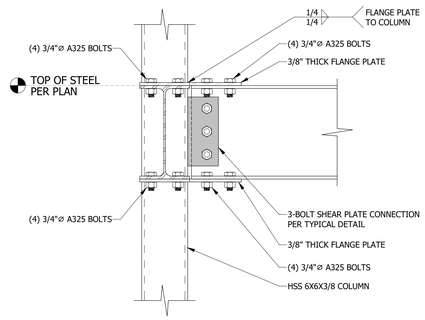


SECTION

A8 MOMENT CONNECTION (4 LOCATIONS)
1 1/2" = 1'-0"



PLAN



SECTION

A4 PERP. MOMENT CONNECTION (4 LOCATIONS)
1 1/2" = 1'-0"

collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ADAM CHRISTOPHER HOLKAMP
NUMBER 2010021154
PROFESSIONAL ENGINEER
06/16/25

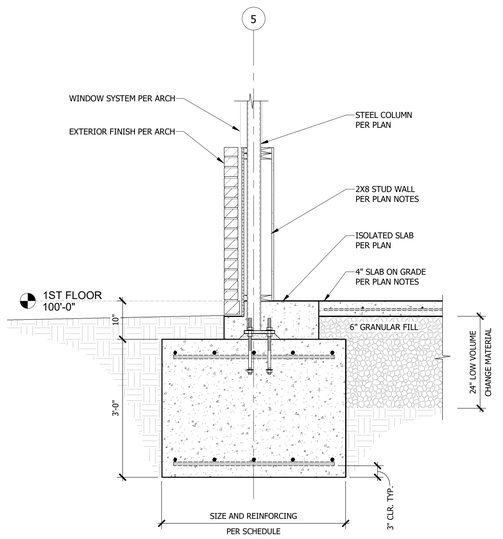
PROFESSIONAL SEAL

S301

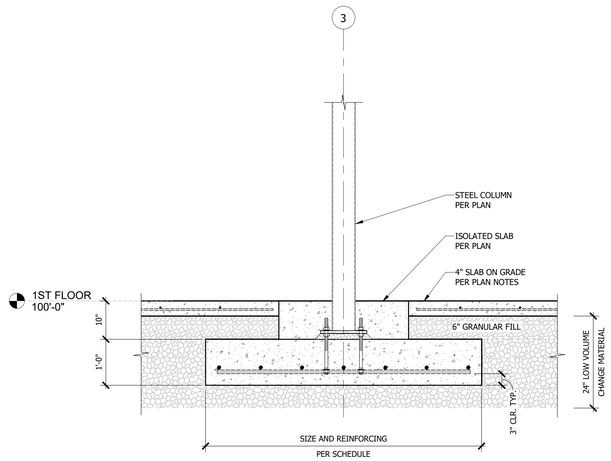
ISSUE DATE: 16 JUNE 2025
COLLINS WEBB #: 23114

STEEL CONNECTION DETAILS

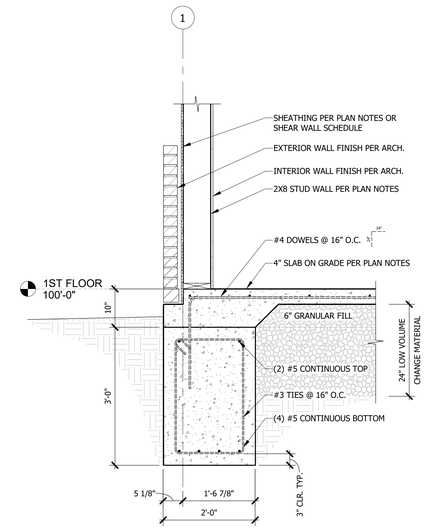
6/16/2025 4:55:03 PM



G12 TYP. EXTERIOR FOUNDATION
3/4" = 1'-0"



G9 TYP. INTERIOR FOUNDATION
3/4" = 1'-0"



G5 TYP. TRENCH FOOTING
3/4" = 1'-0"

collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ADAM CHRISTOPHER HOLKAMP
NUMBER A-2021151
PROFESSIONAL ENGINEER
06/16/25

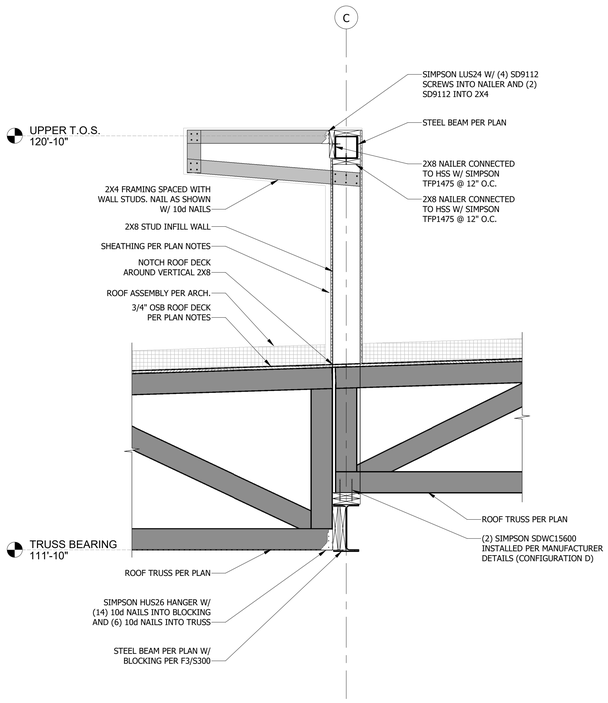
PROFESSIONAL SEAL

S400

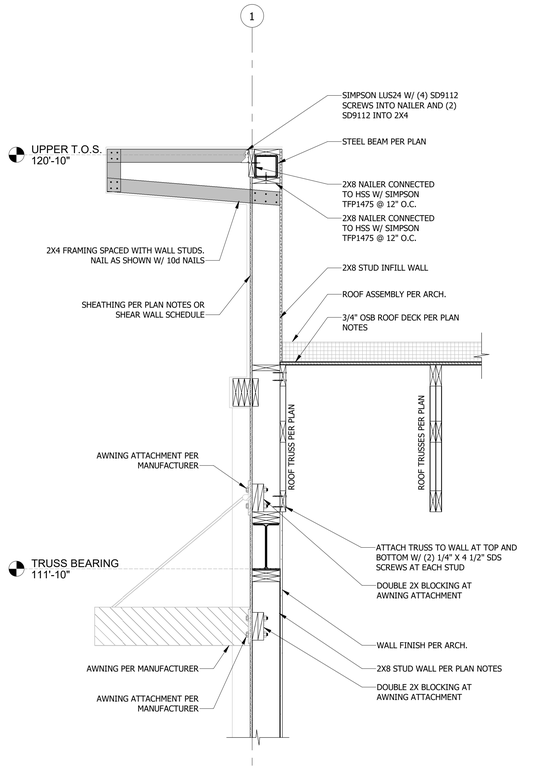
ISSUE DATE: 16 JUNE 2025
COLLINS WEBB #: 23114

FOUNDATION DETAILS

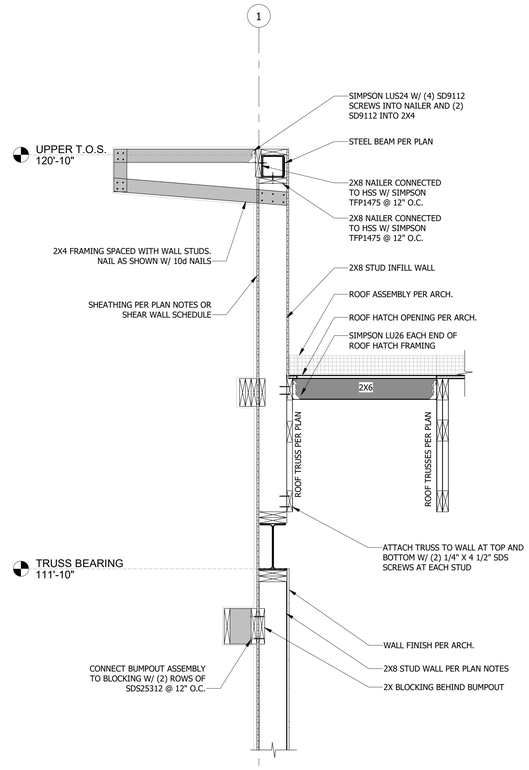
6/16/2025 4:55:10 PM



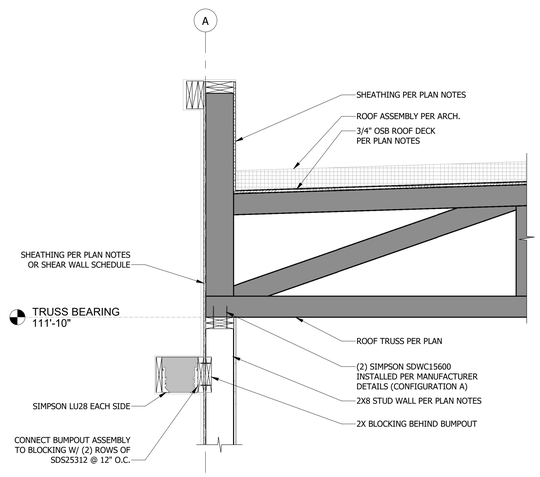
E12 WEST PARAPET ROOF SECTION
3/4" = 1'-0"



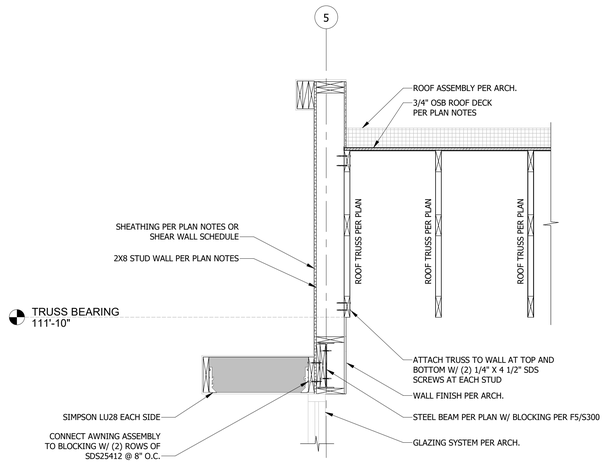
E8 NORTH PARAPET ROOF SECTION AT AWNING
3/4" = 1'-0"



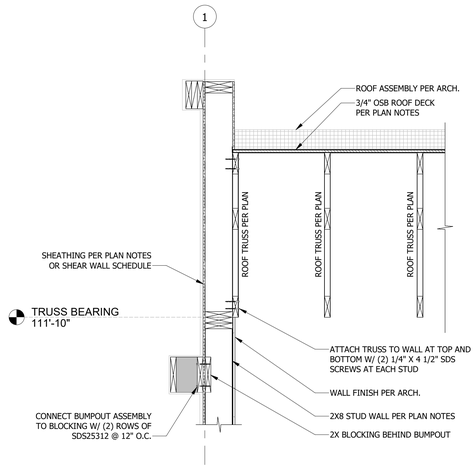
E4 NORTH PARAPET ROOF SECTION
3/4" = 1'-0"



A12 WEST ROOF SECTION
3/4" = 1'-0"



A8 SOUTH ROOF SECTION
3/4" = 1'-0"



A4 NORTH ROOF SECTION
3/4" = 1'-0"

collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ADAM CHRISTOPHER LOVAGNE
NUMBER A-2007031711
PROFESSIONAL ENGINEER
06/16/25

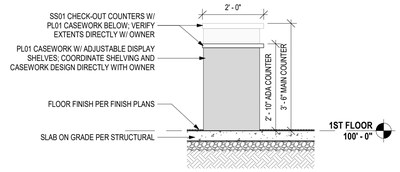
PROFESSIONAL SEAL

S401

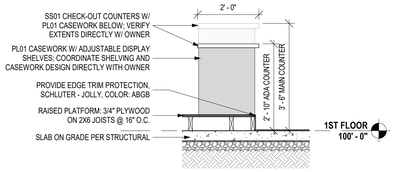
ISSUE DATE: 16 JUNE 2025
COLLINS WEBB #: 23114

ROOF FRAMING SECTIONS

6/16/2025 4:55:17 PM



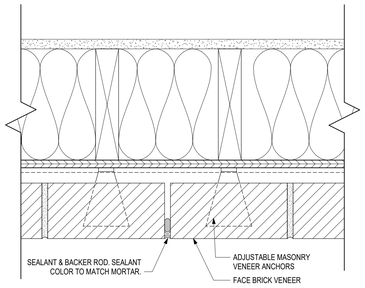
J12 SECTION - ADA COUNTER AT KITCHEN
1/2" = 1'-0"



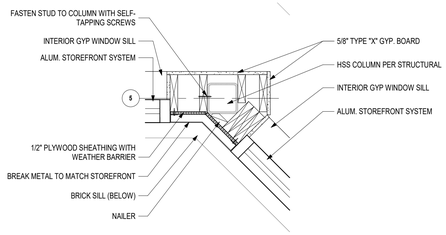
J10 SECTION - ADA COUNTER AT CHECKOUT
1/2" = 1'-0"

TOILET ACCESSORY SCHEDULE

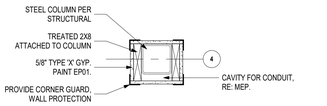
TYPE MARK	MANUFACTURER	DESCRIPTION	MODEL	FINISH	COMMENTS
1	Bobrick	MIRROR, WELDED FRAME	B-290 2436	SATIN	3, 5
2	Bobrick	Classic Series Surface Mounted Soap Dispenser	B-40	-	3
3	Bradley	Surface Mounted Napkin Disposal	4781-15	SATIN	3
4	Bobrick	Classic Series Surface Mounted Multi-Roll	B-2888	SATIN	3
5	Bobrick	InstaDry Series Surface-Mounted Automatic Hand Dryer	B-7125	SATIN	3
6	Bobrick	GRAB BAR, 1-1/2" DIA., SS, 36"	B-5806-36	SATIN WITH PEENED GRIP	3
7	Bobrick	GRAB BAR, 1-1/2" DIA., SS, 42"	B-5806-42	SATIN WITH PEENED GRIP	3
8	Bobrick	GRAB BAR, 1-1/2" DIA., SS, 18"	B-5806-18	SATIN WITH PEENED GRIP	3
9	Scranton	OVERHEAD-BRACED TOILET PARTITION - 55" H STANDARD PANEL	ECLIPSE	CHARCOAL GREY - ORANGE PEEL	3
10	Scranton	WALL-HUNG URINAL SCREEN	ECLIPSE	CHARCOAL GREY - ORANGE PEEL	3



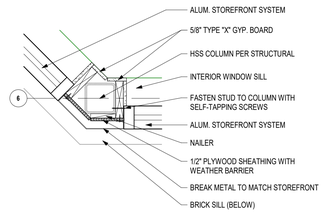
H8 EXPANSION JOINT AT BRICK
3" = 1'-0"



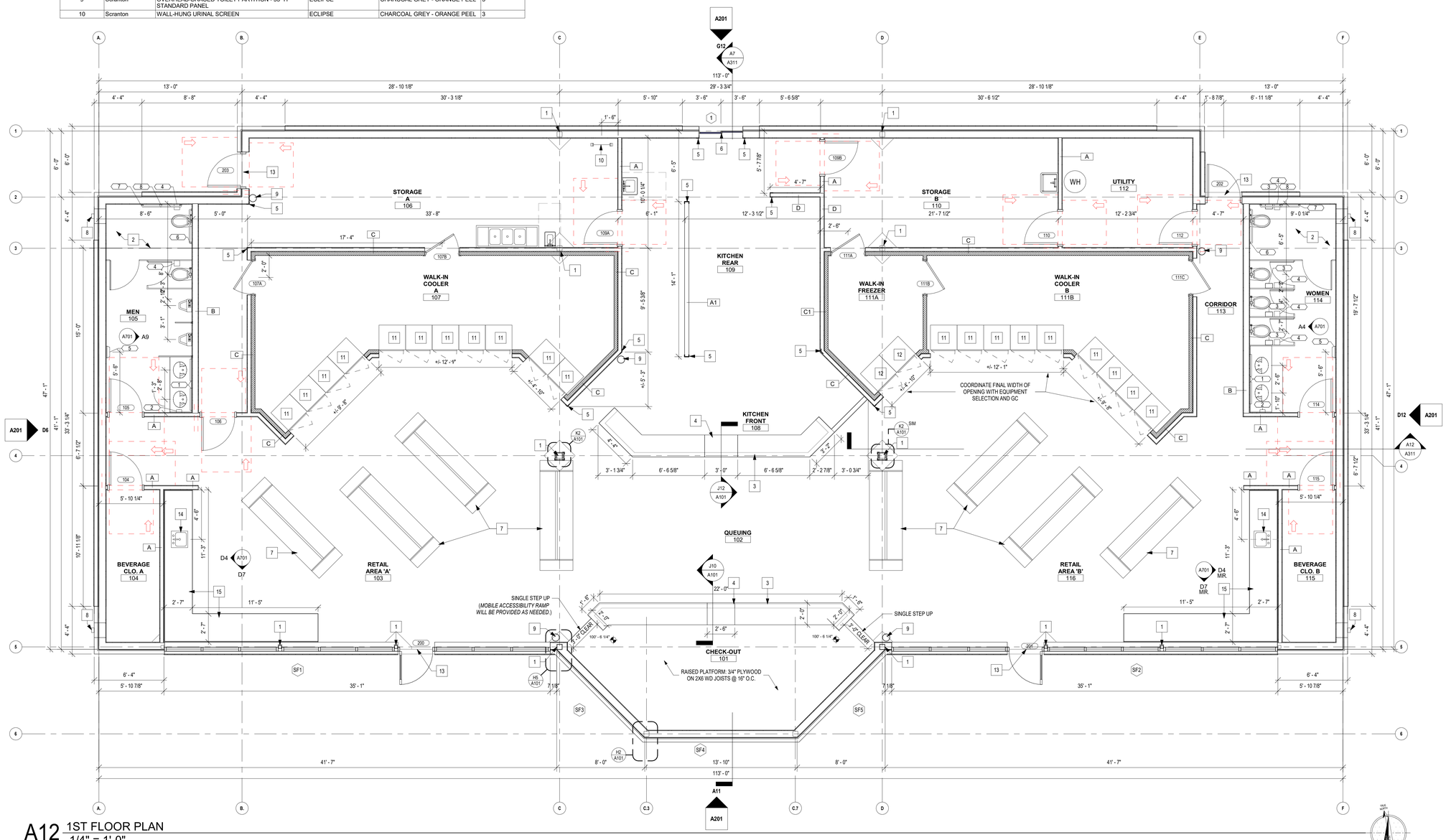
H5 WALL DETAIL
1" = 1'-0"



K2 DETAIL - COLUMN WRAP
1" = 1'-0"



H2 WALL DETAIL
1" = 1'-0"



A12 1ST FLOOR PLAN
1/4" = 1'-0"

GENERAL NOTES: FLOOR PLANS

1. SEE GENERAL ARCHITECTURAL SHEETS FOR ADDITIONAL NOTES AND DETAILS THAT ARE APPLICABLE.
2. ARCHITECTURAL ELEVATION 100'-0"
3. DIMENSIONS SHOWN ON THE FLOOR PLAN ARE TO THE FACE OF STUD (FOS), FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FOC), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
4. NOTE: WALL THICKNESS ARE ACTUAL DIMENSIONS AND PER WALL TYPES. SEE GENERAL SHEETS.
5. DOOR OPENINGS NOT LOCATED BY DIMENSION SHALL BE CENTERED IN WALL SHOWN OR LOCATED 4 INCHES FROM FINISH WALL TO HINGE SIDE OF THE DOOR, ALWAYS ALLOWING A MINIMUM OF 18" FROM THE PULL SIDE (STRIKE SIDE) OF THE DOOR TO THE INTERSECTING WALL OR OTHER PROTRUDING OBJECTS.
6. ALL ALCOVES WITHOUT A SPACE IDENTIFICATION NUMBER SHALL HAVE THE SAME FINISHES AS THE ADJOINING SPACES.
7. PROVIDE LEVEL 4 FINISH ON ALL WALLS.
8. RE: FINISH LEGEND, FINISH SCHEDULE AND SPECIFICATIONS FOR DOOR AND DOOR FRAME FINISHES.
9. MAINTAIN AND PROTECT EXISTING EXPANSION JOINTS DURING CONSTRUCTION. PATCH/REPAIR/REPLACE TO MATCH EXISTING RATINGS AS REQUIRED ON THE SHELL PORTION OF PROJECT.
10. ALL WOOD PRODUCTS TO BE FIRE-RETARDANT, INCLUDING BLOCKING AND PLYWOOD.

KEYED NOTES: FLOOR PLAN

1	STRUCTURAL COMPONENT. RE: STRUCTURAL
2	PLUMBING FIXTURES BY CONTRACTOR. PROVIDE SOLID 2X BLOCKING BEHIND LAVATORY AND GRAB BARS. RE: MEP
3	SS01 SERVICE COUNTER W/ ADA COUNTER, PL01 CASEWORK BELOW; GC TO COORDINATE CONSTRUCTION AND SIZE DIRECTLY W/ OWNER.
4	SS01 ADA COUNTER, SIZED PER 2010 ADA AND 1CC/ANSI A117.1-2009 GUIDELINES. RE: G002 FOR FUTHER CLARIFICATION.
5	PROVIDE 16 GA S/S CORNER GUARDS AND U-BREAK FORMED GUARDS WITH 2" OUTSTANDING LEGS. INSTALL TO FULL HEIGHT OF WALL.
6	DRIVE-THRU WINDOW, RE: SPECS
7	RETAIL SHELVING BY OWNER
8	PREFINISHED DOWNSPOUT, RE: ELEVATIONS
9	PROVIDE FIRE EXTINGUISHER IN SURFACE MOUNTED CABINET PER IFC 2018
10	ROOF ACCESS HATCH LADDER
11	DRINK COOLER, BY OWNER
12	FREEZER, BY OWNER
13	PROVIDE ADA COMPLIANT THRESHOLD
14	UNDERMOUNT SINK, COORD. W/ SS01 COUNTER; RE: MEP SHEETS FOR FURTHER CLARIFICAITON.
15	31" D SS01 COUNTER W/ 30" D PL01 CASEWORK; GC. TO COORDINATE CASEWORK SIZE ANY TYPE DIRECTLY WITH OWNER.

collins | webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

PERMIT DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB II NUMBER A-2016024008
06-12-25
ARCHITECT

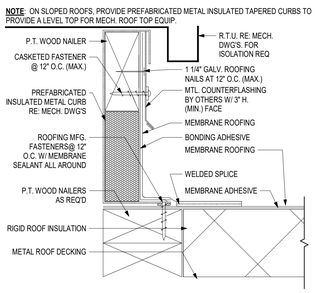
PROFESSIONAL SEAL

A101

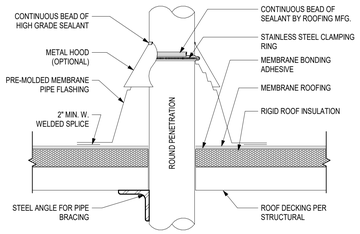
ISSUE DATE: 09 JUNE 2025
COLLINS WEBB #: 23114

FLOOR PLANS - 1ST FLOOR

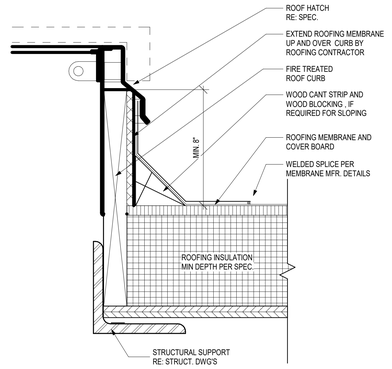
6/12/2025 8:22:28 AM



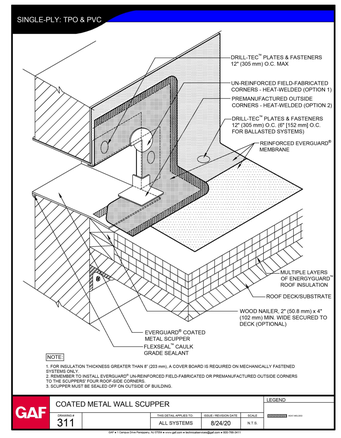
H10 TYP. SEC. @ PREFAB. ROOF CURB
6" = 1'-0"



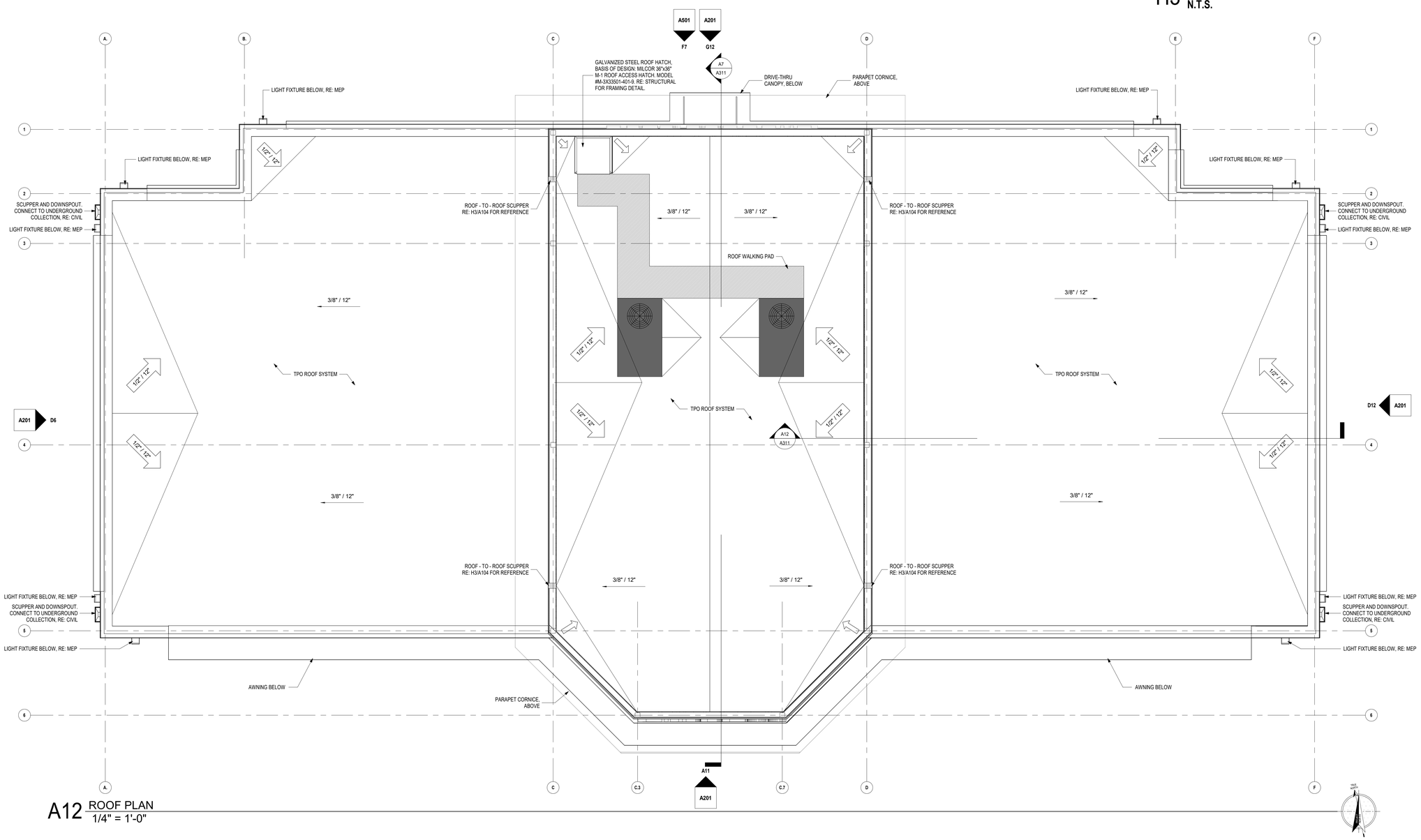
H7 TYP. SEC. THRU ROOF PEN. PIPE
3" = 1'-0"



H5 TYP. ROOF HATCH DETAIL
3" = 1'-0"



H3 DETAIL - SCUPPER
N.T.S.



A12 ROOF PLAN
1/4" = 1'-0"

GENERAL NOTES: ROOF PLANS

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. DIMENSIONS SHOWN ON THE ROOF PLAN ARE TO THE FACE OF EXTERIOR WALL, FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FOC), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
3. PROVIDE 1/2" FT. TAPERED INSULATION AT ALL ROOF CURBS AND AT EQUIPMENT WHICH EXCEEDS 18 INCHES IN WIDTH.

ROOF SYSTEM BASIS OF DESIGN:

1. ROOF SYSTEM IS BASED ON GAF ROOFING SINGLE-PLY ROOFING SYSTEMS.
2. GAF CONTACT - CURTIS HUNT: 314.805.3301
3. ROOF SYSTEM IS AS FOLLOWS:
   A. ROOF SHEATHING PER STRUCTURAL DWGS.
   B. (2) BASE LAYERS OF 2.6" RIGID INSULATION. (TO ACHIEVE AN INSULATION AVERAGE OF R-30)
   C. GAF ENERGY GUARD 1/2 HIGH DENSITY POLYISO COVER BOARD
   D. GAF EVERGUARD SINGLE-PLY TPO. 60 MIL FINISH: SMOOTH. COLOR: WHITE.
4. TAPERED INSULATION CRICKETS ARE TO BE SLOPED 1/2" = 12".

ROOF PLAN LEGEND

- SLOPE DIRECTION
- TAPERED INSULATION CRICKET OVERBUILD SLOPE = 1/2" / 12"
- ROOF WALKING PAD
- ROOF DRAIN

CWA ARCHITECTURE
collins|webb
3078 SW Market St. | Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

PERMIT DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB III
NUMBER A-2016034008
06-12-25
ARCHITECT

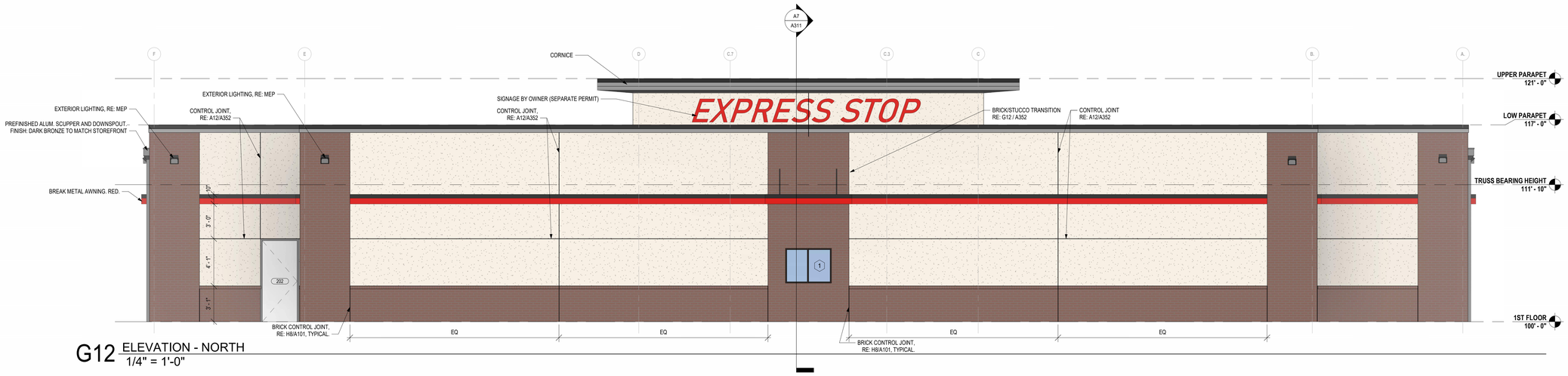
PROFESSIONAL SEAL

A104

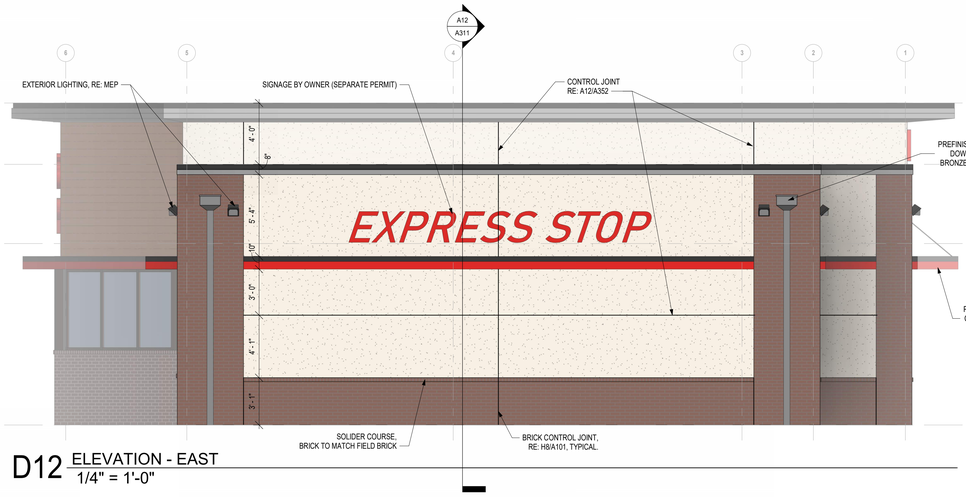
ISSUE DATE: 09 JUNE 2025
COLLINS WEBB #: 23114

ROOF PLAN

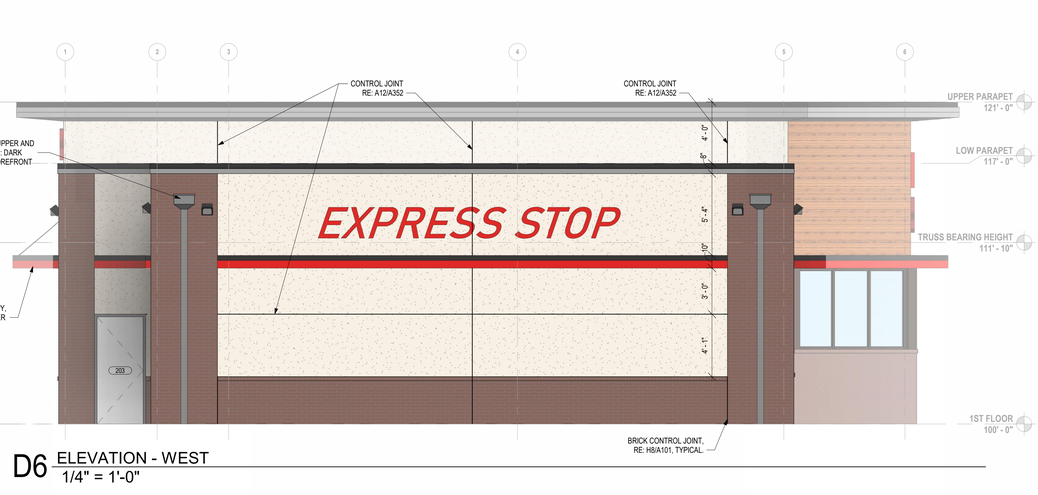
6/12/2025 8:15:16 AM



G12 ELEVATION - NORTH
1/4" = 1'-0"



D12 ELEVATION - EAST
1/4" = 1'-0"



D6 ELEVATION - WEST
1/4" = 1'-0"

A11 ELEVATION - SOUTH
1/4" = 1'-0"

GENERAL NOTES: EXTERIOR ELEVATIONS

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. DIMENSIONS SHOWN ON THE EXTERIOR ELEVATIONS ARE TO THE FACE OF EXTERIOR WALL, FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FOC), FACE OF STUD, AND COLUMN GRID LINES, UNLESS OTHERWISE NOTED OR INDICATED.
3. RE: THE WINDOW TYPES SHEET FOR ALL EXTERIOR WINDOW TYPES AND GLASS TYPES.
4. PROVIDE ALL BLOCKING AND POWER AS REQUIRED FOR EXTERIOR SIGNAGE.

GENERAL NOTES: ENLARGED ELEVATIONS

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. BRICK PLANE CHANGES REFER TO (+0) = 1'-7" FROM COLUMN CENTERLINE (TYP.), UNLESS NOTED OTHERWISE.

EXTERIOR ELEVATION MATERIALS

- STO STUCCO
  COLOR: CREAM
  TEXTURE: FINE
- BRICK VENEER
  MFR:ELDORADO STONE
  TYPE: TUNDRABRICK
  COLOR: HARTFORD
- STO STOCAST RESIN WOOD GRAIN PLANK SYSTEM
  COLOR: ADLER

CWA collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

PERMIT DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

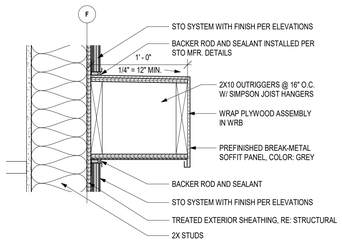
STATE OF MISSOURI
ROGER L. WEBB
NUMBER A-2004034008
06/25/25
ARCHITECT
PROFESSIONAL SEAL

A201

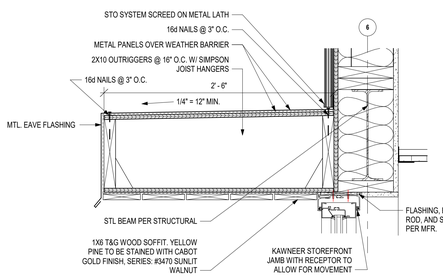
ISSUE DATE: 09 JUNE 2025
COLLINS WEBB #: 23114

EXTERIOR ELEVATIONS

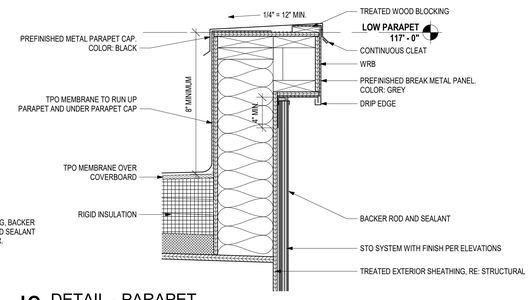
6/12/2025 8:15:33 AM



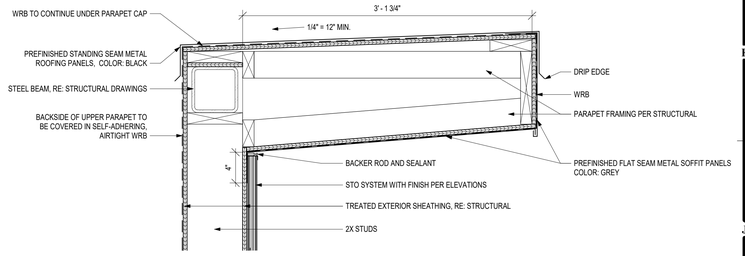
J12 DETAIL - DECORATIVE BANDING
1 1/2" = 1'-0"



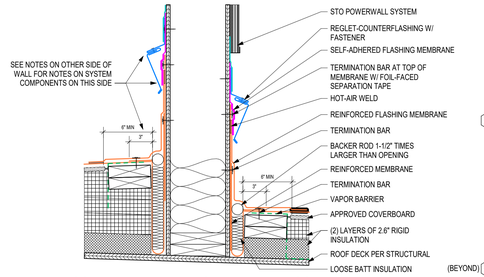
J10 DETAIL - FRONT AWNING
1 1/2" = 1'-0"



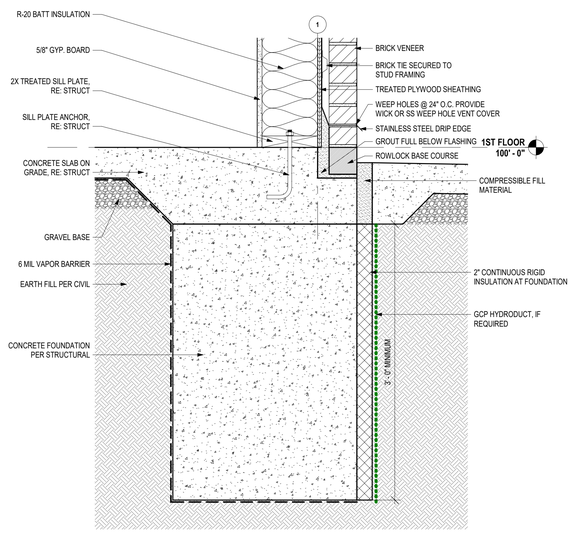
J8 DETAIL - PARAPET
1 1/2" = 1'-0"



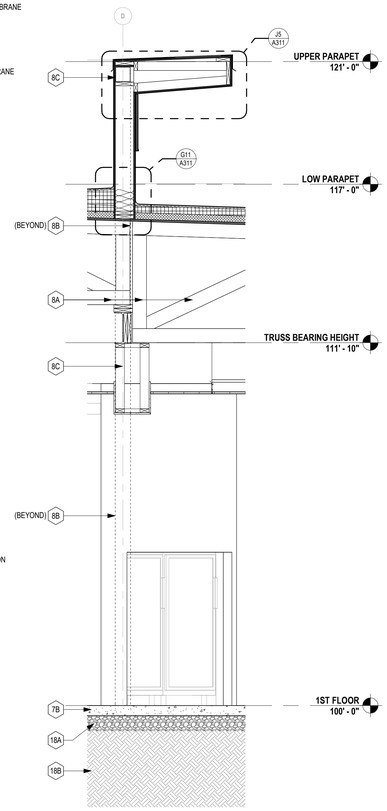
J5 DETAIL - TYPICAL PARAPET
1 1/2" = 1'-0"



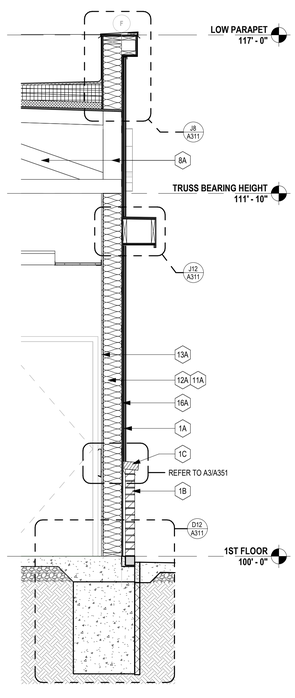
G11 HIGH PARAPET MOVEMENT JOINT
1 1/2" = 1'-0"



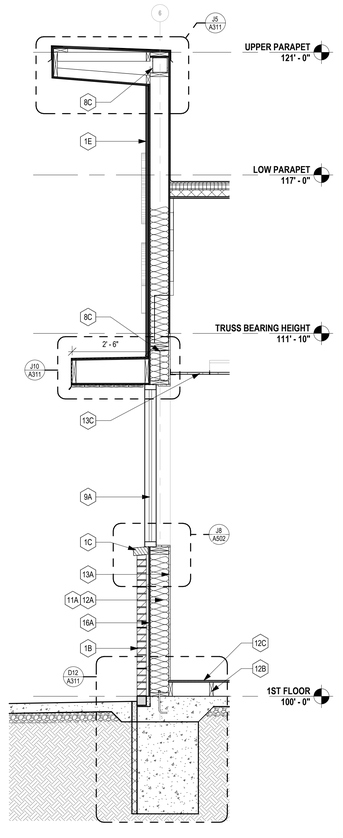
D12 DETAIL - TYP. FOUNDATION
1 1/2" = 1'-0"



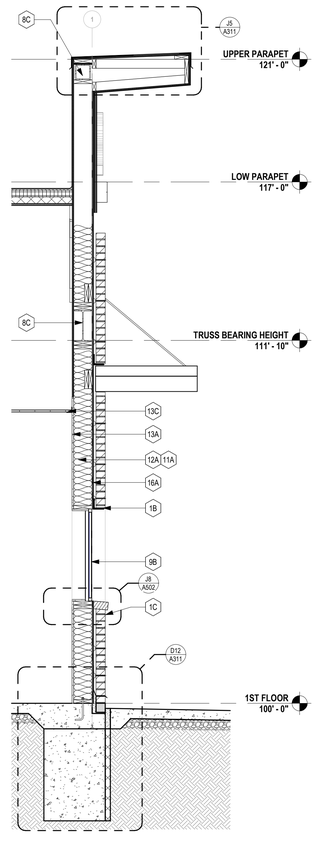
E10 WALL SECTION
1/2" = 1'-0"



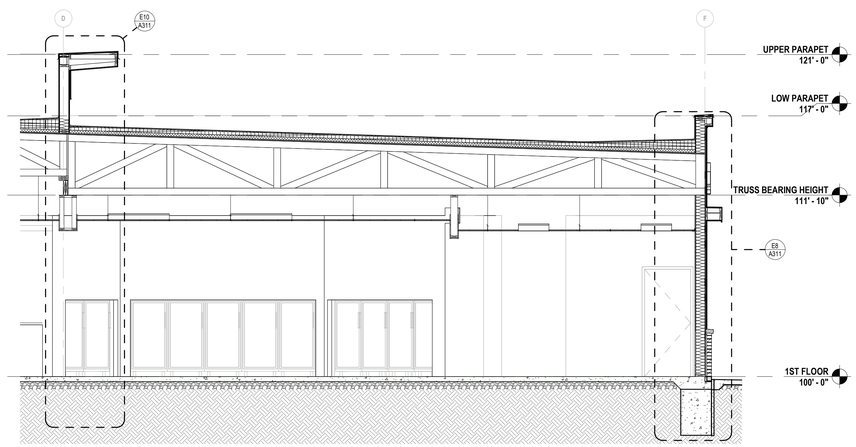
E8 WALL SECTION - SIDE
1/2" = 1'-0"



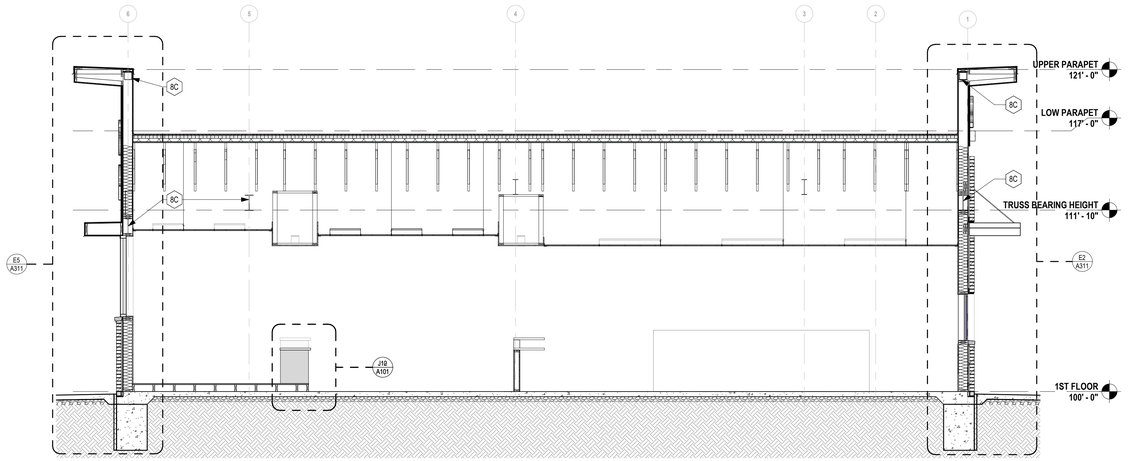
E5 WALL SECTION @ FRONT
1/2" = 1'-0"



E2 WALL SECTION @ DRIVE-THRU
1/2" = 1'-0"



A12 BUILDING SECTION
1/4" = 1'-0"



A7 BUILDING SECTION
1/4" = 1'-0"

GENERAL NOTES: EXTERIOR WALL SECTIONS/ DETAILS

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. RE: FLOOR PLANS, ROOF PLAN AND ELEVATIONS FOR SECTION CUT LOCATIONS.
3. ALL WINDOW AND DOOR OPENING DIMENSIONS ARE ROUGH OPENING DIMENSIONS, UNLESS NOTED OTHERWISE.
4. DIMENSIONS SHOWN ON THE WALL SECTIONS ARE TO THE FACE OF EXTERIOR WALL, FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FOC), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
5. PAINT ALL EXPOSED STEEL, INCLUDING STEEL LINTELS, ETC. (TYP.)

KEYED NOTES: WALL SECTIONS

1A	STUCCO SYSTEM, RE: ELEVATIONS
1B	MODULAR BRICK, RE: ELEVATIONS
1C	BRICK ROWLOCK SILL, RE: ELEVATIONS
1D	ROWLOCK BASE COURSE (GROUT FULL)
1E	CAST WOOD SYSTEM, RE: ELEVATIONS
2A	TPO ROOFING MEMBRANE
3A	PREFINISHED ALUMINUM GUTTER
3B	PREFINISHED ALUMINUM DOWNSPOUT WITH DOWNSPOUT BOOT, CONNECT TO UNDERGROUND COLLECTION, RE: CIVIL
4A	PREFINISHED METAL FASCIA BOARD
4B	PREFINISHED METAL SOFFIT PANELS
5A	PREFINISHED METAL DRIP FLASHING
6A	LIGHT FIXTURE, RE: ELECTRICAL
7A	CONCRETE FOUNDATION, RE: STRUCTURAL
7B	CONCRETE SLAB ON GRADE, RE: STRUCTURAL
8A	ROOF TRUSS, RE: STRUCTURAL
8B	STEEL COLUMN, RE: STRUCTURAL. PAINT PER FINISH SCHEDULE.
8C	STEEL BEAM, RE: STRUCTURAL.
9A	ALUMINUM STOREFRONT SYSTEM
9B	SLIDING WINDOW, RE: WINDOW SCHEDULE
10B	TAPERED, RIGID ROOF INSULATION
10C	1/2" HIGH DENSITY POLYISO COVERBOARD
11A	R-20 BATT INSULATION (WALLS)
11B	2" RIGID FOUNDATION INSULATION
11C	2" BASE LAYER POLYISO INSULATION
12A	2X WOOD STUDS
12B	TREATED 2X6 WOOD PLATFORM FRAMING
12C	TREATED 3/4" PLYWOOD FLOOR SHEATHING
13A	5/8" TYPE X GYPSUM BOARD
13B	FLOOR FINISH PER FINISH PLAN
13C	CEILING FINISH PER RCP
14A	WEEP HOLE (NO CAULK)
14B	SOLID GROUT (BELOW FLASHING)
16A	TREATED EXTERIOR SHEATHING PER STRUCTURAL. COVER IN WRB
16B	3/4" PLYWOOD ROOF DECK PER STRUCTURAL
17A	CONCRETE SIDEWALK, RE: CIVIL
17B	1/2" EXPANSION JOINT
17C	BACKER ROD AND SEALANT
18A	GRAVEL BASE
18B	EARTH FILL
19A	SILL PLATE ANCHOR, RE: STRUCT.
19B	2X TREATED SILL PLATE

CWA ARCHITECTURE
collins|webb
3078 SW Market St. | Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

PERMIT DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB II NUMBER A-2014040898
06-12-24
ARCHITECT

PROFESSIONAL SEAL

A311

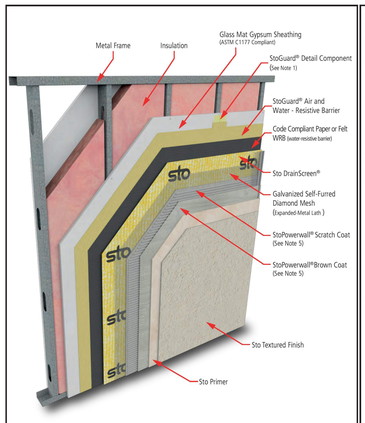
ISSUE DATE: 09 JUNE 2025
COLLINS WEBB #: 23114

BUILDING & WALL SECTIONS

6/12/2025 8:15:34 AM

StoPowerwall® DrainScreen®
System Components

Detail No.: 64s.00
Date: March 2022



Notes:

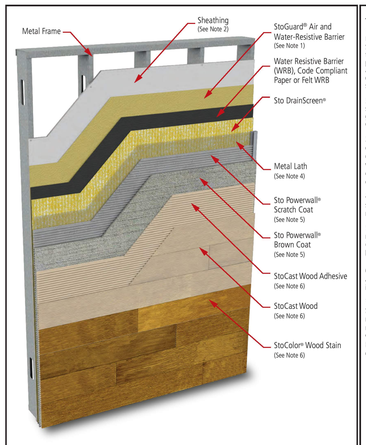
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

G12 DETAIL - STOPOWERWALL DRAINSCREEN
1" = 1'-0"

StoPowerwall® DrainScreen®
with StoCast Wood

Detail No.: 64s.00 SCW
Date: March 2022



Notes:

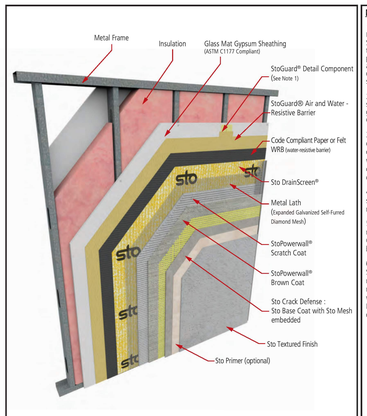
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Refer to the StoCast Wood Application Guide for more information.
7. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

G9 DETAIL - STOPOWERWALL W/ STOCAST WOOD
1" = 1'-0"

StoPowerwall® DrainScreen®
System Components with Sto Crack Defense System

Detail No.: 64s.01
Date: March 2022



Notes:

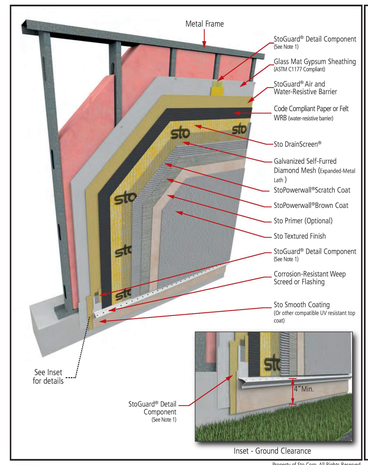
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

G6 DETAIL - STOPOWERWALL W/ STO CRACK DEFENSE
1" = 1'-0"

StoPowerwall® DrainScreen®
Termination at Grade: Sheathing Flush with Foundation

Detail No.: 64s.02
Date: March 2022



Notes:

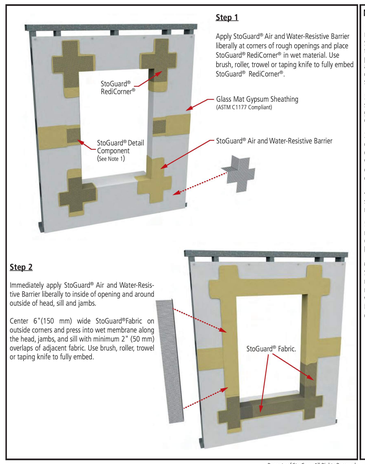
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

G3 DETAIL - TERMINATION AT GRADE
1" = 1'-0"

StoPowerwall® DrainScreen®
Rough Opening Protection with StoGuard®Fabric

Detail No.: 64s.04F
Date: March 2022
Page 1 of 2



Notes:

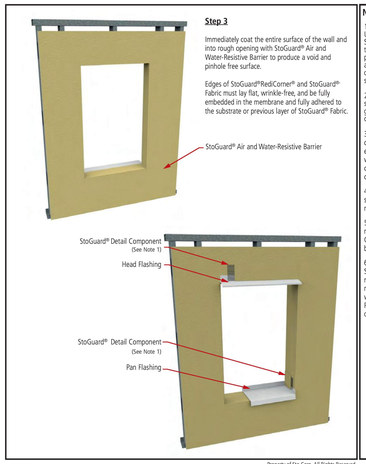
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

D12 DETAIL - ROUGH OPENING PROTECTION
1" = 1'-0"

StoPowerwall® DrainScreen®
Rough Opening Protection with StoGuard®Fabric

Detail No.: 64s.04F
Date: March 2022
Page 2 of 2



Notes:

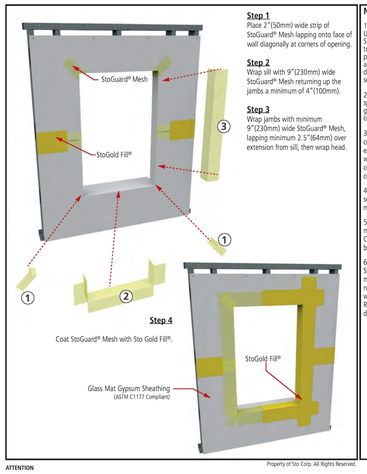
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

D9 DETAIL - ROUGH OPENING PROTECTION
1" = 1'-0"

StoPowerwall® DrainScreen®
Rough Opening Protection with StoGuard®Mesh

Detail No.: 64s.04M
Date: March 2022
Page 1 of 2



Notes:

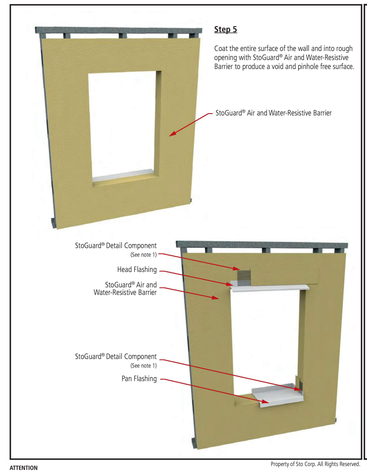
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

D6 DETAIL - ROUGH OPENING PROTECTION
1" = 1'-0"

StoPowerwall® DrainScreen®
Rough Opening Protection with StoGuard®Mesh

Detail No.: 64s.04M
Date: March 2022
Page 2 of 2



Notes:

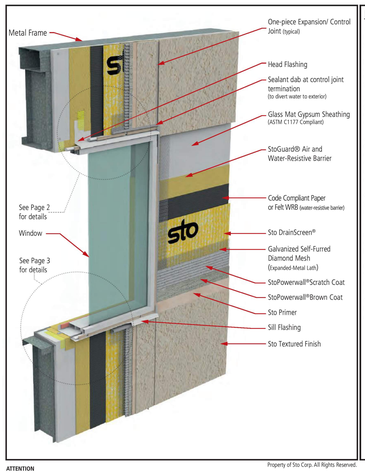
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

D3 DETAIL - ROUGH OPENING PROTECTION
1" = 1'-0"

StoPowerwall® DrainScreen®
Box Window at Sill, Jamb, and Head

Detail No.: 64s.05
Date: March 2022
Page 1 of 3



Notes:

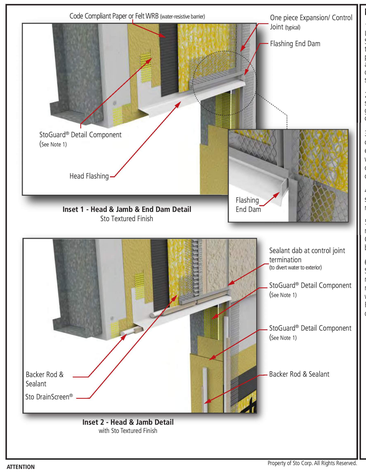
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

A12 DETAIL - BOX WINDOW AT STILL JAMB HEAD
1" = 1'-0"

StoPowerwall® DrainScreen®
Box Window at Head/Jamb

Detail No.: 64s.05
Date: March 2022
Page 2 of 3



Notes:

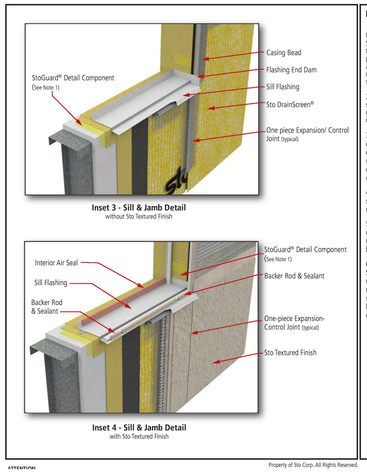
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

A9 DETAIL - BOX WINDOW AT HEAD/JAMB
1" = 1'-0"

StoPowerwall® DrainScreen®
Box Window at Sill/Jamb

Detail No.: 64s.05
Date: March 2022
Page 3 of 3



Notes:

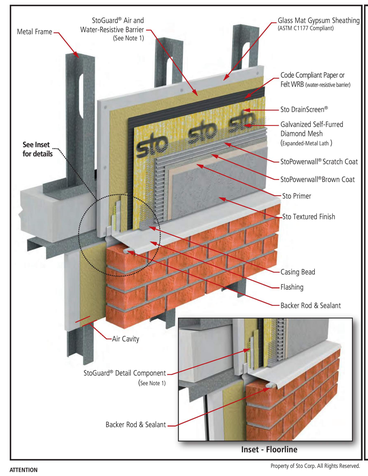
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

A6 DETAIL - BOX WINDOW AT SILL/JAMB
1" = 1'-0"

StoPowerwall® DrainScreen®
Horizontal Joint at Dissimilar Material

Detail No.: 64s.10
Date: March 2022



Notes:

1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.
7. Attach assembly components above floorline joint to deep leg track. Attach assembly components below floor line joint to embedded track with sufficient distance from deep leg track to allow for unimpeded floorline deflection.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

A3 DETAIL - HORIZONTAL JOINT AT BRICK
1" = 1'-0"

collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

PERMIT DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB II
NUMBER A-2010040008
06-12-24
ARCHITECT

PROFESSIONAL SEAL

A351

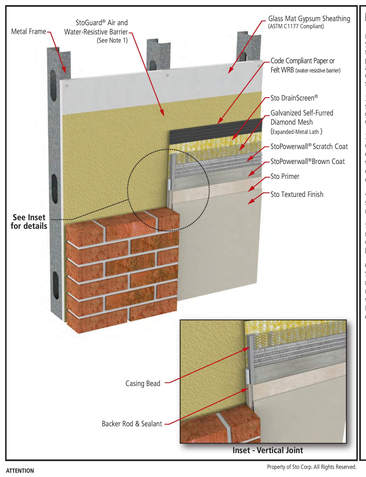
ISSUE DATE: 09 JUNE 2025
COLLINS WEBB #: 23114

STO SYSTEM DETAILS

6/12/2025 8:15:35 AM

StoPowerwall® DrainScreen®
Vertical Joint at Dissimilar Material

Detail No.: 64s.11
Date: March 2022



Notes:

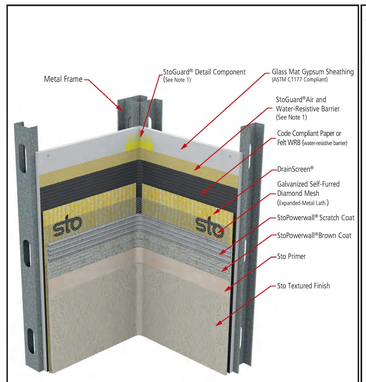
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

G12 DETAIL - VERTICAL JOINT AT BRICK
1" = 1'-0"

StoPowerwall® DrainScreen®
Inside Corner: Common Substrate

Detail No.: 64s.12
Date: March 2022



Notes:

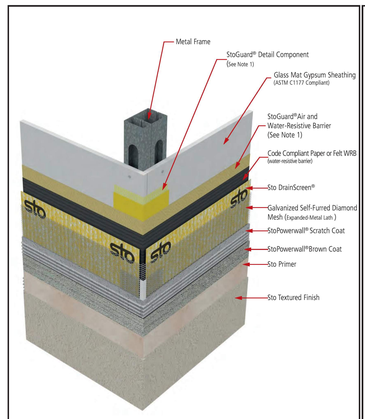
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

G9 DETAIL - INSIDE CORNER
1" = 1'-0"

StoPowerwall® DrainScreen®
Outside Corner: Common Substrate

Detail No.: 64s.14
Date: March 2022



Notes:

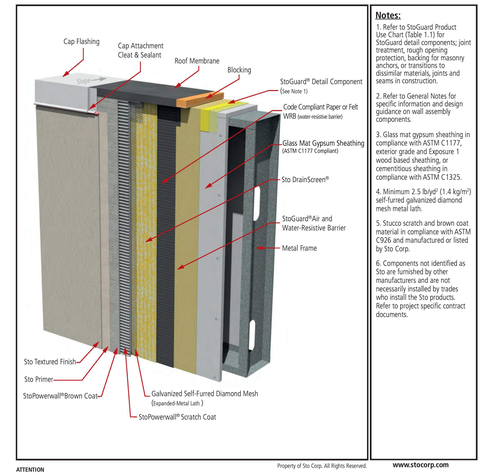
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

G6 DETAIL - OUTSIDE CORNER
1" = 1'-0"

StoPowerwall® DrainScreen®
Termination at Parapet

Detail No.: 64s.15
Date: March 2022



Notes:

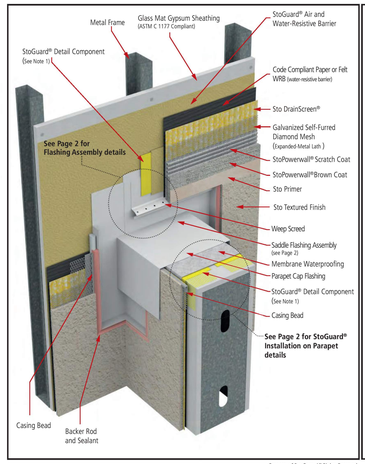
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

G3 DETAIL - TERMINATION AT PARAPET
1" = 1'-0"

StoPowerwall® DrainScreen®
Saddle Flashing

Detail No.: 64s.17
Date: March 2022
Page 1 of 2



Notes:

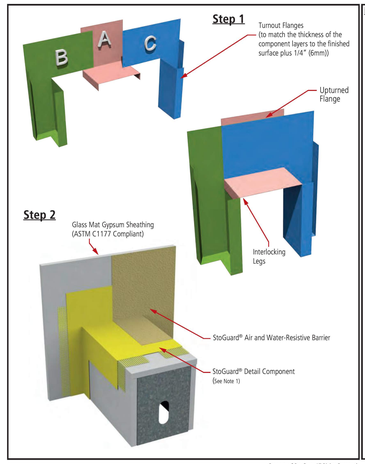
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

D12 DETAIL - SADDLE FLASHING
1" = 1'-0"

StoPowerwall® DrainScreen®
Saddle Flashing

Detail No.: 64s.17
Date: March 2022
Page 2 of 2



Notes:

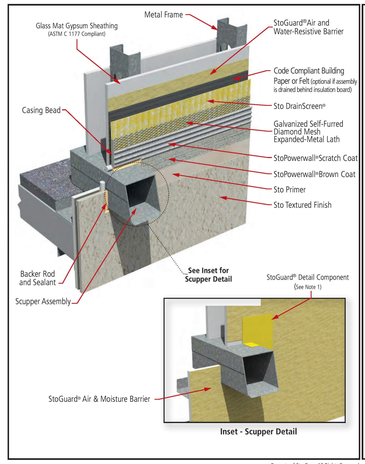
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

D9 DETAIL - SADDLE FLASHING
1" = 1'-0"

Sto Powerwall® DrainScreen®
Scupper Penetration Through Wall

Detail No.: 64s.18
Date: March 2022



Notes:

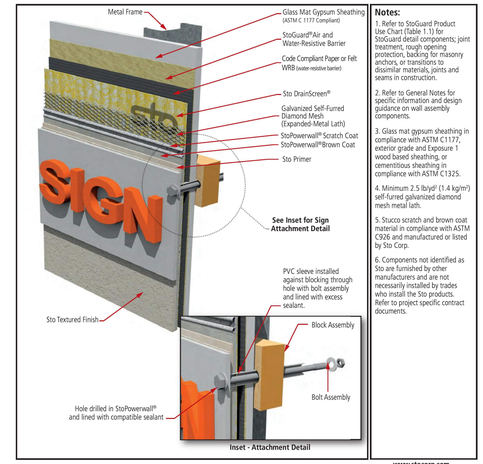
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

D6 DETAIL - SADDLE FLASHING
1" = 1'-0"

Sto Powerwall® DrainScreen®
Sign Attachment

Detail No.: 64s.19
Date: March 2022



Notes:

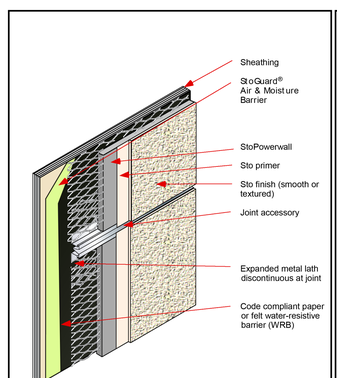
1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

ATTENTION
Property of Sto Corp. All Rights Reserved.
www.stocorp.com

D3 DETAIL - SADDLE FLASHING
1" = 1'-0"

StoPowerwall®
One-Piece Control Joint

Detail No.: 5.52
Date:December 2015



Notes:

1] Provide joints where movement in stucco or substrate is anticipated:
- at floor lines,
- at dissimilar construction materials,
- at existing building or expansion joints in the construction,
- at changes in building height,
- at columns or cantilevered areas,
- at maximum 144 ft² (13.4 m²) intervals.

