SYMBOLS

NOTE: REFER TO EACH DISCIPLINE'S DRAWINGS FOR ADDITIONAL SYMBOL LEGENDS.

MATERIAL DESIGNATIONS

- EARTH
- POROUS FILL (STONE OR GRAVEL, SUB BASE, ETC.)
- ROCK
- STRUCTURAL CONCRETE (CAST IN PLACE OR PRECAST)
- BRICK (COMMON OR FACE)
- CONCRETE MASONRY UNITS (CMU)
- CUT STONE, CAST STONE
- MARBLE
- METAL (LARGE SCALE)
- METAL (SMALL SCALE STRUCTURAL & SHEET)
- PLYWOOD (LARGE SCALE)
- WOOD FINISH
- WOOD ROUGH (CONTINUOUS)
- WOOD ROUGH (BLOCKING)
- INSULATION (LOOSE OR BATT)
- INSULATION (RIGID)
- GLASS (LARGE SCALE)
- ACOUSTICAL TILE
- EIFS SYSTEM
- GYPSUM WALL BOARD (REFER TO WALL SECTIONS)
- GYPSUM DRYWALL SYSTEM (PARTITION OR WALL)
- PLASTER, SAND, CEMENT, GROUT

GRAPHIC SYMBOLS

- ROOM/SPACE NUMBER
- DOOR NUMBER (IF MORE THAN ONE DOOR PER ROOM, SUBLETTERS ARE USED)
- WINDOW STYLE
- SECTION — INDICATES SECTION NUMBER, REFERENCE DRAWING NUMBER
- DETAIL — INDICATES DETAIL NUMBER, REFERENCE DRAWING NUMBER
- ELEVATION — INDICATES ELEVATION NUMBER, REFERENCE DRAWING NUMBER
- COLUMN REFERENCE
- KEY NOTE - NUMBERED
- KEY NOTE - EXTERIOR FINISH
- WALL TYPE NUMBER
- CHANGE IN FLOOR FINISH
- ELEVATION TARGET

ABBREVIATIONS

NOTE: REFER TO ADDITIONAL ABBREVIATION LISTS IN EACH DISCIPLINE'S DRAWINGS

STANDARD ABBREVIATIONS

SYMBOLS USED AS ABBREVIATIONS

&	AND
∠	ANGLE
@	AT SPACING OF
B.M.	BENCH MARK
℄	CENTER LINE
C	CHANNEL
#	NUMBER
d	PENNY
⊥	PERPENDICULAR
P	PLATE
Ø	ROUND
□	SQUARE
X	WIDTH X HEIGHT
W/	WITH

ABBREVIATIONS

ABV	ABOVE
AFF	ABOVE FINISHED FLOOR
ACC	ACCESS
ACFL	ACCESS FLOOR
AP	ACCESS PANEL
AC	ACOUSTICAL
ACPL	ACOUSTICAL PLASTER
ACT	ACOUSTICAL TILE
ACR	ACRYLIC PLASTIC
ADH	ADHESIVE
ADJ	ADJACENT
ADJ	ADJUSTABLE
AGG	AGGREGATE
AC	AIR CONDITIONING
ALT	ALTERNATE
AL	ALUMINUM
ANC	ANCHOR, ANCHORAGE
AB	ANCHORBOLT
ANOD	ANODIZED
ARCH	ARCHITECT, ARCHITECTURAL
AD	AREA DRAIN
ASPH	ASPHALT
AT	ASPHALT TILE
AUTO	AUTOMATIC
AWN	AWNING
BSMT	BASEMENT
BL	BASE LINE
BM	BEAM
BRG	BEARING
BPL	BEARING PLATE
BEL	BELOW
BM	BENCH MARK
BET	BETWEEN
BVL	BEVELED
BLKG	BLOCKING
BLK	BLOCK
BLKG	BLOCKING
BD	BOARD
BS	BOTH SIDES
BOT	BOTTOM
BRKT	BRACKET
BRS	BRASS
BRK	BRICK
BRZ	BRONZE
BLDG	BUILDING
BUR	BUILT UP ROOFING
BRGL	BULLET RESISTANT GLASS
BO	BY OWNER
CAB	CABINET
CAN	CANVAS
CPT	CARPET
CSMT	CASEMENT
CI	CAST IRON
CST	CAST STONE
CB	CATCH BASIN
CLG	CEILING
CLR	CEILING HEIGHT
CEM	CEMENT
CM	CENTIMETER (S)
CER	CERAMIC
CT	CERAMIC TILE
CHBD	CHALKBOARD
CHAM	CHAMFER
CHIM	CHIMNEY
CR	CHROMIUM
CIR	CIRCLE
CIRC	CIRCUMFERENCE
CLR	CLEAR, CLEARANCE
CLS	CLOSURE
CGL	COATED GLASS
COL	COLUMN
COMB	COMBINATION
COM	COMMON
COMPT	COMPARTMENT
COMPO	COMPOSITION, COMPOSITE
COMP	COMPRESS, (ED), (ION), (IBLE)
CONC	CONCRETE
CMU	CONCRETE MASONRY UNIT
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUE, CONTINUOUS
CONTR	CONTRACT, CONTRACTOR
CJ	CONTROL JOINT
CPR	COPPER
CG	CORNER GUARD
CORR	CORRUGATED
CTR	COUNTER
CS	COUNTERSINK
CRS	COURSE
CFT	CUBIC FOOT
CYD	CUBIC YARD
DPR	DAMPER
DP	DAMPPROOFING
DL	DEAD LOAD
DEM	DEMOLISH, DEMOLITION
DMT	DEMOUNTABLE
DTL	DETAIL
DIAG	DIAGONAL
DIA	DIAMETER
DIM	DIMENSION
DSP	DISPENSER
DIV	DIVISION
DR	DOOR
DTA	DOVETAIL ANCHOR
DTS	DOVETAIL ANCHOR SLOT
DN	DOWN
DS	DOWNSPOUT
DT	DRAIN TILE
DWR	DRAWER
DWG	DRAWING
DF	DRINKING FOUNTAIN
DW	DUMBWAITER
EA	EACH
EF	EACH FACE
EW	EACH WAY
ESMNT	EASEMENT
E	EAST
ELASTIC	ELASTIC
ELEC	ELECTRIC, (AL)
EP	ELECTRICAL PANELBOARD
EWC	ELECTRIC WATER COOLER
EL	ELEVATION (VERTICAL HEIGHT)
ELE	ELEVATION (VIEW)
ELEV	ELEVATOR
EMER	EMERGENCY
ENC	ENCLOSE, (URE)
EQ	EQUAL
EQP	EQUIPMENT
ESC	ESCALATOR
EST	ESTIMATE
EXH	EXHAUST
EXG	EXISTING
EXMP	EXPANDED METAL PLATE
EB	EXPANSION BOLT
EJT	EXPANSION JOINT
EXP	EXPOSED
EXT	EXTERIOR
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
FAS	FASTEN, FASTENER
FN	FENCE
FBD	FIBERBOARD
FGL	FIBERGLASS
FIN	FINISH, (ED)
FF	FINISHED FLOOR ELEVATION
FFL	FINISHED FLOOR LINE
FA	FIRE ALARM
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FHS	FIRE HOSE STATION
FPL	FIREPLACE
FP	FIREPROOF
FRT	FIRE-RETARDANT
FXT	FIXTURE
FLG	FLASHING
FLX	FLEXIBLE
FLR	FLOOR, (ING)
FLR	FLOOR, (ING)
FD	FLOOR DRAIN
FL	FLOW LINE
FLUR	FLUORESCENT
FJT	FLUSH JOINT
FTG	FOOTING
FND	FOUNDATION
FR	FRAME, (D), (ING)
FS	FULL SIZE
FUR	FURRED, (ING)
FUT	FUTURE
GA	GAGE, GAUGE
GV	GALVANIZED
GKT	GASKET, (ED)
GC	GENERAL CONTRACT, (OR)
GL	GLASS, GLAZING
GLB	GLASS BLOCK
GCMU	GLAZED CONCRETE MASONRY UNITS
GLAM	GLUED LAMINATE
GB	GRAB BAR
GD	GRADE, GRADING
GRN	GRANITE
GRT	GRATE, (ING)
GR	GRAVEL
GH/S	GREENHOUSE
GT	GROUT
GRD	GUARD
GUT	GUTTER
GPL	GYPSUM LATH
GPPL	GYPSUM PLASTER
GPT	GYPSUM TILE
GWB	GYPSUM WALLBOARD
HC	HANDICAP
HRL	HANDRAIL
HBD	HARDBOARD
HDW	HARDWARE
HWD	HARDWOOD
HDR	HEADER
HTG	HEATING
HVAC	HEATING/VENTILATING/AIR CONDITIONING
HD	HEAVY DUTY
HT	HEIGHT
HPT	HIGH POINT
HOR	HOLLOW CORE
HOR	HORIZONTAL
HB	HOSE BIBB
INCAN	INCANDESCENT
INCON	INCINERATOR
INCL	INCLUDE, (ED), (ING)
ID	INSIDE DIAMETER
INS	INSULATE, (ED), (ING)
INSC	INSULATING CONCRETE
IGL	INSULATING GLASS
INT	INTERIOR
INTM	INTERMEDIATE
INV	INVERT
JC	JANITOR'S CLOSET
JT	JOINT
JF	JOINT FILLER
J	JOIST
KPL	KICKPLATE
KIT	KITCHEN
KO	KNOCKOUT
LBL	LABEL
LAB	LABORATORY
LAD	LADDER
LB	LAG BOLT
LAM	LAMINATE, (ED)
LGL	LAMINATED GLASS
LAV	LAVATORY
LO	LAYOUT
LH	LEFT HAND
L	LENGTH
LT	LIGHT
LW	LIGHTWEIGHT
LMS	LIMESTONE
LTL	LINTEL
LL	LIVE LOAD
LCT	LOCATE
LLD	LOOSE LAID
LVR	LOUVER
LPT	LOW POINT
MB	MACHINE BOLT
MH	MANHOLE
MFR	MANUFACTURER, (ER)
MRB	MARBLE
MAS	MASONRY
MTL	MATERIAL
MAX	MAXIMUM
MECH	MECHANIC, (AL)
MC	MEDICINE CABINET
MED	MEDIUM
MDO	MEDIUM DENSITY OVERLAY
MBB	MAKE BELIEVE BOULEVARD
MBR	MEMBER
MMB	MEMBRANE
MET	METAL
MO	MASONRY OPENING
MW	MICROWAVE
MM	MILLIMETER, (S)
MIN	MINIMUM
MIR	MIRROR
MGL	MIRROR GLASS (FRAMED)
MISC	MISCELLANEOUS
MOD	MODULAR
MLD	MOLDING, MOULDING
MR	MOP RECEPTOR
MT	MOUNT, (ED), (ING)
MOV	MOVABLE
MULL	MULLION
NL	NAILABLE
NAT	NATURAL
NI	NICKEL
NR	NOISE REDUCTION
NOM	NOMINAL
N	NORTH
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO	NUMBER
OC	ON CENTER, (S)
OP	OPAQUE
OPNG	OPENING
OPH	OPPOSITE HAND
ORN	ORNAMENTAL
OD	OUTSIDE DIAMETER
OA	OVERALL
OH	OVERHEAD
PNT	PAINT, (ED)
PNL	PANEL, (ING)
PB	PANIC BAR
PTD	PAPER TOWEL DISPENSER
PTR	PAPER TOWEL RECEPTOR
PAR	PARALLEL
PRPT	PARAPET
PK	PARKING
PBD	PARTICLE BOARD
PTN	PARTITION
PV	PAVE, (D), (ING)
PVMT	PAVEMENT
PERF	PERFORATE, (ED)
PER	PERIMETER
PTR	PLANTER
PLTG	PLANTING
PLAS	PLASTER
PLA	PLASTIC
PLAM	PLASTIC LAMINATE
PL	PLATE
PG	PLATE GLASS
PWD	PLYWOOD
PT	POINT
PVC	POLYVINYL CHLORIDE
PC	PORCELAIN ENAMEL
PCPL	PORTLAND CEMENT PLASTER
PD	POUND,(S)
PCF	POUNDS PER CUBIC FOOT
PLF	POUNDS PER LINEAR FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PCC	PRECAST CONCRETE
PFB	PREFABRICATE, (ED)
PFN	PREFINISHED
PRF	PREFORMED
PREM	PREMOULDED
PT	PRESSURE TREATED
PL	PROPERTY LINE
QT	QUARRY TILE
RBT	RABBET, REBATE
RAD	RADIUS
RT	RAFTER
RF	RAIN (ING)
REC	RECESS, (ED)
REF	REFER, (ENCE)
RFL	REFLECT, (ED), (IVE), (OR)
REFR	REFRIGERATOR
REG	REGISTER
REIN	REINFORCE, (ED), (ING)
RECP	REINFORCED CONCRETE PIPE
REM	REMOVE
REQD	REQUIRED
RES	RESILIENT
RET	RETURN
RA	RETURN AIR
RVS	REVERSE (SIDE)
REV	REVISE, (S), REVISE, (ED)
RH	RIGHT HAND
ROW	RIGHT OF WAY
R	RISER
RVT	RIVET
R&S	ROD AND SHELF
RD	ROOF DRAIN
RFH	ROOF HATCH
RFG	ROOFING
RM	ROOM
RO	ROUGH OPENING
RCP	ROUND CONCRETE PIPE
ROK	ROWLOCK
RB	RUBBER BASE
RBT	RUBBER TILE
RBL	RUBBLE STONE
SFGL	SAFETY GLASS
SCH	SCHEDULE
SCN	SCREEN
SCUP	SCUPPER
SEAL	SEALANT
STG	SEATING
SEC	SECTION
SYYD	SERVICE YARD
SSK	SERVICE SINK
SHTH	SHEATH, (ING)
SHT	SHEET
SG	SHEET GLASS
SH	SHELF, SHELVING
SHNG	SHINGLE, (S)
SHU	SHUTTER, (S)
SIDG	SIDING
SIM	SIMILAR
SKL	SKYLIGHT
SL	SLEEVE
SLO	SLOPE
SOL	SOLDIER
SC	SOLID CORE
SP	SOUNDPROOF
S	SOUTH
SPC	SPACE, (R)
SGL	SPANDREL GLASS
SPK	SPEAKER
SPEC	SPECIALIZATION
SPEC	SPECIFICATION
SPH	SPLASH
SQ	SQUARE
SST	STAINLESS STEEL
STGL	STAINED GLASS
STD	STANDARD
STA	STATION
ST	STEEL
STO	STORAGE
SF	STOREFRONT
SD	STORM DRAIN
STR	STRUCTURAL
STCO	STUCCO
SFLR	SUBFLOOR
SA	SUPPLY AIR
SUS	SUSPENDED
SYD	SIDE YARD
SYM	SYMMETRY, (ETRICAL)
SYN	SYNTHETIC
SYS	SYSTEM
TKBD	TACKBOARD
TEL	TELEPHONE
TEMPD	TEMPERED
TG	TEMPERED GLASS
TIG	TEMPERED, INSULATED GLASS
TZ	TERRAZZO
THK	THICK, (NESS)
THR	THRESHOLD
TBRL	TO BE RELOCATED
TOBR	TO BE REMOVED
TPD	TOILET PAPER DISPENSER
TPTN	TOILET PARTITION
TOL	TOLERANCE
T&G	TONGUE AND GROOVE
TSL	TOP OF CONCRETE SLAB
TC	TOP OF CURB
TJ	TOP OF JOIST
TP	TOP OF PLATE
TST	TOP OF STEEL
TSF	TOP OF SUBFLOOR
TW	TOP OF WALL
TPG	TOPPING
TOR	TO REMAIN
TB	TOWEL BAR
TR	TRANSOM
TRD	TREAD
TRNB	TURNBUCKLE
TYP	TYPICAL
UC	UNDERCUT
UNF	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
UTL	UTILITY
VJ	V-JOINT
VB	VAPOR BARRIER
VAR	VARNISH
VNR	VENEER
VERT	VERTICAL
VG	VERTICAL GRAIN
VIN	VINYL
VB	VINYL BASE
VCT	VINYL COMPOSITION TILE
VF	VINYL FABRIC
VT	VINYL TILE
VICP	VITREOUS CLAY PIPE
VCT	VITREOUS CLAY TILE
WSCT	WAINSCOT
WH	WALL HUNG
WC	WATER CLOSET
WHTR	WATER HEATER
WP	WATERPROOFING
WR	WATER RESISTANT
WS	WATERSTOP
WST	WEATHERSTRIP, (ING)
WWF	WELDED WIRE FABRIC
W	WEST
WHS	WHEEL STOP
WID	WIDTH, WIDE
WIN	WINDOW
WG	WIRED GLASS
WM	WIRE MESH
WO	WITHOUT
WD	WOOD
WI	WROUGHT IRON

THE LEARNING EXPERIENCE

ACADEMY OF EARLY EDUCATION

ARBORWALK WEST

LEE'S SUMMIT, MISSOURI 64082

LICENSING CALCULATIONS
Learning Experience, Lee's Summit, Missouri

ROOM	STATE REQUIRED S.F.(35 S.F. PER CHILD)	NET* S.F.	ACTUAL S.F.	RATIO CHILD PER S.F.	# OF CHILDREN	# OF TEACHERS	TEACHER RATIO	AGE GROUP
INFANT A	360	442	496	1/45	8	2	1/4	6 WK-12 MO.
INFANT B	360	420	474	1/45	8	2	1/4	6 WK-12 MO.
TODDLERS A	360	360	414	1/45	8	2	1/4	12-23 MO.
TODDLERS B	315	334	388	1/45	7	2	1/4	12-23 MO.
TWADDLERS	560	563	612	1/35	16	2	1/8	24-30 MO.
PREPPERS	560	564	612	1/35	16	2	1/8	30-36 MO.
PRE-SCHOOL #1	700	706	718	1/35	20	2	1/10	3-5 YRS.
PRE-SCHOOL #2	700	703	715	1/35	20	2	1/10	3-5 YRS.
PRE-SCHOOL #3	630	642	654	1/35	18	2	1/10	3-5 YRS.
MBB/PRE-SCHOOL	700	700	712	1/35	20	2	1/10	3-5 YRS.
PRE K-K	560	562	582	1/35	16	1	1/16	5-6 YRS.
TOTALS	--	5,996	--	--	157	21	--	--
					+2 ADMIN. STAFF			
					TOTAL	180		

* CALCULATED LESS BUILT-IN ITEMS
FIRST FLOOR 10,000 S.F.
PLAY AREA 5,000 S.F.

SUBMITTALS:

IT IS THE GENERAL CONTRACTOR'S (GC) RESPONSIBILITY TO SECURE AND REVIEW ALL SHOP DRAWINGS INDICATED FOR REVIEW BY THE CONSTRUCTION DOCUMENTS. IT IS EXPECTED THAT THE GC IS TO PROVIDE THEIR STAMP OF APPROVAL CERTIFYING THAT THEY HAVE COORDINATED AND VERIFIED ALL DIMENSIONS AND MATERIALS ALONG WITH THE COORDINATION OF ANY ADDITIONAL INFORMATION AFFECTING THE INSTALLATION, INCLUDING THE ACTUAL FIELD CONDITIONS. SHOP DRAWINGS NOT COMPLYING WILL NOT BE REVIEWED AND WILL BE SENT BACK TO THE GC FOR RESUBMITTAL IN ACCORDANCE WITH THIS REQUIREMENT. SHOP DRAWING RESUBMITTALS ARE TO INCLUDE ANY AND ALL CHANGES REQUESTED IN PREVIOUS REVIEWS, CLOUDING SAME AND PROVIDING A REVISION NUMBER. THE GC IS NOT TO PROCEED WITH ANY WORK OR FABRICATION UNTIL THE SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED BY THE ARCHITECT. THE ARCHITECT WILL NOT ACCEPT ANY CHARGES FROM THE GC OR THEIR SUB-CONTRACTORS BASED ON THE REQUIRED RESUBMITTAL REQUESTED, AND MUST CLEARLY EXPLAIN THIS TO THEIR SELECTED SUB-CONTRACTOR BEFORE ENGAGING THEM AS PART OF THEIR TEAM.

CONTACTS:

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DEFERRED SUBMITTALS

(PREPARED BY OTHERS)

- SPRINKLER SHOP DRAWINGS
- FIRE ALARM SHOP DRAWINGS
- TRUSS SHOP DRAWINGS

SCHEDULE OF DRAWINGS

CODE DATA

APPLICABLE CODES:
2018 INTERNATIONAL BUILDING CODE WITH AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL PLUMBING CODE
2018 INTERNATIONAL FUEL GAS CODE
2018 INTERNATIONAL FIRE CODE
2017 NATIONAL ELECTRICAL CODE
ICC/ANSI A117.1-2009, ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

SITE DATA: LOT: #3 ARBOR WALK WEST, LEE'S SUMMIT, MO

GENERAL DESCRIPTION: CHILD CARE USE, 1 STORY BUILDING
BUILDING USE GROUPS: I-4 (CHILD DAY CARE) (I-4/E FOR 2 STORY)

CONSTRUCTION CLASSIFICATION: VB (UNPROTECTED, UNRESTRICTED)

FIRE SPRINKLERS: FULL AUTOMATIC SPRINKLER SYSTEM

BUILDING AREA	ALLOWABLE	PROVIDED
	36,000 S.F. (FOR I-4)	10,000 SQ. FT.

BUILDING HEIGHTS:	ALLOWABLE	PROVIDED
	2 (SECTION 504.4) STORIES	1 STORIES
	60 FEET (SECTION 504.3)	21'-8"

NUMBER OF EXITS:	REQUIRED	PROVIDED
	2 PER STORY (TABLE 1006.3.2)	2 EXITS
	2 PER ROOM WITH MORE THAN 10 OCCUPANTS	2 EXITS PER ROOM

OCCUPANCY:	ALLOWABLE	RATIO	PROVIDED
TABLE 1004.5	171 OCC.	DAY CARE: MIN. OF 1 OCC : 35 SQ. FT.	180 TOTAL OCCUPANTS
		5,996 / 35 NET SQ. FT. = 171 OCC.	
SEC. 1005.3		3 EXIT DOORS X 34" = 102	
		170 x 0.2" = OCC. 180x0.2 = 36", 102" provided	
PER STATE LICENSING	180 OCC. (ACTUAL; REFER TO LICENSING CALCS THIS PAGE)		

EGRESS WIDTH:	REQUIRED	PROVIDED
	180 OCC. (SEE ABOVE) X 0.2 = 36"	72" TYP. CORRIDOR WIDTH
	44" MIN. CORRIDOR WIDTH (TABLE 1020.2)	

FIRE RATINGS:	BUILDING ELEMENT	REQUIRED	PROVIDED
	STRUCTURAL FRAMING	0 HOURS	0 HOURS
	BEARING WALLS	0 HOURS	0 HOURS
	NON-BEARING WALLS	0 HOURS	0 HOURS
	FLOOR CONST.	0 HOURS	0 HOURS
	ROOF CONST.	0 HOURS	0 HOURS
	EXTERIOR WALLS	0 HOURS	0 HOURS
	CORRIDOR	0 HOURS	0 HOURS

MAX. COMMON PATH OF EGRESS TRAVEL:	REQUIRED	PROVIDED
	75 FT. (TABLE 1006.2.1)	LESS THAN 75 FT.

EXIT ACCESS TRAVEL DISTANCE:	REQUIRED	PROVIDED
	MAXIMUM: I-4 OCCUPANCY (TABLE 1017.2) = 200 FT	LESS THAN 200 FT

PLUMBING FIXTURE COUNT:	ELEMENT	REQUIRED (I-4)	PROVIDED
	WATER CLOSET	1 PER 15 = 12	12 (GENDER NEUTRAL)
	LAVATORY	1 PER 15 = 12	12 (GENDER NEUTRAL)
	DRINKING FOUNTAIN	1 PER 100 = 2	2 INTERIOR
			2 EXTERIOR
	SERVICE SINK	1	1
	SHOWER/BATHTUB	1	PORTABLE WASH BASINS PROVIDED BY TENANT (NOT PLUMBED)

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC.

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.

Jarmel Kizel
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Architecture
Engineering
Interior Design
Implementation Services

THE LEARNING EXPERIENCE
ACADEMY OF EARLY EDUCATION
ARBORWALK WEST
LEE'S SUMMIT, MISSOURI

ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

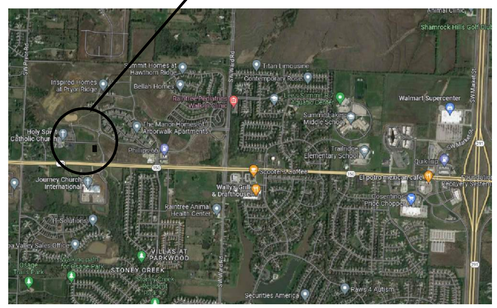
NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

LOCATION MAP

PROJECT SITE
ARBORWALK WEST, LEE'S SUMMIT, MO



Project Number: TLEMO22-164
Scale: AS NOTED
Drawn By: --
Approved By: MBJ
Drawing Name:

TITLE SHEET

Drawing Number:

T-100

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

CONDITIONS OF CONTRACT

The following Conditions of Contract are included as if bound with this document: AIA A101, Standard Form of Agreement Between Owner and Contractor, Stipulated Sum, and AIA A201, General Conditions of the Contract.

SPECIFICATIONS

Technical and administrative requirements for the Project are divided into 16 Divisions as follows. Division 1 General Requirements apply to all work for the Project.

Division 1 – General Requirements
Division 2 – Sitework
Division 3 – Concrete
Division 4 – Masonry
Division 5 – Metals
Division 6 – Wood and Plastics
Division 7 – Thermal and Moisture Control
Division 8 – Doors and Windows
Division 9 – Finishes
Division 10 – Specialties
Division 11 – Equipment
Division 12 – Furnishings
Division 13 – Special Construction
Division 14 – Conveying Systems
Division 15 – Mechanical
Division 16 – Electrical

SECTION 010000 - PROJECT REQUIREMENTS

SUMMARY
1. The Project consists of a commercial daycare center facility.

PROJECT REQUIREMENTS
1. Requirements for Sequence of Work, Phasing, and Occupancy
2. Prior or Concurrent Work by Owner or Others
3. Existing Site Conditions and Restrictions
4. Contractor's Use of Premises and Adjacent Facilities
5. Pre-purchased and Pre-ordered Items
6. Owner-Furnished and Owner-Installed Items
7. Owner-Furnished and Contractor-Installed Items
8. Special Mock-Ups
9. Related Future Work
10. Reference Drawings and Reports
11. Owner's Building Standards

PERMITS
1. Apply for, obtain, and pay for building permits, health department permits, any additional permits required by the AHJ, and utility company back-charges required to perform the work. Submit copies to Architect and TLE.

INTENT
1. Drawings and specifications are intended to provide the basis for the proper completion of the Project suitable for the intended use of the Owner.
2. Items not expressly set forth but which are reasonably implied or necessary for the proper performance of this work shall be included.

COORDINATION
1. Coordinate the work of all trades.
2. Prepare coordination drawings for areas above ceilings where close tolerances are required between building elements and mechanical and electrical work.
3. Verify location of utilities and existing conditions. Notify Architect of conditions differing from those indicated on the Drawings.
4. Verify dimensions on Drawings with dimensions at the Project. Do not scale drawings.

CUTTING AND PATCHING
1. Provide cutting and patching work to properly complete the Project.
2. Do not remove or alter structural components without written approval.
3. Cut with tools appropriate for materials to be cut.
4. Patch with materials and methods to produce patch which is not visible from a distance of five feet.
5. Do not cut and patch in a manner that would result in a failure of the work to perform as intended, decrease fire performance, decrease acoustical performance, decrease energy performance, decrease operational life, or decrease safety factors.

FIELD ENGINEERING:
1. Verify and locate utilities, existing facilities, and equipment.
2. Survey and lay out improvements, utilities, structures, and components.

PROJECT MEETINGS:
1. Arrange for a pre-construction conference prior to start of construction. Meeting shall be attended by TLE, Owner, Architect, Contractor, and major subcontractors.
2. Arrange for progress meetings once a month during construction, prior to application for payment. Record minutes and distribute promptly.

SUBMITTALS:
1. The work shall be in accordance with approved submittals except that the contractor shall not be relieved of responsibility for deviations from the requirements of the Construction Drawings by the Architect's approval of shop drawings, product data, samples or similar submittals, unless the contractor has specifically notified the Architect of such deviation at the time of the submittal and the Architect has given written approval to the specific deviation as a minor change in the work or a change order or construction change directive has been issued authorizing the deviation. The contractor shall not be relieved of responsibility for errors or omissions in shop drawings, product data, samples or similar submittals by the Architects approval thereof.

Submittals 1.1

1.1.a. The Contractor shall submit to the Architect & Owner for review and approval all shop drawings, samples, diagrams, schedules, product data, and similar submittals required by the Contract Documents. The Contractor shall review and stamp the submittals, confirming its' accuracy and conformity to the code and licensing regulations. The Contractor shall prepare and deliver its submittals to the Architect & Owner in a manner consistent with the Project Schedule and in such time and sequence so as not to delay the performance of the construction work.

1.1.b. The review and approval of any Contractor submittal shall not be deemed to authorize deviations, substitutions or changes in the requirements of the Contract Documents unless express written approval is obtained from the Architect, specifically authorizing such deviation, substitution or change. In the event that the Contract Documents do not contain submittal requirements pertaining to the work, the Contractor agrees upon request to submit in a timely fashion to the Architect & Owner for review and approval by the Architect any shop drawings, samples, product data, manufacturers' literature or similar submittals as may reasonably be required by the Owner.

1.1.c. Product Data submitted to include standard printed information on manufactured products and systems, including manufacturer's product specifications and installation instructions, catalog guts, standard wiring diagrams, printed performance curves.

1.1.d. The Architect shall review the Contractor's submittal schedule and shall not unreasonably delay or withhold approval of the schedule. The Architect's action in reviewing submittals shall be taken in accordance with the approved submittal schedule or, in the absence of an approved submittal schedule, with reasonable promptness white allowing sufficient time, in the Architect's professional judgement, to permit adequate review.

1.1.e. Resubmittal of documents are to comply with the requirements of the original submission; in addition:
- Identify on transmittal form that submittal is a resubmission
- Make any corrections or changes in submittals required by Architect/Engineer's notations on returned submittal
- Respond to Architect/Engineer's notations on the transmittal or on a separate page attached to contractor's resubmission transmittal, answer or acknowledge in writing all notations or questions indicated

Submittals 1.2

1.2.a. All documents, shop drawings, and "As-Built" drawings shall be prepared such that the drawings meet all the requirements of Local, State, and Federal regulations, codes and directives.

1.2.b. Shop drawings, data and samples to be checked before submitting to the Architect/Engineer for review. Each copy of the drawings and data shall bear Contractor's stamp, showing that they have been so checked.

1.2.c. The Contractor agrees to also provide as necessary, the forms, studies, and other documentation required by applicable codes and agencies. The Contractor agrees to ensure that all engineering solutions conform strictly to the guides and criteria outlined in Contract specifications. In case of uncertainty of detail or procedure, the Contractor agrees to request additional instruction from the County. The Contractor is responsible for producing complete, competent, properly coordinated, and thoroughly checked documents. At the Contractor's expense, as part of their Adjustment Factors, the documentation noted above, shall be prepared and reviewed as necessary to ensure its compliance with all applicable laws and regulations.
2. Submit a project schedule and update at least bimonthly.
3. Submit for approval all submittals:
   - Structural Steel
   - Roof Trusses
   - Roofing Materials
   - Rebar
   - HVAC – equipment and controls
   - Fire Sprinkler
   - Fire Alarm
   - Signage
   - Doors & Hardware
   - Storefront Doors & Hardware
   - Windows
   - Lighting and Controls
   - Plumbing Fixtures
   - Fencing & Gate Hardware
   - Keri Access/CCTV/Security System
   - Toilet Accessories
4. Include details of construction and adjacent construction in shop drawings. Clearly indicate any deviations from requirements of the contract documents. Fabricate materials from approved shop drawings only.

QUALITY ASSURANCE:
1. Comply with applicable codes, regulations, ordinances and requirements of authorities having jurisdiction, including accessibility guidelines where applicable. Submit copies of inspection reports, notices and similar documents to Architect.
2. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years.
3. Use experienced installers. Furnish evidence of experience if requested.
4. Deliver, handle, and store materials in strict accordance with manufacturer's instructions.
5. Use of any supplier or subcontractor is subject to Owner's approval and TLE.
6. Engage and pay for testing agencies as required. Refer to individual sections for additional requirements.

TEMPORARY FACILITIES:
1. Provide temporary facilities and connections as required for the proper completion of the project.
2. Provide and maintain temporary utility services.
3. Owner will pay for utility service consumed. Do not waste.
4. Provide temporary protection for adjacent areas to prevent contamination by construction dust and debris.
5. Provide temporary barricades as necessary to ensure protection of the public.
6. Provide suitable waste disposal units and empty regularly. Do not permit accumulation of trash and waste materials.
7. Provide temporary sanitary facilities.
8. Maintain egress within and around construction areas.
9. Maintain fire alarm systems in operation during construction.
10. Provide fire extinguishers in work areas during construction.
11. Provide temporary protection for adjacent construction. Promptly repair any damage at no additional cost/expense to the Owner.

PRODUCTS AND SUBSTITUTIONS:
1. Provide products and materials specified. Request Architect's selection of colors and accessories with minimum 10 business days' notice to avoid delaying progress of the work.
   a. TLE PROVIDES:
      - TLE branded classroom signage
      - Toys
      - Kitchen supplies
      - Computers
      - Office supplies (including trash cans for rooms)
      - Mop, Broom, Vacuum and holders
      - Tables and chairs
      - Finger safes
      - Cribs
      - Printed materials
      - Voice on hold for phones
      - Paper products
      - Smart Boards (Franchisee purchases)
      - Laminator
      - Lost & Found toy chest
      - Soap, sanitizer and bleach
      - Sleep mats

   b. DEVELOPER PROVIDES:
      - All appliances: washer, dryer, microwaves, refrigerators, freezer, three basin sinks, grease trap
      - 55" Lobby board TV provided through CDW
      - Security mirrors
      - Wire for shelving in closets
      - Cores & keys (installed by TLE)
      - Routers & modems, wireless access points,
      - Soap dispensers, paper towel dispensers, toilet paper dispensers, restroom mirrors
      - Picnic tables
      - Exterior trash cans
      - Playground equipment
        - including soccer nets, basketball hoop & ball (if specified)
      - Water feature (if specified)
      - Door chime alarms on exterior doors
      - Alarms on fence gates
      - Keri access system on doors **(NO SUBSTITUTIONS)**
      - Millwork; cubbies, cabinets, bookcases, changing tables, office desk
      - TLE branded graphics in MBB
      - Phones lines, internet and router
      - Emergency Lockdown Device from Nightlock
      - Night security lock
      - Security system
      - Emergency Buttons
2. Requests for substitutions shall be submitted to the Architect in writing, including reasons for the substitution. Submit sufficient information for Architect to evaluate proposed substitution.
3. Remove and replace work which does not conform to the contract documents at no additional expense to the Owner.

INSTALLATION:
1. Inspect substrates and report unsatisfactory conditions in writing.
2. Do not proceed until unsatisfactory conditions have been corrected.
3. Take field measurements prior to fabrication where practical. Form to required shapes and sizes with true edges, lines and angles. Provide inserts and templates as needed for work of other trades.
4. Install materials in exact accordance with manufacturer's instructions and approved submittals.
5. Install materials in proper relation with adjacent construction and with proper appearance.
6. Restore units damaged during installation. Replace units which cannot be restored at no additional expense to the Owner.
7. Refer to additional installation requirements and tolerances specified under individual specification sections.
8. Provide thorough final cleaning inclusive of cleaning glass, waxing and polishing floors, dusting, and vacuuming of carpets.

CLOSEOUT:
1. Prepare punch list for remaining work for review by the Architect and TLE.
2. Complete punch list items promptly at no additional expense to the Owner.
3. Submit accurate record documents of building and site.
4. Submit operating manuals, maintenance manuals, and warranty information.
5. Obtain and submit copy of occupancy permits.
6. Developer/GC to provide Franchisee/Operators with a facility walk through and training onsite at the end of the project. This should include but not be limited to all building systems, HVAC, water heaters, phone systems, Keri access systems, etc. Developer/GC will also provide electronic copies of all O&M and Warranties including a contact list of all subcontractors.
7. Remove temporary facilities and provide final cleaning and touch-up.
8. Restore portions of building, site improvements, landscaping and other items damaged by construction operations to the satisfaction of the Architect at no additional expense to the Owner.
9. Developer is responsible for the Keri Access System until full operation/function is confirmed by center staff. If any part is failing to function, developer will have sub-contractor on site at their expense to deliver functioning system including but not limited to: communication from TLE computer to Keri control board, operation of electric latches and release buttons, programming key fobs, training of TLE staff with sub technician.

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

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THE LEARNING EXPERIENCE
ACADEMY OF EARLY EDUCATION
ARBORWALK WEST
LEE'S SUMMIT, MISSOURI

ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: ---	Approved By: MBJ

Drawing Name:

SPECIFICATIONS

Drawing Number:

T-200

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

SECTION 012200 – VENDORS (Required and/or Recommended)

Following are the approved and/or recommended vendors for TLE that are to be utilized for this project. These vendors are familiar and experienced with requirements for daycare / childcare centers in general as well as TLE's operational requirements for its centers. The General Contractor must provide each contractor listed with plans and specifications to ensure that the price quoted is all-inclusive.

If the General Contractor wishes to utilize a non-approved vendor, he must first receive written permission from TLE to do so.

FLOORING –MBB RACETRACK (required)

Artwork is part of the graphics package (developer to confirm details with TLE construction manager)

FLOORING – CARPET and LVT (required)

Interface
Attn: William Sanchez
Ph: 754-243-3729
William.Sanchez@interface.com
Stock Hold #: 3141

For orders reach out to TLE@interface.com

Allow 4 weeks from time of deposit.

SIGNAGE (required)

Identiti Resources, LTD.
Attn: Lauren Raiman
Ph: 847-805-6685
Email: thelearningexperience@identiti.net

Allow 6 weeks from time of deposit.

LOCKSMITH (required)

ND Security
134 E. Shore Road
Denville, NJ
Attn: Nick DeSalvo
Ph: 973-625-5602

Some locks must accommodate Arrow 7 pin, small format, figure 8, interchangeable cores. Doors and locks are specified on A-121. Cores are to be purchased from ND Security. Cores are shipped to TLE corporate after completion of building. TLE personnel will install cores after CO is received. Contractor must ensure that hardware accommodates these cores.

ALL WALL GRAPHICS (Required)

WM Printing
Attn: Kelsey Hout
Ph: 561-305-7027
tle@wmprinting.com
Note: Developer to contact TLE CM for the NDA and artwork.

Allow approx. 6 weeks from time of deposit. Final payment required prior to shipping. Typically installed within last month of construction.

THE IDENTITY GROUP
Attn: Brett Wolfgram
Ph: 207-831-3766
tle@theidentitygroup.com

Allow approx. 6 weeks from time of deposit. Final payment required prior to shipping. Typically installed within last month of construction.
Note: No devices (outlet, thermostats etc.) on any walls receiving graphics.

CABINETS & SHELVES (Required)

Rodgers Wade
1401 SW 3rd Street
Paris, TX 75460
Ph: 903-783-3680
Fax:903-739-2505
Attn: Cate Smith
teamtle@rodgerswade.com

Allow 10 weeks from deposit/measured at frame.

SECURITY, FIRE, CCTV, ACCESS CONTROL
Required for NJ, PA, NY, CT only
Contractors permitted to use local subs when not in NJ, PA, NY, or CT.

Dynamic Protection Systems, Inc.
275 Lincoln Blvd., Suite 2
Middlesex, NJ 08846
Attn: Gary Ascolese
Ph: 732-805-3000

IC REALTIME contact:
Louis A. DiGioia
National Sales Manager
(954) 990-2951
louis@icrealtime.com

Provide approximately one month notice for rough wiring installation.

FIBER / PHONE LINES (REQUIRED)

Attn: Patrick Ammirati
Ph (Office): 732-335-5510
Ph (Direct): 732-391-6071
Fax: 732-335-5523
Email: pammirati@dmenterprise.net

DATA, COMMUNICATIONS, AND LOW VOLTAGE (Required)

American Business Communications, Inc.
Attn: Bill Gollub
141 South State Street
Hackensack, NJ 07601
Ph: 201-488-3500 x 202
Fax: 201-488-5588 Fax
Email: billg@abcnj.com / www.abcnj.com

Provide approximately one month notice for rough wiring installation.

TRANE HVAC (or approved equal, refer to HVAC drawings)

National Account
Chris St. John LEED AP
2301 Lucien Way Ste 430
Maitland, FL 32751
csstjohn@trane.com
407-325-7123 (mobile)

LIGHTING (Required)

CED National
Attn: Ray Sefcik, Jr
Ph: 817-929-8191
Email: ray.sefcik@CED.com

PAINT

SHERWIN WILLIAMS
Attn: Glenn Remler
Architectural Account Executive
Ph: 954-547-1217
Glenn.J.Remler@Sherwin.com
The Sherwin-Williams Company

RECEPTION TV (Required)

CDW
Attn: David Wright
Ph: 813-462-4042
Email: thelearningexperience@cdw.com

EMERGENCY LOCKDOWN DEVICE

NIGHTLOCK – Nightlock Lockdown 1 – Door Barricade, low profile
www.nightlock.com
Attn: Shane Burr
Ph: 855-644-4856
Email: shane@nightlock.com

Note: Architect to verify if allowed by local jurisdiction.

BATHROOM ACCESSORIES

Contact: Anthony "Tony" Mince
Key account representative
Anthony.mince@staples.com
Ph: 734-452-4743

SECTION 033000 - CAST-IN-PLACE CONCRETE

REFER TO STRUCTURAL DRAWINGS FOR NOTES AND SPECIFICATIONS.

SECTION 042000 - UNIT MASONRY

SUMMARY
1. Provide Unit Masonry Construction:
   a. Brick veneer on wood studs.
   b. Concrete block bearing walls and non-bearing partitions.
   c. Freestanding site masonry walls.

SUBMITTALS
1. Submit product data, samples, shop drawings.

PRODUCTS
1. As selected by Architect complying with the following:
2. Face Brick:
   a. Standard size, 3-5/8 inches thick by 2-1/4 inches high by 8 inches long.
   b. Grade: ASTM C 216, Grade SW, severe weathering type areas subject to freeze-thaw and ASTM C 216, Grade MW, moderate weathering type elsewhere.
   c. Bond Pattern: Running bond pattern, unless otherwise specified. Refer to A-051.
3. Thin Brick Veneer:
   a. Size: refer to A-051 for types and size.
   b. Grade: ASTM C 216, Grade SW, severe weathering type areas subject to freeze-thaw and ASTM C 216, Grade MW, moderate weathering type elsewhere.
   c. Bond Pattern: Running bond pattern, unless otherwise specified. Refer to A-051.
4. Concrete Masonry Units:
   a. Concrete Masonry Units: ASTM C 90, 1500 f'm compressive strength, normal weight.
   b. Size: Face dimension of 7-5/8 inches high by 15-5/8 inches long by width required for application.
   c. Bond Pattern: Running Bond.
5. Fire Brick and Clay Flue Linings: ASTM C 27, medium duty fire brick, and ASTM C 315 clay flue linings; ASTM C 199 refractory mortar.
6. Mortar and Grout:
   a. Mortar Mix: ASTM C 270, Type S, for reinforced masonry, masonry below grade and masonry in contact with earth and ASTM C 270, Type N, for above-grade loadbearing and nonloadbearing walls and parapet walls and for interior loadbearing and nonloadbearing partitions.
   b. Mortar Materials: Portland cement, ASTM C 150, Type I or II
   c. Mortar Aggregate: Natural color, ASTM C 144.
   d. Grout Aggregate: ASTM C 404.
   e. Hydrated Lime: ASTM C 207, Type S.
   f. Color: Natural color.
7. Reinforcing Steel:
   a. Reinforcing Bars: ASTM A 615, Grade 60.
   b. Deformed Reinforcing Wire: ASTM A 496.
   c. Plain Welded Wire Fabric: ASTM A 185.
8. Joint Reinforcing: Welded wire with deformed side rods.
   a. Steel Wire: 9 gage (.1875 inch) stainless steel wire.
   b. Type: Ladder type.
9. Ties and Anchors:
   a. Bent Wire Ties: Galvanized steel.
   b. Rigid Anchors: Galvanized steel straps.
10. Masonry Accessories:
   a. Nonmetallic expansion joint strips.
   b. Preformed control joint gaskets.
   c. Bond breaker strips.
   d. Weep sash and tubes.

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.
2. Comply with PCA Recommended Practices for Laying Concrete Block, Brick Institute of America Tech Notes, and NCMA TEK Bulletins.
3. Comply with cold weather and warm weather protection procedures as recommended in BIA Tech Notes.
4. Provide fire-rated assemblies complying with ASTM E 119.
5. Sawcut units when required. Maintain uniform joint width. Provide full bed, head and collar joints except at weepholes.
6. Install lintels and accessories in masonry construction.
7. Coordinate installation of flashings.
8. Comply with applicable codes and regulations for spacing of ties and horizontal reinforcing.
9. Provide expansion and control joints in accordance with referenced publications.
10. Remove and replace damaged units.
11. Clean brick using bucket and brush method, BIA Tech Note 20.
12. Clean concrete masonry by dry brushing, NCMA TEK No. 28.

SECTION 04720 – CAST STONE

SUMMARY
1. Provide Masonry Veneer Construction:
   a. Thin Stone on studs
   b. Cast stone on studs

SUBMITTALS
1. Submit product data, samples, shop drawings.

PRODUCTS
1. Thin Stone
   a. Size: refer to A-051 Material Schedule
   b. Grade: ASTM C 1364
2. Full depth stone
   a. Size: refer to A-051 Material Schedule
   b. Grade: ASTM C1364
3. Mortar and Grout:
   a. Mortar Mix: ASTM C 270, Type S, for reinforced masonry, masonry below grade and masonry in contact with earth and ASTM C 270, Type N, for above-grade loadbearing and nonloadbearing walls and parapet walls and for interior loadbearing and nonloadbearing partitions.
   b. Mortar Materials: Portland cement, ASTM C 150, Type I or II
   c. Mortar Aggregate: Natural color, ASTM C 144.
   d. Grout Aggregate: ASTM C 404.
   e. Hydrated Lime: ASTM C 207, Type S.
   f. Color: Natural color.
4. Ties and Anchors: per manufacturer's requirements
   a. Galvanized steel.
5. Masonry Accessories:
   a. Nonmetallic expansion joint strips.
   b. Preformed control joint gaskets.
   c. Bond breaker strips.
   d. Weep sash and tubes.
6. Sealant; as specified in section 07900

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.
2. Comply with Concrete Masonry Veneers NCMA TEK Bulletins.
3. Comply with cold weather and warm weather protection procedures as recommended in BIA Tech Notes.
4. Sawcut units when required. Maintain uniform joint width. Provide full bed of mortar, and vertical joints except at weep holes.
   a. Do not use pry bars or other equipment in a manner that could damage units
5. Leave head joints in copings and similar components open for sealant
6. Use Type N mortar (ASTM C 270), unless specified otherwise
7. Install lintels and accessories in masonry construction.
8. Coordinate installation of flashings.
9. Sealant Joints
   a. As specified in Section 07900.
   b. Prime ends of units, insert properly sized backing rod, and install sealant.
   c. Provide sealant joints at following locations:
      i. Copings and cast stone units with exposed tops.
      ii. Joints at relieving angles.
      iii. Control and expansion joints.
      iv. As indicated on the drawings.
10. Provide expansion and control joints in accordance with referenced publications.
    NCMA TEK Bulletin 10-1A & 10-2C
11. Remove and replace damaged units.
12. Clean stone per manufacturer's specifications

SECTION 055000 - METAL FABRICATIONS

SUMMARY
1. Provide metal fabrications:
   a. Rough hardware
   b. Steel ladder to roof access hatch
   c. Handrails and railings.
   d. Loose bearing and leveling plates
   e. Loose steel lintels
2. Tolerances:

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

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LEE'S SUMMIT, MISSOURI

ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By:	Approved By:
---	MBJ

Drawing Name:
SPECIFICATIONS

Drawing Number:
T-201

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

a. Fabrication tolerance: 1/8 inch in 10 feet
b. Erection tolerance: 1/16 inch

SUBMITTALS
1. Submit product data & shop drawings.

PRODUCTS
1. Steel plates, shapes, and bars: ASTM A 36
2. Steel tubing: ASTM A 500 or A 501
3. Steel pipe, black finish: ASTM A 53
4. Stainless steel bar stock: ASTM A 276, Type 302 or 304
5. Stainless steel plate: ASTM A 167, Type 302 or 304
6. Stainless steel tubing: ASTM A 554, Grade TP 304 or TP 316
7. Aluminum extruded bars and shapes: ASTM B 221 aluminum alloy
8. Steel finish: primed finish
9. Fasteners: non-corrosive, suitable for service intended
10. Zinc coating: hot-dip galvanized coating for materials in exterior assemblies or exterior walls
11. Aluminum finish color: anodized finish
12. Stainless steel finish: number 6 satin directional polish

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements
2. Comply with ASTM E 985 for handrail and railing structural performance.
3. Comply with AISC codes and specifications and with AWS Structural Welding Code.

SECTION 061000 - ROUGH CARPENTRY

SUMMARY
1. Provide rough carpentry:
   a. Framing with dimensional lumber
   b. Framing with engineered wood products
   c. Framing with timbers
   d. Wood grounds, nailers, and blocking
   e. Wood furring
   f. Backing panels
   g. Sheathing
   h. Subflooring
   i. Underlayment
   j. Remodel existing rough carpentry

SUBMITTALS
1. Submit product data

PRODUCTS
1. Lumber Standards and Grade Stamps: PS 20, American Softwood Lumber Standard and inspection agency grade stamps.
2. Construction Panel Standards: PS 1, U.S. Product Standard for Construction and Industrial Plywood; APA PRP-108.
3. Wood Framing Standards: NFPA House Framing Manual.
   a. Exterior Wall Framing: refer to Structural drawings for notes and specifications
   b. Interior Wall Framing: 2 inch by 4 inch studs, 16 inches on center.
   c. Interior Wall Framing: 2 inch by 6 inch studs, 16 inches on center.
4. Preservative Treatment: AWPA C2 for lumber and AWPA C9 for plywood; waterborne pressure treatment, preservative retention [0.25] [0.40] [2.5] pcf.
5. Fire-Retardant Treatment: AWPA C20 for lumber and AWPA C27 for plywood; noncorrosive type.
6. Dimension Lumber:
   a. Light Framing: Stud, No. 3 or Standard grade.
   b. Structural Framing: refer to Structural drawings for notes and specifications
   c. Species: Any species of grade indicated.
   d. Exposed Framing: Appearance grade.
7. Boards:
   a. Exposed Boards: 15 percent moisture content.
   b. Concealed Boards: 19 percent moisture content.
8. Miscellaneous Lumber, Blocking and Nailers:
   a. Moisture Content: 19 percent.
   b. Grade: Standard grade light framing.
9. Engineered Wood Products:
   a. Refer to Structural drawings for notes and specifications.
10. Construction Panels:
   a. Combination Subfloor-Underlayment: APA Sturd-I-Floor,
   b. Subflooring: APA Sheathing, Exterior.
   c. Wall Sheathing: APA Sheathing, Exterior sheathing.
   d. Roof Sheathing: APA Sheathing, Exterior sheathing.
   e. Plywood Backing Panels: APA C-D Plugged Exposure 1 with exterior glue, fire-retardant treated.
   f. Plywood Underlayment for Resilient Flooring: APA Underlayment Exterior.
   g. Construction Panel Underlayment for Resilient Flooring: APA Sturd-I-Floor, Exterior.
   h. Construction Panel Underlayment for Ceramic Tile: APA Sturd-I-Floor, Exposure 1.
   i. Plywood Underlayment for Carpet: APA Underlayment Exposure 1.
11. Auxiliary Materials:
   a. Felt Air Infiltration Barrier: Asphalt-saturated organic felt, ASTM D 226, Type I, No. 15 felt, unperforated.
   b. Polyethylene Air Infiltration Barrier: High density polyethylene.
   c. Polyolefin Air Infiltration Barrier: Woven polyolefin sheet.
   d. Sill Sealer Gaskets: Glass fiber strip resilient insulation.
   e. Framing Anchors and Fasteners: Non-corrosive, suitable for load and exposure.

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements
2. Comply with NFPA Manual for House Framing, NFPA Recommended Nailing Schedule, and NFPA National Design Specifications for Wood Construction
3. Comply with APA Design and Construction Guide, Residential and Commercial Construction
4. Provide nailers, blocking, and grounds where required. Set work plumb, level, and accurately cut
5. Comply with manufacturer's requirements for treated materials

SECTION 061753 - WOOD TRUSSES

REFER TO STRUCTURAL DRAWINGS FOR NOTES AND SPECIFICATIONS.

SECTION 064013 - EXTERIOR ARCHITECTURAL WOODWORK

SUMMARY
1. Provide exterior architectural woodwork:
   a. Standing and running trim and rails
   b. Ornamental items

SUBMITTALS
1. Submit product data, samples, & mockup of each type

PRODUCTS
1. AWI Standards: Architectural Woodwork Institute (AWI) "Architectural Woodwork Quality Standards"
2. WIC Standards: Woodwork Institute of California (WIC) "Manual of Millwork"
3. Preservative Treatment: nonpressure method, exterior type, NWWDA I.S. 4
4. Fire-Retardant Treatment: AWPA C20 for lumber and AWPA C27 for plywood; noncorrosive exterior type
5. Exterior Standing and Running Trim and Rails:
   a. Species for opaque finish: white pine or sugar pine
   b. Grade: Premium
   c. Texture: Surfaced all sides
   d. Finish: Paint
6. Exterior Ornamental Items:
   a. Species for opaque finish: white pine or sugar pine
   b. Grade: premium
   c. Finish: paint
7. Auxiliary materials:
   a. Nails: stainless steel, aluminum, or hot-dip galvanized siding nails
   b. Screws and Anchors: noncorrosive, type required for secure anchorage

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements
2. Comply with standards referenced
3. Backprime work before installation
4. Provide trim for scribing and site cutting
5. Install work plumb, level and in proper alignment
6. Provide work free from tool marks and blemishes
7. Securely fasten to substrates
8. Install in lengths to minimize joints and seams
9. Color match wood for transparent finish at joints for uniform appearance
10. Touch-up damaged or abraded finishes.

SECTION 064023 - INTERIOR ARCHITECTURAL WOODWORK

MUST USE REQUIRED VENDOR; NO SUBSTITUTIONS

Rodgers Wade
1401 SW 3rd Street
Paris, TX 75460
Attn: Cate Smith, Project Coordinator
Ph: 903-783-3680
Fax:903-739-2505
teamtle@rodgerswade.com

Allow 10 weeks from deposit/measured at frame.

SUMMARY
1. Provide interior architectural woodwork:
   a. Casework and countertops
   b. Cubbies
   c. Shelving

SUBMITTALS
1. Submit product data, samples, & mockup of each type

PRODUCTS
1. AWI Standards: Architectural Woodwork Institute (AWI) "Architectural Woodwork Quality Standards"
2. WIC Standards: Woodwork Institute of California (WIC) "Manual of Millwork"
3. Millwork Vendor - See Required/Approved Vendors list
4. Cabinetry & Shelving:
   a. Melamine construction with PVC edge band. Sample to be approved by architect.
   b. Grade: Custom
   c. Shelf Supports: surface-mounted slotted standards
   d. Closet coat hangers: chrome-plated steel; hook and broom hangers.
5. Auxiliary materials:
   a. Screws: FS FF-S-111, countersunk
   b. Nails: FS FF-N-105, countersunk
   c. Anchors: type required for secure anchorage

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements
2. Comply with standards referenced
3. Backprime work before installation
4. Provide trim for scribing and site cutting
5. Install work plumb, level, and in proper alignment
6. Provide work free from tool marks and blemishes
7. Securely fasten to substrates
8. Install in lengths to minimize joints and seams
9. Color match wood for transparent finish at joints for uniform appearance
10. Touch-up damaged or abraded finishes

SECTION 071113 - BITUMINOUS DAMPPROOFING

SUMMARY
1. Provide Bituminous Dampproofing where specified in drawings:
   a. Exterior surfaces of foundation walls.
   b. Exterior of interior wythe at cavity walls.
   c. Interior surfaces.

SUBMITTALS
1. Submit product data

PRODUCTS
1. Hot-Applied Asphalt Dampproofing:
   a. Materials and Application: Dampproofing asphalt, ASTM D 449, Type I.
   b. Protection Course: Compatible with dampproofing.
2. Cold-Applied Cut-Back Asphalt Dampproofing:
   a. Trowel grade, ASTM D 4586, Type I.
   b. Semimastic grade, ASTM D 4479, Type I.
   c. Spray grade, ASTM D 4479, Type I.
   d. Protection Course: Compatible with dampproofing.
3. Cold-Applied Asphalt Emulsion Dampproofing:
   a. Trowel grade, ASTM D 1187, Type I, or ASTM D 1227, Type III or IV.
   b. Semimastic grade, ASTM D 1227, Type III or IV.
   c. Spray grade, ASTM D 1227, Type III or IV.
   d. Protection Course: Compatible with dampproofing.

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.

SECTION 071353 – ELASTOMERIC SHEET WATERPROOFING

SUMMARY
1. Provide elastomeric sheet waterproofing systems where specified in drawings:
   a. Ice & water shield underlayment.

SUBMITTALS
1. Must provide 20 yr. warranty. Submit product data and warranty.

PRODUCTS
1. EPDM Sheet Waterproofing: Ethylene propylene diene monomer sheets, 0.060 inch thick, tensile strength 1400 psi, ASTM D 412, ASTM D 6134
2. Alternates (submit product data to Architect for review and approval):
   a. Rubberized Asphalt Sheet Waterproofing: Self-adhering rubberized asphalt and polyethylene sheet membrane, 60 mils thick, tensile strength 250 psi.
   b. Butyl Sheet Waterproofing: Synthetic butyl rubber sheets, 60 mils thick, tensile strength 1200 psi, ASTM D 412.
   c. Butyl Rubber Sheet Waterproofing: Self-adhering butyl rubber and polyethylene sheet membrane, 60 mils thick, tensile strength 400 psi).
   d. Bituminous Sheet Waterproofing: Premolded 7-ply bituminous sheet waterproofing, 60 mils thick.
3. Flashing Materials and Protection Board: Compatible with membrane waterproofing.

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.

SECTION 072100 - BUILDING INSULATION

SUMMARY
1. Provide Building Insulation and Vapor Retarders:
   a. Under slabs-on-grade, board type
   b. Foundation walls, board type
   c. Thermal insulation in exterior cavity walls, board type
   d. Thermal insulation in masonry cells, loose fill type
   e. Thermal insulation in exterior walls, blanket type
   f. Thermal insulation at underside of roofs, over heated spaces and over soffits, blanket type
   g. Thermal insulation over unheated areas, blanket type
   h. Acoustic insulation at interior partitions, blanket type
   i. Firesafing insulation, board or blanket type
   j. Sheet vapor retarders

SUBMITTALS
1. Submit product data

PRODUCTS
1. Board Insulation:
   a. Extruded polystyrene, rigid, ASTM C 578.
   b. Molded expanded polystyrene, rigid, ASTM C 578.
   c. Phenolic board, rigid.
   d. Polyisocyanurate board, rigid, FS HH-I-1972/1, Class 2.
   e. Cellular glass, rigid, ASTM C 552, Type I.
   f. Glass fiber board, semi-rigid, ASTM C 553, Class B-4.
   g. Glass fiber board, foil-faced, semi-rigid or rigid, ASTM C 553.
   h. Semi-refractory fiber board, semi-rigid or rigid, ASTM C 612.
   i. Firesafing semi-refractory fiber board, semi-rigid, ASTM C 612, Class 1 and 2.
2. Vapor Retarder: Integral vapor retarder as required for application.
3. Blanket/Batt Insulation:
   a. Glass fiber or mineral slag fiber, ASTM C 665, Type I unfaced.
   b. Glass fiber or mineral slag fiber, ASTM C 665, Type III foil-faced vapor-retarder membrane.
4. Loose Fill Insulation:
   a. Loose granular perlite, ASTM C 549, Type II.
   b. Loose granular vermiculite, ASTM C 516, Type II.
   c. Loose glass fiber insulation, ASTM C 764.
5. Vapor Retarder (Not Integral with Insulation):
   a. Polyethylene, ASTM D 4397, 6 mils, 0.13 perm vapor transmission rating.
   b. Reinforced 2-ply polyethylene, 6 to 8 mils.
   c. Reinforced 3-ply polyethylene, 10 to 12 mils.
   d. Metal foil/polyester film, 0.5 mil polyester film laminated to 1.0 mil aluminum foil.
6. Accessories:
   a. Adhesives and mechanical anchors.
   b. Protection board.
   c. Crack sealers and tapes.
7. Sheet Radiant Barrier: ASTM C 1313, foil on one side, flame spread index of 25 or less, and water-vapor transmission of 1 perm, maximum.
8. Eave Ventilation Troughs: Provide Raft-R-Mate by Owens Corning or approved equal applied to underside of roof sheathing between truss/roof rafters, to maintain airway

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC.

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.

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ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
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REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: ---	Approved By: MBJ

Drawing Name:
SPECIFICATIONS

Drawing Number:
T-202

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

from eave to ridge. Install per manufacturer's specifications.
9. Impaling pins to secure roof insulation to underside of roof sheathing as shown on drawings. Pins to be by Gemco, by Thomas Welding Systems or approved equal, 2" x 2" perforated base with impaling pin as required up to 16" in length. Insulation to be held in place using 2 ½" X 2 ½" self-locking washers. Install per manufacturer's specifications.

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.
2. Install insulation and vapor barriers with continuous coverage to provide optimum performance.

SECTION 072400 - EXTERIOR INSULATION AND FINISH SYSTEMS

SUMMARY
1. Provide Exterior Insulation and Finish Systems (EIFS):
   a. Applications over concrete surfaces
   b. Applications over masonry surfaces
   c. Applications over gypsum sheathing

SUBMITTALS
1. Submit product data, samples, shop drawings, 4 foot by 4 foot mockup, & warranty

PRODUCTS
1. As selected by Architect, complying with the following:
2. Finish Coating over Molded Polystyrene Board:
   a. Type: EIMA Class PB.
   b. Base Coat: Portland cement and polymer adhesive.
   c. Finish Coat: Polymer emulsion.
   d. Thermal Insulation: Molded rigid cellular polystyrene.
   e. Adhesive Attachment: Adhesive.
   f. Mechanical Attachment: Mechanical fasteners, corrosion-resistant.
   g. Reinforcing Fabric: Standard weight with high-impact type at areas subject to damage.
3. Finish Coating over Extruded Polystyrene Board:
   a. Type: EIMA Class PM.
   b. Base Coat: Portland cement, glass fibers, and polymer emulsion.
   c. Polymer Topcoat: Polymer-modified Portland cement.
   d. Acrylic Topcoat: Acrylic emulsion. e. Thermal Insulation: Extruded rigid cellular polystyrene
   e. Attachment: Mechanical fasteners, corrosion-resistant
   f. Reinforcing Fabric: Standard weight.

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements
2. Provide impact-resistant reinforcing at areas subject to abuse
3. Wrap edges of insulation board with fabric and finish coating at reveals and sealant joints

SECTION 073113 - ASPHALT SHINGLES (if specified)

SUMMARY
1. Provide shingles for roofing applications
2. Provide shingles for siding applications

SUBMITTALS
1. Submit product data, samples, & 30 year warranty

PRODUCTS
1. Products: GAF Timberline HD 30-Year Architectural dimensional shingles
   a. Shingle color: refer to drawing A-051
   b. Square tab, fiberglass strip shingles
   c. Square tab, organic-felt strip shingles
   d. Heavyweight, laminated, organic felt strip shingles
   e. Staggered-butt-edge, fiberglass strip shingles with tabs
   f. Staggered edge, fiberglass shingles
   g. Accessories: hip and ridge shingles; felt, ASTM D 226; rubberized asphalt perimeter underlayment; metal flashing and drip edge
   h. Accessories: hip and ridge tiles; felt, ASTM D 226; rubberized asphalt perimeter underlayment; metal flashing and drip edge
2. Fasteners: noncorrosive and non-staining
3. Accessories: snow guards

SECTION 074646 - FIBER CEMENT SIDING (if specified)

SUMMARY
1. Provide siding for exterior walls

SUBMITTALS
1. Submit product data, samples, & warranty

PRODUCTS
1. Products: HardiePlank, HardiePanel, HardieTrim fascia and moulding
2. HardiePlank siding: non-asbestos fiber cement siding to comply with ASTM Standard Specification C1186 Grade II, Type A
   a. Color: as specified in exterior finish schedule on drawing A-051
3. Siding Auxiliary Materials:
   a. For metal construction: exposed fasteners: 1 1/4" No. 8 x 0.375" head corrosion-resistant S-12 ribbed buglehead screws
   b. For wood construction: 0.089" shank x 0.221" head x 1 1/2" corrosion-resistant siding nails
4. Solid soffit panels:
   a. Color: as specified in exterior finish schedule on drawing A-051
   b. Ventilating soffit panels
   c. Corner posts and trim
   d. Door and window casings
   e. Closure trim

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements
2. Coordinate siding installation with flashings to shed water properly
3. Backprime work before installation
4. Install work plumb, level, and in proper alignment
5. Provide work free from tool marks and blemishes
6. Securely fasten to substrates
7. Install in lengths to minimize joints and seams
8. Store and install material according to manufacturer's specifications

SECTION 075400 - THERMOPLASTIC POLYOLEFIN MEMBRANE ROOFING SYSTEM (TPO)

SUMMARY:
1. Manufacturer: Firestone (or approved equal)
2. Basis of Design: 60 Mil., Singly-Ply Thermoplastic Polyolefin Membrane Roofing System, Mechanically Fastened. Color: White

SUBMITTALS:
1. Must provide 20 yr. warranty. Submit product data & warranty

PRODUCTS:
1. Firestone Rubbergard (or approved equal)
2. Membrane roofing: 60 Mil. TPO roofing system
3. Tapered insulation: ASTM C 1289, provide factory-tapered insulation boards fabricated to slope of 1/2" PER 12".
4. Flexible walkway pads: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads sourced from membrane roofing system manufacturer.
5. Fasteners and accessories: Manufacturer's standard fasteners and accessories for proposed insulation depth and roof slope.

SECTION 076200 - FLASHING AND SHEET METAL

SUMMARY
1. Provide flashing and sheet metal:
   a. Metal counterflashing and base flashing
   b. Exterior wall flashing and expansion joints
   c. Built-in metal valleys, gutters, and scuppers
   d. Gutters and downspouts
   e. Exposed metal trim and fascia units
   f. Elastic flashing
   g. Elastic roof and wall expansion joint systems
   h. Laminated composition flashing
   i. Sheet metal accessories
   j. Ridge vents
   k. Soffit vents

SUBMITTALS
1. Submit product data, samples, & shop drawings

PRODUCTS
1. Sheet metal flashing and trim:
   a. Zinc-coated steel: ASTM A 526, G90 hot-dip galvanized, 20 gage (0.0359 inch)
   b. Stainless steel: AISI Type 302/304, ASTM A 167, 2D annealed finish, 28 gage (0.0156 inch)
   c. Copper: ASTM B 370, 16 ounces per square foot
   d. Lead-coated copper: ASTM B 370, copper, 16 ounces per square foot and 0.06 pounds per square foot lead coating (both sides)
   e. Sheet aluminum: ASTM B 209, alloy 3003, clear anodized, 20 gage (0.0359 inch)
   f. Extruded aluminum: 6063-T52, clear anodized, 0.080 inches for primary legs of extrusion
2. Flexible sheet membrane flashing: non-reinforced flexible black elastic sheet, 50 to 65 mils thick, butyl synthetic rubber sheet
3. Laminated composition sheet flashing: 3 ounce copper sheet laminated between 2 layers of bituminous impregnated Kraft paper or saturated fabric
4. Fabricated units: compliance with SMACNA Architectural Sheet Metal Manual
5. Elastic expansion joints: factory-fabricated metal-flanged edges to fit curbs and curb substrate
6. Ridge vents: baffled aluminum ridge vent, suitable for direct application of shingles
7. Soffit vents: continuous aluminum strip vents
8. Auxiliary materials:
   a. Solder compatible with metal
   b. Bituminous isolation coating
   c. Mastic and elastomeric sealants
   d. Epoxy seam sealer
   e. Rosin-sized building paper slip sheet
   f. Polyethylene underlayment
   g. Reglets and metal accessories
   h. Gutter and conductor head guards
   i. Asphaltic roofing cement

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements
2. Install flashing and sheet metal with provision for expansion and contraction
3. Install flashing and sheet metal to shed water properly
4. Install gutters and downspouts to drain water properly
5. Isolate dissimilar metals with bituminous coating

SECTION 077200 - ROOF ACCESSORIES

SUMMARY
1. Provide roof curbs and equipment supports
2. Provide roof hatches
3. Provide low profile gravity ventilators
4. Provide ridge vents

SUBMITTALS
1. Submit product data, samples, & shop drawings

MATERIALS
1. Aluminum sheet: ASTM B 209 (ASTM B 209M), alclad alloy 3005H25, or alloy and temper required to suit forming operations, with mill finish unless otherwise indicated
2. Extruded Aluminum: ASTM B 221 (ASTM B 221M), Alloy 6063-T52, or alloy and temper required to suit structural and finish requirements, with mill finish unless otherwise indicated
3. Galvanized sheet steel: ASTM A 653/A 653 M, G90 (Z275)

ROOF CURBS AND EQUIPMENT SUPPORTS
1. Fabricate from 0.0747 inch (1.9) galvanized structural steel; factory primed and prepared for painting with welded or sealed mechanical corner joints 0.063 inch (1.6 mm) thick, sheet aluminum with welded corner joints.

PRODUCTS
1. As noted on drawings
2. Provide units with cant strips and base profile coordinated with roof insulation thickness and roof deck slope
3. Provide preservative-treated wood nailers at tops of curbs
4. Provide manufacturer's standard rigid or semi-rigid insulation

ROOF HATCHES
1. Fabricated from galvanized structural-steel sheet with 9 inch (225 mm) high, integral-curb, double-wall construction with 1 1/2" (38 mm) insulation, formed cants and cap flashing, with welded or sealed mechanical corner joints. Provide double-wall cover (lid) construction with 1 inch (25 mm) thick insulation core. Provide gasketing and corrosion-resistant hardware including pintle hinges, hold open devices, interior padlock hasps, and both interior and exterior latch handles

PRODUCTS
1. Bilco
   a. Single leaf roof scuttle Type E-20 - Size 3'-0" x 3'-0"

LOW-PROFILE GRAVITY VENTILATORS
1. Fabricated from galvanized steel sheet with baked-enamel finish. Provide units with integral double-wall aluminum curb, with minimum 1 inch (25 mm) thick, glass-fiber board insulation, and with minimum 3 inch (75 mm) roof flanges. Provide bird screens fabricated from 1/2 inch (13 mm) square mesh, 0.062 (1.6 mm) diameter, stainless-steel wire.

RIDGE VENTS
1. Provide aluminum, set on type ridge vents
2. Finish: high performance organic coating

SECTION 078100 - FIREPROOFING (if required)

SUMMARY
1. Provide fireproofing for new building structure
2. Patch fireproofing disturbed by remodeling operations

SUBMITTALS
1. Submit product data & test reports

PRODUCTS
1. Fire performance: ASTM E 119 and local regulations
2. Cementitious type for concealed use: 15 pounds per cubic foot dry density, ASTM E 605
3. Mineral fiber type for concealed use: 15 pounds per cubic foot dry density, ASTM E 605
4. Exposed sprayed-on fireproofing: medium density type, cementitious type

INSTALLATION
1. Comply with requirements of Sction 010000 - Project Requirements
2. Inspect existing and new structural members for proper fireproofing prior to close-in of ceilings and walls
3. Provide material thicknesses necessary to provide fire resistance ratings indicated or required by authorities having jurisdiction

SECTION 079200 - JOINT SEALANTS

SUMMARY
1. Provide joint sealers at interior and exterior vertical and horizontal joints

SUBMITTALS
1. Submit product data, mockup of each joint type, & adhesion test results for each joint type

PRODUCTS
1. Urethane Elastomeric Joint Sealants:
   a. Non-Sag Type and Application: Multi-part non-sag urethane sealant, compliant with ASTM C 920, for vertical and horizontal joints, exterior and interior use.
   b. Pourable Type and Application: One-part pourable urethane sealant, compliant with ASTM C 920, for horizontal joints, exterior and interior use.
2. Silicone Elastomeric Joint Sealants:
   a. Type and Application: One-part non-acid-curing silicone sealant, compliant with ASTM C 920, for vertical and horizontal joints, modulus as required for application, exterior and interior use.
   b. Type and Application: One-part acid-curing silicone sealant, compliant with ASTM C 920, for vertical joints, exterior and interior use.
   c. Type and Application: One-part mildew-resistant silicone sealant, compliant with ASTM C 920, for sanitary applications, interior use.
3. Polysulfide Elastomeric Joint Sealants:
   a. Non-Sag Type and Application: Two-part non-sag polysulfide sealant, compliant with ASTM C 920, for vertical joints, exterior and interior use.
   b. Pourable Type and Application: Two-part pourable polysulfide sealant, compliant with ASTM C 920, for horizontal joints, exterior and interior use.
   c. Immersion Type and Application: Two-part polysulfide sealant, compliant with ASTM C 920, for water immersion.
4. Latex Joint Sealants:
   a. Acrylic Type: Acrylic emulsion, compliant with ASTM C 834.
   b. Silicone Type: Silicone emulsion, compliant with ASTM C 834 and ASTM C 920.
   c. Application: Interior joints in vertical and overhead surfaces with limited movement.
5. Solvent-Release-Curing Joint Sealants:
   a. Acrylic Type: Acrylic, compliant with ASTM C 920.
   b. Butyl Type: Butyl, compliant with FS TT-S-001657.
   c. Application: Exterior vertical surfaces with limited movement.

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC.

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.

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ISSUE

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REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: ---	Approved By: MBJ

Drawing Name:
SPECIFICATIONS

Drawing Number:
T-203

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

6. Compression Seals:
   a. Type: Preformed foam sealant.
   b. Application: Wide exterior joints in vertical surfaces.
7. Fire-Resistive Joint Sealers:
   a. Type: One-part fire-stopping sealant.
   b. Application: Penetrations in fire-rated floor and wall assemblies.
8. Specialty Sealants:
   a. Type and Application: Synthetic rubber for acoustical sealant for concealed joints.
   b. Type and Application: Butyl-polyisobutylene sealant and tape sealant for concealed joints.
9. Paving Joint Fillers:
   a. Expanding Type: self-expanding cork.
   b. Cork Type: cork.
   c. Rubber Type: Sponge rubber.
   d. Bituminous Type: Bituminous fiber.
   e. Application: Filler for exterior paving joints.
10. Auxiliary Materials:
   a. Plastic foam joint fillers.
   b. Elastomeric tubing backer rods.
   c. Bond breaker tape.

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements
2. Test sealant adhesion for each substrate required.
3. Install in proper relation with adjacent work.
4. Clean adjacent surfaces soiled with sealant immediately.

SECTION 081113 - STEEL DOORS AND FRAMES

SUMMARY
1. Hollow metal doors and frames.

SUBMITTALS
1. Product data and door schedule.
2. Comply with ANSI A 250.8.
3. Fire-rated door assemblies: NFPA 80, tested per NFPA 252, and labeled and listed by UL, ITS, another testing and inspecting agency acceptable to the authority having jurisdiction.

PRODUCTS
1. Acme Steel Doors: Complying with ANSI 250.8 for level and model, and ANSI A 250.4 for physical endurance level indicated, 1-3/4 inch (44 mm) thick (unless noted otherwise).
   a. Interior Doors: Level 1 and Physical Performance Level C (Standard Duty), Model 1 (Full Flush)
   b. Interior Doors: Level 2 and Physical Performance Level B (Heavy Duty), Model 1 (Full Flush)
   c. Exterior Doors: Level 2 and Physical Performance Level B (Heavy Duty), Model 1 (Full Flush), galvanized steel sheet faces
   d. Exterior Doors: Level 3 and Physical Performance Level A (Extra Heavy Duty), Model 1 (Full Flush), galvanized steel sheet faces
2. Door Louvers: Sight-proof per SDI 111C.
3. Frames: compliant with ANSI A 250.8; concealed fastenings (unless noted otherwise).
   a. Steel Sheet Thickness for Interior Doors: 0.053 inch (1.3 mm)
   b. Steel Sheet Thickness for Exterior Doors: 0.042 inch (1.0 mm)
   c. Fabricate with interior frames with mitered or coped corners knocked down for field assembly
   d. Fabricate with exterior frames from galvanized steel sheet, with mitered or coped and continuously welded corners.
4. Glazing Stops: Non-removable stops on outside of exterior doors and on secure side of interior doors; screw-applied, removable glazing stops on inside.
5. Door Silencers: Three on strike jambs of single-door frames and two on heads of double-door frames.
6. Plaster Guards: Provide where mortar might obstruct hardware operation.
7. Supports and Anchors: Not less than 0.042 inch (1.0 mm) thick galvanized steel sheet.
8. Prepare doors and frames to receive mortised and concealed hardware according to ANSI A 250.6 and ANSI A 115 Series standards.
9. Reinforce doors and frames to receive surface-applied hardware.
10. Prime Finish: Manufacturer's standard, factory-applied coat of rust-inhibiting primer complying with ANSI A 250.10 for acceptance criteria.

MATERIALS
1. Hot-Rolled Steel Sheets: ASTM A 1011/A 1011M.
2. Cold-Rolled Steel Sheets: ASTM A 1008/A 1008M or ASTM A 620/A 620M.
3. Galvanized Steel Sheets: ASTM A 653/A 653M, A40 or G40 (ZF120 or Z120) coating.

INSTALLATION
1. Place steel frames to comply with SDI 105.
   a. Fire-Rated Frames: Install according to NFPA 80.
2. Install doors to comply with ANSI A 250.8. Shim as necessary to comply with SDI 122 and ANSI/DHI A 115.1G.
   a. Fire-Rated Doors: Install with clearances specified in NFPA 80.
   b. Smoke-Control Doors: comply with NFPA 105.
3. After installation, remove protective wrappings from doors and frames and touch up prime coat with compatible air-drying primer.

SECTION 084113 - ALUMINUM ENTRANCES AND STOREFRONTS

SUMMARY
1. Provide aluminum entrances and storefront:
   a. Exterior entrance doors.
   b. Frames for entrances.

SUBMITTALS
1. Submit product data and shop drawings.

PRODUCTS
1. Products: Kawneer Company, Inc. or approved equal.
2. Door Style: refer to door schedule.
3. Storefront Frames: Thermal break type.
4. Aluminum Members: ASTM B 221, 6036-T6 alloy and temper.
5. Steel Reinforcement: ASTM A 36, ASTM A 611, and ASTM A 570.
6. Glass and Glazing: Insulating tempered glazing.
7. Glazing Color: Clear glass.
8. Door Hanging Devices: Refer to hardware schedule.
9. Closers: Surface mounted.
10. Closer Operation: Single-acting closers.
11. Hardware: Push/pulls, door stops, overhead holders, and deadlocks, weatherstripping and thresholds, exit devices.
12. Factory Finish: Kawneer Fluoropon (70% PVDF), AAMA 2605, Fluoropolymer Coating
13. Color: refer to exterior elevations.

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.
2. Anchor securely in place; install plumb, level, and in true alignment.
3. Isolate dissimilar metals.
4. Coordinate with glazing work and hardware requirements.

SECTION 085313 - VINYL WINDOWS

SUMMARY
1. Provide vinyl windows.

SUBMITTALS
1. Submit product data, samples, shop drawings, mockup, test reports, warranty, and maintenance data.

PRODUCTS
1. Products: refer to drawing A-123
   Window Options:
   PLYGEM WINDOWS: 1500 SERIES
   ANDERSON WINDOWS: 100 SERIES
   ANDERSON WINDOWS: 400 SERIES
   SILVERLINE WINDOWS: V1 SERIES
2. Window Type: vinyl
3. Operation: Fixed
4. Size: refer to drawing A-123
5. Glazing: Low 'E', tempered, 5/8 inch thick insulated glass
6. Glazing Color: Clear glass
7. Anchors, Clips, and Window Accessories: Aluminum, non-magnetic stainless steel, or galvanized steel

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.

SECTION 087100 - DOOR HARDWARE

MUST USE REQUIRED VENDOR FOR THE PURCHASE OF THE ARROW 7-PIN INTERCHANGEABLE CORES. NO SUBSTITUTIONS.

ND SECURITY
134 E. Shore Road
Denville, NJ 07834
Attn: Nick DeSalvo
Ph: 973-625-5602

NOTE: Certain locks must accommodate Arrow 7-pin, small format, figure eight, interchangeable cores. Cores are to be purchased from ND Security. Cores are shipped to TLE corporate until completion of the building. TLE personnel will install cores after CO is received. The contractor must ensure that hardware accommodates these cores.

SUMMARY
1. Provide hardware for swinging doors.
2. Comply with code and accessibility requirements.
3. All exterior doors shall receive panic hardware and closers.
4. All doors in smoke partitions to have self-closer in accordance with NFPA 80, tested in accordance with UL 1784.
5. All hardware for doors in smoke partitions to comply with UL 1784 and additional requirements of the AHJ.
6. Door vendor shall coordinate all electrified door hardware with low voltage/security systems vendor prior to ordering or installation. Electrified door hardware shall be provided, installed, and wired to power supply by door vendor/installer. Power supply shall be incorporated into low voltage systems by security vendor.

SUBMITTALS
1. Submit product data, samples, proposed hardware schedule, and maintenance data.

PRODUCTS
1. Latch and cylindrical locksets for interior doors - refer to drawing A-121 and A-122
2. For all new and existing hollow metal doors:
   a. Trim shall receive Arrow 7-pin, small format, figure eight I/C core, mortise cylinders or rim cylinders (whichever is required).
   b. For all other manufacturers used on flush steel doors, lever trims must accommodate Arrow 7-pin small format, figure eight I/C cores.
   c. Arrow Sierra latch and cylindrical locksets (or equal) in US26D finish on exterior side of specified exterior doors.
   d. Existing HM door without panic bar must have panic bar installed or door replaced for HM door with panic bar.
3. Silent Electrification option is mandatory and must be present on any proposed hardware substitutions for double storefront interior Vestibule/Reception doors.
4. All panic bars shall have manual dogging capability.
5. Product Requirements:
   a. Hardware for Fire-Rated Openings: compliant with NFPA 80 and local requirements.
   b. Handicapped Accessibility: compliant with ANSI A117.1, ADAAG, and local requirements.
   c. Materials Application: compliant with ANSI A 156 series standards
   d. Quality Level: Commercial Type
6. Locksets and Latchsets: Cylinder Type
7. Lock Cylinders need to accommodate the Arrow Interchangeable, figure 8, 7 pin core.
   a. Cores to be purchased from ND Security, cylinders provided by GC.
8. Keying: Per owner's requirements, keying and key control system (refer to drawing A-121 and A-122)
9. Hinges and Butts: Full mortise type with non-removable pins at exterior, entrance, and security doors.
10. Closers: refer to drawing A-121 and A-122
11. Exit Devices: Low frequency type
12. Pivots: No pivot hinges allowed.
13. Push/Pull Units: Through-bolted type
14. Hardware Finish: US26D
15. Door Trim Units: Kickplates, armor plates, edge trim, and related trim
16. Flush bolts with dustproof strikes
17. Coordinators
18. Automatic Door Bottoms
19. Wall Mounted Door Stops
20. Silencers
21. Weatherstripping
22. Thresholds
23. Emergency Lockdown Device: refer to vendor list on sheet T-201.

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.
2. Refer to the door schedule for hardware sets.

SECTION 092216 - GYPSUM BOARD ASSEMBLIES

SUMMARY
1. Provide Gypsum Board Assemblies:
   a. Interior walls, partitions, and ceilings for tape and joint compound finish
   b. Insulation and vapor barrier systems in gypsum drywall systems
2. Gypsum Board Attachment:
   a. Gypsum board screw-attached to steel framing and furring.
   b. Gypsum board nail-attached to wood framing and furring.

SUBMITTALS
1. Submit product data.

PRODUCTS
1. Products: As selected by Architect, complying with the following:
2. Gypsum Board:
3. Gypsum Wall Board: compliant with ASTM C 36, regular, foil-backed, and fire-rated types, 5/8 inch typical thickness
4. Water-Resistant Gypsum Backing Board: compliant with ASTM c 630, regular and fire-rated types, 1/2 inch and 5/8 inch typical thicknesses
5. Joint Treatment: compliant with ASTM C 475 and ASTM C 840, 3-coat system
6. Installation Standard: compliant with ASTM C 840
7. Trim Accessories:
8. Material: Metal trim, PVC
9. Types: Cornerbead, edge trim, and control joints
10. Radius corners: Pittcon 1", 6", and 12" SO-LRT soft forms
11. Auxiliary Materials:
12. Gypsum Board Screws: compliant with ASTM C 1002
13. Gypsum Board Nails: compliant with ASTM C 514
14. Fastening Adhesive
15. Concealed Acoustical Sealant
16. Mineral Fiber Sound Attenuation Blankets
17. Mineral Fiber Thermal Insulation
18. Polyethylene Vapor Retarder, 6 mils

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.
2. Comply with standards referenced above and ASTM C 840 and GA 216.
3. Install joints only over framing members. Do not allow butt-to-butt joints.
4. Provide blocking for items such as railings, grab bars, casework, toilet accessories, and similar items.
5. Provide acoustical sealant at runner tracks, wall perimeters, openings, expansion, and control joints.
6. Install gypsum board assemblies in true alignment, plumb, level, and in proper relation to adjacent surfaces.
7. Provide 3-coat joint treatment such that, after finishing, joints are not visible.
8. All gypsum board assemblies are to be finished to a USG level 4.
9. Leave ready for finish painting and wall treatment.

SECTION 093000 - TILE

SUMMARY
1. Provide tile for the following applications:
   a. Quarry tile floor and coved base over concrete slab in Pantry

PRODUCTS
1. Products: As selected by Architect, compliant with the following:
2. Tile Materials: ANSI A 118 series standard specifications
3. Quarry floor tile: refer to A-041
4. Quarry wall base: coved tile to match floor tile spec
5. Tile Accessories:
   a. Matching trim units
   b. Marble thresholds
6. Setting Materials:
   a. Portland cement mortar, compliant with ANSI A 108.1
   b. Dry-set Portland cement mortar, ANSI A 118.1
7. Grout: refer to A-041
   a. Sand-Portland cement grout, ANSI A 108.10
   b. Commercial Portland cement grout, ANSI A 118.6
   c. Dry-set grout, ANSI A 118.6
   d. Latex-Portland cement grout, ANSI A 118.6
8. Setting Accessories:
   a. Membrane waterproofing under tile
9. Elastomeric Sealants:
   a. One-part mildew-resistant silicone sealant for non-traffic areas
   b. Multi-part pourable urethane sealant for traffic areas

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

Jarmel Kizel
ARCHITECTS AND ENGINEERS INC.
42 OKNER PARKWAY
LIVINGSTON, NEW JERSEY 07039
TEL: 973-994-9669
FAX: 973-994-4069
www.jarmelkizel.com
Architecture
Engineering
Interior Design
Implementation Services

THE LEARNING EXPERIENCE
ACADEMY OF EARLY EDUCATION
ARBORWALK WEST
LEE'S SUMMIT, MISSOURI

ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: ---	Approved By: MBJ

Drawing Name:
SPECIFICATIONS

Drawing Number:
T-204

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements
2. Comply with ANSI 108 series standard specifications and Tile Council of America Handbook for Ceramic Tile Installation.
3. Layout tile in grid pattern with alignment of grids to provide uniform joint width and to minimize cutting.
4. Grout, cure, clean, and protect tile surfaces
5. All flooring must be thoroughly cleaned upon completion of installation, inclusive of waxing and polishing (where applicable).

SECTION 095123 - ACOUSTICAL CEILINGS

ARMSTRONG
Attn: Cheryl B. Smith
Ph: 800-442-4212
cbsmith@armstrongceilings.com

The Learning Experience is an Armstrong Ceilings national account partner. To ensure proper pricing is quoted, contact 800-442-4212, Armstrong national account customer service or your local Armstrong ceiling distributor and ask for The Learning Experience national account pricing. If you have any questions, contact Cheryl B. Smith, Armstrong national account manager, cbsmith@armstrongceilings.com.

SUMMARY
1. Provide acoustical lay-in ceilings, trim, and metal suspension system.

SUBMITTALS
1. Submit product data and samples.

PRODUCTS
1. Acoustical Tile Ceilings: refer to drawing A-021
2. Suspension Systems:
   a. Exposed grid suspension system, compliant with ASTM C 635 intermediate duty classification
   b. Suspension System Accessories: Attachment devices and hangers, compliant with ASTM C 635
   c. Cap Material: Painted steel finish
   d. Edge molding and trim

INSTALLATION
1. Comply with requirements of Section 0100000 - Project Requirements
2. Measure and lay out acoustical ceilings to avoid less than 1/2 panel units whenever practical.
3. Install suspension systems in accordance with ASTM C 636.
4. Install panels with pattern or grain running one way.

SECTION 096513 - RESILIENT WALL BASE AND ACCESSORIES

SUMMARY
1. Provide 4 inch coved vinyl wall base.

SUBMITTALS
1. Submit product data and samples.

PRODUCTS
1. Vinyl Wall Base: refer to A-041
2. Adhesives: Water-resistant type recommended by manufacturer to suit products and substrate conditions
3. Trowelable Leveling and Patching Compounds: Latex-modified Portland cement or blended hydraulic cement-based formulation provided or approved by flooring manufacturer for applications indicated.

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.

SECTION 096516 - SHEET VINYL FLOOR COVERING

SUMMARY
1. Provide sheet vinyl floor covering in all toilet rooms and laundry room.

SUBMITTALS
1. Submit product data and samples.

PRODUCTS
1. Sheet Vinyl Floor Covering w/ Integral Cove Base: refer to A-041
2. Trowelable Leveling and Patching Compounds: Latex-modified Portland cement or blended hydraulic cement-based formulation provided or approved by flooring manufacturer for applications indicated.
3. Heat-Welding Bead: Solid-strand product of floor covering manufacturer

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.
2. Prepare concrete substrates according to ASTM F 710. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
3. Maintain uniformity of sheet vinyl floor covering direction and match edges for color shading at seams.
4. Seams shall be installed with matching weld rod and located beneath fixtures to minimize visibility.

SECTION 096519 - RESILIENT FLOOR TILE

Contact TLE for MBB racetrack design.

SUMMARY
1. Provide resilient floor tile in corridors and classrooms as noted on the drawings.

SUBMITTALS
1. Submit product data and samples.

PRODUCTS
1. LVT Flooring: refer to A-041
2. Adhesives: Water-resistant type recommended by manufacturer to suit products and substrate conditions.
3. Trowelable Leveling and Patching Compounds: Latex-modified Portland cement or blended hydraulic cement-based formulation provided or approved by flooring manufacturer for applications indicated.

INSTALLATION
1. Comply with Section 010000 - Project Requirements
2. Prepare concrete substrates according to ASTM F 710. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
3. Lay tiles with grain running in one direction (monolithic) in patterns indicated.

SECTION 096816 - CARPET

MUST USE REQUIRED VENDOR FOR THE PURCHASE OF THE CARPET. NO SUBSTITUTIONS ALLOWED.

INTERFACE
Attn: William Sanchez
Ph: 754-243-3729
tle@interface.com
Stock Hold #: 3141

Allow 4 weeks from time of deposit.

NOTE: It is required to purchase the carpet from this vendor. Interface provides full installation services.

SUMMARY:
1. Provide carpet and floor preparation.
2. All flooring must be thoroughly cleaned upon completion of installation.

SUBMITTALS:
1. Submit product data, samples, seaming diagram, mockup, warranty, and maintenance data.

PRODUCTS:
1. Floor Carpet Material: refer to A-041
   a. Carpet all freestanding columns to a height of 3'-6" A.F.F.
2. Carpet Padding Material (only if broadloom is used):
   a. Type: Polyurethane Foam Cushion, 8 lbs. density pad
3. Walk-Off Mat: refer to A-041
4. Auxiliary Materials
   a. Edge Guards. Color to be Navy Blue.
   b. Adhesives, cements, and fasteners
5. Carpet Installation Method: Tackless mounting with carpet cushion installation

INSTALLATION:
1. Comply with requirements of Section 010000 - Project Requirements
2. Maintain uniformity of carpet direction and lay of pile. At doorways, center seams under door in closed position. Bind or seal cut edges as recommended by carpet manufacturer.
3. Provide cut-outs for floor outlets and similar penetrations.
4. Provide edge guards at change of flooring materials.
5. Comply with CRI 104, Section 8, "Direct Glue-Down"
6. Comply with CRI 104, Section 12, "Carpet on Stairs"
7. Extra materials: Deliver to owner full-width carpet equal to 5 percent of each type and color of carpet installed, packaged with protective covering for storage.
8. Do not install carpet over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive and concrete slabs have pH range recommended by manufacturer.
9. Any changes in carpeting due to compliance with local Fire Marshall are to be verified with The Learning Experience prior to implementation.
10. Carpet to be installed towards very end of construction process to avoid debris embedding into carpet.
11. All carpeting must be thoroughly cleaned and vacuumed prior to tenant move-in.

SECTION 097700 - FIBERGLASS REINFORCED PLASTIC PANELS

SUMMARY
1. Provide glass-fiber-reinforced paneling for backsplash in Pantry.
   a. Standing and running trim and rails
2. Provide glass-fiber-reinforced paneling behind and 36 inches to each side of the Laundry and Janitor Closet sinks.
3. Provide glass-fiber-reinforced paneling on bathroom walls (wall behind toilet and lavatory and both adjacent side walls).

SUBMITTALS
1. Submit product data, samples, and mock-up of each type.

PRODUCTS
1. FRP wall panels: refer to A-042

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.
2. Comply with standards referenced.
3. Backprime work before installation.
4. Provide trim for scribing and site cutting.
5. Install work plumb, level, and in proper alignment.
6. Provide work free from tool marks and blemishes.
7. Securely fasten to substrates.
8. Install in lengths to minimize joints and seams.
9. Touch up damaged or abraded finishes.
10. Cut and drill panels with carbide tipped saw blased or drill bits, or cut with snips.
11. Install panels with manufacturer's recommended gap for panel field and corner joints.
12. Pre-drill fastener holes in panels with 1/8 inch (3.2 mm) oversize.
13. For trowel type and application of adhesive, follow adhesive manufacturer's recommendations.
14. Use products acceptable to panel manufacturer and install FRP system in accordance with panel manufacturer's printed instructions.

SECTION 099100 - PAINTING

BENJAMIN MOORE
SHERWIN WILLIAMS
Color Match – Refer to Wall Finish Plan drawing

SUMMARY
1. Provide painting and surface preparation for interior and exterior unfinished surfaces.
2. Provide painting and surface preparation of exposed mechanical and electrical piping, conduit, ductwork, and equipment.

SUBMITTALS
1. Submit product data, samples, 4 ft. x 4 ft. mock-up of each color, extra stock consisting of one unopened gallon of each type of paint used.

PRODUCTS
1. All paints: refer to Wall Finish Plan drawing
2. Regulations: Compliance with VOC and environmental regulations
3. First-line commercial-quality products for all coating systems

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements
2. Provide field-applied mock-ups of each color and finish selected on actual surfaces to be painted.
3. Test sample area for adhesion for each type of paint.
4. Remove cover plates and protect hardware and adjacent surfaces.
5. Before painting and between coats, sand surface until smooth and flat.
6. All surfaces shall be prepared according to manufacturer's recommendations prior to painting.
7. Apply paint to achieve manufacturer's recommended dry film thicknesses.
8. Paint entire surface where patch painting is required.
9. Re-coat areas which show bleed-through or defects.
10. Clean paint spatter from adjacent surfaces and glass.
11. Touch up damaged surfaces at completion of construction.
12. All painted surfaces to receive minimum one coat of primer and two coats of paint unless factory primed by manufacturer.

SCHEDULE
1. Provide paint systems complying with paint schedule as noted on drawings.

INTERIOR PAINT
1. Refer to drawing A-042

EXTERIOR PAINT
1. EIFS and Wood: Refer to drawing A-141

SECTION 101400 - SIGNAGE

MUST USE REQUIRED VENDOR.

Identiti Resources, LTD.
Attn: Lauren Raiman
Ph: 847-805-6685
Email: thelearningexperience@identiti.net

Allow 12 weeks from time of deposit.

Developer/GC to engage Identiti at the onset of the project to ensure prices are locked in and that the install date is secured in Identiti's database.

SUMMARY
1. Provide building identification signage

SUBMITTALS
1. Submit product data and samples

PRODUCTS
1. Products: As selected by Architect, complying with the following:
2. Signage Types:
   a. "TLE" Logo LED signage (2) signs – one at building entrance and secondary building sign
   b. "TLE" Logo Raceway signage (internally illuminated)
   c. Monument signage (one sign per face; externally illuminated)
   d. Acrylic letters for entry canopy columns "A,B,C,D" and "1,2,3,4"
3. Color: White

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements
2. Contractor to construct monument for sign installation.
3. Contractor to install monument and (2) building signs as soon as possible in the construction process.
4. Contractor shall coordinate with signage vendor to apply for permit and to locate required sign components within reach of specified maintenance access panel in entry canopy soffit.

Note: Developer/GC to engage Identiti at the onset of the project to ensure prices are locked in and that the install date is secured in Identiti database.

SECTION 102800 - TOILET AND BATH ACCESSORIES

SUMMARY

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

Jarmel Kizel
ARCHITECTS AND ENGINEERS INC.
42 OKNER PARKWAY
LIVINGSTON, NEW JERSEY 07039
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THE LEARNING EXPERIENCE
ACADEMY OF EARLY EDUCATION
ARBORWALK WEST
LEE'S SUMMIT, MISSOURI

ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: ---	Approved By: MBJ

Drawing Name:

SPECIFICATIONS

Drawing Number:

T-205

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

1. Provide toilet and bath accessories and metal framed mirrors.

SUBMITTALS
1. Submit product data and samples.

PRODUCTS
1. Products as selected by TLE (or equal submitted to Architect for approval), complying with the following:
2. Toilet Accessories:
   a. Paper towel dispensers
   b. Toilet tissue dispensers
   c. Soap dispensers, wall mounted
   d. Mirrors, mounted above lavatories
3. Grab bars from Bobrick accessories.
4. Mirrors and Frames:
   a. Glazing: Mirrored glass, 1/4 inch thick (6 mm), compliant with ASTM C 1036
   b. Type: 18" Convex Mirror
      i. Install 6" from ceiling (1" from ceiling in Make Believe Boulevard)
      ii. Refer to drawing A-011 for approx. locations. Contractor shall coordinate final locations with "TLE".
      iii. Classrooms and Corridors: refer to drawing A-011
      iv. Make Believe Boulevard: refer to drawing A-101
      v. Materials and Finishes:
      vi. Stainless Steel: AISI Type 302 or 304, No. 4 polished finish

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.

SECTION 104400 - FIRE EXTINGUISHERS AND CABINETS

SUMMARY
1. Provide fire extinguishers, cabinets, and wall brackets.

SUBMITTALS
1. Submit product data.

PRODUCTS
1. Fire Extinguishers
   a. Standards: UL and FM listed products
   b. Type: 10lb A:B:C (1 per 3,000 Sq.Ft.)
   c. Type: 5lb B:C (1 per 3,000 Sq.Ft.)
2. Fully or Semi-Recessed Cabinets only (if semi-recessed, they must have rounded corners)
   a. Manufacturer and Product: refer to drawing A-011
3. Metal Wall Brackets
   a. Manufacturer and Product: refer to drawing A-011
4. Inspection Tags required for all fire extinguishers.

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.

SECTION 107313 - AWNINGS

RECOMMENDED VENDOR/INSTALLER:

HUDSON AWNINGS & SIGN CO.
27 Cottage Street
Bayonne, NJ 07002
Attn: Diana Wetchkus
Ph: 800-624-1012 ext. 206
Email: dwetchkus@hudsonawning.com

NOTE: Allow 4 weeks from confirmed measurements/approved shop drawings. Deposit required.

SUMMARY
1. Provide attached/freestanding (as specified in drawings) awnings in playground area.

SUBMITTALS
1. Submit product data.

PRODUCTS
1. Size, Location, and Type: Refer to playground area details
2. Manufacturer/Installer: See above
3. Awning Material: refer to drawing A-152

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.

SECTION 113100 - APPLIANCES

SUMMARY
1. Provide main pantry, classroom pantry areas, laundry, & staff lounge appliances.
   a. Commercial refrigerators and freezers
   b. Standard refrigerators
   c. Microwave ovens
   d. Washer and Dryer

SUBMITTALS
1. Submit product data, shop drawings, warranty, and maintenance data.

PRODUCTS
1. Staff lounge
   a. Refrigerator: GE GTE18GTNRWW with IM4D ice maker
   b. Microwave: GE PEM31DFWW
   OR:
   c. NSF refrigerator: Everest model ESR1
   d. ETL Sanitation Listed microwave: Waring model WMO120
2. Infant
   a. Refrigerator (Energy Star): GE GTE18GTNRWW
   b. Microwave: GE PEM31DFWW
   OR:
   c. NSF refrigerator: Everest model ESR1
   d. ETL Sanitation Listed microwave: Waring model WMO120
3. Toddler (A&B rooms)
   a. Refrigerator (Energy Star): GE GTE18GTNRWW
   OR:
   b. NSF refrigerator: Everest model ESR1
4. Pantry
   a. NSF refrigerator: Everest model ESR1
   b. NSF freezer: Everest model ESF1
   c. ETL Sanitation Listed microwave: Waring model WMO120
5. Laundry Appliances (side-by-side; typical)
   a. Washer model: GE GTW500ASNWS (Energy Star)
   b. Dryer model: GE GFD55ESSNWW (Energy Star)
6. Laundry Appliances (stackable; only if shown on plan)
   a. Washer model: GE GFW550SSNWW (Energy Star)
   b. Dryer model: GE GFD55ESSNWW (Energy Star)
   c. Stacking kit per manufacturer's recommendation
6. Laundry Appliances (ductless dryer; only if shown on plan)
   a. Dryer model: GE GFT14ESSMWW

NOTES:
1. NSF refrigerator & freezer, and ETL Sanitation Listed microwaves are always provided in Pantry.
2. Other NSF/ETL appliances are only provided when required by the local authority having jurisdiction (typically the Health Department). If required, NSF/ETL appliances are provided instead of the non-NSF/ETL equivalent model for that room.

SECTION 115200 - AUDIO-VISUAL EQUIPMENT

TLE LOBBY BOARD PRODUCTS – MUST USE CDW AS REQUIRED VENDOR
1. Install 55" TV in Reception area.
   a. Manufacturer: Samsung
   b. Model No.: QB55R-B QBR-B Series – 55" LED-backlit LCD display – 4K
   c. Mfg. Part #: QB55R-B
   d. Contract: Standard Pricing
   e. CDW #: 6757822
   f. Type:55" Class TV, 4K UHD Resolution, Piano Black, or equal approved by "TLE" prior to purchase.
      i. 3840x2160 resolution
      ii. High Brightness (350cd/m2)
      iii. Input Types: DVI-D RGB, (2) HDMI Video, HDCP2.2, Stereo Mini-Jack, and (2) USB2.0
      iv. Output Types: Stereo Mini-Jack
      v. Dimensions: 48.6" x 27.9" x 1.8"
      vi. VESA: 200x200
2. Reception TV shall be installed vertically with flush-mount, non-tilt bracket approved for vertical mount orientation.
   a. Model: TRIPP LITE DISPLAY TV SECURITY wall mount fixed flat portrait mode 45-70 in

3. Utilitize TLE software and licensing.
   a. MagicInfo Player (v.7.1) – unified license – 1 client
   b. MagicInfo-I Premium Data Link Server (v.4.0) – license – 1 server
   c. Samsung Procare Technology Protection Fast Track with white glove – extended

SECTION 116800 - PLAYFIELD EQUIPMENT AND STRUCTURES

SUMMARY
1. Provide interior and exterior playfield equipment, structures, and fencing.

SUBMITTALS
1. Submit product data and samples.

EXTERIOR PLAYGROUND –

BCI Burke Co. (REQUIRED EQUIPMENT VENDOR)
Attn: Luke Tautges
Ph: 920-921-9220
ltautges@bciburke.com

Horizon Concepts, Inc (REQUIRED INSTALLER)
231 Broadway
Huntington, NY 11743
Ph: 631-271-1963
Attn: James Hines
Cell: 516-864-1522
jhines@horizonconceptsinc.net
OR
Attn: Cesar Alejandro
Cell: 631-796-7860
calejandro@horizonconceptsinc.net

SUBSTITUTIONS MUST BE APPROVED BY TLE

NOTE: Allow 8 weeks from deposit.

Burke Equipment 143-150192-2
North Option 143-150193-2

1. BCI Burke Preschool Play Unit
   a. 580-1312 Novo Arc Benches
   b. 370-0016 Grab Bar Assembly
   c. 370-00835 Trigon Arch, GL
   d. 370-1608 Ovistep Launch Pad
   e. 270-0112 Unitary Enclosure
   f. 270-0130 Square Platform
   g. 270-0136 Split Square Platform
   h. 370-0176 Centipede Climber 48"-56"
   i. 370-0313 Single Step
   j. 370-0467 24" Transition Stair w/ Barrier Free Transfer
   k. 470-0676 12'x12' ShadePlay Canopy
   l. 570-0842 ABC 2-Sided Play Panel
   m. 600-0104 NPPS Supervision Safety Kit
   n. 670-0001 Post Assembly 5" OD x 91"
   o. 670-0002 Post Assembly 5" OD x 107"
   p. 670-0099 Installation Kit, Intensity
   q. 670-0103 Maintenance Kit, Intensity
   r. 670-0165 Post Assembly 5" OD x 123"
   s. 670-0172 Post, Swagged Roof 5" OD x 147"
   t. 560-0540 RockIt End Panel
   u. 560-0137 RockIt Attachment Post 55 1/2"
2. BCI Burke Preschool Activity Panels
   a. 570-0860 3-In-A-Row Ring Panel
   b. 570-0861 Charade Ring Panel
   c. 670-0001 Post Assembly 5" OD x 91"
3. BCI Burke Verve Climber
   a. 560-2593 Verve Climber IV XS
4. BCO Burke Infant/Toddler Play Unit
   a. 240-0216 Square Platform Assembly
   b. 240-0217 Triangle Platform Assembly
   c. 440-0562 12'x12' ShadePlay Canopy
   d. 540-0023 Up-Down Tunnel
   e. 540-0558 Spiral Spinner
   f. 540-0767 Bubble Window Panel
   g. 540-0771 Propeller Panel, Above Platform
   h. 540-1275 Chimes Panel, Above Platform
   i. 540-1687 Sprocket Panel, Above Platform
   j. 540-1804 Rain Wheel Panel
   k. 540-1805 Gear Panel, Above Platform
   l. 640-0146 Post, Std., 81 13/16, GL-8
   m. 640-0147 Post, Std., 97 3/16, 16-24
   n. 640-0161 Swagged Roof Post 2 3/8" OD
   o. 350-0616 6" Closure Plate
   p. 350-1175 Custom Support Panel
5. BCI Burke Infant/Toddler Play House
   a. 560-2576 Bench, Bean
   b. 560-2578 Play House
   c. 660-0101 Install Kit, Burke Basics
6. Synthetic Turf Surfacing
   a. 8641 Turf Green
   b. Yarn Polymer: Nylon
   c. Provide with 1" padding for full turf area
7. "Unity" surfacing systems (rooftop playground areas only)
   a. Play-land interlocking tiles
8. Soccer goal
   a. 3" Classic Alumagoal, 6'X4' goal- Provide two per soccer field (only if soccer field is specified)
9. Basketball hoop/backboard
   a. Provide two per basketball court (only if basketball court is specified)
   b. Provide pole cover/padding on all basketball hoop poles
10. Joy Carpets Hop Scotch Carpet (24"x79")
   a. Item #1468484
11. Little Tikes TotSports Easy Score Basketball Hoop
   a. SKU: SD64AB3F
12. BCI Burke Picnic Table
   a. 580-1010 6' PVC Tot Table
13. BCI Burke Trash Receptacle
   a. 580-0183 PVC Plastic Dome

WATER PLAY (Only if Specified)

Horizon Concepts, Inc (REQUIRED INSTALLER)
231 Broadway
Huntington, NY 11743
Ph: 631-271-1963
Attn: James Hines
Cell: 516-864-1522
jhines@horizonconceptsinc.net
OR
Attn: Cesar Alejandro
Cell: 631-796-7860
calejandro@horizonconceptsinc.net

1. Rain-Drop Products Aqua/Froggy Hoop (only if water play area is specified)
   a. 5' green without eyes
2. Rain-Drop Products Mini Popcorn Jet (only if water play area is specified)

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.

FENCING
1. Refer to drawing A-151

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.
2. Provide PVC or concrete stop at bottom of fence to allow for a maximum 2" opening.

DRAINAGE
1. Civil Engineer to ensure proper drainage for playground area.
2. Refer to drawing A-153.

INDOOR PLAY AREAS (Only if Specified)

All indoor playground equipment shall have ballasted bases or an equivalent provision to ensure complete stability during use.

Horizon Concepts, Inc (REQUIRED INSTALLER)
231 Broadway
Huntington, NY 11743
Ph: 631-271-1963
Attn: James Hines
Cell: 516-864-1522
jhines@horizonconceptsinc.net
OR
Attn: Cesar Alejandro
Cell: 631-796-7860
calejandro@horizonconceptsinc.net

NOTE: Allow 8 weeks from deposit.

1. BCI Burke Preschool Activity Panels
   a. 570-0860 3-In-A-Row Ring Panel
   b. 570-0861 Memory Ring Panel
   c. 670-0001 Post Assembly 5" OD x 91"

FOR SOFT PLAY EQUIPMENT, REGIONAL CONTACTS:
Mr. Brock Hodge (eastern US)
704-948-3430

Mr. Brian Sonney (western US)
704-948-3443

1. Soft Play indoor Infant/Toddler play unit
   a. model PR-0357
2. Soft Play indoor Preschool play unit

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

Jarmel Kizel
ARCHITECTS AND ENGINEERS INC.
42 OKNER PARKWAY
LIVINGSTON, NEW JERSEY 07039
TEL: 973-994-9669
FAX: 973-994-4069
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THE LEARNING EXPERIENCE ACADEMY OF EARLY EDUCATION
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LEE'S SUMMIT, MISSOURI

ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: ---	Approved By: MBJ

Drawing Name:

SPECIFICATIONS

Drawing Number:

T-206

STATE OF MISSOURI · MATTHEW B. JARMEL · NUMBER A-2017014316 · ARCHITECT

a. model PR-0450
3. Soft Play indoor Preschool play unit (alternate)
a. model PR-0391

PRODUCTS (provide only items specified on playground plan)
1. Playtime 'Bubbles' play panel
a. Model: custom
2. Little Tikes Commercial: Harry the Hippo
a. Product #200200177
3. Little Tikes Commercial: Dinosaur
a. Product #200023370
4. Little Tikes Commercial: Triceratops
a. Product #200042281
5. Little Tikes Commercial: Gator Walk
a. Product #200072664
6. Little Tikes Commercial: Tot Tree
a. Product #200089060
7. Little Tikes TotSports Easy Score Basketball Hoop
a. SKU: SD64AB3F
8. Joy Carpets Hop Scotch Carpet (24"x79")
a. Item #1468484

FINISHES
1. Painted concrete
a. Full floor area of Unity Surfacing
b. Refer to drawing A-041
c. Provided and installed by GC
2. Unity Surfacing pads and sloped transition
a. Indoor playground floor as shown
b. Refer to drawing A-154 (only included if applicable)
c. Provided and installed by playground vendor
3. Resilient wall base
a. Full perimeter and all columns within indoor playground
b. Refer to drawing A-042
c. Provided and installed by GC
4. Resilite wall padding
a. Full perimeter and all columns within indoor playground
b. Standard panel size 24"wx60"h. custom sizes to be coordinated by playground vendor as required for proposed layout.
c. Bottom edge shall be at a consistent height throughout (min. 2" and max. 4" AFF)
d. Refer to drawing A-042
e. Provided and installed by playground vendor
5. Ceiling
a. Refer to drawing A-021
b. Provided and installed by GC

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.
2. Contractor to install facades per manufacturer's installation manual including associated coordination among affected trades.

SECTION 122113 - HORIZONTAL LOUVER BLINDS

SUMMARY
1. Provide vinyl horizontal blinds at exterior windows and vestibule windows and on interior side of all office windows.

SUBMITTALS
1. Submit product data, shop drawings, warranty, and maintenance data.

PRODUCTS
1. 1" extruded PVC (vinyl). Refer to drawing A-123.
2. Mounting:
a. Classrooms: Within frame on Classroom side (exterior windows)
b. Office: On interior side of all office windows within frame.
3. Valance: Manufacturer's standard
4. Fabricate concealed components from non-corrodible or corrosion-resistant coated materials
5. Provide lifting and tilting mechanisms with permanently lubricated moving parts
6. All blinds shall be cordless.

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.
2. Install blinds level, plumb, and located not closer than 1 inch (25 mm).

NOTE: Provide horizontal vinyl blinds at all exterior classroom windows and all office windows.

SECTION 210500 - FIRE PROTECTION

SUMMARY
1. Provide fire protection systems for the following:
a. Sprinkler system
b. Fire and smoke detection system
2. Coordinate with "TLE" room uses to provide adequate system(s) for all contract areas.
3. Coordinate location of fire protection system components to avoid interference with location of designated lighting fixtures, HVAC ducts, domestic and sanitary plumbing piping, and other trades.
4. Modify, relocate, and extend existing service to accommodate new work (as applicable).
5. Do not cut structural members/elements without prior written consent from the Architect and/or Structural Engineer.

SUBMITTALS
1. Submit product data, warranties, operating and maintenance data.
2. Submit signed and sealed shop drawings for Architect's review and as required for building permit.

PRODUCTS
1. Provide new materials/components suitable for service intended and complying with approved submittals.
2. Sprinkler heads: concealed and upright type as required.

INSTALLATION
1. Comply with requirements of section 010000 - Project Requirements.
2. Comply with applicable codes, regulations, ordinances, and requirements of authorities having jurisdiction, and NFPA 13, 13D, 13R, 26, 70, and 96 as applicable.
3. Conceal piping to the greatest extent practical.
4. Center ceiling-mounted elements in ceiling tiles as applicable.
5. Maintain indicated fire ratings of walls, partitions, ceilings, and floors at penetrations. Seal with firestopping material(s) to maintain fire rating.
6. Test all systems for proper operation.
7. Instruct owner and tenant personnel in proper operation of systems.

SECTION 220500 - PLUMBING

SUMMARY
1. Provide plumbing, waste, and vent systems for the following:
a. Toilets and bathrooms
b. Kitchens
c. Laundries
d. Water heaters
e. Meters
f. Indoor and outdoor water fountains (each type)
- DF1 – EXTERIOR water fountain (see plumbing sheets for more details)
- DF2 – INTERIOR water fountain (see plumbing sheets for more details)
2. Provide water supply and distribution system(s) sized for domestic irrigation and sprinkler system(s).
3. Provide natural gas distribution system piping, specialties, and accessories.
4. Provide sewage and drainage systems, specialties, and accessories.
5. Coordinate with "TLE" room uses to provide adequate system(s) for all contract areas.
6. Modify, relocate, and extend existing service to accommodate new work (as applicable).
7. Do not cut structural members/elements without prior written consent from the Architect.

SUBMITTALS
1. Submit product data, piping types by application, warranties, operating and maintenance data.
2. Submit signed and sealed shop drawings for review and as required for building permit.

PRODUCTS
1. Provide new materials suitable for service intended and complying with approved submittals.
2. Provide accessory materials (including, but not limited to, hangers and pipe insulation).
3. Provide fixtures complying with water consumption requirements and accessibility requirements.
4. Drinking fountains
a. Refer to plumbing fixture schedule on P-100 for manufacturer and model information.
b. DF-1 EXTERIOR water fountain
c. DF-2 INTERIOR water fountain

INSTALLATION
1. Comply with requirements of Section 010000 - Project requirements.
2. Comply with applicable codes, regulations, ordinances and requirements of authorities having jurisdiction.
3. Vent all fixtures.
4. Conceal piping to the greatest extent practical.
5. Maintain indicated fire ratings of walls, partitions, ceilings, and floors at penetrations. seal with firestopping material(s) to maintain the fire rating.
6. Test all systems for proper operation.
7. Instruct owner and tenant personnel in proper operation of systems.

SECTION 230500 - HEATING, VENTILATING, AND AIR CONDITIONING

SUMMARY
1. Provide Trane equipment (substitutions allowed only with architect review and approval).
2. Provide equipment, systems, and controls for heating, ventilation, and central air conditioning.
3. Coordinate with "TLE" room uses to provide adequate system for all contract areas.
4. Coordinate location of thermostats and controls with "TLE" requirements.
5. Coordinate location of ductwork and components to avoid interference with location of designated lighting fixtures, fire protection systems, domestic and sanitary plumbing piping, and other trades.
6. Modify, relocate, and extend existing service to accommodate new work (as applicable).
7. Do not cut structural members/elements without prior written consent from the architect.

DESIGN CONDITIONS
1. Provide heating and cooling systems for use with gas or electric utility service for hot air ducted system as specified in HVAC contract documents.
2. Provide systems designed to ASHRAE weather data using 97.5 percent winter dry bulb and the 5 percent summer dry-bulb and mean coincident wet-bulb climatic conditions.

SUBMITTALS
1. Submit product data, warranties, operating and maintenance data, and certified balancing reports.
2. Submit signed and sealed shop drawings for review and as required for building permit.

PRODUCTS
1. Provide new materials suitable for service intended and complying with approved shop drawings.
2. Provide accessory materials (including, but not limited to, controls, anchors, and insulation).

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.
2. Comply with applicable codes, regulations, ordinances and requirements of authorities having jurisdiction, and SMACNA recommendations.
3. Conceal piping and ductwork to the greatest extent practical.
4. Center ceiling-mounted elements in center of ceiling tiles as applicable.
5. Maintain indicated fire ratings of walls, partitions, ceilings, and floors at penetrations. Seal with firestopping material(s) to maintain fire rating.
6. Insulate piping and ductwork. Provide vapor barrier on insulated piping operating below 60 degrees F.
7. Test all systems for proper operation.
8. Commission and balance systems.
9. Instruct owner and "TLE" personnel in proper operation of systems.

SECTION 260500 - ELECTRICAL

SUMMARY
1. Provide electrical systems for the following:
a. Power
b. Lighting (interior and exterior)
c. Exit lighting
d. Emergency lighting
e. Power, telephone, cable TV, and data outlets and wiring
2. Coordinate with "TLE" room uses to provide adequate system(s) for all contract areas.
3. Coordinate routing of wiring to avoid interference with location of ductwork, fire protection systems, domestic and sanitary plumbing piping, and other trades.
4. Coordinate schedule of telephone and data outlet completion with owner and "TLE" communications requirements and installer (as applicable).
5. Modify, relocate, and extend existing service to accommodate new work (as applicable).
6. Do not cut structural members/elements without prior written consent from the Architect.

SUBMITTALS
1. Substitutions for interior light fixtures are not allowed.
2. Substitutions for exterior light fixtures (site lights, wall packs, etc.) are only allowed if required by the municipality or due to the specific design of the building exterior.
3. Submit product data, warranties, operating and maintenance data, and circuit diagrams.
4. Submit signed and sealed shop drawings for architect's review and as required for building permit.

PRODUCTS
1. Provide new materials suitable for service intended and compliant with approved submittals.
2. Provide accessories (including, but not limited to, controls, cover plates (not selected by TLE), equipment connections) color to be white.

INSTALLATION
1. Comply with requirements of Section 010000 - Project Requirements.
2. Comply with applicable codes, regulations, ordinances and requirements of authorities having jurisdiction, and the national electrical code.
3. Conceal conduit to the greatest extent practical.
4. Center ceiling-mounted elements in the ceiling tiles as applicable.
5. Install light switches at uniform height above finished floor. locate switches within rooms at strike side of door (unless noted otherwise).
6. Install thermostats centered above light switches where applicable.
7. Gang-mount multiple switching locations. Mount multiple types of controls as close together as possible and in-line with each other at uniform height above finished floor (unless noted otherwise).
8. Group multiple junction boxes, telephone and electrical outlets together on walls. avoid back-to-back box locations.
9. Mount electrical, data, and telephone outlets vertically, at uniform height above finished floor (unless noted otherwise).
10. Maintain indicated fire ratings of walls, partitions, ceilings, and floors at penetrations. seal with firestopping material(s) to maintain fire rating.
11. Test all systems for proper operation.
12. Label circuits in electrical panels.
13. Instruct owner and "TLE" personnel in proper operation of systems.

SECTION 270500 - PHONE SYSTEMS/INTERNET

MUST USE REQUIRED VENDOR. NO SUBSTITUTIONS ALLOWED.

D&M Enterprise Group
FOR INTERNET, PHONE LINES TO SITE AND BUILDING
88 West Front Street
Keyport, NJ 07735
Attn: Patrick Ammirati
Ph: 732-335-5510
Ph (direct): 732-391-6071
Fax: 732-335-5523
Email: pammirati@dmenterprise.net

AND

AMERICAN BUSINESS COMMUNICATIONS, INC.
FOR PHONE AND DATA EQUIPMENT
141 South State Street
Hackensack, NJ 07601
Attn: Bill Gollub
Ph: 201-488-3500 Ext. 208
Fax: 201-488-5588

NOTE: provide 4 weeks notice for wiring installation.

SUMMARY
1. Provide phone system inclusive of voicemail and cabling.
a. Includes wiring, cabling, connecting devices, installation, and testing for wiring systems to be used as signal pathways for voice and high-speed data transmission.
2. D&M to use cellular lines vs. vector

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

Jarmel Kizel
ARCHITECTS AND ENGINEERS INC.
42 OKNER PARKWAY
LIVINGSTON, NEW JERSEY 07039
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THE LEARNING EXPERIENCE ACADEMY OF EARLY EDUCATION
ARBORWALK WEST
LEE'S SUMMIT, MISSOURI

ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
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REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: ---	Approved By: MBJ

Drawing Name:

SPECIFICATIONS

Drawing Number:

T-207

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

3. Provide TLE Required Internet Components (provided & networked by American Business Communications (ABC)) including but not limited to router/gateway, modem, networking switch, wireless access points, and ports.

SUBMITTALS
1. Submit product data and cable administration drawings.

PRODUCTS
1. Phone system to be manufactured by Mitel.
2. Equipment list:

MITEL 250 Hybrid Telephone System

- Mitel 250 Phone System with CPU & Power
- Mitel Central Office Line Card 4-port
- Mitel Analog Station Line Card 4-Port
- Mitel Digital Station Line Card 16-port
- Mitel Door phone controller
- Viking door boxes
- Mitel Voice Processor
- Mitel Administrator 8568 Phones
- Mitel General 8568 Phones (Class rooms may vary)
- Mitel SIP / Dect. Cordless Phone
- Mitel Twinning Smart Phone App

MAS/voicemail system

Part NO.	Description
• LVMU1A4PORT	2-8-port voice mail card with 4-ports for CIX100, 200, 670

3. Cable and wiring components:
   a. Twisted-pair cables, connectors, and terminal equipment:
      i. Cables: listed as complying with category 5 of TIA/EIA-568-A
      ii. Conductors: solid copper
      iii. UTP cable: compliant with TIA/EIA-568-A. four, thermoplastic-insulated, individually twisted pairs of conductors; No. 24 AWG, color-coded; enclosed in PVC jacket
      iv. STP workstation cable: compliant with TIA/EIA-568-A. two thermoplastic-insulated, individually twisted pairs of conductors; No. 22 AWG, tinned copper drain wire; enclosed in PVC jacket
      v. UTP and STP plenum cable: listed for use in air-handling spaces. Features are as specified for cables, conductors, UTP cables, and STP workstation cable except materials are modified as required for listing
4. Cross-connect panel:
   a. Modular array of IDC terminal blocks arranged to terminate building cables and permit interconnection between cables.
      i. Number of terminals per field: one for each conductor in assigned cables
      ii. Mounting: backboard
5. Patch panel:
   a. Modular panels housing multiple-numbered jack units with IDC-type connectors at each jack for permanent termination of pair groups of installed cables.
      i. Number of jacks per field: one for each four-pair conductor group of indicated cables, plus spares and blank positions adequate to satisfy specified expansion criteria.
      ii. Mounting: backboard
6. Jack assemblies:
   a. Four-position modular RJ11C jacks in flush-mounting wall plate (unless noted otherwise).
   b. Dual, category 5, 6-position modular RJ455 jacks in flush-mounting wall plate (unless noted otherwise)
7. Wall plates:
   a. Designed for telephone service. Match those indicated for power receptacle outlets in same spaces for materials and finish. For wall telephone units, include provision for support of unit.
8. Terminal strip:
   a. 25-pair industry standard "66 connecting block" with vinchdown terminals.
9. Terminal unit:
   a. Category 5 patch block assembly with 12 category 5 RJ45-type jack ports and industry standard "110 connecting block" with vinchdown terminals.

INSTALLATION
1. Telephone service: comply with telephone exchange carrier's requirements.
2. All voice and data cables must be home run from end point to mechanical room.
3. All lines (existing and new, as applicable) shall be marked and tagged by the contractor.
4. Existing telephone outlets and wiring (as applicable): maintain fully operational until new system has been tested and is properly operational.
5. Install wiring in compliance with TIA/EIA 568, category 5 requirements.
6. Wiring method: conceal wiring (unless noted otherwise). Install flush outlet boxes with jack assemblies at outlets. Connect to cable fished in walls and ceilings, unless walls are solid or filled with insulation or ceilings are not accessible for wiring. Install cable in raceway where fished wiring paths are not available. Terminate raceway with a bushing in ceiling space above outlet (unless noted otherwise).
7. Exposed cable: install parallel or perpendicular to surfaces or exposed structural members and follow surface contours where possible.
8. Cable support: secure cable to independent supports at intervals as required to prevent sagging between supports. Use metallic supports designed for this purpose with corrosion-resistant finish.
9. Splices: do not splice cable between the normal terminations of runs.
10. Ground equipment: install ground terminal at local exchange carrier service location.
11. Tighten electrical connectors and terminals according to manufacturers' published torque-tightening values. If manufacturers' torque values are not indicated, use those specified in UL 486A and UL 486B.
12. Identify telephone system backboards and cabinets with the legend "telephone." Identify terminals of terminal strip and jack outlets and pull and junction boxes with approved designations.
13. All installations to comply with NFPA 70.
14. Coordinate premises wiring with telecommunications and LAN equipment suppliers.

