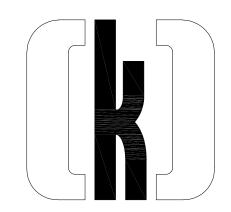
MADE IN KC TENANT DEVELOPMENT

Construction Documents Issued for Permit/Construction MARCH 10, 2020

860 NW Blue Parkway, Suite U Lee's Summit, Missouri 64086





Project Number 5513-20

Index Of Drawings

ARCHITECTURAL

G100 ARCHITECTURAL SPECIFICATIONS

G101 SYMBOLS LEGEND, CODE SUMMARY, WALL TYPES AND DOOR INFORMATION

D100 DEMOLITION PLANS AND NOTES

A100 ARCHITECTURAL PLAN, REFLECTED CEILING PLAN AND NOTES

A300 EXTERIOR WALL SECTIONS AND DETAILS

FINISH PLAN, NOTES, AND FINISH LEGEND

A600 ELEVATIONS AND SECTIONS

MECHANICAL & PLUMBING

P100 PLUMBING DEMOLITION AND NEW WORK PLANS
P200 PLUMBING DETAILS, SCHEDULES, GENERAL NOTES, AND SYMBOLS
P300 PLUMBING SPECIFICATIONS

FP100 FIRE PROTECTION PLAN

E100 ELECTRICAL DEMOLITION AND POWER/SYSTEMS PLANS

E200 LIGHTING PLAN AND SPECIFICATIONS

E300 ELECTRICAL DETAILS, GENERAL NOTES, AND SYMBOLS

Architect

WARMAN ARCHITECTURE & DESIGN 1735 SWIFT AVENUE NORTH KANSAS CITY, MO 64116 T: 816.474.2233 F: 816.474.1051

Architectural Designer

KCD-KANSAS CITY DESIGN GROUP, LLC
4006 N 126TH STREET

KANSAS CITY, KS 66109

T: 816.682.0329

MP Engineer

LANKFORD, FENDLER & ASSOCIATES 1730 WALNUT ST. KANSAS CITY, MO 64108 T: 816-221-1411

RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
05/29/2020

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GENERAL REQUIREMENTS

Owner before commencing work.

furnished by sub-contractors.

commencing construction.

sheets as noted on cover.

construction and occupancy.

field conditions.

Americans with Disabilities Act.

portions of the work.

and worker at all times.

applicable codes.

payment.

DIVISION 6

shall be Custom.

ARCHITECTURAL WOODWORK

State of Missouri and the City of Lee's Summit.

installation, and similar operations, not furnishing.

conditions, including dimensions and utility locations.

Owner of any discrepancies prior to continuing the work.

1. Owner Representative reserves the right to consider and substitute materials due to

appearance and will not affect intent of Building Code for which permit was issued. The

material will be equal in aspects relating to flame spread, combustibility, quality and

Tenant agrees to accept substitution(s) when requested by Owner and approved by

a period of one (1) year after date of written acceptance by Owner, unless otherwise

areas or surfaces, shall be at no cost and with least inconvenience to Owner.

specifically provided in contract. Contractor shall replace with new materials, including

installation thereof, all items giving indication of defective material or faulty workmanship

during this period. Replacement and repair, as well as repair of any damage to adjacent

3. Contractor shall provide all insurance and certificates of insurance as required by the

4. Contractor shall prior to commencement of the work, field verify all existing project

5. Contractor shall verify and be responsible for all work and materials-including those

6. Written dimensions take precedence over scaled sizes. Do not scale drawings. Notify the

7. These documents were created referencing existing visual conditions as basis of planning

Contractor shall bring any variances and/or discrepancies to attention of the Owner prior to

8. Contractor shall carefully study, coordinate, and compare the contract documents and

9. Documents provided by Warman Architecture & Design, Inc consist of "Architectural"

10. Contractor is responsible for paying all fees and obtaining all permits required for

11. All work shall be in accordance with applicable codes, regulations and ordinances of the

12. Definitions: For purposes of this agreement, "provide" includes furnishing and installing

complete and ready for the intended use; "furnishing" includes supply and deliver to project

site, ready for unloading, unpacking, assembly, installation, and similar operation, not