2] Do not exceed length to width ratio of 2.5:1 in joint layout and do not exceed more than 18' (5.5 m) in any direction without a joint.

3] Provide proper joint accessory over the StoGuard® Air & Moisture Barrier and lap the expanded metal lath over the joint flanges. Metal lath must be discontinuous at the joint accessory.

4] Back two piece expansion joints with barrier membrane.

5] Comply with ASTM C1063

6] See detail 5.01 for StoGuard product options

IMPORTANT: Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

Property of Sto Corp. All Rights Reserved.

A12 DETAIL - STUCCO CONTROL JOINT
1" = 1'-0"

6/12/2025 8:15:36 AM

CWA collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64082 | 816.249.2270 | www.collinsandwebb.com

PERMIT DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB
NUMBER A-2004034008
06/25/25
ARCHITECT

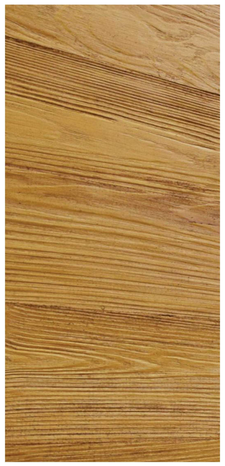
PROFESSIONAL SEAL

A352

ISSUE DATE: 09 JUNE 2025
COLLINS WEBB #: 23114

STO SYSTEM DETAILS

StoCast Wood
Resin cast wood grain planks



Surface Description

Description	• Authentic wood grain appearance.
Products	• StoCast Wood, StoCast Wood Adhesive, • StoColor® Wood Stain.
Possible Color Shades	• StoColor® Wood Stain is available in 15 standard colors • StoColor System; LRV ≥ 20 for StoTherm® ci systems with EPS, GPS or XPS insulation. • The minimum permissible light reflectance value (LRV) depends on the substrate, the system, and the product.

Note: Reference our StoCast Wood brochure to view the standard StoColor Wood Stains

1/4" x 1/4" V-Notched Stainless Steel Trowel

Rubber Roller

Sponge

Spatula

Utility Knife

Brush

Please note that the details, illustrations, general technical information, and drawings contained in this brochure are only general proposals and details which merely describe the basic functions schematically. They are not dimensionally accurate. Applicator/customer is independently responsible for determining the suitability and completeness for the product in question. Adjacent works are described only schematically. All specifications and installation details must be adapted to the tight of local conditions and do not constitute work, detail or installation plans. The technical specifications and product information in the Technical Data Sheets and in system descriptions/approvals must be observed.

Application Steps

1 Always starting from the top, only apply as much adhesive as you can quickly cover using a 1/4" x 1/4" V-notched stainless steel trowel. Ensure the material does not skin over.

2 The StoCast Wood planks are installed from top to bottom. When needed, flip the StoCast Wood planks on their face and cut planks to size with a utility knife.

3 When initially installing the planks, leave approximately 1/4" space between them, then push them together. Press the planks with a rubber roller to squeeze out the adhesive. This ensures that the joints are completely closed and protected against moisture intrusion.

Note: Joint space between planks cannot exceed 3/8 inch (10mm) in width. Joints MUST be top coated with Sto coating. Refer to page 9 for more information.

4 Once the protruding adhesive has slightly hardened, remove it using a spatula. No adhesive should be left on the surface of the board.

5 Wipe off any remaining adhesive with a moist sponge or rag.

6 Top coat the surface. Make sure the surface is clean and dry, free from dust and debris. Apply two coats of StoColor Wood Stain using a brush or roller. Let the first coat dry before applying the second coat.

Note: Any exterior Sto coating can be used. Color within 90 days of installation.

Corner Installation

1 Install the planks as noted in steps 1 through 3.

Note: Cut the planks to a slightly longer size to cover the corners.

2 Once the adhesive has slightly hardened, cut the excessive plank length flush using a sharp utility knife.

3 Sand any remaining projections or unevenness with fine sandpaper (80-100 grit).

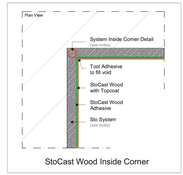
Note: Do not use a power sander.

Plaster Joint

1 The stain must be completely dry prior to being covered. Cover the edges of StoCast Wood with painter's tape and protect the surface with masking film.

2 Apply the textured finish or coating. Remove the tape before the finish is dry to the touch.

StoCast Wood
StoCast Wood Inside Corner
StoCast Wood Inside Corner with EPS Trim



StoCast Wood Inside Corner

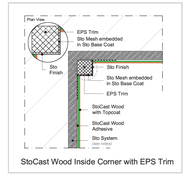
Notes:

StoPowerwall®
Bend self-furred lath, attach tight to inside corner, and extend minimum 24-in past corner; or, use Cornerite™ accessory wire tied to metal lath (Sto Detail No. 4.54)

StoQuik Silver® Drainscreen
Embed Sto Mesh in Sto Base Coat and fold 8-in each direction (Sto Detail No. 11.53b DS)

StoTherm® ci
Double wrap with Sto Mesh embedded in Sto Base Coat and fold 8-in each direction around corner (Sto Detail No. 52s.54B); or, embed 9.5-in wide Sto Detail Mesh in Sto Base Coat at corner, followed by Sto Mesh embedded in Sto Base Coat around corner.

StoVentec® Rainscreen®
Install Sto Edge Protection Profile G and Sto Joint Sealing Tape followed by Sto Mesh 6oz embedded in Sto Base Coat up to corner. Make small straight line cut in finish with scoring knife at corner (Sto Detail no. 90.R.400)



StoCast Wood Inside Corner with EPS Trim

Notes:

StoPowerwall®
Bend self-furred lath, attach tight to inside corner, and extend minimum 24-in past corner; or, use Cornerite™ accessory wire tied to metal lath (Sto Detail No. 4.54)

Embed Sto Mesh or Sto Detail Mesh in Sto Base Coat over EPS Trim and extend minimum 3-in onto stucco.

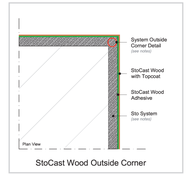
StoQuik Silver® Drainscreen
Embed Sto Mesh or Sto Detail Mesh in Sto Base Coat over EPS Trim and extend minimum 3-in onto cement board.

StoTherm® ci
Double wrap EPS Trim with Sto Mesh or Sto Detail Mesh embedded in Sto Base Coat and fold 8-in each direction (Sto Detail No. 52s.54B) or, embed Sto Mesh in Sto Base Coat around corner (Sto Detail No. 11.53b DS).

StoVentec® Rainscreen®
Install Sto Edge Protection Profile G and Sto Joint Sealing Tape (Sto Detail no. 90.R.400)

Embed Sto Mesh or Sto Detail Mesh in Sto Base Coat over EPS Trim and extend minimum 3-in onto Sto Carrier Board A+.

StoCast Wood
StoCast Wood Outside Corner
StoCast Wood Outside Corner with EPS Trim



StoCast Wood Outside Corner

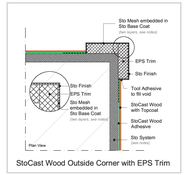
Notes:

StoPowerwall
Install Stucco Corner Bead Accessory (Sto Detail No. 4.55)

StoQuik Silver Drainscreen
Install Sto-Mesh Corner Bead Standard Accessory (Sto Detail No. 11.54 DS); or, embed 9.5-in wide Sto Detail Mesh in Sto Base Coat, followed by Sto Mesh embedded in Sto Base Coat around corner (Sto Detail No. 11.53b DS).

StoTherm ci
Install Sto-Mesh Corner Bead Standard Accessory (Sto Detail No. 52s.54A); or, embed Sto Mesh in Sto Base Coat and fold 8-in each direction (Sto Detail No. 52s.54B)

StoVentec Rainscreen
Install Sto-Mesh Corner Bead Standard Accessory (Sto Detail No. 90.R.410)



StoCast Wood Outside Corner with EPS Trim

Notes:

StoPowerwall
Install Stucco Corner Bead Accessory
(Sto Detail No. 4.55)

Double wrap EPS Trim with Sto Mesh or Sto Detail Mesh embedded in Sto Base Coat and extend minimum 3-in onto stucco, followed by second layer extending minimum 8-in onto stucco

StoQuik Silver Drainscreen
Double wrap EPS Trim with Sto Mesh or Sto Detail Mesh embedded in Sto Base Coat and extend minimum 3-in onto cement board, followed by second layer extending minimum 8-in onto cement board.

StoTherm ci
Double wrap EPS Trim with Sto Mesh or Sto Detail Mesh in Sto Base Coat and extend first layer minimum 3-in onto Sto EPS Insulation Board, followed by second layer extending minimum 8-in onto Sto Insulation Board.

StoVentec Rainscreen
Double wrap EPS Trim with Sto Mesh or Sto Detail Mesh embedded in Sto Base Coat and extend first layer minimum 3-in onto Sto Carrier Board A+, followed by second layer extending minimum 8-in onto Sto Carrier Board A+.

StoCast Wood
StoCast Wood Termination at EPS Trim
StoCast Wood on Radiused Outside Corner

StoCast Wood Termination at EPS Trim

Notes:

StoPowerwall
Embed Sto Mesh or Sto Detail Mesh in Sto Base Coat over EPS Trim and extend minimum 3-in onto stucco.

StoQuik Silver Drainscreen
Embed Sto Mesh or Sto Detail Mesh in Sto Base Coat over EPS Trim and extend minimum 3-in onto cement board. (Sto Detail No. 11.04b DS)

StoTherm ci
Embed Sto Mesh or Sto Detail Mesh in Sto Base Coat and extend minimum 3-in onto Sto EPS Insulation Board (Sto Detail No. 52s.04)

StoVentec Rainscreen
Embed Sto Mesh or Sto Detail Mesh in Sto Base Coat over EPS Trim and extend minimum 3-in onto Sto Carrier Board A+.

StoCast Wood on Radiused Outside Corner (Minimum 14" [356mm] Radius)

Notes:

StoPowerwall
Install a wire Bullnose stucco corner lath or accessory (without metal or vinyl nosing, so stucco is the substrate around the curved corner).

StoQuik Silver Drainscreen[1]
Install a flexible cement board, then embed 9.5-in wide Sto Detail Mesh in Sto Base Coat, followed by Sto Mesh embedded in Sto Base Coat around corner.

StoTherm ci
Embed Sto Mesh in Sto Base Coat, and fold 8-in each direction around pre-formed EPS or XPS insulation board (Sto Detail No. 52s.54B).

StoVentec Rainscreen[1]
Score backside of carrier board.

1. The substrate in these systems cannot accommodate the minimum 14" (356 mm) radius. Refer to cement board or Sto Carrier Board A+ product literature.

StoCast Wood
StoCast Wood with Open Joint

StoCast Wood with Open Joint

Note: where "open" joints are desired, skim coat the entire wall surface with StoCast Wood Adhesive and allow to dry. Then install StoCast Wood planks with joint spacing up to 3/8" (10mm) maximum and tool the excess adhesive between planks with a spatula, masonry pointing tool, or artist's brush.

Apply additional adhesive if needed to fill the joints. The StoColor Wood Stain topcoat (or other exterior StoColor coating) MUST be applied over the entire surface, including the tooled joint, in two coats.

Notes and Tips

Preliminary work
Details, such as termination at grade, connections to adjacent building elements (window/door frame, window sill, roof, sheet metal, etc.), structural expansion joints, must be planned in advance and coordinated between the relevant parties. The application instructions of Sto are to be observed. Refer to applicable Sto system details.

Hand-held samples and sample surface areas
Smaller samples are not always suitable for providing an overall impression of an application technique on larger facade surfaces. For this reason, we highly recommend having the contractor prepare a mock up sample. If this work requires scaffolding, this should be taken into account when creating the sample. The finished sample area should be inspected and accepted by the site manager/building owner. The area provides a reference surface for the contracted service.

Planning the work procedure and how the work is divided up
Before starting the work, determine who will carry out which tasks such as applying, smoothing or staining. Carefully plan each coating process, taking into account the weather conditions, and prepare the relevant material.

Uniform Color Application
When tradesmen create facade textures or structures, it is important to remember that each tradesman has his or her own signature style. For smaller facade surfaces, and to achieve color consistency, we recommend the same person coats/stains the StoCast Wood. On large facade surfaces, an experienced team may combine individual application techniques to produce an end result that has a harmonious appearance.

Size of the area
For large facades, we recommend dividing the surface to be created into smaller partial areas. This ensures that calculations and execution are reliable, and that good application results will be achieved.

Scaffolding
The scaffolding must be appropriate for the trade processes being carried out and the techniques and tools used: take into account the spacing, the brackets, the projections, and the positioning and height of the scaffolding.

Weather protection
If the weather is unfavorable during the application and drying processes, it is necessary to put in place appropriate protective measures (rain/solar protection, etc.).

Corner areas/connections
Carefully plan connections and corner areas. It may be necessary to use a different application technique in these areas. Not every technique is suitable for use up into internal corners, for example.

Handling
Keep the boards flat on the workspace. Do not fold, tear or step on planks.

Limitations

- Minimum radius of StoCast Wood planks: 14 inches (356mm)
- Use only when surface and ambient temperatures are between 50-85°F (10-29.4°C) during application and drying period.
- Do not use on horizontal or below grade surfaces or where immersion in water may occur.
- Do not use on roofs or roof-like surfaces.
- Not for use as lap siding.
- Use topcoats with Light Reflectance Value (LRV) greater than or equal to 20 when used over StoTherm ci or StoTherm ci XPS Systems.

Cleaning, repair and maintenance
Refer to the StoCast Wood Repair and Maintenance Guide.

collins|webb ARCHITECTURE
307B SW Market St. | Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

PERMIT DOCUMENTS

EXPRESS STOP
3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB JR NUMBER A-7844040898 ARCHITECT
06-12-24

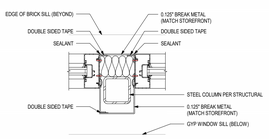
PROFESSIONAL SEAL

A353

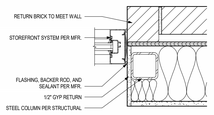
ISSUE DATE: 09 JUNE 2025
COLLINS WEBB #: 23114

STOCAST WOOD DETAILS

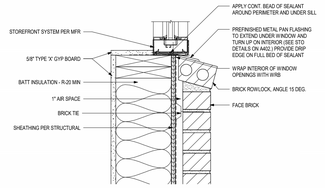
6/12/2025 8:15:36 AM



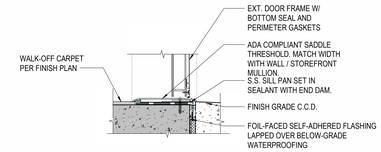
J12 BREAK METAL COLUMN WRAP
1 1/2" = 1'-0"



J10 TYPICAL JAMB AT S.F.
1 1/2" = 1'-0"



J8 TYPICAL SILL AT STOREFRONT
1 1/2" = 1'-0"



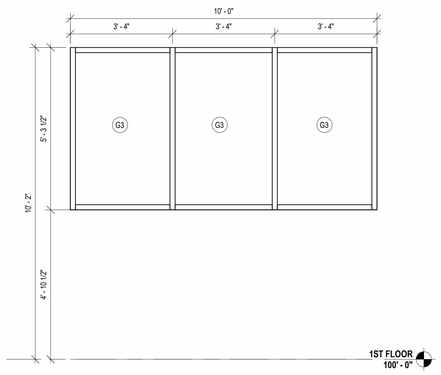
J6 DETAIL - ENTRY THRESHOLD
1 1/2" = 1'-0"

DOOR SCHEDULE

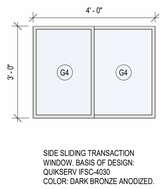
DOOR NO.	ROOM NAME	WIDTH	HEIGHT	DOOR TYPE	DOOR MAT.	DOOR FINISH	FRAME TYPE	FRAME MAT.	FRAME FINISH	REMARKS
104	BEVERAGE CLO. A	3' - 0"	7' - 0"	D1	HM	EP04	F1	HM	EP03	
105	WALK-IN COOLER A	3' - 0"	7' - 0"	D1	HM	EP04	F1	HM	EP03	
106	STORAGE A	3' - 0"	7' - 0"	D1	HM	EP04	F1	HM	EP03	
107A	STORAGE A	3' - 0"	7' - 0"	D1	HM	EP04	F1	HM	EP03	
107B	WALK-IN COOLER A	3' - 0"	7' - 0"	D1	HM	EP04	F1	HM	EP03	
109A	KITCHEN REAR	3' - 0"	7' - 0"	D1	HM	EP04	F1	HM	EP03	
109B	KITCHEN REAR	3' - 0"	7' - 0"	D1	HM	EP04	F1	HM	EP03	
110	UTILITY	3' - 0"	7' - 0"	D1	HM	EP04	F1	HM	EP03	
111A	STORAGE B	3' - 0"	7' - 0"	D1	HM	EP04	F1	HM	EP03	
111B	WALK-IN FREEZER	3' - 0"	7' - 0"	D1	HM	EP04	F1	HM	EP03	
111C	CORRIDOR	3' - 0"	7' - 0"	D1	HM	EP04	F1	HM	EP03	
112	CORRIDOR	3' - 0"	7' - 0"	D1	HM	EP04	F1	HM	EP03	
114	WOMEN	3' - 0"	7' - 0"	D1	HM	EP04	F1	HM	EP03	
115	RETAIL AREA 'B'	3' - 0"	7' - 0"	D1	HM	EP04	F1	HM	EP03	
200	WALK-IN COOLER A	3' - 0"	8' - 0"	D2	AL	-	STOREFRONT	AL	-	
201	RETAIL AREA 'B'	3' - 0"	8' - 0"	D2	AL	-	STOREFRONT	AL	-	
202	CORRIDOR	3' - 0"	7' - 0"	D1	HM	EP04	F1	HM	EP03	
203	STORAGE A	3' - 0"	7' - 0"	D1	HM	EP04	F1	HM	EP03	

DOOR SCHEDULE REMARKS:

1. **PROTECT DOOR AND FRAME FROM DAMAGE THROUGHOUT CONSTRUCTION. ANY DAMAGE TO BE REPAIRED/REPLACED PER OWNER DISCRETION.**
2. **PROVIDE ADA INGRESS/EGRESS AUTO OPERATOR. WIRING, POWER AND CONNECTIONS TO BE PROVIDED BY TI CONTRACTOR.**
3. **DOOR FRAME 2" OFF FINISHED FACE ON HINGE SIDE.**

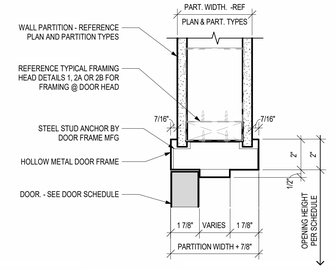


F10 STOREFRONT 5
1/2" = 1'-0"

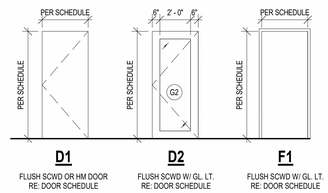


SIDE SLIDING TRANSACTION WINDOW. BASIS OF DESIGN: QUIKSERV IFSC-4030. COLOR: DARK BRONZE ANODIZED.

F7 WINDOW 1
1/2" = 1'-0"

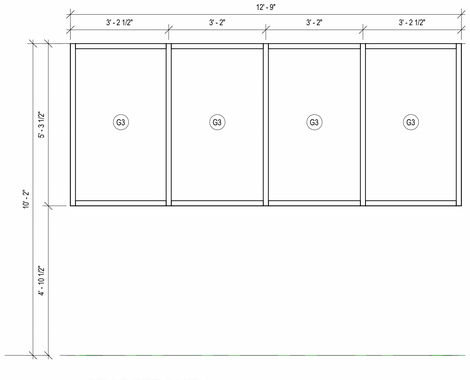


F6 HM DOOR HEAD DETAIL
3" = 1'-0"

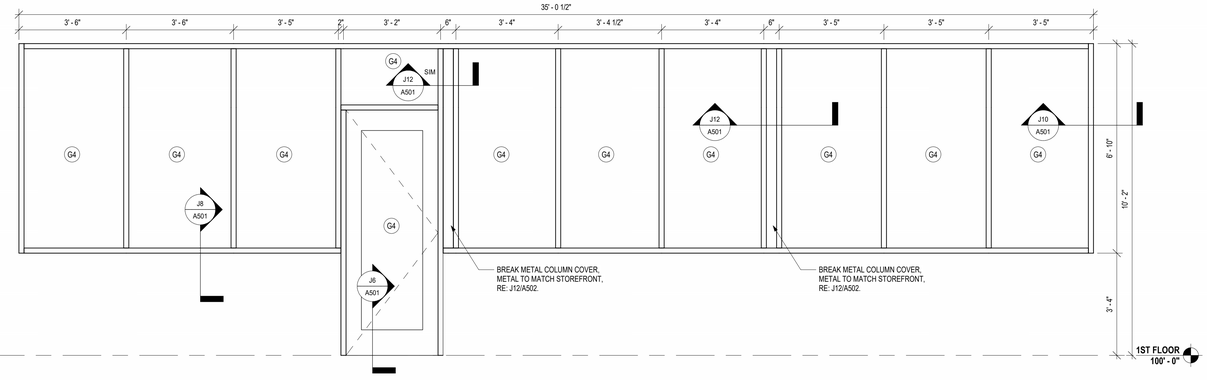


NOTE:
1. DOORS TO BE 1-3/4" THICK, UNLESS NOTED OTHERWISE ON DOOR SCHEDULE.
2. REFER TO GLASS SCHEDULE FOR GLAZING.

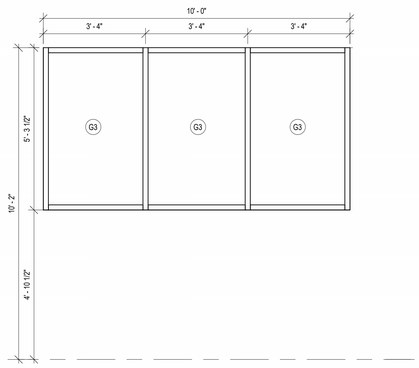
F3 DOOR TYPE ELEVATIONS
1/4" = 1'-0"



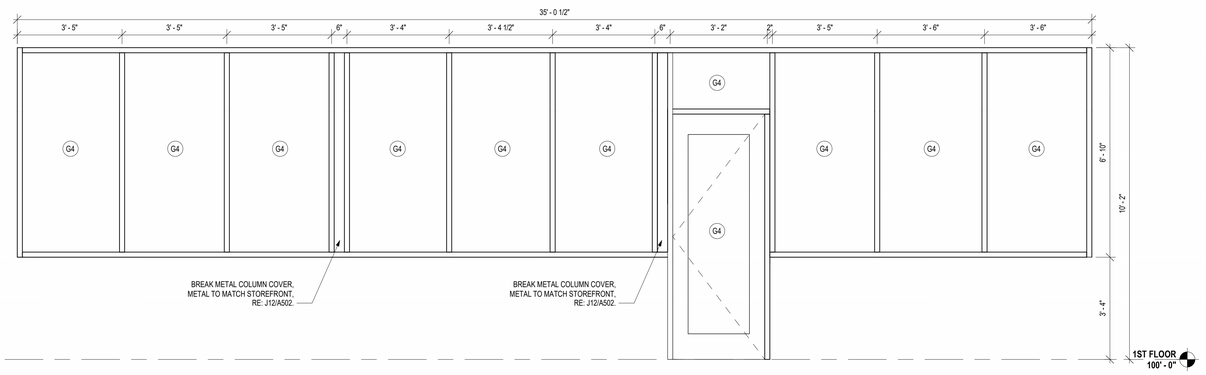
D10 STOREFRONT 4
1/2" = 1'-0"



D7 STOREFRONT 2
1/2" = 1'-0"



A10 STOREFRONT 3
1/2" = 1'-0"



A7 STOREFRONT 1
1/2" = 1'-0"

GENERAL NOTES: DOOR SCHEDULE

1. HM REFERS TO HOLLOW METAL
2. AL REFERS TO ALUMINUM
3. WD REFERS TO WOOD
4. SCWD REFERS TO SOLID CORE WOOD
5. ALL EXTERIOR ALUMINUM DOORS & FRAMES ARE TO BE FINISHED TO MATCH ADJACENT ALUMINUM WINDOW FRAME, U.N.O.
6. FOR FINISH COLOR DESIGNATION FOR INTERIOR DOOR AND FRAMES, REFER TO FINISH LEGEND.
7. DOOR HARDWARE BY OWNER. REFER TO DOOR HARDWARE SPECIFICATIONS FOR BASIS OF DESIGN.
8. PROTECT ALL DOORS & FRAMES FROM DAMAGE THROUGHOUT CONSTRUCTION PHASES.
9. ALL EGRESS DOOR TO BE PROVIDED WITH PANIC HARDWARE.

GENERAL NOTES: WINDOW TYPES / GLASS TYPES

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. ALL WINDOW TYPES ARE ALUMINUM STOREFRONT, UNLESS NOTED OTHERWISE.
3. ALL DIMENSIONS ARE TO ROUGH OPENING AND TO TOP OR BOTTOM OF MULLION, UNLESS NOTED OR SHOWN OTHERWISE.
4. ALL OPENINGS ARE TO BE FIELD VERIFIED, AND NOTED AS SUCH ON SHOP DRAWINGS, PRIOR TO ARCHITECT'S REVIEW.
5. GLASS DOORS, ADJACENT PANELS AND ALL GLAZED OPENINGS WITHIN 1'-6" OF THE FLOOR, AND WITHIN A 24-INCH ARC OF EITHER VERTICAL EDGE OF A DOOR, ETC., SHALL BE SAFETY GLAZING AS APPROVED FOR IMPACT BY APPLICABLE BUILDING CODES, AND SHALL BE LABELED AS SUCH.
6. REFER TO SPECIFICATIONS FOR GLAZING & FRAME PRODUCT INFORMATION.

GLASS TYPE LEGEND

DESIGNATION NUMBER	DESCRIPTION
G1	1/4" GLAZING, CLEAR
G2	1/4" TEMPERED GLAZING, CLEAR
G3	1" INSULATED GLAZING, CLEAR
G4	1" INSULATED TEMPERED GLAZING
G5	3/16" PREMIUM GRADE FIRE RATED GLASS CERAMIC SAFETY GLAZING
G6	1" INSULATED SPANDREL GLAZING
G7	1" INSULATED TEMPERED SPANDREL GLAZING

STOREFRONT BASIS OF DESIGN

1. STOREFRONT BASIS OF DESIGN IS KAWNEER VERSAGLAZE 451/451T FRAMING SYSTEM.
2. FINISH TO BE ANODIZED - DARK BRONZE (#40).
3. MULLION DEPTH IS 4.5".
4. MULLION HAVE 2" SIGHTLINE.
5. GLASS PLANE TO BE CENTERED.
6. PROVIDE WEATHERSEAL.
7. PROVIDE COMPENSATING RECEPTOR AT HEAD TO ALLOW FOR STRUCTURAL MOVEMENT.

CWA collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

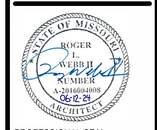
PERMIT DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:



PROFESSIONAL SEAL

A501

ISSUE DATE: 09 JUNE 2025
COLLINS WEBB #: 23114

DOOR AND WINDOW TYPES & DETAILS

6/12/2025 8:15:44 AM

A12 1ST FLOOR - REFLECTED CEILING PLAN
1/4" = 1'-0"

GENERAL NOTES: REFLECTED CEILING PLANS

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. RE: DETAILS FOR ADDITIONAL CONDITIONS AND CEILING HEIGHT INFORMATION.
3. RE: FINISH LEGEND AND FINISH SCHEDULE FOR ROOM CEILING FINISHES.
4. RE: INTERIOR ELEVATIONS FOR LOCATION OF WALL MOUNTED LIGHT FIXTURES.
5. RE: ELECTRICAL SHEETS AND SPECIFICATIONS FOR DETAILED INFORMATION ON LIGHT FIXTURE SCHEDULE.
6. RE: MECHANICAL SHEETS AND SPECIFICATIONS FOR DETAILED INFORMATION ON DIFFUSERS.
7. RE: MECHANICAL SHEETS FOR LOCATIONS OF SOUND ISOLATION BELOW AND OR AROUND MECH. EQUIPMENT.
8. DIMENSIONS SHOWN ON THE REFLECTED CEILING PLANS ARE TO THE FACE OF GYP. BOARD (FOG), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
9. ALL CEILINGS TO BE INSTALLED AS NOTED ON RCP.
10. ALL CEILING HEIGHTS AS SHOWN ON PLANS AND DETAILS ARE FROM SLAB OR TILE FLOOR (FINISHED FLOOR) TO FINISH CEILING.
11. AT ALL GYP. BD. SOFFITS: EXTEND GYP. BD. UP 6 INCHES ABOVE ADJACENT CEILING.
12. CEILING TILES/GRID TO BE CENTERED IN THE ROOM, UNLESS NOTED OTHERWISE.
13. RECESSED LIGHTING, SPEAKERS, SMOKE DETECTORS, ETC. AND PENDANT LIGHT FIXTURES - SHALL BE CENTERED IN CEILING TILE OR GYP. BD. CEILING, UNLESS NOTED OTHERWISE.
14. COORDINATE ALL PENDANT MOUNTED LIGHT FIXTURES IN EQUIPMENT AREAS WITH EXPOSED STRUCTURE.
15. COORDINATE ALL CEILING MOUNTED EQUIPMENT WITH CASEWORK BELOW.
16. IF THERE IS A CONFLICT BETWEEN ANY ABOVE-CEILING MECHANICAL / ELECTRICAL / PLUMBING WORK & THE SCHEDULED OR SHOWN CEILING HEIGHT, CONTACT THE ARCHITECT IMMEDIATELY FOR CLARIFICATION.
17. PROVIDE OVERALL CEILING COORDINATION DRAWING SHOWING ALL DEVICES DURING SHOP SUBMITTAL PROCESS.
18. ALL LIGHTING BY G.C. COORD. WITH MILLWORK CONTRACTOR FOR LOCATION.
19. ALL EXPOSED CONDUIT, DUCTWORK, ETC. TO BE PAINTED TO MATCH ADJACENT WALL, TYP.
20. REFERENCE MEP DRAWINGS FOR LOCATIONS OF EMERGENCY LIGHTING, AND HVAC COMPONENTS.

CEILING PLAN LEGEND

NOTE: SOME SYMBOLS MAY NOT BE USED IN THIS DRAWING OR PROJECT.

	WALK-IN COOLER CEILING (AND LIGHTING) BY COOLER MFR.
	ACT-1: VINYL SUSPENDED LAY-IN SCRUBBABLE CEILING TILE AND EXPOSED TEE-GRID SYSTEM (2'X4')
	ACT-2: (2'X4') TEGULAR ACOUSTIC CEILING TILE. RE: A900 SHEETS FOR FURTHER CLARIFICAITON.
	ACT-3: (2'X2') TEGULAR ACOUSTIC CEILING TILE. RE: A900 SHEETS FOR FURTHER CLARIFICAITON.
	5/8" GYPSUM BOARD BULKHEAD, CEILING OR SOFFIT. SEE APPLICABLE DETAILS AND SECTIONS.
	2'X4' LAY-IN LIGHT FIXTURE. SEE ELECTRICAL DRAWINGS FOR TYPE.
	2'X2' LAY-IN LIGHT FIXTURE. SEE ELECTRICAL DRAWINGS FOR TYPE.
	RECESSED CAN LIGHT FIXTURE. SEE ELECTRICAL DRAWINGS FOR TYPE.

CWA collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

PERMIT DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB II NUMBER A-2016034008 ARCHITECT
06-12-25
PROFESSIONAL SEAL

A601

ISSUE DATE: 09 JUNE 2025
COLLINS WEBB #: 23114

RCP - 1ST FLOOR

6/12/2025 8:15:46 AM

GENERAL NOTES: INTERIOR ELEVATIONS

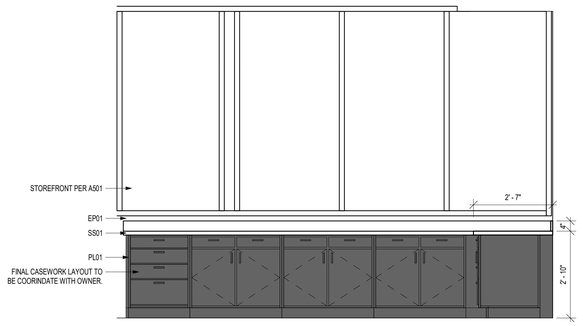
1. GROUT JOINTS OF WALL AND FLOOR TO ALIGN.
2. KNEE WALLS TO BE BUILT TO CONSTRUCTION TOLERANCES OUTLINED IN SPECIFICATIONS.

TOILET ACCESSORY SCHEDULE

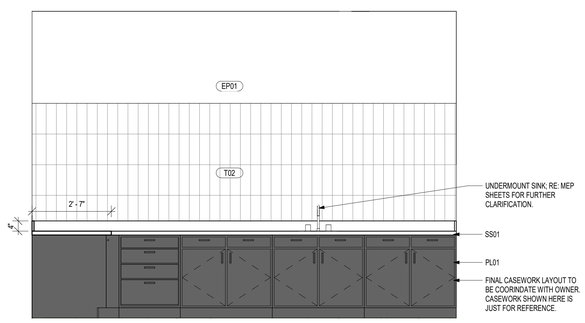
TYPE MARK	MANUFACTURER	DESCRIPTION	MODEL	FINISH	COMMENTS
1	Bobrick	MIRROR, WELDED FRAME	B-290 2436	SATIN	3, 5
2	Bobrick	Classic Series Surface Mounted Soap Dispenser	B-40	-	3
3	Bradley	Surface Mounted Napkin Disposal	4781-15	SATIN	3
4	Bobrick	Classic Series Surface Mounted Multi-Roll	B-2888	SATIN	3
5	Bobrick	InstaDry Series Surface-Mounted Automatic Hand Dryer	B-7125	SATIN	3
6	Bobrick	GRAB BAR, 1-1/2" DIA., SS, 36"	B-5806-36	SATIN WITH PEENED GRIP	3
7	Bobrick	GRAB BAR, 1-1/2" DIA., SS, 42"	B-5806-42	SATIN WITH PEENED GRIP	3
8	Bobrick	GRAB BAR, 1-1/2" DIA., SS, 18"	B-5806-18	SATIN WITH PEENED GRIP	3
9	Scranton	OVERHEAD-BRACED TOILET PARTITION - 55" H STANDARD PANEL	ECLIPSE	CHARCOAL GREY - ORANGE PEEL	3
10	Scranton	WALL-HUNG URINAL SCREEN	ECLIPSE	CHARCOAL GREY - ORANGE PEEL	3

GENERAL NOTES:
A. ALL TOILET ACCESSORY LOCATIONS BASED ON FLOOR PLAN LAYOUT.
B. REFER TO INTERIOR ELEVATIONS FOR ANY ACCESSORIES THAT MAY NOT SHOW UP ON THE PLANS.
C. REFER TO G002 AND MANUFACTURER'S SPECIFICATIONS FOR MOUNTING HEIGHTS.
D. COORDINATE ALL MOUNTING HEIGHTS W/ PLUMBING FIXTURES TO ALLOW PROPER OPERATION & INFORM ARCHITECT IN WRITING OF ANY CONFLICTS.
E. REFER TO PLANS AND ELEVATIONS FOR ITEMS NOTED AS FF&E.
F. PROVIDE ALLOWANCE FOR ALL ROUNDED VANITY MIRRORS.
G. VERIFY ALL SELECTIONS W/ OWNER PROIOR TO PROCUREMENT AND INSTALLATION.

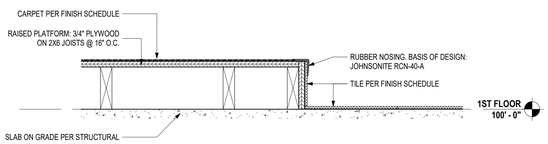
COMMENTS:
1. OWNER FURNISHED, OWNER INSTALLED.
2. FF&E ITEM - OWNER FURNISHED, CONTRACTOR INSTALLED. REFER TO PLANS AND ELEVATIONS FOR FURTHER CLARIFICATION.
3. SURFACE MOUNTED.
4. RECESSED.
5. MIRRORS TO BE CENTERED AT SINKS, TYP.



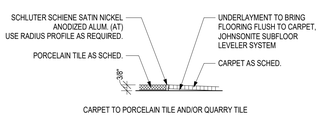
D7 INTERIOR ELEVATION - DRINK STATION
1/2" = 1'-0"



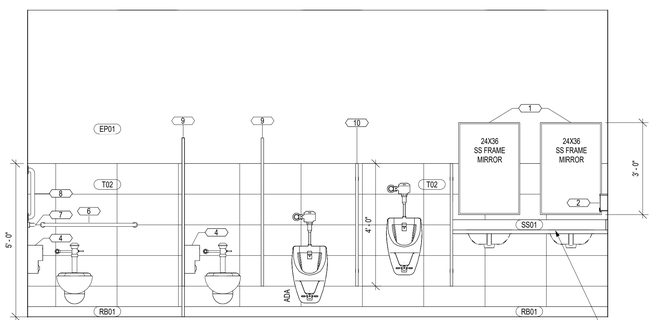
D4 INTERIOR ELEVATION - DRINK STATION
1/2" = 1'-0"



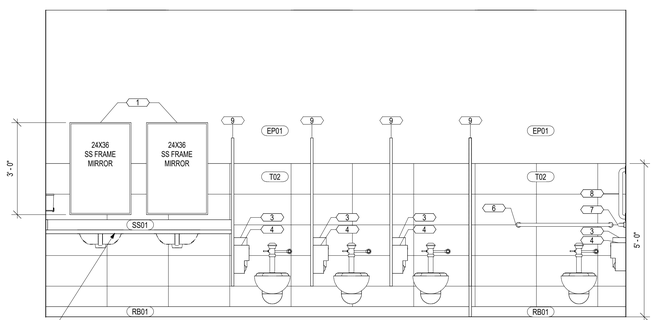
C12 SECTION AT ADA COUNTER
1 1/2" = 1'-0"



A12 TRANSITION DETAIL - CARPET TO TILE - 3/8"
3" = 1'-0"



A9 INTERIOR ELEVATION - MEN'S ROOM
1/2" = 1'-0"



A4 INTERIOR ELEVATION - WOMEN'S ROOM
1/2" = 1'-0"

collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

PERMIT DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB
NUMBER A-2016024008
06-12-25
ARCHITECT
PROFESSIONAL SEAL

A701

ISSUE DATE: 09 JUNE 2025
COLLINS WEBB #: 23114

INTERIOR ELEVATIONS

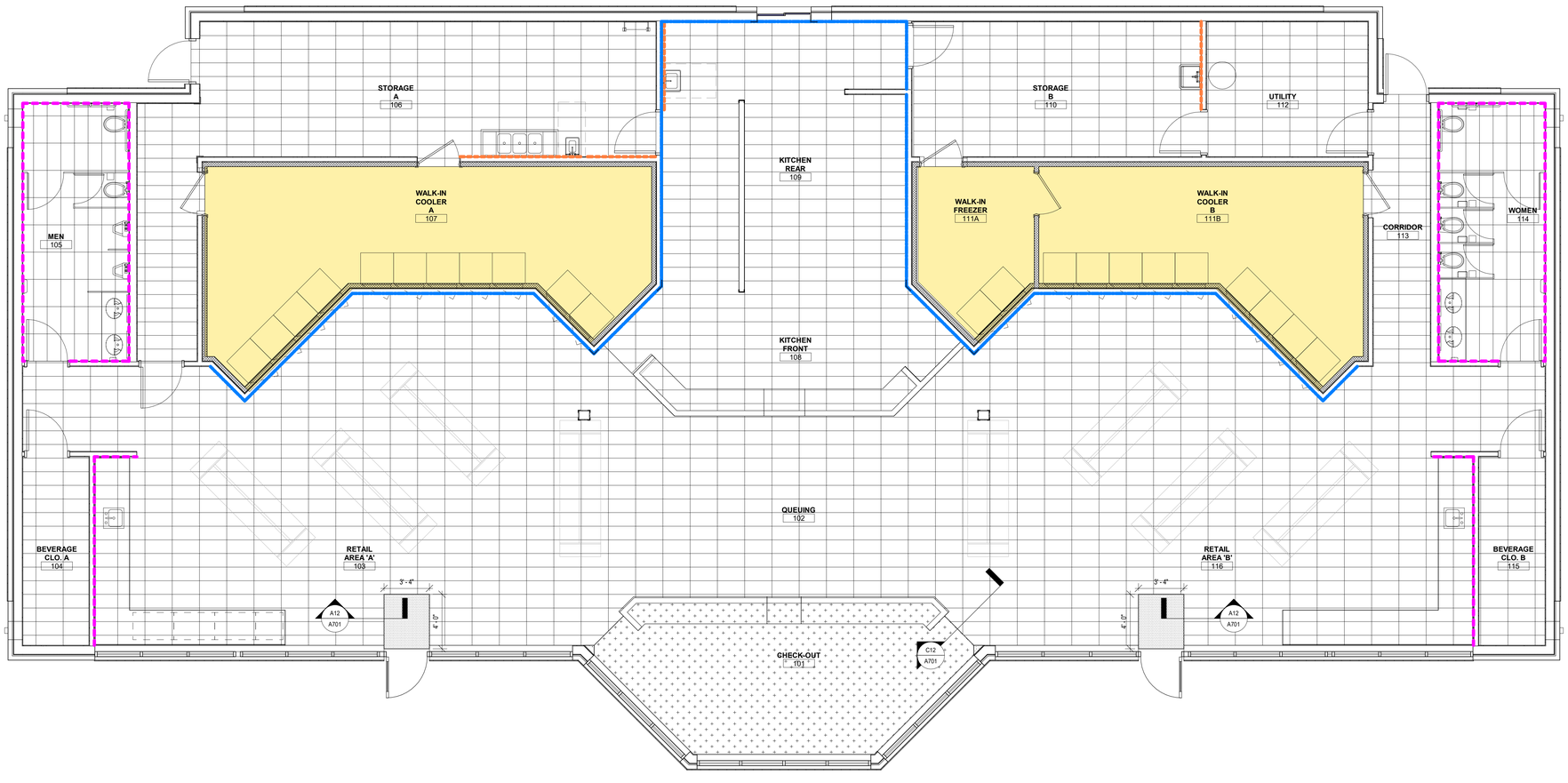
6/12/2025 8:15:48 AM

FINISH LEGEND

SYMBOL	MATERIAL	MANUFACTURER	TYPE	COLOR	TYP. AREA / REMARKS
FLOOR FINISH					
C01	CARPET TILE (24"X24")	J+J FLOORING	CURATE 7508	3687 MORNING LIGHT	SALES COUNTER PLATFORM
SC01	SEALED CONCRETE				UNDER COOLER ASSEMBLY
T01	PORCELAIN TILE (12"x24")	PORTOBELLO AMERICA	ST CROIX	ASH NAT	SALES FLOOR / BACK OF HOUSE / KITCHEN / BATHROOMS / STORAGE CLOSETS
TG01	TILE GROUT - EPOXY (1/16" GROUT JOINTS)	MAPEI	KERAPOXY	PEARL GRAY	RESTROOMS, TO BE USED WITH T01
WC01	WALK-OFF MODULAR CARPET (24"X24")	J+J FLOORING	INCOGNITO WALK-OFF MODULAR - 7069	1837 OPERATIVE	TWO MAIN ENTRANCES - (NOT RECESSED IN FLOOR, FLUSH); RE: FINISH PLAN AND DETAIL FOR FURTHER CLARIFICATION
WALL BASE					
RB01	RUBBER BASE (4"H)	ROPPE	700 SERIES - TOE BASE 5/8"	123 CHARCOAL	ALL WALLS, UNLESS NOTED OTHERWISE
WALL FINISH					
EP01	PAINT - EPOXY	SHERWIN WILLIAMS	SATIN / EG-SHEL	SW 7100 - ARCADE WHITE	ALL WALLS, UNLESS NOTED OTHERWISE
EP02	PAINT - EPOXY	SHERWIN WILLIAMS	SATIN / EG-SHEL	SW 7017 - DORIAN GRAY	ACCENT WALLS (SEE FINISH PLAN)
T02	GLAZED CERAMIC WALL TILE (3"x6"x5/16")	AMERICAN OLEAN	CONRAD BRICK	LINEN - CB91	DRINK STATIONS, VERTICAL STACK BOND INSTALLTION, RE: INTERIOR ELEVATIONS
T03	PORCELAIN TILE (12"x24")	PORTOBELLO AMERICA	ST CROIX	PEWTER NAT	6' H A.F.F.; HORIZONTAL STACK BOND INSTALLATION; RESTROOM WALLS, RE: INTERIOR ELEVATIONS
TG02	TILE GROUT - EPOXY (1/16" GROUT JOINTS)	MAPEI	KERAPOXY	5002 PEWTER	TO BE USED WITH T02
TG03	TILE GROUT - EPOXY (1/16" GROUT JOINTS)	MAPEI	KERAPOXY	PEARL GRAY	TO BE USED WITH T03
DOOR FRAME FINISH					
EP03	PAINT - EPOXY	SHERWIN WILLIAMS	SEMI-GLOSS	SW 7017 - DORIAN GRAY	ALL HM FRAMES, RE: DOOR SCHEDULE
EP04	PAINT - EPOXY	SHERWIN WILLIAMS	SATIN / EG-SHEL	SW 7017 - DORIAN GRAY	ALL HM DOORS, RE: DOOR SCHEDULE
MILLWORK / CASEWORK					
PL01	PLASTIC LAMINATE	FORMICA	NATURAL GRAIN	ASHWOOD OAK	ALL CASEWORK
SS01	SIMULATED STONE / QUARTZ	WILSONART	3CM, POLISHED	HAIDA Q4008	ALL CASEWORK / RESTROOM VANITIES
WALL PROTECTION					
CG01	CORNER GUARD - ALUMINUM (3/4" x 3/4")		FULL HEIGHT		HIGH TRAFFIC AREAS, SEE FLOOR PLANS FOR LOCATIONS
FRP1	FIBER REINFORCED PANEL / RIGID SHEET WALLCOVERING (.06")	INPRO	PEBBLE FINISH	0237 SLATE	STORAGE A / STORAGE B, FULL HEIGHT, SEE FINISH FLOOR PLAN FOR LOCATIONS
SN02	STAIR NOSING	JOHNSONITE	RCN-40-A	40 - BLACK	STEP UP AT SALES COUNTER PLATFORM, SEE DETAIL FOR FURTHER CLARIFICATION
CEILING FINISH					
ACT1	SCRUBBABLE ACOUSTICAL CEILING TILE (2'x4')	ARMSTRONG CEILINGS	ULTIMA - BEVELED 15/16"	WHITE	SEE RCP FOR LOCATIONS
ACT2	ACOUSTICAL CEILING TILE (2'x4')	ARMSTRONG CEILINGS	ULTIMA - BEVELED 15/16"	WHITE	SEE RCP FOR LOCATIONS
ACT3	ACOUSTICAL CEILING TILE (2'X2')	ARMSTRONG CEILINGS	ULTIMA - BEVELED 15/16"	WHITE	SEE RCP FOR LOCATIONS
ACT-G1	15/16" SUSPENSION SYSTEM	ARMSTRONG CEILINGS	PRELUDE	WHITE	USE WITH ACT1, ACT2, & ACT3
P01	PAINT - ZERO V.O.C. INTERIOR LATEX	SHERWIN WILLIAMS	FLAT	SW 7100 - ARCADE WHITE	GYP CEILING / SOFFITS

ROOM FINISH SCHEDULE

RM. NO.	ROOM NAME	FLOORS		WALL FINISH				CEILING FINISH	CASEWORK		REMARKS
		FLOOR	WALL BASE	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL		COUNTERTOP	BASE CABINET	
101	CHECK-OUT	C01	RB01	EP01	EP01	EP01	EP01	ACT3	SS01	PL01	
102	QUEUING	T01	RB01	-	-	-	-	ACT3 / P01			
103	RETAIL AREA 'A'	T01	RB01	EP01	-	EP01	T02 / EP01	ACT2 / P01	SS01	PL01	3
104	BEVERAGE CLO. A	T01	RB01	EP01	EP01	EP01	EP01	ACT2			
105	MEN	T01	RB01	T02 / EP01	T02 / EP01	T02 / EP01	T02 / EP01	ACT2	SS01		2
106	STORAGE A	T01	RB01	EP01	EP01	EP01	EP01	ACT1			1
107	WALK-IN COOLER A	SC01	-	-	-	-	-	PER COOLER MFR			
108	KITCHEN FRONT	T01	RB01	-	EP01	-	EP01	ACT1 / P01	SS01	PL01	
109	KITCHEN REAR	T01	RB01	EP01	EP01	-	EP01	ACT1			1
110	STORAGE B	T01	RB01	EP01	EP01	EP01	EP01	ACT1			1
111A	WALK-IN FREEZER	SC01	-	-	-	-	-	PER COOLER MFR			
111B	WALK-IN COOLER B	SC01	-	-	-	-	-	PER COOLER MFR			
112	UTILITY	T01	RB01	EP01	EP01	EP01	EP01	ACT1			
113	CORRIDOR	T01	RB01	EP01	EP01	-	EP01	ACT2			
114	WOMEN	T01	RB01	T02 / EP01	T02 / EP01	T02 / EP01	T02 / EP01	ACT2	SS01		2
115	BEVERAGE CLO. B	T01	RB01	EP01	EP01	EP01	EP01	ACT2			
116	RETAIL AREA 'B'	T01	RB01	EP01	T02 / EP01	EP01	-	ACT2 / P01	SS01	PL01	3



A11 FINISH FLOOR PLAN
1/4" = 1'-0"

GENERAL NOTES: INTERIOR FINISHES

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. RE: G002 FOR ACCESSIBILITY GUIDELINES.
3. RE: A600 SERIES SHEETS FOR ADDITIONAL CEILING FINISH INFORMATION.
4. RE: A700 SERIES SHEETS FOR ADDITIONAL WALL FINISH CLARIFICATION.
5. RE: A800 SERIES SHEETS FOR ADDITIONAL FLOOR FINISH & WALL PROTECTION INFORMATION.
6. HOLLOW METAL FRAMES SHALL RECEIVE SEMI-GLOSS FINISH. WHERE WALL COLOR IS DIFFERENT ON EACH SIDE OF THE HOLLOW METAL FRAME, PAINT FRAME TO MATCH CORRIDOR WALL, UNLESS NOTED OR SHOWN OTHERWISE.
7. CONTINUE WALL FINISH AS SCHEDULED BEHIND EQUIPMENT.
8. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CASEWORK FABRICATION AND INSTALLATION.
9. ALL EXPOSED CASEWORK SURFACES SHALL BE FINISHED PLASTIC LAMINATE AS SCHEDULED, U.N.O.
10. ALL PLASTIC LAMINATE DOOR AND DRAWERS TO RECEIVE 1MM PVC EDGEBAND AND ALL COUNTERTOPS TO RECEIVE 3MM PVC EDGEBANDING.
11. ALL BACKSPLASH MATERIAL SHALL MATCH COUNTERTOP MATERIAL.
12. WHERE TWO MODULAR TILES (PORCELAIN, MARBLE, OR QUARRY) OF VARYING THICKNESS MEET, THE SETTING BED FOR THE THINNER TILE SHALL BE BUILT UP TO ENSURE THAT THE FACES OF THE DIFFERENT TILES ARE FLUSH.
13. AT ALL EXPOSED OUTSIDE EDGES OF MARBLE WALL TILE (T1), PROVIDE BULLNOSE POLISHED EDGES. RE: DETAIL J7/A904
14. TRANSITION ALL WALL FINISHES/COLOR CHANGES AT INSIDE CORNERS, UNLESS NOTED OTHERWISE (U.N.O.).
15. TRANSITION WALL BASE AT INSIDE CORNERS, U.N.O.
16. INSTALL METAL TRANSITION STRIP WHERE WALL TILE MEETS PAINTED GYP. BD. WALL IN ALL VERTICAL AND/ OR HORIZONTAL CONDITIONS, U.N.O.
17. PROVIDE CAULK JOINT BETWEEN EDGE OF STAIR AND/OR RISER AND HORIZONTAL FINISH. CAULK JOINT COLOR TO MATCH FLOORING AND SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS. JOINT SHOULD BE 1/8" OR LESS AND BE FINISHED PER SPECIFICATIONS.

ROOM FINISH SCHEDULE REMARKS:

AREAS WITH MULTIPLE DESIGNATED FINISHES, RE: FINISH FLOOR PLANS & INTERIOR ELEVATIONS FOR ADDITIONAL CLARIFICATION.

1. PROVIDE FULL-HEIGHT FRP AT LOCATIONS SPECIFIED, RE: FINISH PLAN.
2. PROVIDE WALL TILE TO 5'-0" AFF IN RESTROOMS, RE: INTERIOR ELEVATIONS.
3. PROVIDE WALL TILE ON ALL WALLS TO HEIGHT SPECIFIED IN ROOM/SPACE, RE: INTERIOR ELEVATIONS.

WALL FINISH LEGEND	
	WALL PROTECTION CORNER GUARD (CG)
	WALL PROTECTION - END CAP (CG)
	ACCENT PAINT (P)
	WALL TILE (T)
	WALL PROTECTION (FRP)

NOT ALL WALL FINISHES ARE GRAPHICALLY SHOWN . REFER TO FINISH SCHEDULE AND INTERIOR ELEVATIONS FOR SPECIFIC LOCATIONS AND MATERIALS.

WALK-OFF CARPET
SEALED CONCRETE
CARPET
TILE

LEGEND - MATERIALS

CWA collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

PERMIT DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB
NUMBER A-2010040998
06-12-24
ARCHITECT

PROFESSIONAL SEAL

A901

ISSUE DATE: 09 JUNE 2025
COLLINS WEBB #: 23114

FINISH LEGEND & SCHEDULE

6/12/2025 8:15:51 AM

ELECTRICAL ABBREVIATIONS

AC	ALTERNATING CURRENT
AHU	AIR HANDLING UNIT
A. OR AMPS.	AMPERES
AFC	ABOVE FINISH COUNTER
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AIC	AMPERES INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
BTC	BRANCH TO CONNECTION POINT AND CONNECT EQUIPMENT
C	CONDUIT ("E.C." IS EMPTY CONDUIT)
CF	CEILING FAN
CM	COFFEE MAKER
CT	COOKTOP
D	DEDICATED CIRCUIT
DCO	DUPLEX CONVIENCE OUTLET
DP	DISPOSAL
DW	DISHWASHER
DY	DRYER
EMT	ELETRICAL METALLIC TUBING
EF	EXHAUST FAN
EWC	ELECTRIC WATER COOLER (WATER-COOLED DRINKING FOUNTAIN)
EX	EXISTING
FCU	FAN COIL UNIT
GFI/GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFIP	GROUND FAULT INTERRUPTER PROTECTED
GRD	GROUND
H	HORIZONTAL MOUNT (RECEPTACLE)
HD	VENTILATION HOOD
HP	HORSEPOWER
HT	HEAT TRACE POWER (PROVIDE W/ 20A/1P GFI BREAKER)
HVAC	HEATING, VENTILATING, & AIR CONDITIONING
HZ	HERTZ
IG	ISOLATED GROUND (DUPLEX RECEPTS. - NEMA 5-20RIG)
KCM	THOUSAND CIRCULAR MILLS
KVA	KILOVOLT-AMPERES (1000 VOLT-AMPERES)
KW	KILOWATTS (1000 WATTS)
MLO	MAIN LUGS ONLY
MCB	MAIN CIRCUIT BREAKER
MW	MICROWAVE (COORD MTG HT W/ ARCHITECT)
NIC	NOT IN CONTRACT
NEC	NATIONAL ELECTRICAL CODE
NF	NOT FUSED
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
PNL	PANEL
PH OR Ø	PHASE
P	POLE
PVC	POLYVINYL CHLORIDE
RF	REFRIGERATOR
RG	RANGE
SPD	SURGE PROTECTIVE DEVICE
T	TAMPERPROOF RECEPTACLE
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION RECEPTACLE
UC	UNDERCOUNTER REFRIGERATOR (OR ICE MACHINE)
UL	UNDERWRITERS LABORATORIES
U.N.O.	UNLESS NOTED OTHERWISE
V	VOLTS
VA	VOLT-AMPERES
VD	VENDING MACHINE (24"AFF)
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
WA	WASHER
WD	WARMING DRAWER
WO	WALL OVEN
WP	WEATHERPROOF
WP/WR	WEATHERPROOF/WEATHER RESISTANT
W/UNIT	DISCONNECT IS SUPPLIED WITH THE UNIT

GENERAL ELECTRICAL NOTES

1. COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, REQUIREMENTS OF THE AHJ AND ALL LOCAL & STATE CODES.
2. DO NOT SCALE FROM THESE DRAWINGS.
3. REFER TO ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES AND ELECTRICAL DEVICES.
4. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRINGS AND BUSHINGS.
5. ALL JUNCTION BOXES SHALL HAVE A COVER.
6. COORDINATE EACH LIGHT FIXTURE INSTALLATION(S) W/ ACTUAL CEILING TO BE FURNISHED.
7. ALL BRANCH CIRCUITS WITHOUT A CONDUCTOR & CONDUIT INDICATED SHALL BE ROUTED TO A 20A-1P BREAKER W/ 2#12,1#12EG,3/4"C.
8. ALL BRANCH CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN #12 AWG AND ALL CONDUIT SHALL NOT BE SMALLER THAN 3/4"C., UNLESS SPECIFICALLY NOTED OTHERWISE.
9. ALL CIRCUITS (LIGHTING AND POWER) SHALL BE PROVIDED WITH DEDICATED NEUTRALS UNLESS NOTED OTHERWISE. WHERE NEUTRALS ARE INDICATED TO BE SHARED, MULTIWIRE BRANCH CIRCUITS SHALL BE PROVIDED WITH 2P OR 3P BREAKERS AS REQUIRED PER NEC210.4.
10. ALL CIRCUITS (LIGHTING AND POWER) SHALL BE PROVIDED WITH AN INSULATED EQUIPMENT GROUND CONDUCTOR SIZED IN ACCORDANCE WITH THE NEC. THE RACEWAY SHALL NOT BE USED AN EQUIPMENT GROUND.
11. ALL FIXTURES SHALL BE SUPPORTED FROM EACH CORNER (INDEPENDENT OF THE SUSPENDED CEILING) WITH 12 GAUGE WIRE CONNECTED TO STRUCTURAL SYSTEM OF BUILDING. THE INSTALLATION SHALL MEET OR EXCEED THE SEISMIC REQUIREMENTS OF LOCAL AND NATIONAL CODES.
12. ELECTRICAL DEVICE MOUNTING HEIGHTS, U/NO:

PANELBOARDS	78" AFF TO TOP OF PANEL
SWITCHES	48" AFF TO TOP OF JUNCTION BOX
RECEPTACLES	18" AFF TO CENTER OF RECEPTACLE
TELE/DATA OUTLETS	18" AFF TO CENTER OF RECEPTACLE
APARTMENT LOADCENTERS	PER ANSI A117.1 REQUIREMENTS (VERIFY WITH LOCAL INSPECTOR)

13. ELECTRICAL EQUIPMENT (PANELBOARDS, TRANSFORMERS, DISTRIBUTION EQUIPMENT, ETC.) IS SHOWN TO SCALE ON THE FLOOR PLANS.
14. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING EQUIPMENT THAT WILL FIT WITHIN THE SPACES SHOWN ON THE PLANS AND COMPLYING WITH ALL CODE REQUIRED CLEARANCES.
15. ELECTRICAL CONTRACTOR TO LABEL ALL DEVICES (RECEPTACLES, SWITCHES, PANELBOARDS, DISCONNECTS, ETC.) WITH CIRCUIT NUMBER AND PANELBOARD DESIGNATION. RECEPTACLES, SWITCHES, AND SIMILAR DEVICES TO HAVE PRE-PRINTED, SELF ADHESIVE LABEL.
16. PANELBOARDS, DISCONNECT SWITCHES, AND SIMILAR DEVICES TO HAVE ENGRAVED, SELF-ADHESIVE, LAMINATED ACRYLIC LABEL (BLACK W/ WHITE LETTERING).
17. PROVIDE TYPE-WRITTEN PANELBOARD SCHEDULES FOR ALL ELECTRICAL PANELBOARDS.

ELECTRICAL SYMBOLS

LIGHTING FIXTURES/DEVICES

SYMBOL	DESCRIPTION	MOUNTING
A	DOWNLIGHT (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING
A	DIRECTIONAL DOWNLIGHT (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING
A	WALL MOUNTED LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL
A	LINEAR LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING OR SUSPENDED
A	2X4 LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING
A	2X2 LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING
	HATCHING ON FIXTURE INDICATES FIXTURE TO HAVE EMERGENCY BACK-UP	
X3	TWO HEAD EMERGENCY LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL OR CEILING
X1 X1	EMERGENCY EXIT SIGN. PROVIDE ARROW(S) AS INDICATED. SHADING INDICATES FACE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL OR CEILING
S	SINGLE POLE SWITCH 20A (120/277V)	1
S_3	THREE WAY SWITCH 20A (120/277V)	1
S_4	FOUR WAY SWITCH 20A (120/277V)	1
	WALL BOX DIMMER SWITCH	1
X X	CEILING OR WALL MOUNTED OCCUPANCY SENSOR (LETTER INDICATES SENSOR TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	WALL OR CEILING
LCX	LOW-VOLTAGE CONTROL STATION (LETTER INDICATES CONTROL STATION TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	WALL - 48" AFF TO TOP OF JUNCTION BOX
PCX	PHOTOCELL SENSOR (LETTER INDICATES SENSOR TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	FIELD VERIFY
PP	POWERPACK (LETTER INDICATES POWERPACK TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	ACCESSIBLE CEILING

COMMUNICATION/LOW-VOLTAGE DEVICES

SYMBOL	DESCRIPTION	MOUNTING
CR	CARD READER (VERIFY EXACT REQUIREMENTS)	
	DATA, TELEPHONE, OR COMBO TELE/DATA OUTLET PROVIDE PULLSTRING IN CONDUIT TO ACCESSIBLE CEILING	WALL - 18" AFF
	DATA, TELEPHONE, OR COMBO TELE/DATA OUTLET PROVIDE PULLSTRING IN CONDUIT TO ACCESSIBLE CEILING	FLOOR OR CEILING
TV	TELEVISION OUTLET	WALL OR CEILING
	SPEAKER OUTLET	FIELD VERIFY
'TTB'	TELEPHONE TERMINAL BOARD	WALL
	SECURITY CAMERA OUTLET	FIELD VERIFY
	PUSH BUTTON	

POWER EQUIPMENT/DEVICES

SYMBOL	DESCRIPTION	MOUNTING
	SWITCHBOARD OR DISTRIBUTION PANEL REFER TO PANEL SCHEDULES	
	DRY-TYPE TRANSFORMER REFER TO PLANS FOR KVA RATING	
	120/208V, 3Ø, 4W PANELBOARD REFER TO PANEL SCHEDULES	
	277/480V, 3Ø, 4W PANELBOARD REFER TO PANEL SCHEDULES	
J	JUNCTION BOX	WALL OR CEILING
30/20/3	FUSED SAFETY SWITCH (E.G. 30/20/3 INDICATES A 30A, 3-POLE SWITCH WITH 20A FUSES)	
30/NF/3	NON-FUSED SAFETY SWITCH (E.G. 30/NF/3 INDICATES A 30A, 3-POLE SWITCH WITHOUT FUSES)	
SM	MOTOR RATED SWITCH	
	MOTOR	
	NEMA 5-20R SIMPLEX RECEPTACLE	WALL - 18" AFF
	NEMA 5-20R DUPLEX RECEPTACLE	WALL - 18" AFF
	NEMA 5-20R DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER	1
	NEMA 5-20R QUAD-PLEX RECEPTACLE	WALL - 18" AFF
	NEMA 5-20R SPLIT RECEPTACLE. TOP OUTLET WIRED HOT. BOTTOM OUTLET SWITCHED.	WALL - 18" AFF
	SPECIAL PURPOSE RECEPTACLE REFER TO PLANS FOR NEMA CONFIGURATION	WALL - 18" AFF OR CEILING
USB	NEMA 5-20R - DUPLEX RECEPTACLE WITH USB PORTS SIMILAR TO HUBBELL #USB20AC5W	WALL - 18" AFF
	NEMA 5-20R DUPLEX RECEPTACLE MOUNTED ON CEILING	CEILING - FLUSH
FB	HUBBELL CFB4 SERIES FLOOR BOX (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
FB	HUBBELL B24 SERIES FLOOR BOX (OR EQUAL) WITH (1) DUPLEX RECEPTACLE AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
FB	HUBBELL B24 SERIES FLOOR BOX (OR EQUAL) FOR POWER AND DATA CONNECTIONS TO PRE-WIRED FURNITURE VERIFY EXACT CONNECTION WITH FURNITURE VENDOR	FLOOR - FLUSH
WC	HUBBELL S1PT SERIES 4" POKE-THRU (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
WC	HUBBELL S1PTFF SERIES 4" POKE-THRU (OR EQUAL) FOR POWER AND DATA CONNECTIONS TO PRE-WIRED FURNITURE VERIFY EXACT CONNECTION WITH FURNITURE VENDOR	FLOOR - FLUSH
WC	HUBBELL S1RS SERIES 6" POKE-THRU (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION AND A/V CONNECTION CAPABILITY	FLOOR - FLUSH
	CONDUIT IN OR UNDER FLOOR/GRADE	
	CONDUCTOR HOME RUN - (#) HOT, (||) NUETRAL, (#) EQUIPMENT GROUND, & ( ) ISOLATED GROUND	
	EQUIPMENT CONNECTION	
	CONDUIT IN CEILING OR WALL	

NOTE: NOT ALL SYMBOLS MAY BE USED.