NOTES
1. D&M Enterprises is to be used to supply the correct phone and internet services for the building.
2. (4) VOIP lines (1 main, 2 hunts and 1 fax)
3. Developer responsibilities:
   a. Order and install all exterior lines.
   b. Provide telephone service from the provider to the facility to the mechanical room.
   i. (1) POTS line, if required for Fire Alarm by the Fire Marshal; yet TLE prefers Radio or Cell Service (must be approved by the Fire Marshal)
   ii. Only if facility has an elevator: developer shall provide an additional POTS telephone line.
   iii. Installation, activation, and payment for above-noted POTS lines.
   iv. Ensure all voice and data cables shall be home run from end point to mechanical room.
   v. Submit security monitoring contract to franchisee for execution prior to contracting with security company.
   vi. If applicable, activate the POTS lines for fire alarm and provide TLE corporate and franchisee with the associated phone numbers.
   vii. Ensure that all lines are marked and tagged.
   viii. The contract for service shall be transferred to the franchisee upon occupancy.
   c. Provide internet service from the provider to the facility to the mechanical room.
      i. Provide capacity for high-speed internet - defined as minimum 100mbps upload and download speeds. If not available, the fastest service available should be selected with a minimum of 30mbps upload and download speed. If 30mbps is not available, contractor must consult with TLE IT department. If necessary, contractor must pay for lines to be brought into the building.
      ii. Developer/contractor shall notify franchisee when internet installation is ready for actual lines.
      iii. Ensure that all lines are marked and tagged.
4. Security alarm to use cell service.
5. Add a low voltage line in an exterior low voltage box somewhere under the cover. Roughly 12' off the ground. This way an exterior access point can easily be installed.
6. Franchisee responsibilities: Transfer at CO.

NOTE: Provide 4 weeks' notice for wiring installation.

SECTION 280500 - FIRE/SECURITY ALARM, CCTV, ACCESS CONTROL, AND KERI ACCESS (NO SUBSTITUTIONS)

The specified equipment for Fire Alarm, Security, CCTV, and Keri Access Control are required. No substitutions are permitted.

NOTE: Provide 4 weeks' notice for rough wiring installation.

SUMMARY
1. Provide the following building systems:
   a. Fire alarm
   b. Security
   c. Closed circuit television
   d. Access control

SUBMITTALS
1. Submit product data for each alarm system and components.
2. Submit shop drawings for architect's review and as required for building permit submission.

FIRE ALARM PRODUCTS
1. This system utilizes a combination security and fire alarm system, as permitted by the local authorities.
2. Provide the system as described below or approved equal. This system is subject to approval by the local fire official.
3. The following specification is meant to be used in conjunction with the construction drawings. Quantities of required components to be coordinated between architect's fire alarm drawings, contractor's shop drawings, and the local inspector/code official.
4. Equipment List
   a. Kidde Intelligent Fire Alarm Systems VS4 or approved equal
   b. Kidde RZI16-2 expansion module or approved equal
   c. Kidde R-Series Remote Annunciators or approved equal
   d. Kidde Intelligent CO detector and Kidde Intelligent Heat Detectors or approved equal
      i. Provide one at center of each classroom up to 625 sq. ft. (15' o.c. if >625 sq. ft.)
      ii. Provide at 15' O.C. in vestibules and hallways
      iii. Provide one in mechanical room
      iv. Provide at additional locations as required by local code or authority having jurisdiction
   e. Kidde detector base GSA-SB or approved equal
      i. Provide as required at all detector heads
   f. Bosch D7044 multiplex single input module or approved equal
      i. Provide as required at all pull stations
   g. Bosch D7044M multiplex mini single input module or approved equal
      i. Provide as required at all co detectors
   h. Bosch D7053 multiplex input/output module or approved equal
      i. Provide as required at all RTUs
   i. Kidde Intelligent Manual Pull Stations FX-270 or approved equal
      i. Provide one pull station at each egress door.
      ii. Provide one pull station at every exterior door, including main entrance and mechanical room.
      iii. Pull station shall not have glass components and shall have ability to be reset.
      iv. STI Stopper II manual pull station security cover or approved equal
      v. Provide one security cover at every manual pull station - no horn
   j. System sensor CO1224T/CO1224TR carbon monoxide detector or approved equal
   k. Altronix AL602ULADA NAC power extender or approved equal
   l. Fire alarm system to be fully monitored by central station using an auto-dialer via phone line. Provide (2) telephone lines for fire systems.
   m. System sensor SpectrAlert Advance outdoor selectable-output horns, strobes, and horn strobes or approved equal
      i. Provide one to left of main entrance, outside.
   n. System sensor SpectrAlert Advance indoor selectable-output horns, strobes, and horn strobes or approved equal
      i. Provide one strobe unit with horn every 45' maximum in corridors.
      ii. Provide one strobe unit with horn in every classroom with children over 3 years old.
      iii. Provide one strobe unit with horn in mechanical room.
      iv. Provide one strobe unit without horn in every classroom with children under 3 years old.
      v. Provide one strobe unit without horn in every toilet room.
   o. System sensor InnovAirFlex D4120 4-wire photoelectric duct smoke detector or approved equal
      i. Provide w/ relay to visual indicating station and key reset.
      ii. Provide one detector in return location (subject to local enforcement) of each HVAC unit. Tie into fire panel to shut down all units.
      iii. System sensor InnovAirFlex D4120W shall be used in applications where water resistance is required
   p. System sensor InnovAirFlex 4-wire photoelectric low-flow duct smoke detector or approved equal
      i. Provide w/ relay to visual indicating station and key reset.
   q. GE 56789 battery-operated annunciator or approved equal-for exterior doors-except mechanical room and main entrance.
      i. Provide at every exterior door except the main entrance
   r. Honeywell Genesis Series 16 AWG 4/C SOL FPL-CL2 power limited fire alarm cable (Part No. 4111) or approved equal
   s. Honeywell Genesis Series 18 AWG 4/C SOL FPL-CL2 power limited fire alarm cable (Part No. 4107) or approved equal
   t. Knox Box 3200 Series with hinged door or type as required by local jurisdiction
      i. Recessed mount with face flange
      ii. Provide with tamper switch wired to alarm system
      iii. Fire alarm vendor to coordinate wiring with security vendor
      iv. Install on outside of building, to left of front door, at 5'-0" above grade (or as required by local jurisdiction)

FIRE ALARM INSTALLATION
1. Fire alarm vendor shall coordinate with fire sprinkler vendor to incorporate deluge pre-action control panel wiring with fire alarm system for monitoring.

SECURITY SYSTEM PRODUCTS
1. Honeywell Vista-20PUL control panel (separate from fire systems) or approved equal
2. Honeywell 6160 alpha display keypad or approved equal (located at the main front entry)
3. Honeywell 4219 wired zone expander or approved equal
4. Honeywell 7939WG surface mount magnetic contacts or approved equal
5. Honeywell Genesis Series 22 AWG 4/C SOL CM-CL2 low voltage cable (part no. 1103) or approved equal
6. Honeywell WAVE2 siren(s) or approved equal
7. Required: Honeywell 269R hard wired, wall mounted personal panic transmitter family (see electrical drawings for locations ie, reception desk, office desk & classroom bathrooms)

SECURITY SYSTEM INSTALLATION
1. Security vendor shall coordinate with fire alarm vendor to incorporate Knox Box tamper switch wiring with security system for monitoring.
2. Coordinate installation of alarms, closed circuit television systems, and access control devices with other trades including but not limited to electrical, telephone installations, and hardware.

CLOSED CIRCUIT TELEVISION PRODUCTS
IC REALTIME contact:
Louis A. DiGioia
National Sales Manager
(954) 990-2951
louis@icrealtime.com

REQUIRED CCTV EQUIPMENT
- CLOSED CIRCUIT TELEVISION (PRODUCTS ONLY)

1. IC Realtime NVR-FX24POE-15U4K1-NO-HDD 24 Channel 1U NVR - Rack-Mountable, integrated 24 Port POE Switch - Supports 12MP Resolution - 320Mbps Throughout - H.265 no storage. Dual HDMI monitor outputs for unique camera layout (or approved equal)
2. W Box 0E-32LEDMON2 32" Full HD Pro-Grade Color Monitors to be installed in office (or approved equal)
   a. Mount monitors using video product mount products (VMP) fully
      i. Adjustable model # DWM1742MA
   b. Provide (2) monitors per (16) cameras
      i. Monitor 1 - All cameras
      ii. Monitor 2 – Sequencing (full screen tour)
3. IC Realtime IPMX-W40F-IRW2 4MP IP Indoor/Outdoor Small Size Vandal Dome. Fixed 2.8mm Lens (103°). 164 Feet IR. PoE Capable. Advanced Intelligence (or approved equal)
   a. Cameras to be installed in every classroom, reception, MBB, and corridors. Quantity as specified

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2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC.

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: ---	Approved By: MBJ

Drawing Name:

SPECIFICATIONS

Drawing Number:

T-208

in the construction drawings and as required for adequate coverage.
   b. All wiring to be home run
   c. Coordinate camera view and location with TLE
4. All the cameras will be powered from the built in PoE switch of the NVR. The NVR will have a power cable to plus into a power source. All cameras to run from the NVR's built-in switch
5. IC Realtime IPMX-W40F-IRW2 4MP IP Indoor/Outdoor Small Size Vandal Dome. Fixed 2.8mm Lens (103°). 164 Feet IR. PoE Capable. Advanced Intelligence (or approved equal)
   a. Install in each playground area and parking areas. Quantity as specified in the construction drawings and as required for adequate coverage.
6. Genesis 50781106 4-Pair CAT5e Riser, 1000' (304.8m) Pull Box, Blue Part # 50781106 (or approved equal)

CLOSED CIRCUIT TV INSTALLATION

1. Install closed circuit television surveillance system in areas indicated on drawings
2. Include all closed circuit television system components for a fully functional system, including, but not limited to those listed above.

- **DVR/NVR recording devices should be ordered as stated above with no internal hard disk drive.**
- **Cameras cannot record.**

ACCESS CONTROL SYSTEM PRODUCTS

Keri Systems access required, no substitutions allowed.

1. TLE Door Access Kit – supplied by IC Realtime
   - Axis 1601 Network Door Controllers (each controls two doors)
   - WaveLynx ET20-7WS Mullion Readers
   - Trend Net 5 port POE network switch
   - CanaKit Raspberry Pi 4
2. Altronix AL300ULM(R) multi-output access control power supply/charger or approved equal
3. Weigand cards and FOBs
4. Honeywell IS310/IS320 request-to-exit PIR sensor or approved equal
5. Securitron EEB manual release emergency exit buttons or approved equal
   a. Release button to be installed below lower main counter at reception desk
6. Honeywell Genesis TSP-18/8 (32171012) Twisted, Shielded, Plenum-rated wire

ACCESS CONTROL SYSTEM INSTALLATION

1. Install access control system on doors as indicated on the drawings.
2. Provide all components necessary for a complete installation including but not limited to those listed above.
3. System to comply with the applicable state building code (latest edition)
4. Overriding locking mechanism is to be provided. This will be used to avoid card holders from entering the site if no personnel are present.

ACCESS CONTROL NOTES

1. Refer to A-122 for details for loss of power to access control system. Only reception and vestibule latches should be fail and safe open; corridor should be fail secure and be opened from panic bar side only. Doors shall always unlock by manual pushbar activation.
2. Upon activation of building fire alarm system, sprinkler system, and/or fire detection system, all egress doors shall be automatically unlocked and shall remain unlocked until fire alarm system is reset.
3. Entrance doors shall not be secured from egress side during business hours.
4. External penetrations, conduit, and back box must be completed by GC/EC for all exterior doors requiring lockset function of electric exit device(s), electric strike(s), and access devices. Please refer to the door and hardware schedule to confirm requirements and door placement.

INSTALLATION (ALL LOW VOLTAGE SYSTEMS)

1. Comply with requirements of Section 010000 - Project Requirements.

   NOTE: Developer is responsible for the Keri Access System until full operation/function is confirmed by center staff. If any part is failing to function, developer will have sub-contractor on site at their expense to deliver functioning system including but not limited to: communication from TLE computer to Keri control board, operation of electric latches and release buttons, programming key fobs, training of TLE staff with sub technician.

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RESPONSIBILITY MATRIX

ITEM	PROVIDED BY G.C.	PROVIDED BY T.L.E.
TLE BRANDED CLASSROOM SIGNAGE (IF REQUIRED FOR C.O. ITS THE RESPONSIBILITY OF THE G.C./DEVELOPER)		X
TOYS		X
KITCHEN SUPPLIES		X
COMPUTERS		X
OFFICE SUPPLIES (INCL. TRASH CANS FOR ROOMS)		X
MOP, BROOM, VACUUM, & HOLDERS		X
TABLES AND CHAIRS		X
FINGER SAFES		X
CRIBS		X
PRINTED MATERIALS		X
VOICE ON HOLD FOR PHONES		X
PAPER PRODUCTS		X
SMART BOARDS (FRANCHISEE PURCHASES)		X
LOST & FOUND TOY CHEST		X
SOAP, SANITIZER, & BLEACH		X
SLEEP MATS		X
OFFICE MILLWORK DESK	X	
ALL APPLIANCES	X	
SECURITY MIRRORS	X	
WIRE SHELVING IN CLOSETS	X	
CORES & KEYS (TLE INSTALLS)	X	
ALL INTERNET COMPONENTS - ROUTER/GATEWAY, MODEMS, NETWORKING SWITCH, WIRELESS ACCESS POINTS, PORTS	X	
SOAP DISPENSERS, PAPER TOWEL DISPENSERS, TOILET PAPER DISPENSERS, RESTROOM MIRRORS	X	
PICNIC TABLES (1 PER PLAYGROUND)	X	
EXTERIOR TRASH CANS	X	
PLAYGROUND EQUIPMENT (INCL. SOCCER NETS, BASKETBALL HOOPS, & BALLS)	X	
WATER FEATURE (IF SPECIFIED)	X	
DOOR CHIME ALARMS ON EXTERIOR DOORS	X	
ALARMS ON FENCE GATES	X	
KERI SYSTEMS NXT ON DOORS (WITH 100 KEY FOB TAGS)	X	
MILLWORK, CUBBIES, CABINETS, BOOKCASES, & CHANGING TABLES	X	
PHONE LINES & INTERNET	X	
SECURITY SYSTEM	X	
55" RECEPTION TV/ LOBBY BOARD	X	
TEST AND BALANCE HVAC REPORT	X	
EMERGENCY BUTTONS	X	
EMERGENCY DOOR LOCKS	X	
EXTERIOR SIGNAGE	X	
FEE FOR FFE	X	

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MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	**AS NOTED**
Drawn By:	Approved By:
---	**MBJ**

Drawing Name:

SPECIFICATIONS

Drawing Number:

T-209

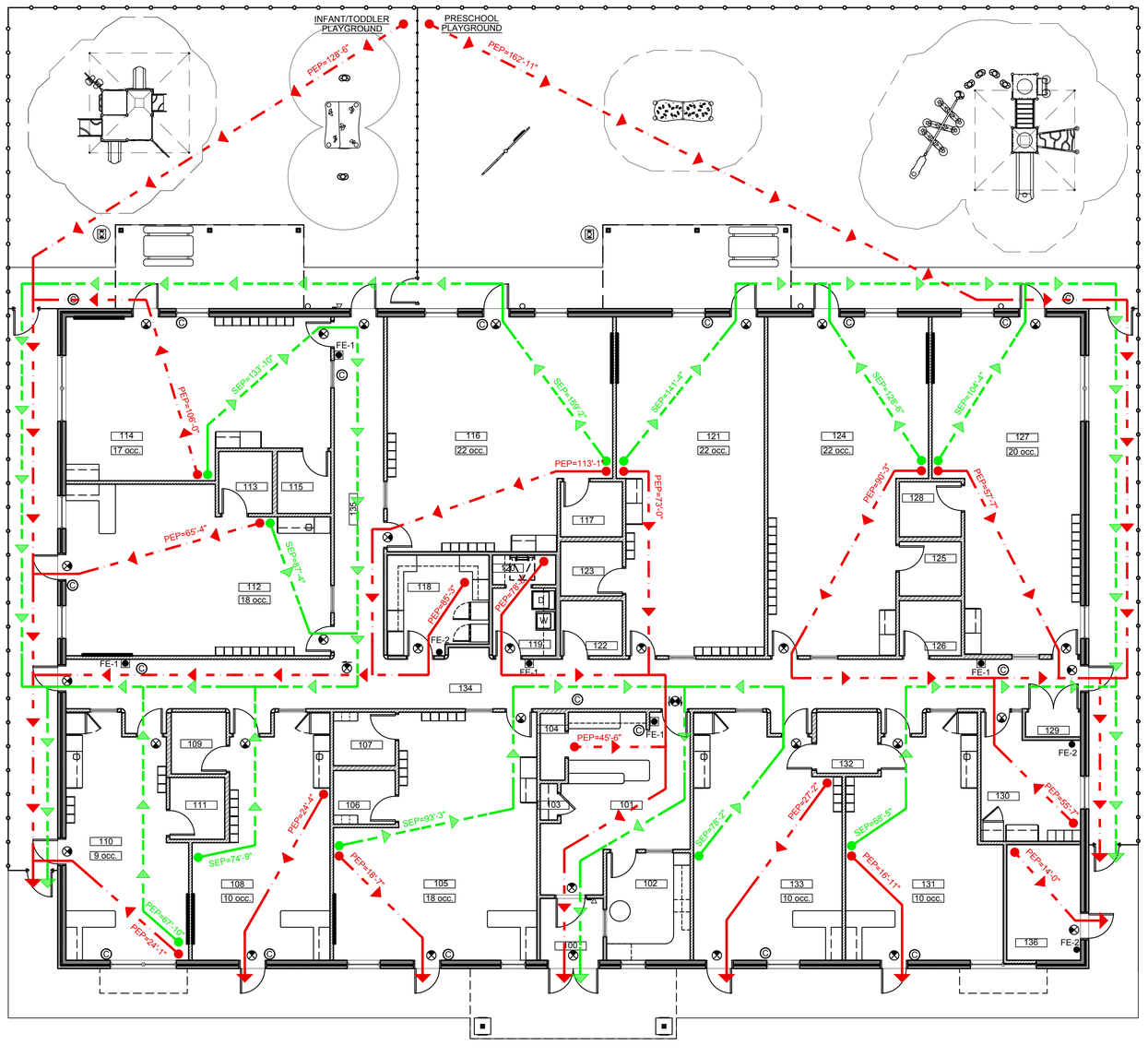
STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

LEGEND:

- PRIMARY EGRESS PATH (PEP)
- SECONDARY EGRESS PATH (SEP)
- START POINT (PEP)
- START POINT (SEP)
- BUILDING STANDARD CEILING MOUNTED ILLUMINATED EXIT SIGN WITH BATTERY BACKUP. SHADING INDICATES ILLUMINATED FACE AND ARROW INDICATES DIRECTION OF EGRESS. MOUNT ON UNDERSIDE OF SOFFIT WHERE REQUIRED FOR INTENDED VISIBILITY
- FE-X — FIRE EXTINGUISHER; WALL HUNG, BRACKET
  FE-1 = 5lb B:C, FE-2 = 10lb A:B:C (1 PER 3,000 SQ.FT.)
  MANUFACTURER: JL COSMIC
  BRACKET COLOR: WHITE
  INSPECTION TAGS REQUIRED FOR ALL FIRE EXTINGUISHERS
- FE-X — FIRE EXTINGUISHER, WALL HUNG, SEMI-RECESSED CABINET
  FE-1 = 5lb B:C, FE-2 = 10lb A:B:C (1 PER 3,000 SQ.FT.)
  MANUFACTURER: JL COSMIC
  MODEL: 1017F10 WITH ROUNDED CORNERS
  CABINET COLOR: WHITE
  INSPECTION TAGS REQUIRED FOR ALL FIRE EXTINGUISHERS
- PEP-#'-#" / SEP-#'-#" — EXIT ACCESS TRAVEL DISTANCE

EGRESS DOOR WIDTH CHART

ROOM NAME	ROOM NUMBER	REQUIRED EXIT WIDTH	PROVIDED EXIT WIDTH
RECEPTION	101	38	38
OFFICE	102	34	34
PRE-SCHOOL #1	116	34	68
PRE-SCHOOL #2	124	34	68
PRE-SCHOOL #3	127	34	68
PANTRY	118	34	34
LOUNGE	130	34	34
PRE-K-K	114	34	68
PREPPERS	105	34	68
MBB/PRE-SCHOOL	121	34	68
TWADDLERS	112	34	68
TODDLER A	108	34	68
TODDLER B	**110**	34	68
INFANT A	133	34	68
INFANT B	131	34	68
LAUNDRY	119	34	34
MECH.	136	34	34



NORTH

1 EGRESS PLAN

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

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TLEMO22-164	**AS NOTED**
Drawn By: **OK**	Approved By: **MBJ**

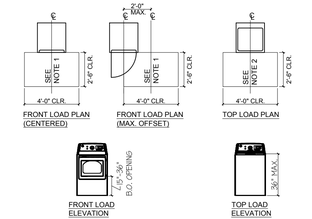
Drawing Name:

LIFE SAFETY DATA AND EGRESS PLAN

Drawing Number:

T-300

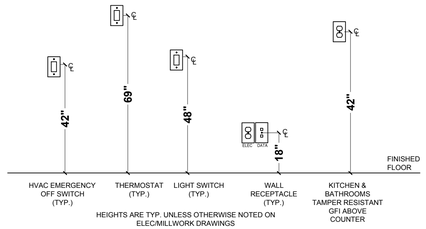
STATE OF MISSOURI — MATTHEW B. JARMEL — NUMBER A-2017014316 — ARCHITECT



NOTES:
1. CLEAR FLOOR AREA FOR FRONT LOAD LAUNDRY EQUIPMENT SHALL BE CENTERED ON THE MACHINE OR MAY BE OFFSET BY UP TO 24".
2. CENTER LINE OF CLEAR FLOOR AREA FOR TOP LOAD LAUNDRY EQUIPMENT SHALL BE CENTERED ON THE MACHINE.

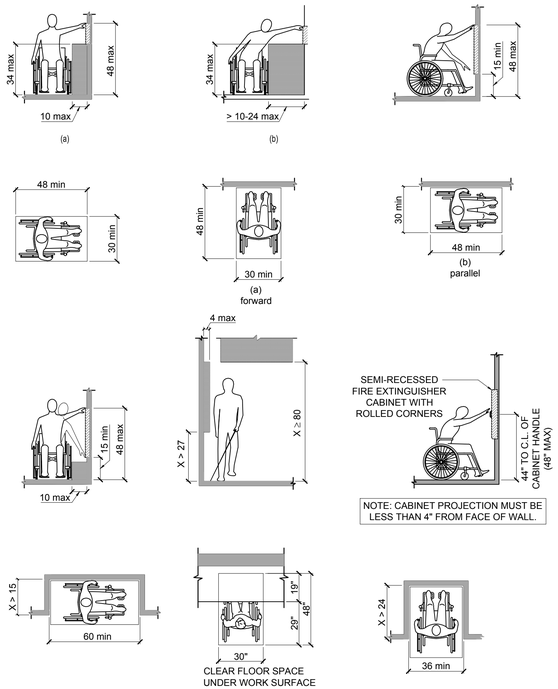
5 CLEARANCES AT LAUNDRY EQUIPMENT

SCALE: N.T.S.



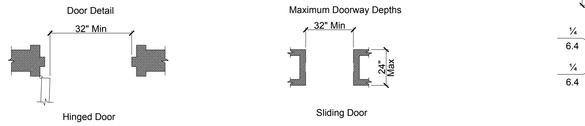
4 ADA SWITCH AND RECEPTACLE MOUNTING HEIGHTS

SCALE: N.T.S.

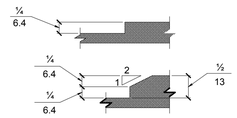


3 MANEUVERING CLEARANCES AND REACH RANGE

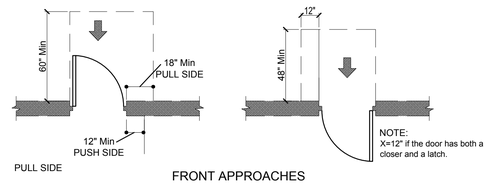
SCALE: N.T.S.



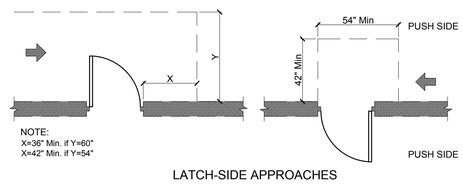
CLEAR DOORWAY WIDTH & DEPTH



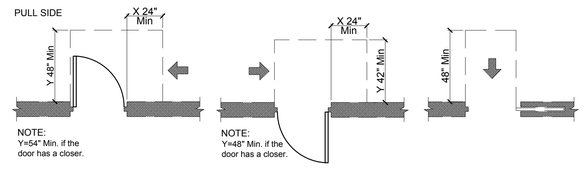
THRESHOLD DETAIL



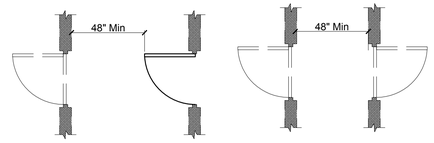
FRONT APPROACHES



LATCH-SIDE APPROACHES



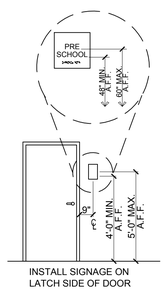
SIDE APPROACHES



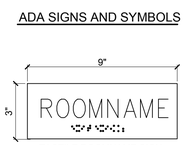
TWO HINGED DOORS IN SERIES

2 MANEUVERING CLEARANCES AT DOORS AND OPENINGS

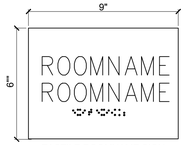
SCALE: N.T.S.



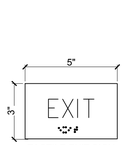
ADA SIGNS AND SYMBOLS



TACTILE ROOMNAME SIGN SIGN-C



TACTILE ROOMNAME SIGN SIGN-C

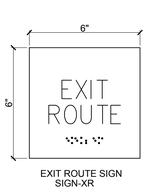


TACTILE EXIT SIGN SIGN-X

NOTE: PROVIDE TACTILE ROOM NAME SIGNS FOR EACH ROOM. VERIFY NAMES WITH T.L.E. PRIOR TO FABRICATION AS REQUIRED BY AHJ: REFER TO TACTILE SIGNAGE NOTES #1.

ACCESSIBILITY SYMBOL SIGN-A

TACTILE UNISEX ACCESSIBLE SIGN SIGN-U



EXIT ROUTE SIGN SIGN-XR

TACTILE SIGNAGE NOTES

1. THE GENERAL CONTRACTOR (GC) SHALL VERIFY SIGNAGE REQUIRED BY AUTHORITY HAVING JURISDICTION (AHJ).
2. THE GC SHALL CONFIRM MOUNTING METHOD WITH THE LEARNING EXPERIENCE CONSTRUCTION TEAM PRIOR TO INSTALLATION.
3. ALL SIGNAGE SHALL CONFORM WITH ADA ACCESSIBILITY GUIDELINES, INCLUDING BUT NOT LIMITED TO PROPORTION, COLOR CONTRAST AND RELIEF AND GRADE 2 BRAILLE REQUIREMENTS.
4. SIGNAGE: AFFIX AN INTERNATIONAL ACCESSIBILITY SYMBOL ON ALL ACCESSIBLE ENTRANCES PER APPLICABLE BUILDING CODE.
5. TACTILE EXIT SIGNAGE:
   - 5.1. A TACTILE EXIT SIGN WITH THE WORD "EXIT" SHALL IDENTIFY EACH GRADE LEVEL EXTERIOR EXIT DOOR.
   - 5.2. A TACTILE EXIT SIGN WITH THE WORDS "EXIT ROUTE" SHALL IDENTIFY EACH EXIT ACCESS DOOR FROM AN INTERIOR ROOM OR AREA TO A CORRIDOR OR HALLWAY THAT IS REQUIRED TO HAVE A VISUAL EXIT SIGN.
6. CHARACTERS, SYMBOLS AND BACKGROUND SHALL HAVE A NON-GLARE FINISH. CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THE BACKGROUND, EITHER LIGHT ON DARK BACKGROUND OR DARK ON LIGHT BACKGROUND.
7. SIGNS TO INCLUDE BRAILLE AND CHARACTERS AS DEFINED BY CODE.
8. MOUNT SIGNAGE AT 60" A.F.F. TO THE CENTER OF THE SIGN. MOUNTING LOCATION SHALL BE SO THAT A PERSON APPROACHING WITHIN 3" OF SIGN DOES NOT ENCOUNTER PROTRUDING OBJECTS AND LOCATION SHALL NOT BE WITHIN THE SWING OF A DOOR.
9. TACTILE RESTROOM SIGNAGE: A TACTILE RESTROOM SIGN WITH THE WORD "RESTROOM" SHALL IDENTIFY EACH ACCESSIBLE UNISEX RESTROOM.

1 TYP. TACTILE SIGNAGE DETAILS

SCALE: N.T.S.

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY
2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC
3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

Jarmel Kizel
ARCHITECTS AND ENGINEERS INC.
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Architecture
Engineering
Interior Design
Implementation Services

THE LEARNING EXPERIENCE
ACADEMY OF EARLY EDUCATION
ARBORWALK WEST
LEE'S SUMMIT, MISSOURI

ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: OK	Approved By: MBJ

Drawing Name:

ACCESSIBILITY AND TACTILE SIGNAGE DETAILS

Drawing Number:

T-400

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

COMcheck Software Version 4.1.5.5

Envelope Compliance Certificate

Project Information

Energy Code:	2018 IECC
Project Title:	THE LEARNING EXPERIENCE
Location:	Lees Summit, Missouri
Climate Zone:	4a
Project Type:	New Construction
Vertical Glazing / Wall Area:	8%

Construction Site:
ARBOR WALK WEST
LEE'S SUMMIT, MO 64082

Owner/Agent:

Designer/Contractor:
MATTHEW JARMEL
JARMEL KIZEL ARCHITECTS AND ENGINEERS INC.
42 OKNER PARKWAY
LIVINGSTON, NJ 07039
973-994-9669
CSCHWEIKER@JKARCH.COM

Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed
Enhanced Interior Lighting Controls, 1.0 credit

Building Area	Floor Area
1-School/University : Nonresidential	10000

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor[a]
Roof 1: Insulation Entirely Above Deck, [Bldg. Use 1 - School/University]	9864	---	30.0	0.032	0.032
Floor 1: Slab-On-Grade:Unheated, Vertical 2 ft., [Bldg. Use 1 - School/University] (c)	410	---	10.0	0.540	0.540
NORTH					
Exterior Wall 3: Wood-Framed, 16" o.c., [Bldg. Use 1 - School/University]	1096	21.0	0.0	0.062	0.064
Window 3: Vinyl/Fiberglass Frame:Fixed, Perf. Specs.: Product ID SIMONTON STORMBREAKER PLUS VINYL FIXED WINDOWS, SHGC 0.48, [Bldg. Use 1 - School/University] (b)	67	---	---	0.380	0.380
Door 4: Insulated Metal, Swinging, [Bldg. Use 1 - School/University]	48	---	---	0.610	0.610
EAST					
Exterior Wall 1: Wood-Framed, 16" o.c., [Bldg. Use 1 - School/University]	1818	21.0	0.0	0.062	0.064
Window 1: Vinyl/Fiberglass Frame:Fixed, Perf. Specs.: Product ID SIMONTON STORMBREAKER PLUS VINYL FIXED WINDOWS, SHGC 0.36, [Bldg. Use 1 - School/University] (b)	154	---	---	0.380	0.380
Door 1: Glass (> 50% glazing):Metal Frame, Entrance Door, Perf. Specs.: Product ID KAWNEER COMPANY, INC. 350 SWING DOOR, SHGC 0.36, [Bldg. Use 1 - School/University] (b)	52	---	---	0.770	0.770
Door 2: Insulated Metal, Swinging, [Bldg. Use 1 - School/University]	109	---	---	0.610	0.610

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor[a]
SOUTH					
Exterior Wall 4: Wood-Framed, 16" o.c., [Bldg. Use 1 - School/University]	1096	21.0	0.0	0.062	0.064
Window 4: Vinyl/Fiberglass Frame:Fixed, Perf. Specs.: Product ID SIMONTON STORMBREAKER PLUS VINYL FIXED WINDOWS, SHGC 0.36, [Bldg. Use 1 - School/University] (b)	67	---	---	0.380	0.380
Door 5: Insulated Metal, Swinging, [Bldg. Use 1 - School/University]	72	---	---	0.610	0.610
WEST					
Exterior Wall 2: Wood-Framed, 16" o.c., [Bldg. Use 1 - School/University]	1616	21.0	0.0	0.062	0.064
Window 2: Vinyl/Fiberglass Frame:Fixed, Perf. Specs.: Product ID SIMONTON STORMBREAKER PLUS VINYL FIXED WINDOWS, SHGC 0.36, [Bldg. Use 1 - School/University] (b)	100	---	---	0.380	0.380
Door 3: Insulated Metal, Swinging, [Bldg. Use 1 - School/University]	143	---	---	0.610	0.610

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.
(c) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.

Envelope PASSES: Design 1% better than code

Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2018 IECC requirements in COM*check* Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

MATTHEW B. JARMEL, AIA, MBA — Name - Title
Signature
06-02-2023 — Date

COMcheck Software Version 4.1.5.5

Inspection Checklist

Energy Code: 2018 IECC

Requirements: 0.0% were addressed directly in the COM*check* software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR1][1]	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.1 [PR10][1]	The vertical fenestration area <= 30 percent of the gross above-grade wall area.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.1 [PR11][1]	The skylight area <= 3 percent of the gross roof area.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.2 [PR14][1]	In enclosed spaces > 2,500 ft2 directly under a roof with ceiling heights >15 ft. and used as an office, lobby, atrium, concourse, corridor, storage, gymnasium/exercise center, convention center, automotive service, manufacturing, non-refrigerated warehouse, retail store, distribution/sorting area, transportation, or workshop, the following requirements apply: (a) the daylight zone under skylights is >= half the floor area; (b) the skylight area to daylight zone is >= 3 percent with a skylight VT >= 0.40; or a minimum skylight effective aperture >= 1 percent.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C406 [PR9][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C303.2 [FO4][2]	Slab edge insulation installed per manufacturer's instructions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2.1 [FO6][1]	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C105 [FO3][2]	Installed slab-on-grade insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.4 [FO7][2]	Slab edge insulation depth/length. Slab insulation extending away from building is covered by pavement or >= 10 inches of soil.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Framing / Rough-In Inspection	Complies?	Comments/Assumptions
C303.1.3 [FR12][2]	Fenestration products rated in accordance with NFRC.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.1.3 [FR13][1]	Fenestration products are certified as to performance labels or certificates provided.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.3 [FR10][1]	Vertical fenestration SHGC value.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.4.3, C402.4.3.4 [FR8][1]	Installed vertical fenestration U-factor and SHGC consistent with label specifications and as reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.5.1.2.1 [FR19][1]	The building envelope contains a continuous air barrier that is sealed in an approved manner and material permeability <= 0.004 dfm/ft2. Air barrier penetrations are sealed in an approved manner.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.2, C402.5.4 [FR18][1]	Factory-built fenestration and doors are labeled as meeting air leakage requirements.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.7 [FR17][1]	Vestibules are installed on all building entrances. Doors have self-closing devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.5.5, C403.2.4.3 [ME3][3]	Stair and elevator shaft vents have motorized dampers that automatically close. Reference section C403.7.7 for operational details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.7.7 [ME58][3]	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed. Reference section language for operational details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

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ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: JE	Approved By: MBJ

Drawing Name:
ENERGY COMPLIANCE REPORT

Drawing Number:
T-500

STATE OF MISSOURI — MATTHEW B. JARMEL — NUMBER A-2017014316 — ARCHITECT

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.6 [EL26][1]	Low-voltage dry-type distribution electric trans¦ormers meet the minimum efficiency requirements of Table C405.6.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.7 [EL27][1]	Electric moto‹s meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.8.2, C405.8.2.1 [EL28][2]	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.9 [EL29][2]	Total voltage drop across the combination of feeders and branch circuits <= 5%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Insulation Inspection	Complies?	Comments/Assumptions
C303.1 [IN3][1]	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is <=3 in 12.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.2.1 [IN20][1]	Insulation installed on a suspended ceiling having ceiling tiles is not being specified for roor/ceiling assemblies. Continuous insulation board installed in 2 or more layers with edge joints offset between layers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.1 [IN10][2]	Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2 [IN7][1]	Above-grade wall insulation installed per manufacturer's instructions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2.1 [IN14][2]	Exterior insulation is protected from damage with a protective material. Verification for exposed foundation insulation may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C105 [IN6][1]	Installed above-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.3 [IN8][2]	Installed floor insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.6 [IN18][1]	Radiant panels and associated components, designed for heat transfer from the panel surfaces to the occupants or indoor space are insulated with a minimum of R-3.5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C105 [IN2][1]	Installed roof insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. For some ceiling systems, verification may need to occur during Framing Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.5.1.1 [IN1][1]	All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C402.5.6 [FI37][1]	Weatherseals installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles parked in the doorway.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.8 [FI26][3]	Recessed luminaires in thermal envelope to limit infiltration and be IC rated and labeled. Seal between interior finish and luminaire housing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C406.4 [FI54][1]	Enhanced digital lighting controls efficiency package: Interior lighting has following enhanced lighting controls in accordance with Section C405.2.2: Luminaires capable of continuous dimming and being addressed individually, <= 8 luminaires controlled in combination in a daylight zone, digital control system for fixtures, "Sequence of Operations" documentation, and functional testing per Section C408.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.1.1 [FI57][1]	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

COMcheck Software Version 4.1.5.5
Interior Lighting Compliance Certificate

Project Information

Energy Code: 2018 IECC
Project Title: THE LEARNING EXPERIENCE
Project Type: New Construction

Construction Site:
ARBOR WALK WEST
LEE'S SUMMIT, MO 64082

Owner/Agent:

Designer/Contractor:
MATTHEW JARMEL
JARMEL KIZEL ARCHITECTS AND ENGINEERS INC.
42 OKNER PARKWAY
LIVINGSTON, NJ 07039
973-994-9669
CSCHWEIKER@JKARCH.COM

Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed
Enhanced Interior Lighting Controls, 1.0 credit

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-School/University	10000	0.81	8100
		Total Allowed Watts =	8100

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-School/University				
LED 1: A: LED 2X4 RECESSED: Other:	1	105	36	3780
LED 2: B: LED 2X2 RECESSED: Other:	1	27	32	864
LED 3: K: LED 48IN BOH: Other:	1	2	42	84
			Total Proposed Watts =	4728

Interior Lighting PASSES: Design 42% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COM*check* Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

COMcheck Software Version 4.1.5.5
Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2018 IECC
Project Title: THE LEARNING EXPERIENCE
Project Type: New Construction
Exterior Lighting Zone 2 (Residential mixed use area (LZ2))

Construction Site:
ARBOR WALK WEST
LEE'S SUMMIT, MO 64082

Owner/Agent:

Designer/Contractor:
MATTHEW JARMEL
JARMEL KIZEL ARCHITECTS AND ENGINEERS INC.
42 OKNER PARKWAY
LIVINGSTON, NJ 07039
973-994-9669
CSCHWEIKER@JKARCH.COM

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B X C)
ENTRANCE CANOPY (Entry canopy)	212 ft2	0.25	Yes	53
EGRESS DOORS (Illuminated area of facade wall or surface)	409 ft2	0.07	No	31
			Total Tradable Watts (a) =	53
			Total Allowed Watts =	84
			Total Allowed Supplemental Watts (b) =	400

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 400 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
ENTRANCE CANOPY (Entry canopy 212 ft2): Tradable Wattage				
LED 1: G: CANOPY DOWNLIGHT: Other:	1	3	12	36
EGRESS DOORS (Illuminated area of facade wall or surface 409 ft2): Non-tradable Wattage				
LED 2: HE: WALLPACK: Other:	1	16	24	384
			Total Tradable Proposed Watts =	36

Exterior Lighting PASSES: Design 64% better than code

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2018 IECC requirements in COM*check* Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

Jarmel Kizel
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TEL: 973-994-9669
FAX: 973-994-4069
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Architecture
Engineering
Interior Design
Implementation Services

THE LEARNING EXPERIENCE
ACADEMY OF EARLY EDUCATION
ARBORWALK WEST
LEE'S SUMMIT, MISSOURI

ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: ---	Approved By: MBJ

Drawing Name:
ENERGY COMPLIANCE REPORT

Drawing Number:
T-501

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

COM*check* Software Version 4.1.5.5

Mechanical Compliance Certificate

Project Information

Energy Code:	2018 IECC
Project Title:	THE LEARNING EXPERIENCE
Location:	Lees Summit, Missouri
Climate Zone:	4a
Project Type:	New Construction

Construction Site:	Owner/Agent:	Designer/Contractor:
ARBOR WALK WEST LEE'S SUMMIT, MO 64082		MATTHEW JARMEL JARMEL KIZEL ARCHITECTS AND ENGINEERS INC. 42 OKNER PARKWAY LIVINGSTON, NJ 07039 973-994-9669 CSCHWEIKER@JKARCH.COM

Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed
Enhanced Interior Lighting Controls, 1.0 credit

Mechanical Systems List

Quantity System Type & Description

1 RTU-1 (Single Zone):
Heating: 1 each - Central Furnace, Gas, Capacity = 150 kBtu/h
Proposed Efficiency = 80.00% Et, Required Efficiency: 80.00 % Et or 80% AFUE
Cooling: 1 each - Single Package DX Unit, Capacity = 67 kBtu/h, Air-Cooled Condenser, Air Economizer
Proposed Efficiency = 12.10 EER, Required Efficiency: 11.00 EER + 12.6 IEER
Fan System: FAN SYSTEM 1 | SEE PLANS -- Compliance (Motor nameplate HP method) : Passes

Fans:
FAN 1 Supply, Constant Volume, 2400 CFM, 3.0 motor nameplate hp, 0.0 fan efficiency grade

2 RTU-2, RTU-3 (Single Zone):
Heating: 1 each - Central Furnace, Gas, Capacity = 150 kBtu/h
Proposed Efficiency = 80.00% Et, Required Efficiency: 80.00 % Et or 80% AFUE
Cooling: 1 each - Single Package DX Unit, Capacity = 67 kBtu/h, Air-Cooled Condenser, Air Economizer
Proposed Efficiency = 12.10 EER, Required Efficiency: 11.00 EER + 12.6 IEER
Fan System: FAN SYSTEM 2, 3 | SEE PLANS -- Compliance (Motor nameplate HP method) : Passes

Fans:
FAN 2,3 Supply, Constant Volume, 2200 CFM, 3.0 motor nameplate hp, 0.0 fan efficiency grade

1 RTU-4 (Single Zone):
Heating: 1 each - Central Furnace, Gas, Capacity = 130 kBtu/h
Proposed Efficiency = 80.00% Et, Required Efficiency: 80.00 % Et or 80% AFUE
Cooling: 1 each - Single Package DX Unit, Capacity = 58 kBtu/h, Air-Cooled Condenser, Air Economizer
Proposed Efficiency = 14.20 SEER, Required Efficiency: 14.00 SEER
Fan System: FAN SYSTEM 4 | SEE PLANS -- Compliance (Motor nameplate HP method) : Passes

Fans:
FAN 4 Supply, Constant Volume, 2000 CFM, 1.0 motor nameplate hp, 0.0 fan efficiency grade

1 RTU-5 (Single Zone):
Heating: 1 each - Central Furnace, Gas, Capacity = 150 kBtu/h
Proposed Efficiency = 80.00% Et, Required Efficiency: 80.00 % Et or 80% AFUE
Cooling: 1 each - Single Package DX Unit, Capacity = 67 kBtu/h, Air-Cooled Condenser, Air Economizer

Quantity System Type & Description

Proposed Efficiency = 12.10 EER, Required Efficiency: 11.00 EER + 12.6 IEER
Fan System: FAN SYSTEM 5 | SEE PLANS -- Compliance (Motor nameplate HP method) : Passes

Fans:
FAN 5 Supply, Constant Volume, 2200 CFM, 3.0 motor nameplate hp, 0.0 fan efficiency grade
EF 1 Exhaust, Constant Volume, 610 CFM, 0.2 motor nameplate hp, 0.0 fan efficiency grade
EF 2 Exhaust, Constant Volume, 490 CFM, 0.2 motor nameplate hp, 0.0 fan efficiency grade

1 EWH-1:
Electric Storage Water Heater, Capacity: 120 gallons w/ Circulation Pump
Proposed Efficiency: 0.53 SL, %/h (if > 12 kW), Required Efficiency: 0.53 SL, %/h (if > 12 kW)

1 EWH-2:
Electric Storage Water Heater, Capacity: 50 gallons
Proposed Efficiency: 0.84 SL, %/h (if > 12 kW), Required Efficiency: 0.84 SL, %/h (if > 12 kW)

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2018 IECC requirements in COM*check* Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

COM*check* Software Version 4.1.5.5

Inspection Checklist

Energy Code: 2018 IECC

Requirements: 84.0% were addressed directly in the COM*check* software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR2][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C103.2 [PR3][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the service water heating systems and equipment and document where exceptions to the standard are claimed. Hot water system sized per manufacturer's sizing guide.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C103.2 [PR4][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C103.2 [PR8][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C406 [PR9][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C403.12.2, C403.12.3 [FO9][3]	Snow/ice melting system and freeze protection systems have sensors and controls configured to limit service for pavement temperature and outdoor temperature. future connection to controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.5, C404.5.1, C404.5.2 [PL6][3]	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6][3]	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6][3]	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6][3]	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6][3]	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.5, C404.5.1, C404.5.2 [PL6][3]	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.6.1, C404.6.2 [PL3][1]	Automatic time switches installed to automatically switch off the recirculating hot-water system or heat trace.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.6.3 [PL7][3]	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C404.6.3 [PL7][3]	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C404.6.3 [PL7][3]	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C404.6.3 [PL7][3]	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C404.6.3 [PL7][3]	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

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REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: ---	Approved By: MBJ

Drawing Name: ENERGY COMPLIANCE REPORT

Drawing Number: T-502

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.6.3 [PL7][3]	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C404.7 [PL8][3]	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C404.7 [PL8][3]	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C404.7 [PL8][3]	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C404.7 [PL8][3]	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C404.7 [PL8][3]	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.7 [PL8][3]	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.2.6 [ME41][3]	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C403.8.4 [ME142][2]	Motors for fans that are not less than 1/12 hp and less than 1 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the means to adjust motor speed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.8.4 [ME142][2]	Motors for fans that are not less than 1/12 hp and less than 1 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the means to adjust motor speed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.8.4 [ME142][2]	Motors for fans that are not less than 1/12 hp and less than 1 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the means to adjust motor speed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.8.4 [ME142][2]	Motors for fans that are not less than 1/12 hp and less than 1 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the means to adjust motor speed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.8.5 [ME143][2]	Each DX cooling system > 65 kBtu and chiller water/evaporative cooling system with fans > 1/4 hp are designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.8.5 [ME143][2]	Each DX cooling system > 65 kBtu and chiller water/evaporative cooling system with fans > 1/4 hp are designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.8.5 [ME143][2]	Each DX cooling system > 65 kBtu and chiller water/evaporative cooling system with fans > 1/4 hp are designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.8.5 [ME143][2]	Each DX cooling system > 65 kBtu and chiller water/evaporative cooling system with fans > 1/4 hp are designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.12.1 [ME71][2]	Systems that heat outside the building envelope are radiant heat systems controlled by an occupancy sensing device or timer switch.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C403.2.3 [ME55][2]	HVAC equipment efficiency verified.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Mechanical Systems list for values.*

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.5.5 [ME113][2]	Fault detection and diagnostics installed with air-cooled unitary DX units having economizers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.5 [ME113][2]	Fault detection and diagnostics installed with air-cooled unitary DX units having economizers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.5 [ME113][2]	Fault detection and diagnostics installed with air-cooled unitary DX units having economizers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.5 [ME113][2]	Fault detection and diagnostics installed with air-cooled unitary DX units having economizers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.2 [ME59][1]	Natural or mechanical ventilation is provided in accordance with International Mechanical Code Chapter 4. Mechanical ventilation has capability to reduce outdoor air supply to minimum per IMC Chapter 4.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.7.1 [ME59][1]	Demand control ventilation provided for spaces >500 ft2 and >25 people/1000 ft2 occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C403.7.2 [ME115][3]	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C403.7.6 [ME141][3]	HVAC systems serving guestrooms in Group R-1 buildings with > 50 guestrooms: Each guestroom is provided with controls that automatically manage temperature setpoint and ventilation (see sections C403.7.6.1 and C403.7.6.2).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C403.7.4 [ME57][1]	Exhaust air energy recovery on systems meeting Table C403.7.4(1) and C403.7.4(2).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C403.7.5 [ME116][3]	Kitchen exhaust systems comply with replacement air and conditioned supply air limitations, and satisfy hood rating requirements and maximum exhaust rate criteria.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C403.11.1 , C403.11.2 [ME60][2]	HVAC ducts and plenums insulated in accordance with C403.11.1 and constructed in accordance with C403.11.2, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.5, C403.5.1, C403.5.2 [ME62][1]	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5, C403.5.1, C403.5.2 [ME62][1]	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5, C403.5.1, C403.5.2 [ME62][1]	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5, C403.5.1, C403.5.2 [ME62][1]	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3. 3 [ME124][1]	Air economizers automatically reduce outdoor air intake to the design minimum outdoor air quantity when outdoor air intake will not reduce cooling energy usage. See Table C403.5.3.3 for applicable device types and climate zones.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3. 3 [ME124][1]	Air economizers automatically reduce outdoor air intake to the design minimum outdoor air quantity when outdoor air intake will not reduce cooling energy usage. See Table C403.5.3.3 for applicable device types and climate zones.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3. 3 [ME124][1]	Air economizers automatically reduce outdoor air intake to the design minimum outdoor air quantity when outdoor air intake will not reduce cooling energy usage. See Table C403.5.3.3 for applicable device types and climate zones.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3. 3 [ME124][1]	Air economizers automatically reduce outdoor air intake to the design minimum outdoor air quantity when outdoor air intake will not reduce cooling energy usage. See Table C403.5.3.3 for applicable device types and climate zones.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3. 4 [ME125][1]	System capable of relieving excess outdoor air during air economizer operation to prevent overpressurizing the building. The relief air outlet located to avoid recirculation into the building.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.5.3. 4 [ME125][1]	System capable of relieving excess outdoor air during air economizer operation to prevent overpressurizing the building. The relief air outlet located to avoid recirculation into the building.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3. 4 [ME125][1]	System capable of relieving excess outdoor air during air economizer operation to prevent overpressurizing the building. The relief air outlet located to avoid recirculation into the building.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3. 4 [ME125][1]	System capable of relieving excess outdoor air during air economizer operation to prevent overpressurizing the building. The relief air outlet located to avoid recirculation into the building.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3. 5 [ME126][1]	Return, exhaust/relief and outdoor air dampers used in economizers have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Reference section C403.7.7 for details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3. 5 [ME126][1]	Return, exhaust/relief and outdoor air dampers used in economizers have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Reference section C403.7.7 for details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3. 5 [ME126][1]	Return, exhaust/relief and outdoor air dampers used in economizers have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Reference section C403.7.7 for details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3. 5 [ME126][1]	Return, exhaust/relief and outdoor air dampers used in economizers have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Reference section C403.7.7 for details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.4.1. 4 [ME63][2]	Heating for vestibules and air curtains with integral heating include automatic controls that shut off the heating system when outdoor air temperatures > 45F. Vestibule heating and cooling systems controlled by a thermostat in the vestibule with heating setpoint <= 60F and cooling setpoint >= 80F.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.3.3 [ME35][1]	Hot gas bypass limited to: <=240 kBtu/h – 50% >240 kBtu/h – 25%	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.3.3 [ME35][1]	Hot gas bypass limited to: <=240 kBtu/h – 50% >240 kBtu/h – 25%	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.3.3 [ME35][1]	Hot gas bypass limited to: <=240 kBtu/h – 50% >240 kBtu/h – 25%	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.3.3 [ME35][1]	Hot gas bypass limited to: <=240 kBtu/h – 50% >240 kBtu/h – 25%	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.2. 1 [ME53][3]	Air outlets and zone terminal devices have means for air balancing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5, C403.5.1, C403.5.2 [ME123][3]	Refrigerated display cases, walk-in coolers or walk-in freezers served by remote compressors and remote condensers not located in a condensing unit, have fan-powered condensers that comply with Sections C403.5.1 and refrigeration compressor systems that comply with C403.5.2..	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

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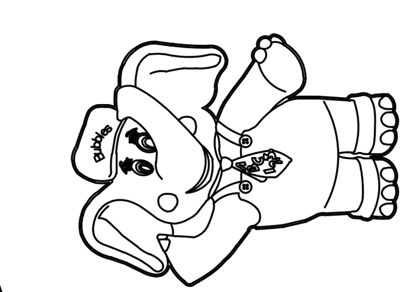

ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: ---	Approved By: MBJ

Drawing Name:

ENERGY COMPLIANCE REPORT

Drawing Number:

T-503

STATE OF MISSOURI MATTHEW B. JARMEL NUMBER A-2017014316 ARCHITECT

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.2.2 [EL22][1]	Spaces required to have light-reduction controls have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern >= 50 percent.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.2.1, C405.2.1.1 [EL18][1]	Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multipurpose rooms, copy/print rooms, lounges/breakrooms, enclosed offices, open plan office areas, restrooms, storage rooms, locker rooms, warehouse storage areas, and other spaces <= 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3 for open plan office spaces.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.2.1.2 [EL19][1]	Occupancy sensors control function in warehouses: In warehouses, the lighting in aisleways and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more when the areas are unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C405.2.1.3 [EL20][1]	Occupant sensor control function in open plan office areas: Occupant sensor controls in open office spaces >= 300 sq.ft. have controls 1) configured so that general lighting can be controlled separately in control zones with floor areas <= 600 sq.ft. within the space, 2) automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the space, 3) are configured so that general lighting power in each control zone is reduced by >= 80% of the full zone general lighting power within 20 minutes of all occupants leaving that control zone, and 4) are configured such that any daylight responsive control will activate space general lighting or control zone general lighting only when occupancy for the same area is detected.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C405.2.2, C405.2.2.1, C405.2.2.2 [EL21][2]	Each area not served by occupancy sensors (per C405.2.1) have time-switch controls and functions detailed in sections C405.2.2.1 and C405.2.2.2.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.3, C405.2.3.1, C405.2.3.2 [EL23][2]	Daylight zones provided with individual controls that control the lights independent of general area lighting. See code section C405.2.3 Daylight-responsive controls for applicable spaces, C405.2.3.1 Daylight responsive control function and section C405.2.3.2 Sidelit zone.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.2.4 [EL26][1]	Separate lighting control devices for specific uses installed per approved lighting plans.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.2.4 [EL27][1]	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.2.5 [EL28][null]	Manual controls required by the energy code are in a location with ready access to occupants and located where the controlled lights are visible, or identify the area served and their status.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.2.6 [EL30][null]	Automatic lighting controls for exterior lighting installed. Controls will be daylight controlled, set based on business operation time-of-day, or reduce connected lighting > 30%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.3 [EL6][1]	Exit signs do not exceed 5 watts per face.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.6 [EL26][2]	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C405.7 [EL27][2]	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.8.2, C405.8.2.1 [EL28][2]	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C405.9 [EL29][2]	Total voltage drop across the combination of feeders and branch circuits <= 5%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5.2 [FI17][3]	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C303.3, C408.2.5.3 [FI8][3]	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.2 [FI27][3]	HVAC systems and equipment capacity does not exceed calculated loads.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.4.1.2 [FI38][3]	Thermostatic controls have a 5 °F deadband.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.1.3 [FI20][3]	Temperature controls have setpoint overlap restrictions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.2 [FI39][3]	Each zone equipped with setback controls using automatic time clock or programmable control system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.2.1, C403.2.4.2.2 [FI40][3]	Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C403.2.4.2.3 [FI41][3]	Systems include optimum start controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.2.3 [FI41][3]	Systems include optimum start controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.2.3 [FI41][3]	Systems include optimum start controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.2.3 [FI41][3]	Systems include optimum start controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.3 [FI11][3]	Heat traps installed on supply and discharge piping of non-circulating systems.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.3 [FI11][3]	Heat traps installed on supply and discharge piping of non-circulating systems.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.4 [FI25][2]	All piping insulated in accordance with section details and Table C403.11.3.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.4 [FI25][2]	All piping insulated in accordance with section details and Table C403.11.3.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.6.1 [FI12][3]	Controls are installed that limit the operation of a recirculation pump installed to maintain temperature of a storage tank. System return pipe is a dedicated return pipe or a cold water supply pipe.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.4.1 [FI18][1]	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Interior Lighting fixture schedule for values.*
C405.5.1 [FI19][1]	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Exterior Lighting fixture schedule for values.*

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C406.4 [FI54][1]	Enhanced digital lighting controls efficiency package: Interior lighting has following enhanced lighting controls in accordance with Section C405.2.2: Luminaires capable of continuous dimming and being addressed individually, <= 8 luminaires controlled in combination in a daylight zone, digital control system for fixtures, "Sequence of Operations" documentation, and functional testing per Section C408.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.1.1 [FI57][1]	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.1 [FI28][1]	Commissioning plan developed by registered design professional or approved agency.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.3.1 [FI31][1]	HVAC equipment has been tested to ensure proper operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.3.2 [FI10][1]	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.3.3 [FI32][1]	Economizers have been tested to ensure proper operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.4 [FI29][1]	Preliminary commissioning report completed and certified by registered design professional or approved agency.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.5.1 [FI7][3]	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.5.1 [FI16][3]	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.5.3 [FI43][1]	An air and/or hydronic system balancing report is provided for HVAC systems.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

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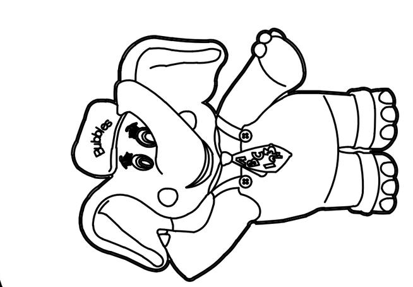

ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: ---	Approved By: MBJ

Drawing Name:

ENERGY COMPLIANCE REPORT

Drawing Number:

T-504

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C408.2.5.4 [FI30][1]	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.3 [FI33][1]	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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Drawn By: **---**	Approved By: **MBJ**

Drawing Name:

ENERGY COMPLIANCE REPORT

Drawing Number:

T-505

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

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ARCHITECTURAL SITE PLAN GENERAL NOTES:

1. THIS ARCHITECTURAL SITE PLAN IS NOT INTENDED FOR PLANNING OR ZONING REVIEW, AND IS PROVIDED FOR COORDINATION PURPOSES ONLY. ALL SITE DESIGN SHALL BE CONFIRMED WITH AND COMPLETED PER THE APPROVED CIVIL SITE DRAWINGS AS PREPARED BY:

   SAM MALINOWSKY
   SM ENGINEERING
   5507 HIGH MEADOW CIRCLE
   MANHATTAN KANSAS, 66503
   785.341.9747
   SMCIVILENGR@GMAIL.COM

2. THE G.C. SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES, COMPLIANCE WITH APPLICABLE ORDINANCES AND JURISDICTIONAL JOB SITE REQUIREMENTS, AND FOR COORDINATING ALL PORTIONS OF THE PHASED WORK UNDER THE CONTRACT UNLESS OTHER SPECIFIC INSTRUCTIONS CONCERNING THESE MATTERS HAVE BEEN PROVIDED THROUGH THE DEVELOPER.

3. REFER TO THE CIVIL DRAWINGS FOR ALL SITE DIMENSIONS, GRADING AND EROSION CONTROL, UTILITY INFORMATION, LANDSCAPE AND IRRIGATION DESIGN AND ALL OTHER REQUIRED SITE RELATED IMPROVEMENTS.

4. PRIOR TO PROCEEDING WITH ROUGH GRADING, THE G.C. SHALL COORDINATE CIVIL GRADES WITH ELEVATIONS SPECIFIED AS PART OF THE ARCHITECTURAL SCOPE OF WORK (INCLUDING, BUT NOT LIMITED TO COMPARISON OF TOP OF FINISH GRADES AT PERIMETER OF BUILDING, FLAT WORK AND ADJOINING SITE AREAS). ALL QUESTIONS SHALL BE SUBMITTED IN WRITING TO THE CIVIL ENGINEER AND ARCHITECT PRIOR TO START OF WORK.

5. THE G.C. SHALL ROUGH GRADE AND RE-COMPACT BUILDING PADS PER THE SOILS REPORT AS PART OF THE SITE SCOPE OF WORK.

6. ALL GRADING AND CONCRETE PAVING SHALL SLOPE AWAY FROM THE BUILDING. CONTACT THE DEVELOPER, ARCHITECT AND CIVIL ENGINEER IN WRITING REGARDING ANY AREAS THAT CANNOT SLOPE AWAY DUE TO EXISTING CONDITIONS.

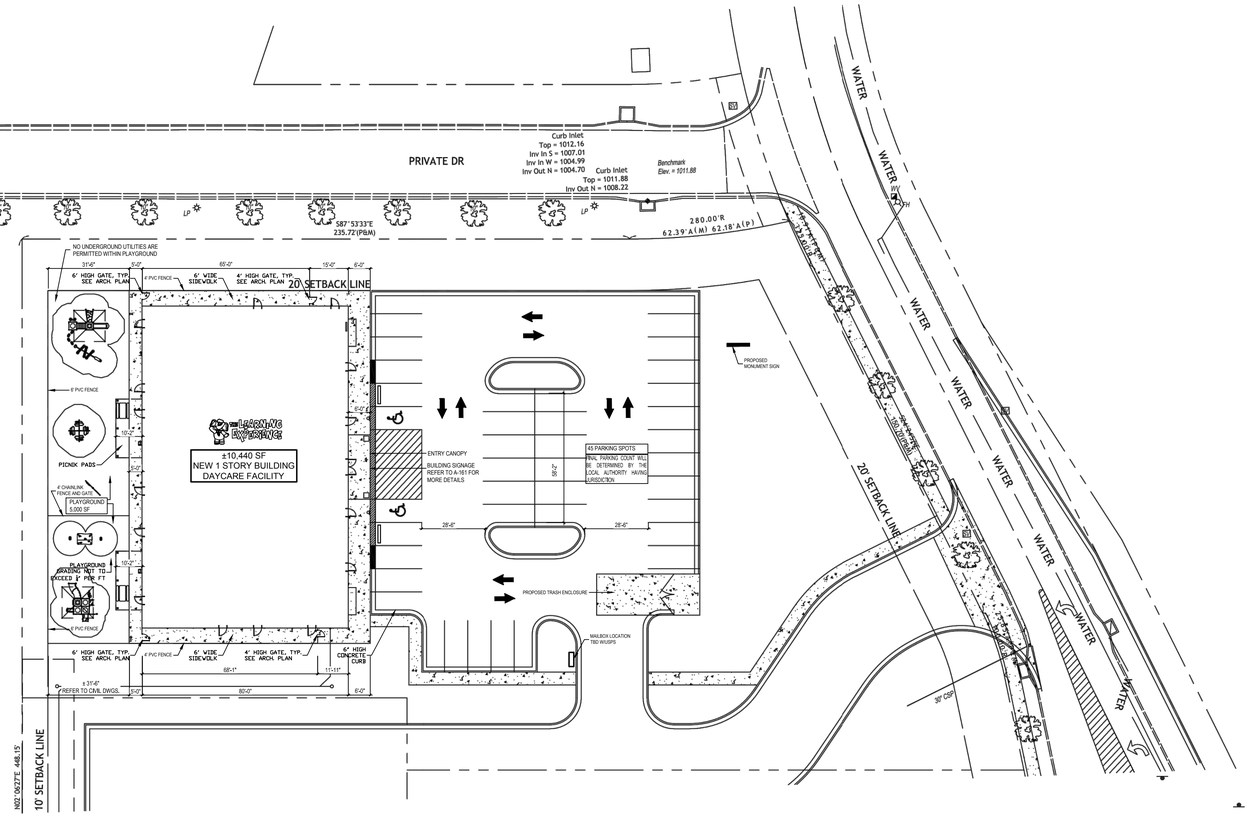
7. THE G.C. SHALL VERIFY ALL SITE DIMENSIONS TO APPLICABLE BOUNDARIES AND SETBACK INFORMATION WITH PARCEL MAP ALTA SURVEY OF RECORD AND NOTIFY OWNER, ARCHITECT, AND CIVIL ENGINEER IN WRITING OF ANY QUESTIONS IN THIS REGARD.

8. THE G.C. SHALL COORDINATE ALL SITE UTILITY RUNS WITH THE APPROPRIATE UTILITY COMPANIES AND PER THE APPROVED SITE PLANS. UTILITY RUNS SHALL BE STUBBED 5'-0" FROM THE BUILDING PERIMETER AT THE LOCATION INDICATED IN THE APPROVED M.E.P. DRAWINGS.

9. THE G.C. SHALL PROTECT EXISTING CONDITIONS TO REMAIN FROM DAMAGE. DAMAGED ITEMS SHALL BE REPLACED, REPAIRED, OR RESTORED BY THE G.C. IF, IN THE OPINION OF THE G.C., EXISTING CONDITIONS TO REMAIN WILL BE DAMAGED OR REQUIRE REMOVAL, THE GENERAL CONTRACTOR SHALL IDENTIFY THESE TO THE DEVELOPER PRIOR TO PROCEEDING WITH REMOVAL.

10. REFER TO CIVIL SITE PLANS FOR SITE LIGHTING TO BE COMPLETED IN DESIGN PHASE.

11. BOLLARDS SHALL BE PROVIDED AS VEHICLE PROTECTION TO PLAYGROUND WHERE PARKING IS ADJACENT TO PLAY AREA. BOLLARDS SHALL BE ARRANGED AT 5' O.C.; WHEN BOLLARDS ARE PLACED AS PROTECTION AT HEAD ON PARKING LOT, THEY ARE TO BE CENTERED AT EACH SPOT.



NORTH

1 ARCHITECTURAL SITE PLAN

SCALE: 1" = 20'-0"

Jarmel Kizel
ARCHITECTS AND ENGINEERS INC.
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ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	**AS NOTED**
Drawn By: **OK**	Approved By: **MBJ**

Drawing Name:

ARCHITECTURAL SITE PLAN

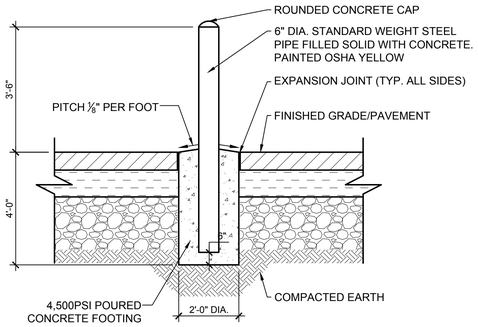
Drawing Number:

SP-101

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

ALL SITE DETAILS SHOWN ON THIS PAGE ARE PROTOTYPICAL IN NATURE. THE G.C. IS RESPONSIBLE FOR VERIFYING THESE DETAILS, THEIR APPLICABILITY, AND ANY ASSOCIATED DIMENSIONS AND NOTES WITH THE MOST CURRENT SITE-SPECIFIC CIVIL DRAWINGS APPROVED BY THE AUTHORITY HAVING JURISDICTION.

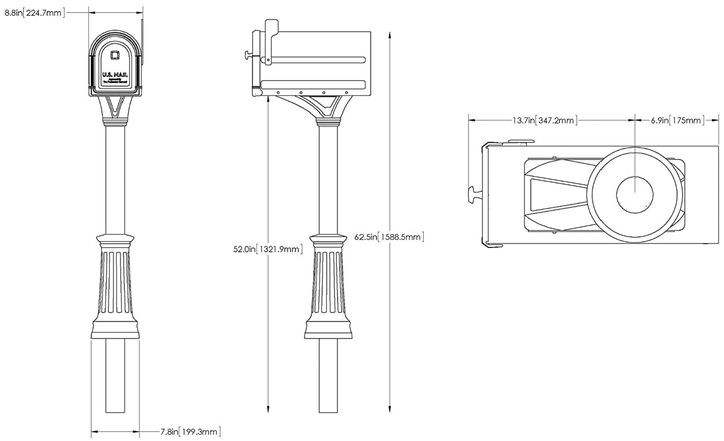
1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY
2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC
3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL



ALTERNATE COLORS:
YELLOW, SW6787 FOUNTAIN, SW9031 PRIMAVERA, SW6890 OSAGE ORANGE

4 TYP. BOLLARD DETAIL

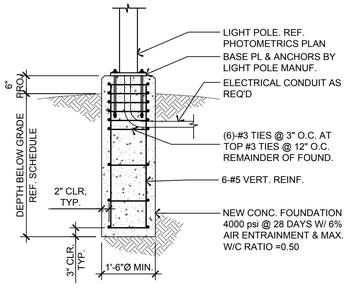
SCALE: 1/2" = 1'-0"



ARCHITECTURAL MAILBOXES ROXBURY
RUBBED BRONZE, LARGE, STEEL POST MOUNT
MAILBOX AND PREMIUM STEEL POST COMBO
MODEL #7980RZ
STORE SKU #1003276108
INTERNET #305719554
(AVAILABLE AT HOME DEPOT)

6 MAILBOX SPECS

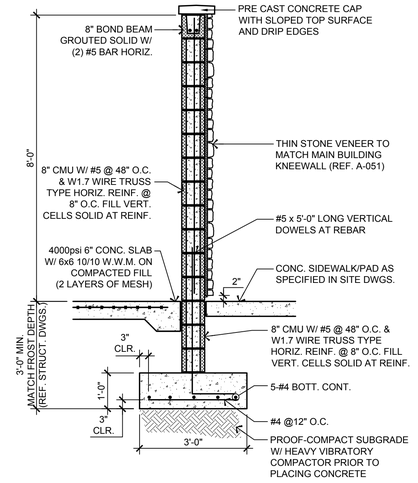
SCALE: N.T.S.



LIGHT POLE FOUNDATION DEPTH PER WIND ANALYSIS			
WIND SPEED (ASCE 7-16)	WIND SPEED (ASCE 7-10)	FND. DEPTH	NOTES:
<110 MPH	<110	4'-9"	1. REFER TO STRUCT. DRAWINGS FOR APPLICABLE WIND SPEED.
110 TO 135 MPH	110 TO 140 MPH	5'-6"	2. THIS DETAIL ASSUMES A 30' MAX. LIGHT POLE.
135 TO 180 MPH	140 TO 180 MPH	7'-0"	

5 TYP. LIGHT POLE FOUNDATION DETAIL

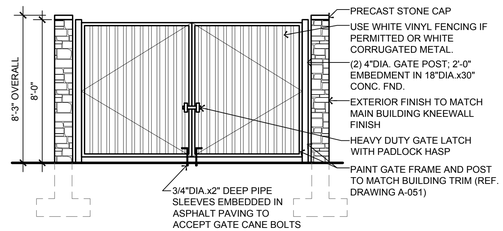
SCALE: 1/2" = 1'-0"



TRASH ENCLOSURE TYPICAL WALL SECTION

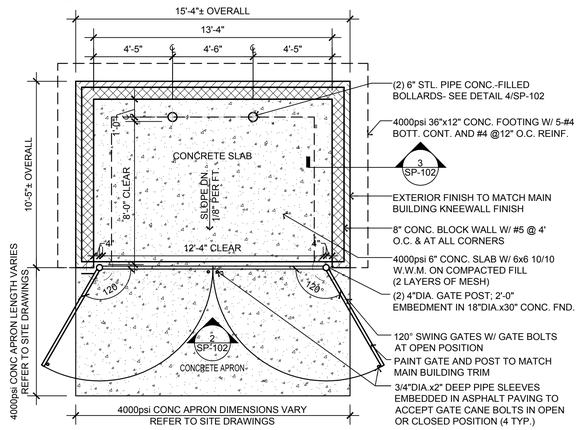
3

SCALE: 1/2" = 1'-0"



2 TRASH ENCLOSURE ELEVATION

SCALE: 1/4" = 1'-0"



1 TRASH ENCLOSURE PLAN

SCALE: 1/4" = 1'-0"

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Drawn By: **---**	Approved By: **MBJ**

Drawing Name:

SITE DETAILS

Drawing Number:

SP-102

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

LICENSING CALCULATIONS
Learning Experience, Lee's Summit, Missouri

ROOM	STATE REQUIRED S.F.(35 S.F. PER CHILD)	NET* S.F.	ACTUAL S.F.	RATIO CHILD PER S.F.	# OF CHILDREN	# OF TEACHERS	TEACHER RATIO	AGE GROUP
INFANT A	360	442	496	1/45	8	2	1/4	6 WK-12 MO.
INFANT B	360	420	474	1/45	8	2	1/4	6 WK-12 MO.
TODDLERS A	360	360	414	1/45	8	2	1/4	12-23 MO.
TODDLERS B	315	334	388	1/45	7	2	1/4	12-23 MO.
TWADDLERS	560	563	612	1/35	16	2	1/8	24-30 MO.
PREPPERS	560	564	612	1/35	16	2	1/8	30-36 MO.
PRE-SCHOOL #1	700	706	718	1/35	20	2	1/10	3-5 YRS.
PRE-SCHOOL #2	700	703	715	1/35	20	2	1/10	3-5 YRS.
PRE-SCHOOL #3	630	642	654	1/35	18	2	1/10	3-5 YRS.
MBB/PRE-SCHOOL	700	700	712	1/35	20	2	1/10	3-5 YRS.
PRE K-K	560	562	582	1/35	16	1	1/16	5-6 YRS.
TOTALS	--	5,996	--	--	157	21	--	--
					+2 ADMIN. STAFF			
					TOTAL	180		

* CALCULATED LESS BUILT-IN ITEMS
FIRST FLOOR 10,000 S.F.
PLAY AREA 5,000 S.F.

CONSTRUCTION PLAN GENERAL NOTES:

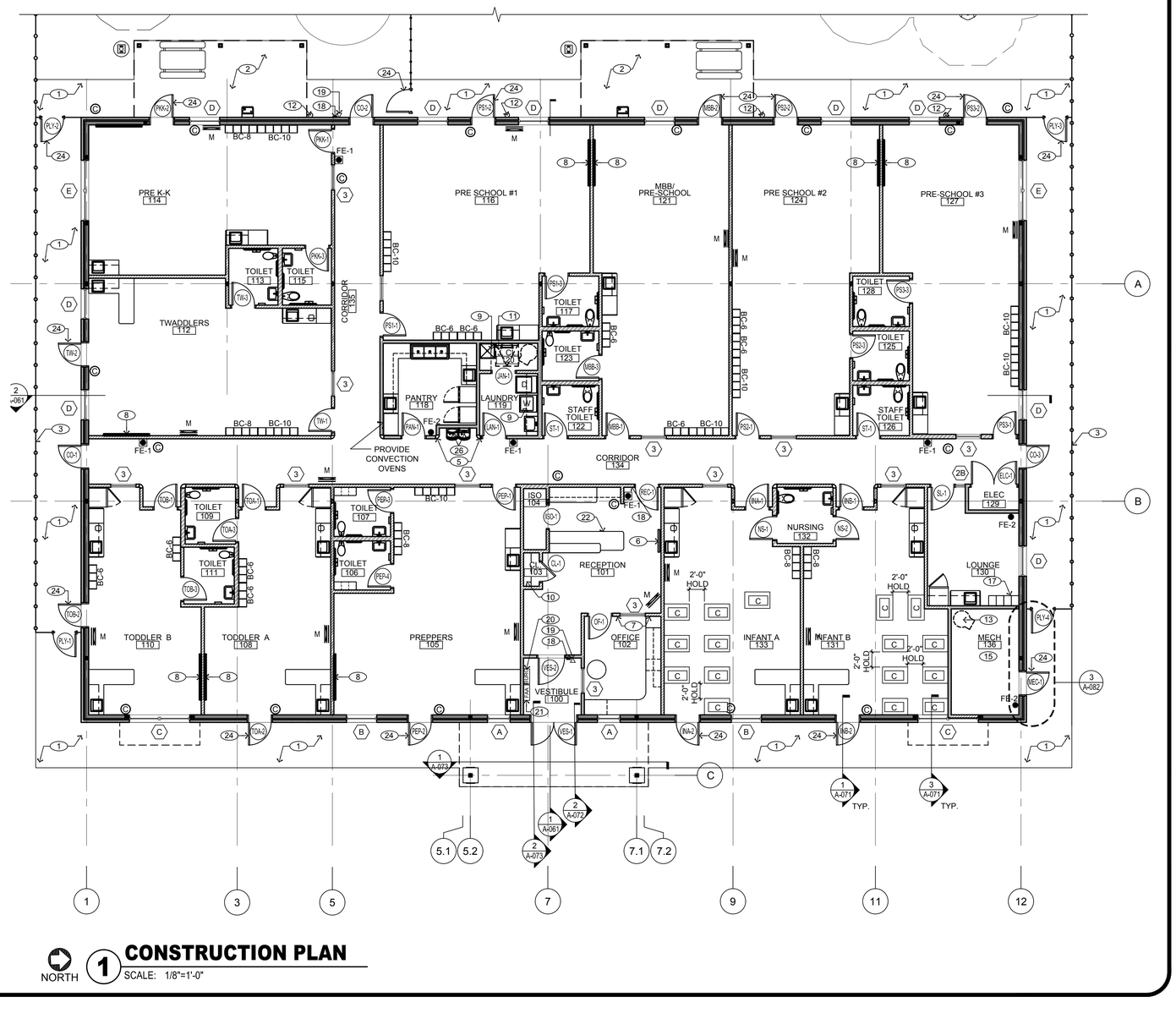
1. REFER TO STRUCTURAL DRAWINGS FOR ALL STRUCTURAL INFORMATION.
2. TLE LOGO ARTWORK PROVIDED BY TLE (CONTACT TLE).
3. ALL ANGLED PARTITIONS, IF SHOWN ON FLOOR PLAN, SHALL BE 45° UNLESS NOTED OTHERWISE.
4. ALL OUTSIDE CORNERS WITHIN ALL ROOMS SHALL HAVE $\frac{3}{4}$" RADIUS PVC CORNER BEADS AT ALL CORNERS, GYPSUM BOARD WINDOW RETURNS AND COLUMNS - SEE DETAILS 2 & 3 /A-091
5. FOR PARTITION DESIGNATIONS REFER TO DRAWING A-012 AND DRAWING A-091 FOR PARTITION TYPE DETAILS.
6. MAKE BELIEVE BLVD. VINYL GRAPHICS TO BE PROVIDED WM PRINTING (REQUIRED). DEVELOPER/GC TO COORDINATE VINYL GRAPHIC DETAILS WITH TLE CONSTRUCTION MANAGER. MBB GRAPHICS ARE PART OF A TLE BRANDED GRAPHICS PACKAGE, WHICH INCLUDES GRAPHICS IN MBB, RECEPTION, CLASSROOMS, LOUNGE & HALLWAYS, ALL OF WHICH ARE THE RESPONSIBILITY OF THE DEVELOPER.
7. REFER TO DRAWING A-111 FOR ENLARGED TOILET ROOM PLANS AND DRINKING FOUNTAIN DETAILS. REFER TO DRAWING P-100 FOR SPECIFICATIONS.
8. THE FURNITURE AND MILLWORK PLAN WILL BE PROVIDED SEPARATELY FROM THE PERMIT DRAWING SET.
9. ALL MILLWORK ELEVATIONS & DETAILS - SEE DRAWINGS A-131, A-132, A-133, A-134, AND A-135.
10. FOR PANTRY SEE DRAWING A-134
11. FOR RECEPTION AREA ENLARGED PLANS - SEE DRAWING A-135
12. OUTSIDE PLAYGROUND PLANS AND DETAILS - SEE DRAWINGS A-151 AND A-152
13. REFER TO DRAWING T-200 FOR LIST OF REQUIRED AND APPROVED VENDORS.
14. REFER TO SPECIFICATION DRAWINGS FOR INSTALLATION INFORMATION.
15. REFER TO SPECIFICATION DRAWINGS FOR ALL APPLIANCE, LOW VOLTAGE COMPONENT, AND PLAYGROUND EQUIPMENT SPECIFICATIONS.
16. DRYWALL CONTROL JOINTS TO BE FAS-093X BY CLARK DIETRICH (OR APPROVED EQUAL) AND SHALL BE ALIGNED WITH DOOR OR WINDOW JAMB (LEFT OR RIGHT) AT MAXIMUM INTERVALS OF 30'-0". ALSO REFER TO DETAIL 2 ON DRAWING A-042.
17. THE ENTIRE BUILDING SHALL BE THOROUGHLY CLEANED AT THE COMPLETION OF CONSTRUCTION.
18. PROVIDE EMERGENCY LOCKDOWN DEVICE AS SPECIFIED ON SHEET A-122 AND T-201.
19. SECURITY ALARM CONTACTS TO BE INSTALLED AT ALL EXTERIOR DOORS.
20. GENERAL CONTRACTOR TO REFER MILLWORK DRAWINGS AND TO CROSS REFERENCE WITH PLUMBING, ELECTRICAL AND STRUCTURAL.
21. FIRE EXTINGUISHERS NOT TO BE PLACED ON RECEPTION WALL DUE TO WALL GRAPHICS. VINYL GRAPHICS TO BE PROVIDED BY FAST SIGNS (REQUIRED)

CONSTRUCTION PLAN KEY NOTES:

1. CONCRETE SIDEWALK. REFER TO APPROVED SITE PLANS FOR FINISHES AND DETAILS. ENSURE SIDEWALKS ARE CLEAR OF OBSTRUCTIONS. PROVIDE FENCING AROUND ANY POTENTIAL SAFETY HAZARDS TO PREVENT ACCESS BY CHILDREN
2. PROVIDE CONCRETE PAD AND CANVAS AWNING. PROVIDE PICNIC TABLES AS SHOWN. REFER TO DRAWINGS A-151 & A-152 FOR ADDITIONAL INFORMATION
3. 4 FT. TALL SOLID VINYL PRIVACY FENCE AND GATE. SEE DRAWING A-151 FOR MORE INFORMATION
4. 6 FT. TALL SOLID VINYL PRIVACY FENCE AND GATE. SEE DRAWING A-151 FOR MORE INFORMATION
5. PITTCON 6" RADIUS SO-LRT OUTSIDE CORNER WITH TANGENT FINS BY SOFTFORMS. REFER TO DETAIL 4 ON DRAWING A-091
6. 55" TV TO BE MOUNTED VERTICALLY AT 60" AFF TO C.L. (39" AFF TO BOTTOM, 88" AFF TO TOP) WITH FLUSH-MOUNT, NON-TILT BRACKET APPROVED FOR MOUNTING IN VERTICAL ORIENTATION. PROVIDE (1) DUPLEX RECEPTACLE AND (1) DATA RECEPTACLE AT 72" AFF TO C.L. PROVIDE 2x10 BLOCKING (32" WIDE) BEHIND TV, FLUSH WITH BOTTOM OF OUTLET, AND CENTERED ON OUTLET. REFER TO DRAWING SPECIFICATIONS FOR FURTHER INFORMATION.
7. PROVIDE DVR SHELF AND (2) MONITORS; TO BE MOUNTED ON (2) WALL-MOUNTED BRACKETS WITH 2X10" BLOCKING (32" WIDE) FLUSH WITH BOTTOM OF OUTLET AND CENTERED ON OUTLET. REFER TO DETAILS 1 & 2 ON DRAWING A-134. **DVR SHOULD HAVE NO HARD DRIVE AND CANNOT RECORD**
8. SMART BOARD PROVIDED BY FRANCHISEE AND TO BE INSTALLED BY OTHERS - REFER TO DETAILS ON DRAWING A-082
9. G.C. TO PROVIDE AND INSTALL (1) WIRE SHELF 16" DEEP MOUNTED AT 6'-0" A.F.F.; FASTENED DIRECTLY TO STUDS. PROVIDE 2x10 BLOCKING. REFER TO DETAIL 7 ON SHEET A-131.
   LAUNDRY: WALL TO WALL SHELF, ABOVE WASHER/DRYER
   JAN. CL.: 3'-0" WIDE, ABOVE UTILITY SINK
10. PROVIDE (5) 16" DEEP WIRE SHELVES IN THE CLOSET, WALL TO WALL. FIRST SHELF AT 20" A.F.F., THEN 34", 48", 62", & 76" A.F.F. (5 SHELVES TOTAL). PROVIDE 2x10" BLOCKING. REFER TO DETAIL 7 ON DRAWING A-131.
11. 36"x36" ROOF ACCESS HATCH AND LADDER SHALL BE KEPT CLEAR OF ALL DUCTS, WIRE, CONDUITS, OR OTHER FIXED ITEMS. SEE DETAILS ON DRAWING A-032
12. GUTTER DOWNSPOUT TO GRADE. CONNECT TO UNDERGROUND STORM SYSTEM. (TYP.)
    REFER TO DRAWING A-031, A-032 AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
13. WATER HEATER; REFER TO PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION
14. INSTALL 1/2" THICK (MIN.), 2 1/2" TALL PRIMED WOOD CHAIR RAIL (EXAMPLE: DYKES LUMBER PROFILE #552) AT 36" A.F.F. OVER CARPETED SECTION OF ROOM IN INFANT ROOM(S) ONLY. PAINTED "W" PER DRAWING A-042.
15. REFER TO TYPICAL MECHANICAL ROOM LAYOUT ON DRAWING E-201.
16. NOT USED
17. STAFF LOCKERS. REFER TO DETAIL 1 ON A-131.
18. KEY FOB. REFER TO ELECTRICAL DRAWINGS.
19. CALL BOX. REFER TO ELECTRICAL DRAWINGS.
20. BURGLAR ALARM KEYPAD. REFER TO ELECTRICAL DRAWINGS.
21. FIRE ALARM CONTROL PANEL. REFER TO ELECTRICAL DRAWINGS.
22. DOOR RELEASE BUTTONS BY SECURITY VENDOR. REFER TO A-134 FOR DETAILS.
23. PROVIDE OPAQUE FILM ON INTERIOR FACE OF GLASS 3M DUSTED AND FROSTED CRYSTAL GLASS FINISH OR APPROVED EQUAL.
24. SECURITY ALARM CONTRACTS TO BE INSTALLED AT ALL EXTERIOR CLASSROOM DOOR & 6' PLAYGROUND GATES (REFER TO ELECTRICAL AS WELL FOR MORE DETAILS).
25. DF-2 (REFER TO SPEC ON PLUMBING SHEETS)

CONSTRUCTION PLAN LEGEND:

- (X) KEYNOTE NUMBER;
- 101 ROOM NAME & NUMBER
- (#) DOOR NUMBER; REFER TO DRAWINGS A-121 AND A-122 FOR DOOR SCHEDULE, DOOR HARDWARE SCHEDULE, AND DETAILS
- (A) WINDOW STYLE; REFER TO DRAWING A-123 FOR WINDOW SCHEDULE, ELEVATIONS AND DETAILS
- BC# NUMBER OF BIN CUBBIES; REFER TO DRAWING A-131; BIN CUBBIES SHOWN FOR AREA CALCULATIONS ONLY, AND TO BE PROVIDED BY GC. EXACT LOCATIONS TO BE COORDINATED WITH TLE.
- DF-1 - EXTERIOR DRINKING FOUNTAIN; REFER TO DRAWING A-111 FOR INSTALLATION DETAILS AND DRAWING P-100 FOR SPECIFICATIONS
- DF-2 - INTERIOR DRINKING FOUNTAIN; REFER TO DRAWING A-111 FOR INSTALLATION DETAILS AND DRAWING P-100 FOR SPECIFICATIONS
- M BLIND SPOT MIRROR, KLEAR-VU BY BROSSARD #P-180; 18" DIAMETER CONVEX MIRRORS FOR BLIND SPOTS IN ROOMS TO BE MOUNTED @ 6" BELOW FINISH CEILING. EXACT NUMBER AND LOCATIONS TO BE COORDINATED WITH TLE.
- © CEILING MOUNTED CAMERA; **WITHOUT RECORDING FUNCTION.** MOUNTED CAMERAS TO BE INSTALLED TO ENSURE ADEQUATE COVERAGE THROUGHOUT, INCLUDING AT THE EXTERIOR FOR THE PLAYGROUND. EXACT QUANTITY AND LOCATIONS TO BE COORDINATED WITH TLE. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- ● FE-X FIRE EXTINGUISHER; WALL HUNG, BRACKET
  FE-1 = 5lb B:C, FE-2 = 10lb A:B:C (1 PER 3,000 SQ.FT.)
  MANUFACTURER: JL COSMIC
  BRACKET COLOR: WHITE
  INSPECTION TAGS REQUIRED FOR ALL FIRE EXTINGUISHERS
  MOUNT BRACKET WITH EXTINGUISHER HANDLE AT 48" AFF
  LOCATION: PANTRY, LOUNGE AND MECH ROOM
- ◉ FE-X FIRE EXTINGUISHER; WALL HUNG, SEMI-RECESSED CABINET
  FE-1 = 5lb B:C, FE-2 = 10lb A:B:C (1 PER 3,000 SQ.FT.)
  MANUFACTURER: JL COSMIC
  MODEL: 1017F10 WITH ROUNDED CORNERS
  CABINET COLOR: WHITE
  INSPECTION TAGS REQUIRED FOR ALL FIRE EXTINGUISHERS
  MOUNT CABINET WITH TOP OF DOOR AT 48" AFF
  LOCATION: RECEPTION (NOT LOBBY BOARD WALL) & CORRIDORS
- D / W LAUNDRY APPLIANCES (SIDE-BY-SIDE; TYPICAL) REFER TO APPLIANCE SPECIFICATIONS
- D/W LAUNDRY APPLIANCES (STACKABLE; ONLY IF SHOWN ON PLAN) REFER TO APPLIANCE SPECIFICATIONS STACKING KIT PER MANUFACTURER'S RECOMMENDATION
- D ALT DUCTLESS DRYER (ONLY IF SHOWN ON PLAN) REFER TO APPLIANCE SPECIFICATIONS



NORTH

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

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Drawn By: **OK**	Approved By: **MBJ**

Drawing Name:

CONSTRUCTION PLAN

Drawing Number:

A-011

STATE OF MISSOURI — MATTHEW B. JARMEL — NUMBER A-2017014316 — ARCHITECT

PARTITION LEGEND:

REFER TO A-091 FOR PARTITION DETAILS

1. FULL HEIGHT INTERIOR PARTITION
2. INTERIOR PARTITION
3. PLUMBING WALL
4. EXTERIOR WALL ASSEMBLY (REF. WALL SECTIONS)
5. FULL HEIGHT PLUMBING WALL

GENERAL NOTES:

1. ALL DIMENSIONS SHOWN ARE MEASURED FINISH FACE TO FINISH FACE OF INTERIOR OR EXTERIOR WALL UNLESS NOTED OTHERWISE.
2. ALL INTERIOR WALLS ARE 5" THICK NOMINAL UNLESS OTHERWISE NOTED.
3. REFER TO DRAWING A-091 FOR ADDITIONAL PARTITION TYPE INFORMATION.
4. REFER TO DRAWING A-011 FOR ADDITIONAL GENERAL NOTES, KEY NOTES, AND SYMBOL LEGEND.
5. COORDINATE LOCATION OF ALL PLUMBING, ELECTRICAL WITH WALL BLOCKING FOR ALL MILLWORK ITEMS.

KEY NOTES:

(1) DIMENSION OF BLOCKING AT SMART BOARD. REFER TO DETAIL 1 ON DRAWING A-082.

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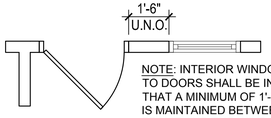
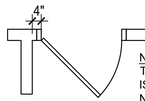


NOTE: INTERIOR WINDOWS ADJACENT TO DOORS SHALL BE INSTALLED SUCH THAT A MINIMUM OF 1'-6" WALL SPACE IS MAINTAINED BETWEEN THE DOOR FRAME AND THE WINDOW FRAME, UNLESS OTHERWISE NOTED ON THE PLAN. INSTALLATION OF LIGHT SWITCH BOX & TELEPHONE BOX REQUIRED.

4 CONSTRUCTION BETWEEN DOOR & INTERIOR WINDOW

SCALE: N.T.S.

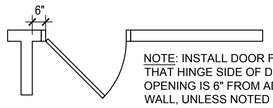


NOTE: INSTALL DOOR FRAME SO THAT HINGE SIDE OF DOOR OPENING IS 4" FROM ADJACENT WALL, UNLESS NOTED OTHERWISE.

LOCATIONS:
- ALL TOILET ROOMS
- RECEPTION
- OFFICE
- LAUNDRY
- JANITOR'S CLOSET

3 ALT. HINGE SIDE DOOR TO WALL

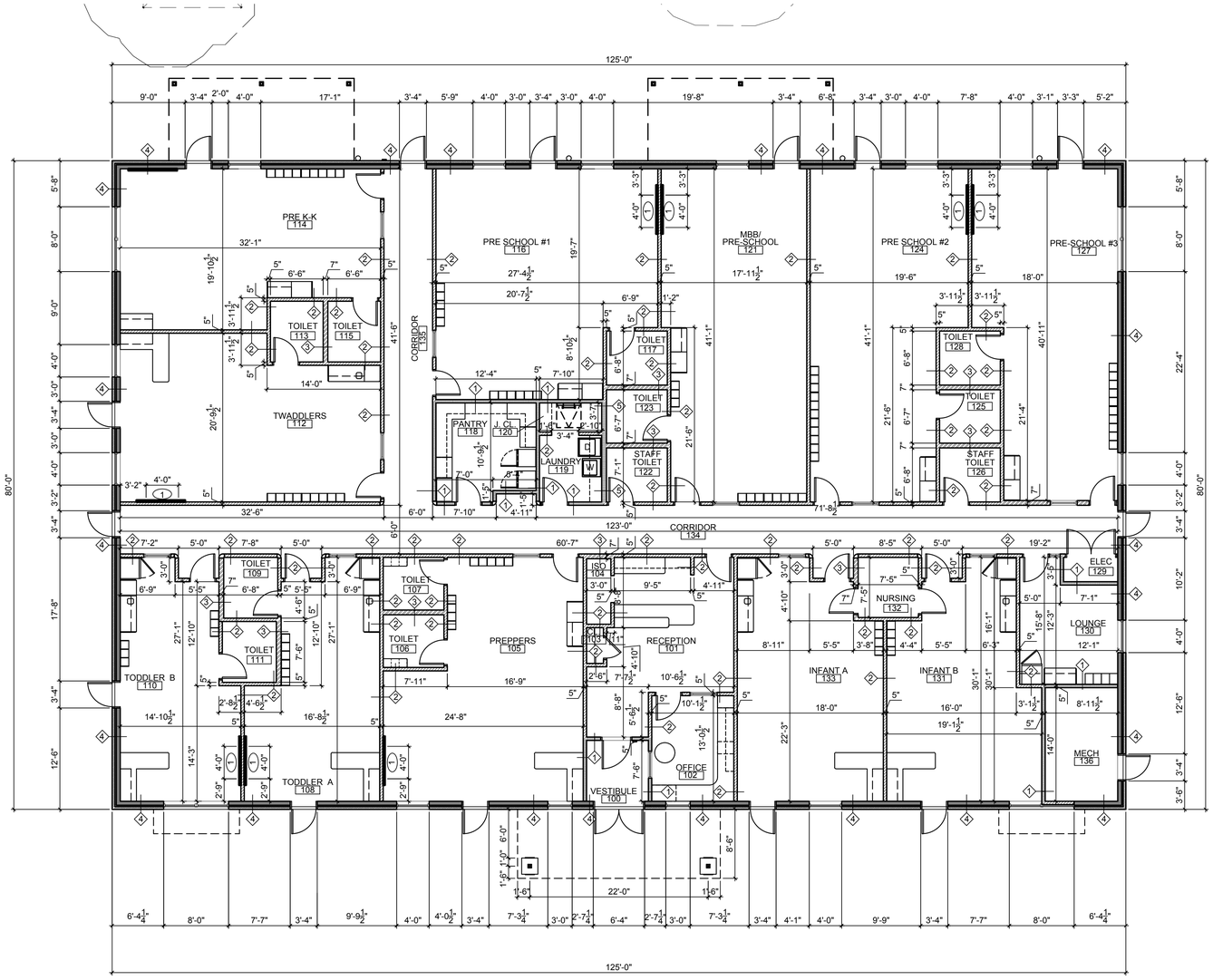
SCALE: N.T.S.



NOTE: INSTALL DOOR FRAME SO THAT HINGE SIDE OF DOOR OPENING IS 6" FROM ADJACENT WALL, UNLESS NOTED OTHERWISE.

2 TYP. HINGE SIDE DOOR TO WALL

SCALE: N.T.S.



NORTH

1 DIMENSION PLAN

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

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Drawn By: OK	Approved By: MBJ

Drawing Name:

DIMENSION PLAN

Drawing Number:

A-012

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

REFLECTED CEILING - LEGEND:

- 2'X4' ARMSTRONG 1729 FINE FISSURED, WHITE LAY IN ACOUSTIC TILE WITH SQUARE LAY-IN JOINTS. PRELUDE 15/16" EXPOSED TEE GRID OR EQUAL
- 2'X4' ARMSTRONG 672 KITCHEN ZONE, WHITE LAY-IN ACOUSTIC TILE WITH MYLAR FINISH AND SQUARE LAY-IN JOINTS. PRELUDE 15/16" EXPOSED TEE GRID OR EQUAL
- 2'X2' ARMSTRONG 584 CIRRUS, WHITE LAY-IN ACOUSTIC TILE WITH REVEAL EDGE JOINTS. PRELUDE 15/16" EXPOSED TEE GRID OR EQUAL
- GYPSUM BD. SOFFIT
- 2X4 LIGHT - 2'X4' RECESSED LED LIGHT FIXTURE. REFER TO ELECTRICAL DRAWINGS FOR LIGHT FIXTURE SCHEDULE.
- NL/EM — 2X4 LIGHT - 2'X4' RECESSED LED EMERGENCY NIGHT LIGHT FIXTURE WITH BATTERY BACK-UP. REFER TO ELECTRICAL DRAWINGS FOR LIGHT FIXTURE SCHEDULE.
- 2X2 LIGHT - 2'X2' RECESSED LED LIGHT FIXTURE (REFER TO ELECTRICAL DRAWINGS - LIGHT FIXTURE SCHEDULE).
- NL/EM — 2X2 LIGHT - 2'X2' RECESSED LED EMERGENCY NIGHT LIGHT FIXTURE WITH BATTERY BACK-UP (REFER TO ELECTRICAL DRAWINGS - LIGHT FIXTURE SCHEDULE).
- LOGO SIGN - "THE LEARNING EXPERIENCE" ILLUMINATED SIGNAGE MOUNTED ON CANOPY - SEE DRAWING A-161.
- WB — WB - WALL BRACKET - LED LIGHT FIXTURE (REFER TO ELECTRICAL DRAWINGS - LIGHT FIXTURE SCHEDULE) MOUNTED @ +8'-6" AFF. PROVIDE FIXTURE WITH PROTECTIVE WIRE CAGE.
- WB/EM — WR - WALL BRACKET - LED LIGHT FIXTURE WITH BATTERY BACK-UP (REFER TO ELECTRICAL DRAWINGS - LIGHT FIXTURE SCHEDULE) MOUNTED @ +8'-6" AFF. PROVIDE FIXTURE WITH PROTECTIVE WIRE CAGE.
- RECESSED EXTERIOR DOWN LIGHT (REFER TO ELECTRICAL DRAWINGS - LIGHT FIXTURE SCHEDULE)
- NL/EM — EXTERIOR WALL MOUNTED LED EXIT LIGHT FIXTURE WITH DUAL EMERGENCY LAMPS. TO BE MOUNTED OVER THE MAIN ENTRANCE @ 9'-6" A.F.F. AND ALL OTHER EXTERIOR DOORS @ 9'-0" A.F.F. (REFER TO ELECTRICAL DRAWINGS - LIGHT FIXTURE SCHEDULE) FIXTURE FINISH TO BE WHITE.
- CEILING MOUNTED ILLUMINATED EXIT SIGN WITH BATTERY BACK-UP. SHADING INDICATES ILLUMINATED FACE AND ARROW INDICATES DIRECTION OF EGRESS. MOUNT ON UNDERSIDE OF SOFFIT AS REQUIRED FOR INTENDED VISIBILITY

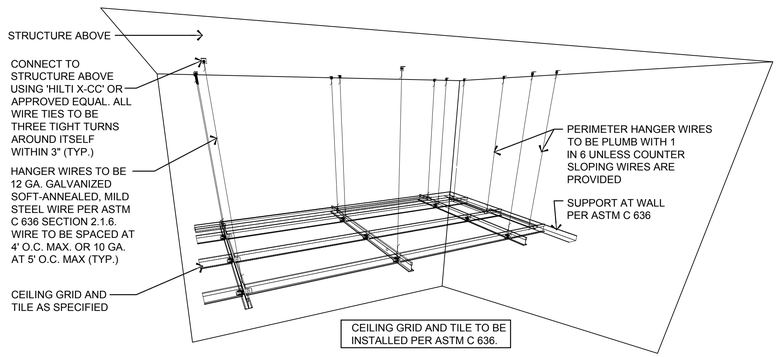
REFLECTED CEILING - GENERAL NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK ABOVE CEILING AND SHALL NOTIFY ARCHITECT OF ANY CONFLICTS PRIOR TO INSTALLATION OF CEILING GRID, GYPSUM BOARD CEILINGS AND SOFFITS.
2. ALL GWB CEILINGS AND SOFFITS SHALL BE PAINTED WHITE (COLOR "W" PER PAINT SCHEDULE ON A-042).
3. MAKE BELIEVE BOULEVARD CEILING HEIGHT SHALL BE 9'-10" AFF UNLESS NOTED OTHERWISE. ALL OTHER CEILING HEIGHTS SHALL BE 9'-0" AFF UNLESS NOTED OTHERWISE
4. ALL SUSPENDED CEILING GRIDS SHALL BE DESIGNED TO RESIST SEISMIC FORCE (FP) AS PER INTERNATIONAL BUILDING CODE, LATEST EDITION. REFER TO DETAIL 3 DRAWING A-022 FOR CEILING GRID HANGER DETAIL.
5. REFER TO ENGINEERING DRAWINGS FOR MECHANICAL, ELECTRICAL, PLUMBING AND FIRE ALARM/SPRINKLER LAYOUTS, DETAILS AND SCHEDULES
6. REFER TO SPECIFICATIONS FOR ALL SWITCHES, LIGHTING FIXTURES AND EXIT SIGNS - REVISIT THIS COMMENT AFTER REVIEW OF DRAWINGS T-200 TO T-208 SPEC PAGES
7. CONTRACTOR SHALL VERIFY AND CONFIRM ALL LIGHT FIXTURES ARE IN WORKING CONDITION WITH OPERABLE LAMPS AT SUBSTANTIAL COMPLETION OF THE PROJECT.
8. UPON COMPLETION OF CONSTRUCTION, GC SHALL PROVIDE TENANT WITH MINIMUM 1 BOX OF EACH TYPE OF CEILING TILE.
9. ARCHITECT TO CONFIRM BASED ON INDIVIDUAL STATE REGULATION WHETHER THE BATHROOM CEILING TILES ARE REQUIRED TO BE VINYL COATED.

REFLECTED CEILING - KEY NOTES:

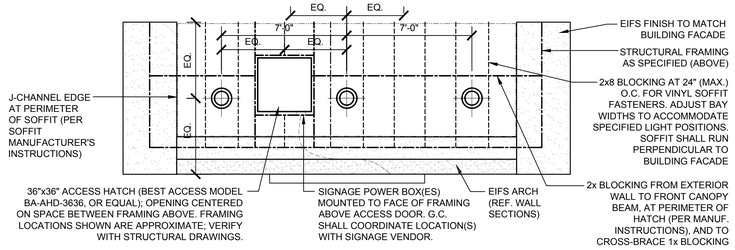
1. CEILING TILES TO BE INSTALLED W/ RETAINING CLIPS AT VESTIBULE
2. BUILDING SIGNAGE. REFER TO DETAILS ON DRAWING A-161.
3. 36"x36" ROOF ACCESS HATCH AND LADDER SHALL BE KEPT CLEAR OF ALL DUCTS, WIRE, CONDUITS, OR OTHER FIXED ITEMS. SEE DETAILS ON DRAWING A-032
4. JANITOR'S CLOSET TO RECEIVE (1) LAYER OF GYP FASTENED TO UNDERSIDE OF TRUSSES AND (1) LAYER OF GYP FASTENED TO VERTICAL FACES OF ROOF ACCESS SHAFT. SEE DETAILS ON DRAWING A-032
5. 36" X 36" ACCESS/MAINTENANCE HATCH FOR ACCESS TO BUILDING SIGNAGE POWER BOXES. CENTER OPENING ON SPACE BETWEEN TRUSSES ABOVE. G.C. TO COORDINATE WITH SIGNAGE VENDOR.

THE LEARNING EXPERIENCE IS AN ARMSTRONG CEILINGS NATIONAL ACCOUNT PARTNER. TO ENSURE PROPER PRICING IS QUOTED, CONTACT 800-442-4212, ARMSTRONG NATIONAL ACCOUNT CUSTOMER SERVICE OR YOUR LOCAL ARMSTRONG CEILING DISTRIBUTOR AND ASK FOR THE LEARNING EXPERIENCE NATIONAL ACCOUNT PRICING. IF YOU HAVE ANY QUESTIONS, CONTACT CHERYL B. SMITH, ARMSTRONG NATIONAL ACCOUNT MANAGER, CBSMITH@ARMSTRONGCEILINGS.COM



3 CEILING GRID HANGERS DETAIL

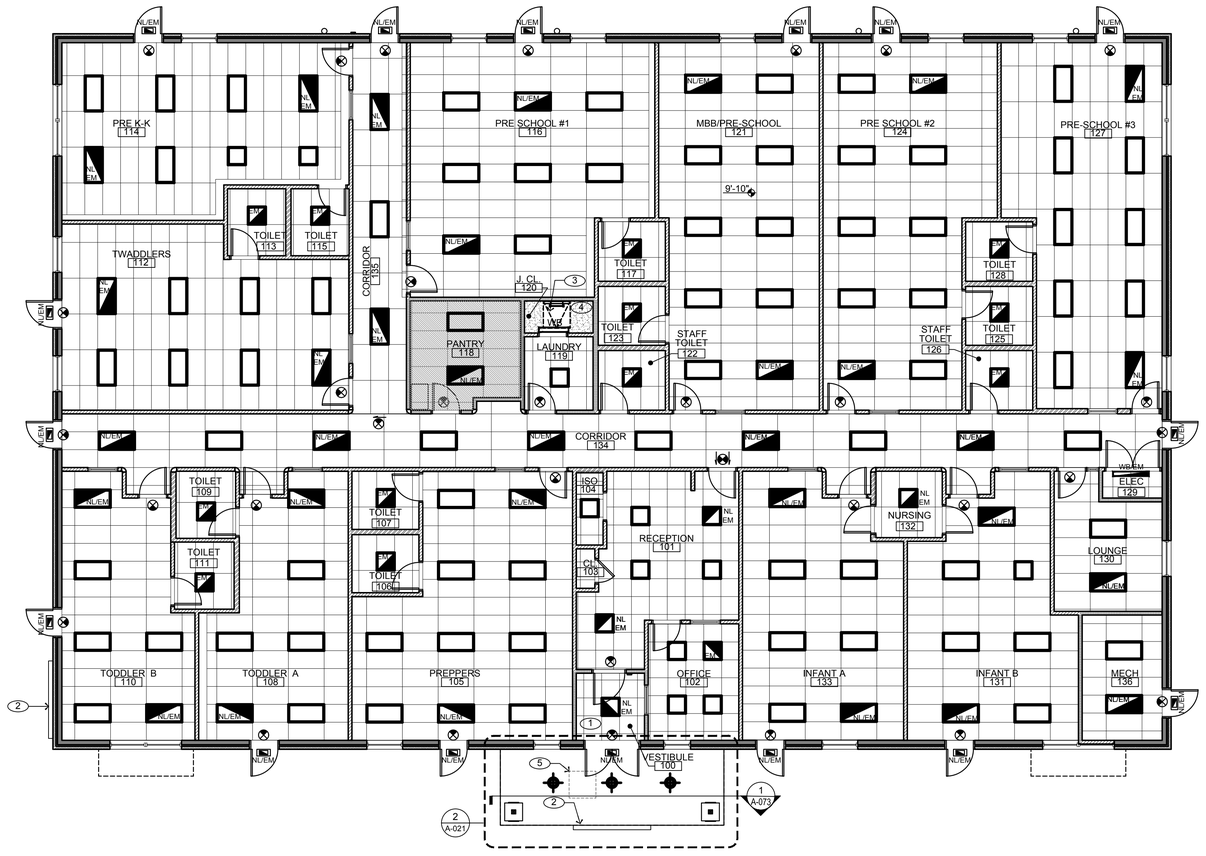
SCALE: NOT TO SCALE



NOTES:
1. VINYL SOFFIT SHALL BE FASTENED TO UNDERSIDE OF SOFFIT FRAMING ABOVE AND SHALL BE LEVEL. SOFFIT SHALL NOT FOLLOW THE EIFS ARCH CURVE. REFER TO WALL SECTIONS FOR ADDITIONAL INFORMATION.
2. VINYL SOFFIT AT UNDERSIDE OF CANOPY TO BE INSTALLED PARALLEL TO SOFFIT ALONG BUILDING PERIMETER.

2 SIGNAGE ACCESS HATCH DETAIL

SCALE: 1/4"=1'-0"



NORTH

1 REFLECTED CEILING PLAN

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

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY
2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC
3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

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2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: OK	Approved By: MBJ

Drawing Name:
REFLECTED CEILING PLAN

Drawing Number:
A-021

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

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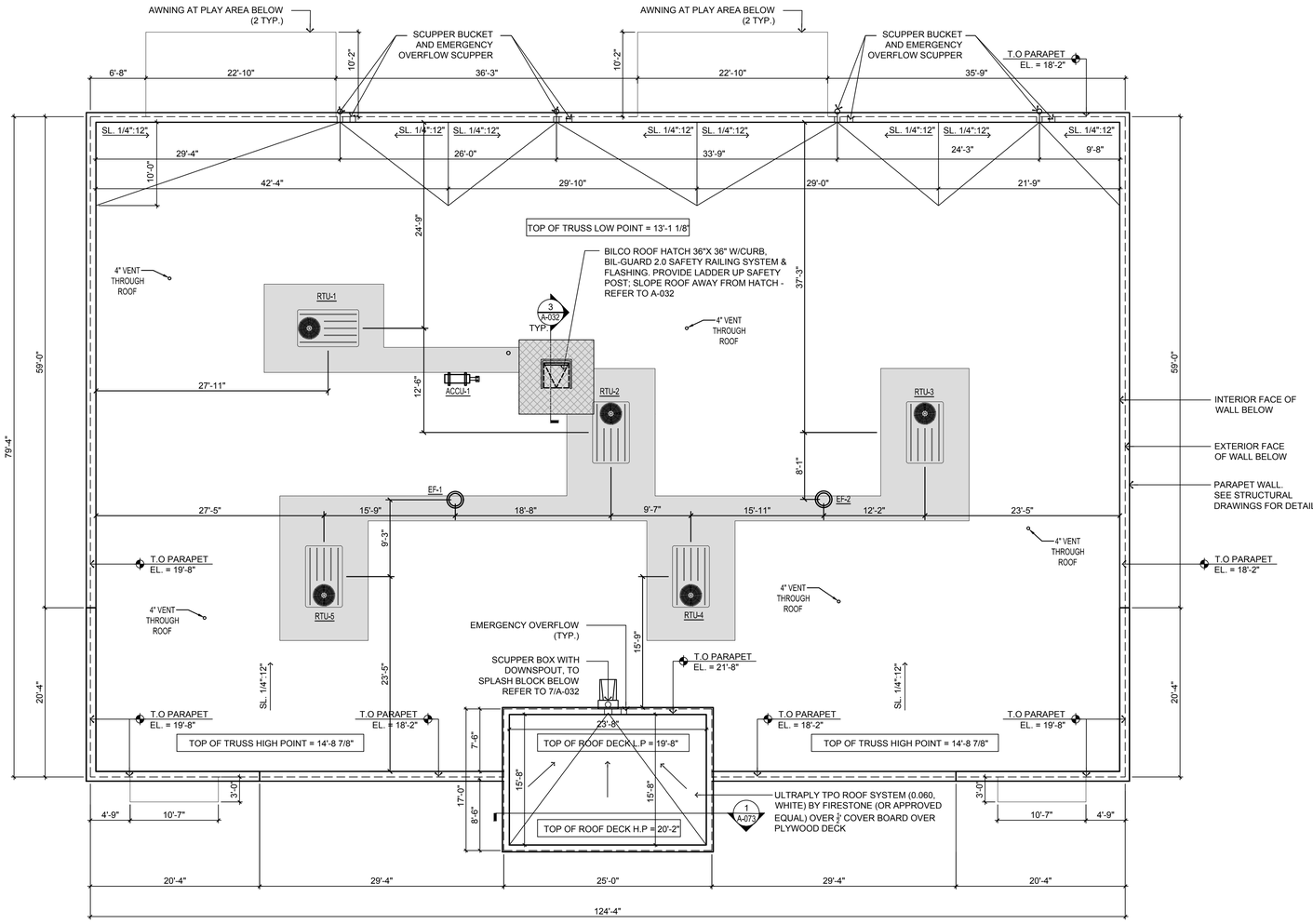
LEGEND:

AREA TO RECEIVE ICE AND WATER LEAK BARRIER MEMBRANE

AREA TO RECEIVE WALKWAY PADS

GENERAL NOTES:

1. GENERAL CONTRACTOR (GC) SHALL FIELD VERIFY CONDITIONS AND NOTIFY ARCHITECT IN WRITING OF ANY QUESTIONS.
2. REFER TO SPECIFICATIONS DRAWINGS FOR ADDITIONAL INFORMATION FOR ROOFING, FLASHING REQUIREMENTS, AND MATERIALS.
3. ALL ROOF PENETRATIONS SHALL BE LOCATED 3'-0" OR MORE FROM DRAINAGE FLOW LINES.
4. VERIFY & COORDINATE DUCT CURB AND ROOF PENETRATION LOCATIONS; REFER TO THE MECHANICAL, ELECTRICAL, PLUMBING AND STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS AND COORDINATION.
5. PLUMBING VENTS OR EXHAUST UNITS ARE NOT ALLOWED WITHIN 10'-0" OF AIR INTAKES OR 5'-0" OF EXTERIOR WALLS - REFER TO MECHANICAL DWGS.
6. ALL SHEET METAL FLASHING TO COMPLY WITH THE "ARCHITECTURAL SHEET METAL MANUAL", LATEST EDITION AS PUBLISHED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA).
7. ALL SHEET METAL FLASHING EXPOSED TO THE PUBLIC SHALL BE PAINTED OR PREFINISHED TO MATCH ROOFING COLOR. SEE BUILDING ELEVATIONS FOR COLOR SPECIFICATIONS. ALL OTHER NON-EXPOSED FLASHING TO BE GALVANIZED.
8. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO TENANT OCCUPANCY, G.C. SHALL ENSURE THAT THE ENTIRE ROOF, ROOF SCUPPERS/ DOWNSPOUTS, AND OVERFLOW SCUPPERS ARE COMPLETELY CLEAR OF ANY AND ALL DEBRIS (CONSTRUCTION, NATURAL, OR OTHERWISE).
9. PRIMARY ROOF DRAIN LEADERS AND GUTTER DOWNSPOUTS MUST CONNECT TO UNDERGROUND STORM SYSTEM. REFER TO KN 12 ON A-011 AND DETAIL 3 ON P-500. GUTTER DOWNSPOUTS SHALL DROP THROUGH SIDEWALK TO CONNECT TO UNDERGROUND SYSTEM (REFER TO DETAIL 7/A-032). OVERFLOW DRAINS TO BE INSTALLED AS REQUIRED BY CODE.



NORTH

1 ROOF PLAN

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

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	**AS NOTED**
Drawn By: **OK**	Approved By: **MBJ**

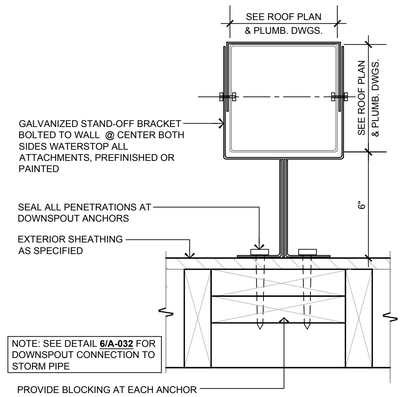
Drawing Name:

ROOF PLAN

Drawing Number:

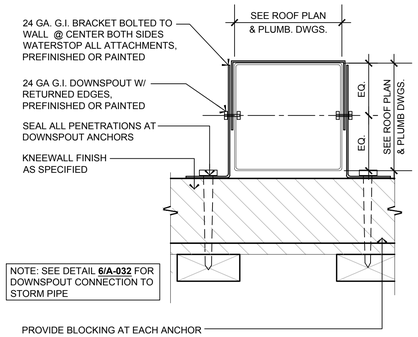
A-031

STATE OF MISSOURI · MATTHEW B. JARMEL · NUMBER A-2017014316 · ARCHITECT



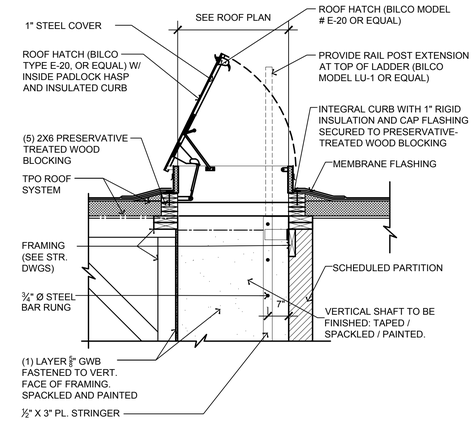
10 DOWNSPOUT STAND-OFF STRAP

SCALE: 3" = 1'-0"



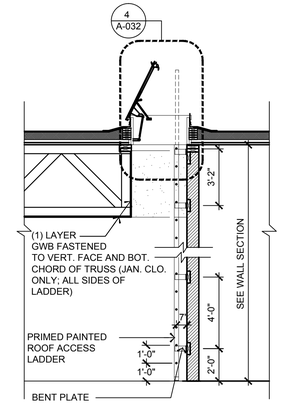
9 DOWNSPOUT STRAP AT KNEEWALL

SCALE: 3" = 1'-0"



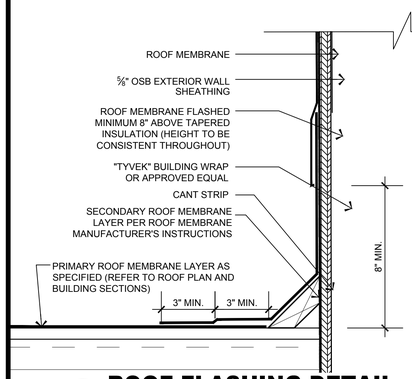
4 SECTION DETAIL

SCALE: 1/2" = 1'-0"



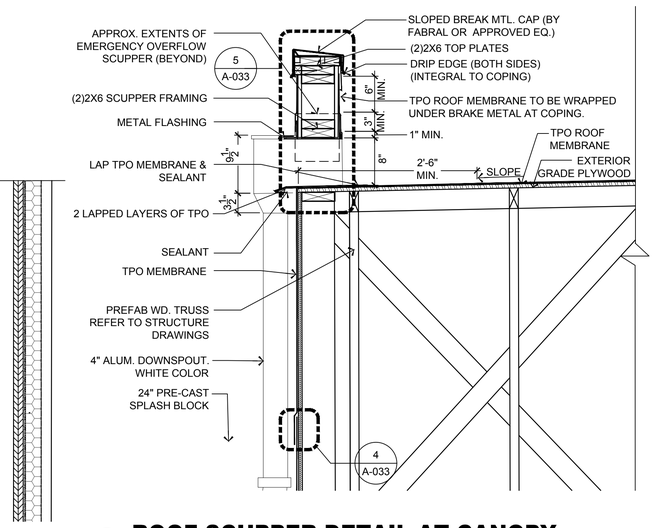
3 LADDER SECTION

SCALE: 1/4" = 1'-0"



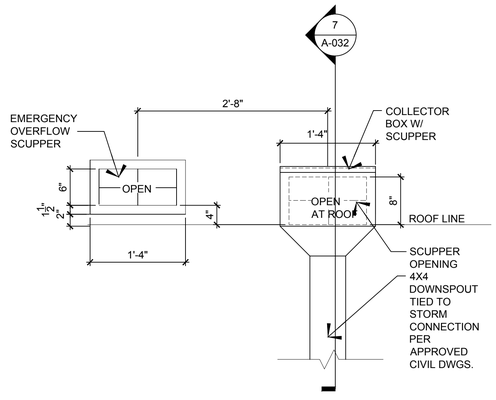
11 ROOF FLASHING DETAIL

SCALE: 3"=1'-0"



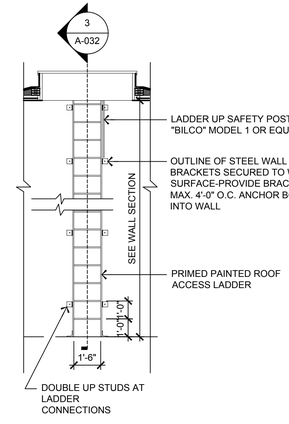
8 ROOF SCUPPER DETAIL AT CANOPY

SCALE: 1" = 1'-0"



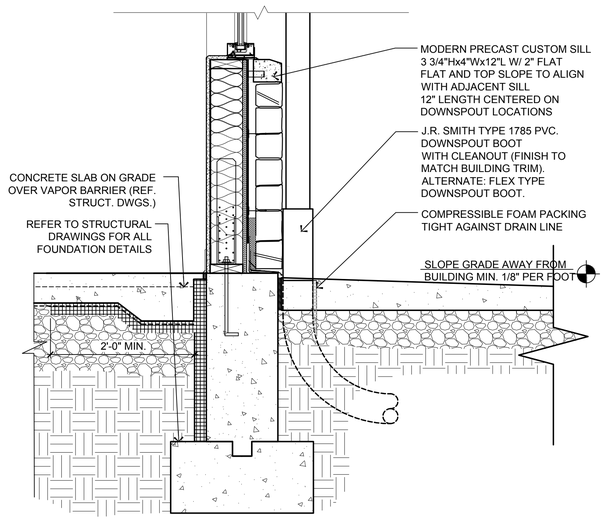
5 SCUPPER ELEVATION

SCALE: 1" = 1'-0"



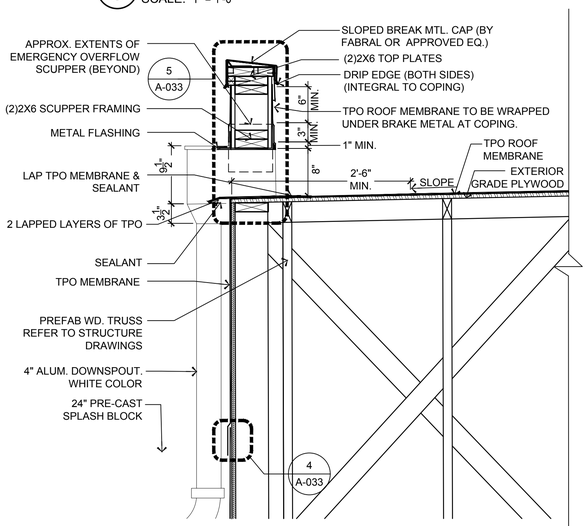
2 LADDER DETAIL

SCALE: 1/4" = 1'-0"



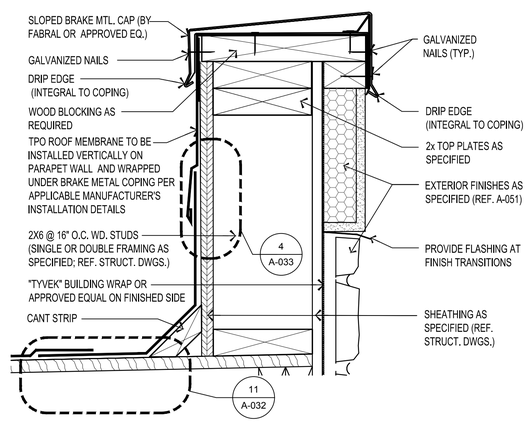
7 DOWNSPOUT DETAIL

SCALE: 1" = 1'-0"



6 TYPICAL ROOF SCUPPER DETAIL

SCALE: 1" = 1'-0"



1 ROOF COPING DETAIL AT CANOPY

SCALE: 3" = 1'-0"

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By:	Approved By:
OK	MBJ

Drawing Name:

ROOF DETAILS

Drawing Number:

A-032

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

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Drawing Name:

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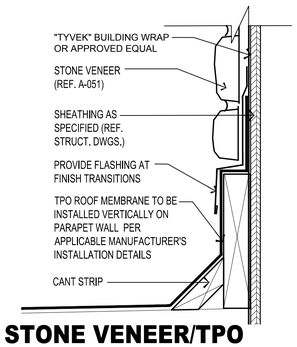
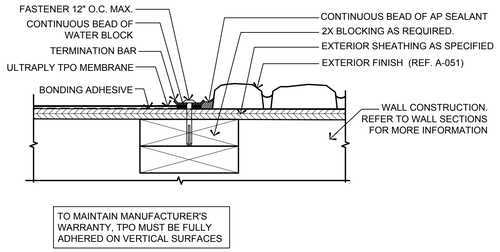


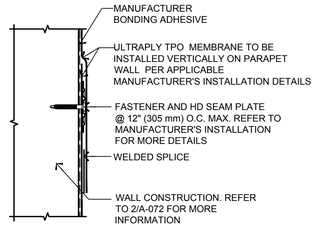
5 STONE VENEER/TPO TRANSITION DETAIL AT CANOPY

SCALE: 3"=1'-0"



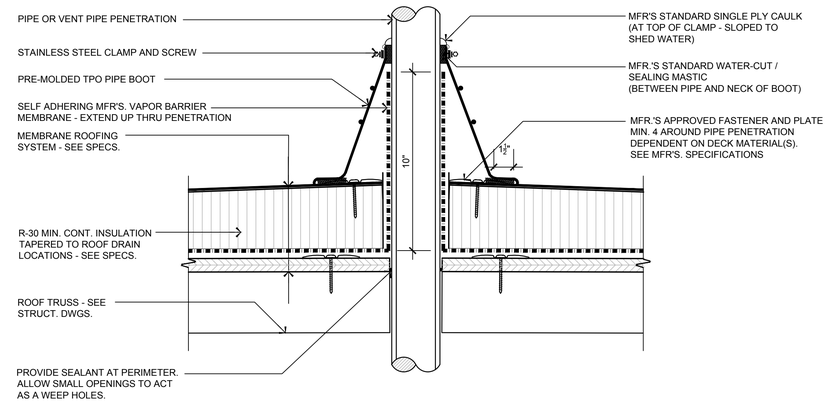
7 TERMINATION BAR DETAIL

SCALE: 3"=1'-0"



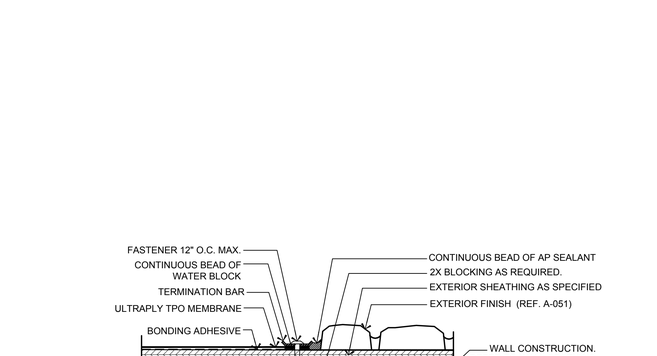
4 INTERMEDIATE ATTACHMENT DETAIL

SCALE: 3"=1'-0"



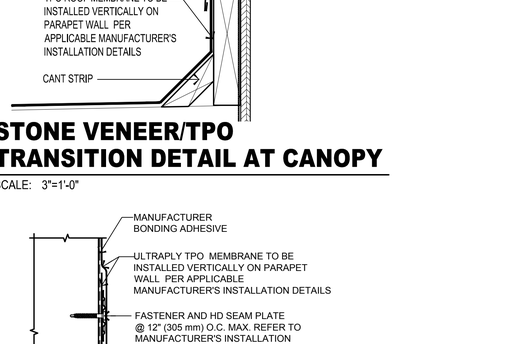
2 ROOF PENETRATION DETAIL- TYPICAL

SCALE: 3" = 1'-0"



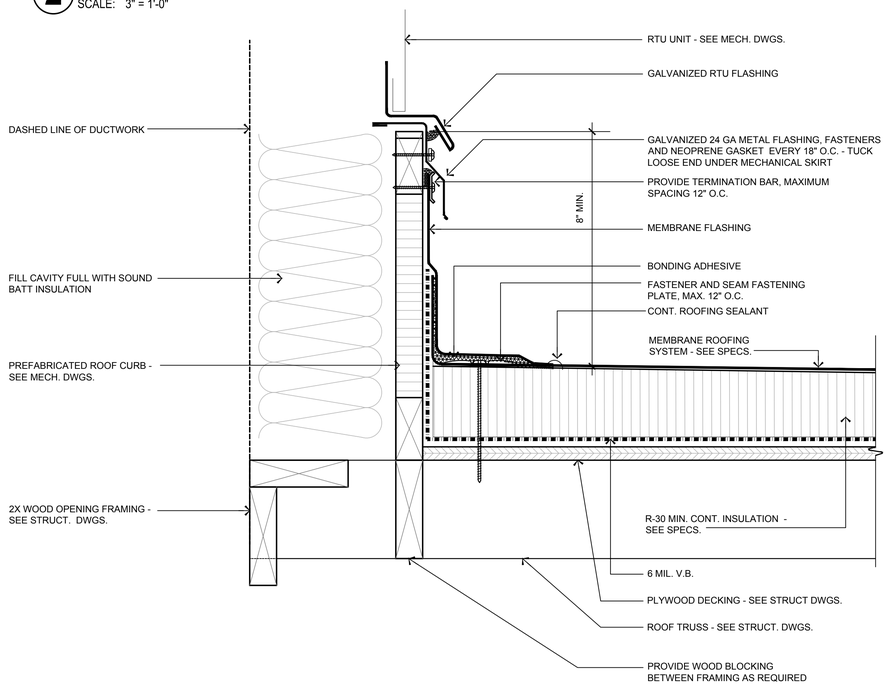
6 MAIN ENTRY CANOPY SIDE ELEVATION DIAGRAM

SCALE: NTS



3 TYPICAL ROOFING SYSTEM DETAIL

SCALE: 3" = 1'-0"



1 ROOF EQUIPMENT CURB DETAIL

SCALE: 3" = 1'-0"

FLOOR FINISH SCHEDULE

LUXURY VINLY TILE (LVT) LEVEL SET LVT:

MANUFACTURER:	INTERFACE
TYPE:	LVT-NATURAL WOODGRAINS
SIZE:	25cm X 1cm
COLOR AND PATTERN:	A00208 SAND DUNE - ASHLAR
ADHESIVE:	XL BRANDS 2000 PLUS - GRID SET DOUBLESTICK PRESSURE SENSITIVE ADHESIVE, WATER-RESISTANT TYPE PER MANUF. RECOMMENDATION FOR PRODUCTS AND SUBSTRATE
FIRE DEST DATA:	ASTM E 662 SMOKE DEVELOPMENT 450 OR LESS

SHEET VINYL FLOOR COVERING:

MANUFACTURER:	SHAW
COLLECTION:	VITALITY SHEET
COLOR:	BENEFIT 73415
PRODUCT #:	0873V
SHEET WIDTH:	AS STANDARD WITH MANUFACTURER; 6.5 FT.
WALL BASE:	TURN UP SHEET VINYL 6" AT ALL WALLS TO CREATE INTEGRAL COVE BASE
ACCESSORIES:	CONTINUOUS STAINLESS STEEL COVE CAP TRIM (FULL ROOM PERIMETER) CONTINUOUS BONDED PUNCTURE-PROOF ALUMINUM REINFORCEMENT STRIP (FULL ROOM PERIMETER)
FIRE TESTING:	RADIANT FLUX - NFPA CLASS I (ASTM E648) SMOKE DENSITY - <450 (ASTM E662)

NOTES:
1. HOMOGENOUS SHEET.
2. COMMERCIAL GRADE.
3. A SEAMLESS INSTALLATION SHALL BE PROVIDED WHERE POSSIBLE. IF REQUIRED, SEAMS SHALL BE INSTALLED WITH MATCHING WELD ROD AND LOCATED BENEATH FIXTURES TO MINIMIZE VISIBILITY.
4. INTEGRAL COVE BASE RADIUS SHALL NOT EXCEED 1/2" WHERE THE WALL MEETS THE FLOOR.