13. A pre-bid meeting for all contractors will be scheduled with the Contractor, Building

Owner, Mechanical, Electrical, and Plumbing Design Builders and data/power consultants at

14. Construction means, methods, sequencing, and safety are the sole responsibility of the

15. It is the intent of these documents and all subsequent construction to comply with The

17. Contractor is to locate and identify all penetrations, new or existing, through fire-rated

18. Contractor to provide FRT backing for support of all wall, ceiling and partition mounted

19. Contractors shall take all necessary precautions to ensure the safety of the occupants

21. Accurate As-built drawings shall be generated by the Contractor during construction and

submitted to the Owner upon completion of final punchlist and prior to request for final

22. Contractor to verify fire extinguisher requirements and locations with Fire Marshal and

23. To the best of our knowledge, the building is already compliant with the Americans with

24. Mechanical, plumbing and electrical work indicated on architectural drawings are for

design intent only. Refer to MEP HVAC plans and MEP Design/Build Contractor to design

plumbing and electrical systems. Variances between documents and discrepancies shall be

1. Reference to Premium, Custom or Economy in this specification shall be as defined in the

Seventh edition of Architectural Woodwork Institute (AWI) "Quality Standards". Construction

3. Interiors of cabinets shall have poplar, pine or fir solid wood with medium density

fiberboard (MDF) or plywood carcass: Interior to be Melamine. Color to match laminate.

Disabilities Act (ADA) with respect to the path of travel to the altered area.

brought to the attention of the Owner and Architect prior to commencing work.

2. Any item not given a specific quality grade shall be Custom.

20. Interior wall and ceiling finishes shall not exceed flame spread classifications of

items such as brackets, light fixtures, shelving and equipment. Coordinate with design build

16. Contractor to provide for the removal of trash, rubbish, surplus and sweeping of

Contractor. Neither the Owner or Architect shall be liable for these actions.

construction and demolition on a daily basis. Coordinate with the Owner.

assemblies and provide fire and smoke stopping/sealant where work occurs.

the job site to discuss project requirements and provide the opportunity to review existing

installing; "installing" includes unloading, temporarily storing, unpacking, assembly,

shall at once report to the Owner any error, inconsistency or omission.

untimely availability and/or faulty materials upon consultation with the Architect. Substituted

2. Contractor shall guarantee all materials and workmanship executed under this contract for

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APPROVED BY:

SHEET NUMBER G100

JOB NUMBER 5513-20

4. Wall cabinets shall have 1/2" thick plywood back, 3/4" thick top, bottom, doors and ends. Base cabinets shall have 1/4" thick plywood back, 3/4" thick bottom, doors and ends.

5. Countertops shall have general purpose grade plastic laminate surface over 3/4" "Medex" water-resistant (MDF) medium density fiber board, (minimum) unless noted otherwise. Reference finish schedule for color.

6. Plastic laminate surfaced casework (except countertops) shall be vertical grade over 3/4" (MDF). Reference finish schedule for color.

7. Maximum span for open counters shall be 3'-6" with 3/4" x 1-1/2" edge. Provide intermediate supports as shown for open counters in excess of 3'-6". Provide 27" high, 19" deep, and 30" wide knee clearance at ADA locations.

8. Countertops shall have 4" high backsplash U.N.O. Self edge all tops and splashes except where noted. Mechanically fasten back and end splashes where adjoining sinks.

9. Hardware: Except as noted shall be:

Hinges - Stanley 1503-9X self-closing Shelf standards/supports - KV 255/256 for cabinets, KV 185/186 for projected supports, Stainless Steel

Pulls - 2-3/4" aluminum HAFELE 124.02.921 handles for all drawers and pulls Counter supports - Centerline floating hidden in wall support brackets.

10. Provide continuous fire retardant treated wood blocking within stud space behind all wall-hung cabinets, white boards, toilet accessories, and at door frames with closers. Provide 3/4" F.R.T. plywood in-wall blocking as indicated in drawings.