1 IF MOUNTED ABOVE A COUNTER, DEVICE TO BE WALL MOUNTED 6" ABOVE FINISHED COUNTER OR 44" TO TOP OF JUNCTION BOX (WHICHEVER IS LOWER). IF NOT MOUNTED ABOVE A COUNTER, DEVICE TO BE WALL MOUNTED AT 48" AFF TO TOP OF JUNCTION BOX AS REQUIRED TO MEET ADA REQUIREMENTS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS/ELEVATIONS.

collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC
COA #E-2019027676
OVERLAND PARK, KS 66207
913.529.0804
MO CERTIFICATE OF AUTHORITY #E-2021006632

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

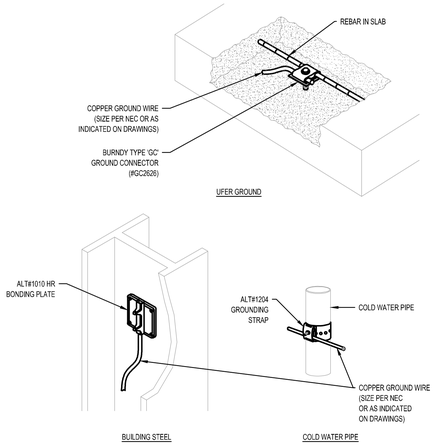
REVISION DATES:

STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
06/09/2025
PROFESSIONAL SEAL

E101

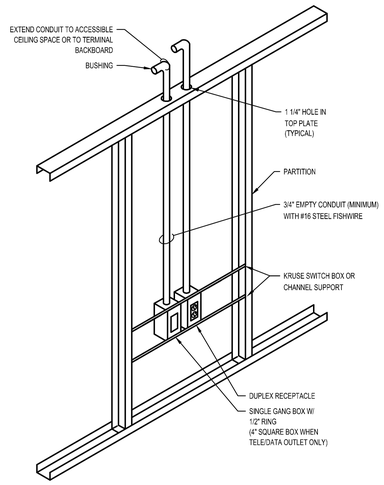
ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

ELECTRICAL NOTES, SYMBOLS & ABBREVIATIONS



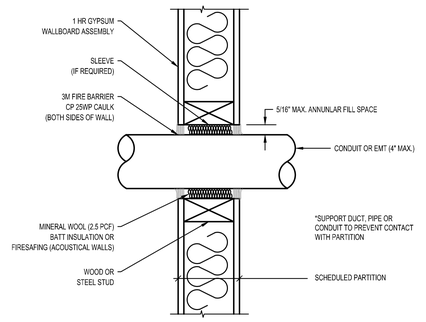
1 TYPICAL GROUND CONNECTION DETAILS

SCALE: NOT TO SCALE



2 OUTLET IN HOLLOW PARTITION

SCALE: NOT TO SCALE



3 TYPICAL FIRE RATED PENETRATION THROUGH A GYP WALL ASSEMBLY

SCALE: NOT TO SCALE

FIRE RATED PENETRATION NOTES:

-FOR UL WALL SYSTEM NO. WL1001 (FORMERLY NO. 147)
F-RATINGS - 1,2,3 & 4 HR (SEE ITEMS #2 & #3)
T RATINGS -0 1,2,3,4 (SEET ITEM #3)
L RATING @ 400 F - LESS THAN 1 CFM/SQ. FT., (SEE ITEM #3)

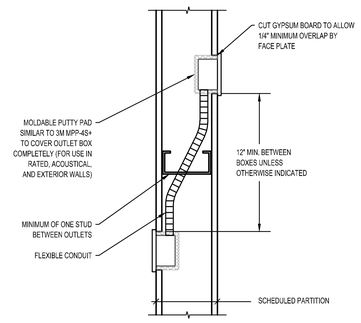
1. WALL ASSEMBLY - THE 1,2,3 OR 4 HR RWS-RATED GYPSUM WALL BOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGN IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
   A. STUDS - WALL FRAMING MAY CONSIST OR EITHER WOOD STUDS (MAX. 2 HR FIRE RATED ASSEMBLIES) OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2X4 IN. LUMBER SPACED 16 IN. O.C. WITH NOM 2X4 IN. LUMBER AND PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN. 3-3/8 IN. WIDE BY 1-3/8 IN. DEEP. CHANNELS SPACED MAX 24 IN. O.C.
   B. WALLBOARD, GYPSUM - NOM 1/2 OR 5/8 IN.THICK, 4 FT. WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD RYPS, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE R ESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 13-1/2 IN.
2. PIPE OR CONDUIT - NOM 12 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER), STEEL PIPE NOM 6 IN. DIAM (OR SMALLER) STEEL CONDUIT, NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR TYPE L OR (OR HEAVIER) COPPER TUBING NOM 1 IN. DIAM (OR SMALLER) FLEXIBLE STEEL CONDUIT. WHEN COPPER PIPE OR FLEXIBLE STEEL CONDUIT IS USED, MAX F RATING OF FIRESTOP SYSTEM (ITEM CONSTRUCTED USING STEEL CHANNEL STUDS. A MAX OF ONE PIPE OR CONDUIT IS PERMITTED IN THE FIRESTOP SYSTEM. PIPE OR CONDUIT TO BE INSTALLED NEAR CENTER OF STUD CAVITY WIDTH AND TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.
3. FILL, VOID OR CAVITY MATERIAL - CAULK - CAULK FILL MATERIAL INSTALLED TO COMPLETELY FILL ANULAR SPACE BETWEEN PIPE OR CONDUIT AND GYPSUM WALLBOARD AND WITH A MIN 1/4 IN. DIAM BOARD OF CAULK APPLIED TO PERIMETER OF PIPE OR CONDUIT AT ITS EGRESS FROM THE WALL. CAULK INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL ASSEMBLY. THE HOURLY F IVATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED. AS SHOWN IN THE FOLLOWING TABLE. THE HOURLY T RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE TYPE OR SIZE OF THE PIPE OR CONDUIT AND THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS TABULATED BELOW:

MAX PIPE OR CONDUIT DIAM (IN)	ANULAR SPACE (IN)	F RATING (HR)	T RATING (HR)
1	0 TO 3/16	1 OR 2	0 + 1 OR 2
1	1/4 TO 1/2	3 OR 4	3 OR 4
4	0 TO 1/4	1 OR 2	0
6	1/4 TO 1/4	3 OR 4	0
12	1/4 TO 1/4	1 OR 2	0

*)WHEN COPPER PIPE IS USED, T RATING IS 0 NOM.
MINNESOTA MINING & MFG. CO - TYPES CP-25 S/L, CP-25 N/L, CP-25 WS, CP-25 WS+ (NOTE: L RATINGS APPLY WHEN TYPE CP-25 WS+ CAULK IS USED.

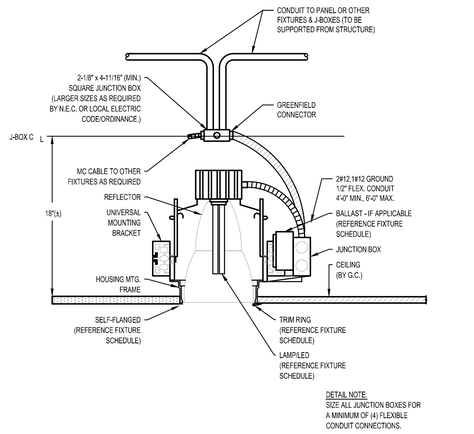
4 FIRE RATED PENETRATION NOTES

SCALE: NOT TO SCALE



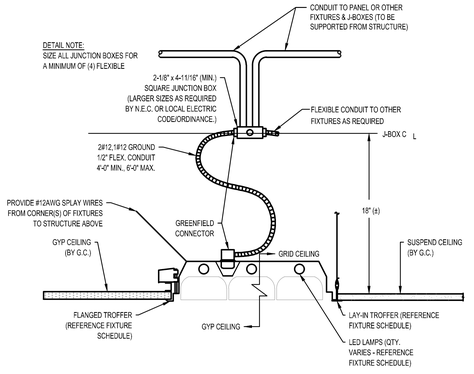
5 BACK-TO-BACK BOX ARRANGEMENT FOR NOISE CONTROL

SCALE: NOT TO SCALE



6 TYPICAL RECESSED DOWNLIGHT FIXTURE DETAIL

SCALE: NOT TO SCALE



7 TYPICAL RECESSED FIXTURE DETAIL

SCALE: NOT TO SCALE

CWA collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS ENGINEERED BUILDING SOLUTIONS, LLC
11E ROAD
OVERLAND PARK, KS 66207
913.529.9004
MO CERTIFICATE OF AUTHORITY #C-2021000032

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

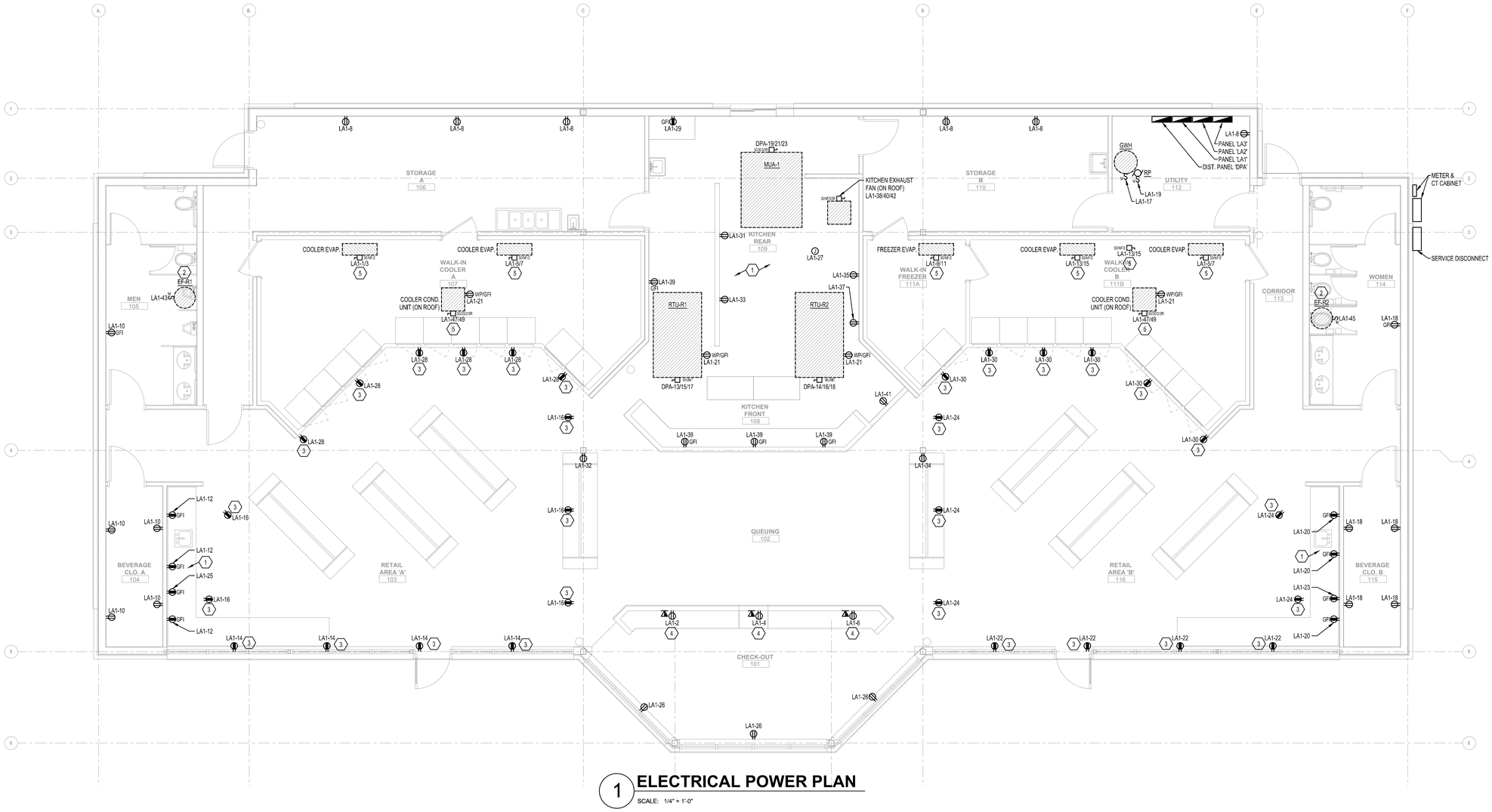
REVISION DATES:

STATE OF MISSOURI — RYAN BREWER — NUMBER PE-2020010759 — PROFESSIONAL ENGINEER
05/09/2025
PROFESSIONAL SEAL

E102

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

ELECTRICAL DETAILS



1 ELECTRICAL POWER PLAN

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

GENERAL NOTES

(NOT ALL NOTES APPLY)

1. REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.
3. PROVIDE AND INSTALL 3/4" CONDUIT AND PULL STRINGS FROM TELEPHONE/DATA OUTLETS TO ABOVE ACCESSIBLE CEILING. VERIFY EXACT REQUIREMENTS WITH TELEPHONE EQUIPMENT SUPPLIER AND/OR TENANT.

KEYED NOTES:

1. FIELD VERIFY EXACT CONNECTION REQUIREMENTS AND LOCATION OF ALL KITCHEN AND COFFEE BAR EQUIPMENT WITH OWNER PRIOR TO ROUGH-IN.
2. EXHAUST FAN TO BE CONTROLLED ON TIME-OF-DAY SCHEDULE. REFER TO DETAIL 2 (SHEET E301) FOR ADDITIONAL INFORMATION.
3. RECEPTACLE(S) MOUNTED IN SOFFIT OVERHEAD FOR SIGNAGE POWER. FIELD VERIFY EXACT QUANTITY AND LOCATION WITH OWNER PRIOR TO ROUGH-IN. CONTROL INTENT IS FOR RECEPTACLES TO BE CONTROLLED ON TIME-OF-DAY SCHEDULE. REFER TO DETAIL 2 (SHEET E301) FOR ADDITIONAL INFORMATION.
4. FIELD VERIFY EXACT LOCATION OF POS STATION RECEPTACLES WITH OWNER/MILLWORK PROVIDER PRIOR TO ROUGH-IN.
5. POWER FOR WALK-IN COOLER/FREEZER EVAPORATOR(S) AND CONDENSER(S). FIELD VERIFY EXACT CONNECTION REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.

collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC
P.O. BOX 1
OVERLAND PARK, KS 66207
913.707.0000
MO CERTIFICATE OF AUTHORITY #E-2021000022

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

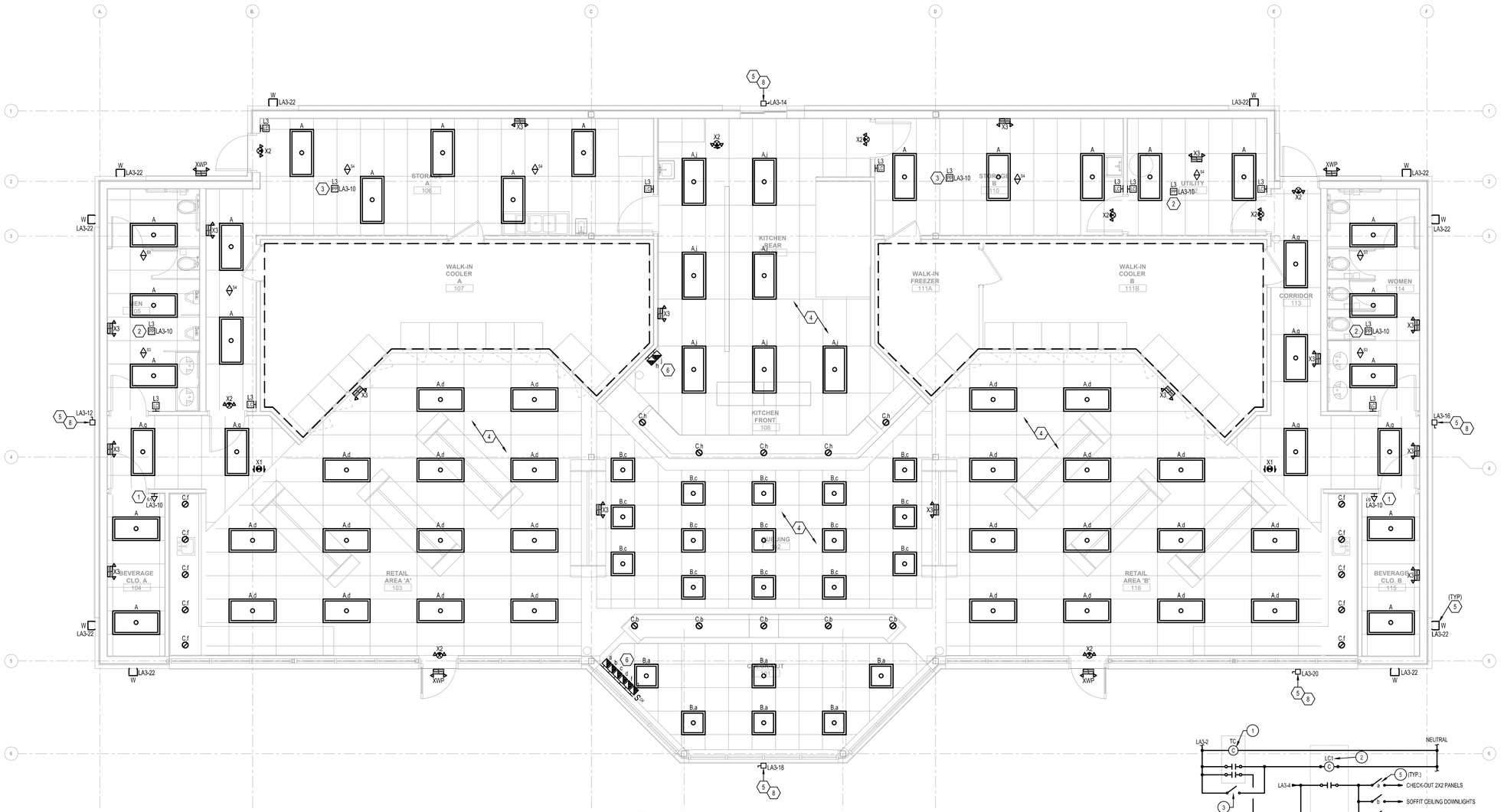
REVISION DATES:

STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
08/09/2025
PROFESSIONAL SEAL

E201

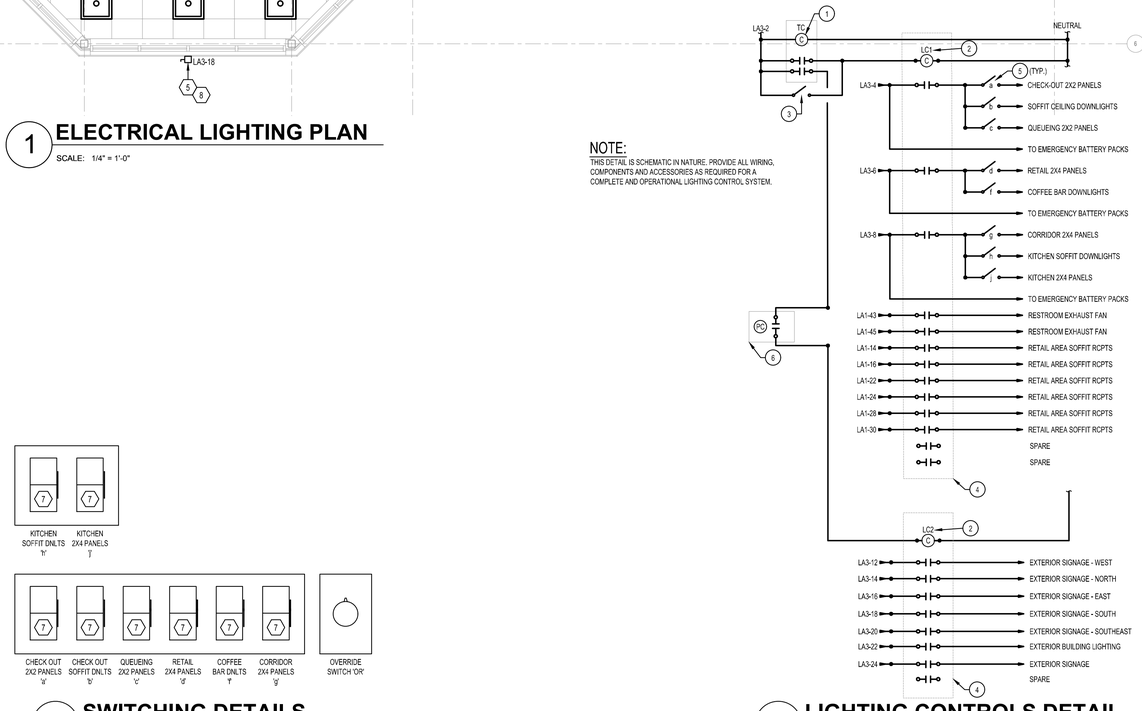
ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

ELECTRICAL POWER PLAN



1 ELECTRICAL LIGHTING PLAN

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



NOTE:
THIS DETAIL IS SCHEMATIC IN NATURE. PROVIDE ALL WIRING, COMPONENTS AND ACCESSORIES AS REQUIRED FOR A COMPLETE AND OPERATIONAL LIGHTING CONTROL SYSTEM.

2 LIGHTING CONTROLS DETAIL

SCALE: NO SCALE

3 SWITCHING DETAILS

SCALE: NO SCALE

GENERAL NOTES

(NOT ALL NOTES APPLY)

1. REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.
3. CIRCUIT ALL EXIT SIGNS TO NEAREST EMERGENCY LIGHTING CIRCUIT (OR NEAREST LIGHTING CIRCUIT IF NO GENERATOR).
4. VERIFY ALL EXISTING BRANCH CIRCUITING. CONTRACTOR SHALL WIRE FIXTURES IN ACCORDANCE WITH SWITCHING INDICATED. CONNECTED LOAD ON 277V-20A CIRCUITS SHALL NOT EXCEED 4000W, 120V-20A CIRCUITS SHALL NOT EXCEED 1800W.
5. EXISTING FIXTURES TO BE RELOCATED, AND EXISTING FIXTURES TO REMAIN SHALL BE REFURBISHED AND CLEANED. REPLACE BAD BALLASTS/DRIVERS AS WELL AS DIM. OR BURNED OUT LAMPS. LAMP COLOR AND WATTAGE TO MATCH EXISTING.
6. ALL DEVICES AND FIXTURES LABELED 'EX' ARE EXISTING TO REMAIN. ALL DEVICES AND FIXTURES LABELED 'EXR' ARE EXISTING TO BE RELOCATED.
7. EXISTING CONDITIONS INDICATED IN THESE DOCUMENTS ARE BASED ON A CURSORY SITE REVIEW AND DO NOT REPRESENT A COMPLETE "AS-BUILT" SET OF DOCUMENTS. IT IS THE CONTRACTORS RESPONSIBILITY TO FULLY INVESTIGATE ALL EXISTING CONDITIONS AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES TO THESE DOCUMENTS OR THE DESIGN INTENT.

KEYED NOTES:

1. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR LIGHTS TO BE MANUAL 'ON', AUTO 'OFF' WITH MANUAL OVERRIDE AVAILABLE VIA THE OCCUPANCY SENSOR SWITCH.
2. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR LIGHTS TO BE AUTO 'ON', AUTO 'OFF' VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION.
3. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR LIGHTS TO BE MANUAL 'ON', AUTO 'OFF' VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION.
4. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR LIGHTS TO BE 'ON'/'OFF' VIA TIME-OF-DAY SCHEDULE WITH MANUAL OVERRIDE AVAILABLE VIA WALL BOX DIMMER SWITCH(ES). VERIFY TIME-OF-DAY SCHEDULE WITH OWNER.
5. EXTERIOR LIGHTING/SIGNAGE TO BE 'ON'/OFF' VIA TIME-OF-DAY SCHEDULE (VIA TIMECLOCK) WITH PHOTOCELL OVERRIDE. FIELD VERIFY TIME-OF-DAY SCHEDULE AND SCOPE OF WORK WITH OWNER. REFER TO DETAIL 2 (THIS SHEET) FOR ADDITIONAL INFORMATION.
6. PROPOSED LOCATION OF OVERRIDE SWITCH(ES). FIELD VERIFY EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN. REFER TO DETAIL 3 (THIS SHEET) FOR ADDITIONAL INFORMATION.
7. PROVIDE 0-10V WALLBOX DIMMER SIMILAR TO LUTRON DIVA SERIES. VERIFY COMPATABILITY OF DIMMER WITH FIXTURES PRIOR TO ORDERING.
8. PROVIDE NEMA 3R, LOCKABLE DISCONNECT SWITCH FOR SIGNAGE DISCONNECTING MEANS. FIELD VERIFY EXACT CONNECTION REQUIREMENTS AND LOCATION WITH SIGNAGE VENDOR PRIOR TO ROUGH-IN. CONTROL INTENT IS FOR SIGNAGE TO BE 'ON'/OFF' VIA TIME-OF-DAY SCHEDULE.

LIGHTING CONTROL KEYED NOTES:

1. PROVIDE TORK DIGITAL SERIES, MODEL DGLC200A-NC (2-CHANNEL) TIMECLOCK (OR EQUAL).
2. PROVIDE SQUARE D MODEL 8903 ELECTRICALLY HELD LIGHTING CONTACTORS (LC1 & LC2) WITH POLE QUANTITY AS REQUIRED.
3. PROVIDE PARAGON #SWP2H 2-HOUR SPRING WOUND OVERRIDE SWITCH (OR EQUAL).
4. PROVIDE NEMA 1 ENCLOSURE TO HOUSE ALL CONTACTORS INDICATED.
5. REMOTE MANUAL SWITCH. FIELD VERIFY EXISTING SWITCH LOCATIONS OR PROVIDE NEW IN LOCATION AS COORDINATED WITH OWNER.
6. PROVIDE INTERMATIC #K4236C PHOTOCELL MOUNTED ON A WEATHERPROOF BOX. CONTROL INTENT OF EXTERIOR LIGHT FIXTURES IS FOR LIGHTS TO BE ON A TIME-OF-DAY SCHEDULE WITH PHOTOCELL OVERRIDE. PER 2021 IECC, LIGHTS SHALL NOT ENERGIZE 'ON' WHEN ENOUGH DAYLIGHT IS PRESENT. LOCATE PHOTOCELL PER MANUFACTURER'S RECOMMENDATIONS.

collins | webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC
P.O. BOX 7
OVERLAND PARK, KS 66207
913.269.4455
MO CERTIFICATE OF AUTHORITY #C-2021006502

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

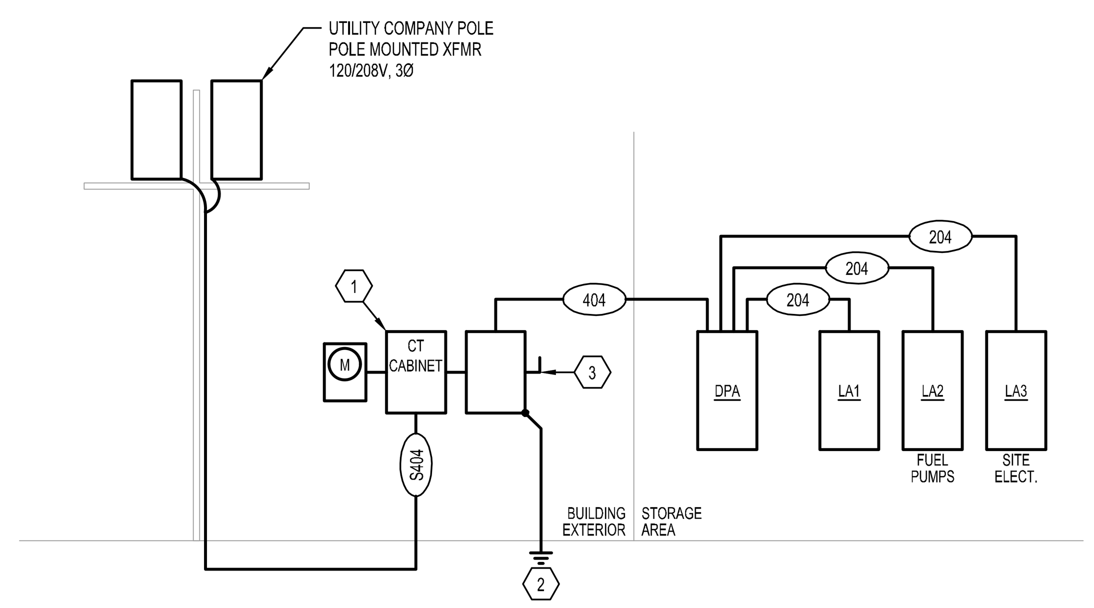
STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
06/09/2025
PROFESSIONAL SEAL

E301

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

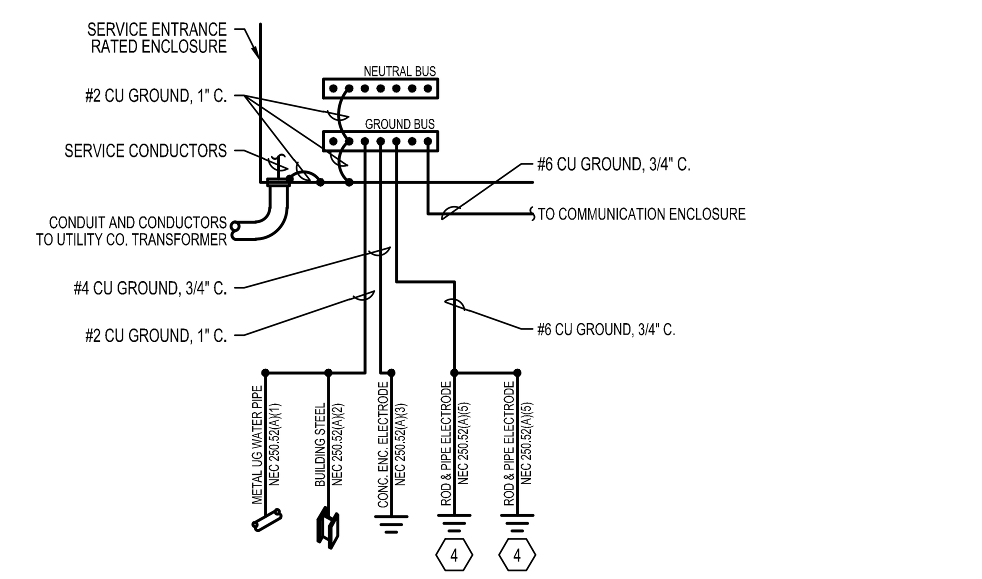
ELECTRICAL LIGHTING PLAN

ELECTRICAL RISER DIAGRAM & SCHEDULES



1 ELECTRICAL RISER DIAGRAM

SCALE: NO SCALE



2 SERVICE GROUNDING DETAIL

SCALE: NO SCALE

FEEDER SCHEDULE

THHN/THWN COPPER CONDUCTORS W/ EG CONDUCTOR
XHHW ALUMINUM CONDUCTORS W/ EG CONDUCTOR

CONDUCTORS & GROUND				AMPS
CODE	SETS	CONDUCTORS	RACEWAY	
204	-	4#3/0,1#6G. (CU)	2"	200
404	2	4#3/0,1#3G. (CU)	2"	400
S404	2	4#3/0 (CU)	2"	400

NOTES:
1. ALL CONDUCTORS AMPACITY BASED ON THE NEC TABLE 310-16 FOR CONDUCTORS W/ 75°C INSULATION.
2. ALL RACEWAY SIZES (EMT/RMC/PVC 40) BASED ON THE NEC TABLE 4(CHAPTER 9), 40% FILL COLUMN.
3. ELECTRICAL CONTRACTOR TO VERIFY ALL EQUIPMENT CONDUCTOR TERMINATION TEMPERATURE RATINGS (IE, 60°C OR 75°C). ADJUST CONDUCTOR AMPACITY AND CONDUIT SIZES ACCORDINGLY.
4. VERIFY MAXIMUM NO. OF SETS OF SERVICE ENTRANCE CONDUCTORS ALLOWED W/ UTILITY CO.
5. EQUIPMENT GROUNDING CONDUCTORS BASED ON T250.122. GROUND TO BE ADJUSTED PER T250.66 FOR SEPARATELY DERIVED SYSTEMS.
6. ALUMINUM FEEDERS NOT TO BE USED ON TRANSFORMER SECONDARY CONDUCTORS.

VOLTAGE DROP CHART

BRANCH CIRCUIT VOLTAGE DROP WIRING SCHEDULE FOR 1Ø CIRCUITS

BRANCH CIRCUIT RATING (AMPS)	WIRE SIZE (AWG)	MAXIMUM LENGTH OF BRANCH CIRCUIT (FEET)				
		120V	208V	240V	277V	480V
20A	#12	50	90	110	125	200
	#10	80	150	175	200	350
	#8	140	230	280	320	550
	#6	215	375	430	500	870
30A	#10	50	100	110	130	225
	#8	80	160	180	210	360
	#6	135	250	280	325	560
	#4	220	400	450	525	910

NOTES:
1. PROVIDE BRANCH CIRCUIT CONDUCTORS AS INDICATED IN THE TABLE ABOVE FOR ALL LIGHTING AND RECEPTACLE BRANCH CIRCUITS. WHERE BRANCH CIRCUITS SERVE DEDICATED EQUIPMENT, THE CONTRACTOR MAY PERFORM VOLTAGE DROP CALCULATIONS BASED ON ACTUAL EQUIPMENT CONNECTED LOAD AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO A MAXIMUM OF 3%.
2. CONDUCTOR SIZES ARE BASED ON SOLID COPPER CONDUCTORS FOR WIRES SMALLER THAN #6 AND STRANDED COPPER CONDUCTORS FOR WIRES #6 AND LARGER, IN A SINGLE METAL CONDUIT.
3. LIMITS FOR CONDUCTOR LENGTH SHOWN ARE BASED ON A MAXIMUM OF 3% VOLTAGE DROP TO COMPLY WITH THE NEC FOR CIRCUITS LOADED UP TO 80% OF THE BRANCH BREAKER RATING. FIELD VERIFY EXACT BRANCH CIRCUIT LENGTHS AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO 3%.

UNLESS NOTED OTHERWISE, WIRE SIZES CALLED OUT IN PANEL SCHEDULES DO NOT ACCOUNT FOR VOLTAGE DROP. CONTRACTOR SHALL INCREASE WIRE SIZES AS REQUIRED UTILIZING VOLTAGE DROP TABLE PROVIDED.

LIGHTING FIXTURE SCHEDULE

FIXT. TYPE	DESCRIPTION & MANUFACTURER OPTIONS	LAMPS NO.	LAMPS TYPE	FIXT. VOLT	TOTAL WATTS	FINISH	REMARKS/MOUNTING	NOTES
A	Field Selectable 2x4 Recessed LED Panel w/ 0-10V Dimming M# LITHONIA #CPX-2X4-AL08-80CRI-SWW7-ASWM -MVOLT	1	LED	UNV	35W	Standard	Recessed (Lay-In)	
B	Field Selectable 2x2 Recessed LED Panel w/ 0-10V Dimming M# LITHONIA #CPX-2X2-AL07-80CRI-SWW7-ASWM -MVOLT	1	LED	UNV	26W	Standard	Recessed (Lay-In)	
C	Field Selectable 6" LED Downlight w/ 0-10V Dimming M# LITHONIA #LDN6-AL02-SWW1-L06-AR-_-LSS -MVOLT-UGZ	1	LED	UNV	19W	Standard	Recessed (Ceiling - Provide Flange)	
D	8' Linear LED Strip Fixture w/ 0-10V Dimming M# COOPER #RZL-NB-40L-8-35-1-D-UNV-STD LITHONIA #CSS-L96-AL04-MVOLT-SWW3-80CRI	1	LED	UNV	70W	Standard	Coord. w/ Architect	
W	Exterior LED Wallpack M# LITHONIA #TBD	1	LED	UNV	20W	Standard	Coord. w/ Architect	
X2	Combination LED Exit Sign and Emergency Light Fixture, Universal Mount, Emergency Battery Pack. Provide Arrows as Indicated. M# EVENLITE #TCXCOM-R-U-W DUAL LITE #EVC-U-R-W	1	LED	UNV	2W		Wall/Ceiling/Pendant	1
X3	LED Emergency Light w/ (2) 2-Watt Adjustable LED Heads and Emergency Battery Backup M# EVENLITE #TCL-4-W DUAL LITE #EV4D-02L	2	LED	UNV	5W	White	Surface (Wall/Ceiling)	1
XWP	LED Emergency Light w/ (2) 3-Watt Adjustable LED Heads and Emergency Battery Backup. Wet Location Rated M# EVENLITE #TCSWL-LED	1	LED	UNV	5W		Wall/Ceiling/Pendant	1

NOTES:
1. Circuit Emergency Battery Packs and Exit Signs to Local Lighting Circuit Ahead of Any Means of Control for Proper Operation.
2. Refer to Manufacturer's Spacing Guidelines Based on Fixture Mounting Height to Ensure 1.0 Footcandle Average Along Path of Egress.
3. Confirm Fixture Specification with Owner Prior to Ordering. Juno Fixture is Only Provided at 120V. Elliptipar Fixture can be powered at 120V or 277V.

FIXTURES SCHEDULED ARE A BASIS-OF-DESIGN. ALTERNATE/EQUAL FIXTURES ARE ACCEPTABLE.
VERIFY ALL FIXTURE TYPES WITH OWNER AND ARCHITECT PRIOR TO ORDERING.

LIGHTING CONTROLS SCHEDULE

FIXTURE TAG	MANUFACTURER	MODEL #	SETTINGS	DESCRIPTION	NOTES
SC	ACUITY BRANDS: nLIGHT	nPP16 SERIES	REFER TO PLANS FOR CONTROL INTENT	ON/OFF ROOM SWITCH CONTROLLER LINE VOLTAGE - SINGLE RELAY	1,2,4
L3	ACUITY BRANDS: nLIGHT	nPODM	-	ON/OFF LOW VOLTAGE SWITCH WITH 1-CHANNEL CONTROL	1,6
S1	SENSOR SWITCH	WSX SERIES	REFER TO PLANS FOR CONTROL INTENT	WALL MOUNT OCCUPANCY SENSOR LINE VOLTAGE - SINGLE RELAY	1
S3	ACUITY BRANDS: nLIGHT	nCM-9 SERIES	-	CEILING MOUNT OCCUPANCY SENSOR - SMALL MOTION LOW VOLTAGE	3
S4	ACUITY BRANDS: nLIGHT	nCM-10 SERIES	-	CEILING MOUNT OCCUPANCY SENSOR - LARGE MOTION LOW VOLTAGE	3
WIRE	-	-	-	CAT5, CAT5e, OR CAT 6. STANDARD OR SOLID. TERMINATED AS RJ45 TIA/EIA-568B	

NOTES:
1. COORDINATE ALL MODEL NUMBERS WITH MANUFACTURER PRIOR TO ORDERING. PROVIDE DEVICES TO MEET CONTROL INTENT INDICATED ON THE DRAWINGS.
2. PROVIDE 6'-0" OF EXCESS CONTROL WIRING, COILED AND TIED, BETWEEN CEILING MOUNTED OCCUPANCY SENSOR AND CORRESPONDING LOAD CONTROLLER.
3. MODIFY LOCATIONS OF CEILING MOUNTED OCCUPANCY SENSORS AS REQUIRED SO THAT NO OCCUPACNY SENSORS IS WITHIN 4'-0" OF AN HVAC SUPPLY DIFFUSER.
4. LOCATE DEVICE ABOVE CEILING OR AT STRUCTURE IN ACCESSIBLE LOCATION. LOCATIONS SHOWN ON DRAWINGS ARE SCHEMATIC. ADD ACCESS PANEL WITHIN CEILING IF NECESSARY. COORDINATE ACCESS PANEL LOCATION AND SPECIFICATION DIRECTLY WITH ARCHITECT.
5. LOCATION SHOWN ON PLAN FOR REFERENCE ONLY. CONTRACTOR MAY RELOCATE BRIDGE PORTS FOR A MORE ECONOMICAL LAYOUT IF DESIRED.
6. PROVIDE DEVICES WITH DEFAULT MANUFACTURE MARKINGS ON BUTTONS.

PANEL LA2

VOLTAGE/PHASE: **208Y/120V, 3PH, 4W**
BUS AMPERAGE: **200A**
MAIN TYPE: **MLO**
AFC VALUE: **VERIFY**
AIC RATING: **VERIFY**
MOUNTING: **SURFACE (NEMA 1)**
GROUNDS: **EG (PER T250.122)**
ISOLATED GROUND BUS: **NO**
SERVICE ENTRANCE RATED: **NO**
LUGS: **STANDARD**

ALL LOADS IN VA

LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	ELEV	DESCRIPTION	AMP	P	WIRE	CKT #	PHASE	CKT #	WIRE	P	AMP	DESCRIPTION	LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	ELEV
					500			FUEL PUMPS (FUTURE)	20	1	12	1	A	2	12	1	20	FUEL PUMPS (FUTURE)						500		
					500			FUEL PUMPS (FUTURE)	20	1	12	3	B	4	12	1	20	FUEL PUMPS (FUTURE)						500		
					500			FUEL PUMPS (FUTURE)	20	1	12	5	C	6	12	1	20	FUEL PUMPS (FUTURE)						500		
					500			FUEL PUMPS (FUTURE)	20	1	12	7	A	8	12	1	20	FUEL PUMPS (FUTURE)						500		
					500			FUEL PUMPS (FUTURE)	20	1	12	9	B	10	12	1	20	FUEL PUMPS (FUTURE)						500		
					500			FUEL PUMPS (FUTURE)	20	1	12	11	C	12	12	1	20	FUEL PUMPS (FUTURE)						500		
					500			FUEL PUMPS (FUTURE)	20	1	12	13	A	14	12	1	20	FUEL PUMPS (FUTURE)						500		
					500			FUEL PUMPS (FUTURE)	20	1	12	15	B	16	12	1	20	FUEL PUMPS (FUTURE)						500		
					500			FUEL PUMPS (FUTURE)	20	1	12	17	C	18	12	1	20	FUEL PUMPS (FUTURE)						500		
					500			FUEL PUMPS (FUTURE)	20	1	12	19	A	20	12	1	20	FUEL PUMPS (FUTURE)						500		
					500			FUEL PUMPS (FUTURE)	20	1	12	21	B	22	12	1	20	FUEL PUMPS (FUTURE)						500		
					500			FUEL PUMPS (FUTURE)	20	1	12	23	C	24	12	1	20	FUEL PUMPS (FUTURE)						500		
					500			FUEL PUMPS (FUTURE)	20	1	12	25	A	26	12	1	20	FUEL PUMPS (FUTURE)						500		
					500			FUEL PUMPS (FUTURE)	20	1	12	27	B	28	12	1	20	FUEL PUMPS (FUTURE)						500		
					500			FUEL PUMPS (FUTURE)	20	1	12	29	C	30	12	1	20	FUEL PUMPS (FUTURE)						500		
								SPACE ONLY				31	A	32				SPACE ONLY								
								SPACE ONLY				33	B	34				SPACE ONLY								
								SPACE ONLY				35	C	36				SPACE ONLY								
								SPACE ONLY				37	A	38				SPACE ONLY								
								SPACE ONLY				39	B	40				SPACE ONLY								
								SPACE ONLY				41	C	42				SPACE ONLY								
0	0	0	0	0	7500	0	0	TOTALS										TOTALS	0	0	0	0	0	7500	0	0

NEC CODE REFERENCES
* 100% OF 1ST 10 KVA, 50% OF REMAINING
** 125% OF LARGEST MOTOR + 100% SUM OF REMAINING MOTORS
*** ELEVATOR DEMAND FACTOR BASED ON NEC T620.14.

PANEL ABBREVIATIONS
GF - GROUND FAULT BREAKER
ST - SHUNT TRIP BREAKER
AF - ARC FAULT BREAKER
GF/AF - COMBO ARC/GROUND FAULT BREAKER
IG - PROVIDE ISOLATED GROUND
EM - PROVIDE EMERGENCY LOCKING TAB
FA - FIRE ALARM, PROVIDE RED LOCKING TAB
LCK - PROVIDE PADLOCKABLE BREAKER
OL - REFER TO ONE-LINE DIAGRAM FOR WIRE SIZE
RP - CIRCUIT CONTROLLED VIA RELAY PANEL

PANEL NOTES
COORDINATE ALL BREAKERS IN THIS PANEL WITH FUEL CONSULTANT AS REQUIRED INCLUDING BUT NOT LIMITED TO SWITCHED NEUTRAL BREAKERS FOR FUEL PUMPS.

PHASE LOAD SUMMARY

TOTAL	PHASE	LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	ELEV
5000	A	0	0	0	0	0	5000	0	0
5000	B	0	0	0	0	0	5000	0	0
5000	C	0	0	0	0	0	5000	0	0
PANEL LOAD SUMMARY									
15000	CONNECTED VA	0	0	0	0	0	15000	0	0
--	DEMAND FACTORS	1.25	*	**	1.00	1.00	1.00	1.00	0.72
15000	DEMAND VA	0	0	0	0	0	15000	0	0
0	SHOW WINDOW DEMAND								
0	TRACK LTG DEMAND								
0%	SPARE								
15000	DEMAND VA + SPARE								
41.6	TOTAL DESIGN AMPS								

PANEL LA3

VOLTAGE/PHASE: **208Y/120V, 3PH, 4W**
BUS AMPERAGE: **200A**
MAIN TYPE: **MLO**
AFC VALUE: **VERIFY**
AIC RATING: **VERIFY**
MOUNTING: **SURFACE (NEMA 1)**
GROUNDS: **EG (PER T250.122)**
ISOLATED GROUND BUS: **NO**
SERVICE ENTRANCE RATED: **NO**
LUGS: **STANDARD**

ALL LOADS IN VA

LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	ELEV	DESCRIPTION	AMP	P	WIRE	CKT #	PHASE	CKT #	WIRE	P	AMP	DESCRIPTION	LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	ELEV	
1200								LTG - SITE (FUTURE)	20	1	12	1	A	2	12	1	20	LIGHTING CONTROLS						200			
		1500						GRINDER PUMP	20	1	12	3	B	4	12	1	20	LTG - QUEUEING/ CHK OUT	641								
					500			SITE EQUIP. (FUTURE)	20	1	12	5	C	6	12	1	20	LTG - RETAIL AREAS	1100								
					500			SITE EQUIP. (FUTURE)	20	1	12	7	A	8	12	1	20	LTG - KITCHEN/ CORR	550								
					500			SITE EQUIP. (FUTURE)	20	1	12	9	B	10	12	1	20	LTG - STOR/ RR/ COOLERS	770								
					500			SITE EQUIP. (FUTURE)	20	1	12	11	C	12	12	1	20	EXT SIGNAGE - WEST	1200								LC
					500			SITE EQUIP. (FUTURE)	20	1	12	13	A	14	12	1	20	EXT SIGNAGE - NORTH	1200								LC
					500			SITE EQUIP. (FUTURE)	20	1	12	15	B	16	12	1	20	EXT SIGNAGE - EAST	1200								LC
					500			SITE EQUIP. (FUTURE)	20	1	12	17	C	18	12	1	20	EXT SIGNAGE - SOUTH	1200								LC
					500			SITE EQUIP. (FUTURE)	20	1	12	19	A	20	12	1	20	EXT SIGNAGE - SOUTHEAST	1200								LC
					500			SITE EQUIP. (FUTURE)	20	1	12	21	B	22	12	1	20	EXT LTG - BUILDING MTD	320								LC
					500			SITE EQUIP. (FUTURE)	20	1	12	23	C	24	12	1	20	EXT LTG - SITE/ CANOPY	1200								LC
					500			SITE EQUIP. (FUTURE)	20	1	12	25	A	26		1	20	SPARE									LC
					500			SITE EQUIP. (FUTURE)	20	1	12	27	B	28		1	20	SPARE									LC
					500			SITE EQUIP. (FUTURE)	20	1	12	29	C	30		1	20	SPARE									
								SPACE ONLY				31	A	32		1	20	SPARE									
								SPACE ONLY				33	B	34		1	20	SPARE									
								SPACE ONLY				35	C	36		1	20	SPARE									
								SPACE ONLY				37	A	38				SPACE ONLY									
								SPACE ONLY				39	B	40				SPACE ONLY									
								SPACE ONLY				41	C	42				SPACE ONLY									
1200	0	1500	0	0	6500	0	0	TOTALS										TOTALS	10581	0	0	0	0	200	0	0	

NEC CODE REFERENCES
* 100% OF 1ST 10 KVA, 50% OF REMAINING
** 125% OF LARGEST MOTOR + 100% SUM OF REMAINING MOTORS
*** ELEVATOR DEMAND FACTOR BASED ON NEC T620.14.

PANEL ABBREVIATIONS
GF - GROUND FAULT BREAKER
ST - SHUNT TRIP BREAKER
AF - ARC FAULT BREAKER
GF/AF - COMBO ARC/GROUND FAULT BREAKER
IG - PROVIDE ISOLATED GROUND
EM - PROVIDE EMERGENCY LOCKING TAB
FA - FIRE ALARM, PROVIDE RED LOCKING TAB
LCK - PROVIDE PADLOCKABLE BREAKER
OL - REFER TO ONE-LINE DIAGRAM FOR WIRE SIZE
LC - CONTROLLED VIA LIGHTING CONTACTOR

PANEL NOTES

PHASE LOAD SUMMARY

TOTAL	PHASE	LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	ELEV
6350	A	4150	0	0	0	0	2200	0	0
6431	B	2931	0	1500	0	0	2000	0	0
7200	C	4700	0	0	0	0	2500	0	0
PANEL LOAD SUMMARY									
19981	CONNECTED VA	11781	0	1500	0	0	6700	0	0
--	DEMAND FACTORS	1.25	*	**	1.00	1.00	1.00	1.00	0.72
22926	DEMAND VA	14726	0	1500	0	0	6700	0	0
0	SHOW WINDOW DEMAND								
0	TRACK LTG DEMAND								
0%	SPARE								
22926	DEMAND VA + SPARE								
63.6	TOTAL DESIGN AMPS								

DISTRIBUTION PANEL DPA

VOLTAGE/PHASE: **208Y/120V, 3PH, 4W**
BUS AMPERAGE: **400A**
MAIN TYPE: **400A MCB**
AFC VALUE: **VERIFY**
AIC RATING: **VERIFY**
MOUNTING: **SURFACE (NEMA 1)**
GROUNDS: **EG (PER T250.122)**
ISOLATED GROUND BUS: **NO**
SERVICE ENTRANCE RATED: **NO**

ALL LOADS IN VA

LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	ELEV	DESCRIPTION	AMP	P	WIRE	CKT #	PHASE	CKT #	WIRE	P	AMP	DESCRIPTION	LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	ELEV
0	1080	5728	0	0	7572	2500	0	PANEL 'LA1'	200	3	RD	1	A	2	RD	3	200	PANEL 'LA2'	0	0	0	0	0	5000	0	0
1080	2340	6308	0	0	4500	2000	0					3	B	4					0	0	0	0	0	5000	0	0
1080	900	4412	0	0	5572	4500	0					5	C	6					0	0	0	0	0	5000	0	0
4150	0	0	0	0	2200	0	0	PANEL 'LA3'	200	3	RD	7	A	8		3	100	SPARE								
2931	0	1500	0	0	2000	0	0					9	B	10												
4700	0	0	0	0	2500	0	0					11	C	12												
		1057		5368				RTU-R1	80	3	4	13	A	14	4	3	80	RTU-R2			1057		5368			
		1057		5368								15	B	16							1057		5368			
		1057		5368								17	C	18							1057		5368			
				3218				MAKE-UP AIR UNIT (MAU-1)	30	3	10	19	A	20				100A SPACE ONLY								
				3218								21	B	22												
				3218								23	C	24												
13941	4320	21119	0	25759	24344	9000	0	TOTALS										TOTALS	0	0	3170	0	16104	15000	0	0

NEC CODE REFERENCES
* 100% OF 1ST 10 KVA, 50% OF REMAINING
** 125% OF LARGEST MOTOR + 100% SUM OF REMAINING MOTORS
*** ELEVATOR DEMAND FACTOR BASED ON NEC T620.14.

PANEL ABBREVIATIONS
GF - GROUND FAULT BREAKER
ST - SHUNT TRIP BREAKER
AF - ARC FAULT BREAKER
EX - EXISTING CIRCUIT AND WIRING TO REMAIN
IG - PROVIDE ISOLATED GROUND
EM - PROVIDE EMERGENCY LOCKING TAB
FA - FIRE ALARM, PROVIDE RED LOCKING TAB
LCK - PROVIDE PADLOCKABLE BREAKER
RD - REFER TO RISER DIAGRAM FOR WIRE SIZE
RP - CIRCUIT CONTROLLED VIA RELAY PANEL

PANEL NOTES

PHASE LOAD SUMMARY

TOTAL	PHASE	LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	ELEV
44298	A	4150	1080	7842	0	13954	14772	2500	0
43727	B	4011	2340	9922	0	13954	11500	2000	0
44732	C	5780	900	6526	0	13954	13072	4500	0
PANEL LOAD SUMMARY									
132757	CONNECTED VA	13941	4320	24289	0	41863	39344	9000	0
--	DEMAND FACTORS	1.25	*	**	1.00	1.00	1.00	0.65	1.00
133093	DEMAND VA	17426	4320	24289	0	41863	39344	5850	0
0	SHOW WINDOW DEMAND								
0	TRACK LTG DEMAND								
0%	SPARE								
133093	DEMAND VA + SPARE								
369.4	TOTAL DESIGN AMPS								

PANEL LA1

VOLTAGE/PHASE: **208Y/120V, 3PH, 4W**
BUS AMPERAGE: **200A**
MAIN TYPE: **MLO**
AFC VALUE: **VERIFY**
AIC RATING: **VERIFY**
MOUNTING: **SURFACE (NEMA 1)**
GROUNDS: **EG (PER T250.122)**
ISOLATED GROUND BUS: **NO**
SERVICE ENTRANCE RATED: **NO**
LUGS: **STANDARD**

ALL LOADS IN VA

	LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	ELEV	DESCRIPTION	AMP	P	WIRE	CKT #	PHASE	CKT #	WIRE	P	AMP	DESCRIPTION	LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	ELEV	
			500						WALK-IN COOLER A-1 EVAPORATOR	20	2	12	1	A	2	12	1	20	CHECK-OUT POS #1						500			
			500										3	B	4	12	1	20	CHECK-OUT POS #2						500			
			500						WALK-IN COOLER A-2 EVAPORATOR	20	2	12	5	C	6	12	1	20	CHECK-OUT POS #3						500			
			500										7	A	8	12	1	20	STORAGE A/B RCPTS		1080							
			1200						WALK-IN FREEZER EVAPORATOR	20	2	12	9	B	10	12	1	20	MEN RR/BEV STOR RCPT		900							
			1200										11	C	12	12	1	20	BEVERAGE STN RCPTS						1500			
			1200						WALK-IN COOLER B EVAPORATOR	20	2	12	13	A	14	12	1	20	RETAIL 'A' FRONT RCPTS						1500			LC
			1200										15	B	16	12	1	20	RETAIL 'A' BACK RCPTS						1500			LC
						500			WATER HEATER (GWH)	20	1	12	17	C	18	12	1	20	WOMEN RR/BEV RCPT		900							
			120						RECIRC PUMP (RP)	20	1	12	19	A	20	12	1	20	BEVERAGE STN RCPTS						1500			
		720							ROOF RCPTS	20	1	12	21	B	22	12	1	20	RETAIL 'B' FRONT RCPTS						1500			LC
						1572			COFFEE MAKER #1	20	1	12	23	C	24	12	1	20	RETAIL 'B' BACK RCPTS						1500			LC
						1572			COFFEE MAKER #2	20	1	12	25	A	26	12	1	20	BACK COUNTER RCPTS						1500			
							1000		RCPT - KITCHEN HOOD	20	1	12	27	B	28	12	1	20	SOFFIT SIGN RCPTS	1080								LC
GF							1500		RCPT - KICHEN EQUIP.	20	1	12	29	C	30	12	1	20	SOFFIT SIGN RCPTS	1080								LC
GF							1000		RCPT - COLD PREP RIGHT	20	1	12	31	A	32	12	1	20	REACH-IN COOLER						1000			
GF							1000		RCPT - COLD PREP LEFT	20	1	12	33	B	34	12	1	20	REACH-IN COOLER						1000			
GF							1500		RCPT - KITCHEN EQUIP.	20	1	12	35	C	36				SPACE ONLY									
GF							1500		RCPT - KITCHEN EQUIP.	20	1	12	37	A	38	12	3	15	KITCHEN EXHAUST FAN (KEF-1)			312						
		720							RCPT - KITCHEN GEN.	20	1	12	39	B	40							312						
GF							1500		RCPT - KITCHEN EQUIP.	20	1	12	41	C	42							312						
LC			696						EXHAUST FAN (EF-R1)	20	1	12	43	A	44				SPACE ONLY									
LC			696						EXHAUST FAN (EF-R2)	20	1	12	45	B	46				SPACE ONLY									
			1200						WALK-IN COOLER A COND. UNIT	20	2	12	47	C	48				SPACE ONLY									
			1200										49	A	50				SPACE ONLY									
			1200						WALK-IN COOLER B COND. UNIT	20	2	12	51	B	52				SPACE ONLY									
			1200										53	C	54				SPACE ONLY									
			1200						WALK-IN FREEZER B COND. UNIT	20	2	12	55	A	56				SPACE ONLY									
			1200										57	B	58				SPACE ONLY									
									SPACE ONLY				59	C	60				SPACE ONLY									
	0	1440	15512	0	0	3644	9000	0	TOTALS										TOTALS	2160	2880	937	0	0	14000	0	0	

NEC CODE REFERENCES
* 100% OF 1ST 10 KVA, 50% OF REMAINING
** 125% OF LARGEST MOTOR + 100% SUM OF REMAINING MOTORS
*** ELEVATOR DEMAND FACTOR BASED ON NEC T620.14.

PANEL ABBREVIATIONS
GF - GROUND FAULT BREAKER
ST - SHUNT TRIP BREAKER
AF - ARC FAULT BREAKER
GF/AF - COMBO ARC/GROUND FAULT BREAKER
IG - PROVIDE ISOLATED GROUND
EM - PROVIDE EMERGENCY LOCKING TAB
FA - FIRE ALARM, PROVIDE RED LOCKING TAB
LCK - PROVIDE PADLOCKABLE BREAKER
OL - REFER TO ONE-LINE DIAGRAM FOR WIRE SIZE
LC - CONTROLLED VIA LIGHTING CONTACTOR

PANEL NOTES

PHASE LOAD SUMMARY

TOTAL	PHASE	LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	ELEV
16880	A	0	1080	5728	0	0	7572	2500	0
16228	B	1080	2340	6308	0	0	4500	2000	0
16464	C	1080	900	4412	0	0	5572	4500	0
PANEL LOAD SUMMARY									
49573	CONNECTED VA	2160	4320	16449	0	0	17644	9000	0
--	DEMAND FACTORS	1.25	*	**	1.00	1.00	1.00	0.65	0.72
46963	DEMAND VA	2700	4320	16449	0	0	17644	5850	0
0	SHOW WINDOW DEMAND								
0	TRACK LTG DEMAND								
0%	SPARE								
46963	DEMAND VA + SPARE								
130.4	TOTAL DESIGN AMPS								

GENERAL NOTES
(NOT ALL NOTES APPLY)

1. REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.
3. FIELD VERIFY ALL ELECTRICAL WORK WITH OWNER PRIOR TO START OF PROJECT.

KEYED NOTES:

1. PROVIDE UTILITY METER AND CT CABINET PER UTILITY COMPANY STANDARDS. INSTALLATION SHALL MEET ALL UTILITY COMPANY REQUIREMENTS AND LOCAL CODES.
2. REFER TO DETAIL 2 (THIS SHEET) FOR ADDITIONAL INFORMATION.
3. PROVIDE 400A, NEMA 3R, SERVICE ENTRANCE RATED, FUSED SAFETY SWITCH FOR ELECTRICAL SERVICE DISCONNECTING MEANS.
4. REFER TO NEC 250.53 FOR ADDITIONAL INFORMATION.

collins | webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC
P.O. BOX 11101
OVERLAND PARK, KS 66207
913-735-5654
MO CERTIFICATE OF AUTHORITY #E-2021006522

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
06/09/2025
PROFESSIONAL SEAL

E401

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

ELECTRICAL RISER DIAGRAM & SCHEDULES

16000 - ELECTRICAL

GENERAL

DESCRIPTION

DIVISION 16 OF THE SPECIFICATIONS COVERS ALL ELECTRICAL WORK FOR THE PROJECT. WORK SHALL INCLUDE LABOR, MATERIAL AND ACCESSORIES NECESSARY TO ACCOMPLISH THE WORK AS SPECIFIED AND SHOWN ON THE DRAWINGS, INCLUDING CONNECTION AND CHECKOUTS OF EQUIPMENT FURNISHED BY OTHERS (OTHER TRADES, THE OWNER AND OTHER CONTRACTORS), AND TO ALL EQUIPMENT ITEMS AND AS INDICATED ON DRAWINGS OR AS REQUIRED.

THE ARCHITECTURAL SPECIFICATIONS AND DRAWINGS INCLUDING THE GENERAL - CONDITIONS, INCLUDING ALL SUPPLEMENTS ISSUED THERETO, INSTRUCTIONS TO BIDDERS, AND OTHERS PERTINENT DOCUMENTS ISSUED BY THE ARCHITECT ARE A PART OF THESE SPECIFICATIONS AND ELECTRICAL DRAWINGS. THIS TRADE SHALL CONSULT THEM FOR INSTRUCTIONS WHICH APPLY. DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF THE ELECTRICAL LAYOUT AND WORK INCLUDED. ELECTRICIAN SHALL FOLLOW DRAWINGS IN LAYOUT THE ELECTRICAL WORK AND CONSULT THE DRAWINGS AND LAYOUTS OF OTHER TRADES TO VERIFY LOCATION AND SPACES IN WHICH WORK WILL BE INSTALLED.

CODES, PERMITS, INSPECTION AND COMMISSIONING

INSTALLATION SHALL COMPLY WITH ALL LAWS APPLYING TO ELECTRICAL WORK IN EFFECT, INCLUDING THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (N.E.C.), THE NATIONAL ELECTRICAL SAFETY CODE, ALL LOCAL GOVERNING CODES AND ORDINANCES, WITH THE REGULATIONS OF THE SERVING ELECTRICAL UTILITY COMPANY. PROVIDE ALL REQUIRED PERMITS AND INCLUDE THE COST OF SAME IN THE COST OF THE PROJECT. OBTAIN AND PAY FOR (WITHOUT ADDITIONAL EXPENSE TO THE OWNER) ALL REQUIRED INSPECTIONS AND REVIEWS. PROVIDE FOR AND PAY ALL EXPENSES (WITHOUT ADDITIONAL EXPENSE TO THE OWNER) ASSOCIATED WITH LIGHTING AND LIGHTING CONTROLS COMMISSIONING. ALL COMMISSIONING DOCUMENTATION SHALL BE CERTIFIED AND GIVEN TO OWNER AND DESIGN PROFESSIONAL.

QUALITY ASSURANCE

THE FOLLOWING INDUSTRY STANDARDS AS APPLICABLE TO ELECTRICAL WORK SHALL APPLY TO THE WORK OF THIS DIVISION EXCEPT THAT, WHERE THE REQUIREMENTS OF THESE SPECIFICATIONS ARE MORE THAN THE LISTED STANDARD, THESE SPECIFICATIONS SHALL TAKE PRECEDENCE:

UL - UNDERWRITERS' LABORATORIES
NEMA - NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
NECA - NATIONAL ELECTRICAL CONTRACTOR'S ASSOCIATION
ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE
ASTM - AMERICAN SOCIETY OF TESTING MATERIALS.

ALL MATERIALS SHALL BE NEW, UL LISTED AND LABELED WHERE LABELED MATERIALS ARE AVAILABLE, UNDAMAGED AND FREE OF DEFECTS AT TIME OF INSTALLATION. MATERIALS OR EQUIPMENT DAMAGED IN SHIPMENT OR OTHERWISE DAMAGED PRIOR TO OR DURING INSTALLATION SHALL NOT BE REPAIRED AT THE JOB SITE, BUT SHALL BE REPLACED WITH NEW MATERIALS. WHEN THE MANUFACTURER'S NAME APPEARS IN THESE SPECIFICATIONS AND DRAWINGS, IT SHALL BE CONSTRUED THAT THE MANUFACTURER HAS TO MEET THE FULL REQUIREMENTS OF THE SPECIFICATIONS AND DRAWINGS.

SUBMITTALS

SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR EQUIPMENT TO THE ARCHITECT FOR ENGINEER'S REVIEW ELECTRONICALLY OR HARD COPIES. INCLUDE SUFFICIENT INFORMATION TO INDICATE COMPLETE COMPLIANCE WITH SPECIFICATIONS. PROVIDE SUBMITTALS AS EARLY AS REQUIRED TO SUPPORT THE PROJECT SCHEDULE. ALLOW ONE WEEK FOR ENGINEER REVIEW TIME. THE ENGINEER'S SUBMITTAL REVIEWS WILL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS IN DIMENSIONS, DETAILS, SIZE OF MEMBERS, OR QUANTITIES; OR FOR OMITTING COMPONENTS OR FITTINGS; OR FOR NOT COORDINATING ITEMS WITH ACTUAL BUILDING CONDITIONS AND/OR OTHER TRADES.

OWNER RECORDS

ACCUMULATE DURING THE PROGRESS OF THE JOB, THE FOLLOWING DATA IN DUPLICATE, AND PREPARE IN A NEAT BROCHURE OR PACKET FOLDER TO BE TURNED OVER TO THE OWNER AT SUBSTANTIAL COMPLETION: RECORD DRAWINGS PER ABOVE.

ALL WARRANTIES, GUARANTEES, AND MANUFACTURER'S DIRECTION ON EQUIPMENT & MATERIAL FURNISHED.

COMPLETE PLAIN ENGLISH STEP-BY-STEP OPERATING INSTRUCTIONS FOR THE ELECTRICAL SYSTEM. ONE COPY OF THESE INSTRUCTIONS SHALL BE FRAMED AND POSTED AS DIRECTED ON THE PREMISES.

CERTIFIED LIGHTING AND LIGHTING CONTROLS COMMISSIONING AS REQUIRED BY CURRENTLY ADOPTED ENERGY CODE REQUIREMENTS.

MANUFACTURERS' NAMES AND CATALOG NUMBERS

IN SOME INSTANCES, SPECIFIC REFERENCES HAVE BEEN MADE TO ONE OR MORE MANUFACTURER'S NAME AND MODEL OR CATALOG NUMBERS. USE OF NAMES AND CATALOG NUMBERS DOES NOT INDICATE THAT THE EQUIPMENT SPECIFIED IN NECESSARILY AN "OFF THE SHELF" ITEM. VARIANCES MAY BE DUE TO REQUIREMENT OF DESIRED FINISH, MATERIAL OR OTHER MODIFICATION.

IN THE CASE OF PANELBOARDS, SAFETY SWITCHES AND OTHER EQUIPMENT REQUIRING WIRE AND CABLE TERMINATIONS, ASCERTAIN THAT LUG SIZES AND WIRING GUTTERS OR WIRING SPACE ALLOWED IS PROPER FOR THE WIRES AND CABLES CONTAINED THEREIN.

WHEN APPROVAL IS GIVEN FOR THE USE OF EQUIPMENT DIFFERING FROM THAT SHOWN ON DRAWINGS IN REGARD TO FOUNDATIONS, SPACE FOR PIPING, DUCTWORK, WIRING, INSULATION, ETC. CHANGES REQUIRED TO ACCOMPLISH SUCH DIFFERENCES SHALL BE ACCOMPLISHED AT NO COST TO THE OWNER.

PROTECTION OF EQUIPMENT

ELECTRICAL EQUIPMENT SHALL BE PROTECTED FROM THE WEATHER, IN PARTICULAR, DRIPPING OR SPLASHING WATER, AT ALL TIMES DURING SHIPMENT, STORAGE AND CONSTRUCTION. MANUFACTURER'S RECOMMENDATIONS WITH REGARD TO STORAGE, PROTECTION, AND HANDLING SHALL BE FOLLOWED.