TO BE INSTALLED - TOILETS AND LAUNDRY ROOM

QUARRY FLOOR TILE:

MANUFACTURER:	DALTILE
TYPE:	INTERIOR TYPE BODY, FLAT TILE
BASE:	COVED, COLOR TO MATCH FLOOR TILE
COLOR:	ARID GREY
GROUT:	LATICRETE
GROUT COLOR:	#57 HOT COCOA
CATALOG #:	0Q42
FACE:	6"x6" PATTERNED FACE WITH STANDARD EDGE
THICKNESS:	5/16"

TO BE INSTALLED - PANTRY

RESILIENT WALL BASE AND ACCESSORIES:

MANUFACTURER:	JOHNSONITE TA4
TYPE:	4" TRADITIONAL VINYL (WITH TOE)
COLORS:	48 GREY
MIN. THICKNESS:	0.080" (2.0 mm), 0.125" (3.2 mm)
LENGTHS:	MANUFACTURER'S STANDARD COILS
FIRE RATING:	CLASS B

TO BE INSTALLED:
48, GREY - ALL WALLS UNLESS OTHERWISE NOTED

CONCRETE FLOOR:

MANUFACTURER:	COROTECH (BENJAMIN MOORE)
TYPE:	WATERBORNE AMINE EPOXY V440
COLORS:	BATTLESHIP GRAY (75) PINK RASPBERRY (2075-40)
INSTALLATION:	FULL COVERAGE; APPLY MIN. TWO (2) COATS

TO BE INSTALLED:
BATTLESHIP GRAY (75) - JANITOR'S CLOSET, AND MECHANICAL ROOM
PINK RASPBERRY (2075-40) - INDOOR PLAY AREA (IF APPLICABLE)
FULL EXTENTS OF UNITY SURFACING

WALK-OFF MAT:

MANUFACTURER:	AMARCO
PRODUCT:	GRAND-BERBER TILE
STYLE:	INDIVIDUAL 20" TILES, 7/16" THICK HOBNAIL
INSTALLATION:	1/4 TURN
COLOR:	SLATE BLUE
FIRE TEST DATA:	ASTM D2859- PILL TEST (SURFACE FLAMMABILITY)

TRANSITION STRIPS:

MANUFACTURER:	JOHNSONITE
PRODUCT:	T-MOULDING CTA-48-M
COLOR:	48, GREY
LOCATION:	CARPET TO VCT FLOOR VCT TO CONCRETE FLOOR (WHERE SPECIFIED)
PRODUCT:	ALUMINUM STRIP
LOCATION:	ALL EXTERIOR DOORS INTERIOR VESTIBULE DOOR (WHERE SPECIFIED)
PRODUCT:	MARBLE SADDLE
LOCATION:	PANTRY/CORRIDOR DOOR
NOTES:	OTHERWISE AS NOTED ON FINISH PLAN REFER TO SHEET A-121 FOR MORE INFORMATION.

STAIR TREADS:

MANUFACTURER:	JOHNSONITE
PRODUCT:	"ROUNDEL" RAISED ROUND WITH INTEGRAL RISER
COLOR:	48, GREY

TO BE INSTALLED:
- ALL STAIRS ON EACH STEP (2 STORY BUILDINGS ONLY)
- ADD NOSING ON EACH STEP

FLOOR FINISH GENERAL NOTES:

1. GENERAL CONTRACTOR (GC) SHALL FIELD VERIFY CONDITIONS AND NOTIFY ARCHITECT OF ANY DISCREPANCIES.
2. ALL FLOORS SHALL BE PROPERLY PREPARED AND SKIM COATED AS NECESSARY TO ACHIEVE CLEAN SURFACES SO THAT BLEMISHES DO NOT TELEGRAPH THROUGH FINISH MATERIAL.
3. GC SHALL SUBMIT SAMPLES OF ANY ALTERNATE FINISHES TO ARCHITECT FOR APPROVAL PRIOR TO ORDERING MATERIALS. SEE SPECIFICATIONS DRAWINGS FOR SUBMITTAL PROCEDURE.
4. ALL FLOOR FINISH CHANGES AT DOORWAYS SHALL BE CENTERED UNDER DOOR. PATTERN TO BE CENTERED UNDER DOOR.
5. CARPET TO BE INSTALLED AT END OF CONSTRUCTION AND PROTECTED FROM ANY DEBRIS. CARPETS TO BE THOROUGHLY VACUUMED AT THE COMPLETION OF CONSTRUCTION.
6. REFER TO A-121 FOR TRANSITION DETAILS.
7. UPON COMPLETION OF CONSTRUCTION, GC SHALL PROVIDE TENANT WITH MINIMUM 1 BOX OF LVT, CARPET TILE, WALK-OFF MAT, EACH TYPE OF CEILING TILE, AND QUARRY TILE.
8. FLOOR GRAPHICS IN MBB AND RECEPTION TO BE CONFIRMED WITH TLE CONSTRUCTION MANAGER.
9. FOR (2) STORY TLE'S, THE FOLLOWING LVT UNDERLAYMENT SHOULD BE USED:

SCI ACOUSTIC UNDERLAYMENT - dBARRIER LUXURY UNDERLAYMENT
PRODUCT CODE: BV0340
COLOR: RED
SUPPLIER: INTERFACE

FLOOR FINISH KEY NOTES

1. PROVIDE WALK-OFF MAT - SEE FLOOR FINISH SCHEDULE FOR SPECIFICATIONS
2. NOT USED
3. VINYL FLOOR GRAPHIC: CONTACT TLE CONSTRUCTION MANAGER FOR ARTWORK AND LOCATION DETAILS.
4. TRANSITION STRIP

INTERIOR FINISH TESTING REQUIREMENTS:
1. PADDING, WALK-OFF MAT, AND ANY OTHER FIBER-BASED FLOOR FINISHES SHALL BE CLASS 1 OR CLASS II AS TESTED PER NFPA 253.
2. WALL BASE FINISHES (6"H OR LESS) SHALL BE CLASS I OR CLASS II AS TESTED PER NFPA 253.
3. FLAME SPREAD INDEX AND SMOKE DEVELOPED RATING:
   - WALL AND CEILING FINISH MATERIALS SHALL BE MINIMUM CLASS B:
     FLAME SPREAD: < 75
     SMOKE DEVELOPED INDEX: < 450
   - INTERIOR TRIM MATERIALS SHALL BE MINIMUM CLASS C:
     FLAME SPREAD: < 200
     SMOKE DEVELOPED INDEX: < 450

FLOOR FINISH LEGEND

- INDICATE TRANSITION STRIP AT CHANGE IN FLOOR FINISH
- LUXURY VINTYL TILE (LVT) - LUXURY VINYL FLOOR TILE (LVT) REFER TO FLOOR FINISH SCHEDULE AND SPECIFICATIONS
- QUARRY TILE: 6"X6" PATTERNED FACE REFER TO FLOOR FINISH SCHEDULE AND SPECIFICATIONS
- SHEET VINYL FLOORING SOLID SHEET WITH WELDED SEAMS AT WET WALLS, 6" INTEGRAL COVE BASE. REFER TO FLOOR FINISH SCHEDULE AND SPECIFICATIONS
- CONCRETE FLOOR - CONCRETE FLOOR PAINTED GRAY WITH VINYL BASE

NOTE - SEE FLOOR FINISH SCHEDULE ON THIS PAGE FOR TILE SPECIFICATIONS, INCLUDING LIST OF COLORS.

1 FLOOR FINISH PLAN

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

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NO.	DATE	DESCRIPTION	INT.
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2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: OK	Approved By: MBJ

Drawing Name: FLOOR FINISH PLAN

Drawing Number: A-041

STATE OF MISSOURI — MATTHEW B. JARMEL — NUMBER A-2017014316 — ARCHITECT

WALL FINISH SCHEDULE:

WALL PADDING:

MANUFACTURER: RESILITE SPORTS PRODUCTS, INC.
STYLE: SAFEGUARD PLUS CONVENTIONAL WAINSCOT PANEL W/ 14 OZ VINYL FABRIC

CATALOG #: RZC25XXX
FIRE RATING: CLASS A
PANEL SIZE: STANDARD PANEL SIZE 24"Wx60"H. CUSTOM SIZES TO BE COORDINATED BY PLAYGROUND VENDOR AS REQUIRED FOR PROPOSED LAYOUT.

COLOR: PURPLE OR RED
LOCATION: INDOOR PLAYGROUND (IF APPLICABLE)
A. FULL PERIMETER
B. FREESTANDING COLUMNS

FIBERGLASS REINFORCED PLASTIC PANELS (FRP):

MANUFACTURER: CRANE COMPOSITES
PRODUCT: GLASBORD EMBOSSED PANEL
PRODUCT CODE: FX
FINISH: WHITE, EMBOSSED
FIRE RATING: CLASS A

FRP JOINT TRIMS, CAPS AND OTHER ACCESSORIES TO BE WHITE.

INTERIOR PAINT: (NO OTHER MANUFACTURERS ALLOWED)

MANUFACTURER: BENJAMIN MOORE
PRODUCTS:
- TYPICAL PRIMER: ULTRA SPEC INTERIOR PRIMER 534
- TYPICAL PAINT: ULTRA SPEC INTERIOR EGGSHELL 538
- WOOD: N319 REGAL SATIN/ EGGSHELL
- H.M. DOORS/FRAMES: SUPER SPEC HP P29 DTM ACRYLIC (SEMI-GLOSS)

OR

MANUFACTURER: SHERWIN WILLIAMS
PRODUCTS:
- TYPICAL PRIMER: PROMAR 200 ZERO V.O.C. PRIMER
- TYPICAL PAINT: PROMAR 200 ZERO V.O.C. INTERIOR LOW GLOSS EG-SHEL
- WOOD: PROMAR 200 ZERO V.O.C. INTERIOR LOW GLOSS EG-SHEL
- H.M. DOORS/FRAMES: PRO INDUSTRIAL DTM ACRYLIC (SEMI-GLOSS)

THE LEARNING EXPERIENCE - SHERWIN WILLIAMS NATIONAL ACCOUNT (CV71)

GLENN REMLER
ARCHITECTURAL ACCOUNT EXECUTIVE
(954)547-1217
Glenn.J.Remler@Sherwin.com
THE SHERWIN-WILLIAMS COMPANY

CARPET COLUMN WRAP:

MANUFACTURER: INTERFACE
STYLE: MONOCHROME CARPET, ROLLED GOODS
COLOR: 101834 FELT

CARPET REQUIRED AT ALL FREESTANDING COLUMNS
- TO A HEIGHT OF 3'-6"
- ONLY APPLIES IF FREESTANDING COLUMNS SHOWN ON PLAN
- EXCLUDES MBB AND INDOOR PLAY AREAS

WALL FINISH GENERAL NOTES:

1. PRIOR TO COMMENCEMENT OF PAINTING, THE GC. SHALL BE RESPONSIBLE FOR THE FOLLOWING:
   a. FIELD VERIFY THAT ALL SURFACES ARE READY TO ACCEPT PAINTS- NOTIFY ARCHITECT OF ANY DISCREPANCIES
   b. REMOVE OR PROTECT ALL ELECTRIC SWITCHES, OUTLETS, PLATES, SURFACE HARDWARE, ETC.
   c. GC. TO PROTECT ALL ADJACENT SURFACES AS REQUIRED DURING PAINTING.
2. CONTRACTOR SHALL SUPPLY ALL PAINT AND MATERIALS AS PER PAINT FINISH SCHEDULE AND PAINT FINISH LEGEND. ALL PAINT AND MATERIAL MUST BE DELIVERED TO THE JOB SITE IN THE MANUFACTURER'S ORIGINAL PACKAGING- NO SUBSTITUTIONS ALLOWED.
3. ALL HOLLOW METAL DOORS, DOOR FRAMES, AND INTERIOR WINDOW FRAMES ARE TO BE FACTORY PRIMED AND FIELD PAINTED ON BOTH SIDES.
   a. INTERIOR DOORS, DOOR FRAMES, AND INTERIOR WINDOW FRAMES SHALL BE PAINTED THE SAME COLOR ON BOTH SIDES UNLESS OTHERWISE INDICATED ON FINISH PLAN.
   b. SIDELIGHT FRAMES (IF SPECIFIED ON PLAN) SHALL MATCH THE ADJOINING DOOR FRAME COLOR.
   c. EXTERIOR DOORS SHALL BE PAINTED TWO COLORS (INTERIOR SIDE COLOR AS SPECIFIED ON THE FINISH PLAN, AND THE EXTERIOR SIDE COLOR TO MATCH BUILDING TRIM.
4. AREAS LISTED BELOW TO BE PAINTED WITH ONE PRIMER COAT AND TWO FINISH COATS OF "W" ON PAINT FINISH LEGEND AND SCHEDULE
   a. CLOSET INTERIOR WALLS
   b. TOILET INTERIOR WALLS
   c. CORRIDOR WALLS
   d. MECHANICAL ROOM INTERIOR WALLS
   e. ALL SURFACES, UNLESS NOTED OTHERWISE.
   f. GYPSUM SOFFIT (ALL SIDES) UNLESS NOTED OTHERWISE
5. ALL WALLS TO BE PAINTED AS PER PAINT FINISH SCHEDULE UNLESS NOTED OTHERWISE.
6. ALL FINISH WORK SHALL BE APPLIED FREE OF SAGS, RUNS, STREAKS, BRUSH OR ROLLER MARKS ETC.
7. UPON COMPLETION, THE GENERAL CONTRACTOR SHALL
   a. REMOVE ALL PAINT FROM WHERE IT HAS SPILLED, SPLASHED, OR SPLATTERED ON SURFACES, INCLUDING LIGHT FIXTURES, DIFFUSERS, SLAB FITTINGS, ETC.,
   b. REINSTALL AND/OR REPLACE ANY DAMAGED ELECTRIC SWITCHES, OUTLETS, PLATES, SURFACE HARDWARE, ETC. AFTER PAINT COMPLETION.
   c. PROVIDE (1) GALLON OF EACH COLOR.
8. GC TO INSTALL VINYL GRAPHICS TO THE SPECIFIC WALLS BEFORE INSTALLING VINYL COVE BASE. TRIMMING THE GRAPHICS IS NOT PERMITTED.

PAINT FINISH SCHEDULE

FINISH CODE	COLOR	BENJAMIN MOORE		SHERWIN WILLIAMS	
		COLOR NAME	STOCK NO.	COLOR NAME	STOCK NO.
W	WHITE	WHITE DOVE	OC 17	GREEK VILLA	7551
M	ORANGE	MANGO PUNCH	154	OSAGE ORANGE	6890
H	PURPLE	HYDRANGEA	1390	BERRY FRAPPE	9068
D	YELLOW	DALILA	319	DAFFODIL	6901
C	GREEN	CANDY GREEN	403	PRIMAVERA	9031
A	BLUE	ATLANTIS BLUE	768	FOUNTAIN	6787

PAINT FINISH SCHEDULE NOTES:
1. PAINT FINISH:
   a. H.M. DOOR AND WINDOW FRAMES SHALL BE SEMI-GLOSS FINISH.
   b. ALL OTHER PAINT SHALL BE EGGSHELL FINISH.
2. ALL PAINTED SURFACES SHALL RECEIVE MINIMUM ONE COAT OF PRIMER AND TWO COATS OF PAINT (UNLESS FACTORY PRIMED BY THE MANUFACTURER). REFER TO SPECIFICATIONS DRAWINGS FOR ADDITIONAL INFORMATION.
3. SELECTED COLOR PALETTE SHALL BE FROM ONE OF THE ABOVE MANUFACTURERS.
4. NO SUBSTITUTIONS WILL BE ALLOWED.

WALL FINISH KEY NOTES

1. CHAIR RAIL TO BE PAINTED "W" PER PAINT FINISH SCHEDULE. REFER TO CONSTRUCTION PLAN FOR ADDITIONAL INFORMATION.
2. IN PANTRY, ALL WALLS INCLUDING SPLASH AREAS ABOVE COUNTER, TO RECEIVE F.R.P. TO 7'-6" A.F.F., REFER TO WALL FINISH SCHEDULE (THIS PAGE) AND PANTRY DETAILS A-133 FOR ADDITIONAL INFORMATION.
3. FRP TO BE INSTALLED IN LAUNDRY ROOM AND JANITOR'S CLOSET ON WALL BEHIND SINK AND 3' EACH SIDE OF SINK TO 7'-6" A.F.F. REFER TO WALL FINISH SCHEDULE (THIS PAGE).
4. FRP TO BE INSTALLED IN TOILET ROOMS ON WET WALL(S) AND ADJACENT WALL(S) TO A MINIMUM HEIGHT OF 4'-4" A.F.F. REFER TO WALL FINISH SCHEDULE (THIS PAGE).

PAINT FINISH LEGEND:

- (W) DOOR AND FRAME
  EXTERIOR DOOR: INTERIOR SIDE ONLY; REF. A-051 FOR EXTERIOR COLOR
  INTERIOR DOOR: BOTH SIDES
- (W) INTERIOR WINDOW AND FRAME- BOTH SIDES
- (W) WALL AND GWB SOFFIT

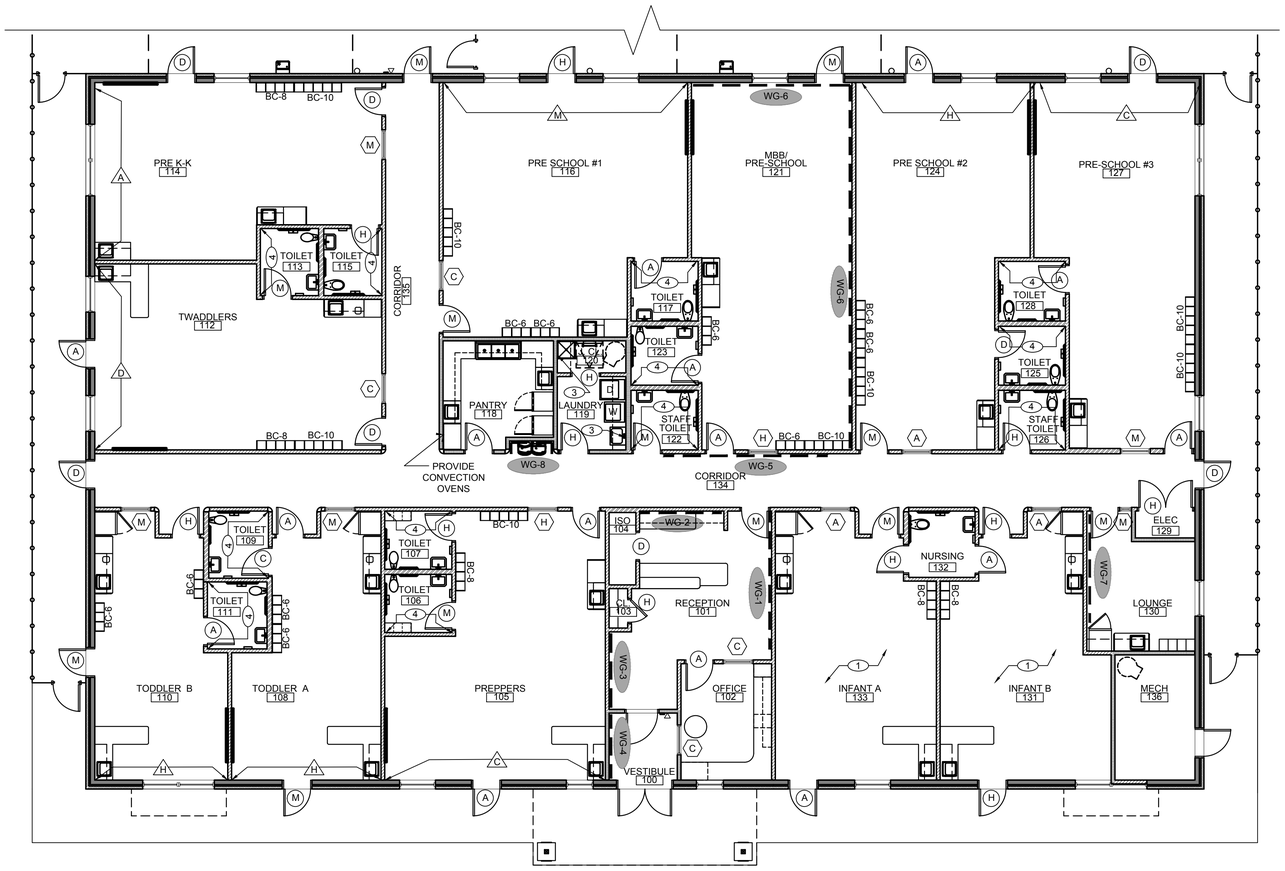
WALL GRAPHICS LEGEND:

- WG-1 RECEPTION: TREE OF HAPPINESS FULL WALL GRAPHICS
- WG-2 RECEPTION (ABOVE CABINETS): POSITIONING STATEMENT (84"W X 5"H)
- WG-3 RECEPTION: MEET OUR FAMILY (45"W X 22"H)
- WG-4 VESTIBULE: MISSION STATEMENT (50"W X 45"H)
- WG-5 MBB HALLWAY: FULL GRAPHIC WALL
- WG-6 MBB: 2 FULL WALL GRAPHICS INSIDE MBB
- WG-7 STAFF LOUNGE: PENNY'S PLACE (FULL WALL)
- WG-8 CORRIDOR WATER FOUNTAINS: SURROUNDING (3) WALLS AROUND WATER FOUNTAINS OF SONAR'S GRAPHICS

WALL GRAPHICS NOTES:
1. VINYL GRAPHICS TO BE PROVIDED BY FAST SIGNS (REQUIRED)
2. GC TO COORDINATE TLE BRANDED GRAPHICS PACKAGE WITH TLE CONSTRUCTION MANAGER.
3. NO DEVICES TO BE ADHERED TO A WALL WITH GRAPHICS, (SUCH AS MILLWORK, FIRE EXTINGUISHERS, ETC) IF CLARITY IS REQUIRED ON A PROJECT, GC IS TO CONFIRM ALL DETAILS WITH TLE.
4. TLE RESERVES THE RIGHT TO ADD ADDITIONAL GRAPHIC BRANDING TO THIS PACKAGE AT THE RESPONSIBILITY OF THE DEVELOPER.
5. ALL HALLWAYS TO BE WHITE AND RECEIVE THE HALLWAY GRAPHICS INDICATED IN THE BRANDING GRAPHICS PACKAGE.

WALL GRAPHICS VENDOR:
WM PRINTING
KELSEY HOUT
PHONE: 561-305-7027
tle@wmprinting.com

THE IDENTITY GROUP
BRETT WOLFGRAM
CELL: 207-831-3766
tle@theidentitygroup.com



NORTH

1 WALL FINISH PLAN

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

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY
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REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

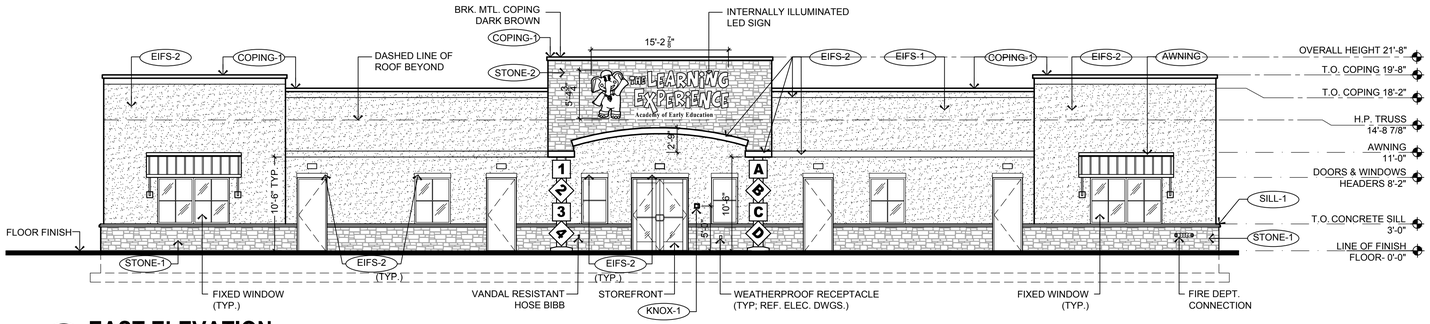
MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By:	Approved By: MBJ

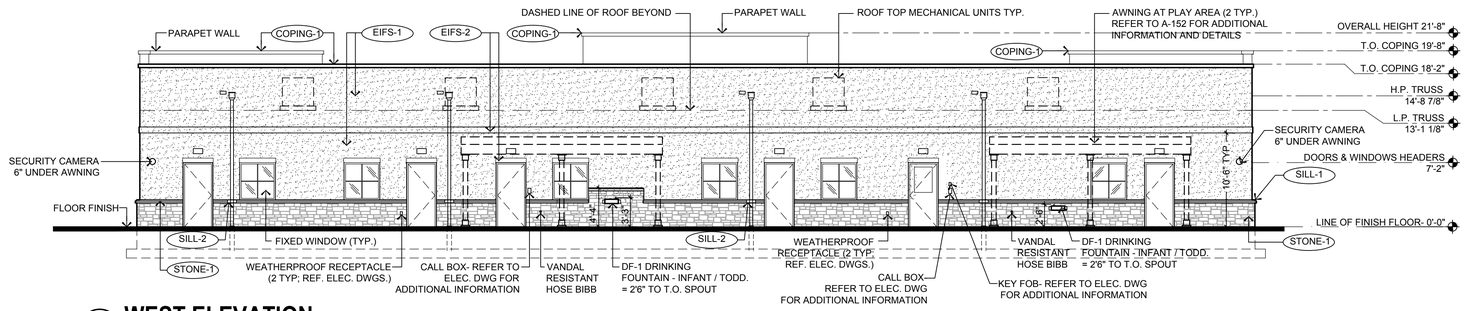
Drawing Name: **WALL FINISH PLAN**

Drawing Number: **A-042**

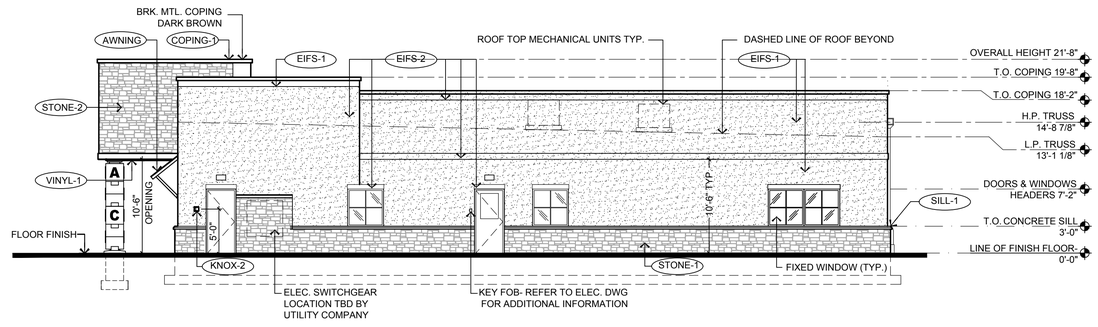
STATE OF MISSOURI — MATTHEW B. JARMEL — NUMBER A-2017014316 — ARCHITECT



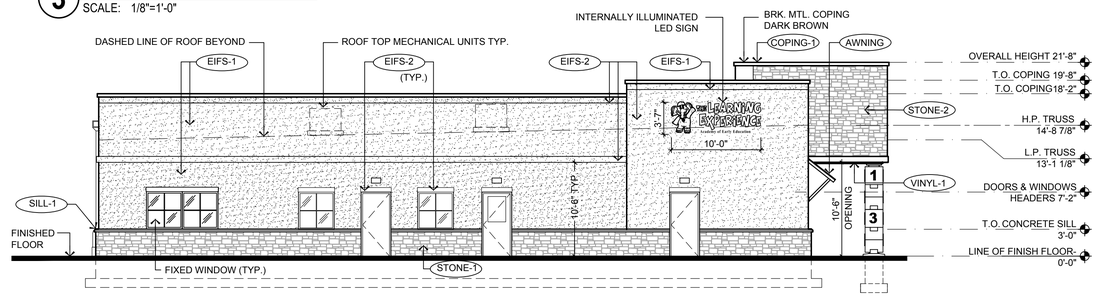
1 EAST ELEVATION
SCALE: 1/8"=1'-0"



2 WEST ELEVATION
SCALE: 1/8"=1'-0"



3 NORTH E ELEVATION
SCALE: 1/8"=1'-0"



4 SOUTH ELEVATION
SCALE: 1/8"=1'-0"

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EXTERIOR MATERIAL SCHEDULE			
LABEL	**MANUFACTURER**	**SIZE / TYPE**	**FINISH / COLOR**
STOREFRONT	KAWNEER	TRIFAB 451T / 350 PER DOOR SCHEDULE	BONE WHITE
DOOR	-	PER DOOR SCHEDULE	FACTORY PRIMED
FIXED WINDOW	PLY GEM	SILVER LINE V1 SERIES PER WINDOW SCHEDULE	WHITE
STONE-1	BUECHEL STONE CORP.	5" FULL DEPTH STONE	CHILTON TAILORED BLEND
STONE-2	BUECHEL STONE CORP.	STONE VENEER	CHILTON TAILORED BLEND
SILL-1	MODERN PRECAST	3 3/4"Hx6"W W/ 2" FLAT W/ 1/4" DRIP EDGE	REGULAR (LIGHT GREY)
SILL-2	MODERN PRECAST	CUSTOM SILL 3 3/4"Hx4"W W/ 2" FLAT REF. DTL. 6/A-032	REGULAR (LIGHT GREY)
EIFS-1	DRYVIT	-	SAND PEBBLE FINISH COLOR: OYSTER SHELL
EIFS-2	DRYVIT	-	SAND PEBBLE FINISH COLOR: SANDLEWOOD BEIGE
GUTTER-1	-	6" ALUMINUM TYPE 'K' W/ LEAF SCREEN AND 6" LEADERS	MATCH FRIEZE BOARD
VINYL-1	ROYAL BUILDING PRODUCTS	COLORSCAPES TRIPLE 4 PERFORATED SOFFIT NOM. THICKNESS 0.042"	WHITE (REF. NOTE 2 BELOW)
AWNING	-	CUSTOM ALUMINUM	AWARD BLUE (PAC-CLAD)
COPING-1	FABRAL (OR EQUAL)	BREAK METAL	DARK BRONZE
KNOX-1	KNOX BOX	3200 SERIES W/ RECESSED MOUNT FLANGE, HINGE DOOR, & TAMPER SWITCH	DARK BRONZE (REF. NOTE 2 BELOW)

FINISH SCHEDULE NOTES:
1. G.C. SHALL VERIFY KNOX BOX MODEL(S) AND LOCATION(S) WITH AUTHORITY HAVING JURISDICTION PRIOR TO ORDERING AND INSTALLATION.
2. G.C. SHALL ENSURE ALL EXTERIOR FINISHES ARE INSTALLED AND FINISHED IN COMPLIANCE WITH MANUFACTURERS' WARRANTY REQUIREMENTS.

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By:	Approved By: MBJ

Drawing Name:
EXTERIOR ELEVATIONS

Drawing Number:
A-051

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

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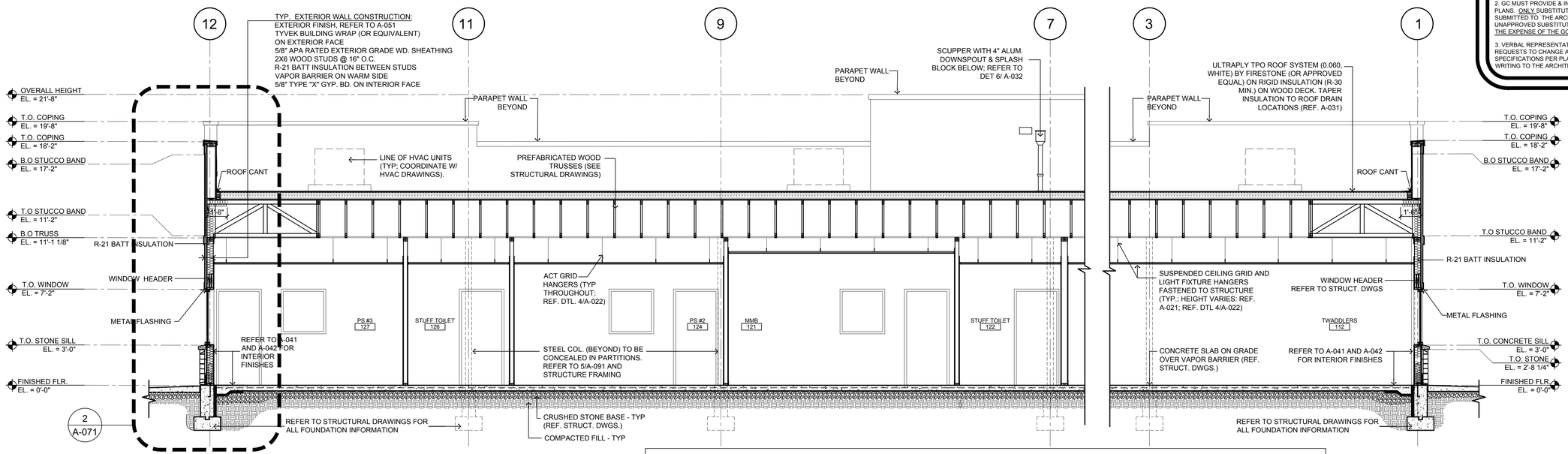

2 BUILDING SECTION - LONGITUDINAL

SCALE: 1/4"=1'-0"

FIRE STOPPING NOTES

FIRE STOPPING SHALL BE PROVIDED IN WOOD-FRAME CONSTRUCTION IN THE FOLLOWING LOCATIONS:

1. CONCEALED WALL SPACES - FIREBLOCKING SHALL BE PROVIDED IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES, AT THE CEILING AND FLOOR LEVELS AND AT 10-FOOT MAXIMUM (3048 MM) INTERVALS BOTH VERTICAL AND HORIZONTAL.
2. CONNECTIONS BETWEEN HORIZONTAL AND VERTICAL SPACES - FIREBLOCKING SHALL BE PROVIDED AT INTERCONNECTIONS BETWEEN CONCEALED VERTICAL STUD WALLS OR PARTITIONED SPACES AND CONCEALED HORIZONTAL SPACES CREATED BY AN ASSEMBLY OF FLOOR JOISTS OR TRUSSES, AND CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS, COVE CEILINGS, AND SIMILAR LOCATIONS.
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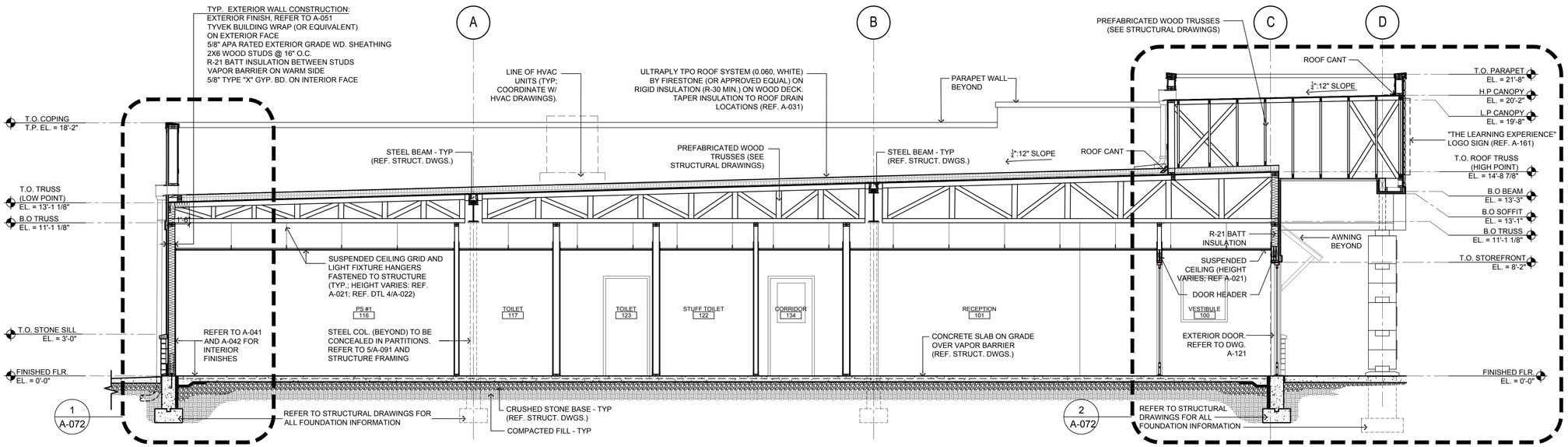
4. ARCHITECTURAL TRIM - FIREBLOCKING SHALL BE INSTALLED WITHIN CONCEALED SPACES OF EXTERIOR WALL FINISHES AND OTHER EXTERIOR ARCHITECTURAL ELEMENTS AT MAXIMUM INTERVALS OF 20 FEET. IF NONCONTINUOUS, SUCH ELEMENTS SHALL HAVE CLOSED ENDS, WITH AT LEAST 4 INCHES OF SEPARATIONS BETWEEN SECTIONS.

FIREBLOCKING MATERIALS - FIREBLOCKING SHALL CONSIST OF:

- 2 INCH (51 MM) NOMINAL LUMBER, OR
- TWO THICKNESSES OF 1 INCH (25 MM) NOMINAL LUMBER WITH BROKEN LAP JOINTS, OR
- ONE THICKNESS OF 0.719 INCH (18.3 MM) WOOD STRUCTURAL PANEL WITH JOINTS BACKED BY 0.719 INCH (18.3 MM) WOOD STRUCTURAL PANEL, OR
- ONE THICKNESS OF 0.75 INCH (19 MM) PARTICLEBOARD WITH JOINTS BACKED BY 0.75 INCH (19 MM) PARTICLEBOARD
- GYPSUM BOARD, CEMENT FIBERBOARD, BATTS OR BLANKETS OF MINERAL WOOL OR GLASS FIBER OR OTHER APPROVED MATERIALS INSTALLED IN SUCH A MANNER AS TO BE SECURELY RETAINED IN PLACE SHALL BE PERMITTED AS AN ACCEPTABLE FIRE BLOCK.



1 BUILDING SECTION - CROSS

SCALE: 1/4"=1'-0"

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LEE'S SUMMIT, MISSOURI

ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: OK	Approved By: MBJ

Drawing Name:

BUILDING SECTIONS

Drawing Number:

A-061

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

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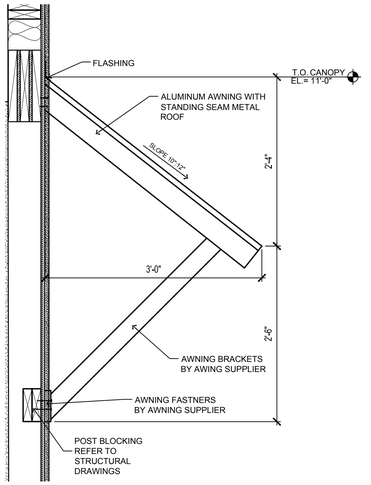
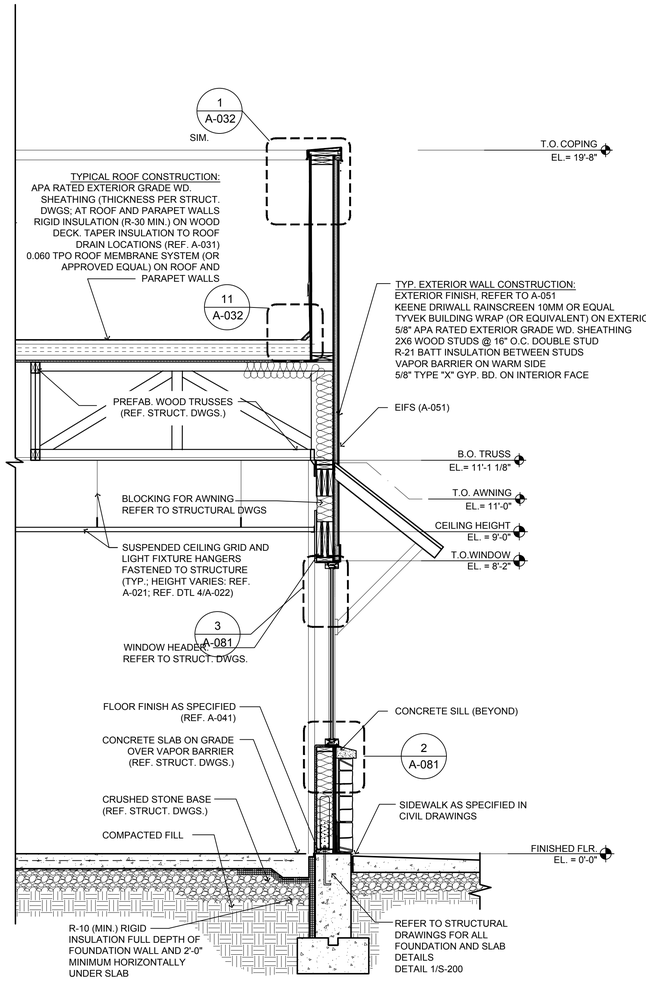
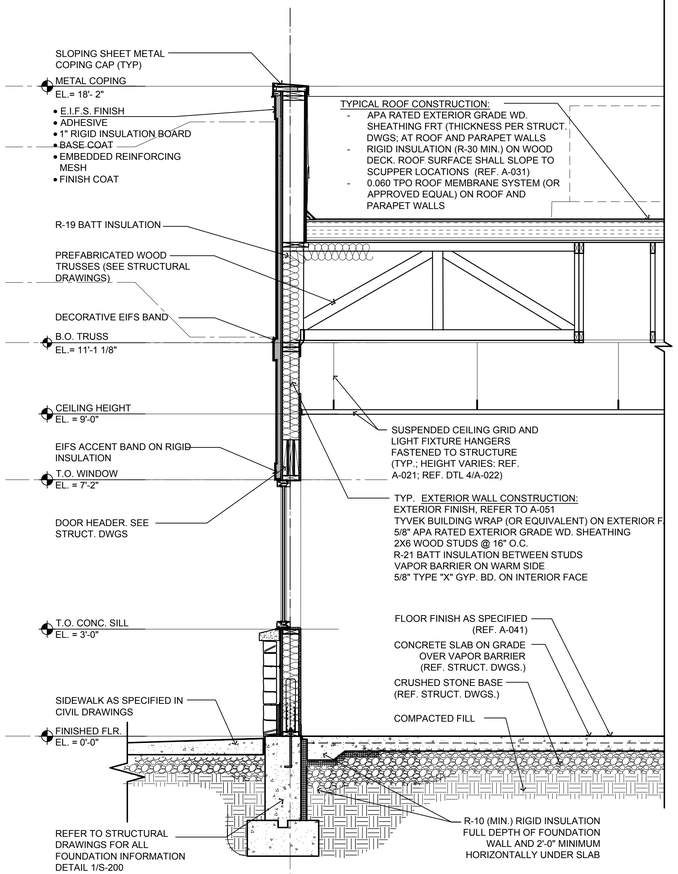


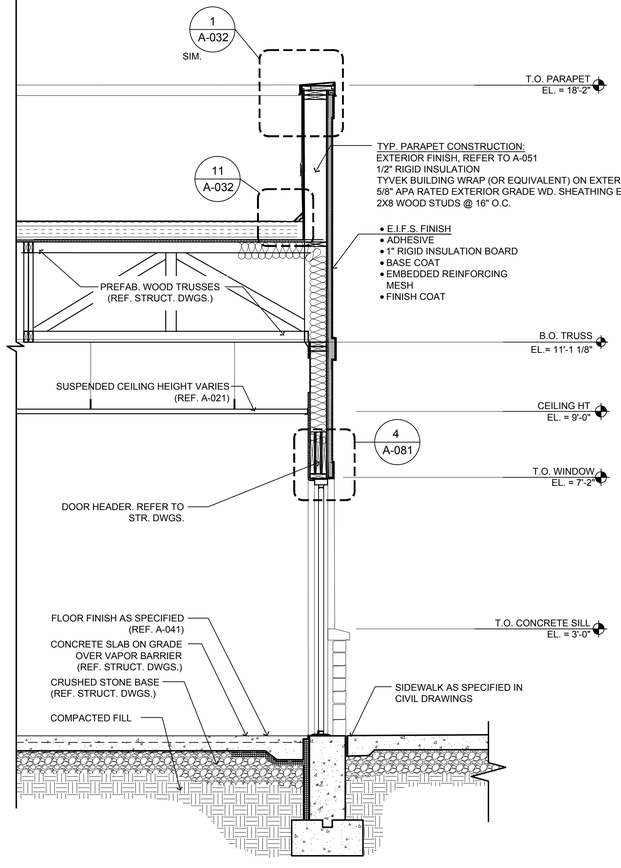
4 AWNING DETAIL
SCALE: 1/2"=1'-0"



3 TYPICAL WALL SECTION @ AWNING
SCALE: 1/2"=1'-0"



2 TYPICAL WALL SECTION @ GLAZING
SCALE: 1/2"=1'-0"



1 TYPICAL WALL SECTION @ HM DOOR
SCALE: 1/2"=1'-0"

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By:	Approved By:
OK	MBJ

Drawing Name:

WALL SECTIONS

Drawing Number:

A-071

FIRE STOPPING NOTES

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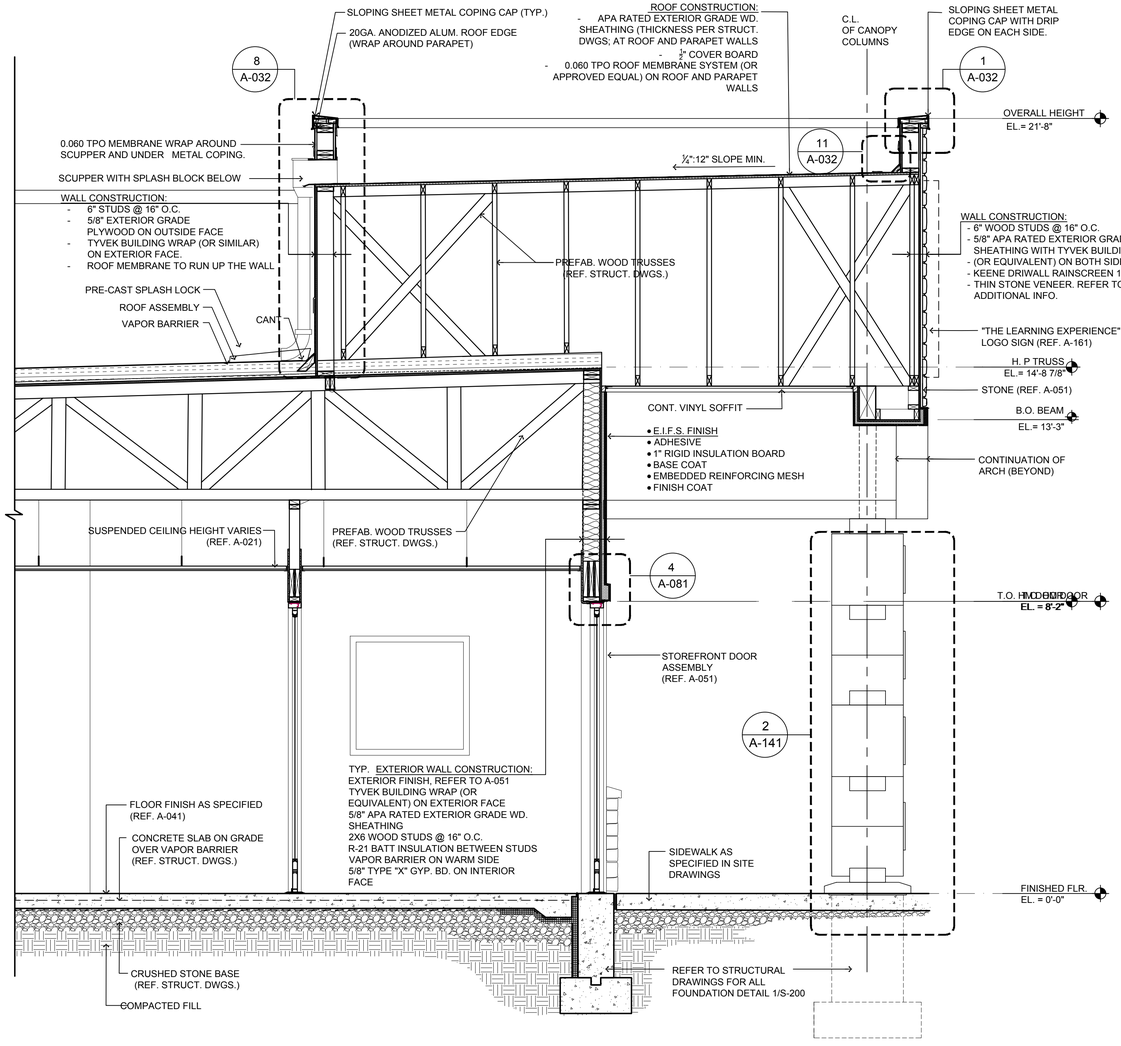
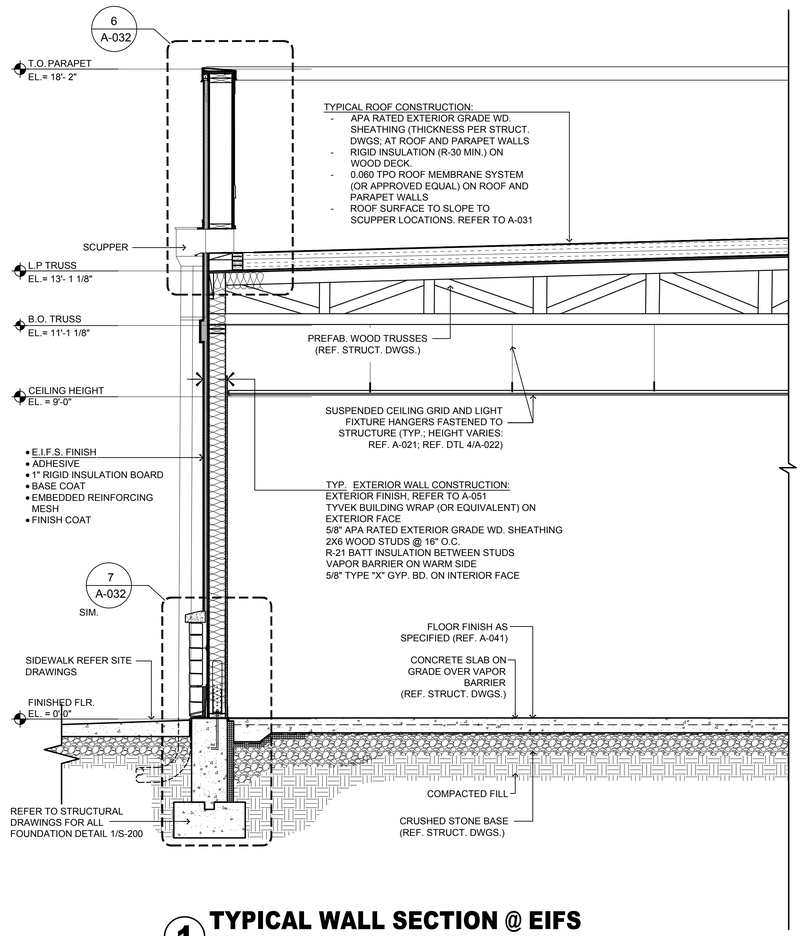


2 WALL SECTION @ MAIN ENTRY

SCALE: 1/2"=1'-0"



1 TYPICAL WALL SECTION @ EIFS

SCALE: 1/2"=1'-0"

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	**AS NOTED**
Drawn By: **OK**	Approved By: **MBJ**

Drawing Name:

WALL SECTIONS

Drawing Number:

A-072

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

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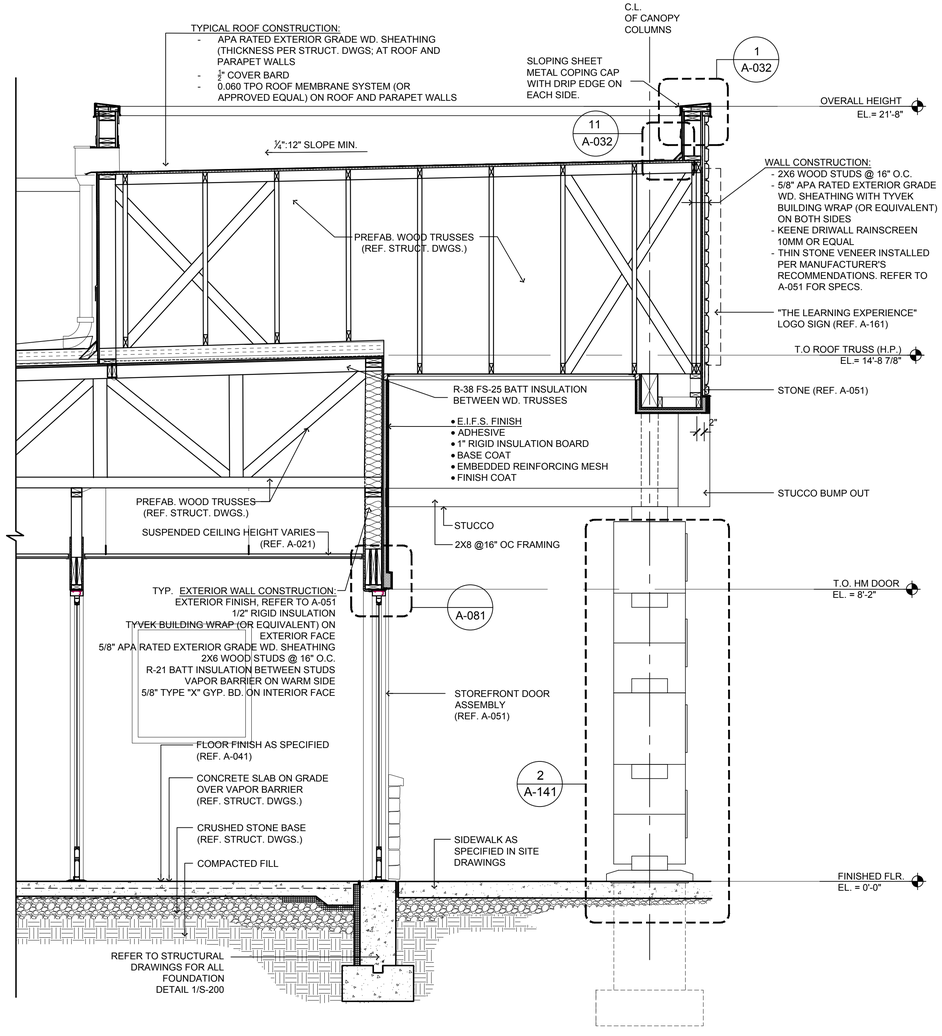
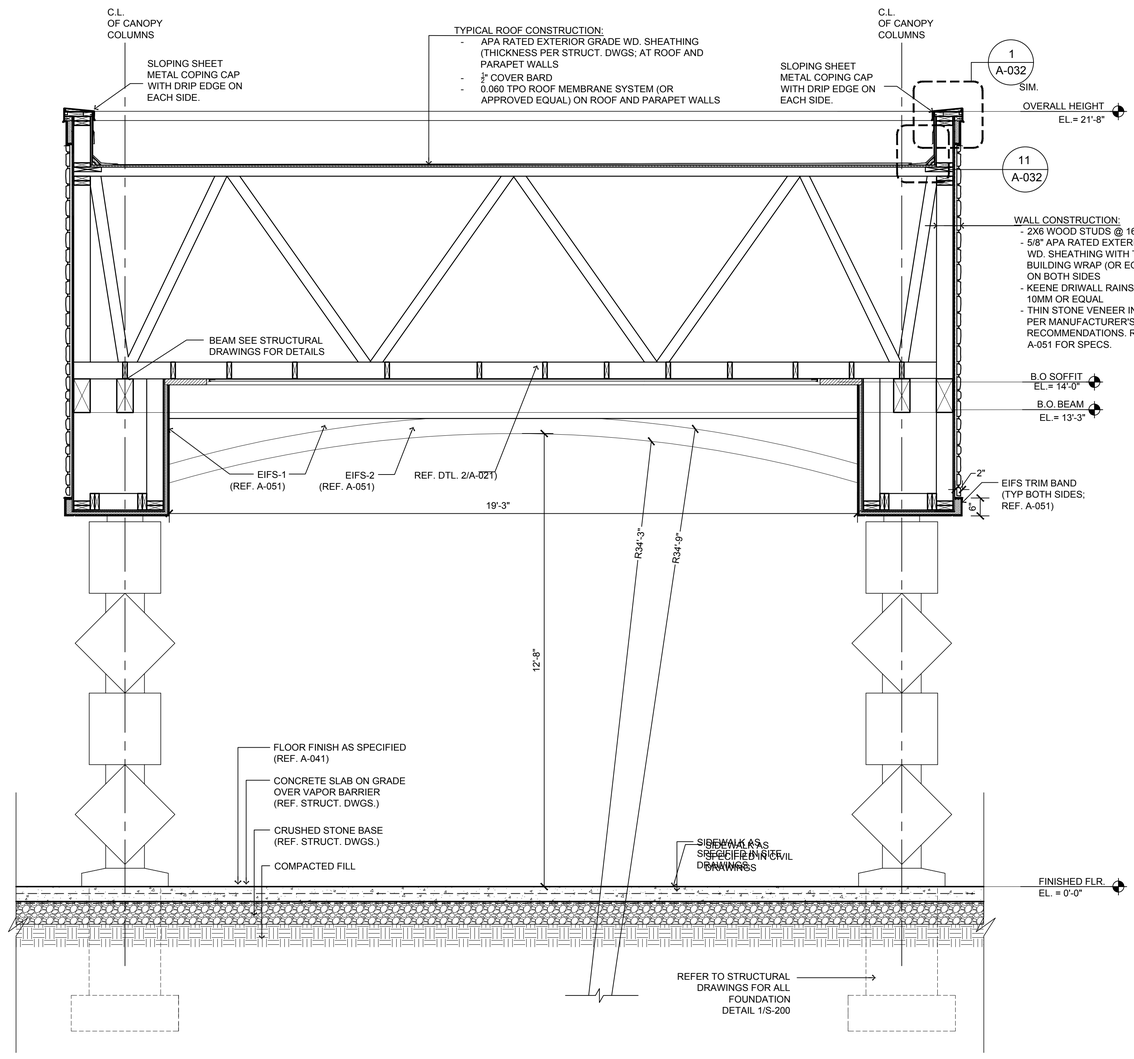


2 CROSS SECTION @ CANOPY

SCALE: 1/2"=1'-0"



1 LONGITUDINAL SECTION @ CANOPY

SCALE: 1/2"=1'-0"

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REVISION

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	**AS NOTED**
Drawn By: **OK**	Approved By: **MBJ**

Drawing Name:

WALL SECTIONS

Drawing Number:

A-073

STATE OF MISSOURI — MATTHEW B. JARMEL — NUMBER A-2017014316 — ARCHITECT

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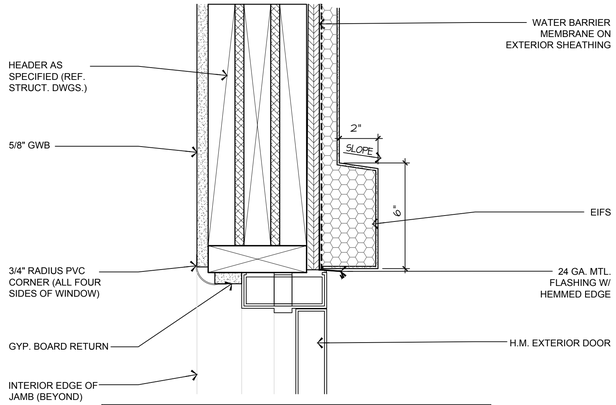
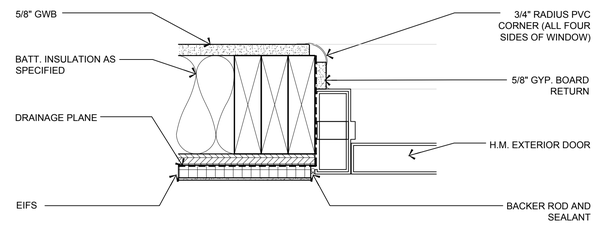


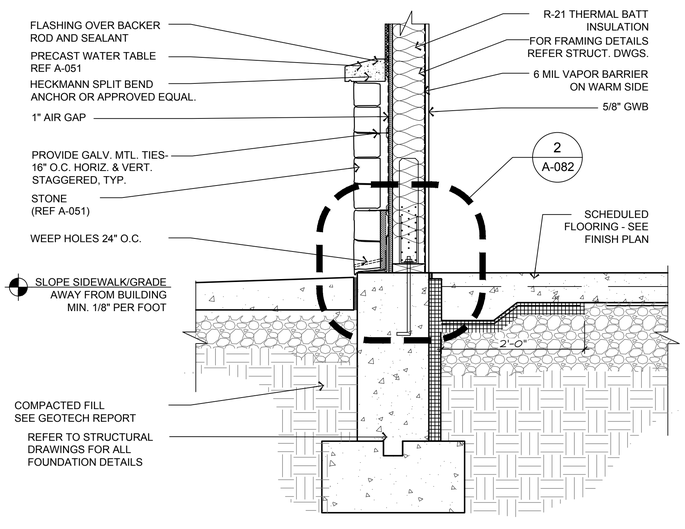
NOTE: FASTENERS PER DOOR MANUFACTURER'S INSTALLATION INSTRUCTIONS.

4 HM DOOR HEAD DETAIL
SCALE: 3"=1'-0"

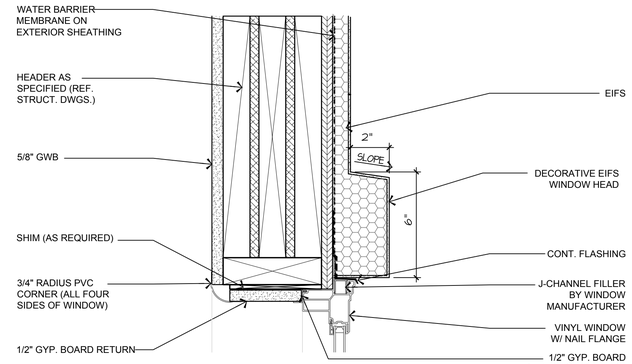


NOTE: FASTENERS PER DOOR MANUFACTURER'S INSTALLATION INSTRUCTIONS.

5 HM DOOR JAMB
SCALE: 3"=1'-0"

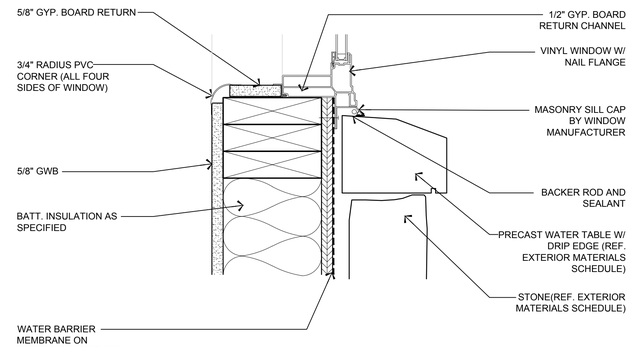


6 TYPICAL DETAIL @ KNEE WALL
SCALE: 1"=1'-0"



NOTE: FASTENERS PER WINDOW MANUFACTURER'S INSTALLATION INSTRUCTIONS.

3 WINDOW HEAD DETAIL
SCALE: 3"=1'-0"



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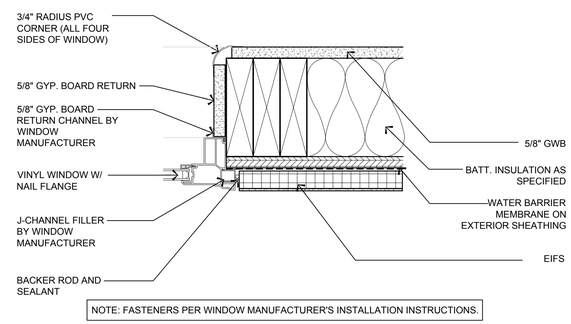
2 WINDOW SILL DETAIL
SCALE: 3"=1'-0"



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1 WINDOW JAMB DETAIL
SCALE: 3"=1'-0"

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By:	Approved By:
	MBJ

Drawing Name:

DETAILS

Drawing Number:

A-081

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

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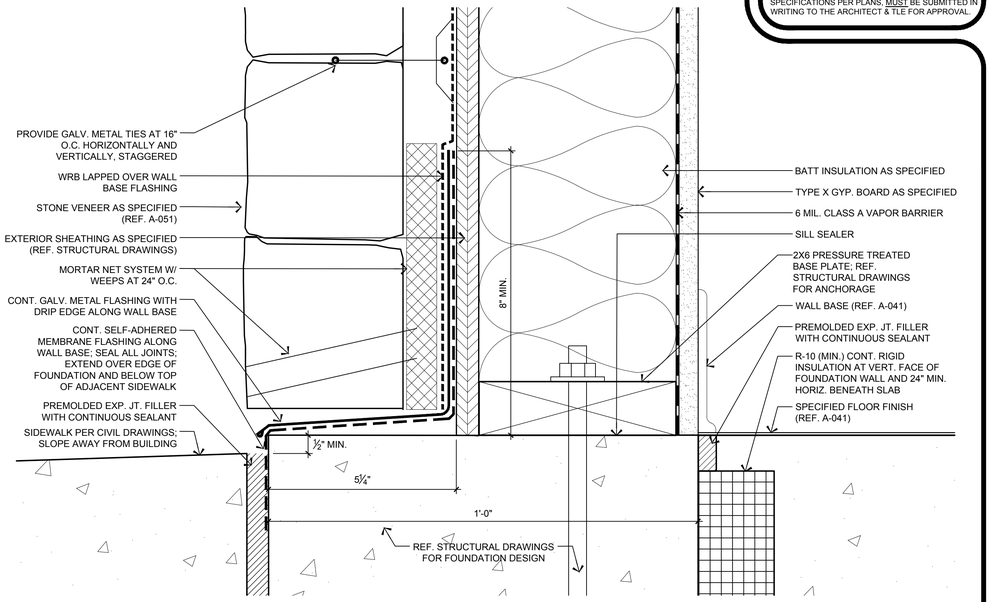
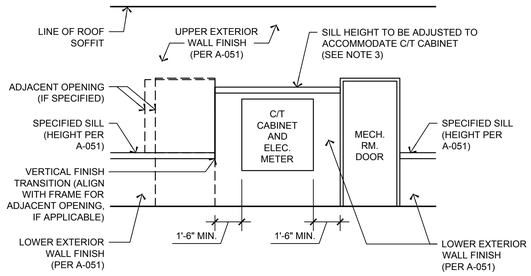


2 DETAIL AT BASE OF EXTERIOR WALL

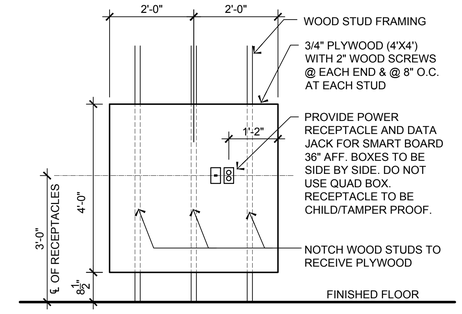
SCALE: 6" = 1'-0"



NOTES:
1. ELECTRICAL CONTRACTOR SHALL VERIFY C/T CABINET SIZE, MOUNTING LOCATION ON BUILDING, MOUNTING HEIGHT ABOVE GRADE, AND ANY OTHER APPLICABLE REQUIREMENTS WITH UTILITY COMPANY.
2. G.C. SHALL COORDINATE C/T CABINET REQUIREMENTS WITH ALL AFFECTED TRADES.
3. ADJUSTED SILL HEIGHT SHALL NOT EXCEED THE HEIGHT OF ADJACENT OPENING FRAMES.

3 DETAIL AT C/T CABINET

SCALE: N.T.S.



SMART BOARD NOTES:
1. IF SMART BOARD BLOCKING IS LOCATED ON A SHARED TOILET/CLASSROOM WALL, PLUMBING CONTRACTOR SHALL COORDINATE VENT RUN LOCATION WITH REQUIRED BLOCKING AND RECESSED RECEPTACLES FOR SMART BOARD.
2. SMART BOARD PROVIDED BY OTHERS (POST CONSTRUCTION).

1 SMART BOARD BLOCKING

SCALE: 1/2"=1'-0"

Jarmel Kizel
ARCHITECTS AND ENGINEERS INC.
42 OKNER PARKWAY
LIVINGSTON, NEW JERSEY 07039
TEL: 973-994-9669
FAX: 973-994-4069
www.jarmelkizel.com
Architecture
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THE LEARNING EXPERIENCE
ACADEMY OF EARLY EDUCATION
ARBORWALK WEST
LEE'S SUMMIT, MISSOURI

ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: ---	Approved By: MBJ

Drawing Name:

DETAILS

Drawing Number:

A-082

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

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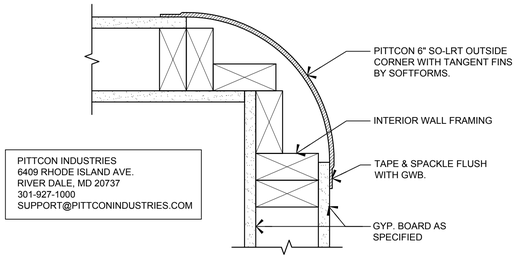
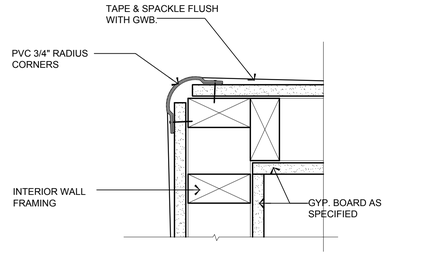


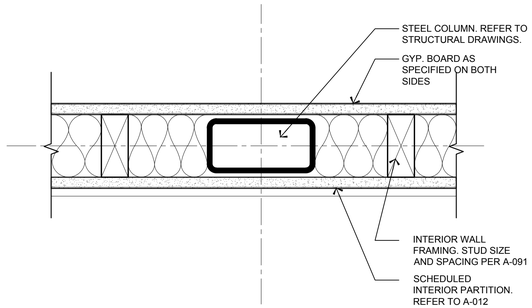
4 DETAIL - 6" SOFTFORM

SCALE: 3"=1'-0"



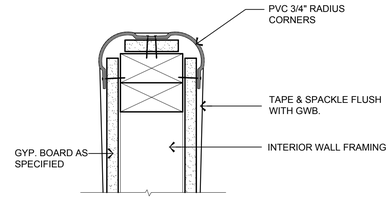
3 DETAIL - ALL OUTSIDE CORNERS

SCALE: 3"=1'-0"



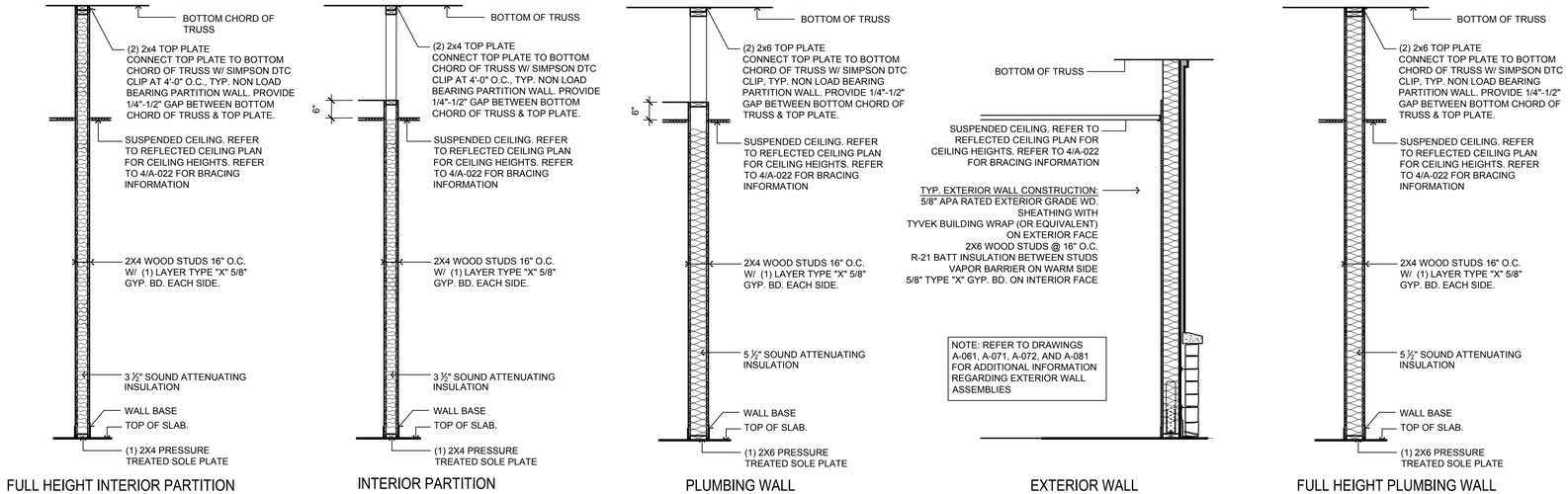
5 DETAIL - COLUMN CONCEALED IN WALL

SCALE: 3"=1'-0"



2 DETAIL - END WALL

SCALE: 3"=1'-0"



1 PARTITION TYPES

SCALE: 1/2"=1'-0"

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MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	**AS NOTED**
Drawn By: **OK**	Approved By: **MBJ**

Drawing Name:

PARTITION TYPES AND DETAILS

Drawing Number:

A-091

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

PLUMBING FIXTURE MOUNTING HEIGHT SCHEDULE:

ROOM TYPES (NUMBER OF EACH TYPE VARIES BY SITE; REFER TO CONSTRUCTION FLOOR PLAN)	TOILET AGE GROUP	TOILET HEIGHT	LAVATORY HEIGHT	TOILET ℄ OFF SIDE WALL
TODDLER ROOMS	18-24 MONTHS	10"	30"	12"
TWADDLER ROOMS	24-36 MONTHS	10"	30"	12"
PREPPERS ROOMS	30-36 MONTHS	10"	30"	12"
PRE-SCHOOL ROOMS	3 - 5 YEARS	14"	32"	14"
PRE-K/K ROOMS	5 - 6 YEARS	14"	32"	14"
MAKE BELIEVE BOULEVARD	VARIES	10""	30"	12"
STAFF TOILET	ADULT	16.5"	34"	18"

ACCESSORY SCHEDULE

- (A) SCOTT ESSENTIAL CORELESS SRB TISSUE DISPENSER (09605) - 11.0" x 7.63" x 6.0"/ WHITE
  SCOTT ESSENTIAL CORELESS STANDARD ROLL BATHROOM TISSUE (04007) - 11.0" x 7.63" x 6.0"/ WHITE
- (B) TOWEL DISPENSER: SCOTT CONTROL SLIMFOLD TOWEL DISPENSER (34830) - 9.83"X 13.67" X 2.88"/ WHITE
  SCOTT CONTROL HAND TOWELS SLIMFOL DWITH FAST-DRYING ABSORBENCY POCKETS (04442) - 7.5"X 11.6"/ WHITE
- (C) SOAP DISPENSER - SCOTT ELECTRONIC TOUCHLESS CASSETTE SKIN CARE DISPENSER (32499) - 7.29" X 11.69 X 4.0"/ WHITE
- (D) GRAB BAR - BOBRICK #B-5806.99x36 PEENED GRIPPING
- (E) GRAB BAR - BOBRICK #B-5806.99x42 PEENED GRIPPING
- (F) MIRRORS - BOBRICK #B-1658 -18"x30" TEMPERED GLASS MIRROR.
- (G) ALL EXPOSED PIPING TO BE WRAPPED WITH SOFT ADA UNDER-LAVATORY PROTECTOR.
- (H) GRAB BAR - BOBRICK #B-5806.99x18 PEENED GRIPPING
- (I) GRAB BAR - BOBRICK #B-5806.99x24 PEENED GRIPPING
- (J) USE PRE-FORMED INSULATION ON H.W. PIPING & DRAIN

ADA CLEARANCE KEY NOTES

- (1) 60" DIAMETER CLEAR WHEELCHAIR TURNING AREA
- (2) 56"x60" FLOOR CLEARANCE AT TOILET
- (3) 58"x60" DOOR CLEARANCE (FRONT APPROACH TO PULL SIDE)
- (4) 30"x48" FLOOR CLEARANCE AT LAVATORY
- (5) 30"x48" FLOOR CLEARANCE OUTSIDE DOOR SWING
- (6) 48"x52" DOOR CLEARANCE (FRONT APPROACH TO PUSH SIDE)

NOTES:
1. DIMENSIONS ARE FROM/TO FACE OF FINISH (U.N.O.)
2. WALL-MOUNTED ACCESSORY FIXTURES MAY ONLY PROJECT INTO REQUIRED FLOOR CLEARANCES BY LESS THAN 4".

GENERAL NOTES:

1. REFER TO SHEET A-012 CONSTRUCTION PLAN FOR SPECIFIC TOILET ROOM LAYOUTS NOT DEPICTED ON THIS SHEET. ELEVATIONS SHOWN REFLECT TYPICAL TOILET ROOM LAYOUTS PER THIS SET OF DRAWINGS.
2. TOILET ROOM ACCESSORIES (PURCHASED & INSTALL BY G.C. IN EACH TOILET ROOM).
3. REFER TO PLUMBING FIXTURE MOUNTING HEIGHT SCHEDULE FOR ALL TOILETS AND LAVATORIES.
4. SEE PLUMBING DRAWINGS FOR PLUMBING FIXTURE SPECIFICATIONS.
5. CHILDREN TOILET DESIGN SHALL COMPLY BY RECOMMENDATION OF MODIFICATIONS TO ACCESSIBILITY STANDARDS FOR CHILDREN ENVIRONMENTS ICC/ANSI A117.1-98.
6. TOILET FLUSH HANDLE TO BE LOCATED ON THE OPEN/ WIDE SIDE OF THE ROOM.
7. WHERE AN ADMINISTRATIVE AUTHORITY REQUIRES FLUSH CONTROLS FOR FLUSH VALVES TO BE LOCATED IN A POSITION THAT CONFLICTS WITH THE LOCATION OF THE REAR GRAB BAR, THAT GRAB BAR SHALL BE PERMITTED TO BE SPLIT OR SHIFTED TO THE OPEN SIDE OF THE TOILET AREA. (ICC/ANSI A117.1-604.5.2)
8. ADULT RIM HEIGHT SHOWN. REFER TO DETAILS THIS PAGE FOR ALTERNATE CHILD SINK RIM HEIGHTS
9. BATHROOM ACCESSORIES
   CONTACT: ANTHONY "TONY" MINCE
   KEY ACCOUNT REPRESENTATIVE
   ANTHONY.MINCE@STAPLES.COM
   (734) 452.4743

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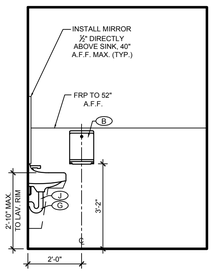
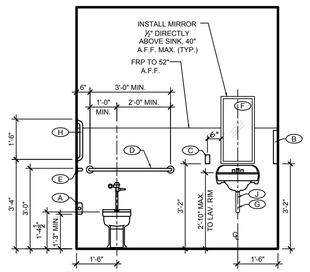
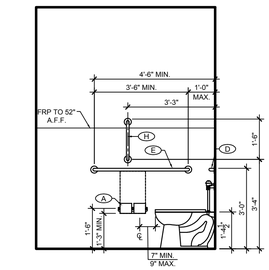


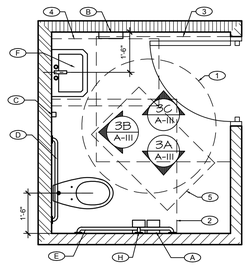
3C TOILET ELEVATIONS 3C
SCALE: 3/8" = 1'-0"



3B TOILET ELEVATIONS 3B
SCALE: 3/8" = 1'-0"

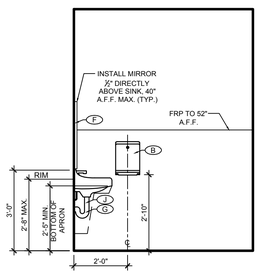


3A TOILET ELEVATIONS 3A
SCALE: 3/8" = 1'-0"

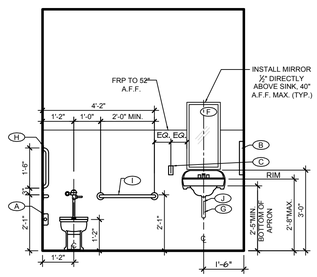


3 TOILET PLAN @ STAFF TOILET ROOMS
SCALE: 3/8" = 1'-0"

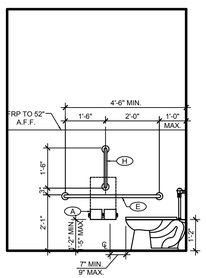
AGE: ADULTS



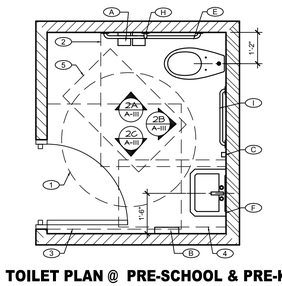
2C TOILET ELEVATIONS 2C
SCALE: 3/8" = 1'-0"



2B TOILET ELEVATIONS 2B
SCALE: 3/8" = 1'-0"

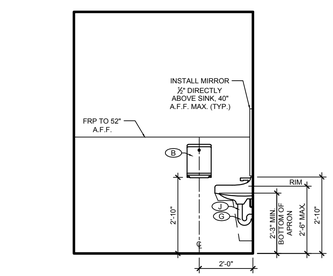


2A TOILET ELEVATIONS 2A
SCALE: 3/8" = 1'-0"

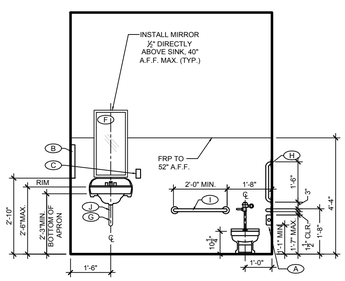


2 TOILET PLAN @ PRE-SCHOOL & PRE-K/K ROOMS
SCALE: 3/8" = 1'-0"

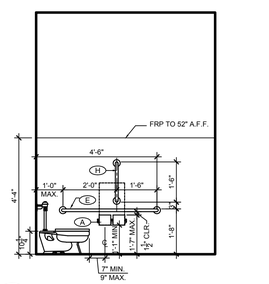
AGE: 3-6 YEARS



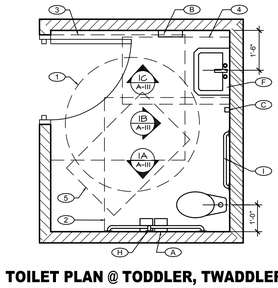
1C TOILET ELEVATIONS 1C
SCALE: 3/8" = 1'-0"



1B TOILET ELEVATIONS 1B
SCALE: 3/8" = 1'-0"



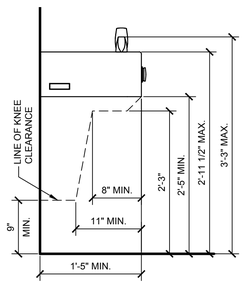
1A TOILET ELEVATIONS 1A
SCALE: 3/8" = 1'-0"



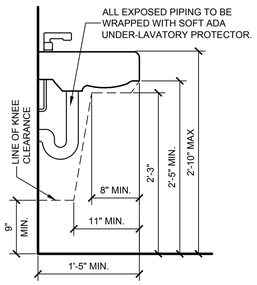
1 TOILET PLAN @ TODDLER, TWADDLER PREPPER ROOMS & MAKE BELIEVE BOULEVARD
SCALE: 3/8" = 1'-0"

AGE: 18-36 MONTHS

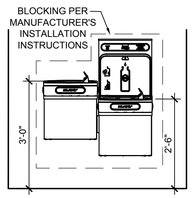
NOTE:
DIMENSIONS VARY AT CHILD-HEIGHT LAVATORIES. REFER TO DETAILS THIS PAGE.



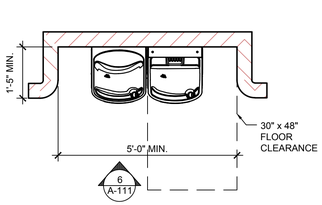
7 TYP. SECTION AT DRINKING FOUNTAIN
SCALE: N.T.S.



4 TYPICAL ADA SINK SECTION
SCALE: N.T.S.



6 TYPICAL INTERIOR DRINKING FOUNTAIN ELEVATIONS
SCALE: 1/2" = 1'-0"



5 TYPICAL INTERIOR DRINKING FOUNTAIN PLAN
SCALE: 1/2" = 1'-0"

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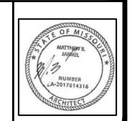
Drawn By: OK	Approved By: MBJ

Drawing Name:

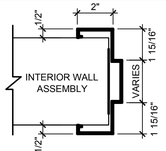
TOILET ROOM PLANS & DETAILS

Drawing Number:

A-111

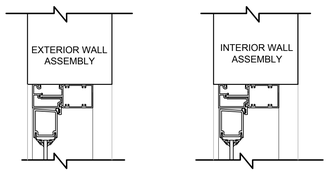


DOOR FRAME TYPES



TYPE A

JAMB & HEAD

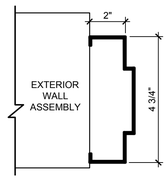


TYPE B

HEAD

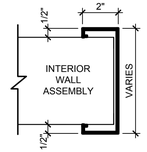
TYPE B1

HEAD



TYPE C

JAMB & HEAD

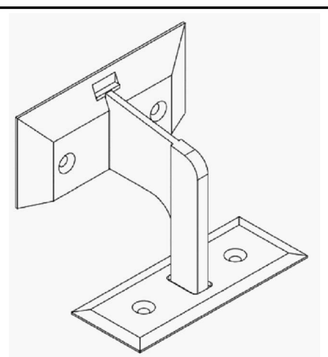


TYPE D

JAMB & HEAD

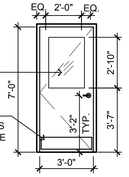
NOTES:
1. ALL DOOR FRAMES SHALL BE PAINTED PER SHEETS A-051 (EXTERIOR ELEVATIONS) AND A-042 (PAINT FINISH PLAN).
2. REFER TO A-081 FOR TYPICAL EXTERIOR H.M. DOOR HEADER DETAIL.

EMERGENCY LOCKDOWN DEVICE

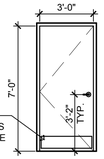


DOOR TYPES

TYPE A
H.M. AND GL.



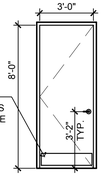
TYPE B1
H.M.



CLOSET IN RECEPTION AREA DOOR SIZE TO BE 2'-6"X7'-0"

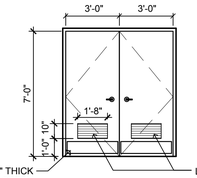
* DOOR ANNUNCIATOR REQUIRED ON ALL EXTERIOR TYPE B DOORS

TYPE B2
H.M.

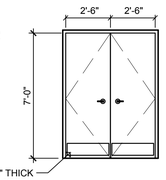


* DOOR ANNUNCIATOR REQUIRED ON ALL EXTERIOR TYPE B DOORS

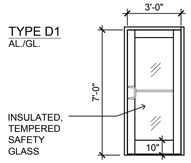
TYPE C1
H.M.



TYPE C2
H.M.

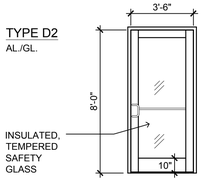


TYPE D1
AL./GL.



KAWNEER COMPANY, INC.
350 SWING DOOR
- MEDIUM STILE
- 3-1/2" VERTICAL FACE DIMENSION
- 1-3/4" DEPTH
- COLOR: BONE WHITE

TYPE D2
AL./GL.



KAWNEER COMPANY, INC.
350 SWING DOOR
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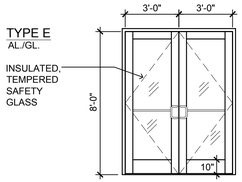
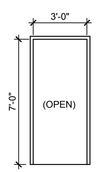
- 3-1/2" VERTICAL FACE DIMENSION
- 1-3/4" DEPTH
- COLOR: BONE WHITE

TYPE E
AL./GL.



KAWNEER COMPANY, INC.
350 SWING DOOR
- MEDIUM STILE
- 3-1/2" VERTICAL FACE DIMENSION
- 1-3/4" DEPTH
- COLOR: BONE WHITE

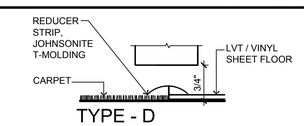
TYPE F
FRAMED OPENING (ISOLATION)
H.M.



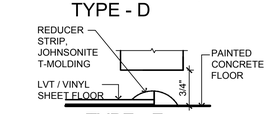
TYPE G
PLAYGROUND FENCE GATE

REFER TO DETAILS ON PLAYGROUND DRAWINGS

THRESHOLD TYPES



TYPE - D



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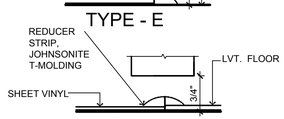

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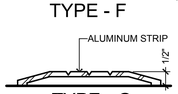
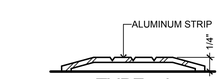
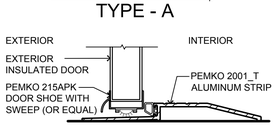


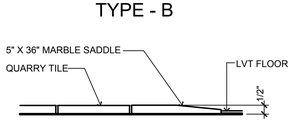
TYPE - G



TYPE - A



TYPE - B



TYPE - C

DOOR SCHEDULE

DOOR #	ROOM NAME	DOOR TYPE	FRAME TYPE	THRES-HOLD	KEYING	HARDWARE TYPE	REMARKS
ISO-1	RECEPTION	F	D	-	-	-	FRAMED OPENING
JAN-1	JAN. CLOSET	F	D	E	-	-	FRAMED OPENING
OF-1	OFFICE	A	A	-	K2	1	PROVIDE KICK PLATE BOTH SIDES
PEP-1	PREPPERS	A	A	-	-	2	PROVIDE KICK PLATE BOTH SIDES
TWA-1	TWADDLERS A	A	A	-	-	2	PROVIDE KICK PLATE BOTH SIDES
TOA-1	TODDLERS A	A	A	-	-	2	PROVIDE KICK PLATE BOTH SIDES
TOB-1	TODDLERS B	A	A	-	-	2	PROVIDE KICK PLATE BOTH SIDES
INA-1	INFANT A	A	A	-	-	2	PROVIDE KICK PLATE BOTH SIDES
INB-1	INFANT B	A	A	-	-	2	PROVIDE KICK PLATE BOTH SIDES
MBB-1	MAKE BLV. BLVD.	A	A	-	-	2	PROVIDE KICK PLATE BOTH SIDES
PS1-1	PRESCHOOL #1	A	A	-	-	2	PROVIDE KICK PLATE BOTH SIDES
PS2-1	PRESCHOOL #2	A	A	-	-	2	PROVIDE KICK PLATE BOTH SIDES
PS3-1	PRESCHOOL #3	A	A	-	-	2	PROVIDE KICK PLATE BOTH SIDES
PKK-1	PRE-K/K	A	A	-	-	2	PROVIDE KICK PLATE BOTH SIDES
PEP-3	PREPPERS	B1	A	F	-	2A	PROVIDE 3/4" UNDERCUT
PEP-4	PREPPERS	B1	A	F	-	2A	PROVIDE 3/4" UNDERCUT
TW-3	TWADDLERS A	B1	A	F	-	2A	PROVIDE 3/4" UNDERCUT
TOA-3	TODDLER	B1	A	F	-	2A	PROVIDE 3/4" UNDERCUT
TOB-3	TODDLER	B1	A	F	-	2A	PROVIDE 3/4" UNDERCUT
MBB-3	MAKE BLV. BLVD.	B1	A	F	-	2A	PROVIDE 3/4" UNDERCUT
PS1-3	PRESCHOOL #1	B1	A	F	-	2A	PROVIDE 3/4" UNDERCUT
PS2-3	PRESCHOOL #2	B1	A	F	-	2A	PROVIDE 3/4" UNDERCUT
PS3-3	PRESCHOOL #3	B1	A	F	-	2A	PROVIDE 3/4" UNDERCUT
PKK-3	PRE-K/K	B1	A	F	-	2A	PROVIDE 3/4" UNDERCUT
PAN-1	PANTRY	A	A	C	K3	3	PROVIDE 3/4" UNDERCUT; PROVIDE KICK PLATE ON CORRIDOR SIDE
SL-1	STAFF LOUNGE	A	A	-	K4	3	PROVIDE KICK PLATE ON CORRIDOR SIDE ONLY
CL-1	CLOSET	B1	A	-	K4	3	-
LAN-1	LAUNDRY	B1	A	F	K4	3	PROVIDE KICK PLATE ON CORRIDOR SIDE ONLY
ELC-1	ELEC. CLOSET	C1	A	-	K4	3A	PROVIDE KICK PLATE ON CORRIDOR SIDE ONLY
ST-1	STAFF TOILET	B1	A	F	-	4	PROVIDE 3/4" UNDERCUT; PROVIDE KICK PLATE ON CORRIDOR SIDE
ST-2	STAFF TOILET	B1	A	F	-	4	PROVIDE 3/4" UNDERCUT; PROVIDE KICK PLATE ON CORRIDOR SIDE
NS-1	NURSING	B1	A	F	-	4	PROVIDE 3/4" UNDERCUT; PROVIDE KICK PLATE ON CORRIDOR SIDE
INA-2	INFANT A	B2	C	B	-	5	EXTERIOR; INSULATED; PROVIDE KICK PLATE ON CLASSROOM SIDE
INB-2	INFANT B	B2	C	B	-	5	EXTERIOR; INSULATED; PROVIDE KICK PLATE ON CLASSROOM SIDE
TW-2	TWADDLERS	B1	C	B	-	5	EXTERIOR; INSULATED; PROVIDE KICK PLATE ON CLASSROOM SIDE
TOA-2	TODDLER A	B1	C	B	-	5	EXTERIOR; INSULATED; PROVIDE KICK PLATE ON CLASSROOM SIDE
TOB-2	TODDLER B	B2	C	B	-	5	EXTERIOR; INSULATED; PROVIDE KICK PLATE ON CLASSROOM SIDE
PS1-2	PRESCHOOL #1	B1	C	B	-	5	EXTERIOR; INSULATED; PROVIDE KICK PLATE ON CLASSROOM SIDE
PS2-2	PRESCHOOL #2	B1	C	B	-	5	EXTERIOR; INSULATED; PROVIDE KICK PLATE ON CLASSROOM SIDE
PS3-2	PRESCHOOL #3	B1	C	B	-	5	EXTERIOR; INSULATED; PROVIDE KICK PLATE ON CLASSROOM SIDE
PKK-2	PRE-K/K	B1	C	B	-	5	EXTERIOR; INSULATED; PROVIDE KICK PLATE ON CLASSROOM SIDE
MBB-2	MAKE BLV. BLVD.	B1	C	B	-	5	EXTERIOR; INSULATED; PROVIDE KICK PLATE ON CLASSROOM SIDE
CO-1	CORRIDOR	A	C	B	-	5	EXTERIOR; INSULATED; PROVIDE KICK PLATE ON CLASSROOM SIDE
CO-3	CORRIDOR	A	C	B	-	5	EXTERIOR; INSULATED; PROVIDE KICK PLATE ON CLASSROOM SIDE
PEP-2	PREPPERS	B2	C	B	K1	6	EXTERIOR; INSULATED; PROVIDE KICK PLATE ON CLASSROOM SIDE
CO-2	CORR./PLAYGRD.	A	C	B	-	7	EXTERIOR; INSULATED; LOW VOLTAGE ACCESS CONTROL PROVIDE KICK PLATE ON CORRIDOR SIDE ONLY
VES-2	VESTIBULE	D2	B1	-	-	8	LOW VOLTAGE ACCESS CONTROL
REC-1	RECEPTION	D1	B1	-	-	8	LOW VOLTAGE ACCESS CONTROL
VES-1	VESTIBULE	E	B	B	K1	9	LOW VOLTAGE ACCESS CONTROL
MEC-1	MECH. ROOM	B1	C	B	K1	10	EXTERIOR; INSULATED
PLY-1	FENCE GATE	G	-	-	-	12	PLAYGROUND GATE PROVIDED BY FENCE CONTRACTOR; REF. DETAILS ON PLAYGROUND DRAWINGS
PLY-2	FENCE GATE	G	-	-	K1	11	PLAYGROUND GATE PROVIDED BY FENCE CONTRACTOR; REF. DETAILS ON PLAYGROUND DRAWINGS
PLY-3	FENCE GATE	G	-	-	K1	11	PLAYGROUND GATE PROVIDED BY FENCE CONTRACTOR; REF. DETAILS ON PLAYGROUND DRAWINGS
PLY-4	FENCE GATE	G	-	-	-	12	PLAYGROUND GATE PROVIDED BY FENCE CONTRACTOR; REF. DETAILS ON PLAYGROUND DRAWINGS

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC.

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.

GENERAL NOTES

1. ALL DOORS AND HARDWARE SHALL COMPLY WITH ALL APPLICABLE BUILDING CODES AND ALL REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
2. REFER TO SPECIFICATIONS SECTION 087100 FOR ADDITIONAL DOOR HARDWARE INFORMATION.
3. CONTRACTOR TO FIELD VERIFY ALL ROUGH OPENINGS AND REPORT ANY DIFFERENCES FROM DRAWINGS IN WRITING TO THE ARCHITECT PRIOR TO ORDERING.
4. CONTRACTOR TO PROVIDE SUBMITTALS TO ARCHITECT FOR APPROVALS PRIOR TO ORDERING.
5. GC. TO COORDINATE THROAT WIDTH ON FRAME WITH SPECIFIED WALL THICKNESS. REFER TO DRAWINGS A-012 AND A-091.
6. DOOR THICKNESS TO BE 1 3/4" UNLESS OTHERWISE NOTED AND TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
7. ALL STEEL DOORS AND FRAMES TO BE ORDERED WITH MANUFACTURER'S STANDARD, FACTORY-APPLIED COAT OF RUST-INHIBITING PRIMER COMPLYING WITH ANSI A250.10 FOR ACCEPTANCE CRITERIA.
8. ALL EXTERIOR DOORS AND FRAMES TO COMPLY WITH THE FOLLOWING:
   a. NO DAYLIGHT SHALL BE VISIBLE ALONG THE PERIMETER OF THE DOOR ONCE WEATHERSTRIPPING SEALS AND DOOR SWEEPS ARE INSTALLED AND DOOR IS FULLY CLOSED.
   b. REFER TO COMCHECK COMPLIANCE REPORT FOR REQUIRED ENERGY VALUES.
9. CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS HARDWARE REQUIRED FOR COMPLETE OPERATION OF EACH DOOR.
10. REFER TO DRAWING A-122 FOR DOOR HARDWARE SCHEDULE.
11. TEMPORARY CONSTRUCTION CORES TO BE PROVIDED BY DOOR VENDOR. G.C. SHALL ORDER FINAL CORES FROM REQUIRED LOCKSMITH (REFER TO REQUIRED VENDOR LIST ON DRAWING T-200). INSTALLATION OF FINAL CORES AND FINAL KEYING TO BE COORDINATED WITH "TLE".
12. DOOR ANNUNCIATOR REQUIRED ON ALL EXTERIOR DOORS, EXCEPT FRONT EXTERIOR DOOR & MECHANICAL ROOM.
13. DOOR HANDING SHALL BE AS SHOWN ON THE CONSTRUCTION FLOOR PLAN.
14. CHILD PROOF LOCKS SHOULD ALWAYS BE INSTALLED IN ROOMS WHICH HAVE OPEN SPACE FOR KIDS. IF A ROOM DOESN'T HAVE ACCESS TO A CHILD AND IT HAS A LOCK ON IT, IT DOESN'T REQUIRE A CHILD PROOF LOCK. IE STORAGE ROOM, LAUNDRY, OFFICE, PANTRY.

ENERGY COMPLIANCE

OPAQUE EXTERIOR DOORS:
MAXIMUM U-FACTOR = 0.61

KAWNEER ENTRANCE DOORS (>50% GLASS):
U-FACTOR = 0.77
SHGC = 0.36

LEGEND

H.M. = HOLLOW METAL
AL./GL. = ALUMINUM & GLASS
HM./GL. = HOLLOW METAL & GLASS

KEYING TYPES

NOTE: MASTER KEY SHALL BE PROVIDED TO 'THE LEARNING EXPERIENCE' FOR EACH LOCKSET W/ KEYED FUNCTION.

K1 - SPECIFIED EXTERIOR DOORS
K2 - OFFICE
K3 - PANTRY
K4 - LOUNGE, LAUNDRY, ELEC. CLO., STORAGE ROOMS

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Architecture
Engineering
Interior Design
Implementation Services

THE LEARNING EXPERIENCE
ACADEMY OF EARLY EDUCATION
ARBORWALK WEST
LEE'S SUMMIT, MISSOURI

ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By:	Approved By:
OK	MBJ

Drawing Name:

DOOR SCHEDULE AND DETAILS

Drawing Number:

A-121

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

DOOR HARDWARE SCHEDULE

ITEM TYPE	MANUF. / MODEL	REQUIREMENTS
HINGE		4 PER DOOR PANEL
DOOR STOP		WALL MOUNTED (TYPICAL) OR HINGE PIN STOP (ONLY WHERE WALL MOUNTED CANNOT BE USED)
SILENCER		1 PER HINGE
ITEMS NOTED ABOVE SHALL BE PROVIDED AS PART OF ALL HARDWARE TYPES; INTERIOR DOORS TO GET HINGE AND STOP SPECIFIED BELOW		
HEAVY DUTY HINGE	HAGER HINGE BB1191 (3)	FULL MORTISE, BALL BEARING, STANDARD WEIGHT. FINISH US32D; 4.5"x4.5"
OVERHEAD STOP	ROCKWOOD OH101S	CONCEALED - STOP ONLY; MATERIAL: STAINLESS STEEL
HARDWARE TYPE 1 (OFFICE)		
CLASSROOM LEVER	ARROW MLX87	INGRESS SIDE; ADA COMPLIANT LEVER
CLOSER	NORTON 1601 SERIES	EGRESS SIDE; ADJUSTABLE
KICK PLATE	ROCKWOOD K1050	8"x34" (ONLY WHERE SPECIFIED IN SCHEDULE); STAINLESS STEEL; #6x⅜ OVAL HEAD SHEET METAL FASTENERS
KEYPAD LOCK	REVOLUTION, ASSA ABLOY	STANDALONE TOUCHSCREEN LOCK; V14 (ANSI STRIKE) STRIKE; FINISH: 26D -SATIN CHROME; LEVER SIERRA SR
HARDWARE TYPES 2 (CLASSROOM DOORS TO CORRIDOR) & 2A (CHILD TOILET ROOMS)		
PASSAGE LEVER	ARROW MLX01	INGRESS SIDE; ADA COMPLIANT LEVER
CLOSER	NORTON 1601 SERIES	CLOSER TO BE LOCATED ON CLASSROOM SIDE OF DOOR; ADJUSTABLE; REFER TO NOTES FOR HARDWARE TYPE 2A BELOW
KICK PLATE	ROCKWOOD K1050	8"x34" (ONLY WHERE SPECIFIED IN SCHEDULE); STAINLESS STEEL; #6x⅜ OVAL HEAD SHEET METAL FASTENERS
EMERGENCY LOCK	NIGHTLOCK	NIGHTLOCK LOCKDOWN 1, WITH ⅜" FLOOR PLATE. SEE VENDOR INFO ON SHEET T-201.

NOTES FOR HARDWARE TYPE 2A AT CHILD TOILET ROOMS

1. OMIT CLOSER. OTHERWISE AS NOTED FOR HARDWARE TYPE 2.
2. OMIT NIGHTLOCK DEVICE.

HARDWARE TYPES 3 (PANTRY, STAFF LOUNGE, CLOSET, LAUNDRY) & 3A (ELECTRICAL CLOSET)		
STOREROOM LEVER	ARROW MLX82	INGRESS SIDE; ADA COMPLIANT LEVER
CLOSER	NORTON 1601 SERIES	EGRESS SIDE; ADJUSTABLE
KICK PLATE	ROCKWOOD K1050	8"x34" (ONLY WHERE SPECIFIED IN SCHEDULE); STAINLESS STEEL; #6x⅜ OVAL HEAD SHEET METAL FASTENERS
KEYPAD LOCK	REVOLUTION, ASSA ABLOY	STANDALONE TOUCHSCREEN LOCK; V14 (ANSI STRIKE) STRIKE; FINISH: 26D -SATIN CHROME; LEVER SIERRA SR

NOTES FOR HARDWARE TYPE 3 AT PANTRY

1. LIMIT DOOR SWING TO 90 DEGREES.

NOTES FOR HARDWARE TYPE 3A AT ELECTRICAL CLOSET

1. OMIT CLOSER. PROVIDE HALF DUMMY TRIM AND FLUSH BOLT ON INACTIVE PANEL. OTHERWISE AS NOTED FOR HARDWARE TYPE 3.

NOTES FOR HARDWARE TYPE 3 AT CLOSET, LAUNDRY, AND ELECTRICAL CLOSET

1. OMIT KEYPAD LOCKS.

HARDWARE TYPES 4 (STAFF TOILET ROOMS)		
PRIVACY LEVER	ARROW MLX72	INGRESS SIDE; ADA COMPLIANT LEVER
CLOSER	NORTON 1601 SERIES	EGRESS SIDE; ADJUSTABLE
KICK PLATE	ROCKWOOD K1050	8"x34" (ONLY WHERE SPECIFIED IN SCHEDULE); STAINLESS STEEL; #6x⅜ OVAL HEAD SHEET METAL FASTENERS
HARDWARE TYPE 5 (TYPICAL EXTERIOR H.M. DOORS)		
LEVER		NO PULL HARDWARE ON INGRESS SIDE
PANIC HARDWARE	ARROW S1250	EGRESS SIDE
CLOSER	NORTON 1601 SERIES	EGRESS SIDE; ADJUSTABLE
DOOR SHOE	PEMKO 215APK	DOOR SHOE WITH SWEEP (OR EQUAL)
WEATHERSTRIPPING	PEMKO 319_R	PERIMETER GASKETING; WIDTH: ⅞", PROFILE HEIGHT: 1", FINISH: C
DOOR SWEEP		
KICK PLATE	ROCKWOOD K1050	8"x34" (ONLY WHERE SPECIFIED IN SCHEDULE); STAINLESS STEEL; #6x⅜ OVAL HEAD SHEET METAL FASTENERS
HARDWARE TYPE 6 (SPECIFIED EXTERIOR H.M. DOORS)		
STOREROOM LEVER	ARROW SRX82	INGRESS SIDE; ADA COMPLIANT LEVER
PANIC HARDWARE	ARROW S1250	EGRESS SIDE; FINISH 26D
CLOSER	NORTON 1601 SERIES	EGRESS SIDE; ADJUSTABLE
DOOR SHOE	PEMKO 215APK	DOOR SHOE WITH SWEEP (OR EQUAL)
WEATHERSTRIPPING	PEMKO 319_R	PERIMETER GASKETING; WIDTH: ⅞", PROFILE HEIGHT: 1", FINISH: C
DOOR SWEEP		
KICK PLATE	ROCKWOOD K1050	8"x34" (ONLY WHERE SPECIFIED IN SCHEDULE); STAINLESS STEEL; #6x⅜ OVAL HEAD SHEET METAL FASTENERS

ITEM TYPE	MANUF. / MODEL	REQUIREMENTS
HARDWARE TYPE 7 (EXTERIOR CORRIDOR DOORS)		
"D" PULL	ROCKWOOD BF157A	INGRESS SIDE
ELECTRIC LATCH	ASSA ABLOY HES 9600 OR ADAMS RITE 7800	EGRESS SIDE; SHALL NOT BE INSTALLED WITH ANY EGRESS DELAY FEATURE; CONFIGURED FOR FAIL SECURE OPERATION; REFER TO NOTES FOR HARDWARE TYPE 7 BELOW
PANIC HARDWARE	ARROW S1250 NOT ELECTRIFIED	EGRESS SIDE; SHALL NOT BE INSTALLED WITH ANY EGRESS DELAY FEATURE; REFER TO NOTES FOR HARDWARE TYPE 7 BELOW
ELECTRONIC SWIPE		INGRESS SIDE; REFER TO NOTES FOR HARDWARE TYPE 7 BELOW
POWER SUPPLY	ADAMS RITE PS1 OR SECURITRON BPS-12/24-1	REFER TO NOTES FOR HARDWARE TYPE 7 BELOW
CLOSER	NORTON 1601 SERIES	EGRESS SIDE; ADJUSTABLE
KICK PLATE	ROCKWOOD K1050	8"x34" (ONLY WHERE SPECIFIED IN SCHEDULE); STAINLESS STEEL; #6x⅜ OVAL HEAD SHEET METAL FASTENERS
DOOR SHOE	PEMKO 215APK	DOOR SHOE WITH SWEEP (OR EQUAL)
WEATHERSTRIPPING	PEMKO 319_R	PERIMETER GASKETING; WIDTH: ⅞", PROFILE HEIGHT: 1", FINISH: C
DOOR SWEEP		

NOTES FOR HARDWARE TYPE 7

1. DOOR HARDWARE AND POWER SUPPLY FOR ELECTRONIC EXIT DEVICE PROVIDED AND INSTALLED BY DOOR VENDOR/CONTRACTOR. CONNECTION TO ACCESS CONTROL SYSTEM BY REQUIRED SECURITY VENDOR.
2. REFER TO SPECIFICATIONS FOR REQUIRED SECURITY VENDOR'S CONTACT INFORMATION.

HARDWARE TYPE 8 (INTERIOR VESTIBULE DOOR, RECEPTION/CORRIDOR DOOR)		
STANDARD "D" PULL	KAWNEER CO-9	INGRESS SIDE
ELECTRIC STRIKE	ASSA ABLOY HES 9800 OR ADAMS RITE 7800	EGRESS SIDE; SHALL NOT BE INSTALLED WITH ANY EGRESS DELAY FEATURE; CONFIGURED FOR FAIL SAFE OPERATION; REFER TO NOTES FOR HARDWARE TYPE 8 BELOW
PANIC HARDWARE	ADAMS RITE 8800 SERIES NOT ELECTRIFIED	EGRESS SIDE; MINIMUM 1200 LB HOLDING FORCE MANDATORY
POWER SUPPLY	ADAMS RITE PS1 OR SECURITRON BPS-12/24-1	REFER TO NOTES FOR HARDWARE TYPE 8 BELOW
ELECTRONIC SWIPE		INGRESS SIDE; POSITION VISIBLE FROM RECEPTION DESK; REFER TO NOTES FOR HARDWARE TYPE 8 BELOW
RELEASE BUTTON		AT RECEPTION DESK BENEATH LOWER LEVEL OF RECEPTION DESK; REFER TO DRAWING A-135
CLOSER	NORTON 1601 SERIES	RECEPTION SIDE; ADJUSTABLE

NOTES FOR HARDWARE TYPE 8

1. DOOR SHALL NOT BE DRILLED FOR A KEY CYLINDER UNLESS KEYING IS SPECIFIED ON THE DOOR SCHEDULE.
2. DOOR HARDWARE AND POWER SUPPLY FOR ELECTRONIC EXIT DEVICE PROVIDED AND INSTALLED BY DOOR VENDOR/CONTRACTOR. CONNECTION TO ACCESS CONTROL SYSTEM BY REQUIRED SECURITY VENDOR.
3. REFER TO SPECIFICATIONS FOR REQUIRED SECURITY VENDOR'S CONTACT INFORMATION.

HARDWARE TYPE 9 (EXTERIOR VESTIBULE DOORS)		
STANDARD "D" PULL	KAWNEER CO-9	INGRESS SIDE; CYLINDER TYPE ARROW SFIC CYLINDER HOUSING - FINISH TO MATCH HARDWARE FINISH
PANIC HARDWARE	ADAMS RITE 8600	BOTH DOORS; CONCEALED VERTICAL ROD; INTEGRAL KEY CYLINDER (SEE GENERAL NOTE 7)
CLOSER	NORTON 1601 SERIES	RECEPTION SIDE; ADJUSTABLE
WEATHERSTRIPPING	PEMKO 319_R	PERIMETER GASKETING; WIDTH: ⅞", PROFILE HEIGHT: 1", FINISH: C
DOOR SWEEP		
HARDWARE TYPE 10 (MECHANICAL ROOM)		
STOREROOM LEVER	ARROW MLX82	BOTH SIDES; ADA COMPLIANT LEVER; ARROW SFIC CYLINDER HOUSING, FINISH TO MATCH HARDWARE
CLOSER	NORTON 1601 SERIES	EGRESS SIDE; ADJUSTABLE
WEATHERSTRIPPING	PEMKO 319_R	PERIMETER GASKETING; WIDTH: ⅞", PROFILE HEIGHT: 1", FINISH: C
DOOR SWEEP		

NOTES FOR HARDWARE TYPE 10

1. NO DEADBOLT

HARDWARE TYPES 11 (6' HIGH FENCE GATES)		
PANIC HARDWARE	DETEX VALUE SERIES V40xEBxW; IC7R	EGRESS SIDE; WEATHERIZED PANIC BAR WITH BATTERY-POWERED ALARM AND EXTERIOR ADA LEVER HARDWARE; PROVIDE ADJUSTABLE LATCH BRACKET; RIM CYLINDER SFIC HOUSING

NOTES FOR HARDWARE TYPE 11 AT 6' HIGH GATES

1. NO CLOSER IS TO BE PROVIDED.
2. PANIC HARDWARE HAS AN INTEGRAL CYLINDER TO ENGAGE/DISENGAGE THE ALARM. THIS CYLINDER DOES NOT AFFECT OPERATION OF THE PANIC BAR. CONTRACTOR SHALL PROVIDE AN INTERCHANGEABLE CORE (KEYING TYPE K1 PER DOOR SCHEDULE) AS PART OF FINAL KEYING PROCEDURES. REFER TO GENERAL NOTE 11 ON DRAWING A-121.

HARDWARE TYPES 12 (4' HIGH FENCE GATES)		
PANIC HARDWARE	DETEX VALUE SERIES V40xW (NO ALARM); IC7R	EGRESS SIDE; WEATHERIZED PANIC BAR; PROVIDE ADJUSTABLE LATCH BRACKET; RIM CYLINDER SFIC HOUSING

NOTES FOR HARDWARE TYPE 12 AT 4' HIGH GATES

1. NO CLOSER, EXTERIOR ACCESS HARDWARE, OR EXTERIOR KEYING IS TO BE PROVIDED.

SEQUENCE OF INSTALLATION

INTERIOR VESTIBULE DOOR:
- ALUMINUM STOREFRONT VENDOR PROVIDES DOORS AND PANIC HARDWARE FACTORY INSTALLED.
- ELECTRICIAN PROVIDES POWER SOURCE ABOVE CEILING PER KEY NOTE 10 ON E-200.
- ACCESS CONTROL VENDOR IS RESPONSIBLE FOR MAKING FINAL LOW VOLTAGE CONNECTIONS FOR KEY FOB ACCESS.

RECEPTION DOOR - OPTION 1
- ALUMINUM STOREFRONT VENDOR PROVIDES DOORS AND PANIC HARDWARE FACTORY INSTALLED.
- ELECTRICIAN PROVIDES POWER SOURCE ABOVE CEILING PER KEY NOTE 10 ON E-200.
- ACCESS CONTROL VENDOR IS RESPONSIBLE FOR MAKING FINAL LOW VOLTAGE CONNECTIONS AND INSTALLING THE ELECTRIC STRIKE FOR KEY FOB ACCESS.

RECEPTION DOOR - OPTION 2 (ONLY IF HOLLOW METAL DOOR IS SPECIFIED)
- ELECTRICIAN PROVIDES POWER SOURCE ABOVE CEILING PER KEY NOTE 10 ON E-200.
- ACCESS CONTROL VENDOR IS RESPONSIBLE FOR MAKING FINAL LOW VOLTAGE CONNECTIONS AND INSTALLING THE ELECTRIC STRIKE FOR KEY FOB ACCESS.

PLAYGROUND DOOR
- ELECTRICIAN PROVIDES POWER SOURCE ABOVE CEILING PER KEY NOTE 10 ON E-200.
- ACCESS CONTROL VENDOR IS RESPONSIBLE FOR INSTALLING PANIC DEVICE, ELECTRIC STRIKE, AND MAKING FINAL LOW VOLTAGE CONNECTIONS FOR KEY FOB ACCESS.

GENERAL NOTES

1. ALL DOORS AND HARDWARE SHALL COMPLY WITH ALL APPLICABLE BUILDING CODES AND ALL REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
2. REFER TO SPECIFICATIONS SECTION 087100 FOR ADDITIONAL DOOR HARDWARE INFORMATION.
3. CONTRACTOR TO PROVIDE SUBMITTALS TO ARCHITECT FOR APPROVALS PRIOR TO ORDERING.
4. ALL EXTERIOR DOORS AND FRAMES TO COMPLY WITH THE FOLLOWING:
   a. NO DAYLIGHT SHALL BE VISIBLE ALONG THE PERIMETER OF THE DOOR ONCE WEATHER STRIPPING SEALS AND DOOR SWEEPS ARE INSTALLED AND DOOR IS FULLY CLOSED.
   b. REFER TO COMCHECK COMPLIANCE REPORT FOR REQUIRED ENERGY VALUES.
5. CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS HARDWARE REQUIRED FOR COMPLETE OPERATION OF EACH DOOR.
6. PANIC HARDWARE SHALL HAVE THE ACTIVATING MEMBER MOUNTED CENTERED BETWEEN A HEIGHT OF 30 INCHES MINIMUM AND 44 INCHES MAXIMUM A.F.F. GRASP TYPE DOOR KNOBS SHALL NOT BE USED. ALL PANIC BAR HARDWARE SHALL HAVE MANUAL DOGGING CAPABILITY.
7. KEYING: ALL KEYED DOORS SHALL BE FURNISHED WITH HARDWARE COMPATIBLE WITH ARROW 7-PIN, FIGURE 8, SMALL FORMAT, FIGURE 8 INTERCHANGEABLE CORES, - NO SUBSTITUTIONS WILL BE ALLOWED.
8. TEMPORARY CONSTRUCTION CORES TO BE PROVIDED BY DOOR VENDOR. G.C. SHALL ORDER FINAL CORES FROM REQUIRED LOCKSMITH AND PROVIDE CYLINDERS FOR TLE CORES (REFER TO REQUIRED VENDOR LIST ON DRAWING T-200). INSTALLATION OF FINAL CORES AND FINAL KEYING TO BE COORDINATED WITH "TLE".
9. ALL HARDWARE SHALL BE PROVIDED IN US26D FINISH. ALTERNATE FINISHES SHALL BE SUBMITTED TO "TLE" AND ARCHITECT FOR APPROVAL PRIOR TO ORDERING.
10. REFER TO DRAWING A-122 FOR DOOR HARDWARE SCHEDULE.
11. NO ALTERNATIVE HARDWARE SUBSTITUTIONS ALLOWED.

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC.

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.