11. Coordinate all millwork with Tenant equipment and appliances prior to final build-out.

DIVISION 7

JOINT SEALERS

1. Caulk all interior joints and openings at door frames, walls, partitions, etc., with paint grade Butyl Rubber sealant, and closed cell backer rod. Provide silicone at wet areas. Submit manufacturer's product data and color chart for review and color selection.

2. All penetrations through fire resistive wall and/or floor-ceiling construction shall be caulked with a fire resistive caulking as manufactured by 3M, Type 25, or equal, unless noted otherwise.

3. Install caulking in strict accordance with the manufacturer's recommendations. Take care to produce beads of proper width and depth. Tool as recommended by the manufacturer, and immediately remove all surplus caulking. All caulking shall be fully adhered to both surfaces. Mask all finished surfaces.

DIVISION 8

DOORS/ FRAMES

1. Provide flush wood solid core doors in 22 ga. hollow metal standard-profile welded hollow metal frames. Faces: Species and AWI Grades per door schedule. Construction PC5 or PC7. Comply with FGMA glazing manual for all tempered glazing in doors. Align and fit in frames with uniform clearance and bevel. Undercut 1/2" from substrate at carpet and hard surfaces. Prep doors for necessary hardware- No through-bolting of hardware allowed. Provide appropriate blocking in doors.

2. Install all doors in strict accordance with all applicable codes and regulations, the original design, and the referenced standards, hanging square, plumb and straight and firmly anchored for use intended

FINISH HARDWARE

1. Furnish all finish hardware described and all other finish hardware not described by a single manufacturer, as required for complete operation of build out meeting all applicable building codes. All hardware shall be in compliance with ADAAG requirements- "Accessibility guidelines for buildings and facilities."

2. Submit complete finish hardware schedule, per DHI format, to Owner for review and approval.

3. Install all finish hardware in strict accordance with the manufacturer's recommendations, eliminating all hinge-bound conditions and making all items smoothly operating and firmly anchored into position.

4. Follow the door hardware institute's recommendations for locations of Architectural hardware unless specifically indicated or required to comply with governing regulations.

5. Follow NFPA 101 for means of egress door requirements

6. Follow NFPA 80 for fire-rated door assemblies that are required to be listed or labeled.

GLASS AND GLAZING

1. Comply with combined recommendations of manufacturers of glass, sealants, gaskets and other glazing materials, unless more stringent requirements are contained in GANA's "Glazing Manual"

2. Tempered glass - 1/4" tempered glazing complying with ASTM C1048. Provide glazing channels at top for installation unless indicated otherwise. Provide at openings less than 1'-6" above floor, up to 60" and/or less than 3'-0" in all directions from any door. Provide permanent identification label as require by code.

3. 3/8" tempered glazing complying with ASTM C1048. Provide glazing channels at top for installation unless indicated otherwise. Provide in any horizontal application or any vertical application greater than 3'-0" in any direction from any door, but less than 8'-0" high. Provide permanent identification label as require by code.

4. Tempered glass - 1/2" tempered glazing complying with ASTM C1048. Provide glazing channels at top for installation unless indicated otherwise. Provide in any horizontal application and any opening greater than 1'-6" wide, 8'-0" - 10'-0" high and in areas within 3'-0" of any door. Provide permanent identification label as require by code.

5. GLAZING IN HAZARDOUS LOCATIONS TO COMPLY WITH IBC 2406 AND IBC 2406.3.

PROCELAIN AND CERAMIC TILE

11

DIVISION 9

1. Submittals: Product Data and Samples

2. Provide Tile per Finish Legend and Plans. (no substitutions)

3. Floor Preparations A. Fill cracks, holes, and depressions in concrete substrates for tile floors with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer

RELEASE FOR

CONSTRUCTION

AS NOTED ON PLANS REVIEW **DEVELOPMENT SERVICES**

LEE'S SUMMIT, MISSOURI

05/29/2020

4. Install per manufacturer recommendations.

A. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

B. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.