SHOULD ANY APPARATUS BE SUBJECTED TO POSSIBLE INJURY DUE TO WATER, IT SHALL BE THOROUGHLY DRIED AND PUT THROUGH A DIELECTRIC TEST, AT THE EXPENSE OF THE CONTRACTOR, TO ASCERTAIN THE SUITABILITY OF THE APPARATUS OR IT SHALL BE REPLACED WITHOUT ADDITIONAL COST TO THE OWNER.

DAMAGED OR DEFECTIVE EQUIPMENT: INSPECT ALL ELECTRICAL EQUIPMENT AND MATERIALS PRIOR TO INSTALLATION. INSTALLATION OR PLACEMENT INTO SERVICE OF DAMAGED MATERIALS WITHOUT THE PRIOR WRITTEN CONSENT OF THE OWNER IS PROHIBITED. REPLACE OR REPAIR TO NEW CONDITION, AS CERTIFIED BY THE MANUFACTURER, AND TEST DAMAGED EQUIPMENT IN COMPLIANCE WITH INDUSTRY STANDARDS AT NO ADDITIONAL COST TO THE OWNER. EQUIPMENT REQUIRED FOR THE TESTING SHALL BE PROVIDED BY THE CONTRACTOR.

WORKING CLEARANCE

THE SIZE OF ELECTRICAL EQUIPMENT SHOWN ON THE DRAWINGS IS BASED ON DIMENSIONS OF A PARTICULAR MANUFACTURER, (GENERALLY THE FIRST NAMED). WHILE OTHER MANUFACTURERS MAY BE ACCEPTABLE, IT IS THE RESPONSIBILITY OF THE TRADE TO DETERMINE IF THE EQUIPMENT PROPOSED WILL FIT IN THE ALLOCATED SPACE.

INSTALL ALL EQUIPMENT IN A MANNER TO PERMIT ACCESS TO ALL SURFACES. MAINTAIN PROPER CLEARANCE TO MEET ALL SAFETY AND OPERATING CODES, PARTICULARLY N.E.C. INCLUDE ALL REQUIREMENTS DICTATED BY OPERATION, CONTROL, ADJUSTMENT, MAINTENANCE AND POSSIBLE REPLACEMENT OF EQUIPMENT IN DETERMINING CLEARANCE.

SHOULD THERE BE APPARENT VIOLATIONS OF N.E.C. CLEARANCE, NOTIFY THE ARCHITECT-ENGINEER BEFORE PROCEEDING WITH CONNECTION OR PLACEMENT OF EQUIPMENT.

COORDINATION

INSTALLATION STUDIES ARE REQUIRED TO COORDINATE THE ELECTRICAL WORK WITH THE WORK OF OTHER TRADES. PREPARE COORDINATION DRAWINGS AT ACCURATE SCALE WHERE SEVERAL ELEMENTS OF ELECTRICAL OR COMBINED MECHANICAL/STRUCTURAL/ELECTRICAL WORK MUST BE SEQUENCED AND POSITIONED WITH PRECISION IN ORDER TO FIT INTO THE AVAILABLE SPACE.

SHOW THE ACTUAL PHYSICAL DIMENSIONS REQUIRED FOR PROPER INTEGRATION OF EQUIPMENT WITH BUILDING SYSTEMS.

PROVIDE APPROVED SHOP DRAWINGS TO ALL REQUIRED DISCIPLINES AND VERIFY FINAL ELECTRICAL CHARACTERISTICS BEFORE ROUGHING POWER FEEDS TO ANY EQUIPMENT. WHEN ELECTRICAL DATA ON APPROVED SHOP DRAWINGS DIFFERS FROM CONTEMPLATED DESIGN, MAKE NECESSARY ADJUSTMENTS TO THE WIRING, DISCONNECTS, AND BRANCH-CIRCUIT PROTECTION FOR THE EQUIPMENT ACTUALLY INSTALLED AT NO ADDITIONAL COST TO THE OWNER.

DAMAGE FROM INTERFERENCE CAUSED BY INADEQUATE COORDINATION SHALL BE RECTIFIED AT NO ADDITIONAL COST TO THE OWNER.

WORKMANSHIP

ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER AND SHALL PRESENT A NEAT MECHANICAL APPEARANCE WHEN COMPLETED.

ANY MATERIAL ITEMS OR WORK NOT SHOWN ON THE DRAWINGS, BUT MENTIONED IN THESE SPECIFICATIONS OR VISA-VERSA, OR ANY ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE IN ALL RESPECTS AND READY FOR OPERATION SHALL BE PROVIDED WITHOUT ADDITIONAL COST TO THE OWNER.

THIS TRADE SHALL DO OR HAVE DONE BY COMPETENT TRADESMEN ALL CUTTING AND PATCHING NECESSARY FOR THE INSTALLATION OF THIS WORK. NO CUTTING IN CONSTRUCTIVE PARTS OF THE BUILDING LIKELY TO IMPAIR ITS STRENGTH SHALL BE DONE WITHOUT THE ARCHITECT-ENGINEER'S WRITTEN APPROVAL.

EXCAVATION AND BACKFILL

EXCAVATION, TRENCHING AND BACKFILLING ARE SPECIFIED IN SECTION EXCAVATION TRENCHING AND BACKFILLING FOR UTILITIES. CONDUIT IS TO BE INSTALLED AS SPECIFIED FOR PIPELINES. CONDUIT INSTALLED BENEATH FLOOR SLAB SHALL BE A MINIMUM OF 6" BELOW SLAB. BACKFILL OVER CONDUIT SHALL BE COMPACTED AS FOR SLAB BEDDING MATERIAL. REFER TO STRUCTURAL DRAWINGS FOR DETAILS OF CONDUIT (PIPE) PENETRATION OF EXTERIOR FOOTINGS. COMPLETE INSTALLATION SHALL CONFORM TO N.E.C.

PENETRATIONS

COORDINATE SLEEVE SELECTION AND APPLICATION WITH SELECTION AND APPLICATION OF FIRE-STOPPING SPECIFIED IN ARCHITECTURAL SPECIFICATIONS.

ROOFS: COORDINATE ALL ROOF PENETRATIONS WITH ENGINEER, OWNER, AND AS APPLICABLE, THE ROOFING CONTRACTOR PROVIDING A ROOF WARRANTY. KEEP ALL RACEWAY PENETRATIONS WITHIN MECHANICAL EQUIPMENT CURBS WHEREVER POSSIBLE. COORDINATE WITH DIVISION 15. FLASH AND COUNTERFLASH ALL OPENINGS THROUGH ROOF, AND/OR PROVIDE PRE-FABRICATED MOLDED SEALS COMPATIBLE WITH THE ROOF CONSTRUCTION INSTALLED, OR AS REQUIRED BY THE ENGINEER, OWNER, OR ROOFING CONTRACTOR. ALL ROOF PENETRATIONS SHALL BE LEAKTIGHT AT THE TERMINATINO OF THE WORK AND SHALL NOT VOID ANY NEW OR EXISTING ROOF WARRANTIES.

WALLS AND FLOORS - SLEEVES FOR RACEWAYS AND CABLES:
STEEL PIPE SLEEVES: ASTM A 53/A 53M, TYPE E, GRADE B, SCHEDULE 40, GALVANIZED STEEL, PLAIN ENDS AND DRIP RINGS.

CAST IRON PIPE SLEEVES: CAST OR FABRICATED “WALL PIPE”, EQUIVALIENT TO DUCTILE-IRON PRESSURE PIPE, WITH PLAIN ENDS AND INTEGRAL SATERSTOP, UNLESS OTHERWISE INDICATED.

FIRESTOPPING: FIRE RESISTANT THROUGH PENETRAION SEALANTS - TWO PART, FOAMED-IN-PLACE, SILICONE SEALANT FORMULATED FOR USE IN THROUGH-PENETRAION FIRE-STOPPING AROUND CABLES, RACEWAYS, AND CABLE TRAY PENETRAIONS THROUGH FIRE-RATED WALLS AND FLOORS. SEALANTS AND ACCESSORIES SHALL HAVE FIRE-RESISTANCE RATINGS INDICATED, AS ESTABLISHED BY TESTING IDENTICAL ASSEMBLIES IN ACCORDANCE WITH ASTM E 814, BY UNDERWRITER'S LABORATORIES, INC., OR OTHER NRTL ACCEPTABLE TO AHJ.
ACCEPTABLE MANUFACTURERS - HILTI, INC., 3M CORP, RECTORSEAL, SPECIFY TECHNOLOGY INC., UNITED STATES GYPSUM COMPANY.

ELECTRICAL SERVICE

SERVICE SHALL BE AS SHOWN ON DRAWINGS.

PROVIDE SECONDARY SERVICE INTO THE BUILDING WITH CONDUIT AND WIRING AS SHOWN ON THE PLANS, INCLUDING, BUT NOT LIMITED TO, UNDERGROUND RACEWAYS AND CABLES AND SECONDARY CONNECTIONS TO UTILITY TRANSFORMERS AS REQUIRED BY SERVING ELECTRICAL UTILITY COMPANY. COORDINATE ALL REQUIREMENTS WITH UTILITY COMPANY PRIOR TO BID.

PROVIDE ALL REQUIRED GROUNDING FOR A COMPLETE SERVICE ENTRANCE GROUNDING SYSTEM. PERMANENTLY AND EFFECTIVELY GROUND AND BOND THE ELECTRICAL INSTALLATION IN A THOROUGH AND EFFICIENT MANNER, AND IN CONFORMANCE (AT A MINIMUM) WITH N.E.C. OR THESE DOCUMENTS, WHERE THEY EXCEED CODE REQUIREMENTS. USE BARE OR INSULATED CONDUCTORS, AS SPECIFIED HEREIN, AND OTHER MATERIALS INDICATED ON THE DRAWINGS.

PROVIDE ALL NECESSARY ENCLOSURES REQUIRED BY THE OWNER FOR THE UTILITY COMPANY METERING. REFER TO DRAWINGS FOR MINIMUM REQUIREMENTS. COORDINATE WITH UTILITY COMPANY PRIOR TO BID FOR ALL REQUIREMENTS.

PRODUCTS

GENERAL

ALL EQUIPMENT OF A PARTICULAR KIND, SUCH AS WIRING DEVICES AND PANELBOARDS AND ALL LIGHTING FIXTURES OF THE SAME TYPE, SHALL BE THE PRODUCT OF THE SAME MANUFACTURER.

PROVIDE ACCESS PANELS FOR ALL EQUIPMENT AND DEVICES REQUIRING SUCH PANELS. SIZE AS REQUIRED FOR PROPER ACCESS AND MAINTENANCE, MINIMUM ACCEPTABLE IS 12 IN BY 12 IN CLEAR OPENING WHERE HAND ACCESS ONLY IS REQUIRED.

PROVIDE LABELS FOR EACH MOTOR CONTROLLER, SAFETY SWITCH, RELAY, PANELBOARD, CONTACTOR, TIMER, CONTROL DEVICE, METER AND CIRCUIT BREAKER. LABELS SHALL BE LAMINATED, PHENOLIC STRIPS 1/16" THICK, AND ENGRAVED TO SHOW BLACK LETTERS ON A WHITE BACKGROUND NOT LESS THAN 1/4" HIGH. SIZE STRIPS TO PROPERLY FIT MANUFACTURER'S BRACKETS AND BE LEGIBLE. WHERE MANUFACTURER'S BRACKETS ARE NOT PROVIDED, MOUNT LABELS WITH PROPER SCREWS, OR AN APPROVED ADHESIVE.

RACEWAYS

CONDUIT, RIGID STEEL; GALVANIZED OR SHERADIZED AND MANUFACTURED IN ACCORDANCE WITH ANSI STANDARD C80.L. FITTINGS SHALL BE PIPE THREADED, MALLEABLE IRON. CONNECTORS SHALL BE INSULATED THROAT TYPE.

CONDUIT, PVC: POLYVINYLCHLORIDE SCHEDULE 40 PIPE SPECIFICALLY MANUFACTURED AND LABELED (UL STANDARD 651) FOR USE AS ELECTRICAL CONDUIT. FITTINGS SHALL BE EITHER SOCKET WELDED TYPE OR PIPE THREADED WITH INSULATED THROAT.

CONDUIT, FLEXIBLE METALLIC: GALVANIZED, INTERLOCKED SPIRALLY WOUND STEEL STRIP WITH GALVANIZED OR SHERADIZED FITTINGS. LISTED PER UL-L. FITTINGS SHALL BE OF THE SQUEEZE TYPE WITH INSULATED THROATS.

CONDUIT, LIQUIDTIGHT FLEXIBLE METALLIC: GALVANIZED, INTERLOCKED SPIRALLY WOUND STEEL STRIP WITH OVERALL JACKET OF LIQUID TIGHT PVC, UL LISTED. FITTINGS SHALL BE STEEL OR MALLEABLE IRON INSULATED THROAT, WATERTIGHT.

ELECTRIC METALLIC TUBING: GALVANIZED OR SHERADIZED AND MANUFACTURED IN ACCORDANCE WITH ANSI STANDARD C80.3. FITTINGS 1/2 INCH THROUGH 2 INCH TRADE SIZE SHALL BE COMPRESSION TYPE, MANUFACTURED FROM MALLEABLE IRON OR STEEL, AND RAIN AND/OR CONCRETE-TIGHT AS REQUIRED BY INSTALLATION. POT METAL OR DIE CAST TYPE FITTINGS ARE PROHIBITED. CONNECTORS SHALL BE INSULATED THROAT TYPE.

CONDUCTORS AND CABLES

GENERAL: SERVICE LATERALS AND PANELBOARD FEEDERS SHALL BE OF ANNEALED (SOFT) COPPER COMPLYING WITH ICEA S-95-658/NEMA WC70; SOLID CONDUCTOR FOR NO. 10 AWG AND SMALLER; CONCENTRIC, COMPRESSED STRANDED FOR NO. 8 AWG AND LARGER. ALL FEEDER CONDUCTORS NO 8 AWG AND LARGER; STRANDED, TYPE THWN-2 OR XHHW-2 INSULATION.

ALL BRANCH CIRCUITS SHALL BE ANNEALED (SOFT) COPPER COMPLYING WITH ICEA S-95-658/NEMA WC70; SOLID CONDUCTOR FOR NO. 10AWG AND SMALLER; CONCENTRIC, COMPRESSED STRANDED FOR NO. 8 AWG AND LARGER. ALL BRANCH CIRCUIT CONDUCTORS NO 8 AWG AND LARGER; STRANDED, TYPE THWN-2 OR XHHW-2 INSULATION. ALL CONDUCTORS, NO 10 AWG AND SMALLER, USED FOR POWER AND LIGHTNG CIRCUITS; SOLID COPPER, TYPE THWN-2 INSULATION (WET OR DAMP LOCATIONS, OR IN CONDUIT BELOW GRADE OR SLAB), TYPE THHN INSULATION (DRY LOCATIONS ONLY ABOVE GRADE), OR DUAL RATED TYPE THHN/THWN-2. ALL BRANCH CIRCUIT WIRING SHALL NOT BE SMALLER THAN NO 12 AWG. IF NO CONDUCTOR SIZE IS INDICATED ON THE DRAWINGS FOR A BRANCH CIRCUIT, PROVIDE CONDUCTORS AND CONDUIT SIZED PER NFPA 70 AND BASED ON THE INDICATED BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE RATING AND NUMBER OF POLES. WHERE NO CIRCUIT SIZE (CONDUCTORS AND OVERCURRENT PROTECTIVE DEVICE) IS INDICATED ON THE DRAWINGS FOR A BRANCH CIRCUIT, PROVIDE THREE NO 12 AWG CONDUCTORS IN 3/4" RACEWAY, AND A 20A SINGLE POLE CIRCUIT BREAKER.

CONDUCTOR INSULATION TYPES; 90-DEGREE C-RATED, TYPE THHN/THWN-2 OR XHHW-2 COMPLYING WITH ICEA S-95-658/NEMA WC70.

COLORS FOR 208/120V CONDUCTORS
PHASE A: BLACK
PHASE B: RED
PHASE C: BLUE
NEUTRAL: WHITE
EQUIPMENT GROUND: GREEN
ISOLATED GROUND: GREEN WITH YELLOW STRIPE

COLORS FOR 480/277V CONDUCTORS
PHASE A: BROWN
PHASE B: ORANGE
PHASE C: YELLOW
NEUTRAL: WHITE
EQUIPMENT GROUND: GREEN

UNLESS NOTED OTHERWISE, SPECIAL PURPOSE CONDUCTORS AND CABLES, SUCH AS LOW VOLTAGE CONTROL AND SHIELDED INSTRUMENT WIRING, SHALL BE AS RECOMMENDED BY THE SYSTEM EQUIPMENT MANUFACTURER.

CONTROL WIRING; STRANDED COPPER CONDUCTORS, 600V INSULATION, OF THE PROPER TYPE, SIZE AND NUMBER AS REQUIRED TO ACCOMPLISH SPECIFIED FUNCTION. MINIMUM SIZE; NO. 14 AWG UNLESS NOTED OTHERWISE.

MC TYPE CABLE CAN BE USED IF ACCEPTED BY LOCAL AUTHORITY AND GOVERNING CODES FOR WHIPS FROM JUNCTION BOX TO LIGHT FIXTURES ONLY. TYPE MC CABLE; 600V, UNJACKETED; ANSI E119 AND E814, UL STANDARDS 44 OR 83 (AS APPLICABLE), AND 1569, NFPA 70 ARTICLE 330; ALUMINUM OR GALVANIZED STEEL INTERLOCKED ARMOR; THHN- OR XHHW-INSULATED CONDUCTORS; COLOR CODE; ICEA METHOD 1, WITH GREEN INSULATED GROUDING CONDUCTOR.

PROVIDE A DEDICATED EQUIPMENT-GROUNDING CONDUCTOR, OR BONDING JUMPER, AS APPLICABLE, IN ALL BRANCH CIRCUITS AND FEEDERS, SIZED IN ACCORDANCE WITH NFPA 70, UNLESS INDICATED AS LARGER ON THE DRAWINGS.

PROVIDE A DEDICATED NEUTRAL (WHERE REQUIRED) AND DEDICATED GROUNDING CONDUCTOR FOR EACH BRANCH CIRCUIT.

VOLTAGE DROP IN BRANCH CIRCUITS SHALL NOT EXCEED 2%.

GFCI CIRCUITS: DO NOT USE MULTI-CONDUCTOR CIRCUITS, WITH A SHARED NEUTRAL FOR ANY GFCI CIRCUIT BREAKER OR RECEPTACLE CIRCUIT. BRANCH CIRCUITS FED FROM GFCI CIRCUIT BREAKERS, LIMIT THE ONE-WAY CONDUCTOR LENGTH TO 100 FEET BETWEEN THE PANELBOARD AND THE MOST REMOTE RECEPTACLE OR LOAD ON THE GFCI CIRCUIT.

BOXES

OUTLET BOXES: GALVANIZED PRESSED STEEL WITH GALVANIZED STEEL EXTENSION RINGS OR PLASTER RINGS OR TILE RINGS TO PROVIDE EXPOSED SURFACE FLUSH WITH WALL OR CEILING FINISH. PROVIDE ALL CEILING OUTLET BOXES WITH "NO-BOLT" OR THROUGH AND LOCKNUTTED TYPE FIXTURE STUDS.

JUNCTION AND PULL BOXES: FABRICATE IN ACCORDANCE WITH NEMA AND N.E.C. STANDARDS AND REQUIREMENTS INSOFAR AS MATERIAL, GAUGES, DIMENSIONS, AND FABRICATION METHODS. BOXES SHALL BEAR THE UL LABEL. WHERE BOXES ARE NOT SIZED ON THE DRAWINGS, THEY SHALL BE SIZED IN ACCORDANCE WITH N.E.C. REQUIREMENTS. FINISH IN STANDARD GRAY ENAMEL, WITH SIDES AND BACK SPOT-WELDED IN POSITION AND THE REMOVABLE SCREW COVER MOUNTED WITH BRASS MACHINE SCREWS.

WIRING DEVICES

SWITCHES: HEAVY DUTY AC, RATED 20 AMPERES, 120/277 VOLTS, SINGLE-POLE, DOUBLE-POLE, THREE-POLE, OR FOUR-WAY AS NOTED ON DRAWINGS OR AS REQUIRED FOR THE SWITCHING ARRANGEMENTS IN EACH SPACE. HUBBELL #HBL122** OR EQUAL. COORDINATE SWITCH COLORS WITH COVERPLATES AS DESCRIBED BELOW UNDER "PLATES".

SWITCHES, SPECIAL PURPOSE: KEY OPERATED, HEAVY-DUTY AC, RATED 20 AMPERES, 120/277 VOLTS, SINGLE OR MULTI-POLE AS NOTED OR AS REQUIRED. HUBBELL #HBL122** OR EQUAL.

RECEPTACLES: THREE WIRE GROUNDING TYPE, 120 VOLT RATED, SPECIFICATION GRADE 20 AMPERES DUPLEX UNLESS NOTED OTHERWISE ON DRAWINGS. HUBBELL #5362 OR EQUAL. COORDINATE RECEPTACLE COLOR WITH COVERPLATE AS DESCRIBED BELOW UNDER "PLATES". SINGLE RECEPTACLE, 20 AMPERE, 120 VOLT, SPECIFICATION GRADE. HUBBELL #5361 OR EQUAL.

DUST AND MOISTURE RESISTANT, MELAMINE BODY, GRAY NYLON FACE BACKED BY FABRIC REINFORCED NEOPRENE GASKET SLIT TO PROVIDE WIPING ACTION ON CAP BLADES. PASS & SEYMOUR #6307 OR APPROVED EQUAL. GROUND FAULT CIRCUIT INTERRUPTER, NYLON FACE CLASS A, NEMA 5-20R, SPECIFICATION GRADE. HUBBELL #GF-5362* OR EQUAL.

CORROSION RESISTANT, SIMILAR AND APPROVED EQUAL TO STANDARD RECEPTACLE, EXCEPT FABRICATED FROM YELLOW MELAMINE PLASTIC WITH YELLOW NYLON FACE AND EXPOSED METAL PARTS FINISHED TO RESIST CORROSION. (NEMA 5-15R = HUBBELL #52CM61).

ISOLATED GROUND, DUPLEX OR SIMPLEX THREE WIRE GROUNDING TYPE, SPECIFICATION GRADE, ORANGE FACE, GROUND CONTACT FULLY ISOLATED FROM STRAP AND EQUIPPED WITH SCREW TERMINAL. HUBBELL #IG-5362* OR EQUAL.

RECEPTACLES, SPECIAL PURPOSE: SPECIAL PURPOSE OUTLETS SHALL BE AS SCHEDULED ON DRAWINGS.

PLATES: PROVIDE PLATES FOR ALL OUTLET BOXES. PLATES SHALL BE OF SUITABLE CONFIGURATION FOR THE NUMBER AND TYPE OF DEVICES SERVED, SHALL BE ONE PIECE, SHALL OVERLAP OUTLET BOX EDGE AND ROOM SURFACES, AND SHALL BE SMOOTH FINISH NYLON TYPE OF SAME MANUFACTURER AS THE WIRING DEVICES. VERIFY DESIRED MATERIALS AND COLORS WITH ARCHITECT PRIOR TO INSTALLATION.

STANDARD INTERIOR: IVORY FINISHED ON LIGHT COLORED WALLS - COORDINATE ALL COLORS WITH ARCHITECT

INTERIOR DAMP LOCATIONS: STAINLESS STEEL.

EXTERIOR LOCATIONS: FOR UNATTENDED WET LOCATIONS, PROVIDE IN-USE NEMA 3R, UL LABELED PLATES MOLDED FROM A CLEAR HIGH IMPACT ULTRAVIOLET STABILIZED POLYCARBONATE MATERIAL FOR EASY VERIFICATION THAT CORDS ARE PLUGGED IN AND THAT THE GFCI IS FUNCTIONING. COVER PLATES SHALL BE BY THE SAME MANUFACTURER AS THE WIRING DEVICES; COMPLYING WITH NFPA 70 406.8 (A) OR (B) REQUIREMENTS FOR ATTENDED OR UNATTENDED USE AS APPLICABLE.

ACCEPTABLE MANUFACTURERS: HUBBELL, PASS & SEYMOUR, LEVITON AND COOPER.

CABINETS AND ENCLOSURES

FURNISH AND INSTALL FLUSH CABINETS AND ENCLOSURES AS SHOWN ON THE PLANS AND AS HEREIN SPECIFIED. UNIT SHALL BE PROVIDED WITH DEAD FRONT SUB PANEL, RECESSED AS REQUIRED, TO HOUSE CONTROLS. DOOR SHALL BE PROVIDED WITH CONCEALED HINGES AND FLUSH KEY OPERATED LOCK. DOOR AND TRIM SHALL BE PRIME PAINTED FOR FIELD PAINTING TO MATCH WALL FINISHES. PROVIDE KNOCK-OUTS, LOUVERS AND IDENTIFICATION ENGRAVING AS REQUIRED TO MEET FIELD CONDITIONS. EXACT BACKBOX SIZE TO BE COORDINATED WITH EQUIPMENT SUPPLIER.

CIRCUIT DISCONNECTS

SAFETY SWITCHES: SAFETY SWITCHES SHALL CONSIST OF A BOX, FRONT COVER, AND CIRCUIT PROTECTOR DEVICE ALL MANUFACTURED AND ASSEMBLED IN ACCORDANCE WITH NEMA STANDARDS

THE BOX SHALL BE FABRICATED FROM CODE GAUGE GALVANIZED SHEET STEEL IN ACCORDANCE WITH U.L. LISTING AND LABEL. THE CIRCUIT PROTECTOR DEVICE SHALL BE HEAVY DUTY, QUICK-MAKE, QUICK-BREAK FUSED OR UNFUSED SWITCH RATED FOR MOTOR CIRCUITS AND/OR SERVICE ENTRANCE DUTY, IF REQUIRED. UNITS SHALL BE FURNISHED FOR SURFACE OR FLUSH MOUNTING WITH EITHER GENERAL PURPOSE OR RAINTIGHT ENCLOSURES, AS REQUIRED. FUSED UNITS SHALL BE FURNISHED COMPLETE WITH PROPER FUSES.

PANELBOARDS

SHALL CONSIST OF BOX, INTERIOR, FRONT, AND CIRCUIT PROTECTIVE DEVICES. THE ASSEMBLY SHALL BE U.L. LABELED AND BE LISTED FOR SERVICE. THE ASSEMBLY SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH NEMA STANDARD PB-1. THE LATEST UL STANDARD (UL-50) AND SHALL HAVE A TURNED EDGE AROUND THE FRONT FOR RIGIDITY AND FOR CLAMPING ON FRONT. PROVIDE STANDARD KNOCKOUTS ON REMOVABLE BOX ENDS. FABRICATE FROM SHEET STEEL AND FINISH WITH BAKED ON GRAY ENAMEL OVER RUST INHIBITOR. EACH FRONT SHALL HAVE A DOOR MOUNTED ON SEMI-CONCEALED HINGES WITH A CYLINDER LOCK, INDEX CARD CIRCUIT DIRECTORY MOUNTED BEHIND CLEAR PLASTIC AND HELD IN A METAL FRAME, AND CONCEALED TRIM CLAMPS FOR MOUNTING TO THE BOX. ALL LOCKS SHALL BE MASTER KEYED AND ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN.

ALL INTERIORS SHALL BE COMPLETELY FACTORY ASSEMBLED. THE DESIGN OF THE INTERIOR SHALL PERMIT REPLACEMENT OF INDIVIDUAL BRANCH BREAKERS WITHOUT DISTURBING ADJACENT UNITS AND WITHOUT MACHINE DRILLING OR TAPPING. BUS BARS FOR PANELS RATED 600 AMPERES OR MORE SHALL BE TIN PLATED 98% CONDUCTIVITY COPPER OR TIN FINISH ALUMINUM (57% CONDUCTIVITY) OF RECTANGULAR CROSS-SECTION. BUS BARS FOR PANELS RATED LESS THAN 600 AMPERES SHALL BE TIN PLATED 98% CONDUCTIVITY COPPER OF RECTANGULAR CROSS-SECTION. BUS BAR CONNECTIONS TO BRANCH CIRCUIT BREAKERS SHALL BE THE PHASE SEQUENCE TYPE AND ACCEPT BOLT-ON TYPE BREAKERS ONLY. PANELBOARD BUS STRUCTURE AND MAIN BREAKER OR MAIN LUGS SHALL BE RATED AS SCHEDULED ON DRAWING. SUCH RATINGS SHALL BE ESTABLISHED BASED ON HEAT RISE TESTS IN ACCORDANCE WITH UL STANDARDS. GROUP INCOMING CABLE LUGS AT ONE END FOR SEPARATION FROM LOAD SIDE CABLES. EQUIPMENT NEUTRAL BUSSING WITH A LUG FOR EACH BRANCH BREAKER POSITION. INTERIOR SHALL MOUNT TO BOX WITHOUT TOOLS.

BREAKERS SHALL BE QUICK-MAKE, QUICK-BREAK, BOLT-ON THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKERS ONE, TWO OR THREE POLE WITH INTEGRAL CROSSBAR FOR MULTI-POLE UNITS, EQUIPPED WITH AN OVERCENTER, TRIP-FREE, TOGGLE-TYPE OPERATING ACTION AND POSITIVE HANDLE INDICATION OF BREAKER STATUS. CIRCUIT BREAKERS SHALL BE UL LISTED IN ACCORDANCE WITH UL STANDARDS.

EACH PANELBOARD, AS A COMPLETE UNIT, SHALL HAVE A SHORT CIRCUIT RATING EQUAL TO OR GREATER THAN THE INTEGRATED EQUIPMENT RATING SHOWN ON DRAWINGS. THE RATING SHALL BE ESTABLISHED BY TESTING WITH THE OVERCURRENT DEVICES MOUNTED IN THE PANELBOARD. THE SHORT CIRCUIT TESTS ON THE OVERCURRENT DEVICES ON THE STRUCTURE SHALL BE MADE SIMULTANEOUSLY BY CONNECTING THE FAULT TO EACH OVERCURRENT DEVICE WITH THE PANELBOARD CONNECTED TO ITS RATED SUPPLY VOLTAGE.

REFER TO PANELBOARD SCHEDULES FOR FULLY RATED OR SERIES-RATED REQUIREMENTS. SERIES-RATED SYSTEMS ARE NOT ALLOWED UNLESS SPECIFICALLY INDICATED ON PANELBOARD SCHEDULES. WHERE ALLOWED, SERIES-RATED SYSTEMS SHALL BE PROPERLY LABELLED BY NEC REQUIREMENTS.

METHOD OF TESTING SHALL BE PER UL STANDARDS. PANELBOARDS SHALL BE MARKED WITH THEIR MAXIMUM SHORT CIRCUIT CURRENT RATING AT THE SUPPLY VOLTAGE.

APPROVED MANUFACTURERS: SQUARE-D CO. OR EQUAL BY GE, SIEMENS AND/OR EATON.

OVERCURRENT PROTECTIVE DEVICES

FUSES OF THE PROPER SIZE, RATING AND ELECTRICAL CHARACTERISTICS SHALL BE PROVIDED IN EACH FUSIBLE DEVICE. FUSES OF 600 VOLTS AND BELOW SHALL BE UL CLASS RK-1, CURRENT-LIMITING, TIME-DELAY, DUAL-ELEMENT, 200,000 AMPERE RMS SYMMETRICAL INTERRUPTING CAPACITY ON NON-MOTOR CIRCUITS AND UL CLASS RK-5, TIME-DELAY, DUAL-ELEMENT, 200,000 AMPERES RMS SYMMETRICAL INTERRUPTING CAPACITY ON MOTOR CIRCUITS.

APPROVED MANUFACTURERS: BUSSMANN, LITTLEFUSE OR FERRAZ-SHAWMUT (ALL FUSES SHALL BE OF SAME MANUFACTURER TO ENSURE SELECTIVE COORDINATION).

CIRCUIT BREAKERS: CIRCUIT BREAKERS OF THE PROPER SIZE, RATING, AND ELECTRICAL CHARACTERISTICS SHALL BE PROVIDED WHERE CALLED FOR ON DRAWINGS. BREAKERS SHALL BE THERMAL MAGNETIC MOLDED-CASE WITH QUICK-MAKE, QUICK-BREAK, OVER CENTER TOGGLE TYPE MECHANISM AND TRIP-FREE HANDLE MECHANISM. THE BREAKER SHALL BE ENCLOSED IN A SUITABLE NEMA RATED ENCLOSURE. BREAKERS SHALL BE OF SAME MANUFACTURER AS THOSE IN THE PANELBOARDS.

TIMESWITCHES

ELECTRONIC TIME SWITCHES: ELECTRONIC, SOLID STATE PROGRAMMABLE UNITS WITH ALPHANUMERIC DISPLAY; COMPLYING WITH UL917. SPST, 30 AMPERE INDUCTIVE OR RESISTIVE, 240VAC, CONTACT RATING. 2 PROGRAMMABLE ON-OFF SET POINTS ON A 24-HOUR SCHEDULE, ALLOWING DIFFERENT SET POINTS FOR EACH DAY OF THE WEEK. ALLOW CONNECTION OF A PHOTOELECTRIC RELAY AS SUBSTITUE FOR ON-OFF FUNCTION OF A PROGRAM. ASTRONOMIC TIME ON ALL CHANNELS. BATTERY BACKUP FOR SCHEDULES AND TIME CLOCK.

OUTDOOR PHOTOELECTRIC SWITCHES

SOLID STATE, WITH SPST DRY CONTACT RATED FOR 1800-VA TUNGSTEN OR 1000-VA INDUCTIVE, TO OPERATE CONNECTED RELAY, CONTACTOR COILS OR MICROPROCESSOR INPUT, COMPLYING WITH UL 773A.

TELEPHONE AND DATA SYSTEMS

FURNISH AND INSTALL A SYSTEM OF PROPERLY SIZED AND PROPERLY LOCATED OUTLETS WITH ASSOCIATED CONNECTING CONDUIT RUNS, EXTENDING TO PULL BOXES AND TELEPHONE BACKBOARD. FURNISH AND INSTALL RACEWAYS, FOR INCOMING SERVICE WHERE INDICATED.
OUTLET BOXES: UNLESS OTHERWISE INDICATED, ALL TELEPHONE OUTLETS AND JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO ACCOMMODATE INTERNAL TERMINAL STRIPS BY TELEPHONE CO.

OUTLET COVER PLATES: TELEPHONE OUTLET COVER PLATES SHALL MATCH THOSE SPECIFIED FOR ADJACENT WIRING DEVICES, INCLUDING THOSE WITH SPECIAL FINISHES.

RACEWAYS: MATERIALS FOR TELEPHONE RACEWAY SYSTEM WORK SHALL BE IN ACCORDANCE WITH CORRESPONDING RACEWAYS SPECIFIED HEREIN AND IN OTHER SECTIONS.

VERIFY LOCATION OF WALL OUTLETS BEFORE ROUGHING IN TO ENSURE COORDINATION WITH OWNER'S FINAL INTENDED FURNITURE LAYOUT. PLAN INDICATIONS SHALL NOT BE SCALED UNLESS DIRECTED. OUTLETS SHALL BE RELOCATED WITHIN ROOMS BEFORE ROUGH-IN WHERE DIRECTED BY ARCHITECT-ENGINEER WITHOUT ADDITIONAL COST TO OWNER.

TELEPHONE SERVICE CONDUIT LAYOUT SHALL HAVE THE JOB SITE APPROVAL OF AN AUTHORIZED REPRESENTATIVE OF THE TELEPHONE CO. COORDINATE WORK SO THAT BOTH TELEPHONE CO. AND OWNER'S REPRESENTATIVES ARE PRESENT AT THE SAME TIME FOR APPROVAL OR CHANGES IN AMPLE TIME FOR ANY REQUIRED CORRECTIONS BEFORE COMPLETION OF PROJECT.

FROM EACH TELEPHONE OUTLET, PROVIDE 3/4" EMT CONDUIT CONCEALED IN WALL TO 6" ABOVE ACCESSIBLE CEILING OR UP TO STRUCTURE WHERE NO CEILING EXISTS, UNLESS SHOWN OTHERWISE ON DRAWINGS.

TELEPHONE TERMINAL BOARD: PRIOR TO INSTALLATION OF TELEPHONE TERMINAL BOARD, THE EXACT LOCATION SHALL BE VERIFIED WITH THE TELEPHONE CO. THE TELEPHONE TERMINAL BOARD SHALL BE PROVIDED WITH A DOUBLE DUPLEX RECEPTACLE LOCATED WHERE INDICATED ON THE DRAWINGS. THE TERMINAL BOARD SHALL BE CONSTRUCTED OF 4' X 8' X 3/4" PLYWOOD WITH TWO (2) COATS OF FLAME RETARDANT PAINT UNLESS NOTED OTHERWISE ON DRAWINGS.

LIGHTING

FIXTURES ARE SPECIFIED IN THE SCHEDULE BY MANUFACTURER'S NAME AND CATALOG NUMBER.

ALL RECESSED LIGHT FIXTURES SHALL BE PROVIDED WITH FACTORY INSTALLED THERMAL PROTECTION.

ALL LAMPS USED ON THIS PROJECT SHALL BE NEW, DELIVERED TO THE JOB SITE IN THE ORIGINAL PACKING CASES AND SLEEVES AND SHALL BE OF THE SAME MANUFACTURER.

PROVIDE FLUORESCENT FIXTURES WITH ELECTRONIC BALLASTS SUITABLE FOR OPERATION OF LAMPS SPECIFIED; TOTAL HARMONIC DISTORTION LESS THAN 20%; FREQUENCY OF OPERATION OF 20 KHZ OR GREATER WITH NO VISIBLE FLICKER; LINE TRANSIENT WITHSTAND RATINGS AS DEFINED IN ANSI/IEEE, CATEGORY A. APPROVED MANUFACTUERERS: ADVANCE OR EQUAL BY MAGNETEK, MOTOROLA OR OSRAM.

HID BALLASTS SHALL BE AUTO TRANSFORMER REACTOR, HIGH POWER FACTOR POTTED AND ENCASED TO MINIMIZE SOUND. APPROVED MANUFACTURERS: GE, SYLVANIA, OR OSRAM.

LED LIGHT FIXTURES ARE TO BE PROVIDED WITH COMPATIBLE DRIVER AND MUST BE COORDINATED WITH CONTROL TYPE INDICATED. CONTRACTOR IS RESPONSIBLE TO ENSURE CONTROLS ARE CAPABLE OF PROPERLY CONTROLLING LIGHT FIXTURES AS INDICATED WITHIN THESE DRAWINGS.

CONTACTORS AND RELAYS

ALL CONTACTORS AND RELAYS SHALL BE UL LISTED AND LABELED, GENERAL PURPOSE, ELECTRICALLY HELD TYPE, IN NEMA 1 ENCLOSURES. WHERE SPECIFICALLY NOTED ON DRAWINGS, UNITS SHALL BE ELECTRICALLY HELD OR MOMENTARY OPERATIONAL TYPE. UNITS SHALL BE FURNISHED WITH LINE OR LOW VOLTAGE CONTROL AS NOTED AND WITH THE CORRECT NUMBER OF POLES AND CURRENT CHARACTERISTICS. WHERE LOW VOLTAGE OPERATION IS INDICATED, PROVIDE PROPER STEPDOWN TRANSFORMERS AND RECTIFIERS. APPROVED MANUFACTURERS: ASCO, OR MANUFACTURER OF APPROVED PANELBOARDS FURNISHED.

TRANSFORMERS

GENERAL PURPOSE, UL-LISTED/LABELED 150 DEGREES C TEMPERATURE RISE ABOVE 40 DEGREES C AMBIENT. INSULATING MATERIALS: EXCEED NEMA ST-020 STANDARDS, RATED FOR 220 DEGREES C, UL-COMPONENT RECOGNIZED INSULATION SYSTEM. PHASES, VOLTAGES, AND SIZES: AS INDICATED ON THE DRAWINGS. SOUND LEVEL: NOT EXCEEDING NEMA STANDARDS FOR THE SIZES INDICATED. FULL-CAPACITY PRIMARY TAPS: BELOW 25 KVA - MINIMUM OF TWO 5% (2-); 25 KVA TO 300 KVA - MINIMUM OF SIX 2.5% (2+, 4-); ABOVE 300 KVA - FOUR 2.5% (2+, 2-). TRANSFORMER CORE AND COIL ASSEMBLIES: MOUNTED ON INTEGRAL VIBRATION-ABSORBING PADS. MAKE FINAL CONDUIT CONNECTIONS TO TRANSFORMERS WITH FLEXIBLE CONDUIT, WITH AT LEAST 6" OF SLACK IN ALL DIRECTIONS. TRANSFORMER ENCLOSURES: FULLY ENCLOSED (EXCEPT FOR VENTILATION OPENINGS), NEMA 2, DRIP-PROOF, FABRICATED OF HEAVY GAUGE SHEET STEEL CONSTRUCTION. MANUFACTURERS: SQUARE D, GENERAL ELECTRIC, ACME, SIEMENS.

collins | webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC
P.O. BOX 11101
OVERLAND PARK, KS 66207
913-735-5654
MO CERTIFICATE OF AUTHORITY #E-2021006522

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH
3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
RYAN
BREWER
NUMBER
PE-2020010759
PROFESSIONAL ENGINEER
06/09/2025
PROFESSIONAL SEAL

E501

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

ELECTRICAL SPECIFICATIONS

WIRING OF MECHANICAL EQUIPMENT
PROVIDE ALL RACEWAYS AND POWER WIRING FOR ALL DIVISION 15 EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS, INCLUDING, BUT NOT LIMITED TO, PUMPS, WATER HEATERS, AND HVAC EQUIPMENT, AND ALL LINE-VOLTAGE CONTROL AND INTERLOCK WIRING NOT PROVIDED UNDER DIVISION 15. CONNECT PER MANUFACTURER'S WIRING DIAGRAMS. COORDINATE WITH DIVISION 15 FOR DISCONNECTS FURNISHED WITH EQUIPMENT, AND PROVIDE ALL DISCONNECT SWITCHES AS REQUIRED. AFTER INSTALLING WIRING, VERIFY THAT EACH MOTOR LOAD HAS THE CORRECT PHASE ROTATION.

VERIFY THE ACTUAL "MAXIMUM OVERCURRENT PROTECTION" DEVICE RATINGS AND "MINIMUM CIRCUIT AMPACITY" CONDUCTOR SIZING FOR MECHANICAL EQUIPMENT FROM THE EQUIPMENT NAMEPLATE. BASE ELECTRICAL INSTALLATIONS ON ACTUAL REQUIRED AMPERAGES, WHICH MAY VARY SOMEWHAT FROM THE CONDUCTOR AND EQUIPMENT SIZES SHOWN ON THE DRAWINGS. HOWEVER, IN NO CASE, REDUCE THE SIZE OF CONDUCTORS INDICATED ON THE DRAWINGS WITHOUT AUTHORIZATION FROM THE ENGINEER. PROVIDE PROPERLY SIZED ELECTRICAL WIRING AND EQUIPMENT WITHOUT EXTRA COST TO THE OWNER. NOTIFY THE ENGINEER OF ALL CHANGES REQUIRED IN THE ELECTRICAL INSTALLATION DUE TO EQUIPMENT VARIANCES SO THAT THE EFFECTS ON FEEDERS, BRANCH CIRCUITS, PANELBOARDS, FUSES AND CIRCUIT BREAKERS CAN BE CHECKED PRIOR TO PURCHASING AND INSTALLATION. BE RESPONSIBLE FOR COORDINATING WITH DIVISION 15 TO VERIFY THE ACTUAL AMPACITIES AND CORRECT SIZES OF ALL CONDUCTORS AND OVERCURRENT PROTECTIVE DEVICES FOR ALL EQUIPMENT, AND CORRECT OVERLOAD HEATERS FOR ALL MOTORS, WHEN STARTERS ARE PROVIDED UNDER DIVISION 16.

PROVIDE ALL RACEWAYS, POWER WIRING, AND LINE-VOLTAGE CONTROL AND INTERLOCK WIRING NOT PROVIDED UNDER DIVISION 15, FOR ALL THERMOSTATS, TEMPERATURE CONTROL DEVICES, AND CONTROLS, INCLUDING, BUT NOT LIMITED TO, NIGHT-STATS, WATER HEATER INTERLOCKS, TIME SWITCHES AND OVERRIDE TIMERS. SEE MECHANICAL DRAWINGS FOR LOCATIONS AND TEMPERATURE CONTROL DIAGRAMS. LOW-VOLTAGE CONDUCTORS FOR THERMOSTATS AND TEMPERATURE CONTROL SYSTEMS MAY BE RUN EXPOSED ABOVE FINISHED ACCESSIBLE CEILINGS, IF APPROVED AND LISTED FOR THIS PURPOSE, BUT SHALL BE INSTALLED IN CONDUIT WITHIN WALLS AND WHERE EXPOSED IN THE WORK AREAS.

EXECUTION

METHOD OF PROCEDURE
ERECT EQUIPMENT PARTS AT SUCH TIME AND IN SUCH MANNER AS TO MINIMIZE INTERFERENCES AND DELAYS IN THE EXECUTION OF THE WORK CARE SHALL BE USED IN THE ERECTION AND INSTALLATION OF ALL EQUIPMENT AND MATERIALS TO AVOID MARRING SURFACES OF THE WORK. DAMAGES SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.

EQUIPMENT REQUIRING ELECTRICAL SERVICE SHALL NOT BE ENERGIZED OR PLACED IN SERVICE UNTIL ALL INTERESTED PARTIES HAVE BEEN DULY NOTIFIED AND ARE PRESENT OR HAVE WAIVED THEIR RIGHT TO BE PRESENT. WHERE EQUIPMENT TO BE PLACED IN SERVICE INVOLVES SERVICE OR CONNECTION FROM ANOTHER CONTRACTOR OR THE OWNER, NOTIFY THE OWNER IN WRITING WHEN THE EQUIPMENT WILL BE READY. THE OWNER SHALL BE NOTIFIED AS FAR IN ADVANCE AS POSSIBLE, OF THE DATE THE VARIOUS ITEMS OF EQUIPMENT WILL BE COMPLETE.

THE WORK OF THIS TRADE INCLUDES ROUGH-IN FOR AND FINAL CONNECTION AND REQUIRED TO ALL MISCELLANEOUS EQUIPMENT FURNISHED BY OTHERS, OR UNDER OTHER DIVISIONS OF THE WORK. THIS SHALL INCLUDE POWER AND CONTROL WIRING. WIRING DEVICES AND COVER-PLATES FOR BUILT-IN EQUIPMENT ARE INCLUDED IN THE WORK OF THIS DIVISION. SAFETY DISCONNECTS AND OTHER MISCELLANEOUS PROTECTIVE DEVICES REQUIRED BY N.E.C. ARE INCLUDED IN THE WORK OF THIS DIVISION. DO ALL ROUGHING-IN AND FINAL CONNECTIONS FROM APPROVED SHOP DRAWINGS ONLY.

COMPLIANCE WITH THE DRAWING AND ANY NOTES THEREON IS REQUIRED. PROVIDE OPENINGS THROUGH WALLS, PARTITIONS, FLOORS, AND ROOFS AS REQUIRED FOR ELECTRICAL WORK.

PROVIDE SLEEVES FOR ELECTRICAL WORK PASSING THROUGH WALLS, PARTITIONS, ROOFS, AND FLOORS. SLEEVES SHALL EXTEND THROUGH FLOORS, WALLS AND PARTITIONS AND SHALL BE CUT FLUSH WITH EACH SURFACE UNLESS OTHERWISE SPECIFIED, FIRE WALL AND/OR FLOOR INTEGRITY SHALL BE RESTORED AFTER PENETRATION. SLEEVES IN CONCRETE AND MASONRY WALLS, CONCRETE FLOORS AND ROOFS, SHALL BE FABRICATED FROM STANDARD GALVANIZED STEEL PIPE WITH ENDS FINISHED SMOOTH, BURR FREE, WITHOUT SHARP EDGES. SLEEVES IN WALLS, ROOFS, AND FLOORS OF OTHER CONSTRUCTION AND THROUGH SUSPENDED CEILINGS SHALL BE FABRICATED FROM 22 U.S. GAUGE GALVANIZED STEEL. FLOOR SLEEVES SHALL EXTEND THREE INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. SPACE BETWEEN FLOOR SLEEVES AND PASSING CONDUIT SHALL BE FILLED WITH DUCT SEAL PACKING AND CAULKED WITH WATERPROOF COMPOUND AS APPROVED. WHERE CONDUITS PASS THROUGH WATERPROOFED FLOORS OR WALLS, SLEEVES SHALL BE FABRICATED SUCH THAT WATERPROOFING CAN BE FLASHED ONTO AND AROUND THE SLEEVE.

RACEWAYS
ALL POWER AND LIGHTING CIRCUITS SHALL BE RUN IN METALLIC RACEWAYS EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE. THESE RACEWAYS SHALL BE RUN CONCEALED IN ALL FINISHED AREAS, AND WHERE RUN EXPOSED SHALL BE SQUARE TO THE BUILDING AND HELD TIGHT TO THE BUILDING CONSTRUCTION. LOW VOLTAGE, TELEPHONE, INTERCOM, MUSIC, ALARM AND SECURITY WIRING RUN ABOVE ACCESSIBLE CEILINGS SHALL BE RUN USING INSULATED, PLENUM RATED CABLE. PROVIDE LOW VOLTAGE CABLE IN CONDUIT IF REQUIRED BY LOCAL AHJ. VERIFY ALL REQUIREMENTS PRIOR TO INSTALLATION. METALLIC CONDUIT FOR THESE SYSTEMS SHALL BE PROVIDED ONLY WHERE RUN INSIDE WALLS. THE DRAWINGS INDICATE THE REQUIRED SIZE OF ALL RACEWAYS (EXCEPT AS HEREINAFTER SPECIFIED). THE POINTS OF TERMINATION AND THE SUGGESTED ROUTING. HOWEVER, THE INSTALLER IS RESPONSIBLE FOR PROPER COORDINATION WITH BUILDING STRUCTURE AND THE WORK OF OTHER TRADES. FURNISH ALL REQUIRED BENDS, ELBOWS, FITTINGS, JUNCTION AND PULL BOXES, WHETHER OR NOT SPECIFICALLY SHOWN ON DRAWINGS, THAT MAY BE REQUIRED TO SATISFY CODES AND THE STANDARDS OF GOOD PRACTICE. WHERE CONDUITS FOR BOTH BRANCH AND FEEDER CIRCUITS ARE RUN CONCEALED, THEY MAY BE RUN OUT OF SQUARE TO THE BUILDING PROVIDING THE SHORTEST POSSIBLE RUN IS UTILIZED. RACEWAY SIZES ARE BASED ON THE USE OF COPPER CONDUCTORS AND N.E.C. FILL.

CONDUIT SHALL BE CONSTRUED AS ELECTRICAL RACEWAYS AND SHALL CONFORM TO THE FOLLOWING: CONCEALED IN SUSPENDED CEILINGS AND INTERIOR PARTITIONS - EMT WITH SET SCREW TYPE FITTINGS. UNDERGROUND OR BELOW INTERIOR SLABS - GRS. (NOTE: PVC CONDUIT IS PERMITTED OUTSIDE FOR PARKING AREA LIGHTING, SIGNS, ETC, ELBOWS SHALL BE GRS). EXPOSED ON BUILDING EXTERIOR - GRS.

CONDUIT BENDS SHALL BE MADE TO THE LARGEST POSSIBLE RADIUS FOR EASE IN PULLING CONDUCTORS AND TO PROVIDE A NEATLY INSTALLED APPEARANCE. EQUIPMENT AND CONDITIONS PERMITTING, POWER CONDUIT BENDS SHALL CONFORM TO THE FOLLOWING: 1-1/2 IN. - 18 IN. RADIUS; 2 IN. - 24 IN. RADIUS; 2-1/2 IN. - 24 IN. RADIUS; 3 IN. - 36 IN. RADIUS.

GRS CONDUIT SHALL BE CUT WITH POWER OR HACKSAW AND CLEANLY REAMED TO REMOVE ALL "BURRS" AND ALL FIELD CUT THREADS SHALL BE PAINTED WITH WHITE LEAD BEFORE COUPLINGS ARE APPLIED.

EMPTY CONDUIT SYSTEMS INSTALLED FOR COMMUNICATION SYSTEMS, PUBLIC TELEPHONES, OWNER ITEMS AND OTHER SYSTEMS AS INDICATED ON DRAWINGS SHALL BE INSTALLED COMPLETE WITH NYLON PULL WIRES PROPERLY TAGGED AT BOTH ENDS FOR IDENTIFICATION.

WHERE BUILDING VENTILATION CONDITIONS ARE SUCH THAT AIR MAY FLOW CONTINUOUSLY IN CONDUITS, CAUSING CONDENSATION AND THE COLLECTION OF MOISTURE, THE CONDUITS SHALL BE SEALED AT EACH END WITH A PLIABLE X DUCT SEALING COMPOUND. ALSO SEAL ALL CONDUITS ENTERING AND LEAVING REFRIGERATED EQUIPMENT AND PROVIDE EXPANSION JOINTS PER N.E.C.

ALL CONNECTIONS TO MOTORS, SOLENOID VALVES, PRESSURE SWITCHES, LIMIT SWITCHES, AND SIMILAR APPARATUS SHALL BE FLEXIBLE CONDUIT WHERE PERMITTED. WHERE EQUIPMENT IS INSTALLED OUTDOORS OR EXPOSED TO MOISTURE, USE LIQUIDTIGHT FLEXIBLE CONDUIT WITH WATERTIGHT FITTINGS.

EQUIPMENT LEVELING, HANGERS AND SUPPORTS
SET EACH PIECE INSTALLED UNDER THIS DIVISION TRUE AND LEVEL. ADEQUATELY SUPPORT ALL RACEWAYS FROM THE STRUCTURE USING SCREW CLAMPS TO SECURE TO SAME. ARRANGE SUPPORTS TO PREVENT MOISTURE COLLECTION AND ALLOW ENTRANCE TO BOXES WITHOUT BENDS. INSTALL MULTIPLE CONDUITS USING CHANNEL TRAPEZE SUPPORTS TIGHT TO STRUCTURE ABOVE. USE APPROVED SPACERS TO INSULATE FROM CONTACT WITH BUILDING. SIZE CLAMPS, INSERTS, CHANNELS AND ALL OTHER MEMBERS TO SUPPORT A LOAD EQUAL TO 200% OF THE COMBINED WEIGHT OF ALL SUPPORTED MATERIAL PLUS THE WEIGHT OF A MAN.

WHERE SEVERAL RACEWAYS ARE SUPPORTED ON A COMMON TRAPEZE HANGER, SUPPORTS SHALL BE SPACED TO ACCOMMODATE THE SMALLEST SIZE RACEWAY INVOLVED. SPACE HANGERS AS FOLLOWS:
RIGID CONDUIT: 1/2 AND 3/4 IN. SIZE; 6'-0" ON CENTERS; 1 AND 1-1/4 IN. SIZE; 9'-0" ON CENTERS
ELECTRIC METALLIC TUBING:
1/2 AND 3/4 IN. SIZE; 5'-0" ON CENTERS; 1 AND 1-1/4 IN SIZE; 6'-0" ON CENTERS.

SECURELY ATTACH HANGERS AND SUPPORTS TO CONSTRUCTION BY METHODS RECOMMENDED IN THE "NECA STANDARDS OF INSTALLATION" MANUAL. COORDINATION WITH MECHANICAL TRADES: THE INTENT OF THE ABOVE CEILING SUPPORTS IS TO COMBINE AS MANY PIPES, CONDUITS, ETC., AS IS POSSIBLE WITHIN SAFE STRUCTURAL LIMITS, ON EACH HORIZONTAL SECTION OF A TRAPEZE HANGER. PRIOR TO SELECTING THE HORIZONTAL MEMBER, ALL TRADES, MECHANICAL AND ELECTRICAL, SHALL COORDINATE ACTUAL NUMBER OF PIPES, CONDUITS, ETC., SUCH THAT FINAL SELECTION RESULTS IN A NEATLY GROUPED, DISCIPLINED AND ACCESSIBLE INSTALLATION.

WIRING INSTALLATION
EXCEPT FOR SUCH ITEMS AS ARE NORMALLY WIRED AT THEIR POINT OF MANUFACTURE AND SO DELIVERED - AND UNLESS SPECIFICALLY NOTED TO THE CONTRARY HEREIN - THE ELECTRICAL TRADE SHALL DO ALL ELECTRICAL WIRING OF EVERY CHARACTER. IT IS THE INTENT OF THESE SPECIFICATIONS AND DRAWINGS THAT ALL SYSTEMS AND EQUIPMENT SHALL BE PROVIDED WITH ALL NECESSARY UTILITY CONNECTIONS, COMPLETED TO ALLOW SAFE AND PROPER OPERATION OF SAID SYSTEMS. WHEN IT IS NECESSARY FOR TRADES PERFORMING WORK COVERED BY THIS DIVISION TO MAKE FINAL CONNECTIONS TO ITEMS OF EQUIPMENT BEING FURNISHED BY OTHERS, OR BY OTHER TRADES UNDER OTHER DIVISIONS, ALL SUCH WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS DIVISION AND ALL MATERIALS USED SHALL BE AS SPECIFIED HEREIN.

MINIMUM WIRE SIZE FOR BRANCH CIRCUITS SHALL BE #12 AWG, EXCEPT THAT HOMERUNS LONGER THAN 100 FT. LENGTH FROM THE PANEL TO THE CIRCUIT'S ELECTRICAL LOAD CENTER SHALL BE #10 AWG MINIMUM. WHERE RUNS EXCEED 150', CONTRACTOR MUST ENSURE WIRE SIZE BEING UTILIZED DOES NOT CREATE A VOLTAGE DROP GREATER THAN 3%. REQUEST PROPER WIRE SIZE PRIOR TO INSTALLATION IF A 3% VOLTAGE DROP MAY OCCUR FOR ANY BRANCH CIRCUIT. WHERE MORE THAN THREE CURRENT CARRYING CONDUCTORS ARE ENCLOSED IN THE SAME RACEWAY, CONDUCTORS ARE TO BE DERATED PER N.E.C. AND WIRE SIZE INCREASED AS REQUIRED. WHERE THE INCREASED CONDUCTOR SIZE REQUIRES, INCREASE THE RACEWAY SIZE AS WELL. FOR CONTROL WIRING USE #14 AWG MINIMUM. FOR FIXTURE WIRING, AS PERMITTED BY N.E.C., USE #18 AWG MINIMUM. FOR SIGNAL AND COMMUNICATIONS SYSTEMS USE WIRE SIZE AS SPECIFICALLY REQUIRED BY THE SYSTEM SUPPLIER.

MAKE CONNECTIONS TO TERMINALS USING PRESSURE TYPE CONNECTORS. SOLDERED JOINTS ARE PROHIBITED. ALL JOINTS IN CONDUCTORS SHALL BE MADE AT AN ACCESSIBLE LOCATION WITHIN A BOX BY TWISTING THE BARE CONDUCTOR ENDS TOGETHER AND APPLYING A WIRE CONNECTOR IN ALL SIZES UP TO THE MAXIMUM CAPACITY OF THE CONNECTOR. JOINTS SHALL BE TAPED WITH AN APPROVED ELECTRICAL TAPE. SPLICES FOR CONDUCTORS LARGER THAN #10 AWG SHALL BE MADE WITH AN APPROVED COMPRESSION (SQUEEZE) CONNECTOR INSULATED WITH NOT LESS THAN TWO LAYERS OF ELECTRICAL FILL TAPE TO 1.5 TIMES THE THICKNESS OF INSULATION, FOLLOWED BY TWO (MINIMUM) LAYERS OF HALF-LAPPED ELECTRICAL TAPE FOR MECHANICAL PROTECTION. LOCATE ALL SPLICES IN BOXES OR FITTINGS OF PROPER SIZE PER N.E.C.

IDENTIFY ALL WIRES AND CABLES WITH BRADY ADHESIVE WIRE MARKERS AT EACH BOX, PANEL, AND OUTLET. IDENTIFICATION SHALL, AS A MINIMUM, INDICATE THE PANEL AND CIRCUIT SUPPLYING THE OUTLET. AT THE PANEL END, THE LOAD SERVED AND ITS LOCATION SHALL BE INDICATED. PROVIDE A MINIMUM OF 8 IN. SLACK WIRE AT EACH OUTLET FOR MAKING CONNECTION TO THE DEVICE OR TO PROVIDE FOR A FUTURE DEVICE IN THE BOX.

BOXES
EACH BOX SHALL BE OF PROPER SIZE TO ACCOMMODATE THE DEVICE AND FUNCTION FOR WHICH IT IS SHOWN. BOXES FOR WALL DEVICES SHALL BE FURNISHED COMPLETE WITH PLASTER RING OR TILE RING ACCORDING TO WALL CONSTRUCTION WHERE REQUIRED. BOXES FOR INSTALLATION IN MASONRY WALLS SHALL BE SPECIAL SQUARE CORNER MASONRY TYPE. BOXES FOR MOUNTING OF LIGHTING FIXTURES SHALL BE FOUR INCH OCTAGON, EQUIPPED WITH 3/8 IN. "NO-BOLT" FIXTURE STUD. BOXES FOR FLOOR OUTLETS SHALL BE CONCRETE PROOF STEEL BOXES WITH ADJUSTABLE TOPS AND DEVICES AS HEREINAFTER NOTED OR SHOWN. ALL BOXES SHALL BE FURNISHED COMPLETE WITH PROPER COVER AND/OR DEVICE PLATE AND DEVICE, UNLESS OTHERWISE NOTED. PLACE OUTLET BOXES AT THE FOLLOWING HEIGHTS (BOX CENTER TO FINISH FLOOR): WALL SWITCHES 48" AND CONVENIENCE OUTLETS 18" UNLESS NOTED OTHERWISE ON DRAWINGS.

TELEPHONE, ALARM, AND SIGNAL SYSTEM OUTLET BOXES SHALL BE STANDARD OUTLET BOX TYPE WHERE ONLY ONE CONDUIT ENTERS SAME. UNLESS OTHERWISE SPECIFIED OR INDICATED ON DRAWINGS, WHERE TWO OR MORE CONDUITS ENTER, BOX SHALL BE 4-11/16 IN. SQUARE MINIMUM WITH SUITABLE ADAPTER RING.

LOCATE ALL OUTLETS AS INDICATED ON DRAWINGS, HOWEVER, AT INSTALLATION INSPECT ARCHITECTURAL DRAWINGS AND LOCATE LOCAL SWITCHES ON THE STRIKE SIDE OF THE DOOR.

SYSTEM GROUNDING
EQUIPMENT, RACEWAY SYSTEMS, WIRING SYSTEM NEUTRALS, RECEPTACLES AND POWER OUTLETS, MOTORS AND MOTORIZED EQUIPMENT, SHALL BE GROUNDED IN ACCORDANCE WITH N.E.C. ARTICLE 250.

GROUND RECEPTACLES AND POWER OUTLETS TO THE CONDUIT SYSTEM WITH A GREEN GROUNDING CONDUCTOR SIZE IN ACCORDANCE WITH N.E.C. AND CONNECTED BETWEEN THE DEVICE GROUNDING SCREW AND THE OUTLET BOX. CONNECTION TO THE BOX MAY BE A "G" CLIP OR BY A 10/24 SCREW THREADED INTO A HOLE IN THE BACK OF THE BOX AND USED FOR NO OTHER PURPOSE. EQUIPMENT CONNECTED TO THE ELECTRICAL SYSTEM SHALL BE GROUNDED WITHIN INSULATED GREEN GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH N.E.C. AND INSTALLED WITHIN THE RACEWAY. CONDUCTOR SHALL BE CONTINUOUS BETWEEN A GROUNDING SCREW IN THE EQUIPMENT JUNCTION BOX AND A GROUND ATTACHMENT IN THE NEAREST OUTLET BOX IN THE RIGID METALLIC CONDUIT SYSTEM. THIS REQUIREMENT INCLUDES ALL FLEXIBLE CONDUIT.

GENERALLY FOR TELEPHONE AND SUPPLEMENTAL COMMUNICATION SYSTEMS NO 6 AWG CONDUCTOR TO EACH PROTECTOR CABINET, OTHER CABINET, OR DEVICE INSTALLATION SHALL BE CONSIDERED SUFFICIENT, FROM THE SERVICE GROUND (UNLESS INDICATED OTHERWISE).

GROUNDING MATERIAL:
GROUND-RODS - 1/2" DIA., 10' LONG, COPPERWELD
GROUND CONDUCTOR - SIZE AS PER N.E.C. REQUIREMENTS, SOFT DRAWN OR SOFT ANNEALED, COPPER WIRE.
JOINTS AND CONNECTIONS - MOLDED FUSION WELDING PROCESS USING PROPER MOLD AND THE NUMBER, SIZE AND TYPE CARTRIDGE FOR THE JOINT OR CONNECTION. WATERPIPE CONNECTION, SILICON BRONZE APPROVED MECHANICAL CONNECTOR DESIGNED FOR THE PIPE AND CABLE TO BE BONDED.

PANELBOARD INSTALLATION:
MOUNT PANELBOARDS WITH CENTERLINE AT 5 FT.-6IN. ABOVE FINISH FLOOR, EXCEPT THAT THE HIGHEST BREAKER HANDLE SHALL BE BELOW 6 FT.-5 IN. ABOVE FINISH FLOOR, ARRANGE BREAKERS SO THAT THE BREAKER RATING IS VISIBLE WITH THE PANEL FRONT IN PLACE.

PANEL DIRECTORIES, AS A MINIMUM, SHALL BE TYPEWRITTEN AND INDICATE BREAKER POSITION NUMBER AND EQUIPMENT SERVED. THE PANEL IDENTIFICATION SHALL BE LOCATED ON THE PANEL TRIM AND SHALL CONSIST OF A BLACK LAMINATED PHENOLIC LABEL, SCREW MOUNTED, WITH THE PANEL IDENTIFICATION MATCHING PANEL IDENTIFICATION ON DRAWINGS. LABEL ALL CONDUCTORS WITH ADHESIVE WRAP LABELS WITHIN 2 IN. OF THE CONDUCTOR TERMINATION PRIOR TO INSTALLATION OF TRIM.

LIGHTING FIXTURE INSTALLATION
PROVIDE A LIGHTING FIXTURE FOR EACH AND EVERY OUTLET IN ACCORDANCE WITH TYPE DESIGNATION AND FIXTURE SCHEDULE ON THE DRAWINGS. VERIFY THE ARCHITECTURAL FINISHES AND CEILING CONSTRUCTION AND - REGARDLESS OF THE CATALOG NUMBER PREFIXES AND SUFFIXES SHOWN - PROVIDE FIXTURES WITH THE PROPER TRIM, FRAMES, SUPPORTS, AND HANGER AND OTHER MISCELLANEOUS APPURTENANCES TO PROPERLY COORDINATE WITH SAID FINISHES. REINFORCE CEILING CONSTRUCTION AS REQUIRED TO PROPERLY SUPPORT THE WEIGHT OF FIXTURES INSTALLED THEREON.

IMMEDIATELY PRIOR TO FINAL INSPECTION: THOROUGHLY CLEAN ALL FIXTURES INSIDE AND OUT, INCLUDING PLASTICS AND GLASSWARE. ADJUST TRIM TO FIT ADJACENT SURFACES. REPLACE BROKEN OR DAMAGED PARTS. INSTALL NEW LAMPS. ELECTRICALLY AND MECHANICALLY TEST THE SYSTEM FOR PROPER OPERATION.

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING APPROVAL FROM LOCAL CODE AUTHORITIES AND MAKING ANY REVISIONS DIRECTED BY THEM ON EMERGENCY AND EXIT LIGHTING.