Jarmel Kizel
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REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: OK	Approved By: MBJ

Drawing Name:

DOOR HARDWARE SCHEDULE

Drawing Number:

A-122

STATE OF MISSOURI — MATTHEW B. JARMEL — NUMBER A-2017014316 — ARCHITECT

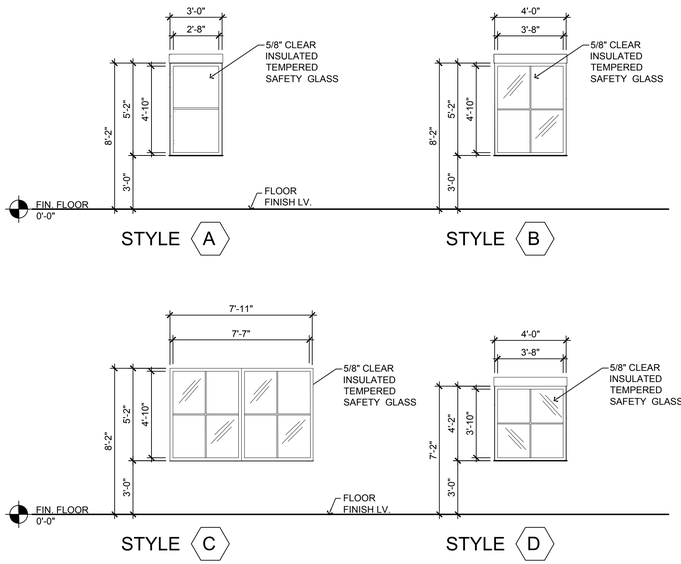
EXTERIOR WINDOW SCHEDULE

ELEVATION TYPE	WIDTH	HEIGHT	TYPE	FRAME	FIRE RATING	GLASS	FINISH	GLASS THICK.
STYLE A	3'-0"	5-2"	FIXED	VINYL	N/A	CLEAR INSULATED TEMPERED SAFETY GLASS	WHITE (BY MANUF.)	5/8"
STYLE B	4'-0"	5-2"	FIXED	VINYL	N/A	CLEAR INSULATED TEMPERED SAFETY GLASS	WHITE (BY MANUF.)	5/8"
STYLE C	8'-0"	5-2"	FIXED TWIN	VINYL	N/A	CLEAR INSULATED TEMPERED SAFETY GLASS	WHITE (BY MANUF.)	5/8"
STYLE D	4'-0"	4'-2"	FIXED	VINYL	N/A	CLEAR INSULATED TEMPERED SAFETY GLASS	WHITE (BY MANUF.)	5/8"

EXTERIOR WINDOW NOTES:

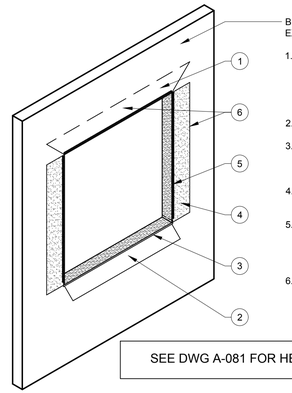
1. CONTRACTOR TO FIELD VERIFY ALL ROUGH OPENINGS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO FABRICATION AND INSTALLATION.
2. ALL EXTERIOR WINDOWS SHALL COMPLY WITH ALL AUTHORITIES HAVING JURISDICTION.
3. IF AN ALTERNATE WINDOW PRODUCT IS PROPOSED, CONTRACTOR SHALL SUBMIT WINDOW PRODUCT SPECIFICATIONS TO ARCHITECT AND TLE FOR REVIEW AND WRITTEN APPROVAL PRIOR TO ORDERING AND INSTALLATION. PRODUCT DATA/SPECIFICATIONS MUST MEET OR EXCEED THE DESIGN FACTORS PER NOTE #4 BELOW, AND THESE FACTORS MUST BE INCLUDED IN THE MANUFACTURER'S PRODUCT DATA SUBMITTED FOR REVIEW.
4. WINDOW SPECIFICATIONS - VINYL FIXED WINDOWS
   a. SIMONTON STORMBREAKER PLUS VINYL FIXED WINDOWS
   b. U-FACTOR = 0.38 (MAXIMUM)
   c. SHGC = 0.48 (MAXIMUM)
   d. GLASS - INSULATED AND TEMPERED
5. WINDOW SHALL BE INSTALLED WITH PROPER SUPPORT TO SECURE UNIT ON ALL SIDES. WINDOW SIZE TO BE COORDINATED WITH GENERAL CONTRACTOR AND/OR GLAZING CONTRACTOR. PROVIDE LIGHT GAUGE METAL FRAMING OR JAMB STIFFENERS DEPENDING ON TYPE OF CONSTRUCTION.
6. WINDOW PROTECTION THROUGH BUILDING COMPLETION - CONTRACTOR SHALL COVER WINDOWS WITH TEMPORARY PROTECTIVE SHEATHING WHICH SHALL BE SECURED AND STRONG ENOUGH TO RESIST WIND LOADS, CONSTRUCTION MISHAPS, OR ANY OTHER UNFORESEEN CIRCUMSTANCES.
7. ALL WINDOWS TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
8. BLINDS - TO BE INSTALLED AT ALL EXTERIOR WINDOWS
   a. 1" EXTRUDED PVC (VINYL)
   b. CORDLESS
   c. COLOR: WHITE
   d. TILT OPERATION: MANUAL WITH WAND
   e. SEE SPECIFICATIONS DRAWINGS FOR ADDITIONAL INFORMATION
   f. MOUNTED APPROX. 1" FROM FROM INTERIOR FACE OF GLASS.
9. REFER TO ENERGY COMPLIANCE SPECIFICATIONS ON DRAWING T-500.
10. REFER TO DRAWING A-081 FOR HEAD/JAMB/SILL DETAILS.

EXTERIOR WINDOW ELEVATIONS



EXTERIOR WINDOW DETAILS

NOTE: REFER TO DRAWING A-081 FOR HEAD/SILL/JAMB DETAILS.



1. TRIM BUILDING WRAP TO JAMB AND SILL EDGES. CUT FLAP IN BUILDING WRAP AT HEAD OF ROUGH OPENING 6"± BEYOND JAMBS AND 12"± ABOVE HEAD (LEAVE TEMPORARILY UN-ADHERED).
2. PROVIDE THROUGH-WALL FLASHING AT SILL.
3. SILL FLASHING TURNED DOWN AT FRONT EDGE 2"±, PRESSED INTO CORNERS, AND TURNED UP ALONG JAMBS 2" MIN.
4. JAMB FLASHING TURNED OVER BUILDING WRAP ON BOTH SIDES OF ROUGH OPENING.
5. CONTINUOUSLY CAULK ALONG HEAD & JAMBS. PROCEED AS SPECIFIED IN WINDOW MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. ADHERE BUILDING WRAP FLAP OVER WINDOW HEAD NAILING FIN AND TAPE OFF ALL EDGES OF FLASHING AND BUILDING WRAP.

SEE DWG A-081 FOR HEAD, JAMB, AND SILL DETAILS.

2 TYP. WINDOW FLASHING DETAIL

SCALE: N.T.S.

INTERIOR WINDOW SCHEDULE

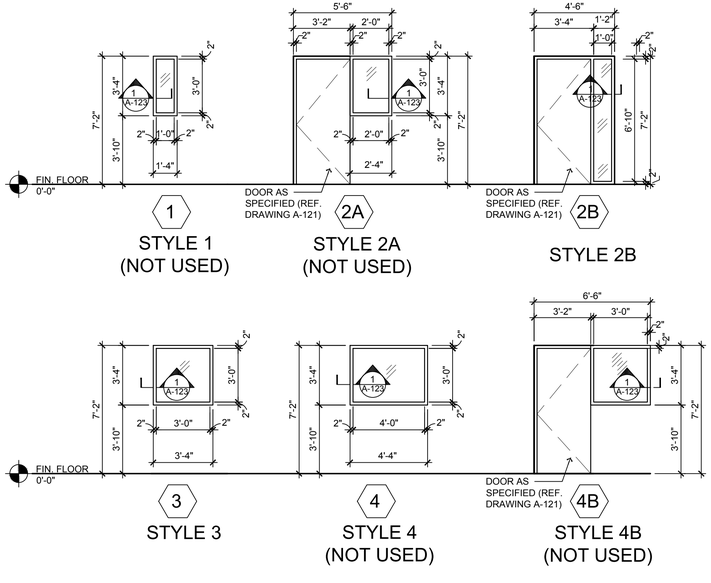
ELEVATION TYPE	WIDTH	HEIGHT	TYPE	FRAME	FIRE RATING	GLASS	FINISH	GLASS THICK.
STYLE 1	NOT USED							
STYLE 2A	2'-4"	3'-4"	FIXED	HM	N/A	CLEAR TEMPERED SAFETY GLASS	PRIME/ PAINT	1/4"
STYLE 2B	2'-2"	7'-2"	FIXED	HM	N/A	CLEAR TEMPERED SAFETY GLASS	PRIME/ PAINT	1/4"
STYLE 3	NOT USED							
STYLE 4	NOT USED							
STYLE 4B	NOT USED							

INTERIOR WINDOW NOTES:

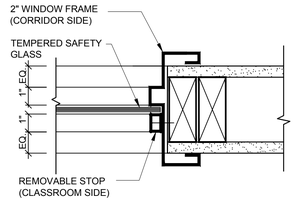
1. CONTRACTOR TO FIELD VERIFY ALL ROUGH OPENINGS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO FABRICATION AND INSTALLATION.
2. ALL WINDOWS TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
3. ALL WINDOW FRAMES SHALL BE PAINTED PER SHEET A-042 / PAINT FINISH PLAN
4. WINDOW PROTECTION THROUGH BUILDING COMPLETION - CONTRACTOR SHALL COVER WINDOWS WITH TEMPORARY PROTECTIVE SHEATHING WHICH SHALL BE SECURED AND STRONG ENOUGH TO RESIST WIND LOADS, CONSTRUCTION MISHAPS, OR ANY OTHER UNFORESEEN CIRCUMSTANCES.
5. BLINDS - AT INTERIOR OFFICE WINDOWS (INSTALLED ON OFFICE SIDE)
   a. 1" EXTRUDED PVC (VINYL)
   b. CORDLESS
   c. COLOR: WHITE
   d. TILT OPERATION: MANUAL WITH WAND
   e. SEE SPECIFICATIONS DRAWINGS FOR ADDITIONAL INFORMATION
   f. MOUNTED APPROX. 1" FROM FROM INTERIOR FACE OF GLASS.

NOTE: NOT ALL WINDOW TYPES ARE USED AT EACH LOCATION. COORDINATE TYPES WITH TAGS ON CONSTRUCTION PLAN.

INTERIOR WINDOW ELEVATIONS



INTERIOR WINDOW FRAME DETAILS



1 JAMB/HEAD/SILL DETAIL

SCALE: 3" = 1'-0"

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY
2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC
3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: OK	Approved By: MBJ

Drawing Name:

WINDOW SCHEDULES

Drawing Number:

A-123

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

GENERAL NOTES:

1. REFER TO SPECIFICATIONS DRAWINGS FOR APPLIANCE MAKE AND MODEL INFORMATION.
2. SEE ELECTRICAL DRAWINGS FOR ELECTRICAL OUTLETS AND TELEPHONE JACK LOCATIONS.
3. REFER TO CONSTRUCTION PLAN FOR SPECIFIC LAYOUT. PLANS AND ELEVATIONS SHOWN ARE FOR TYPICAL LAYOUTS.
4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PRIOR TO FABRICATION.
5. ALL SILICONE / CAULK APPLIED ON MILLWORK TO BE COLOR-MATCHING.
6. ALL MILLWORK SUPPLIED BY REQUIRED MILLWORK VENDOR. SEE VENDOR LIST ON DRAWING T-200.
7. BOOK CASES ARE TO BE 5/8" INDUSTRIAL GRADE M.D.F., WITH 100 GRAM MELAMINE ON FRONT AND BACK SHELF SIDES AND BOTTOM TO BE 5/8" M.D.F. TOP TO HAVE RADIUS CORNERS WITH A 3/4" OVERHANG IN FRONT. ALL EDGES TO BE 1 MM PVC.
8. PROVIDE 1mm PVC EDGING WHERE NOTED (REFER TO DETAIL 6/A-131). PVC EDGING COLOR TO BE GREY.
9. ALL BOOKSHELVES, COMPUTER TABLES, AND CUBBIES TO BE BUILT USING HEAVY DUTY COUNTER-SUNK MECHANICAL FASTENERS.
10. REFER TO MILLWORK SCHEDULE FOR MILLWORK QUANTITIES.
11. WALL MOUNTED CUBBIES WITH 100 GRAM MELAMINE FINISH. ADDITIONAL ELECTRICAL OUTLET SHALL BE MOUNTED ABOVE 1 CUBBY UNIT IN EACH ROOM.
12. BLOCKING TO BE INSTALLED PER MILLWORK SHOP DRAWINGS.
13. FOR STATES THAT REQUIRE COTS, FRP TO BE INSTALLED AT WALL(S) WHERE THEY WILL BE STACKED.

KEY NOTES:

(1) PROVIDE WALL BLOCKING AT ALL WALL ATTACHMENTS

MILLWORK SCHEDULE

ROOM NAME	ROOM NUMBER	NO. OF CHILDREN	BIN CUBBIES	MAT RACKS	SHORT BOOKCASE	TALL BOOKCASE	COMPUTER TABLE
INFANT A	133	8	8	-	2	-	-
INFANT B	131	8	8	-	2	-	-
TODDLER A	108	8	10	1	2	3	-
TODDLER B	110	7	8	2	2	3	-
TWADDLERS	112	16	18	2	3	3	-
PREPPERS	105	16	18	2	-	5	1
PRESCHOOL #1	116	20	22	2	-	6	1
PRESCHOOL #2	124	20	22	2	-	6	1
PRESCHOOL #3	127	18	20	2	-	6	1
PRE-K/K	114	16	18	2	-	6	1
MBB/PRE-SCHOOL	121	20	22	-	-	2	-

MILLWORK FINISH AND COUNTER HEIGHTS SCHEDULE

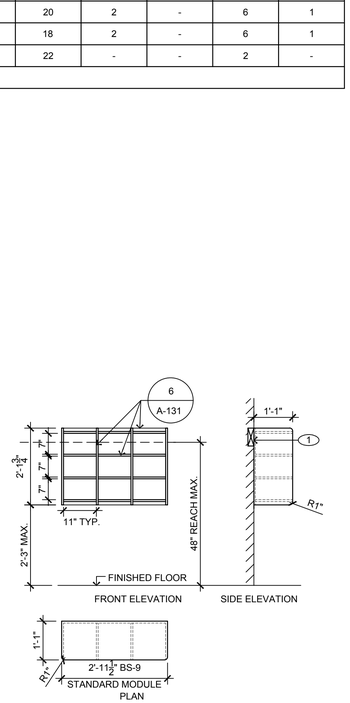
PLASTIC LAMINATE COUNTER & EDGE BANDING COLOR	ROOM TYPES VARY SITE TO SITE (REF. A-011)	COUNTER HEIGHT
TYPICAL DIAPER CHANGING COUNTERS		
WILSONART LOLITE #Y0737-60 (MATTE)	ALL INFANT ROOMS ALL TWADDLER ROOMS PREPPERS B	2'-6" (ALL)
WILSONART SUNNY SIDE UP #13089-60 (MATTE)	ALL TODDLER ROOMS PREPPERS A	
WILSONART LEMON LIME #Y0359-60 (MATTE)	ALL PRE-K/K ROOMS	
TYPICAL ART COUNTERS		
WILSONART LOLITE #Y0737-60 (MATTE)	MAKE BELIEVE BLVD. PREPPERS B PRESCHOOL 2B, 3B, & 4	2'-0" (ALL)
WILSONART SUNNY SIDE UP #13089-60 (MATTE)	PREPPERS A PRESCHOOL 1, 1A, 3, & 3A	
WILSONART LEMON LIME #Y0359-60 (MATTE)	PRESCHOOL 1B, 2, & 2A ALL PRE-K/K ROOMS	
TYPICAL PANTRY COUNTERS		
WILSONART LOLITE #Y0737-60 (MATTE)	ALL INFANT ROOMS ALL TWADDLER ROOMS STAFF LOUNGE	2'-10" (ALL)
WILSONART SUNNY SIDE UP #13089-60 (MATTE)	ALL TODDLER ROOMS MAIN PANTRY	
RECEPTION COUNTERS		
WILSONART LOLITE #Y0737-60 (MATTE)	RECEPTION	REF. DTLS. ON DWG. A-134

(1)

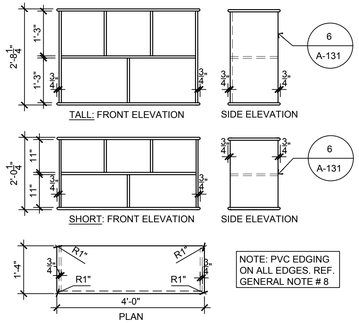
NOTE:
ALL MILLWORK TO BE PROVIDED AND INSTALLED BY THE REQUIRED VENDOR BELOW. NO SUBSTITUTIONS ALLOWED.

RODGERS WADE
1401 SW 3RD STREET
PARIS, TX 75460
PHONE: 903-783-3680
FAX: 903-739-2505
teamtle@rodgerswade.com

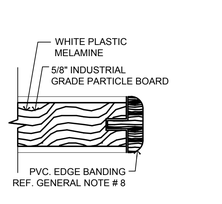
8 BATH SHELVES DETAIL
SCALE: 1/2" = 1'-0"



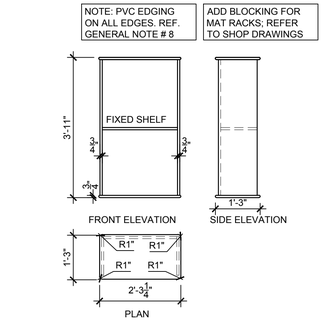
7 WIRE SHELVING DETAILS
SCALE: N.T.S.



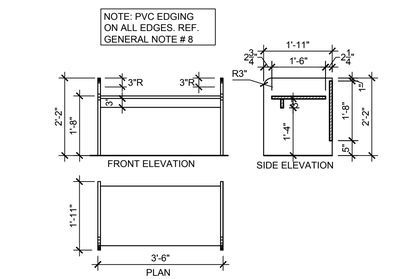
5 BOOK SHELF DETAIL
SCALE: 1/2" = 1'-0"



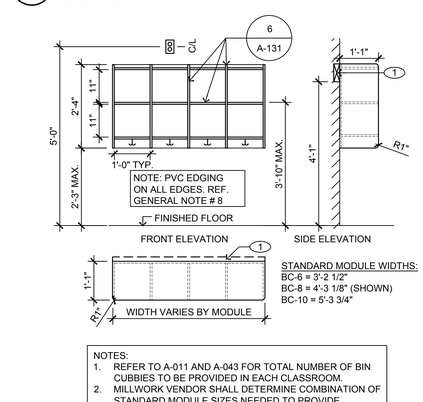
6 EDGE BAND DETAIL
SCALE: N.T.S.



4 MAT HOLDER DETAIL
SCALE: 1/2" = 1'=0"

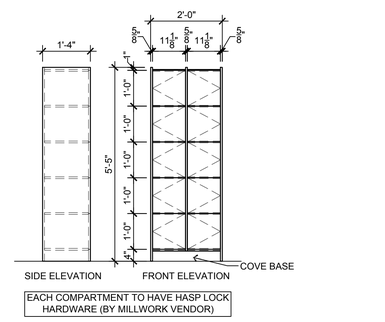


3 COMP. DETAIL
SCALE: 1/2" = 1'=0"



NOTES:
1. REFER TO A-011 AND A-043 FOR TOTAL NUMBER OF BIN CUBBIES TO BE PROVIDED IN EACH CLASSROOM.
2. MILLWORK VENDOR SHALL DETERMINE COMBINATION OF STANDARD MODULE SIZES NEEDED TO PROVIDE SPECIFIED TOTAL NUMBER OF CUBBIES.

2 BIN CUBBIES FOR CLASSROOMS
SCALE: 1/2" = 1'-0"



EACH COMPARTMENT TO HAVE HASP LOCK HARDWARE (BY MILLWORK VENDOR)

1 STAFF LOUNGE LOCKERS
SCALE: N.T.S.

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY
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PROFESSIONAL CERTIFICATION

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LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By:	Approved By:
---	MBJ

Drawing Name:

CUBBIES ELEVATIONS AND DETAILS

Drawing Number:

A-131

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

GENERAL NOTES:

1. ALL BASE AND UPPER CABINETS TO BE WHITE PLASTIC LAMINATE. INTERIORS TO BE WHITE MELAMINE.
2. ALL CABINETS SHALL HAVE FINGER PULLS.
3. ALL LOWER LEVEL CABINET DOORS AND DRAWERS TO HAVE CHILD SAFETY LOCKS, EXCEPT FOR MAIN PANTRY RECEPTION AREA AND STAFF LOUNGE. PROVIDE TOT LOCK MAGNETS (2 PER ROOM). REFER TO KEY NOTE 17 FOR ADDITIONAL LOCATIONS.
4. SEE SPECIFICATIONS DRAWINGS FOR APPLIANCE MAKE AND MODEL INFORMATION.
5. ALL COUNTERS TO BE PLASTIC LAMINATE. SEE MILLWORK FINISH SCHEDULE FOR COLOR AND HEIGHT OF THE COUNTERS.
6. NO GROMMET HOLES IN CABINETS FOR ELECTRIC OUTLETS; OUTLETS ARE TO BE PLACED ABOVE THE COUNTERTOP.
7. SEE ELECTRICAL DRAWINGS FOR ELECTRICAL OUTLETS AND TELEPHONE JACK LOCATIONS.
8. REFER TO CONSTRUCTION PLAN FOR SPECIFIC LAYOUT. PLANS AND ELEVATIONS SHOWN ARE FOR TYPICAL LAYOUTS.
9. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PRIOR TO FABRICATION.
10. ALL SILICONE / CAULK APPLIED ON MILLWORK TO BE COLOR-MATCHING.
11. ALL MILLWORK SUPPLIED BY REQUIRED MILLWORK VENDOR. SEE T-200.
12. PROVIDE 1mm PVC EDGING WHERE NOTED (REFER TO DETAIL 6/A-131). PVC EDGING COLOR TO MATCH SPECIFIED COUNTERTOP COLOR.
13. REFER TO DRAWING A-131 FOR QUANTITIES OF ALL FURNITURE AND MILLWORK.
14. ALL PANTRY COUNTERS AT CLASSROOMS, ART COUNTERS, DIAPER COUNTERS, AND ALL COUNTERS PROVIDED IN CLASSROOMS SHALL HAVE 2" RADIUS CORNERS.
15. BLOCKING TO BE INSTALLED PER MILLWORK SHOP DRAWINGS.

KEY NOTES:

1. SOAP DISPENSER, SEE DRAWING A-111 FOR ACCESSORY SCHEDULE.
2. PAPER TOWEL DISPENSER, SEE DRAWING A-111 FOR ACCESSORY SCHEDULE.
3. PLASTIC LAMINATE COUNTER TOP. SEE MILLWORK FINISH AND COUNTER HEIGHTS SCHEDULE FOR COLOR AND HEIGHT.
4. SINK PANEL (FIXED W/NO DAILY ACCESS).
5. 4" COVED VINYL WALL BASE TOE KICK.
6. 8" PLASTIC LAMINATE GUARD WITH LIP ROUND CORNER TO PREVENT CHILDREN FROM FALLING. COLOR TO MATCH COUNTERTOP.
7. RADIUS CORNER
8. SINK. SEE PLUMBING DWGS P-100.
9. NOT USED
10. NOT USED
11. FINISH CEILING LINE.
12. REFRIGERATOR. SEE SPECIFICATIONS DRAWINGS FOR MAKE AND MODEL.
13. 4" PLASTIC LAMINATE BACKSPLASH. COLOR TO MATCH COUNTERTOP.
14. MICROWAVE OUTLETS TO BE LOCATED ABOVE THE COUNTER.
15. NOT USED
16. PROVIDE BLOCKING AT ALL CUBBIES, CABINETS, ETC. REFER TO DTL. 6/A-132.
17. TOT LOCK TO BE PROVIDED ON LOWER CABINET DOORS AND DRAWERS, EXCEPT FOR TEACHER'S LOUNGE. REFER ALSO TO GENERAL NOTE 3.

NOTE:
ALL MILLWORK TO BE PROVIDED AND INSTALLED BY THE REQUIRED VENDOR BELOW. NO SUBSTITUTIONS ALLOWED.

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1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY
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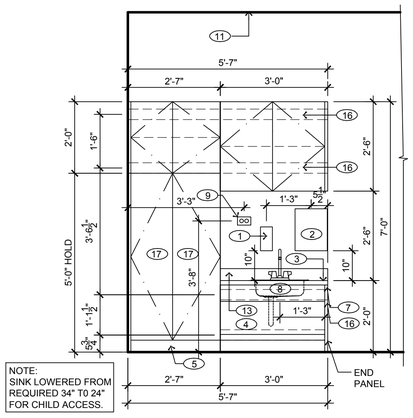
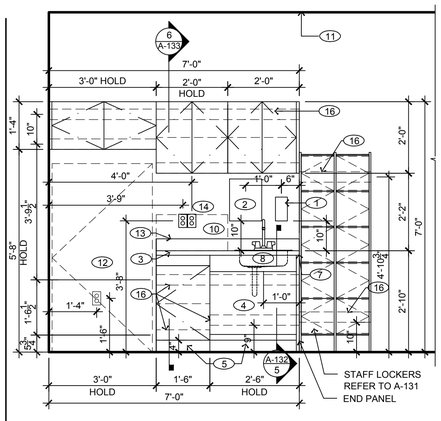
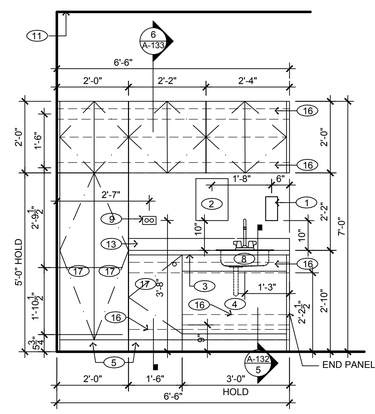
3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL



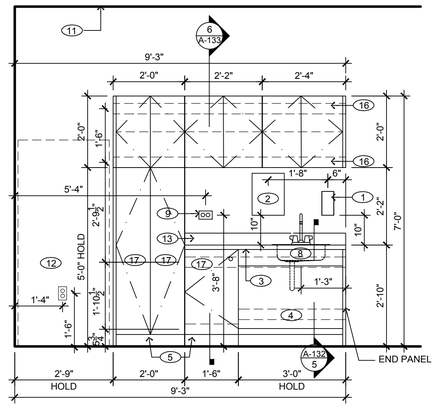
4B ELEVATION
SCALE: 1/2" = 1'-0"



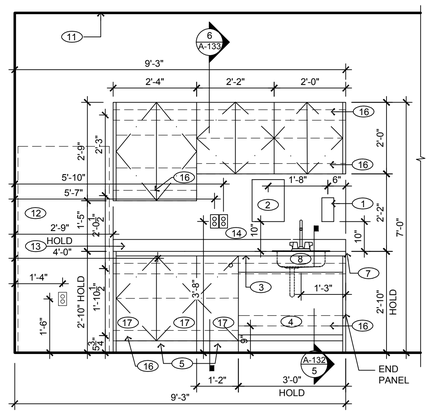
3B ELEVATION
SCALE: 1/2" = 1'-0"



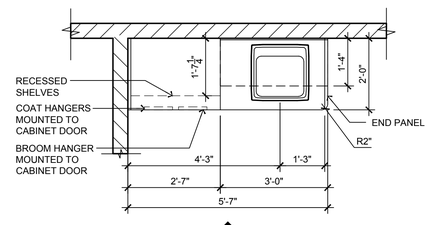
2B ELEVATION @ TWADDLER ROOMS
SCALE: 1/2" = 1'-0"



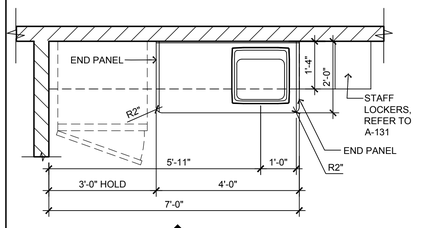
1C ELEVATION @ TODDLER ROOMS
SCALE: 1/2" = 1'-0"



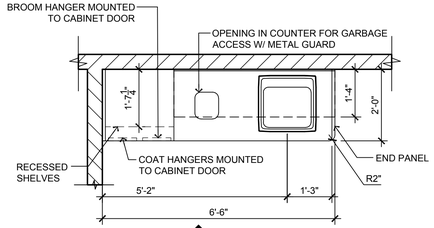
1B ELEVATION @ INFANT ROOMS
SCALE: 1/2" = 1'-0"



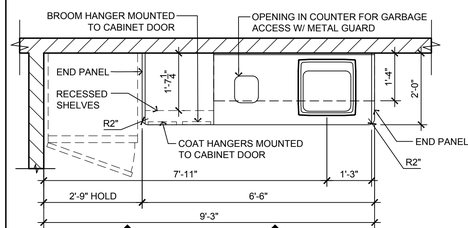
4A ENLARGED ART COUNTER PLAN
SCALE: 1/2" = 1'-0"



3A ENLARGED PANTRY PLAN AT STAFF LOUNGE
SCALE: 1/2" = 1'-0"



2A ENLARGED PANTRY PLAN AT CLASSROOMS
SCALE: 1/2" = 1'-0"



1A ENLARGED PANTRY PLAN AT CLASSROOMS
SCALE: 1/2" = 1'-0"

4 ART COUNTER DET. AT PREPPERS, PRESCHOOL, PRE K-K & M.B.B.
SCALE: 1/2" = 1'-0"

3 PANTRY DETAILS @ STAFF LOUNGE
SCALE: 1/2" = 1'-0"

2 PANTRY DETAILS @ TWADDLER
SCALE: 1/2" = 1'-0"

1 PANTRY DETAILS @ INFANT & TODDLER
SCALE: 1/2" = 1'-0"

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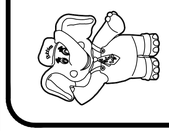

ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: OK	Approved By: MBJ

Drawing Name:
MILLWORK ELEVATIONS AND DETAILS

Drawing Number:
A-132

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

GENERAL NOTES:

1. ALL BASE AND UPPER CABINETS TO BE WHITE PLASTIC LAMINATE. INTERIORS TO BE WHITE MELAMINE.
2. ALL CABINETS SHALL HAVE FINGER PULLS.
3. ALL LOWER LEVEL CABINET DOORS AND DRAWERS TO HAVE CHILD SAFETY LOCKS, EXCEPT FOR MAIN PANTRY RECEPTION AREA AND STAFF LOUNGE. PROVIDE TOT LOCK MAGNETS (2 PER ROOM). REFER TO KEY NOTE 17 FOR ADDITIONAL LOCATIONS.
4. SEE SPECIFICATIONS DRAWINGS FOR APPLIANCE MAKE AND MODEL INFORMATION.
5. ALL COUNTERS TO BE PLASTIC LAMINATE. SEE MILLWORK FINISH SCHEDULE FOR COLOR AND HEIGHT OF THE COUNTERS.
6. NO GROMMET HOLES IN CABINETS FOR ELECTRIC OUTLETS; OUTLETS ARE TO BE PLACED ABOVE THE COUNTERTOP.
7. SEE ELECTRICAL DRAWINGS FOR ELECTRICAL OUTLETS AND TELEPHONE JACK LOCATIONS.
8. REFER TO CONSTRUCTION PLAN FOR SPECIFIC LAYOUT. PLANS AND ELEVATIONS SHOWN ARE FOR TYPICAL LAYOUTS.
9. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PRIOR TO FABRICATION.
10. ALL SILICONE / CAULK APPLIED ON MILLWORK TO BE COLOR-MATCHING.
11. ALL MILLWORK SUPPLIED BY REQUIRED MILLWORK VENDOR. SEE T-200.
12. PROVIDE 1mm PVC EDGING WHERE NOTED (REFER TO DETAIL 6/A-131). PVC EDGING COLOR TO MATCH SPECIFIED COUNTERTOP COLOR.
13. REFER TO DRAWING A-043 FOR QUANTITIES AND LOCATIONS OF ALL FURNITURE AND MILLWORK.
14. ALL PANTRY COUNTERS AT CLASSROOMS, ART COUNTERS, DIAPER COUNTERS, AND ALL COUNTERS PROVIDED IN CLASSROOMS SHALL HAVE 2" RADIUS CORNERS.

KEY NOTES:

1. SOAP DISPENSER, SEE DRAWING A-111 FOR ACCESSORY SCHEDULE.
2. PAPER TOWEL DISPENSER, SEE DRAWING A-111 FOR ACCESSORY SCHEDULE.
3. PLASTIC LAMINATE COUNTER TOP. SEE MILLWORK FINISH AND COUNTER HEIGHTS SCHEDULE FOR COLOR AND HEIGHT.
4. SINK PANEL (FIXED W/NO DAILY ACCESS).
5. 4" COVED VINYL WALL BASE TOE KICK.
6. 8" PLASTIC LAMINATE GUARD WITH LIP ROUND CORNER TO PREVENT CHILDREN FROM FALLING. COLOR TO MATCH COUNTERTOP.
7. RADIUS CORNER
8. SINK. SEE PLUMBING DWGS P-100.
9. NOT USED
10. MICROWAVE ON COUNTER. SEE SPECIFICATIONS DRAWINGS FOR MAKE AND MODEL
11. FINISH CEILING LINE.
12. REFRIGERATOR. SEE SPECIFICATIONS DRAWINGS FOR MAKE AND MODEL.
13. 4" PLASTIC LAMINATE BACKSPLASH. COLOR TO MATCH COUNTERTOP.
14. MICROWAVE OUTLETS TO BE LOCATED ABOVE THE COUNTER.
15. NOT USED
16. PROVIDE BLOCKING AT ALL CUBBIES, CABINETS, ETC. REFER TO DTL. 6/A-133.
17. TOT LOCK TO BE PROVIDED ON LOWER CABINET DOORS AND DRAWERS, EXCEPT FOR TEACHER'S LOUNGE. REFER ALSO TO GENERAL NOTE 3.

NOTE:
ALL MILLWORK TO BE PROVIDED AND INSTALLED BY THE REQUIRED VENDOR BELOW. NO SUBSTITUTIONS ALLOWED.

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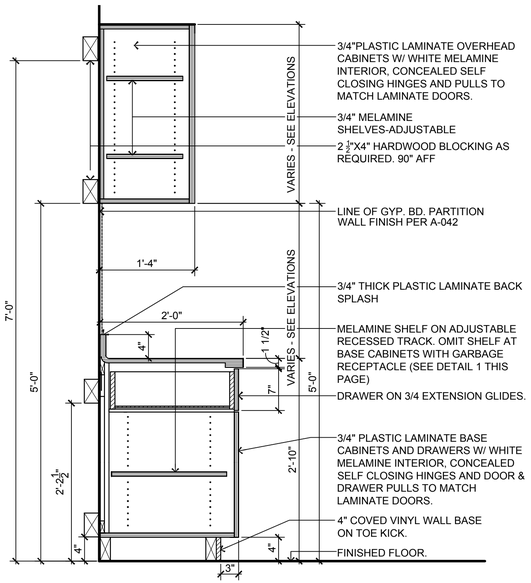
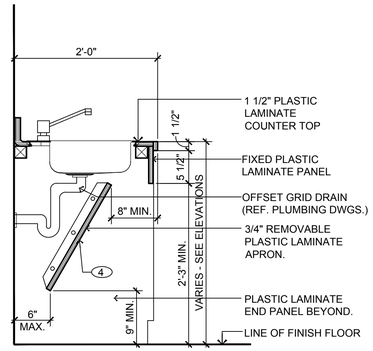
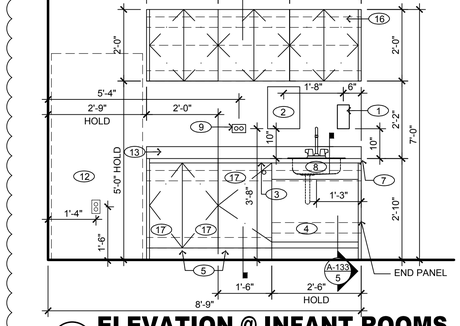


6 SECTION @ CLASSROOM MILLWORK
SCALE: 1" = 1'-0"

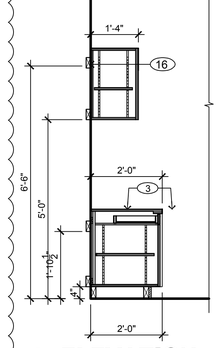


5 SECTION @ CLASSROOM ADA SINK
SCALE: 1" = 1'-0"

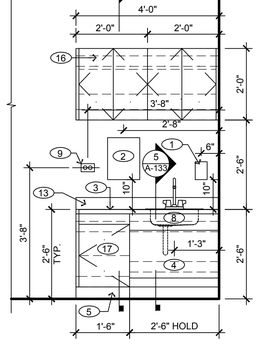
8A ENLARGED PANTRY PLAN AT CLASSROOMS
SCALE: 1/2" = 1'-0"



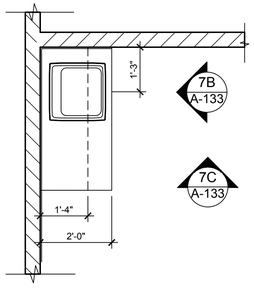
8B ELEVATION @ INFANT ROOMS
SCALE: 1/2" = 1'-0"



7C ELEVATION
SCALE: 1/2" = 1'-0"

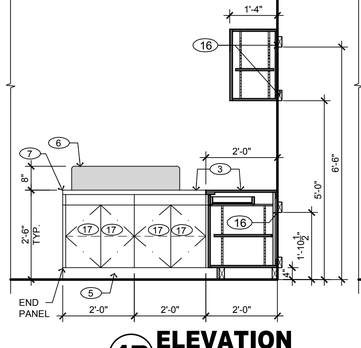


7B ELEVATION
SCALE: 1/2" = 1'-0"

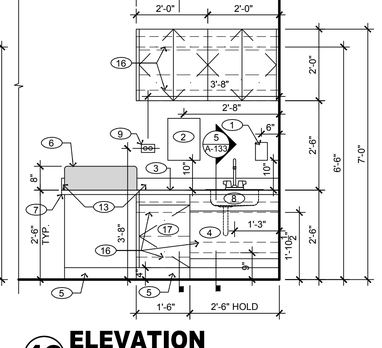


7A ENLARGED PLAN
SCALE: 1/2" = 1'-0"

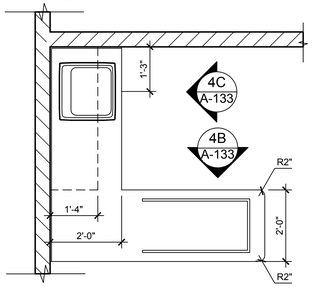
7 DIAPER CLEAN STATION @ PRE K-K
SCALE: 1/2" = 1'-0"



4B ELEVATION
SCALE: 1/2" = 1'-0"



4C ELEVATION
SCALE: 1/2" = 1'-0"



4A ENLARGED PLAN
SCALE: 1/2" = 1'-0"

4 DIAPER COUNTER DET. @ INFANT, TODDLER, TWADDLER & PREPPER
SCALE: 1/2" = 1'-0"

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY
2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC
3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: ---	Approved By: MBJ

Drawing Name:
MILLWORK ELEVATIONS AND DETAILS

Drawing Number:
A-133

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

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GENERAL NOTES:

1. SEE DRAWING A-131 FOR GENERAL NOTES
2. CONTRACTOR TO COORDINATE ALL PLUMBING FIXTURE SIZES PRIOR TO MILLWORK FABRICATION.
3. LIMIT DOOR SWING TO 90 DEGREES.
4. BLOCKING TO BE INSTALLED PER MILLWORK SHOP DRAWINGS AND AS INDICATED ON A-134

KEY NOTES:

1. SOAP DISPENSER; SEE DRAWING A-111 FOR ACCESSORY SCHEDULE.
2. PAPER TOWEL DISPENSER; SEE DRAWING A-111 FOR ACCESSORY SCHEDULE.
3. SEE DRAWING A-131, MILLWORK FINISH AND COUNTER HEIGHTS SCHEDULE.
4. SINK PANEL (FIXED W/NO DAILY ACCESS).
5. NOT USED
6. PROVIDE A TELEPHONE JACK. 5'-6" HEIGHT A.F.F.
7A. HAND SINK WITH COUNTER-MOUNTED SPLASH GUARDS. PROVIDE DIRECT DRAIN CONNECTION. REFER TO PLUMBING DWGS P-100.
7B. FOOD PREP SINK. PROVIDE INDIRECT DRAIN CONNECTION. REFER TO PLUMBING DWGS P-100.
8. ELECTRIC CONVECTION OVEN (SUPPLIED AND INSTALLED BY G.C.). REFER TO SPECIFICATIONS.
9. FINISH CEILING LINE.
10. REFRIGERATOR (SUPPLIED AND INSTALLED BY G.C.) REFER TO SPECIFICATIONS.
11. FREEZER (SUPPLIED AND INSTALLED BY G.C.) REFER TO SPECIFICATIONS.
12. 4" PLASTIC LAMINATE BACK SPLASH MATCH TO COUNTERTOP COLOR.
13. 6" QUARRY BASE, SEE FINISH PLAN FOR SPECIFICATIONS.
13a. STAINLESS STEEL BASE STAND.
14. WHITE FRP PANELS ON WALLS (TO TOP OF CABINETS ONLY).
15. THREE COMPARTMENT SINK. PROVIDE INDIRECT CONNECTIONS. SEE PLUMBING DRAWING P-100.
16. PROVIDE OUTLETS FOR CONVECTION OVENS.
17. PROVIDE AERO NON-NSF DRAINBOARDS STAINLESS STEEL MODEL4D-1830. WITH STAINLESS STEEL FEET SO THAT THEY WILL ANGLE INTO SINK AND HAVE PROTECTIVE BOTTOM SO COUNTER DOESN'T SCRATCH. PROVIDE ONE ON EACH SIDE.
18. NOT USED
19. INDIRECT CONNECTIONS SHALL BE PROVIDED AT PANTRY FOOD PREP SINK AND 3-COMPARTMENT SINK ONLY. PROVIDE DIRECT CONNECTION AT PANTRY HAND SINK.
20. HOLD DIMENSION FOR MINIMUM OF 4" FROM FACE OF MILLWORK TO DOOR FOR CLEARANCE FOR DOOR CLOSER

NOTE:
ALL MILLWORK TO BE PROVIDED AND INSTALLED BY THE REQUIRED VENDOR BELOW. NO SUBSTITUTIONS ALLOWED.

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PARIS, TX 75460
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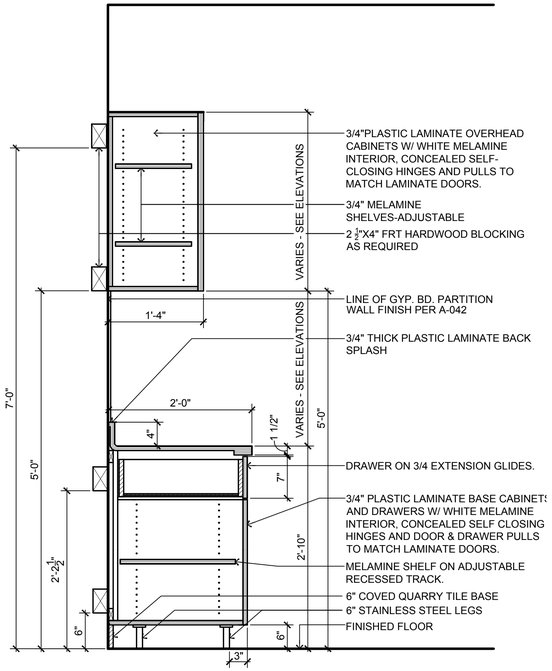
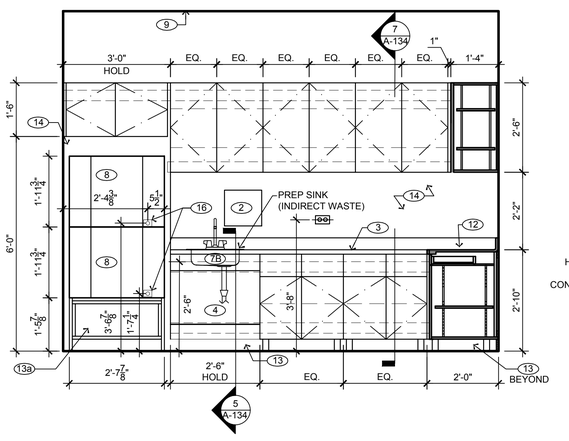


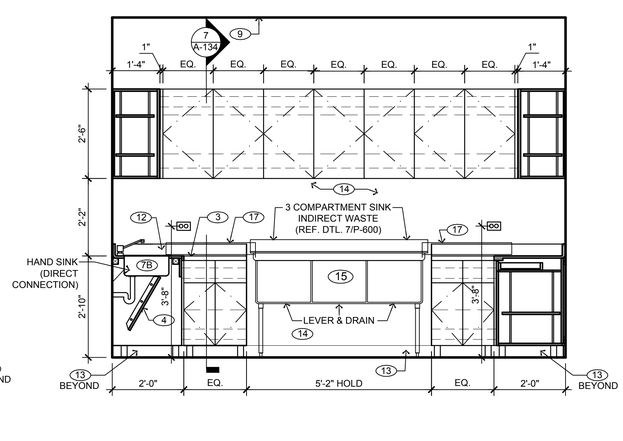
7 MILLWORK SECTION AT PANTRY

SCALE: 1" = 1'-0"



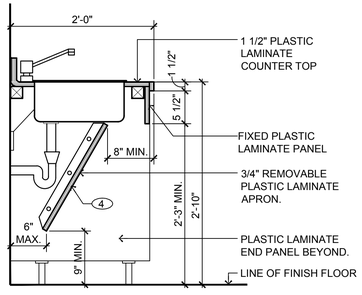
4 ELEVATION AT PANTRY

SCALE: 1/2" = 1'-0"



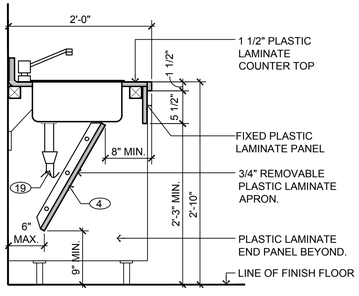
3 ELEVATION AT PANTRY

SCALE: 1/2" = 1'-0"



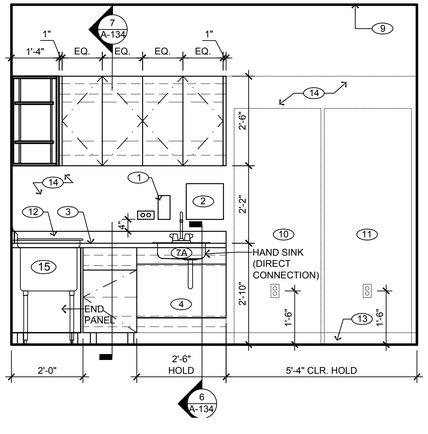
6 SECTION AT PANTRY ADA HAND SINK

SCALE: 1" = 1'-0"



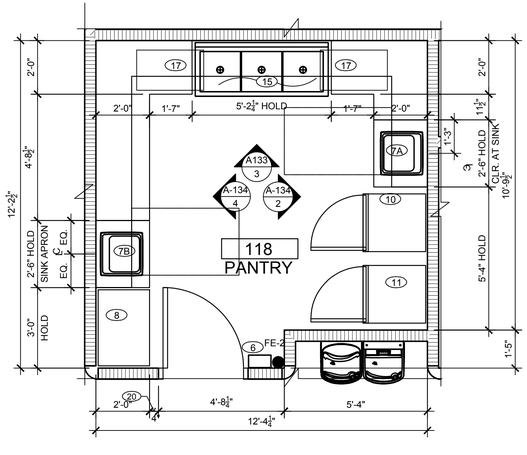
5 SECTION AT PANTRY ADA PREP SINK

SCALE: 1" = 1'-0"



2 ELEVATION AT PANTRY

SCALE: 1/2" = 1'-0"



1 PLAN AT PANTRY

SCALE: 3/8" = 1'-0"

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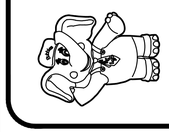
ARBORWALK WEST
LEE'S SUMMIT, MISSOURI



ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

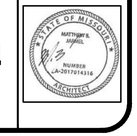
Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: OK	Approved By: MBJ

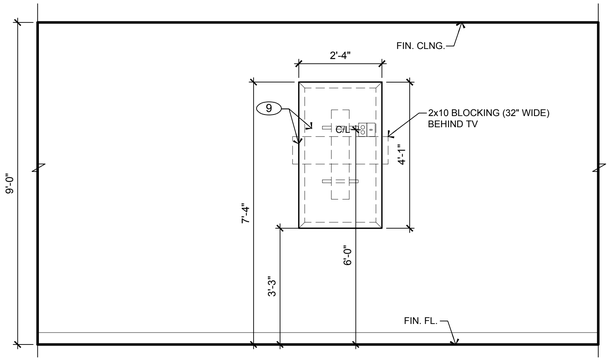
Drawing Name:

PANTRY ELEVATIONS AND DETAILS

Drawing Number:

A-134

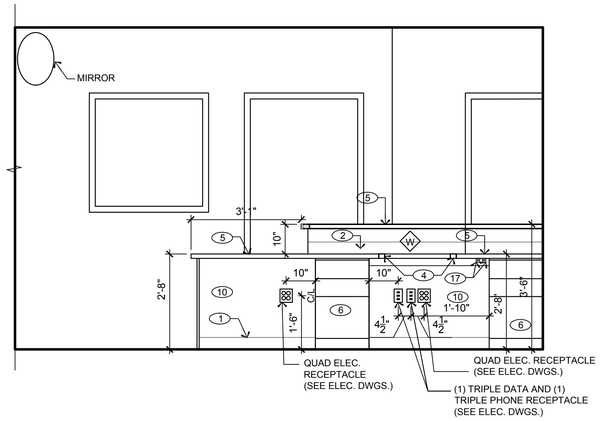




NO OTHER DEVICES (F.E., ETC) TO BE PLACED ON THIS WALL DUE TO WALL GRAPHICS AT THIS LOCATION

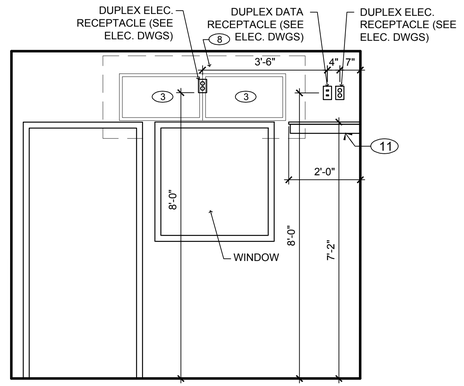
6 ELEVATION AT RECEPTION

SCALE: 1/2" = 1'-0"



5 ELEVATION AT RECEPTION

SCALE: 1/2" = 1'-0"



2 ELEVATION AT OFFICE

SCALE: 1/2" = 1'-0"

NOTE:
ALL MILLWORK TO BE PROVIDED AND INSTALLED BY THE REQUIRED VENDOR BELOW. NO SUBSTITUTIONS ALLOWED.

RODGERS WADE
1401 SW 3RD STREET
PARIS, TX 75460
ATTN: Cate Smith, Project Coordinator
PHONE: 903-783-3680
FAX: 903-739-2505
teamtle@rodgerswade.com

GENERAL NOTES:

1. SEE DRAWING A-131 FOR GENERAL NOTES
2. CONTRACTOR TO COORDINATE ALL PLUMBING FIXTURE SIZES PRIOR TO MILLWORK FABRICATION.
3. RUBBER BUMPERS ARE REQUIRED ON ALL DOORS - TOP & BOTTOM AND ALL DRAWERS.
4. BLOCKING TO BE INSTALLED PER MILLWORK SHOP DRAWINGS.

KEY NOTES:

(1) 4" PLASTIC LAMINATE TOE KICK ON CABINETS.

(2) 4" PLASTIC LAMINATE BACKSPLASH. COLOR TO MATCH COUNTERTOP.

(3) (2) 32" MONITORS TO BE COORDINATED WITH SECURITY VENDOR. SEE SPECIFICATION. MONITORS TO BE MOUNTED SIDE BY SIDE AND BOTTOM TO BE EVEN W/ TOP OF WINDOW FRAME.

(4) 2" GROMMET HOLE WITH INSERTS AT LOWER COUNTER.

(4a) 2" DESK GROMMET HOLES IN OFFICE DESK (REFER TO MILLWORK SHOP DRAWINGS FOR DETAILS).

(5) PLASTIC LAMINATE COUNTER/DESK. SEE MILLWORK FINISH AND COUNTER HEIGHTS SCHEDULE ON DRAWING A-131.

(6) DESK PEDESTAL

(7) COPIER/PRINTER BY TLE

(8) 2"x10" BLOCKING BEHIND MONITORS. BLOCKING TO BE LOCATED FLUSH WITH BOTTOM OF OUTLET AND CENTERED ON OUTLET.

(9) 55" LOBBY BOARD/RECEPTION TV PROVIDED THROUGH CDW. TV TO BE MOUNTED VERTICALLY AT 60" AFF TO C.L. (39" AFF TO BOTTOM, 88" AFF TO TOP) WITH FLUSH-MOUNT, NON-TILT BRACKET APPROVED FOR MOUNTING IN VERTICAL ORIENTATION. PROVIDE (1) DUPLEX RECEPTACLE AND (1) DATA RECEPTACLE AT 72" AFF TO C.L. PROVIDE 2x10 BLOCKING (32" WIDE) BEHIND TV, FLUSH WITH BOTTOM OF OUTLET, AND CENTERED ON OUTLET REFER TO SPECIFICATIONS DRAWINGS FOR ADDITIONAL AUDIO VISUAL EQUIPMENT INFORMATION.

(10) DESK SUPPORT BY MILLWORK VENDOR. MILLWORK VENDOR SHALL COORDINATE FINAL RECEPTACLE LOCATIONS WITH ELECTRICIAN.

(11) DVR SHELF. **DVR SHOULD NOT BE INSTALLED WITH HARD DRIVE AND CAMERAS CANNOT RECORD.**

(12) KEY FOB. REFER TO ELECTRICAL DRAWINGS.

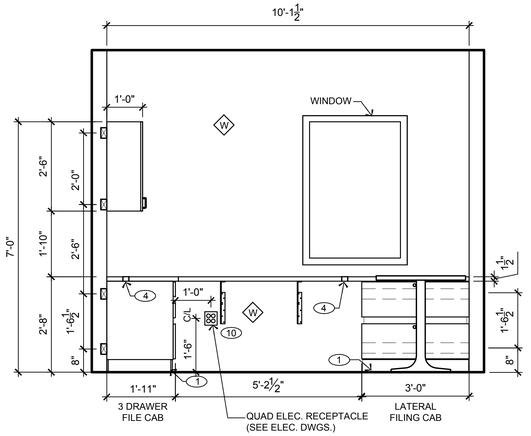
(13) CALL BOX. REFER TO ELECTRICAL DRAWINGS.

(14) BURGLAR ALARM KEYPAD. REFER TO ELECTRICAL DRAWINGS.

(15) FIRE ALARM CONTROL PANEL. REFER TO ELECTRICAL DRAWINGS.

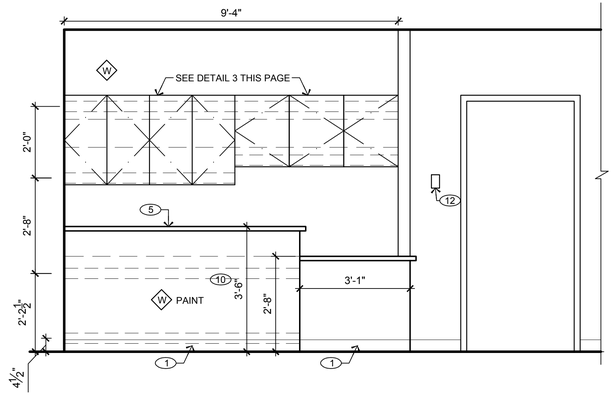
(16) UNDER-COUNTER DRAWERS ARE INSTALLED BY MILLWORK VENDOR AND ARE INTEGRATED INTO THE COUNTER

(17) DOOR RELEASE BUTTONS BY SECURITY VENDOR. ONE BUTTON SHALL OPERATE DOOR REC-1 AND THE OTHER SHALL OPERATE DOOR VES-2.



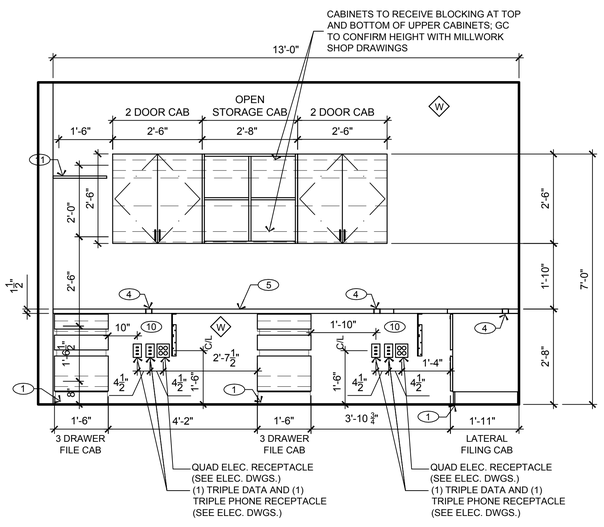
7 ELEVATION AT OFFICE

SCALE: 1/2" = 1'-0"



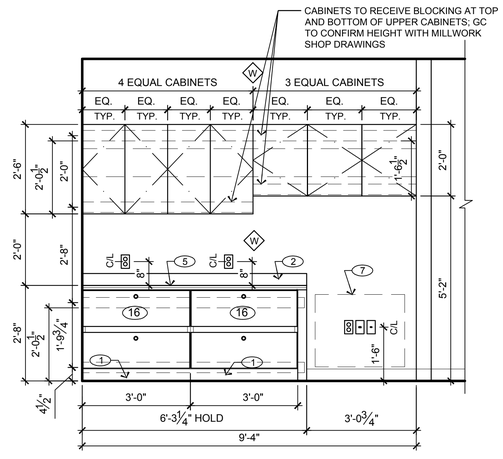
4 ELEVATION AT RECEPTION

SCALE: 1/2" = 1'-0"



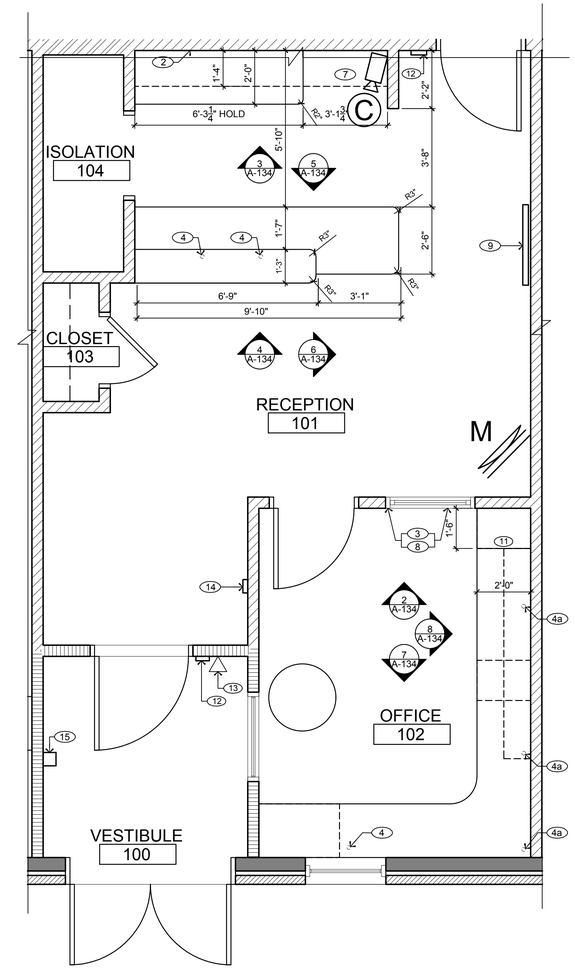
8 ELEVATION AT OFFICE

SCALE: 1/2" = 1'-0"



3 ELEVATION AT RECEPTION

SCALE: 1/2" = 1'-0"



1 PLAN AT RECEPTION & OFFICE

SCALE: 3/8" = 1'-0"

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY
2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC
3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

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THE LEARNING EXPERIENCE
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ARBORWALK WEST
LEE'S SUMMIT, MISSOURI

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By:	Approved By:
OK	MBJ

Drawing Name:

RECEPTION AREA ELEVATIONS AND DETAILS

Drawing Number:

A-135

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

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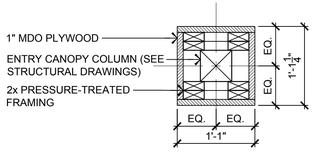
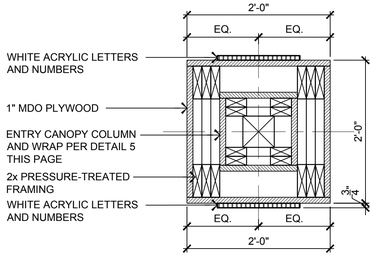
ENTRY BLOCKS PAINT SCHEDULE			
FINISH AREA	COLOR	SHERWIN WILLIAMS	
		COLOR NAME	STOCK NO.
BLOCKS 1 & A	PURPLE	DYNAMO	SW 6841
BLOCKS 2 & B	YELLOW	CONFIDENT YELLOW	SW 6911
BLOCKS 3 & C	ORANGE	OSAGE ORANGE	SW 6980
BLOCKS 4 & D	GREEN	ELECTRIC LIME	SW 6921
COLUMN WRAP	WHITE	ALABASTER	SW 7008

ENTRY BLOCKS PAINT SCHEDULE NOTES:
1. LETTERING SHALL BE WHITE ACRYLIC (PROVIDED BY SIGN VENDOR).
2. PAINT FINISH (COLORS SPECIFIED ABOVE)
3. ALL PAINTED SURFACES SHALL RECEIVE MINIMUM ONE COAT OF PRIMER AND TWO COATS OF PAINT (UNLESS FACTORY PRIMED BY THE MANUFACTURER). REFER TO SPECIFICATIONS DRAWINGS FOR ADDITIONAL INFORMATION.
4. NO SUBSTITUTIONS WILL BE ALLOWED.

NOTE: FINISH OUT COLUMNS TO MATCH THE BUILDING.

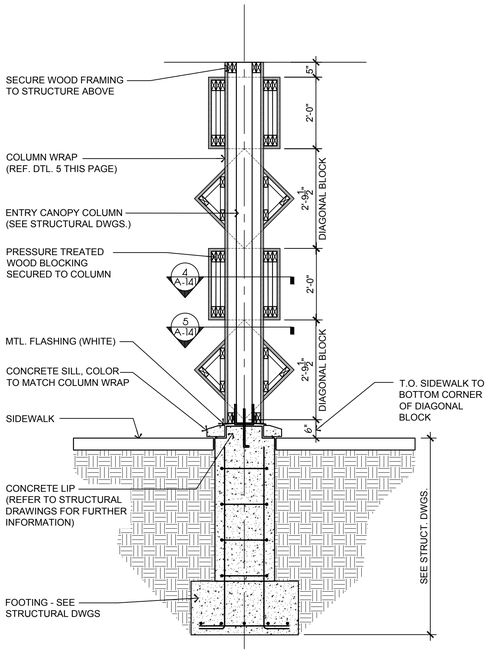


5 COLUMN WRAP PLAN DETAILS
SCALE: 1"=1'-0"

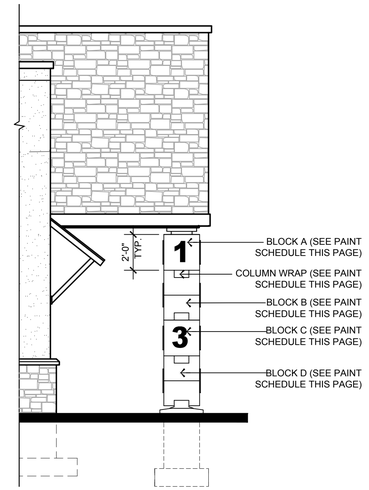


NOTE:
ABC-123 BLOCKS TO HAVE FLAT NUMBERS AND LETTERS AS SHOWN ON THE INTERIOR AND EXTERIOR SIDES OF THE COLUMN

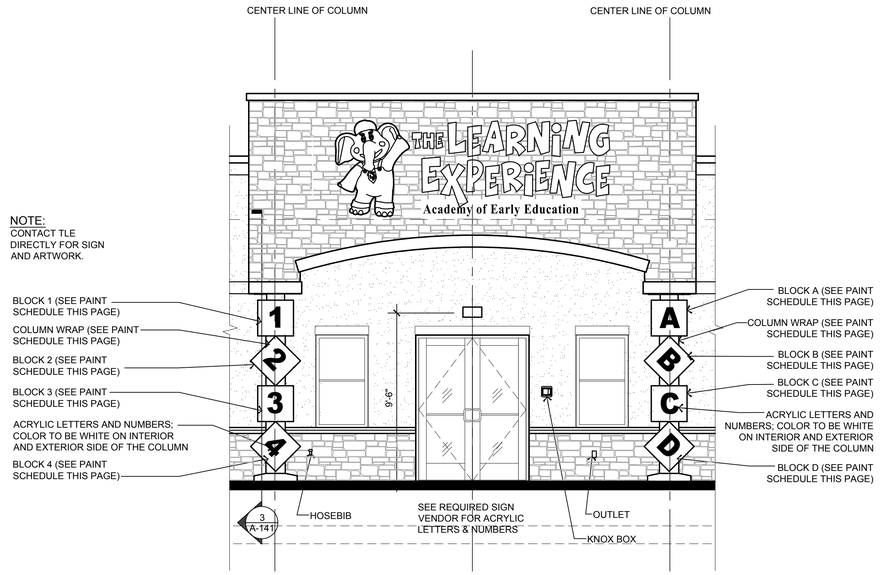
4 BUILDING BLOCKS PLAN DETAILS
SCALE: 1"=1'-0"



3 SECTION THROUGH COLUMN COVER
SCALE: 1/2"=1'-0"



2 SIDE ELEVATION AT CANOPY
SCALE: 1/4"=1'-0"



1 FRONT ELEVATION AT CANOPY
SCALE: 1/4"=1'-0"

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: OK	Approved By: MBJ

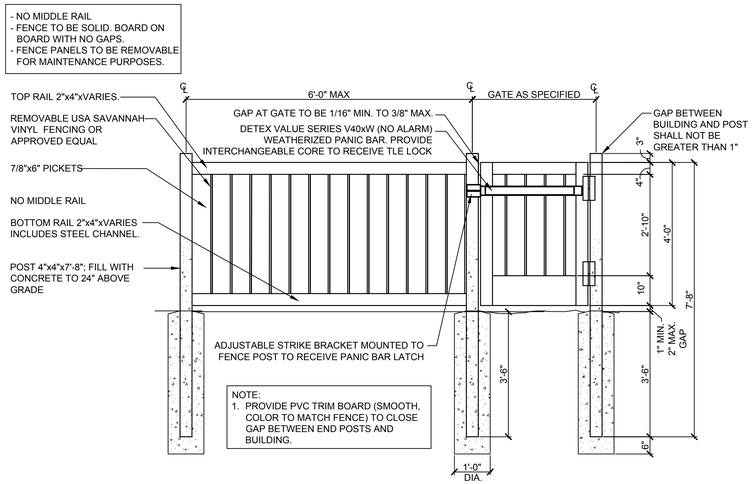
Drawing Name:

MAIN ENTRY DETAILS

Drawing Number:

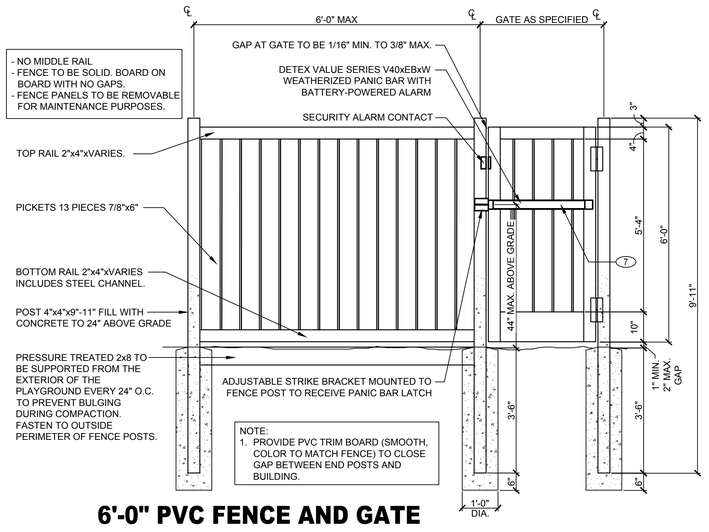
A-141

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT



3 4'-0" PVC FENCE AND GATE DETAIL

SCALE: 1/2"=1'-0"



2 6'-0" PVC FENCE AND GATE WITH PANIC HARDWARE

SCALE: 1/2"=1'-0"

4 4'-0" CHAIN LINK FENCE DETAIL

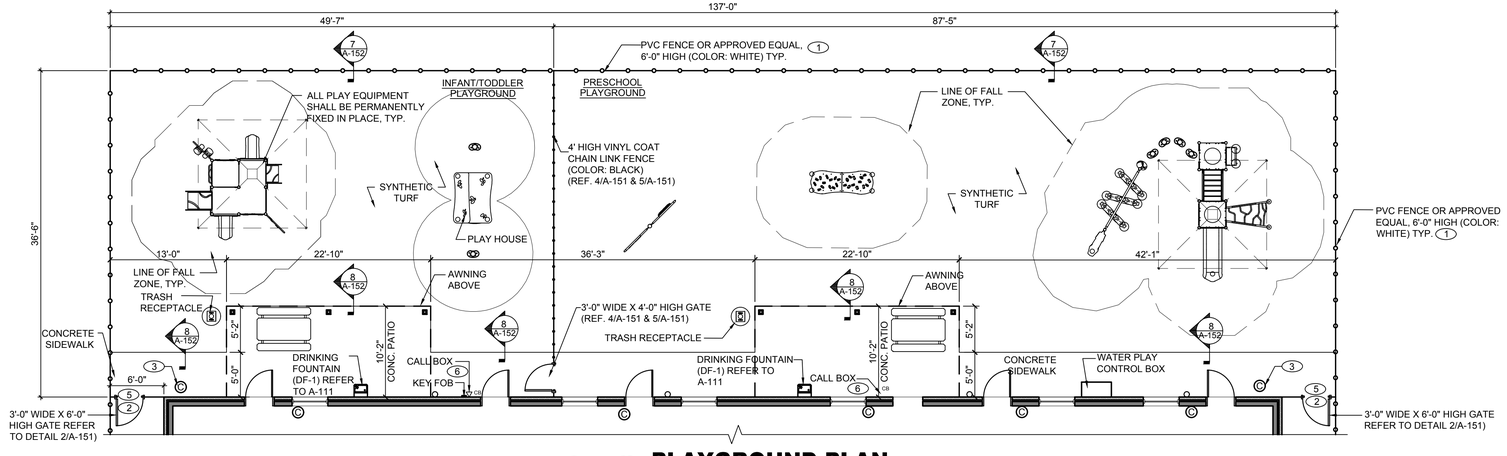
SCALE: 1/2"=1'-0"

TO BE PROVIDED ON CHAIN LINK FENCE GATE(S) ONLY. REFER TO GENERAL NOTE #2 THIS PAGE.

MAGNALATCH SERIES 3 VERTICAL PULL

5 MAGNA LATCH DETAIL

SCALE: N.T.S.



NORTH

1 PLAYGROUND PLAN

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

KEY NOTES:

1. PROVIDE 6'-0" HIGH USA VINYL SAVANNAH (WHITE) PRIVACY STYLE FENCE OR APPROVED EQUAL. AROUND PERIMETER OF PLAYGROUND AND WHEREVER ELSE SHOWN ON PLANS. REFER TO DETAIL #2 FOR ADDITIONAL INFORMATION.
2. PROVIDE 3'-0" WIDE MIN. GATES WITH DETEX VALUE SERIES V40xEBxW PANIC HARDWARE (WEATHERIZED WITH BATTERY-POWERED ALARM). NO ACCESS FROM OUTSIDE. SEE DETAIL #2 & 3 ON A-151 FOR MOUNTING HEIGHTS.
3. SECURITY CAMERA TO BE MOUNTED 6" BELOW CANOPY HEIGHT. REFER TO A-051 FOR LOCATION.
4. PRESCHOOL PLAYGROUND P.I.P. SURFACING WITHIN SPLASH PAD SHALL BE 100% BLUE FINISH.
5. REFER TO A-122 FOR DOOR HARDWARE SCHEDULE.
6. CALL BOX TO BE INSTALLED AT 48" AFF

GENERAL NOTES:

1. COORDINATE WITH PLAYGROUND EQUIPMENT VENDOR, AND INSTALL FOOTINGS AND FOUNDATIONS AS REQUIRED FOR PLAYGROUND EQUIPMENT.
2. PROVIDE 4'-0" HIGH VINYL COATED, CHAIN LINK FENCE BETWEEN THE INFANT & PRESCHOOL PLAYGROUNDS. PROVIDE MIN. 3'-0" WIDE GATE WITH MAGNA LATCH OR APPROVED EQUAL. MAGNA LATCH TO REMAIN UNLOCKED AT ALL TIMES. REFER TO PLAYGROUND PLAN FOR GATE LOCATION(S).
3. INSTALL CAMERAS TO ENSURE ADEQUATE COVERAGE. PROVIDE ADDITIONAL CAMERAS TO ELIMINATE BLIND SPOTS. EXTERIOR CAMERAS SHALL BE INSTALLED IN EACH PLAYGROUND. EXACT QUANTITY AND LOCATIONS SHALL BE COORDINATED WITH "THE LEARNING EXPERIENCE."
4. CONTRACTOR TO ENSURE PROPER DRAINAGE FOR PLAYGROUND AREA, SO BELOW GRADE "PONDING" WILL NOT OCCUR. PROVIDE POSTIVE DRAINAGE AWAY FROM BUILDING AT 1/8" TO 1/4" PER FOOT PITCH. PROVIDE DRYWELL, CORRUGATED PIPE, FRENCH DRAIN, ETC IF NEEDED. NO ROOF DRAINS TO EMPTY DIRECTLY INTO PLAYGROUND.
5. NO MIRRORED PLAY COMPONENTS SHALL BE PROVIDED.
6. PLAY SURFACING SPECIFICATIONS ARE AS FOLLOWS:

   SYNTHETIC TURF SURFACING-
   A. 8641 TURF GREEN; YARN POLYMER: NYLON
   B. PROVIDE WITH 1" PADDING FOR FULL TURF AREA
7. GC TO GRADE PLAYGROUND MINIMUM 1% AND MAXIMUM 2% AWAY FROM BUILDING. REFER TO CIVIL GRADING PLAN.
8. SECURITY ALARM CONTACT, SEE PAGES A-011 AND E-200 FOR FURTHER DETAILS AND LOCATIONS.
9. ENTIRE PLAYGROUND TO RECEIVE SYNTHETIC TURF GRASS, EXCEPT AT THE WATER PLAY AREA (FOR SOUTHERN STATES)
10. DETEX CORE HOUSING: RIM CYLINDER(S) SFIC HOUSING = ICR7.

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LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: -	Approved By: MBJ

Drawing Name:

PLAYGROUND AREA DETAILS

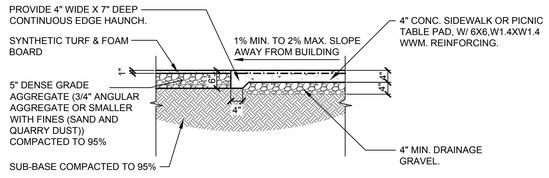
Drawing Number:

A-151

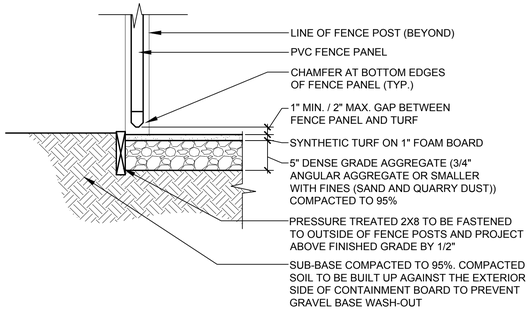
STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

4 POST / CONCRETE PAD PICTURE
SCALE: NTS

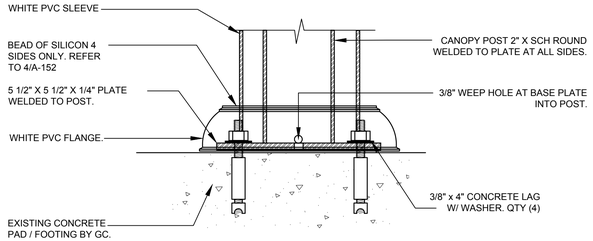
5 POST / CANOPY PICTURE
SCALE: NTS



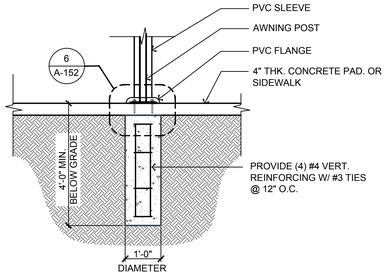
8 SIDEWALK EDGE DETAIL @ PLAY SURFACE
SCALE: 1/2" =1'-0"



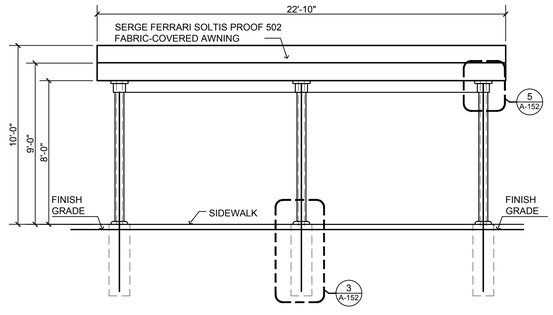
7 TREX BOARD DETAIL @ TURF SURFACE
SCALE: 1" = 1'-0"



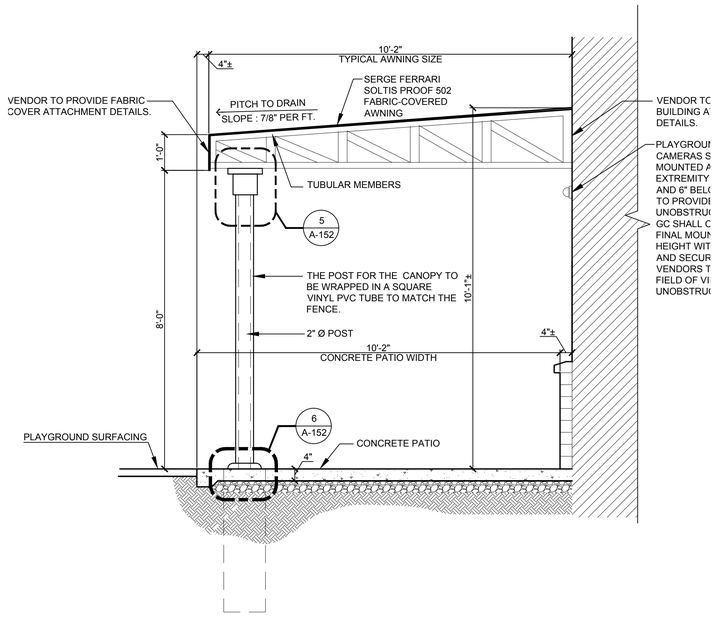
6 ANCHOR DETAILS AT COLUMNS
SCALE: 1" = 1'-0"



3 TYPICAL POST FOUNDATION DETAIL
SCALE: 1/2" = 1'-0"



2 PICNIC TABLES AWNING ELEVATION
SCALE: 1/4" = 1'-0"



1 PICNIC TABLES AWNING CROSS SECTION
SCALE: 1/2" = 1'-0"

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AWNING NOTES:

1. FRAME TO BE CONSTRUCTED OF GALVANIZED STRUCTURAL STEEL TUBING (ASTM RATING 513) WITH 50,000 PSI TENSILE STRENGTH OR ALUMINUM WITH EQUAL STRENGTH. DESIGN IN ACCORDANCE WITH REQUIRED BUILDING CODE.
2. ALL ANCHORS, BRACKETS AND BOLTS TO BE ZINC PLATED.
3. ALL COMPONENTS OF PLAYGROUND AWNINGS SHALL BE EXTERIOR GRADE.
4. VENDOR SHALL FIELD VERIFY ALL APPLICABLE DIMENSIONS.
5. GC. TO SUBMIT SHOP DRAWINGS OF AWNING FRAME TO THE ARCHITECT'S OFFICE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. SHOP DRAWINGS SHALL INDICATE ALL SITE SPECIFIC CONNECTIONS, WELDS AND ANCHORING. VENDOR IS RESPONSIBLE FOR PROVIDING SHOP DRAWINGS SEALED BY A LICENSED ENGINEER.
6. AWNING FABRIC COVER MATERIAL
   MANUFACTURER: SERGE FERRARI
   MATERIAL: SOLTIS PROOF 502 VINYL FABRIC
   COLOR: #502-2161, MIDNIGHT BLUE
   CLASS A RATED PER ASTM E84
7. ALL WELDS AT POST CONNECTION WELDED TOGETHER AT ALL SIDES. ALL WELDS TO BE GRIND SMOOTH, PRIMED AND PAINTED.
8. PROVIDE CERTIFICATE OF FLAME RESISTANCE FOR FABRIC COVER.

Jarmel Kizel
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Implementation Services

THE LEARNING EXPERIENCE
ACADEMY OF EARLY EDUCATION
ARBORWALK WEST
LEE'S SUMMIT, MISSOURI

ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: ---	Approved By: MBJ

Drawing Name:

PLAYGROUND AREA DETAILS

Drawing Number:

A-152

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

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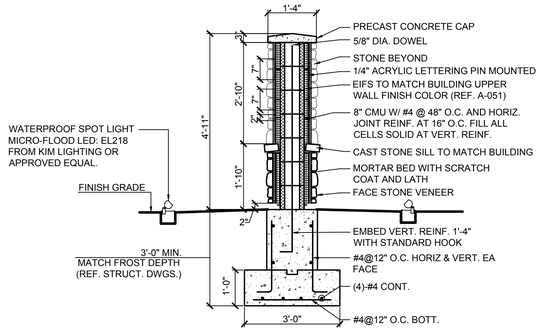
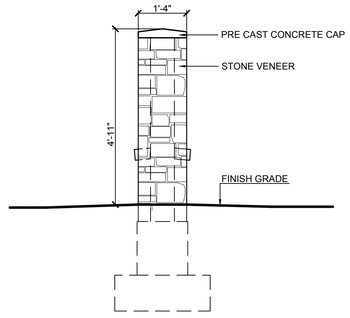
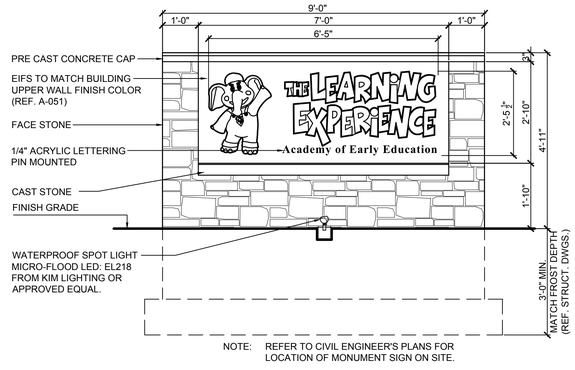


5 MONUMENT SIGNAGE SECTION
SCALE: 1/2"=1'-0"



4 MONUMENT SIGNAGE ELEVATION
SCALE: 1/2"=1'-0"



NOTE: REFER TO CIVIL ENGINEER'S PLANS FOR LOCATION OF MONUMENT SIGN ON SITE.

3 MONUMENT SIGNAGE ELEVATION
SCALE: 1/2"=1'-0"

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH THE WORK AND SHALL REPORT ANY AND ALL DISCREPANCIES TO THE ARCHITECT.
2. SIGNAGE CONTRACTOR TO SUPPLY & INSTALL, LIGHTED, 'THE LEARNING EXPERIENCE' SIGN AS INDICATED ON DRAWINGS. SIGN SHALL BE PAN CHANNEL LETTERING, RACEWAY MOUNTED WITH 120V INTERNAL FLUORESCENT LIGHTING. PROVIDE WHITE 3/16" ACRYLIC CAP WITH BLACK JEWELITE TRIM AND TRANSLUCENT VINYL FILM APPLIED AS PER SPECIFIED COLORS.
3. ANCHORAGE SHALL BE COMPLIANT WITH APPLICABLE BUILDING CODE PER THE DESIGN LOADS LISTED ON DRAWING S-100.

NOTE: SIGNAGE UNDER SEPARATE SIGN PERMIT APPLICATION.

ALL SIGNAGE TO BE PROVIDED AND INSTALLED BY THE REQUIRED VENDOR BELOW.
NO SUBSTITUTIONS ALLOWED.

IDENTITI RESOURCES, LTD.
ATTN: LAUREN RAIMAN
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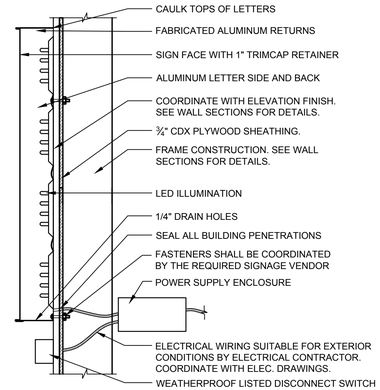
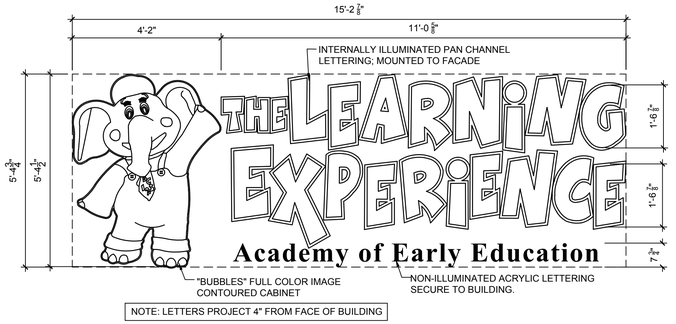


BUILDING SIGN MOUNTING DETAIL
2
SCALE: 1 1/2"=1'-0"



NOTE: LETTERS PROJECT 4" FROM FACE OF BUILDING

BUILDING MOUNTED SIGNAGE ELEVATION DETAIL
1
SCALE: 1/2"=1'-0"

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: OK	Approved By: MBJ

Drawing Name:

SIGNAGE DETAILS

Drawing Number:

A-161

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

GENERAL NOTES

1. ALL STRUCTURAL ITEMS FOR THIS PROJECT HAVE BEEN DESIGNED IN ACCORDANCE WITH APPROPRIATE PROVISIONS OF EACH OF THE FOLLOWING:

   A. BUILDING CODE: INTERNATIONAL BUILDING CODE 2018
   B. STRUCTURAL STEEL: THE A.I.S.C. "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS ANSI/AISC 360."
   C. CONCRETE: A.C.I. "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", ACI 318.

2. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS AND ALL OTHER DISCIPLINES DRAWINGS (INCLUDING ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL). IF THERE ARE QUESTIONS BETWEEN DRAWINGS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ARCHITECT AND/OR STRUCTURAL ENGINEER IN WRITING PRIOR TO PERFORMING WORK.
3. IN ANY CASE OF QUESTIONS BETWEEN THE NOTES, DETAILS, AND SPECIFICATIONS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.
4. DETAILS DESIGNATED AS "TYPICAL" APPLY TO ALL AREAS OF SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
5. MECHANICAL/PLUMBING/ELECTRICAL OPENINGS SHALL BE COORDINATED BY CONTRACTOR. FINAL SIZES AND LOCATIONS TO BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR APPROVAL.
6. CONTRACTOR IS RESPONSIBLE FOR AND SHALL VERIFY AND COORDINATE ALL DIMENSIONS, DETAILS, AND EXISTING CONDITIONS BEFORE PROCEEDING WITH WORK. ANY DISCREPANCIES SHALL BE BROUGHT IN WRITING TO THE IMMEDIATE ATTENTION OF THE ARCHITECT AND/OR STRUCTURAL ENGINEER.
7. CONTRACTOR SHALL FULLY BRACE AND OTHERWISE PROTECT ALL WORK IN PROGRESS UNTIL THE STRUCTURE IS COMPLETED.
8. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR CONCRETE AND STRUCTURAL STEEL A MINIMUM OF TWO (2) WEEKS PRIOR TO THE START OF FABRICATION.
9. THE OWNER SHALL ENGAGE AN INDEPENDENT TESTING AND INSPECTION AGENCY ACCEPTABLE TO THE ARCHITECT AND/OR STRUCTURAL ENGINEER TO INSPECT THE FOLLOWING:

   A. SOIL
   B. STEEL - HIGH STRENGTH BOLTED CONNECTIONS AND WELDED CONNECTIONS IN THE SHOP AND FIELD
   C. CONCRETE - INSPECT REINFORCING PLACEMENT, INSPECT AND TEST CONCRETE QUALITY

   CONTRACTOR SHALL COORDINATE INSPECTIONS REQUIRED FOR THE ABOVE AGENCIES.
10. ALL REQUESTS FOR SUBSTITUTIONS OF MATERIALS OR DETAILS SHOWN IN THE CONTRACT DOCUMENTS SHALL BE SUBMITTED FOR APPROVAL DURING THE BIDDING PERIOD. ONCE BIDS ARE ACCEPTED, PROPOSED SUBSTITUTIONS WILL BE CONSIDERED ONLY WHEN THEY ARE OFFICIALLY SUBMITTED WITH AN IDENTIFIED SAVINGS TO BE DEDUCTED FROM THE CONTRACT.

DESIGN CRITERIA

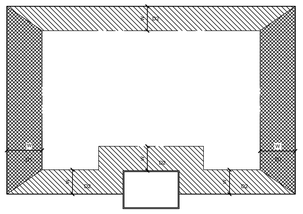
1. SEE PLANS FOR ROOF DEAD AND LIVE LOADS
2. SNOW LOADS:

   GROUND SNOW LOAD, Pg = 20 PSF
   FLAT ROOF SNOW LOAD, Pf = 20 PSF *
   MINIMUM SNOW LOAD USED FOR DESIGN = 25 PSF
   SNOW EXPOSURE FACTOR, Ce = 1.0
   SNOW LOAD IMPORTANCE FACTOR, I = 1.0
   THERMAL FACTOR, Ct = 1.1

   * FLAT ROOF SNOW LOAD TO BE ADJUSTED PER CODE FOR DRIFT, SLIDING, UNBALANCED LOADING, ETC.

   SNOW DRIFTS:

DRIFT MARK		SURCHAGE Pd	WIDTH W
D1	▩	47 PSF	6.5 FT
D2	▧	53 PSF	8.0 FT



3. WIND LOADS:

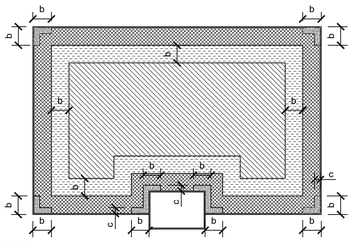
   BASIC WIND SPEED
   Vult = 109 MPH
   Vasd = 84 MPH

   RISK CATEGORY II
   WIND EXPOSURE - C
   INTERNAL PRESSURE COEFFICIENT GCpi = ±0.18
   COMPONENTS AND CLADDING PRESSURE:
   a = 5.58 FT
   b = 8.40 FT
   c= 2.80 FT
   ROOF:

ZONE 1'	▧	P = +16.0 PSF, -24.0 PSF
ZONE 1	▤	P = +16.0 PSF, -41.3 PSF
ZONE 2	▩	P = +16.0 PSF, -54.4 PSF
ZONE 3	▦	P = +16.0 PSF, -74.2 PSF

   WALLS:

FIELD	P = +25.9 PSF, -28.1 PSF
CORNERS	P = +25.9 PSF, -34.7 PSF



4. SEISMIC LOADS:

   SEISMIC RISK CATEGORY - II
   SEISMIC IMPORTANCE FACTOR, I = 1.0
   MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS:
   Ss = 0.100g
   S1 = 0.068g
   SITE CLASS - D
   DESIGN SPECTRAL RESPONSE COEFFICIENTS:
   Sds = 0.107g
   Sd1 = 0.109g
   SEISMIC DESIGN CATEGORY - B
   BASIC SEISMIC-FORCE-RESISTING SYSTEM:
   LIGHT FRAMED WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE
   DESIGN BASE SHEAR, V = 5.9 KIPS
   SEISMIC RESPONSE COEFFICIENT, Cs = 0.016
   RESPONSE MODIFICATION FACTOR, R = 6.5
   ANALYSIS PROCEDURE - EQUIVALENT LATERAL FORCE PROCEDURE

FOUNDATION CONSTRUCTION NOTES

1. FOUNDATIONS FOR THIS PROJECT CONSIST OF SPREAD AND STRIP FOOTINGS DESIGNED TO BEAR ON UNDISTURBED VIRGIN SOIL OR STRUCTURAL COMPACTED FILL PLACED OVER UNDISTURBED VIRGIN SOIL HAVING AN ALLOWABLE BEARING CAPACITY OF 2000 POUNDS PER SQUARE FOOT IN ACCORDANCE WITH "GEOTECHNICAL ENGINEER REPORT" DATED 03/07/2023 BY ALPHA-OMEGA GEOTECH INC. CAPACITY OF FOOTING SUBGRADE SHALL BE INSPECTED AND VERIFIED BY A GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF MISSOURI PRIOR TO PLACING CONCRETE.
2. ELEVATIONS SHOWN ON THE DRAWINGS ARE TO THE BOTTOM OF FOUNDATIONS AND ARE MINIMUM DEPTHS. IF BEARING MATERIALS AT THE SPECIFIED ELEVATIONS ARE FOUND TO HAVE LOWER BEARING CAPACITIES THAN REQUIRED, MATERIALS SHALL BE REMOVED AND REPLACED WITH LEAN CONCRETE.
3. DESIGN, FURNISH, AND PLACE ALL TEMPORARY OR PERMANENT SUPPORTS, WHETHER SHORING, SHEETING, OR BRACING, SO THAT NO HORIZONTAL MOVEMENT OR VERTICAL SETTLEMENT OCCURS TO EXISTING STRUCTURES, STREETS, OR UTILITIES ADJACENT TO PROJECT SITE.
4. CONTROL SURFACE AND SUBSURFACE WATER DURING CONSTRUCTION SO THAT FOUNDATION WORK WILL BE PERFORMED IN DRY CONDITIONS AND ON UNDISTURBED SOIL.
5. EXCAVATIONS FOR FOOTINGS SHALL BE FINISHED BY HAND.
6. FOUNDATION CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND.
7. DUE TO THE PRESENCE OF UNDOCUMENTED FILL, FOOTINGS OF THE BUILDING SHOULD BE OVEREXCAVATED A MINIMUM OF 18-INCHES BENEATH THE PLANNED BASE OF FOOTING ELEVATION AS WELL AS ONE (1) FOOT LATERALLY IN EACH DIRECTION. THE EXPOSED SUBGRADE AT THIS ELEVATION SHOULD BE EVALUATED BY A REPRESENTATIVE OF ALPHA-OMEGA GEOTECH. AND, DEPENDING UPON THE CONSISTENCY OF THE EXPOSED SUBGRADE MATERIAL, IT MAY BE NECESSARY TO EXTEND SOME OF THE OVER-EXCAVATIONS DEEPER.
8. PROVIDE A SINGLE LAYER OF TENSAR BX-1100, BI-AXIAL GEO GRID, SPREADED ACROSS THE BASE AND UP THE SIDES OF THE OVER-EXCAVATED FOOTING TRENCH, AND TO BE OVERLAPED AS PER MANUFACTURE RECOMMENDATION. THIS ACITIVITY SHALL BE VERIFIED BY THE GEOTECH ENGINEER OF RECORD.
9. PROVIDE COMPACTED CRUSHER-RUN LIMESTONE SUCH AS KDOT AB-3/MoDOT TYPE 5 IN LIFT NO MORE THAN 6 INCHES THICK AND COMPACTED TO A MIN. DENSITY OF 95% OF THE STANDARD PROCTOR (ASTM D698), UNDER THE SUPERVISION OF A LICENSED SOILS ENGINEER.
10. CUT THE SUBGRADE A MIN. OF 24 INCHES BENEATH OF SLAB ON GRADE ELEVATION TO ALLOW THE PLACEMENT OF 20 INCH GRANULAR SUBBASE PLACED ON (3) EQUAL LIFTS AND COMPACTED TO AM MIN. OF 95% OF THE STANDARD PROCTOR (ASTM D-698) MAXIMUM DRY DESNSITY. 4 INCH BASE COURSE OF CLEAN, OPEN-GRADED CRUSHED LIMESTONE, AND COMPACTED WITH A SUITABLE VIBRATORY STEEL WHEEL ROLLER.
11. ALL FILL AND BACKFILL SHALL BE PLACED ON VIRGIN SOIL THAT DOES NOT CONTAIN ANY ORGANIC MATERIAL. STRIP ALL TOP SOIL. PRIOR TO PLACING FILL OR BACKFILL, PROOF-COMPACT SUBGRADE WITH A HEAVY VIBRATORY COMPACTOR TO AT LEAST 95% OF THE STANDARD PROCTOR DENSITY AS PER ASTM D-698 UNDER THE SUPERVISION OF A LICENSED SOILS ENGINEER.
12. CRUSHED STONE BASE FOR SLAB ON GRADE SHALL BE A CLEAN, FINE-GRADED MATERIAL WITH A MAXIMUM PARTICLE SIZE OF 3/4" AND AT LEAST 10%-30% PASSING A NO. 100 SIEVE. CRUSHED STONE SHALL CONTAIN NO CLAY, SILT, OR ORGANIC MATERIAL.
13. FOUNDATION ELEMENTS SHALL BE CONSIDERED CENTERED UNDER COLUMN CENTERLINES UNLESS OTHERWISE NOTED.
14. NO FOOTINGS SHALL BE PLACED ABOVE 1 VERTICAL ON 2 HORIZONTAL SLOPE EXTENDED FROM THE CLOSEST EDGE OF ANY UNDISTURBED SOIL OR OTHER FOUNDATION STRUCTURE. BOTTOM OF EXTERIOR FOOTINGS SHALL NOT BE LESS THAN 3'-0" BELOW FINISHED GRADE.
15. WHERE SOFT AREAS ARE ENCOUNTERED, THE AREA SHALL BE UNDERCUT AS DIRECTED BY THE SOILS ENGINEER AND REPLACED WITH COMPACTED FILL OR LEAN CONCRETE.
16. WHERE SHALLOW ROCK IS ENCOUNTERED AT FOOTING BEARING ELEVATION, THE ROCK SHALL BE REMOVED A MINIMUM OF 12" BELOW THE BOTTOM OF FOOTING AND REPLACED WITH CONTROLLED COMPACTED FILL.

CONCRETE CONSTRUCTION NOTES

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE A.C.I. "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318).
2. CONCRETE DESIGN MIXES SHALL CONFORM WITH ASTM C94, AND HAVE PROPERTIES AS INDICATED BELOW:

FOUNDATIONS, WALLS, AND PIERS:	f'c=4,000 psi AT 28 DAYS MAX. W/C RATIO: 0.50 AIR CONTENT: 5% ± 1 1/2%
SLABS-ON-GRADE:	f'c=4,000 psi AT 28 DAYS MAX. W/C RATIO: 0.50 AIR CONTENT: 3% MAX.

3. SLUMP SHALL BE LIMITED TO 4 INCHES. FOR CONCRETE WITH HRWR (SUPER-P), SLUMP SHALL BE LIMITED TO 2-4 INCHES PRIOR TO ADDITION OF HRWR, AND A MAXIMUM OF 8 INCHES AFTER ADDITION OF HRWR.
4. ADMIXTURES USED IN CONCRETE SHALL BE AS ALLOWED BY THE SPECIFICATIONS AND ONLY WITH LABORATORY DESIGN MIX APPROVAL. ALL ADMIXTURES SHALL CONTAIN NO MORE CHLORIDE IONS THAN ARE PRESENT IN MUNICIPAL DRINKING WATER.
5. CONCRETE MATERIALS SHALL BE AS INDICATED BELOW:
   A. PORTLAND CEMENT: ASTM C150, TYPE I/II
   B. FLY ASH: ASTM C618 - 15% - 25% OF CEMENTITOUS MATERIAL
   C. NORMAL-WEIGHT AGGREGATES: ASTM C33, 3/4" MAXIMUM
   D. WATER: ASTM C94 AND POTABLE
6. ADMIXTURES SHALL BE AS INDICATED BELOW:
   A. AIR-ENTRAINING ADMIXTURE: ASTM C260
   B. WATER REDUCING ADMIXTURE: ASTM C494, TYPE A
   C. WATER REDUCING AND RETARDING ADMIXTURE: ASTM C494 TYPE D
   D. WATER-REDUCING, ACCELERATING ADMIXTURE: ASTM C494 TYPE E
   E. HIGH RANGE WATER REDUCING ADMIXTURE (SUPER-PLASTICIZER): ASTM C494, TYPE F
   F. HIGH RANGE WATER REDUCING AND RETARDING ADMIXTURE: ASTM C494 TYPE G
7. EPOXY JOINT FILLER SHALL BE A TWO-COMPONENT SEMI RIGID RESIN, 100% SOLIDS, AND HAVE A MINIMUM SHORE A HARDNESS OF 80 WHEN MEASURED IN ACCORDANCE WITH ASTM D 2240.
8. ALL REINFORCING STEEL SHALL BE INTERMEDIATE GRADE, NEW BILLET STEEL, DEFORMED BARS, CONFORMING TO ASTM A-615, GRADE 60. ALL BARS SHALL BE SECURELY SUPPORTED AND WIRED IN PLACE PRIOR TO CONCRETE PLACEMENT.
9. ALL WELDED WIRE FABRIC (W.W.F.) SHALL CONFORM TO ASTM A-185.
10. FIBER REINFORCING SHALL BE MONOFILAMENT POLYPROPYLENE FIBERS FOR SECONDARY REINFORCEMENT, ASTM C1116, TYPE III.
11. VAPOR RETARDER SHALL CONFORM TO ASTM E1745, CLASS C, WITH MINIMUM 10 MIL. THICKNESS.
12. REINFORCING STEEL SHOWN IN SECTIONS ARE SCHEMATIC INDICATIONS THAT REINFORCING EXISTS. SEE SECTION NOTES, SCHEDULES, PLAN NOTES, ETC. FOR ACTUAL REINFORCING REQUIRED.
13. UNLESS OTHERWISE NOTED, ALL BARS MARKED CONT. SHALL BE SPLICED AT ALL LAP POINTS AND CORNERS AND DEVELOPED AT NON-CONTINUOUS ENDS AS TYPICAL DETAILS. SPLICE CONTINUOUS TOP BARS AT CENTER BETWEEN SUPPORTS AND SPLICE CONTINUOUS BOTTOM BARS AT SUPPORTS. WELDED WIRE FABRIC SHALL BE LAPPED 12 INCHES OR TWO SPACES, WHICHEVER IS LONGER. SHEETS SHALL BE WIRED TOGETHER.
14. CONCRETE COVER FOR REINFORCING BARS SHALL BE AS SHOWN IN DETAILS.
15. SLAB ON GRADE SHALL BE WET CURED WITH A MOISTURE RETAINING COVER CONFORMING TO ASTM C171 WITH SIDES AND ENDS LAPPED AT LEAST 12", SEALED WITH WATERPROOF TAPE. MOISTURE RETAINING COVER SHALL REMAIN IN PLACE FOR A MINIMUM OF 7 DAYS.
16. AT OPENINGS IN CONCRETE WALLS, PROVIDE ADDED REINFORCEMENT IN ACCORDANCE WITH THE TYPICAL DETAILS UNLESS OTHERWISE NOTED.
17. REINFORCEMENT SHALL NOT BE WELDED OR HEATED IN ANY WAY.
18. SLEEVES, MECHANICAL OPENINGS, CONDUITS, PIPES, RECESSES, DEPRESSIONS, CURBS, AND ALL EMBEDDED ITEMS SHALL BE PROVIDED FOR AS SHOWN ON THE ARCHITECTURAL AND MECHANICAL DRAWINGS AND AS REQUIRED BY EQUIPMENT MANUFACTURERS. MINIMUM CONCRETE BETWEEN SLEEVES SHALL BE 6". INSTALLATION OF THESE ITEMS SHALL BE COORDINATED WITH SHOP DRAWINGS OF TRADES REQUIRING THESE ITEMS.
19. SET FORMS TO FOLLOW SLOPES AND GRADES DEFINED ON PLAN, KEEPING MEMBER DEPTHS CONSTANT AS DETAILED OR SCHEDULED, UNLESS NOTED OTHERWISE. SLOPE UNIFORMLY BETWEEN ELEVATIONS GIVEN.
20. REINFORCING, INCLUDING WELDED WIRE FABRIC, FOR SLABS ON GRADE AND FOOTINGS SHALL BE SUPPORTED ON SOLID CONCRETE BLOCKS AT 5'-0" ON CENTER MAXIMUM EACH WAY. REINFORCING, INCLUDING WELDED WIRE FABRIC, FOR OTHER SLABS SHALL BE SUPPORTED ON CHAIRS AND BOLSTERS AT ALL SUPPORTS AND AT 5'-0" ON CENTER MAXIMUM BETWEEN SUPPORTS.

CONCRETE CONSTRUCTION NOTES (CONT'D)

21. VERTICAL CONSTRUCTION JOINTS IN CONCRETE WALLS SHALL BE LOCATED AT MIDPOINT BETWEEN ANY SUPPORTING PIERS OR BUTTRESSES, AND AT LEAST 4'-0" FROM ANY WALL OPENING EXCEPT WHERE SPECIFICALLY SHOWN ON THE DRAWINGS. HORIZONTAL CONSTRUCTION JOINTS SHALL NOT BE PERMITTED, EXCEPT WHERE SHOWN ON DETAILS.
22. PROVIDE SHEAR KEY IN ALL CONSTRUCTION JOINTS IN WALLS.
23. ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED AND TREATED WITH THE SPECIFIED BONDING COMPOUND JUST BEFORE PLACING NEW CONCRETE.
24. SEE ARCHITECTURAL DRAWINGS FOR DETAILS OF WEEPHOLES, FLASHING REGLETS, FASCIA DETAILS, ETC..
25. UNDER NO CIRCUMSTANCES SHALL CONCRETE BE PUMPED THROUGH ALUMINUM PIPES. CONCRETE SHALL NOT BE PLACED IN CONTACT WITH ALUMINUM, ALUMINUM MIXING DRUMS, TRUCK MIXERS, BUGGLES, CHUTES, CONVEYORS, TREMIE PIPES, AND OTHER EQUIPMENT MADE OF ALUMINUM SHALL NOT BE USED ON THIS PROJECT.
26. WHERE CONCRETE ABUTS MASONRY, PROVIDE VERTICAL METAL SLOTS TO RECEIVE GALVANIZED METAL DOVETAIL ANCHORS. SLOTS SHALL BE SPACED AT 24" ON CENTER.
27. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR FABRICATION, BENDING, AND PLACEMENT OF CONCRETE REINFORCEMENT. SHOP DRAWINGS SHALL COMPLY WITH ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
28. ALL CONCRETE REINFORCING IS SUBJECT TO INSPECTION BY THE DESIGN ENGINEER PRIOR TO CONCRETE PLACEMENT. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCY FROM ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
29. COLD OR HOT WEATHER CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE CODE REQUIREMENTS.
30. INSTALLATION OF POST-INSTALLED ADHESIVE ANCHORS MUST BE INTO CONCRETE THAT HAS A MINIMUM AGE OF 21 DAYS AT THE TIME OF INSTALLATION.

STEEL CONSTRUCTION NOTES

1. ALL STRUCTURAL STEEL WORK SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST AISC CODE OF STANDARD PRACTICE. STRUCTURAL STEEL SHALL BE NEW, CLEAN, AND STRAIGHT, AND SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
   A. WIDE FLANGE ROLLED SHAPES: ASTM A992, GRADE 50 (Fy = 50 KSI).
   B. PLATES, ANGLES, BARS, CHANNELS, AND S SHAPES: ASTM A36 (Fy = 36 KSI).
   C. RECTANGULAR HSS: ASTM A500, GRADE B (Fy = 46 KSI).
   D. ROUND HSS: ASTM A500, GRADE B (Fy = 42 KSI).
   E. PIPE: ASTM A53, TYPE E OF S, GRADE B (Fy = 35 KSI).
2. ALL ANCHOR RODS, UNLESS OTHERWISE NOTED, SHALL BE ASTM F1554, GRADE 36.
3. ALL BOLTED CONNECTIONS, UNLESS OTHERWISE NOTED, SHALL BE 3/4"Ø A325 HIGH STRENGTH BOLTS, IN BEARING TYPE CONNECTIONS AND SHALL BE PROVIDED WITH HARDENED WASHERS UNDER THE TURNED ELEMENT (NUT OR BOLT THREAD).
4. ALL STRUCTURAL STEEL SHALL BE PAINTED WITH ONE COAT OF SHOP PRIMER. THE EXCEPTIONS INCLUDE WHERE FIELD WELDING OR SLIP CRITICAL BOLTING IS TO BE DONE, WHERE STEEL IS TO RECEIVE SPRAY-ON FIREPROOFING, WHERE STEEL IS TO BE EMBEDDED IN CONCRETE, AND WHERE STEEL IS TO BE HOT-DIPPED GALVANIZED.
5. STRUCTURAL STEEL EXPOSED TO WEATHER, EXCESSIVE MOISTURE, OR CORROSIVE ENVIRONMENT AND AS INDICATED ON CONSTRUCTION DOCUMENTS, SHALL BE HOT-DIPPED GALVANIZED, MEETING REQUIREMENTS OF ASTM A123 AND A153 AS APPLICABLE.
6. INSTALLATION AND TIGHTENING OF ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE AISC "SPECIFICATION FOR THE STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS."
7. CONNECTIONS MAY BE WELDED OR HIGH STRENGTH BOLTED. ALL CONNECTIONS SHALL CONFORM TO THE TYPICAL CONNECTION DETAILS SHOWN ON THE DRAWINGS.
8. ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE - STEEL (AWS D1.1) AND SHALL BE DONE BY A.W.S. QUALIFIED WELDERS USING E70XX ELECTRODES.
9. ALL CONTACT SURFACES WITHIN HIGH STRENGTH BOLTED CONNECTIONS AND WELDING AREAS SHALL BE FREE OF OIL, PAINT, AND LACQUER.
10. THE CONTRACTOR SHALL COORDINATE THE SIZE AND LOCATION OF ALL ROOF OPENINGS SHOWN ON THE STRUCTURAL, ARCHITECTURAL AND/OR MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS. ANY STEEL WHICH IS NOT SHOWN ON THE CONTRACT DRAWINGS AS FURNISHED BY THE STRUCTURAL STEEL CONTRACTOR AND WHICH IS REQUIRED BY THE MECHANICAL, PLUMBING, AND ELECTRICAL TRADES FOR OPENINGS AND/OR TO SUPPORT THEIR WORK SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR REQUIRING SUCH STEEL, UNLESS OTHERWISE NOTED.
11. CUTS, HOLES, COPING, ETC. REQUIRED IN STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES SHALL BE SHOWN ON THE STRUCTURAL STEEL SHOP DRAWINGS AND BE MADE IN THE SHOP. HOLES SHALL BE REINFORCED AND APPROVED BY THE STRUCTURAL ENGINEER.
12. BURNING OF HOLES, CUTS, ETC. IN STRUCTURAL STEEL MEMBERS IN THE FIELD WILL NOT BE PERMITTED, EXCEPT WITH THE SPECIFIC WRITTEN PERMISSION OF THE ENGINEER.
13. FOR MISCELLANEOUS STEEL, SEE ARCHITECTURAL DRAWINGS.
14. SUBMIT ALL STRUCTURAL STEEL SHOP DRAWINGS FOR REVIEW PRIOR TO ANY FABRICATION A MINIMUM OF TWO (2) WEEKS PRIOR TO THE START OF FABRICATION.

WOOD TRUSS CONSTRUCTION NOTES

1. ROOF TRUSSES SHALL BE PRE-MANUFACTURED WOOD TRUSSES DESIGN BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MO. TRUSS DESIGN DRAWINGS SHALL BE SIGNED AND SEALED BY THE DESIGN PROFESSIONAL ENGINEER AND SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING:
   a. SLOPE OR DEPTH, SPAN AND SPACING
   b. LOCATIONS OF JOINTS
   c. REQUIRED BEARING WIDTHS
   d. DESIGN LOADS AS APPLICABLE
   e. TOP CHORD LIVE LOAD (INCLUDING SNOW LOADS)
   f. TOP CHORD DEAD LOAD
   g. BOTTOM CHORD LIVE LOAD
   h. BOTTOM CHORD DEAD LOAD
   i. CONCENTRATED LOADS AND THEIR POINTS OF APPLICATION AS APPLICABLE
   j. CONTROLLING WIND AND EARTHQUAKE LOADS AS APPLICABLE
   k. ADJUSTMENTS TO LUMBER AND METAL CONNECTOR PLATE DESIGN VALUE FOR CONDITIONS OF USE
   l. EACH REACTION FORCE AND DIRECTION
   m. METAL CONNECTOR PLATE TYPE, SIZE, THICKNESS OR GAGE, AND THE DIMENSIONED LOCATION OF EACH METAL CONNECTOR PLATE EXCEPT WHERE SYMMETRICALLY LOCATED RELATIVE TO THE JOINT INTERFACE
   n. LUMBER SIZE, SPECIES AND GRADE FOR EACH MEMBER
   o. CONNECTION REQUIREMENTS FOR:
      o.a. TRUSS TO TRUSS
      o.b. TRUSS PLY TO PLY
      o.c. FIELD SPLICES
   p. CALCULATED DEFLECTION RATIO AND MAXIMUM VERTICAL AND HORIZONTAL DEFLECTION FOR LIVE AND TOTAL LOAD AS APPLICABLE
   q. MAXIMUM AXIAL TENSILE AND COMPRESSION FORCES IN THE TRUSS MEMBERS
   r. REQUIRE PERMANENT INDIVIDUAL TRUSS MEMBER BRACING
2. DESIGN, MANUFACTURE AND QUALITY ASSURANCE OF METAL-PLATE- CONNECTED WOOD TRUSSES SHALL BE IN ACCORDANCE WITH TPI 1.

WOOD CONSTRUCTION NOTES

1. STRUCTURAL SAWN LUMBER, STRUCTURAL GLUED LAMINATED TIMBER, STRUCTURAL COMPOSITE LUMBER, AND FASTENERS ARE TO CONFORM TO THE "NATIONAL DESIGNS SPECIFICATION (NDS) FOR WOOD CONSTRUCTION USING ALLOWABLE STRESS DESIGN (ASD). ALL LUMBER SHALL BEAR THE GRADE THE GRADE MARK OF A GRADING RULES AGENCY APPROVED BY THE AMERICAN LUMBER STANDARD COMMITTEE.
2. DIMENSIONAL LUMBER SHALL BE DOUGLAS FIR LARCH (NORTH), CONFORMING TO THE FOLLOWING MINIMUM STRESS REQUIREMENTS:

2"-4" FRAMING (NO. 1/NO. 2):	5"x5" AND LARGER (NO. 1):
Fb - 850 psi	Fb - 1,200 psi
Ft - 500 psi	Ft - 825 psi
Fv - 180 psi	Fv - 170 psi
Fc_{perp} - 625 psi	Fc_{perp} - 625 psi
Fc_{par} - 1,400 psi	Fc_{par} - 1,000 psi
E - 1,600,000 psi	E - 1,600,000 psi

3. STRUCTURAL COMPOSITE LUMBER INDICATED LVL AND PSL ARE LAMINATED VENEER LUMBER AND PARALLEL STRAND LUMBER, RESPECTIVELY, AS MANUFACTURED BY iLEVEL, OR EQUAL, WITH THE FOLLOWING MINIMUM PROPERTIES:

LVL :	PSL BEAM:
Fb - 2,600 psi	Fb - 2,900 psi
Ft - 1,555 psi	Ft - 2,025 psi
Fv - 285 psi	Fv - 290 psi
Fc_{perp} - 750 psi	Fc_{perp} - 750 psi
Fc_{par} - 2,510 psi	Fc_{par} - 2,900 psi
E - 1,900,000 psi	E - 2,000,000 psi

   PSL COLUMN:
   Fb - 2,400 psi
   Ft - 1,755 psi
   Fv - 190 psi
   Fc_{perp} - 425 psi
   Fc_{par} - 2,500 psi
   E - 1,800,000 psi

4. GRADE LOSS RESULTING FROM WEATHERING, HANDLING, STORAGE, RESAWING, OR DIVIDING LENGTHS WILL BE CAUSE FOR REJECTION.
5. DO NOT NOTCH OR DRILL JOISTS, BEAMS, OR LOAD BEARING STUDS WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.
6. ALL SILL PLATES ON EXTERIOR FOUNDATION WALLS AND EXTERIOR WALL SHEATHING LOCATED WITHIN 8" FROM EXPOSED EARTH SHALL BE PRESERVATIVE TREATED USING WATER-BORNE PRESERVATIVES IN ACCORDANCE WITH AWPA U1.
7. ROOF SHEATHING SHALL BE 3/4" APA RATED 48/24 C-D EXPOSURE I, AS DESIGNATED ON DRAWINGS.
8. EXTERIOR WALL SHEATHING SHALL BE 5/8" APA RATED 16/0 C-D, EXPOSURE 1.
9. SHEATHING SHALL BE CONTINUOUS OVER THREE OR MORE SUPPORTS AND SHALL BE INSTALLED WITH FACE GRAIN PERPENDICULAR TO SUPPORTS WITH JOINTS STAGGERED.
10. ROOF SHEATHING SHALL BE FASTENED WITH 10d COMMON NAILS AT 6" O.C AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS, 1 1/2" EMBEDMENT MINIMUM IN TRUSS CHORD OR BLOCKING. PROVIDE BLOCKING AT ALL EDGES OF SHEATHING.
11. SHEATHING SHALL NOT BE LESS THAN 4' X 8', EXCEPT AT BOUNDARIES AND CHANGES IN FRAMING.
12. BUILT UP COLUMNS SHALL BE FASTENED TOGETHER AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE DRAWINGS:
    (2) 2x4 - 1 ROW 10d NAILS @ 6" O.C., STAGGERED, 1" MIN. EDGE DISTANCE
    (3) 2X4 - 1 ROW 30d NAILS @ 8" O.C., STAGGERED, 1 1/2" MIN. EDGE DISTANCE
    (2) 2x6 - 2 ROWS 10d NAILS @ 6" O.C., 1" MIN. EDGE DISTANCE
    (3) 2x6 - 2 ROWS 30d NAILS @ 8" O.C., 1 1/2" MIN. EDGE DISTANCE
13. NAILS AND STAPLES SHALL CONFORM TO ASTM F 1667. NAILS INDICATED ON PLANS, SECTIONS, AND NOTES ARE COMMON NAILS UNLESS OTHERWISE NOTED.
    8d - 0.131" x 2 1/2"
    10d - 0.148" x 3"
    16d - 0.162" x 3 1/2"
14. FASTENERS IN CONTACT WITH PRESERVATIVE TREATED WOOD SHALL BE HOT-DIPPED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE, OR COPPER.
15. METAL CONNECTORS CALLED OUT ON THE DRAWINGS ARE AS MANUFACTURED BY "SIMPSON STRONG-TIE COMPANY, INC." USE MANUFACTURER'S RECOMMENDED NAILING AT ALL METAL CONNECTORS. SUBSTITUTIONS WILL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
16. PROVIDE SOLID BLOCKING AND CONTINUOUS STUDS TO BEARING LEVEL BELOW ALL KING AND JACK STUDS IN BEARING WALLS.
17. ALL CONNECTORS TO STRUCTURAL COMPOSITE LUMBER SHALL BE FASTENED TO THE WIDE FACE OF THE MEMBER ONLY AND NOT TO THE EDGES OF THE LUMBER STRANDS/VENEERS.

SHOP DRAWING SUBMITTALS

1. GENERAL CONTRACTOR (GC) SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW OF ALL REQUIRED INFORMATION AS INDICATED IN THE DRAWINGS AND SPECIFICATIONS, PRIOR TO ANY FABRICATION.
2. NO PORTION OF THE STRUCTURAL DRAWINGS SHALL BE REPRODUCED FOR USE AS SHOP DRAWINGS.
3. ALL DIMENSIONS SHALL BE COORDINATED BY THE GC AND/OR THE DETAILER.
4. DETAILER SHALL USE THE SAME GRID IDENTIFICATIONS AS THOSE SHOWN ON THE CONTRACT DRAWINGS.
5. ALL SHOP DRAWINGS SHALL BE SUBMITTED PRIOR TO PROCEEDING WITH ANY ASSOCIATED WORK AND SHALL ALLOW FOR SUFFICIENT REVIEW TIME. SUBMIT A MINIMUM OF TWO (2) WEEKS PRIOR TO THE START OF FABRICATION.
6. SHOP DRAWINGS SHALL BE SUBMITTED WITH GC'S STAMP OF APPROVAL, CERTIFYING THE GC HAS COORDINATED AND VERIFIED ALL DIMENSIONS, MATERIALS, AND ANY ADDITIONAL INFORMATION AFFECTING STRUCTURAL WORK. THE GC'S REVIEW INCLUDES BUT IS NOT LIMITED TO COORDINATION AND VERIFICATION OF ACTUAL FIELD CONDITIONS, DIMENSIONS, ELEVATIONS, AND SUPPORTS AND OPENINGS FOR ACTUAL EQUIPMENT PURCHASED.
7. SHOP DRAWINGS NOT COMPLYING WITH THE ABOVE SHALL BE RETURNED FOR CORRECTION WITHOUT REVIEWING.
8. RESUBMITTED SHOP DRAWINGS SHALL INCLUDE ALL CHANGES ON THE DRAWINGS CLOUDED AND MARKED WITH REVISION TAG NUMBER.
9. GC SHALL NOT PROCEED WITH ANY WORK OR FABRICATION UNTIL THE SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED BY THE ENGINEER.

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC.

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.

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NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: **TLEMO22-164**	Scale: **AS NOTED**
Drawn By: **MM**	Approved By: **MBJ**

Drawing Name:
GENERAL NOTES

Drawing Number:
S-100

MATTHEW B. JARMEL
NUMBER A-2017014316

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NOTES:

1. TOP OF SLAB IS SET AS DATUM 0'-0" AND IS ACTUAL ELEVATION 1012.00'.
2. SLAB ON GRADE SHALL BE 4" NORMAL WEIGHT CONCRETE PLACED OVER A 10 MIL. VAPOR BARRIER ON 4" BASE OF CRUSHED LIMESTONE, 20" GRANNULAR SUBBASE OF CRUSHER-RUN LIMESTONE OR ROCK DUST IN THREE (3) EQUAL LIFTS AND COMPACTED TO 95% OF THE STANDARD PROCTOR (ASTM D-698) MAX. DRY DENSITY AND A SINGLE LAYER OF GEOGRID (TENSAR BX-1100 OR EQUIVALENT). REINFORCE WITH 6x6-W1.4xW1.4 WELDED WIRE FABRIC OR 1.5 POUNDS FIBER REINFORCEMENT PER CUBIC YARD OF CONCRETE AT CONTRACTOR'S DISCRETION. PROVIDE SUBMITTAL FOR W.W.F. OR CONCRETE MIX DESIGN WITH FIBER REINFORCEMENT INCLUDED AND APPROVED GEOGRID TO BE USED, BY GEOTECH ENGINEER. SEE ARCHITECTURAL DRAWINGS FOR SCHEDULE OF FINISHES ON ALL EXPOSED CONCRETE SURFACES.
3. FOOTINGS ARE DESIGNED TO BEAR ON UNDISTURBED VIRGIN SOIL OR STRUCTURAL COMPACTED FILL PLACED OVER UNDISTURBED VIRGIN SOIL HAVING A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 PSF.
4. BOTTOM OF FOOTING ELEVATIONS ARE NOTED THUS (-X'-X") ON PLAN, REFERENCED FROM DATUM. ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM 3'-0" BELOW FINISHED GRADE. TOP OF COLUMN FOOTINGS TO ALIGN WITH TOP OF WALL FOOTINGS.
5. PX - INDICATES PIER TYPE, SEE PIER SCHEDULE FOR SIZE AND REINFORCING. TOP OF PIER ELEVATIONS ARE -0'-8" UNLESS NOTED THUS <-X'-X"> ON PLAN, REFERENCED FROM DATUM.
6. FX.X - INDICATES COLUMN FOOTING TYPE, SEE FOOTING SCHEDULE FOR SIZE AND REINFORCING.
7. SW-X INDICATES SHEAR WALL LOCATION, SEE SHEAR WALL SCHEDULE ON S-103.
8. ▶ INDICATES SHEAR WALL HOLDDOWN LOCATION, SEE SHEAR WALL SCHEDULE ON S-103 FOR SIZE AND ANCHORAGE.
9. FOR GENERAL NOTES, SEE DRAWING S-100.
10. FOR TYPICAL DETAILS, SEE DRAWING S-200.
11. * COORDINATE LOCATION OF POSTS WITH APPROVED ROOF TRUSS SHOP DRAWINGS.