C. Provide manufacturer's standard trim shapes where necessary to eliminate exposed tile

5. Provide $\frac{1}{16}$ " grout for wall and floor tile.

6. Provide Manufacturer's recommended product for sealing grout joints and that does not change color or appearance of grout.

7. Provide Extra Materials: Deliver to Owner 1 box of each type and color of tile.

SEALED CONCRETE - with grinding

1. Provide High-Performance, Non-Yellowing Crystal-Clear

2. Submittals: Product Data and installation instructions

3. Quality Assurance:

A. Manufacturer: Minimum 10 years experience producing concrete coatings.

B. Installer: Licensed installers experienced and trained in the use of specified products. C. Suitability of Substrate: Concrete surface must be clean and dry with all stains, oil, grease,

dust and dirt removed prior to application. A thorough pressure washing is highly recommended.

4. Material

A. Concrete Primer: Water-borne, two component epoxy with low VOC and low odor 1. DUR-A-GLAZE #4 WB or approved equal.

B. Concrete Sealer: High-performance, non-yellowing, two-component, clear polyester protective coating.

1. DUR-A-GLAZE POLY-THANE#2 or approved equal.

5. Installation of Flooring:

A. Grind floors to remove all telegraphing of previous adhesives and debris.

B. Follow Manufacturers recommendations for installation

6. Provide care and maintenance instructions to tenant after installation is complete.

EPOXY FLOORING

1. Provide epoxy based multi roller applied flooring system with micro or macro colored decorative chips and urethane topcoat. the system shall have the color and texture as specified by the owner with a nominal thickness of 40 mils.

2. Submittals: - Product Data and installation instructions

- manufacturer's safety data sheet (sds) for each product being used. - a 3 x 3 inch square sample of the proposed system. color, texture, and
- thickness shall be representative of overall appearance of finished system subject to normal tolerances

3. Quality Assurance:

- A. Approved Manufacturers: DUR-A-FLEX Inc or equal
- B. Installer: Licensed installers experienced and trained in the use of specified products.
- C. Suitability of Substrate: Concrete surface must be clean and dry with all stains, oil, grease, dust and dirt removed prior to application. A thorough pressure washing is highly recommended.

4. Material

- A. DUR-A-FLEX, inc, dur-a-chip, epoxy-based seamless flooring system
 - 1. primer: dur-a-flex, inc, dur-a-glaze #4 wb resin and hardener.
- 2. first broadcast coat: dur-a-flex, inc, dur-a-gard opf resin and hardener. 3. second broadcast and grout coat: dur-a-flex, inc. dur-a-glaze #4 resin and water clear hardener.
 - 4. chips: dur-a-flex, inc. macro or micro decorative colored chips if applicable.
- 5. topcoat: dur-a-flex, inc. armor top resin, hardener and grit.
- 6. patch materials
- a. shallow fill and patching: use dur-a-flex, inc. dur-a-glaze #4 cove rez.

5. Installation of Flooring:

A. Follow Manufacturers recommendations for storage and installation

ACCESSORIES

2. Provide materials per Finish Legend and Plans. Install per manufacturer's instructions. Apply protective top coat per manufacturer's instructions.

3. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and

manufacturers. Finish Plans for location. Install in accordance with manufacturer's instructions.

4. Provide 4" rubber base (coil stock) throughout: Cove at all areas. Re: Finish Legend for

5. Installation of Wall Base: adhesively install resilient wall base and accessories using maximum lengths possible.

6. Provide Extra Materials: Deliver to Owner at least 20 linear feet of each type of color of resilient

GYPSUM BOARD ASSEMBLIES

ACOUSTICAL PANEL CEILINGS

ASTM E 84

1. Comply with ASTM C645 Provide 3-5/8", 25 ga., steel stude 24" o.c. with 2" deep leg deflection track top runner and bottom. Runners anchored and/or bracing to substrate. Isolate from building structure vertical and horizontal. Frame both sides of building expansion joints; do not bridge. Frame openings per manufacturer's recommendation. Provide supplementary framing for support of other work where indicated and/or required. Construct to withstand 5 psf horizontal load applied from any direction.