CLEANING
THOROUGHLY CLEAN ALL FIXTURES, SWITCHES, OTHER DEVICES, PANELBOARDS, AND EQUIPMENT PROVIDED OR CONNECTED IN THIS CONTRACT. ALL SURFACES SHALL BE PROPERLY POLISHED AND SHALL BE FREE OF PAINT AND ALL OTHER DIRT OR DEBRIS. TOUCHUP OR COMPLETELY REFINISH ALL EQUIPMENT FURNISHED WITH FACTORY FINISHES THAT IS DAMAGED DURING DELIVERY OR CONSTRUCTION. PROPERLY PROTECT THE FRONTS OF ALL PANELBOARDS, SWITCHBOARDS AND SIMILAR EQUIPMENT TO PREVENT MARRING AND OTHER DEFACING.

AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH CAUSED BY THE WORK OF THE TRADESMEN DOING ELECTRICAL WORK. AT COMPLETION OF THE WORK, REMOVE ALL RUBBISH, TOOLS, EQUIPMENT, AND SURPLUS MATERIALS. BROOM CLEAN ALL ASSIGNED SPACES PRIOR TO LEAVING THE PREMISES.

TESTING AND LOAD BALANCING

TEST ALL CIRCUITS TO ASSURE THEM TO BE FREE OF GROUNDS AND SHORTS, LIGHT AND TEST EACH LAMP. PROVE AND TEST THE AVAILABLE VOLTAGE ON THE LOAD SIDE OF EACH DISCONNECT. VERIFY PROPER OPERATION OF THE DISCONNECT. VERIFY THE PHASE SEQUENCE, VOLTAGE, AND ROTATION AT EACH MOTOR IN THE PRESENCE OF THE INSTALLER. RUN EACH MOTOR WITH ITS CONTROL AS NEARLY AS POSSIBLE UNDER OPERATING CONDITIONS FOR A SUFFICIENT LENGTH OVER TIME TO DEMONSTRATE CORRECT ALIGNMENT, WIRING CAPACITY, SPEED, AND OVERALL SATISFACTORY OPERATION. CHECK THAT THE PROPER OVERLOAD HEATERS HAVE BEEN INSTALLED BY READING THE MOTOR NAMEPLATE. ADJUST THE SIZE OF THE OVERLOAD HEATER AS REQUIRED TO MATCH THE MOTOR NAMEPLATE. OPERATE ALL MAIN AND FEEDER SWITCHES AND BREAKERS.

THE VARIOUS BRANCH CIRCUITS SERVED FROM THE LIGHTING PANELBOARDS VARY IN LOADING. CAREFULLY BALANCE THE ACTUAL OPERATING LOAD ON EACH PANELBOARD WHEN ALL LOAD IS TURNED ON AND THE SYSTEM IS OPERATING AT 100% DEMAND, THE UNBALANCE SHALL NOT EXCEED 10%. DURING FINAL INSPECTION, FURNISH THE TEST INSTRUMENTS AND QUALIFIED PERSONNEL TO PERFORM COMPLETE TESTING. COSTS OF ALL TESTING, INCLUDING THE INCIDENT COSTS FOR RETESTING OCCASIONED BY DEFECTS AND FAILURES OF THE EQUIPMENT TO MEET THE SPECIFICATIONS, SHALL BE BORNE BY THE CONTRACTOR.

FURNISH AT THE COMPLETION OF THE PROJECT A FINAL INSPECTION CERTIFICATE FROM THE LOCAL INSPECTING AUTHORITY.

END OF SECTION 16000

CWA ARCHITECTURE
collins | webb
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC
P.O. BOX 14
OVERLAND PARK, KS 66201
913.529.5804
MO CERTIFICATE OF AUTHORITY #E-2021006032

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
06/09/2025
PROFESSIONAL SEAL

E502

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

ELECTRICAL SPECIFICATIONS

MECHANICAL ABBREVIATIONS

(ALPHABETICAL BY ABBREVIATION)

ABBREVIATION	LONG FORM
ABV	ABOVE
AC OR ACU	AIR-CONDITIONING UNIT
AHAP	AS HIGH AS POSSIBLE
AHU	AIR-HANDLING UNIT
AUTO	AUTOMATIC
BLW	BELOW
C	CHILLER
CD	CONDENSATE
CF	CABINET FAN
CFM	CUBIC FEET PER MINUTE
CH	CABINET HEATER
CHP	CHILLED WATER PUMP
CLNG OR CLG	CEILING
CONC	CONCRETE
CP OR CWP	CONDENSER WATER PUMP
CS	CONDENSER WATER SUPPLY
CR	CONDENSER WATER RETURN
CRAC OR CACU	COMPUTER ROOM AIR-CONDITIONING UNIT
CREF	CHILLER ROOM EXHAUST FAN
CRU	CONDENSATE (STEAM) RETURN UNIT
CT	COOLING TOWER CELL
CTU	CONDENSATE (STEAM) TRANSFER UNIT
CU	CONDENSING UNIT
DV	CONSTANT VOLUME TERMINAL BOX
DEF	DISHWASER EXHAUST FAN
DMPR	DAMPER
DN	DOWN
EA	EACH
EBH	ELECTRIC BASEBOARD HEATER
EDH	ELECTRIC DUCT-MOUNTED HEATER
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ER	EXHAUST REGISTER
EUH	ELECTRIC UNIT HEATER
EXH	EXHAUST
FD	FIRE DAMPER
FCU	FAN-COIL UNIT
FF	FINAL FILTER
FFCH	FORCED-FLOW CABINET HEATER
FFU	FAN FILTER UNIT
FP	FAN POWERED TERMINAL BOX
GPM	GALLONS PER MINUTE
HC	HEATING COIL
HUM	HUMIDIFIER
HWP OR HP	HEATING WATER PUMP
HX	HEAT EXCHANGER
KEF	KITCHEN (GREASE HOOD) EXHAUST FAN
KW	KILOWATTS
LD	LINEAR SUPPLY DIFFUSER
MOT	MOTORIZED
MTD	MOUNTED
MUAF	MAKE-UP AIR FAN
MUAHU	MAKE-UP AIR-HANDLING UNIT
OA	OUTSIDE AIR
OAF	OUTSIDE AIR FAN
OPG OR OPNG	OPENING

NOT ALL ABBREVIATIONS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT

MECHANICAL ABBREVIATIONS CONT.

(ALPHABETICAL BY ABBREVIATION)

ABBREVIATION	LONG FORM
PF	PRE-FILTER
PLNM	PLENUM
RA	RETURN AIR
RAF	RETURN AIR FAN
RAG OR RG	RETURN AIR GRILLE
RAR OR RR	RETURN AIR REGISTER
RAS	RETURN AIR SILENCER
RE:	IN REFERENCE TO
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SAF OR SF	SUPPLY AIR FAN
SAG OR SG	SUPPLY AIR GRILLE
SAR OR SR	SUPPLY AIR REGISTER
SAS	SUPPLY AIR SILENCER
SCHP	SECONDARY CHILLED WATER PUMP
SD	SMOKE DAMPER OR DETECTOR
SPCHP	SPECIAL PROCESS CHILLED WATER PUMP
TA	THROW AWAY (FILTER TYPE)
TDEF	TRUCK DOCK EXHAUST FAN
TEF	TOILET EXHAUST FAN
TRANS	TRANSITION OR TRANSFER
TYP	TYPICAL
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
VF	VENTILATION FAN
VFD	VARIABLE FREQUENCY DRIVE
V V	VARIABLE VOLUME TERMINAL BOX
W/	WITH
XFMR OR TFMR	TRANSFORMER
XT OR EX	EXPANSION TANK

NOT ALL ABBREVIATIONS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT

DUCTWORK LEGEND

(REFER TO SPECIFICATIONS SECTIONS 15815 AND 15820 FOR ADDITIONAL INFORMATION)

SINGLE LINE	DESCRIPTION	DOUBLE LINE
	ROUND ELBOW DOWN	
	ROUND ELBOW UP	
	OFFSET TO CHANGE ELEVATION (AT 30° WHEN POSSIBLE. ARROW SLOPES DN, U.N.O.)	
	ROUND RADIUS ELBOW	
	90° STRAIGHT TEE	
	90° CONICAL TEE	
	45° LATERAL TAP	
	45° LATERAL CONICAL TEE	
	SIZE OR SHAPE TRANSITION	
	ROUND FLEXIBLE DUCT	
	RECTANGULAR ELBOW DOWN	
	RECTANGULAR ELBOW UP	
	OFFSET TO CHANGE ELEVATION (AT 30° WHERE POSSIBLE. ARROW SLOPES DN., U.N.O.)	
	RECTANGULAR RADIUS ELBOW	
	RECTANGULAR ELBOW WITH TURNING VANES	
	SPLIT BRANCH TAKE-OFF WITH SQUARE ELBOW & SPLITTER DAMPER	
	SPLIT BRANCH TAKE-OFF WITH RADIUS ELBOW & SPLITTER DAMPER	
	SPLIT BRANCH TAKE-OFF TEE WITH STATIONARY SPLITTER DAMPER	
	BRANCH TAKE-OFF WITH 45° LEAD IN TAP	
	INSULATED/LINED DUCTWORK (U.N.O.)	
	SQUARE FACED CEILING DIFFUSER 4-WAY DIRECTIONAL THROW (U.N.O.)	
	ROUND FACED CEILING DIFFUSER	
OR	CEILING RETURN OR EXHAUST AIR GRILLE OR REGISTER	
	SIDEALL SUPPLY GRILLE OR REGISTER	
	SUPPLY DUCT RISER	
	RETURN, EXHAUST OR OUTSIDE AIR DUCT RISER	
	MANUAL BALANCING DAMPER	
	AUTOMATIC (MOTOR-OPERATED) DAMPER	
	FIRE DAMPER	
	GRAVITY BACKDRAFT DAMPER	
	COMBINATION FIRE AND SMOKE DAMPER WITH SMOKE DETECTOR	
	SMOKE DAMPER (AUTOMATIC) WITH SMOKE DETECTOR	
	DUCT MOUNTED SMOKE DETECTOR	OR

NOT ALL SYMBOLS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT

STANDARD MECHANICAL SYMBOLS

	SYMBOL	DESCRIPTION
VALVES, FITTINGS & DEVICES		GATE VALVE
		BALL VALVE
		GLOBE VALVE
		BUTTERFLY VALVE
		PLUG VALVE
		ANGLE VALVE
		CHECK VALVE
		AUTOMATIC CONTROL VALVE (STRAIGHT THROUGH)
		AUTOMATIC CONTROL VALVE (3-WAY)
		AUTOMATIC CONTROL VALVE (ANGLE)
		AUTOMATIC CONTROL VALVE (STRAIGHT THROUGH)
		SOLENOID VALVE
		PRESSURE REDUCING VALVE
		PRESSURE RELIEF VALVE
		GAUGE COCK
		PRESSURE GAUGE WITH GAUGE COCK
		THERMOMETER
		THERMOMETER WELL
		TEST PLUG
		FLOW METER
		TEMPERATURE SENSOR
		PRESSURE SENSOR
	DPS	DIFFERENTIAL PRESSURE SWITCH
		IMMERSION THERMOSTAT
		MANUAL AIR VENT
		AUTOMATIC AIR VENT
	FS	FLOW SWITCH
		ORIFICE
		PIPE SLEEVE THRU WALL OR FLOOR
		EXPANSION JOINT
		FLEXIBLE PIPE JOINT
		PIPE GUIDE
		ANCHOR
		STRAINER (Y-TYPE)
		STRAINER (BASKET TYPE)
		UNION
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		DIRECTION OF FLOW
		DIRECTION OF SLOPE
	T	THERMOSTAT
	H	HUMIDISTAT
	FSC	FAN SPEED CONTROLLER
PIPING	CS	CONDENSER WATER SUPPLY
	CR	CONDENSER WATER RETURN
	D	CONDENSATE DRAIN

NOT ALL SYMBOLS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT

OTHER SYMBOLS

SYMBOL	DESCRIPTION
	INDICATES CONNECTION TO EXISTING DUCT OR PIPE

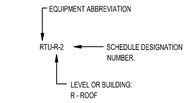
MECHANICAL GENERAL NOTES

1. PRIOR TO SUBMITTING BID, VISIT THE SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW GENERAL NOTES, SPECIFICATIONS AND ALL OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
2. COORDINATE THE INSTALLATION OF MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. DUCTWORK AND PIPING SHALL BE ROUTED TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC.
3. TAKE NECESSARY PRECAUTIONS TO AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN FOR NEW INSTALLATION DURING WORK. REPAIR ANY DAMAGE CAUSED DURING CONSTRUCTION AT NO COST TO THE OWNER.
4. ALL MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.
5. NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING IS SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND SHALL MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. FIELD VERIFY FINAL LOCATIONS TO INSTALL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
6. REFER TO ARCHITECTURAL DRAWINGS FOR ALL RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. CHASE AND PENETRATIONS INTENDED FOR DUCTWORK AND PIPING SHALL BE VERIFIED WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION.
7. COORDINATE LOCATION OF ROOF PENETRATIONS WITH THE EXISTING CONDITIONS AND ARCHITECTURAL DRAWINGS.
8. SEAL ALL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS. FIREPROOF ALL PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
9. COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL, AND DUCT INSTALLATION REQUIREMENTS.
10. LOCATION OF CEILING DIFFUSERS, REGISTERS, AND GRILLES SHALL BE ADJUSTED AS REQUIRED TO ACCOMMODATE FINAL CEILING AND LIGHTING LOCATIONS.
11. DUCTWORK CROSSING FIRE RATED WALL OR OTHER FIRE RATED ASSEMBLIES SHALL BE MINIMUM 26 GAUGE SHEET METAL.
12. PROVIDE FIRE AND/OR FIRE/SMOKE DAMPERS IN DUCTWORK AT CEILINGS AND WALLS AS REQUIRED BY BUILDING CODE AUTHORITY HAVING JURISDICTION. FIRE AND FIRE/SMOKE DAMPERS SHALL CONFORM TO NFPA AS APPLICABLE.
13. PROVIDE WALL AND/OR DUCT ACCESS PANELS OR DOORS FOR ACCESS TO ALL FIRE AND/OR FIRE/SMOKE DAMPERS. ACCESS PANEL OR DOOR SHALL BE MINIMUM SIZE OF 6"x6" AND SHALL BE INSTALLED WITH 12" OF DAMPER. PROVIDE A REMOVABLE DUCT SECTION WHERE DUCT SIZE IS TOO SMALL FOR A 6"x6" ACCESS DOOR.
14. THERMOSTATS AND HUMIDISTATS SHALL BE LOCATED AND SET BY MECHANICAL CONTRACTOR AND WIRED IN CONDUIT BY ELECTRICAL CONTRACTOR. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. MOUNTING HEIGHTS SHALL BE 48" AFF TO MEET ADA REQUIREMENTS UNLESS OTHERWISE NOTED ON PLANS.
15. COORDINATE THE LOCATION AND ELEVATION OF WALL-MOUNTED DEVICES WITH ANY WALL MOUNTED ITEMS INDICATED ON THE ARCHITECTURAL DRAWINGS. CONTRACTOR WILL NOT BE REIMBURSED FOR RELOCATION OF ANY WALL-MOUNTED DEVICES CAUSED BY A LACK OF COORDINATION.
16. ALL BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS, AND GRILLES SHALL HAVE A PREFABRICATED 45 DEGREE, HIGH EFFICIENCY, RECTANGULAR/ROUND BRANCH DUCT TAKEOFF FITTING WITH MANUAL BALANCING DAMPER AND LOCKING QUADRANT.
17. BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS OTHERWISE NOTED.
18. RIGID DUCTWORK INSULATION: PROVIDE R-6 MINIMUM INSULATION WRAP ON ALL CONCEALED DUCTWORK; PROVIDE R-6 MINIMUM INTERNAL DUCT LINER ON ALL EXPOSED DUCTWORK. DUCT SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE DIMENSIONS. SHEET METAL SIZES SHALL INCREASE ACCORDINGLY. PROVIDE R-12 MINIMUM INSULATION ON ALL DUCTWORK INSTALLED IN UNCONDITIONED SPACES. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
19. FLEXIBLE DUCT WORK SHALL BE THERMAFLEX TYPE MKE, FLEXMASTER TYPE 8M, OR APPROVED EQUAL, SHALL BE LISTED UNDER 181 AS CLASS 1 AIR DUCT AND SHALL BE PROVIDED WITH INTEGRAL R-6 MINIMUM FIBERGLASS INSULATION. FLEXIBLE DUCTWORK SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL BE INSTALLED AND SUPPORT TO AVOID SHARP BENDS AND SAGGING.
20. WALL MOUNTED DIFFUSERS AND GRILLES SHALL BE PROVIDED WITH SUITABLE MOUNTING FRAME TO MATCH WALL CONSTRUCTION. COORDINATE WITH ARCHITECTURAL DRAWINGS.

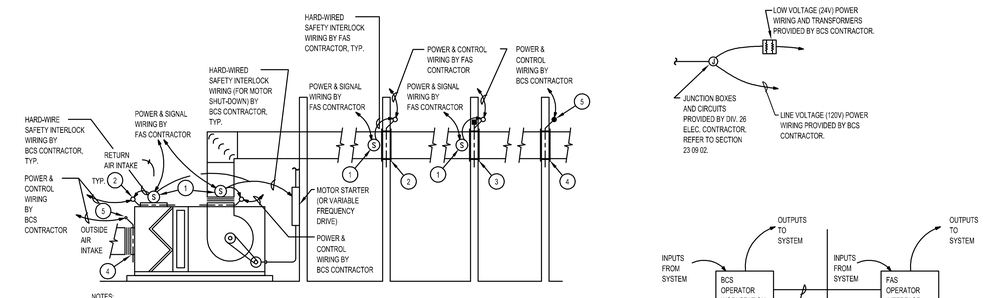
GENERAL MECHANICAL NOTES:

1. REFER TO ARCHITECTURAL PLANS FOR RATED WALLS AND PARTITIONS VERIFY FIRE AND/OR SMOKE DAMPER LOCATIONS AT DUCTS OR OPENINGS PENETRATING THESE WALLS.
2. REFER TO ARCHITECTURAL PLANS FOR ROOM NAMES AND NUMBERS.
3. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS, AND GRILLES.
4. VERIFY LOCATIONS OF THERMOSTATS WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION.
5. VERIFY LOCATIONS OF EXPOSED DUCTS WITH ARCHITECT PRIOR TO INSTALLATION.
6. DUCT DIMENSIONS INDICATED ON PLANS ARE FREE AREA DIMENSIONS.
7. SUPPLY AND RETURN AIR DUCT SHALL BE INTERNALLY LINED WHERE SPECIFIED
8. ALL LOUVER SIZES ON MECHANICAL PLANS ARE GIVEN IN FREE AREA REQUIRED. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS AND LOCATIONS.
9. COORDINATE BALANCING DAMPER LOCATIONS CAREFULLY TO INSURE PROPER AND ADEQUATE ACCESS TO FILTERS, MOTORS, CONTROL VALVES, CONTROL PANELS, ETC. PROVIDE ACCESS PANELS AS SPECIFIED WHERE REQUIRED TO ASSURE THIS ACCESS.
10. CEILING PLENUM SPACE IS VERY TIGHT. WHERE REQUIRED, DUCTS OR PIPES SHALL BE ROUTED BETWEEN LIGHT FIXTURES AND UP AND OVER OTHER DUCTS OR PIPES USING THE SPACES BETWEEN STRUCTURAL JOISTS OR BEAMS WHERE APPLICABLE. CONTRACTOR SHALL BE RESPONSIBLE FOR CAREFULLY COORDINATING ALL TRADES.

GENERAL EQUIPMENT DESIGNATION KEY:



DAMPER & SMOKE DETECTOR FURNISHING, INSTALLING & WIRING RESPONSIBILITY DIAGRAM



NOTES:

1. SMOKE DETECTORS FURNISHED BY DIV. 18 FIRE ALARM SYSTEM (FAS) CONTRACTOR, INSTALLED BY DIV. 15 SHEET METAL CONTRACTOR.
2. SMOKE DAMPER AND ACTUATOR FURNISHED AND INSTALLED BY DIV. 15 SHEET METAL CONTRACTOR.
3. FIRE/SMOKE DAMPER AND ACTUATORS FURNISHED AND INSTALLED BY DIV. 15 SHEET METAL CONTRACTOR.
4. MOTOR-OPERATED (AUTOMATIC) DAMPER FURNISHED AND INSTALLED BY DIV. 15 SHEET METAL CONTRACTOR.
5. MOTOR (ACTUATOR) FURNISHED AND INSTALLED BY BUILDING CONTROL SYSTEM (BCS) CONTRACTOR.

NOT ALL COMPONENTS ON THIS TYPICAL DETAIL DRAWING IS NECESSARILY USED ON THIS PROJECT

CWA collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS ENGINEERED BUILDING SOLUTIONS, LLC
P.O. BOX 7
OVERLAND PARK, KS 66207
913.529.9804
MO CERTIFICATE OF AUTHORITY #C-2021000022

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

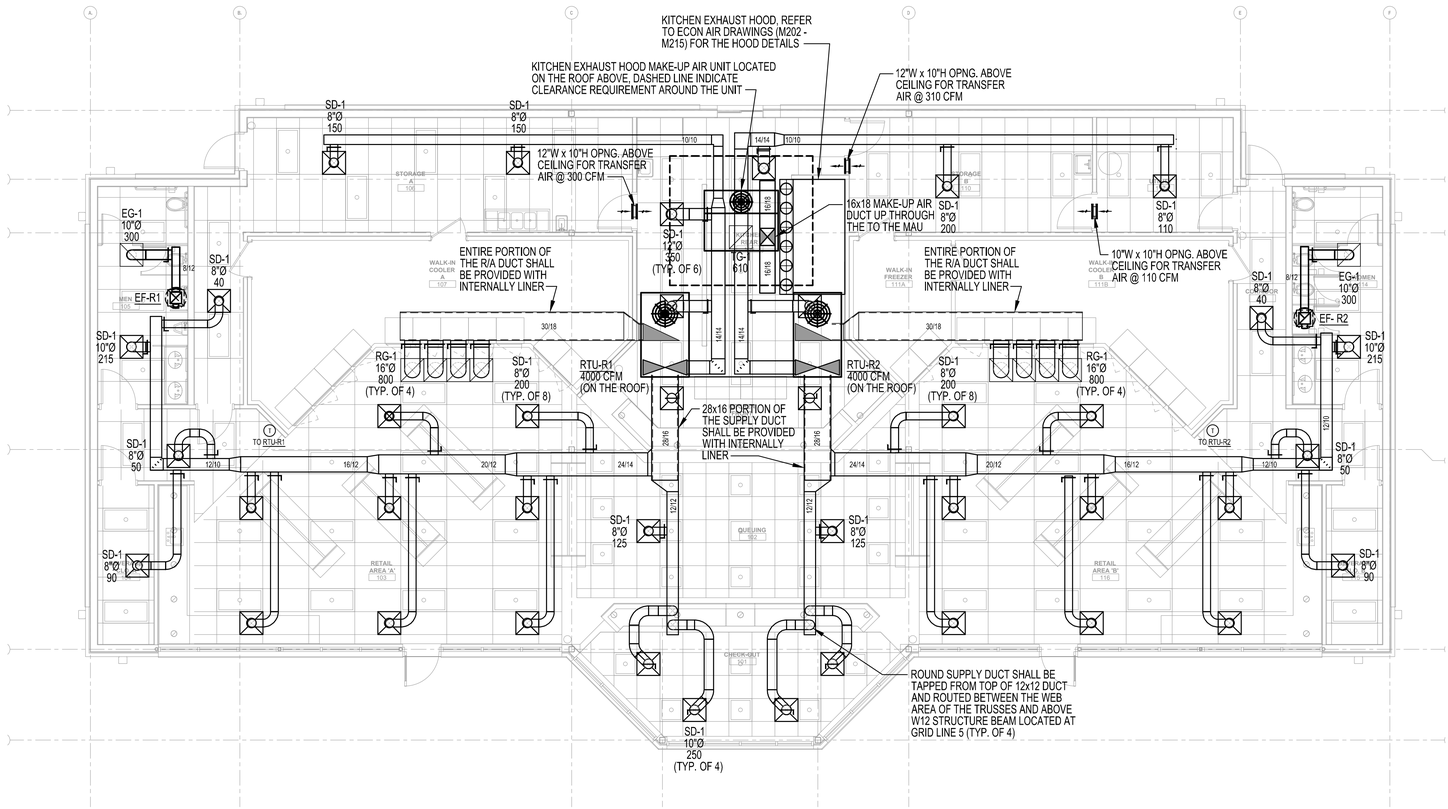
STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
08/09/2025

PROFESSIONAL SEAL

M101

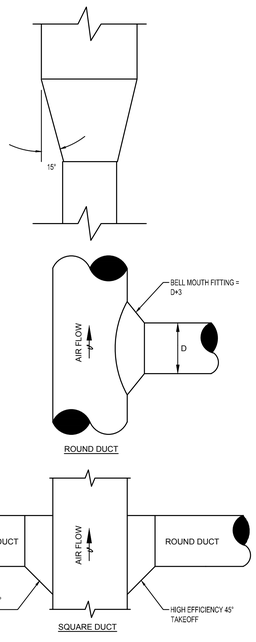
ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

MECHANICAL NOTES, SYMBOLS & ABBREVIATIONS



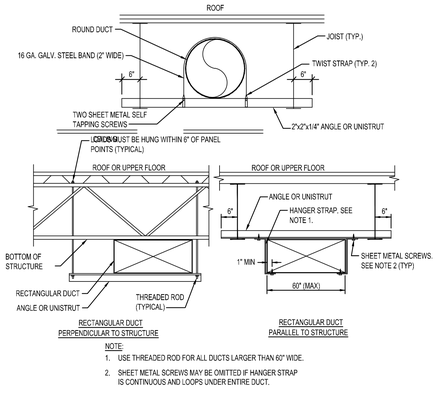
1 MECHANICAL FLOOR PLAN

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



4 DUCT TAKEOFFS AND FITTINGS

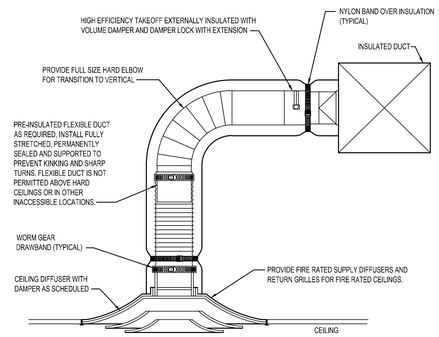
NOT TO SCALE



NOTE:
1. USE THREADED ROD FOR ALL DUCTS LARGER THAN 60" WIDE.
2. SHEET METAL SCREWS MAY BE OMITTED IF HANGER STRAP IS CONTINUOUS AND LOOPS UNDER ENTIRE DUCT.

3 DUCT HANGERS AND SUPPORTS

NOT TO SCALE



2 CEILING DIFFUSER

NOT TO SCALE

ROOFTOP UNIT SCHEDULE - GAS HEAT

MARK	MANUFACTURER	MODEL	SUPPLY AIR	MIN OA	SUPPLY FAN ESP	SUPPLY FAN FLA	COND. FAN QTY	COND. FAN FLA	COMPRESSOR QTY	COMPRESSOR RLA	COOLING TOTAL (MBH)	COOLING SENS. (MBH)	COOLING EAT (DB/WB)	COOLING EER	HEATING DATA INPUT MBH	HEATING DATA OUTPUT MBH	UNIT ELECTRICAL DATA V/PH/HZ	UNIT ELECTRICAL DATA MCA	UNIT ELECTRICAL DATA MOCP	WEIGHT (LBS)	NOTES
RTU-R1 & R2	TRANE	THK120A3SOM	4000	400	1.0	8.8	1	6.3	2	25.2	112.62	88.55	79.4/66.2	11.6	200	162	208/3/60	60	80	1350	1,2,3,4
										13.2											

NOTES:
1 ALL COOLING CAPACITIES SHOWN ARE BASED ON AN AMBIENT OUTDOOR TEMPERATURE OF 105°F, 95.5°F DB & 75.3°F WB SUMMER DESIGN TEMPERATURE AND A WINTER DESIGN TEMPERATURE OF 4.5°F.
2 PROVIDE WITH DRY BULB ECONOMIZER WITH BAROMETRIC RELIEF.
3 PROVIDE WITH 14" HIGH ROOF CURB, DISCONNECT SWITCH, RETURN AIR SMOKE DETECTOR, AND UNPOWERED CONVENIENCE OUTLET.
4 PROVIDE MERV 13 FILTERS PRIOR TO TEST AND BALANCE WORK.

EXHAUST FAN SCHEDULE

MARK	MANUFACTURER	MODEL	MOUNTING	VOLUME (CFM)	ESP (IN)	FAN RPM	DRIVE (BELT/DIRECT)	MOTOR HP	ELECTRICAL VOLTS/PH	WEIGHT (LBS)	NOTE
EF-R1	COOK	70 ACE-B	ROOF	300	0.5	2010	BELT	1/4	120/1	60	1,2,4
EF-R2	COOK	70 ACE-B	ROOF	300	0.5	2010	BELT	1/4	120/1	60	1,2,4

NOTES:
1 PROVIDE WITH BACK DRAFT DAMPER,DISCONNECT, AND SPEED CONTROLLER FOR BALANCING.
2 FAN SHALL OPERATE DURING BUILDING OCCUPIED HOURS.
3 SUSPEND FROM STRUCTURE PER MANUFACTURER INSTRUCTIONS.
4 PROVIDE WITH 14" HIGH ROOF CURB.

GRILLE, REGISTER, AND DIFFUSER SCHEDULE

MARK	MANUFACTURER	MODEL	FACE TYPE	MOUNTING LOCATION	FACE SIZE (IN)	NOTES
SD1	PRICE	SCDA	SQUARE CONE	CEILING	24"x24"	1,2,3,4,5
RG1	PRICE	PDDR	PERFORATED	CEILING	24"x24"	1,2,3,4,5
EX1	PRICE	PDDR	PERFORATED	CEILING	24"x24"	1,2,3,4,5

NOTES:
1 NECK SIZE SHOWN ON DRAWINGS.
2 COORDINATE FINISH WITH ARCHITECT AND OWNER.
3 PROVIDE NECK FOR DUCT CONNECTION.
4 BRANCH DUCT SIZE SHALL BE SAME AS NECK SIZE UNLESS OTHERWISE SHOWN ON DRAWINGS.
5 FRAME TYPE TO MATCH CONSTRUCTION OF MOUNTING LOCATION, COORDINATE WITH ARCHITECTURAL PLANS.

GENERAL NOTES

(NOT ALL NOTES APPLY)

1. REFERENCE SHEET M101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.

KEYED NOTES:

collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC
P.O. BOX 7
OVERLAND PARK, KS 66207
816.210.5824
MO CERTIFICATE OF AUTHORITY #C-2021000022

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

100% CONSTRUCTION DOCUMENTS

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

RYAN BREWER
STATE OF MISSOURI
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
08/09/2025

PROFESSIONAL SEAL

M201

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

MECHANICAL FLOOR PLAN

FOR QUESTIONS, CALL THE
Kansas City Mechanical
REGION 151
PHONE: (816) 384 - 0236
EMAIL: reg151@econair.com

PATENT NUMBERS

AC-PSP (UNITED STATES) - US PATENT 7963830 B2.
AC-PSP WALL (CANADA) - CA PATENT 2820509.
AC-PSP ISLAND (CANADA) - CA PATENT 2520330.

HOOD INFORMATION – JOB#7545665

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)							TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG	
										WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP			END TO END	ROW
1	KEH-1	5424 EX-2-PSP-F	ECON-AIR	9' 0"	600 DEG	I	HEAVY	225	2025			4"	14"	2025	1894	-1.124"	1620	430 SS WHERE EXPOSED	ALONE	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S)					LIGHT(S)			UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	FIRE SYSTEM		ELECTRICAL	SWITCHES		
												TYPE	SIZE	MODEL #	QUANTITY		
1	KEH-1	CAPTRATE SOLO FILTER	6	16"	16"	85% SEE FILTER SPEC	3	RECESSED ROUND	NO	RIGHT	12"x54"x24"	TANK FS	4.0/4.0	DCV-1111	1 LIGHT 1 FAN	YES	1034 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1	KEH-1	FIELD WRAPPER 18.00" HIGH FRONT, LEFT, RIGHT.
		BACKSPLASH 80.00" HIGH X 120.00" LONG 430 SS VERTICAL.
		INSULATION FOR TOP OF HOOD.
		INSULATION FOR BACK OF HOOD.
		RIGHT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS.
		LEFT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS.
		SENSOR-CV.

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG	DIA	CFM	SP
1	KEH-1	Front	120"	14"	6"	MUA			12"	270	0.092"
						MUA			12"	270	0.092"
						MUA			12"	270	0.092"
						MUA			12"	270	0.092"
						MUA			12"	270	0.092"
						MUA			12"	270	0.092"

GREASE DUCT & CHIMNEY SPECIFICATIONS:
PROVIDE GREASE DUCT EQUAL TO ECON-AIR MODEL "EDW"
ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "EDW"
IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING
CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "EDW"
DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER
THE MANUFACTURES INSTALLATION GUIDE.
PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER. PER MANUFACTURES LISTING MODEL "EDW"
HORIZONTAL RUNS LESS THAN 75 FT. CAN BE SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12".
DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE ACCUMULATION IN HORIZONTAL RUNS.

IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY EQUAL TO ECON-AIR MODEL "EDW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

ECON-AIR RECOMMENDS THE USE OF LISTED, PRE-FABRICATED ROUND GREASE EXHAUST DUCT TO REDUCE STATIC PRESSURE IN THE SYSTEM, MINIMIZE INSTALLATION AND INSPECTION TIMES, AND ENSURE DUCT IS LIQUID TIGHT

HVAC DISTRIBUTION NOTE

HIGH VELOCITY DIFFUSERS OR HVAC RETURNS SHOULD NOT BE PLACED WITHIN TEN (10) FEET OF THE EXHAUST HOOD. PERFORATED DIFFUSERS ARE RECOMMENDED.

VERIFY CEILING HEIGHT

___' - ___"

HEIGHT REQUIRED TO VERIFY THAT HOOD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS

CUSTOMER APPROVAL TO MANUFACTURE:

APPROVED AS NOTED ☐
APPROVED WITH NO EXCEPTION TAKEN ☐
REVISE AND RESUBMIT ☐
SIGNATURE _____
YOUR TITLE _____ DATE _____

SPECIFICATION: CAPTRATE GREASE-STOP SOLO FILTER

THE CAPTRATE GREASE-STOP SOLO FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-BAFFLE DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

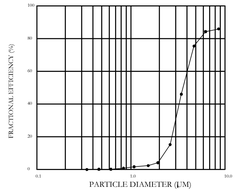
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

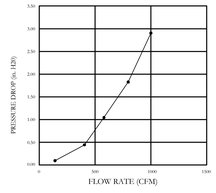
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

THE CAPTRATE GREASE-STOP SOLO WAS TESTED TO ASTM STANDARD ASTM F2519-05. MANUFACTURER APPROVED FOR USE IN SOLID FUEL APPLICATIONS AS A SPARK ARRESTER.

EFFICIENCY VS. PARTICLE DIAMETER

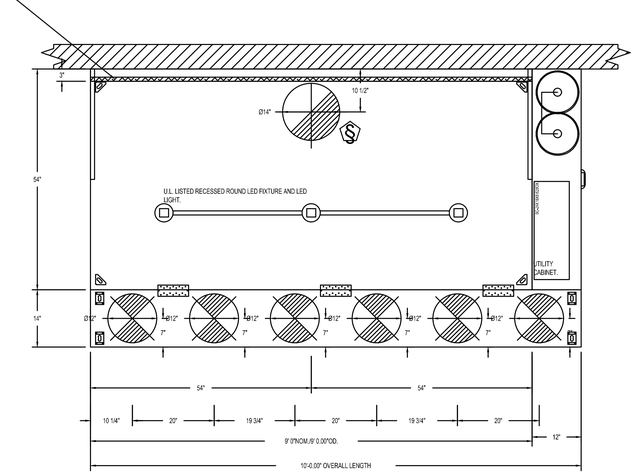


PRESSURE DROP VS. FLOW RATE



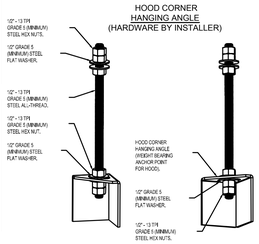
CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH:.
NFPA #96.
NSF STANDARD #2.
UL STANDARD #1046.
INT. MECH. CODE (IMC).
ULC-S649.

1" LAYER OF INSULATION FACTORY INSTALLED IN INTERNAL BACK STANDOFF. MEETS 0 INCH REQUIREMENTS FOR CLEARANCE TO COMBUSTIBLE SURFACES.



PLAN VIEW – HOOD #1 (KEH-1)
9' 0.00" LONG 5424EX-2-PSP-F

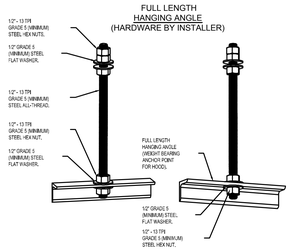
HOOD CORNER HANGING ANGLE (HARDWARE BY INSTALLER)



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

FULL LENGTH HANGING ANGLE (HARDWARE BY INSTALLER)



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR FULL LENGTH HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

REVISIONS

	DESCRIPTION	DATE:
1		
2		
3		
4		

econ·air
www.econair.com
Kansas City Mechanical
13665 E 42nd Terrace, Suite A, Independence, MO, 64055 PHONE: (816) 384 - 0236 EMAIL: reg151@econair.com

Express Stop LSMO R1
LEES SUMMIT, MO, 64086

DATE: 5/27/2025
DWG.#: 7545665
DRAWN BY: A. Wade
SCALE: 3/4" = 1'–0"
MASTER DRAWING

SHEET NO. 1

CAPTIVEAIRE
DRAWINGS (FOR REFERENCE)

CAV
collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC
P.O. BOX 7
OVERLAND PARK, KS 66207
913.529.9844
MO CERTIFICATE OF AUTHORITY #C-2021006032

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

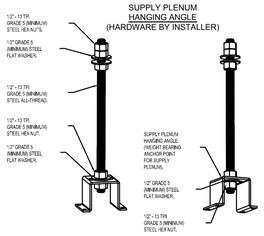
REVISION DATES:

RYAN BREWER
NUMBER PE-2020010759
STATE OF MISSOURI
PROFESSIONAL ENGINEER
06/09/2025
PROFESSIONAL SEAL

M202

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

SUPPLY PLENUM
HANGING ANGLE
(HARDWARE BY INSTALLER)



ASSEMBLY INSTRUCTIONS

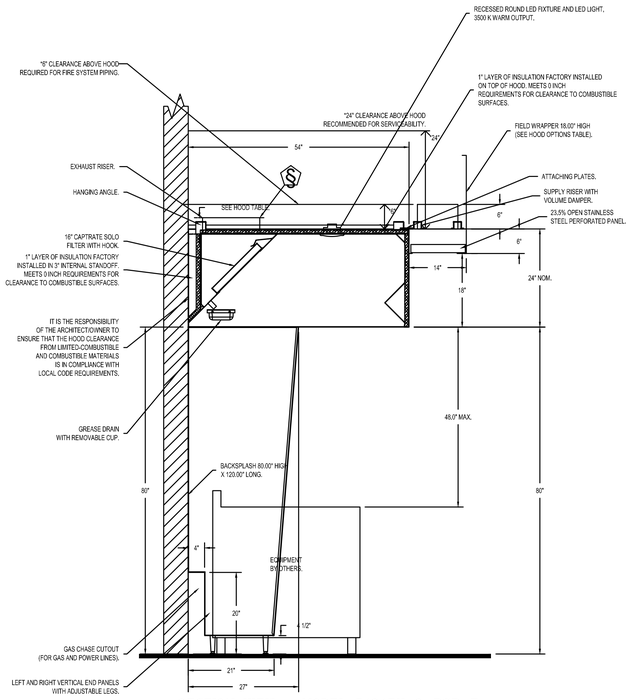
HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD, SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR PSP HANGING ANGLES, MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

CLEARANCE TO COMBUSTIBLES

HOODS #	SURFACE	*CLEARANCE
1	TOP	0"
	FRONT	0"
	BACK	0"
	LEFT	18"
	RIGHT	0"

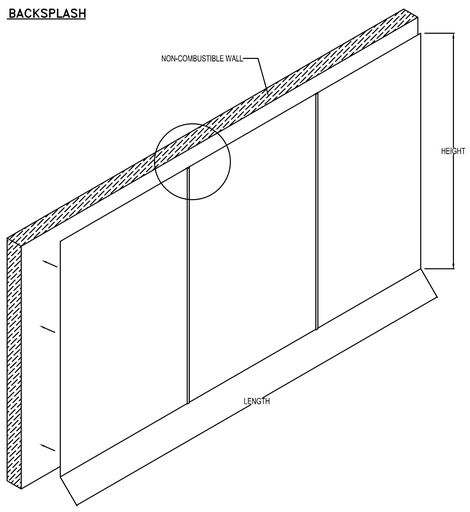
- "0" CLEARANCE TO COMBUSTIBLES CONFORMS TO UL710 STANDARD.

- HOOD MOUNTED UTILITY CABINETS REQUIRE 36" SERVICE CLEARANCE.



SECTION VIEW – MODEL 5424EX-2-PSP-F
HOOD – #1 (KEH-1)

BACKSPLASH



-BACKSPLASH IS NOT INSULATED AND IS UNSUITABLE FOR INSTALL AGAINST COMBUSTIBLE WALLS

REVISIONS

	DESCRIPTION	DATE:
1		
2		
3		
4		

econ·air
www.econair.com
Kansas City Mechanical
13665 E 42nd Terrace, Suite A, Independence, MO, 64055 PHONE: (816) 384 - 0236 EMAIL: reg151@econair.com

Express Stop LSMO R1
LEES SUMMIT, MO, 64086

DATE: 5/27/2025
DWG.#: 7545665
DRAWN BY: A. Wade
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 2

CAV collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com
EBS ENGINEERED BUILDING SOLUTIONS, LLC

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

RYAN BREWER
NUMBER PE-2020010759
STATE OF MISSOURI
PROFESSIONAL ENGINEER
06/09/2025
PROFESSIONAL SEAL

M203

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

CAPTIVEAIRE
DRAWINGS (FOR REFERENCE)

FIRE SYSTEM INFORMATION – JOB#7545665

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION	
						SYSTEM	LOCATION ON HOOD
1	FSS-1	TANK,FS	4.0/4.0	40	28	FIRE CABINET RIGHT	RIGHT, HOOD 1

GAS VALVE(S)

FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1	FSS-1	SC ELECTRICAL	2.000	ECON-AIR

FIRE SYSTEM PARTS LIST KEY

FIRE SYSTEM NO	TAG	KEY NUMBER - PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
1	FSS-1	0 - 0 - TANK FIRE SUPPRESSION POST-DISCHARGE PROCEDURE UTILITY CABINET LABEL SHEET.	1	0
		0 - 0 - TANK FIRE SUPPRESSION MAINTENANCE GUIDE UTILITY CABINET LABEL SHEET.	1	0
		0 - 0 - 12-F28021-32144-OT-360 DUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. NO, CLOSE ON TEMP RISE AT 360°F. (A0034310).	1	0
		0 - 0 - 32-00002 QUIK SEAL - 1/2" (UL).	1	0
		0 - 0 - 4429K153 1/2" MALE NPT TO 1/2" FEMALE NPT ELBOW, BRASS.	2	0
		0 - 0 - 4429K422 1/2" X 1/4" BRASS REDUCING BUSHING.	1	0
		0 - 0 - 79525 1/2" 90 PRO-PRESS ELBOW WITH 1/2" NPT FEMALE CONNECTION, VIEGA.	1	0
		0 - 0 - 79580 1/2" X 1/2" PRO-PRESS TEE X 1/2" NPT FEMALE CONNECTION, VIEGA.	2	0
		0 - 0 - 87-120042-001 SECONDARY ACTUATOR VALVE (SVA) - SINGLE ACTUATOR, REQUIRES PRIMARY RELEASE ACTUATOR, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-120045-001 HOSE, SECONDARY ACTUATOR HOSE, 7.5" BRAIDED STAINLESS STEEL, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300001-001 TANK - PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	2	0
		0 - 0 - 87-300030-001 PRIMARY ACTUATOR KIT (PAK) - ACTUATOR AND RELEASE SOLENOID ASSEMBLY, ONE NEEDED PER FIRE SYSTEM. SUPERVISED, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300033-001 DIN CONNECTOR, CANFIELD PART #SJ560-201-EUDA, TANK FIRE SUPPRESSION, SUBMINATURE SOLENOID CONNECTION (CED VENDOR 30377).	1	0
		0 - 0 - 87-300152-001 HARDWARE, SVA BOLTS, TANK FIRE SUPPRESSION.	8	0
		0 - 0 - 9055455PC PRO PRESS 1/2 PRESS X PRESS 90 ELBOW LD.	6	0
		0 - 0 - 9097200PC PRO PRESS PC611 1/2 PRESS TEE LD.	5	0
		0 - 0 - 9869A115 HARDWARE, DATANKLOCK LOCKING BRACKET SQUARE NUTS 5/16" ZINC, TANK FIRE SUPPRESSION.	4	0
		0 - 0 - A0034332 JUNCTION BOX FOR MANUAL PULL STATION, 1.5" DEEP BACK BOX, RED COLOR.	1	0
		0 - 0 - A31484 1/4" NPT SCHRADER VALVE AND CAP, JB INDUSTRIES. 1/4" FLARE X 1/4" MPT HALF UNION. USED ON TANK SERVICE PORT.	1	0
		0 - 0 - BI145 3/8" BLACK IRON 90 ELL.	2	0
		0 - 0 - DATANKLOCK DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - TANK STRAP TANK STRAP - USED FOR TANK FIRE SUPPRESSION.	6	0
		0 - 0 - TFS-UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - WK-283952-000 DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	2	0
		16 - 16 - 79210 1/2" X 3/8" NPT MALE ADAPTER, VIEGA.	6	0
		16 - 16 - OL-F NOZZLE - TANK PROTECTION APPLIANCE COVERAGE NOZZLE (INCLUDES METAL BLOW OFF CAP, LANYARD, USED WITH CHROME-PLATED PIPE).	6	0
		26 - 26 - QSA-3/8 QUIK SEAL - 3/8" (UL).	6	0
		34 - 34 - A0034331 24VDC SINGLE ACTION MANUAL ACTUATION DEVICE (PUSH/PULL STATION) WITH PROTECTIVE COVER, ONE (1) NORMALLY OPEN CONTACT. RED COLOR.	1	0

REVISIONS

	DESCRIPTION	DATE:
1		
2		
3		
4		

econ·air
www.econair.com
Kansas City Mechanical
13665 E 42nd Terrace, Suite A, Independence, MO, 64055 PHONE: (816) 384 - 0236 EMAIL: reg151@econair.com

Express Stop LSMO R1
LEES SUMMIT, MO, 64086

DATE: 5/27/2025

DWG.#: 7545665

DRAWN BY: A. Wade

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 3

collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC
CA 00179
OVERLAND PARK, KS 66207
913.529.5804
MO CERTIFICATE OF AUTHORITY #C-2021006032

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

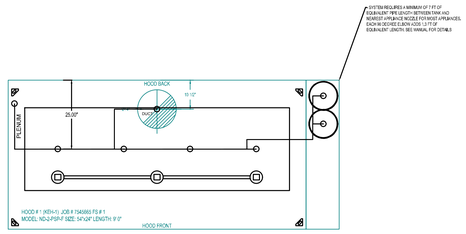
REVISION DATES:

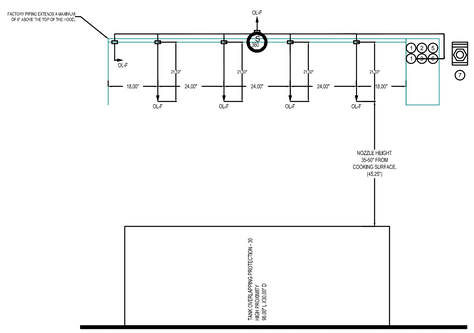
STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
06/09/2025
PROFESSIONAL SEAL

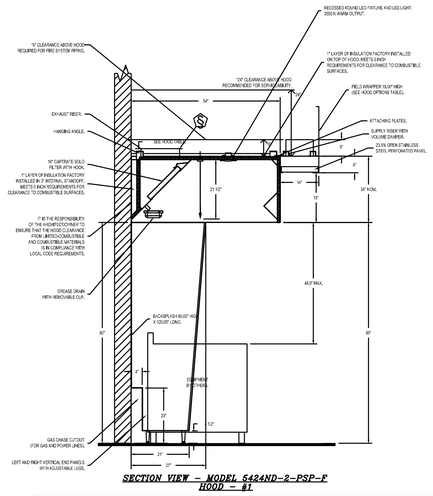
M204

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

CAPTIVEAIRE
DRAWINGS (FOR REFERENCE)







SECTION VIEW – MODEL 5424ND-2-PSP-F HOOD – #1

NOTES
- FIELD PIPE DROPS AS SHOWN
  PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- FIELD INSTALLED DROP: FACTORY WILL PROVIDE QTY 2 60IN LONG PIECES OF CHROME PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLED.
- SHIP LOOSE DROP: FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED SHIPPED LOOSE TO BE FIELD-INSTALLED.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
- IF APPLICABLE, EXTENDED PRE-PIPED DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

- THIS PRE-ENGINEERED FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS.

- OL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-SS

JOB #: 7545665.
JOB NAME: EXPRESS STOP LSMO.

SYSTEM SIZE: TANK-SP-2 DESIGN FP: 28. MAXIMUM FP: 40.
HOOD # 1 9'.00" LONG x 54" WIDE x 24" HIGH.
RISER # 1 SIZE: 14" DIA.
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.

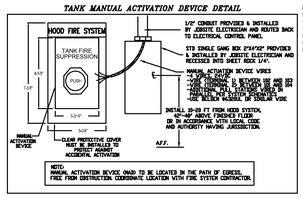
- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

AGENT DISTRIBUTION PIPING LIMITATIONS	
PIPE SECTION	MAX PIPE LENGTH (FT)
MAX SUPPLY LINE TO FIRST OVERLAPPING NOZZLE	42
OVERLAPPING NOZZLE APPLIANCE BRANCH	10
DEDICATED NOZZLE APPLIANCE BRANCH	10

LEGEND – FIRE CABINET TANK SYSTEM

1 4 GALLON TANK.
2 PRIMARY ACTUATOR RELEASE.
3 SECONDARY ACTUATOR RELEASE.
4 PRESSURE SUPERVISION SWITCH.
5 PRIMARY HOSE ASSEMBLY.
6 SECONDARY HOSE ASSEMBLY.
7 REMOTE MANUAL ACTUATION DEVICE.

TANK MANUAL ACTIVATION DEVICE DETAIL



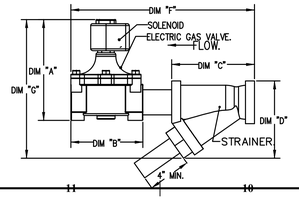
INCLUDES: FIELD INSTALLATION AND HOOKUP DURING NORMAL BUSINESS HOURS BY CERTIFIED INSTALLERS ONLY IN THE LOCATION NOTED ABOVE. TWO SITE VISITS ONLY (ONE VISIT TO SET FULL STATION & SYSTEM HOOKUP AND ONE VISIT FOR ONE TEST. ADDITIONAL VISITS WILL RESULT IN ADDITIONAL CHARGES). ONE MECHANICAL OR ELECTRICAL GAS VALVE PER SYSTEM AT A MAXIMUM SIZE OF 2". PERMIT, AND SYSTEM TEST.
EXCLUDES: UNION LABOR & PREVAILING WAGE LABOR & WAGES WILL BE ADDED IF APPLICABLE). GAS VALVE INSTALLATION, ELECTRICAL HOOKUP AND CONNECTIONS, HANGING OF FIRE CABINET, SHUNT TRIP, HANDHELD EXTINGUISHER(S), ON-SITE RE-PIPING DUE TO EQUIPMENT LAYOUT CHANGES.

GAS VALVES AND STRAINERS														
	GAS VALVE SIZING					GAS VALVE DIMENSIONS						INSTALLATION	PART NUMBERS	
	TYPE	SIZE	VOLTAGE	MIN. INLET PRESSURE	MAX. INLET PRESSURE	FLOW AT 1 IN.W.C. DROP NATURAL GAS	FLOW AT 1 IN.W.C. DROP PROPANE	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "F"	DIM "G"	PIPE ORIENTATION	GAS VALVE PART NUMBER	STRAINER PART NUMBER	GAS VALVE/STRAINER KIT
GAS VALVE FOR FS#	ELECTRICAL	2"	120 VAC	0 PSI (0 W.M.C.)	5 PSI (138 W.M.C.)	2,240,500 BTU/HR	1,908,048 BTU/HR	7-5/8"	6-3/8"	7-1/4"	7-13-16"	15-5/8"	13-15/16"	HORIZONTAL/VERTICAL	52514280	44179068	(SCE)CSV42

ELECTRIC GAS VALVES: ONLY SOLENOID ORIENTATION
3/4"-1" STRING GAS VALVES CAN BE MOUNTED WITH THE SOLENOID IN ANY POSITION AT OR ABOVE HORIZONTAL.
1 1/4"-2" STRING GAS VALVES MUST BE MOUNTED WITH THE SOLENOID VERTICAL AND UPRIGHT.
2 1/2"-3" STRING GAS VALVES MUST BE MOUNTED WITH THE SOLENOID VERTICAL AND UPRIGHT.

ALL GAS VALVES/STRAINERS
PROPER CLEARANCE MUST BE PROVIDED IN ORDER TO SERVICE THE SOLENOID OR A MINIMUM OF 6" CLEARANCE DISTANCE MUST BE PROVIDED AT THE BASE OF THE STRAINER CUSTOMER MUST VERIFY BTU CONSUMPTION AS WELL AS PRESSURE RATING SPECIFIC GRAVITY OF NATURAL GAS = 0.64, SPECIFIC GRAVITY OF LP = 1.52.

CALCULATIONS
TO CALCULATE GAS FLOW FOR OTHER THAN 1 IN.W.C. PRESSURE DROP:
NEW BTU/HR = (BTU/HR AT 1 IN.W.C. PRESSURE DROP) X NEW PRESSURE DROP$^{0.5}$
TO CALCULATE GAS FLOW FOR OTHER THAN 0.64 SPECIFIC GRAVITY
NEW BTU/HR = (BTU/HR AT 0.64) X (0.64 / NEW SPECIFIC GRAVITY)$^{0.5}$.



REVISIONS

	DESCRIPTION	DATE:
1		
2		
3		
4		

econ·air
www.econair.com
Kansas City Mechanical
13665 E 42nd Terrace, Suite A, Independence, MO, 64055 PHONE: (816) 384 - 0236 EMAIL: reg151@econair.com

Express Stop LSMO R1
LEES SUMMIT, MO, 64086

DATE: 5/27/2025
DWG.#: 7545665
DRAWN BY: A. Wade
SCALE: 1/2" = 1'-0"
MASTER DRAWING
SHEET NO. 4

CAV collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com
EBS ENGINEERED BUILDING SOLUTIONS, LLC
P.O. BOX 1
OVERLAND PARK, KS 66207
913-529-8804
MO CERTIFICATE OF AUTHORITY #C-2021000032

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
06/09/2025
PROFESSIONAL SEAL

M205

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

CAPTIVEAIRE
DRAWINGS (FOR REFERENCE)

DOAS/RTU FAN SCHEDULE – JOB#7545665

FAN UNIT NO	TAG	QTY	DOAS/RTU MODEL #	MANUFACTURER	BLOWER	RETURN AIR CFM	MAX OUTSIDE AIR CFM	TOTAL CFM	WEIGHT (LBS)	ESP	ELECTRICAL INFORMATION					COOLING INFORMATION								REHEAT INFORMATION				GAS HEAT INFORMATION					A2L MINIMUM ROOM VOLUME			NOTES
											HP	PHASE	VOLT	MCA	MOCP	OUTSIDE AIR		MIXED AIR		LEAVING AIR		CAPACITY		IEER	IEAIRED	DISCHARGE	CAPACITY		MOISTURE REMOVAL RATE	GAS TYPE	INPUT BTU/h	OUTPUT BTUh	TEMP RISE	REQUIRED INPUT GAS PRESSURE	ROOM AREA (FT2)	AIRFLOW (CFM)	HEIGHT (FT)	
																DB	WB	DB	WB	DB	WB	DP	TOTAL	SENS.			DB	WB	DEGREES	MAX								
2	MAU-1	1	EARTU-14,200-18-ST-MPU	ECON-AIR	18MF-I-ATTU	0	1620	1620	1292	1.000	1.50	3	208	28.8A	30A	89.8°F	78.6°F	89.8°F	78.6°F	72.2°F	66.4°F	66.6°F	64.0 MBH	29.2 MBH	17.9	6.4	76.6°F	73.0°F	11 MBH	53 MBH	31.3 LBS/HR	NATURAL	154802	125471	86°F	7" IN. W.C.– 14 IN. W.C.	206.2	357	7.2	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17

NOTES:
1. INVERTER SCROLL COMPRESSOR WITH INTEGRATED OIL SENSOR. DIGITAL OR STAGED SCROLL NOT AN APPROVED EQUAL
2. DIRECT DRIVE PLENUM BLOWER. BELT DRIVEN BLOWERS ARE NOT ACCEPTABLE
3. INTEGRATED MONITORING VIA CELLULAR CONNECTION BY MANUFACTURER
4. REFRIGERATION PRESSURE MONITORING ON HIGH AND LOW PRESSURE SIDE OF SYSTEM INCLUDED THROUGH DIGITAL INTERFACE
5. EC MOTOR CONDENSING FANS
6. ELECTRONIC EXPANSION VALVE. TXV NOT ACCEPTABLE
7. SUCTION LINE ACCUMULATOR
8. FACTORY COMMISSIONING WITH 5 YEAR PARTS WARRANTY. 25 YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER
9. AVERAGING BY-PASS, EVAP AND DISCHARGE TEMPERATURE SENSORS (DISCHARGE SENSOR TO BE FACTORY MOUNTED WITHIN UNIT)
10. 81% EFFICIENT FURNACE, WITH MODULATING INDUCER TO MAINTAIN CONSTANT COMBUSTION EFFICIENCY ACROSS FIRING RANGE, 6:1 TURNDOWN WITH NG AND 5:1 TURNDOWN WITH LP
11. SUPPLY CFM MONITORING INTEGRAL TO UNIT WITH CFM MEASUREMENT INCLUDED THROUGH DIGITAL INTERFACE
12. FULLY MODULATING HOT GAS REHEAT
13. 15 DEGREE LOW AMBIENT OPERATION
14. HAIL GUARD FOR CONDENSING COIL
15. 1" EXTERIOR DUAL-WALL CONSTRUCTION W/ R-4.3 INSULATION-MINIMUM 24GA EXTERIOR W/ 18GA BASE
16. DOWN DISCHARGE/NO RETURN.
17. MINIMUM ROOM AREA ASSUMED 7.2' SUPPLY DIFFUSER HEIGHT AND IS CALCULATED PER UL60335-2-40 4TH ED. VALUES BASED ON FACTORY CHARGE, ACTUAL SITE CHARGE MAY DIFFER.

FAN ACCESSORIES

FAN UNIT NO	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	KEF-1	YES						

CURB ASSEMBLIES

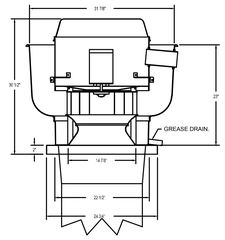
NO	ON FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	KEF-1	36 LBS	CURB	23.000"W X 23.000"L X 20.000"H INSULATED VENTED HINGED.
2	#2	MAU-1	103 LBS	CURB	41.000"W X 71.000"L X 20.000"H INSULATED.

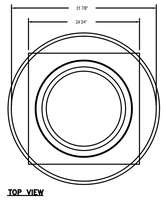
FAN OPTIONS

FAN UNIT NO	TAG	QTY.	DESCRIPTION
1	KEF-1	1	GREASE BOX
		1	FAN BASE CERAMIC SEAL - DUGR8SHFA - INSTALLED AT PLANT - FOR GREASE DUCTS
		1	2 YEAR PARTS WARRANTY
2	MAU-1	1	INLET PRESSURE GAUGE, 0-20"
		1	MANIFOLD PRESSURE GAUGE, 0 TO 10" WC, 1 FURNACE
		1	COOLING OVERRIDE
		1	SINGLE POINT ELECTRICAL CONNECTION FOR RTU, 750VA TRANSFORMER USED, IF A NON-OCV PREWIRE CONTROLS THIS UNIT, THE 40S, 41T, "MA", OR "S2" PREWIRE OPTION MUST BE SELECTED. DOES NOT PROVIDE SUPPLY STARTER IN PREWIRE
		1	RTU BLOWER DOOR SWITCH
		1	2" MERV 13 FILTERS FOR RTU1* (QTY. 4)
		1	2" MERV 8 FILTERS FOR RTU1 (QTY. 4)
		1	TOTAL CFM MONITORING
		1	VFD FACTORY MOUNTED AND WIRED IN RTU COMMERCIAL CONTROL VESTIBULE
		1	RTU1 DOWN DISCHARGE
		1	RTU1 FIRED 100% OA INTAKE CONTROL
		1	5 TON MODULATING COOLING OPTION, 208/230V, R454B REFRIGERANT, VARIABLE SPEED COMPRESSOR, ECM CONDENSING FAN
		1	LOW AMBIENT COOLING OPERATION - DOWN TO 0F AMBIENT
		1	R454B LEAK DETECTION OPTION FOR RTU5
		1	5 TON MODULATING REHEAT OPTION - DISCHARGE DEWPOINT CONTROL - R454B
		1	DISCHARGE FIRESTAT SET TO 240°F
		1	INTAKE FIRESTAT SET TO 150°F
		1	RTU1 NO RETURN - 100% OA - MPU
		1	2" METAL MESH FILTERS FOR RTU1 OUTDOOR INTAKE
		1	RTU1 CURB DUCT HANGER
		1	120V TVRE INPUT
		1	COMMERCIAL SMOKE DETECTOR ALARM INTERLOCK - ALARM SUPPLIED BY OTHERS
		1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED
		1	OCCUPIED SCHEDULING
		1	CLOGGED FILTER SWITCH – NOTIFICATION ON HMI
		1	RTU1 CONVENIENCE OUTLET (GFCI), 15 AMP - REQUIRES SEPARATE 120V CONNECTION, INCLUDES RECEPTACLE, COVER AND J BOX
		1	RTU1 HAIL GUARD
		1	FIRESTAT
		1	VAV PACKAGE W/ 0-10VDC INPUT CONTROL (ST1 VFD INCLUDED)
		1	5 YEAR ENTIRE UNIT PARTS WARRANTY, 10 YEAR ENTIRE UNIT PARTS WARRANTY WITH REMOTE MONITORING AND CAPTIVEAIRE SERVICE CONTRACT, 25 YEAR STAINLESS STEEL FURNACE PARTS WARRANTY (SEE ADDITIONAL DETAILS)
		1	EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET

HMI SCHEDULE				
UNIT NUMBER	HMI #	HMI LOCATION	TEMP AVERAGING	MODBUS ADDRESS
FAN #2	HMI #1 - UNIT	IN UNIT	NOT AVERAGED	55

FAN #1 EADUSH1 - EXHAUST FAN (KEF-1)





TOP VIEW

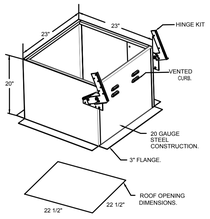
FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS
- GREASE BOX.
- FAN BASE CERAMIC SEAL - DUGR8SHFA - INSTALLED AT PLANT - FOR GREASE DUCTS.
- 2 YEAR PARTS WARRANTY.



EXHAUST FAN INFORMATION – JOB#7545665

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL.	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1	KEF-1	1	EADUSH	ECON-AIR	2025	1.124	1303	ODP	0.750	0.5930	3	208	2.6	641 FPM	96	15.2

ECON·air
www.econair.com
Kansas City Mechanical
13665 E 42nd Terrace, Suite A, Independence, MO, 64055 PHONE: (816) 384 - 0236 EMAIL: reg151@econair.com

REVISIONS	
DESCRIPTION	DATE:

Express Stop LSMO R1
LEES SUMMIT, MO, 64086

DATE: 5/27/2025

DWG.#: 7545665

DRAWN BY: A. Wade

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

MASTER DRAWING

SHEET NO. 5

collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC
OVERLAND PARK, KS 66207
913.529.8844
MO CERTIFICATE OF AUTHORITY #C-2021006032

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

100% CONSTRUCTION DOCUMENTS

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
06/09/2025
PROFESSIONAL SEAL

M206

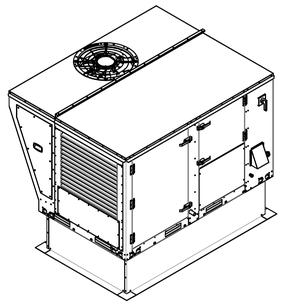
ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

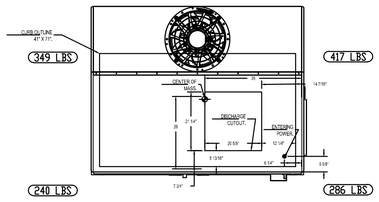
CAPTIVEAIRE
DRAWINGS (FOR REFERENCE)

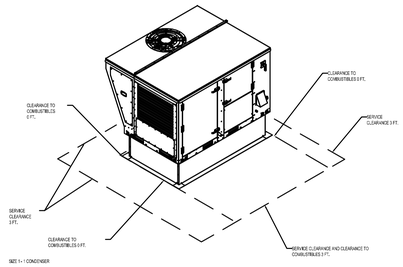
FAN #2 EARTU1-I.200-18MF-5T-MPU - HEATER (MAU-1)

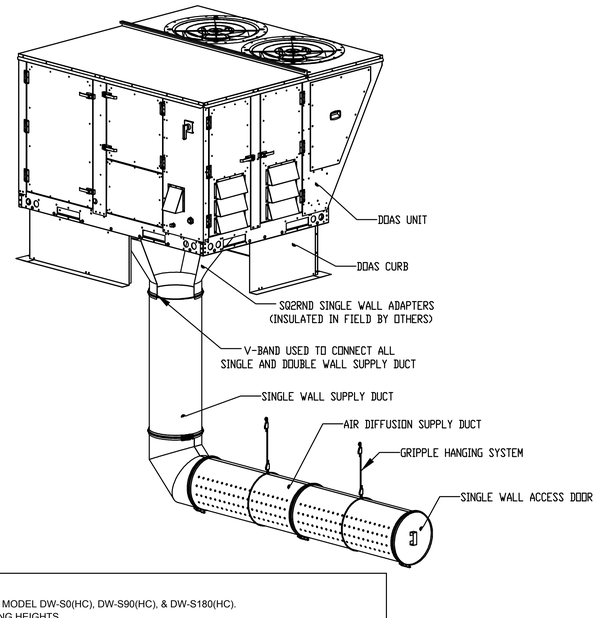
NOTES:
1. DO NOT OBSTRUCT OUTSIDE AIR INLET, OUTSIDE AIR COIL OR OUTSIDE AIR FAN.
2. (DENOTES CORNER WEIGHT.
3. ROOF OPENING MUST BE 2" SMALLER THAN CURB DIMENSIONS IN BOTH DIRECTIONS.
4. CONNECTION FROM BREAKER TO UNITS SAFETY DISCONNECT SWITCH TO BE COPPER WIRE ONLY.
5. EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET.