SHEAR WALL SCHEDULE

MARK	WALL FRAMING	SHEATHING	NAILING		SILL PLATE ANCHORAGE SPC.	CHORD MEMBERS	HOLDOWN AT CHORDS
			PANEL EDGES	INT. SUPPORTS			
SW-1	2x6 @ 16" O.C.	(1) LAYER 19/32" SHEATHING	10d @ 6" O.C.	10d @ 12" O.C.	REFER NOTE 2*	(2) 2x6	HDU2-SDS2.5 W/ 5/8"Ø THREADED ROD
SW-2	2x6 @ 16" O.C.	(1) LAYER 19/32" SHEATHING	10d @ 4" O.C.	10d @ 12" O.C.	REFER NOTE 2*	(2) 2x6	HDU8-SDS2.5 W/ 5/8"Ø THREADED ROD

* REFER TO THE SHEAR WALL ELEVATION SCHEDULE ON S-103

PIER SCHEDULE

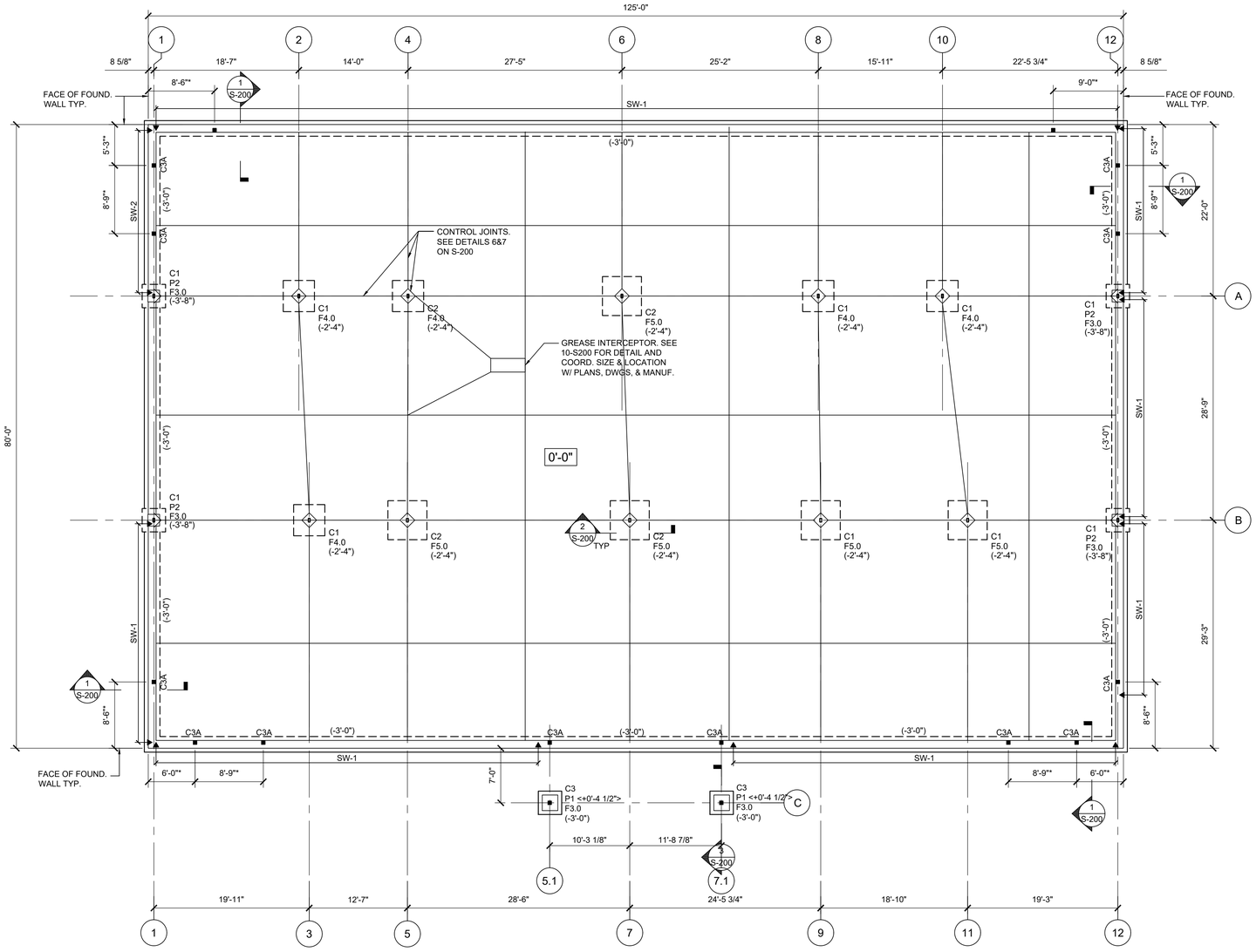
MARK	SIZE		REINFORCING		REMARKS
	LENGHT	WIDTH	VERT.	TIES	
P1	24"	24"	8 -#6	#4 @ 12"	
P2	18"	18"	4 - #7	#4 @ 12"	

COLUMN SCHEDULE

MARK	SIZE AND MATERIAL	BASE CONNECTION REQUIREMENTS
C1	HSS 6X3X3/8	BASE PL - 12"X9"X3/4" W/ (4) 3/4"Ø F1554 ANCHOR RODS, EMBED. 1'-2"
C2	HSS 6X3X1/2	BASE PL - 12"X9"X3/4" W/ (4) 3/4"Ø F1554 ANCHOR RODS, EMBED. 1'-2"
C3	5-1/4 X 5-1/4 PSL	SIMPSON ABU66Z W/ (12) 16D NAILS. ANCHOR TO CONC. W/ 5/8"Ø THREADED ROD IN HILTI HIT-HY200 ADHESIVE EMBED 5 5/8"
C3A	5-1/4 X 5-1/4 PSL	BEAR ON WALL BOTTOM PLATE. ATTACH W/ DTT1Z W/ 3/8"Ø THREADED ROD W/ HILTI HIT HY200 ADHESIVE EMBED 3 3/8" MIN. INTO CONCRETE

FOOTING SCHEDULE
2000 PSF BEARING CAPACITY

MARK	SIZE			BOTT. REINF. E.W. - EACH WAY L-LONG S-SHORT	TOP REINF. E.W. - EACH WAY L-LONG S-SHORT
	LENGHT	WIDTH	DEPTH		
F3.0	3'-0"	3'-0"	20"	7 - #4 E.W.	-
F4.0	4'-0"	4'-0"	20"	9 - #4 E.W.	-
F5.0	5'-0"	5'-0"	20"	6 - #6 E.W.	-



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

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PROFESSIONAL CERTIFICATION

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Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: MM	Approved By: MBJ

Drawing Name:

FOUNDATION PLAN

Drawing Number:

S-101

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

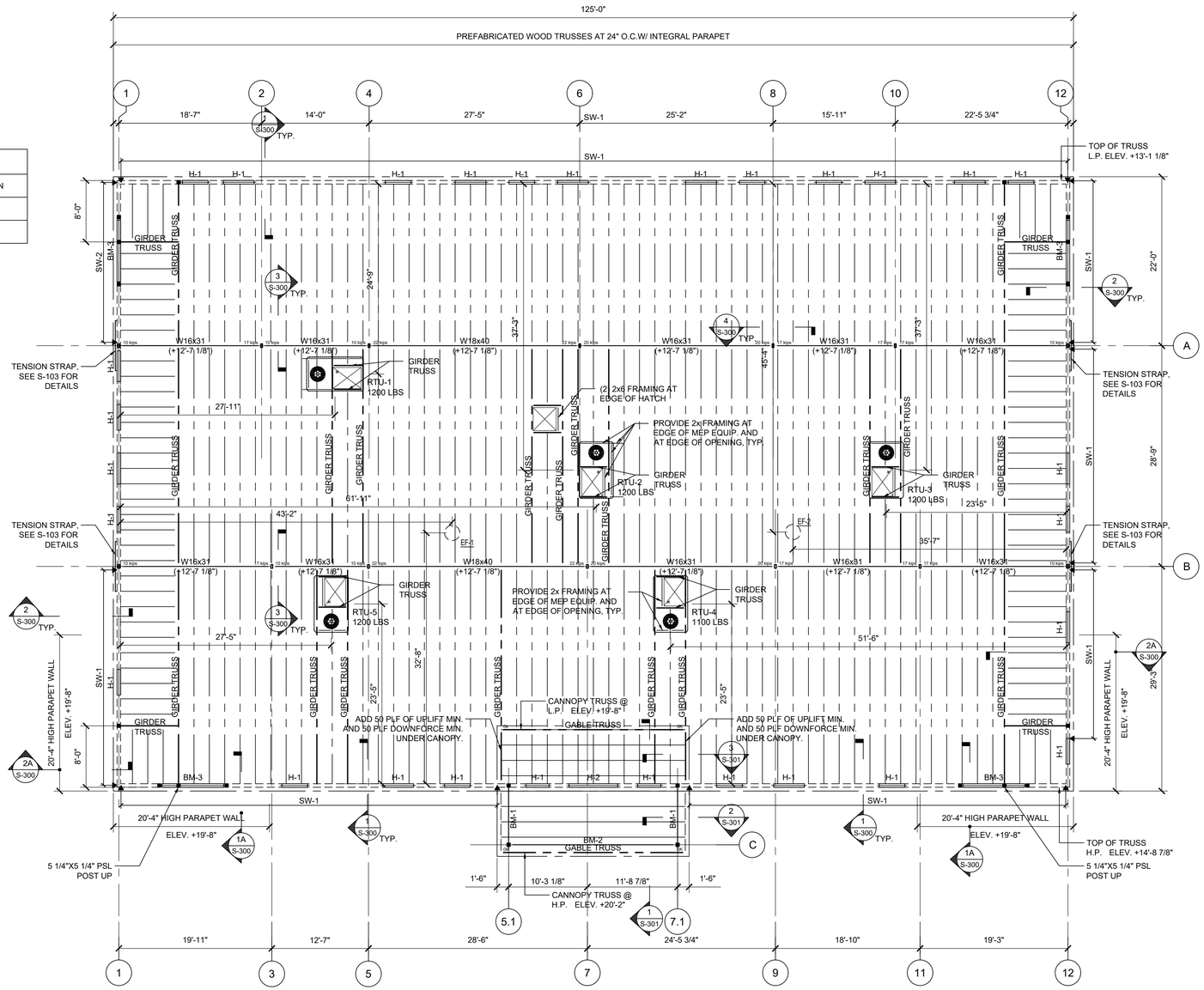
LOAD SCHEDULE	
ROOF DEAD LOAD:	
WOOD TRUSSES	5 PSF
3/4" SHEATING	3 PSF
ROOFING/ASPHALT SHINGLES	3 PSF
CEILING/INSULATION	3 PSF
MEP/MISC.	6 PSF
TOTAL DEAD LOAD	20 PSF
LIVE LOAD:	
ROOF	20 PSF
APPLY 10 PSF OF DL TO TRUSS BOTTOM CHORD	
DESIGN FLAT ROOF SNOW LOAD	20 PSF*

* GROUND SNOW LOAD TO BE ADJUSTED FOR DRIFT, SLIDING, UNBALANCED LOADING, ETC. PER CODE.

HEADER SCHEDULE				
MARK	LOCATION	HEADER SIZE	JAMB MEMBER	HEADER CONNECTION
H-1	SINGLE DOOR / WINDOW 4'-0" MAXIMUM OPNG.	3-2X10 W/ 2-1/2" PLYWOOD SPACERS	2-2X6 EACH SIDE	SIMPSON A21 & LSTA9
H-2	DOUBLE DOOR / WINDOW 8'-0" MAXIMUM OPNG.	3-2X12 W/ 2-1/2" PLYWOOD SPACERS	2 (2x6) EACH SIDE	SIMPSON A21 & LSTA9

STRUCTURAL WOOD BEAM SCHEDULE			
MARK	TYPE	CONNECTION REQUIREMENT	COMMENT
BM-1	5 1/4" X 9 1/4" PARALLAM PSL	CCTQ666-SDS2.5 TO CANOPY POSTS ECCQ66-SDS2.5 TO WALL POSTS	
BM-2	5 1/4" X 9 1/4" PARALLAM PSL	CCTQ666-SDS2.6	
BM-3	5 1/4" X 9 1/4" PARALLAM PSL	ECCQ66-SDS2.5 TO WALL POST	

NOTES:
1. TYPICAL ROOF CONSTRUCTION SHALL BE 3/4" SHEATHING OVER PRE-FABRICATED WOOD TRUSSES.
2. WOOD TRUSSES ARE SUPPORTED BY EXTERIOR BEARING WALLS AND INTERIOR STEEL BEAMS AND SHALL BE BOTTOM CHORD BEARING.
3. BOTTOM OF ROOF TRUSS BOTTOM CHORD (TOP OF BEARING PLATES) IS SET AT ELEVATION +11'-1 1/8". TOP OF ROOF TRUSS TOP CHORD SLOPES. WITH H.P. ELEVATION +14'-8 7/8".
4. ALL STUD WALLS SHOWN ON FRAMING PLAN ARE 2x6 AT 16" O.C. LOAD BEARING WALLS. SEE ARCHITECTURAL DRAWINGS FOR LOCATION AND DETAILS ON INTERIOR NON-LOAD BEARING PARTITION WALLS.
5. EXTERIOR WALLS ARE TO BE SHEATHED WITH 5/8" SHEATHING ANCHORED WITH 10d NAILS AT 6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS. UNLESS OTHERWISE DESIGNATED ON THE SHEAR WALL SCHEDULE ON S-103.
6. ALL TRUSSES SHALL BE DESIGNED AND FABRICATED PER APPLICABLE LOADS BY THE TRUSS FABRICATOR. SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MISSOURI.
7. ROOF TRUSSES ARE TO BE A DEFERRED SUBMITTAL. SIGNED AND SEALED COPIES OF THE TRUSS CALCULATIONS AND THE PLACEMENT PLANS, WITH EVIDENCE THAT THE ENGINEER OF RECORD HAS REVIEWED AND APPROVED, SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT.
8. TRUSSES ARE TO BE DESIGNED FOR ALL LOADING AS DESIGNATED IN THE LOAD SCHEDULE AND ALL MECHANICAL UNITS SHOWN. COORDINATED LOCATION AND WEIGHTS OF UNITS WITH MECHANICAL DRAWINGS.
9. MECHANICAL EQUIPMENT DIMENSIONS SHOWN ON PLAN ARE TO CENTERLINE OF UNIT. DIMENSIONS TO BE VERIFIED WITH MECHANICAL DRAWINGS AND APPROVED HVAC SHOP DRAWINGS.
10. ALL TRUSSES/ROOF FRAMING ARE TO BE COORDINATED WITH MECHANICAL DRAWINGS FOR ROOF PENETRATIONS AND DUCTWORK LOCATIONS.
11. BM-X - INDICATES BEAM TYPE, SEE BEAM SCHEDULE FOR SIZE AND CONNECTION REQUIREMENTS. TOP OF BEAM ELEVATION NOTED THUS (+'X'-X") ON PLAN, REFERENCED FROM BUILDINGS DATUM.
12. H-X - INDICATES HEADER TYPE, SEE HEADER SCHEDULE FOR SIZE AND CONNECTION REQUIREMENTS.
13. SW-X - INDICATES SHEAR WALL SEE SHEAR WALL SCHEDULE AND SHEAR WALL ELEVATION ON S-103 FOR MORE INFORMATION.
14. ALL BEAMS, HEADERS, AND TRUSSES ARE TO BEAR ON POSTS SHOWN ON PLAN WITH CONNECTIONS AS SPECIFIED IN THE COLUMN SCHEDULE.
15. SEE DRAWING S-100 FOR GENERAL NOTES.
16. UNLESS OTHERWISE NOTED ON PLAN, PROVIDE A (2) 2x6 POST AT ALL 2-PLY GIRDER TRUSS AND A (3) 2x6 POST AT ALL 3-PLY GIRDER TRUSS. GC SHALL COORDINATE LOCATION AND SIZE OF POST WITH APPROVED ROOF TRUSS SHOP DRAWINGS.



ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"

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2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

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ISSUE			
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1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION			
NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: MM	Approved By: MBJ

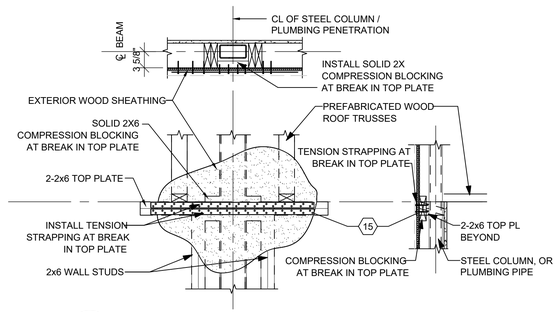
Drawing Name:

ROOF FRAMING PLAN

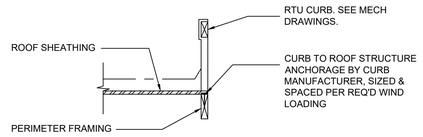
Drawing Number:

S-102

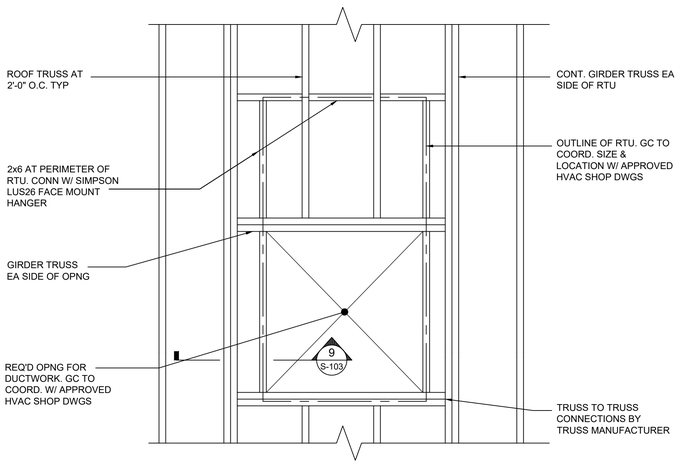
STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT



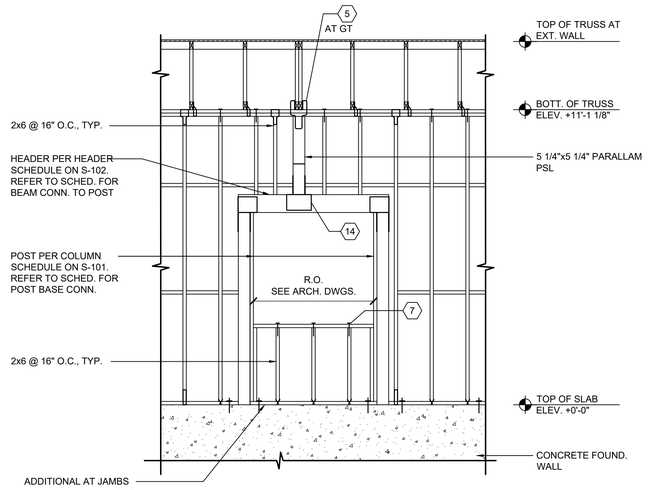
10 TYPICAL TOP PLATE TENSION TIE
SCALE : 3/4" = 1'-0"



9 TYPICAL RTU CURB SECTION
SCALE : 3/4" = 1'-0"



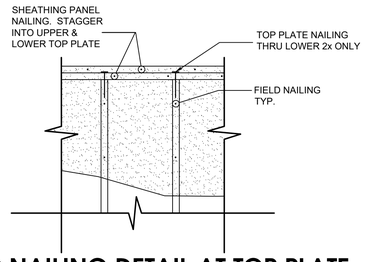
8 TYPICAL RTU CURB DETAIL
SCALE : 3/4" = 1'-0"



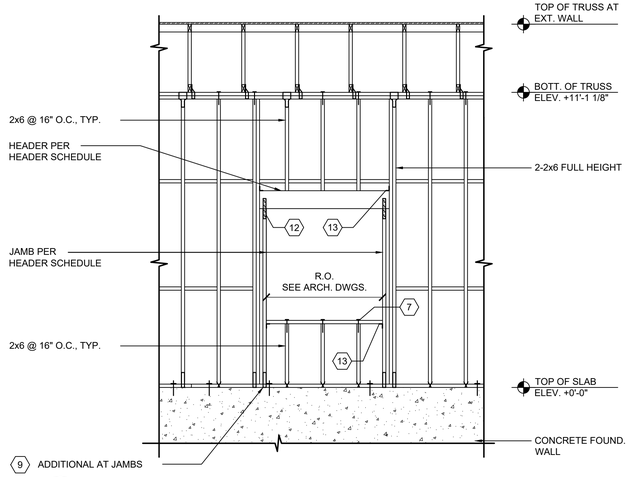
4 EXT. WALL OPNG BELOW GIRDER TRUSS
SCALE : 3/8" = 1'-0"

SHEAR WALL ELEVATION SCHEDULE

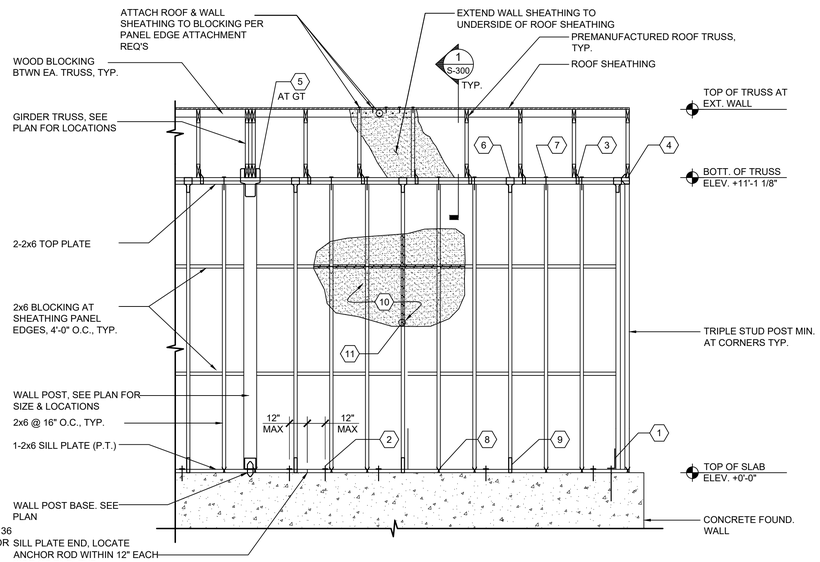
	ITEM DESCRIPTION	REMARKS
1	REFER TO SHEAR WALL SCHEDULE	-
2	1/2"Ø F1554 GR. 36 HEADED ANCHOR RODS @ 4'-0" O.C., & WITHIN 12" OF SILL PL ENDS OR 1/2"Ø SIMPSON TITEN HD SCREW ANCHOR @ 2'-8" O.C. FOR SW-1 AND 1-4" FOR SW-2 & WITHIN 12" OF SILL PL ENDS	9" EMBEDMENT FOR HEADED ANCHOR 3 5/8" EMBEDMENT FOR SCREW ANCHOR PROVIDE W/ 3" X 3" X 1/4" PL ON SILL FOR BOTH CAST-IN & POST-INSTALLED ANCHORS
3	SIMPSON TSP	9-0.148 X 1 1/2 TO TRUSS, 6-0.148 X 1 1/2 TO PLATES AT EACH TRUSS
4	NOT USED	-
5	SIMPSON LGT2 (FOR 2-PLY GIRDER TRUSS) SIMPSON LGT3 (FOR 3-PLY GIRDER TRUSS)	LGT2- 14-16D SINKERS TO POST 16-16D SINKERS TO GIRDER TRUSS LGT3- 26-16D SINKERS TO POST 12-SDS 1/4"X2 1/2" TO GIRDER TRUSS
6	SIMPSON SP2	(6) 0.148x3 TO STUD AND (6) 0.148x3 TO PLATE EVERY OTHER STUD (2'-0" O.C.)
7	2-16d COMMON NAILS	END NAIL TOP PLATE TO STUD, TYP.
8	4-8d COMMON NAILS	TOE NAIL STUD TO SOLE PLATE, TYP.
9	SIMPSON SP1	(6) 0.148x3 TO STUD, (4) 0.148x3 TO SILL PL EVERY OTHER STUD, ALIGN W/ SP2 ABOVE USE HDG NAILS MEETING ASTM A153
10	SEE SHEAR WALL SCHEDULE FOR SHEATHING	EXTERIOR FACE ONLY
11	SHEAR WALL EDGE NAILING PER SHEAR WALL SCHEDULE	SPACING TO BE 12" O.C. AT INTERMEDIATE SUPPORTS, 1 1/2" EMBED. MIN. IN STUD/BLOCKING, TYP.
12	SIMPSON LSTA9	4-10D EACH TO STUD AND HEADER, 8-10D TOTAL
13	SIMPSON A21	2-10DX1 1/2 TO HEADER/ SILL 2-10DX1 1/2 TO JAMB
14	SIMPSON CCQ66SDS2.5	16 SDS 1/4"X2 1/2" SCREWS TO BEAM 14 SDS 1/4"X2 1/2" SCREWS TO POST
15	SIMPSON (2) CSMT14	(66) 0.148 X 2 1/2 FASTERNER 15" END LENGTH.



3 NAILING DETAIL AT TOP PLATE
SCALE : 3/4" = 1'-0"

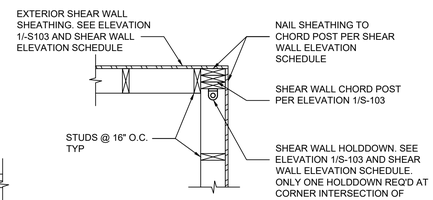


2 TYPICAL BEARING WALL OPENING ELEVATION
SCALE : 3/8" = 1'-0"

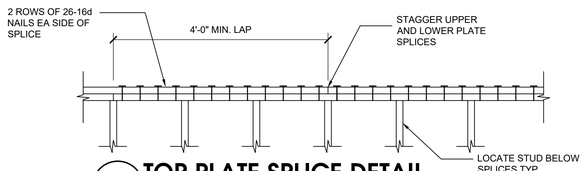


1 TYPICAL EXTERIOR SHEAR BEARING WALL ELEVATION
SCALE : 3/8" = 1'-0"

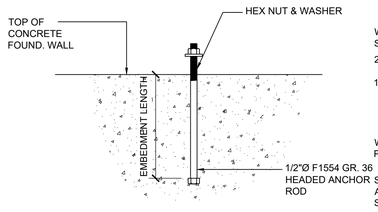
NOTE: HARDWARE LOCATIONS SHOWN ARE DIAGRAMATIC ONLY. SEE SHEAR WALL ELEVATION SCHEDULE FOR LOCATIONS AND SPACING



SHEAR WALL CORNER HOLDDOWN PLAN DETAIL
SCALE : 3/4" = 1'-0"



7 TOP PLATE SPLICE DETAIL
SCALE : 3/4" = 1'-0"



5 TYPICAL SILL ANCHOR DETAIL
SCALE : N.T.S.

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3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

Jarmel Kizel
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THE LEARNING EXPERIENCE ACADEMY OF EARLY EDUCATION
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ISSUE

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REVISION

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: MM	Approved By: MBJ

Drawing Name:

WALL ELEVATIONS

Drawing Number:

S-103

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

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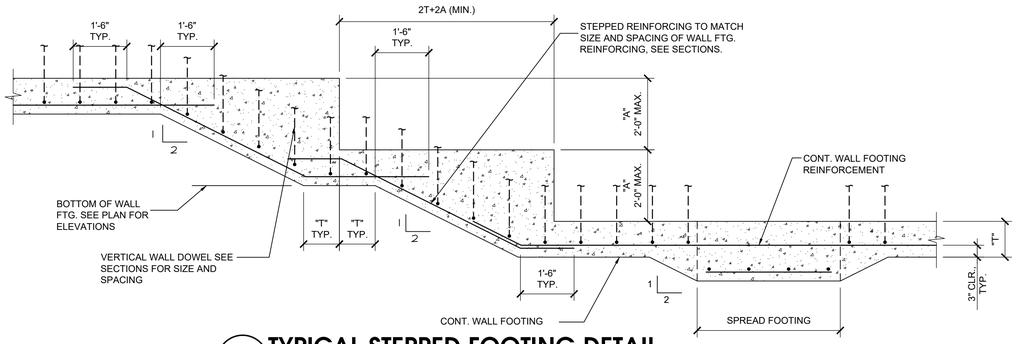
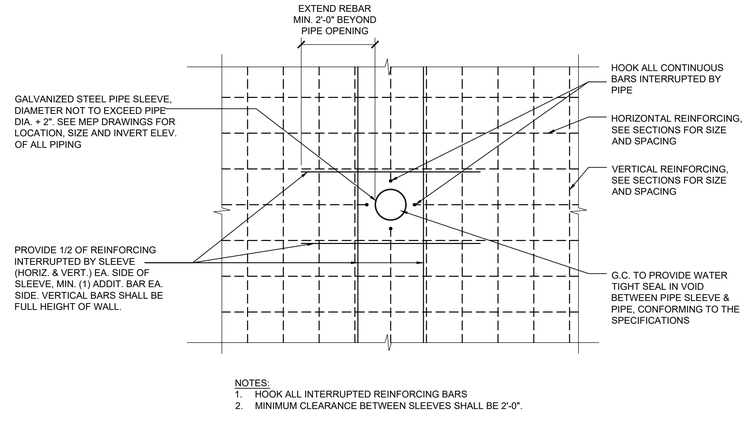


9 TYPICAL STEPPED FOOTING DETAIL

SCALE : 1/2" = 1'-0"

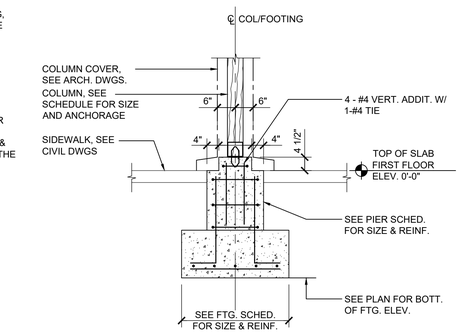
FOOTINGS FOR THIS PROJECT ARE NOT SHOWN ON PLAN TO BE STEPPED. THIS DETAIL IS ONLY TO BE USED SHOULD SITE CONDITIONS REQUIRE LOWERING/RAISING OF A PORTION OF THE FOOTING CREATING THE STEPPED FOOTING CONDITION.

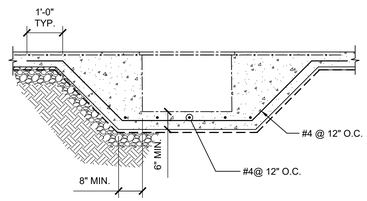


NOTES:
1. HOOK ALL INTERRUPTED REINFORCING BARS
2. MINIMUM CLEARANCE BETWEEN SLEEVES SHALL BE 2'-0".

4 TYPICAL PIPE PENETRATION THRU CONC. FNDN WALL

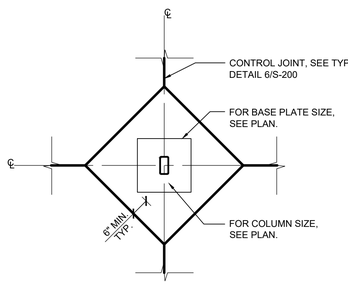
SCALE : 1/2" = 1'-0"





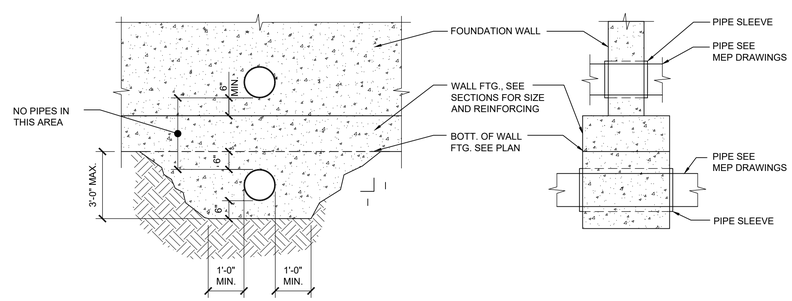
10 TYPICAL GREASE TRAP DETAIL

SCALE : 1/2" = 1'-0"



7 TYPICAL CONTROL JOINT DETAIL AT COLUMN

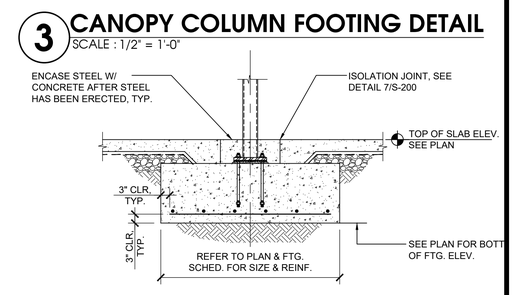
SCALE : 1/2" = 1'-0"



ELEVATION SECTION

5 TYPICAL PIPE AT FOUNDATION WALL

SCALE : 1/2" = 1'-0"

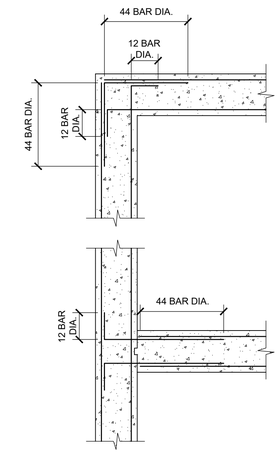


3 CANOPY COLUMN FOOTING DETAIL

SCALE : 1/2" = 1'-0"

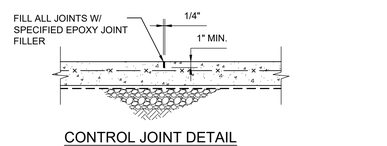
2 TYPICAL INTERIOR COLUMN FOOTING DETAIL

SCALE : 1/2" = 1'-0"

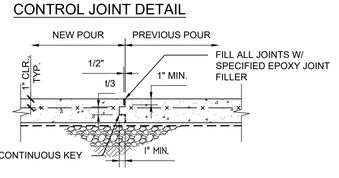


8 TYPICAL WALL INTERSECTION/ CORNER REINFORCING DETAIL

SCALE : 1/2" = 1'-0"



CONTROL JOINT DETAIL

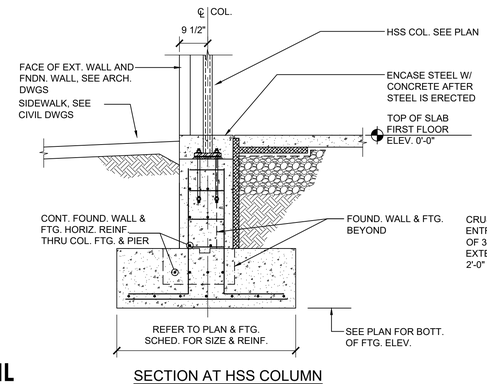


CONSTRUCTION JOINT DETAIL

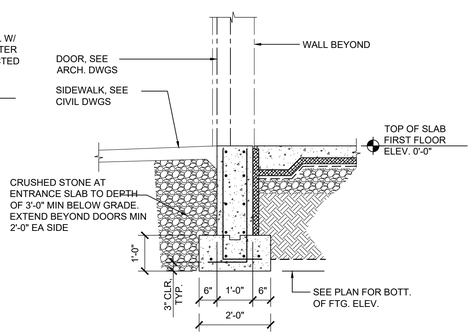
NOTES:
1. CONTROL JOINTS SHALL BE LOCATED BY THE CONTRACTOR AT THE SPACING REQUIRED TO MEET SPECIFIED CRITERIA FOR MAXIMUM SLAB ON GRADE AREA BETWEEN CONTROL JOINTS.
2. LOCATE CONSTRUCTION JOINTS AT CONTROL JOINT LOCATIONS.
3. LOCATE JOINTS AS SHOWN ON THE DRAWINGS. MAXIMUM SPACING OF CONTROL JOINTS SHALL NOT EXCEED 20'-0" IN ANY DIRECTION.
4. SAW CUT JOINTS IMMEDIATELY AFTER SLAB RECEIVES FINAL STEEL TROWEL. ALL CUTTING RESIDUE SHALL BE REMOVED IMMEDIATELY FROM TOP OF CONCRETE SLAB.

6 TYPICAL CONTROL JOINT DETAIL

SCALE : N.T.S.



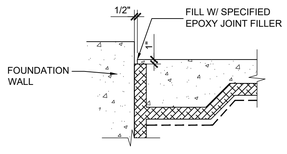
SECTION AT HSS COLUMN



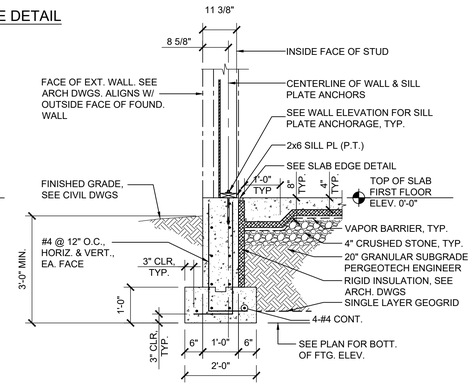
SECTION AT DOOR

1 EXTERIOR WALL DETAIL

SCALE : 1/2" = 1'-0"



SLAB EDGE DETAIL
N.T.S.



TYPICAL SECTION

1 TYPICAL INTERIOR COLUMN FOOTING DETAIL

SCALE : 1/2" = 1'-0"

ISSUE

NO.	DATE	DESCRIPTION	INT.
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REVISION

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By:	Approved By:
MM	MBJ

Drawing Name:

FOUNDATION SECTIONS

Drawing Number:

S-200

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

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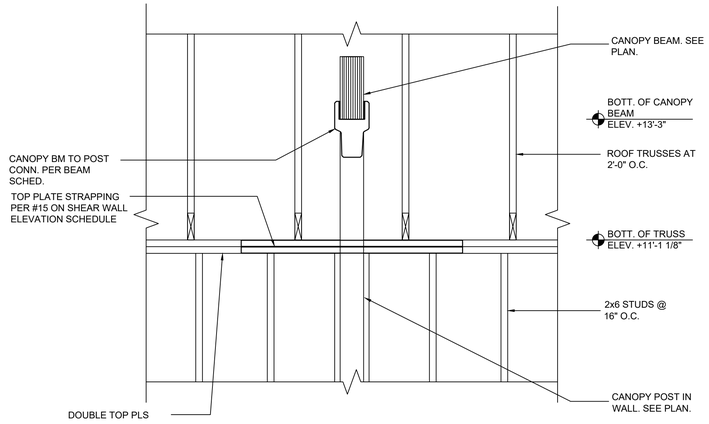
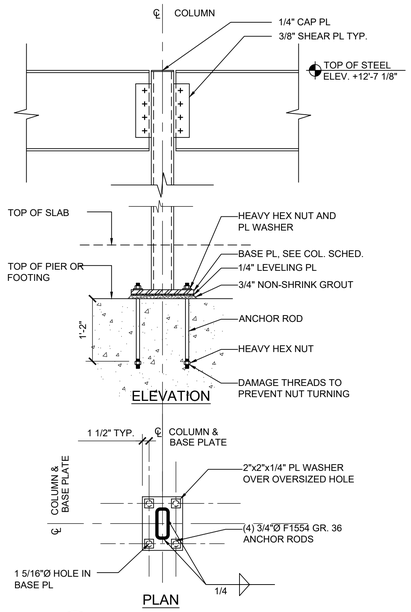
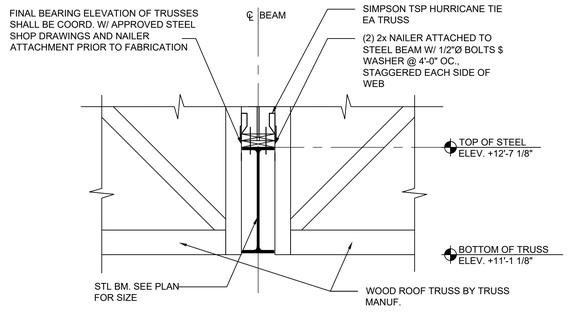


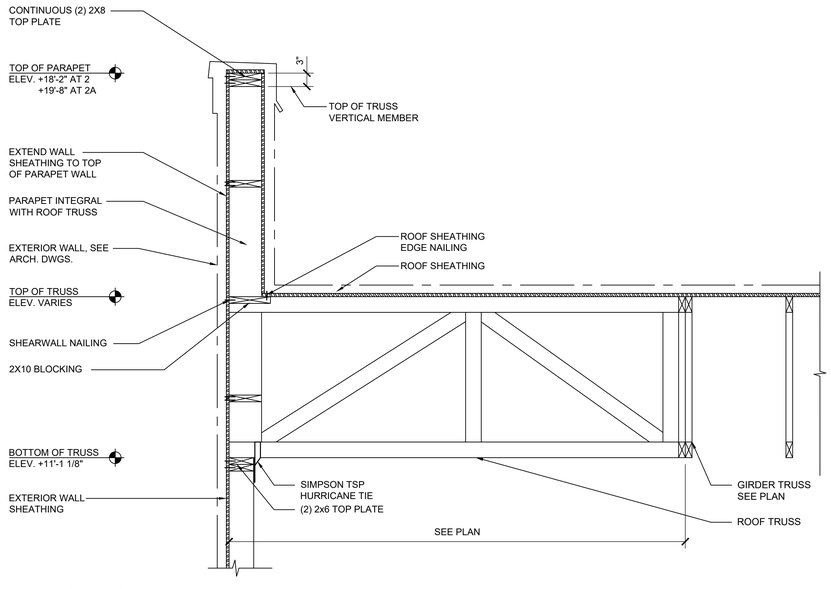
5 SHEAR WALL TOP PLATE STRAPPING AT CANOPY POST
SCALE : 3/4" = 1'-0"



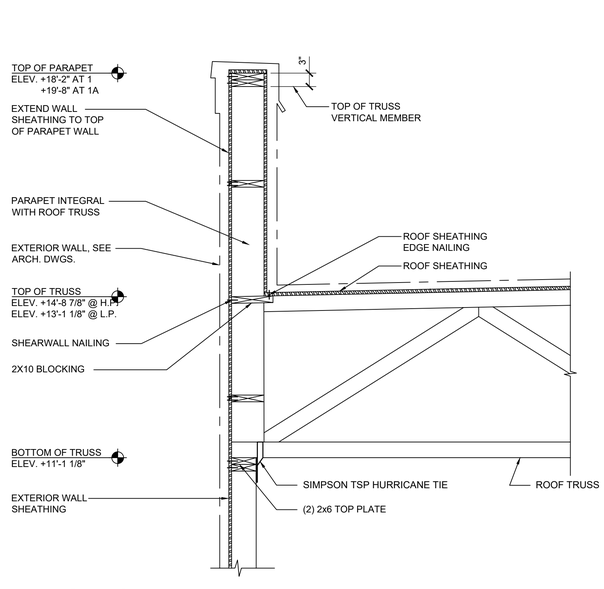
4 SECTION AT COLUMN
SCALE : 3/4" = 1'-0"



3 SECTION THRU STEEL BEAM
SCALE : 3/4" = 1'-0"



2 2A SECTION AT EXT. WALL BRG
SCALE : 3/4" = 1'-0"



1 1A SECTION AT EXT. WALL BRG
SCALE : 3/4" = 1'-0"

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LICENSE NUMBER: A2017014316

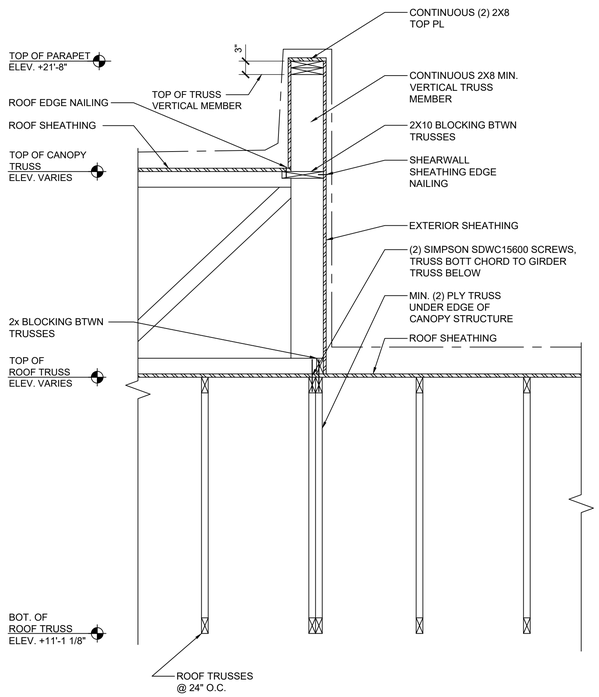
Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: MM	Approved By: MBJ

Drawing Name:

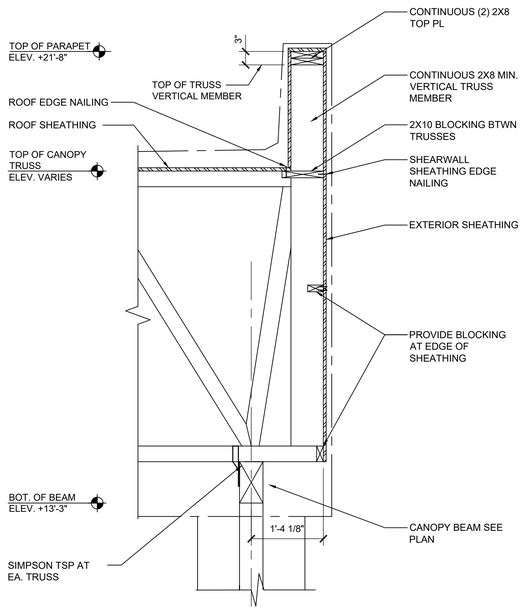
FRAMING SECTIONS

Drawing Number:

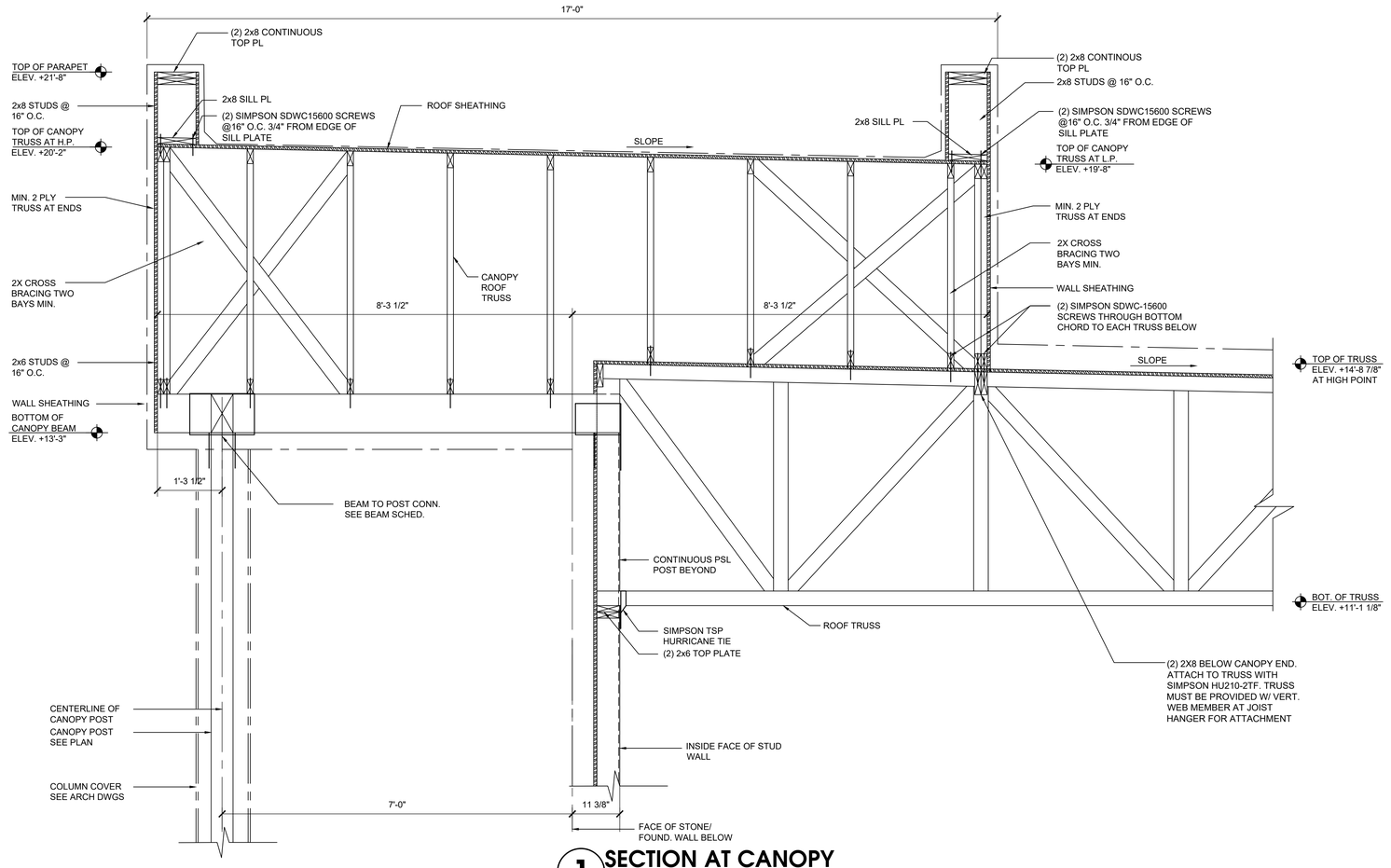
S-300



3 SECTION AT CANOPY
SCALE : 3/4" = 1'-0"



2 SECTION AT CANOPY
SCALE : 3/4" = 1'-0"



1 SECTION AT CANOPY
SCALE : 3/4" = 1'-0"

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ISSUE

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

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TLEMO22-164	AS NOTED
Drawn By:	Approved By:
MM	MBJ

Drawing Name:

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Drawing Number:

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STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
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MEP-FP GENERAL NOTES

1. ATTENTION ALL USERS OF THESE DRAWINGS, GENERAL CONTRACTORS, SUBCONTRACTORS, MANUFACTURERS, AND MATERIAL SUPPLIERS ARE TO CAREFULLY AND THOROUGHLY REVIEW THESE GENERAL NOTES, IT IS YOUR RESPONSIBILITY TO KNOW AND ADHERE TO ALL OF THE REQUIREMENTS.

2. CONTRACTOR SHALL DETERMINE THE APPLICABILITY OF THE GENERAL NOTES BASED UPON THE PROJECT SCOPE CRITERIA AND CONSTRAINTS. QUESTIONS AS TO APPLICABILITY SHOULD BE ADDRESSED TO THE ARCHITECT / ENGINEER PRIOR TO BID SUBMISSION. THE ARCHITECT / ENGINEER SHALL MAKE THE FINAL BINDING DECISION ON APPLICABILITY. CONTRACTOR SHALL NOT REQUEST A CHANGE ORDER BASED UPON THE ENGINEER'S DECISION ON APPLICABILITY.

3. BIDDERS, PRIOR TO SUBMITTING A PROPOSAL/BID SHALL VISIT AND CAREFULLY EXAMINE THE AREAS AFFECTED BY THIS WORK AND TO BECOME FAMILIAR WITH EXISTING CONDITIONS SITE PARAMETERS AND WITH THE DIFFICULTIES THAT WILL BE ENCOUNTERED DURING THE EXECUTION OF WORK. SUBMISSION OF A PROPOSAL/BID WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE.

4. NO CONSIDERATION OR ALLOWANCE WILL BE GRANTED FOR FAILURE TO VISIT THE SITE, NOR FOR ANY ALLEGED MISUNDERSTANDING OF MATERIALS TO BE FURNISHED OR WORK TO BE PERFORMED. THE CONTRACTOR SHALL INCLUDE IN THEIR BID PRICE ALL LABOR AND MATERIAL THAT MAY AFFECT THEIR WORK.

5. IT IS THE INTENT OF THE CONSTRUCTION DOCUMENTS TO CALL FOR FINISHED WORK, TESTED AND READY FOR OPERATION. ANY APPARATUS, APPLIANCE, MATERIAL OR WORK NOT SHOWN ON DRAWINGS BUT MENTIONED IN THE SPECIFICATION, OR VICE VERSA, OR ANY INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE INSTALLATION COMPLETE AND READY FOR OPERATION EVEN IF NOT PARTICULARLY SPECIFIED, MUST BE FURNISHED, DELIVERED AND INSTALLED WITHOUT ADDITIONAL EXPENSE TO THE OWNER. DISCREPANCIES OR A QUESTION OF INTENT, MUST BE REFERRED TO THE ARCHITECT/ENGINEER IN WRITING FOR DECISION BEFORE SUBMITTING A PROPOSAL/BID. THE INTERPRETATIONS OF THE ARCHITECT/ENGINEER ARE FINAL, CONCLUSIVE AND BINDING.

6. IT IS THE INTENT OF THESE SPECIFICATIONS AND ACCOMPANYING DRAWINGS THAT THE CONTRACTOR SHALL, UNLESS OTHERWISE SPECIFIED, FURNISH ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT TO COMPLETE INSTALLATION OF THE SYSTEMS AS SPECIFIED. CONTRACTOR SHALL PROPERLY INSTALL EQUIPMENT, ADJUST TEST AND PUT INTO OPERATION PER EQUIPMENT MANUFACTURER'S REQUIREMENTS THE RESPECTIVE PORTIONS OF THE INSTALLATION SPECIFIED, AND TO SO INTERCONNECT THE VARIOUS ITEMS OR SECTIONS OF THE WORK IN ORDER TO FORM A COMPLETE AND PROPERLY OPERATING SYSTEM.

7. THE CONTRACTOR UNDERSTANDS AND AGREES THAT THESE CONSTRUCTION DOCUMENTS INCLUDING DRAWINGS AND SPECIFICATIONS SHALL BE FULFILLED IN ACCORDANCE WITH MINOR MATERIALS OR DEVICES ESSENTIAL TO PROPER AND CONVENIENT OPERATION, REQUIRED OR IMPLIED AND SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR WITHOUT EXTRA CHARGE, THOUGH NOT SPECIFICALLY IDENTIFIED.

8. THESE DRAWINGS ARE INTENDED TO BE USED ONLY BY AN EXPERIENCED CONTRACTOR. FAILURE TO RECOGNIZE THE COMPLEXITIES OF CONSTRUCTION AND SEQUENCING CAN RESULT IN UNSAFE WORK CONDITIONS AND UNACCEPTABLE WORK. CONTRACTOR SHALL PROCEED WITH A TOTAL UNDERSTANDING OF THE ENTIRE PROJECTS SCOPE AND A COMPLETE SET OF THE LATEST CONSTRUCTION DOCUMENTS. THE CONTRACTOR SOLELY ASSUMES TOTAL RESPONSIBILITY OF PROCEEDING WITH THE WORK.

9. READ SPECIFICATIONS AND INDIVIDUAL TRADE NOTES FOR REQUIREMENTS RELATED TO THESE DOCUMENTS.

10. DO NOT PRESUME THAT YOUR SCOPE OF WORK IS SINGULARLY DEFINED. YOUR SCOPE OF WORK IS DEFINED THROUGHOUT THE ENTIRE SET OF DRAWINGS AND SPECIFICATIONS AND IS NOT CONTAINED IN JUST ONE SERIES OF DRAWINGS OR DIVISION OF SPECIFICATIONS. YOU MUST REVIEW THE ENTIRE SET OF CONTRACT DOCUMENTS TO DETERMINE YOUR SCOPE OF WORK.

11. EVERY EFFORT HAS BEEN MADE TO MAKE THESE DOCUMENTS CONCISE AND COORDINATED, TO DEFINE WORK IN THE MOST LOGICAL PLACE AND TO ELIMINATE REDUNDANCY. KEEP IN MIND HOWEVER THAT YOUR SCOPE OF WORK CAN BE CONTAINED IN VARIOUS PLACES, WITH VARYING DESCRIPTIONS. DO NOT CONSIDER THAT THERE IS ONE CUSTOMARY PLACE TO LOCATE YOUR WORK. THERE IS A DANGER OF OMITTING WORK FROM YOUR SCOPE BECAUSE THE ENTIRE SET OF DOCUMENTS WAS NOT REVIEWED.

12. THE WORK SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, PERMITS HOISTING AND RIGGING, SCAFFOLDING, LOADING AND UNLOADING, CLEAN -UP OF DEBRIS AND OTHER SERVICES, TO PROVIDE THE OWNER WITH COMPLETE FULLY OPERATIONAL SYSTEMS.

13. CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS, LICENSE, APPROVALS INSPECTIONS, ETC., AS ARE REQUIRED TO PERFORM THE WORK. CONTRACTOR SHALL TRANSMIT ORIGINALS TO THE OWNER FOR RECORD.

14. THESE GENERAL NOTES, CODES, STANDARDS, AND SPECIFICATIONS, INCLUDING ADDENDA AND SUPPLEMENTS, REFERENCED IN THE CONTRACT DOCUMENTS SHALL BE THE LATEST APPROVED ISSUE, UNLESS OTHERWISE SPECIFICALLY NOTED.

15. THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATIONS OF CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO COORDINATE THE SEQUENCING, SCHEDULING, AND COORDINATION OF THE WORK WITH ALL TRADES INVOLVED.

16. PROJECT SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL COMPLY WITH ALL GOVERNMENTAL LAWS, RULES, AND REGULATIONS AS IT PERTAINS TO PROJECT SITE SAFETY. THE PROCEDURES TO BE USED SHALL PROVIDE FOR THE SAFE CONDUCT OF THE WORK, CAREFUL DISPOSITION AND INSTALLATION OF ALL MATERIALS, PROTECTION OF PROPERTY AND PERSONNEL, AND COORDINATION WITH OTHER WORK IN PROGRESS.

17. DURING CONSTRUCTION OPERATIONS, ALL PERSONS AND PROPERTY SHALL BE PROTECTED. THE WORK SHALL PROCEED IN SUCH A MANNER SO AS TO MINIMIZE ANY SPREAD OF DEBRIS AND FLYING PARTICLES, AND SO THAT THE EFFECTS OF THE CONSTRUCTION DO NOT INTERFERE WITH OTHER WORK IN PROGRESS. PROJECT SITE SAFETY IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

18. THE CONTRACTOR SHALL COMPLY WITH ALL GOVERNMENTAL LAWS, RULES AND REGULATIONS AS IT PERTAINS WITH OPERATIONS AT THE PROJECT SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE WITH ALL APPLICABLE BUILDING CODES AND SHALL NOT KNOWINGLY EXECUTE WORK SPECIFIED WHICH IS NOT IN CONFORMANCE. UNLESS THE CONTRACTOR, BEFORE SIGNING THIS CONTRACT, HAS NOTIFIED THE ARCHITECT/ENGINEER IN WRITING OF ANY ITEMS IN CONFLICT WITH CODES, THEY SHALL THEREAFTER MAKE ANY ADJUSTMENTS NECESSARY TO MEET CODES AT NO COST TO THE OWNER.

19. THE CONTRACTOR UPON SIGNING AGREEMENT, ACCEPTS THE CONSTRUCTION DOCUMENTS (INCLUDING THESE DRAWINGS WITH THE INCLUDED NOTES AND DESCRIPTIVE MATERIAL) AND AGREES TO EXECUTE THE NECESSARY WORK IN MANNER DESCRIBED THEREIN.

20. ALL CONSTRUCTION SHALL CONFORM TO THE MINIMUM STANDARDS OF THE PRESIDING APPLICABLE CODES INDICATED IN THE BUILDING SUMMARY COLUMN ON DRAWING T-1 AND ALL LOCAL CODES PRESENTLY IN EFFECT UNLESS MORE STRINGENT REQUIREMENTS ARE INDICATED.

21. ALL NEW CONSTRUCTION SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) AND CHAPTER 11 OF THE INTERNATIONAL BUILDING CODE (INCLUDES ICC A117.1 AS AMENDED BY IBC).

22. WHERE USED IN THESE DRAWINGS, THE TERM "PROVIDE" SHALL IMPLY "FURNISH AND INSTALL".

23. THE SCOPE OF WORK UNDER THIS SECTION INCLUDES THE FURNISHING OF ALL LABOR, MATERIALS, EQUIPMENT, SERVICES AND INCIDENTALS TO COMPLETE ALL WORK IN ACCORDANCE WITH THE INTENT OF THE SPECIFICATIONS AND THE DRAWINGS.

24. DELIVER PRODUCTS TO PROJECT SITE IDENTIFIED WITH NAMES, MODEL NUMBERS, TYPES, GRADES, COMPLIANCE LABELS, AND OTHER INFORMATION NEEDED FOR DISTINCT IDENTIFICATION; ADEQUATELY PACKAGED AND PROTECTED TO PREVENT DAMAGE DURING SHIPMENT, STORAGE, AND HANDLING. PROTECT STORED EQUIPMENT AND MATERIALS FROM DAMAGE. COMPLY WITH MANUFACTURER'S RIGGING AND MOVING INSTRUCTIONS FOR UNLOADING EQUIPMENT AND MOVING INTO FINAL LOCATION. MATERIALS SHALL BE STORED IN SUCH A MANNER THAT THEIR CONDITION IS EQUIVALENT TO NEW WHEN INSTALLED.

25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING BUILDING AND SITE UTILITIES BETWEEN CIVIL & MEP-FP DRAWINGS. THE CONTRACTOR SHALL ALSO CONTACT ALL APPLICABLE UTILITY COMPANIES. THE CONTRACTOR SHALL PROVIDE AND INSTALL CONDUIT AND OTHER FACILITIES AS DIRECTED BY THE UTILITY COMPANIES.

26. MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS SHOW INFORMATION IN A DIAGRAMMATIC FASHION WITHOUT DIMENSIONING. THE CONTRACTOR IS TO COORDINATE THE LOCATIONS OF ALL EQUIPMENT WITH RESPECT TO THE ARCHITECTURAL, STRUCTURAL AND CIVIL DRAWINGS AND DETAILING OF SHAFTS, CHASES, AND OTHER DIMENSIONAL REQUIREMENTS.

27. DO NOT SCALE THE DRAWINGS. DRAWING SCALES AS INDICATED ARE FOR REFERENCE ONLY AND ARE NOT INTENDED TO ACCURATELY DEPICT ACTUAL OR DESIGNATED CONDITIONS. WRITTEN DIMENSIONS SHALL GOVERN.

28. NOTES AND DETAILS ON DRAWINGS TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. IF QUESTIONS OCCUR, IMMEDIATELY NOTIFY ARCHITECT/ENGINEER IN WRITING FOR RESOLUTION.

29. THE TERM "ALIGN" REFERS TO LOCATING DIFFERENT COMPONENTS OF CONSTRUCTION TO PROVIDE A FLUSH FINISH SURFACE.

30. USE OF THE WORD "VERIFY" POINTS OUT A SITUATION WHICH MUST BE CONFIRMED PRIOR TO PROCEEDING WITH THE WORK, FABRICATION OF EQUIPMENT, OR ORDERING MATERIAL AND EQUIPMENT. NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY QUESTIONS IN THIS REGARD.

31. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL FIELD CONDITIONS AND DIMENSIONS AS THEY RELATE TO THIS PROJECT. SHOULD QUESTIONS ARISE BETWEEN THE WORK INDICATED AND ACTUAL FIELD CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IN WRITING PRIOR TO PROCEEDING WITH THE WORK. DO NOT PROCEED WITH WORK UNTIL DIRECTION HAS BEEN PROVIDED, DEFECTS HAVE BEEN CORRECTED, AND CONDITIONS ARE SATISFACTORY. COMMENCEMENT OF WORK SHALL BE CONSTRUED AS ACCEPTANCE OF CONDITIONS. VERIFY EXACT SIZES, LOCATIONS, INVERTS AND ELEVATIONS PRIOR TO COMMENCING WORK. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ALL FIXTURES AND EQUIPMENT.

32. DETERMINE INTERFERENCE BEFORE WORK IS FABRICATED OR INSTALLED. THE CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH ALL DETAILS OF WORK AND WORKING CONDITIONS AND COORDINATE WORK DURING PRELIMINARY STAGES TO ENSURE ACTUAL ERECTION WILL PROCEED WITHOUT INTERFERENCE. COORDINATION IS OF PARAMOUNT IMPORTANCE AND NO REQUESTS FOR ADDITIONAL PAYMENT WILL BE CONSIDERED WHERE REQUEST IS BASED ON INTERFERENCE.

33. WHERE THE PROJECT CONDITIONS REQUIRE REASONABLE DEVIATIONS FROM CONTRACT DOCUMENTS, MAKE DEVIATIONS WITHOUT ADDITIONAL COST TO OWNER, AFTER OBTAINING APPROVAL OF ARCHITECT/ENGINEER IN WRITING.

34. PROVIDE MAXIMUM PRACTICAL SPACE FOR OPERATION, REPAIR, REMOVAL, AND TESTING OF ALL EQUIPMENT. APPROVED DEVIATIONS MAY BE MADE TO PROVIDE REQUIRED ACCESSIBILITY AFTER OBTAINING APPROVAL OF ARCHITECT/ENGINEER.

35. TEST AND ADJUST EQUIPMENT AND SYSTEMS INSTALLED AND DEMONSTRATE PROPER OPERATION TO OWNER'S REPRESENTATIVE. NO EQUIPMENT SHALL BE TESTED OR OPERATED FOR ANY PURPOSE UNTIL IT HAS BEEN FULLY PREPARED FOR OPERATION IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.

36. EQUIPMENT MOUNTED ABOVE HUNG CEILING SHALL BE SUPPORTED FROM BUILDING STRUCTURE WITH VIBRATION ISOLATION RODS MEETING LOCAL SEISMIC RESTRAINT REQUIREMENTS.

37. DRAWINGS ARE PREPARED USING DIMENSIONS AND PRODUCT CONFIGURATIONS OR DETAILS OF SPECIFIC MANUFACTURERS. DIMENSIONS AND DETAILS FOR SPECIFIC PRODUCTS MAY CHANGE BEFORE THEY ARE ACTUALLY INCORPORATED INTO THE WORK, AND PRODUCTS BY OTHER MANUFACTURERS MAY BE ACCEPTABLE UPON REVIEW AND APPROVAL BY THE ARCHITECT/ENGINEER. THEREFORE, ACTUAL INSTALLATION DETAILS AND DIMENSIONS MAY DIFFER FROM THOSE SHOWN. CONTRACTOR SHALL VERIFY INSTALLATION REQUIREMENTS FOR ALL PRODUCTS TO BE INCORPORATED IN THE WORK (INCLUDING THICKNESSES FOR RECESSED OR SEMI-RECESSED PRODUCTS), AND IS RESPONSIBLE FOR ACCOMMODATING AND COORDINATING CHANGES TO OTHER MATERIALS, PRODUCTS OR TRADES THAT DUE TO THESE DIFFERENCES.

38. "TYPICAL DETAILS" ARE APPLICABLE THROUGHOUT CONSTRUCTION DOCUMENTS AND MAY NOT BE SPECIFICALLY REFERENCED THEREIN. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THESE TYPICAL DETAILS AND UNDERSTANDING THE EXTENT OF THEIR APPLICATION PRIOR TO PERFORMING THE WORK.

39. THE DRAWINGS AND SPECIFICATIONS ARE SEPARATED INTO DISCIPLINES FOR CONVENIENCE. THE SEPARATIONS USED ARE ONLY FOR THE PURPOSE OF CONVENIENCE AND REFERENCE AND IN NO WAY DO THEY DEFINE OR LIMIT THE SCOPE OR INTENT OF ANY PART OF THE DRAWINGS, OR OF THE DRAWINGS AND SPECIFICATIONS AS A WHOLE. THE FACT THAT THE DRAWINGS ARE SEPARATED IN NO WAY SUGGESTS THAT THE WORK IS NOT TO BE CONSTRUCTED AS A COMPLETE, INTEGRATED AND UNIFIED WHOLE.

40. THE DRAWINGS AND SPECIFICATIONS, INCLUDING DRAWINGS PREPARED BY SPECIFIC ENGINEERING DISCIPLINES (SUCH AS CIVIL, STRUCTURAL, MECHANICAL, ELECTRICAL, ETC.) ARE COMPLEMENTARY; ITEMS SHOWN IN ANY ONE LOCATION IN THE DRAWINGS SHALL BE CONSIDERED TO BE REQUIREMENTS OF THE CONTRACT FOR CONSTRUCTION. IN THE EVENT OF AN INCONSISTENCY BETWEEN THE DRAWINGS AND SPECIFICATIONS, OR WITHIN EITHER DOCUMENT, THE CONTRACTOR SHALL SEEK CLARIFICATION OR INTERPRETATION FROM THE ARCHITECT/ENGINEER IN WRITING PRIOR TO BIDDING. WHERE INCONSISTENCIES ARE NOT CLARIFIED PRIOR TO BIDDING, AND WHERE THE ACTUAL SOLUTION OR INTENT CANNOT BE REASONABLY INFERRED, THE CONTRACTOR SHALL PROVIDE THE BETTER QUALITY OR GREATER QUANTITY OF WORK.

41. ALL MATERIALS SPECIFIED OR NOTED SHALL BE NEW UNLESS OTHERWISE NOTED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS. ALL EXISTING EQUIPMENT THAT IS TO BE RE-USED SHALL BE CLEANED AND BROUGHT BACK TO ORIGINAL CONDITION AND MANUFACTURERS SPECIFICATIONS.

42. ALL MATERIAL USED IN THIS WORK SHALL BE NEW, OF THE BEST QUALITY, AND SHALL MEET THE REQUIREMENTS OF THESE SPECIFICATIONS AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MATERIALS SHALL BE SAMPLED AND TESTED IN ACCORDANCE WITH CURRENT ASTM SPECIFICATIONS OR SUCH OTHERS AS SPECIFIED HEREINAFTER AND APPLICABLE CODES. THE CONTRACTOR WILL BE REQUIRED TO FURNISH CERTIFICATES OF CONFORMANCE TO ASTM OR OTHER APPLICABLE SPECIFICATIONS.

43. WHENEVER IN THESE DOCUMENTS REFERENCE IS MADE TO THE REQUIREMENTS OF THE NEC (NATIONAL ELECTRIC CODE), NATIONAL UPC (NATIONALUNIFORM PLUMING CODE) ASHRAE, (AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS) ASTM (AMERICAN SOCIETY FOR TESTING MATERIALS), OR OTHER STANDARD SPECIFICATIONS, IT SHALL BE UNDERSTOOD THAT REFERENCES ARE MADE TO THE LATEST MODIFICATIONS OR REVISIONS OF SUCH SPECIFICATIONS AS ADOPTED BY AHJ.

44. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING COORDINATED SHOP DRAWINGS, PRODUCT DATA, OR SAMPLES FOR MECHANICAL, ELECTRICAL, PLUMBING FIXTURES EQUIPMENT, AND OTHER PERTINENT ITEMS REQUIRING REVIEW FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS.

45. SUBMITTALS MUST BE REVIEWED AND BEAR THE GENERAL CONTRACTOR'S STAMP OF APPROVAL FOR CONFORMANCE AND COORDINATION WITH THE CONTRACT DOCUMENTS. SUBMITTALS FORWARDED WITHOUT A STAMP WILL BE RETURNED. ALL SUBMITTALS MUST BE REVIEWED AND APPROVED BY THE ARCHITECT/ENGINEER PRIOR TO PERFORMANCE OF THAT PORTION OF THE WORK AND/OR ASSOCIATED WORK.

46. CONTRACTOR SHALL INSTALL EQUIPMENT LOCATED IN MECHANICAL ROOM ONLY AFTER A THOROUGHLY COORDINATION WITH OTHER TRADES AND UTILITY COMPANY REQUIREMENTS.

47. IF MATERIAL OR EQUIPMENT IS INSTALLED BEFORE IT IS APPROVED, OR IF IN THE OPINION OF THE ARCHITECT OR ENGINEER, THE MATERIAL OR EQUIPMENT DOES NOT MEET THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR SHALL BE LIABLE FOR ITS REMOVAL AND REPLACEMENT AT NO ADDITIONAL COST.

48. ANY DEFECTS IN THE CONSTRUCTION, INCLUDING MATERIALS AND/OR WORKMANSHIP, SHALL BE REPLACED OR CORRECTED BY REMOVAL AND REPLACEMENT OR OTHER APPROVED METHOD WITHOUT ADDITIONAL COST PRIOR TO ACCEPTANCE BY THE OWNER.

49. CONTRACTOR SHALL PROVIDE A WRITTEN WARRANTY FOR THE CONSTRUCTION INCLUDING MATERIALS AND/OR WORKMANSHIP FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR AFTER ACCEPTANCE DATE. FAULTY WORK SHALL BE REPLACED OR REPAIRED AT NO COST, UNLESS OTHERWISE NOTED.

50. CONTRACTOR SHALL RE-EXECUTE ANY WORK THAT FAILS TO CONFORM TO THE DRAWINGS/DETAILS AS SHOWN, AND ANY DEFECTS DUE TO FAULTY MATERIALS OR WORKMANSHIP WHICH APPEAR WITHIN A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE, UNLESS OTHERWISE NOTED.

51. THE CONTRACTOR IS TO PROVIDE AS BUILT DRAWINGS IN HARD COPY AND AN ELECTRONIC AUTOCAD FILE TO THE OWNER AT THE CONCLUSION OF THE PROJECT. FILES AND HARD COPIES SHALL BE LABELED "AS-BUILT DRAWINGS".

52. UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS, NO SLAB OR STRUCTURAL MEMBER SHALL BE CUT, DRILLED, NOTCHED, CORED OR OTHERWISE MODIFIED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE ARCHITECT/ENGINEER.

53. PERFORM CUTTING AND PATCHING TO INSTALL THE WORK.

54. ALL SLEEVES AND ALL CORE DRILLING OF FLOORS AND WALLS SHALL BE BY THE CONTRACTOR.

55. ALL CUTTING SHALL BE PATCHED AND FINISHED TO MATCH THE SURROUNDING AREA, SATISFACTORY TO OWNER AND ARCHITECT/ENGINEER.

56. CONTRACTOR SHALL MAINTAIN FIRE RATINGS AT ALL PENETRATIONS, THROUGH-PENETRATION FIRESTOP SYSTEMS AND SHALL BE TESTED IN ACCORDANCE WITH ASTM E814. THE SYSTEM SHALL HAVE AN "F" RATING (WALLS) OR "F AND "T" RATING (HORIZONTAL ASSEMBLIES) OF NOT LESS THAN THE REQUIRED RATING OF THE ASSEMBLY PENETRATED. PENETRATIONS ARE TO BE PROPERLY FIRE-STOPPED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. USE ONLY A SINGLE MANUFACTURER FOR EACH PROJECT.

57. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MATERIALS, INCIDENTAL ITEMS AND DEVICES FOR A COMPLETE AND OPERATIONAL SYSTEM.

58. ALL PIPING, CONDUIT AND EQUIPMENT SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE'S HANGERS AND SUPPORTS AND SHALL BE SPECIFICALLY APPROVED FOR USE IN EACH LOCATION. WHERE OVERHEAD CONDITIONS EXIST THAT PREVENT THE FASTENING OF HANGER RODS IN THE REQUIRED LOCATIONS, PROVIDE AND INSTALL ADDITIONAL STEEL FRAMING. DO NOT USE EXPANSION SHIELDS.

59. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL SUPPORT HANGERS AND MISCELLANEOUS METALS, SUCH AS GALVANIZED IRON PIPE STANCHIONS, RACKS, FITTINGS, ETC, REQUIRED FOR PROPER INSTALLATION OF WORK. ALL MISCELLANEOUS RACKS AND FITTINGS SHALL BE GALVANIZED AND SHALL BE EITHER KINDORF CHANNEL, POWER STRUT OR UNISTRUT, UNLESS NOTED OTHERWISE.

60. STEEL SUPPORTS SHALL BE PAINTED WITH ONE COAT OF RUST INHIBITING PRIMER OR GALVANIZED.

61. ANY ELEMENT, WHATSOEVER, REQUIRED BY AN AUTHORITY HAVING JURISDICTION (A.H.J) TO BE INCORPORATED IN CONSTRUCTION, BUT NOT SPECIFIED IN THE CONTRACT DOCUMENTS, SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR REVIEW. NO MODIFICATIONS/REVISIONS/CHANGES SHALL BE UNDERTAKEN UNLESS SPECIFICALLY SO INSTRUCTED AND APPROVED IN WRITING BY ARCHITECT/ENGINEER.

62. ALL MATERIAL, EQUIPMENT, FIXTURES ETC. SHOWN ON THE CONSTRUCTION DRAWINGS SHALL BE NEW AND PROVIDED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE SHOWN OR SPECIFIED. ANY EXISTING ITEMS TO BE REUSED SHALL BE CLEANED AND SERVICED TO OPERABLE CONDITION MEETING THE ORIGINAL MANUFACTURER'S SPECIFICATIONS.

63. ALL MATERIALS SHALL CONFORM TO LOCAL, STATE AND FEDERAL CODES AND REGULATIONS AS THEY APPLY.

64. ANY WORK NEEDED TO BE ACCOMPLISHED ON AN OVERTIME BASIS SHALL BE PRICED AND PRESENTED AS SUCH IN THE BID.

65. ALL WORKERS AND SUBCONTRACTORS SHALL BE SKILLED IN THEIR TRADES AND HAVE ALL APPLICABLE LICENSES AND CERTIFICATIONS.

66. DELIVERIES, INGRESS AND EGRESS FROM BUILDING SHALL BE OVER ROUTES PRESCRIBED BY THE BUILDING REPRESENTATIVE AND AT TIMES DESIGNATED BY THAT AUTHORITY,

67. THE CONTRACTOR SHALL PERMIT AND FACILITATE OBSERVATION OF WORK BY BUILDING OWNER, ARCHITECT, ENGINEER, THEIR AGENTS AND PUBLIC AUTHORITIES, AT ALL TIMES, AND WHEN REQUESTED,

68. OWNER RETAINS THE RIGHT TO ALLOW OTHER CONTRACTORS IN CONNECTION WITH THE PROJECT WORK. OWNER SHALL PROPERLY COORDINATE AND INTERFACE THEIR SCHEDULE WITH ANY SUCH CONTRACTOR AND/OR VENDORS, ETC.

69. COORDINATE WITH OWNER'S FIELD REPRESENTATIVE AND/OR GENERAL CONTRACTOR FOR ALL PHASING AND SCHEDULING.

70. WHERE MORE THAN ONE REGULATION APPLIES, THE STRICTER ONE SHALL GOVERN.

71. A WRITTEN REQUEST MUST BE SUBMITTED TO THE ARCHITECT/ENGINEER PRIOR TO SUBMISSION OF A PROPOSED SUBSTITUTION. THE ARCHITECT/ENGINEER'S DETERMINATION OF THE USE OF A PROPOSED SUBSTITUTION WILL BE FINAL AND BINDING.

72. ALL PROPOSED SUBSTITUTIONS MUST BE SUBMITTED TO ARCHITECT/ENGINEER FOR WRITTEN APPROVAL PRIOR TO SUBSTITUTION BEING MADE.

73. WHERE REFERENCED AN APPROVED SUBSTITUTION SUBMISSION SHALL REQUIRE THE CONTRACTOR TO COORDINATE AND PROVIDE INFORMATION BY THE ARCHITECT/ENGINEER TO FULLY EVALUATE THE PROPOSED SUBSTITUTION INCLUDING BUT NOT LIMITED TO A SPREADSHEET OUTLYING THE DIFFERENCE BETWEEN THE SPECIFIED AND PROPOSED ITEM INCLUDING BUT NOT LIMITED TO WEIGHTS, DIMENSIONS, AND ELECTRICAL CHARACTERISTICS. CONTRACTOR SHALL BEAR THE FULL COST OF ENGINEERING DESIGN INCLUDING BUT NOT LIMITED TO SIGNED AND SEALED DOCUMENTS ASSOCIATED WITH PROPOSED SUBSTITUTION. THE ARCHITECT/ENGINEER APPROVAL SHALL NOT ALLEVIATE THE CONTRACTOR FROM ALL CONTRACT DOCUMENT REQUIREMENTS INCLUDING BUT NOT LIMITED TO COORDINATION OF THE APPROVED SUBSTITUTION WITHOUT ADDITIONAL COST TO OWNER OR ARCHITECT/ENGINEER.

74. THE CONDITION OF THE PROJECT SITE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE PROJECT SITE SHALL BE MAINTAINED IN A CLEAN SAFE AND ORDERLY FASHION. DEBRIS AND TRASH SHALL BE REMOVED DAILY.

75. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LOCAL BUILDING DEPARTMENT APPROVALS, ETC.

76. CONTRACTOR SHALL CARRY AND DOCUMENT LIABILITY, ACCIDENT AND PROPERTY DAMAGE INSURANCE AS REQUIRED BY OWNER.

77. CONTRACTOR SHALL EXERCISE EXTREME CARE IN PROTECTING AREAS ADJACENT TO CONSTRUCTION AREAS, AS WELL AS ALL EXISTING AND NEW BUILDING AND SITE FEATURES. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR PROTECTING THE SITE FROM ANY DAMAGE RESULTING FROM CONTRACTOR'S WORKMEN, SUBCONTRACTOR'S MATERIALMEN OR AGENTS, AND SHALL BE RESPONSIBLE FOR REPAIRING, CLEANING OR REPLACING ANY SUCH DAMAGE TO THE SATISFACTION OF THE OWNER AND ARCHITECT/ENGINEER AT NO ADDITIONAL COST.

78. UNLESS SPECIFICALLY STATED OTHERWISE, CONTRACTOR SHALL FOLLOW MANUFACTURERS' DIRECTIONS, INSTRUCTIONS AND RECOMMENDATIONS FOR ALL MATERIALS AND PROCESSES USED IN THIS CONTRACT.

79. BUILDING DEPARTMENT APPROVED DRAWINGS SHALL BE TURNED OVER TO OWNER AT THE COMPLETION OF THE PROJECT.

80. AT THE FINAL COMPLETION OF THE PROJECT, CONTRACTOR SHALL SUBMIT TO THE OWNER AND ARCHITECT/ENGINEER A NOTARIZED AFFIDAVIT STATING COMPLIANCE WITH ALL PROVISIONS OF THIS CONTRACT, INCLUDING ALL NOTES, EXCEPT FOR THOSE CHANGES SPECIFICALLY APPROVED IN WRITING BY THE ARCHITECT/ENGINEER.

81. MAINTAIN A FIELD REPRESENTATIVE ON THE PREMISES AT ALL TIMES DURING THE COURSE OF THE CONSTRUCTION WORK.

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

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LN	MBJ

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MECHANICAL, ELECTRICAL, PLUMBING & FIRE PROTECTION GENERAL NOTES

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STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC.

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.

HVAC GENERAL NOTES

A.GENERAL

1. GENERAL NOTES, SYMBOLS AND DETAILS ARE APPLICABLE TO ALL DRAWINGS WITH "H"OR "M".
2. IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO COORDINATE ALL WORK WITH ALL NEW AND EXISTING WORK OF ALL OTHER TRADES. THE SHOP DRAWINGS PREPARED BY THIS CONTRACTOR SHALL INDICATE SPACE ALLOWANCES ABOVE CEILING FOR ALL WORK OF ALL OTHER TRADES (CABLE TRAYS, CONDUITS, SPRINKLER PIPES, STORM DRAINS, GLYCOL PIPES, ALL DOMESTIC SERVICES, ETC.) AND SHALL BE COORDINATED AND SIGNED OFF BY ALL OTHER CONTRACTORS.
3. THE CONTRACTOR SHALL COORDINATE THE HEIGHTS AND LOCATIONS OF ALL DUCTWORK WITH ALL STRUCTURAL MEMBERS (COLUMNS, BEAMS, JOISTS, ANGLES, ROOF SCREENS, FRAMING, ETC.), ALL DUCTWORK IS TO BE MOUNTED TO HIGHEST POSSIBLE ELEVATION ABOVE THE FINISHED FLOOR AS SHOWN ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR MAY BE REQUIRED TO RUN DUCTWORK THROUGH THE WEBS OF THE JOISTS TO MAINTAIN ADEQUATE CLEARANCE FOR CEILING HEIGHTS. BEFORE PROCEEDING WITH ANY WORK, THE CONTRACTOR SHALL REVIEW WITH THE ARCHITECT/ENGINEER THE MOUNTING HEIGHTS OF ALL DUCTWORK LAYOUTS.
4. CONTRACTOR SHALL VERIFY IN FIELD ALL HUNG CEILING AND PARTITION HEIGHTS AND LOCATIONS AND CEILING AIR OUTLET LOCATIONS. WHERE WORK BETWEEN THE DRAWINGS AND FIELD DIMENSIONS ARE IN CONFLICT, ADVISE PRIOR TO FABRICATION OF SHEET METAL.
5. VERIFY EXACT LOCATION, DIMENSIONS AND CONDITIONS IN THE FIELD FOR ALL EQUIPMENT, DUCTWORK AND PIPING LOCATIONS
6. VERIFY ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS CERTIFIED APPROVED DRAWINGS. VERIFY AND PROVIDE DUCT TRANSITIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DIMENSIONS BEFORE FABRICATION.
7. INTERNAL AIR FLOW DIMENSIONS ARE SHOWN FOR DUCTS. ALL DUCT SIZES SHALL BE NET INSIDE DIMENSIONS, INCLUDING ACOUSTIC-LINED DUCTWORK. CONTRACTOR SHALL INCREASE SIZE FOR LINER, IF APPLICABLE. DUCT SIZES ARE ACTUAL SHEET METAL SIZES AND DO NOT INCLUDE 1 INCH DUCT LINER. INCREASE DUCTWORK SIZE ACCORDINGLY.
8. CONTRACTOR SHALL NOT PROCEED TO FABRICATE AND INSTALL ANY HVAC EQUIPMENT, DUCTWORK, PIPING AND ACCESSORIES WITHOUT A THOROUGH FIELD COORDINATION WITH ALL TRADES. ALL CONFLICTS RESULTING FROM LACK OF COORDINATION WILL BE RESOLVED BY CONTRACTOR AT NO ADDITIONAL COST.
9. ALL WORK INSTALLED BY THIS CONTRACTOR SHALL BE INSTALLED IN SUCH A MANNER AS TO CLEAR ALL LIGHT FIXTURES, CEILING CONSTRUCTION, SPRINKLER PIPES AND HEADS, CONDUITS, PIPING, ETC.
10. PROVIDE INFORMATION AND HARDWARE TO COORDINATE HANGING OF EQUIPMENT REQUIRED FOR MECHANICAL WORK.
11. PROVIDE ESCUTCHEONS AND SEALING OF ALL PENETRATIONS OF FIRE SEPARATIONS IN ACCORDANCE WITH THE BUILDING CODE.
12. ALL EQUIPMENT SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS TO PERMIT SERVICING AND REMOVAL.
13. SUPPORT ALL EQUIPMENT, PIPING AND DUCTWORK FROM THE BUILDING STRUCTURE TO PROVIDE A VIBRATION-FREE INSTALLATION. NOTIFY ARCHITECT AND STRUCTURAL ENGINEER OF ALL WEIGHTS AND METHODS OF SUPPORT FOR APPROVAL.
14. PROVIDE ALL NECESSARY SUPPLEMENTARY STEEL FOR SUPPORT OF EQUIPMENT, PIPING, DUCTWORK ATTACHMENT OF HANGERS AND PIPE IN SHAFTS AND BETWEEN BUILDING STRUCTURAL MEMBERS.
15. CONTRACTOR SHALL PROVIDE CHANGE OF FILTERS AFTER START-UP AND BALANCING COMPLETION.
16. CONTRACTOR TO PROVIDE CONDENSATE DRAIN PIPE SIZED PER MANUFACTURER'S REQUIREMENTS FOR EACH ROOFTOP UNIT WITH CONDENSATE TRAP. CONDENSATE TO BE DISCHARGED TO THE ROOF SLOPE TOWARD ROOF DRAIN, SCUPPER OR GUTTER.
17. CONTRACTOR TO PROVIDE INSULATED CONDENSATE DRAIN PIPE SIZED PER MANUFACTURER'S REQUIREMENTS FOR EACH INDOOR-MOUNTED AIR HANDLING UNIT WITH CONDENSATE TRAP. CONDENSATE TO DISCHARGE AS SHOWN ON DRAWINGS
18. DUCT TYPE SMOKE DETECTORS SHALL BE INSTALLED AND FURNISHED BY THE CONTRACTOR, WIRED TO FIRE ALARM. COORDINATE DETECTOR TYPE WITH FIRE ALARM SYSTEM.
19. ALL THERMOSTATS SHALL BE LOCATED ON COLUMNS OR WALL 48 INCHES A.F.F. REQUIREMENTS OR AS DIRECTED OTHERWISE BY ARCHITECT/ENGINEER. PROVIDE AND INSTALL THERMOSTAT IN NUMBER AND LOCATION SHOWN ON DRAWINGS.
20. PROVIDE AND INSTALL TEMPERATURE SENSORS 60 INCHES A.F.F., UNLESS REQUIRED LOWER BY ADA REQUIREMENTS OR AS DIRECTED OTHERWISE BY ARCHITECT/ENGINEER. ALL TEMPERATURE SENSORS SHALL BE NEW. PROVIDE TEMPERATURE SENSORS IN NUMBER AND LOCATIONS SHOWN ON DRAWINGS AND AS PER DETAIL SHOWN IN HVAC DETAIL DRAWING.
21. THERMOSTATS AND SENSORS SHALL BE LOCATED A MINIMUM OF 6 INCHES FROM INSIDE OR OUTSIDE WALL CORNER.
22. THERMOSTATS AND SENSORS SHALL BE FULLY COMPATIBLE WITH PERFORMANCE AND CHARACTERISTICS OF INSTALLED HVAC EQUIPMENT AND SHALL BE COMPATIBLE WITH EACH OTHER.
23. INSTALL ALL RETURN GRILLES SO THAT DIRECTION OF BLADES OBSTRUCT VISIBILITY.
24. IN THE CASE WHERE A CONTRACTOR IS MAKING AN APPROVED BASIS OF DESIGN HVAC EQUIPMENT SUBSTITUTION, IT IS HIS RESPONSIBILITY TO COORDINATE WITH ALL OTHER TRADES AND PROVIDE ALL NECESSARY ADJUSTMENTS WITH NO EXTRA COST TO THE OWNER OR ARCHITECT/ENGINEER. TRUSS SHOP DRAWINGS REFLECTING THE ALTERNATE EQUIPMENT WEIGHTS, ROOF PENETRATIONS, ETC., SHALL BE SUBMITTED TO ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ORDERING ALTERNATE HVAC EQUIPMENT.
25. CONTRACTOR SHALL TEST, BALANCE, ADJUST AND PUT THE SYSTEM IN FULL OPERATION INCLUDING SUPERVISION OF BUILDING OPERATING PERSONNEL, PER OWNER'S REQUIREMENTS.
26. WHERE DUCTS OR PIPE PENETRATE WALLS, SEAL OPENINGS TO PREVENT AIR TRANSFER BETWEEN SPACES.

B. DUCTWORK

1. REFER TO THE SPECIFICATIONS FOR DUCTWORK CONSTRUCTION CLASSES, SEAL, AND LEAKAGE CLASSES.
2. SEE DRAWINGS FOR DUCT HANGER DETAILS.
3. SHEET METAL DUCTWORK SHALL COMPLY WITH THE STANDARDS AS SET FORTH IN THE LATEST EDITION OF THE ASHRAE GUIDE. DUCTS SHALL BE CONSTRUCTED OF GALVANIZED STEEL, AND SHALL BE IN ACCORDANCE WITH THE BUILDING CODE. ALL SHEET METAL DUCT JOINTS SHALL BE SEALED AIR TIGHT WITH APPROVED TYPE CAULKING SEALANT.
4. HORIZONTAL DUCTS SHALL BE HUNG AT INTERVALS NOT EXCEEDING 5 FEET ON CENTER IN ACCORDANCE WITH THE DUCT MANUALS OF THE SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION (SMACNA), SECOND EDITION.
5. PROVIDE TURNING VANES ON ALL RECTANGULAR ELBOWS AND/OR WHERE SHOWN ON THE DRAWING. TURNING VANES SHALL BE DOUBLE THICKNESS TYPE CONSTRUCTED IN ACCORDANCE WITH SMACNA MANUAL. SUBMIT DETAIL ON INITIAL DUCT SHOP DRAWINGS.
6. INSULATE ALL DUCTWORK AS HEREINAFTER SPECIFIED.
7. RUN DUCTS AND PIPING CONCEALED, UNLESS SPECIFIED OTHERWISE, AND CLEAR OF CEILING INSERTS.
8. WHERE FIELD CONDITIONS DICTATE, DUCTWORK SHALL BE OFFSET AND DUCTWORK CONFIGURATIONS SHALL BE MADE, AT NO ADDITIONAL COST TO OWNER. ALL SUCH MODIFICATIONS SHALL BE MADE WITH THE APPROVAL OF THE ENGINEER.
9. WHERE FIELD CONDITIONS DICTATE MODIFICATIONS TO DUCT ASPECT RATIO, TYPE AND SIZE SHALL BE MADE, AT NO ADDITIONAL COST TO OWNER. ALL SUCH MODIFICATIONS SHALL BE MADE WITH THE APPROVAL OF THE ENGINEER.

C. FLEXIBLE DUCT

1. PROVIDE AND INSTALL FLEXIBLE CONNECTIONS ON ALL DUCTS CONNECTING TO FANS AND AIR HANDLING UNITS. ALL DUCTS TO BE GROUNDED ACROSS FLEXIBLE CONNECTION WITH FLEXIBLE COPPER GROUNDING STRAPS. (MAXIMUM LENGTH OF FLEXIBLE DUCTWORK TO FANS AND AIR HANDLING UNITS NOT TO EXCEED 6 INCHES OR AS DIRECTED BY ENGINEER).
2. PROVIDE AND INSTALL FLEXIBLE CONNECTIONS ON ALL DUCTS CONNECTING TO AIR OUTLETS. (MAXIMUM LENGTH OF FLEXIBLE DUCTWORK TO AIR OUTLETS NOT TO EXCEED 6 FEET).
3. FLEXIBLE DUCT SHALL BE UL 181 CLASS 1 FACTORY-FABRICATED ASSEMBLY WITH HELICALLY WOUND SPRING STEEL WIRE INNER SLEEVE, INSULATION AND OTHER VAPOR BARRIER, EACH CONNECTION SHALL BE SECURED WITH APPROVED TYPE HOSE CLAMPS WITH WORM GEAR DRIVE STAINLESS STEEL BANDS ON SEALER MASTIC BEFORE HOSE CONNECTION IS MADE AT THE JOINTS. SEALING TAPE SHALL BE USED AT CONNECTION BETWEEN RIDGE DUCT AND FLEXIBLE DUCT.
4. FLEXIBLE DUCT DIAMETER SHALL MATCH THE NECK SIZE OF THE DIFFUSER TO WHICH IT CONNECTS, UNLESS NOTED OTHERWISE, EXTEND SHEET METAL DUCT TO WITHIN 5 FEET FOR SMACNA COMPLIANCE.
5. FLEXIBLE DUCTWORK SHALL NOT PASS THROUGH FIRE-RATED CONSTRUCTION. FLEXIBLE DUCTWORK MUST BE INSTALLED WITH SUPERIOR WORKMANSHIP MAINTAINING FULL CROSS-SECTIONAL AREA THROUGHOUT. SUPPORT FROM STRUCTURE AT 48 INCHES INTERVALS OR CLOSER TO ENSURE THAT THE FLEXIBLE DUCT DOES NOT SAG MORE THAN 1/2 INCH PER LINEAL FOOT BETWEEN THE SUPPORTS. ENSURE FULL CROSS-SECTIONAL AREA FOR MAXIMUM AIRFLOW. PLACE SUPPORTS AT EACH CONNECTION BETWEEN FLEX DUCT AND RIGID METAL DUCT.

D. DAMPERS

1. FURNISH AND INSTALL MANUAL VOLUME DAMPERS IN ALL BRANCH AND SUB-BRANCH DUCTS AND ELSEWHERE FOR BALANCING AND CONTROL OF ALL DUCT SYSTEMS, WHETHER OR NOT SHOWN ON THE DRAWINGS.
2. ALL DAMPERS WHICH ARE NOISY IN OPERATION ARE TO BE REMOVED, REPAIRED AND REINSTALLED UNTIL QUIET OPERATION IS OBTAINED. REFER TO SMACNA MANUAL, SECTION 1 FOR DETAILS OF CONSTRUCTION.
3. EVERY DAMPER SHALL HAVE AN INDICATION DEVICE WHICH SHALL SHOW ITS POSITION AT ALL TIMES. ALL AUTOMATIC AND FIRE DAMPERS SHALL BE FURNISHED WITH DUCT ACCESS DOORS FOR SERVICING.
4. PROVIDE VOLUME DAMPERS AND WIRE MESH SCREEN FOR ALL RETURN AND DUCTWORK AND OPENINGS.
5. AIR DEVICES IN GYPSUM CEILING SHALL NOT BE UTILIZED AS ACCESS TO VOLUME DAMPERS. PROVIDE CABLE ACTUATED DAMPERS LOCATED AT THE TAKEOFF FROM MAIN DUCT.

E. ACCESS DOORS

1. WHERE NECESSARY AND INDICATED HEREIN IN DUCTWORK, SUITABLE ACCESS DOORS AND FRAMES TO PERMIT INSPECTION, OPERATION AND MAINTENANCE OF ALL DAMPERS. FANS, LOUVERS, CONTROLS, FIRE DAMPERS OR OTHER APPARATUS CONCEALED BEHIND THE SHEET METAL WORK SHALL BE PROVIDED. DOUBLE PANEL INSULATION OF NOT LESS THAN 20 GAUGE. ACCESS DOORS IN UNINSULATED DUCTS MAY BE OF SINGLE PANEL CONSTRUCTION OF NOT LESS THAN 18 GAUGE, GALVANIZED. ALL DOORS SHALL HAVE POLYURETHANE GASKETS CEMENTED IN PLACE WITH APPROVED ADHESIVE SO AS TO MAKE THEM AIRTIGHT. CONTRACTOR SHALL INSTALL ADDITIONAL ACCESS DOORS AT LOCATIONS REQUIRED BY THE CONFIGURATION OF THE WORK AT NO ADDITIONAL COST.
2. ACCESS DOORS INTO DUCTS SHALL IN GENERAL NOT BE SMALLER THAN 16 INCHES X 16 INCHES EXCEPT FOR ACCESS DOORS TO FIRE DAMPER.

F. HANGERS DUCT

1. HANGERS SHALL BE ATTACHED TO THE BUILDING STRUCTURE. HANGERS SHALL BE AS DETAILED ON THE DRAWINGS OR IN SMACNA MANUAL. ALL MATERIALS SHALL BE GALVANIZED.
2. CONTROL FREEDOM FROM VIBRATION AND NOISE IS ESSENTIAL. TAKE PARTICULAR CARE IN INSTALLING VIBRATION ISOLATION MOUNT AND HANGERS SO THAT VIBRATION FROM OPERATING EQUIPMENT IS NOT TRANSMITTED TO THE STRUCTURE OR OTHER WORK.

G. INSULATION

1. INSULATION SHALL BE COMPLETE TO INCLUDE ALL DUCTWORK, PIPING AND EQUIPMENT AS HEREINAFTER SPECIFIED.
2. ALL INSULATION IN A RETURN PLENUM SHALL HAVE A COMPOSITE (JACKETS, FACINGS, ADHESIVES, ETC.), FIRE AND SMOKE HAZARD RATINGS AS TESTED BY PROCEDURE ASTM E-84, NFPA 2TJ AND DL 723 NOT EXCEEDING FLAME SPREAD OF 25 AND SMOKE DEVELOPED OF 50.
3. INSULATE ALL SUPPLY DUCTWORK AND HVAC PLENUMS PER APPLICABLE ENERGY CODE.
4. INSULATE OUTSIDE AIR DUCTWORK AND PROVIDE AND INSTALL WEATHER PROTECTING JACKET. COORDINATE JACKET COLOR WITH ARCHITECT.
5. RETURN DUCTWORK TO BE INSULATED PER THE APPLICABLE ENERGY CODE.
6. PROVIDE AND INSTALL PIPING INSULATION PER THE APPLICABLE ENERGY CODE FOR THE FOLLOWING:
   a. COLD PIPING SYSTEMS (CHILLED WATER, BRINE, REFRIGERANT), 32°F (0°C) TO 65°F (18°C).
   b. DUAL TEMPERATURE SYSTEMS, 32°F (0°C) TO 220°F (104°C).
   c. HEATING SYSTEMS (STEAM. STEAM CONDENSATE, HOT WATER), AMBIENT UP TO 450°F (232°C).
   d. CONDENSATE PIPING.

H. AIR TESTING, ADJUSTING AND BALANCING (TAB) GENERAL

1. PROVIDE QUALIFIED PERSONNEL, EQUIPMENT, APPARATUS AND SERVICES FOR TESTING, INSPECTION, BALANCING AND ADJUSTING OF ALL MECHANICAL SYSTEMS, TO PERFORMANCE DATA SHOWN IN SCHEDULES AND AS SPECIFIED, AND AS REQUIRED BY CODES, STANDARDS, REGULATIONS AND AUTHORITIES HAVING JURISDICTION INCLUDING CITY INSPECTORS, AND ENGINEER. NOTIFY THE ENGINEER AND INVOLVED AUTHORITIES AT LEAST 24 HOURS PRIOR TO TESTING OR INSPECTION. DO NOT COVER WORK PRIOR TO TESTING OR INSPECTION.
2. ENGAGE A TAB PROFESSIONAL CERTIFIED BY THE TESTING, ADJUSTING AND BALANCING BUREAU (TABB) FOR ALL TESTING AND BALANCING WORK. ALL AIR BALANCING MUST BE PERFORMED BY AN INDEPENDENT TESTING AND BALANCING AGENCY AS A DIRECT SUB-CONTRACTOR TO THE GENERAL CONTRACTOR. PROVIDE 4 COPIES OF THE CERTIFIED BALANCING REPORT.
3. INSTRUMENTS USED FOR TESTING AND BALANCING SHALL HAVE BEEN CALIBRATED WITHIN SIX MONTHS PRIOR TO TESTING OR BALANCING. CALIBRATION SHALL BE CERTIFIED.
4. CONTRACTOR TO BALANCE HVAC SYSTEM TO ACHIEVE AIR FLOWS SPECIFIED ON THE HVAC DRAWINGS. CONTRACTOR SHALL SUBMIT A CERTIFIED BALANCING REPORT TO ENGINEER FOR APPROVAL. SYSTEM TO BE BALANCED USING APPROVED ASHRAE METHODS.
5. TESTING, INSPECTION, BALANCING AND ADJUSTING SHALL IN NO WAY RELIEVE OR REDUCE GUARANTEE REQUIREMENTS.
6. DO NOT COVER OR CONCEAL WORK PRIOR TO TESTING AND INSPECTION AND OBTAINING APPROVAL.
7. PRIOR TO DATE OF ACCEPTANCE, FURNISH ENGINEER WITH CERTIFIED CERTIFICATES OF TEST PERFORMED FOR HVAC SYSTEMS INDICATING APPROVAL OF AUTHORITIES HAVING JURISDICTION AND CONFORMANCE WITH REQUIREMENTS OF CONTRACT DOCUMENTS.
8. THE ARCHITECT/ENGINEER RESERVES THE RIGHT TO REQUEST ADDITIONAL TESTING TO DETERMINE CONFORMANCE WITH THE CONTRACT DOCUMENTS. THE COST OF ADDITIONAL TESTING SHALL BE BORNE BY THE CONTACTOR WITHOUT ADDITIONAL COMPENSATION.

I. AIR BALANCING AND ADJUSTING

1. BALANCING SHALL NOT BEGIN UNTIL SYSTEMS HAVE BEEN INSTALLED COMPLETE. PUT HVAC SYSTEMS AND EQUIPMENT INTO FULL WORKING ORDER AND CONTINUE OPERATION OF SAME DURING EACH DAY OF TESTING AND BALANCING.
2. PROCURE SERVICE OF INDEPENDENT BALANCING AND TESTING AGENCY WITH FOLLOWING QUALIFICATIONS:
   a. AGENCY IS KNOWN TO SPECIALIZE IN STARTING AND TESTING OF HVAC SYSTEMS.
   b. AGENCY-EMPLOYED, PROFESSIONAL AND QUALIFIED HVAC ENGINEER SHALL PERFORM WORK SPECIFIED HEREIN.
   c. CERTIFIED BY THE TESTING, ADJUSTING AND BALANCING BUREAU (TABB) FOR ALL TESTING AND BALANCING WORK.
3. TEST AND ADJUST EACH DIFFUSER, GRILLE AND REGISTER TO WITHIN 10% OF DESIGN REQUIREMENTS. IDENTIFY LOCATION AND AREA AND INCLUDE IN A REPORT EACH GRILLE, DIFFUSER, AND REGISTER.
4. TEST AND ADJUST EACH AIR HANDLING EQUIPMENT UNIT. BALANCE OUTSIDE AIR FLOW FOR EACH AIR HANDLING EQUIPMENT UNIT. PROVIDE STATIC PRESSURE REPORT FOR ALL AIR MOVING SYSTEMS.
5. IDENTIFY AND LIST SIZE, TYPE AND MANUFACTURER OF DIFFUSERS, GRILLES, REGISTERS AND ALL TESTED EQUIPMENT. MANUFACTURER'S RATINGS ON ALL EQUIPMENT SHALL BE USED TO MAKE REQUIRED CALCULATIONS.
6. READINGS AND TESTS OF DIFFUSERS, GRILLES, AND REGISTERS SHALL INCLUDE REQUIRED FPM VELOCITY AND TEST RESULTANT VELOCITY, REQUIRED CFM AND RESULTANT CFM AFTER ADJUSTMENTS.
7. ADJUST ALL DIFFUSERS, GRILLES, AND REGISTERS TO MINIMIZE DRAFTS.
8. A DRAWING SHALL BE SUBMITTED AS PART OF THE TESTING AND BALANCING REPORT. THE DRAWING SHALL SHOW CLEARLY THE TEST LOCATIONS IN THE DUCTWORK AND THE DUCT SIZES

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ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	**AS NOTED**
Drawn By: **LN**	Approved By: **MBJ**

Drawing Name:

HVAC GENERAL NOTES

Drawing Number:

M-100

GENERAL ABBREVIATIONS

A	
A	Air or Compressed Air
AC	Air Conditioning
ACD	Automatic Control Damper
AD	Access Door
AF	Air Foil
AHU	Air Handling Unit
AMP	Ampere
AP	Access Panel
APD	Air Pressure Drop
AS	Air Stream
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ATC	Automatic Temperature Control
ATM	Atmosphere
AHJ	Authority Having Jurisdiction
B	
BDD	Back-Draft Damper
BHP	Brake Horsepower
BI	Backwards Inclined
BOD	Bottom of Duct
BTU	British Thermal Unit
BTUH	BTU per Hour
C	
CENT	Center or Centrifugal
CF	Cubic Feet
CFM	Cubic Feet per Minute
CH	Chilled or Chiller
CHW	Chilled Water
CHWR	Chilled Water Return
CHWS	Chilled Water Supply
CO	Carbon Monoxide
CONN	Connection
CT	Cooling Tower
CTBD	Cooling Tower Blow Down
CUH	Cabinet Unit Heater
CWR	Condenser Water Return
CWS	Condenser Water Supply
D	
D	Drain
DB	Dry Bulb (Temperature)
DEG	Degree
DDC	Direct Digital Control
DIA	Diameter
DIM	Dimension
DP	Differential Pressure
E	
EA	Each or Exhaust Air
EAHU	Exhaust Air Handling Unit
EAT	Entering Air Temperature
EF	Exhaust Fan
EMER	Emergency
EMS	Energy Management System
ESP	External Static Pressure
ET	Expansion Tank
EUH	Electrical Unit Heater
EWT	Entering Water Temperature
EXH	Exhaust
EXT	External
EXP	Expansion
F	
F	Fahrenheit
FA	Free Area or Fire Alarm
FC	Flexible Connection
FCU	Fan Coil Unit
FD	Fire Damper, or Fire Department
FLA	Full Load Amps
FLEX	Flexible
FLRDR	Floor Drain
FPM	Feet per Minute
FPS	Feet per Second
FRP	Fiberglass Reinforced Plastic
FS	Flow Switch
FT	Feet
FTR	Fin Tube Radiation
G	
G	Gas
GA	Gauge
GAL	Gallons
GALV	Galvanized
GFU	Glycol Feed Unit
GPH	Gallons per Hour
GPM	Gallons per Minute
GR	Grade
H	
HB	Hose Bib (Connection)
HD	Head
HP	Horsepower or High Point
HR	Hour
HRU	Heat Recovery Unit
HTG	Heating
HTHW	High Temperature Hot Water
HWR	Hot Water Return
HWS	Hot Water Supply
HZ	Hertz (Cycles per Second)
I	
ID	Inside Diameter
IN	Inches
K	
KW	Kilowatt
L	
LAT	Leaving Air Temperature
LB	Pound
LF	Linear Feet
LD	Linear Diffuser
LP	Low Point
LPS	Low Pressure Steam
LRA	Locked Rotor Amps
LUVR	Louver
LVDR	Louvered Door
LVG	Leaving
LWT	Leaving Water Temperature
M	
MAX	Maximum
MBH	1000 BTUH
MCA	Minimum Circuit Amps
MD	Motorized Damper
MECH	Mechanical
MIN	Minimum
MU	Make-Up Water
MUA	Make-Up Air
N	
NC	Noise Criteria or Normally Closed
NO	Normally Open
NOM	Nominal
O	
OA	Outside Air
OAI	Outside Air Intake
OC	On Center
OD	Outside Diameter
ODP	Open Drip Proof
OV	Outlet Velocity
P	
PCF	Pounds per Cubic Foot
PD	Pressure Drop
PH	Phase
PRV	Pressure Reducing Valve
PSI	Pounds per Square Inch
PSIA	Pounds per Square Inch - Absolute
PSID	Pounds per Square Inch - Differential
PSIG	Pounds per Square Inch - Gauge
PVC	Polyvinyl Chloride
R	
R	Radius
RA	Return Air
RET	Return
RH	Relative Humidity
RLA	Running Load Amps
RLF	Relief
RPM	Revolutions per Minute
RTU	Roof-Top Unit
S	
SA	Supply Air
SCR	Screen
SCT	Saturated Condensing Temperature
SD	Smoke Detector or Smoke Damper
SE	Smoke Exhaust
SEN	Sensible
SFD	Combination Smoke / Fire Damper
SHC	Sensible Heat Capacity
SMACNA	Sheet metal and Air Conditioning Contractor's National Association
SP	Static Pressure
SF	Square Feet
SS	Stainless Steel
SUP	Supply
T	
T	Temperature
TEFC	Totally Enclosed Fan Cooled
TEMP	Temperature
TON	12,000 BTUH (Cooling Capacity)
TSP	Total Static Pressure
TSTAT	Thermostat
TYP	Typical
U	
UC	Undercut (Door)
V	
V	Volts
VAV	Variable Air Volume
VD	Volume Damper
VEL	Velocity
VFD	Variable Frequency Drive
W	
WB	Wet Bulb Temperature
WC	Water Column
WG	Water Gauge
WPD	Water Pressure Drop
WTD	Water Temperature Difference

HVAC SPECIFICATIONS

THE FOLLOWING STANDARDS SHALL GOVERN THE CHARACTER OF THE WORK TO BE PERFORMED: ASTM, NFPA, SMACNA, UL, AND LOCAL AGENCIES HAVING JURISDICTION.

1. LOW PRESSURE - RECTANGULAR DUCTWORK
GALVANIZED SHEET METAL GAUGE (ALL FOUR SIDES),.

DIMENSION LONGEST SIDE, INCHES	GALV STEEL GAUGE	ALUMINUM THICKNESS INCHES	COPPER OZ. PER SQ. FT.	TRANSVERSE REINFORCING AT JOINTS AND BETWEEN JOINTS
UP THRU 12	26	0.020	16	1" POCKET LOCK 24 GAUGE, STANDING SEAM JOINT 24 GAUGE. 1" STANDING S SLIP 24 GAUGE. JOINT MAX ON 8 FT. CENTERS.
13 THRU 18	24	0.025	24	SAME AS FOR UP THRU 12.
19 THRU 54	24	0.025	24	1" POCKET LOCK 22 GAUGE. JOINTS MAX. ON 8 FT. CENTERS.

WITH 1 X 1 X 1/8 IN.
1. FLAT AREAS OF DUCT OVER 18 IN. WIDE SHALL BE STIFFENED BY CROSS BREAKING OF BEADING.
2. ALL JOINTS TO HAVE CORNER CLOSURES.
3. ALL JOINTS SHALL BE SEALED WITH 3M EC-800 MASTIC.

2. DUCT INSTALLATION:
DUCTS SHALL BE SUPPORTED WITH APPROVED HANGERS AT INTERVALS NOT EXCEEDING 5 FEET.

3.. DUCTWORK INSULATION
QUALITY ASSURANCE:
A. FLAME SPREAD/SMOKE DEVELOPED RATING OF 25/50 IN ACCORDANCE WITH ASTM E84

PRODUCT: GLASS FIBER, FLEXIBLE
A. MANUFACTURERS:
1. SCHULLER
2. OWENS CORNING
3. KNAUF
B. INSULATION: ASTM C553 C612; FLEXIBLE, NONCOMBUSTIBLE
1. "K" (KSI) VALUE: ASTM C518, 0.29 AT 75 DEGREES F.
2. MAXIMUM SERVICE TEMPERATURE: 250 DEGREES F.
3. SECURE WITH PRESSURE SENSITIVE TAPE.
C. VAPOR BARRIER JACKET
1. KRAFT PAPER REINFORCED WITH GLASS FIBER YARN AND BONDED TO
2. MOISTURE VAPOR TRANSMISSION: ASTM E96; 0.04 PERM.
3. SECURE WITH PRESSURE SENSITIVE TAPE.
D. VAPOR BARRIER TAPE
1. KRAFT PAPER REINFORCED WITH GLASS FIBER YARN AND BONDED TO ALUMINIZED FILM, WITH PRESSURE SENSITIVE RUBBER BASED ADHESIVE.
E. TIE WIRE: ANNEALED STEEL, 16 GAGE.

DUCTWORK INSULATION NOTES:
ALL SUPPLY AND RETURN DUCTS AND PLENUM INSTALLED AS PART OF AN HVAC AIR DISTRIBUTION SYSTEM MUST BE THERMALLY INSULATED WITH MINIMUM REQUIREMENTS AS FOLLOWS:
R-6 SUPPLY AND RETURN AIR DUCT INSULATION IN UNCONDITIONED SPACES

R-8 SUPPLY AND RETURN AIR DUCT INSULATION OUTSIDE THE BUILDING

R-8 INSULATION BETWEEN DUCTS AND THE BUILDING EXTERIOR WHEN DUCTS ARE PART OF A BUILDING ASSEMBLY

ALL ABOVE MENTIONED INSULATION VALUES SHALL BE CHECKED BY CONTRACTOR AND ADAPTED TO REFLECT REQUIREMENTS OF APPLICABLE ENERGY CODE

EQUIPMENT SYMBOLS AND CALL OUTS

VD — MANUAL BALANCING VOLUME DAMPER

T — WIRED WALL ROOM THERMOSTAT

S — WIRED REMOTE WALL MOUNTED AVERAGING TEMPERATURE SENSOR CAPABILITY

H — RETURN DUCT MOUNTED HUMIDISTAT

NEW RETURN/EXHAUST DIFFUSER

NEW SUPPLY DIFFUSER

ECH-1 — ELECTRIC CEILING HEATER

EF-1 — EXHAUST FAN ROOF MOUNTED, MUSHROOM DOWNBLAST TYPE

TYPE (REFER TO SCHEDULE) / CFM
A1/2(325) — AIR OUTLET TAG

CONDENSATE DRAIN PIPE

NEW RIGID DUCT

NEW FLEXIBLE DUCT

PACKAGED ROOFTOP UNIT

D S — SMOKE DETECTOR - DUCT MOUNTED

DUCTWORK SYMBOLS

DESCRIPTION	DOUBLE LINE DUCT
SUPPLY DUCT UP	
SUPPLY DUCT DOWN	
ROUND DUCT UP SUPPLY/ RETURN/ EXHAUST	
ROUND DUCT DOWN SUPPLY/ RETURN/ EXHAUST	
STANDARD RADIUS ELBOW (R = W) SUPPLY/ RETURN/ EXHAUST	W R
MITERED ELBOWS W/ VANES	
BULLHEAD SPLIT SUPPLY	
TAKEOFF TO DIFF/GRILLE	VD
RETURN DUCT UP	
RETURN DUCT DN	
EXHAUST DUCT UP	
EXHAUST DUCT DN	
HORIZONTAL OFFSET SUPPLY/RETURN /EXHAUST	
RISE OR DROP SUPPLY/RETURN/ EXHAUST	R/D
45° TAP TAKE-OFF — RECTANGULAR / ROUND (Ø) - OVAL ( ) Φ	
90° TAP TAKE-OFF — RECTANGULAR / ROUND (Ø) - OVAL ( ) Φ	
BULLHEAD CONVERGE RETURN/EXHAUST — RECTANGULAR / ROUND (Ø) - OVAL ( ) Φ	

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC.

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.

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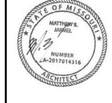
PROFESSIONAL CERTIFICATION
MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: LN	Approved By: MBJ

Drawing Name:
HVAC ABBREVIATIONS SPECIFICATIONS AND SYMBOL LIST

Drawing Number:
M-101



SHEET NOTES:

1. ALL SUPPLY AND RETURN DUCTWORK SHALL HAVE EXTERIOR DUCT WRAP INSULATION, MINIMUM R-6. SEE HVAC SPECIFICATIONS IN DWG M-101 FOR ACCEPTABLE MATERIAL.
2. PROVIDE 1" ACOUSTICAL LINER FOR THE FIRST 15' FEET OF RUN OF SUPPLY AND RETURN DUCT FROM EACH RTU OUTLET.
3. EACH RTU THERMOSTAT SHALL BE HONEYWELL MODEL TC-500. WHERE SHOWN ON THIS PLAN, CONTRACTOR SHALL INSTALL AN AVERAGE SENSOR MODEL HONEYWELL MODEL TR-40. ALL THERMOSTATS AND SENSORS SHALL BE MOUNTED 5 FEET ABOVE FINISHED FLOOR .VERIFY THEIR FINAL LOCATION AGAINST CONFLICT WITH WALL MOUNTED ITEMS / MILLWORK.
4. INSTALL BALANCING VOLUME DAMPER ON EACH INDIVIDUAL SUPPLY/RETURN/EXHAUST TAKEOFF AS PER DETAIL IN DWG M-500
5. CONTRACTOR SHALL INSTALL A PLASMA TUBE IN EACH ROOFTOP UNIT CABINET AS PER SCHEDULE IN DWG M-400
6. FOR DETAILED INFORMATION OF SPACE ALLOCATION IN MECHANICAL ROOM SEE ELECTRICAL DRAWING E-201.
7. SMOKE DETECTION SHALL BE PROVIDED IN EACH SUPPLY OR RETURN DUCT FOR ALL RTUS. SEE PLANS FOR LOCATION. RETURN DUCT SMOKE DETECTOR SHALL BE INSTALLED UPSTREAM OF OUTSIDE AIR DUCT CONNECTION. DUCT SMOKE DETECTION & HOUSING PROVIDED BY FIRE ALARM VENDOR. CHECK COMPATIBILITY WITH FIRE ALARM PANEL BEFORE ORDERING. HVAC CONTRACTOR SHALL PROVIDE & INSTALL SAMPLING TUBES PER FIRE ALARM VENDOR SPECIFICATIONS & DUCTWORK SHOP DRAWINGS. ALL WIRING BY FIRE ALARM VENDOR.

KEY NOTES:

1. 22x14 SUPPLY AND RETURN DUCT UP TO RTU-1 ON ROOF ABOVE. CONTRACTOR TO PROVIDE THE TRANSITION BETWEEN THE SUPPLY DUCT AND UNIT OPENING
2. 22x14 SUPPLY AND RETURN DUCT UP TO RTU-2 ON ROOF ABOVE. CONTRACTOR TO PROVIDE THE TRANSITION BETWEEN THE SUPPLY DUCT AND UNIT OPENINGS
3. 22x14 SUPPLY AND RETURN DUCT UP TO RTU-3 ON ROOF ABOVE. CONTRACTOR TO PROVIDE THE TRANSITION BETWEEN THE SUPPLY DUCT AND UNIT OPENING
4. 20x14 SUPPLY AND RETURN DUCT UP TO RTU-4 ON ROOF ABOVE. CONTRACTOR TO PROVIDE THE TRANSITION BETWEEN THE SUPPLY DUCT AND UNIT OPENINGS
5. 22x14 SUPPLY AND RETURN DUCT UP TO RTU-5 ON ROOF ABOVE. CONTRACTOR TO PROVIDE THE TRANSITION BETWEEN THE SUPPLY DUCT AND UNIT OPENING
6. 4"Ø OUTSIDE AIR DUCT UP TO ROOF ABOVE. INSTALL A BALANCING DAMPER AND BALANCE TO ACHIEVE 20 CFM.
7. 12x10 EXHAUST DUCT UP TO EF-1 ON ROOF ABOVE.
8. 10x10 EXHAUST DUCT UP TO EF-2 ON ROOF ABOVE.
9. ROOF ACCESS / MAINTENANCE DOOR SHALL NOT BE BLOCKED BY ANY DUCT, PIPES,CONDUITS OR OTHER FIXED ITEMS
10. CENTRAL EXHAUST FAN FOR TOILET EXHAUST TO OPERATE ON A TIMER LOCATED IN ELEC CLOSET. THE TIMER HAS EXHAUST FAN RUNNING FROM 6:00 AM TO 8:00 PM, SEVEN DAYS A WEEK. THEY SHOULD NOT BE CONNECTED TO THE LIGHT SWITCH OR BE INDIVIDUAL FAN UNITS.
11. RUN 4"Ø DRYER EXHAUST DUCT UP TO ROOF. TERMINATE WITH GOOSENECK MIN. 3 FEET ABOVE ROOF LINE.. PROVIDE CLEAN OUT AT EVERY ELBOW. TOTAL EXHAUST DUCT DEVELOPED LENGTH 18' WITH TWO 90° ELBOWS. MAXIMUM ACCEPTABLE LENGTH WITH TWO 90° ELBOWS BY MANUFACTURER IS 40'. THEREFORE NO BOOSTER FAN REQUIRED. SEE DETAIL ON DWG M-500.

SHEET NOTES:

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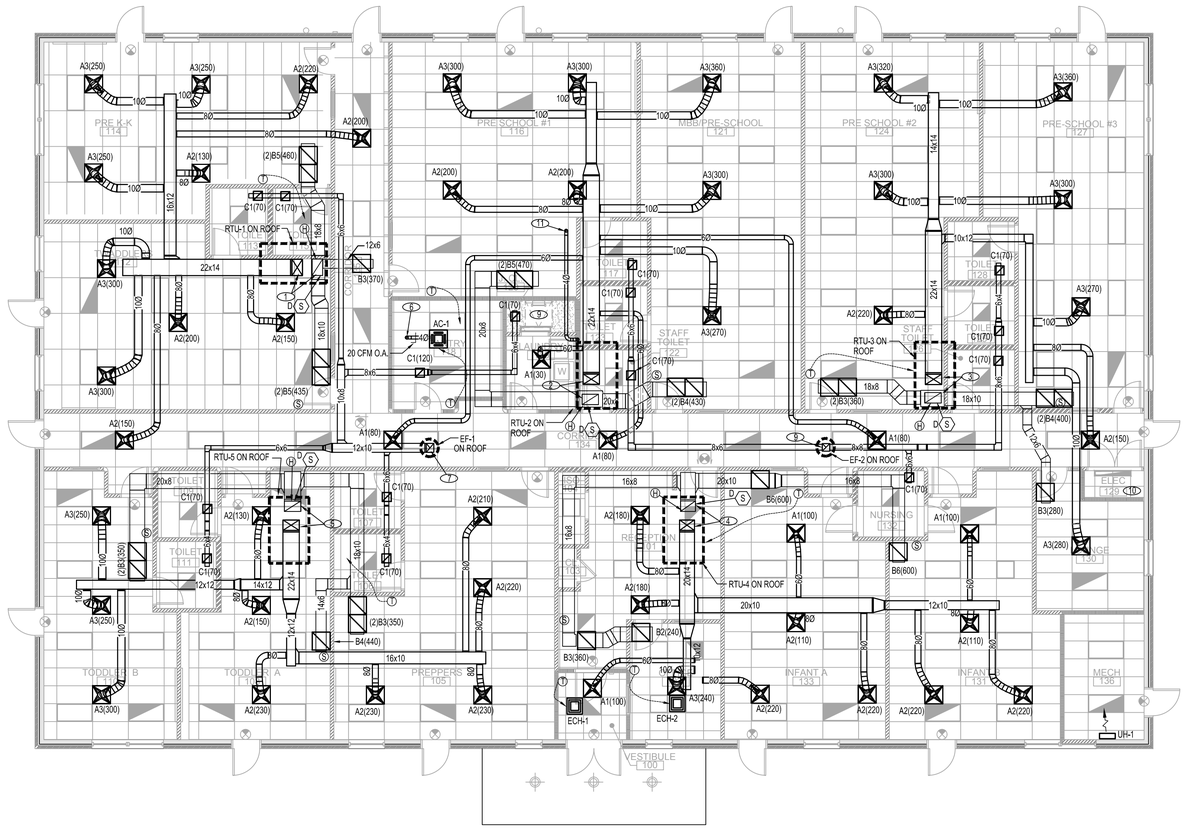

1 HVAC PLAN

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

NORTH

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY
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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By:	Approved By:
LN	MBJ

Drawing Name:

HVAC PLAN

Drawing Number:

M-200

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

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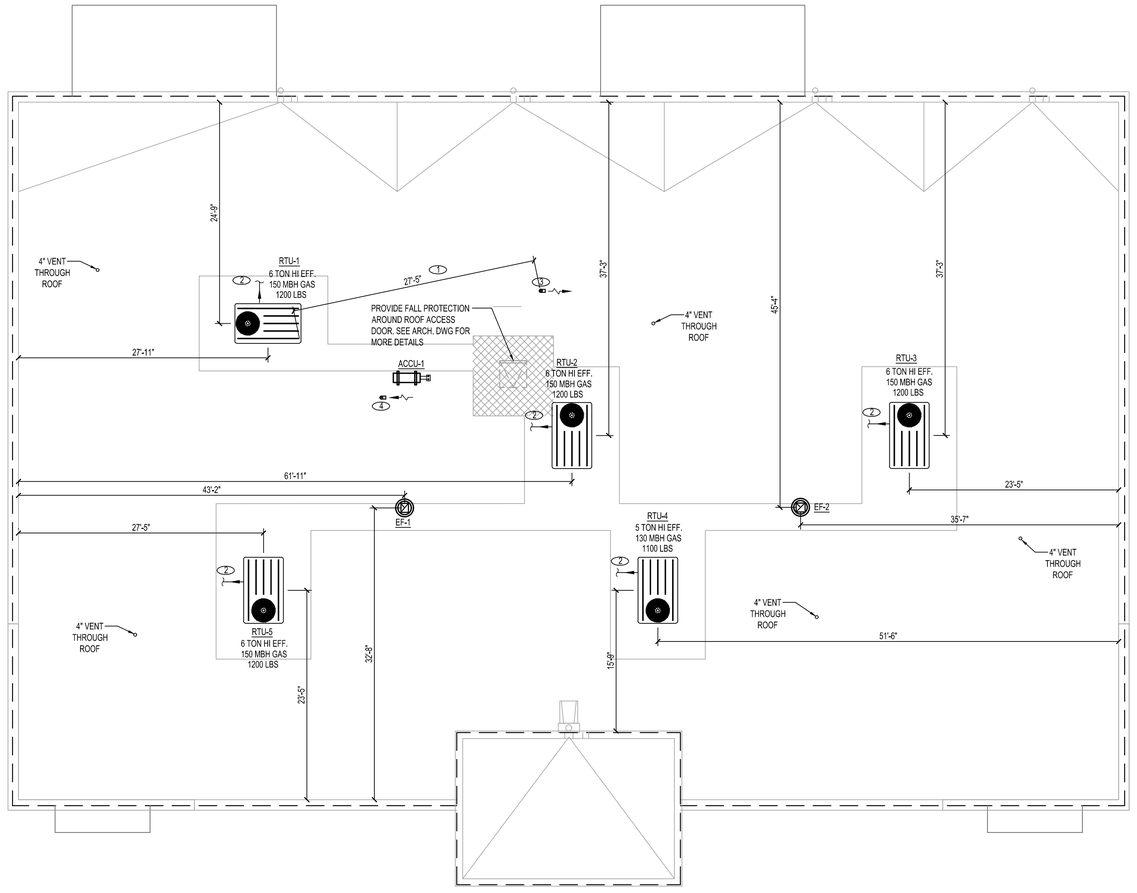
KEY NOTES:

1. THE HORIZONTAL DISTANCE FROM DRYER EXHAUST OUTLET TO CLOSEST ROOFTOP UNIT OUTSIDE AIR INTAKE SHALL BE MORE THAN 10 FEET
2. PROVIDE CONDENSATE DRAIN PIPE SIZED PER MANUFACTURER'S REQUIREMENTS FOR EACH ROOFTOP UNIT WITH CONDENSATE TRAP. CONDENSATE TO BE DISCHARGED TO THE ROOF TOWARD ROOF DRAIN. MINIMUM PIPE LENGTH FIVE (5) FEET AWAY FROM RTU INLET TO PROVIDE POSITIVE DRAINAGE. PROVIDE P-TRAP WITH MINIMUM 2" DIFFERENCE BETWEEN INLET AND DISCHARGE. ALLOW PVC PIPE (SIZE TO MATCH THE RTU CONDENSATE DISCHARGE) FROM P-TRAP TO ROOF DRAIN WITH VENT. THE PVC DRAIN LINE SHALL BE INSTALLED THAT NO AIR BLOCK WILL OCCUR.
3. 4"Ø DRYER EXHAUST DUCT. TERMINATE WITH GOOSENECK MIN. 3' ABOVE ROOF LINE
4. 4"Ø O.A. DUCT FOR PANTRY CASSETTE. TERMINATE WITH MIN. 3' ABOVE ROOF LINE

SHEET NOTES:

1. FOR GAS PIPE LAYOUT REFER TO PLUMBING DRAWINGS
2. CENTRAL EXHAUST FANS FOR TOILET EXHAUST TO OPERATE ON A TIMER. THE TIMER HAS TWO (2) EXHAUST FANS RUNNING FROM 6:00 AM TO 8:00 PM, SEVEN DAYS A WEEK. THEY SHOULD NOT BE CONNECTED TO THE LIGHT SWITCH OR BE INDIVIDUAL FAN UNITS.
3. CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL EQUIPMENT ON ROOF WITH STRUCTURAL DWGS. ALL SERVICEABLE EQUIPMENT MUST BE LOCATED A MINIMUM OF 10 FEET FROM ROOF EDGE OR OPENINGS. CONTRACTOR TO COORDINATE AND PROVIDE SAFETY RAILS IF UNITS ARE WITHIN 10 FEET OF ROOF EDGE OR OPENINGS.