1. Surface-Burning Characteristics of Panels: ASTM E 1264, Class A materials, tested per

2. Provide Type "X" gypsum board, 5/8" thick unless shown otherwise. All walls to be painted or receive wallcovering shall have 'Level 4' finish. Tape and float all joints, install cornerbeads, compound fill, feather and sand smooth ready for paint, 'Level 3' where exposed 'Level 2' where concealed. 'Level 5' with 3 separate coats of compound at all joints, angles, and surfaces at all curved surfaces and other surfaces required by MPI and wallcovering manufacturer. Provide smooth surface free of tool marks, ridges and visual defects. All fastening per USG or Gold Bond specifications. Provide water-resistant gypsum board in all "wet" areas.

a. Corners - Outside USG Durabead, or Gold Bond Standard Corner, Inside: taped.

b. Edges at ceilings, mullions, building expansion joints, and juncture with other materials, and other surfaces USG 200 series Casing.

3. All other materials, not specifically described, but required for a complete and proper installation or gypsum drywall, shall be provided.

4. Provide sound attenuation blankets, Type 1 (without membrane facing) where indicated.

5. Frame door openings to comply with GA-600.

6. Provide expansion joints at 30' max intervals with locations approved by the Architect. Expansion joints shall be details per USG standards.

PAINTING/STAINING

1. Except where prefinished or where noted to be painted, stain and varnish all exposed wood and plywood, except for existing ceiling/floor/columns. Repair, sand, clean and repaint any previously painted surface.

2. All unexposed wood such as cabinet interiors, closet and storage shelves, etc., except where prefinished, shall have sanding sealer. Sand shelves before and after application and apply finish coat.

3. Seal tops and bottoms of all wood doors.

4. Tint undercoats to match finish coats.

5. Paints, stains and varnishes shall not be applied at temperatures below 45 degrees F. or humidity above 75%.

6. Damaged areas, dents, cracks, holes and/or other irregularities shall be repaired and repainted to match finish in their entirety, including adjoining surfaces.

7. Allow paints to dry 24 hours, enamels and varnishes 48 hours between coats unless otherwise specified by manufacturer.

8. Sand between coats with 180-220 alum. oxide or equiv. garnet paper and dust prior to applying succeeding coats.

9. Apply paste wood filler (P&L Paste Filler Natural, mixed 2:1 with stain) to open grained woods as directed by manufacturer.

10. Fill nail holes to matching finish.

11. Paint products indicated in the finish schedule are based on Sherwin Williams as a quality standard. Refer to finish material list for actual products.

PAINTED WOOD - one coat each: Interior Trim Primer, Latex Enamel Eggshell Undercoating, Latex Enamel Eggshell.

STAINED & VARNISHED (HDPB) PARTICLE BOARD, WOOD FIBERBOARD AND PLYWOOD - one coat each stain (with filler as above), sanding sealer, Clear Finish Varnish Satin Base 30% sheen.

GYPSUM BOARD WALLS - Acrylic Latex Finish, 2 finish coats over 1 coat primer. Primer: PrepRite 200 Interior Latex Primer Finish and Second Coats: Promar 400 Interior Latex Eggshell

FERROUS METAL-Primer Alkyd based: Kem Kromik Universal Metal Primer Finish Coat: Promar 200 Alkyd Semi-Gloss

DIVISION 10 - SPECIALTIES

FIRE EXTINGUISHER AND CABINETS:

- 1. Portable fire extinguisher to be multi-purpose dry-chemical type, UL-Rated.
- 2. Cabinets, trim, and door style to match building standard.
- 3. Semi-recessed.