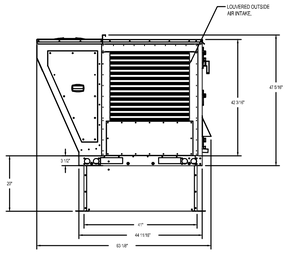
*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT.
SUGGESTED STRAIGHT DUCT SIZE IS 20.75" x 21.5".

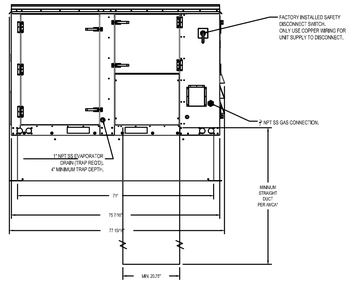


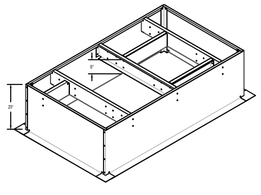


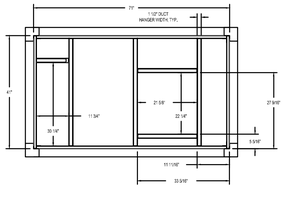


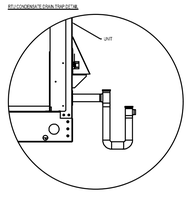


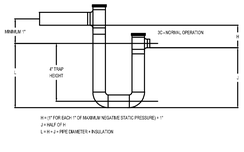












AIR DIFFUSION SUPPLY DUCT SPECIFICATIONS:
PROVIDE AIR DIFFUSION SUPPLY DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL DW-S0(HC), DW-S90(HC), & DW-S180(HC).
THREE DISTINCT HOLE PATTERN OPTIONS TO COVER A VARIETY OF CEILING HEIGHTS.
NO ADDITIONAL DIFFUSERS REQUIRED, AS THE DUCT ITSELF PROVIDES AIR DIFFUSION.
MADE OF HIGH QUALITY STAINLESS STEEL DESIGNED TO LAST 20+ YEARS.
HIGH INDUCTION SUPPLY DUCT IS CONSTRUCTED USING 24 GAUGE, 430 SS - 5" THRU 24".
HIGH INDUCTION SUPPLY DUCT IS CONSTRUCTED USING 20 GAUGE, 430 SS - 26" THRU 36".
QUICK ONSITE ASSEMBLY USING EPDM GASKETS & UNIVERSAL V-BANDS.
DOUBLE WALL SUPPLY DUCT AVAILABLE FOR INTERIOR AND EXTERIOR SPACES, EITHER CONDITIONED OR UNCONDITIONED.
DOUBLE WALL SUPPLY DUCT AVAILABLE IN DW-1S, DW-2S, & DW-3S TO MEET SPECIFIC REGIONAL "R" VALUE REQUIREMENTS.

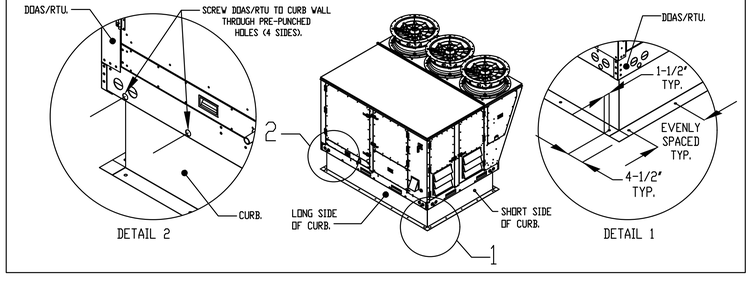
Insulation R-Value Recommendations		
Supply Duct Type	Minimum R-value	Space Type
Single Wall - S & -HC	N/A	Conditioned Space Only
Double Wall - 1S	R-4	Unconditioned Interior Space Only
Double Wall - 2S	R-8	Unconditioned Space Climate Zones 1-4
Double Wall - 3S	R-12	Unconditioned Space Climate Zones 5-8

DOUBLE WALL SUPPLY DUCT IS INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.
AIR DIFFUSION SUPPLY DUCT COMPLIES WITH SMACNA (SHEET METAL AND AIR CONDITIONING CONTRACTORS) BEST PRACTICES.
POSITIONING OF SPRINKLERS TO AVOID OBSTRUCTION TO DISCHARGE, SEE NFPA 13, TABLE 8.12.5.1.1.

TYPICAL DOAS/RTU ROOF MOUNTING INSTALLATION INSTRUCTIONS

1. SECURE THE CURB TO THE ROOF FRAMING MEMBERS BY DRILLING 1/4" PILOT HOLES IN THE CURB FLANGES AT LOCATIONS SHOWN IN THE DIAGRAM BELOW. USING 3/8" X 2" ZINC PLATED STEEL LAG BOLTS, AND ZINC PLATED WASHERS, SCREW THROUGH THE CURB FLANGES AND INTO THE ROOF FRAMING MEMBERS. A MINIMUM OF (5) LAG BOLTS ON EACH SHORT SIDE, AND (7) LAG BOLTS ON EACH LONG SIDE IS REQUIRED.

2. SECURE THE UNIT BASE TO THE SIDE WALLS OF THE CURB USING (24) 1/4"-14 X 2" SELF-DRILLING, STEEL ZINC PLATED SCREWS. PRE-PUNCHED HOLES HAVE BEEN PROVIDED FOR EACH SCREW LOCATION.



REVISIONS

	DESCRIPTION	DATE:
1		
2		
3		
4		

econ·air
www.econair.com
Kansas City Mechanical
13665 E 42nd Terrace, Suite A, Independence, MO, 64055 PHONE: (816) 384 - 0236 EMAIL: reg151@econair.com

Express Stop LSMO R1
LEES SUMMIT, MO, 64086

DATE: 5/27/2025
DWG.#: 7545665
DRAWN BY: A. Wade
SCALE: 1/2" = 1'-0"
MASTER DRAWING
SHEET NO. 6

collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC
CA-2012-0000
OVERLAND PARK, KS 66207
913.529.8804
MO CERTIFICATE OF AUTHORITY #C-2021000022

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
REGISTERED PROFESSIONAL ENGINEER
06/09/2025
PROFESSIONAL SEAL

M207

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

CAPTIVEAIRE
DRAWINGS (FOR REFERENCE)

GREASE DUCT & CHIMNEY SPECIFICATIONS:
PROVIDE GREASE DUCT EQUAL TO ECON-AIR MODEL "EDW"
ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "EDW"
IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING
CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "EDW"
DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER
THE MANUFACTURES INSTALLATION GUIDE.
PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER. PER MANUFACTURES LISTING MODEL "EDW"
HORIZONTAL RUNS LESS THAN 75 FT. CAN BE SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12".
DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE ACCUMULATION IN HORIZONTAL RUNS.

IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY EQUAL TO ECON-AIR MODEL "EDW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

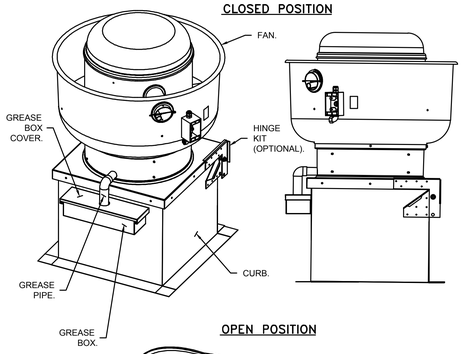
CUSTOMER APPROVAL TO MANUFACTURE:

APPROVED AS NOTED ☐
APPROVED WITH NO EXCEPTION TAKEN ☐
REVISE AND RESUBMIT ☐
SIGNATURE _____
YOUR TITLE _____ DATE _____ _____

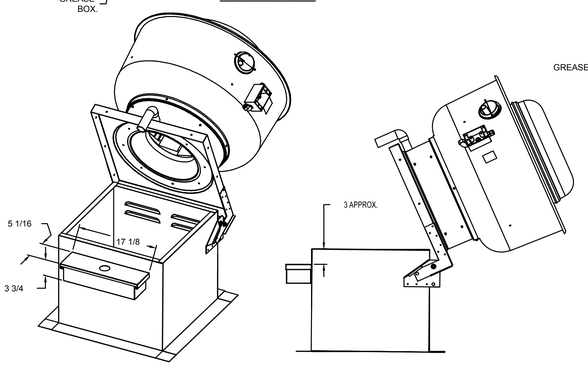
GREASE BOX INSTALLATION

GREASEBOX
REV.#2 08/19/02

CLOSED POSITION



OPEN POSITION



PARTS INCLUDED

GREASE BOX.
GREASE BOX COVER.
GREASE PIPE.

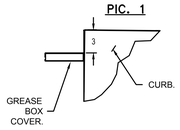
SHEET METAL SCREWS
3 - LONG (3/4" LG.).

GREASE BOX FIELD INSTALLATION

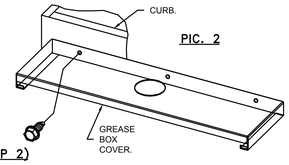
STEP 1)

ATTACH GREASE BOX COVER TO THE CURB,
HOLD 3" DIMENSION AS SHOWN ON PIC. 1.
SCREW GREASE BOX COVER TO CURB USING (3) LONG (3/4" LG.)
SCREWS AS SHOWN ON PIC. 2.

PIC. 1



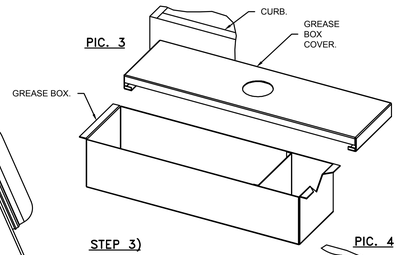
PIC. 2



STEP 2)

ATTACH GREASE BOX TO GREASE BOX COVER, SLIDE AND DROP.
AS SHOWN ON PIC. 3.

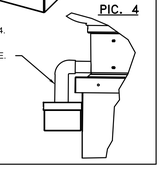
PIC. 3



STEP 3)

INSTALL GREASE PIPE AS SHOWN ON PIC. 4.

PIC. 4



*NOTE: UL 705 INSTALL.

REVISIONS

	DESCRIPTION	DATE:
△		
△		
△		
△		

econ·air
www.econair.com

Kansas City Mechanical
13665 E 42nd Terrace, Suite A, Independence, MO, 64055 PHONE: (816) 384 - 0236 EMAIL: reg151@econair.com

Express Stop LSMO R1
LEES SUMMIT, MO, 64086

DATE: 5/27/2025
DWG.#: 7545665
DRAWN BY: A. Wade
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 7

CAPTIVEAIRE
DRAWINGS (FOR REFERENCE)

CAW collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS ENGINEERED BUILDING SOLUTIONS, LLC
P.O. BOX 12
OVERLAND PARK, KS 66201
913.529.9004
MO CERTIFICATE OF AUTHORITY #C-2021000032

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

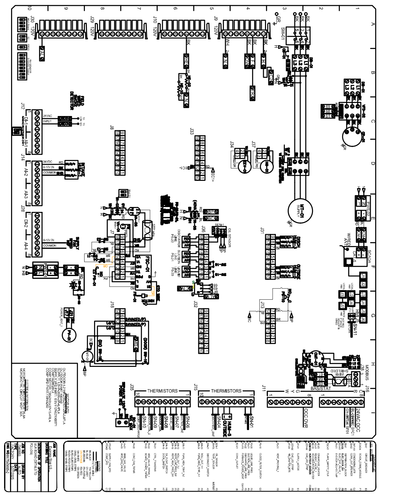
COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

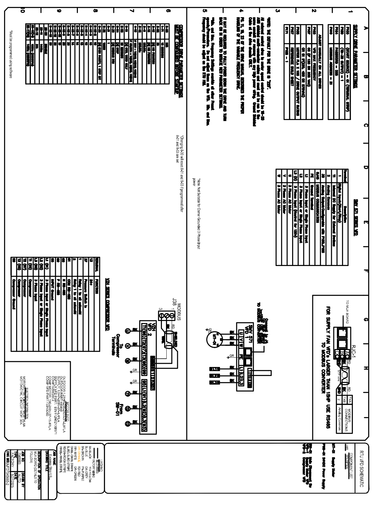
REVISION DATES:

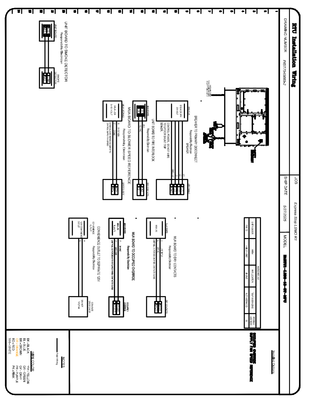
STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
06/09/2025
PROFESSIONAL SEAL

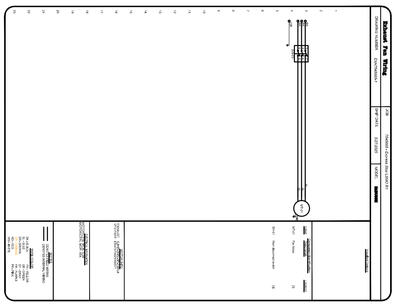
M202

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114









SHEET NO.	8
MASTER DRAWING	
SCALE:	1/2" = 1'-0"
DRAWN BY:	A. Wade
DWG.#:	7545685
DATE:	5/27/2025

Express Stop LSMO R1

LEES SUMMIT, MO, 64086

econ·air

Kansas City Mechanical

www.econair.com

13665 E 42nd Terrace, Suite A, Independence, MO, 64055 PHONE: (816) 384 - 0236 EMAIL: reg151@econair.com

REVISIONS		
	DESCRIPTION	DATE
1		
2		
3		
4		

DRAWINGS (FOR REFERENCE)

CAPTIVEAIRE

M209

ISSUE DATE: 09 JUN 2025

COLLINS WEBB #: 23114

PROFESSIONAL SEAL

RYAN BRUCE BRUCE NUMBER PE-2020010759 08/09/2025

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

100% CONSTRUCTION DOCUMENTS

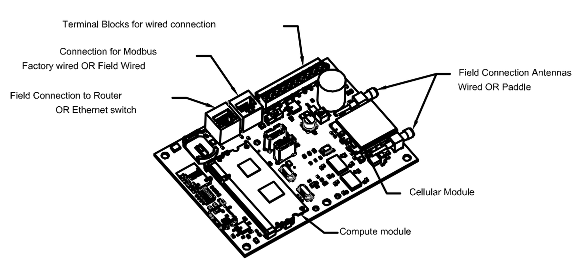
EBS ENGINEERED BUILDING SOLUTIONS, LLC

collins|webb ARCHITECTURE

307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

ELECTRICAL PACKAGE - JOB#7545665

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	⊏	HP	VOLT	FLA
1	Controls-1	DCV-1111	UTILITY CABINET RIGHT	UTILITY CABINET RIGHT	1 LIGHT	SMART CONTROLS DCV	KEF-1	EXHAUST	3	0.750	208	2.6
				HOOD # 1	1 FAN		MAU-1	SUPPLY	3	1.500	208	4.4



CASlink Monitor and Control

– Hood control panel to support communications to cloud–based Building Management System.
– Hood Control Panel to allow cloud–based Building Management System to monitor real time parameters outlined as MONITOR in the points list.
– Hood Control Panel to allow cloud–based Building Management System to control parameters outlined as CONTROL in the points list.
– Hood Control Panel to allow cloud–based Building Management System to implement SYSTEM ECONOMIZER control strategies for fully integrated Building Management.

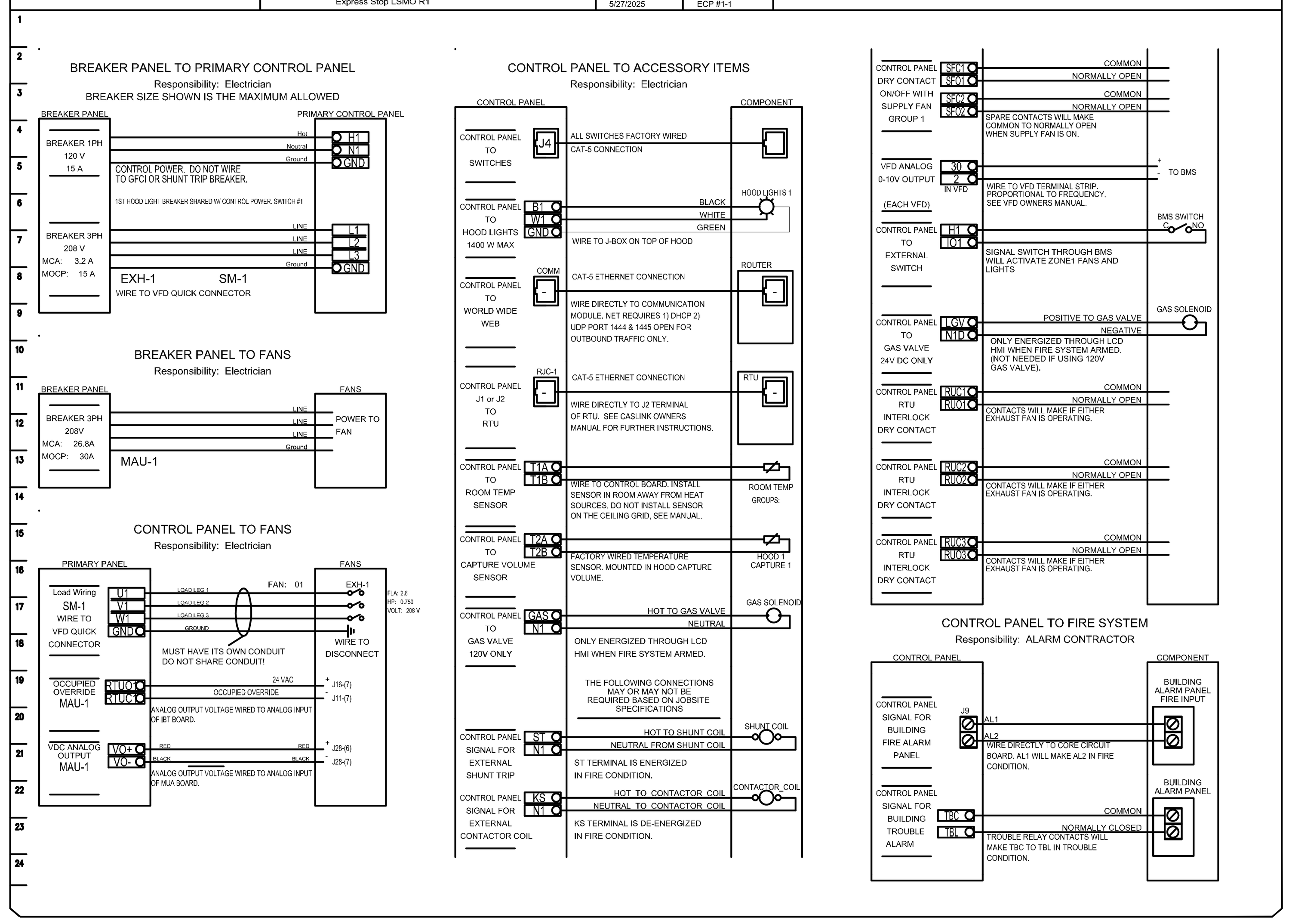
MONITORING AND CONTROL POINTS LIST

DCV Packages	Function
Room Temperature	MONITOR
Duct Temperature(s)	MONITOR
MUA Discharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR
Fan Speed	MONITOR
Fan Amperage	MONITOR
Fan Power	MONITOR
VFD Faults	MONITOR
Controller Faults	MONITOR
Fan Faults	MONITOR
Fan Status	MONITOR
PCU Faults	MONITOR
PCU Filter Clog Percentages	MONITOR
Fire Condition	MONITOR
CORE Fire System	MONITOR
Building Pressures	MONITOR
Prep Time Button	MONITOR & CONTROL
Fans Button	MONITOR & CONTROL
Lights Button	MONITOR & CONTROL
Wash Button	MONITOR & CONTROL

SC Packages	Function
Room Temperature(s)	MONITOR
Duct Temperature(s)	MONITOR
MUA Discharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR
Controller Faults	MONITOR
Fan Faults	MONITOR
Fan Status	MONITOR
PCU Faults	MONITOR
PCU Filter Clog Percentages	MONITOR
Fire Condition	MONITOR
CORE Fire System	MONITOR
Building Pressures	MONITOR
Fans Button(s)	MONITOR & CONTROL
Lights Button(s)	MONITOR & CONTROL
Wash Button	MONITOR & CONTROL

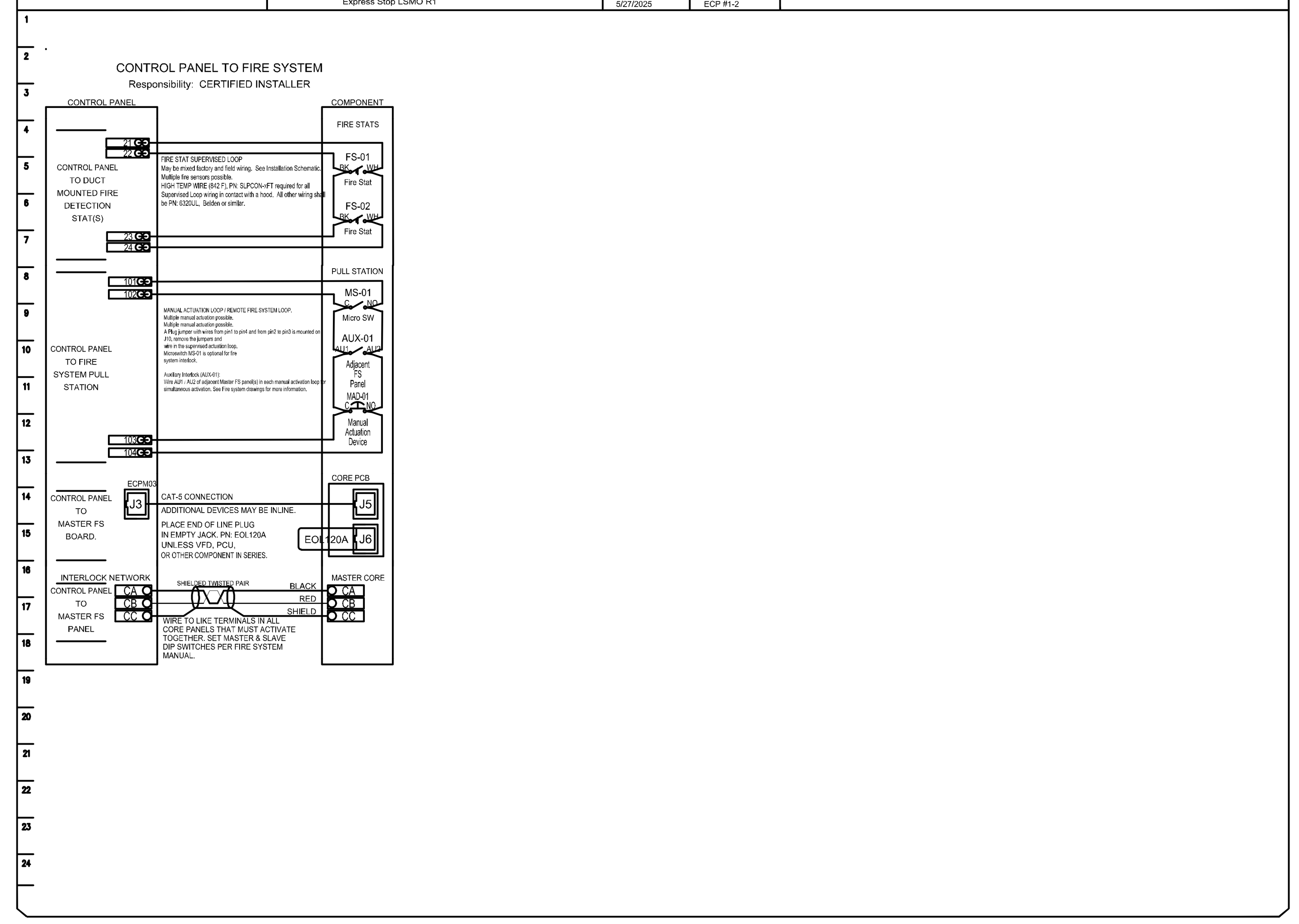
JOB NO 7545665 | MODEL NUMBER DCV-1111 | JOB NAME Express Stop LSMO R1 | DRAWN BY | DATE 5/27/2025 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-1

DESCRIPTION OF OPERATION: Demand Control Ventilation, w/ control for 1 Exhaust Fan, 1 Supply Fan. Exhaust on in Fire, Lights out in Fire, Fans modulate based on duct temperature. INVERTER DUTY 3 PHASE MOTOR REQUIRED FOR USE WITH VFD. Room temperature sensor shipped loose for field installation. Verify distance between VFD and Motor; additional cost could apply if distance exceeds 50 feet.



JOB NO 7545665 | MODEL NUMBER DCV-1111 | JOB NAME Express Stop LSMO R1 | DRAWN BY | DATE 5/27/2025 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-2

DESCRIPTION OF OPERATION: Demand Control Ventilation, w/ control for 1 Exhaust Fan, 1 Supply Fan. Exhaust on in Fire, Lights out in Fire, Fans modulate based on duct temperature. INVERTER DUTY 3 PHASE MOTOR REQUIRED FOR USE WITH VFD. Room temperature sensor shipped loose for field installation. Verify distance between VFD and Motor; additional cost could apply if distance exceeds 50 feet.



JOB NO 7545665 | MODEL NUMBER DCV-1111 | JOB NAME Express Stop LSMO R1 | DRAWN BY | DATE 5/27/2025 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-3

DESCRIPTION OF OPERATION: Fire System #1: TANK FS - 4.0/4.0 (FSS-1).

TANK PROTECTION ELECTRICAL DETAIL

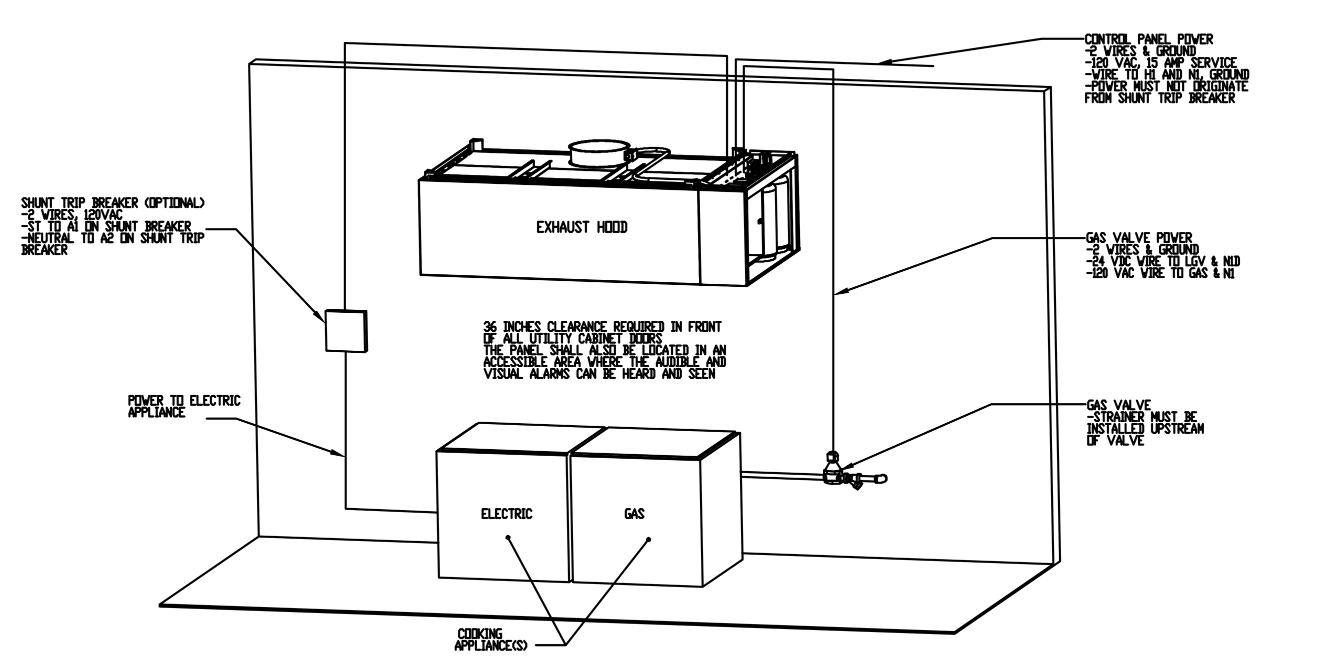
02/10/2021 Rev. 2

FS-1: MASTER

ELECTRICIAN:
1. WIRE MAIN CONTROL PANEL PER INCLUDED SCHEMATIC
2. WIRE ALL FANS PER INCLUDED SCHEMATIC
3. WIRE SHUNT TRIP BREAKER (OPTIONAL)
4. WIRE UDS APPLIANCE KILL SWITCH, IF EQUIPPED (OPTIONAL)
5. WIRE GAS VALVE

ELECTRICAL CONTRACTOR REQUIREMENT

ITEM	CONNECTION IN PANEL	CONNECTION IN DEVICE	VOLTAGE	AMPERAGE	COMMENTS
SHUNT TRIP BREAKER (OPTIONAL)	ST & N1	BREAKER COIL (A1 & A2)	120 VAC	< 4 AMPS	ST TO A1 ON SHUNT BREAKER COIL, AND NEUTRAL TO A2 ON SHUNT TRIP BREAKER COIL
CONTROL PANEL POWER	H1 & N1 + GROUND	CIRCUIT BREAKER	120 VAC	15 AMPS	CONTROL PANEL POWER MUST NOT BE RUN THROUGH SHUNT TRIP BREAKER
UDS APPLIANCE KILL SWITCH (OPTIONAL)	KTS & N1	KTS & N1	120 VAC	< 4 AMPS	KILL SWITCH TERMINALS MUST BE IN SERIES WITH OTHER KILL SWITCHES
REMOTE 120VAC ANSUL AUTOMAN (OPTIONAL)	AU1, AU2	SOLENOID	120 VAC	< 6 AMPS	120V TO AU1, AU2 TO ANSUL ELECTRIC AUTOMAN, ANSUL SOLENOID TO NEUTRAL
GAS VALVE	LGV & N1D (IF 24 VDC) GAS & N1 (IF 120 VAC)	RED/RED/GREEN	24 VDC OR 120 VAC	< 1.0 AMPS	IF 24 VDC - 2 WIRES & GROUND, N1D TO RED, LGV TO RED, AND GREEN TO GROUND IF 120 VAC - 2 WIRES & GROUND GAS TO RED, N1 TO RED, AND GREEN TO GROUND



NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

JOB NO 7545665 | MODEL NUMBER DCV-1111 | JOB NAME Express Stop LSMO R1 | DRAWN BY | DATE 5/27/2025 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-4

DESCRIPTION OF OPERATION: Fire System #1: TANK FS - 4.0/4.0 (FSS-1).

TANK PROTECTION LOW-VOLTAGE DETAIL

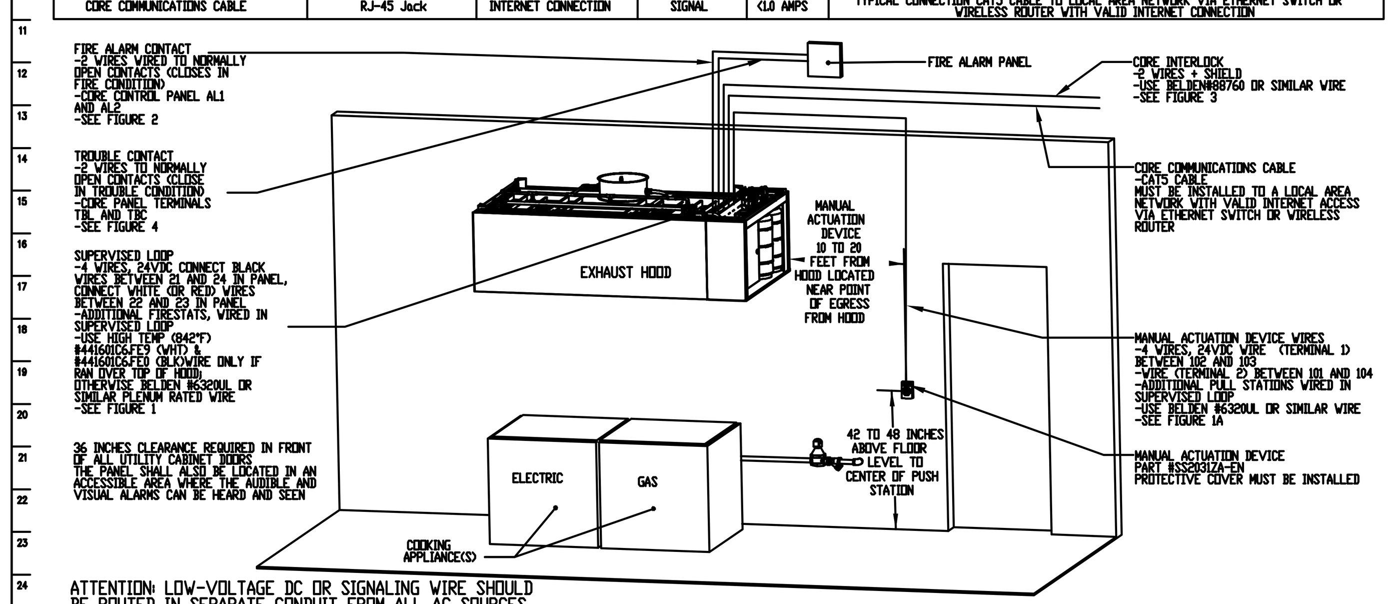
10/01/2023 Rev. 3

FS-1: MASTER

ALARM CONTRACTOR:
1. WIRE MANUAL ACTUATION DEVICE(S), *REMOTE FIRESTAT(S), CORE INTERLOCK(S), FIRE SENSOR(S) AND FIRE ALARM CONTACTS
2. COMPLETE FINAL HOOKUP OF SYSTEM
3. VERIFY FINAL FIRE SYSTEM TEST
*REMOTE FIRESTAT(S) MAYBE BE REQUIRED DEPENDING ON THE DUCT LAYOUT AND HOOD TEMPERATURE RATING. REFERENCE MANUAL FOR LOCATION AND GUIDELINES.

ALARM CONTRACTOR REQUIREMENT

ITEM	CONNECTION IN PANEL	CONNECTION ON DEVICE	VOLTAGE	AMPERAGE	COMMENTS
MANUAL ACTUATION DEVICE(S)	101 AND 104 102 AND 103	1 & 2	24 VDC	< 1.0 AMPS	WIRE MANUAL ACTUATION DEVICE TERMINAL 1 BETWEEN CORE PANEL TERMINALS 102 AND 103 WIRE MANUAL ACTUATION DEVICE TERMINAL 2 BETWEEN CORE PANEL TERMINALS 101 AND 104 JUMPER 101 TO 104 AND 102 TO 103 IF NO MANUAL ACTUATION DEVICE IS INSTALLED
MANUAL ACTUATION DEVICE COVER	N/A	N/A	N/A	N/A	MANUAL ACTUATION DEVICE COVER MUST BE INSTALLED IF SURFACE MOUNTED, USE COVER EXTENSION STI-6531B
REMOTE FIRESTAT SENSOR(S)	21 AND 24 22 AND 23	BLACK AND WHITE	24 VDC	< 1.0 AMPS	WIRE FIRE SENSOR WHITE WIRES BETWEEN HOOD CORE PANEL TERMINALS 22 AND 23 WIRE FIRE SENSOR BLACK WIRE BETWEEN HOOD CORE PANEL TERMINALS 21 AND 24 HIGH TEMP (842°F) #441601C6FE9 (WHT) & #441601C6FE0 (BLK)WIRE OR SIMILAR ONLY IF RAN OF HOOD; OTHERWISE BELDEN #6320UL OR SIMILAR PLENUM RATED WIRE; SEE FIGURE 1
FIRE ALARM CONTACT	AL1, AL2	VARIES	50V MAX (AC/DC)	UP TO 1 AMP	FIRE ALARM RELAY CONTACTS FOR BUILDING FIRE ALARM LOCATED IN THE CORE ELECTRICAL CONTROL PANEL
CORE INTERLOCK(S)	CA, CB, CC	CA, CB, CC	RS-485 COMMUNICATIONS SIGNAL		CORE SYSTEM (1) CA, TO CORE SYSTEM (2) CA, CORE SYSTEM (1) CB, TO CORE SYSTEM (2) CB, CORE SYSTEM (1) CC, TO CORE SYSTEM (2) CC. USE BELDEN# 88760 OR SIMILAR WIRE
TROUBLE CONTACT	TBC, TBL, TDK	VARIES	MAX 120 VAC	UP TO 6 AMPS	WIRE TO TBL & TBC NORMALLY OPEN CONTACT, CLOSES IN TROUBLE CONDITION
CORE COMMUNICATIONS CABLE	RJ-45 Jack	INTERNET CONNECTION	SIGNAL	<1.0 AMPS	TYPICAL CONNECTION CAT5 CABLE TO LOCAL AREA NETWORK VIA ETHERNET SWITCH OR WIRELESS ROUTER WITH VALID INTERNET CONNECTION



ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

REVISIONS

DESCRIPTION	DATE:
△	
△	
△	
△	

econ·air
www.econair.com
Kansas City Mechanical
13665 E 42nd Terrace, Suite A, Independence, MO, 64055 PHONE: (816) 384 - 0236 EMAIL: reg151@econair.com

Express Stop LSMO R1
LEES SUMMIT, MO, 64086

DATE: 5/27/2025
DWG.#: 7545665
DRAWN BY: A. Wade
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 9

collins | webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC
P.O. BOX 11101
OVERLAND PARK, KS 66207
913-735-5654
MO CERTIFICATE OF AUTHORITY #E-2021006522

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI — RYAN BREWER — NUMBER PE-2020010759 — PROFESSIONAL ENGINEER — 06/09/2025
PROFESSIONAL SEAL

M210

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

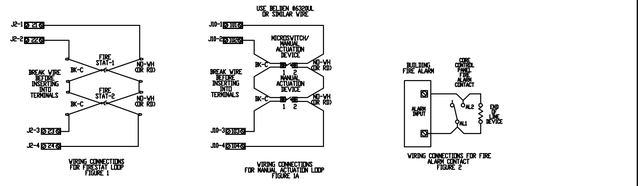
CAPTIVEAIRE DRAWINGS (FOR REFERENCE)

JOB NO	MODEL NUMBER	DRAWN BY	SCHEMATIC TYPE	DESCRIPTION OF OPERATION:
7545665	DCV-1111		For System#1 THRU FS-1/SLC FSM's.	
JOB NAME: Express Stop LSMO R1	DATE: 5/27/2025		ENC NO: ECP #1-6	

TANK PROTECTION LOW-VOLTAGE FIGURES

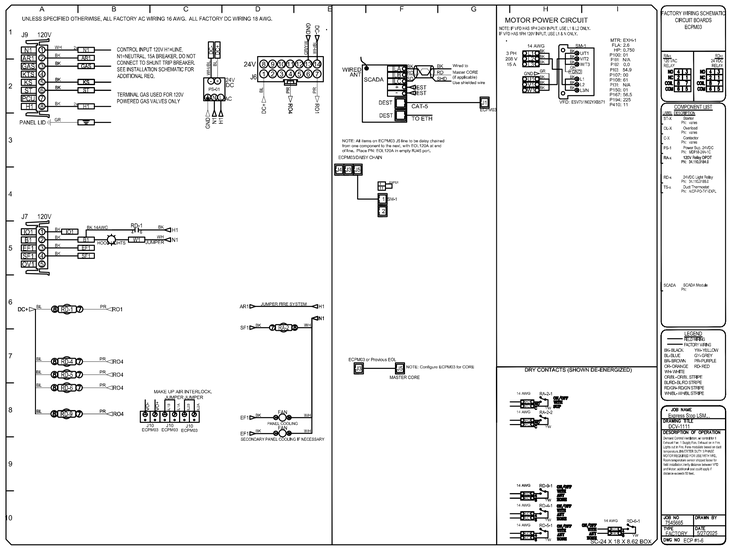
10/01/2023 Rev. 17

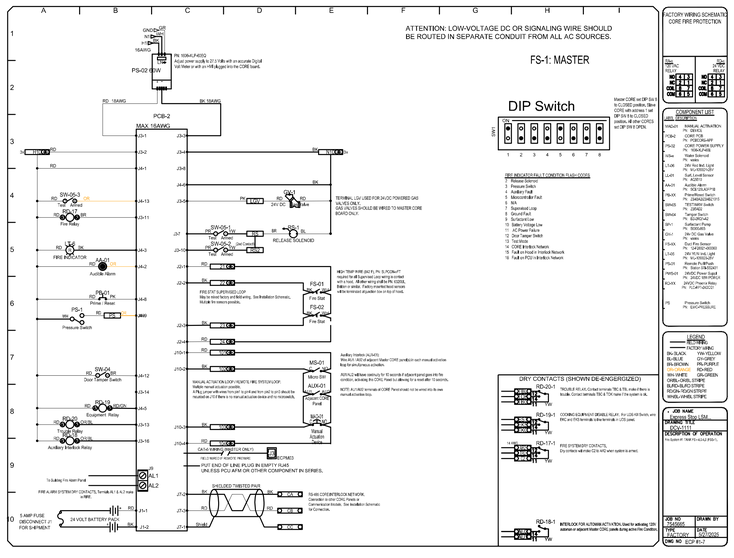
FS-1: MASTER



NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES





econ·air
www.econair.com
Kansas City Mechanical
13655 E 42nd Terrace, Suite A, Independence, MO, 64055 PHONE: (816) 384 - 0236 EMAIL: reg151@econair.com

REVISIONS	
DESCRIPTION	DATE:

Express Stop LSMO R1
LEES SUMMIT, MO, 64086

DATE: 5/27/2025

DWG.#: 7545665

DRAWN BY: A. Wade

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 10

CAV collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com
EBS ENGINEERED BUILDING SOLUTIONS, LLC
13655 E 42nd Terrace
OVERLAND PARK, KS 66221
913.529.8804
MO CERTIFICATE OF AUTHORITY #C-2021006002

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

RYAN BREWER
STATE OF MISSOURI
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
09/09/2025
PROFESSIONAL SEAL

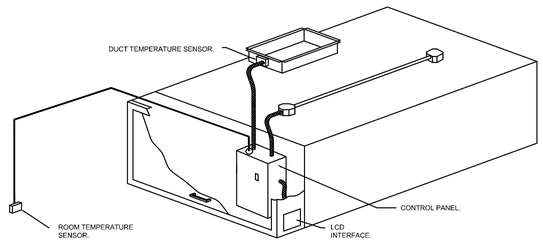
M211

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

CAPTIVEAIRE
DRAWINGS (FOR REFERENCE)

DEMAND CONTROL VENTILATION HOOD CONTROL PANEL SPECIFICATIONS:

- CONTROLS SHALL BE LISTED BY ETL (UL 508A) AND SHALL COMPLY WITH DEMAND VENTILATION SYSTEM TURNDOWN REQUIREMENTS OUTLINED IN IECC 403.7.5 (2021).
- THE CONTROL ENCLOSURE SHALL BE NEMA 1 RATED AND LISTED FOR INSTALLATION INSIDE OF THE EXHAUST HOOD UTILITY CABINET. THE CONTROL ENCLOSURE MAY BE CONSTRUCTED OF STAINLESS STEEL OR PAINTED STEEL.
- TEMPERATURE PROBE(S) LOCATED IN THE EXHAUST DUCT RISER(S) SHALL BE CONSTRUCTED OF STAINLESS STEEL.
- A DIGITAL CONTROLLER SHALL BE PROVIDED TO ACTIVATE THE HOOD EXHAUST FANS DYNAMICALLY BASED ON A FIXED DIFFERENTIAL BETWEEN THE AMBIENT AND DUCT TEMPERATURES SENSORS. THIS FUNCTION SHALL MEET THE REQUIREMENTS OF IMC 507.1.1.
- A DIGITAL CONTROLLER SHALL PROVIDE ADJUSTABLE HYSTERESIS SETTINGS TO PREVENT CYCLING OF THE FANS AFTER THE COOKING APPLIANCES HAVE BEEN TURNED OFF AND/OR THE HEAT IN THE EXHAUST SYSTEM IS REDUCED.
- A DIGITAL CONTROLLER SHALL PROVIDE AN ADJUSTABLE MINIMUM FAN RUN-TIME SETTING TO PREVENT FAN CYCLING.
- VARIABLE FREQUENCY DRIVES (VFDS) SHALL BE PROVIDED FOR FANS AS REQUIRED. THE DIGITAL CONTROLLER SHALL MODULATE THE VFDS BETWEEN A MINIMUM SETPOINT AND A MAXIMUM SETPOINT ON DEMAND. THE DUCT TEMPERATURE SENSOR INPUT(S) TO THE DIGITAL CONTROLLER SHALL BE USED TO CALCULATE THE SPEED REFERENCE SIGNAL.
- THE VFD SPEED RANGE OF OPERATION SHALL BE FROM 0% TO 100% FOR THE SYSTEM, WITH THE ACTUAL MINIMUM SPEED SET AS REQUIRED TO MEET MINIMUM VENTILATION REQUIREMENTS.
- AN INTERNAL ALGORITHM TO THE DIGITAL CONTROLLER SHALL MODULATE SUPPLY FAN VFD SPEED PROPORTIONAL TO ALL EXHAUST FANS THAT ARE LOCATED IN THE SAME FAN GROUP AS THE SUPPLY FAN.
- THE SYSTEM SHALL OPERATE IN PREP MODE DURING LIGHT COOKING LOAD OR COOL DOWN MODE WHEN SUFFICIENT HEAT REMAINS UNDERNEATH THE HOOD SYSTEM AFTER COOKING OPERATIONS HAVE COMPLETED. OPERATION DURING EITHER OF THESE PERIODS WILL DISABLE THE SUPPLY FANS AND PROVIDE AN EXHAUST FAN SPEED THAT IS EQUAL TO THE MINIMUM VENTILATION REQUIREMENT.
- A DIGITAL CONTROLLER SHALL DISABLE THE SUPPLY FAN(S), ACTIVATE THE EXHAUST FAN(S), ACTIVATE THE APPLIANCE SHUNT TRIP, AND DISABLE AN ELECTRIC GAS VALVE AUTOMATICALLY WHEN FIRE CONDITION IS DETECTED ON A COVERED HOOD.
- A DIGITAL CONTROLLER SHALL ALLOW FOR EXTERNAL BMS FAN CONTROL VIA DRY CONTACT (EXTERNAL CONTROL SHALL NOT OVERRIDE FAN OPERATION LOGIC AS REQUIRED BY CODE).
- AN LCD INTERFACE SHALL BE PROVIDED WITH THE FOLLOWING FEATURES:
  - A. ON/OFF PUSH BUTTON FAN & LIGHT SWITCH ACTIVATION.
  - B. INTEGRATED GAS VALVE RESET FOR ELECTRONIC GAS VALVES (NO RESET RELAY REQUIRED).
  - C. VFD FAULT DISPLAY WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  - D. DUCT TEMPERATURE SENSOR FAILURE DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  - E. MIS-WIRED DUCT TEMPERATURE SENSOR DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  - F. A SINGLE LOW VOLTAGE CAT-5 RJ45 WIRING CONNECTION.
  - G. AN ENERGY SAVINGS INDICATOR THAT UTILIZES MEASURED KWH FROM THE VFDS.



TYPICAL HOOD CONTROL PANEL INSTALLATION

SEQUENCE OF OPERATIONS:

THE HOOD CONTROL PANEL IS CAPABLE OF OPERATING IN ONE OR MORE OF THE FOLLOWING STATES AT ANY GIVEN TIME:

- AUTOMATIC: THE SYSTEM OPERATES BASED ON THE DIFFERENTIAL BETWEEN ROOM TEMPERATURE AND THE TEMPERATURE AT THE HOOD CAVITY OR EXHAUST DUCT COLLAR. FANS ACTIVATE AT A CONFIGURABLE TEMPERATURE DIFFERENTIAL THRESHOLD. DEPENDING ON THE JOB CONFIGURATION EACH FAN ZONE CAN BE CONFIGURED AS STATIC OR DYNAMIC. THESE TERMS REFER TO WHETHER A VARIABLE MOTOR (SUCH AS EC MOTORS OR VFD DRIVEN MOTORS) MODULATE WITH TEMPERATURE, IF THE PANEL IS EQUIPPED WITH VARIABLE SPEED FANS AND THE ZONE IS DEFINED AS "DYNAMIC", THESE WILL MODULATE WITHIN A USER-DEFINED RANGE BASED ON THE TEMPERATURE DIFFERENTIAL. PANELS EQUIPPED WITH VARIABLE SPEED FANS AND A FAN ZONE DEFINED AS "STATIC", FANS WILL RUN AT A SET SPEED CALCULATED FOR THE DRIVE. DEMAND CONTROL VENTILATION SYSTEMS ARE CAPABLE OF MODULATING EXHAUST AND MAKE UP AIR FAN SPEEDS PER THE REQUIREMENTS OUTLINED IN IECC 403.7.5 (2021).
- MANUAL:THE SYSTEM OPERATES BASED ON HUMAN INPUT FROM AN HMI.
- SCHEDULE: A WEEKLY SCHEDULE CAN BE SET TO RUN FANS FOR A SPECIFIED PERIOD THROUGHOUT THE DAY. THERE ARE THREE OCCUPIED TIMES PER DAY TO ALLOW FOR THE USER TO SET UP A TIME THAT IS SUITABLE TO THEIR NEEDS. ANY TIME THAT IS WITHIN THE DEFINED OCCUPIED TIME, THE SYSTEM WILL RUN AT MODULATION MODE AND FOLLOW THE FAN PROCEDURE ALGORITHM BASED ON TEMPERATURE DURING THIS TIME. DURING UNOCCUPIED TIME, THE SYSTEM WILL HAVE AN EXTRA OFFSET TO PREVENT UNINTENDED ACTIVATION OF THE SYSTEM DURING A TIME WHERE THE SYSTEM IS NOT BEING OCCUPIED.
- OTHER: THE SYSTEM OPERATES BASED ON THE INPUT FROM AN EXTERNAL SOURCE (DDC, BMS OR HARD-WIRED INTERLOCK).
- FIRE: UPON ACTIVATION OF THE HOOD FIRE SUPPRESSION SYSTEM, THE EXHAUST FAN WILL COME ON OR CONTINUE TO TO RUN, THE HOOD MAKEUP AIR WILL SHUTDOWN, AND A SIGNAL WILL BE SENT FOR ACTIVATING THE SHUNT TRIP BREAKER PROVIDED BY THE ELECTRICIAN. FUEL GAS WILL SHUT OFF VIA A MECHANICAL/ELECTRICAL GAS VALVE ACTUATED BY THE HOOD FIRE SUPPRESSION SYSTEM.

REVISIONS

	DESCRIPTION	DATE:
1		
2		
3		
4		

econ·air
www.econair.com
Kansas City Mechanical
13655 E 42nd Terrace, Suite A, Independence, MO, 64055 PHONE: (816) 384 - 0236 EMAIL: reg151@econair.com

Express Stop LSMO R1
LEES SUMMIT, MO, 64086

DATE: 5/27/2025
DWG.#: 7545665
DRAWN BY: A. Wade
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 11

collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC
P.O. BOX 1010
OVERLAND PARK, KS 66207
913.529.9804
MO CERTIFICATE OF AUTHORITY #C-2021000022

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
05/09/2025
PROFESSIONAL SEAL

M212

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

CAPTIVEAIRE
DRAWINGS (FOR REFERENCE)

DUCTWORK #1 PARTS – JOB#7545665 DOUBLE WALL DUCT-1

TAG	PART #	CFM	GPM	ZONE	COVEREDBY	SP	WEIGHT	VELOCITY	QTY	DESCRIPTION
H1-E1	EDW18DWRISER-2R-S	2025				-1.124	8.15	0.00	1	DOUBLE WALL RISER COVER - USED ON 14" INNER RISER, 4" LONG - 2 LAYERS REDUCED CLEARANCE - 18" STAINLESS STEEL OUTER RISER SHELL ASSEMBLY. INCLUDES INSULATION & SINGLE V CLAMPS FOR INNER & OUTER CONNECTIONS.
P1	EDW1418DWOFFSETKIT-2R-S	2025				-0.0021	15.11	1894.27	1	DOUBLE WALL OFF SET KIT - USED ON 14" INNER RISER, 4" LONG - 2 LAYERS REDUCED CLEARANCE - 18" STAINLESS STEEL OUTER SHELL ASSEMBLY. INCLUDES INSULATION & SINGLE V CLAMPS FOR INNER & OUTER CONNECTIONS.
P2	EDW1401DWOFFSETASY-2R-S	2025				-0.0042	12.97	1894.27	1	DOUBLE WALL DUCT - 14" INNER DUCT RISER & 1 DEGREE OFFSET - 2 LAYERS REDUCED CLEARANCE - 18" STAINLESS STEEL OUTER SHELL.
P3	EDW1490DWASY-2R-S	2025				-0.1779	33.30	1894.27	1	DOUBLE WALL DUCT - 14" INNER 90 DUCT - 2 LAYERS REDUCED CLEARANCE - 18" STAINLESS STEEL OUTER SHELL.
P4	EDW1447DWAJD-2R-S	2025				-0.0225	93.18	1894.27	1	DOUBLE WALL ADJUSTABLE DUCT - 14" INNER DUCT - 2 LAYERS REDUCED CLEARANCE - 18" STAINLESS STEEL OUTER SHELL. MIN LENGTH = 11" / MAX LENGTH = 48.5" / ADJUSTMENT = 30.5" / ADJUSTABLE SECTION MAY NEED TO BE CUT. INCLUDES SINGLE AND DOUBLE WALL "V" CLAMPS.
P5	EDW1822SADKIT						7.25		1	DUCT - HORIZONTAL SADDLE SUPPORT KIT, USED WITH 18" OD - INCLUDES UNI-STRUT CUT TO LENGTH, DW1822SAD, & HARDWARE BAG 4.
P6	EDW14DWTEASY-2R-S			1		-0.0356	41.37		1	DOUBLE WALL DUCT - 14" INNER TEE DUCT - 2 LAYERS REDUCED CLEARANCE - 18" STAINLESS STEEL OUTER SHELL.
P7	EDW1407DWLT-2R-S						9.49		1	DOUBLE WALL DUCT - 14" INNER DUCT, 7" LONG - 2 LAYERS REDUCED CLEARANCE - 18" STAINLESS STEEL OUTER SHELL.
P8	EDW1822SADKIT						7.25		1	DUCT - HORIZONTAL SADDLE SUPPORT KIT, USED WITH 18" OD - INCLUDES UNI-STRUT CUT TO LENGTH, DW1822SAD, & HARDWARE BAG 4.
P9	EDW1417DWLT-2R-S						22.79		1	DOUBLE WALL DUCT - 14" INNER DUCT, 17" LONG - 2 LAYERS REDUCED CLEARANCE - 18" STAINLESS STEEL OUTER SHELL.
P10	EDW1490DWASY-2R-S						33.30		1	DOUBLE WALL DUCT - 14" INNER 90 DUCT - 2 LAYERS REDUCED CLEARANCE - 18" STAINLESS STEEL OUTER SHELL.
P11	EDW1401DWOFFSETASY-2R-S						12.97		1	DOUBLE WALL DUCT - 14" INNER DUCT RISER & 1 DEGREE OFFSET - 2 LAYERS REDUCED CLEARANCE - 18" STAINLESS STEEL OUTER SHELL.
P12	EDW1447DWAJD-2R-S						93.18		1	DOUBLE WALL ADJUSTABLE DUCT - 14" INNER DUCT - 2 LAYERS REDUCED CLEARANCE - 18" STAINLESS STEEL OUTER SHELL. MIN LENGTH = 11" / MAX LENGTH = 48.5" / ADJUSTMENT = 30.5" / ADJUSTABLE SECTION MAY NEED TO BE CUT. INCLUDES SINGLE AND DOUBLE WALL "V" CLAMPS.
P13 ASSEMBLED W/P14	EDW14DWTEASY-2R-S			1			41.37		1	DOUBLE WALL DUCT - 14" INNER TEE DUCT - 2 LAYERS REDUCED CLEARANCE - 18" STAINLESS STEEL OUTER SHELL.
P14 ASSEMBLED W/P13 O=T	EDW14DWACCDOORCOV-2R-S						22.25		1	DOUBLE WALL DUCT - 14" INNER ACCESS DOOR & 18" ACCESS DOOR COVER WITH CLAMPS - 2 LAYERS REDUCED CLEARANCE - 18" STAINLESS STEEL OUTER SHELL.
P15 ASSEMBLED W/P16	EDW14455ODWLTTP-2R-S						61.01		1	DOUBLE WALL DUCT - 14" INNER DUCT, 45.5" LONG - 2 LAYERS REDUCED CLEARANCE - 18" STAINLESS STEEL OUTER SHELL - USED WITH TRANSITION PLATE.
P16 ASSEMBLED W/P15 O=T	EDW26147PDBEX						12.50		1	DUCT TO CURB TRANSITION 3/4" DOWN TURN, 26-1/2" CURB TO 14" DUCT, 16 GA ALUMINIZED. FOR USE WITH EXHAUST FANS.
P17	EDW14DWACCDOORCOV-2R-S						22.25		1	DOUBLE WALL DUCT - 14" INNER ACCESS DOOR & 18" ACCESS DOOR COVER WITH CLAMPS - 2 LAYERS REDUCED CLEARANCE - 18" STAINLESS STEEL OUTER SHELL.
RC1	EDW18DWRISER-2R-S						8.15		1	DOUBLE WALL RISER COVER - USED ON 14" INNER RISER, 4" LONG - 2 LAYERS REDUCED CLEARANCE - 18" STAINLESS STEEL OUTER RISER SHELL ASSEMBLY. INCLUDES INSULATION & SINGLE V CLAMPS FOR INNER & OUTER CONNECTIONS.
	E3M-2000PLUS						0.80		4	DUCT - 3M FIRE BARRIER 2000 PLUS SILICONE - USED AS SEALANT TO SEAL DUCT JOINTS.
	EDW14DWCLASY-2R-S						7.21		8	DUCT - 14" DUCT - 18" DOUBLE "V" CLAMP - 2R INSULATION & SINGLE "V" CLAMP INCLUDED - REDUCED CLEARANCE.
TOTAL WEIGHT							618.72			

DOUBLE WALL FACTORY BUILT DUCTWORK

- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW.
- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE ENTIRE INSTALLATION AND OPERATION MANUAL
- DUCTWORK SHALL SLOPE NOT LESS THAN 1/16" PER LINEAR FOOT TOWARDS THE HOOD OR AN APPROVED GREASE COLLECTION RESERVOIR.
- WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 3/16" PER LINEAR FOOT.

HORIZONTAL	
DUCT DIAMETER	SUPPORT SPACING (FT)
5"	7'
6"	7'
7"	7'
8"	7'
10"	7'
12"	7'
14"	7'
16"	7'
18"	5'
20"	5'
22"	5'
24"	5'
26"	5'
28"	5'
30"	5'
32"	5'
34"	5'
36"	5'

VERTICAL			
TYPE	WALL SUPPORT (FT)	CURB SUPPORT (FT)	FLOOR SUPPORT (FT)
2R & 2R HT (5"-16")	20'	24'	24'
2R (18")	18'	24'	24'
3R & 3Z (5"-24")	10'	24'	24'
3Z (26" -36")	10'	20'	20'

DO NOT LEAK TEST USING SMOKE BOMBS CONTAINING CHLORINES/CHLORIDES. CONSULT WITH CAPTIVEAIRE FOR PROPER LEAK TESTING METHODS.

REVISIONS

	DESCRIPTION	DATE:
1		
2		
3		
4		

econ·air
www.econair.com
Kansas City Mechanical
13665 E 42nd Terrace, Suite A, Independence, MO, 64055 PHONE: (816) 384 - 0236 EMAIL: reg151@econair.com

Express Stop LSMO R1
LEES SUMMIT, MO, 64086

DATE: 5/27/2025

DWG.#: 7545665

DRAWN BY: A. Wade

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 12

CAV collins|webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS ENGINEERED BUILDING SOLUTIONS, LLC
CA 26TH
OVERLAND PARK, KS 66207
913.529.0804
MO CERTIFICATE OF AUTHORITY #C-2021000032

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
09/09/2025

PROFESSIONAL SEAL

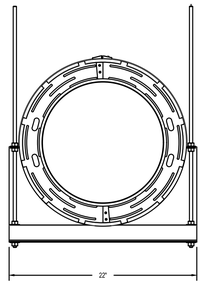
M213

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

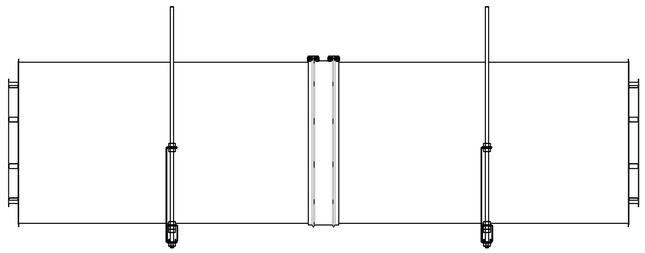
CAPTIVEAIRE
DRAWINGS (FOR REFERENCE)

SUPPORT SYSTEM DETAILS #1

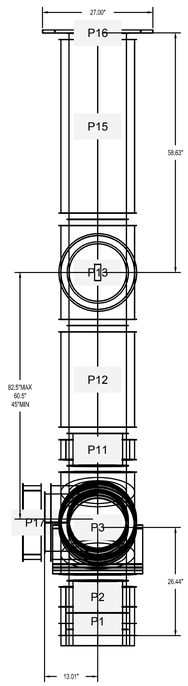
DW1822SADKIT - HORIZONTAL SUPPORTS

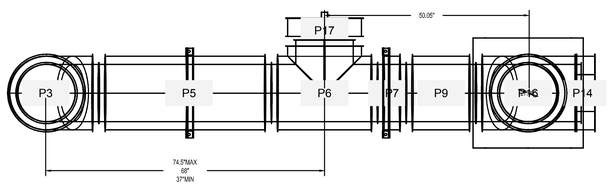


DUCTWORK #1 SIDE VIEW
DUCT-1

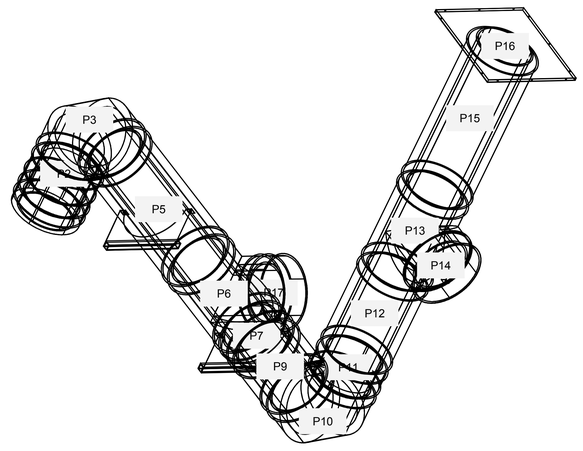


DUCTWORK #1 TOP VIEW
DUCT-1

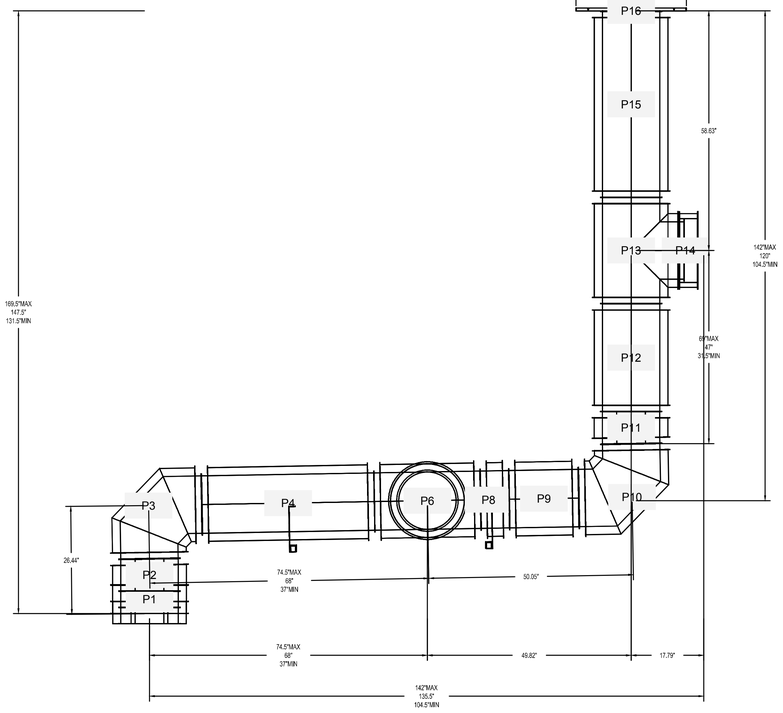




DUCTWORK #1 SE VIEW
DUCT-1



DUCTWORK #1 FRONT VIEW
DUCT-1



collins | webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC
CA-2007-0
OVERLAND PARK, KS 66207
913.529.0804
MO CERTIFICATE OF AUTHORITY #C-2021000022

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

RYAN BREWER
NUMBER PE-2020010759
STATE OF MISSOURI
PROFESSIONAL ENGINEER
06/09/2025
PROFESSIONAL SEAL

M214

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

CAPTIVEAIRE
DRAWINGS (FOR REFERENCE)

REVISIONS

	DESCRIPTION	DATE:
1		
2		
3		
4		

econ·air
www.econair.com
Kansas City Mechanical
13665 E 42nd Terrace, Suite A, Independence, MO, 64055 PHONE: (816) 384 - 0236 EMAIL: reg151@econair.com

Express Stop LSMO R1
LEES SUMMIT, MO, 64086

DATE: 5/27/2025

DWG.#: 7545665

DRAWN BY: A. Wade

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 13

SYSTEM DESIGN VERIFICATION (SDV)

IF ORDERED, CAS SERVICE WILL PERFORM A SYSTEM DESIGN VERIFICATION (SDV) ONCE ALL EQUIPMENT HAS HAD A COMPLETE START UP PER THE OPERATION AND INSTALLATION MANUAL. TYPICALLY, THE SDV WILL BE PERFORMED AFTER ALL INSPECTIONS ARE COMPLETE.

ANY FIELD RELATED DISCREPANCIES THAT ARE DISCOVERED DURING THE SDV WILL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR AND CORRESPONDING TRADES ON SITE. THESE ISSUES WILL BE DOCUMENTED AND FORWARDED TO THE APPROPRIATE SALES OFFICE. IF CAS SERVICE HAS TO RESOLVE A DISCREPANCY THAT IS A FIELD ISSUE, THE GENERAL CONTRACTOR WILL BE NOTIFIED AND BILLED FOR THE WORK. SHOULD A RETURN TRIP BE REQUIRED DUE TO ANY FIELD RELATED DISCREPANCY THAT CANNOT BE RESOLVED DURING THE SDV, THERE WILL BE ADDITIONAL TRIP CHARGES.

DURING THE SDV, CAS SERVICE WILL ADDRESS ANY DISCREPANCY THAT IS THE FAULT OF THE MANUFACTURER. SHOULD A RETURN TRIP BE REQUIRED, THE GENERAL CONTRACTOR AND APPROPRIATE SALES OFFICE WILL BE NOTIFIED. THERE WILL BE NO ADDITIONAL CHARGES FOR MANUFACTURER DISCREPANCIES.