ROOF EXHAUST SYSTEM NOTES
ALL EXHAUST DISCHARGE AND VENTS TO BE LOCATED AT A MINIMUM DISTANCE OF 10 FT. FROM ANY RTU'S O/A INTAKES



1 HVAC ROOF PLAN

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

NORTH

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LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: LN	Approved By: MBJ

Drawing Name: HVAC ROOF PLAN

Drawing Number: M-300

STATE OF MISSOURI MATTHEW B. JARMEL NUMBER A-2017014316 ARCHITECT

ROOFTOP AIR HANDLING UNIT SCHEDULE

TAG	LOCATION	MANUF	MANUF MODEL	TOTAL CFM	MAX. O.A. CFM	COOLING TONS	DX COOLING COIL DATA								GAS HEATING COIL DATA						MOTOR/ELECTRICAL DATA									NOTES
							NET TOTAL CAPACITY MBH	NET SENSIBLE CAPACITY MBH	LATENT CAPACITY MBH	COIL EAT DB °F	COIL EAT WB °F	UNIT LAT DB °F	UNIT LAT WB °F	COOLING DESIGN OUTDOOR AMBIENT TEMP DB/WB °F	TYPE OF HEAT	INPUT CAPACITY MBH	OUTPUT CAPACITY MBH	COIL EAT DB °F	UNIT LAT DB °F	HEATING DESIGN OUTDOOR AMBIENT TEMP DB °F	UNIT VOLTAGE	EXT. SP IN W.C.	SUPPLY FAN MOTOR HP	SUPPLY FAN MOTOR TYPE	EER	MCA	MOP	MAX. OPERATING UNIT WEIGHT LBS	
RTU-1	ROOF	TRANE	YHJ072A3S0H	2400	350	6 TONS	66.82	52.38	14.44	76.90	63.32	55.33	53.91	99 / 75	HIGH	150	121.50	62.35	108.34	2	208/60/3	0.7	3	MULTISPEED	12.1	38	50	1200	SEE NOTES
RTU-2	ROOF	TRANE	YHJ072A3S0H	2200	400	6 TONS	66.74	52.67	14.07	77.68	63.78	54.96	53.55	99 / 75	HIGH	150	121.50	60.22	110.34	2	208/60/3	0.7	3	MULTISPEED	12.1	38	50	1200	SEE NOTES
RTU-3	ROOF	TRANE	YHJ072A3S0H	2200	400	6 TONS	66.74	52.67	14.07	77.68	63.78	54.96	53.55	99 / 75	HIGH	150	121.50	60.22	110.34	2	208/60/3	0.7	3	MULTISPEED	12.1	38	50	1200	SEE NOTES
RTU-4	ROOF	TRANE	YHC060E3	2000	300	5 TONS	57.00	45.76	11.24	76.90	63.32	56.19	53.59	99 / 75	HIGH	130	104	62.35	110.75	2	208/60/3	0.7	1	STANDARD	11.9	26	40	1100	SEE NOTES
RTU-5	ROOF	TRANE	YHJ072A3S0H	2200	350	6 TONS	66.28	52.33	13.95	77.16	63.47	54.65	53.26	99 / 75	HIGH	150	121.50	61.64	111.73	2	208/60/3	0.7	3	MULTISPEED	12.1	38	50	1200	SEE NOTES

NOTES:
1. ALL UNITS SHALL HAVE DOWNFLOW DUCTS ARRANGEMENT
2. PROVIDE ECONOMIZER WITH COMPARATIVE ENTHALPY FOR ALL RTUS. PROVIDE RETURN DUCT SMOKE DETECTOR FOR ALL RTUS
3. PROVIDE FACTORY INSTALLED BAROMETRIC RELIEF DAMPERS WITH HOOD
4. PROVIDE FACTORY INSTALLED 2 IN MERV 8 FILTER
5. PROVIDE FACTORY INSTALLED UNPOWERED GFCI
6. PROVIDE FACTORY INSTALLED HINGED ACCESS DOORS
7. PROVIDE MINIMUM 14" TALL MANUFACTURER'S ROOFCURBS FOR EACH UNIT.
8. PROVIDE SUPPLY MOTOR TYPE AS PER SCHEDULE ABOVE
9. PROVIDE FACTORY INSTALLED HOT GAS REHEAT (DEHUMIDIFICATION) FOR ALL RTUS
10. PROVIDE FACTORY INSTALLED WEATHERPROOF DISCONNECT
11. PROVIDE CONDENSATE DRAIN OVERFLOW SWITCH, DIRTY FILTER SWITCH AN FAN FAILURE SWITCH
12. THE CONTRACTOR SHALL VERIFY AND COORDINATE REQUIRED ROOF ASSEMBLY OPENING LOCATIONS AND EQUIPMENT WEIGHT(S) WITH THE ARCHITECTS PRIOR TO ORDERING HVAC EQUIPMENT AND REVIEW OF FRAMING SHOP DRAWINGS.
13. FOR EACH UNIT PROVIDE THERMOSTAT HONEYWELL TC500 AND WHEN THE UNIT SUPPLIES MORE THAN (1) ROOM, PROVIDE AVERAGING SENSORS HONEYWELL MODEL TR40 FOR LOCATIONS AND QUANTITIES SEE DWG M-200

EXHAUST FAN SCHEDULE

TAG	LOCATION	MANUF	MANUF MODEL	CFM	DRIVE	RPM	ESP. IN. W.C.	SONES	ROOF OPENING	WEIGHT LBS	HP	VOLTS	MOTOR TYPE	REMARKS
EF-1	ROOF	CARNES	VEBK08	610	BELT	1500	0.4	7.0	11x11	30	1/6	120/1	K4	SEE NOTES
EF-2	ROOF	CARNES	VEBK06	490	BELT	1667	0.4	6.2	11x11	30	1/6	120/1	K4	SEE NOTES

NOTES:
1. PROVIDE DISCONNECT SWITCH, BACKDRAFT DAMPER ALUMINUM INSECT SCREEN AND PREFABRICATED FLAT ROOF CURB BY FAN MANUFACTURER FAN TO RUN ON TIMECLOCK PARAGON MODEL 7000 SERIES AS SHOWN IN ELECTRICAL DWGS

MECH ROOM ELECTRIC UNIT HEATER SCHEDULE

TAG	LOCATION	MANUF	MANUF MODEL	KW	BTUH	CFM	THROW FT.	MIN. MOUNTING HEIGHT FT.	MCA	CONTROL CIRCUIT & FAN MOTOR VOLTS	WEIGHT LBS	REMARKS
UH-1	MECH. RM.	QMARK	MWUH5004	1.87	6396	270	16	6	11.3	208/1/60	24	SEE NOTE 1

NOTES:
1. HEATER TO BE WALL MOUNTED. PROVIDE DISCONNECT SWITCH. BUILT IN THERMOSTAT TO BE SET AT 65° F

GLOBAL PLASMA AIR DUCT TUBE SCHEDULE

TAG	MANUFACTURER	MODEL	SERVING	ELEC. VOLTAGE	WEIGHT	QUANTITY PER UNIT
GP-1	GLOBAL PLASMA SOLUTIONS	FC48- AC	ONE FOR EACH RTU	24 VOLTS	4 LBS	1

ALL TUBES SHALL BE MOUNTED INSIDE CORRESPONDING ROOFTOP UNIT CABINET

DIFFUSER AND REGISTER SCHEDULE

TAG	MANUF	MANUF MODEL	CFM RANGE	SERVICE	NECK SIZE Ø IN.	FACE PANEL SIZE IN.	REMARKS
A1	CARNES	SJTB	0-100	SUPPLY	6	24x24	SEE NOTES
A2	CARNES	SJTB	101-230	SUPPLY	8	24x24	SEE NOTES
A3	CARNES	SJTB	231-380	SUPPLY	10	24x24	SEE NOTES
A4	CARNES	SJTB	381-460	SUPPLY	12	24x24	SEE NOTES
A5	CARNES	SJTB	461-600	SUPPLY	14	24x24	SEE NOTES
B1	CARNES	SPRB	0-100	RETURN	6	24x24	SEE NOTES
B2	CARNES	SPRB	101-230	RETURN	8	24x24	SEE NOTES
B3	CARNES	SPRB	231-380	RETURN	10	24x24	SEE NOTES
B4	CARNES	SPRB	381-450	RETURN	12	24x24	SEE NOTES
B5	CARNES	SPRB	451-600	RETURN	14	24x24	SEE NOTES
B6	CARNES	SPRB	601-1000	RETURN	16	24x24	SEE NOTES
C1	CARNES	SPRB	70	EXHAUST	6	12x12	SEE NOTES
C2	CARNES	SPRB	120	PANTRY EXHAUST	8	12x12	SEE NOTES

NOTES: CFM SHALL BE AS INDICATED IN DRAWINGS.
C1 EXHAUST GRILLES SHALL BE FACE MOUNTED ON THE 24x24 CEILING TILE

SUBMITTALS FOR HVAC EQUIPMENT AND COMPONENTS SHALL BE PROVIDED TO THE ARCHITECT AND TO THE LEARNING EXPERIENCE PRIOR TO ORDERING EQUIPMENT. ALL SUBSTITUTION OF EQUIPMENT SHALL BE SUBMITTED FOR REVIEW AND APPROVAL BY TLE

START UP OF UNITS
MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR STARTUP OF ALL UNITS. CONTRACTOR SHALL COORDINATE WITH TRANE REP. TO SCHEDULE SITE VISIT(S) TO VERIFY INSTALLATION IS AS PER MANUFACTURER'S SPECIFICATIONS.THE STARTUP ACTIVITIES MUST BE DOCUMENTED AND MADE PART OF THE CLOSE-OUT PACKAGE PROVIDED BY THE GENERAL CONTRACTOR TO THE OWNER AND TENANT ON THE PROJECT.

TRANE NATIONAL ACCOUNTS EQUIPMENT PACKAGE

FOR MORE INFORMATION OF EQUIPMENT CONTACT TRANE NATIONAL ACCOUNTS:
TLE@TRANE.COM
THE INSTALLING CONTRACTOR ACCEPTS ALL COSTS RELATED TO EQUIPMENT SUBSTITUTIONS.CONDENSER STANDS PROVIDED BY OTHERS
ORDERING PROCEDURES:
TRANE NATIONAL ACCOUNTS DEPARTMENT WILL ORDER EQUIPMENT AND COORDINATE SHIPMENT WITH THE SUCCESSFUL HVAC CONTRACTOR. THE HVAC CONTRACTOR WILL BE RESPONSIBLE FOR EQUIPMENT WARRANTY, DELIVERY COORDINATION, RECEIVING AND INSTALLATION AS DESCRIBED IN THE SPECIFICATIONS.
START UP AND COMMISSIONING REQUIREMENTS:
INSTALLING CONTRACTOR IS RESPONSIBLE FOR INITIAL STARTUP, CERTIFIED TEST & BALANCE, RUNNING THE UNITS & MAINTAINING THE AIR FILTERS DURING THE CONSTRUCTION PHASE. TWO WEEKS PRIOR TO THE BUILDING TRAINING, THE CONTRACTOR WILL COORDINATE THE EQUIPMENT UNIT VERIFICATION WITH MANUFACTURER. UPON COMPLETION, CONTRACTOR SHALL FURNISH A WRITTEN REPORT TO THE LEARNING EXPERIENCE AND AHJ AS REQUIRED BY AHJ.

ELECTRIC CEILING HEATER SCHEDULE

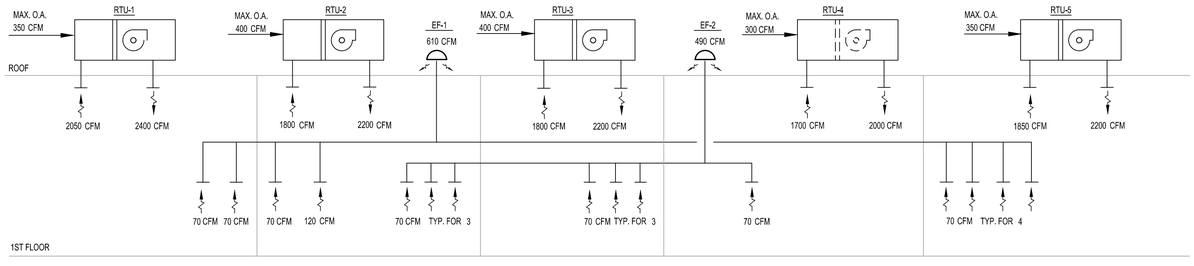
TAG	MANUFACTURER	MODEL	KW	ELEC. VOLTAGE	WEIGHT	REMARKS
ECH - 1	QMARK	EFF SERIES 1500	1.5	120/1/60	22	SEE NOTE 1
ECH - 2	QMARK	EFF SERIES 1500	1.5	120/1/60	22	SEE NOTE 1

NOTES:
1. HEATER TO BE CEILING MOUNTED. PROVIDE T-BAR MOUNTING KIT, DISCONNECT SWITCH. PROVIDE WALL REMOTE THERMOSTAT (120V WITH CONTACTS RATED AT 20AMPS OR GREATER). THERMOSTAT TO BE SET AT 74° F.

PANTRY SPLIT SYSTEM UNIT SCHEDULE

INDOOR UNIT									OUTDOOR UNIT								
TAG	LOCATION	MANUF	MANUF MODEL	CFM	COOLING CAPACITY AT 95°F (BTU/H)	HEATING CAPACITY AT 47°F / 17°F (BTU/H)	MCA	UNIT WEIGHT (LBS)	TAG	LOCATION	MANUF	MANUF MODEL	CFM	VOLTAGE	MCA	MOCP	REFRIGERANT TYPE	UNIT WEIGHT (LBS)
AC-1	PANTRY CEILING	MITSUBISHI	TPLA0A0241EA70A	530-640-710-810	24,000	26,000 / 26,000	1.0	56	ACCU-1	ROOF	MITSUBISHI	TRUZH0241HA10NA	1940	208/1	17.0	27	R410A	190

NOTES:
1. UNIT SHALL BE CONTROLLED BY A MITSUBISHI WIRED THERMOSTAT MODEL TAR-40MAAU, LOCATED IN PANTRY AS PER PLAN.
2. PROVIDE BLUE DIAMOND (MEGABLUE ADVANCED) CONDENSATE PUMP W/ RESERVOIR & SENSOR, OUTSIDE AIR KIT, DISCONNECT SWITCH CONDENSATE TO DISCHARGE INDIRECTLY TO JANITOR SINK. ROUTING SHALL BE COORDINATED IN FIELD.



AIR FLOW DIAGRAM

N.T.S.

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL, UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

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1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: LN	Approved By: MBJ

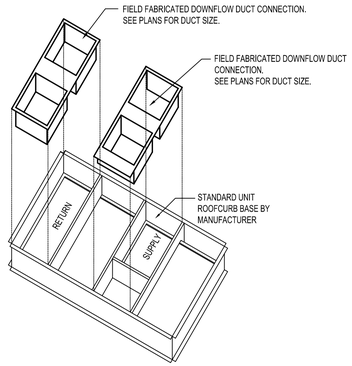
Drawing Name:

HVAC SCHEDULES & AIR RISER DIAGRAM

Drawing Number:

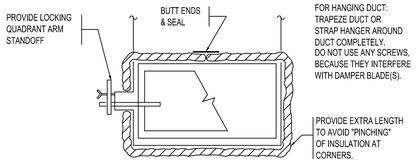
M-400

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT



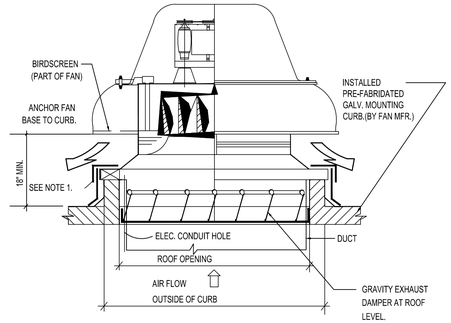
12 DUCTWORK CONNECTION TO ROOFCURB

SCALE: N.T.S.



5 DUCT INSULATION DIAGRAM

SCALE: N.T.S.



NOTES:

1. ROOF FLASHING AND SEAL TO PERFORMED IN A MANNER TO MAINTAIN ROOF WARRANTY. COORDINATE WITH ROOF SYSTEM MANUFACTURER.
2. EXHAUST DUCT RISER SHALL BE FLANGED OVER CURB RIM. COORDINATE SIZE WITH APPROVED DRAWING.

4 ROOF EXHAUST FAN DIAGRAM

SCALE: N.T.S.

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY
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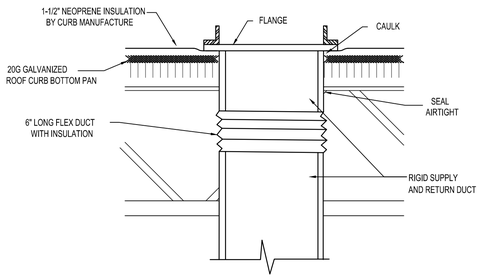
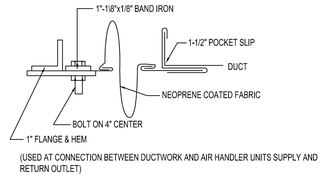


11 DUCT PENETRATION THROUGH ROOF

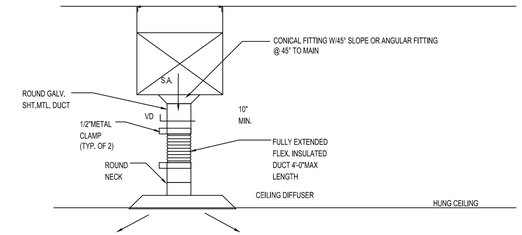
SCALE: N.T.S.



(USED AT CONNECTION BETWEEN DUCTWORK AND AIR HANDLER UNITS SUPPLY AND RETURN OUTLET)

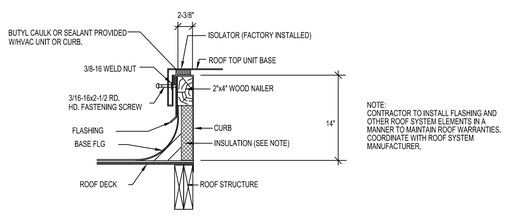
6 FLEX CONNECTOR DIAGRAM

SCALE: N.T.S.



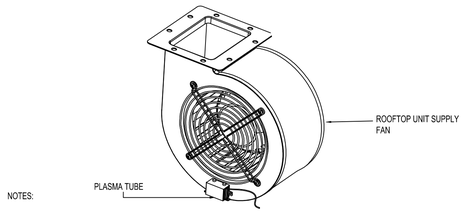
3 BOTTOM DUCT DIFFUSER CONNECTION

SCALE: 1/2" = 1'-0"



10 TYPICAL HVAC UNIT ROOFTOP CURB

SCALE: 1" - 1'-0"

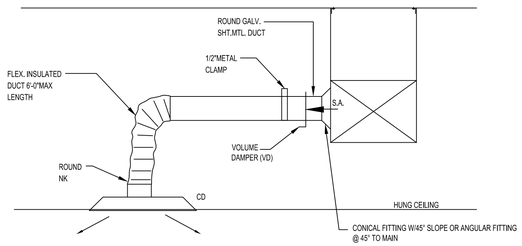


NOTES:

1. MOUNT GPS-FC TO FAN INLET.
2. USE TWO SELF-TAPPING SCREWS TO SECURE GPS-FC TO FAN INLET, ENSURING SCREWS DO NOT CONTACT FAN SCROLL.
3. WIRE GPS-FC TO 24VAC CONTROLL POWER
4. "DRY" ALARM CONTACTS ARE PROVIDED WITH EACH GPS-FC , RATED FOR 24VAC/300mA MAX.

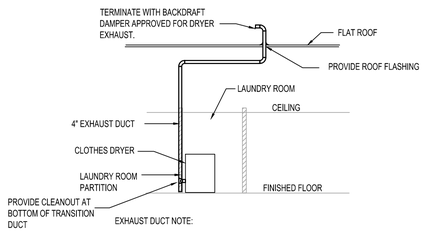
7 GPS-FC-48-AC MOUNTING DIAGRAM

SCALE: N.T.S.



2 SUPPLY DIFFUSER CONNECTION

SCALE: 1/2" = 1'-0"

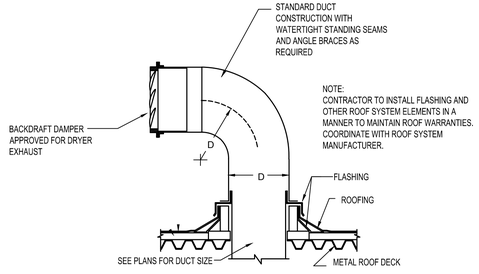


EXHAUST DUCT NOTE:

1. MALE END OF THE DUCT AT OVERLAPPED DUCT JOINTS SHALL EXTEND IN THE DIRECTION OF AIRFLOW
2. PROTECTIVE SHIELD PLATES SHALL BE PLACED WHERE NAILS OR SCREWS FROM FINISH OR OTHER WORK ARE LIKELY TO PENETRATE THE CLOTHES DRYER EXHAUST DUCT. SHIELD PLATES HALL BE PLACED ON THE FINISHED FRAMING MEMBERS WHERE THERE IS LESS THAN 1-1/4" BETWEEN DUCT AND FINISHED FRAME MEMBER. SHIELDS SHALL BE STEEL (0.062" THICK) AND EXTEND AT-LEAST 2" ABOVE SOLE PLATES AND BELOW TOP PLATES.
3. 4" RIGID METAL EXHAUST DUCT SHALL HAVE SMOOTH INTERIOR FINISH WITH METAL THICKNESS OF NOT LESS THAN 0..016" IN THICKNESS AND SHALL BE SUPPORTED AND SECURED IN PLACE.
4. SCREENS SHALL NOT BE PROVIDED AT THE DRYER EXHAUST DUCT TERMINATION

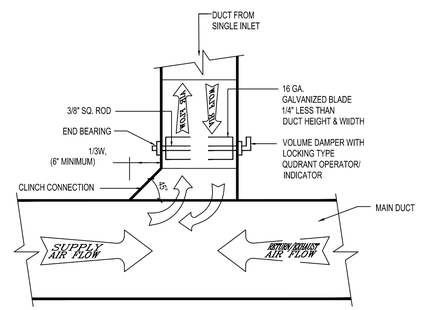
9 CLOTHES DRYER EXHAUST DIAGRAM

SCALE: N.T.S.



8 DRYER GOOSENECK DIAGRAM

SCALE: N.T.S.



1 SUPPLY/RETURN (EXHAUST) DUCT TAP

SCALE: N.T.S.

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Drawn By: LN	Approved By: MBJ

Drawing Name:

HVAC DETAILS/DIAGRAMS

Drawing Number:

M-500

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
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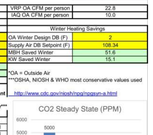

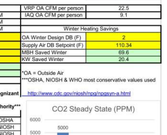

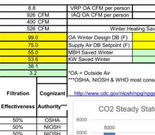

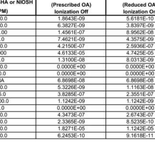

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Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
RTU-1	Educational Facilities	Daycare (through age 4)	1,597.0	35.0	10.0	0.18	350	287	0.8	797 OA required per VRP

Zone Height (feet)	9.0
Desired Outside Air (Vo) IAQP (CF	350
Supply Air (Vs) (CFM)	2,400
Return Air (Vr)	2050
Recirc. Flow Factor (R)	0.85
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Sedentary
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant

Air Changes Per Hour	10.0	VRP OA CFM per person	22.8
Outside Air Per VRP	797 CFM	IAQ OA CFM per person	10.0
Outside Air Per IAQ	350 CFM		
Outside Air Savings	447 CFM	Winter Heating Savings	
OA Summer Drybulb	99.0	OA Winter Design DB (F)	2
OA Summer Wetbulb	75.0	Supply Air DB Setpoint (F)	108.34
Coil Leaving Air Drybulb (F)	55.3	MBH Saved Winter	51.6
Coil Leaving Air Wetbulb (F	53.9	KW Saved Winter	15.1
OA MBH Saved Summer*	31.9		
OA Tons Saved Summer*	2.7		

*OA = Outside Air
***OSHA, NIOSH & WHO most conservative values used
http://www.cdc.gov/niosh/npg/npgsyn-a.html

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value Based on OSHA or NIOSH (PPM)	Steady State (lb/ft3) Using the VRP* (Prescribed OA) Ionization Off	Steady State (lb/ft3) Using the IAQ Method (Reduced OA) Ionization On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate lb/person/min	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	1.9575E-09	6.3899E-10	Yes	1.2903E-08	50%	OSHA
Acetone	250.0	7.3213E-09	4.6652E-09	Yes	1.2993E-07	50%	NIOSH
Ammonia	25.00	1.6766E-07	1.0897E-07	Yes	3.0522E-06	50%	NIOSH
Benzene	1.0	8.5169E-09	5.2841E-09	Yes	1.4602E-07	50%	OSHA
2- Butanone (MEK)	200.0	4.8536E-07	3.1557E-07	Yes	8.8396E-06	50%	NIOSH
Carbon dioxide**	5000	4.6312E-05	4.8042E-05	Yes	2.4692E-05	0%	NIOSH
Chloroform	2.0	1.5075E-08	9.7698E-09	Yes	2.7342E-07	50%	NIOSH
Dioxane	100.0	0.0000E+00	0.0000E+00	Yes	0.0000E+00	50%	OSHA
Hydrogen Sulfide	10.0	0.0000E+00	0.0000E+00	Yes	0.0000E+00	50%	NIOSH
Methane	NA	6.8698E-08	6.8698E-08	Yes	0.0000E+00	0%	NA
Methanol	200.0	6.1289E-09	1.3953E-08	Yes	1.1163E-07	0%	NIOSH
Methylene Chloride	25.0	4.4083E-07	2.8655E-07	Yes	8.0262E-06	50%	OSHA
Propane	1000.0	1.1242E-09	1.1242E-09	Yes	0.0000E+00	0%	NIOSH
Tetrachloroethane	5.0	0.0000E+00	0.0000E+00	Yes	0.0000E+00	50%	OSHA
Tetrachloroethylene	100.0	5.0056E-07	3.2538E-07	Yes	9.1140E-06	50%	OSHA
Toluene	100.0	2.5012E-09	9.9250E-10	Yes	2.2806E-08	50%	NIOSH
1,1,1 - Trichloroethane	350.0	2.1039E-05	1.3679E-05	Yes	3.8318E-04	50%	NIOSH
Xylene	100.0	6.2453E-10	8.9180E-11	Yes	0.0000E+00	50%	OSHA

1 = NIOSH CO2 Limit
2 = CO2 Level at Ventilation Rate OA Flow Rate
3 = CO2 Level at IAQ Procedure OA Flow Rate

**Carbon dioxide has been provided for reference only for gathering demand control ventilation (DCV) setpoints. The National Research Council was commissioned by the US Navy to prove CO2 is not a contaminant of concern when using air cleaning devices to control the other contaminants of concern, as found on submarines.

The University of Denmark conducted a study to confirm CO2 levels at 5,000 PPM had no impact on cognitive function. Zhang X, Wargocki P, Lian Z, Human Responses to Carbon Dioxide, a Follow-up Study at Recommended Exposure Limits in

Building materials and furnishings assumed to have no VOCs and off-gassing is complete
All yellow shaded boxes require user input or review

Is IAQ acceptable at reduced outside air levels?	Yes

Date	5/13/2023
Job Name	TLE LEE'S Summit MO
Representative	-
Engineer	Jarmel Kizel Architects and Engineers
Contractor	-

IMC 2006 & later allows for ASHRAE 62 IAQP through the engineered exception found in Section 403.2
Exhaust flow rates may differ from Table 6.5 based on ASHRAE 62 IAQP via Section 6.5.2

BASED ON VENTILATION RATES PRESCRIBED BY THE 2015 INTERNATIONAL MECHANICAL CODE, RTU-1 WILL NEED TO PROVIDE 797 CFM OF OUTSIDE AIR AS PER EXCEPTIONS OF PARAGRAPH 403.2 , THIS RATE OF CFM HAS BEEN REDUCED TO 350 CFM DUE TO AN ENGINEERED VENTILATION SYSTEM WHICH CONSIST OF A PLASMA TUBE ADDED INTO SUPPLY AIRFLOW

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VERSION 2.2 running ASHRAE 62.1-2016

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
RTU-2	Educational Facilities	Daycare (through age 4)	1,965.0	44.0	10.0	0.18	440	354	0.8	992 OA required per VRP

Zone Height (feet)	9.0
Desired Outside Air (Vo) IAQP (CF	400
Supply Air (Vs) (CFM)	2,200
Return Air (Vr)	1800
Recirc. Flow Factor (R)	0.82
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Sedentary
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant

Air Changes Per Hour	7.5	VRP OA CFM per person	22.5
Outside Air Per VRP	992 CFM	IAQ OA CFM per person	9.1
Outside Air Per IAQ	400 CFM		
Outside Air Savings	592 CFM	Winter Heating Savings	
OA Summer Drybulb	99.0	OA Winter Design DB (F)	2
OA Summer Wetbulb	75.0	Supply Air DB Setpoint (F)	110.34
Coil Leaving Air Drybulb (F)	55.0	MBH Saved Winter	69.6
Coil Leaving Air Wetbulb (F	53.6	KW Saved Winter	20.4
OA MBH Saved Summer*	42.9		
OA Tons Saved Summer*	3.6		

*OA = Outside Air
***OSHA, NIOSH & WHO most conservative values used
http://www.cdc.gov/niosh/npg/npgsyn-a.html

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value Based on OSHA or NIOSH (PPM)	Steady State (lb/ft3) Using the VRP* (Prescribed OA) Ionization Off	Steady State (lb/ft3) Using the IAQ Method (Reduced OA) Ionization On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate lb/person/min	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	1.9644E-09	8.4435E-10	Yes	1.2903E-08	50%	OSHA
Acetone	250.0	7.3903E-09	6.3217E-09	Yes	1.2993E-07	50%	NIOSH
Ammonia	25.00	1.6928E-07	1.4774E-07	Yes	3.0522E-06	50%	NIOSH
Benzene	1.0	8.5945E-09	7.1553E-09	Yes	1.4602E-07	50%	OSHA
2- Butanone (MEK)	200.0	4.9006E-07	4.2784E-07	Yes	8.8396E-06	50%	NIOSH
Carbon dioxide**	5000	4.6325E-05	4.8351E-05	Yes	2.4692E-05	0%	NIOSH
Chloroform	2.0	1.5220E-08	1.3245E-08	Yes	2.7342E-07	50%	NIOSH
Dioxane	100.0	0.0000E+00	0.0000E+00	Yes	0.0000E+00	50%	OSHA
Hydrogen Sulfide	10.0	0.0000E+00	0.0000E+00	Yes	0.0000E+00	50%	NIOSH
Methane	NA	6.8698E-08	6.8698E-08	Yes	0.0000E+00	0%	NA
Methanol	200.0	6.1882E-09	1.5349E-08	Yes	1.1163E-07	0%	NIOSH
Methylene Chloride	25.0	4.4509E-07	3.8849E-07	Yes	8.0262E-06	50%	OSHA
Propane	1000.0	1.1242E-09	1.1242E-09	Yes	0.0000E+00	0%	NIOSH
Tetrachloroethane	5.0	0.0000E+00	0.0000E+00	Yes	0.0000E+00	50%	OSHA
Tetrachloroethylene	100.0	5.0540E-07	4.4115E-07	Yes	9.1140E-06	50%	OSHA
Toluene	100.0	2.5133E-09	1.3236E-09	Yes	2.2806E-08	50%	NIOSH
1,1,1 - Trichloroethane	350.0	2.1242E-05	1.8546E-05	Yes	3.8318E-04	50%	NIOSH
Xylene	100.0	6.2453E-10	1.0992E-10	Yes	0.0000E+00	50%	OSHA

1 = NIOSH CO2 Limit
2 = CO2 Level at Ventilation Rate OA Flow Rate
3 = CO2 Level at IAQ Procedure OA Flow Rate

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Contractor	-

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BASED ON VENTILATION RATES PRESCRIBED BY THE 2015 INTERNATIONAL MECHANICAL CODE, RTU-2 WILL NEED TO PROVIDE 992 CFM OF OUTSIDE AIR AS PER EXCEPTIONS OF PARAGRAPH 403.2 , THIS RATE OF CFM HAS BEEN REDUCED TO 400 CFM DUE TO AN ENGINEERED VENTILATION SYSTEM WHICH CONSIST OF A PLASMA TUBE ADDED INTO SUPPLY AIRFLOW

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RTU-3	Educational Facilities	Daycare (through age 4)	1,672.0	44.0	10.0	0.18	440	301	0.8	926 OA required per VRP

Zone Height (feet)	9.0
Desired Outside Air (Vo) IAQP (CF	400
Supply Air (Vs) (CFM)	2,200
Return Air (Vr)	1800
Recirc. Flow Factor (R)	0.82
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Sedentary
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant

Air Changes Per Hour	8.8	VRP OA CFM per person	21.1
Outside Air Per VRP	926 CFM	IAQ OA CFM per person	9.1
Outside Air Per IAQ	400 CFM		
Outside Air Savings	526 CFM	Winter Heating Savings	
OA Summer Drybulb	99.0	OA Winter Design DB (F)	2
OA Summer Wetbulb	75.0	Supply Air DB Setpoint (F)	110.34
Coil Leaving Air Drybulb (F)	55.0	MBH Saved Winter	61.9
Coil Leaving Air Wetbulb (F	53.6	KW Saved Winter	18.1
OA MBH Saved Summer*	38.1		
OA Tons Saved Summer*	3.2		

*OA = Outside Air
***OSHA, NIOSH & WHO most conservative values used
http://www.cdc.gov/niosh/npg/npgsyn-a.html

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value Based on OSHA or NIOSH (PPM)	Steady State (lb/ft3) Using the VRP* (Prescribed OA) Ionization Off	Steady State (lb/ft3) Using the IAQ Method (Reduced OA) Ionization On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate lb/person/min	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	2.0153E-09	8.4435E-10	Yes	1.2903E-08	50%	OSHA
Acetone	250.0	7.9030E-09	6.3217E-09	Yes	1.2993E-07	50%	NIOSH
Ammonia	25.00	1.8132E-07	1.4774E-07	Yes	3.0522E-06	50%	NIOSH
Benzene	1.0	9.1706E-09	7.1553E-09	Yes	1.4602E-07	50%	OSHA
2- Butanone (MEK)	200.0	5.2494E-07	4.2784E-07	Yes	8.8396E-06	50%	NIOSH
Carbon dioxide**	5000	4.6422E-05	4.8351E-05	Yes	2.4692E-05	0%	NIOSH
Chloroform	2.0	1.6299E-08	1.3245E-08	Yes	2.7342E-07	50%	NIOSH
Dioxane	100.0	0.0000E+00	0.0000E+00	Yes	0.0000E+00	50%	OSHA
Hydrogen Sulfide	10.0	0.0000E+00	0.0000E+00	Yes	0.0000E+00	50%	NIOSH
Methane	NA	6.8698E-08	6.8698E-08	Yes	0.0000E+00	0%	NA
Methanol	200.0	6.6287E-09	1.5349E-08	Yes	1.1163E-07	0%	NIOSH
Methylene Chloride	25.0	4.7677E-07	3.8849E-07	Yes	8.0262E-06	50%	OSHA
Propane	1000.0	1.1242E-09	1.1242E-09	Yes	0.0000E+00	0%	NIOSH
Tetrachloroethane	5.0	0.0000E+00	0.0000E+00	Yes	0.0000E+00	50%	OSHA
Tetrachloroethylene	100.0	5.4137E-07	4.4115E-07	Yes	9.1140E-06	50%	OSHA
Toluene	100.0	2.6033E-09	1.3236E-09	Yes	2.2806E-08	50%	NIOSH
1,1,1 - Trichloroethane	350.0	2.2754E-05	1.8546E-05	Yes	3.8318E-04	50%	NIOSH
Xylene	100.0	6.2453E-10	1.0992E-10	Yes	0.0000E+00	50%	OSHA

1 = NIOSH CO2 Limit
2 = CO2 Level at Ventilation Rate OA Flow Rate
3 = CO2 Level at IAQ Procedure OA Flow Rate

**Carbon dioxide has been provided for reference only for gathering demand control ventilation (DCV) setpoints. The National Research Council was commissioned by the US Navy to prove CO2 is not a contaminant of concern when using air cleaning devices to control the other contaminants of concern, as found on submarines.

The University of Denmark conducted a study to confirm CO2 levels at 5,000 PPM had no impact on cognitive function. Zhang X, Wargocki P, Lian Z, Human Responses to Carbon Dioxide, a Follow-up Study at Recommended Exposure Limits in

Building materials and furnishings assumed to have no VOCs and off-gassing is complete
All yellow shaded boxes require user input or review

Is IAQ acceptable at reduced outside air levels?	Yes

Date	5/13/2023
Job Name	TLE LEE'S Summit MO
Representative	-
Engineer	Jarmel Kizel Architects and Engineers
Contractor	-

IMC 2006 & later allows for ASHRAE 62 IAQP through the engineered exception found in Section 403.2
Exhaust flow rates may differ from Table 6.5 based on ASHRAE 62 IAQP via Section 6.5.2

BASED ON VENTILATION RATES PRESCRIBED BY THE 2015 INTERNATIONAL MECHANICAL CODE, RTU-3 WILL NEED TO PROVIDE 926 CFM OF OUTSIDE AIR AS PER EXCEPTIONS OF PARAGRAPH 403.2 , THIS RATE OF CFM HAS BEEN REDUCED TO 400 CFM DUE TO AN ENGINEERED VENTILATION SYSTEM WHICH CONSIST OF A PLASMA TUBE ADDED INTO SUPPLY AIRFLOW

GPS Air
3101 Yorkmont Rd
Suite 400
Charlotte, NC 28208
www.gpsair.com
VERSION 2.2 running ASHRAE 62.1-2016

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
RTU-4	Educational Facilities	Daycare (through age 4)	1,463.0	24.0	10.0	0.18	240	263	0.8	629 OA required per VRP

Zone Height (feet)	9.0
Desired Outside Air (Vo) IAQP (CF	300
Supply Air (Vs) (CFM)	2,000
Return Air (Vr)	1700
Recirc. Flow Factor (R)	0.85
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Sedentary
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant

Air Changes Per Hour	9.1	VRP OA CFM per person	26.2
Outside Air Per VRP	629 CFM	IAQ OA CFM per person	12.5
Outside Air Per IAQ	300 CFM		
Outside Air Savings	329 CFM	Winter Heating Savings	
OA Summer Drybulb	99.0	OA Winter Design DB (F)	2
OA Summer Wetbulb	75.0	Supply Air DB Setpoint (F)	110.75
Coil Leaving Air Drybulb (F)	56.2	MBH Saved Winter	38.8
Coil Leaving Air Wetbulb (F	53.6	KW Saved Winter	11.4
OA MBH Saved Summer*	23.8		
OA Tons Saved Summer*	2.0		

*OA = Outside Air
***OSHA, NIOSH & WHO most conservative values used
http://www.cdc.gov/niosh/npg/npgsyn-a.html

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value Based on OSHA or NIOSH (PPM)	Steady State (lb/ft3) Using the VRP* (Prescribed OA) Ionization Off	Steady State (lb/ft3) Using the IAQ Method (Reduced OA) Ionization On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate lb/person/min	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	1.8643E-09	5.6181E-10	Yes	1.2903E-08	50%	OSHA
Acetone	250.0	6.3827E-09	3.8397E-09	Yes	1.2993E-07	50%	NIOSH
Ammonia	25.00	1.4561E-07	8.9562E-08	Yes	3.0522E-06	50%	NIOSH
Benzene	1.0	7.4621E-09	4.3575E-09	Yes	1.4602E-07	50%	OSHA
2- Butanone (MEK)	200.0	4.2150E-07	2.5936E-07	Yes	8.8396E-06	50%	NIOSH
Carbon dioxide**	5000	4.6133E-05	4.7425E-05	Yes	2.4692E-05	0%	NIOSH
Chloroform	2.0	1.3100E-08	8.0313E-09	Yes	2.7342E-07	50%	NIOSH
Dioxane	100.0	0.0000E+00	0.0000E+00	Yes	0.0000E+00	50%	OSHA
Hydrogen Sulfide	10.0	0.0000E+00	0.0000E+00	Yes	0.0000E+00	50%	NIOSH
Methane	NA	6.8698E-08	6.8698E-08	Yes	0.0000E+00	0%	NA
Methanol	200.0	5.3226E-09	1.1163E-08	Yes	1.1163E-07	0%	NIOSH
Methylene Chloride	25.0	3.8285E-07	2.3551E-07	Yes	8.0262E-06	50%	OSHA
Propane	1000.0	1.1242E-09	1.1242E-09	Yes	0.0000E+00	0%	NIOSH
Tetrachloroethane	5.0	0.0000E+00	0.0000E+00	Yes	0.0000E+00	50%	OSHA
Tetrachloroethylene	100.0	4.3473E-07	2.6743E-07	Yes	9.1140E-06	50%	OSHA
Toluene	100.0	2.3365E-09	8.5235E-10	Yes	2.2806E-08	50%	NIOSH
1,1,1 - Trichloroethane	350.0	1.8271E-05	1.1242E-05	Yes	3.8318E-04	50%	NIOSH
Xylene	100.0	6.2453E-10	9.1618E-11	Yes	0.0000E+00	50%	OSHA

1 = NIOSH CO2 Limit
2 = CO2 Level at Ventilation Rate OA Flow Rate
3 = CO2 Level at IAQ Procedure OA Flow Rate

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The University of Denmark conducted a study to confirm CO2 levels at 5,000 PPM had no impact on cognitive function. Zhang X, Wargocki P, Lian Z, Human Responses to Carbon Dioxide, a Follow-up Study at Recommended Exposure Limits in

Building materials and furnishings assumed to have no VOCs and off-gassing is complete
All yellow shaded boxes require user input or review

Is IAQ acceptable at reduced outside air levels?	Yes

Date	5/13/2023
Job Name	TLE LEE'S Summit MO
Representative	-
Engineer	Jarmel Kizel Architects and Engineers
Contractor	-

IMC 2006 & later allows for ASHRAE 62 IAQP through the engineered exception found in Section 403.2
Exhaust flow rates may differ from Table 6.5 based on ASHRAE 62 IAQP via Section 6.5.2

BASED ON VENTILATION RATES PRESCRIBED BY THE 2015 INTERNATIONAL MECHANICAL CODE, RTU-4 WILL NEED TO PROVIDE 629 CFM OF OUTSIDE AIR AS PER EXCEPTIONS OF PARAGRAPH 403.2 , THIS RATE OF CFM HAS BEEN REDUCED TO 300 CFM DUE TO AN ENGINEERED VENTILATION SYSTEM WHICH CONSIST OF A PLASMA TUBE ADDED INTO SUPPLY AIRFLOW

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Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
RTU-5	Educational Facilities	Daycare (through age 4)	1,433.0	37.0	10.0	0.18	370	258	0.8	785 OA required per VRP

Zone Height (feet)	9.0
Desired Outside Air (Vo) IAQP (CF	350
Supply Air (Vs) (CFM)	2,200
Return Air (Vr)	1850
Recirc. Flow Factor (R)	0.84
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Sedentary
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant

Air Changes Per Hour	10.2	VRP OA CFM per person	21.2
Outside Air Per VRP	785 CFM	IAQ OA CFM per person	9.5
Outside Air Per IAQ	350 CFM		
Outside Air Savings	435 CFM	Winter Heating Savings	
OA Summer Drybulb	99.0	OA Winter Design DB (F)	2
OA Summer Wetbulb	75.0	Supply Air DB Setpoint (F)	111.73
Coil Leaving Air Drybulb (F)	54.7	MBH Saved Winter	51.8
Coil Leaving Air Wetbulb (F	53.3	KW Saved Winter	15.2
OA MBH Saved Summer*	31.8		
OA Tons Saved Summer*	2.7		

*OA = Outside Air
***OSHA, NIOSH & WHO most conservative values used
http://www.cdc.gov/niosh/npg/npgsyn-a.html

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value Based on OSHA or NIOSH (PPM)	Steady State (lb/ft3) Using the VRP* (Prescribed OA) Ionization Off	Steady State (lb/ft3) Using the IAQ Method (Reduced OA) Ionization On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate lb/person/min	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	2.0093E-09	7.2294E-10	Yes	1.2903E-08	50%	OSHA
Acetone	250.0	7.8433E-09	5.3573E-09	Yes	1.2993E-07	50%	NIOSH
Ammonia	25.00	1.7992E-07	1.2518E-07	Yes	3.0522E-06	50%	NIOSH
Benzene	1.0	9.1035E-09	6.0654E-09	Yes	1.4602E-07	50%	OSHA
2- Butanone (MEK)	200.0	5.2087E-07	3.6249E-07	Yes	8.8396E-06	50%	NIOSH
Carbon dioxide**	5000	4.6411E-05	4.8219E-05	Yes	2.4692E-05	0%	NIOSH
Chloroform	2.0	1.6173E-08	1.1222E-08	Yes	2.7342E-07	50%	NIOSH
Dioxane	100.0	0.0000E+00	0.0000E+00	Yes	0.0000E+00	50%	OSHA
Hydrogen Sulfide	10.0	0.0000E+00	0.0000E+00	Yes	0.0000E+00	50%	NIOSH
Methane	NA	6.8698E-08	6.8698E-08	Yes	0.0000E+00	0%	NA
Methanol	200.0	6.5774E-09	1.4751E-08	Yes	1.1163E-07	0%	NIOSH
Methylene Chloride	25.0	4.7308E-07	3.2916E-07	Yes	8.0262E-06	50%	OSHA
Propane	1000.0	1.1242E-09	1.1242E-09	Yes	0.0000E+00	0%	NIOSH
Tetrachloroethane	5.0	0.0000E+00	0.0000E+00	Yes	0.0000E+00	50%	OSHA
Tetrachloroethylene	100.0	5.3718E-07	3.7377E-07	Yes	9.1140E-06	50%	OSHA
Toluene	100.0	2.5928E-09	1.1290E-09	Yes	2.2806E-08	50%	NIOSH
1,1,1 - Trichloroethane	350.0	2.2578E-05	1.5713E-05	Yes	3.8318E-04	50%	NIOSH
Xylene	100.0	6.2453E-10	9.6904E-11	Yes	0.0000E+00	50%	OSHA

1 = NIOSH CO2 Limit
2 = CO2 Level at Ventilation Rate OA Flow Rate
3 = CO2 Level at IAQ Procedure OA Flow Rate

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Is IAQ acceptable at reduced outside air levels?	Yes

Date	5/13/2023
Job Name	TLE LEE'S Summit MO
Representative	-
Engineer	Jarmel Kizel Architects and Engineers
Contractor	-

IMC 2006 & later allows for ASHRAE 62 IAQP through the engineered exception found in Section 403.2
Exhaust flow rates may differ from Table 6.5 based on ASHRAE 62 IAQP via Section 6.5.2

BASED ON VENTILATION RATES PRESCRIBED BY THE 2015 INTERNATIONAL MECHANICAL CODE, RTU-5 WILL NEED TO PROVIDE 785 CFM OF OUTSIDE AIR AS PER EXCEPTIONS OF PARAGRAPH 403.2 , THIS RATE OF CFM HAS BEEN REDUCED TO 350 CFM DUE TO AN ENGINEERED VENTILATION SYSTEM WHICH CONSIST OF A PLASMA TUBE ADDED INTO SUPPLY AIRFLOW

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC.

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.

Jarmel Kizel
ARCHITECTS AND ENGINEERS INC.
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ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: LN	Approved By: MBJ

Drawing Name:

HVAC VENTILATION CALCULATIONS

Drawing Number:

M-600

MATTHEW B. JARMEL
NUMBER A-2017014316

ABBREVIATIONS

A		
	A	AMPERE
	AC	ARMOR CLAD CABLE
	AFCI	ARC-FAULT CIRCUIT INTERRUPTING
	AFF	ABOVE FINISHED FLOOR
	AFG	ABOVE FINISHED GRADE
	AHJ	AUTHORITY HAVING JURISDICTION
	AHU	AIR HANDLING UNIT
	AIC	AMPERE INTERRUPTING CAPACITY
	AL	ALUMINUM
	AM	AMMETER
	ANN	ANNUNCIATOR
	ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
	ATS	AUTOMATIC TRANSFER SWITCH
	AV	AUDIO VISUAL
	AWG	AMERICAN WIRE GAUGE
B		
	BAS	BUILDING AUTOMATION SYSTEM
	BDF	BUILDING DISTRIBUTION FRAME
	BFC	BELOW FINISHED CEILING
	BFG	BELOW FINISHED GRADE
	BKBD	BACKBOARD
	BKR	BREAKER
	BPS	BOLTED PRESSURE SWITCH
C		
	C	CONDUIT
	CAT	CATALOG
	CATV	CABLE ANTENNA TELEVISION
	CB	CIRCUIT BREAKER
	CCTV	CLOSED CIRCUIT TELEVISION
	CKT	CIRCUIT
	CLG	CEILING
	CM	CONSTRUCTION MANAGER
	CO	COMPANY
	COAX	COAXIAL
	CT	CURRENT TRANSFORMER
	CTTS	CLOSE TRANSITION TRANSFER SWITCH
	CU	COPPER
D		
	DC	DIRECT CURRENT
	DD	DUCT DETECTOR
	DHCP	DYNAMIC HOST CONFIGURATION PROTOCOL
	DIA	DIAMETER
	DIV	DIVISION
	DN	DOWN
	DO	DRAWOUT
	DPDT	DOUBLE POLE DOUBLE THROW
	DPST	DOUBLE POLE SINGLE THROW
	DS	DISCONNECT SWITCH
	DSP	DIGITAL SIGNAL PROCESSOR
	DVD	DIGITAL VERSATILE DISC
	DVR	DIGITAL VIDEO RECORDER
	DVS	DIGITAL VIDEO SURVEILLANCE
	DWG	DRAWING
E		
	EA	EACH
	EF	EXHAUST FAN
	EGS	ENGINE-GENERATOR SET
	EL	ELEVATION
	ELEC	ELECTRIC
	ELEV	ELEVATOR
	EMT	ELECTRICAL METALLIC TUBING
	EO	EQUIPMENT BY OWNER
	EOL	END OF LINE DEVICE
	EQUIP	EQUIPMENT
	EWC	ELECTRIC WATER COOLER
	EWH	ELECTRICAL WATER HEATER
	EXH	EXHAUST
	EXP	EXPLOSION PROOF
	ECH	ELECTRIC CEILING HEATER
F		
	FA	FIRE ALARM
	FAA	FIRE ALARM ANNUNCIATION PANEL
	FACP	FIRE ALARM CONTROL PANEL
	FBO	FURNISHED BY OWNER
	FI	FILM ILLUMINATOR
	FLR	FLOOR
	FLUOR	FLUORESCENT
	FPS	FRAMES PER SECOND
	FPU	FIELD PROCESSING UNIT
	FS	FUSED SWITCH
	FTL	FEED THRU LUGS
G		
	GA	GAUGE
	Gb	GIGABIT
	GE	GROUNDING EQUALIZER CONDUCTOR
	GEN	GENERATOR
	GFCI	GROUND FAULT CIRCUIT INTERRUPTING
	GFI	GROUND FAULT INTERRUPTING
	GFR	GROUND FAULT RELAY
	GFRT	GROUND FAULT RELAY TEST PANEL
	GPS	GLOBAL PLASMA TUBE
	GRD	GROUND
H		
	HCT	HARMONIC CONDITIONING TRANSFORMER
	HF	HARMONIC FILTER
	HFT	HARMONIC FILTER WITH INTEGRAL TRANSFORMER
	HID	HIGH INTENSITY DISCHARGE
	HOA	HAND OFF AUTO
	HP	HORSEPOWER
	HST	HARMONIC SUPPRESSION TRANSFORMER
	HSKPG	HOUSEKEEPING
	HTR	HEATER
	HV	HIGH VOLTAGE
	HZ	HERTZ (CYCLES/SECOND)
	HWRP	HOT WATER RECIRCULATION PUMP
I		
	ICC	INTERMEDIATE CROSS CONNECT
	ID	INSIDE DIAMETER
	IDF	INTERMEDIATE DISTRIBUTION FRAME
	IMC	INTERMEDIATE METAL CONDUIT
	INF	INFANTS
	IP	INTERNET PROTOCOL
	IPS	IMAGES PER SECOND
	iSCSI	INTERNET SMALL COMPUTER SYSTEM INTERFACE
	IR	INFRARED
J		
	JB	JUNCTION BOX
K		
	KO	KNOCK OUT
	KV	KILOVOLT
	KVA	KILOVOLT AMPERE
	KW	KILOWATT
	KWH	KILOWATT HOUR
L		
	LA	LIGHTNING ARRESTOR
	LAN	LOCAL AREA NETWORK
	LCD	LIQUID CRYSTAL DISPLAY
	LED	LIGHT EMITTING DIODE
	LS	LIFE SAFETY
	LTD	LONG TIME DELAY
	LTG	LIGHTING
	LV	LOW VOLTAGE
M		
	MAG	MAGNETIC
	MAN	MANUAL
	MAX	MAXIMUM
	MATV	MASTER ANTENNA TELEVISION
	Mb	MEGABIT
	MBB	MAKE BELIEVE BOULEVARD
	MC	METAL CLAD CABLE
	MCA	MINIMUM CIRCUIT AMPERES
	MCB	MAIN CIRCUIT BREAKER
	MCC	MOTOR CONTROL CENTER
	MCS	MOLDED CASE SWITCH
	MCM	THOUSANDS OF CIRCULAR MILS
	MCP	MOTOR CIRCUIT PROTECTOR
	MDF	MAIN DISTRIBUTION FRAME
	MDP	MAIN DISTRIBUTION PANELBOARD
	MECH	MECHANICAL
	MER	MAIN EQUIPMENT ROOM
	MFGR	MANUFACTURER
	MFS	MAIN FUSED SWITCH
	MGP	MEDICAL GAS PANEL
	MH	MANHOLE
	MI	MINERAL INSULATED CABLE
	MIC	MICROPHONE
	MIN	MINIMUM
	MLO	MAIN LUGS ONLY
	MM	MULTIMODE
	MOCP	MAXIMUM OVERCURRENT PROTECTION
	MTD	MOUNTED
	MTS	MANUAL TRANSFER SWITCH
	MV	MEDIUM VOLTAGE
N		
	N	NEUTRAL
	NA	NOT APPLICABLE
	NC	NORMALLY CLOSED
	NEC	NATIONAL ELECTRICAL CODE
	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
	NIC	NOT IN CONTRACT
	NO	NORMALLY OPEN
	NOC	NETWORK OPERATIONS CENTER
	NTS	NOT TO SCALE
O		
	OA	OUTSIDE AIR
	OC	ON CENTER
	OCPD	OVERCURRENT PROTECTIVE DEVICE
	OD	OUTSIDE DIAMETER
	OH	OVERHEAD
P		
	P	POLE
	PA	PUBLIC ANNOUNCEMENT
	PB	PULLBOX/PUSHBUTTON
	PC	PERSONAL COMPUTER
	PCU	PACKAGED CONTROL UNIT
	P/E	PNEUMATIC- ELECTRIC
	PH	PHASE
	PNL	PANELBOARD
	PLC	PROGRAMMABLE LOGIC CONTROLLER
	PoE	POWER OVER ETHERNET
	PREP	PREPPERS
	PRI	PRIMARY
	PS#X	PRE SCHOOL
	PSU	PATIENT SERVING UNIT
	PT	POTENTIAL TRANSFORMER
	PTZ	PAN TILT ZOOM
	PVC	POLYVINYL CHLORIDE
	PWR	POWER
R		
	RAID	REDUNDANT ARRAY OF INDEPENDENT DISKS
	RCP	REFLECTED CEILING PLANS
	RCPT	RECEPTACLE
	RE	REFER TO
	REF	REFRIGERATOR
	RF	RADIO FREQUENCY
	RF	RETURN FAN
	RFID	RADIO FREQUENCY IDENTIFICATION DEVICE
	RGS	RIGID GALVANIZED STEEL
	RM	ROOM
	RP	RECIRCULATION PUMP
	RTLS	REAL TIME LOCATION SYSTEM
	RUPS	ROTARY HYBRID UNINTERRUPTIBLE POWER SUPPLY
	RTU	ROOF TOP UNIT
S		
	SCHED	SCHEDULE
	SEC	SECONDARY
	SF	SUPPLY FAN
	SFL	SUB FEED LUGS
	SFP	SURGICAL FACILITY PANEL
	SH	SHEET
	SM	SINGLE MODE
	SP	SINGLE POLE
	SPDT	SINGLE POLE DOUBLE THROW
	SPST	SINGLE POLE SINGLE THROW
	SPC	SPACE
	SPEC	SPECIFICATION
	SPKR	SPEAKER
	SPR	SPARE
	SS	STAINLESS STEEL
	ST	SHUNT TRIP
	STD	SHORT TIME DELAY
	STP	SHIELDED TWISTED PAIR
	STR	STARTER
	SWBD	SWITCHBOARD
	SWGR	SWITCHGEAR
	SYM	SYMMETRICAL
T		
	TB	TERRA BYTES
	TBB	TELECOMMUNICATIONS BONDING BACKBONE
	TC	TERMINAL CABINET
	TERM	TERMINAL
	TEL	TELEPHONE
	TGB	TELECOMMUNICATIONS GROUNDING BUSBAR
	THD	TOTAL HARMONIC DISTORTION
	TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
	TOD	TODDLERS
	TR	TELECOMMUNICATIONS ROOM
	TRANS	TRANSITION
	TSER	TELECOMMUNICATIONS SERVICE ENTRANCE ROOM
	TTC	TELEPHONE TERMINAL CABINET
	TV	TELEVISION
	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
	TWAD	TWADDLERS
	TYP	TYPICAL
U		
	UC	UNDER COUNTER
	UG	UNDERGROUND
	UNO	UNLESS NOTED OTHERWISE
	UPS	UNINTERRUPTIBLE POWER SUPPLY
	USS	UNIT SUBSTATION
	UTP	UNSHIELDED TWISTED PAIR
	UH	UNIT HEATER
V		
	V	VOLT
	VAV	VARIABLE AIR VOLUME
	VM	VOLTMETER
	VoIP	VOICE OVER INTERNET PROTOCOL
	VPI	VACUUM-PRESSURE IMPREGNATED
	VSD	VARIABLE SPEED DRIVE
W		
	W	WATT
	WAN	WIDE AREA NETWORK
	WAP	WIRELESS ACCESS POINT
	WLAN	WIRELESS LOCAL AREA NETWORK
	WP	WEATHERPROOF
	XFMR	TRANSFORMER

ELECTRICAL SYMBOLS

	WALL MOUNTED DUPLEX CHILDPROOF OUTLETS SHALL BE (PASS & SEYMOUR 'LEGRAND' MODEL #885TRW(15A); #TR26352RW(20A)) TAMPER RESISTANT UL RECEPTACLE OR EQUAL. (H) INDICATES HORIZONTAL MOUNTED; (GFI) INDICATES GROUND FAULT INTERRUPTER.
	WALL MOUNTED CHILDPROOF DEDICATED CIRCUIT DUPLEX OUTLET.
	WALL MOUNTED DEDICATED 2-POLE DRYER OUTLET TO 30A GFI CIRCUIT BREAKER.
	WALL MOUNTED CHILDPROOF QUAD GFI RECEPTACLES, DOUBLE DUPLEX.
	WALL MOUNTED CHILDPROOF QUAD GFI RECEPTACLES, DOUBLE DUPLEX - WITH A DEDICATED MICROWAVE CIRCUIT AND COUNTER TOP GFI RECEPTACLE.
2	WALL MOUNTED TELEPHONE OUTLET. PROVIDE 3/4" CONDUIT FOR CABLE.
	WALL MOUNTED DUPLEX OUTLET AND CAT 5E JACK WITH SURGE PROTECTIVE . PROVIDE 3/4"CONDUIT FOR CABLE.
	DATA OUTLET FOR WIRELESS INTERNET (VERIFY HEIGHT & LOCATION IN THE FIELD).
2	WALL MOUNTED DATA OUTLET. PROVIDE 3/4" CONDUIT FOR CABLE. NUMBER 2 INDICATES DUPLEX DATA.
	WALL MOUNTED COMBO DATA & TELE OUTLET. PROVIDE 3/4" CONDUIT FOR CABLE, 1" IF USED FOR RECEPTION AREA.
CB	WALL MOUNTED CALLBOX. PROVIDE 3/4" CONDUIT FOR VOICE CABLE.
	WALL MOUNTED TRIPLE JACK FOR RJ PLUGS
3	WALL MOUNTED TRIPLE PHONE
	HANDS FREE EMERGENCY PHONES WITH BUILT IN DIGITAL VOICE ANNOUNCER.
	ELECTRICAL PANEL.
	JUNCTION BOX.
T	JUNCTION BOX W/ THERMAL DISCONNECT SWITCH.
	NEW DISCONNECT SWITCH.
	NEW FUSED DISCONNECT SWITCH.
RP-3	HOMERUN TO PANEL "RP" CIRCUIT #3. FOR CIRCUIT BREAKER SIZE & NUMBER OF CONDUCTORS, REFER TO PANELBOARD SCHEDULES IN SHEET E-110.
GPS	GLOBAL PLASMA TUBE. REFER TO MECHANICAL DRAWINGS.
ECH	ELECTRIC CEILING HEATER
RTU	ROOFTOP UNIT
EF	EXHAUST FAN
UH	UNIT HEATER IN THE WARMER CLIMATES; DETERMINED BY THE PROJECT ARCHITECT
FAA	FIRE ALARM ANNUNICATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
BAKP	BURGLAR ALARM KEYPAD
EXF	EXHAUST FAN CONTROL PANEL
FSD/AD	FIRE SMOKE DAMPERS / SMOKE DAMPERS WITH ACCESS DOOR
SD/AD	
	THERMOSTAT WITH BACK BOX & PULL STRING
T-CLK	TIME CLOCK
HWRP	HOT WATER RECIRCULATION PUMP

CHILDCARE FACILITY DEVICES SHALL BE CHILDPROOF, WHITE (PASS & SEYMOUR 'LEGRAND') TAMPER RESISTANT UL RECEPTACLE OR EQUAL.
NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR FINAL LOCATION, MOUNTING HEIGHTS AND FINISHES.

BID PRICE NOTES

1. CONTRACTOR'S BID PRICE SHALL INCLUDE THE COST OF PURCHASING AND INSTALLING ALL INCOMING ELECTRICAL SERVICE EQUIPMENT AS APPROVED BY THE SUPPLYING UTILITY COMPANY.

2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER AND THE ARCHITECT/ENGINEER OF ANY QUESTIONS BETWEEN THE WORK PROPOSED IN THESE DRAWINGS AND THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION (AHJ), AND ELECTRICAL UTILITY COMPANY. IF THE CONTRACTOR DOES NOT MAKE NOTIFICATION OF THESE DIFFERENCES DURING THE BIDDING PROCESS, OWNERSHIP WILL NOT CONSIDER A CHANGE ORDER ASSOCIATED WITH DESIGN CHANGES NEEDED TO MEET THE UTILITY COMPANY REQUIREMENTS.

METER SPECIFICATIONS AND INCOMING ELECTRICAL SERVICE

1. PRIOR TO PURCHASE, INSTALLATION AND CONSTRUCTION, THE ELECTRICAL CONTRACTOR SHALL CONTACT THE LOCAL UTILITY COMPANY AND IDENTIFY AND CONFIRM ALL UTILITY COMPANY METERING AND INCOMING ELECTRICAL SERVICE REQUIREMENTS. THIS SHALL INCLUDE THE TYPE AND CONFIGURATION OF ALL METERS AND RELATED EQUIPMENT, INCLUDING METER SOCKETS, CT CABINETS, MAIN DISCONNECTS, ETC.

2. METERS AND METER SOCKETS SHALL BE APPROVED BY THE UTILITY COMPANY PRIOR TO PURCHASE AND INSTALLATION.

3. CONTRACTOR SHALL GENERATE AND SUBMIT THE PROPOSED INCOMING ELECTRICAL SERVICE EQUIPMENT CONFIGURATION TO THE LOCAL UTILITY COMPANY FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION OF ANY EQUIPMENT.

4. CONTRACTOR SHALL FURNISH THE ARCHITECT/ENGINEER WITH SHOP DRAWINGS (FOR ALL METERING AND INCOMING ELECTRICAL EQUIPMENT) FOR REVIEW AND COMMENTS.

5. ALL METERS AND OTHER EQUIPMENT THAT WILL BE INSTALLED OUTDOORS, SHALL BE TYPE NEMA 3R, AND SHALL COMPLY WITH THE LATEST VERSION OF THE NEC.

ELECTRICAL UTILITY PERFORMANCE NOTES

1. ALL WORK SHALL CONFORM TO SUPPLYING UTILITY REQUIREMENTS FOR NONRESIDENTIAL SERVICE INSTALLATIONS.

2. THE ELECTRICAL SERVICE EQUIPMENT AND ITS INSTALLATION SHALL BE IN ACCORDANCE WITH THE UTILITY COMPANY'S LATEST STANDARDS FOR THE INSTALLATION, THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE [N.E.C.], NATIONAL ELECTRICAL SAFETY CODE [N.E.S.C.], AND ALL APPLICABLE ORDINANCES AND CODES. WHEN DIFFERENCES IN UTILITY SPECIFICATIONS OR STANDARDS OCCUR, OR DIFFERENCES IN GOVERNMENTAL ORDINANCES OR CODES OCCUR, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN THE INSTALLATION.

3. THE CONTRACTOR SHALL SUBMIT DRAWING(S) TO SUPPLYING UTILITY FOR APPROVAL BEFORE ORDERING EQUIPMENT OR STARTING WORK TO INSURE THAT THE PROPOSED DESIGN CONFORMS TO THE UTILITY COMPANY REQUIREMENTS. THE CONTRACTOR MUST FURNISH, FOR REVIEW BY UTILITY COMPANY THE FOLLOWING:

   a. MANUFACTURER'S EQUIPMENT DRAWINGS FOR THE INSTALLATION INCLUDING ELECTRICAL ONE-LINE DIAGRAMS AND CHARACTERISTICS OF PROTECTIVE EQUIPMENT WHEN APPLICABLE, PHYSICAL ARRANGEMENT AND CLEARANCES, AND INSTALLATION DETAILS FOR METERS AND RELATED METERING EQUIPMENT.

   b. A FINAL APPROVED SITE PLAN DRAWING DEPICTING ALL UNDERGROUND UTILITIES, (INCLUDING DRAINS, SEWER, GAS, ELECTRIC LINES, ETC.), ROADS AND REQUESTED SERVICE LOCATION. FABRICATION OF EQUIPMENT OR PROJECT CONSTRUCTION SHOULD NOT PROCEED WITHOUT APPROVALS FROM THE UTILITY COMPANY AND OTHER AGENCIES HAVING JURISDICTION.

   c. A 48 HOUR ADVANCE NOTICE IS REQUIRED FOR SCHEDULING INSPECTIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR INSPECTION BY THE LOCAL AUTHORITY HAVING JURISDICTION. BEFORE THE SERVICE CAN BE ENERGIZED, THE CONTRACTOR SHALL FURNISH A CERTIFICATE OF SATISFACTORY INSPECTION AS EVIDENCE OF THE SAFE CONDITION OF THE WIRING.

   d. PRIOR TO CONSTRUCTION THE ELECTRICAL CONTRACTOR SHALL CONTACT THE SUPPLYING UTILITY COMPANY'S WIRING INSPECTOR, ARRANGE FOR AN INSPECTION, AND IDENTIFY AND CONFIRM ALL THE DETAILS OF THE INSTALLATION.

POWER MISCELLANEOUS NOTES:

CABLING FOR NETWORKING

THE COMPUTER NETWORK SHALL REQUIRE THE FOLLOWING SPECIAL WIRING, SEE REQUIRED PHONE/DATA VENDOR NOTED ON DRAWING T-200. MUST USE REQUIRED VENDOR / NO SUBSTITUTIONS ALLOWED

NETWORK CABLING

1. INSTALL TELEPHONE AND NETWORK CABLING FOR A COMPLETE INSTALLATION. CABLING TO BE PLENUM RATED.

2. CABLE INSTALLATION SHALL INCLUDE ALL CAT-5E AND CAT-3 CABLE AND WALL PLATES. USE RJ11 AND RJ45 CONNECTORS.

3. VOICE AND DATA CABLES TO INCLUDE THE FOLLOWING INSTALLATION:

   A. INSTALL CAT-5E DATA CABLES PER PRINT AT WORK STATIONS INDICATING VOICE AND DATA.
   INSTALL (1) CAT-5 AND (1) 4PR. CAT-3 CABLE TO EACH
   B. USE TRIPLE LEVITON FLUSH MOUNT JACKS WHERE NEEDED.
   C. CUT IN (1) RJ45 AND (2) RJ11C CONNECTORS TO EACH TRIPLE FLUSH MOUNT.
   D. CLEARLY MARK EACH VOICE AND DATA CABLE AT JACK AND PATCH PANEL IN MECHANICAL ROOM.

4. INTERCOM/DOOR CHIMES:
   A. PROVIDE (1) IN EACH PLAY GROUND AND (1) INSTALLED IN FRONT VESTIBULE TO TIE INTO TELEPHONE SYSTEM. ALL THE ABOVE TO BE INSTALLED, PER CUSTOMER PLANS. FRONT VESTIBULE IS TO TIE INTO DOOR STRIKER FOR DOOR RELEASE.

5. ACCESS POINT CABLES:
   PROVIDE (4) CEILING ACCESS POINT CABLES USING CAT-5E CABLE TO AREA'S MARKED ON E-200 FLOOR PLAN AP1-AP4. TERMINATE ON PATCH PANEL IN MECHANICAL ROOM.

6. SMART BOARD CABLES.
   PROVIDE (4) CAT-5E CABLES AS PER E-200 FLOOR PLAN IN CLASSROOMS. TERMINATE ON PATCH PANEL.

NOTE: IF THE CENTER IS TO HAVE TWO ENTRANCES WITH TWO RECEPTION COUNTERS, THIS INSTALLATION SHOULD BE DUPLICATED FOR EACH ENTRANCE.

FAX - PHONE CONNECTION

1. A DEDICATED SINGLE PHONE LINE WILL BE PROVIDED FOR THE FAX MACHINE WHICH SHOULD BE DUPLICATED ON A TRIPLE FLUSH MOUNT JACK (SEE ABOVE) IN OFFICE, BEHIND RECEPTION AREA AND AT COPIER STATION.

RECEPTACLES:

1. RECEPTACLE IN AREAS WHICH ARE ACCESSIBLE TO CHILDREN, INCLUDING THE RECEPTION AREA, SHALL BE TAMPER RESISTANT UL DUPLEX TYPE WITH SPECIAL PROTECTIVE COVERS AS MANUFACTURED BY "PASS & SEYMOUR". CHILD PROOF GFCI RECEPTACLE.

2. CIRCUIT BREAKERS SHALL HAVE A COMMON TRIP ON ALL MULTI-POLE BREAKERS.

3. BUS AND HARDWARE SHALL BE BRACED FOR INTERRUPTING CAPACITY AS SHOWN ON PANELBOARD SCHEDULE. BREAKERS SHALL MATCH AIC RATING OF PANEL AT PANEL VOLTAGE. ALL BUSSING SHALL BE COPPER.

4. PROVIDE EACH PANEL BOARD WITH GREEN CODED GROUND BAR, FOR GREEN EQUIPMENT GROUND WIRES. EACH BAR TO HAVE A MINIMUM CAPACITY FOR THE NUMBER OF POLES IN PANEL, WITH SOLDERLESS. BOX LUGS FOR WIRE SIZE NO. 12 MINIMUM TO NO. 4 MAXIMUM. ONE WIRE PER LUG. LOCATE BAR ADJACENT TO NEUTRAL BAR BOLT OR WELD TO BACK BOX.

5. PROVIDE 120/208 AND 480/277 PANELBOARDS WITH AN ISOLATED NEUTRAL BAR. THERE SHALL BE AS MANY TERMINALS AS THERE ARE CIRCUIT POLES. THE TERMINAL FOR THE FEEDER NEUTRAL SHALL MATCH THE SIZE OF THE FEEDER PHASE TERMINATION(S).

6. ACCEPTABLE MANUFACTURERS SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS WHICH MAY BE INCORPORATED IN THE WORK INCLUDE THE FOLLOWING:
   GENERAL ELECTRIC
   SORGEL ELECTRIC DIV. (SQUARED)
   SIEMENS-ALLIS, INC. (ITE)

OUTLET BOXES

1. GALVANIZED STAMPED STEEL FOR ALL INTERIOR LOCATIONS. MOUNT ALL BOXES SO THAT COVERS AND PLATES WILL MOUNT FLUSH WITH THE WALL AND CEILING FINISH SURFACE. PROVIDE OUTLETS AND COVERS WITH WHITE FINISHES. PROVIDE PLASTER RINGS AS NECESSARY. GOOF RINGS ARE ACCEPTABLE.

2. THE ENGINEER RESERVES THE RIGHT TO MAKE MINOR CHANGES.

3. SUITABLE GALVANIZED BARS, ROD HANGERS OR CADDY CLIPS SHALL BE USED THROUGHOUT THE WORK. WOODEN SUPPORTS, STRIPES, TIE WIRES, OR MAKESHIFT DEVICES SHALL NOT BE USED.

4. BOXES SHALL NOT BE LESS THAN 1 ½" DEEP. IN GENERAL, OUTLET BOXES SHALL BE OF SUFFICIENT DEPTH SO THAT CONDUIT ENTERING WITHIN TILE WALLS NEED NOT BE OFFSET SO THAT TILES HAVE TO BE CHIPPED OR ALTERED. ALL BOXES SHALL BE SET LEVEL AND PLUMB.

5. PROVIDE RAIN TIGHT CAST METAL BOXES WITH THREADED CONDUIT HOLES AND CAST METAL FACE PLATES ,COVERS SHALL MAINTAIN RATING WHILE IN USE.

6. REFER TO THE POWER PLANS FOR ALL FOR RECEPTACLE HEIGHTS, E-200.

ALL SWITCHES, RECEPTACLES AND PLATE MUST BE WHITE HD SMOOTH PLASTIC.

1. WHEN INSTALLED (IN MASONRY WALLS), LOCATE BOTTOM OF BOX AT NEAREST MASONRY JOINT TO DIMENSION INDICATED. WHERE OUTLETS OCCUR ABOVE COUNTERS, OR CABINETS, CORRELATE HEIGHT OF OUTLET WITH EQUIPMENT SO DEVICE WILL CLEAR ALL TRIM.

MAIN CIRCUIT BREAKERS & SWITCH BOARDS

1. WHERE REQUIRED, AS SPECIFIED: MANUFACTURER: GE, ITE, SQUARE D
2. MUST BE APPROVED BY LOCAL UTILITY.

SAFETY SWITCHES:

1. SAFETY SWITCHES, FUSIBLE HEAVY DUTY, GE, ITE OR SQUARE D RATINGS AS SHOWN. MANUFACTURERS: GE, ITE OR SQUARE D

METER CENTER:

1. WHERE REQUIRED, AS SPECIFIED: MANUFACTURER: GE, ITE, SQUARE D
2. MEET MUST BE APPROVED BY LOCAL UTILITY.

WIRING DEVICES:

1. PROVIDE SPECIFICATION GRADE WIRING DEVICES OF 20 AMP RATING MINIMUM. AS REQUIRED ON THE PLANS AND MANUFACTURED BY PASS & SEYMOUR, GE OR HUBBELL. SWITCHES SHALL BE QUIET TYPE.

2. SWITCHES, WHERE REQUIRED, SHALL BE MOUNTED ON THE STRIKE SIDE OF DOORS AS FINALLY HUNG.

3. DEVICES SHALL HAVE SMOOTH WHITE PLATES-FIT & TYPE AS REQUIRED BY DEVICE. OUTLETS WITHOUT DEVICES, EXCEPT TELEPHONE, TO HAVE BLANK WHITE PLATES. FASTEN PLATES IN PLACE BY OVAL, HEAD, SCREWS MATCHING WHITE PLATE.

VOICE/DATA, TELEPHONE, CCTV, SECURITY:

1. SEE SPECIFICATIONS DRAWINGS FOR ADDITIONAL INFORMATION.

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

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ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By:	Approved By:
LN	MBJ

Drawing Name:

ELECTRICAL NOTES, LEGEND, SYMBOLS, & ABBREVIATIONS

Drawing Number:

E-100

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

ELECTRICAL NOTES

A. GENERAL

1. GENERAL NOTES, SYMBOLS LIST AND DETAILS ARE APPLICABLE TO ALL DRAWINGS MARKED "E"

2. PRIOR TO BEGINNING ANY WORK, SECURE NECESSARY PERMITS OR CLEARANCES FROM THE AUTHORITIES HAVING JURISDICTION. PROVIDE ALL LABOR AND MATERIALS FOR A COMPLETE INSTALLATION. WORK SHALL BE EXECUTED BY EXPERIENCED WORKMAN WHO ARE LICENSED IN THE JURISDICTION WHERE THE PROJECT IS LOCATED.

3. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC, SIZES AND LOCATION OF EQUIPMENT AND WIRING ARE SHOWN TO SCALE WHERE POSSIBLE, BUT MAY BE DISTORTED FOR CLARITY ON THE DRAWINGS. FINAL LOCATION OF OUTLETS AND EQUIPMENT SHALL BE AS APPROVED BY THE ARCHITECT OR HIS REPRESENTATIVE. IT IS NOT WITHIN THE SCOPE OF DRAWINGS TO SHOW ALL NECESSARY BENDS, OFFSETS, PULL BOXES AND OBSTRUCTIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL HIS WORK TO CONFORM TO THE STRUCTURE, PRESERVE HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAN.

4. CONTRACTOR SHALL INCLUDE THE COST OF ALL SMALL DETAILS, INCIDENTAL WORK, AND ACCESSORIES NOT SHOWN OR SPECIFIED, BUT WHICH CAN BE REASONABLY INFERRED FOR COMPLETE AND SATISFACTORY CODE COMPLIANT SYSTEM. PROVIDE OFFSETS, FITTINGS AND SIMILAR ITEMS NECESSARY TO ACCOMPLISH REQUIREMENTS OF COORDINATION WITHOUT ADDITIONAL EXPENSE.

5. BASE ELECTRICAL BID SHALL INCLUDE ALL CABLE MANAGEMENT HARDWARE AS SPECIFIED AND REQUIRED BY CODE.

6. THE ELECTRICAL CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND STANDARDS INCLUDING THE FOLLOWING:

   a) UNDERWRITERS LABORATORIES, INC. (UL)
   b) BUILDING CODE - NATIONAL
   c) ELECTRICAL CODE WITH LOCAL AMENDMENTS
   d) LOCAL ENERGY CONSERVATION CONSTRUCTION CODE
   e) AMERICAN DISABILITIES ACT (ADA)
   f) ALL FEDERAL AND LOCAL JURISDICTION DIRECTIVES AND REQUIREMENTS OF NFPA 70

7. THE TERM "WIRING" AS USED HEREIN SHALL INCLUDE FURNISHING AND INSTALLING CONDUIT, WIRES, JUNCTION/OUTLET BOXES, DISCONNECTS, OVERCURRENT PROTECTION AND FINAL CONNECTIONS. COORDINATE FINAL CONDUCTOR SIZES, QUANTITIES, VOLTAGE REQUIREMENTS, AND OVERCURRENT DEVICE AND OUTLET RATINGS WITH ACTUAL EQUIPMENT TO BE FURNISHED TO THE SITE PRIOR TO FINALIZING WIRING INSTALLATION. MINOR ADJUSTMENTS TO WIRING TO ACCOMMODATE ACTUAL FURNISHED EQUIPMENT SHALL BE PROVIDED AND INSTALLED AT NO ADDITIONAL COST.

8. ALL WORK INSTALLED BY THIS CONTRACTOR SHALL BE INSTALLED IN SUCH A MANNER AS TO CLEAR ALL LIGHT FIXTURES, CEILING CONSTRUCTION, SPRINKLER PIPES AND HEADS, DUCTWORK CONDUITS, CABLES WIRING ETC.

9. INSTALLATION OF ELECTRICAL CONDUIT, EQUIPMENT AND DEVICES SHALL BE FULLY COORDINATED WITH STRUCTURAL, ARCHITECTURAL, ELECTRICAL, FIRE PROTECTION, FIRE ALARM, LOW VOLTAGE, CIVIL AND HVAC DRAWINGS TO AVOID CONFLICT.

10. CONTRACTOR SHALL COORDINATE ALL NEW WORK WITH NEW WORK OF OTHER TRADES AND EXISTING CONDITIONS AND PARTICIPATE IN THE PREPARATION OF COORDINATED SHOP DRAWINGS, IN ORDER TO AVOID CONFLICTS OF ANY TYPE.

11. COORDINATE ROOF PENETRATIONS WITH WORK OF OTHER SECTIONS AND WITH FLASHING REQUIREMENTS.

12. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL FINAL CONNECTIONS.

13. ALL OUTLETS SHALL BE OF ADEQUATE RATING AND TYPE FOR THE PARTICULAR LOCATION AND SERVICE INTENDED.

14. OUTLET BOXES IN THE DRYWALL PARTITION OR COLUMN SHALL BE 4" SQUARE AND NOT LESS THAN 1-1/2" DEEP, GALVANIZED SHEET STEEL WITH PLASTIC COVERS.

15. NUMBERS AT DEVICES CORRESPOND TO PANELBOARD CIRCUIT BREAKERS (SEE PANELBOARD SCHEDULE). BRANCH CIRCUITS SHALL BE SIZED ACCORDING TO THE CIRCUIT BREAKER RATING AND VOLTAGE DROP REQUIREMENTS, UNLESS INDICATED OTHERWISE ON THE ELECTRICAL EQUIPMENT SCHEDULE.

16. CIRCUIT NUMBERS NOTED ON PLANS ARE INTENDED AS A GUIDE. FINAL NUMBERING SYSTEM TO BE NOTED ON AS-BUILT DRAWINGS AND ON TYPED PANELBOARD DIRECTORY CARDS.

17. CIRCUIT BREAKERS SHALL NOT BE LOADED MORE THAN 80% OF THEIR RATED AMPERE CAPACITY.

18. PROVIDE AND INSTALL ALL AUXILIARY STEEL MEMBERS FOR THE SUPPORT OF ELECTRICAL WORK TO THE BUILDING STRUCTURE. SECURE ALL SUPPORTS TO BUILDING STRUCTURE.

19. PROVIDE AND INSTALL ALL SUPPORT HANGERS AND MISCELLANEOUS METALS SUCH AS GALVANIZED IRON PIPE STANCHIONS, RACKS, FITTINGS, ETC. FOR PROPER INSTALLATION OF WORK. ALL MISCELLANEOUS RACKS AND FITTINGS SHALL BE GALVANIZED AND SHALL BE EITHER KINDORF CHANNEL, POWER STRUT OR UNISTRUT, UNLESS OTHERWISE NOTED.

20. ALL ITEMS INSTALLED IN HVAC PLENUM SPACES SHALL MEET CODE REQUIREMENTS FOR SMOKE AND FIRE RATING.

21. ALL ELECTRICAL SERVICES GOING INTO THE BUILDING AND LEAVING THE BUILDING SHALL BE CONNECTED TO THE SITE UTILITIES, COORDINATED WITH SITE UTILITY'S COMPANY AND CIVIL DRAWINGS. COORDINATE ALL EXTERIOR UNDERGROUND WORK WITH THE SITE UTILITIES BEFORE COMMENCING WORK. COORDINATE ALL UNDERGROUND CONDUIT WITH FOUNDATION DRAWINGS.

22. PROVIDE AND INSTALL ALL LUGS, BUS BAR EXTENSIONS, ENCLOSURE MODIFICATIONS ETC. TO MAKE ALL CONNECTIONS (BUS TAPS, FEEDER TAPS, ETC.).

23. BOLT ON TYPE LUGS SHALL BE FASTENED WITH TWO BOLTS MINIMUM.

24. INTERCONNECT DEVICES/FIXTURES WITH SAME CIRCUIT NUMBER WITH APPROPRIATELY SIZED WIRE AND CONDUIT AND ENERGIZE FROM CIRCUIT IN ASSOCIATED PANEL.

25. CONTRACTOR SHALL PROVIDE AND INSTALL TROUGHS, PULL AND JUNCTION BOXES WHERE SHOWN ON DRAWINGS AND ANY ADDITIONAL BOXES, TO FACILITATE PULLING WIRE AND CABLE OR TO PREVENT DAMAGE TO INSULATION OF WIRING.

26. LOCATE TROUGHS, JUNCTION AND PULL BOXES TO BE ACCESSIBLE AND CONCEALED IN FINISH SPACES. WHERE NECESSARY, REROUTE RACEWAYS OR MAKE OTHER ARRANGEMENTS FOR CONCEALMENT. PROVIDE AND INSTALL PULL BOXES WHERE NECESSARY FOR WIRE PULLING. COORDINATE ALL BOX LOCATIONS WITH OTHER TRADES. COVERS OF TROUGHS, JUNCTION AND PULL BOXES SHALL BE ACCESSIBLE.

27. PROVIDE ACCESS PANELS IN ALL INACCESSIBLE JUNCTION BOX LOCATIONS AS PER THE NEC.

28. ALL BACK BOXES INSTALLED ON OPPOSITE SIDES OF THE SAME PARTITION SHALL BE STAGGERED. DO NOT MOUNT THE BACK BOXES BACK TO BACK.

29. IN COMMON PULL BOXES, PROVIDE METAL PARTITIONS TO SEPARATE THE FOLLOWING WIRE TYPES FROM EACH OTHER:

   a) POWER
   b) CONTROL AND INDICATING
   c) COMMUNICATION

30. PROVIDE AND INSTALL BLANK COVER PLATES OVER ALL UNUSED OPENINGS IN PANELBOARDS, PULL AND JUNCTION BOXES AND TROUGHS.

31. RATING OF DISCONNECT SWITCHES TO MATCH OVERCURRENT PROTECTIVE DEVICE UNLESS OTHERWISE NOTED.

32. PROVIDE AND INSTALL ALL NECESSARY TEMPORARY AND INTERIM ELECTRICAL POWER WORK (PANELS, DISCONNECT SWITCHES, WIRE, CONDUITS, BREAKERS, CONNECTIONS, FUSES, GENERATORS, FUEL, ETC.) REQUIRED TO INSTALL THE PERMANENT WORK FOR ALL TRADES.

33. CONTRACTOR SHALL PROVIDE AND INSTALL THE SOURCE OF POWER, METERS, INSTRUMENTS, TEMPORARY WIRING AND LABOR, FOR PERMANENT POWER.

34. UPON COMPLETION OF ALL ELECTRICAL WORK, ELECTRICAL CONTRACTOR SHALL ADJUST AND TEST ALL CIRCUITS, OUTLETS, SWITCHES, LIGHTS, MOTORS AND ANY OTHER ELECTRICAL ITEMS INSTALLED. ANY DEFECTIVE ITEMS SHALL BE IMMEDIATELY REPAIRED OR REPLACED WITH NEW EQUIPMENT OR MATERIALS AND THAT PORTION OF THE SYSTEM SHALL BE RETESTED. ALL SUCH REMEDIAL WORK SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER. SHOW, BY DEMONSTRATION IN SERVICE, THAT ALL CIRCUITS AND DEVICES ARE IN GOOD OPERATING CONDITION. EACH PIECE OF EQUIPMENT AND COMPONENT OF THE ELECTRICAL SYSTEM SHALL FUNCTION NOT LESS THAN FIVE TIMES IN COURSE OF THE ACCEPTANCE TESTS.

35. UPON COMPLETION OF ALL ELECTRICAL WORK, ELECTRICAL CONTRACTOR SHALL BALANCE ALL PANELBOARDS AFFECTED TO WITHIN 10% DEVIATION BETWEEN PHASES. CONTRACTOR TO BALANCE THE NEW LOADS ON ALL THREE PHASES FOR EACH PANELBOARD WHERE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S SPECIFICATIONS.

36. AFTER COMPLETION OF WORK, CLEAN UP ALL RESULTANT DEBRIS AND REMOVE FROM THE SITE.

37. THE OPERATION OF ELECTRICAL SYSTEM DOES NOT CONSTITUTE AN ACCEPTANCE OF WORK BY THE OWNER. FINAL ACCEPTANCE IS TO BE MADE AFTER THE CONTRACTOR HAS DEMONSTRATED THAT THE WORK FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL REQUIRED CERTIFICATES OF APPROVAL FROM THE STATE AUTHORITIES, MUNICIPAL AUTHORITIES AND INSURANCE UNDERWRITERS.

38. ALL PANELS, SWITCHBOARDS, SWITCHGEAR AND DISCONNECT SWITCH BUSSES SHALL BE COPPER. ALL WIRING AND TRANSFORMER WINDINGS SHALL BE COPPER. ALUMINUM BUSSES AND WIRING ARE NOT PERMITTED.

39. ALL ELECTRICAL BOXES TO BE 4"X4".

40. ALL MOTOR LOADS ARE TO BE PROVIDED WITH HMCP TYPE BREAKERS.

B. MISCELLANEOUS LOW VOLTAGE SYSTEMS

1. THE CONTRACTOR IS RESPONSIBLE, FOR FURNISHING AND INSTALLING EMPTY CONDUITS, PLASTIC BUSHINGS RACEWAYS, BACK BOXES, PULL STRING (DRAG LINE), ETC. FOR VARIOUS LOW VOLTAGE SYSTEMS SUCH AS:

   a) TELECOMMUNICATION
   b) CABLE TV
   c) SECURITY
   d) AUDIO/VISUAL
   e) OTHER SYSTEMS AS NOTED.

2. SPECIFIC REQUIREMENTS OF EACH SYSTEM SHALL BE AS OUTLINED IN RELEVANT LOW VOLTAGE SYSTEM CONTRACT DOCUMENTS. COORDINATE WITH TENANT AND SYSTEMS VENDORS FOR REQUIREMENTS.

3. ALL THE ABOVE SYSTEMS CENTRAL EQUIPMENT, DEVICES AND VARIOUS COMPONENTS, WIRING AND CONNECTIONS ARE FURNISHED AND INSTALLED SEPARATE FROM ELECTRICAL WORK.

4. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL POWER CIRCUITRY FOR LOW VOLTAGE SYSTEMS, CENTRAL EQUIPMENT AND DEVICES. FINAL LOCATIONS AND POWER REQUIREMENTS FOR THESE ITEMS SHALL BE COORDINATED WITH RESPECTIVE CONSULTANTS.

5. FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL POWER AND VOICE/DATA OUTLETS AND JUNCTION BOXES, SEE ARCHITECTURAL DRAWINGS.

6. PROVIDE 3/4" EMPTY CONDUIT AND PULL STRING TERMINATED 6" ABOVE SUSPENDED CEILING

C. POWER NOTES

1. GENERAL

a. SERVICE ENTRANCE CONDUCTORS MORE THAN THREE FEET (3') IN LENGTH, REQUIRE A DISCONNECT TO BE PROVIDED AND INSTALLED AT THE OUTSIDE OF THE STRUCTURE AND NEXT TO THE ELECTRICAL METER.

b. DO NOT PENETRATE WALL FOOTINGS WITH CONDUIT. COORDINATE TO DROP FOOTINGS TO CLEAR SERVICES WHERE ABSOLUTELY NECESSARY.

c. PIPE SLEEVES SHALL BE PROVIDED AND INSTALLED WHERE CONDUITS ARE ROUTED THROUGH FOUNDATION WALLS. PIPE SLEEVES SHALL BE GROUTED IN WALLS. SEALANT SHALL BE APPLIED AROUND THE CONDUIT IN THE SLEEVE IN ORDER TO PREVENT INGRESS OF MOISTURE. THE WALL PENETRATION SHALL BE COMPLETELY WATERPROOFED.

d. ALL CONDUIT PENETRATING A BEARING WALL OR FOOTING MUST BE SLEEVED AND LOCATION APPROVED BY STRUCTURAL ENGINEER

e. PULL BOXES TO BE COORDINATED WITH ARCHITECT'S AND FURNITURE VENDOR.

f. ALL BRANCH WIRING SHALL BE RUN CONCEALED IN WALLS AND ABOVE HUNG CEILING.

g. PROVIDE AND INSTALL ALL GROUNDING. ELECTRICAL SYSTEMS SHALL BE GROUNDED PER ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE. ALL GROUND WIRE SHALL BE ENCLOSED IN CONDUIT

h. CIRCUITS ARE DESIGNATED BY THE NUMBER SHOWN ADJACENT TO EACH RECEPTACLE, JUNCTION BOX OR OTHER ELECTRICAL DEVICE. PROVIDE CONDUITS, WIRES, METAL-CLAD CABLE, AND BOXES TO ENERGIZE THE EQUIPMENT AS SHOWN.

i. VERIFY MILLWORK POWER REQUIREMENTS WITH MILLWORK CONTRACTOR PRIOR TO INSTALLATION. ALL COVER PLATE COVERS TO MATCH WALL COLOR AND/SHALL COORDINATE WITH ARCHITECTURAL DRAWINGS

j. CIRCUIT BREAKER SHALL NOT BE LOADED MORE THAN 80% OF THEIR RATED AMPERE CAPACITY.

k. ALL CIRCUITING SHALL ORIGINATE FROM A PANEL LOCATED ON THE SAME FLOOR AS THE WIRED DEVICE UNLESS OTHERWISE NOTED

l. RECEPTACLES SHALL PROVIDE CONTINUOUS UN-SWITCHED POWER UNLESS OTHERWISE NOTED. 24 HOURS PER DAY 7 DAYS PER WEEK.

m. RECEPTACLES SHALL NOT BE RATED LESS THAN 20 AMPS.

n. PROVIDE AND INSTALL GFI TYPE PROTECTION FOR ANY DEVICE WITHIN 6' OF WATER OR LIQUIDS.

o. RECEPTACLES THAT FEED APPLIANCES SUCH AS REFRIGERATORS, DISHWASHERS, OVENS, ETC. SHALL BE LOCATED BEHIND THE APPLIANCE. UNDER-CABINET MICROWAVES SHALL HAVE THE RECEPTACLE MOUNTED IN THE CABINET ABOVE THE APPLIANCES.

p. COORDINATE LOCATION OF ALL CEILING RECEPTACLES WITH OTHER TRADES (I.E. DUCTWORK, SPRINKLERS, ETC.).

q. RECEPTACLES AND LIGHTING NEUTRALS ARE PERMITTED TO BE SHARED FOR MAXIMUM OF THREE (3) CIRCUITS. ALL OTHER NEUTRALS SHALL BE DEDICATED.

2. CONDUCTORS

a. WIRING SHALL CONSIST OF INSULATED CONDUCTORS INSTALLED IN RIGID-STEEL CONDUIT (RGS), ELECTRICAL METALLIC TUBING (EMT), AND INTERMEDIATE METAL CONDUIT (IMC). RACEWAY SYSTEMS SHALL BE INSTALLED AS INDICATED ON DRAWINGS. CONDUCTOR SIZES SHOWN ARE BASED ON CONDUCTOR INSULATION TYPES.

b. TYPE MC CABLE MAY BE USED IN LIEU OF EMT FOR BRANCH CIRCUITS, IN DRYWALL PARTITION AND IN CEILING PLENUM WHERE IS ALLOWED BY NEC AND THE BUILDING OWNER. (MC CABLE FOR ISOLATED CIRCUIT SHALL HAVE TWO (2) SEPARATE GROUNDING CONDUCTORS).

c. ALL CONDUCTORS SHALL BE COPPER

d. WIRING TO AND FROM AN ITEM SHALL BE SIZED THE SAME UNLESS OTHERWISE REQUIRED BY NEC

e. ALL WIRING USED IN RETURN HVAC RETURN AIR PLENUM SHALL BE PLENUM RATED.

f. QUANTITY AND SIZE OF WIRE (CABLE) AND SIZE OF CONDUIT SHALL BE AS REQUIRED BY CODE IF NOT SPECIFICALLY INDICATED, NOTED SIZES ARE FOR REFERENCE AND ARE MINIMUMS. INCREASE WIRE SIZE FOR VOLTAGE DROP. MINIMUM CONDUIT SIZE SHALL BE (3/4") UNLESS NOTED OTHERWISE.

g. CONDUCTORS MINIMUM SIZE SHALL BE #12 AWG. CONDUCTOR #10 AWG AND SMALLER SHALL BE SOLID. CONDUCTORS #8 AWG AND LARGER SHALL BE STRANDED. CONDUCTOR SHALL HAVE THHN/THWN INSULATION OR AS NOTED.

h. MINIMUM CONDUCTOR SIZE, UNLESS OTHERWISE NOTED, SHALL BE #12 AWG FOR ALL BRANCH CIRCUIT RUNS UP TO THE FIRST OUTLET; OVER 100 FEET, #10 AWG; OVER 150 FEET, #8 AWG; CONTRACTOR SHALL INCREASE CONDUIT SIZE TO SUIT, QUANTITY AND SIZE OF CONDUCTORS PER NEC.

i. NUMBER OF WIRES MAY NOT BE INDICATED FOR ALL CIRCUITS, ONLY THOSE WHERE CLARIFICATION IS NECESSARY. FURNISH AND INSTALL ALL WIRE NECESSARY FOR THE PROPER FUNCTION OF THE SYSTEM WHETHER INDICATED ON PLAN OR NOT.

j. CONTRACTOR SHALL COLOR CODE THE CONDUCTORS OF EACH PHASE AS FOLLOWS: 120-208 VOLT; A - BLACK, B- RED, C - BLUE. 277-480 VOLT; A - BROWN, B- ORANGE, C - YELLOW. NEUTRAL CONDUCTORS - 120/208 WHITE, 480/277V GRAY, GROUND WIRES SHALL BE BARE COPPER OR CODED GREEN IF INSULATED.

k. CURRENT CARRYING NEUTRALS SHALL HAVE INSULATION RATED FOR 600V.

3. CONDUIT

a. RUN EXPOSED CONDUIT PARALLEL TO OR AT RIGHT ANGLES TO WALLS.

b. ALL EXPOSED CONDUITS SHALL BE RUN AT OR CLOSE TO CEILING LEVEL UNLESS OTHERWISE NOTED.

c. DO NOT PENETRATE WALL FOOTINGS WITH CONDUIT. COORDINATE TO DROP FOOTINGS TO CLEAR PLUMBING SERVICES WHERE ABSOLUTELY NECESSARY.

d. PIPE SLEEVES SHALL BE PROVIDED AND INSTALLED WHERE CONDUITS ARE ROUTED THROUGH FOUNDATION WALLS. PIPE SLEEVES SHALL BE GROUTED IN WALLS. SEALANT SHALL BE APPLIED AROUND THE CONDUIT IN THE SLEEVE IN ORDER TO PREVENT INGRESS OF MOISTURE. THE WALL PENETRATION SHALL BE COMPLETELY WATERPROOFED.

e. ALL CONDUIT PENETRATING A BEARING WALL OR FOOTING MUST BE SLEEVED AND LOCATION APPROVED BY STRUCTURAL ENGINEER

f. ALL WIRING TO BE IN CONDUIT/EMT AND ALL CONDUIT TO BE SUPPORTED BY STANDOFF CONNECTED TO STRUCTURAL ELEMENTS, INDEPENDENT OF CEILING SUPPORTS, PIPES AND OTHER ITEMS.

4. RACEWAYS

a. ALL CONDUCTORS OPERATING AT 50 VOLTS OR GREATER SHALL BE IN RACEWAY.

b. ALL RACEWAY WITHIN THE STRUCTURE ABOVE THE FLOOR SLAB SHALL BE METAL. RACEWAY BELOW THE FLOOR SLAB AND UNDERGROUND RACEWAY OUTSIDE THE STRUCTURE SHALL BE PVC

c. PVC RACEWAYS SHALL BE DIRECT BURIAL OR CONCRETE ENCASED TYPE AB SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM F512 AND NEMA TC 6/ 8 JOINED WITH SOLVENT-WELD

d. A MINIMUM OF 18" OF COVER IS REQUIRED ABOVE BURIED RACEWAYS

e. UNDER SLAB PVC RACEWAYS SHALL BE LAID ON A FIRM BED THROUGHOUT ITS ENTIRE LENGTH.

f. PRIOR TO BACKFILL PVC CONDUIT SHALL BE WEIGHTED DOWN WITH CONCRETE BLOCKS TO PREVENT FLOTATION

g. TRENCHES SHALL REMAIN OPEN FOR INSPECTION

h. TRENCHES SHALL BE BACKFILLED AND COMPACTED IN 4" LIFTS TO 12" ABOVE THE TOP OF THE PVC RACEWAY WITH CLEAN SOIL OR SAND WHICH SHALL NOT CONTAIN STONES, BOULDERS, CONSTRUCTION DEBRIS OR MATERIALS THAT WOULD BREAK OR DAMAGE PIPING OR CAUSE CORROSIVE ACTION, UNLESS OTHERWISE NOTED.

i. ALL WIRING SHALL BE RUN IN ELECTRICAL RACEWAY PER APPLICABLE CODES. COMBINING OF CIRCUITS WITHIN A SINGLE RACEWAY IS PERMITTED, WITH A MAXIMUM OF SIX (6) CURRENT CARRYING CONDUCTORS PER HOMERUN.

j. RACEWAY ROUTING SHOWN IS DIAGRAMMATIC AND INDICATES GENERAL INTENT, ACTUAL ROUTING MUST BE COORDINATED WITH FIELD CONDITIONS AND ADJUSTED CONTRACTOR TO PROVIDE ALL OFFSETS AT NO ADDITIONAL COST.

k. UNLESS OTHERWISE INDICATED ALL RACEWAYS SHALL BE INSTALLED CONCEALED IN FINISHED AREAS.

l. RUN EXPOSED RACEWAYS PARALLEL TO OR AT RIGHT ANGLES TO WALLS.

m. FURNISH FISH/PULL WIRE IN EACH RACEWAY RUN IN WHICH WIRING IS NOT INSTALLED.

5. EQUIPMENT

a. REFER TO MECHANICAL DRAWINGS FOR EXACT QUANTITIES AND LOCATIONS OF VAV BOXES, CONTROL VOLUME BOXES, DAMPERS, FIRE SMOKE DAMPERS, ETC. COORDINATE EXACT CONNECTION POINTS WITH HVAC CONTRACTOR.

b. REFER TO PLUMBING AND ARCHITECTURAL DRAWINGS FOR EXACT QUANTITIES AND LOCATIONS OF ELECTRONIC FAUCETS, HAND DYERS ETC.

c. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT QUANTITIES AND LOCATIONS OF ELECTRONIC DOOR HARDWARE.

d. SEE ARCHITECTURAL MECHANICAL AND PLUMBING CONTRACT DOCUMENTS FOR EXACT QUANTITY, LOCATION AND ELECTRICAL CHARACTERISTICS OF EQUIPMENT.

e. ALL ELECTRICAL EQUIPMENT SHALL BE "UL LISTED AND APPROVED".

f. INSTALLATION OF EQUIPMENT, COMPONENTS AND WIRING FOR ELECTRICAL SYSTEMS SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF EQUIPMENT MANUFACTURER

g. INSTALL AND CONNECT EVERY STARTER AND VARIABLE FREQUENCY DRIVE FURNISHED BY OTHER TRADES/VENDORS ON THIS PROJECT.

h. FURNISH AND INSTALL WIRING FOR EQUIPMENT FURNISHED BY OTHERS, AS SHOWN ON ARCHITECTURAL, HVAC, PLUMBING, FIRE ALARM, LOW VOLTAGE, CIVIL AND/OR ELECTRICAL DRAWINGS. COORDINATE WITH OTHER TRADES FOR DETAILS OF INSTALLATION AND WIRING REQUIREMENTS.

i. VERIFY LOCATIONS AND QUANTITY OF ALL ELECTRICAL EQUIPMENT WITH ARCHITECTURAL DRAWINGS ELEVATIONS OR INTERIOR DETAILS. IN CENTERING OUTLETS AND LOCATING BOXES OR OUTLETS, ALLOW FOR OVERHEAD PIPES, DUCTS, MECHANICAL EQUIPMENT, VARIATIONS IN FIREPROOFING AND PLASTERING, WINDOW AND DOOR TRIM, PANELING, HUNG CEILING, ETC., AND CORRECT ANY INACCURACY RESULTING FROM FAILURE TO DO SO WITHOUT ADDITIONAL EXPENSE.

j. MINIMUM REQUIREMENT FOR EQUIPMENT GROUNDING SHALL BE GOVERNED BY THE NEC. ALL GROUNDS, BONDING, ETC. SHALL MEET THESE REQUIREMENTS. THE CONTRACTOR SHALL PROVIDE AND INSTALL ANY AND ALL ITEMS TO MEET THESE REQUIREMENTS AT NO ADDITIONAL COST.

k. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONNECTION TO EQUIPMENT TERMINALS, IF NOT AN INTEGRAL PART OF THE EQUIPMENT, AND SPLICES SHALL BE BY MEANS OF APPROVED COMPRESSION TYPE COPPER CONNECTORS.

l. WHEREVER A CIRCUIT OR HOMERUN IS NOTED (I.E. AT EACH LOCATION WHERE A JUNCTION/PULL BOX WITH A HOMERUN NOTATION IS INDICATED FOR AN ITEM OF EQUIPMENT, AT EACH LOCATION WHERE A DISCONNECT SWITCH FOR A MOTOR IS INDICATED WITH THE FEEDER SIZING PER SCHEDULE, ETC.) CONNECT THE ITEM WITH THE REQUIRED CONDUIT AND WIRE FROM SOURCE TO LOAD.

m. EXCEPT WHERE SPECIFICALLY INDICATED, ALL EXPOSED NON-CURRENT CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, METALLIC RACEWAY SYSTEMS, GROUND BUS, METALLIC CABLE ARMOR, AND NEUTRAL CONDUCTOR OF THE SERVICE ENTRANCE SYSTEM SHALL BE BONDED TO GROUND. THE GROUND CONNECTION SHALL BE PERMANENTLY AND CONTINUOUSLY BONDED TO THE NON-CURRENT CARRYING PARTS OF THE ELECTRICAL SYSTEM.

n. PROVIDE DISCONNECT SWITCHES FOR ALL EQUIPMENT

o. CIRCUIT NUMBERS AT EQUIPMENT CORRESPOND TO PANELBOARD BREAKERS (SEE PANELBOARD SCHEDULE). BRANCH CIRCUITS SHALL BE SIZED ACCORDING TO THE CIRCUIT BREAKER RATING AND VOLTAGE DROP REQUIREMENTS, UNLESS INDICATED OTHERWISE ON THE ELECTRICAL EQUIPMENT SCHEDULE.

p. CONTRACTOR SHALL PERFORM TEST AND ADJUSTMENTS OF EQUIPMENT AND WIRING INSTALLED AND OR CONNECTED INCLUDING ELECTRICAL FURNISHED BY OTHERS TO DETERMINE PROPER PHASING, POLARITY, FREEDOM FROM GROUNDS AND OPERATION OF EQUIPMENT

q. PROVIDE ACCESS TO AND CLEARANCES AROUND EQUIPMENT IN ACCORDANCE WITH THE NEC.

r. ELECTRICAL CONNECTIONS TO ALL VIBRATION-ISOLATED EQUIPMENT INCLUDING PUMPS, FANS SHOULD BE MADE WITH FLEXIBLE CONDUIT, NOT LESS THAN 2' IN LENGTH AND INSTALLED IN A COMPLETE 360' LOOP.

s. THE CONTRACTOR SHALL VERIFY ALL ROUGH-IN REQUIREMENTS FOR ELECTRICALLY OPERATED EQUIPMENT WITH THE EQUIPMENT SUPPLIERS.

6. IDENTIFICATION

a. THE CONTRACTOR SHALL LABEL EACH AND EVERY PANELBOARD, SWITCH, RECEPTACLE OUTLET, JUNCTION BOX INSTALLED OR WIRED UNDER THIS CONTRACT. LABEL ALL RECEPTACLES, JUNCTION BOXES, LIGHTS, SWITCHES, OUTLETS WITH CIRCUIT NUMBERS AND PANEL DESIGNATION.

b. ALL EQUIPMENT SUCH AS RELAYS, MOTOR STARTER DISCONNECT SWITCHES, PANELBOARDS, CONTROLLER, CONTROL DEVICE AND OTHER APPURTENANCES SHALL HAVE IDENTIFICATION PLATES OF BLACK LAMINATED PLASTIC WITH 1/2" ENGRAVED WHITE LETTERS.

c. PROVIDE AND INSTALL TYPEWRITTEN PANEL SCHEDULES FOR EACH PANELBOARD. INDICATING THE FINAL ROOM NUMBER AND THE EQUIPMENT OR DEVICES SERVED BY THE CIRCUIT.

d. THE CONTRACTOR SHALL LABEL WITH BLACK PERMANENT MARKER EACH RECEPTACLE, JUNCTION BOX, PULL BOX AND LIGHT SWITCH ON THE INSIDE OF EACH FACE PLATE WITH PANEL AND CIRCUIT NUMBER DESIGNATION. JUNCTION AND PULL BOXES IN UNFINISHED SPACE SHALL BE MARKED ON COVER PLATES

e. THE CONTRACTOR SHALL LABEL ALL CONDUITS AND ARMORED CABLE PER ANSI A13.1. LABELS SHALL CONTAIN VOLTAGE, CIRCUIT NUMBER, SOURCE LOCATION (PANEL NUMBER). LABEL SHALL BE WHITE WITH BLACK PRINTED LETTERING. LABELS SHALL BE INSTALLED AT BOTH ENDS OF A CONDUIT OR CABLE AND JUNCTION BOX.

f. CONTROL WIRING SHALL BE TAGGED AT EACH END AND TERMINATED WHERE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH EQUIPMENT MANUFACTURES SPECIFICATIONS.

7. LIGHTING NOTES:

a. SEE ARCHITECTURAL DRAWINGS AND APPROVED SUBMITTALS AND SHOP'S DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL LIGHTING FIXTURES, SWITCHES, JUNCTION BOXES AND FOR LIGHTING FIXTURE SCHEDULE. LIGHTING FIXTURE CUTS SHALL BE APPROVED BY ARCHITECT PRIOR TO INSTALLATION.

b. REFER TO ARCHITECTURAL DRAWINGS, ELEVATIONS, AND DETAILS FOR FIXTURE SCHEDULES, SYMBOL LIST, AND EXACT FIXTURE LOCATION QUANTITY, AND MOUNTING HEIGHTS. ALL RECEPTACLES LOCATIONS SHALL BE IN ACCORDANCE WITH ARCHITECTURAL DRAWINGS.

c. ALL LIGHTING FIXTURES SHALL BE AS SPECIFIED BY THE ARCHITECT. FOR EXACT LIGHTING FIXTURES LOCATIONS AND LIGHT FIXTURES SCHEDULE REFER TO ARCHITECTURAL DOCUMENTATION.

d. ALL LIGHTING FIXTURES MOUNTED IN A SUSPENDED CEILING SHALL BE INDIVIDUALLY SUPPORTED FROM THE BUILDING'S STRUCTURE ABOVE, UNLESS NOTED OTHERWISE. SEISMIC RESTRAINT SHALL BE PROVIDED AND INSTALLED FOR LIGHTING FIXTURE. COORDINATE WITH AUTHORITIES HAVING JURISDICTION.

e. SUSPENDED LIGHTING FIXTURES SHALL BE INDIVIDUALLY SUPPORTED FROM THE BUILDING'S STRUCTURE ABOVE, UNLESS NOTED OTHERWISE. SEISMIC RESTRAINT SHALL BE PROVIDED AND INSTALLED FOR LIGHTING FIXTURE. COORDINATE WITH AUTHORITIES HAVING JURISDICTION.

f. THE ELECTRICAL CONTRACTOR SHALL INSTALL ALL NEW LIGHTING FIXTURES COMPLETE WITH MOUNTING ACCESSORIES TO MEET JOB CONDITIONS.

g. CIRCUITS ARE DESIGNATED BY THE NUMBER SHOWN ADJACENT TO EACH LIGHTING FIXTURE OR JUNCTION BOX. WIRING IS SHOWN ONLY UNDER SPECIAL CIRCUMSTANCES. PROVIDE ALL CONDUIT, WIRE AND BOXES AS WELL AS CEILING OUTLETS AND WHIPS REQUIRED TO ENERGIZE LIGHTING FIXTURES AS SHOWN.

h. CIRCUIT NUMBERS ARE FOR GROUPING PURPOSES AND REFERENCE ONLY.

i. PROVIDE AND INSTALL NEW LIGHTING IN ACCORDANCE WITH CIRCUIT DESIGNATIONS AND LIGHTING CONTROL LEVEL (SEE NOTE FOR LOADING REQUIREMENTS).

j. WIRING FOR LIGHTING BRANCH CIRCUIT HOMERUNS SHALL BE:

   a) #12 WIRE IF THE LENGTH DOESN'T EXCEED 80 FT;
   b) #10 WIRE IF MORE THAN 80 FT.

k. ALL LIGHT FIXTURE MUST BE CONTROLLED VIA BASE BUILDING SYSTEM.

l. ALL LIGHTING FIXTURES SHALL BE INSTALLED IN SUCH WAY TO AVOID INTERFERENCE WITH MECHANICAL DIFFUSERS, HVAC DUCT WORK, SPRINKLERS, PUBLIC ACCESS SPEAKERS AND OTHER SYSTEMS' COMPONENTS.

m. ELECTRICAL CONTRACTOR TO PROVIDE ALL CONNECTIONS FROM THE WALL AND FLOOR TO THE FIXTURES LOCATED AT MILLWORK. COORDINATE WITH MILLWORK CONTRACTOR.

n. EMERGENCY LIGHTING FIXTURES AND EXIT SIGNS NOT EQUIPPED WITH BATTERY SHALL BE CONNECTED TO EXISTING EMERGENCY PANEL AND ARE NOT TO BE SWITCHED. COORDINATE EXACT LOCATION WITH BASE BUILDING.

o. EXIT LIGHTS, EMERGENCY BATTERY PACKS & NIGHT LIGHTS SHALL NOT BE SWITCHED UNLESS OTHERWISE NOTED. CONNECT TO UNSWITCHED LEG OF ASSOCIATED CIRCUIT. PROVIDE AND INSTALL CODE COMPLIANT EMERGENCY BATTERY PACKS.

p. SWITCHES THAT ARE SHOWN AT ROOM ENTRANCES AND ARE NOT SPECIFICALLY IDENTIFIED BY KEY NOTES OR SWITCH-LEG INDICATORS ARE INTENDED TO OPERATE ALL OF THE GENERAL LIGHTING IN THAT ROOM ONLY. COORDINATE AND CONFIRM ALL DOOR SWINGS WITH THE ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN OF ANY LIGHT SWITCHES.

q. COORDINATE LOCATION OF ALL CEILING DEVICES (I.E. DETECTORS, FIXTURES, AND ALL OTHER CEILING MOUNTED DEVICES) WITH OTHER TRADES (I.E. DUCTWORK, SPRINKLERS, ETC.).

r. UNLESS OTHERWISE SPECIFIED ALL LAMPS SHALL HAVE A COLOR TEMPERATURE OF 3500K.

s. UNLESS OTHERWISE SPECIFIED EXIT SIGNS SHALL HAVE RED LETTERING WITH A WHITE BACKGROUND WITH KNOCK OUT ARROWS.

---

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC.

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.

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ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: **TLEMO22-164**
Scale: **AS NOTED**
Drawn By: **LN**
Approved By: **MBJ**
Drawing Name: **ELECTRICAL NOTES**
Drawing Number: **E-101**

MATTHEW B. JARMEL
NUMBER A-2017014316

DEMAND LOAD INDICATED CALCULATED LOAD.

ALL CIRCUIT NUMBERS ARE SHOWN FOR DESIGN INTENT ONLY.
CONTRACTOR TO VERIFY ACTUAL CIRCUIT AVAILABILITY PRIOR TO START OF THE WORK. CONTRACTOR TO SUBMIT PANEL SCHEDULE AFTER COMPLETION OF THE WORK

*PROVIDE LOCKABLE BREAKERS
CIRCUIT LOCK-ON DEVICES SHALL BE INSTALLED ON ALL CIRCUITS PROVIDING POWER TO EMERGENCY LIGHTING, EXIT SIGNS, FIRE ALARMS AND SMOKE DETECTORS. AS PER NEC CODE REQUIREMENTS, SECTION 700.20(C).

IF NSF MICROWAVES ARE REQUIRED, OUTLTET WILL NEED TO BE 220 VOLT SINGLE PHASE.