REVISIONS

	DESCRIPTION	DATE:
1		
2		
3		
4		

econ·air

Kansas City Mechanical
13665 E 42nd Terrace, Suite A, Independence, MO, 64055 PHONE: (816) 384 - 0236 EMAIL: reg151@econair.com
www.econair.com

Express Stop LSMO R1
LEES SUMMIT, MO, 64086

DATE: 5/27/2025

DWG.#: 7545665

DRAWN BY: A. Wade

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 14

collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

REVISION DATES:

RYAN BREWER
NUMBER PE-2020010759
STATE OF MISSOURI
PROFESSIONAL ENGINEER
09/09/2025

PROFESSIONAL SEAL

M215

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

CAPTIVEAIRE
DRAWINGS (FOR REFERENCE)

15000 - BASIC MECHANICAL REQUIREMENTS

DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND ALL OTHER SPECIFICATION SECTIONS, APPLY TO THIS AND THE OTHER SECTIONS OF DIVISION 15.

READ THE SPECIFICATIONS AND REVIEW DRAWINGS FOR ALL DIVISIONS OF WORK AND COORDINATE AND THE WORK OF SUBCONTRACTORS WITH ALL DIVISIONS OF WORK. PROVIDE SUBCONTRACTORS WITH A COMPLETE SET OF BID DOCUMENTS.

SCHEDULE THE COMPLETION AND INSPECTION OF WORK AND THE WORK OF SUBCONTRACTORS WORK TO COMPLY WITH THE SCHEDULE AND THE PROJECT COMPLETION DATE.

VISIT THE SITE PRIOR TO SUBMITTAL OF BID TO DETERMINE CONDITIONS AFFECTING THE WORK. ANY ITEMS WHICH ARE NOT COVERED IN THE BID DOCUMENTS OR ANY PROPOSED SUBSTITUTIONS SHALL BE LISTED SEPARATELY AND QUALIFIED IN THE BID. SUBMITTAL OF BID SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS AND ANY MODIFICATIONS WHICH ARE REQUIRED TO MEET THE INTENT OF THE DRAWINGS AND SPECIFICATIONS. FAILURE TO VISIT THE SITE DOES NOT RELIEVE RESPONSIBILITY IN PERFORMANCE OF WORK.

READ ALL RELEVANT DOCUMENTS, BECOME FAMILIAR WITH THE JOB, SCOPE OF WORK, TYPE OF GENERAL CONSTRUCTION, AND THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS. ALSO UNDERSTAND THE PURPOSE FOR WHICH THESE DOCUMENTS HAVE BEEN PREPARED AND BECOME COGNIZANT OF ALL THE DETAILS INVOLVED. COORDINATE WORK WITH THAT OF OTHERS.

DEFINITIONS:

FURNISH - PURCHASE AND DELIVER TO PROJECT SITE COMPLETE WITH EVERY NECESSARY APPURTENANCE AND SUPPORT.
INSTALL - UNLOAD AT THE DELIVERY POINT AT THE SITE AND PERFORM EVERY OPERATION NECESSARY TO ESTABLISH SECURE MOUNTING AND CORRECT OPERATION AT THE PROPER LOCATION IN THE PROJECT.
PROVIDE - FURNISH AND INSTALL

GENERAL REQUIREMENTS

PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS, TRANSPORTATION, INCIDENTALS AND DETAILS NECESSARY TO PROVIDE A COMPLETE MECHANICAL SYSTEM AS SHOWN ON THE DRAWINGS, CALLED FOR IN THE SPECIFICATIONS, AND AS REQUIRED BY JOB CONDITIONS. ALL WORK NOT SPECIFICALLY NOTED AS BEING BY THE OTHERS SHALL BE PROVIDED. CLOSELY COORDINATE THE ENTIRE INSTALLATION WITH THE ARCHITECT-ENGINEER, AS REQUIRED.

THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER AND ANY MATERIAL OR LABOR CALLED FOR IN ONE SHALL BE FURNISHED AND INSTALLED EVEN THOUGH NOT SPECIFICALLY MENTIONED IN BOTH. ANY MATERIAL OR LABOR WHICH IS NEITHER SHOWN ON THE DRAWINGS NOR CALLED FOR IN THE SPECIFICATIONS, BUT WHICH IS OBVIOUSLY NECESSARY TO COMPLETE THE WORK, AND WHICH IS USUALLY INCLUDED IN WORK OF SIMILAR CHARACTER, SHALL BE FURNISHED AND INSTALLED AS PART OF CONTRACT.

WHERE THE DRAWINGS OR SPECIFICATIONS CALL FOR ITEMS WHICH EXCEED CODES OR THE OWNERS CRITERIA, PROVIDE THE SYSTEM WITH THE MORE STRINGENT REQUIREMENTS AS DESIGNED AND DESCRIBED ON THESE DRAWINGS, UNLESS SPECIFICALLY NOTED OTHERWISE.

ALL MECHANICAL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING, AND REPAIRING. THIS CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUFFICIENT SERVICE ACCESS TO ALL EQUIPMENT.

ALL WORK SHALL BE PERFORMED IN A NEAT PROFESSIONAL MANNER USING GOOD ENGINEERING PRACTICES.

UNLESS SPECIFICALLY NOTED OTHERWISE, MATERIALS, PRODUCTS, AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW, UNDERWRITERS LABORATORIES LISTED AND LABELED AND SIZED IN CONFORMITY WITH REQUIREMENTS OF STATE AND LOCAL CODES, WHICHEVER IS MORE STRINGENT.

CODES

ALL WORK SHALL CONFORM TO THE OWNER'S CRITERIA, THE STATE'S, COUNTY'S, CITY'S AND LOCAL CODES AND ORDINANCES, SAFETY AND HEALTH CODES, NFPA CODES, ENERGY CODES AND ALL OTHER APPLICABLE CODES AND REQUIREMENTS. INQUIRE INTO AND COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS. INCLUDE ANY CHANGES REQUIRED BY CODES IN THE BID AND IF THESE CHANGES ARE NOT INCLUDED IN THE BID, THEY MUST BE QUALIFIED AS A SEPARATE LINE ITEM IN THE BID. AFTER CONTRACT IS ISSUED, NO ADDITIONAL COST DUE TO CODE ISSUES SHALL BE REIMBURSED BY THE OWNER.

LICENSES, PERMITS, COMMISSIONING, INSPECTIONS & FEES

OBTAIN AND PAY FOR ALL LICENSES, PERMITS, COMMISSIONING, INSPECTIONS, AND FEES REQUIRED OR RELATED TO THIS WORK.

PROVIDE TO THE OWNER-ARCHITECT A COMMISSIONING PLAN, PRELIMINARY COMMISSIONING REPORT, FINAL COMMISSIONING REPORT, AND CERTIFICATES OF INSPECTION AND FINAL INSPECTION APPROVAL AT COMPLETION OF PROJECT.

TRADE NAMES, MANUFACTURERS AND SHOP DRAWINGS

WHERE TRADE NAMES AND MANUFACTURERS ARE USED ON THE DRAWINGS OR IN THE SPECIFICATIONS, THE EXACT EQUIPMENT SHALL BE USED AS A MINIMUM FOR THE BASE BID. MANUFACTURERS CONSIDERED AS AN EQUAL OR BETTER IN ALL ASPECTS TO THAT SPECIFIED WILL BE SUBJECT TO APPROVAL IN WRITING BY ARCHITECT-ENGINEER PRIOR TO BID THROUGH SHOP DRAWING SUBMITTAL PROCESS, FOR ACCEPTANCE PRIOR TO INSTALLATION. ANY CHANGES TO ELECTRICAL SERVICE, STRUCTURAL FRAMING, ETC. OR ANY OTHER MODIFICATION THAT IS REQUIRED BY THE USE OF ALTERNATE EQUIPMENT SHALL BE COORDINATED WITH OTHER TRADES AND SHALL INCLUDE ALL COSTS IN BID FOR THE REQUIRED CHANGES. THE USE THE USE OF ANY UNAUTHORIZED EQUIPMENT SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT AT NO EXPENSE TO THE OWNER.

GUARANTEE

GUARANTEE ALL MATERIALS AND WORK PROVIDED UNDER THIS CONTRACT AND MAKE GOOD, REPAIR OR REPLACE AT NO EXPENSE TO THE OWNER, ANY DEFECTIVE WORK, MATERIAL, OR EQUIPMENT WHICH MAY BE DISCOVERED WITHIN A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF ACCEPTANCE (IN WRITING) OF THE INSTALLATION. EXTENDED WARRANTIES ARE AS SPECIFIED WITH INDIVIDUAL EQUIPMENT.

QUALITY ASSURANCE

INDUSTRY STANDARDS AND CODES: UNLESS MODIFIED BY THESE SPECIFICATIONS, THE DESIGN, MANUFACTURER, TESTING AND METHOD OF INSTALLING ALL MATERIALS, APPARATUS AND EQUIPMENT SHALL CONFORM TO THE FOLLOWING:

1. ARI CODE FOR REFRIGERATION APPARATUS
2. ANSI B9.1 SAFETY CODE FOR MECHANICAL REFRIGERATION
3. STANDARDS OF NATIONAL FIRE PROTECTION ASSOCIATION
4. SMACNA
5. ASHRAE

RECORD DRAWINGS

MAINTAIN ONE COPY OF DRAWINGS ON THE JOB SITE TO RECORD DEVIATIONS FROM CONTRACT DRAWINGS, SUCH AS: LOCATION OF CONCEALED PIPING VALVES AND DUCTS, REVISIONS, ADDENDUMS, AND CHANGE ORDERS, AND SIGNIFICANT DEVIATIONS MADE NECESSARY BY FIELD CONDITIONS, APPROVED EQUIPMENT SUBSTITUTIONS, AND CONTRACTOR'S COORDINATION WITH OTHER TRADES.

AT COMPLETION OF THE PROJECT AND BEFORE FINAL APPROVAL, MAKE ANY FINAL CORRECTIONS TO DRAWINGS AND CERTIFY THE ACCURACY OF EACH PRINT BY SIGNATURE THEREON. A SET OF REPRODUCIBLE DRAWINGS ALONG WITH ONE SET OF BLULINES OF THE MOST RECENT SET OF DRAWINGS WITH TEMPERATURE CONTROL DRAWINGS INCLUDED SHALL BE DELIVERED TO THE ARCHITECT UPON COMPLETION OF THE WORK AND PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.

DISCREPANCIES IN DOCUMENTS

DRAWINGS (PLANS, SPECIFICATIONS, AND DETAILS) ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION AND INTENT OF THE MECHANICAL SYSTEMS. WHERE DRAWINGS, EXISTING SITE CONDITIONS, SPECIFICATIONS OR OTHER TRADES CONFLICT OR ARE UNCLEAR, ADVISE THE ARCHITECT-ENGINEER IN WRITING, OF VARIATIONS TO CONTRACT DOCUMENTS PRIOR TO SUBMISSION OF BID. OTHERWISE, ARCHITECT-ENGINEER'S INTERPRETATION OF CONTRACT DOCUMENTS OR CONDITIONS SHALL BE FINAL WITH NO ADDITIONAL COMPENSATION PERMITTED.

PHASING REQUIREMENTS

INCLUDE IN BID ALL NECESSARY SERVICE REQUIRED TO KEEP THE OPERATING PHASE OF THE PROJECT'S HVAC, PLUMBING AND SPRINKLER SERVICE IN OPERATION. IF APPLICABLE, SCHEDULE IN WRITING WITH ARCHITECT ONE WEEK PRIOR TO ANY SHUT DOWN OF THE HVAC, PLUMBING OR FIRE PROTECTION SYSTEMS.

DEMOLITION (IF APPLICABLE TO THIS PROJECT)

COORDINATE THE DEMOLITION OF EXISTING WORK AND THE DEMOLITION PROVIDED BY OTHER. COORDINATE ANY EXISTING EQUIPMENT REQUIRED TO BE LEFT INTACT.

VERIFY SCOPE OF AND THE REMOVAL OF ALL EXISTING FIRE PROTECTION, PLUMBING FIXTURES, PIPING, HVAC UNITS, REFRIGERANT RECAPTURE, EXHAUST FANS, ETC. AND ASSOCIATED ROOF CURBS NOT TO BE REUSED ON THIS PROJECT, UNLESS SPECIFICALLY NOTED OTHERWISE. VERIFY ALL PRESUMED ABANDONED EQUIPMENT, PIPES, DUCTWORK, AND EQUIPMENT PRIOR TO REMOVAL. ROOF CURBS SHALL BE REMOVED AND THE ROOF PATCHED. ALL EXTRANEOUS ITEMS IN THE SPACE OR ON THE ROOF NOT APPLICABLE TO THE NEW WORK MUST BE REMOVED AND ROOF/WALL/FLOOR PATCHED/REPAIRED TO MATCH EXISTING STRUCTURE. EXISTING ABANDONED PIPES, DUCTS, OR EQUIPMENT IN THE FLOOR, EMBEDDED IN CONCRETE, OR OTHERWISE INACCESSIBLE ARE TO BE CUT OFF AND SEALED BELOW OR WITHIN FLOOR OR WALL LEVEL WHEN THEY ARE NOT TO BE REUSED IN THIS PROJECT. ABANDONED PIPING AND/OR DUCTWORK MUST BE REMOVED TO POINT OF ORIGIN. CONFIRM THE EXTENT OF DEMOLITION PRIOR TO BID AND INCLUDE IN BID PROPOSAL.

CUTTING AND PATCHING

PERFORM ALL CUTTING AND PATCHING AS REQUIRED FOR THE INSTALLATION OF THE WORK UNDER THIS SPECIFICATION. NO CUTTING OF THE STRUCTURE SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OR ARCHITECT.

PATCHING SHALL BE OF THE SAME WORKMANSHIP, MATERIAL AND FINISH AND SHALL MATCH ACCURATELY ALL SURROUNDING CONSTRUCTION IN A MANNER SATISFACTORY TO THE ARCHITECT.

EXISTING UTILITIES, ETC. THAT ARE DAMAGED DURING THE CONSTRUCTION PERIOD, WHETHER OR NOT DUE TO NEGLIGENCE SHALL BE REPAIRED OR REPLACED AND LEFT IN A CONDITION SUITABLE TO THE ARCHITECT.

SLEEVES

PROVIDE SLEEVES TO PROTECT EQUIPMENT OR FACILITIES IN THE INSTALLATION. EACH SLEEVE SHALL EXTEND THROUGH ITS RESPECTIVE FLOOR, WALL OR PARTITION AND SHALL BE CUT FLUSH WITH EACH SURFACE EXCEPT SLEEVES THAT PENETRATE THE FLOOR, WHICH SHALL EXTEND 2" ABOVE THE FLOOR. COORDINATE THROUGH THE ARCHITECT ANY CORE DRILLING OR CUTTING OF OPENINGS IN MASONRY FLOORS OR WALLS.

ALL SLEEVES AND OPENINGS THROUGH FIRE RATED WALLS AND/OR FLOORS SHALL BE FIRE SEALED WITH CALCIUM SILICATE, SILICONE "RTV" FOAM, "3M" FIRE RATED SEALANTS OR EQUAL, SO AS TO RETAIN THEIR FIRE RATING.

SLEEVES IN BEARING AND MASONRY WALLS, FLOORS, AND PARTITIONS SHALL BE STANDARD WEIGHT STEEL PIPE FINISHED WITH SMOOTH EDGES. FOR OTHER THAN MASONRY PARTITIONS, THROUGH SUSPENDED CEILINGS, OR FOR CONCEALED VERTICAL PIPING, SLEEVES SHALL BE NO. 22 U.S.G. GALVANIZED STEEL MINIMUM.

HANGERS

HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL SUCH AS ANGLE IRON, BANDS, C-CLAMPS WITH RETAINING CLIPS, CHANNELS, HANGER RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK.

HANGERS SHALL BE FASTENED TO BUILDING STEEL, CONCRETE, OR MASONRY, BUT NOT TO PIPING. HANGING FROM METAL DECK IS NOT PERMITTED. HANGERS MUST BE ATTACHED TO UPPER CHORD OF BAR JOIST. WHERE INTERFERENCES OCCUR, AND IN ORDER TO SUPPORT DUCTWORK OR PIPING, INSTALL TRAPEZE TYPE HANGERS OR SUPPORTS WHICH SHALL BE LOCATED WHERE THEY DO NOT INTERFERE WITH ACCESS TO FIRE DAMPERS, VALVES, AND OTHER EQUIPMENT. HANGER TYPES AND INSTALLATION METHODS ARE ALSO SUBJECT TO LANDLORD CRITERIA.

HANGERS FOR ALL INSULATED PIPING SHALL BE SIZED AND INSTALLED FOR THE OUTER DIAMETER OF INSULATION. INSTALL 6" LONG SPLIT CIRCLE GALVANIZED SADDLE BETWEEN THE HANGER AND THE PIPE INSULATION.

HANGERS AND PIPING OF DISSIMILAR METALS SHALL BE DI-ELECTRICALLY SEPARATED.

PROVIDE SWAY AND SEISMIC BRACING WHERE REQUIRED BY CODE.

JOB CONDITIONS

PROTECT MATERIALS, APPARATUS AND EQUIPMENT FROM DAMAGE, MOISTURE, DIRT, DEBRIS AND WORK OF OTHER TRADES.

OPERATION MANUALS AND INSTRUCTIONS

PROVIDE OPERATING AND MAINTENANCE INSTRUCTIONS AT THE COMPLETION OF THE PROJECT. SUBMIT THREE HARD BOUND COPIES TO ARCHITECT.

SCHEDULE A MEETING WITH THE OWNER'S REPRESENTATIVE AT THE SITE TO PROVIDE DETAILED INFORMATION ON THE OPERATING AND MAINTENANCE OF EQUIPMENT.

SUBMITTALS

SUBMIT WITHIN THIRTY (30) DAYS AFTER THE DATE OF NOTICE TO PROCEED AND BEFORE PURCHASING ANY MATERIALS OR EQUIPMENT, SUBMIT TO THE ARCHITECT FOR REVIEW, A COMPLETE LIST, IN SIX (6) COPIES, OF ALL MATERIALS INCORPORATED IN THE WORK. THIS LISTING SHALL BE ARRANGED BY THE ORDER OF OCCURRENCE IN THE SPECIFICATIONS, FOLLOWED BY THE ITEMS ON THE DRAWING NOT SPECIFICALLY INCLUDED IN THE SPECIFICATIONS.

AFTER THE LIST HAS BEEN PROCESSED BY THE ARCHITECT, SUBMIT COMPLETE SHOP DRAWINGS AND PRODUCT DATA OF ALL EQUIPMENT. THESE SUBMITTALS SHALL BE SUBMITTED WITHIN THIRTY (30) DAYS AFTER THE PROCESSING DATE OF THE ORIGINAL SUBMITTAL LIST. SUBMISSIONS SHALL BE MADE EARLY ENOUGH IN PROJECT TO ALLOW FOR (10) WORKING DAYS FOR REVIEW BY ARCHITECT-ENGINEER WITHOUT CAUSING DELAYS OR CONFLICTS IN THE PROJECT'S PROGRESS.

ALL SUBMITTALS SHALL BE COMPLETE AND SHALL BE IN THREE-RING, LOOSE -LEAF BINDERS, NO CONSIDERATION WILL BE GIVEN TO PARTIAL SUBMITTALS, UNLESS NOTED OTHERWISE BY ARCHITECT. EACH ITEM SHALL HAVE A COVER PAGE STATING PROJECT, SPECIFICATION AND PARAGRAPH REFERENCE NUMBER, OR DRAWING REFERENCE NUMBER, AND SCHEDULED EQUIPMENT IDENTIFICATION NUMBER, IF APPLICABLE.

THE REVIEW OF SUBMITTALS DOES NOT RELIEVE RESPONSIBILITY OF SHOP DRAWING ERRORS IN DETAILS, SIZES, QUANTITIES, WIRING DIAGRAM ARRANGEMENTS AND DIMENSIONS WHICH DEVIATE FROM THE SPECIFICATIONS, CONTRACT DRAWINGS AND/OR JOB CONDITIONS AS THEY EXIST.

IF APPARATUS OR MATERIALS ARE SUBSTITUTED FOR THOSE SPECIFIED UNDER THIS SECTION, AND SUCH SUBSTITUTIONS NECESSITATE CHANGES IN OR ADDITIONAL CONNECTIONS, PIPING SUPPORTS OR CONSTRUCTIONS, SAME SHALL BE PROVIDE AT NO ADDITIONAL COST TO THE OWNER. ASSUME COST AND ENTIRE RESPONSIBILITY THEREOF. ARCHITECT'S PERMISSION TO MAKE SUCH SUBSTITUTION SHALL NOT RELIEVE FULL RESPONSIBILITY FOR WORK.

TEST AND BALANCE REPORT: SUBMIT AT FINAL INSPECTION OPERATION AND MAINTENANCE MANUALS: SUBMIT COPIES IN COMPLIANCE WITH SECTION, OPERATION AND MAINTENANCE MANUALS.

15400 - HEATING VENTILATION AND & AIR CONDITIONING

PRODUCTS:

ALL MATERIALS AND EQUIPMENT SHALL BE NEW. SYSTEMS SHALL FUNCTION CORRECTLY AS A WHOLE, AND IN ALL ITS PARTS, UP TO THE SPECIFIED CAPACITY. SYSTEMS OR DEVICES FAILING TO MEET PERFORMANCE REQUIREMENTS SHALL BE REPLACED, ALTERED OR REPAIRED AS REQUIRED TO BRING PERFORMANCE UP TO SPECIFIED REQUIREMENTS. WORK DAMAGED OR MARRED BY SUCH REPLACEMENTS, ALTERATIONS, OR REPAIRS SHALL BE RESTORED TO PRIOR CONDITIONS, AT NO ADDITIONAL COST TO THE OWNER. WHERE MULTIPLE ITEMS OF EQUIPMENT OR MATERIALS ARE REQUIRED, THEY SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER. BEFORE ORDERING EQUIPMENT, THE PHYSICAL DIMENSIONS SHALL BE CHECKED TO VERIFY FIT IN SPACES ALLOTTED ON THE DRAWINGS. INSERTS, PIPE SLEEVES, AND SUPPORTS OF AIR CONDITIONING EQUIPMENT SHALL BE PROVIDED AS SPECIFIED. WHERE SUCH ITEMS ARE TO BE SET OR EMBEDDED IN CONCRETE, MASONRY OR SIMILAR WORK, THE ITEMS SHALL BE FURNISHED AT THE PROPER TIME FOR SETTING OR EMBEDMENT SO AS TO CAUSE NO DELAY. DUCTWORK AND EQUIPMENT ASSEMBLIES SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC. ADDITIONAL DUCTWORK AND APPURTENANCES REQUIRED FOR PROPER OPERATION OF EQUIPMENT SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST.

MANUFACTURER'S NAMES AND CATALOG NUMBERS

SPECIFIC REFERENCES HAVE BEEN MADE TO ONE OR MORE MANUFACTURER'S NAMES AND MODEL OR CATALOG NUMBERS. THIS DOES NOT INDICATE THAT THE MATERIAL AND EQUIPMENT SPECIFIED IS NECESSARILY AN "OFF THE SHELF" ITEM; REQUIREMENTS FOR SPECIFIC FINISHES, MATERIALS OR OTHER MODIFICATIONS MAY INTRODUCE VARIANCES FROM MANUFACTURER'S STANDARDS. ASCERTAIN THAT SUCH MODIFICATIONS ARE FULLY CONSIDERED.

DIAGRAMS, NAMEPLATES AND LABELS

EACH MAJOR COMPONENT OF EQUIPMENT SHALL HAVE THE MANUFACTURER'S NAME, ADDRESS AND CATALOG NUMBER ON A PLATE SECURELY AFFIXED IN A CONSPICUOUS PLACE. THE NAMEPLATE OF A DISTRIBUTING AGENT WILL NOT BE ACCEPTED. ALL PIECES OF EQUIPMENT, VALVES, STARTERS, DISCONNECTS, AND ALL PNEUMATIC AND ELECTRIC CONTROL INSTRUMENTS AND APPARATUS SHALL BE IDENTIFIED WITH 1/16" THICK BLACK LAMINATED PLASTIC NAMEPLATES, WITH 3/16" HIGH WHITE LAMINATED LETTERS. SIMILAR AND LIKE EQUIPMENT SHALL BE DESIGNATED WITH NUMERICAL SUFFIX (EXAMPLE: THERMOSTAT, T-1). THE NAMEPLATE IDENTIFICATIONS SHALL COINCIDE WITH ITEMS APPEARING ON DIAGRAMS. PROVIDE A LABEL FOR THE MECHANICAL SYSTEM STATING: (NAME, ADDRESS AND PHONE NUMBER OF CONTRACTOR). LETTERS SHALL BE 1/4" HIGH AND LOCATED IN A CONSPICUOUS PLACE NEAR THE HVAC EQUIPMENT.

EXECUTION

INSTALLATION AND WORKMANSHIP

THE WORK SHALL BE PERFORMED BY QUALIFIED MECHANICS. ALL MATERIALS, APPARATUS AND EQUIPMENT SHALL BE INSTALLED IN NEAT, WORKMANLIKE MANNER. MATERIALS, DEVICES OR EQUIPMENT WHICH, IN THE OPINION OF THE ARCHITECT-ENGINEER, IS IMPROPERLY INSTALLED SHALL BE REMOVED AND REINSTALLED IN AN APPROVED MANNER AT NO ADDITIONAL COST TO THE OWNER. THE WORK SHALL BE COORDINATED WITH THE WORK OF OTHER TRADES. WHERE THE WORK IS DEPENDENT UPON WORK OF OTHER TRADES OR WORK ALREADY IN PLACE, SUCH OTHER WORK AND WORK IN PLACE SHALL BE EXAMINED AND SHALL BE IN PROPER CONDITION AND STATE OF COMPLETION BEFORE CONTINUING THE INSTALLATION. THE INSTALLATION OF WORK SHALL, IN GENERAL, BE AS HIGH AS POSSIBLE AND LOCATED IN ACCORDANCE WITH THE DRAWINGS. DUCTWORK INDICATED SHALL BE FOLLOWED AS ACCURATELY AS POSSIBLE. ANY NECESSARY DEVIATIONS SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT-ENGINEER. PROVIDE DRAWINGS SHOWING PROPOSED CHANGES. APPROVAL IS REQUIRED BEFORE CHANGES SHALL TAKE EFFECT.

CUTTING AND PATCHING

LAYOUT OPENINGS FOR CUTTING BY OTHER TRADES AS REQUIRED. CUTTING OF STEEL, CONCRETE OR ANY OTHER STRUCTURAL PART MUST BE APPROVED IN WRITING BY ARCHITECT-ENGINEER PRIOR TO CUTTING.

WATERPROOFING

DO NOT CUT OR PENETRATE WATERPROOFED SURFACES, OR WATERPROOFING MEMBRANES, WITHOUT FIRST MAKING ARRANGEMENTS FOR REPAIR BY A METHOD APPROVED BY ARCHITECT-ENGINEER.

PROVIDE ALL NECESSARY FLASHING AND COUNTERFLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THIS BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF PIPES, DUCTS, LOUVERS, CONDUIT, AND EQUIPMENT. PROVIDE EQUIPMENT CURBS AND DUNNAGE STEEL AS REQUIRED.

ELECTRICAL WORK

POWER WIRING FROM PANELS TO MOTOR CONTROLLERS AND FROM CONTROLLERS TO MOTORS IS SPECIFIED IN DIVISION 16. MOTOR STARTERS NOT SPECIFIED TO BE FURNISHED WITH THE MOTORS FROM THE FACTORY ARE SPECIFIED IN DIVISION 16. SUBMIT WIRING DIAGRAMS FOR APPROVAL AND FURNISH APPROVED DIAGRAMS TO THE ELECTRICAL CONTRACTOR FOR COORDINATION. ELECTRICAL CONTROL WIRING FOR CONNECTION OF TEMPERATURE CONTROLLERS, PUSH BUTTONS, INTERLOCKS IN MOTOR CONTROLLERS, AND LIKE ITEMS IS SPECIFIED IN THE CONTROL SECTION(S) IN THIS DIVISION. FURNISH ALL EQUIPMENT WITH COMPLETE INTERNAL CONTROL WIRING. ELECTRICAL WORK SPECIFIED IN THIS DIVISION SHALL CONFORM TO APPLICABLE PROVISIONS OF DIVISION 16. ALL CONTROL WIRING SHALL BE IN CONDUIT. PROVIDE MOTORS CONFORMING TO CHARACTERISTICS SHOWN ON ELECTRICAL DRAWINGS.

ACCESS DOORS (ACCESS PANELS)

PROVIDE ACCESS REQUIRED FOR MAINTENANCE, ADJUSTMENT, REMOVAL AND REPAIR OF VALVES, CONTROLS, DAMPERS, EQUIPMENT AND LIKE ITEMS. PROVIDE ACCESS DOORS (ACCESS PANELS) CONFORMING TO REQUIREMENTS OF DIVISION 8 SPECIFICATIONS. PANELS SHALL BE LOCATED TO MAKE ALL ITEMS EASILY ACCESSIBLE. LOCATION OF THE ACCESS PANELS SHALL BE COORDINATED WITH ARCHITECT'S APPROVAL.

CLEAN UP

REFER TO GENERAL CONDITIONS FOR CLEAN-UP. CLEAN ALL MATERIALS AND EQUIPMENT OF DIRT, DUST, PAINT, SPOTS AND STAINS, SOIL MARKS AND OTHER FOREIGN MATTER.

FINAL INSPECTION

GIVE NOTICE TO THE ARCHITECT-ENGINEER THAT THE WORK IS READY FOR FINAL INSPECTION.

1. SUBMIT TEST AND BALANCE REPORT AND COMPLETE REQUIREMENTS AS NOTED.
2. SUBMIT LETTER FROM CONTROL MANUFACTURER CERTIFYING THAT CONTROLS HAVE BEEN CHECKED FOR OPERATION AND CALIBRATION, AND THAT THE SYSTEM IS OPERATING AS INTENDED.

FURNISH NECESSARY MECHANICS TO OPERATE SYSTEM, MAKE NECESSARY ADJUSTMENTS AND ASSIST WITH FINAL INSPECTION.

INSTRUCTION OF OWNER'S OPERATING PERSONNEL

INCLUDE THE COST OF THE SERVICES OF QUALIFIED INSTRUCTOR(S) TO INSTRUCT THE OWNER'S OPERATING PERSONNEL IN THE OPERATION, ADJUSTMENT, CARE AND MAINTENANCE OF ALL HVAC EQUIPMENT AND SYSTEMS. INSTRUCTION SHALL BE PERFORMED AT A TIME APPROVED BY THE OWNER AND AFTER ALL HVAC EQUIPMENT AND SYSTEMS ARE INSTALLED, COMPLETE, ADJUSTED AND OPERATING TO SPECIFIED REQUIREMENTS. NOTIFY THE ARCHITECT-ENGINEER WHEN INSTRUCTIONS WILL BE GIVEN. QUALIFICATIONS OF INSTRUCTORS SHALL BE SUBJECT TO APPROVAL OF THE OWNER AND EQUIPMENT MANUFACTURER. ADDITIONAL REQUIREMENTS CONCERNING OPERATION AND MAINTENANCE OF MECHANICAL EQUIPMENT AND SYSTEMS MAY BE SPECIFIED IN OTHER SECTIONS. TWO COPIES OF ACKNOWLEDGEMENT OF ALL REQUIRED INSTRUCTIONS TO OWNER'S OPERATING PERSONNEL, SIGNED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE, SHALL BE SUBMITTED TO THE ARCHITECT-ENGINEER PRIOR TO SUBMITTING APPLICATION FOR FINAL PAYMENT. AN ADDITIONAL COPY OF THIS ACKNOWLEDGMENT IS REQUIRED IN EACH COPY OF OPERATION AND MAINTENANCE MANUALS REQUIRED IN THE SECTION, OPERATION AND MAINTENANCE MANUALS.

OPERATION AND MAINTENANCE MANUALS

FURNISH THREE COPIES OF COMPLETE OPERATION AND MAINTENANCE MANUALS TO THE ARCHITECT-ENGINEER, FOR APPROVAL AND FOR THE OWNER, ON ALL EQUIPMENT AND SYSTEMS. THE MANUALS SHALL BE BOUND IN HARD-BACK, THREE RING LOOSE-LEAF BINDERS. MANUALS SHALL CONTAIN A TITLE SHEET WITH JOB NAME, AND THE NAMES, ADDRESSES AND PHONE NUMBERS OF THE CONTRACTOR, SUBCONTRACTOR, CONTROL SUBCONTRACTOR, RELATED CONTRACTORS AND MATERIAL AND EQUIPMENT SUPPLIERS.

A COPY OF ACKNOWLEDGMENT OF INSTRUCTION TO THE OWNER'S OPERATING PERSONNEL IN THE OPERATION OF ALL MECHANICAL EQUIPMENT AND SYSTEMS, SIGNED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE. TYPEWRITTEN OPERATING INSTRUCTIONS FOR THE OWNER'S PERSONNEL DESCRIBING HOW TO STOP AND START EACH PIECE OF EQUIPMENT; HOW TO SET THE TEMPERATURE CONTROL SYSTEM FOR NORMAL OPERATION AND NORMAL RESTARTING PROCEDURES, CAUTION AND WARNING NOTICES. APPROVED SHOP DRAWINGS, PRODUCT DATA AND PARTS AND MAINTENANCE BOOKLET FOR EACH ITEM OF MATERIAL AND EQUIPMENT FURNISHED UNDER DIVISION 15000. RECORD DRAWINGS OF ALL SYSTEMS INCLUDING ELECTRICAL AND CONTROL DIAGRAMS. TEST AND BALANCE REPORT. COPIES OF CERTIFICATES OF INSPECTION. GUARANTEES, INCLUDING EXTENDED GUARANTEES.

DELIVER THE MANUALS TO THE OWNER PRIOR TO SUBMITTING APPLICATION FOR FINAL PAYMENT.

HVAC/HYDRONIC PIPING

CONDENSATE DRAIN

PROVIDE CONDENSATE DRAINS FOR ALL AIR CONDITIONING UNITS AND PIPE AS DENOTED ON DRAWINGS. CONDENSATE DRAIN PIPING SHALL BE INSTALLED WITH TRAP AT THE COIL CONNECTION AND SHALL HAVE A MINIMUM SEAL DEPTH EQUAL TO THE RESPECTIVE AIR HANDLING UNIT FAN STATIC PRESSURE. DEPTH SHALL BE A MINIMUM OF 2". CONDENSATE DRAIN PIPE SHALL BE COPPER 'L' TYPE MATERIAL AND PROVIDED WITH EXTERNALLY PIPE INSULATION.

HVAC INSULATION

LOW PRESSURE DUCTWORK INSULATION

EXTERNAL INSULATION SHALL BE R-6 MINIMUM SCHULLER TYPE SMALLLITE, FSK SPIN-GLAS OR APPROVED EQUAL WITH AN EMBOSSED ALUMINUM FOIL FACING. INTERNAL INSULATION SHALL BE R-6 MINIMUM LINER WITH A COATED AIR SIDE SURFACE TO PREVENT EROSION. APPLY ADHESIVES AND FASTENERS PER SMACNA AND THE MANUFACTURER. ALL TRANSVERSE EDGES TO BE COATED WITH ADHESIVE. ALL CONCEALED DUCTWORK SHALL HAVE EXTERNAL INSULATION, UNCONCEALED DUCTWORK SHALL BE INTERNALLY LINED. DUCTWORK INSTALLED IN UNCONDITIONED SPACES SHALL BE R-12 MINIMUM SCHULLER TYPE SMALLLITE, FSK SPIN-GLAS OR APPROVED EQUAL WITH AN EMBOSSED ALUMINUM FOIL FACING.

ALL AIR SUPPLY DIFFUSERS BACKS AND NECKS, SHALL BE INSULATED WITH R-6 MINIMUM MANVILLE R-SERIES SMALLITE, OR APPROVED EQUAL FIBERGLASS BLANKET INSULATION.

ADHESIVES, MASTIC, SEALANTS

ADHESIVE SHALL BE FOSTER'S 85-20. STUDWELD PINS SHALL BE SEALED WITH FOSTER'S 30-36 ADHESIVE. ALL JOINTS, SEAMS AND BREAKS IN THE VAPOR BARRIER SHALL BE SEALED WITH FOSTER'S 35-00, REINFORCED WITH 4 INCH WIDE GLASS FABRIC.

TERMINAL HEAT TRANSFER UNITS

DESCRIPTION

INSTALL AIR CONDITIONING UNITS OF THE CAPACITIES INDICATED, COMPLETE WITH GAS-FIRED HEATING SYSTEM, WHERE INDICATED ON THE DRAWINGS. UNIT SHALL BE CONSTRUCTED IN ACCORDANCE WITH APPLICABLE ASME AND ANSI CODES AND SHALL BE LISTED BY UNDERWRITER'S LABORATORIES. UNIT SHALL BE RATED IN ACCORDANCE WITH THE LATEST ARI STANDARD 21. WHERE SPECIFIED OPERATING CONDITIONS ARE OTHER THAN ARI STANDARD CONDITIONS, CAPACITIES SHALL BE INTERPOLATED FROM ARI CONDITIONS.

MANUFACTURER

UNITS SHALL BE TRANE, LENNOX, AAON OR APPROVED EQUAL.

EXHAUST FANS

INLINE EXHAUST FAN

INSTALL DIRECT DRIVE CENTRIFUGAL INLINE EXHAUST FAN BY GREENHECK OR APPROVED EQUAL WITH GALVANIZED STEEL HOUSING, BACKWARD INCLINED ALUMINUM WHEEL, ACCESS PANELS, INTEGRAL DUCT CONNECTION FLANGES, BALL BEARING MOTORS, AND CORROSION RESISTANT FASTENERS. FAN SHALL COME INSTALLED WITH NEMA-1 TOGGLE SWITCH, MOUNTED AND WIRED. SOLID STATE SPEED CONTROLLER SHIPPED LOOSE AND PSC MOTOR.

WATER SOURCE HEAT PUMPS

DESCRIPTION

INSTALL WATER SOURCE HEAT PUMP OF CAPACITIES INDICATED MANUFACTURED BY FLORIDA HEAT PUMP, MCQUAY OR AN APPROVED EQUAL. FACTORY ASSEMBLED AND RATED ACCORDING TO ARI-ISO13526-1. GALVANIZED-STEEL CASING WITH ACCESS PANELS FOR MAINTENANCE AND FILTER REPLACEMENT, KNOCKOUTS FOR ELECTRICAL AND PIPING CONNECTIONS, FLANGED DUCT CONNECTIONS AND CABINET INSULATION OF ½" THICK, MULTI DENSITY, COATED GLASS FIBER. THE UNIT SHALL BE DESIGNED TO OPERATE WITH ENTERING FLUID TEMPERATURES BETWEEN 50°F AND 100°F IN COOLING AND BETWEEN 50°F AND 80°F IN HEATING.

THE UNITS SHALL BE WARRANTED BY THE MANUFACTURER AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR ON ALL PARTS AND FIVE (5) YEARS ON COMPRESSOR.

REFRIGERATION CIRCUITS SHALL UTILIZE R-454B. THE UNIT SHALL CONTAIN SEALED REFRIGERANT CIRCUITS INCLUDING HERMETIC COMPRESSORS, THERMAL EXPANSION VALVE METERING DEVICES, REFRIGERANT DRIER, FINED TUBE AIR-TO-REFRIGERANT HEAT EXCHANGERS, REFRIGERANT REVERSING VALVES AND SERVICE PORTS. COMPRESSORS SHALL BE HIGH EFFICIENCY, DESIGNED FOR HEAT PUMP DUTY, INTERNALLY SPRING ISOLATED (EXCEPT FOR SCROLL TYPE COMPRESSORS) FOR MAXIMUM SOUND ATTENUATION AND MOUNTED ON RUBBER VIBRATION ISOLATORS. COMPRESSOR MOTORS SHALL BE EQUIPPED WITH OVERLOAD PROTECTION. THE FINNED TUBE COIL SHALL BE CONSTRUCTED OF LANCED ALUMINUM FINS NOT EXCEEDING 14 FINS PER INCH. COILS SHALL HAVE A BAKED POLYESTER ENAMEL COATING FOR PROTECTION AGAINST MOST AIRBORNE CHEMICALS. THE COAXIAL WATER-TO-REFRIGERANT HEAT EXCHANGERS SHALL BE CONSTRUCTED OF A CONVOLUTED COPPER INNER TUBE AND STEEL OUTER TUBE WITH A DESIGNED REFRIGERANT WORKING PRESSURE OF 450 PSIG AND A DESIGNED WATER SIDE WORKING PRESSURE OF NO LESS THAN 400 PSIG.

UNITS 6 TONS AND LARGER: THE FANS SHALL BE BELT DRIVEN FORWARD CURVE TYPE WITH DYNAMICALLY BALANCED WHEEL(S). THE FAN HOUSINGS SHALL BE REMOVABLE FROM THE UNIT WITHOUT DISCONNECTING THE SUPPLY AIR DUCTWORK FOR SERVICING OF FAN MOTORS. MOTORS SHALL BE PERMANENTLY LUBRICATED AND HAVE THERMAL OVERLOAD PROTECTION.

UNITS SMALLER THAN 6 TONS: THE FAN SHALL BE DIRECT DRIVE CENTRIFUGAL FORWARD CURVED TYPE WITH A DYNAMICALLY BALANCED WHEEL. FAN HOUSE SHALL BE REMOVABLE FROM UNIT WITHOUT DISCONNECTING THE SUPPLY AIR DUCTWORK FOR SERVICING OF FAN MOTOR. THE MOTOR SHALL BE THREE SPEED PSC TYPE AND BE PERMANENTLY LUBRICATED AND HAVE THERMAL OVERLOAD PROTECTION.

DUCTWORK, LOW PRESSURE, GALVANIZED STEEL

QUALITY ASSURANCE

DUCTS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH "HVAC DUCT CONSTRUCTION STANDARDS" PUBLISHED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC. (SMACNA)

JOB CONDITIONS

INSPECT THE DRAWINGS AND VERIFY EXISTING CONDITIONS IN THE FIELD. REPORT CONFLICTS BEFORE STARTING FABRICATION.

DUCT MATERIAL

WEIGHTS AND GAGES SHALL BE IN ACCORDANCE WITH TABLE I OF "HVAC DUCT CONSTRUCTION STANDARDS" PUBLISHED BY SMACNA. DUCT MATERIAL SHALL BE GALVANIZED STEEL.

SPLITTER DAMPERS

SPLITTERS SHALL BE 18 GAGE GALVANIZED STEEL WITH HORIZONTAL AND VERTICAL DIMENSIONS SUFFICIENT TO CLOSE OFF AIR TO BRANCH. PROVIDE VENTLOK NO. 607 END BEARINGS AND VENTLOK NO. 690 DAMPER ASSEMBLY.

VOLUME DAMPERS

VOLUME DAMPERS SHALL BE 18 GAGE STEEL; SINGLE BLADE UP TO 8" X 8", OPPOSED BLADE ON ALL DUCTS OVER 8" X 8". PROVIDE VENTLOK NO. 607 END BEARINGS AND VENTLOK NO. 641 SELF-LOCKING REGULATOR. DAMPER RODS SHALL BE 1/2" SQUARE BARS WITH BLADES SECURELY RIVETED TO BAR.

TURNING VANES

SQUARE AND RECTANGULAR ELBOWS SHALL CONTAIN TITUS NO. AG-225 TURNING VANES. TURNING VANES SHALL BE PROVIDED AT SUPPLY AIR DUCT SYSTEM ONLY.

HANGERS

IN ACCORDANCE WITH CHAPTER IV OF SMACNA.

FLEXIBLE CONNECTIONS

FLEXIBLE CONNECTIONS SHALL BE PROVIDED FOR EACH AIR HANDLING DEVICE TO PREVENT TRANSMISSION OF VIBRATIONS. MAKE FLEXIBLE CONNECTION A MINIMUM OF 4 INCHES WIDE OF VENTGLAS AS MADE BY VENTFABRICS, INC.

INSTALLATION

GENERAL: SPLIT, DIVIDE OR TURN DUCTS AS NECESSARY TO AVOID OBSTRUCTIONS AND, IN SUCH CASES, PROVIDE AIR STREAM DEFLECTORS AND INCREASE SIZE OF DUCT TO AN EQUIVALENT AREA.

SPLITTERS: RIGIDLY ATTACH SPLITTERS TO PIVOT ROD AND OPERATING LINKAGE. SET DAMPER ASSEMBLY ON RAISED INSULATED BASE ON INSULATED DUCTWORK. VOLUME

DAMPERS: SUPPLY AND MAKE-UP AIR DUCTWORK IN CONCEALED SPACES. SET REGULATOR ON RAISED BASE ON INSULATED DUCTWORK. MARK END OF DAMPER ROD TO SHOW DAMPER POSITION.

FLEXIBLE CONNECTIONS: SECURE FLEXIBLE CONNECTIONS TO DUCT AND UNIT WITH GALVANIZED STEEL STRAPS HOLDING THE MATERIAL IN FORMED GALVANIZED STEEL CHANNELS. TEST TO ENSURE PROPER INSTALLATION.

PLUGS: PROVIDE SQUARE HEAD TYPE TEST PLUGS AS REQUIRED FOR INSERTION OF TEST APPARATUS. PROVIDE A RING AND A REMOVABLE INSULATION PLUG WHERE DUCTS ARE INSULATED.

PAINTING: PAINT INTERIOR OF DUCTWORK FLAT BLACK WHERE VISIBLE THROUGH GRILLES AND REGISTERS.

SEALING: DUCTWORK SHALL BE SEALED IN ACCORDANCE WITH SMACNA "SEAL CLASS B".

CORRECTIONS

REMOVE ALL DUCTWORK FOUND TO VIBRATE, CHATTER OR PULSATE AND REPLACE WITH NEW DUCTWORK.

DUCTWORK, LOW PRESSURE, FLEXIBLE

DESCRIPTION

PROVIDE WHERE INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN, FACTORY FABRICATED AND PRE INSULATED FLEXIBLE DUCTS.

QUALITY ASSURANCE

FLEXIBLE DUCTS, INCLUDING INSULATION AND SEALANTS, SHALL CONFORM TO THE REQUIREMENTS OF NFPA 90A AND UL STANDARD 181 FOR CLASS 1 DUCTS. PERFORMANCE DATA SHALL BE BASED ON TEST PERFORMED IN ACCORDANCE WITH AIR DIFFUSION COUNCIL FLEXIBLE AIR DUCT TEST CODE FD72.

LOW PRESSURE FLEXIBLE DUCTWORK

LOW PRESSURE FLEXIBLE DUCTWORK SHALL CONSIST OF CORROSION RESISTANT SPRING STEEL HELIX BONDED TO A GLASS REINFORCED NEOPRENE SLEEVE INSULATED WITH A MINIMUM OF 1 INCH THICK, 1 POUND DENSITY FIBERGLASS INSULATION WHICH IS IN TURN COVERED WITH AN OUTER VAPOR BARRIER OF FIBER REINFORCED FOIL-SCRIM-KRAFT LAMINATE. INSULATION SHALL HAVE A THERMAL CONDUCTIVITY (K) NO GREATER THAN 0.25 AT 75 DEGREES F. DUCT FOR LOW VELOCITY SYSTEM CONNECTORS SHALL HAVE A WORKING PRESSURE OF NOT LESS THAN 1-1/2 INCHES OF WATER GAGE AND A MAXIMUM OPERATING TEMPERATURE OF NOT LESS THAN 250 DEGREES F.

DUCT CONNECTORS

WHERE FLEXIBLE DUCTS CONNECT TO LOW PRESSURE DUCTS TO FORM RUNOUTS TO INDIVIDUAL OUTLETS, PLENUMS OR LOW PRESSURE TERMINALS, PROVIDE FACTORY FABRICATED FITTINGS COMPLETE WITH MANUAL BALANCING DAMPERS HAVING LOCKING QUADRANTS. WHERE LOW PRESSURE DUCTS ARE INTERNALLY INSULATED THE CONNECTOR SHALL BE FURNISHED WITH AIR EXTENSION TO PROJECT THROUGH AND PROTECT THE INSULATION. FOR CONNECTION TO EQUIPMENT, AUXILIARY SLEEVES SHALL BE PROVIDED TO ALLOW AT LEAST 2 INCHES OF SURFACE FOR CLAMPING OF FLEXIBLE DUCTWORK. SLEEVES SHALL BE SCREWED OR BOLTED TO EQUIPMENT LIP FRAME.

CLAMPS

PROVIDE GALVANIZED SPRING STEEL CLAMPS OR PANDUIT STRAPS AT CONNECTIONS TO DUCT FITTINGS OR DEVICES.

MANUFACTURER

FLEXIBLE DUCTWORK AND COMPONENTS SHALL BE AS MANUFACTURED BY GENERAL ENVIRONMENTAL CORPORATION OR APPROVED EQUAL.

INSTALLATION

INSTALL DUCT CONNECTORS TO LOW PRESSURE DUCTS USING MANUFACTURER'S TEMPLATE FOR ALL HOLES AND SECURE THE CONNECTOR WITH SHEET METAL SCREWS HAVING FIRST APPLIED FOSTER'S 30-02 DUCT SEALANT TO THE ADJOINING SURFACES. DO NOT PRESSURIZE THE SYSTEM FOR 48 HOURS. STRETCH NEW DUCT WHEN REMOVING IT FROM CARTONS WHERE IT MAY HAVE BEEN SHIPPED IN A COMPRESSED STATE. USE THE MINIMUM LENGTH OF FLEXIBLE DUCT REQUIRED TO MAKE THE SPECIFIC CONNECTION UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS. THE MAXIMUM DEVELOPED LENGTH OF FLEX DUCT IS 5'-0". AVOID SHARP BENDS. USE A MINIMUM INSIDE BEND RADIUS EQUAL TO (1) TIMES THE INSIDE DIAMETER OF THE DUCT. SUPPORT HORIZONTAL DUCT RUNS AS DETAILED IN THE CONSTRUCTION DOCUMENTS. ALLOW THE FLEXIBLE DUCT TO EXTEND STRAIGHT AWAY FROM CONNECTORS FOR A FEW INCHES PRIOR TO INITIATING ANY BEND. MAKE CONNECTIONS OF FLEXIBLE DUCT TO RIGID DUCT OR TERMINALS AS FOLLOWS:

1. APPLY FOSTER'S 30-02 SEALANT TO THE INSIDE OF THE FLEXIBLE DUCT TO DEPTH OF 3 INCHES.
2. SLIDE THE FLEXIBLE DUCT OVER THE CONNECTOR AND WRAP WITH MINIMUM OF TWO REVOLUTIONS OF REINFORCED FOIL DUCT TAPE STARTING ABOUT 2 INCHES BACK FROM END OF FLEXIBLE DUCT AND SEALING OVERLAP WITH LAST WRAP.
3. PLACE A CLAMP OR STRAP OVER THE TAPED END AND SECURE FIRMLY.
4. REPAIR ALL DAMAGE TO VAPOR BARRIER WITH FOSTER'S 35-00 REINFORCED WITH 4 INCH WIDE GLASS FABRIC AND A SECOND COAT OF FOSTER'S 35-00.

AIR DISTRIBUTION DEVICES

DESCRIPTION

AIR DISTRIBUTION DEVICES SHALL BE PROVIDED TO DELIVER THE INDICATED VOLUME OF SUPPLY AIR WITHOUT EXCEEDING THE NC RATING AS FOLLOWS:
EMPLOYEE AND CUSTOMER AREAS: NC-30.

DIFFUSERS, GRILLES AND REGISTERS

MANUFACTURER SHALL BE TITUS OR APPROVED EQUIVALENT. FOR MODEL NUMBERS AND TYPES SEE AIR DISTRIBUTION SCHEDULE ON DRAWING. DIFFUSERS, GRILLES, AND REGISTERS SHALL BE OF THE SURFACE, FLUSH, OR LAY-IN MOUNTING CORRESPONDING TO THE CEILING IN WHICH THEY ARE LOCATED. THE FINISH OF THE DIFFUSERS, GRILLE, OR REGISTER FACE PANEL SHALL BE BAKED ENAMEL, OFF WHITE COLOR. WHERE MOUNTING SCREWS ARE REQUIRED IN AIR DISTRIBUTION DEVICES, THEY SHALL BE FINISHED TO MATCH THE ADJACENT SURFACE OF THE DEVICES. SUPPLY AND RETURN GRILLES AND REGISTERS WHICH ARE SURFACE MOUNTED SHALL BE PROVIDED WITH SPONGE RUBBER GASKETED FRAMES TO PREVENT SMUDGING.

DRAINABLE LOUVERS

MANUFACTURER SHALL BE RUSKIN OR APPROVED EQUAL. FOR MODEL NUMBER AND TYPE SEE DRAWING. LOUVER FINISH SHALL BE SANDSTONE COLORED BAKED ENAMEL CONTAINING 50% KYNAR RESINS. LOUVER SHALL INCLUDE GASKETED BACKDRAFT DAMPERS WITH ADJUSTABLE WEIGHTS OR SPRINGS TO PREVENT OUTWARD AIR FLOW. ADJUST AS DIRECTED BY OWNER OR AUTHORITY HAVING JURISDICTION.

INSTALLATION

INSTALL WHERE SHOWN ON DRAWINGS. DIFFUSERS, REGISTERS AND FITTINGS SHALL BE SECURELY ATTACHED TO FINISH SURFACES, OR STRUCTURAL MEMBERS BEHIND FINISH SURFACES. LAY-IN DIFFUSERS MOUNTED IN ACOUSTICAL TILE CEILINGS SHALL BE RIGIDLY MOUNTED, ABOVE THE FACE PANEL, TO THE CEILING SUSPENSION SYSTEM. DRAINABLE LOUVERS SHALL BE INSTALLED AS RECOMMENDED BY MANUFACTURER.

CONTROLS, ELECTRIC

DESCRIPTION

THE WORK CONSISTS OF INSTALLING CONTROLS FOR THE HVAC SYSTEM.

ELECTRICAL

ELECTRICAL WORK AND MATERIALS ASSOCIATED WITH THE CONTROL SYSTEM SHALL BE INSTALLED AS WORK OF THIS SECTION BUT IN ACCORDANCE WITH DIVISION 16. POWER WIRING IS SPECIFIED UNDER DIVISION 16 AND SHOWN ON ELECTRICAL DRAWINGS. ELECTRICAL CONTROL WIRING CONDUIT AND FITTINGS ASSOCIATED WITH THE SPACE TEMPERATURE AND HUMIDITY CONTROL INCLUDING INTERLOCKING WITH MOTOR CONTROLLERS, CONTROL ACCESSORIES AND APPURTENANCES ARE TO BE PROVIDED UNDER THIS SECTION. CONTROL WIRING SHALL BE IN CONDUIT IF REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION.

ELECTRIC ROOM THERMOSTATS

THERMOSTAT SHALL BE AS SPECIFIED IN THE DRAWINGS, THERMOSTATS FOR WATER SOURCE HEAT PUMPS SHALL HAVE AUTOMATIC HEATING/COOLING CHANGEOVER AND SHALL E PROVIDED WITH A LOCKABLE COVER.

SMOKE DETECTOR

SMOKE DETECTOR SHALL BE FURNISHED AND WIRED BY ELECTRICAL CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR AS SHOWN IN THE DRAWINGS. WIRING AND REMOTE ALARM INDICATOR FOR DUCT MOUNTED SMOKE DETECTOR SHALL BE BY ELECTRICAL CONTRACTOR. SMOKE DETECTOR SHALL BE POWERED AS SPECIFIED IN DRAWINGS.

TESTING, ADJUSTING AND BALANCING

TESTING, ADJUSTING AND BALANCING OF ALL WORK SHALL BE MADE BY AN INDEPENDENT CONTRACTOR, WHO IS A CURRENTLY LICENSED ASSOCIATED AIR BALANCING COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) BALANCING CONTRACTOR. NO OTHER BALANCE REPORTS WILL BE REVIEWED OR ACCEPTED. ALL BALANCING WORK MUST BE COMPLETE AND DONE IN ACCORDANCE WITH THE MOST RECENT STANDARDS OF THEIR SOCIETY AND AS A MINIMUM SHALL INCLUDE THE INFORMATION AS SHOWN IN THE AIR BALANCE REVIEW CHECKLIST BELOW. PAYMENT OF ALL COSTS FOR TESTING AND BALANCING SHALL BE INCLUDED IN THE BID.

TESTING, ADJUSTING AND BALANCING REPORT MUST BE COMPLETE AND TURNED OVER TO TENANT'S PROJECT MANAGER ONE (1) WEEK PRIOR TO MERCHANDISING DATE. VERIFY THAT ALL EQUIPMENT AND SYSTEMS ARE COMPLETE AND OPERATIONAL ONE WEEK PRIOR TO FINAL BALANCING. IF ALL SYSTEMS ARE NOT OPERATIONAL AT THE TIME OF THE SCHEDULED BALANCING, ADDITIONAL TESTING AND BALANCING, INCLUDING ALL LABOR, TRAVEL EXPENSES, MEALS, HOTEL COSTS, ETC SHALL BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER.

PRESENT FOR AIR BALANCE TO VERIFY ACCESSIBILITY TO ALL DEVICES, VERIFY ALL OPERATING SEQUENCES AND INSTALL NEW FILTERS IN ALL UNITS JUST PRIOR TO THE AIR BALANCE. ALLOW TWO DAYS ON SITE FOR BALANCING. THE COMPLETE AIR BALANCE SHALL TAKE PLACE WITH OUTSIDE AIR DAMPERS IN MINIMUM POSITION, EXCEPT AS NOTED OTHERWISE. INSTALL A NEW SET OF FILTERS ONE DAY PRIOR TO TURNOVER.

BALANCE AIR AND WATER QUANTITIES TO WITHIN +/- 10% OF THAT INDICATED ON THE DRAWINGS. ANY REQUIRED CHANGES IN SHEAVES, BELTS OR PULLEYS NEEDED TO ACHIEVE SPECIFIED FLOW RATES SHALL BE PERFORMED WITH NO ADDITIONAL COST TO THE OWNER. ALL CONTROL SEQUENCES SHALL BE TESTED (INTERLOCKED EQUIPMENT, SMOKE DETECTORS, SMOKE EVACUATION, ECONOMIZER, ETC.) AND OPERATING STATUS RECORDED IN THE REPORT.

SEVEN (7) COPIES OF THE BALANCE REPORT SHALL BE SUBMITTED FOR APPROVAL.

PERFORM ALL APPLICABLE TESTING AND BALANCING FUNCTIONS REQUIRED FOR THE SYSTEM DESIGNED ON THESE DRAWINGS. ALL SYSTEMS UNABLE TO BE COMPLETELY BALANCED AT THE TIME OF ORIGINAL BALANCE MUST BE BALANCED IN FUTURE AT NO ADDITIONAL EXPENSE TO THE OWNER. RECHECK ANY ITEMS THAT OWNER DEEMS NECESSARY AT NO ADDITIONAL COST TO OWNER.

THE BALANCE REPORT SHALL BE ON THE AABC NATIONAL STANDARD REPORT FORMS OR THE NEBB CERTIFIED REPORT FORMS AS PUBLISHED IN THEIR MOST CURRENT EDITIONS.

collins | webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC
P.O. BOX 11101
OVERLAND PARK, KS 66207
913-735-5654
MO CERTIFICATE OF AUTHORITY #E-2021006522

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

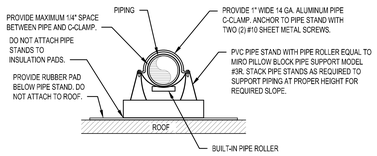
REVISION DATES:

STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
06/09/2025
PROFESSIONAL SEAL

M301

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

MECHANICAL SPECIFICATIONS



MAXIMUM SPACING FOR PIPE SUPPORTS	
HORIZONTAL PIPING:	SUPPORT SPACING (FEET)
1/2"	5
3/4" TO 1-1/4"	6
1-1/2" AND LARGER	12
VERTICAL PIPING: ALL SIZES	AT BASE, TOP AND MINIMUM 10'-0" INTERVALS

11 ROOF MOUNTED PIPING SUPPORT
NOT TO SCALE

PLUMBING FIXTURE SCHEDULE

TAG	MANUFACTURER	MODEL	DRAIN	VENT	COLD WATER	HOT WATER	ELECTRICAL REQUIREMENTS	DESCRIPTION
BFP	WATTS	LF009-QTS			2"			REDUCED PRESSURE ZONE ASSEMBLY WITH QUARTER-TURN BALL VALVES AND STRAINER.
FCO	SIOUX CHIEF	834-4ANR	4"	---	---	---		FLOOR CLEANOUT ABS BODY AND NICKEL-BRONZE COVER
FD	SIOUX CHIEF	832-25ANR	2"	2"	---	---		ADJUSTABLE FLOOR DRAIN WITH GRAY ABS BODY AND ROUND NICKEL-BRONZE STRAINER.
FS	SIOUX CHIEF	861-3PN2	3"	2"	---	---		SQUAREMAX PVC FLOOR SINK WITH 3" HUB CONNECTION AND OPEN-HALF, NICKEL-BRONZE RING & STRAINER.
LAV	KOHLER	K-20000	2"	1-1/2"	1/2"	1/2"		UNDERMOUNT VITREOUS CHINA LAVATORY WITH AMERICAN STANDARD 5502.175 FAUCET. PROVIDE WITH ASSE 1070 COMPLIANT MIXING VALVE.
GWH	A. O. SMITH	BT-80			1"	1"	120V 5A	GAS FIRED WATER HEATER 75 GALLON TANK, 73 GALLON RECOVERY AT 100 %%DF RISE. PROVIDE WITH AMTROL ST-12 THERMAL EXPANSION TANK
WC1	AMERICAN STANDARD	3451.001	3"	2"	1"	---		FLOOR MOUNT WATER CLOSET WITH SLOAN REGAL 111SMO FLUSH VALVE. 1.28 GPF.
WC2	AMERICAN STANDARD	3462.001	3"	2"	1"	---		ADA HEIGHT FLOOR MOUNT WATER CLOSET WITH SLOAN REGAL 111SMO FLUSH VALVE. 1.28 GPF.
MS	MUSTEE	63M	3"	2"	1/2"	1/2"		MOLDED FIBERGLASS MOP SERVICE BASIN WITH 63.00A FAUCET, 65.700 HOSE AND BRACKET, 65.600 MOP HANGER BRACKET AND 67.2424 WALL GUARDS.
UR	AMERICAN STANDARD	6581.001EC	2"	1-1/2"	3/4"	---		WASHOUT URINAL WITH SLOAN ROYAL 186 SMO-0.125 SENSOR FLUSHOMETER 0.125 GPF. PROVIDE WITH IN-WALL CARRIER.
SK1	KROWNE	18-53C	2"	2"	1/2"	1/2"		3 COMPARTMENT SINK, STAINLESS STEEL WITH RIGHT AND LEFT HAND DRAIN BOARDS. PROVIDE WITH 10-410L FAUCET.
SK2	KROWNE	HS-9L	2"	1-1/2"	1/2"	1/2"		WALL MOUNTED STAINLESS STEEL HAND SINK WITH FAUCET. PROVIDE WITH 21-311L WRIST BLADE HANDLE KIT AND ASSE 1070 COMPLIANT MIXING VALVE.
SK3	ELKAY	ECTRU12179T	2"	1-1/2"	1/2"	1/2"		ONE COMPARTMENT UNDERMOUNT SINK WITH LK2477CR FAUCET. PROVIDE WITH ASSE 1070 COMPLIANT MIXING VALVE.
GI	J. R. SMITH	8050	3"	2"	---	---		STEEL INTERCEPTOR WITH INTERNAL FLOW CONTROL FITTING AND NO-HUB ADAPTERS. RATED FOR 50 GPM.

NOTES:
1. MODELS IN SCHEDULE ARE A BASIS OF DESIGN CONFIRM FINAL FIXTURE MODELS WITH OWNER PRIOR TO PURCHASING.
2. FIELD COORDINATE EXACT CONNECTION REQUIREMENTS OF ACTUAL EQUIPMENT SUPPLIED WITH ALL OTHER TRADES TO ENSURE PROPER ROUGH-IN IS PROVIDED.
3. ALL LAVATORIES/SINKS SHALL BE PROVIDED WITH ANTI-SCALD ASSE 1070 COMPLIANT VALVE.
4. PROVIDE LOOSE KEY STOPS AND FLEXIBLE RISERS.
5. ON LAVATORY INSULATE EXPOSED TAILPIECE, P-TRAP, AND WATER RISERS WITH TRU-BRO INSULATION KIT.
6. PROVIDE FLUSH LEVER ON WIDE SIDE.

GENERAL PLUMBING NOTES

1. ALL WORK SHALL BE IN CONFORMANCE WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION.
2. PROVIDE TO OWNER A COPY OF ALL REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS AND ALL PLUMBING SYSTEMS EQUIPMENT MANUALS INCLUDING WARRANTIES.
3. COORDINATE THE COMPLETE INSTALLATION OF SYSTEMS TO AVOID CONFLICT WITH OTHER TRADES.
4. COORDINATE ALL ABOVE SLAB AND UNDER SLAB SANITARY, AND WATER PIPING SYSTEMS TO AVOID CONFLICT WITH ALL OTHER TRADES SYSTEMS, AND COLUMN FOOTINGS. ALL SOIL AND WASTE PIPING SHALL BE GRADED TO A UNIFORM SLOPE OF NOT LESS THAN 1/8" PER FOOT FOR PIPING 4" OR LARGER, AND NOT LESS THAN 1/4" PER FOOT FOR PIPING 3" OR SMALLER. ALL GREASE WASTE PIPING SHALL BE ROUTED AT 1/4" PER FOOT SLOPE.
5. COORDINATE ALL FLOOR DRAINS, CLEANOUTS, AND FLOOR MOUNTED FIXTURES WITH FINISHED FLOOR SLAB ELEVATION TO ENSURE THEY ARE INSTALLED PLUM AND FLUSH WITHOUT CRACKS, RISE IN THE SLAB, OR VOIDS AROUND GRATES OR TOPS. ALL CLEANOUTS SHALL BE INSTALLED ALONG MAINS AT 50'-0" DISTANCE MAXIMUM. ALL FLOOR AND WALL CLEANOUTS SHALL BE ACCESSIBLE FOR MAINTENANCE AND NOT INSTALLED BENEATH EQUIPMENT. ANY DRAIN GRATES THAT ARE DAMAGED AS A RESULT OF OTHER CONSTRUCTION PRIOR TO RELEASE OF THE BUILDING TO THE OWNER SHALL BE REPLACED WITH LIKE GRATE AT NO EXPENSE OF THE OWNER.
6. ALL EXPOSED PIPES PENETRATING FINISHED WALLS SHALL BE EQUIPPED WITH WALL ESCUTCHEONS.
7. PROVIDE TRAP AND SEAL PRIMERS ON ALL FLOOR DRAINS IF REQUIRED BY CODE OR OWNER.
8. PLUMBING VENTS THROUGH THE ROOF ARE LOCATED AT A MINIMUM OF 5'-0" FROM BUILDING PARAPETS AND 10'-0" FROM FRESH AIR INTAKES AND AS REQUIRED TO MEET LOCAL CODES.
9. ALL SHUT-OFF OR BALANCING VALVES TO PLUMBING ROUTED IN PIPE CHASES SHALL BE ACCESSIBLE FROM CEILING AREA OR ACCESS DOORS PROVIDED IN WALL.
10. PROVIDE FINAL CONNECTIONS FOR ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. PROVIDE ALL REQUIRED SHUT-OFFS, BACKFLOW PREVENTERS, PRESSURE REGULATORS, AND CONDENSATE DRAINS AS REQUIRED BY LOCAL CODES FOR COMPLETE EQUIPMENT INSTALLATION. CONSULT EQUIPMENT SUPPLIER OR OWNER FOR ADDITIONAL FINAL CONNECTION REQUIREMENTS NOT SHOWN ON THESE DRAWINGS.
11. CONTRACTOR TO FULLY INVESTIGATE ALL EXISTING PIPING TO REMAIN TO INSURE EXISTING PIPING IS IN GOOD REPAIR. IF ANY EXISTING PIPING IS FOUND TO BE DAMAGED REPLACE WITH LIKE.
12. ALL PLUMBING PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE INSTALLED AND SEALED TO MAINTAIN FIRE RATING OF ASSEMBLY. PROVIDE FIRE CAULKING, FIRESTOP COLLAR, OR OTHER APPROVED METHOD TO MAINTAIN FIRE RATING AND UL RATING.