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

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PANEL MDP

VOLTAGE (L–N):	120	ENCLOSURE TYPE:	----
VOLTAGE (L–L):	208	MOUNTING:	SURFACE
PHASES, WIRES:	3 ϕ 4 W	AIC RATING (A):	65000
MINIMUM BUS CAPACITY (A):	600 A	NOTES:	NEW – MCB –
MAIN O.C. DEVICE (A):	600 A	FED FROM:	----

CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (VA) A	B	C	POLE	TRIP AMPS	DESCRIPTION	CKT NO
1,3,5	ROOF TOP UNIT (RTU–1)	50	3	4803	4803		3	50	ROOF TOP UNIT (RTU–2)	2,4,6
1,3,5	ROOF TOP UNIT (RTU–1)	50	3		4803	4803	3	50	ROOF TOP UNIT (RTU–2)	2,4,6
1,3,5	ROOF TOP UNIT (RTU–1)	50	3			4803	4803	3	50	ROOF TOP UNIT (RTU–2)	2,4,6
7,9,11	ROOF TOP UNIT (RTU–3)	50	3	4803	3842		3	40	ROOF TOP UNIT (RTU–4)	8,10,12
7,9,11	ROOF TOP UNIT (RTU–3)	50	3		4803	3842	3	40	ROOF TOP UNIT (RTU–4)	8,10,12
7,9,11	ROOF TOP UNIT (RTU–3)	50	3			4803	3842	3	40	ROOF TOP UNIT (RTU–4)	8,10,12
13,15,17	ROOF TOP UNIT (RTU–5)	50	3	4803	0		1	20	SPARE	14
13,15,17	ROOF TOP UNIT (RTU–5)	50	3		4803	0	1	20	SPARE	16
13,15,17	ROOF TOP UNIT (RTU–5)	50	3			4803	0	1	20	SPARE	18
19	SPARE	20	1	0	0		1	20	SPARE	20
21	SPARE	20	1		0	0	1	20	SPARE	22
23	SPARE	20	1			0	0	1	20	SPARE	24
25	SPARE	20	1	0	0		1	20	SPARE	26
27	SPARE	20	1		0	0	1	20	SPARE	28
29	SPARE	20	1			0	0	1	20	SPARE	30
31	SPARE	20	1	0	24311		3	400	PANEL M	32,34,36
33	SPARE	20	1		0	21955	3	400	PANEL M	32,34,36
35	ROOF SERVICE GFI WP RECEPTACLE	20	1			720	19843	3	400	PANEL M	32,34,36
37,39,41	ELECTRIC WATER HEATER (EWH–1)	60	3	5000	8000		3	90	ELECTRIC WATER HEATER (EWH–2)	38,40,42
37,39,41	ELECTRIC WATER HEATER (EWH–1)	60	3		5000	8000	3	90	ELECTRIC WATER HEATER (EWH–2)	38,40,42
37,39,41	ELECTRIC WATER HEATER (EWH–1)	60	3			5000	8000	3	90	ELECTRIC WATER HEATER (EWH–2)	38,40,42
				CONNECTED LOAD PHASE TOTALS (VA)						
				60365	58009	56617				

	CONNECTED LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)
Cooling and Heating	75.7	1.00	75.7
Electric Clothes Dryers	4.4	1.00	4.4
Equipment	2.0	1.00	2.0
Heating	1.6	1.00	1.6
Lighting	4.8	1.25	6.0
Lighting – Exterior	2.1	1.25	2.7
Motors	0.0	1.00	0.0
Motors (Largest)	1.8	1.25	2.3
Receptacles (0 – 10 KVA)	10.0	1.00	10.0
Receptacles (Over 10 KVA)	13.7	0.50	6.9
Water Heaters	39.0	1.00	39.0
Noncontinuous Load	19.8	1.00	19.8
TOTAL:	175.0		170.3
LOAD (AMPS):	485.7		472.8

DEMAND LOAD	170.3 KVA
SPARE CAPACITY	45.8 KVA
SPARE CAPACITY	127.2 AMPS
SPARE CAPACITY	21%
PHASE BALANCE	
A TO B	96%
B TO C	97%
C TO A	98%

PANEL M

VOLTAGE (L–N):	120	ENCLOSURE TYPE:	----
VOLTAGE (L–L):	208	MOUNTING:	SURFACE
PHASES, WIRES:	3 ϕ 4 W	AIC RATING (A):	65000
MINIMUM BUS CAPACITY (A):	400 A	NOTES:	NEW – MLO –
MAIN O.C. DEVICE (A):	400 A	FED FROM:	MDP

CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (VA) A	B	C	POLE	TRIP AMPS	DESCRIPTION	CKT NO
1,3,5	PANEL P	125	3	11780	5663		3	125	PANEL L	2,4,6
1,3,5	PANEL P	125	3		10160	4507	3	125	PANEL L	2,4,6
1,3,5	PANEL P	125	3			9120	5323	3	125	PANEL L	2,4,6
7,9	ACCU–1/AC–1 PANTRY UNIT	30	2	1768	0		1	20	SPARE	8
7,9	ACCU–1/AC–1 PANTRY UNIT	30	2		1768	500	1	20	EXHAUST FAN (EF – 1)	10
11	FIRE ALARM CONTROL PANEL (FACP)	20	1			500	500	1	20	EXHAUST FAN (EF – 2)	12
13	SPARE	20	1	0	0		1	20	SPARE	14
15	SPARE	20	1		0	0	1	20	SPARE	16
17	WATER FEATURE	20	1			0	2200	2	30	RCPT DRYER	18,20
19	SPARE	20	1	0	2200		2	30	RCPT DRYER	18,20
21,23	UNIT HEATER (UH–1)	20	2		800	360	1	20	TELEPHONE BOARD	22
21,23	UNIT HEATER (UH–1)	20	2			800	360	1	20	INTERNET BOARD	24
25	EXHAUST CONTROLLER	20	1	0	1800		1	20	RCPT WASHING MACHINE	26
27	ELECTRIC CEILING HEATER (ECH–2)	20	1		1500	360	1	20	SECURITY PANEL	28
29	EXIT DEVICE	20	1			360	180	1	20	FIRE ALARM ANNUNCIATOR PANEL (FAAP)	30
31	IRRIGATION PUMP	20	1	0	20		1	20	GLOBAL PLASMA SYSTEM PURIFIER (GPS)	32
33	ELECTRIC CEILING HEATER (ECH–1)	20	1		1500	500	1	20	TIME CLOCK (TC–1)	34
35	RE–CIRCULATOR PUMP FOR WATER HEATER (P–1)	20	1			500	0	1	20	SPRINKLER PUMP	36
37	RCPT GFI WP EXTERIOR	20	1	1080	0		1	20	SPACE	38
39	SPACE	20	1		0	0	1	20	SPACE	40
41	SPACE	20	1			0	0	1	20	SPACE	42
				CONNECTED LOAD PHASE TOTALS (VA)						
				24311	21955	19843				

	CONNECTED LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)
Cooling and Heating	6.6	1.00	6.6
Electric Clothes Dryers	4.4	1.00	4.4
Equipment	2.0	1.00	2.0
Heating	1.6	1.00	1.6
Lighting	4.8	1.25	6.0
Lighting – Exterior	2.1	1.25	2.7
Motors	0.0	1.00	0.0
Motors (Largest)	1.8	1.25	2.3
Receptacles (0 – 10 KVA)	10.0	1.00	10.0
Receptacles (Over 10 KVA)	13.0	0.50	6.5
Noncontinuous Load	19.8	1.00	19.8
TOTAL:	66.1		61.8
LOAD (AMPS):	183.5		171.5

DEMAND LOAD	61.8 KVA
SPARE CAPACITY	82.3 KVA
SPARE CAPACITY	228.5 AMPS
SPARE CAPACITY	57%
PHASE BALANCE	
A TO B	96%
B TO C	97%
C TO A	98%

PANEL P

VOLTAGE (L–N):	120	ENCLOSURE TYPE:	----
VOLTAGE (L–L):	208	MOUNTING:	SURFACE
PHASES, WIRES:	3 ϕ 4 W	AIC RATING (A):	65000
MINIMUM BUS CAPACITY (A):	125 A	NOTES:	NEW – MLO –
MAIN O.C. DEVICE (A):	125 A	FED FROM:	M

CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (VA) A	B	C	POLE	TRIP AMPS	DESCRIPTION	CKT NO
1	RCPTS ROOM 113	20	1	900	900		1	20	RCPTS ROOM 118	2
3	RCPTS ROOM 124	20	1		900	900	1	20	RCPTS ROOM 121	4
5	RCPTS ROOM 125	20	1			900	900	1	20	RCPTS ROOM 127	6
7	RCPTS ROOM 130	20	1	900	900		1	20	RCPTS ROOM 132	8
9	RCPTS ROOM 134	20	1		900	1260	1	20	RCPTS ROOM 105	10
11	RCPTS ROOM 110	20	1			1260	0	1	20	SPARE	12
13	SPARE	20	1	0	540		1	20	RCPTS GFI ROOM 113, 118	14
15	RCPTS GFI ROOM 113, 118	20	1		540	540	1	20	RCPTS GFI ROOM 124, 121	16
17	RCPTS GFI ROOM 125	20	1			360	720	1	20	RCPTS GFI ROOM 132, 134	18
19	RCPTS HOUSEKEEPING	20	1	1800	540		1	20	RCPTS NURSING RM	20
21	RCPTS GFI ROOM 130,128,129	20	1		540	0	1	20	SPARE	22
23	RCPTS GFI PANTRY	20	1			360	360	1	20	RCPTS GFI PANTRY	24
25	RCPTS OFFICE	20	1	720	180		1	20	RCPT COPY/ PRINTER RECEPTION	26
27	RCPTS RECEPTION	20	1		1260	360	1	20	RCPTS OFFICE CCTV	28
29	RCPT PRINTER/FAX OFFICE	20	1			360	800	1	20	RCPT DEDICATED GFI FRIDGE ROOM 121	30
31	SPARE	20	1	0	1800		1	20	RCPT DEDICATED GFI FRIDGE ROOM 125	32
33	SPARE	20	1		0	800	1	20	RCPT DEDICATED GFI FRIDGE ROOM 132	34
35	RCPT DEDICATED GFI MICROWAVE ROOM 132	20	1			1800	800	1	20	RCPT DEDICATED GFI FRIDGE ROOM 134	36
37	RCPT DEDICATED GFI MICROWAVE ROOM 134	20	1	1800	800		1	20	RCPT DEDICATED GFI FRIDGE LOUNGE	38
39	RCPT DEDICATED GFI MICROWAVE LOUNGE	20	1		1800	360	1	20	RCPT LAMINATOR	40
41	TV RECEPTION	20	1			500	0	1	20	SPARE	42
				CONNECTED LOAD PHASE TOTALS (VA)						
				11780	10160	9120				

	CONNECTED LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)
Receptacles (0 – 10 KVA)	10.0	1.00	10.0
Receptacles (Over 10 KVA)	9.6	0.50	4.8
Noncontinuous Load	11.4	1.00	11.4
TOTAL:	31.1		26.3
LOAD (AMPS):	86.2		72.9

DEMAND LOAD	26.3 KVA
SPARE CAPACITY	18.8 KVA
SPARE CAPACITY	52.1 AMPS
SPARE CAPACITY	42%
PHASE BALANCE	
A TO B	96%
B TO C	97%
C TO A	98%

PANEL L

VOLTAGE (L–N):	120	ENCLOSURE TYPE:	----
VOLTAGE (L–L):	208	MOUNTING:	SURFACE
PHASES, WIRES:	3 ϕ 4 W	AIC RATING (A):	65000
MINIMUM BUS CAPACITY (A):	125 A	NOTES:	NEW – MLO –
MAIN O.C. DEVICE (A):	125 A	FED FROM:	M

CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (VA) A	B	C	POLE	TRIP AMPS	DESCRIPTION	CKT NO
1	LIGHTING ROOM 113	20	1	418	317		1	20	LIGHTING ROOM 110	2
3	LIGHTING ROOM 118	20	1		346	339	1	20	LIGHTING ROOM 105	4
5	LIGHTING ROOM 124	20	1			353	319	1	20	LIGHTING ROOM 101 RECEPTION	6
7	LIGHTING ROOM 121	20	1	353	216		1	20	LIGHTING ROOM 134	8
9	LIGHTING ROOM 125	20	1		317	317	1	20	LIGHTING ROOM 132	10
11	LIGHTING ROOM 127	20	1			245	411	1	20	LIGHTING ROOM 130 & MECHANICAL ROOM	12
13	LIGHTING CORRIDOR 135,PANTRY,LAUNDRY, LOUNGE	20	1	669	180		1	20	SMARTBOARD ROOM 113	14
15	SMARTBOARD ROOM 118	20	1		180	180	1	20	SMARTBOARD ROOM 124	16
17	SMARTBOARD ROOM 121	20	1			180	180	1	20	SMARTBOARD ROOM 125	18
19	SMARTBOARD ROOM 127	20	1	180	180		1	20	SMARTBOARD ROOM 130	20
21	SMARTBOARD ROOM 105	20	1		180	180	1	20	SMARTBOARD ROOM 110	22
23	RCPT REFRIGERATOR PANTRY	20	1			635	900	1	20	RCPT FREEZER PANTRY	24
25,27	RCPT MICROWAVE PANTRY	20	2	900	0		1	20	SPARE	26
25,27	RCPT MICROWAVE PANTRY	20	2		900	0	1	20	SPARE	28
29,31	RCPT MICROWAVE PANTRY	20	2			900	0	1	20	SPARE	30
29,31	RCPT MICROWAVE PANTRY	20	2	900	900		2	20	RCPT MICROWAVE PANTRY	32,34
33	LIGHTING CANOPY	20	1		168	900	2	20	RCPT MICROWAVE PANTRY	32,34
35	SPARE	20	1			0	1200	1	20	PARKING LOT LIGHTING	36
37	MAIN ENTRANCE SIGNAGE	20	1	450	0		1	20	SPARE	38
39	MONUMENT SIGN LIGHTS	20	1		500	0	1	20	LIGHTING EXTERIOR WALL PACKS	40
41	SPARE	20	1			0	0	1	20	SPARE	42
				CONNECTED LOAD PHASE TOTALS (VA)						
				5663	4507	5323				

	CONNECTED LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)
Lighting	4.8	1.25	6.0
Lighting – Exterior	2.1	1.25	2.7
Receptacles (0 – 10 KVA)	0.2	1.00	0.2
Noncontinuous Load	8.4	1.00	8.4
TOTAL:	15.5		17.2
LOAD (AMPS):	43.0		47.8

DEMAND LOAD	17.2 KVA
SPARE CAPACITY	27.8 KVA
SPARE CAPACITY	77.2 AMPS
SPARE CAPACITY	62%
PHASE BALANCE	
A TO B	96%
B TO C	97%
C TO A	98%

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NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: LN	Approved By: MBJ

Drawing Name:

ELECTRICAL PANEL SCHEDULES

Drawing Number:

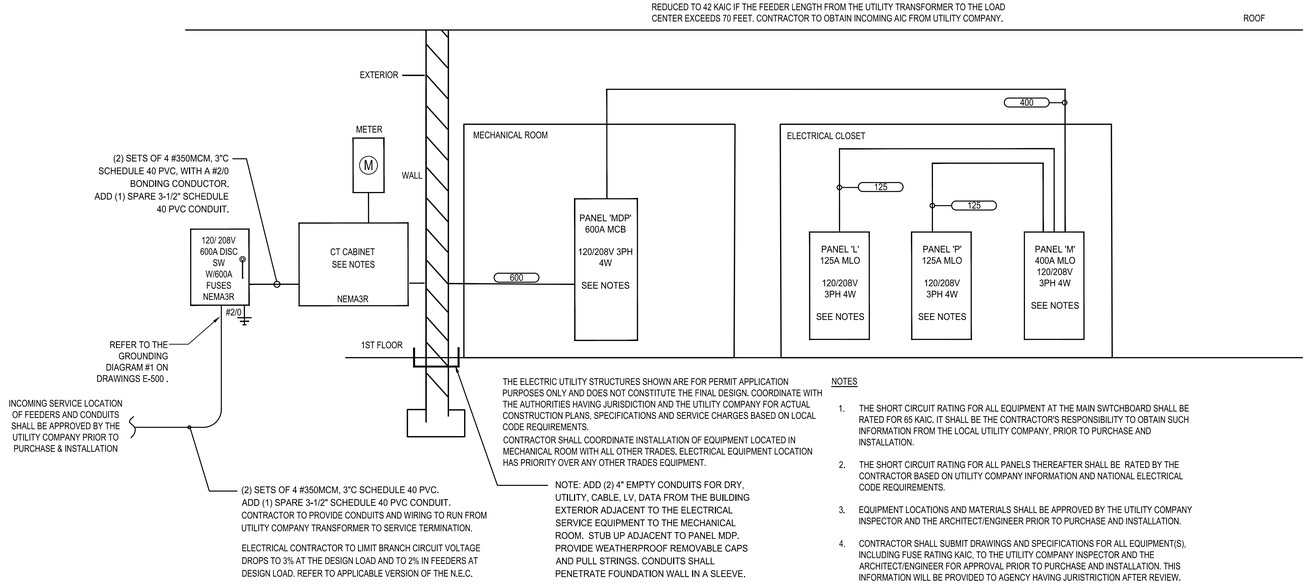
E-110

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC.

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.



NOTES

1. THE SHORT CIRCUIT RATING FOR ALL EQUIPMENT AT THE MAIN SWITCHBOARD SHALL BE RATED FOR 65 KAIC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN SUCH INFORMATION FROM THE LOCAL UTILITY COMPANY, PRIOR TO PURCHASE AND INSTALLATION.
2. THE SHORT CIRCUIT RATING FOR ALL PANELS THEREAFTER SHALL BE RATED BY THE CONTRACTOR BASED ON UTILITY COMPANY INFORMATION AND NATIONAL ELECTRICAL CODE REQUIREMENTS.
3. EQUIPMENT LOCATIONS AND MATERIALS SHALL BE APPROVED BY THE UTILITY COMPANY INSPECTOR AND THE ARCHITECT/ENGINEER PRIOR TO PURCHASE AND INSTALLATION.
4. CONTRACTOR SHALL SUBMIT DRAWINGS AND SPECIFICATIONS FOR ALL EQUIPMENT(S), INCLUDING FUSE RATING KAIC, TO THE UTILITY COMPANY INSPECTOR AND THE ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION. THIS INFORMATION WILL BE PROVIDED TO AGENCY HAVING JURISTRICTION AFTER REVIEW.
5. INCOMING SERVICE EQUIPMENT SHOWN IS BASED ON THE SIEMENS CT CABINET LINE, AND SIEMENS TYPE 'P' PANELBOARDS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATIONS, AND ANY ADDITIONAL WORK THAT MAY BE NECESSARY DUE TO SUBSTITUTE EQUIPMENT. SEE DRAWING E-100 FOR ADDITIONAL NOTES.

1 INCOMING ELECTRICAL SERVICE & DISTRIBUTION

SCALE: N.T.S.

FEEDER SCHEDULE

TYPE NUMBER	COPPER WIRE			SERVICE GROUND
	WIRE SIZE & QUANTITIES	CONDUIT w/ NEUTRAL	CONDUIT w/o NEUTRAL	
15	4#12, #12 GND	3/4"	3/4"	#8
20	4#12, #12 GND	3/4"	3/4"	#8
25	4#10, #10 GND	3/4"	3/4"	#8
30	4#10, #10 GND	3/4"	3/4"	#8
35	4#8, #10 GND	1"	1"	#8
40	4#8, #10 GND	1"	1"	#8
45	4#8, #10 GND	1"	1"	#8
50	4#8, #10 GND	1"	1"	#8
60	4#6, #10 GND	1"	1"	#8
70	4#4, #8 GND	1-1/4"	1"	#8
80	4#4, #8 GND	1-1/4"	1"	#8
90	4#3, #8 GND	1-1/4"	1"	#8
100	4#3, #8 GND	1-1/4"	1"	#8
110	4#2, #6 GND	1-1/2"	1-1/4"	#8
125	4#1, #6 GND	2"	1-1/2"	#6
150	4#1/0, #6 GND	2"	1-1/2"	#6
175	4#2/0, #6 GND	2"	2"	#4
200	4#3/0, #6 GND	2"	2"	#4
225	4#4/0, #4 GND	2-1/2"	2"	#2
250	4#250MCM, #4 GND	2-1/2"	2-1/2"	#2
300	4#350MCM, #4 GND	3"	2-1/2"	#2
350	4#500MCM, #3 GND	3"	3"	#1/0
400	4#600MCM, #3 GND	3-1/2"	3"	#1/0
450	(2 SETS) 4#4/0, #2 GND	2-1/2"	2"	#1/0
500	(2 SETS) 4#250MCM, #2 GND	2-1/2"	2-1/2"	#1/0
600	(2 SETS) 4#350MCM, #1 GND	3"	2-1/2"	#2/0
700	(2 SETS) 4#500MCM, #1/0 GND	3"	3"	#2/0
800	(2 SETS) 4#600MCM, #1/0 GND	3-1/2"	3-1/2"	#2/0

ALL FEEDERS ARE ASSUMED TO BE FOUR (4) CURRENT CARRYING CONDUCTORS (3 PHASE CONDUCTORS AND 1 NEUTRAL) UNLESS OTHERWISE NOTED.

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: LN	Approved By: MBJ

Drawing Name:

ELECTRICAL SERVICE RISER DIAGRAM

Drawing Number:

E-111

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

POWER PLAN SHEET NOTES:

1. MOUNTING HEIGHTS AND LOCATIONS FOR WALL OUTLETS AS LISTED BELOW:

   A. 44" FOR GENERAL ELECTRICAL RECEPTACLES @
   -PANTRY STATIONS
   -ART COUNTERS
   -TOILET ROOMS (SEE A111 FOR PLACEMENT OF THE OUTLETS WITH THE TOILET LAYOUT.)
   -DIAPER CHANGING TABLES (CT)
   B. 18" PANTRY STATIONS FOR REFRIGERATORS.
   C. 76" PANTRY STATIONS FOR MICROWAVES.
   27" FOR INFANT ROOM PANTRY STATION.
   44" FOR STAFF LOUNGE PANTRY STATION.
   -VARIED HEIGHTS FOR PANTRY ROOM MICROWAVES. REFER TO THE DETAIL 2 ON DRAWING E-200 & DETAIL 4 ON DRAWING A-133.

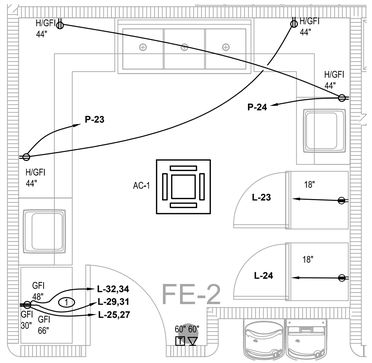
   NOTE: OUTLETS ABOVE COUNTERS IN THESE LOCATIONS, (PANTRY, DIAPER CHANGING TABLE AND ART COUNTER), TO BE INSTALLED HORIZONTALLY. REFER TO ARCHITECTURAL DRAWINGS 'A-4'-3' FOR EXACT LOCATIONS.

2. CONTRACTOR SHALL COORDINATE INSTALLATION OF EQUIPMENT LOCATED IN MECHANICAL ROOM WITH ALL OTHER TRADES. ELECTRICAL EQUIPMENT LOCATION HAS PRIORITY OVER ANY OTHER TRADES EQUIPMENT.CONTRACTOR TO SEE REQUIRED PHONE/DATA VENDOR FOR INSTALLATION AND LOCATIONS OF EQUIPMENT.

3. SPECIAL PROTECTIVE COVERS FOR ELECTRICAL TAMPER RESISTANT UL RECEPTACLES SHALL BE INSTALLED IN ALL AREAS OCCUPIED BY CHILDREN.

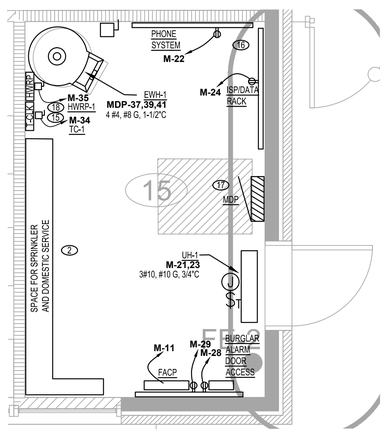
4. PROVIDE GFI RECEPTACLES WHERE SHOWN AND AS REQUIRED BY CODE. ALL RECEPTACLES SHALL BE UL TAMPER RESISTANT. IF DISTANCE FROM THE SINK IS WITHIN 6' PROVIDE GFI RECEPTACLES AS PER NEC REQUIREMENTS.

5. SECURITY CAMERA SHOULD BE MOUNTED 6" BELOW AWNING LINE AND AT THE EXTREMITIES OF THE BUILDING SO THAT CAMERAS ON THE PLAYGROUND HAVE AN UNOBSTRUCTED VIEW. GENERAL CONTRACTOR TO COORDINATE WITH THE SECURITY VENDORS TO ENSURE VIEW IS UNOBSTRUCTED.



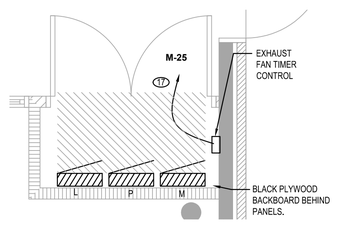
2 ENLARGED PANTRY DETAIL

SCALE: 3/8" = 1'-0"



3 ENLARGED HVAC MECH ROOM PLAN

SCALE: 3/8" = 1'-0"

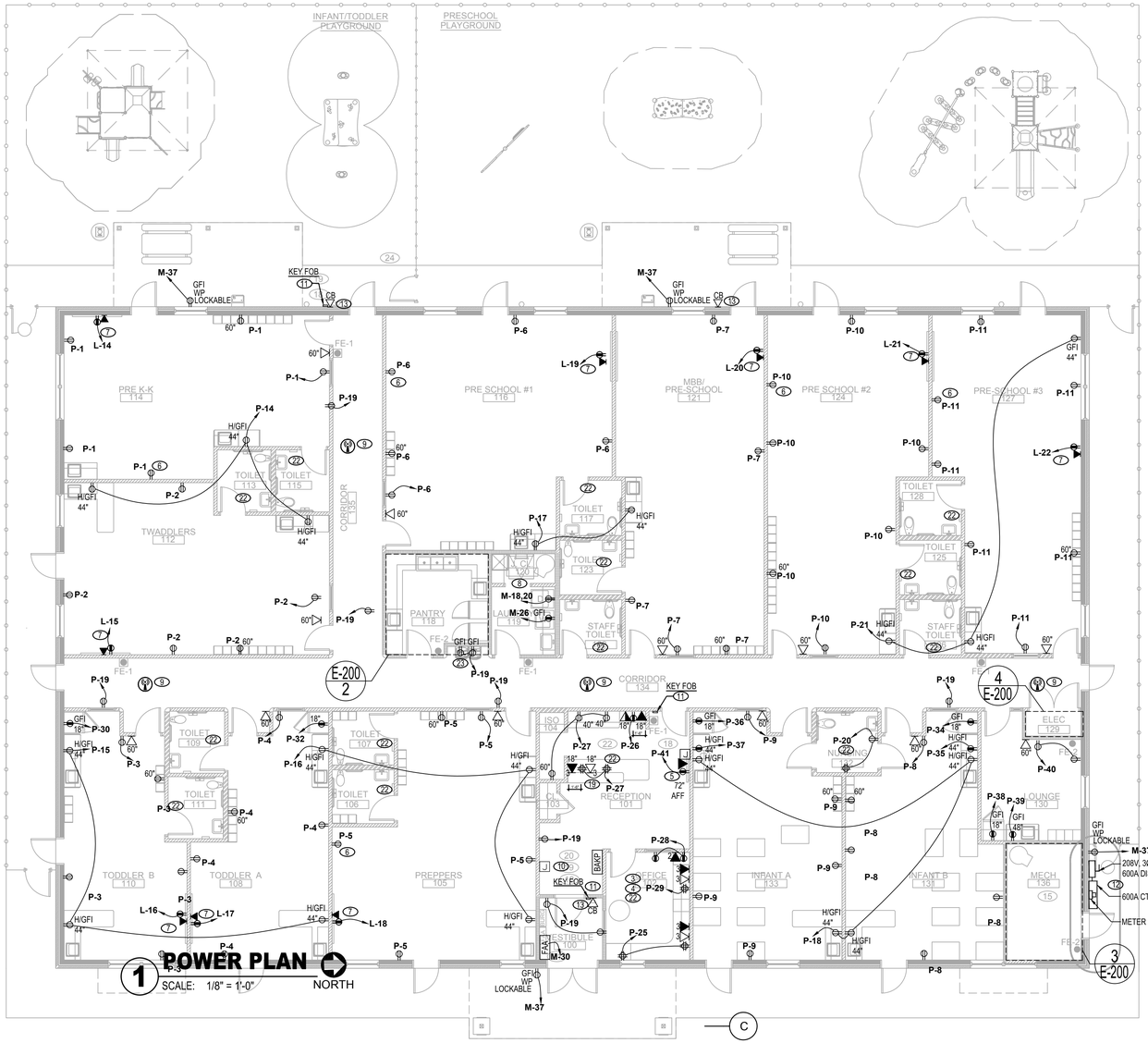


4 ENLARGED ELEC. ROOM

SCALE: 3/8" = 1'-0"

POWER PLAN KEY NOTES:

1. 220V SINGLE PHASE GFI DEDICATED RECEPTACLES FOR MAIN PANTRY MICROWAVES. THE DEDICATED OUTLETS SHALL HAVE DEDICATED NEUTRALS. THE RECEPTACLES SHALL BE STACKED AT 30",48" & 66" ABOVE FINISHED FLOOR ALL 32" AWAY FROM THE SIDE WALL. REFER TO THE ARCHITECTURAL DRAWING A-133 FOR DETAILS.
2. CONTRACTOR SHALL FIELD COORDINATE CLEARANCES IN THIS AREA PRIOR TO EQUIPMENT LAYOUT AND INSTALLATION. AVOID DEDICATED SPACES ABOVE. REFER TO E-210 FOR ADDITIONAL INFORMATION.
3. CONTRACTOR SHALL COORDINATE EXACT LOCATION & INSTALLATION OF CLOSED CIRCUIT TV SYSTEM WITH REQUIRED VENDOR. SEE DETAIL #7 & 8 ON A-135.
4. PROVIDE TWO DUPLEX RECEPTACLE. ONE (2) PORT DATA JACK RECEPTACLE AND EMPTY BOX WITH PULL CORD FOR CABLE (BY OTHERS) @96" AFF, SEE DETAIL #7 & 8 ON A-135.
5. PROVIDE (1) DUPLEX RECEPTACLE, (1) DATA JACK @72" AFF AND EMPTY BOX FOR FLAT SCREEN TV WITH DRAG LINE FOR CABLE (BY REQUIRED VENDOR). VERIFY LOCATION WITH ARCHITECTURAL DRAWING.
6. COMPUTER TABLE (CT) DUPLEX RECEPTACLE AT 24" A.F.F.
7. PROVIDE DATA AND DUPLEX OUTLETS @ 36" AFF FOR SMART BOARD. COORDINATE LOCATION IN FIELD. REFER TO ELECTRICAL SYMBOLS ON E100 FOR MODEL NUMBER AND ARCHITECTURAL DRAWINGS TO CONFIRM MOUNTING HEIGHTS.
8. ROOF ACCESS/MAINTENANCE DOOR SHALL NOT BE BLOCKED BY ANY DUCT, PIPES, WIRES, CONDUITS OR OTHER FIXED ITEMS.
9. PROVIDE DATA LINES THROUGHOUT TLE IN CEILING LOCATIONS FOR WIRELESS INTERNET. VERIFY LOCATIONS AND HEIGHTS PRIOR TO PURCHASING AND INSTALLATION IN THE FIELD. PROVIDE 25' EXTRA LENGTH TO ENSURE SUFFICIENT COVERAGE. SEE REQUIRED PHONE/DATA VENDOR.
10. PROVIDE JUNCTION BOX IN THE RECEPTION AREA AND ALL PANELS AND EQUIPMENT NEEDED TO POWER ELECTRONIC EXIT DEVICES THROUGHOUT THE SCHOOL ABOVE THE CEILING. TIE INTO SECURITY SYSTEM FOR DOOR RELEASE UPON ALARM ACTIVATION. VERIFY LOCATIONS AND ELECTRICAL REQUIREMENTS PRIOR TO PURCHASING AND INSTALLATION IN THE FIELD. USE CIRCUIT FOR EXIT DEVICE INDICATED ON PANEL SCHEDULES.
11. PROVIDE KEY FOB DEVICE. COORDINATE W/ SECURITY SYSTEM VENDOR FOR INTEGRATION AND PROPER OPERATION OF KEY FOB.
12. REFER TO RISER DIAGRAM ON E-111 FOR ADDITIONAL INFORMATION.
13. PROVIDE VOICE CABLE FOR ALL CALL BOXES. FOR EXTERIOR CALL BOXES PROVIDE CONDUIT THROUGH EXTERIOR WALL. ALL SHALL BE MOUNTED AT 48" A.F.F.
14. NOT USED.
15. CONTRACTOR SHALL PROVIDE DISCONNECT SWITCH AND/OR THERMAL CUT OFF SWITCH AS PER NATIONAL ELECTRICAL CODE FOR ALL EXHAUST FANS, UNIT HEATERS, SPACE HEATERS, WATER HEATERS, PUMPS, ETC. CONTRACTOR SHALL PROVIDE A STEP DOWN TRANSFORMER TO POWER 12V GLOBAL PLASMA TUBES. REFER TO PANEL SCHEDULES AND MECHANICAL DRAWINGS FOR CIRCUIT NUMBER FOR TRANSFORMER AND LOCATION OF PLASMA TUBES.
16. PROVIDE TWO 3/4"X3'X3' PLYWOOD BACKBOARD AROUND THE WALL. INSTALL BACKBOARD 3'+ ABOVE THE FINISHED FLOOR, ONE IS FOR SECURITY/FIRE PANELS AND THE OTHER FOR PHONE SYSTEM. PROVIDE ALL PANELS AND EQUIPMENT NEEDED TO POWER ELECTRONIC EXIT DEVICES AS PER DWG T500. TIE INTO SECURITY SYSTEM FOR DOOR RELEASE UPON ALARM ACTIVATION. VERIFY LOCATIONS AND ELECTRICAL REQUIREMENTS PRIOR TO PURCHASING AND INSTALLATION IN THE FIELD. REFER TO PANEL SCHEDULES FOR CIRCUIT # FOR EXIT DEVICES. PLYWOOD SHALL BE TREATED WITH FIRE RESISTANT PAINT. INSTALLATION MUST COMPLY WITH ALL LOCAL CODE REQUIREMENTS.
17. 30"W X 36" DEEP ELECTRICAL WORKSPACE (TYP).
18. CONTROLLER & DISCONNECT FOR HWRP-1 (CIRCULATOR PUMP FOR EWH-1) SHALL BE BELL & GOSSET TIMER MODEL# "NBF-8S/LW". POWER CIRCULATOR PUMP HWRP-1 AND TIMECLOCK TC-1 FROM PANEL M AS SHOWN ON DRAWINGS.
19. FEED OUTLET AND DATA/PHONE THROUGH CABINETRY FROM SIDE WALL. REFER TO ARCHITECTURAL DRAWING A-134 FOR DETAILS.
20. NOT USED
21. NOT USED
22. EMERGENCY BUTTON: HONEYWELL 269R - HARDWIRED HOLD UP SWITCH WITH PLASTIC COVER (TO BE PLACED AT RECEPTION DESK, OFFICE DESK AND EVERY CLASSROOM BATHROOM AT INTERIOR DOOR FRAME.
23. PROVIDE (2) GFI OUTLETS. COORDINATE WITH DRINKING FOUNTAIN SPECIFICATIONS, FOR HEIGHT AND QUANTITY REQUIRED.



1 POWER PLAN

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

NORTH

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY
2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC
3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

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1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: LN	Approved By: MBJ

Drawing Name:

ELECTRICAL POWER PLAN

Drawing Number:

E-200

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

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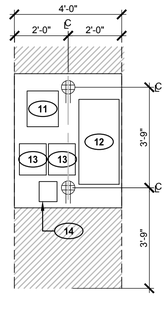
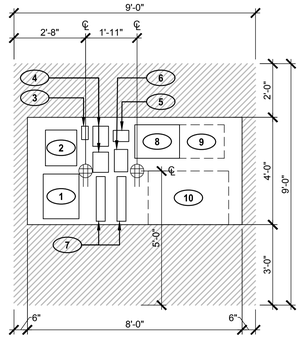
SHEET NOTES:

1. PROVIDE LIGHTING OUTLET AND 20A GFI RECEPTACLE AT 120V 1PH FOR SPACE THAT CONTAINS EQUIPMENT THAT MAY REQUIRE SERVICING , AS PER THE NATIONAL ELECTRICAL CODE 210.70(A)(3).
2. PROVIDE TWO 3/4" PLYWOOD BACKBOARD AROUND THE WALL. INSTALL BACKBOARD 3'+ ABOVE THE FINISHED FLOOR, ONE IS FOR SECURITY/FIRE PANELS AND THE OTHER FOR PHONE SYSTEM/ ISP. PROVIDE ALL PANELS AND EQUIPMENT NEEDED TO POWER ELECTRONIC EXIT DEVICES AS PER DWG T-500 . TIE INTO SECURITY SYSTEM FOR DOOR RELEASE UPON ALARM ACTIVATION. VERIFY LOCATIONS AND ELECTRICAL REQUIREMENTS PRIOR TO PURCHASING AND INSTALLATION IN THE FIELD. REFER TO PANEL SCHEDULES FOR CIRCUIT # FOR EXIT DEVICES.
3. 30"W X 36" DEEP ELECTRICAL WORKSPACE (TYP).
4. CONTRACTOR SHALL PROVIDE DISCONNECT SWITCH AND/OR THERMAL CUT OFF SWITCH AS PER NATIONAL ELECTRICAL CODE FOR ALL EXHAUST FANS, UNIT HEATERS, SPACE HEATERS, HOT WATER HEATERS, PUMPS, ETC.

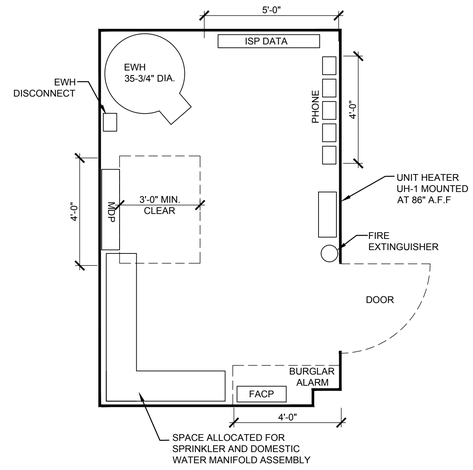


TYPICAL FACP MOUNTING DIAGRAM.



TYPICAL ISP/PHONE MOUNTING DIAGRAM.

1	PHONE PROVIDER	20" X 16"
2	STRATA BOX	16"X14"
3	MAX COM	3" X 6"
4	ARRIS	9" X 7"
5	PHONE MODULE	5" X 7"
6	TELECOM	10" X 6"
7	PHONE BLOCK	20" X 4"
8	6U IT RACK	20" X 15"
9	CLEAR SPACE	20" X 15"
10	ISP CLEAR SPACE	36" X 24"
11	BURGLAR ALARM	16" X 14"
12	FACP	30" X 18"
13	KERI DOOR ACCESS	12" X 14"
14	ALTRONICS	8" X 9"



NOTES:
1. THE LAYOUT ABOVE IS INTENDED TO DEMONSTRATE REQUIRED CLEARANCES ONLY. THE GC IS RESPONSIBLE FOR COORDINATING ALL TRADES TO ENSURE THAT REQUIRED CLEARANCES ARE MAINTAINED WITHIN THE MECHANICAL ROOM AS DIMENSIONED IN THE PROJECT-SPECIFIC FLOOR PLAN.

1 TYPICAL MECHANICAL ROOM LAYOUT

SCALE: 3/8" = 1'-0"

NORTH

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: LN	Approved By: MBJ

Drawing Name:

MECHANICAL ROOM LAYOUT

Drawing Number:

E-210

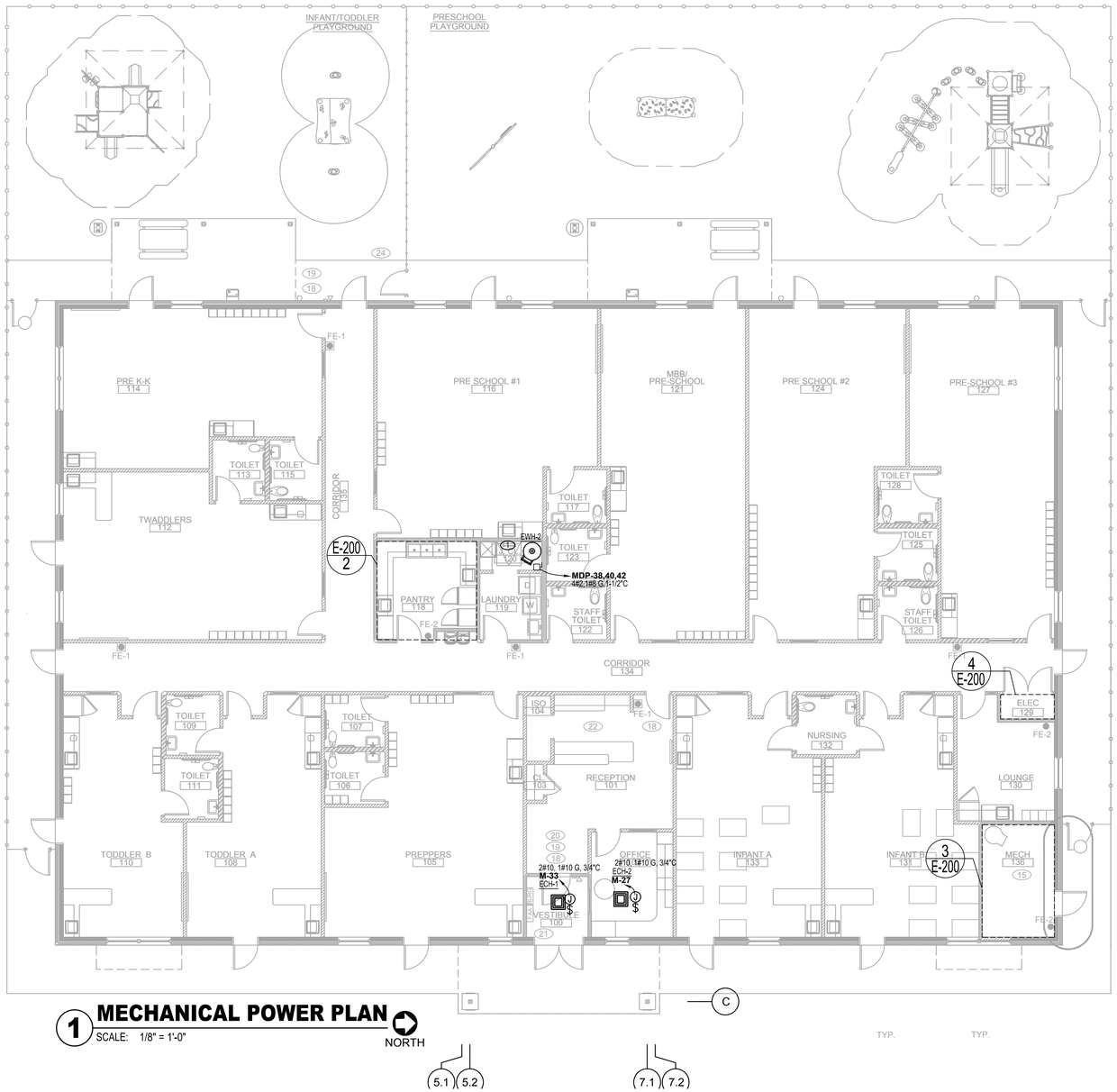
STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

SHEET NOTES:

1. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR EXACT LOCATION OF MECHANICAL FIXTURES.
2. CONTRACTOR SHALL PROVIDE DISCONNECT SWITCH OR THERMAL SWITCHES AS PER NATIONAL ELECTRICAL CODE FOR ALL EXHAUST FANS, UNIT HEATERS, SPACE HEATERS, WATER HEATERS, PUMPS, ETC.
3. CONTROLLER & DISCONNECT FOR HWRP-1 (CIRCULATOR PUMP FOR EWH-1) SHALL BE BELL & GOSSET TIMER MODEL# "TC-1".

KEY NOTES:

(1) ROOF ACCESS/MAINTENANCE DOOR SHALL NOT BE BLOCKED BY ANY DUCT, PIPES, WIRES, CONDUITS OR OTHER FIXED ITEMS.



1 MECHANICAL POWER PLAN

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

NORTH

5.1 5.2 7.1 7.2

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY
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MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: LN	Approved By: MBJ

Drawing Name:

MECHANICAL POWER PLAN

Drawing Number:

E-220

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

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SHEET NOTES:

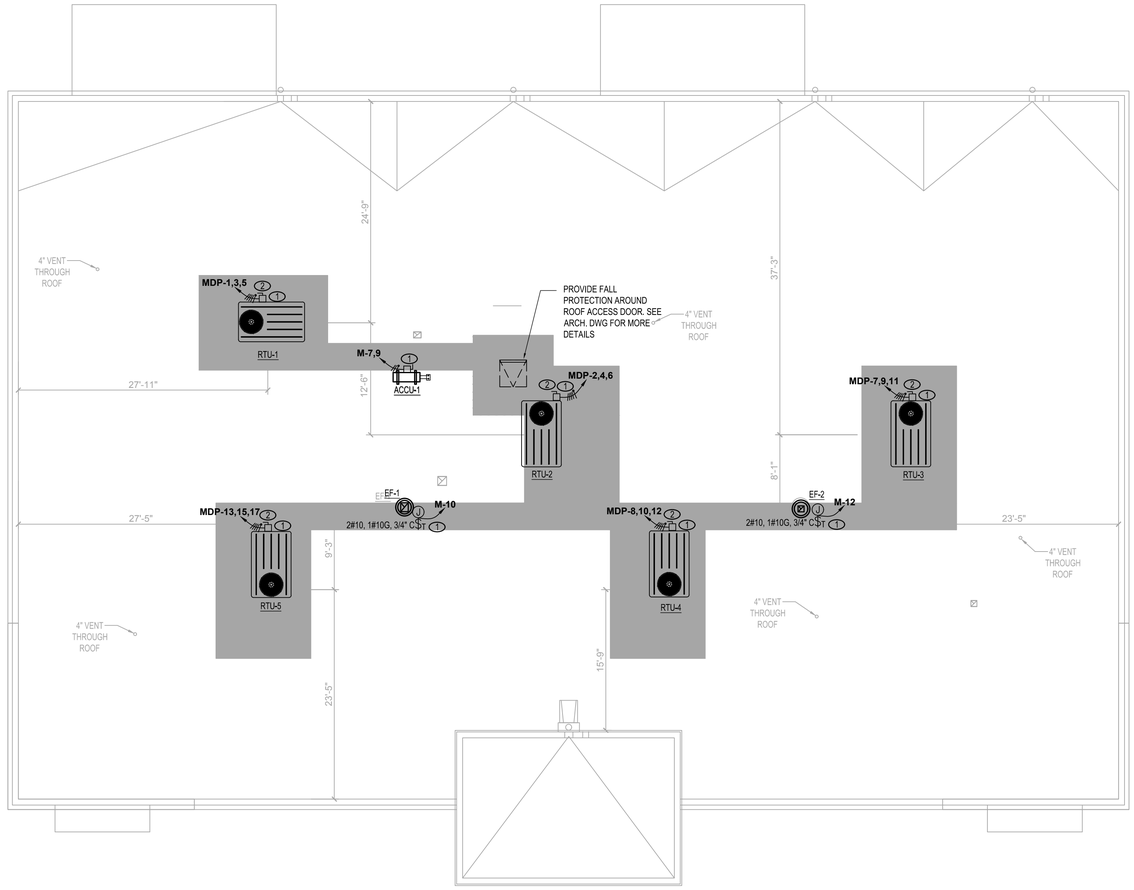
1. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR EXACT LOCATION OF MECHANICAL FIXTURES.

2. ROOF ACCESS/MAINTENANCE DOOR SHALL NOT BE BLOCKED BY ANY DUCT, PIPES, WIRES, CONDUITS OR OTHER FIXED ITEMS.

KEY NOTES:

(1) CONTRACTOR SHALL PROVIDE DISCONNECT SWITCH AS PER CODE FOR ALL RTUS, AIR HANDLING UNITS, ACCUS, ETC. AS PER NATIONAL ELECTRICAL CODE.

(2) PROVIDE 120V 1PH POWER TO FACTORY INSTALLED WEATHER-PROOF GFI RECEPTACLE ON THE ROOF TOP UNITS FROM FROM PANEL "MDP" REFER TO THE PANEL SCHEDULE FOR CIRCUIT DETAILS. ILLUMINATION IS PROVIDED WITH A PLUG IN LIGHT BY THE HVAC TECHNICIAN AT THE TIME OF SERVICING POWERED FROM THE WEATHER-PROOF GFI RECEPTACLE. REFER TO THE PANEL SCHEDULE FOR DETAILS.



1 ELECTRICAL ROOF POWER PLAN

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

NORTH

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By:	Approved By:
LN	MBJ

Drawing Name:

ELECTRICAL ROOF POWER PLAN

Drawing Number:

E-230

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

CONTRACTOR'S LIGHTING PROCUREMENT NOTES

-ALL LIGHTING FIXTURES & CONTROL DEVICES TO BE PURCHASED AND INSTALLED BY CONTRACTOR
-ALL FIXTURES HAVE BEEN PRE-SELECTED BY THE TENANT.
-FIXTURE AND/OR CONTROLS SUBSTITUTIONS ARE NOT ALLOWED AT THE REQUEST OF THE TENANT.

REQUIRED TLE LIGHTING VENDOR:
CED NATIONAL
RAY SEFCIK, JR
RAY.SEFCIK@CED.COM
817-929-8191

NO SUBSTITUTIONS ALLOWED. ANY SUBSTITUTIONS WILL BE REJECTED.

ELECTRICAL LIGHTING FIXTURE SCHEDULE (AS STANDARD)

FIXTURE TYPE	FIXTURE SYMBOL	DESCRIPTION	MANUFACTURER & CATALOG NUMBER	VOLTS
A	A	2'X4' RECESSED LED LIGHT FIXTURE. TYPICAL FOR ALL 2X4 FIXTURES THROUGHOUT THE BUILDING, UNLESS OTHERWISE NOTED.	"SIGNIFY" 2SBP3550L8CS-4-UNV-DIM	120
A EM/NL	NL/EM	2'X4' RECESSED LED LIGHT FIXTURE, WITH INTEGRAL EMERGENCY BATTERY BACKUP.	"SIGNIFY" 2SBP3550L8CS-4-UNV-DIM-EM	120
B	B	2'X2' RECESSED LED LIGHT FIXTURE, TYPICAL FOR ALL 2X2 FIXTURES THROUGHOUT THE BUILDING, UNLESS OTHERWISE NOTED.	"SIGNIFY" 2SBP3040L8CS-2-UNV-DIM	120
B EM/NL	NL/EM	2'X2' RECESSED LED LIGHT FIXTURE, WITH INTEGRAL EMERGENCY BATTERY BACKUP.	"SIGNIFY" 2SBP3040L8CS-2-UNV-DIM-EM	120
G		8"Ø RECESSED DOWNLIGHT. SUITABLE FOR WET LOCATIONS. ORDER MOUNTING HARDWARE AS REQUIRED.	"WILLIAMS" 6DR-TL-L30-8-35-DIM-UNV-O-W-OF-WH-N-F1	120
HE	NL/EM	EXTERIOR WALL PACK EGRESS LED FIXTURE WITH INTEGRATED BATTERY PACK. BATTERY SHALL PROVIDE A MINIMUM OF 90 MINUTES BACKUP POWER.	"WILLIAMS" VWP-V-L30-7-40-T3-FINISH-CGL-EM/4W-DIM-UNV	120
K-48	WB	1'X4' LED LIGHT FIXTURE WITH PROTECTIVE WIRE CAGE. MOUNTED ABOVE THE DOOR FRAME. WB = WALL BRACKET .	"BEGHELLI" BS101LED-ECO-E-4-HT-HO-WT40-120/277	120
K-48 EM	WB/EM	1'X4' LED LIGHT FIXTURE WITH PROTECTIVE WIRE CAGE. MOUNTED ABOVE THE DOOR FRAME. WB = WALL BRACKET - EMERGENCY BATTERY SHALL PROVIDE A MINIMUM OF 90 MINUTES STANDBY POWER. WIRE NIGHT LIGHTS AS PER DWG. E-300.	"BEGHELLI" BS101LED-ECO-E-4-SA-HO-WT40-120/277	120
J		EXTERIOR GOOSENECK LIGHT FIXTURE.	"ANP" LEMM016D-D-W-40K-RTC-UNV-E6-SWL-41	120
P		WATERPROOF SPOT LIGHT FOR MONUMENT SIGN	"WINONA" LEM711-700KNL1-LSS1A-40K-MVOLT-DBT	120
X		BUILDING STANDARD CEILING MOUNTED ILLUMINATED EXIT SIGN WITH BATTERY BACKUP. USE OVERSIZED BATTERY IN LOCATIONS THAT SHALL HAVE REMOTE EMERGENCY LIGHTS CONNECTED. SHADING INDICATES ILLUMINATED FACE & ARROW INDICATES DIRECTION OF EGRESS. MOUNT ON UNDERSIDE OF SOFFIT WHERE REQUIRED FOR INTENDED VISIBILITY. BATTERY BACKUP SHALL PROVIDE A MINIMUM OF 90 MINUTES STANDBY POWER. ORDER MOUNTING HARDWARE.	"BEGHELLI" CRV-LG-1/2-M-S-W	120
	VIVE HUB	LUTRON VIVE HUB	LUTRON CAT. NO. HJS-1-FM	
	P d,e	POWER PACK. SMALL LETTER DENOTES LIGHT ZONE.	LUTRON CAT. NO. RMJS-5R-DV-B	
	C c	CORRIDOR POWER PACK. SMALL LETTER DENOTES LIGHT ZONE.	LUTRON CAT. NO. RMJS-16R-DV-B	
		CEILING MOUNTED WIRELESS OCCUPANCY/VACANCY CEILING SENSOR	LUTRON CAT. NO. LRF2-OCR2B-P-WH	
	$ a,b	LIGHTING SWITCH 4-BUTTON DUAL GROUP. SMALL CASE LETTERING INDICATES LIGHT ZONE.	LUTRON CAT. NO. PJ2-4B-GWH-L21	
	D g,h	WALL MOUNTED DIMMABLE PASSIVE INFRARED SENSOR SWITCH SMALL CASE LETTERING INDICATES LIGHT ZONE.	LUTRON CAT. NO. MS-OPS6-DDV-WH	
	P	WALL MOUNTED PASSIVE INFRARED SENSOR SWITCH.	LUTRON CAT. NO. MS-OPS2-WH	
	P2	WALL MOUNTED PASSIVE INFRARED SENSOR SWITCH.	LUTRON CAT. NO. MRF2S-8SS-WH	
	$	LIGHTING SWITCH 2-BUTTON	LUTRON CAT. NO. PJ2-2B-GWH-L01	
	$ or	CONTROL PANEL OVERRIDE SWITCH FOR RECEPTION AND CORRIDOR AREA. FOR AFTER HOURS USE.	VENDOR TO PROVIDE PART NUMBER OF THE SWITCH COMPATIBLE WITH THE LIGHTING PANEL.	
	PS DLZ	CEILING MOUNTED PHOTOSENSOR DAYLIGHT HARVESTING ZONE ——— ——— ———	LUTRON CAT. NO. LRF2-DCRB-WH	
	$	MANUAL LIGHT SWITCH	"LUTRON"- COMMERCIAL GRADE SWITCH-WHITE	

NOTE: 1) WHITE TRIM FOR ALL FIXTURES, ALL LIGHTING FIXTURES SHALL HAVE LENS. BACK OF SWITCH PLATE SHOULD INDICATE CIRCUIT NUMBER.
2) MVOLT OR 120V ONLY, REFER TO E-111.
3) NL / NIGHT LIGHT SHALL BE WIRED AHEAD OF THE SWITCH. THE LIGHT SHALL BE ON AT ALL TIMES.
4) ALL EMERGENCY FIXTURES SHALL HAVE A MINIMUM 90 MINUTE BATTERY BACKUP
5) SMALL CASE LETTER DENOTES LIGHT ZONE.

DASHED LINE INDICATES LIGHT ZONE FOR POWERING FIXTURES.

SITE LUMINAIRE SCHEDULE

FINAL SELECTIONS, POLE HEIGHTS AND QUANTITIES SHALL BE VERIFIED WITH APPROVED SITE LIGHTING SHOP DRAWINGS.

FIXTURE TYPE	FIXTURE DESCRIPTION	BASIS OF DESIGN
S1	POLE MOUNTED LED SITE LIGHT	"LSI" - PXSLM-3-24L-1-UNIVERSAL-40-4SQ20-AB

LIGHTING CONTROL NOTES:

1. ALL SENSOR LOCATIONS ARE APPROXIMATE. REFER TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS PRIOR TO INSTALLATION.
2. IF ANY QUESTIONS ARISE REGARDING SENSOR PLACEMENT, CONTACT LIGHTING CONTRACTOR PRIOR TO INSTALLATION TO SCHEDULE A FIELD VISIT.
3. IF PENDANT MOUNTED FIXTURES ARE PRESENT, LOCATION AND COVERAGE OF SENSORS SHOULD BE REVIEWED.
4. CEILING MOUNTED SENSORS REQUIRE TO BE LOCATED NO CLOSER THAN 6-8' FROM AIR SUPPLY/RETURN REGISTERS.
5. MAXIMUM NUMBER OF SENSORS THAT CAN BE WIRED IN PARALLEL TO A SINGLE ROOM CONTROLLER OR POWER PACK, DEPENDS ON SENSOR MODEL (SEE INDIVIDUAL SHEETS FOR MA CONSUMPTION).
6. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF REQUIRED NUMBER OF POWER PACKS.
7. ONE POWER PACK IS REQUIRED FOR EACH CIRCUIT THAT IS TO BE CONTROLLED.
8. POWER PACKS ARE SHOWN FOR ZONING PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR DETERMINING ACTUAL LOCATION AND CIRCUITING.
9. POWER PACKS SHOULD BE MOUNTED AT LEAST 6-12 INCHES FROM ANY SENSOR.
10. LOCATIONS OF PHOTOCELLS (IF SHOWN) ARE DIAGRAMMATIC AND FOR QUANTITATIVE PURPOSES ONLY. ACTUAL MOUNTING LOCATIONS OF PHOTOCELLS SHOULD BE DETERMINED IN AN ONSITE PRE-INSTALLATION MEETING PRIOR TO ROUGHING IN EQUIPMENT.
11. PER THE REQUIREMENTS OF THE ELECTRICAL CODE. AREAS LABELED AS "MECHANICAL" OR "ELECTRICAL" WHERE WORK MAY OCCUR ARE NOT TO BE CONTROLLED BY AUTOMATED LIGHTING CONTROLS ALONE.
12. TURN OFF ANY POWER AT THE CIRCUIT BREAKER BEFORE WIRING ANY PRODUCT.

SHEET NOTES:

1. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR EXACT LOCATION OF MECHANICAL FIXTURES.
2. SEE APPROVED CIVIL PLAN FOR LOCATION OF PARKING LOT LIGHTING.
3. EACH SPACE THAT IS ENCLOSED BY CEILING-HEIGHT PARTITIONS MUST HAVE AT LEAST ONE CONTROL DEVICE THAT INDEPENDENTLY CONTROLS THE GENERAL LIGHTING IN THE SPACE.
4. ALL EMERGENCY LIGHTING FIXTURES AND EXIT SIGNS SHALL BE WIRED TO THE UNSWITCHED LEG OF THE LOCAL LIGHTING CIRCUIT. EXTERIOR WALL PACK SHALL HAVE 90 MINUTE BATTERY BACKUP AND BE ABLE TO TURN ON AND OFF PER TLE SPECIFIED HOURS PER REQUIREMENTS OF LOCAL CODES.
5. BUILDING WALL LIGHTING AND CANOPY LIGHTING SHALL BE ON A LIGHT CONTROLLER. SEE DETAIL 3 ON SHEET E-500.
6. LOCATE OCCUPANCY SENSOR WITH OVERRIDE WALL SWITCH AND OCCUPANCY SENSOR SWITCHES FOR OPTIMUM PERFORMANCE PER TLE INSTRUCTIONS. ADJUST SETTINGS FOR THE SWITCH TO BE SET FOR (SLEEPING MODE) IN THE CLASSROOMS. CONTRACTOR SHALL COORDINATE WITH VENDOR REPRESENTATIVE PRIOR TO PURCHASING AND INSTALLATION IN ORDER TO AVOID THE CONFLICT IN THE OPERATION OF THE MOTION SENSOR DEVICES.
7. THE LIGHTING IN THE BATHROOM MUST BE CONTROLLED AUTOMATICALLY. THE LIGHTS CAN COME ON WHEN SOMEONE ENTERS THE BATHROOM, THEN TURN OFF WHEN THAT PERSON LEAVES. HOWEVER, MOST IMPORTANTLY, WHEN THE POWER GOES OFF, THE EMERGENCY LIGHTS MUST COME ON AUTOMATICALLY. THESE LIGHTS SHALL NOT BE WIRED AS NIGHT LIGHTS.
8. LIGHTING TEMPERATURES IN THE ENTIRE BUILDING TO BE SET AT 4000K, BY MEANS OF AN INTEGRAL SLIDER ON THE LIGHTING FIXTURES. SETTING "NW" REFERS TO 4000K.
9. LIGHTING PACKAGE TO BE SOURCED FROM CED NATIONAL AND INCLUDES EXTERIOR SITE LIGHTING AND LIGHTING GEAR.

LIGHTING CONTROL TIMER NOTES:

1. INTERIOR LIGHTING TIMER SHOULD BE SET TO MONDAY - FRIDAY FROM 5:00 AM UNTIL 7:00 PM.
2. EXTERIOR LIGHTING TIMER SHOULD BE SET TO MONDAY - FRIDAY FROM 5:00 PM UNTIL 8:00 AM.

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY
2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC
3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

DESIGN BASED ON IECC-2018

STAND ALONE ROOM - SEQUENCE OF OPERATION

TOILET/FILE/SERVER
AUTO-ON/OFF THROUGH WALL/SENSOR SWITCH.

LOUNGE/CONFERENCE/OFFICE
AUTO-ON/OFF THROUGH 0-10 DIMMING WALL/SENSOR SWITCH.

CLASSROOMS/RECEPTION/STORAGE
MANUAL-ON/AUTO-OFF THROUGH DIGITAL SWITCHES, ROOM CONTROLLERS AND VACANCY SENSORS. DAYLIGHTING AS SHOWN.

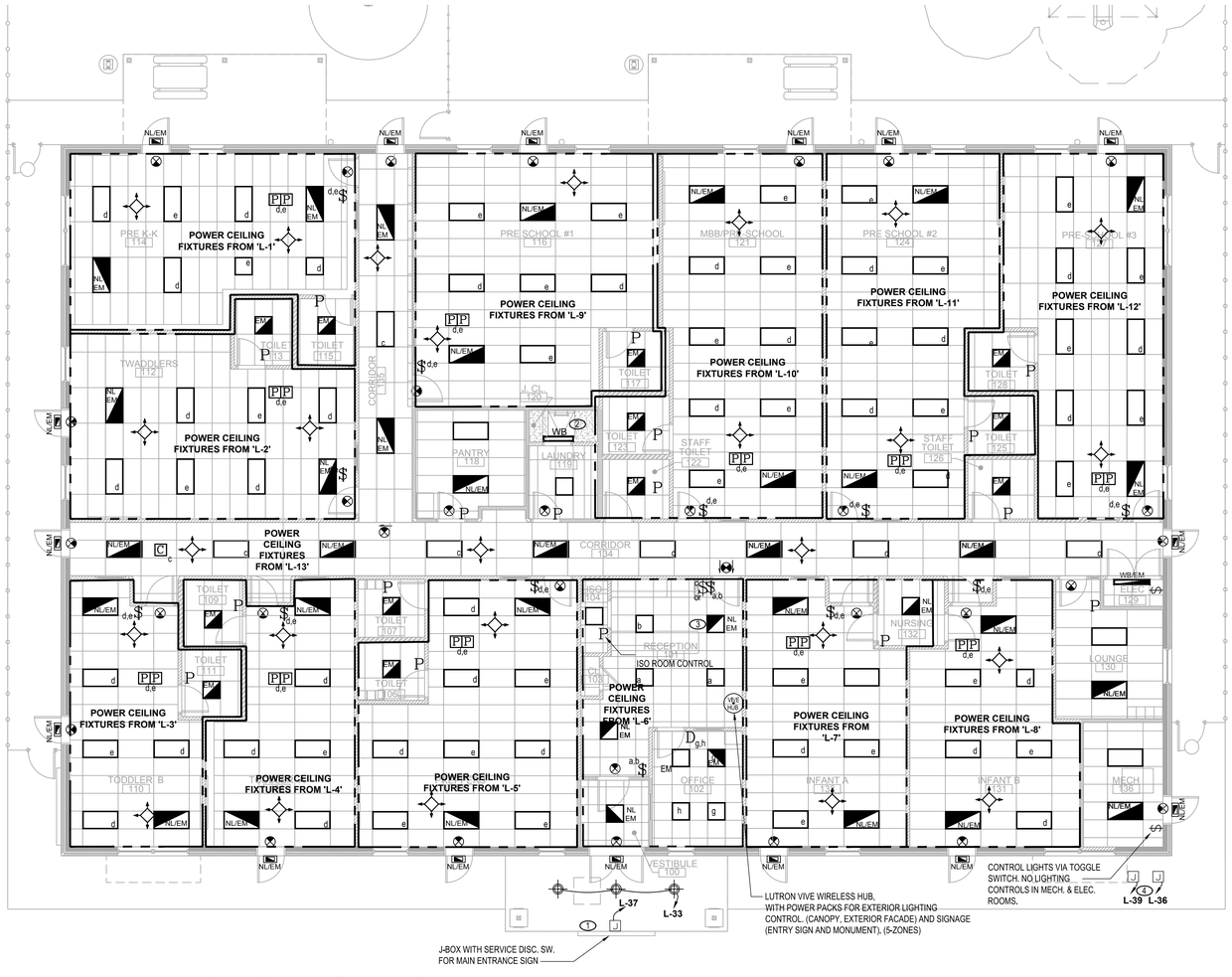
CORRIDOR/LOBBY
AUTO-ON/OFF THROUGH CEILING SENSOR, ROOM CONTROLLER, AND LOCAL DIGITAL OVERRIDE SWITCH. ALL FIXTURES INDICATED WITH "NL" ARE UNSWITCHED AND SHALL OPERATE 24/7.

NOTES
ALL OCCUPANCY/VACANCY SENSORS SHALL TURN OFF RESPECTIVE LIGHTING FIXTURES 20 MIN AFTER VACANCY.
AFTERHOUR OVERRIDE CONTROL SHALL HAVE A MAXIMUM OVERRIDE OF NO MORE THAN TWO HOURS PER ACTIVATION DURING SCHEDULED OFF PERIODS.
CONFIRM THE EXACT DIMMING REQUIREMENTS OF EACH PURCHASED LIGHTING FIXTURE, PRIOR TO ORDERING THE CORRESPONDING DIMMING ROOM CONTROLLER. COMPATIBILITY MUST BE VERIFIED.
LOWER CASE LETTER (EXAMPLE "A") LOCATED NEXT TO LIGHTING FIXTURE INDICATES THE LOCAL SWITCH ZONE.

NOTES - CON'T
WHERE REQUIRED LIGHTS SHALL BE CONTROLLED BY THE DAYLIGHT SENSORS AND AUTOMATICALLY BRIGHTEN AND DIM TO MAINTAIN THE REQUIRED LIGHT LEVEL IN THE SPACE. WHERE REQUIRED LIGHTS SHALL BE CONTROLLED BY THE DAYLIGHT SENSORS AND AUTOMATICALLY BRIGHTEN AND DIM TO MAINTAIN THE REQUIRED LIGHT LEVEL IN THE SPACE. ALL ENGRAVING OF SWITCHES SHALL BE COORDINATED WITH THE OWNER PRIOR TO ORDERING.

AUTOMATIC RECEPTION CONTROLS:
WHERE REQUIRED AT LEAST 50% OF RECEPTACLES AND 25% OF FEEDERS TO MODULAR FURNITURE SHALL AUTO OFF BY EITHER: TIME SCHEDULE, OCCUPANCY SENOR WITH 20 MIN. OFF DELAY OR AUTOMATED SIGNAL THAT SHALL AUTO OFF RECEPTACLES WITHIN 20 MIN.

EMERGENCY NOTES
ALL FIXTURES INDICATED WITH "EM" SHALL HAVE AN INTEGRAL EMERGENCY BATTERY AND BE INTERNALLY WIRED TO BYPASS LOCAL CONTROL, BRINGING FIXTURE TO FULL BRIGHTNESS DURING EMERGENCY OPERATION. ALL FIXTURES INDICATED WITH "NL" SHALL HAVE AN INTEGRAL EMERGENCY BATTERY AND BE UNSWITCHED NIGHT LIGHT.



KEY NOTES:

1. MAIN ENTRANCE SIGNAGE AND ADDITIONAL SIGNAGE SHALL BE ON A LIGHT CONTROLLER. SEE DETAIL 3 ON SHEET E-500.
2. ROOF ACCESS/MAINTENANCE DOOR SHALL NOT BE BLOCKED BY ANY DUCT, PIPES, WIRES, CONDUITS OR OTHER FIXED ITEMS.
3. OVERRIDE SWITCH TO CONTROL CORRIDOR LIGHTS.
4. EXTEND POWER TO MONUMENT SIGN AND PARKING LOT LIGHTS. PROVIDE ASTRONOMICAL TIME CLOCK FOR CONTROLS. FIELD VERIFY DISTANCES AND COORDINATE EXACT LOCATION. USE CIRCUIT # S INDICATED ON THE PANEL SCHEDULES.

1 ELECTRICAL LIGHTING PLAN

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

NORTH

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LEE'S SUMMIT, MISSOURI

ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION
MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: LN	Approved By: MBJ

Drawing Name:
ELECTRICAL LIGHTING PLAN

Drawing Number:
E-300

STATE OF MISSOURI — MATTHEW B. JARMEL — NUMBER A-2017014316 — ARCHITECT

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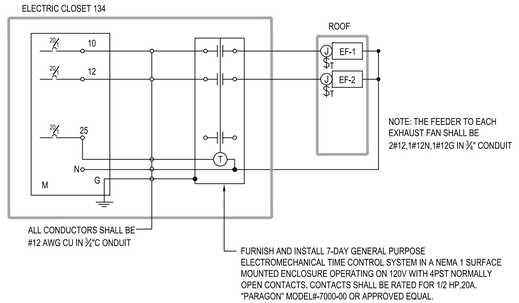
Project Number:	Scale:
TLEMO22-164	**AS NOTED**
Drawn By:	**Approved By:**
LN	**MBJ**

Drawing Name:

ELECTRICAL DIAGRAMS

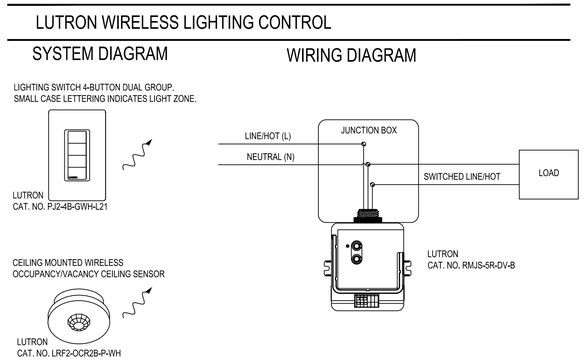
Drawing Number:

E-400



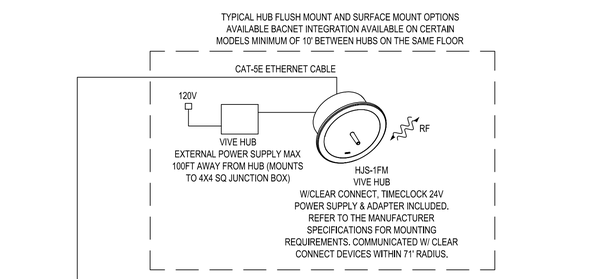
4 EXHAUST FAN TIMER DIAGRAM

SCALE: NTS



2 TYPICAL CLASSROOM LIGHTING CONTROL DIAGRAM

SCALE: NTS



3 LIGHTING CONTROL DIAGRAM & SPECIFICATIONS

SCALE: NTS

NOTES:

CONTRACTOR TO COORDINATE EXACT CONTROLLER DETAILS AND REQUIREMENTS WITH LIGHTING MANUFACTURER'S REPRESENTATIVE.

CONTRACTOR TO PROVIDE AND INSTALL ALL LUTRON VIVE SYSTEMS DEVICES, WIRING, AND ASSOCIATED COMPONENTS/ACCESSORIES.

WIRING NOTES:

LUTRON LIGHTING MANAGEMENT NETWORK

WHEN A LIGHTING MANAGEMENT NETWORK (LMN) IS REQUIRED TO ENABLE COMMUNICATIONS BETWEEN INDIVIDUAL LIGHT MANAGEMENT HUBS (LMH) AND BETWEEN LMH AND THE SYSTEM SERVER/DESKTOP/LAPTOP. THE LMN REQUIRES A DEDICATED LAN OR VLAN. IT IS THE RESPONSIBILITY OF THE NETWORK PROVIDER TO ENSURE THE RELIABILITY AND SECURITY OF THE LMN.

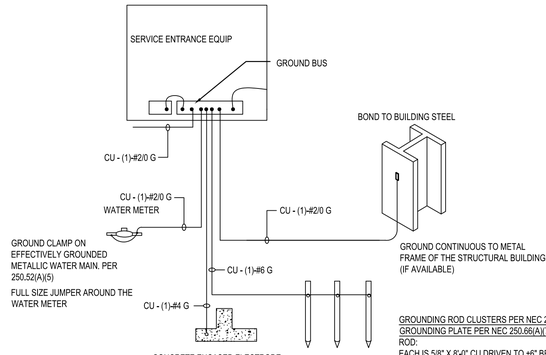
CATBE OR BETTER ETHERNET CABLE TO BE RUN FOR DEDICATED LMN TERMINATED WITH RJ45 CONNECTORS (PROVIDED BY OTHERS), THE NUMBER OF ETHERNET HOPS/SEGMENTS BETWEEN THE SERVER/DESKTOP/LAPTOP AND ANY LMN NODE SHALL NOT EXCEED 6. TOTAL LENGTH OF ETHERNET CABLE SHALL NOT EXCEED 328 FT (100M) POINT-TO-POINT.

IF LONGER RUNS ARE REQUIRED, MILTI-MODE FIBER OPTIC CABLE CAN BE USED INSTEAD WITH APPROPRIATE FIBER OPTIC CONNECTORS (PROVIDED BY OTHERS). CONSULT WITH NETWORK PROVIDER FOR STANDARD ETHERNET AND FIIBER OPTIC WIRING RULES FOR DISTANCE AND SEPARATION AS WELL AS FOR PLACEMENT OF SWITCHES, ROUTERS, HUBS ETC.

CONCEPT DRAWINGS NOTES:

CONTROL SYSTEM DRAWING IS PROVIDED FOR CONCEPTUAL PURPOSES ONLY AND IS NOT INTENDED FOR CONSTRUCTION. EXACT EQUIPMENT REQUIREMENTS, INCLUDING LOCATIONS AND QUANTITIES, SHOULD BE VERIFIED IN ACCORDANCE WITH THE MOST UP-TO-DATE LIGHTING/ELECTRICAL REFLECTED CEILING PLANS, LIGHTING FIXTURE SCHEDULES, PANEL SCHEDULES, CONTROL INTENT AND SPECIFICATIONS.

LIGHTING CONTROL TIMER NOTES:
1. INTERIOR LIGHTING TIMER SHOULD BE SET TO MONDAY - FRIDAY FROM 5:00 AM UNTIL 7:00 PM.
2. EXTERIOR LIGHTING TIMER SHOULD BE SET TO MONDAY - FRIDAY FROM 5:00 PM UNTIL 8:00 AM.



GROUNDING ROD CLUSTERS PER NEC 250.66(A)(5)OR GROUNDING PLATE PER NEC 250.66(A)(7):
ROD:
EACH IS 5/8" X 8'-0" CU DRIVEN TO ±6" BELOW FINISH GRADE - PROVIDE HAND HOLE FOR INSPECTION. PER 250.52(A)(5)
PLATE:
PLATE IS 1/4"D X 2"WX12"H OR LONGER CU GROUNDING PLATE. PER 250.52(A)(5)

NOTE:
ALL GROUNDING ELECTRODES SHALL BE CONNECTED AS PER LOCAL CODE REQUIREMENTS OR THESE ELECTRODES SHALL BE BONDED TOGETHER TO FORM THE GROUNDING ELECTRODE SYSTEM AND CONNECTED TO GROUND BUS AS PER NEC 250.50. GROUNDING ELECTRODE CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH 18-27-250.66.

TABLE 250.66
GROUNDING ELECTRODE CONDUCTOR FOR AC SYSTEMS

SIZE OF LARGEST UNGROUNDED SERVICE ENTRANCE CONDUCTOR OR EQUIVALENT AREA FOR PARALLEL CONDUCTORS		SIZE OF GROUNDING ELECTRODE CONDUCTOR (AWG/KCMIL)	
COPPER	ALUMINUM OR COPPER-CLAD ALUMINUM	COPPER	ALUMINUM OR COPPER-CLAD ALUMINUM SEE 250.64(A)
2 OR SMALLER	1/0 OR SMALLER	8	6
1 OR 1/0	2/0 OR 3/0	6	4
2/0 OR 3/0	4/0 OR 250	4	2
OVER 3/0 THROUGH 350	OVER 250 THROUGH 500	2	1/0
OVER 350 THROUGH 600	OVER 500 THROUGH 900	1/0	3/0
OVER 600 THROUGH 1100	OVER 900 THROUGH 1750	2/0	4/0
OVER 1100	OVER 1750	3/0	250

NOTES:
1. IF MULTIPLE SETS OF SERVICE ENTRANCE CONDUCTORS CONNECT DIRECTLY TO A SERVICE DROP, SET OF OVERHEAD SERVICE CONDUCTORS, SET OF UNDERGROUND SERVICE CONDUCTORS, OR SERVICE LATERAL, THE EQUIVALENT SIZE OF THE LARGEST SERVICE-ENTRANCE CONDUCTOR SHALL BE DETERMINED BY THE LARGEST SUM OF THE AREAS OF THE CORRESPONDING CONDUCTORS OF EACH SET.

COORDINATE W/ELECTRICAL PANEL SCHEDULES AND INCOMING RISER DIAGRAM, UTILITIES. ANY DISCREPANCIES THAT MAY ARISE MUST BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE DESIGNER PRIOR TO BID AND CONSTRUCTION.

NEC 250.66(A): CONNECTIONS TO A ROD, PIPE, OR PLATE ELECTRODE(S). WHERE THE GROUNDING ELECTRODE CONDUCTOR IS CONNECTED TO A SINGLE OR MULTIPLE ROD, PIPE, OR PLATE ELECTRODE(S), OR ANY COMBINATION THEREOF, AS PERMITTED IN 250.52(A)(5) OR (A)(7), THAT PORTION OF THE CONDUCTOR THAT IS THE SOLE CONNECTION TO THE GROUNDING ELECTRODE(S) SHALL NOT BE REQUIRED TO BE LARGER THAN 6 AWG COPPER OR 4 AWG ALUMINUM WIRE.

NEC 250.66(B): CONNECTIONS TO CONCRETE-ENCASED ELECTRODES. WHERE THE GROUNDING ELECTRODE CONDUCTOR IS CONNECTED TO A SINGLE OR MULTIPLE CONCRETE-ENCASED ELECTRODE(S) AS PERMITTED IN 250.52(A)(3), THAT PORTION OF THE CONDUCTOR THAT IS THE SOLE CONNECTION TO THE GROUNDING ELECTRODE(S) SHALL NOT BE REQUIRED TO BE LARGER THAN 4 AWG COPPER WIRE.

NEC ARTICLE 250.66 STATES THAT THE GROUNDING ELECTRODE CONDUCTOR (GEC) MUST BE SIZED BASED ON THE "LARGEST UNGROUNDED SERVICE-ENTRANCE CONDUCTOR OR EQUIVALENT AREA FOR PARALLEL CONDUCTORS". NEC ARTICLE 250.66(A)+(C) BASICALLY TELLS US WHAT SIZE GEC TO USE FOR WHICH TYPE OF GROUNDING ELECTRODE WE ARE ATTACHING TO. NEC TABLE 250.66 GIVES US THE REQUIRED SIZE GEC THAT MUST BE USED FOR THOSE UNGROUNDED CONDUCTORS.

1 GROUNDING DIAGRAM

SCALE: NTS

PLUMBING GENERAL NOTES

A. GENERAL

1. GENERAL NOTES, SYMBOLS LIST AND DETAILS ARE APPLICABLE TO ALL DRAWINGS MARKED "P".
2. THE CONTRACTOR SHALL FURNISH AND INSTALL THE PLUMBING SYSTEM IN A MANNER WHICH PROVIDES A COMPLETE AND OPERATIONAL PLUMBING SYSTEM, WITH ALL EQUIPMENT, PERMITS PIPING, VALVES, INSULATION, CONTROLS HANGERS, TRIM, ACCESSORIES AND ASSOCIATED INCIDENTAL WORK, IN ACCORDANCE WITH THE APPLICABLE CODES, ALL AUTHORITIES HAVING JURISDICTION, AND PER THE CONSTRUCTION DOCUMENTS.
3. CONTRACTOR SHALL INCLUDE THE COST OF ALL SMALL DETAILS, INCIDENTAL WORK, AND ACCESSORIES NOT SHOWN OR SPECIFIED, BUT WHICH CAN BE INFERRED FOR COMPLETE AND SATISFACTORY CODE COMPLIANT SYSTEM. PROVIDE OFFSETS, FITTINGS AND SIMILAR ITEMS TO ACCOMPLISH REQUIREMENTS OF COORDINATION WITHOUT ADDITIONAL EXPENSE.
4. THE DRAWINGS ARE DIAGRAMMATIC AND SHOW ONLY THE GENERAL ARRANGEMENTS/ROUTING OF ALL PIPING AND EQUIPMENT. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO SHOW OR INDICATE ALL OFFSETS, FITTINGS, AND ACCESSORIES WHICH MAY BE REQUIRED TO AVOID STRUCTURAL FEATURES AND OTHER OBSTRUCTIONS. DO NOT SCALE DRAWINGS FOR THE EXACT LOCATION OF FIXTURES, PIPING, EQUIPMENT, ETC. DETERMINE EXACT LOCATIONS OF SYSTEMS AND COMPONENTS IN FIELD.
5. ALL PLUMBING SYSTEMS ARE REQUIRED TO BE EXPOSED FOR INSPECTION.
6. PRIOR TO BEGINNING ANY WORK, SECURE PERMITS OR CLEARANCES FROM THE AUTHORITIES HAVING JURISDICTION. PROVIDE ALL LABOR AND MATERIALS FOR A COMPLETE INSTALLATION. WORK SHALL BE EXECUTED BY EXPERIENCED PLUMBERS WHO ARE LICENSED IN THE JURISDICTION WHERE THE PROJECT IS LOCATED.
7. CONTRACTOR SHALL COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL PLUMBING EQUIPMENT WITH THE ELECTRICAL DRAWINGS, AND APPROVED SUBMITTALS AND SHALL FURNISH EQUIPMENT WIRED FOR THE APPROPRIATE VOLTAGES.
8. CONTRACTOR SHALL COORDINATE ALL NEW WORK WITH NEW WORK OF OTHER TRADES AND EXISTING CONDITIONS AND PARTICIPATE IN THE PREPARATION OF COORDINATED SHOP DRAWINGS, IN ORDER TO AVOID CONFLICTS OF ANY TYPE.
9. MANUFACTURER'S MODEL NUMBERS ARE SPECIFIED SOLELY TO ESTABLISH THE STANDARDS OF QUALITY FOR PERFORMANCE PRODUCT AND INSTALLATION. THE CONTRACTOR SHALL ADHERE TO MANUFACTURER'S RECOMMENDATIONS AND MATERIALS, UNLESS OTHERWISE NOTED.
10. ALL WORK SHALL BE COORDINATED AND INSTALLED BY THIS CONTRACTOR AND SHALL BE INSTALLED IN SUCH A MANNER AS TO CLEAR ALL LIGHT FIXTURES, CEILING CONSTRUCTION, SPRINKLER PIPES AND HEADS, DUCTWORK CONDUITS, CABLES, WIRING, ETC.
11. ALL PLUMBING SERVICES GOING INTO THE BUILDING AND LEAVING THE BUILDING SHALL BE CONNECTED TO THE SITE UTILITIES. COORDINATE WITH SITE UTILITIES' COMPANY AND CIVIL DRAWINGS. COORDINATE ALL EXTERIOR UNDERGROUND PLUMBING WORK WITH THE SITE UTILITIES. BEFORE COMMENCING WORK, COORDINATE ALL UNDERGROUND PIPING LOCATIONS AND INVERTS WITH FOUNDATION DRAWINGS.
12. PIPE SLEEVES SHALL BE PROVIDED AND INSTALLED WHERE PIPES ARE ROUTED THROUGH FOUNDATION WALLS. PIPE SLEEVES SHALL BE GROUTED IN WALLS. SEALANT SHALL BE APPLIED AROUND THE PIPE IN THE SLEEVE IN ORDER TO PREVENT INGRESS OF MOISTURE. THE WALL PENETRATION SHALL BE COMPLETELY WATERPROOFED.
13. DO NOT PENETRATE WALL FOOTINGS WITH PIPING. COORDINATE TO DROP FOOTINGS TO CLEAR PLUMBING SERVICES WHERE ABSOLUTELY NECESSARY.
14. ALL PIPING PENETRATING A BEARING WALL OR FOOTING MUST BE SLEEVED AND LOCATION APPROVED BY STRUCTURAL ENGINEER.
15. ELEVATIONS LISTED FOR ALL PLUMBING SYSTEM PIPING IN THE CONTRACT DOCUMENTS ARE TO BE VERIFIED PRIOR TO CONSTRUCTION AGAINST EXISTING CONDITIONS, UTILITIES AND NEW CONSTRUCTION. CONTRACTOR SHALL COORDINATE ALL SLOPED PLUMBING SYSTEMS WITH OTHER BUILDING SYSTEM COMPONENTS.
16. PROVIDE ESCUTCHEONS AND SEALING OF ALL PENETRATIONS OF FIRE SEPARATIONS IN ACCORDANCE WITH THE APPLICABLE CODES.
17. INSTALLATION OF PLUMBING FIXTURES AND ACCESSORIES, INCLUDING FLUSH CONTROL VALVES INTENDED FOR PEOPLE WITH DISABILITIES, SHALL BE IN ACCORDANCE WITH ADA REQUIREMENTS.
18. ACCESS DOORS AND/OR PANELS SHALL BE PROVIDED AND INSTALLED AT ALL MAINTENANCE AND SERVICE LOCATIONS FOR CONCEALED CONTROL DEVICES, VALVES, TRAPS, CLEANOUTS, DRAIN POINT OR SIMILAR ITEMS AND PLUMBING EQUIPMENT/DEVICES. UNLESS A SIZE IS SPECIFICALLY NOTED, PANELS SHALL BE SIZED TO SERVICE EQUIPMENT/DEVICE. DOORS AND PANELS SHALL HAVE THE SAME FIRE RATING AS THE WALL OR CEILING IN WHICH THEY ARE INSTALLED. ACCESS DOORS AND/OR PANELS ARE NOT REQUIRED WHERE ADJUSTMENT, MAINTENANCE AND REPLACEMENT ARE POSSIBLE THROUGH LAY IN SUSPENDED CEILING.
19. ALL PIPING AND EQUIPMENT SHALL BE INDEPENDENTLY SUPPORTED FROM BUILDING STRUCTURE NOT FROM OTHER TRADES SUPPORT HANGERS.
20. NO PLUMBING (WATER, DRAINS, VENT, OR GAS PIPING) SHALL BE INSTALLED DIRECTLY ABOVE ANY ELECTRICAL PANELS. COORDINATE WITH OTHER DIVISIONS BEFORE PROCEEDING WITH INSTALLATION.
21. ALL PLUMBING EQUIPMENT, PIPING, INSULATION, ETC., INSTALLED IN HVAC PLENUM SPACES SHALL MEET CODE REQUIREMENTS FOR SMOKE AND FIRE RATING.
22. ALL INSULATION SHALL HAVE A COMPOSITE (JACKETS, FACINGS, ADHESIVES, ETC.), FIRE AND SMOKE HAZARD RATINGS AS TESTED BY PROCEDURE ASTM E-84, AND NFPA NOT EXCEEDING FLAME SPREAD OF 25 AND SMOKE DEVELOPED OF 50.
23. INSULATION SHALL NOT BE CRUSHED OR COMPRESSED THROUGH INTERFERENCE WITH SYSTEMS INSTALLED BY OTHER TRADES OR BUILDING CONSTRUCTION.
24. ALL PIPING SHALL BE INSTALLED AS HIGH AS POSSIBLE UNLESS NOTED OTHERWISE.
25. INSTALL SLOPED PLUMBING AND PIPING HIGH POINTS AS TIGHT AS POSSIBLE TO THE BUILDING STRUCTURE TO ALLOW PROPER PITCH AND MAXIMIZE CEILING HEIGHT.
26. ALL PIPPING ABOVE GRADE SHALL BE PROPERLY SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT REST ON CEILING TILES OR CEILING STRUCTURE.
27. ALL PIPING SHALL BE RUN PARALLEL TO BUILDING LINES AND COORDINATED WITH OTHER CONTRACT DOCUMENTS. PIPE IS TO BE SUPPORTED AND ANCHORED TO FACILITATE EXPANSION AND CONTRACTION.
28. ALL PIPING SHALL BE CONCEALED IN FURRED CHASES OR ABOVE SUSPENDED CEILING (CLEAR OF CEILING INSERTS) EXCEPT IN UNFINISHED SPACES. INSTALL REQUIRED PIPING TO MEET ALL CONSTRUCTION CONDITIONS AND TO ALLOW FOR INSTALLATION OF OTHER WORK INCLUDING BUT NOT LIMITED TO HVAC PIPING, DUCTWORK, HVAC EQUIPMENT, ELECTRICAL CONDUIT AND ELECTRICAL EQUIPMENT THAT IS TO BE INSTALLED WITH THE OTHER CONTRACTORS.
29. EXPOSED PIPING IN FINISHED AREAS SHALL BE CHROME-PLATED WITH A CHROME-PLATED ESCUTCHEON AT EACH FINISHED ENTRY/EXIT UNLESS OTHERWISE NOTED.
30. PROVIDE AND INSTALL CLAMPS, OFFSETS, EXPANSION JOINTS, ANCHORS AND GUIDES TO PREVENT STRESS ON PIPING AS PER CODE REQUIREMENTS.
31. DIELECTRIC UNIONS AND FLANGES SHALL BE USED ON ALL CONNECTIONS BETWEEN DISSIMILAR METALS.
32. COORDINATE ROOF PENETRATIONS WITH WORK OF OTHER SECTIONS AND WITH FLASHING REQUIREMENTS.
33. ALL VALVES SHALL BE CLEARLY IDENTIFIED WITH METAL OR PLASTIC VALVE TAGS LETTERING SHALL BE ENGRAVED OR PERMANENT MARKER. PROVIDE AND INSTALL METAL HANG CHAIN VALVE NUMBER WHICH SHALL BE KEYED TO THE AS-BUILT DRAWING SHOWING VALVE TYPE, SIZE AND LOCATION.
34. ALL PIPES FOR ANY SERVICE SHALL BE IDENTIFIED AS TO THEIR SERVICE BY COMMERCIALLY AVAILABLE, COLOR-CODED SELF-STICKING VINYL PIPE MARKERS. MARKING SHALL INCLUDE PIPE CONTENT AND DIRECTION OF FLUID FLOW IN ACCORDANCE WITH ANSI/ASME A13.1. PIPES SHALL BE MARKED ADJACENT TO ALL TO VALVES AND FLANGES, BOTH SIDES OF A FLOOR, CHANGE IN DIRECTION AND AT 25' INTERVALS ON STRAIGHT RUNS.
35. THE VERTICAL DEFLECTION OF PVC PIPE SHALL NOT EXCEED 5%. NO DEFLECTION IS PERMITTED FOR IRON PIPE.
36. ALL PIPING SHALL BE INSTALLED IN SUCH A MANNER AS TO AVOID FREEZING. ALL WATER PIPING SHALL BE INSTALLED BELOW ATTIC INSULATION AND NO PIPING SHALL BE INSTALLED WITHIN EXTERIOR WALLS UNLESS OTHERWISE NOTED. THE INSTALLATION OF PLUMBING SYSTEMS SHALL IN NO WAY CRUSH OR COMPROMISE BUILDING INSULATION AND ALL BELOW-GRADE WATER PIPING SHALL BE INSTALLED BELOW FROST DEPTH AS PER APPLICABLE CODE REQUIREMENTS.
37. AT THE COMPLETION OF THE WORK AND PRIOR TO THE FINAL ACCEPTANCE, ALL PARTS OF THE WORK SHALL BE THOROUGHLY CLEANED.
38. THE OPERATION OF THE PLUMBING SYSTEM DOES NOT CONSTITUTE AN ACCEPTANCE OF WORK BY THE OWNER. FINAL ACCEPTANCE IS TO BE MADE AFTER THE CONTRACTOR HAS DEMONSTRATED THAT THE WORK FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL REQUIRED CERTIFICATES OF APPROVAL FROM THE STATE AUTHORITIES, MUNICIPAL AUTHORITIES AND INSURANCE UNDERWRITERS.

B. DOMESTIC HOT AND COLD-WATER GENERAL NOTES

1. CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR ROOM LAYOUTS.
2. CONTRACTOR SHALL FURNISH AND INSTALL PLUMBING FIXTURES COMPLETE WITH APPROPRIATE TRAPS, CARRIERS, FITTINGS, LOCAL STOPS AND ANCILLARY ITEMS.
3. WATER DISTRIBUTION PIPE THAT HAS BEEN TERMINATED OR IS AN UNUSED SEGMENT SHALL HAVE NO DEAD ENDS. NO SEGMENT OF PIPE WITH A DEVELOPED LENGTH OF MORE THAN TWO (2'-0") FEET SHALL BE PERMITTED.
4. PROVIDE AND INSTALL WATER HAMMER ARRESTERS AT PLUMBING FIXTURES AND GROUPS OF PLUMBING FIXTURES THAT ARE SUBJECT TO WATER HAMMER. SELECT ARRESTERS IN ACCORDANCE WITH THE PLUMBING AND DRAINAGE INSTITUTE STANDARD.
5. CONTRACTOR TO INSULATE ALL COLD & HOT WATER PIPING INCLUDING WALL RUN. INSULATION ON COLD AND HOT WATER PIPES SHALL BE PER APPLICABLE ENERGY CODE. ALL WATER LINES IN EXTERIOR WALLS SHALL BE INSULATED AND LOCATED WITHIN THE INSULATION ENVELOPE OF THE BUILDING EXTERIOR WALL.
6. PRESSURE REDUCING VALVES SHALL BE INSTALLED ON BRANCH LINES SERVING FIXTURES AND/OR EQUIPMENT WHEN THE PRESSURE IN THE LINE EXCEEDS 80 P.S.I.
7. PROVIDE AND INSTALL REDUCED PRESSURE BACKFLOW PREVENTERS FOR DOMESTIC WATER SUPPLY CONNECTIONS.
8. ALL BELOW GRADE/SLAB COPPER PIPE SHALL BE PLACED WITHIN COPPER PIPE SLEEVE (10 MIL) POLYETHYLENE PLASTIC SLEEVE. EXTEND ALL SLEEVES ABOVE GRADE/SLAB.
9. WHEN TYPE L COPPER TUBING IS INSTALLED UNDER SLABS OR BELOW GRADE, IT SHALL BE INSTALLED WITHOUT JOINTS, IF POSSIBLE, WHERE JOINTS ARE PERMITTED, THEY SHALL BE BRAZED AND FITTINGS SHALL BE WROUGHT COPPER. TYPE M COPPER IS PROHIBITED.
10. UNIONS ARE NOT ALLOWED IN UNDER-SLAB OR BELOW-GRADE WATER PIPING SYSTEMS.
11. UNDER-SLAB PIPING SHALL BE LAID ON A FIRM BED OD CLEAN SAND THROUGHOUT ITS ENTIRE LENGTH PER CODE REQUIREMENTS.
12. ALL OUTSIDE HOSE BIBS MUST BE PROVIDED WITH ATMOSPHERIC VACUUM BREAKERS.
13. PROVIDE AND INSTALL SHUTOFF VALVES CLOSE TO WATER MAIN IN CORRIDORS AND WHERE INDICATED ON DRAWINGS ON ALL BRANCH PIPING AND ON ALL SUPPLIES TO INDIVIDUAL FIXTURES AND EQUIPMENT. ALL VALVES SHALL BE ACCESSIBLE, LOCATE AND ORIENT VALVE OPERATORS FOR EASE OF ACCESS AND FULL LIMITS OF OPERATION.
14. INSULATION AND VAPOR BARRIER SHALL BE PROVIDED ON ALL PIPING AND/OR EQUIPMENT SUBJECT TO HEAT LOSS, CONDENSATION, OR CONSTITUTING A POTENTIAL BURN HAZARD.
15. PROVIDE AND INSTALL DRAIN VALVES AT LOW POINTS IN MAINS.
16. COORDINATE LOCATION OF WATER METER AND VALVES IN MECHANICAL ROOM WITH OTHER TRADES AND UTILITY COMPANIES.
17. SINK AND LAVATORY WATER SUPPLY PIPING SHALL BE INSULATED TO COMPLY WITH THE AUTHORITY HAVING JURISDICTION AND THE AMERICAN'S WITH DISABILITIES ACT USING PREFABRICATED INSULATION.
18. ALL PLUMBING FIXTURES SHALL BE CONNECTED TO RIDGED PLUMBING WITH STAINLESS STEEL BRAIDED FLEX TUBES OF THE APPROPRIATE SIZE. FLEXIBLE CONNECTIONS SHALL INCLUDE A SHUTOFF VALVE PRIOR TO THE CONNECTION TO THE BRANCH RIDGED PIPE.
19. TESTING OF WATER PIPING SYSTEMS SHALL CONSIST OF WORKING PRESSURE UNDER WHICH SYSTEM IS TO BE USED OR A SIXTY (60) PSI AIR PRESSURE TEST FOR 30 MINUTES OR PER AUTHORITIES HAVING JURISDICTION STANDARDS.

C. DRAIN WASTE AND VENT PIPING

1. CONTRACTOR SHALL VERIFY INVERT ELEVATIONS OF EXISTING SEWERS IN WHICH NEW SEWER LINES ARE TO BE CONNECTED PRIOR TO INSTALLATION.
2. PROVIDE AND INSTALL VENTS AT HIGH POINTS IN PIPING SYSTEMS.
4. TOPS OF ALL FLOOR DRAINS SHALL BE SET FLUSH WITH FINISHED FLOOR.
5. DEAD ENDS SHALL BE AVOIDED IN DRAINAGE SYSTEM, EXCEPT WHERE NECESSARY TO EXTEND THE SYSTEM TO INSTALL A CLEANOUT IN AN ACCESSIBLE LOCATION, THE DEAD ENDS INTENDED FOR FUTURE CONNECTION OR CREATED BY REMOVAL OR ABANDONMENT OF PIPE; WHICH IS MORE THAN 2 FEET ABOVE A FLOOR OR MORE THAN 10 FEET HORIZONTALLY FROM THE NEAREST VENTED CONNECTION MUST HAVE A VENTED CONNECTION TO THE OUTSIDE ATMOSPHERE.
6. REFER TO PLANS FOR VENT THRU ROOF (VTR) PIPE SIZES AND LOCATIONS. LOCATE VTR A MINIMUM 10 FEET HORIZONTAL FROM ANY BUILDING OPENING OR FRESH AIR INTAKE INCLUDING HVAC EQUIPMENT. EXTEND VTR 12 INCHES ABOVE ROOF SURFACE UNLESS OTHERWISE NOTED. IF 10 FEET DISTANCE CANNOT BE ACHIEVED, LOCATE VTR 2 FEET ABOVE ADJACENT TOP OF FRESH AIR INTAKE OR BUILDING OPENINGS UNLESS OTHERWISE NOTED. PROVIDE 1 INCH FIBERGLASS INSULATION WITH ALL-SERVICE JACKET ON VENT PIPE INSIDE BUILDING WITHIN 6 FEET OF VTR LOCATION. VERIFY SMOKE AND FLAME SPREAD REQUIREMENTS AND COMPLY WITH SAME. VERIFY FLASHING AND COUNTERFLASHING AND COORDINATE INSTALLATION WITH ROOFING CONTRACTOR.
7. ALL INTERIOR SANITARY PIPING, 4 INCHES AND LARGER, SHALL BE SLOPED AT 1/8" PER FOOT, UNLESS NOTED OTHERWISE. ALL INTERIOR SANITARY PIPING, 3 INCHES AND SMALLER, SHALL BE SLOPED AT 1/4" PER FOOT, UNLESS NOTED OTHERWISE.
8. CHANGES IN THE DIRECTION OF SANITARY PIPING SHALL NOT BE MADE WITH FITTINGS WHICH WILL CAUSE EXCESSIVE REDUCTION IN THE VELOCITY OF FLOW OR CREATE ANY OTHER ADVERSE EFFECT, I.E.: USE OF SANITARY TEE IN A HORIZONTAL CONNECTION, USE OF A DOUBLE SANITARY TEE IN A VERTICAL STACK, USE OF SHORT RADIUS FITTINGS FOR BRANCH TO HOUSE DRAIN OR STACK CONNECTION.
9. SANITARY PIPING SHALL HAVE NO DEAD ENDS.
10. PROVIDE AND INSTALL CLEANOUTS IN SANITARY PIPING SYSTEMS AT ENDS OF RUNS, AT CHANGES IN DIRECTION, AT BASE OF STACKS AND AT 50-FOOT INTERVALS IN HORIZONTAL PIPING, AND ELSEWHERE AS INDICATED. CLEANOUTS SHALL BE INSTALLED IN NONPUBLIC PLACES WHENEVER POSSIBLE.
11. EXTEND ALL CLEANOUTS ON SANITARY SEWER AND KITCHEN WASTE BELOW SLAB-ON-GRADE TO FINISHED FLOOR LEVEL.
12. SINK AND LAVATORY WASTE PIPING SHALL BE INSULATED TO COMPLY WITH THE AUTHORITY HAVING JURISDICTION AND THE AMERICAN'S WITH DISABILITIES ACT USING PREFABRICATED INSULATION.
13. ALL PIPING SHALL BE INSTALLED IN SUCH A MANNER AS TO AVOID FREEZING.
14. INSTALL SLOPED PLUMBING AND PIPING HIGH POINTS AS TIGHT AS POSSIBLE TO THE BUILDING STRUCTURE TO ALLOW PROPER PITCH AND MAXIMIZE CEILING HEIGHT.
15. UNDER SLAB SANITARY PIPING SHALL BE LAID ON A FIRM BED THROUGHOUT ITS ENTIRE LENGTH. TRENCH SHALL BE SLOPED IN COMPLIANCE WITH APPLICABLE CODES.
16. DRAIN, WASTE, AND VENT (DWV) SYSTEM SHALL BE TESTED WITH NO LESS THAN 10' OF HEAD WATER ABOVE THE SYSTEM FOR 15 MINUTES OR 5 PSI AIR TEST FOR 15 MINUTES OR PER AUTHORITIES HAVING JURISDICTION STANDARDS.
17. PRIOR TO BACKFILL, PIPES SHALL BE WEIGHTED DOWN WITH CONCRETE BLOCKS TO PREVENT FLOTATION.
18. CLEANOUTS SHALL BE APPROVED TYPE WYE, COMBO FITTINGS.
19. CLEANOUTS SHALL BE INSTALLED WITHIN 2 FEET OF THE BUILDING TERMINATING AT GRADE LEVEL.
20. CONTRACTOR SHALL INSTALL ADDITIONAL CLEANOUTS AT PROPERTY LINES, END OF LINE, HORIZONTAL CHANGE OF DIRECTION AND RUNS EXCEEDING 50 FEET IN LENGTH.
21. CLEANOUTS SHALL BE INSTALLED SO THAT IT OPENS TO ALLOW CLEANING IN THE DIRECTION OF FLOW.
22. TRENCHES SHALL BE BACKFILLED AND COMPACTED IN 4 INCH LIFTS TO 12 INCHES ABOVE THE TOP OF THE PIPING WITH CLEAN SOIL OR SAND WHICH SHALL NOT CONTAIN STONES, BOULDERS, CONSTRUCTION DEBRIS OR DELETERIOUS MATERIALS THAT MAY BREAK OR DAMAGE PIPING OR CAUSE CORROSIVE ACTION.

D. STORM CONDUCTOR GENERAL NOTES

1. PROVIDE AND INSTALL CLEANOUTS IN STORM CONDUCTOR SYSTEMS AT ENDS OF RUNS, AT CHANGES IN DIRECTION, AT BASE OF STACKS AND AT 50-FOOT INTERVALS IN HORIZONTAL PIPING, AND ELSEWHERE AS INDICATED. CLEANOUTS SHALL BE INSTALLED IN NONPUBLIC PLACES WHENEVER POSSIBLE.
2. CHANGES IN THE DIRECTION OF STORM CONDUCTOR PIPING SHALL NOT BE MADE WITH FITTINGS WHICH WILL CAUSE EXCESSIVE REDUCTION IN THE VELOCITY OF FLOW OR CREATE ANY OTHER ADVERSE EFFECT, I.E.: USE OF SANITARY TEE IN A HORIZONTAL CONNECTION, USE OF A DOUBLE SANITARY TEE IN A VERTICAL STACK, USE OF SHORT RADIUS FITTINGS FOR BRANCH TO HOUSE DRAIN OR STACK CONNECTION.
3. EXTEND ALL CLEANOUTS ON RAIN WATER CONDUCTOR LINES BELOW SLAB-ON-GRADE TO FINISHED FLOOR LEVEL.
4. CLEANOUTS SHALL BE INSTALLED SO THAT IT OPENS TO ALLOW CLEANING IN THE DIRECTION OF FLOW.
5. CLEANOUTS SHALL BE APPROVED TYPE WYE, COMBO FITTINGS.
6. FOOTING DRAINS, ROOF DOWN SPOUTS AND CURTAIN DRAINS ARE TO BE CONNECTED TO THE STORM DRAINAGE SYSTEM OR SWALES AS SHOWN ON THE CONSTRUCTION PLANS, UNLESS OTHERWISE NOTED.
7. DEAD ENDS SHALL BE AVOIDED IN DRAINAGE SYSTEM, EXCEPT WHERE NECESSARY TO EXTEND THE SYSTEM TO INSTALL A CLEANOUTS IN AN ACCESSIBLE LOCATION.
8. INSULATION AND VAPOR BARRIER SHALL BE PROVIDED ON ALL INTERIOR ABOVE-GROUND HORIZONTAL STORM CONDUCTOR SYSTEMS SUBJECT TO CONDENSATION.
9. INSULATION SHALL NOT BE CRUSHED OR COMPRESSED THROUGH INTERFERENCE WITH SYSTEMS INSTALLED BY OTHER TRADES OR BUILDING CONSTRUCTION.
10. ALL PIPING SHALL BE INSTALLED IN SUCH A MANNER AS TO AVOID FREEZING.
11. INSTALL SLOPED PLUMBING AND PIPING HIGH POINTS AS TIGHT AS POSSIBLE TO THE BUILDING STRUCTURE TO ALLOW PROPER PITCH AND MAXIMIZE CEILING HEIGHT.
12. UNDER SLAB AND BURIED STORM WATER PIPING SHALL BE LAID ON A FIRM BED OF CLEAN SAND THROUGHOUT ITS ENTIRE LENGTH. TRENCH SHALL BE SLOPED AS PER APPLICABLE CODES.
13. PRIOR TO BACKFILL PIPES SHALL BE WEIGHTED DOWN WITH CONCRETE BLOCKS TO PREVENT FLOTATION.
14. TRENCHES SHALL BE BACKFILLED AND COMPACTED IN 4 INCHES LIFTS TO 12 INCHES ABOVE THE TOP OF THE PIPING WITH CLEAN EARTH OR SAND WHICH SHALL NOT CONTAIN STONES, BOULDERS, CONSTRUCTION DEBRIS OR MATERIALS THAT WOULD BREAK OR DAMAGE PIPING OR CAUSE CORROSIVE ACTION.

E. GAS PIPING SYSTEM GENERAL NOTES

1. CONNECTION AT EACH GAS APPLIANCE SHALL INCLUDE AN INVERTED TRAP, GAS SHUT-OFF COCK, UNION, AND DIRT LEG.
2. PROVIDE AND INSTALL DIRT LEG AT BOTTOM OF ALL VERTICAL RISERS AND DROPS IN GAS LINES.
3. THE CONTRACTOR SHALL PROVIDE GAS PIPING TO ROOFTOP EQUIPMENT. THE RTU AND MUA EQUIPMENT SUPPLIER SHALL FURNISH INTEGRAL GAS REGULATORS AND RESTRAINING DEVICES FOR EACH GAS CONSUMING APPLIANCE. CONTRACTOR SHALL INSTALL ALL GAS CONSUMING EQUIPMENT PER MANUFACTURER'S INSTALLATION REQUIREMENTS.
4. GAS REGULATING VALVES, AS DEPICTED ON DRAWINGS, SHALL BE SUPPLIED AND INSTALLED BY THIS CONTRACTOR.
5. THE CONTRACTOR SHALL PROVIDE GAS PIPING TO PLUMBING EQUIPMENT. THE WATER HEATER AND SIMILAR GAS EQUIPMENT CONTRACTOR SHALL FURNISH AND INSTALL GAS REGULATORS AND RESTRAINING DEVICES FOR EACH GAS CONSUMING APPLIANCE. CONTRACTOR SHALL INSTALL ALL GAS CONSUMING EQUIPMENT PER MANUFACTURER'S INSTALLATION REQUIREMENT.
6. GAS PIPING SHALL BE PROVIDED IN ACCORDANCE WITH THE CURRENT CODES.
7. FUEL GAS SERVICES SHALL BE SIZED TO SUPPLY THE REQUIRED BTUH INDICATED TO THE EQUIPMENT AT PRESSURES AS SHOWN ON THE DRAWINGS. PROVIDE AND INSTALL PRESSURE REGULATORS.
8. GAS PIPING SHALL BE SCHEDULE 40, ASME B36.10. PIPING JOINTS SHALL BE THREADED (4-INCH PIPE OR LESS) OR WELDED FITTINGS SHALL BE STEEL OR MALLEABLE IRON UNLESS OTHERWISE NOTED. FLEXIBLE GAS PIPING MAY BE USED IF APPROVED BY ENGINEER AND AUTHORITIES HAVING JURISDICTION.
9. REFER TO EQUIPMENT PRODUCT DATA FOR EXACT LOCATIONS OF FIXTURES, REQUIRED BTUH, PIPE ROUGH-IN HEIGHTS AND ADDITIONAL INFORMATION.
10. GAS PIPING SHALL BE INSPECTED, TESTED AND PURGED IN ACCORDANCE WITH THE BUILDING CODES AND GAS UTILITY REQUIREMENTS.
11. ALL GAS EQUIPMENT SHALL BE LISTED.
12. GAS PIPING OUTSIDE OF BUILDING SHALL BE PAINTED WITH YELLOW ZINC-RICH PAINT, IF AGAINST THE BUILDING, PAINT TO MATCH SURFACE.
13. GAS PIPING SHALL BE HUNG TIGHT TO THE STRUCTURE, AND SUPPORTED WITH HANGERS AS PER CODE REQUIREMENTS.
14. BRANCH TAPS SHALL BE MADE OFF THE TOP OF THE PIPING.

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY
2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC.
3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.

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ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	**AS NOTED**
Drawn By: **LN**	Approved By: **MBJ**

Drawing Name:

PLUMBING GENERAL NOTES

Drawing Number:

P-100

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	FIXTURE MANUFACTURER No.	FIXTURE TRIM No.	FIXTURE SUPPORT No.	FIXTURE TYPE	FIXTURE CONNECTION SOIL OR WASTE	FIXTURE CONNECTION VENT	FIXTURE CONNECTION CW	FIXTURE CONNECTION HW	SUPPLY FIXTURE UNITS CW	SUPPLY FIXTURE UNITS HW	GPM CW	GPM HW	SANITARY WASTE DFU	REMARKS
WC-1	WATER CLOSET	AMERICAN STANDARD MADERA FLOWISE 16-1/2" ELONGATED MODEL 3043.001 (ELONGATED BOWL; 16.5" RIM; TOP SPUD) OPEN SEAT 12x18 ROUGH	FLUSH VALVE SLOAN ROYAL #111	FLOOR MTD 18" FROM SIDE WALL TO CENTER	NO TANK	4"	2"	1"	--	5.0	--	3.0	--	4.0	1.1 GPF/ 4.2 LPF LEVER HANDLE TO BE OPEN SIDE OF ROOM
WC-2	WATER CLOSET	AMERICAN STANDARD MADERA FLOWISE 14" ELONGATED MODEL 2599.001 (ELONGATED BOWL: 14" RIM; TOP SPUD) OPEN SEAT 12x18 ROUGH	FLUSH VALVE SLOAN ROYAL #111	FLOOR MTD 14" FROM SIDE WALL TO CENTER	NO TANK	4"	2"	1"	--	5.0	--	3.0	--	4.0	1.1 GPF/ 4.2 LPF LEVER HANDLE TO BE OPEN SIDE OF ROOM
WC-3	WATER CLOSET	AMERICAN STANDARD 10" BABY DEVORO PRESSURE ASSISTED TOILET 2282.001, OPEN FRONT SEAT LESS COVER	FLUSH VALVE SLOAN ROYAL #111	FLOOR MTD 12" FROM SIDE WALL TO CENTER	NO TANK	4"	2"	1"	--	5.0	--	2.5	--	4.0	COORDINATE WATER SUPPLY WITH GRAB BAR HEIGHT 1.28GPF/ 4.8 LPF LEVER HANDLE TO BE OPEN SIDE OF ROOM
L-1	LAVATORY	AMERICAN STANDARD LUCERNE WALL HUNG LAV MODEL 0355.012	FAUCET:MOEN 8938 (4")	WALL HUNG	--	1-1/2"	1-1/2"	1/2"	1/2"	1.0	1.0	2.0	2.0	1.0	
DF-1	EXTERIOR DRINKING FOUNTAIN	ELKAY NO LEAD SWIRFLO EDFP214C (NO WALL PLATE & NO FROST PROTECTION) FOR SOUTHERN STATES. EDFP214FPK (FROST-PROOF) FOR NORTHERN STATES.			WALL MOUNTED	1-1/2"	1-1/2"	1/2"	--	0.5	--	0.75	--	0.5	REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT
DF-2	INTERIOR DRINKING FOUNTAIN	FOR INTERIOR LOC. ELKAY LZSTLDDWSLK ELKAY EZH2O BOTTLE FILLING STATION & VERSATILE BI-LEVEL ADA COOLER, FILTERED NON-REFRIGERATED, LIGHT GRAY			WALL MOUNTED	1-1/2"	1-1/2"	1/2"	--	0.5	--	0.75	--	0.5	REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT
S-1	PANTRY HAND/ PREP SINK/ CLASSROOM SINK	ELKAY SINGLE BOWL SINK MODEL PSRADQ 1919-55 L/R	FAUCET MOEN TWO HANDLE BAR MODEL 4903 2 HOLES 4" CENTERS	COUNTERTOP	--	2"	1-1/2"	1/2"	1/2"	1.5	1.5	3.0	3.0	2.0	INDIRECT WASTE FOR PANTRY PREP SINK ONLY, SAME MODEL SERVES AS THE CLASSROOM SINK.
S-2	3 BAY SINK	AERO MANUFACTURING CO.	AERO NSF F3 SERIES TRIPLE SINK MF3-1818	FAUCET AERO S6 14" ONE SET	FLOOR MOUNTED WITH LEGS	2"	1-1/2"	1/2"	1/2"	1.5	1.5	3.0	3.0	2.0	PROVIDE W/ AERO LEVERWASTE MODEL S-97. PROVIDE DRAINBOARDS W/ STAINLESS STEEL FEET SO THAT THEY WILL ANGLE INTO SINK AND HAVE PROTECTIVE BOTTOM, SO COUNTER DOESN'T SCRATCH. PROVIDE ONE ON EACH SIDE. PROVIDE INDIRECT WASTE AT EACH BASIN (REF. DTL. 7 / P-600). PROVIDE (2) COUNTERTOP DRAIN BOARDS (AERO 4D-1830). PROVIDE INDIVIDUAL DRAIN LEVERS.
S-3	LAUNDRY SINK	FIAT	FL-1 W/LEGS	MOEN FAUCET 4903	FLOOR MOUNTED WITH LEGS	2"	1-1/2"	1/2"	1/2"	2.0	2.0	3.0	3.0	2.0	
S-4	JANITOR SINK	FIAT	MSB2424	FAUCET 830-AA	FLOOR MOUNTED	2"	1-1/2"	1/2"	1/2"	2.0	2.0	3.0	3.0	2.0	PROVIDE HOSE AND HOSE BRACKET 832-AA PROVIDE MOP HANGER 889-CC
FD-1	FLOOR DRAIN	J.R. SMITH	MODEL NO. 2010 A	--	WITH 4"DEEP TRAP (WITH PRIMER)	3"	1-1/2"	--	--	--	--	--	--	--	
HB-1	HOSE BIB	ZURN	MODEL Z1341XL	--	WALL MOUNTED	--	--	--	--	--	--	--	--	--	ANNUAL WINTERIZATION SHALL BE PART OF TLE OPERATIONAL MAINTENANCE. VANDAL RESISTANT.
FS-1	FLOOR SINK	ZURN	MODEL NO. Z1751	--	WITH 4" DEEP SUMP DEPTH	3"	1-1/2"	--	--	--	--	--	--	--	

GREASE TRAP SCHEDULE

TAG	TYPE	MFGR	MODEL	OUTLET	INLET	GPM	CAP.	REMARKS
GT-1	RECESSED	SCHIER	GB-25	3"	3"	25	50	LIFTOUT SEDIMENT BUCKET WITH ACCESS HOUSING PROVIDE VENTED FLOW CONTROL DEVICE

NOTE:
CONTRACTOR SHALL VERIFY WITH LOCAL CODE OFFICIAL IF THE GREASE TRAP IS REQUIRED AND IF SO, IT SHALL BE INSTALLED BELOW SLAB, FLUSH TO FLOOR IN CENTER OF THE ROOM AND MUST NOT BLOCK ANY CABINETS OR SINKS. IF NOT REQUIRED BY CODE, GREASE TRAP CAN BE OMITTED

H. W. RECIRCULATING PUMP

TAG	LOCATION	MAKE & MODEL	STATIC HD FT.	GPM	RPM	WATTS	ELEC DATA	REMARKS
HWRP-1	MECH.ROOM	BELL&GOSSETT NBF-8S/LW	5 FT	5	2800	39	115V-1PH-60HZ	

NOTE:
PUMP SHALL BE CONTROLLED BY A DEDICATED TIME CLOCK LOCATED IN THE SAME ROOM AS THE WATER HEATER. SEE ELECTRICAL DWGS FOR DETAILS.

EXPANSION TANK SCHEDULE

TAG	TOTAL CAPACITY	MANU. & MODEL	LOCATION
ET-1	8.5	WATTS PLT-20	MOUNTED IN THE CEILING OF MECHANICAL ROOM
ET-2	2.1	WATTS PLT-20	MOUNTED IN THE CEILING OF THE JANITOR ROOM

ELECTRIC WATER HEATER SCHEDULE

TAG	STORAGE GALS	RECOVERY GPH	RECOVERY DEG RISE	NUMBER ELEMENTS	ELECTRICAL TOTAL KW	V	PH	HZ	TEMP SETTING	LOCATION	MANUFACTURER & MODEL	REMARKS
EWH-1	120	102	60° F	3	15.0	208	3	60	110 F	ON FLOOR OF MECH. ROOM	RHEEM ES-120	PROVIDE EXPANSION TANK & RECIRCULATION PUMP HWRP-1
EWH-2	50	109	90° F	2	24.0	208	3	60	140 F	ON FLOOR OF JANITOR'S CL	RHEEM ES-50	PROVIDE EXPANSION TANK

GREASE TRAP SELECTION

DETERMINE THE CUBIC CONTENT OF THE FIXTURE	3 BAY SINK - 18" X 18" X 14" = 4,536 IN^3 X 3 (BAY) = 13,608 IN^3 PREP SINK - 16" X 13½" X 5½" = 1,161 IN^3
DETERMINE THE CAPACITY IN GALLON 1 GAL=231 CUBIC INCHES	CONTENTS IN GALLONS 14,769 IN^3/231 = 63.94 GALLONS.
DETERMINE ACTUAL DRAINAGE LOAD ACTUAL DRAINAGE LOAD = 75% OF FIXTURE CAPACITY	ACTUAL DRAINAGE LOAD 0.75 x 63.94= 47.95 GALLONS
DETERMINE THE FLOW RATE AND THE DRAINAGE PERIOD FLOW RATE = ACTUAL DRAINAGE LOAD/DRAINAGE PERIOD	CALCULATE FLOW RATE FOR 2 MINUTE PERIOD 47.95/2 MIN= 23.97 GPM
SIZE OF GREASE TRAP	23.97 GPM REQUIRES A GREASE TRAP SIZE OF 50 LB/25 GPM SEE GREASE TRAP SCHEDULE FOR SELECTION

WATER HAMMER ARRESTOR SCHEDULE

TAG	PIPE SIZE	J.R. SMITH	JOSAM	ZURN	REMARKS
WHA-A	1/2"	5005	EQUAL	EQUAL	STAINLESS STEEL
WHA-B	1"	5007	EQUAL	EQUAL	STAINLESS STEEL

THERMOSTATIC MIXING VALVE SCHEDULE

MARK	TMV-1
MANUFACTURER	SYMMONS
MODEL NO.	7-1000NW
INLET& OUTLET SIZE	1 1/2" & 2"
SERVICE	EWH-1
MAX FLOW RATE (GPM)	140
PRESSURE DROP (PSI)	20 @ 100 GPM
INLET TEMP. (COLD WATER)	40
OUTLET TEMP. (HOT WATER)	110

BACKFLOW PREVENTER SCHEDULE

MARK	BFP-1
MANUFACTURER	WATTS
MODEL NO.	957 (FOR 2 ½" OR HIGHER CW SERVICE) 009 (FOR 2 " OR LESS CW SERVICE)
SERVICE	BUILDING
TYPE	RED. PRESSURE
REMARKS	1

1. SEE SPECIFICATIONS FOR APPROVED EQUALS.

PLUMBING ABBREVIATIONS

A
- AFF — Above Finish Floor
- AP — Access Panel

B
- BLDG — Building
- BOB — Bottom Of The Beam
- BOP — Bottom Of Pipe
- BT — Bath Tub
- BWV — Back Water Valve

C
- CFH — Cubic Feet per Hour
- CFM — Cubic Feet per Minute
- CFS — Cubic Feet Per Second
- CI — Cast Iron
- CLG — Ceiling
- CLDI — Cement Lined Ductile Iron
- CO — Cleanout
- CONC — Concrete
- CONN — Connection
- CONT — Continuation
- COTG — Cleanout To Grade
- CP — Chrome Plated
- CTE — Connect to Existing
- CV — Check Valve
- CW — Cold Water
- CWR — Cold Water Return
- CWS — Cold Water Supply

D
- DCVA — Double Check Valve Assembly
- DF — Drinking Fountain
- DIA — Diameter
- DN — Down
- DROP — Drop (Within Floor)
- DWG — Drawing
- DWV — DRAIN WASTE AND VENT

E
- (E) — Existing
- EL — Elevation
- ET — Expansion Tank
- EWC — Electrical Water Cooler (Drinking Fountain)

F
- FCO — Floor Cleanout
- FD — Floor Drain
- FEC — Fire Extinguisher Cabinet
- FHC — Fire Hose Cabinet
- FHR — Fire Hose Rack
- FHV — Fire Hose Valve
- FHVC — Fire Hose Valve Cabinet
- FL — Floor
- FP — Fire Protection
- FPWH — Freeze Proof Wall Hydrant
- FS — Flow Switch
- FSK — Floor Sink
- FT — Feet
- FV — Flush Valve

G
- GAL — Gallons
- GALV — Galvanized
- GCO — Ground Clean Out
- GI — Grease Interceptor
- GPF — Gallons per Flush
- GPM — Gallons per Minute
- GT — Grease Trap
- GV — Gate Valve

H
- HB — Hose Bib
- HC — Handicapped
- HW — Hot Water
- HWR — Hot Water Return
- HWRP — Hot Water Recirculating Pump
- HWS — Hot Water Supply

I
- ID — Inside Diameter
- IN — Inch
- INV — Invert Elevation
- IW — Indirect Waste

J
- JS — Janitor Sink

M
- MAX — Maximum
- MECH — Mechanical
- MH — Manhole
- MIN — Minimum
- MSB — Mop Service Basin

N
- (N) — New
- NC — Normally Closed
- NIC — Not In This Contract
- NO — Normally Open

O
- OD — Outside Diameter
- OED — Open End Drain

P
- P/FT — Pitch Per Foot
- PIV — Post Indicator Valve
- PLBG — Plumbing
- POC — Point Of Connection
- PRV — Pressure Reducing Valve
- PSI — Pounds per Square Inch

R
- RC — Roof Receptor
- RD — Roof Drain
- RISE — Rise (With In Floor)
- RPBP — Reduced Pressure Backflow Preventer

S
- SA — Shock Absorber
- SAN — Sanitary
- SD — Sanitary Drain
- SHWR — Shower
- SE — Sewage Ejector
- SF — Square Feet
- SK — Sink
- SP — Sump pump
- SPKR — Sprinkler
- SS — Soil Stack or Stainless Steel
- ST — Storm Piping

T
- TLT — Toilet
- TOP — Top Of Pipe
- TOS — Top Of Slab
- TS — Tamper Switch
- TW — Tempered Water
- TYP — Typical

U
- U — Urinal
- UON — Unless Otherwise Noted
- UP — Up (Penetrates Floor Slab)

V
- V — Vent
- VB — Vacuum Breaker
- VFD — Variable Frequency Drive
- VS — Vent Stack
- VTR — Vent through Roof

W
- W — Washer
- WC — Water Closet (Toilet)
- WH — Wall Hydrant
- WS — Waste Stack

PLUMBING SPECIFICATIONS

ALL DOMESTIC WATER PIPING SHALL BE COPPER TYPE L. CONTRACTOR SHALL PROVIDE ALTERNATE PRICE FOR PEX PIPING IF APPROVED BY AUTHORITY HAVING JURISDICTION. PIPE FITTING AND CLAMPS MUST BE COMPATIBLE AND MANUFACTURED BY ONE MANUFACTURER.

SANITARY DRAIN PIPING AND FITTINGS 6" AND SMALLER SHALL BE CAST IRON. CONTRACTOR SHALL PROVIDE ALTERNATE PRICE FOR PVC IF APPROVED BY AUTHORITY HAVING JURISDICTION.

NO COMBUSTIBLE PIPING CAN BE INSTALLED IN RETURN PLENUM OR IN NOT PROTECTED BY SPRINKLER ENCLOSURE.

DIELECTRIC FITTINGS: CONNECTIONS TO DISSIMILAR METALS 2" AND SMALLER PIPE SIZE SHALL BE MADE USING VICTAULIC CLEARFLOW STYLE 47 DIELECTRIC WATERWAY CONNECTOR 2-½" AND LARGE PIPE SIZE SHALL BE MADE BY USING FLANGES WITH DIELECTRIC ISOLATION GASKETS.

PIPE INSULATORS: FIBERGLASS WITH ALL SERVICE JACKET, SCHULLER, OWENS-CORNING OR KNAUF, MIN. 1" THICK.

HOT AND COLD WATER SHUTOFF VALVES FIBERGLASS WITH ALL SERVICE JACKET, SCHULLER, OWENS-CORNING OR KNAUF

ALL WATER HAMMER ARRESTOR TO BE CONNECTED BETWEEN THE TWO LAST TWO FIXTURES OF ANY RUN. THIS APPLIES BOTH TO HOT AND COLD WATER PIPING.

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY
2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC
3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

PLUMBING LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
	BV	BALL VALVE
	GATE	SHUT OFF VALVE
	RV	RELIEF VALVE
		GAS VALVE
	DN	PIPE ELBOW DOWN OR DROP
	UP	PIPE ELBOW UP OR RISE
	CW	COLD WATER
	HW	HOT WATER
	HWR	HOT WATER RETURN (SET@110F)
	GP	GREASE PIPING
SAN	SAN	SANITARY
SANV	SANV	VENT
STM	STM	STORM PIPING
		AMERICAN DISABILITIES ACT
	EWH	ELECTRIC WATER HEATER
	VTR	VENT THRU ROOF
	C.O.	CLEANOUT
	C.O.D.P.	CLEANOUT DECK PLATE
	W.C.O.	WALL CLEANOUT
	C.O.W.P.	CLEANOUT WALL PLATE
	WHA	WATER HAMMER ARRESTOR
	F.D.	FLOOR DRAIN
		CHECK VALVE
	CV	CONTROL VALVE
	HB	HOSE BIBB
		PUMP
		STRAINER
	VB	VACUUM BREAKER
	L-1	LAVATORY SINK
	WC-1 / WC-2 / WC-3	WATER CLOSET
	S-3	LAUNDRY SINK
	W-1	WASHER
	S-1	PANTRY HAND/PREP AND CLASSROOM SINK
	S-2	3-BAY SINK
	DF-1	DRINKING FOUNTAIN
	S-4	JANITOR SINK
	SP-1	ELEVATOR SUMP PUMP
	SE-1	SEWAGE EJECTOR PUMP
	GT-1	GREASE TRAP

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ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: LN	Approved By: MBJ

Drawing Name:
PLUMBING ABBREVIATIONS, SCHEDULES, SPECIFICATIONS AND LEGEND

Drawing Number:
P-101

STATE OF MISSOURI — MATTHEW B. JARMEL — NUMBER A-2017014316 — ARCHITECT

Project name: TLE - Lee's Summit, MO
Project number: TLEMO22-164
Project address: Arbotwalk West, Lee's Summit, MO
Date: 6/1/2023

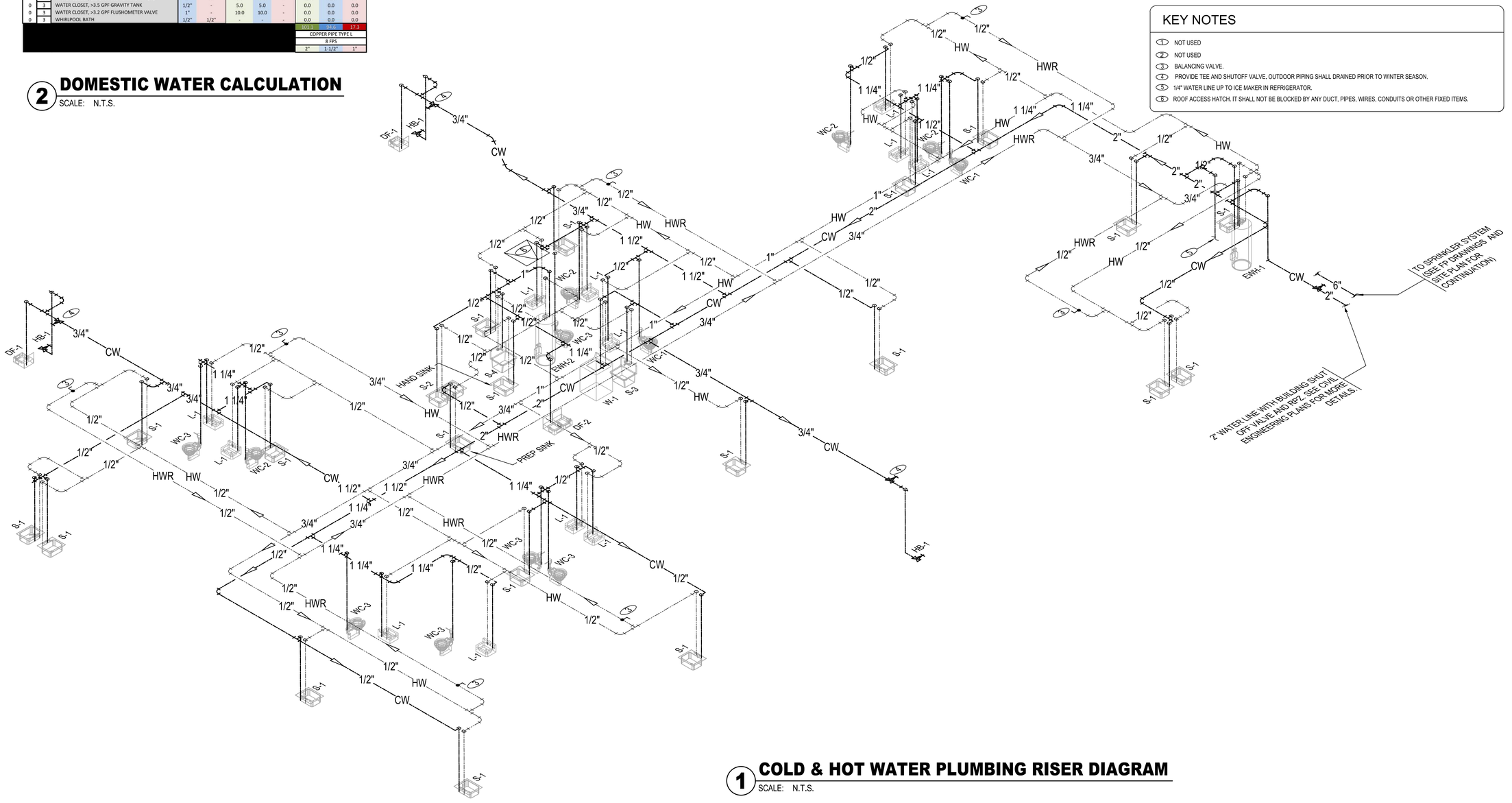
As per 2018 International Plumbing Code,Table E103.3(2) , Table E103.3(3) and Figure E103.3(3)

WATER SUPPLY FIXTURE UNIT LOAD CALCULATOR

QTY.	SPECIFY USE:	FIXTURES	USE: MINIMUM BRANCH PIPE SIZE		3 IN OTHER THAN DWELLING UNITS			FIXTURE UNITS		
			COLD	HOT	TOTAL	COLD	HOT	TOTAL	COLD	HOT
0	3	BAR SINK	3/8"	3/8"	-	-	-	0.0	0.0	0.0
0	3	BATHTUB(COMBO TUB/SHOWER	1/2"	1/2"	-	-	-	0.0	0.0	0.0
0	3	BIDET	1/2"	1/2"	-	-	-	0.0	0.0	0.0
1	3	CLOTHES WASHER, DOMESTIC (W-1)	1/2"	1/2"	4.0	3.0	3.0	4.0	3.0	3.0
0	3	DISHWASHER, DOMESTIC	-	1/2"	1.5	-	1.5	0.0	0.0	0.0
3	3	DRINKING FOUNTAIN/WATER COOLER (DF-1/DF-2)	1/2"	-	0.3	0.3	-	0.8	0.8	0.0
1	3	HOSE BIBB (FIRST)	1/2"	-	2.5	2.5	-	2.5	2.5	0.0
2	3	HOSE BIBB (EACH ADDITIONAL)	1/2"	-	1.0	1.0	-	2.0	2.0	0.0
1	3	KITCHEN SINK, DOMESTIC (S-2)	1/2"	1/2"	1.4	1.0	1.0	1.4	1.0	1.0
1	3	LAUNDRY SINK (S-3)	1/2"	1/2"	1.4	1.0	1.0	1.4	1.0	1.0
12	3	LAVATORY (L-1)	1/2"	1/2"	0.7	0.5	0.5			
20	3	REGULAR SINK (S-1)	1/2"	1/2"	0.7	0.5	0.5	14.0	10.0	10.0
1	3	SERVICE/MOP SINK (S-4)	1/2"	1/2"	3.0	2.3	2.3	3.0	2.3	2.3
0	3	SHOWER	1/2"	1/2"	1.4	1.0	1.0	0.0	0.0	0.0
0	3	URINAL, 1.0 GPF	3/4"	-	4.0	4.0	-	0.0	0.0	0.0
0	3	URINAL, >1.0 GPF	3/4"	-	5.0	5.0	-	0.0	0.0	0.0
0	3	WATER CLOSET, 1.6 GPF GRAVITY TANK	1/2"	-	2.0	2.0	-	0.0	0.0	0.0
0	3	WATER CLOSET, 1.6 GPF FLUSHOMETER TANK	1/2"	-	2.2	2.2	-	0.0	0.0	0.0
12	3	WATER CLOSET, 1.6 GPF FLUSHOMETER VALVE	1"	-	6.0	6.0	-	72.0	72.0	0.0
0	3	WATER CLOSET, >3.5 GPF GRAVITY TANK	1/2"	-	5.0	5.0	-	0.0	0.0	0.0
0	3	WATER CLOSET, >3.2 GPF FLUSHOMETER VALVE	1"	-	10.0	10.0	-	0.0	0.0	0.0
0	3	WHIRLPOOL BATH	1/2"	1/2"	-	-		0.0	0.0	0.0
								103.1	93.6	17.3
								COPPER PIPE TYPE L		
								8 FPS		
								2"	1-1/2"	1"

2 DOMESTIC WATER CALCULATION

SCALE: N.T.S.