PLUMBING PIPING SCHEDULE

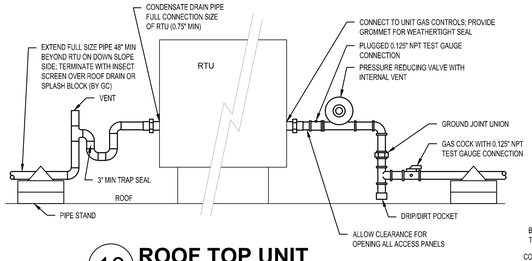
SYSTEM TYPE	MATERIAL
GAS	
ABOVE GROUND	SCHEDULE 40 BLACK STEEL WITH MALLEABLE IRON THREADED FITTINGS OR WELDED JOINTS WITH BUTT WELD FITTINGS. PROVIDE CORROSION RESISTANT MATERIAL ON PIPING EXPOSED TO ATMOSPHERE OR IN CONTACT WITH MATERIAL EXERTING A CORROSIVE ACTION
UNDER GROUND	APPROVED PLASTIC WITH COMPATIBLE FITTINGS CONFORMING WITH ASTM D 2513 AND SHALL BE INSTALLED IN ACCORDANCE WITH GAS CODE OR WITH SCH. 40 STEEL WITH MALLEABLE IRON FITTINGS OR WELDED JOINTS WITH BUTT WELD FITTINGS. WILL COAT PIPE WITH HIGH DENSITY POLYETHYLENE OVER ADHESIVE UNDERCOATING WRAP FIELD JOINTS AND FITTINGS WITH REPUBLIC "X-TRU-TAPE" OR EQUAL.
SEWER, VENT, AND STORM	
ABOVE GROUND	PVC OR ABS SOLID WALL SCHEDULE 40 PIPE AND FITTINGS EXCEPT IN PLENUM RETURN AREAS IN RETURN AIR PLENUM AREAS USE ONE OF THE FOLLOWING: CAST IRON, HUB AND SPIGOT WITH RUBBER GASKETS FOLLOWING ASTM C564 AND ASTM 74. CAST IRON, NO-HUB. NEOPRENE GASKET AND CORRUGATED 304 STAINLESS STEEL SHIELD IN CONJUNCTION WITH 4 STAINLESS STEEL CLAMPS FOR 4" AND SMALLER, 6 CLAMPS FOR 5" AND LARGER
UNDER GROUND	PVC OR ABS SOLID WALL SCHEDULE 40 PIPE AND FITTINGS
WATER	
DISTRIBUTION PIPE	WATER DISTRIBUTION PIPE SHALL CONFORM TO NSF 61 AND SHALL BE COPPER, TYPE "A" PEX, OR TYPE "B" PEX AND CONFORM TO THE STANDARDS LISTED IN TABLE 605.4 OF THE I.P.C
SERVICE PIPE	WATER SERVICE PIPE SHALL CONFORM TO NSF 61 AND SHALL BE COPPER, TYPE "A" PEX, OR TYPE "B" PEX AND CONFORM TO THE STANDARDS LISTED IN TABLE 605.3 OF THE I.P.C

PLUMBING SYMBOLS

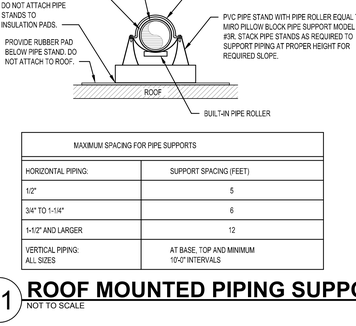
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	GATE VALVE		FLOOR DRAIN / AREA DRAIN
	CHECK VALVE		FLOOR SINK
	PRESSURE	RD	ROOF DRAIN
	SOLENOID VALVE	ORD	OVERFLOW ROOF DRAIN
	GLOBE VALVE (STRAIGHT PATTERN)		HOT WATER RECIRCULATION PUMP
	BUTTERFLY VALVE	VTR	PLUMBING VEVT THRU ROOF
	BALL VALVE		POINT OF CONNECTION (CONNECT NEW TO EXISTING)
	GAS COCK	XXX	PLUMBING EQUIPMENT DESIGNATION
	PLUG VALVE	X / X	PLUMBING RISER OR DETAIL DESIGNATION
FCO	FLOOR CLEAN OUT	S	SANITARY SEWER PIPING
WCO	WALL CLEAN OUT	ST	STORM SEWER PIPING
CO	CLEAN OUT	V	VENT PIPING
	HOSE BIBB	CW	COLD WATER PIPING
	FREEZE PROOF WALL HYDRANT	HW	HOT WATER PIPING
	ELBOW DOWN	HWR	HOT WATER RECIRCULATING PIPING
	ELBOW UP	FW	FILTERED WATER PIPING
	TEE UP	G	GAS PIPING
	TEE DOWN	CD	CONDENSATE PIPING
	STRAINER	CA	COMPRESSED AIR PIPING
	UNION		
	CAP		

PLUMBING ABBREVIATIONS

AD	AREA DRAIN, ACCESS DOOR	IE	INVERT ELEVATION
AFC	ABOVE FINISH CEILING	LP	LIQUIFIED PETROLEUM
AFG	ABOVE FINISH GRADE	MBH	1000 BTU PER HOUR
AHU	AIR HANDLING UNIT	N/A	NOT APPLICABLE
BFP	BACKFLOW PREVENTER	ORD	OVERFLOW ROOF DRAIN
BOP	BOTTOM OF PIPE	OST	STORM OVERFLOW
BOS	BOTTOM OF STRUCTURE	PD	PUMP DISCHARGE
CD	CONDENSATE	PIV	POST INDICATOR VALVE
CO	CLEANOUT	PRV	PRESSURE REDUCING VALVE
CW	DOMESTIC COLD WATER	REV	REVISION
DO	DECK DRAIN	RPM	REVOLUTIONS PER MINUTE
DN	DOWN	RTU	ROOF TOP UNIT
ETR	EXISTING TO REMAIN	SAN	SANITARY
EWC	ELECTRIC WATER COOLER	SCW	SOFT DOMESTIC COLD WATER
FCO	FLOOR CLEANOUT	SHW	SOFT DOMESTIC HOT WATER
FFA	FROM FLOOR ABOVE	SD/HWR	SOFT RECIRC. HOT WATER
FP	FIRE PROTECTION	ST	STORM
FS	FLOOR SINK	TFA	TO FLOOR ABOVE
G	GAS (NATURAL)	TFB	TO FLOOR BELOW
GCO	GRADE CLEANOUT	TW	TEMPERED WATER
GPM	GALLONS PER MINUTE	UH	UNIT HEATER
HB	HOSE BIBB	V	VENT PIPE
HW	DOMESTIC HOT WATER	VTR	VENT THROUGH ROOF
HWR	HOT WATER RETURN	WCO	WALL CLEANOUT
HWS	HOT WATER SUPPLY	WH	WALL HYDRANT

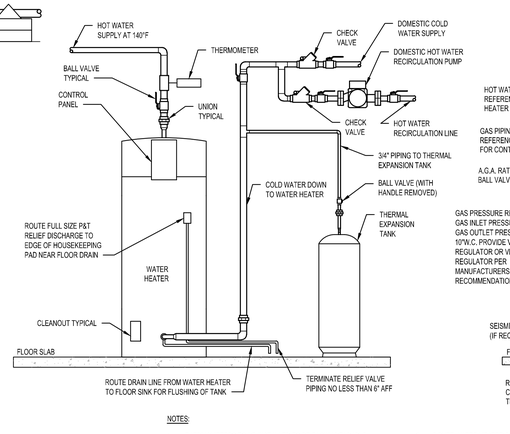


10 ROOF TOP UNIT
NOT TO SCALE



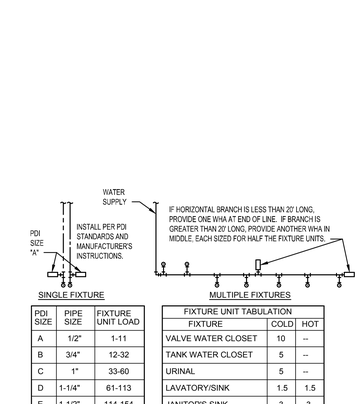
NOTES:
1. HIGH TENSILE STRENGTH STAINLESS STEEL FLEXIBLE CONNECTION, 12" LENGTH, AGA/CSA APPROVED, PRE-COATED.
2. PAINT ALL EXTERIOR GAS PIPING, YELLOW COLOR.
3. PROVIDE PRESSURE REGULATOR WHERE REQUIRED.

9 GAS EQUIPMENT PIPE CONNECTION
NOT TO SCALE



NOTES:
1. THERMOMETERS TO BE INSTALLED TO BE EASILY READABLE.
2. INSTALL PIPING & EQUIPMENT FOR WATER HEATER WITH REQUIRED CLEARANCES TO ALLOW SPACE FOR REMOVAL & SERVICING AS SHOWN.
3. PROVIDE SEPARATE SUPPORT FROM PIPING FOR RECIRCULATING PUMP.
4. PROVIDE AQUASTAT AND/OR TIMER FOR RECIRCULATING PUMP IF NOT INTERNALLY CONTROLLED.
5. INSTALL WATER HEATER PER MANUFACTURER'S WRITTEN INSTRUCTIONS/RECOMMENDATIONS.
6. ROUTE WATER HEATER P&T RELIEF AND DISCHARGE NEAR FLOOR SINK/DRAIN.
7. PROVIDE VACUUM RELIEF VALVE AS REQUIRED BY LOCAL CODE.
8. PIPE INSULATION NOT SHOWN FOR DRAWING CLARITY.
9. PLUMBING CONTRACTOR TO PROVIDE & INSTALL A COMBUSTION AIR INTAKE AND A EXHAUST FLUE.
10. ROUTE WATER HEATER FLUE CONDENSATE, AND P&T RELIEF AND DISCHARGE NEAR FLOOR SINK.
11. IF SEISMIC BRACING IS REQUIRED WATER HEATER SEISMIC RESTRAINT STRAPS TO BE 1-1/2" 24 GAGE CRS, GALVANIZED. SECURE TO WALL STUDS WITH #1/4-10 x 2-1/2" LAG SCREWS.

8 WATER HEATER PIPING
NOT TO SCALE



SINGLE FIXTURE

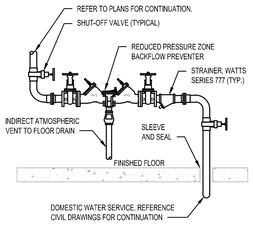
PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1-1/4"	61-113
E	1-1/2"	114-154
F	2"	154-330

MULTIPLE FIXTURES

FIXTURE UNIT TABULATION		
FIXTURE	COLD	HOT
VALVE WATER CLOSET	10	--
TANK WATER CLOSET	5	--
URINAL	5	--
LAVATORY/SINK	1.5	1.5
JANITOR'S SINK	3	3
SHOWER/BATHTUB	2	2

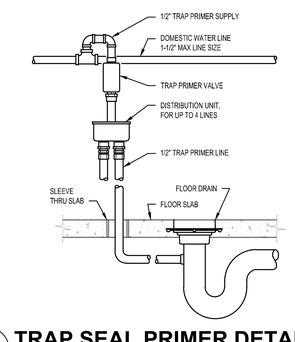
PROVIDE WATER HAMMER ARRESTERS ON ALL QUICK CLOSING VALVES, INSTALLED AS CLOSE TO THE FIXTURES AS POSSIBLE TO CONTROL THE EFFECTS OF WATER HAMMER INSTALLATION SHALL COMPLY WITH LOCAL PLUMBING CODE. DO NOT PROVIDE AIR CHAMBERS. PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE # 1010 AND ANSI # A112.26.1M. CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS PER THE TABLES SHOWN ABOVE.

7 WATER HAMMER ARRESTERS
NOT TO SCALE

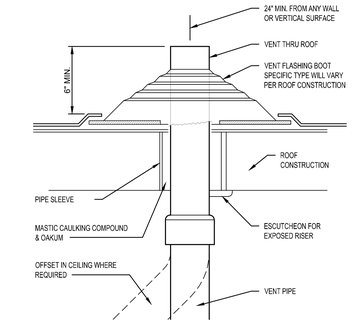


NOTE:
1. SECURE PIPING TO WALL WITH UNISTRUT AND PIPE CLAMPS 30" ON CENTERS MINIMUM.
2. COORDINATE AND FIELD ORIENT ALL PIPING SO AS NOT TO INTERFERE WITH SPRINKLER PIPING AND/OR ASSOCIATED DEVICES.

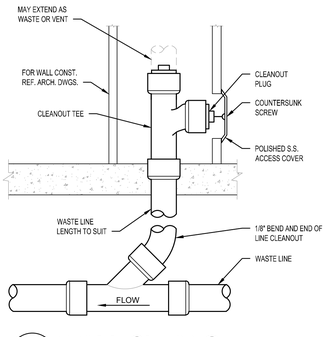
6 DOMESTIC WATER ENTRY
NOT TO SCALE



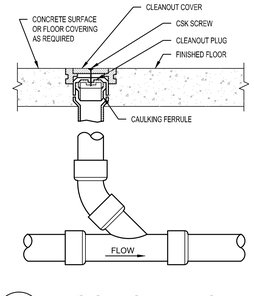
5 TRAP SEAL PRIMER DETAIL
NOT TO SCALE



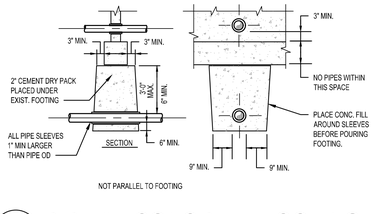
4 VENT THROUGH ROOF (VTR)
NOT TO SCALE



3 WALL CLEANOUT
NOT TO SCALE



2 FLOOR CLEANOUT
NOT TO SCALE



NOT PARALLEL TO FOOTING

1 PIPE AT CONCRETE FOOTING
NOT TO SCALE

CAS ARCHITECTURE
collins | webb
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC
COA #E-2019026746
OVERLAND PARK, KS 66207
913.549.5308
MO CERTIFICATE OF AUTHORITY #C-2021006002

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

100% CONSTRUCTION DOCUMENTS

COPYRIGHT © BY COLLINS WEBB ARCHITECTURE, LLC

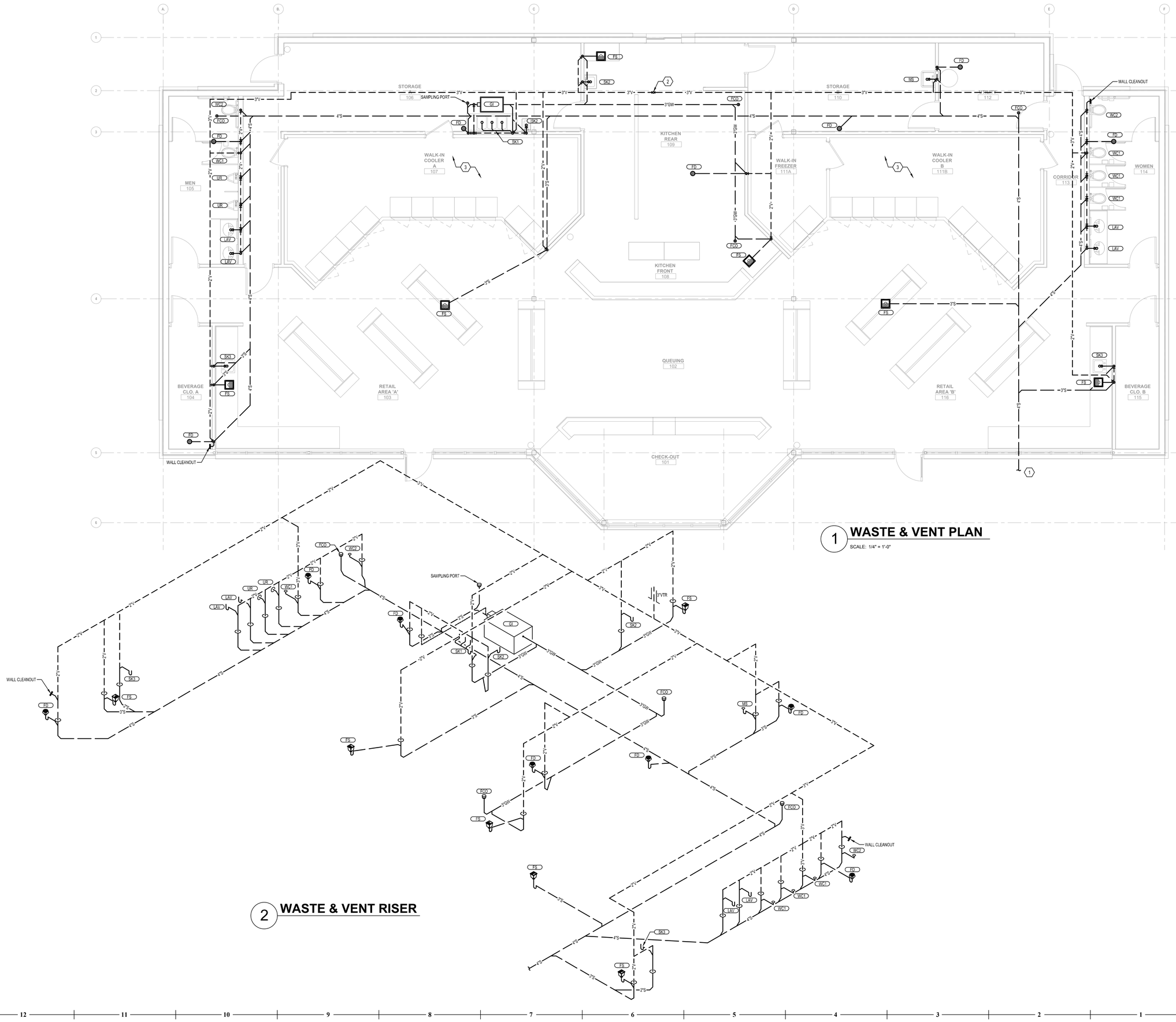
REVISION DATES:

STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
06/09/2025
PROFESSIONAL SEAL

P101

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

PLUMBING NOTES, SYMBOLS & ABBREVIATIONS



1 **WASTE & VENT PLAN**
SCALE: 1/4" = 1'-0"

2 **WASTE & VENT RISER**

GENERAL NOTES
(NOT ALL NOTES APPLY)

1. REFERENCE SHEET P101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.

KEYED NOTES:

1. REFERENCE CIVIL DRAWINGS FOR CONTINUATION.
2. 3"V UP TO 3"VTR. COORDINATE FINAL PLACEMENT WITH ALL ROOF TOP EQUIPMENT AND OPENINGS TO MAINTAIN A MINIMUM 10' FROM ALL FRESH AIR INTAKES AND 2' FROM ALL VERTICAL SURFACES.
3. ROUTE COOLER/FREEZER CONDENSATE DRAIN LINES TO FUNNEL FLOOR DRAIN/FLOOR SINK. TERMINATE OVER DRAIN WITH AIR GAP PER CODE. KEEP LINES AS HIGH AS POSSIBLE N COOLER/FREEZER WHILE MAINTAINING A MINIMUM 1/4" PER FOOT SLOPE.

CWA collins|webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC
P.O. BOX 7
OVERLAND PARK, KS 66207
913.707.0000
MO CERTIFICATE OF AUTHORITY #C-2021006502

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

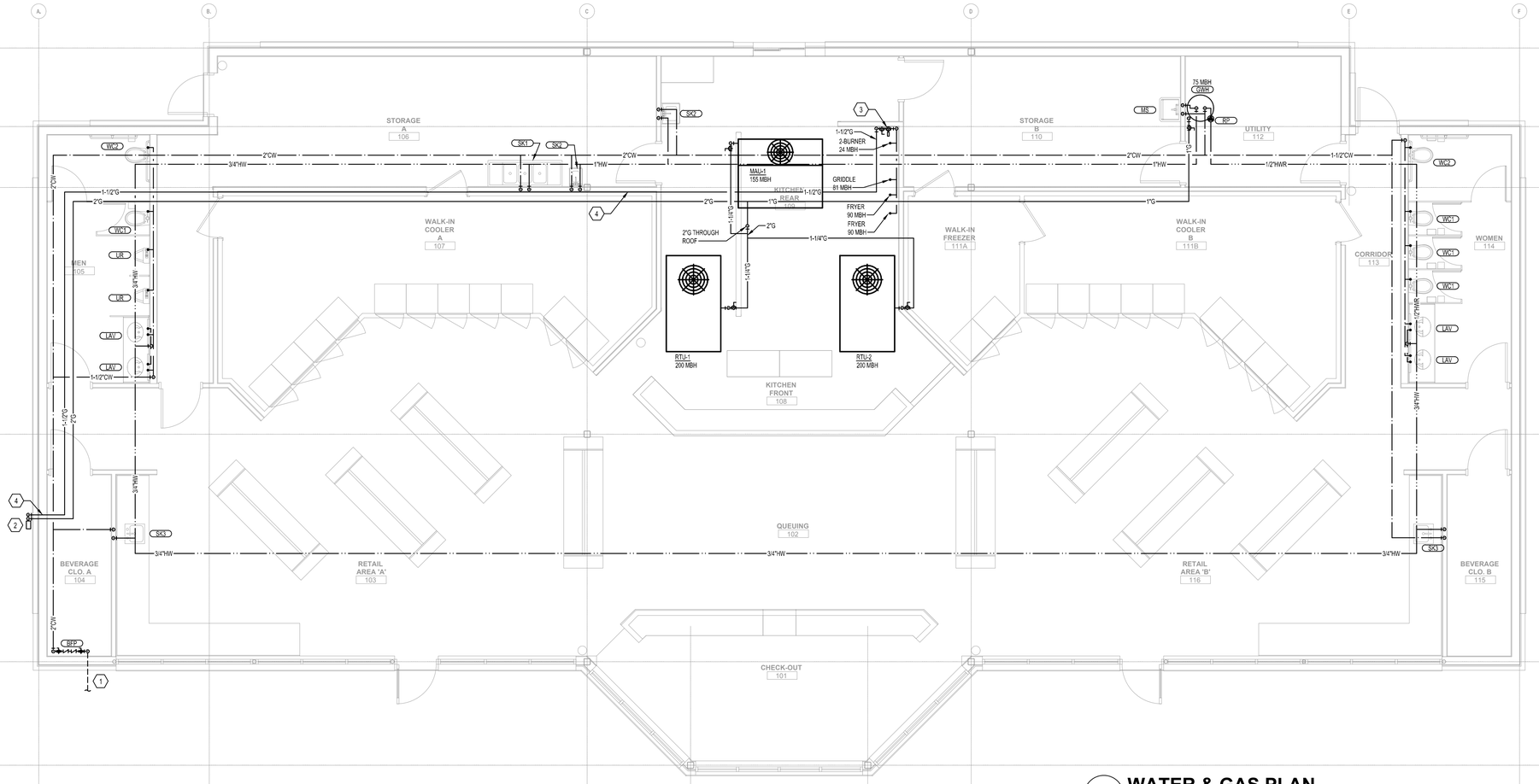
REVISION DATES:

STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
06/09/2025
PROFESSIONAL SEAL

P201

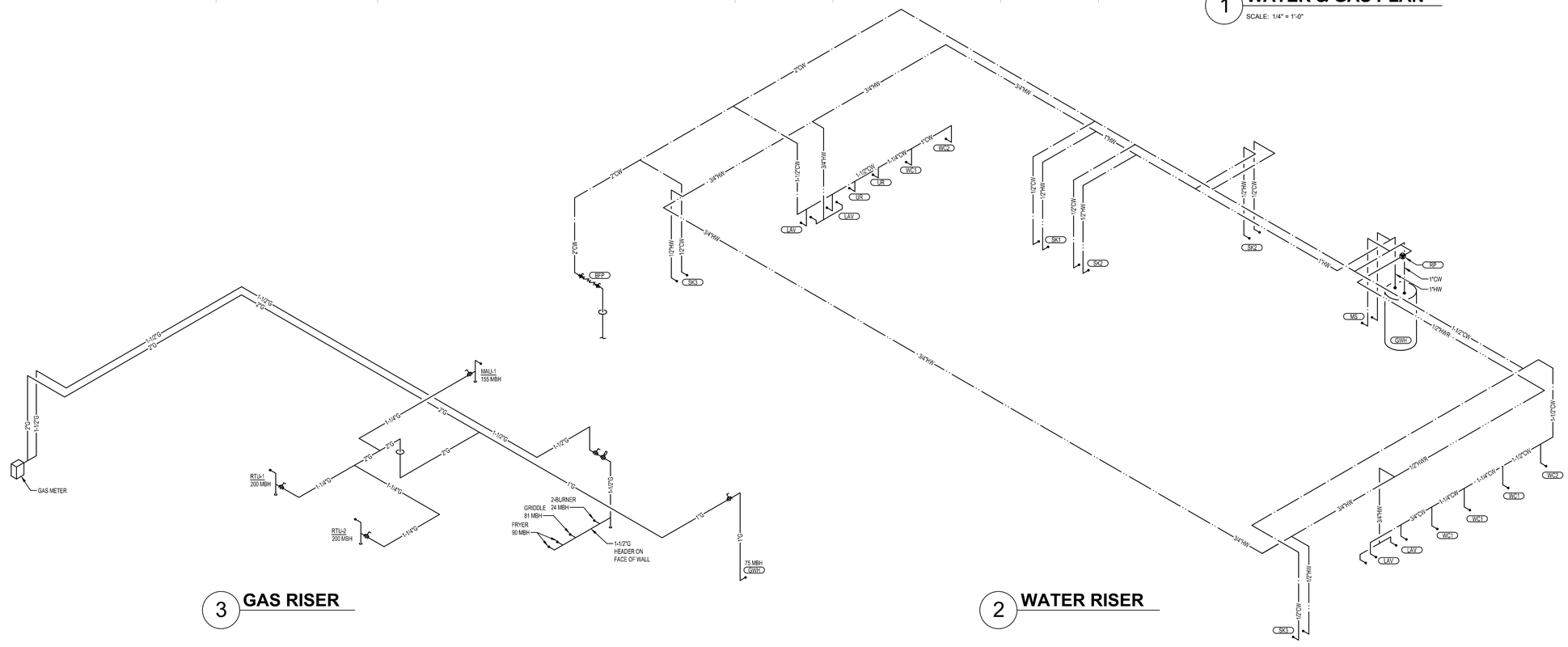
ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

PLUMBING PLANS



1 WATER & GAS PLAN

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



3 GAS RISER

2 WATER RISER

GENERAL NOTES

(NOT ALL NOTES APPLY)

1. REFERENCE SHEET P101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.

KEYED NOTES:

1. REFERENCE CIVIL DRAWINGS FOR CONTINUATION.
2. COORDINATE WITH GAS UTILITY FOR INSTALLATION OF NEW GAS SERVICE. NEW SYSTEM SIZED AT LOW PRESSURE 7" WATER COLUMN, A TOTAL DEVELOPED LENGTH OF 200' AND A TOTAL LOAD OF 915 MBH.
3. PROVIDE SOLENOID ACTUATED EMERGENCY GAS SERVICE SHUT-OFF VALVE BELOW CEILING FOR CONNECTION TO THE EXHAUST HOOD SUPPRESSION SYSTEM. COORDINATE SOLENOID VALVE WITH TYPE OF ANSUL SYSTEM PROVIDED.
4. ROUTE DEDICATED GAS LINE BACK TO GAS METER FOR KITCHEN EQUIPMENT. VERIFY ALL KITCHEN EQUIPMENT GAS LOADS PRIOR TO INSTALLING PIPING.

collins webb ARCHITECTURE
3078 SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

EBS
ENGINEERED BUILDING SOLUTIONS, LLC
CA #2017031
OVERLAND PARK, KS 66207
913.814.9994
MO CERTIFICATE OF AUTHORITY #C-2021006022

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH

3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
06/09/2025
PROFESSIONAL SEAL

P202

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

PLUMBING WATER AND GAS PLANS

15400 - PLUMBING WORK

DESCRIPTION
ALL PLUMBING AND ASSOCIATED WORK IN DIVISION 15 IS GOVERNED BY THIS SECTION. PROVIDE LABOR AND MATERIALS NECESSARY TO PROVIDE THE WORK AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN. REFER TO OTHER DIVISIONS FOR CONTINUATION OF EXTERIOR AND ALLIED WORK.

QUALITY ASSURANCE
OBTAIN AND PAY FOR ALL PERMITS, INSPECTIONS AND CONNECTION FEES REQUIRED BY GOVERNING BODIES IN CONNECTION WITH THE WORK. DELIVER CERTIFICATES OF INSPECTION TO THE OWNER'S REPRESENTATIVE. ALL WORK SHALL COMPLY WITH GOVERNING CODES, ORDINANCES, AND REGULATIONS OF CITY, COUNTY AND STATE.

SUBMITTALS
SHOP DRAWINGS: SUBMIT MATERIALS, PRODUCTS, EQUIPMENT AND SYSTEMS AS SPECIFIED UNDER EACH PLUMBING SECTION IN THIS DIVISION IN ACCORDANCE WITH THE GENERAL CONDITIONS. SHOW PIPE SIZES, LOCATION, SLOPES OF HORIZONTAL RUNS, FITTINGS, VALVES, METERS, GAGES AND CONNECTIONS.

PRODUCT DATA: SUBMIT ON MATERIALS, FIXTURES, AND EQUIPMENT UNLESS OTHERWISE SPECIFIED OR ACKNOWLEDGED IN WRITING.

SAMPLES: SUBMIT WHEN SPECIFIED OR REQUESTED.

RECORD DOCUMENTS
REFER TO GENERAL CONDITIONS FOR REQUIREMENTS CONCERNING RECORD DOCUMENTS. ADDITIONAL REQUIREMENTS MAY BE SPECIFIED IN DIVISION 1. UNLESS SEPIAS OF THE DRAWINGS ARE TO BE FURNISHED BY THE ARCHITECT-ENGINEER FOR PREPARATION OF RECORD DRAWINGS, FURNISH OWNER'S REPRESENTATIVE WITH TWO SETS OF ACCURATELY MARKED COPIES OF THE DRAWINGS, INSTEAD OF ONE SET AS REQUIRED BY THE GENERAL CONDITIONS, INDICATING ALL CHANGES FROM ORIGINAL DRAWINGS AS INSTALLED.

PRODUCT HANDLING
PIPE, FIXTURES AND ACCESSORIES SHALL BE PROTECTED FROM DAMAGE IN SHIPMENT, HANDLING, STORAGE AND INSTALLATION: FROM MOISTURE, DIRT AND DEBRIS. PIPE, CLEANOUT AND FLOOR DRAIN OPENINGS SHALL BE TEMPORARILY PLUGGED WITH TEST PLUGS UNTIL FINAL CONNECTIONS ARE MADE.

GUARANTEE AND SERVICE
REFER TO GENERAL CONDITIONS FOR GUARANTEE. WHERE EXTENDED GUARANTEES ARE CALLED FOR, FURNISH THREE COPIES TO BE INSERTED INTO OPERATION AND MAINTENANCE MANUALS.

GENERAL
PLUMBING SYSTEMS SHALL BE PROVIDED COMPLETE. SHOULD A SYSTEM, OR ANY PART THEREOF FAIL TO MEET PERFORMANCE REQUIREMENTS, NECESSARY REPLACEMENTS, ALTERATIONS OR REPAIRS, AS REQUIRED BY THE OWNER'S REPRESENTATIVE, SHALL BE MADE TO BRING PERFORMANCE UP TO SPECIFIED REQUIREMENTS AND ALL BUILDING CONSTRUCTION AND FINISHES DAMAGED OR MARRED BY SUCH REPLACEMENTS, ALTERATIONS OR REPAIRS SHALL BE RESTORED TO PRIOR CONDITION, AT NO ADDITIONAL COST TO THE OWNER.

WHERE MULTIPLE ITEMS OF EQUIPMENT OR MATERIALS ARE REQUIRED THEY SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER.

INSERTS, PIPE SLEEVES, HANGERS, SUPPORTS, FIXTURES, TRIM DRAINS AND ANCHORAGE OF PLUMBING SHALL BE PROVIDED AS SPECIFIED HEREIN. WHERE SUCH ITEMS ARE TO BE SET OR EMBEDDED IN CONCRETE, MASONRY OR SIMILAR WORK, THE ITEMS SHALL BE FURNISHED AND LAYOUT MADE AT THE PROPER TIME FOR THE SETTING OR EMBEDMENT THEREOF SO AS TO CAUSE NO DELAY IN THE WORK.

MANUFACTURER'S NAMES AND CATALOG NUMBERS
SPECIFIED REFERENCES HAVE BEEN MADE TO ONE OR MORE MANUFACTURER'S NAMES AND MODEL OR CATALOG NUMBERS. THIS DOES NOT NECESSARILY INDICATE THAT THE MATERIAL AND EQUIPMENT SPECIFIED IS AN "OFF THE SHELF" ITEM. REQUIREMENTS FOR SPECIFIC FINISHES, MATERIAL OR OTHER MODIFICATIONS MAY INTRODUCE VARIANCES FROM MANUFACTURERS' STANDARDS. MODIFICATIONS SHALL BE FULLY CONSIDERED.

CHARTS AND TAGS
IN AREAS HAVING VALVES, PROVIDE SINGLE LINE DIAGRAMS FRAMED UNDER GLASS AND MOUNTED ON EQUIPMENT ROOM WALL. THE DIAGRAMS SHALL GIVE NAME, NUMBER DESIGNATION AND LOCATION OF VALVE.

VALVES SHALL BE IDENTIFIED WITH 1/16 INCH THICK WHITE LAMINATED PLASTIC NAMEPLATES WITH 3/16 INCH HIGH BLACK LAMINATED LETTERS. THE NAMEPLATE IDENTIFICATION SHALL COINCIDE WITH ITEMS APPEARING ON DIAGRAMS. ATTACH NAMEPLATES TO VALVES WITH NON-CORROSIVE CHAIN OR WIRE.

ACCESS DOORS
PROVIDE ACCESS DOORS AS INDICATED AND SPECIFIED IN DRAWINGS

INSTALLATION AND WORKMANSHIP
THE WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ANY MATERIAL, APPARATUS OR EQUIPMENT WHICH, IN THE OPINION OF THE OWNER'S REPRESENTATIVE, IS IMPROPERLY INSTALLED SHALL BE REMOVED AND REINSTALLED IN AN APPROVED MANNER AT NO ADDITIONAL COST TO THE OWNER.

THE LOCATION OF PLUMBING PIPING SHALL BE COORDINATED TO ENSURE THAT IT CLEARS OPENINGS AND STRUCTURAL MEMBERS; THAT PIPING INDICATED AS CONCEALED CAN BE PROPERLY CONCEALED IN WALLS OR PARTITIONS AND THAT IT DOES NOT INTERFERE WITH LIGHTS, DUCTWORK OR EQUIPMENT HAVING FIXED LOCATIONS. MAKE NECESSARY HORIZONTAL OR VERTICAL OFFSETS WITH PIPE FITTINGS TO INSTALL THE SYSTEM IN THE AVAILABLE SPACE. CONCEAL OR INSTALL TIGHT TO STRUCTURE (IF EXPOSED) UNLESS OTHERWISE NOTED.

PIPING SHALL BE EXPOSED IN FINISHED AREAS ONLY WHERE INDICATED OR WITH THE APPROVAL OF THE OWNER'S REPRESENTATIVE.

WHERE DRAIN OR WATER CONNECTIONS NECESSARY TO THE OPERATION OF FIXTURES OR EQUIPMENT ARE NOT SPECIFICALLY SHOWN ON DIAGRAMS, EXTEND NECESSARY BRANCHES TO THE CLOSEST INDICATED BRANCH OR MAIN, AT NO ADDITIONAL COST TO THE OWNER.

EACH FIXTURE, EQUIPMENT DRAIN OR FLOOR DRAIN SHALL BE SEPARATELY TRAPPED UNLESS OTHERWISE INDICATED OR SPECIFIED.

PLUMBING PIPING AND EQUIPMENT SHALL NOT BE FIELD PAINTED, OR PRIMED BEYOND THE DEGREE OF APPLICATION FROM THE FACTORY SOURCE, OR EXCEPT AS REQUIRED BY APPLICABLE CODES AND AUTHORITIES HAVING JURISDICATION.

WATERPROOFING
DO NOT CUT OR PENETRATE WATERPROOFED SURFACES OR WATERPROOFING MEMBRANES WITHOUT FIRST MAKING ARRANGEMENTS FOR REPAIR BY A METHOD APPROVED BY THE OWNER'S REPRESENTATIVE.

ACCESS DOORS
INSTALL AS REQUIRED FOR MAINTENANCE, ADJUSTMENT, REMOVAL AND REPAIR OF VALVES, EQUIPMENT AND LIKE ITEMS. DOORS SHALL BE CONVENIENTLY LOCATED AND OF SUFFICIENT SIZE.

PIPING PROVISIONS FOR FIXTURES AND EQUIPMENT SPECIFIED IN OTHER SECTIONS OR FURNISHED BY THE OWNER
ROUGH IN LOCATIONS SHALL BE DETERMINED FOR SERVICES. PROVIDE ALL NECESSARY PLUMBING SERVICES, ACCESSIBLE VALVES ON PLUMBING BRANCHES AND MAKE ALL FINAL CONNECTIONS.

PLUMBING OPERATION AND MAINTENANCE MANUALS

DESCRIPTION
FURNISH TWO COPIES OF COMPLETE OPERATION AND MAINTENANCE MANUALS TO THE OWNER'S REPRESENTATIVE, FOR APPROVAL AND FOR THE OWNER, ON PLUMBING EQUIPMENT AND SPECIALTIES. THE MANUAL SHALL BE BOUND IN HARD-BACK, THREE-RING LOOSE-LEAF BINDERS.

MANUAL CONTENTS
TITLE SHEET WITH JOB NAME, AND THE NAMES, ADDRESSES AND PHONE NUMBERS OF THE CONTRACTOR, SUBCONTRACTOR, CONTROL SUBCONTRACTOR, RELATED CONTRACTOR AND MATERIAL AND EQUIPMENT SUPPLIERS.

INDEX OF CONTENTS
TYPEWRITTEN OPERATING INSTRUCTIONS FOR THE OWNER'S PERSONNEL DESCRIBING HOW TO OPERATE EACH PIECE OF EQUIPMENT, AND CAUTION AND WARNING NOTICES.

APPROVED SHOP DRAWINGS, PRODUCT DATA AND PARTS AND MAINTENANCE BOOKLET FOR EACH ITEM OF PLUMBING, EQUIPMENT SPECIFIED IN DIVISION 15.

COPIES OF CERTIFICATES OF INSPECTION, WHERE INSPECTION IS REQUIRED. GUARANTEES, INCLUDING EXTENDED GUARANTEES.

DELIVERY
DELIVER THE MANUALS TO THE OWNER'S REPRESENTATIVE PRIOR TO SUBMITTING APPLICATION FOR FINAL PAYMENT.

PLUMBING PIPING

DESCRIPTION
FURNISH AND INSTALL PLUMBING PIPING WHERE SHOWN ON DRAWINGS AND AS SPECIFIED.

PIPING MATERIALS
OPTIONS
1. CAST IRON HUBLESS SANITARY PIPE AND FITTINGS: CISPI STD. 301.
2. CAST IRON SOIL PIPE AND FITTINGS, SERVICE WEIGHT: ASTM A 74.
3. CAST IRON SOIL PIPE AND FITTINGS, EXTRA HEAVY WEIGHT: ASTM A 74.
4. STEEL PIPE: ASTM A 53.
5. MALLEABLE IRON FITTINGS, 150 LB.: ASTM A 197.
6. PIPE THREADS: ANSI B2.1.
7. NIPPLES, PIPE (THREADED): FED SPEC. WW-N-351.
8. COPPER WATER TUBE: ASTM B 88.
9. WROUGHT COPPER AND BRONZE SOLDER-JOINT PRESSURE FITTINGS: ANSI B16.29.
10. WROUGHT COPPER AND WROUGHT COPPER ALLOY SOLDER-JOINT DRAINAGE FITTINGS: ANSI BL6.29.
11. CAULKING LEAD: FED. SPEC. QQ-C-40 (2).
12. SHEET LEAD: FED. SPEC. QQ-L-201.
13. SHEET COPPER: ASTM B 152.
14. NO-HUB STAINLESS STEEL COUPLING AND GASKETS: CISPI STD. S-301.
15. WHERE ACCEPTABLE BY LOCAL AUTHORITY HAVING JURISDICTION SOLID WALL ABS PIPING MAY BE USED FOR WASTE PIPING.
    15.A. PVC/ABS PIPING CANNOT BE USED IN RETURN AIR PLENUM APPLICATION.

JOINTS AND CONNECTIONS
OPTIONS
1. CAST IRON, HUB AND SPIGOT: PACKED WITH OAKUM AND FINISHED WITH LEAD NOT LESS THAN 1 INCH DEEP; WELL CAULKED.
2. CAST IRON, NO-HUB: NEOPRENE GASKET AND CORRUGATED 304 STAINLESS STEEL SHIELD IN CONJUNCTION WITH 4 STAINLESS STEEL CLAMPS FOR 4" AND SMALLER, 6 CLAMPS FOR 5" AND LARGER.
3. BETWEEN LEAD AND BRASS: FERRULES OR SOLDERING NIPPLES WITH WIPED JOINTS 3/8" THICK AND 3/4" EACH SIDE OF JOINTS.
4. SCREWED JOINTS: AMERICAN NATIONAL STANDARD WITH PIPE FREE FROM CUTTING AND BURRS. THREE THREADS EXPOSED MAXIMUM.
5. SOLDERED JOINTS: 95-5 TIN-ANTIMONY SOLDER. SLIP JOINTS: USE FOR PLUMBING TRAP SEALS ON INLET SIDE ONLY.
6. BETWEEN COPPER AND FERROUS MATERIALS: INSULATING DIELECTRIC UNION.
7. FLANGED JOINTS: FURNISH WITH COMPANION FLANGE AND CLOTH INSERTED RUBBER GASKET.
8. FLANGED BOLTS: ASTM A 354, MINIMUM GRADE BD, ALLOY STEEL WITH HEX NUTS IN COMPLIANCE WITH ANSI B18.22 AND STANDARD ROLLED STEEL WASHERS.
9. ASSEMBLY FOR HUBLESS PIPING: AS RECOMMENDED BY THE MANUFACTURER.
10. CHANGES IN PIPE SIZE SHALL BE MADE WITH REDUCERS, INCREASERS OR REDUCING FITTINGS. BUSHINGS WILL NOT BE PERMITTED.

INSTALLATION
BEFORE INSTALLING PIPE IN ANY PART OF THE SYSTEM, THE PIPE SHALL BE CLEANED INSIDE AND MADE FREE OF OIL, DIRT, AND FOREIGN MATTER. PROPERLY ALIGN AND INSTALL IN NEAT ARRANGEMENT, TRUE TO THE LINES OF THE BUILDING. PITCH LINE AT A CONSTANT SLOPE FOR PROPER DRAINAGE.

EXCEPT AS NOTED OTHERWISE ON DRAWINGS, PIPING SHALL BE HELD AS HIGH AS POSSIBLE, BETWEEN STRUCTURES AND THROUGH JOIST WEBBING, WITH DUE REGARD TO CONFLICTS WITH OTHER SYSTEMS AND THEIR REQUIREMENTS FOR SPACE.

PIPING, INCLUDING NO-HUB PIPING, SHALL BE INSTALLED STRAIGHT AND TRUE TO VERTICAL AND HORIZONTAL LINES. DEFLECTION SHALL NOT EXCEED ONE DEGREE. WHEN NECESSARY TO ACHIEVE THIS ALIGNMENT PROVIDE ADDITIONAL HANGERS OR BRACING.

APPLY LUBRICANT TO SCREW JOINT MALE THREADS.

METAL TO BE SOLDERED SHALL BE CLEANED AND FLUXED AS SUITABLE FOR THE SOLDER USED.

NOTCHING OF COPPER TUBING OR PLASTIC PIPING FOR CONNECTIONS WILL NOT BE PERMITTED.

PLUMBING SPECIALITES

PIPE SLEEVES
SCHEDULE 40 BLACK STEEL, GALVANIZED 26 GAGE STEEL, PROVIDE FOR ALL PIPES THROUGH WALLS AND FLOORS.

ESCUTCHEONS
PROVIDE FOR ALL PIPING THROUGH WALLS, FLOORS AND CEILING WERE PIPING IS EXPOSED TO VIEW IN FINISHED AREA. ESCUTCHEONS SHALL BE CHROMIUM PLATED, TWO PIECE, HINGED WITH SET SCREW.

UNIONS
PROVIDE GROUND JOINT BRASS UNIONS OR FLANGES ON EACH PIPING CONNECTION TO EQUIPMENT.

PROVIDE DIELECTRIC UNIONS BETWEEN COPPER AND STEEL PIPING CONNECTION TO EQUIPMENT.

VACUUM BREAKERS
SHALL CONFORM TO THE REQUIREMENTS OF THE REFERENCED PLUMBING CODE AND SHALL BE PROVIDED FOR HOSE BIBBS, FLUSHOMETERS AND ANY FIXTURE OR EQUIPMENT WATER SUPPLY HAVING A THREADED OUTLET.

FLASHING
VENT FLASHING SHALL COMPLY WITH ROOFING MANUFACTURER'S WRITTEN SPECIFICATIONS

CLEANOUTS
CLEANOUTS ON NO-HUB PIPE SHALL BE STANDARD NO-HUB FITTINGS.
CLEANOUTS ON CAST IRON HUB AND SPIGOT PIPING, SHALL BE CADMIUM PLATED.
APPROVED MANUFACTURERS: ZURN, JOSAM OR JONESPEC.

TRAP PRIMERS
PROVIDE WHERE INDICATED ON DRAWINGS. PRECISION PRODUCTS WITH DISTRIBUTION UNIT OR APPROVED EQUAL.

PIPE SLEEVES
1. EXTEND SLEEVE 1/4 INCH BEYOND FINISHED SURFACE.
2. SET SLEEVE BEFORE POURING CONCRETE.
3. PROVIDE CLEARANCE BETWEEN SLEEVE AND PIPE OR BETWEEN SLEEVE AND INSULATION TO ALLOW FOR PIPE MOVEMENT DUE TO EXPANSION AND CONTRACTION.
4. INSULATION SHALL PASS CONTINUOUS THROUGH THE SLEEVE.
5. CAULK BETWEEN SLEEVE AND PIPE OR SLEEVE AND INSULATION. PREFABRICATED, PRE-INSULATED, "PIPE SHIELDS" WILL BE ACCEPTABLE FOR PIPES PASSING THROUGH FLOORS, EXTERIOR WALLS, FIRE WALLS AND FIRE RESISTIVE WALLS AND PARTIITONS.
6. ESCUTCHEONS: FIT AROUND INSULATION WHERE PRESENT. PROVIDE DEEP ESCUTCHEON PLATES WHERE PIPE SLEEVES EXTEND ABOVE FLOORS.
7. WATER HAMMER ARRESTERS: INSTALL WHERE SHOWN ON DRAWINGS.
8. CLEANOUTS: INSTALL WHERE SHOWN ON DRAWINGS AND AT BASE OF ALL RISERS. PROVIDE ADDITIONAL CLEANOUTS WHERE REQUIRED BY LOCAL CODES AND FOR CONVENIENCE OF TESTING AND ERECTION AT CONTRACTOR'S OPTION.
9. FRAMES AND COVERS SHALL BE FLUSH WITH ADJOINING ARCHITECTURAL FINISH.

PLUMBING VALVES

DESCRIPTION
INSTALL IN ACCESSIBLE LOCATION.
VALVES SHALL NOT BE INSTALLED WITH THE STEMS BELOW THE HORIZONTAL POSITION.

VALVES, GATE, 125# UNION BONNET. RISING STEM
3 INCH AND SMALLER:
1. SCREWED: ITT GRINNELL #3080 OR APPROVED EQUAL.
2. SOLDER JOINT: ITT GRINNELL #3080 SJ OR APPROVED EQUAL.

VALVES, BALL (MAY BE USED IN LIEU OF GATE VALVES UP TO 2"): 2" AND SMALLER NIBCO #T580; TWO PIECE BRONZE BODY, WITH SCREEWED ENDS, CHROME PLATED BRONZE BALL WITH CONVENTIONAL PORT, 400 PSI, BLOW OUT PROOF STEM.

VALVES, GLOBE 150# TEFLON DISC. UNION BONNET
3 INCH OR SMALLER:
1. SCREWED: ITT GRINELL #3240 OR APPROVED EQUAL.
2. SOLDER JOINT: ITT GRINELL #3240 SJ OR APPROVED EQUAL.

VALVES, CHECK 125# REMOVABLE REGRINDABLE DISC A. 3 INCH AND SMALLER, HORIZONTAL:
1. SCREWED: ITT GRINELL #3300 OR APPROVED EQUAL.
2. SOLDER JOINT: ITT GRINELL #3300 SJ OR APPROVED EQUAL.

3 INCH AND SMALLER, VERTICAL:
1. FOR SCREWED AND SOLDER JOINT INSTALLATION. SAME AS SECTION A OR APPROVED EQUAL. PROVIDE ADAPTERS FOR SOLDER JOINT CONNECTION. 2.05 HOSE BIBBS.
    A. SEE FIXTURE SCHEDULE ON DRAWINGS.
    B. PLUG COCKS, 125# BRONZE COCKS. TWO (2) INCH AND SMALLER SHALL BE CRANE NO. 250 OR APPROVED EQUAL.

INSTALLATION
INSTALL VALVES WHERE SHOWN ON DRAWINGS.

PLUMBING HANGERS AND SUPPORTS

DESCRIPTION
PROVIDE HANGERS FOR ALL PIPING NOT INDICATED BELOW GRADE. USE HANGERS CAPABLE OF ADJUSTMENT.

HANGERS AND SUPPORTS
HANGERS FOR BLACK OR GALVANIZED STEEL PIPE SHALL BE GRINNELL, MODEL NO. 65 OR APPROVED EQUAL.

HANGERS FOR CAST IRON PIPE SHALL BE GRINNELL, MODEL NO. 260 OR APPROVED EQUAL.

HANGERS FOR COPPER TUBING SHALL BE GRINNELL, MODEL NO. 97 C OR APPROVED EQUAL.

TRAPEZE HANGERS OF A TYPE APPROVED BY THE OWNER'S REPRESENTATIVE MAY BE USED WHERE PIPES ARE DESIGNED TO RUN PARALLEL AT THE SAME ELEVATION.

PROVIDE ISOLATION HANGER WITH PROTECTIVE SHIELD, GRINNELL, MODEL NO. 300 103 OR APPROVED EQUAL, FOR ALL INSULATED PIPING. AT HANGER POINTS, PROVIDE 6 INCH LONG SECTION OF 1/2 INCH THICK CALCIUM SILICATE SECTIONAL PIPE INSULATION WITH FACTORY LONGITUDINAL LAP. SEAL BUTT JOINTS WITH INSULATING CEMENT.

STRAP HANGERS: NOT PERMITTED.

RISER CLAMPS: PROVIDE RISER CLAMPS FOR VERTICAL PIPING AT EACH LEVEL, GRINNELL MODEL NO. 261

INSERTS: IN CONCRETE, GRINNELL MODEL NO. 285 OR APPROVED EQUAL, HAVING ADJUSTMENT FROM 3/4 INCH THROUGH 1-1/4 INCH. IN METAL DECKS READHEAD SD1 OR APPROVED EQUAL. POWDER PROPELLED PERMITTED IN NEW CONSTRUCTION WHERE TYPE AND LOCATION ARE APPROVED PRIOR TO INSTALLATION. IN EXISTING CONSTRUCTION, START SLUGIN NO. 6800 SERIES OR APPROVED EQUAL.

SIDE BEAM CLAMPS: PROVIDE WHEN SUPPORTING FROM STRUCTURAL STEEL MEMBERS, GRINNELL, MODEL 225 OR APPROVED EQUAL.

OTHER SUPPORTS: OBTAIN OWNER'S REPRENTATIVE APPROVAL FOR OTHER METHODS OF SUPPORT.

SPACING OF HANGERS
PROVIDE HANGER AT EACH CHANGE OF DIRECTION.

SPACE HANGERS AND SUPPORTS TO PREVENT SAGGING AND REDUCE STRAIN ON VALVES AND SPECIALTIES WITH SPACING NO GREATER AND ROD NO SMALLER THAN SHOWN ON THE FOLLOWING TABLE. HANGERS SHALL ALLOW FOR EXPANSION AND CONTRACTION.

FERROUS PIPING AND COPPER TUBING:

DIAMETER OF PIPE	MAXIMUM SPACING	ROD SIZE	
1/2" THROUGH 1-1/2"	6 FT.	3/8"	
2" THROUGH 3"	10 FT.	1/2"	
4" THROUGH 5"	12 FT.	5/8"	
6" AND LARGER	16 FT.	3/4" D.	

CAST IRON PIPING:

DIAMETER OF PIPE	MAXIMUM SPACING	ROD SIZE	
2" AND 3"	EACH JOINT	3/8"	
4" AND 5"	EACH JOINT	1/2"	
6" AND 8"	EACH JOINT	3/4"	
10" THROUGH 15"	EACH JOINT	3/4"	(TWO HANGERS)

RISER CLAMPS
INSTALL AT EACH LEVEL BELOW THE FLOOR. SUSPEND FROM TWO HANGER RODS AND INSERTS WHERE THE INSTALLATION OF ESCUTCHEON PLATES IS REQUIRED.

TESTING OF PLUMBING PIPING

DESCRIPTION
CONDUCT ALL TESTS AFTER PIPING IS INSTALLED AND BEFORE PIPING IS CONCEALED OR COVERED.

PROVIDE ALL NECESSARY TEMPORARY PIPING CLOSURES.

PROVIDE ALL TESTING EQUIPMENT, MATERIALS AND SUPPLIES.

SYSTEMS SHALL REMAIN UNDER TEST FOR SUFFICIENT LENGTH OF TIME TO PROVE TIGHTNESS THEREOF AND FOR ADEQUATE OBSERVATION BY THE ARCHITECT-ENGINEER.

MATERIALS OTHER THAN THOSE SPECIFIED FOR JOINING WILL NOT BE PERMITTED IN THE PIPING SYSTEMS FOR THE PURPOSE OF STOPPING LEAKS.

ALL LEAKS DISCLOSED BY THE TESTING PROCEDURES SHALL BE REPAIRED AND TESTING REPEATED UNTIL THE SYSTEM IS PROVEN TIGHT.

TESTING REQUIREMENTS ARE MINIMUM AND ARE NOT INTENDED TO BE LIMITING WHERE ADDITIONAL TESTING METHODS ARE REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

SUBMITTALS
STERILIZATION: PROVIDE A DATED LETTER TO THE ARCHITECT-ENGINEER'S REPRESENTATIVE STATING THAT PIPING SYSTEM HAS BEEN STERILIZED AND FLUSHED AS SPECIFIED.

PIPING TEST
DOMESTIC HOT AND COLD WATER PIPING SHALL BE FILLED, THEN TESTED TO A HYDROSTATIC PRESSURE OF 150 PSIG. MAINTAIN TEST PRESSURE FOR A MINIMUM OF ONE HOUR.

SANITARY PIPING, PREVIOUS TO CONNECTION OF FIXTURES, SHALL BE FILLED WITH WATER TO THE TOP OF THE SYSTEM AND PROVEN TIGHT. WHEN TESTING THE SYSTEM BY SECTIONS THE MINIMUM HEIGHT OF THE WATER COLUMN SHALL BE 10 FEET. EXAMINE ALL JOINTS FOR LEAKS.

NEW FIRE STANDPIPE SYSTEM SHALL BE TESTED TO A HYDROSTATIC PRESSURE OF 200 PSIG. MAINTAIN TEST PRESSURE FOR A MINIMUM OF TWO HOURS.

GAS PIPING SHALL BE TESTED WITH NITROGEN TO 50 PSIG. PRESSURE SHALL BE MEASURED WITH A MANOMETER. MAINTAIN TEST PRESSURE FOR A MINIMUM OF 30 MINUTES.

STERILIZATION
AFTER TESTS ARE COMPLETED ALL WATER SUPPLY SYSTEMS SHALL BE FILLED WITH A SOLUTION CONTAINING 100 PPM OF AVAILABLE CHLORINE AND ALLOWED TO STAND FOR A PERIOD TO TWO HOURS BEFORE BEING FLUSHED WITH CLEAN WATER.

PLUMBING, FIXTURES, TRIM AND DRAINS

MANUFACTURER
MANUFACTURER SHALL BE AS SCHEDULED OR BY APPROVED EQUAL.

PIPING
PIPING TO SERVE FIXTURES AND EQUIPMENT AND EXPOSED TO VIEW IN FINISHED AREAS SHALL BE BRASS, CHROMIUM PLATED.

SUPPORTS
PROVIDE ALL BRACKETS, PLATES, ANCHORS AND FASTENING DEVICES REQUIRED FOR ANCHORING THE FIXTURES RIGIDLY IN PLACE. RISERS TO SHOWER HEADS SHALL BE ANCHORED TO THE WALL CONSTRUCTION TO PREVENT MOVEMENT.

FIXTURES
PROVIDE PLUMBING FIXTURES AS SCHEDULED ON DRAWINGS, AMERICAN STANDARD, KOHLER, ELJER OR APPROVED EQUAL.

PLUMBING DRAINS
FURNISH WITH SEEPAGE FLANGE WHERE INSTALLED WITH PANS OR FLASHING, FURNISH CLAMPING RING.

ALL DRAINS SHALL BE OF THE SAME MANUFACTURER.

FURNISH FLOOR DRAINS WITH PRIMER CONNECTIONS WHERE INDICATED ON THE DRAWINGS. IN LIEU OF CAST-IN PRIMER CONNECTIONS ON THE DRAIN BODY, A TEE BETWEEN THE DRAIN BODY AND THE TRAP, TO RECEIVE THE PRIMER DISCHARGE WILL BE ACCEPTABLE.

PROVIDE FLOOR DRAINS WITH 4 INCH DEEP SEAL TRAPS.

PROVIDE ALL DRAINS AS SCHEDULED ON DRAWINGS OR APPROVED EQUAL.

INSTALLATION
DRAIN SHALL BE INSTALLED WHERE SHOWN ON THE DRAWINGS; ACCESSIBLE AND LOCATED TO SUIT EQUIPMENT APPROVED FOR INSTALLATION. WHERE FLUSH VALVES ARE SPECIFIED WITH FIXTURES, THE SUPPLY TO THE VALVE IN EACH ROOM SHALL BE AT THE SAME HEIGHT FOR THE TYPE OF FIXTURE AND THE VALVE SHALL BE SET IN PLACE SO THAT THE CENTER LINE OF THE VALVE DISCHARGE IS DIRECTLY ABOVE THE CENTER LINE OF FIXTURE STUD. BENDING OF NIPPLE BETWEEN THE VALVE AND THE STUD TO ACHIEVE CONNECTION WILL NOT BE PERMITTED.

CHROME PLATED PIPING REQUIRING THE USE OF WRENCH SHALL BE PROTECTED FROM DAMAGE.

BOLT WATER CLOSET CARRIER TO FLOOR.

GAS PIPING

PIPING
SHALL COMPLY WITH THE REQUIREMENTS OF NFPA NO. 54 AND THE LOCAL GAS COMPANY.

PIPE SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH MALLEABLE FITTINGS

INSTALLATION
PIPING SHALL COMPLY WITH THE REQUIREMENTS OF NFPA NO. 54 AND THE LOCAL GAS COMPANY.

INSTALL GAS SHUT-OFF AND GAS MANIFOLDS AS INDICATED OR REQUIRED.

DOMESTIC HOT AND COLD WATER

DESCRIPTION
THE WORK INCLUDES FURNISHING AND INSTALLING HOT AND COLD WATER PIPING AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.

PIPING
HOT AND COLD WATER PIPING SHALL BE COPPER WATER TUBE HARD TEMPER, TYPE "L" WITH WROUGHT SOLDER FITTINGS ABOVE FLOOR AND SOFT TEMPER TYPE "K" WITH WROUGHT SOLDER FITTINGS BELOW GRADE.

GATE VALVES
SPECIFIED IN SECTION, PLUMBING VALVES .

INSTALLATION
NOTCHING OF PIPE FOR CONNECTION NOT PERMITTED.

WHERE POSSIBILITY OF BACKFLOW FROM THE DRAIN TO THE SUPPLY FITTING EXISTS, INSTALL VACUUM BREAKERS.

NOT MORE THAN ONE LAVATORY, SINK, OR SIMILAR FIXTURE SHALL BE SUPPLIED BY A 1/2 INCH BRANCH. LINEAR DIMENSIONS NOT TO EXCEED 5 FEET.

MAKE CONNECTION TO EQUIPMENT AND FIXTURES INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN.

HOT WATER BRANCH CONNECTIONS TO DISTRIBUTION MAINS SHALL BE TOP TAKE-OFF, SWING JOINT TYPE.

ALL PIPING INSTALLED BELOW GROUND SHALL RECEIVE TWO COATS OF KOPPERS NO. 50 OR APPROVED EQUAL.

PLUMBING INSULATION

DESCRIPTION
INSULATION SHALL NOT BE INSTALLED UNTIL TESTING PROCEDURES HAVE BEEN COMPLIED WITH AND ALL SURFACES HAVE BEEN CLEANED AND FREE OF DIRT, GREASE AND COMPLETELY DRIED.

MATERIALS SHALL COMPLY WITH UL 723, FLAME SPREAD RATING, HOT SURFACE TEST PERFORMANCE, AND SMOKE DEVELOPED RATING.

SUBMITTALS
SAMPLES AND MANUFACTURER'S PRODUCT DATA: SUBMIT SAMPLES OF INSULATION AND ADHESIVE AND PRODUCT DATA LISTING RECOMMENDATIONS FOR USE AND COMPLIANCE WITH NFPA 90.

INSULATION
INSULATION FOR HOT AND COLD WATER PIPING, SHALL BE SECTIONAL GLASS FIBER AS MANUFACTURED BY OWENS CORNING FIBERGLASS TYPE ASJ/SSLII OR APPROVED EQUAL, WITH FACTORY APPLIED, ALL PURPOSE, FIRE RETARDANT JACKET.

INSULATION FOR EXPOSED HOT AND COLD WATER PIPING SHALL BE SECTIONAL GLASS FIBER AS MANUFACTURED BY OWENS CORNING FIBERGLASS TYPE ASJ/SSLII OR APPROVED EQUAL, WITH FACTORY APPLIED, .016 EMBOSSED ALUMINUM JACKET.

ADHESIVE SHALL BE BENJAMIN FOSTER 30-36, OR APPROVED EQUAL, WHITE INSULATION LAGGING ADHESIVE.

VAPOR BARRIER MASTIC SHALL BE BENJAMIN FOSTER NO. 82-07, WHITE, OR APPROVED EQUAL.

INSTALLATION
HOT AND COLD WATER PIPING: SHALL BE INSULATED WITH 1/2 INCH THICK GLASS FIBER INSULATION HAVING A FACTORY APPLIED, ALL PURPOSE, FIRE RETARDANT JACKET WITH A MINIMUM R-4.0 PER INCH. CONCEALED AND EXPOSED PIPING SHALL HAVE THE INSULATION APPLIED WITH SIDE AND END JOINTS BUTTED TIGHTLY. SEAL JACKET LEGS AND BUTT JOINT STRIPS WITH ADHESIVE.

INSULATE FITTINGS FOR PIPING UP TO 3 INCHES IPS WITH MOLDED GLASS FIBER. INSULATE FITTINGS FOR PIPING LARGER THAN 3 INCHES WITH MOLDED FITTINGS OR SEGMENTED SECTIONS, WIRED IN PLACE TO THE SAME THICKNESS AS ADJACENT INSULATION. EXPOSED INSULATED PIPING AND FITTINGS SHALL BE JACKETED WITH 6 OUNCE CANVAS PIPING INCLUDING THE FITTING CHANGE FROM HORIZONTAL TO VERTICAL. CONCEALED AND EXPOSED PIPING SHALL HAVE THE INSULATION APPLIED WITH SIDE AND END JOINTS BUTTED TIGHTLY. SEAL OFF ENDS OF INSULATION WITH VAPOR BARRIER MASTIC AT EACH FITTING AND AT 21 FOOT INTERVALS ON CONTINUOUS RUNS.

INSTALL THE FACTORY APPLIED FIRE RETARDANT JACKET VAPOR BARRIER SO THAT IT WILL LAP SMOOTHLY AND SECURELY AT THE LONGITUDINAL LAP AND ADHERE IT WITH VAPOR BARRIER MASTIC. ADHERE 3 INCH WIDE BUTT STRIPS X SMOOTHLY OVER ALL END JOINTS WITH THE VAPOR BARRIER MASTIC TO ASSURE A CONTINUOUS VAPOR BARRIER - NO STAPLES ALLOWED. INSULATE DRAIN BODIES AND FITTINGS WITH METERED SEGMENTS OF PIPE INSULATION, OVERSIZED PIPE INSULATION OR MOLDED FITTINGS. COAT WITH TWO, 1/8 INCH COATS OF VAPOR BARRIER MASTIC REINFORCED WITH GLASS FABRIC EXTENDING 2 INCHES ONTO ADJACENT PIPES. EXPOSED INSULATED PIPING AND FITTINGS SHALL BE JACKETED WITH 8 OUNCE CANVAS. TERMINATE INSULATION NEATLY AT CLEANOUTS ON STORM AND COLD DRAIN PIPING. DO NOT COVER CLEANOUTS.

DOMESTIC WATER HEATING

DESCRIPTION
PROVIDE DOMESTIC WATER HEATING EQUIPMENT WHERE SHOWN ON DRAWINGS AND SPECIFIED.

DISCHARGE PIPE
RELIEF VALVE DISCHARGE SHALL BE COPPER WATER TUBE, TYPE M.

INSTALLATION
WATER HEATER SHALL BE INSTALLED WHERE SHOWN ON THE DRAWINGS.

DISCHARGE PIPE SHALL HAVE TERMINATING END CUT AT 45 DEGREE ANGLE.

TERMINATE RELIEF VALVE DRAIN AS SHOWN ON THE DRAWINGS.

collins | webb ARCHITECTURE
307B SW Market St., Lee's Summit, MO 64063 | 816.249.2270 | www.collinsandwebb.com

ENGINEERED BUILDING SOLUTIONS, LLC
P.O. BOX 11101
OVERLAND PARK, KS 66207
913-735-5654
MO CERTIFICATE OF AUTHORITY #E-2021006522

100% CONSTRUCTION DOCUMENTS

EXPRESS STOP - VIEW HIGH
3394 NW VILLAGE PARK DR
LEE'S SUMMIT, MO 64081

COPYRIGHT © BY
COLLINS WEBB
ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
06/09/2025
PROFESSIONAL SEAL

P301

ISSUE DATE: 09 JUN 2025
COLLINS WEBB #: 23114

PLUMBING SPECIFICATIONS