1 COLD & HOT WATER PLUMBING RISER DIAGRAM

SCALE: N.T.S.

NOTES:
ALL PLUMBING LINES SHOWN OFFSET FOR CLARITY OF DRAWING. ALL LINES ARE NEW UNLESS OTHERWISE NOTED

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

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3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

SHEET NOTES

1. CONTRACTOR TO PROVIDE MIXING VALVES AT EACH LAVATORY,SINKS AND HAND SINK SET AT 110° F. ALL FIXTURES CONNECTED TO EWH-2 SHALL HAVE MIXING VALVES SET AT 140°F. COORDINATE WITH AUTHORITY HAVING JURISDICTION.
2. REFER TO COUNTER HEIGHTS IN ARCHITECTURAL MILLWORK DETAILS FOR COUNTER-MOUNTED SINK ROUGH-INS
3. FOR DETAILED INFORMATION OF SPACE ALLOCATION IN MECHANICAL ROOM SEE ELECTRICAL DRAWING E-201.
4. 1" CW BRANCH FOR IRRIGATION SYSTEM WITH METER IS OUTSIDE THE BUILDING. REFER TO APPROVED CIVIL DRAWINGS FOR LOCATION.CONTRACTOR SHALL SUPPLY A DESIGN DRAWING OF THE IRRIGATION SYSTEM FOR REVIEW AND APPROVAL BY THE LEARNING EXPERIENCE PRIOR TO INSTALLATION. PROVIDE SEPARATE WATER METER AND BACKFLOW PREVENTER IF REQUIRED BY WATER COMPANY. IRRIGATION CONTROL PANEL SHALL BE INSTALLED IN MECH. ROOM, LOCATION SHALL BE FIELD VERIFIED.

KEY NOTES

1. NOT USED
2. NOT USED
3. BALANCING VALVE.
4. PROVIDE TEE AND SHUTOFF VALVE, OUTDOOR PIPING SHALL DRAINED PRIOR TO WINTER SEASON.
5. 1/4" WATER LINE UP TO ICE MAKER IN REFRIGERATOR.
6. ROOF ACCESS HATCH. IT SHALL NOT BE BLOCKED BY ANY DUCT, PIPES, WIRES, CONDUITS OR OTHER FIXED ITEMS.

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By:	Approved By:
LN	MBJ

Drawing Name:
COLD & HOT WATER PLUMBING RISER DIAGRAM

Drawing Number:
P-200

STATE OF NEW JERSEY — MATTHEW B. JARMEL — LICENSE NO. A-2017014316 — ARCHITECT

Project name: TLE - Lee's Summit, MO
Project number: TLEMO22-164
Project address: Arbotwalk West, Lee's Summit, MO
Date: 6/1/2023

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

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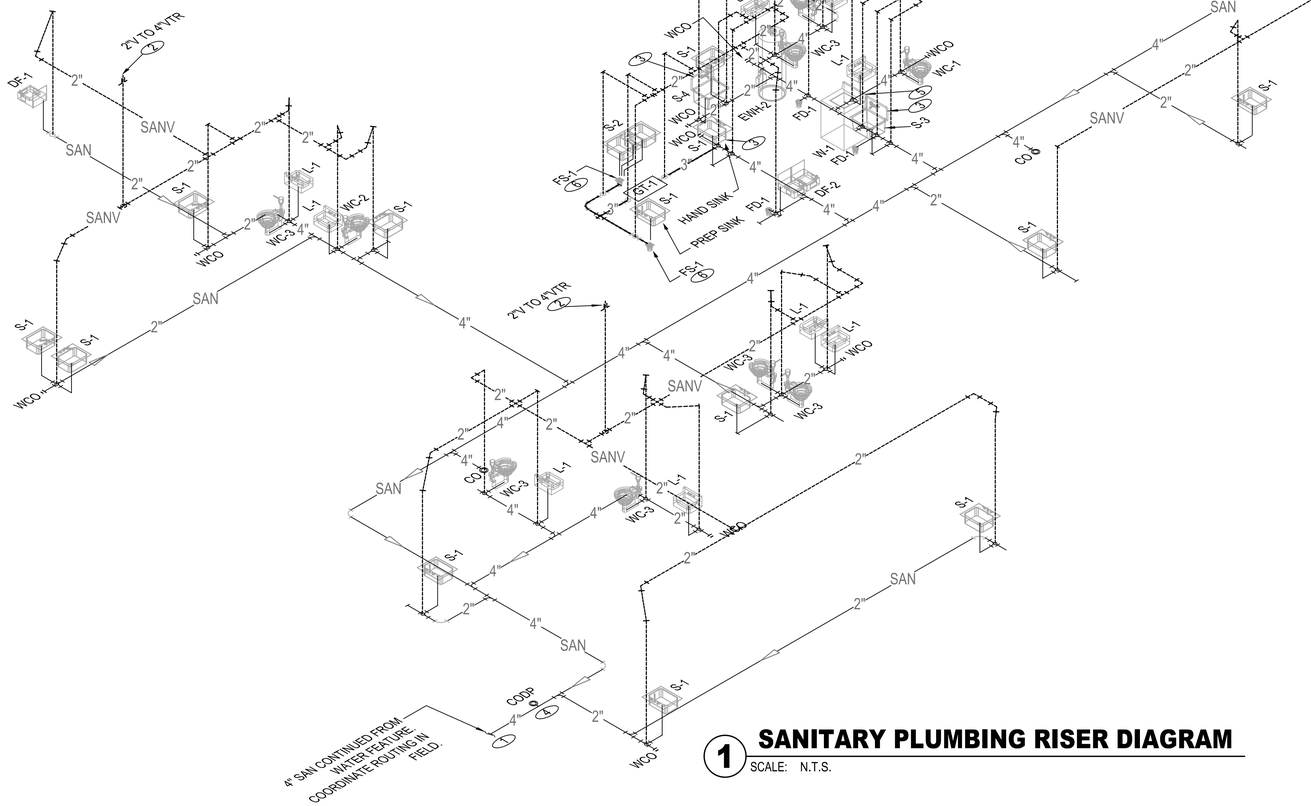
As per 2018 International Plumbing Code,Table 709.1 and Table 710.1(1)

INDIVIDUAL FIXTURES	DFU	AMOUNT	TOTAL DFU
Clothes washer, Domestic, 2" Standpipe **(W-1)**	3.0	1	3.0
Dishwasher, Domestic, With Independent Drain	2.0		
Drinking Fountain or Water Cooler **(DF-1/DF-2)**	0.5	2	1.0
Food-Waste-Grinder, Commercial, 2" Min. Trap	3.0		
Floor Drain, Emergency	0.0		
Kitchen Sink, Domestic, with One 1-1/2: Trap	2.0		
Kitchen Sink, Domestic, with Food-Waste-Grinder **(S-2)**	2.0	1	2.0
Kitchen Sink, Domestic, with Dishwasher	3.0		
Kitchen Sink, Domestic, with Grinder and Dishwasher	3.0		
Laundry Sink, One or Two Compartments, 1-1/2" Waste	2.0		
Laundry Sink, with Discharge from Clothes Washer	2.0		
Lavatory, 1-1/4" Waste **(L-1)**	1.0	12	12.0
Mop Basin, 3" Trap **(S-4)**	3.0	1	3.0
Service Sink, 3" Trap **(S-3)**	3.0	1	3.0
Shower Stall, 2" Trap	2.0		
Showers, Group, Per Head (Continuous Use)	5.0		
Sink, 1-1/2" Trap **(S-1)**	2.0	20	40.0
Sink, 2" Trap	3.0		
Sink, 3" Trap	5.0		
Trap Size, 1-1/4" (Other)	1.0		
Trap Size, 1-1/2" (Other)	2.0		
Trap Size, 2" (Other)	3.0		
Trap Size, 3" (Other)	5.0		
Trap Size, 4" (Other)	6.0		
Urinal, 1.0 GPF	4.0		
Urinal, Greater Than 1.0 GPF	5.0		
Wash Fountain, 1-1/2" Trap	2.0		
Wash Fountain, 2" Trap	3.0		
Wash Sink, Each Set Of Faucets	2.0		
Water Closet, 1.6 GPF Gravity or Pressure Tank	4.0		
Water Closet, 1.6 GPF Flushometer Valve **(WC-1, WC-2 & WC-3)**	4.0	12	48.0
Water Closet, 3.5 GPF Gravity Tank	6.0		
Water Closet, 3.5 GPF Flushometer Valve	6.0		
	PROPOSED TOTAL DFU		112.0

Dia (As per Code	Slope (As per code)	DFU(As per code)	Proposed Pipe Diameter	
4"	1/8" per foot slope	180 (Max)	4"	Compliant
4"	1/4" per foot slope	216 (Max)	4"	Compliant

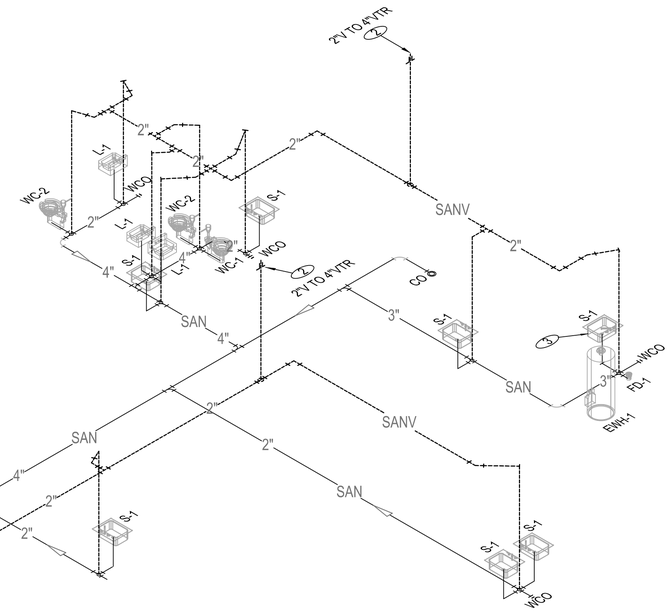
2 SANITARY LOAD CALCULATION

SCALE: N.T.S



1 SANITARY PLUMBING RISER DIAGRAM

SCALE: N.T.S.



NOTES:
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SANITARY SEWER KEY NOTES

KEY NOTES:

1. 4" SANITARY SEWER DRAIN LINE BELOW GRADE. SEE CIVIL UTILITIES PLAN FOR CONTINUATION.
2. SANITARY VENT UP THRU FLAT ROOF DECK. INSTALL WITH ROOF FLASHING PER LOCAL CODE.
3. P-TRAP ON LAVATORY /SINK WITH WATER SAVER TRAP PRIMER CONNECTION TO CONNECT TO FLOOR DRAIN PER MANUFACTURER'S SPECIFICATIONS AND LOCAL CODE REGULATIONS.
4. SANITARY CLEAN-OUT FLUSH WITH TOP OF GRADE. IN CASE OF SANITARY PIPE BELOW CONCRETE, PROVIDE CLEAN-OUT WITH DECK PLATE.
5. CLOTHES WASHING MACHINE CONNECTION BOX RECESSED IN WALL W/2 INCH DIAMETER P-TRAP AS REQUIRED BY BUILDING CODE.
6. PROVIDE INDIRECT WASTE CONNECTION AT PANTRY PREP SINK (S-1) AND PANTRY 3-COMPARTMENT SINK (S-2). REF. DTL. 7 ON P-600. COORDINATE LOCATION OF FLOOR SINK WITH SINK LEGS
7. ROOF ACCESS HATCH. IT SHALL NOT BE BLOCKED BY ANY DUCT, PIPES, WIRES, CONDUITS OR OTHER FIXED ITEMS.

NOTE:
SANITARY CLEAN-OUTS BELOW LAVATORIES & SINKS MAY BE P-TRAPS WITH CLEAN-OUTS PER LOCAL CODE REGULATIONS
REFER TO COUNTER HEIGHTS IN ARCHITECTURAL MILLWORK DETAILS FOR COUNTER-MOUNTED SINK ROUGH-INS

2" MIN. SIZE UNDER SLAB DRAIN.
2" OR LESS DRAIN @ ¼" DROP
3" @ ⅛"
4" @ ⅛"
ALL FLOOR DRAINS W/TRAP-PRIMERS
ALL VTR'S 10'-0" MIN. FROM ANY FRESH AIR INTAKE

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MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By:	Approved By:
LN	MBJ

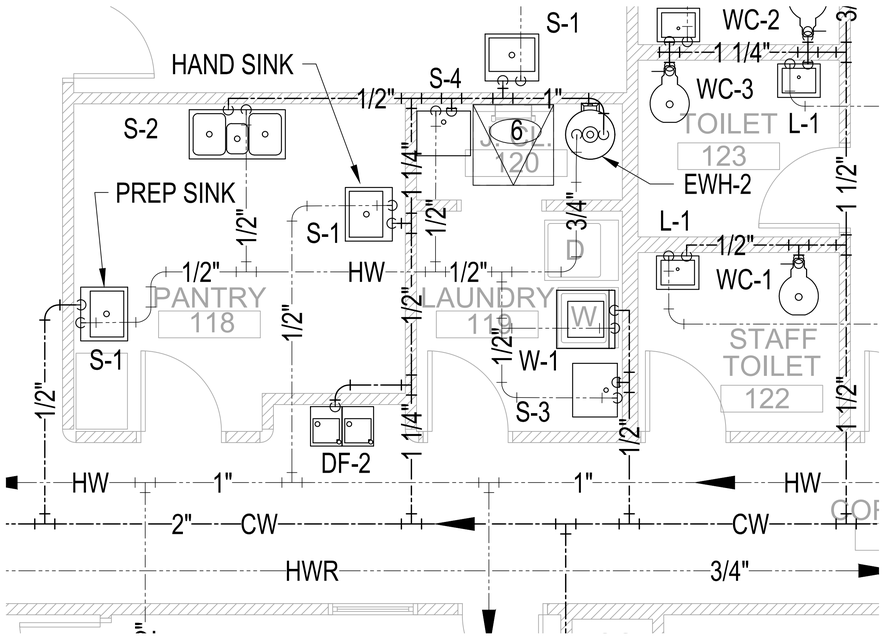
Drawing Name:

SANITARY PLUMBING RISER DIAGRAM

Drawing Number:

P-210

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT



2 ENLARGED PANTRY AREA WATER PLUMBING PLAN

SCALE: 3/8" = 1'-0"

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

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SHEET NOTES

1. CONTRACTOR TO PROVIDE MIXING VALVES AT EACH LAVATORY,SINKS AND HAND SINK SET AT 110° F. ALL FIXTURES CONNECTED TO EWH-2 SHALL HAVE MIXING VALVES SET AT 140°F. COORDINATE WITH AUTHORITY HAVING JURISDICTION.

2. REFER TO COUNTER HEIGHTS IN ARCHITECTURAL MILLWORK DETAILS FOR COUNTER-MOUNTED SINK ROUGH-INS

3. FOR DETAILED INFORMATION OF SPACE ALLOCATION IN MECHANICAL ROOM SEE ELECTRICAL DRAWING E-201.

4. 1" CW BRANCH FOR IRRIGATION SYSTEM WITH METER IS OUTSIDE THE BUILDING. REFER TO APPROVED CIVIL DRAWINGS FOR LOCATION.CONTRACTOR SHALL SUPPLY A DESIGN DRAWING OF THE IRRIGATION SYSTEM FOR REVIEW AND APPROVAL BY THE LEARNING EXPERIENCE PRIOR TO INSTALLATION. PROVIDE SEPARATE WATER METER AND BACKFLOW PREVENTER IF REQUIRED BY WATER COMPANY. IRRIGATION CONTROL PANEL SHALL BE INSTALLED IN MECH. ROOM, LOCATION SHALL BE FIELD VERIFIED.

KEY NOTES

1. NOT USED
2. NOT USED
3. BALANCING VALVE.
4. PROVIDE TEE AND SHUTOFF VALVE. OUTDOOR PIPING SHALL DRAINED PRIOR TO WINTER SEASON.
5. 1/4" WATER LINE UP TO ICE MAKER IN REFRIGERATOR.
6. ROOF ACCESS HATCH. IT SHALL NOT BE BLOCKED BY ANY DUCT, PIPES, WIRES, CONDUITS OR OTHER FIXED ITEMS.

NOTES:
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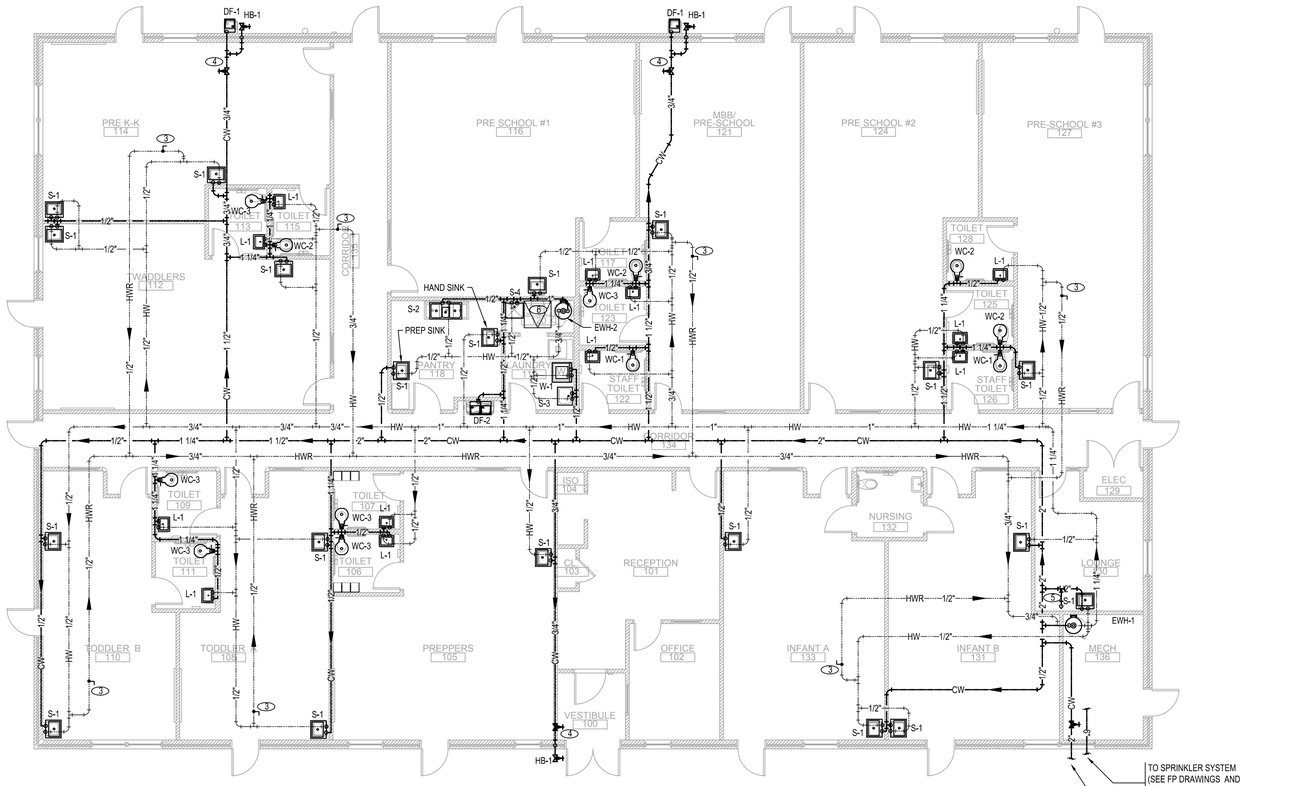

1 COLD & HOT WATER PLUMBING PLAN

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

NORTH

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Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: LN	Approved By: MBJ

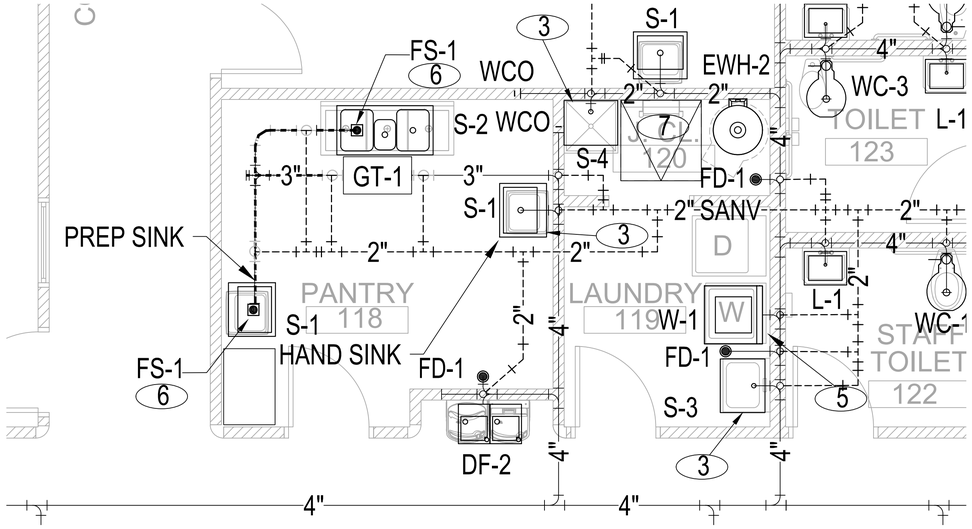
Drawing Name:

COLD & HOT WATER PLUMBING PLAN

Drawing Number:

P-300

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT



2 ENLARGED PANTRY AREA SANITARY PLUMBING PLAN

SCALE: 3/8" = 1'-0"

SANITARY SEWER KEY NOTES

KEY NOTES:

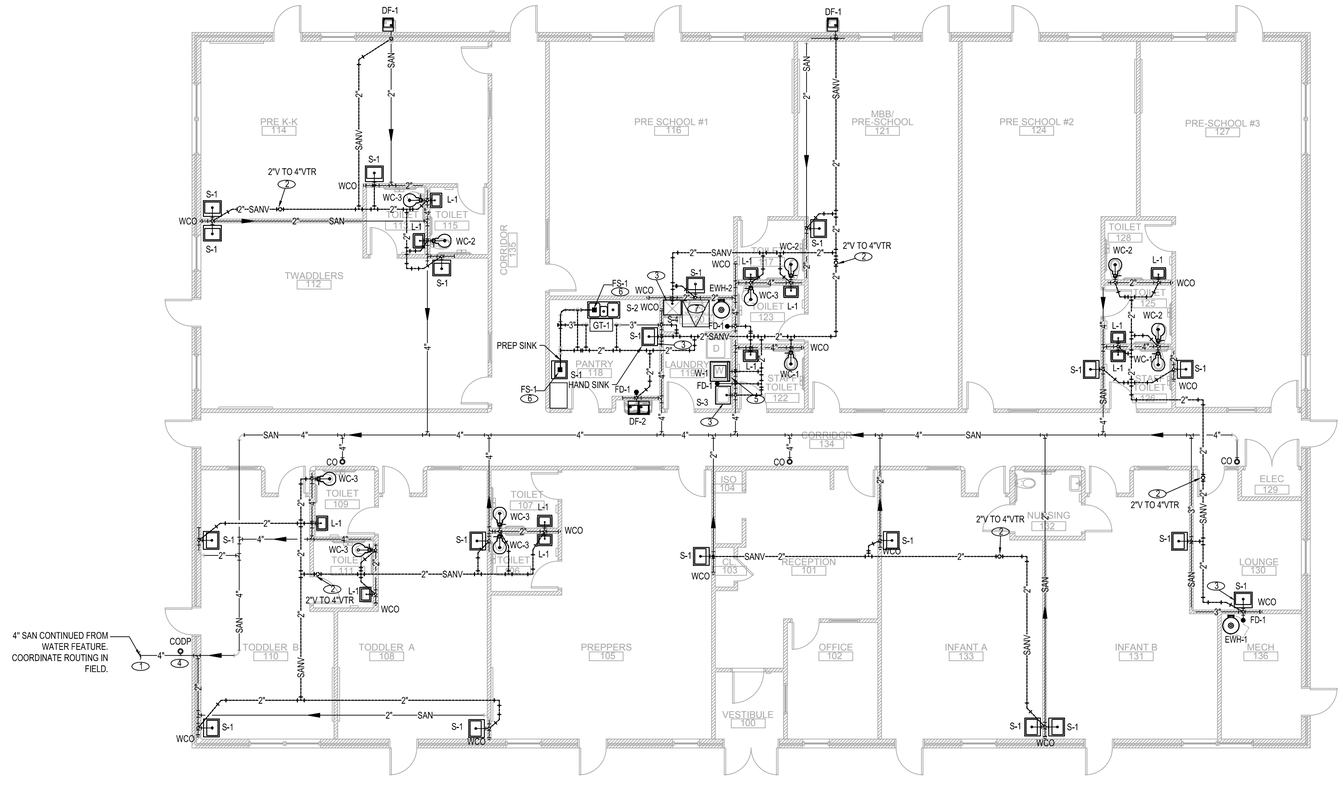
1. 4" SANITARY SEWER DRAIN LINE BELOW GRADE. SEE CIVIL UTILITIES PLAN FOR CONTINUATION.
2. SANITARY VENT UP THRU FLAT ROOF DECK. INSTALL WITH ROOF FLASHING PER LOCAL CODE.
3. P-TRAP ON LAVATORY /SINK WITH WATER SAVER TRAP PRIMER CONNECTION TO CONNECT TO FLOOR DRAIN PER MANUFACTURER'S SPECIFICATIONS AND LOCAL CODE REGULATIONS.
4. SANITARY CLEAN-OUT FLUSH WITH TOP OF GRADE, IN CASE OF SANITARY PIPE BELOW CONCRETE, PROVIDE CLEAN-OUT WITH DECK PLATE.
5. CLOTHES WASHING MACHINE CONNECTION BOX RECESSED IN WALL W/2 INCH DIAMETER P-TRAP AS REQUIRED BY BUILDING CODE.
6. PROVIDE INDIRECT WASTE CONNECTION AT PANTRY PREP SINK (S-1) AND PANTRY 3-COMPARTMENT SINK (S-2), REF. DTL. 7 ON P-600. COORDINATE LOCATION OF FLOOR SINK WITH SINK LEGS
7. ROOF ACCESS HATCH. IT SHALL NOT BE BLOCKED BY ANY DUCT, PIPES, WIRES, CONDUITS OR OTHER FIXED ITEMS.

NOTE:
SANITARY CLEAN-OUTS BELOW LAVATORIES & SINKS MAY BE P-TRAPS WITH CLEAN-OUTS PER LOCAL CODE REGULATIONS
REFER TO COUNTER HEIGHTS IN ARCHITECTURAL MILLWORK DETAILS FOR COUNTER-MOUNTED SINK ROUGH-INS

2" MIN. SIZE UNDER SLAB DRAIN.
2" OR LESS DRAIN @ ¼" DROP
3" @ ⅛"
4" @ ⅛"
ALL FLOOR DRAINS W/TRAP-PRIMERS
ALL VTR'S 10'-0" MIN. FROM ANY FRESH AIR INTAKE

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY
2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC
3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

NOTES:
ALL PLUMBING LINES SHOWN OFFSET FOR CLARITY OF DRAWING. ALL LINES ARE NEW UNLESS OTHERWISE NOTED



1 SANITARY PLUMBING PLAN

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

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: LN	Approved By: MBJ

Drawing Name:

SANITARY PLUMBING PLAN

Drawing Number:

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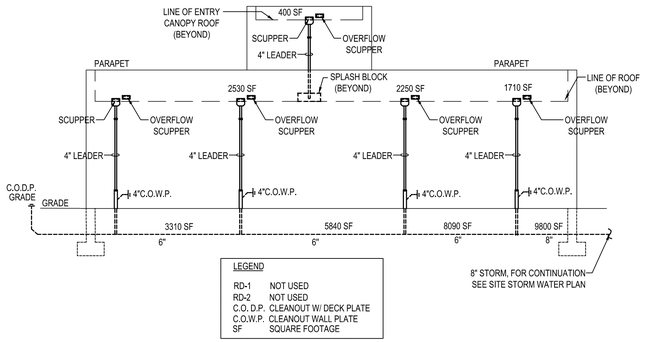
STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT



LEGEND

RD-1	NOT USED
RD-2	NOT USED
C.O. D.P.	CLEANOUT W/ DECK PLATE
C.O.W.P.	CLEANOUT WALL PLATE
SF	SQUARE FOOTAGE

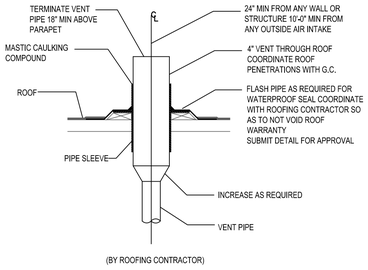
3 STORM RISER DIAGRAM

SCALE: N.T.S.

STORM CALCULATIONS

GUTTERS & DOWNSPOUTS

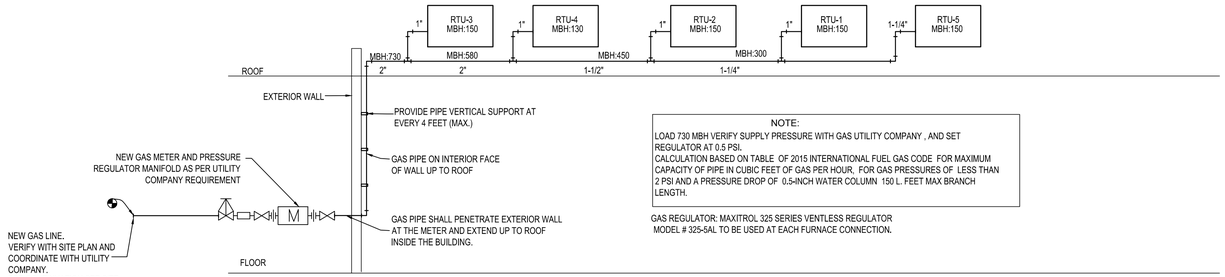
- ROOF TOTAL AREA IS 9800 FT^2
- RATE OF RAINFALL FOR THE AREA IS 4.0 INCH/HR = 0.33 FT/HR.
- 9800 FT^2 X 0.33 FT/HR = 3234 FT^3/HR
- 3234 FT^3/HR X 7.48052 GALLON/FT^3 = 24192 GALLON/HR
- 24192 GALLON/HR ÷ 1/60 HR/MIN = 403.2 GALLON/MIN
- 403.2 GALLON/MIN ÷ 4 LEADERS = 100.8 GALLON/MIN FOR EACH LEADER (AVG)
- PER CHAPTER 11 OF THE 2018 IPC, TABLE 1106.2. 4" STORM LEADERS ARE USED.



(BY ROOFING CONTRACTOR)

4 VENT PIPE AT ROOF PENETRATION

SCALE: 1-1/2" = 1'-0"



NOTE:
LOAD 730 MBH VERIFY SUPPLY PRESSURE WITH GAS UTILITY COMPANY , AND SET REGULATOR AT 0.5 PSI.
CALCULATION BASED ON TABLE OF 2015 INTERNATIONAL FUEL GAS CODE FOR MAXIMUM CAPACITY OF PIPE IN CUBIC FEET OF GAS PER HOUR, FOR GAS PRESSURES OF LESS THAN 2 PSI AND A PRESSURE DROP OF 0.5-INCH WATER COLUMN 150 L. FEET MAX BRANCH LENGTH.

GAS REGULATOR: MAXITROL 325 SERIES VENTLESS REGULATOR MODEL # 325-5AL TO BE USED AT EACH FURNACE CONNECTION.

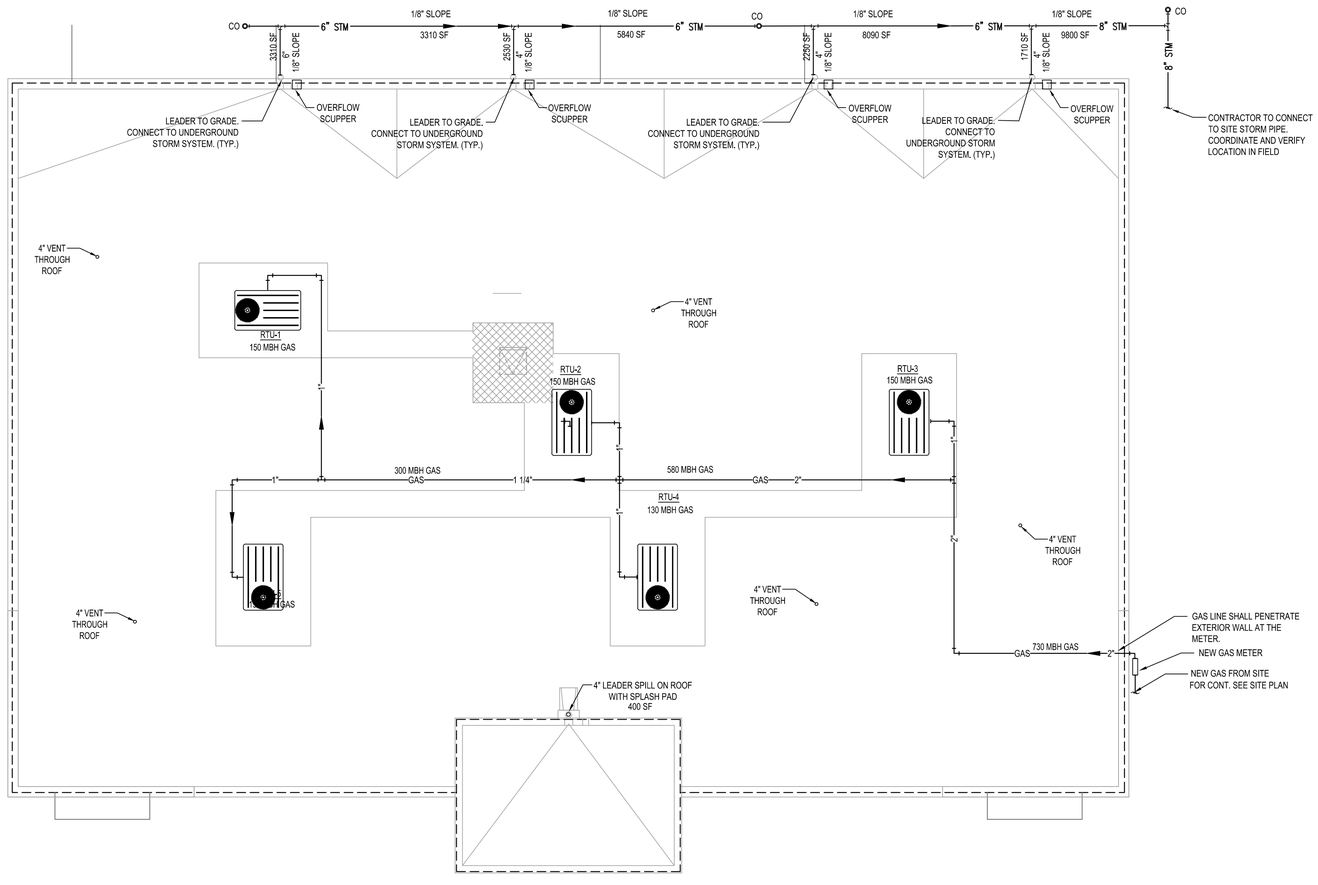
2 GAS RISER DIAGRAM

SCALE: N.T.S.

NOTE:
UNDERGROUND STORM IN PLAYGROUND AREA SHALL BE ROUTED UNDER SIDEWALK.

NOTES:
ALL PLUMBING LINES SHOWN OFFSET FOR CLARITY OF DRAWING. ALL LINES ARE NEW UNLESS OTHERWISE NOTED

NOTE:
PROVIDE AND INSTALL CLEANOUT EVERY 100 FT., IF IN CONCRETE OR PAVEMENT, INSTALL DECK PLATE.



1 GAS & STORM PLUMBING PLAN

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

NORTH

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Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: LN	Approved By: MBJ

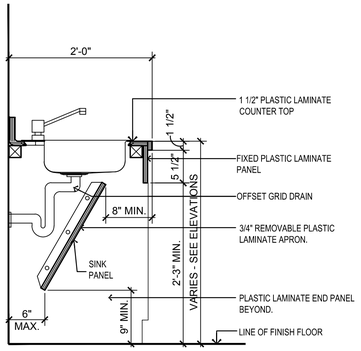
Drawing Name:

GAS & STORM PLUMBING PLANS

Drawing Number:

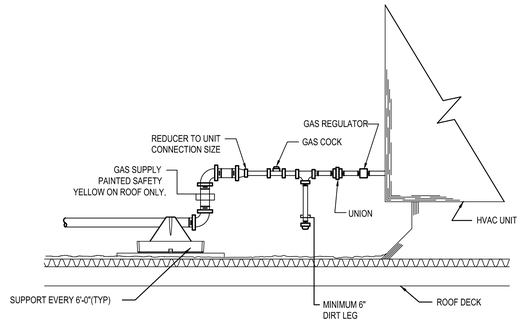
P-500

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT



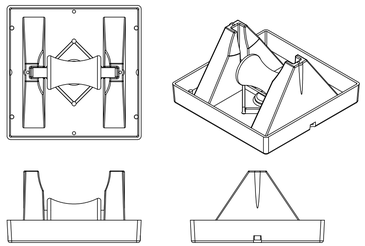
11 SECTION @ CLASSROOM ADA SINK

SCALE: 1" = 1'-0"



5 GAS PIPE ON ROOF DIAGRAM

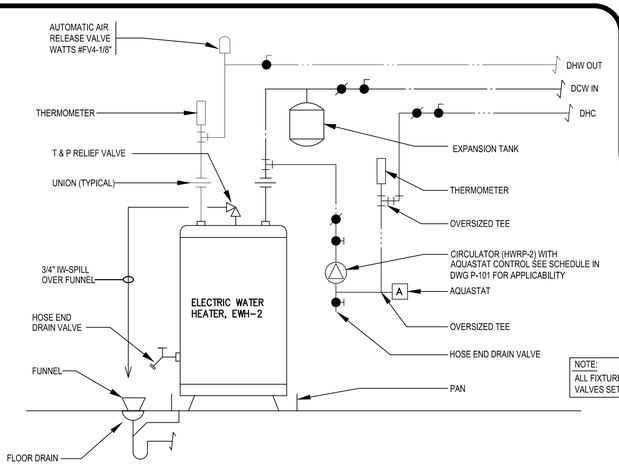
SCALE: N.T.S.



6 GAS PIPE SUPPORT DIAGRAM

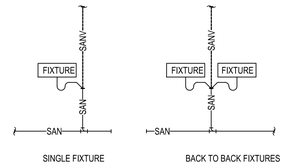
SCALE: N.T.S.

PIPE STAND BY "MIRO INDUSTRY". PROVIDE WITH "MIRO" PIPE STRAP INSTALL PER MANUFACTURE SPECIFICATION, OR APPROVED ROOFING SYSTEM



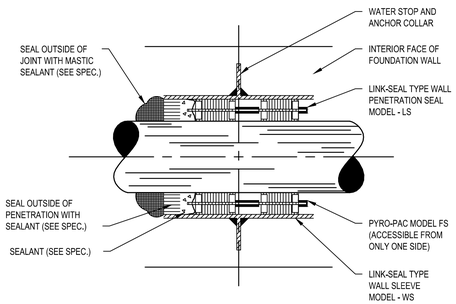
4 JANITOR CLOSET EWH-2 WATER HEATER DIAGRAM

SCALE: N.T.S.



3 PLUMBING FIXTURES SANITARY CONNECTION DIAGRAM

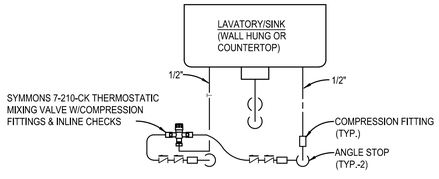
SCALE: N.T.S.



2 FOUNDATION WALL PIPE PENETRATION DIAGRAM

SCALE: N.T.S.

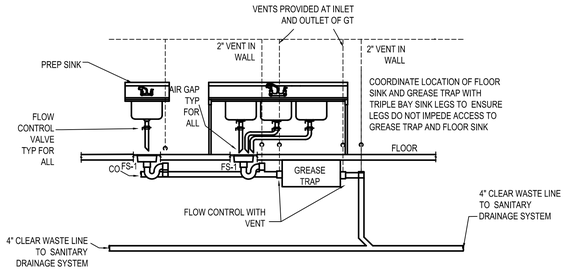
NOTE:
CONTRACTOR TO PROVIDE MIXING VALVES AT EACH LAVATORY, SINK AND HAND SINK.



T.W. & C.W. SERVING LAV/SINK

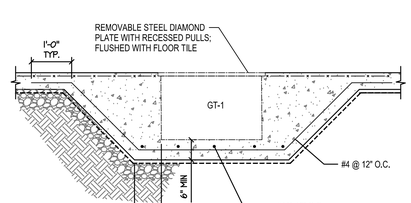
10 MIXING VALVE DIAGRAM

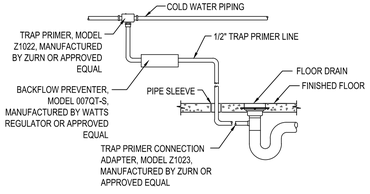
SCALE: N.T.S.



7 GREASE TRAP PIPING DIAGRAM

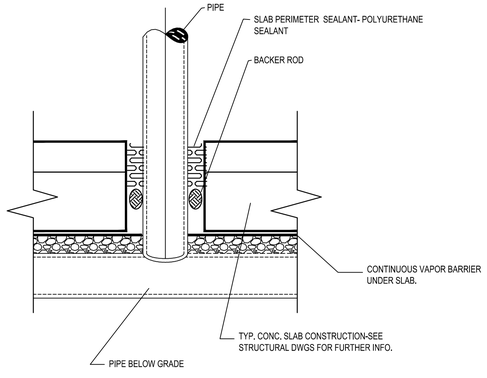
SCALE: N.T.S.





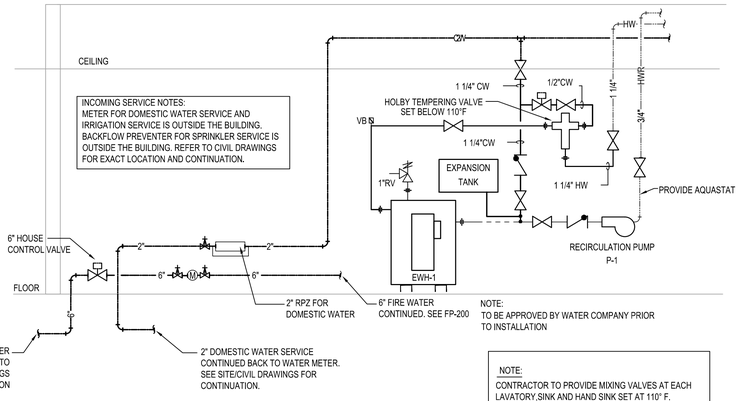
9 TRAP PRIMER DIAGRAM

SCALE: N.T.S.



8 PIPE @ SLAB PENETRATION DIAGRAM

SCALE: N.T.S.



1 MECHANICAL ROOM DIAGRAM

SCALE: N.T.S.

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LICENSE NUMBER: A2017014316

Project Number: TLEMO22-164	Scale: AS NOTED
Drawn By: LN	Approved By: MBJ

Drawing Name:

PLUMBING DIAGRAMS

Drawing Number:

P-600

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

FIRE PROTECTION GENERAL NOTES

A. GENERAL

1. GENERAL NOTES, SYMBOLS LIST AND DETAILS ARE APPLICABLE TO ALL DRAWINGS MARKED "FP".
2. FURNISH ALL LABOR AND MATERIALS REQUIRED FOR THE INSTALLATION OF THE FIRE PROTECTION SPRINKLER SYSTEM UNLESS OTHERWISE NOTED, IT IS THE INTENT OF THESE DOCUMENTS TO PROVIDE AN APPROVED AUTOMATIC SPRINKLER SYSTEM THROUGHOUT THE ENTIRE PROJECT.
3. ALL NEW SPRINKLER WORK SHALL CONFORM TO THE REQUIREMENTS ALL APPLICABLE CODES AND LOCAL AUTHORITIES HAVING JURISDICTION INCLUDING BUT NOT LIMITED TO BUILDING DEPARTMENT AND FIRE DEPARTMENT.
4. ALL FIRE PROTECTION SPRINKLER WORK INCLUDING DESIGN AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF APPLICABLE SECTIONS OF NFPA #13 AND #24.
5. THE CONTRACTOR SHALL FURNISH AND INSTALL THE FIRE PROTECTION SPRINKLER SYSTEM IN A MANNER WHICH PROVIDES A COMPLETE AND OPERATIONAL SYSTEM, WITH ALL EQUIPMENT, PERMITS, PIPING, VALVES, INSULATION, CONTROLS, HANGERS, TRIM, ACCESSORIES AND ASSOCIATED INCIDENTAL WORK, IN ACCORDANCE WITH THE APPLICABLE CODES, ALL AUTHORITIES HAVING JURISDICTION, AND PER THE CONSTRUCTION DOCUMENTS.
6. CONTRACTOR SHALL INCLUDE THE COST OF ALL SMALL DETAILS, INCIDENTAL WORK, AND ACCESSORIES NOT SHOWN OR SPECIFIED, BUT WHICH CAN BE REASONABLY INFERRED FOR COMPLETE AND SATISFACTORY CODE COMPLIANT SYSTEM. PROVIDE OFFSETS, FITTINGS AND SIMILAR ITEMS NECESSARY TO ACCOMPLISH REQUIREMENTS OF COORDINATION WITHOUT ADDITIONAL EXPENSE.
7. ALL EQUIPMENT PIPING INSULATION ETC., INSTALLED IN HVAC PLENUM SPACES SHALL MEET CODE REQUIREMENTS FOR SMOKE AND FIRE RATING.
8. THE INSTALLATION OF THE FIRE PROTECTION SPRINKLER SYSTEM SHALL PERMIT SAFE PERSONNEL ACCESSIBILITY FOR REQUIRED INSPECTION, TESTING, AND MAINTENANCE.
9. THE OPERATION OF FIRE PROTECTION SPRINKLER INSTALLATION DOES NOT CONSTITUTE AN ACCEPTANCE OF WORK BY THE OWNER. FINAL ACCEPTANCE IS TO BE MADE AFTER THE CONTRACTOR HAS DEMONSTRATED THAT THE WORK FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL REQUIRED CERTIFICATES OF APPROVAL FROM THE STATE AUTHORITIES, MUNICIPAL AUTHORITIES AND INSURANCE UNDERWRITERS.

B. DRAWINGS/DESIGN

1. REFER TO ARCHITECTURAL DRAWINGS FOR ALL CEILING HEIGHTS.
2. THESE DOCUMENTS DEPICT A PERFORMANCE LEVEL ENGINEERING DESIGN LAYOUT TO BE UTILIZED AS GUIDANCE FOR THE PLANNING OF THE FIRE SPRINKLER SYSTEM BY THE CONTRACTOR. THE INTENT OF THE FIRE PROTECTION DRAWINGS PRESENTED IS TO PROVIDE A QUALIFIED FIRE PROTECTION CONTRACTOR WITH CONCEPTUAL INFORMATION TO DIAGRAMMATICALLY SHOW POTENTIAL SYSTEM ARRANGEMENT, ONLY. PROVIDE COMPLETE DOCUMENTS FOR REVIEW AND APPROVAL FROM THE ENGINEER OF RECORD, THE AUTHORITY HAVING JURISDICTION AND PRIOR TO INSTALLATION. INCLUDE IN THE SHOP DRAWINGS AND CALCULATIONS ANY ADDITIONAL EQUIPMENT NECESSARY, TO PROVIDE A COMPLETE CODE COMPLIANT SYSTEM INSTALLATION.
3. THE CONTRACTOR SHALL PREPARE PIPING PLANS AND HYDRAULIC CALCULATIONS SEALED BY A LICENSED PROFESSIONAL ENGINEER HAVING A CURRENT LICENSE IN THE PROJECT'S JURISDICTION ENGAGED BY THE CONTRACTOR. PLANS INDICATING CALCULATION REFERENCE POINTS SHALL BE INCLUDED. IF REQUIRED CONTRACTOR SHALL PROVIDE A FIRE HYDRANT FLOW TEST. CALCULATIONS AND DRAWINGS SHALL BE SUBMITTED AND FILED WITH LOCAL FIRE AND BUILDING DEPARTMENT AUTHORITIES AND SUBMITTED TO THE ARCHITECT/ENGINEER FOR RECORD. APPROVALS OF SHOP DRAWINGS SHALL NOT RELEASE CONTRACTOR OF RESPONSIBILITY FOR WORK SPECIFIED.
4. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF THE FIRE PROTECTION SYSTEM IN ACCORDANCE WITH ALL APPLICABLE CODES AND REQUIREMENTS, INCLUDING BUT NOT LIMITED TO APPLICABLE NFPA CODES AND STANDARDS, LOCAL AUTHORITIES HAVING JURISDICTION, OWNER'S PROPERTY INSURANCE CARRIER GUIDELINES, AND OWNER-SPECIFIED DIRECTION.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND VERIFYING FLOW TEST DATA IN THE PREPARATION OF HYDRAULIC CALCULATIONS. COORDINATE THE TIME AND DATE OF THE TEST WITH THE APPLICABLE WATER UTILITY OFFICIAL AND ARCHITECT/ENGINEER AT LEAST FIVE (5) WORKING DAYS PRIOR TO CONDUCTING THE TEST.
6. THE CONTRACTOR SHALL FILE ALL DRAWINGS PER STATE AND LOCAL APPLICABLE CODES, OBTAIN AND PAY FOR ALL NECESSARY PERMITS, PROVIDE HYDRAULIC CALCULATIONS, AND FINAL INSPECTIONS.
7. THE ROUTE OF FIRE PROTECTION MAINS IS INTENDED TO UTILIZE THE MOST EFFICIENT SPACE AVAILABLE AND TO AVOID INTERFERENCE WITH OTHER BUILDING EQUIPMENT AND SYSTEMS. FIELD VERIFY ACTUAL ROUTING OF MAINS PRIOR TO BEGINNING FABRICATION AND INSTALLATION.
8. SPRINKLER HEAD LOCATIONS SHOWN ARE INTENDED TO SHOW COORDINATION BETWEEN OTHER TRADES. OMISSION OF HEADS REQUIRED BY CODE SHALL NOT RELIEVE THE FIRE PROTECTION CONTRACTOR FROM PROVIDING THEM UNDER THIS CONTRACT.
9. CONTRACTOR SHALL COORDINATE ALL WORK WITH WORK OF OTHER TRADES, EXISTING CONDITIONS, THE BUILDING STRUCTURE AND PARTICIPATE IN THE PREPARATION OF COORDINATED SHOP DRAWINGS, IN ORDER TO AVOID CONFLICTS OF ANY TYPE.
10. THE CONTRACTOR SHALL CONFIRM ALL STRUCTURAL, AND EQUIPMENT INTERFERENCES PRIOR TO SYSTEM FABRICATION AND INSTALLATION. THE CONTRACTOR SHALL PROVIDE ANY ADDITIONAL PIPING, VALVES, SPECIALTIES, ALARM HORNS/BELLS, INDICATING STROBES, TAMPER SWITCHES, ACCESSORIES, SPRINKLERS, MATERIALS, LABOR, ENGINEERING, OR COMPONENTS REQUIRED FOR A COMPLETE AND CODE COMPLIANT FIRE PROTECTION SYSTEM AT NO EXTRA COST, WHETHER OR NOT SHOWN ON BID DRAWINGS.
11. ALL SPRINKLER HEADS SHALL BE CONCEALED TYPE UNLESS OTHERWISE NOTED.
12. DO NOT PENETRATE WALL FOOTINGS WITH PIPING. COORDINATE TO DROP FOOTINGS TO CLEAR SERVICES WHERE ABSOLUTELY NECESSARY.
13. PIPE SLEEVES SHALL BE PROVIDED AND INSTALLED WHERE PIPES ARE ROUTED THROUGH FOUNDATION WALLS. PIPE SLEEVES SHALL BE GROUTED IN WALLS. SEALANT SHALL BE APPLIED AROUND THE CONDUIT IN THE SLEEVE IN ORDER TO PREVENT INGRESS OF MOISTURE. THE WALL PENETRATION SHALL BE COMPLETELY WATERPROOFED.
14. ALL PIPING PENETRATING A BEARING WALL OR FOOTING MUST BE SLEEVED AND LOCATION APPROVED BY STRUCTURAL ENGINEER.
15. CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS, INSPECTIONS, ETC., TO PERFORM HIS WORK.
16. VALVES AND FITTINGS SHALL BE OF SAME SIZE OF LINE ON WHICH THEY ARE LOCATED, UNLESS OTHERWISE INDICATED ON DRAWING.
17. ALL SPRINKLER PIPING SHALL BE 1 INCH MINIMUM SIZE UNLESS OTHERWISE SHOWN ON THE DRAWINGS. PIPE SIZES SHALL BE DETERMINED BY CONTRACTOR'S HYDRAULIC CALCULATIONS BASED ON THEIR INSTALLATION DRAWINGS. CONTRACTOR SHALL ALLOW FOR THIS AND INCLUDE THIS IN THEIR CONTRACT PRICE.
18. PROVIDE DRAIN VALVES PER NFPA #13 AND #24.
19. SUPERVISORY VALVE TAMPER SWITCHES SHALL BE PROVIDED ON ALL CONTROL VALVES AND COORDINATED WITH THE FIRE ALARM CONTRACTOR FOR ELECTRONIC SUPERVISION.
20. PROVIDE AND INSTALL WATER FLOW SWITCHES AND COORDINATE WITH THE FIRE ALARM CONTRACTOR FOR ELECTRONIC SUPERVISION.
21. INSTALL SPRINKLERS BELOW DUCTS AND/OR COMBINATIONS OF DUCTS, CONDUIT, PIPING, AND EQUIPMENT MORE THAN 4 FEET WIDE IN ACCORDANCE WITH THE OBSTRUCTION REQUIREMENTS OF NFPA 13.
22. DO NOT ROUTE FIRE PROTECTION PIPING NEAR ROOF-MOUNTED RELIEF HOOD DUCTWORK, COMBUSTION AIR INTAKE LOUVERS, OR ANY INTAKE OR RELIEF AIR DUCTWORK THAT MAY SUBJECT THE PIPING TO FREEZING CONDITIONS.
23. AREAS WITH COMBUSTIBLE CONCEALED SPACES SHALL BE PROVIDED WITH ADDITIONAL AUTOMATIC SPRINKLER PROTECTION FOR THE INTERSTITIAL AREA, UNLESS CONFIGURED IN ACCORDANCE WITH THE ACCEPTATIONS PROVIDED BY NFPA 13. WHERE SUCH EXCEPTIONS ARE APPLIED, THEY SHALL BE REFERRED TO THE ARCHITECT/ENGINEER FOR APPROVAL AND DOCUMENTATION.

C. INSTALLATION NOTES

1. NO CAPPING OR ISOLATING OF SPRINKLER PIPING ALLOWED. SPRINKLER PROTECTION SHALL REMAIN OPERATIONAL THROUGHOUT ALL PHASES OF CONSTRUCTION, EXCEPT AS OTHERWISE NOTED.
2. SPRINKLER SHUTDOWNS ON A DAILY BASIS ONLY. SYSTEMS TO BE RESTORED AT THE END OF EACH WORK DAY. ALL SHUTDOWNS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR, BUILDING'S SECURITY, FIRE CONSOLE FIRE DEPARTMENT AND ALARM COMPANY AS APPLICABLE. RESTORATION OF SPRINKLER SYSTEM SHALL BE IN ACCORDANCE WITH BUILDING'S PROCEDURE AND ALL FIRE PROTECTION SYSTEMS (SPRINKLER AND ALARM) SHALL BE OPERATIONAL. SPRINKLER SYSTEM SHALL BE FILLED AFTER EACH WORK DAY AND SHALL NOT BE LEFT UNPROTECTED AT ANY TIME.
   WORK REQUIRING THE CLOSING OF ONE OR MORE CONTROL VALVES MUST BE CLOSELY COORDINATED WITH THE OWNER'S REPRESENTATIVE AND THE LOCAL FIRE DEPARTMENT. INSURANCE COMPANY, ETC., IF APPLICABLE. CONTRACTOR IS TO GIVE AT LEAST 24 HOURS NOTICE BEFORE PERFORMING ANY SPRINKLER WORK.
3. PROVIDE AND INSTALL CLAMPS, OFFSETS, EXPANSION JOINTS, ANCHORS AND GUIDES AS NECESSARY TO PREVENT STRESS ON PIPING.
4. CONTRACTOR SHALL COORDINATE ALL FIRE SPRINKLER WORK WITH THE HVAC, PLUMBING AND ELECTRICAL CONTRACTORS AND PROVIDE AND INSTALL REQUIRED PIPE OFFSETS, NEW PIPES AND DRAINS AS PART OF THE BASE CONTRACT WORK.
5. TEFLON TAPE SHALL BE USED ON ALL SPRINKLER PIPING. NO PIPE DOPE ALLOWED.
6. PROVIDE A MINIMUM OF SIX(6) SPARE HEADS AND WRENCHES IN A CABINET-MOUNTED ADJACENT TO THE SPRINKLER RISER, PER NFPA 13.
7. DIELECTRIC UNIONS AND FLANGES SHALL BE USED ON ALL CONNECTIONS BETWEEN DISSIMILAR METALS.
8. ALL VALVES SHALL BE CLEARLY IDENTIFIED WITH BRASS VALVE TAGS WITH BLACK STAMPED LETTERING COMPLIANT WITH ANSI/ASME A13.1 STANDARD OR RED PLASTIC BACKGROUND WITH ENGRAVED WHITE LETTERING. PROVIDE AND INSTALL HANG METAL CHAIN. VALVE NUMBER SHALL BE KEYED TO THE AS-BUILT DRAWING SHOWING VALVE TYPE, SIZE AND LOCATION.
9. PROVIDE AND INSTALL A METAL HYDRAULIC DESIGNED SYSTEM SIGN COMPLIANT WITH NFPA 13 2018 - 25.5 AND MOUNTING HARDWARE.
10. ALL PIPES FOR ANY SERVICE SHALL BE IDENTIFIED AS TO THEIR SERVICE BY COMMERCIALLY AVAILABLE, COLOR-CODED SELF-STICKING VINYL PIPE MARKERS. MARKING SHALL INCLUDE PIPE CONTENT AND DIRECTION OF FLUID FLOW IN ACCORDANCE WITH ANSI/ASME A13.1. PIPES SHALL BE MARKED ADJACENT TO ALL VALVES AND FLANGES, BOTH SIDES OF A FLOOR, CHANGE IN DIRECTION AND AT 25 INTERVALS ON STRAIGHT RUNS.
11. ALL PIPING SHALL BE RUN PARALLEL TO BUILDING LINES AND COORDINATED WITH OTHER CONTRACT DOCUMENTS. PIPE IS TO BE SUPPORTED AND ANCHORED AS REQUIRED TO FACILITATE EXPANSION AND CONTRACTION.
12. ALL FIRE PROTECTION SPRINKLER SERVICES GOING INTO THE BUILDING AND LEAVING THE BUILDING SHALL BE CONNECTED TO THE SITE UTILITIES, COORDINATED WITH SITE UTILITIES COMPANY AND CIVIL DRAWINGS. COORDINATE ALL EXTERIOR UNDERGROUND PIPING WORK WITH THE SITE UTILITIES BEFORE COMMENCING WORK. COORDINATE ALL UNDERGROUND PIPING WITH FOUNDATION DRAWINGS.
13. ALL PIPING SHALL BE SUPPORTED FROM THE STRUCTURE AND SHALL NOT BE SUPPORTED FROM THE ROOF DECK OR OTHER PIPING/EQUIPMENT/DUCTS. THERE SHALL BE NO EXCEPTIONS TO THIS.
14. DO NOT USE SPRINKLER PIPING OR HANGERS TO SUPPORT NON-SYSTEM COMPONENTS.
15. INSPECTOR'S TEST CONNECTIONS, DRAIN VALVES, AND CONTROL VALVES SHALL BE READILY ACCESSIBLE AND INSTALLED NOT OVER 7 FEET - 0 INCHES ABOVE THE FINISHED FLOOR.
16. ALL PIPING SHALL BE CONCEALED IN FURRED CHASES OR ABOVE SUSPENDED CEILING (CLEAR OF CEILING INSERTS) EXCEPT IN UNFINISHED SPACES. INSTALL PIPING TO MEET ALL CONSTRUCTION CONDITIONS AND TO ALLOW FOR INSTALLATION OF OTHER WORK INCLUDING BUT NOT LIMITED TO HVAC PIPING, DUCTWORK, HVAC EQUIPMENT, ELECTRICAL CONDUIT AND ELECTRICAL EQUIPMENT THAT IS TO BE INSTALLED WITH THE OTHER CONTRACTORS.
17. ALL SPRINKLER LINES PASSING THROUGH FIRE-RATED WALLS (SEE ARCHITECTURAL DRAWINGS FOR EXACT EXTENT OF NEW RATED WALLS) SHALL BE SLEEVED AND SHALL HAVE THEIR PENETRATIONS THROUGH SUCH WALLS FIRE-STOPPED WITH A PENETRATION SEALING SYSTEM MEETING THE RESPECTIVE UL RATING OF THE WALL.
18. ACCESS DOORS AND/OR PANELS SHALL BE PROVIDED AT ALL MAINTENANCE AND SERVICE LOCATIONS FOR CONCEALED CONTROL DEVICES, VALVES, DRAIN POINT OR SIMILAR ITEMS AND FIRE PROTECTION SPRINKLER EQUIPMENT/DEVICES. UNLESS A SIZE IS SPECIFICALLY NOTED, PANELS SHALL BE SIZED TO SERVICE EQUIPMENT/DEVICE. DOORS AND PANELS SHALL HAVE THE SAME FIRE RATING AS THE WALL OR CEILING IN WHICH THEY ARE INSTALLED. ACCESS DOORS AND/OR PANELS ARE NOT REQUIRED WHERE ADJUSTMENT, MAINTENANCE AND REPLACEMENT ARE POSSIBLE THROUGH LAY IN SUSPENDED CEILING.
19. ALL WORK INSTALLED BY THIS CONTRACTOR SHALL BE INSTALLED IN SUCH A MANNER AS TO CLEAR ALL LIGHT FIXTURES, CEILING CONSTRUCTION, PLUMBING PIPES AND CONDUITS, ETC.
20. ALIGN SPRINKLER HEADS WITH LIGHT FIXTURES, COORDINATE SPRINKLER HEADS WITH DIMENSIONS ON ARCHITECTURAL DRAWINGS.
21. SPRINKLER HEADS SHALL BE INSTALLED IN THE CENTER LINE OF TILES UNLESS OTHERWISE NOTED. CONTRACTOR SHALL ALLOW FOR ALL REQUIRED FITTINGS TO ACHIEVE THIS AND INCLUDE THIS IN THEIR CONTRACT PRICE.
22. AT THE COMPLETION OF THE WORK AND PRIOR TO THE FINAL ACCEPTANCE, ALL PARTS OF THE WORK SHALL BE THOROUGHLY CLEANED.
23. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR TESTING OF THE SPRINKLER SYSTEM UPON COMPLETION OF HIS/HER WORK. THE SPRINKLER SYSTEM SHALL BE TESTED HYDROSTATICALLY FOR TWO (2) HOURS WITHOUT VISIBLE LEAKAGE AT NOT LESS THAN 200 PSI. CONTRACTOR SHALL VERIFY WITH LOCAL OFFICIAL IF HE/SHE IS REQUIRED TO WITNESS HYDROSTATIC TEST.

FIRE PROTECTION ABBREVIATIONS

A	
ABD	Automatic Ball
ACV	Alarm Check Valve W/ All Related Appurtenances
AFF	Above Finished Floor
AP	Access Panel
ATS	Automatic Transfer Switch
B	
BLDG	Building
BOB	Bottom Of The Beam
BOP	Bottom Of Pipe
C	
CFH	Cubic Feet Per Hour
CFM	Cubic Feet Per Minute
CFS	Cubic Feet Per Second
CI	Cast Iron
CLG	Ceiling
CO	Cleanout
CONN	Connection
CONT	Continuation
COTG	Cleanout To Grade
CV	Check Valve
D	
DCVA	Double Check Valve Assembly
DIA	Diameter
DLV	Deluge Valve With All Related Appurtenances
DN	Down
DR	Drain
DROP	Drop (Within Floor)
DSP	Dry Sprinkler
DFS	Dry Fire Standpipe
DPV	Dry Pipe Valve W/ All Related Appurtenances
DWG	Drawing
E	
(E)	Existing
ET	Expansion Tank
EL	Elevation
F	
FCO	Floor Cleanout
FD	Floor Drain
FDC	Fire Department Connection
FHC	Fire Hose Cabinet
FHR	Fire Hose Rack
FHV	Fire Hose Valve
FHVC	Fire Hose Valve Cabinet
FL	Floor
FP	Fire Protection
FS	Flow Switch
FSK	Floor Sink
FSP	Fire Standpipe
FT	Feet
G	
GAL	Gallons
GPM	Gallons Per Minute
GV	Gate Valve
H	
HB	Hose Bibb
HD	Hub Drain
I	
ID	Inside Diameter
IN	Inch
INV	Invert Elevation
IW	Indirect Waste
J	
JS	Janitor Sink
M	
MAX	Maximum
MH	Manhole
MIN	Minimum
N	
(N)	New
NC	Normally Closed
NFPA	National Fire Protection Association
NIC	Not In This Contract
NO	Normally Open
O	
OS&Y	Outside Screw & York Gate Valve
P	
P/FT	Pitch Per Foot
PIV	Post Indicating Valve
PLBG	Plumbing
POC	Point Of Connection
PRV	Pressure Reducing Valve
PSI	Pounds Per Square Inch
PSIG	Pounds Per Square Inch (Gauge)
R	
RC	Roof Receptor
RD	Roof Drain
RISE	Rise (With In Floor)
RW	Reclaimed Water
S	
SA	Shock Absorber
SAN	Sanitary
SD	Smoke Detector
SF	Square Feet
SK	Sink
SPKR	Sprinkler
ST	Storm Piping
T	
TDH	Total Discharge Head
TOP	Top Of Pipe
TOS	Top Of Slab
TS	Tamper Switch
TYP	Typical
U	
UON	Unless Otherwise Noted
UP	Up (Penetrates Floor Slab)
V	
VB	Vacuum Breaker
Z	
Z	Zone

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SPRINKLER SPECIFICATION

1. ALL NEW SPRINKLER PIPING SHALL BE THREADED SCHEDULE 40 BLACK STEEL, NO MORE THAN TWO (2) SPRINKLER HEADS SHALL BE SUPPLIED BY A 1" DIA. BRANCH LINE. PROVIDE SEISMIC RESTRAIN.

FIRE PROTECTION LEGEND

●	NEW CONCEALED SPRINKLER HEAD: TEMP.RATING-135F",1/2" NOMINAL ORIFICE WITH 1/"NPT(R1/2),"K" FACTOR-5.62, OR APPROVED BUILDING STANDARD.
○	NEW CONCEALED SPRINKLER HEAD (DRY): "TYCO" RAVEN 5.6K, TEMP.RATING (165 F°),1/2" ORIFICE WITH 1/2" NPT (R1/2)
◉	NEW UPRIGHT INTERMEDIATE SPRINKLER HEAD: TEMP. RATING -175 F°, 1/2 " ORIFICE WITH 1/"NPT(R1/2), "K" FACTOR - 5.62, OR APPROVED BUILDING STANDARD.
◁	NEW SIDE WALL SPRINKLER HEAD: TEMP. RATING-165°F, 1/2" ORIFICE WITH 1/2" NPT, "K" FACTOR - 5.6 OR APPROVED BUILDING STANDARD

MAXIMUM DISTANCE BETWEEN HANGERS.(FT-IN.)

NOMINAL PIPE SIZE(IN.)	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	7	8
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0

SCOPE OF WORK

1. UNDER THIS CONTRACT, THE CONTRACTOR IS TO INSTALL NEW PIPING AND NEW SPRINKLER HEADS TO ACCOMMODATE THE HEAD LOCATION SHOWN ON FP-200 DRAWING.
2. THE SYSTEMS SHALL BE HYDRAULICALLY DESIGNED AND INSTALLED AS FOLLOWS:
   2.1. WET SYSTEM
      2.1.1. STORAGE AREA: ORDINARY HAZARD OCCUPANCY BASED UPON MAX. SPRINKLER COVERAGE OF 130 SF WITH 0.15 GPM/SF DENSITY OVER THE MOST REMOTE 1,500 SF.
      2.1.2. OFFICE / CLASSROOM AREA: LIGHT HAZARD OCCUPANCY BASED UPON MAX. SPRINKLER COVERAGE OF 225 SF WITH 0.10 GPM/SF DENSITY OVER THE MOST REMOTE 1,500 SF.
   2.2. DRY SYSTEM
      2.2.1. ATTIC AREA / CANOPY: AS PER NFPA REQUIREMENTS.

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PROFESSIONAL CERTIFICATION

MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	**AS NOTED**
Drawn By: **LN**	Approved By: **MBJ**

Drawing Name:

FIRE PROTECTION GENERAL NOTES AND SCHEDULES

Drawing Number:

FP-100

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT

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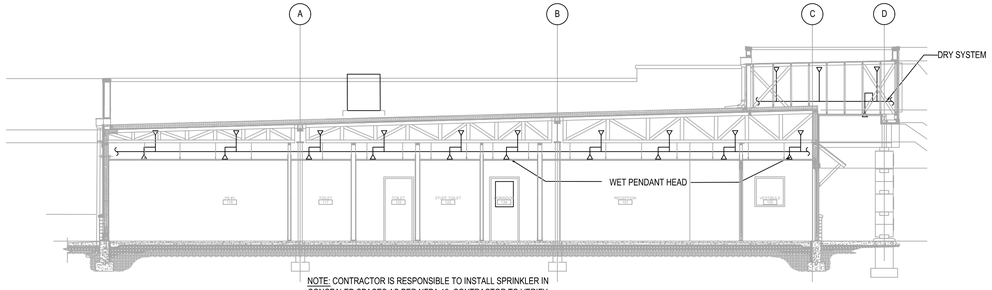


NOTE: CONTRACTOR IS RESPONSIBLE TO INSTALL SPRINKLER IN CONCEALED SPACES AS PER NFPA 13. CONTRACTOR TO VERIFY AND COORDINATE WITH STRUCTURAL AND ARCH DRAWINGS.

2 TYPICAL LOCATIONS OF SPRINKLER HEADS

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

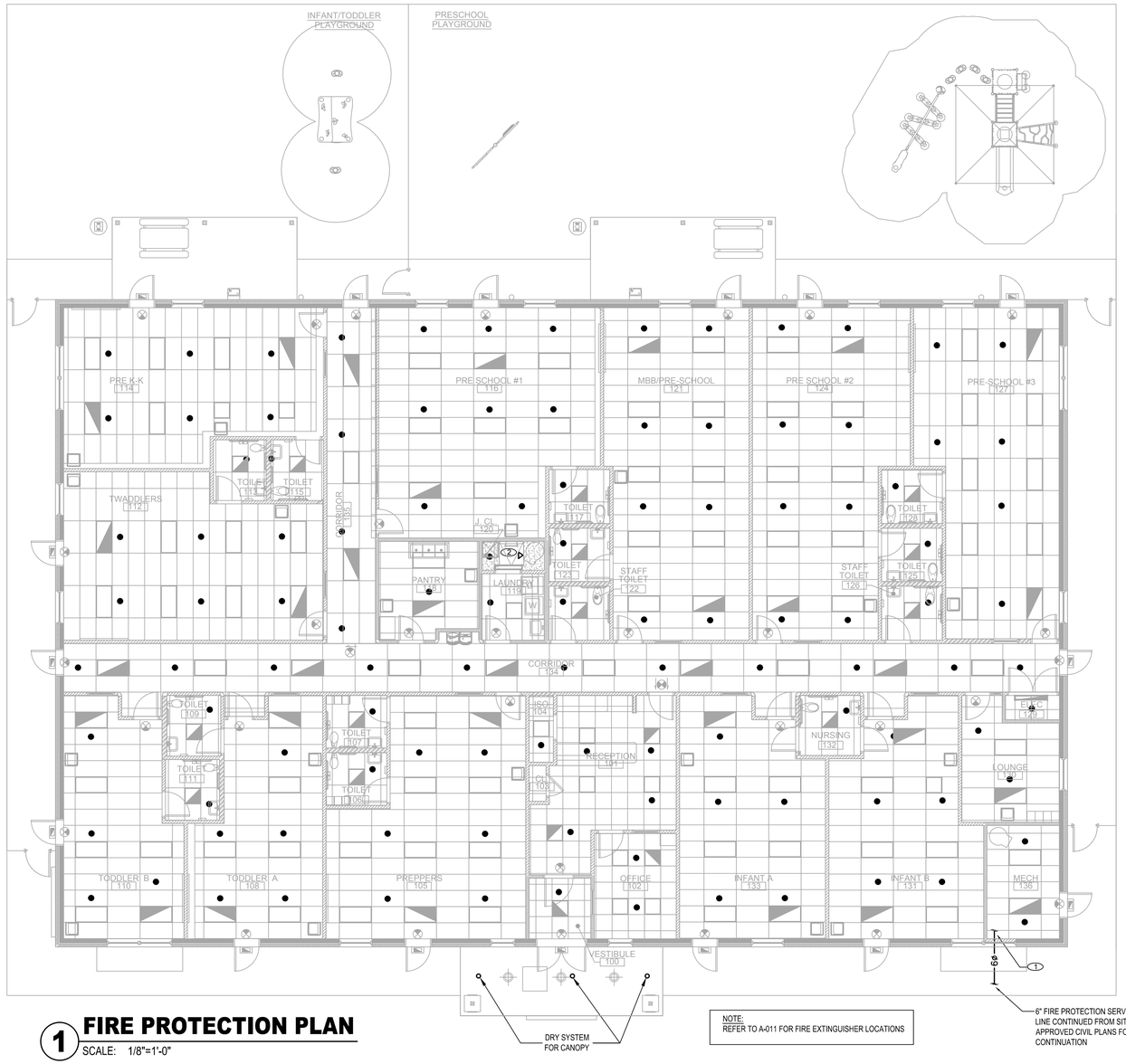
SHEET NOTES:

1. ALL SPRINKLER HEADS SHALL BE CONCEALED.
2. FOR DETAILED INFORMATION OF SPACE ALLOCATION IN MECHANICAL ROOM SEE ELECTRICAL DRAWINGS.

KEY NOTES:

(1) 6"FIRE WATER FROM SITE, SEE APPROVED CIVIL DRAWINGS FOR CONTINUATION.

(2) ACCESS/MAINTENANCE DOOR IN CEILING SHALL NOT BE BLOCKED BY ANY DUCT, PIPES OR OTHER FIXED OBJECTS.



NOTE:
REFER TO A-011 FOR FIRE EXTINGUISHER LOCATIONS

6" FIRE PROTECTION SERVICE LINE CONTINUED FROM SITE, SEE APPROVED CIVIL PLANS FOR CONTINUATION

1 FIRE PROTECTION PLAN

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

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Drawn By: LN	Approved By: MBJ

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FIRE PROTECTION PLANS

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STATE OF MISSOURI
MATTHEW B. JARMEL
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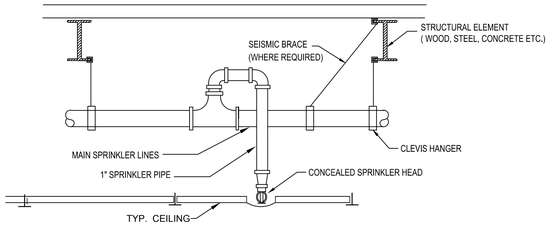
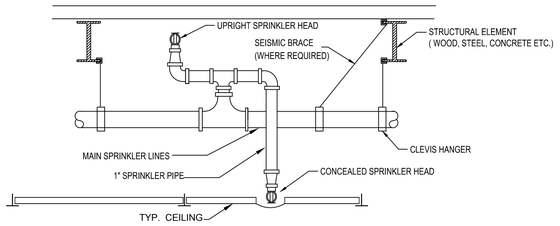
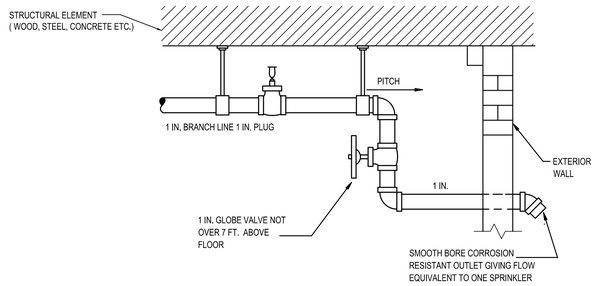


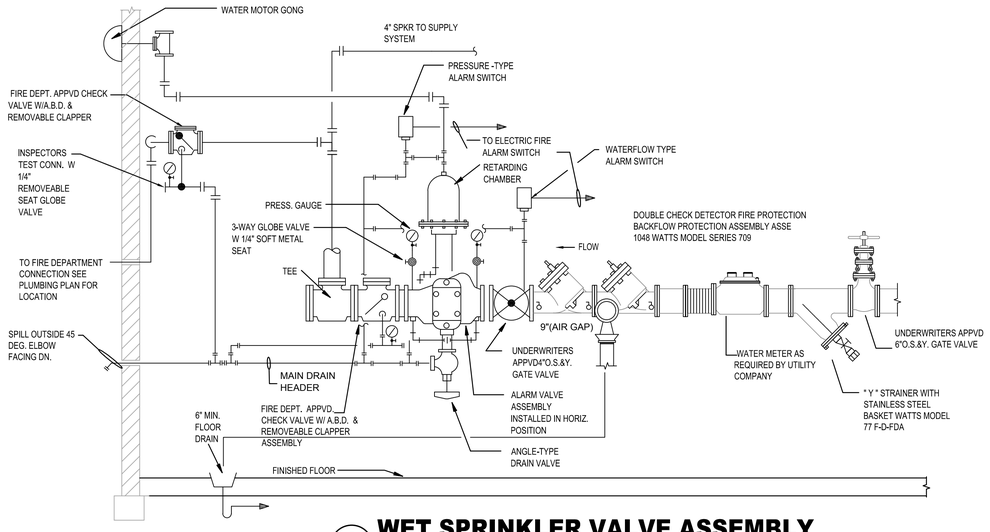
1 SPRINKLER HEAD DIAGRAM
SCALE: N.T.S.



2 UPRIGHT SPRINKLER HEAD DIAGRAM
SCALE: N.T.S.

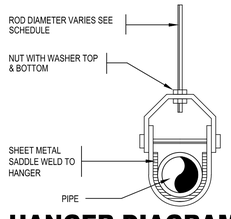


3 INSPECTOR'S TEST CONNECTION WET SYSTEM
SCALE: N.T.S.



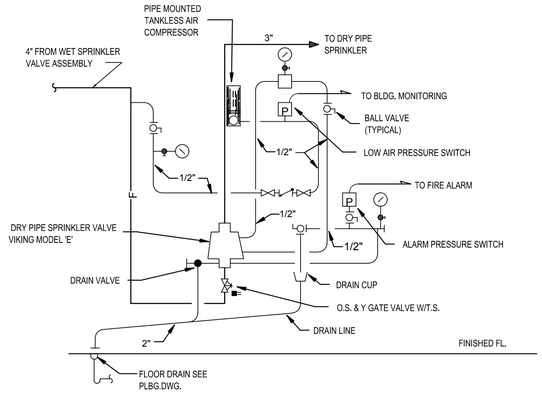
6 WET SPRINKLER VALVE ASSEMBLY
SCALE: N.T.S.

DISTANCE FROM SPRINKLER TO SIDE OF BEAM	MAXIMUM ALLOWABLE DISTANCE DEFLECTOR ABOVE BOTTOM OF BEAM
LESS THAN 1 FT.	0 INCH
1 FT TO LESS THAN 2 FT.	1 INCH
2 FT TO LESS THAN 2 FT 6 INCH.	2 INCH
2 FT 6 INCH TO LESS THAN 3 FT.	3 INCH
3 FT TO LESS THAN 3 FT 6 INCH.	4 INCH
3 FT 6 INCH TO LESS THAN 4 FT.	6 INCH
4 FT TO LESS THAN 4 FT 6 INCH.	7 INCH
4 FT 6 INCH TO LESS THAN 5 FT.	9 INCH
5 FT TO LESS THAN 5 FT 6 INCH.	11 INCH
5 FT 6 INCH TO LESS THAN 6 FT.	14 INCH



5 HANGER DIAGRAM
SCALE: N.T.S.

ROD SCHEDULE		
PIPE SIZE	ROD SIZE	SPACING
1/2"	3/8"	5'-8'
3/4"	3/8"	5'-8'
1"	3/8"	5'-8'
1 1/4"	3/8"	6'-10'
1 1/2"	3/8"	8'-10'
2"	3/8"	10'-12'
2 1/2"	3/8"	10'-12'
3"	3/8"	10'-12'
4"	1/2"	12'-15'
5"	1/2"	12'-15'
6"	1/2"	12'-15'



4 DRY SPRINKLER VALVE ASSEMBLY
SCALE: N.T.S.

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Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: LN	Approved By: MBJ

Drawing Name:

FIRE PROTECTION DIAGRAMS

Drawing Number:

FP-300

STATE OF MISSOURI
MATTHEW B. JARMEL
ARCHITECT
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FIRE ALARM SYSTEM LEGEND

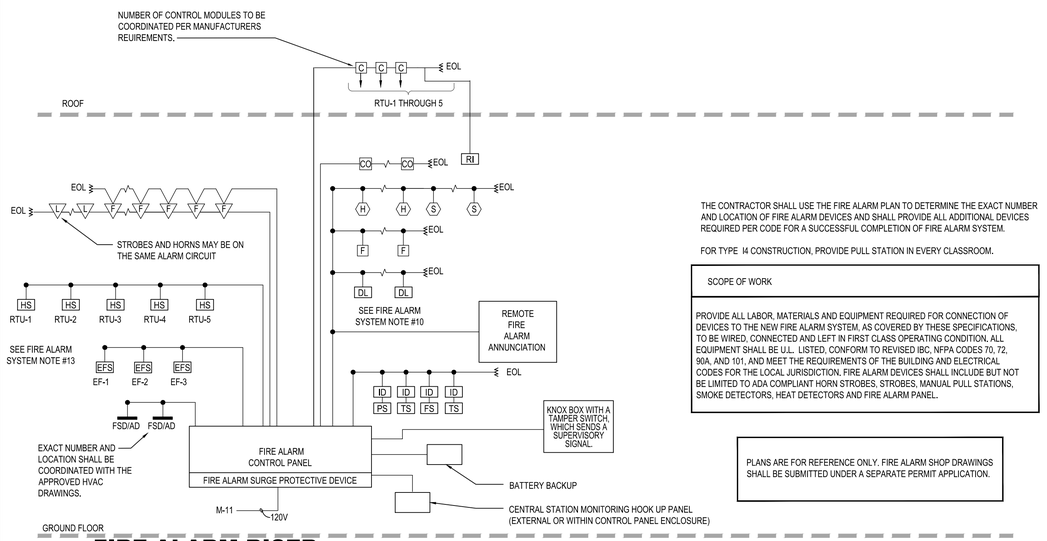
- F — NEW MANUAL PULL STATION
- CP F — NEW MANUAL PULL STATION WITH CHILD PROOF COVER. NO GLASS COVER ALLOWED.
- F — NEW AUDIBLE AND VISUAL ALARM SIGNAL
- V — NEW VISUAL ONLY ALARM SIGNAL
- S — NEW ADDRESSABLE SMOKE DETECTOR W/ HEAT DETECTOR. FIRE.LITE.ALARMS BY HONEYWELL - MODEL SD365 WITH A SOUNDER BASE OR APPROVED EQUAL.
- H — NEW HEAT DETECTOR
- S R — NEW SMOKE DETECTOR ELEVATOR RECALL
- D S R S — "D" DENOTES ADDRESSABLE DUCT MOUNTED SMOKE DETECTOR. "R" DENOTES MOUNTED ON RETURN SIDE "S" DENOTES MOUNTED ON SUPPLY SIDE
- CO — NEW CARBON MONOXIDE DETECTOR, BATTERY POWERED BACK UP WITH SOUNDER BASE INTREGRATED INTO FACP.
- C — ADDRESSABLE CONTROL MODULE
- RI — REMOTE INDICATOR
- AR — AREA OF REFUSE
- FS — FLOW SWITCH ON FIRE PROTECTION PIPING
- TS — TAMPER SWITCH ON FIRE PROTECTION VALVE
- PS — PRESSURE SWITCH
- HS — HVAC UNIT EMERGENCY SHUT-OFF SWITCH
- EFS — EXHAUST FAN EMERGENCY SHUT-OFF SWITCH
- FACP — FIRE ALARM CONTROL PANEL
- FAA — REMOTE FIRE ALARM ANNUNCIATION
- BAKP — BURGLAR ALARM KEYPAD
- ID — ADDRESSABLE INITIATING DEVICE CIRCUIT INTERFACE MODULE
- KP — KEY PAD
- M — ADDRESSABLE CONTACT MONITOR MODULE
- DL — DOOR LOCK
- EOL — END OF LINE RESISTOR
- FSD/AD / SD/AD — FIRE SMOKE DAMPERS / SMOKE DAMPERS WITH ACCESS DOOR
- M — NEW ADDRESSABLE COMBO SMOKE/CO/HEAT/FLAME DETECTOR FIRE.LITE.ALARMS BY HONEYWELL WITH SOUNDER BASE - SD365CO OR APPROVED EQUAL.

FIRE ALARM GENERAL NOTES:

1. THIS DIAGRAM IS GENERALIZED REPRESENTATION INTENDED TO SHOW OVERALL ARRANGEMENT OF THE FIRE ALARM SYSTEM AND RELATIONSHIPS TO OTHER BUILDING SYSTEMS
2. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS DETAILING, BUT NOT LIMITED TO, ALL OF THE FOLLOWING:
   1. BATTERY CALCULATIONS.
   2. CONDUCTOR TYPE AND SIZES.
   3. VOLTAGE DROP CALCULATIONS.
   4. MANUFACTURER'S MODEL NUMBERS AND LISTING INFORMATION FOR EQUIPMENT, DEVICES AND MATERIALS.
   5. THE INTERFACE OF FIRE SAFETY CONTROL FUNCTIONS.
3. ALL WIRING AND CONDUIT SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS, MANUFACTURER WIRING DIAGRAMS AND SHOP DRAWINGS.
4. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND DEVICES AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. THE CONTRACTOR SHALL PROVIDE ALL INTERCONNECTING WIRING BETWEEN FIRE ALARM AND HVAC/ATC EQUIPMENT AS INDICATED AND/OR AS REQUIRED.
5. FOR NUMBER AND LOCATION OF DUCT SMOKE DETECTORS REFER TO HVAC DRAWINGS. DUCT DETECTORS ARE TO BE WIRED TO THE FIRE ALARM CONTROL PANEL.
6. FOR NUMBER AND LOCATION OF PRESSURE, FLOW AND TAMPER SWITCHES REFER TO FIRE PROTECTION DRAWINGS
7. FIRE ALARM SYSTEM SHALL COMPLY WITH NFPA 72 "NATIONAL FIRE ALARM CODE"
8. SYSTEM SHALL BE TESTED AS PER NFPA 13 REQUIREMENTS.
9. ALL FIRE ALARM WIRING SHALL BE CLASS A.

NOTE:
VOICE EVACUATION IS REQUIRED FOR GROUP I-4 DAY CARE OCCUPANCIES. A MANUAL FIRE ALARM SYSTEM THAT INITIATES THE OCCUPANT NOTIFICATION SIGNAL UTILIZING AN EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM MEETING THE REQUIREMENTS OF SECTION 907.5.2.2 AND INSTALLED IN ACCORDANCE WITH SECTION 907.6 SHALL BE INSTALLED IN GROUP I-4 OCCUPANCIES. WHEN AUTOMATIC SPRINKLER SYSTEMS OR SMOKE DETECTORS ARE INSTALLED, SUCH SYSTEMS OR DETECTORS SHALL BE CONNECTED TO THE BUILDING FIRE ALARM SYSTEM. IBC 907.2.3 EXCEPTIONS:

a. A MANUAL FIRE ALARM SYSTEM IS NOT REQUIRED IN GROUP I-4 OCCUPANCIES WITH AN OCCUPANT LOAD OF 30 OR LESS.
b. MANUAL FIRE ALARM BOXES ARE NOT REQUIRED IN GROUP I-4 OCCUPANCIES WHERE ALL OF THE FOLLOWING APPLY:
   (1) INTERIOR CORRIDORS ARE PROTECTED BY SMOKE DETECTORS.
   (2) AUDITORIUMS, CAFETERIAS, GYMNASIUMS AND SIMILAR AREAS ARE PROTECTED BY HEAT DETECTORS OR OTHER APPROVED DETECTION DEVICES.
   (3) SHOPS AND LABORATORIES INVOLVING DUSTS OR VAPORS ARE PROTECTED BY HEAT DETECTORS OR OTHER APPROVED DETECTION DEVICES.
c. MANUAL FIRE ALARM BOXES SHALL NOT BE REQUIRED IN GROUP I-4 OCCUPANCIES WHERE THE BUILDING IS EQUIPPED THROUGHOUT WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1, THE EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM WILL ACTIVATE ON SPRINKLER WATER FLOW AND MANUAL ACTIVATION IS PROVIDED FROM A NORMALLY OCCUPIED LOCATION.



THE CONTRACTOR SHALL USE THE FIRE ALARM PLAN TO DETERMINE THE EXACT NUMBER AND LOCATION OF FIRE ALARM DEVICES AND SHALL PROVIDE ALL ADDITIONAL DEVICES REQUIRED PER CODE FOR A SUCCESSFUL COMPLETION OF FIRE ALARM SYSTEM.

FOR TYPE I4 CONSTRUCTION, PROVIDE PULL STATION IN EVERY CLASSROOM.

SCOPE OF WORK

PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR CONNECTION OF DEVICES TO THE NEW FIRE ALARM SYSTEM, AS COVERED BY THESE SPECIFICATIONS, TO BE WIRED, CONNECTED AND LEFT IN FIRST CLASS OPERATING CONDITION. ALL EQUIPMENT SHALL BE U.L. LISTED, CONFORM TO REVISED IBC, NFPA CODES 70, 72, 90A, AND 101, AND MEET THE REQUIREMENTS OF THE BUILDING AND ELECTRICAL CODES FOR THE LOCAL JURISDICTION. FIRE ALARM DEVICES SHALL INCLUDE BUT NOT BE LIMITED TO ADA COMPLIANT HORN STROBES, STROBES, MANUAL PULL STATIONS, SMOKE DETECTORS, HEAT DETECTORS AND FIRE ALARM PANEL.

PLANS ARE FOR REFERENCE ONLY. FIRE ALARM SHOP DRAWINGS SHALL BE SUBMITTED UNDER A SEPARATE PERMIT APPLICATION.

FIRE ALARM RISER

1 SCALE: NTS

FIRE ALARM SYSTEM NOTES

A. GENERAL

1. GENERAL NOTES, SYMBOLS LIST AND DETAILS ARE APPLICABLE TO ALL DRAWINGS MARKED "FA".
2. THE CONTRACTOR SHALL FILE ALL DRAWINGS PER STATE AND LOCAL CODES, OBTAIN AND PAY FOR ALL PERMITS, PROVIDE CALCULATIONS, AND FINAL INSPECTIONS.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL THE FIRE ALARM SYSTEM IN A MANNER WHICH PROVIDES A COMPLETE AND OPERATIONAL ALARM SYSTEM, WITH ALL EQUIPMENT, WIRE MANAGEMENT, DEVICES PERMITS HANGERS, TRIM, ACCESSORIES AND ASSOCIATED AND INCIDENTAL WORK, IN ACCORDANCE WITH THE APPLICABLE CODES, ALL AUTHORITIES HAVING JURISDICTION, AND PER THE CONSTRUCTION DOCUMENTS. UNLESS OTHERWISE NOTED, IT IS THE INTENT OF THESE DOCUMENTS TO PROVIDE AN APPROVED ADDRESSABLE FIRE ALARM SYSTEM THROUGHOUT THE ENTIRE PROJECT.
4. CONTRACTOR SHALL INCLUDE THE COST OF ALL SMALL DETAILS, INCIDENTAL WORK, AND ACCESSORIES NOT SHOWN OR SPECIFIED, BUT WHICH CAN BE REASONABLY INFERRED FOR COMPLETE AND SATISFACTORY CODE COMPLIANT SYSTEM. PROVIDE ALL ITEMS TO ACCOMPLISH REQUIREMENTS OF COORDINATION WITHOUT ADDITIONAL EXPENSE.
5. BASE BID SHALL INCLUDE ALL CABLE MANAGEMENT HARDWARE AS SPECIFIED AND REQUIRED BY CODE.
6. ALL NEW FIRE ALARM WORK SHALL CONFORM TO THE REQUIREMENTS OF APPLICABLE SECTIONS OF NFPA 72 NATIONAL FIRE ALARM AND SIGNALING CODE BUILDING DEPARTMENT, FIRE DEPARTMENT AND OTHER LOCAL AUTHORITIES HAVING JURISDICTION.
7. THE OPERATION OF FIRE ALARM INSTALLATION DOES NOT CONSTITUTE AN ACCEPTANCE OF WORK BY THE OWNER, FINAL ACCEPTANCE IS TO BE MADE AFTER THE CONTRACTOR HAS DEMONSTRATED THAT THE WORK FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL REQUIRED CERTIFICATES OF APPROVAL FROM THE STATE AUTHORITIES, MUNICIPAL AUTHORITIES AND INSURANCE UNDERWRITERS.

B. DRAWINGS/DESIGN

1. THESE DOCUMENTS DEPICT A PERFORMANCE LEVEL ENGINEERING DESIGN LAYOUT TO BE UTILIZED AS GUIDANCE FOR THE PLANNING OF THE FIRE ALARM SYSTEM BY THE CONTRACTOR. PROVIDE COMPLETE DOCUMENTS FOR REVIEW AND APPROVAL FROM THE ARCHITECT/ENGINEER OF RECORD, AND THE AUTHORITY HAVING JURISDICTION AND PRIOR TO INSTALLATION.
2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF THE FIRE ALARM SYSTEM IN ACCORDANCE WITH ALL APPLICABLE CODES AND REQUIREMENTS, INCLUDING BUT NOT LIMITED TO APPLICABLE NFPA CODES AND STANDARDS, LOCAL AUTHORITIES HAVING JURISDICTION, OWNER'S PROPERTY INSURANCE CARRIER GUIDELINES, AND OWNER-SPECIFIED DIRECTION.
3. THE CONTRACTOR SHALL PROVIDE ALL INTERCONNECTING WIRING BETWEEN THE FIRE ALARM AND HVAC, AUTOMATED TEMPERATURE CONTROL (ATC) AND ELECTRONIC DOOR HARDWARE EQUIPMENT OR SYSTEMS AS INDICATED AND/OR AS REQUIRED PER NFPA 72 OR AUTHORITIES HAVING JURISDICTION.
4. THE FIRE ALARM SYSTEM SHALL HAVE ALL INITIATING, MONITORING AND CONTROL DEVICES. SYSTEM SHALL BE A FULLY ADDRESSABLE TYPE SYSTEM.
5. ALL WIRING AND CONDUIT SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS, MANUFACTURER WIRING DIAGRAMS AND SHOP DRAWINGS.
6. THE FIRE ALARM SYSTEM SHALL BE DIRECTLY CONNECTED TO THE DESIGNATED DISPATCH CENTER OF THE LOCAL FIRE PROTECTION DISTRICT VIA APPROVED RADIO COVERAGE FOR EMERGENCY RESPONDERS AS SPECIFIED BY THE LOCAL FIRE MARSHAL. SYSTEM TO BE VERIFIED IN THE FIELD BY THE LOCAL FIRE MARSHAL.
7. THE FIRE ALARM SYSTEM SHALL HAVE THE CAPABILITY TO PROVIDE CENTRAL STATION MONITORING USING AN AUTO DIALER VIA PHONE LINE FOR INTERFACE BETWEEN SECURITY SYSTEMS, APPROVED BY THE LOCAL FIRE MARSHAL.
8. THE FIRE ALARM SYSTEM SHALL NORMALLY BE POWERED BY A UTILITY DISTRIBUTION SYSTEM, THE FIRE ALARM CONTROL PANEL SHALL HAVE AN INTEGRAL STANDBY SEALED RECHARGEABLE BATTERY CAPABLE OF POWERING THE SYSTEM IN ACTIVE MODE FOR AT LEAST 60 HOURS IN THE EVENT OF PRIMARY POWER FAILURE. THE TRANSFER TO STANDBY BATTERY POWER SHALL BE AUTOMATIC AND WITHOUT INTERRUPTION TO OPERATION. UNLESS OTHERWISE NOTED.
9. THE FIRE ALARM SYSTEM INCLUDING DUCT DETECTORS SHALL BE ELECTRICALLY OR ELECTRONICALLY MONITORED FOR INTEGRITY AND CONTINUITY SO THAT ANY MALFUNCTION OF THE SYSTEM SUCH AS AN ELECTRICAL OPEN, A GROUND FAULT, OR ANY SHORT CIRCUIT FAULT ON THE MAIN POWER SUPPLY SIGNALING LINE, OR ALARM-FIRE SAFETY CONTROL CIRCUIT WILL INDICATE A VISUAL AND AUDIBLE SIGNAL AT THE ALARM PANEL, WHEN PROPER ALARM OPERATION WOULD BE PREVENTED.
10. CONTRACTOR SHALL COORDINATE ALL NEW WORK WITH NEW WORK OF OTHER TRADES AND EXISTING CONDITIONS AND PARTICIPATE IN THE PREPARATION OF COORDINATED SHOP DRAWINGS, IN ORDER TO AVOID CONFLICTS OF ANY TYPE.
11. CONTRACTOR SHALL PROVIDE SUBMITTALS AND SHOP DRAWINGS DETAILING, BUT NOT LIMITED TO, ALL OF THE FOLLOWING:
    a. BATTERY CALCULATIONS.
    b. CONDUCTOR TYPE AND SIZES.
    c. VOLTAGE DROP CALCULATIONS.
    d. MANUFACTURER'S MODEL NUMBERS AND LISTING INFORMATION FOR EQUIPMENT, DEVICES AND MATERIALS.
    e. THE INTERFACE OF FIRE SAFETY CONTROL FUNCTIONS.
    f. SHOP DRAWING INCLUDING LOCATION AND HEIGHT OF ALL DEVICES.
12. CONTRACTOR SHALL INSTALL AMPLIFIERS TO SUPPORT LOAD FOR SPEAKERS.
13. REMOTE TEST SWITCH WITH STATUS/ALARM INDICATORS SHALL BE PROVIDED AND INSTALLED FOR DUCT SMOKE DETECTORS AND FOR SPRINKLER SYSTEM TAMPER AND FLOW SWITCHES. COORDINATE WITH HVAC EQUIPMENT MANUFACTURER'S APPROVED SUBMITTALS.
14. PROVIDE AND INSTALL ADDRESSABLE DUCT SMOKE DETECTORS ON THE RETURN OR SUPPLY SIDE OF AIR HANDLING UNITS PER APPLICABLE CODES. COORDINATE WITH HVAC EQUIPMENT MANUFACTURER APPROVED SUBMITTALS. FOR NUMBER AND LOCATION OF DUCT SMOKE DETECTORS REFER TO HVAC DRAWINGS AND SHOP DRAWINGS. DUCT DETECTORS ARE TO BE WIRED TO THE FIRE ALARM CONTROL PANEL.
15. PROVIDE AND INSTALL ADDRESSABLE DUCT SMOKE DETECTORS INSTALLED AT EACH STORY WHERE RETURN AIR RISERS SERVE TWO OR MORE STORIES AND SERVE ANY PORTION OF A RETURN AIR SYSTEM HAVING A DESIGN CAPACITY GREATER THAN 15,000 CFM UNLESS OTHERWISE NOTED LOCATE DUCT SMOKE DETECTORS UP STREAM OF THE CONNECTION BETWEEN THE RETURN AIR RISER AND ANY AIR DUCTS OR PLENUMS. COORDINATE WITH HVAC EQUIPMENT MANUFACTURERS APPROVED SUBMITTALS FOR NUMBER AND LOCATION OF RETURN AIR RISER DUCT SMOKE DETECTORS REFER TO HVAC DRAWINGS AND SHOP DRAWINGS, DUCT DETECTORS ARE TO BE WIRED TO THE FIRE ALARM CONTROL PANEL.
16. ACTIVATION OF ANY FIRE ALARM EQUIPMENT SHALL SHUT OFF ALL HVAC UNITS EXCLUDING KITCHEN HOOD EXHAUST FANS.
17. AIR HANDLER UNITS SHALL UTILIZE ADDRESSABLE CONTROL MODULES FOR UNIT SHUTDOWN AND DAMPER CONTROLS.
18. THE FIRE ALARM INTERCONNECTION TO THE SECURITY SYSTEM SHALL RELEASE ALL FAIL-SAFE EXIT EGRESS DOORS UPON ALARM ACTIVATION UNLESS OTHERWISE NOTED.
19. PROVIDE AND INSTALL WATERFLOW ALARM SWITCHES, AND SUPERVISORY AIR PRESSURE AND VALVE TAMPER MONITORING ON ALL SPRINKLER CONTROL VALVES. FOR NUMBER AND LOCATION OF PRESSURE FLOW AND TAMPER SWITCHES REFER TO FIRE PROTECTION SHOP DRAWINGS. ACTUATION OF THE SPRINKLER WATER FLOW AND/OR TAMPER SWITCH SHALL ACTIVATE THE FIRE ALARM SYSTEM.

C. INSTALLATION

1. REFER TO ARCHITECTURAL DRAWINGS FOR ALL CEILING HEIGHTS.
2. COORDINATE WITH OWNER'S FIELD REPRESENTATIVE AND OR GENERAL CONTRACTOR FOR ALL PHASING AND PROJECT SCHEDULING.
3. THE CONTRACTOR SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES IN ORDER TO AVOID CONFLICTS OF ANY TYPE.
4. INSTALL SMOKE DETECTORS A MINIMUM OF 5' FROM SUPPLY DIFFUSER, WHERE APPLICABLE IN CONFORMANCE WITH NFPA 72.
5. LOCATION OF SMOKE DETECTORS: SPOT TYPE SMOKE DETECTORS SHALL BE LOCATED ON THE CEILING NOT LESS THAN 4 INCHES FROM A SIDEWALL TO THE NEAR EDGE OR WHERE ON A SIDEWALL BETWEEN 4 INCHES AND 12 INCHES DOWN FROM THE CEILING TO THE TOP OF THE DETECTOR. THE LOCATION OF ALL SMOKE DETECTORS SHOWN ARE CONSIDERED TO BE SCHEMATIC ONLY. THE ACTUAL LOCATIONS (SPACING TO ADJACENT DETECTORS, WALLS, DIFFUSERS, CEILING FANS, ETC.) MUST MEET MEET NFPA 72 REQUIREMENTS.
6. LOCATION OF MANUAL FIRE ALARM BOXES: EACH MANUAL FIRE ALARM BOX SHALL BE SECURELY MOUNTED. THE OPERABLE PART OF EACH MANUAL FIRE ALARM BOX SHALL NOT BE LESS THAN 3 FEET-6 INCHES AND NOT MORE THAN 4 FEET -6 INCHES ABOVE FLOOR LEVEL PER NFPA 72 AND ADA REQUIREMENTS. MANUAL FIRE ALARM BOXES SHALL BE DISTRIBUTED THROUGHOUT THE PROTECTED AREA SO THAT THEY ARE UNOBSTRUCTED AND READILY ACCESSIBLE. THEY SHALL BE LOCATED IN THE NORMAL PATH OF EXIT FROM THE AREA WITH A MANUAL FIRE ALARM BOX AT EACH EXIT ON EACH FLOOR. ADDITIONAL MANUAL FIRE ALARM BOXES SHALL BE PROVIDED SO THAT TRAVEL DISTANCE TO THE NEAREST FIRE ALARM BOX WILL NOT BE EXCESS OF 200 FEET MEASURED HORIZONTALLY ON THE SAME FLOOR.
7. LOCATION OF AUDIBLE/VISIBLE SIGNAL APPLIANCES: INSTALL WALL-MOUNTED NOTIFICATION APPLIANCES WITH THE BOTTOM OF THE STROBE LENS AT 80 INCHES AFF, OR 6 INCHES BELOW THE CEILING, WHICHEVER IS LOWER. ALL STROBES THAT ARE IN ONE VIEWING TO BE SYNCHRONIZED IN ACCORDANCE WITH NFPA 72.
8. TO THE EXTENT POSSIBLE, FIRE ALARM VISUAL AND AUDIBLE/VISUAL DEVICES SHALL BE LOCATED NO MORE THAN 9 INCHES AWAY FROM INSIDE OR OUTSIDE WALL CORNERS, OPENINGS, PILASTERS OR COLUMNS.
9. WHERE DEVICES ARE SHOWN ABOVE OR IN CLOSE PROXIMITY TO LIGHT SWITCHES, THE CENTERLINES OF THE DEVICES SHALL BE ALIGNED VERTICALLY.
10. LOCATION OF CONTROL PANELS: THE TOP OF NEW CONTROL PANELS SHALL NOT BE INSTALLED HIGHER THAN 60 INCHES ABOVE FINISHED FLOOR LEVEL.
11. ALL EQUIPMENT, CABLING DEVICES, ETC., INSTALLED IN HVAC PLENUM SPACES SHALL MEET CODE REQUIREMENTS FOR SMOKE AND FIRE RATING.
12. ALL CABLING SHALL BE PLENUM RATED WHEN A RETURN AIR PLENUM IS UTILIZED.
13. ALL WORK INSTALLED BY THIS CONTRACTOR SHALL BE INSTALLED IN SUCH A MANNER AS TO CLEAR ALL LIGHT FIXTURES, CEILING CONSTRUCTION, SPRINKLER PIPES AND HEADS, CONDUITS, PIPING ETC.

AT THE COMPLETION OF THE WORK AND PRIOR TO THE FINAL ACCEPTANCE, ALL PARTS OF THE WORK SHALL BE THOROUGHLY CLEANED

FIRE ALARM SPECIFICATIONS

1. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE FIRE ALARM SYSTEM. INSTALLATION, SYSTEM SHALL COMPLY WITH ALL CURRENT APPLICABLE CODES, INCLUDING LOCAL LAWS AND PER AUTHORITY HAVING JURISDICTION FIRE ALARM INSTALLATION SHALL CONFORM TO BUILDING STANDARDS. COORDINATE ALL WORK WITH BUILDING MANAGEMENT, BASE BUILDING FIRE ALARM SYSTEM VENDOR AND OTHER TRADES.
2. CONTRACTOR SHALL SUBMIT FIVE COPIES OF WIRING DIAGRAMS AND CATALOG CUTS FOR ALL FIRE ALARM WORK FOR REVIEW PRIOR TO THE START OF ANY WORK.
3. FIRE ALARM DEVICES INSTALLATION:
   - 3.1. PROVIDE FIRE ALARM SMOKE DETECTOR, STROBE LIGHT, SPEAKER UNITS AND OTHER DEVICES AS INDICATED ON THE PLAN. EXACT LOCATION OF DEVICES SHALL BE COORDINATED WITH ARCHITECTS AND FIELD CONDITIONS.
   - 3.2. FIRE ALARM SPEAKER, STROBE AND COMBINATION SPEAKER/STROBE SHALL BE WHITE HOUSING SIMILAR TO BASE BUILDING SYSTEM TYPE. STROBE LIGHTS SHALL MATCH BASE BUILDING SYSTEM:
     - 3.2.1. CAPABLE OF DELIVERING 100,000 PEAK CANDLE POWER, 24/12 VDC, 90 MA AND SYNCHRONIZED TYPE.
       - 3.2.1.1. THE LAMP SHALL BE A XENON STROBE TYPE.
       - 3.2.1.2. THE LENS SHALL BE UNFILTERED OR CLEAR FILTERED WHITE LIGHT.
       - 3.2.1.3. THE MAXIMUM PULSE DURATION SHALL BE TWO-TENTHS OF ONE SECOND (0,2 SEC) WITH A MAXIMUM DUTY CYCLE OF 40 PERCENT. THE PULSE DURATION IS DEFINED AS THE TIME INTERVAL BETWEEN INITIAL AND FINAL POINTS OF 10 PERCENT OF MAXIMUM SIGNAL.
       - 3.2.1.4. THE INTENSITY SHALL BE A MINIMUM OF 75 CANDELA.
       - 3.2.1.5. THE FLASH RATE SHALL BE A MINIMUM OF 1 HZ AND A MAXIMUM OF 2HZ.
       - 3.2.1.6. THE STROBE SHALL BE WALL MOUNTED 80 INCHES ABOVE THE HIGHEST FLOOR LEVEL WITHIN THE SPACE, OR 6 INCHES BELOW THE CEILING, WHICHEVER IS LOWER.
       - 3.2.1.7. OPERATING VOLTAGE OF SPEAKER UNITS SHALL BE COMPATIBLE WITH 7) EXISTING BASE BUILDING FIRE ALARM SYSTEM.
   - 3.3. SPACE SMOKE DETECTORS SHALL BE PHOTOELECTRIC TYPE MATCHING THE STANDARD BUILDING SYSTEM. PROVIDE DUAL CHAMBER IONIZATION TYPE FOR ELEVATOR LOBBIES AND ELEVATOR MACHINE ROOMS AND DUCT MOUNTED DETECTORS WITH REMOTE INDICATOR LED AND KEY TEST SWITCH
   - 3.4. BASE BUILDING FIRE ALARM VENDOR, SHALL MAKE FINAL CONNECTIONS, MODIFICATIONS TO AND REPROGRAMMING OF THE FIRE COMMAND STATION.
   - 3.5. FIRE WARDEN STATION SHALL MATCH BASE BUILDING STANDARD.
     - 3.5.1. MOUNT 48" ABOVE FINISHED FLOOR.
     - 3.5.2. RED LED CALL-CONNECT INDICATOR WITHIN ENCLOSURE.
   - 3.6. ALL EXISTING DEVICES WILL BE REINSTALLED IN THEIR ORIGINAL LOCATIONS OR AS NOTED ON PLAN AFTER NEW CEILING IS IN PLACE AND WALL FINISHES ARE COMPLETE. PROVIDE TEMPORARY SUPPORT FOR DEVICES AND KEEP OPERATIONAL DURING CONSTRUCTION.
   - 3.7. AS A MINIMUM, PROVIDE NO. 16 AWG, TWISTED, SHIELDED MULTI- CONDUCTOR CABLE FOR SPEAKER CIRCUIT AND NO. 14 AWG. MULTI- CONDUCTOR CABLE FOR STROBE LIGHT CIRCUIT. EXTEND SYSTEM ZONE OR ADDRESSABLE CIRCUITS WITH TYPE AND SIZE MATCHING THE EXISTING SYSTEM. ALL CABLES SHALL BE TYPE 'FPLP' HAVING 150C AND COMPLY WITH FIRE DEPARTMENT REQUIREMENTS. CABLE SIZE AND CONFIGURATION (SHIELDED/NON) SHALL MATCH EXISTING.
4. PERMITS, STANDARDS AND APPROVALS:
   - 4.1. OBTAIN PERMISSION FROM BUILDING MANAGEMENT FOR CONNECTIONS OF TENANT SPEAKER LOOPS TO EXISTING BUILDING ALARM SPEAKER LOOPS ON THE FLOORS.
   - 4.2. ALL ROUTING AND TERMINATIONS OF CABLES SHALL BE DIRECTED AND APPROVED BY BUILDING MANAGEMENT. NO TERMINATIONS SHALL BE MADE WITHOUT PRIOR APPROVAL OF BUILDING MANAGEMENT.
   - 4,3. ELECTRICAL CONTRACTOR SHALL INCLUDE ALL FEES, COSTS, ETC, FOR FILING, APPROVALS, FINAL CONNECTIONS, SYSTEM REPROGRAMMING, PRE-TESTING AND FIRE DEPARTMENT TESTING AND SIGNOFF.

NOTES:

1. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, THE EXACT LOCATION OF WALL MOUNTED FIRE ALARM SPEAKER/STROBE LIGHTS AND ALL NEW FIRE ALARM DEVICES.
2. LETTERS: "A" OR "B" - BESIDE SPEAKER/STROBE OR SPEAKER INDICATE SPEAKER/STROBE CIRCUIT.
3. FOR TOTAL QUANTITIES OF FIRE ALARM DEVICE, REFER TO FIRE ALARM PLAN.
4. EXISTING FIRE SMOKE DAMPERS AND DUCT SMOKE DETECTORS TO BE FURNISHED WITH NEW CODE COMPLIANT RED, TEFLON FA WIRING.
5. NUMBER IN PARENTHESIS INDICATES NUMBER OF DEVICES ON PLAN. OF THAT TYPE.

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ISSUE

NO.	DATE	DESCRIPTION	INT.
1	06-02-23	FOR TLE REVIEW	MBJ
2	06-14-23	FOR PERMIT	MBJ

REVISION

NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION
MATTHEW B. JARMEL, AIA, MBA
LICENSE NUMBER: A2017014316

Project Number:	Scale:
TLEMO22-164	AS NOTED
Drawn By: LN	Approved By: MBJ

Drawing Name:

FIRE ALARM RISER, NOTES, SPECIFICATIONS & LEGEND

Drawing Number:

FA-100

STATE OF MISSOURI — MATTHEW B. JARMEL — NUMBER A-2017014316 — ARCHITECT

SHEET NOTES:

1. SEE DRAWING FA-100 FOR FIRE ALARM RISER, LEGEND & NOTES.
2. DAY CARE CENTERS CARING FOR CHILDREN SHALL HAVE SMOKE DETECTORS INSTALLED IN EACH ROOM USED BY THE CHILDREN AND IN OTHER LOCATIONS AS DEEMED NECESSARY BY THE FIRE INSPECTOR. ALL SMOKE DETECTORS SHALL BE POWERED BY THE BUILDING'S ELECTRICAL SYSTEM AND HAVE A BATTERY BACKUP.
3. LOCATE CARBON MONOXIDE DETECTOR/ALARM OR MULTI CRITERIA SMOKE/FIRE/CARBON DETECTOR ON CEILING AS CLOSE AS POSSIBLE TO RETURN GRILL(S) OR PER MANUFACTURER INSTRUCTIONS.
4. CONTRACTOR IS RESPONSIBLE FOR ALL WIRING AND CONNECTIONS FOR DUCT SMOKE DETECTORS.
5. THE GENERAL CONTRACTOR TO PROVIDE EMERGENCY RESPONDER RADIO COMMUNICATIONS AND RADIO SIGNAL BOOSTER EQUIPMENT REQUIRED TO BRING THE INTERIOR SIGNAL STRENGTH WITHIN THE ACCEPTABLE RANGE.
6. ELECTRONIC DOOR LOCKS SHALL RELEASE UPON FIRE ALARM ACTIVATION.

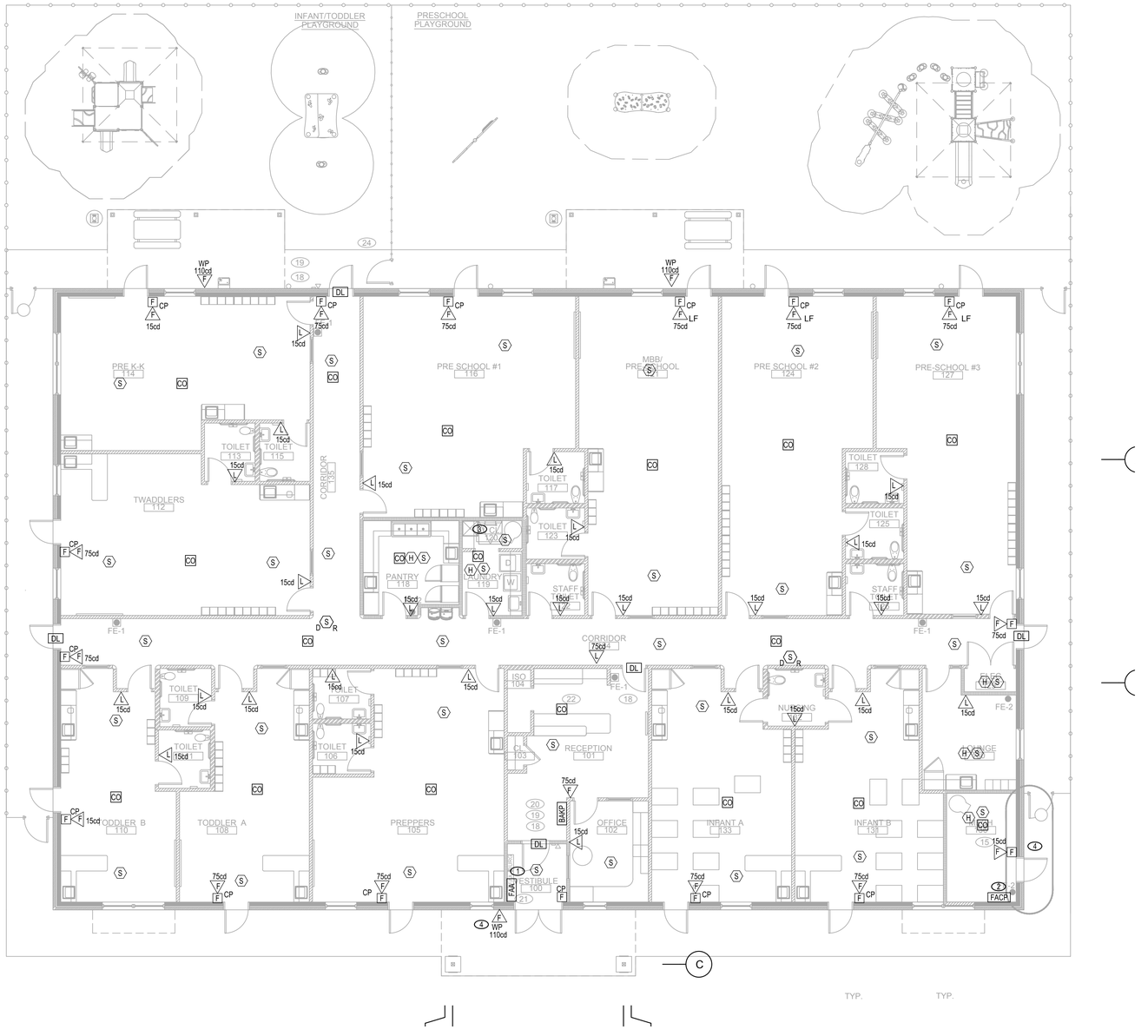
FIRE ALARM PLAN KEY NOTES:

1. VERIFY EXACT LOCATION OF FIRE ALARM ANNUNCIATION PANEL WITH FIRE MARSHAL.
2. VERIFY EXACT LOCATION OF FIRE ALARM CONTROL PANEL WITH FIRE MARSHAL.
3. ROOF ACCESS/MAINTENANCE DOOR SHALL NOT BE BLOCKED BY ANY DUCT, PIPES OR OTHER FIXED OBJECTS.
4. PROVIDE RECESSED KNOX BOX WITH TAMPER SWITCH CONNECTED TO THE SECURITY SYSTEM. REFER TO EXTERIOR ELEVATIONS SHEET A-051 FOR KNOX BOX SPECIFICATION AND LOCATION.

PLANS ARE FOR REFERENCE ONLY. FIRE ALARM SHOP DRAWINGS SHALL BE SUBMITTED UNDER A SEPARATE PERMIT APPLICATION.

SEQUENCE OF OPERATIONS

FIRE ALARM SYSTEM MATRIX	BUILDING SYSTEM OUTPUTS																
	ACTUATE COMMON ALARM SIGNAL INDICATOR FIRE ALARM CONTROL PANEL AND ANNUNCIATOR	ACTUATE AUDIBLE ALARM SYSTEM - FIRE ALARM CONTROL PANEL AND ANNUNCIATOR	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR - FIRE ALARM CONTROL PANEL AND ANNUNCIATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL - FIRE ALARM CONTROL PANEL AND ANNUNCIATOR	ACTUATE COMMON TROUBLE SIGNAL INDICATOR FIRE ALARM CONTROL PANEL AND ANNUNCIATOR	ACTUATE AUDIBLE TROUBLE SIGNAL - FIRE ALARM CONTROL PANEL AND ANNUNCIATOR	ACTIVATE GENERAL EVACUATION SIGNAL FOR TEMPORAL-3 CODE	UNLOCK EXITS AND RELEASE DOOR HOLDERS	DISPLAY CHANGE OF STATUS - FIRE ALARM CONTROL PANEL AND ANNUNCIATOR	ACTIVATE EXTERNAL HORN/STROBE	TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION	LOCAL SOUNDER BASE TO SOUND TEMPORAL-4 CODE	SHUT DOWN OF CO PRODUCING EQUIPMENT
MANUAL FIRE ALARM PULL BOXES	X	X					X	X	X	X	X				
SMOKE DETECTORS AND HEAT DETECTORS	X	X					X	X	X	X	X				
CARBON MONOXIDE DETECTORS	X	X						X	X		X			X	X
FIRE ALARM A.C. POWER FAILURE					X	X			X				X		
FIRE ALARM SYSTEM LOW BATTERY					X	X			X				X		
OPEN CIRCUIT					X	X			X				X		
GROUND FAULT					X	X			X				X		
NOTIFICATION APPLIANCE CIRCUIT SHORT					X	X			X				X		
SPRINKLER WATER FLOW	X	X					X	X	X	X	X				
SPRINKLER TAMPER			X	X					X			X			
KNOX BOX TAMPER SWITCH												X			
SMOKE OR FIRE SMOKE DAMPER WITH ACCESS DOOR (FSD/AD) / (SD/AD)	X	X	X						X			X	X		



1 **FIRE ALARM PLAN**
SCALE: 1/8" = 1'-0"
NORTH

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY
2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC
3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL

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Drawn By: LN	Approved By: MBJ

Drawing Name:

FIRE ALARM PLAN, NOTES & SYSTEM MATRIX

Drawing Number:

FA-200

STATE OF MISSOURI
MATTHEW B. JARMEL
NUMBER A-2017014316
ARCHITECT