EXIT SIGNAGE:

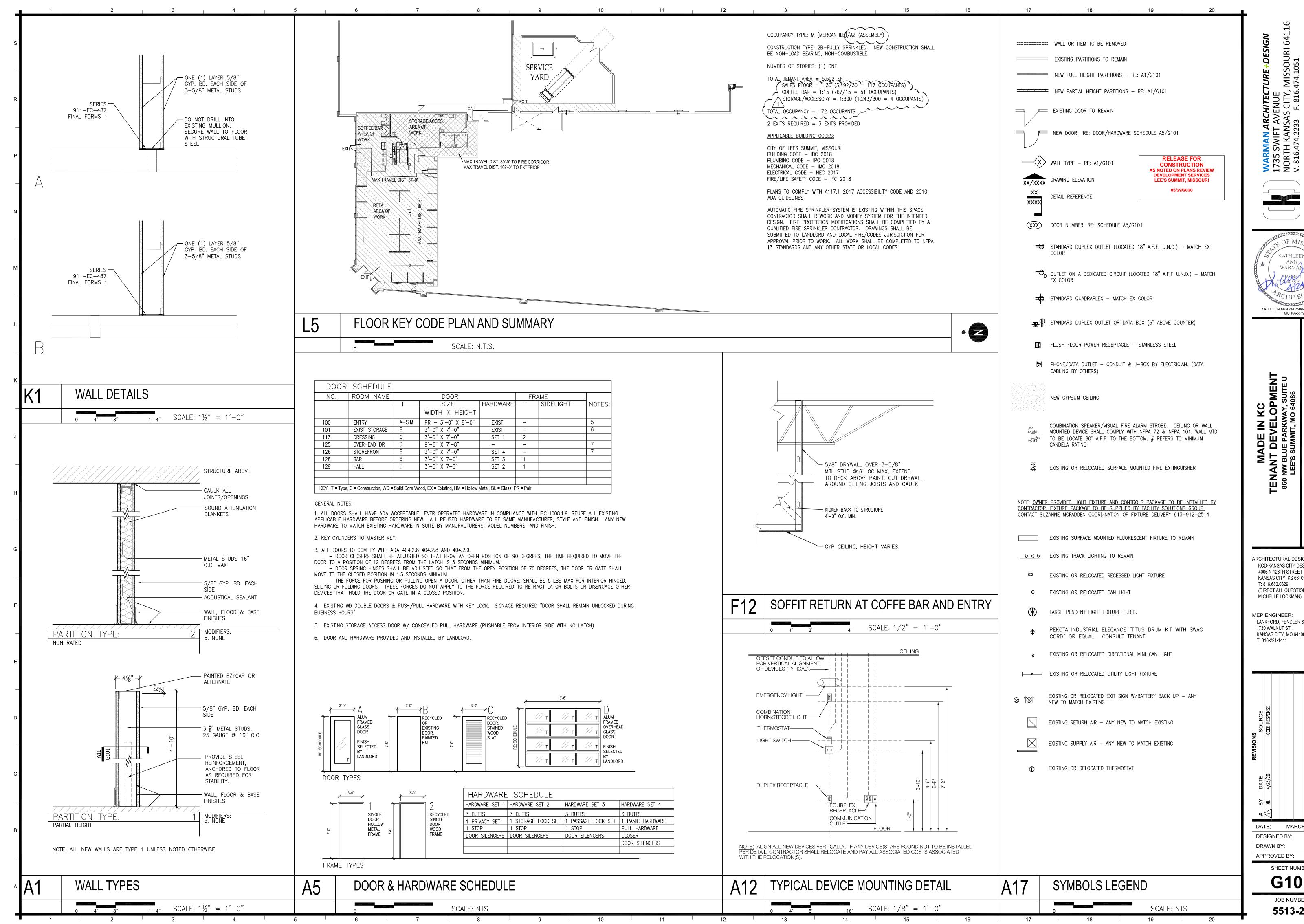
- 1. Signage to be applicable to current building code 2. Color to match current building standard.
- 3. Ceiling or wall mount

wall base to be installed.

b. deep fill and sloping material (over ¼ inch): use dur-a-flex, inc. dur-a-crete.

1. Submittals: Product Data and Samples

substrate conditions indicated.



. MISSOURI 641 .474.1051

KATHLEEN ANN WARMAN KATHLEEN ANN WARMAN - ARCHITECT MO # A-5819

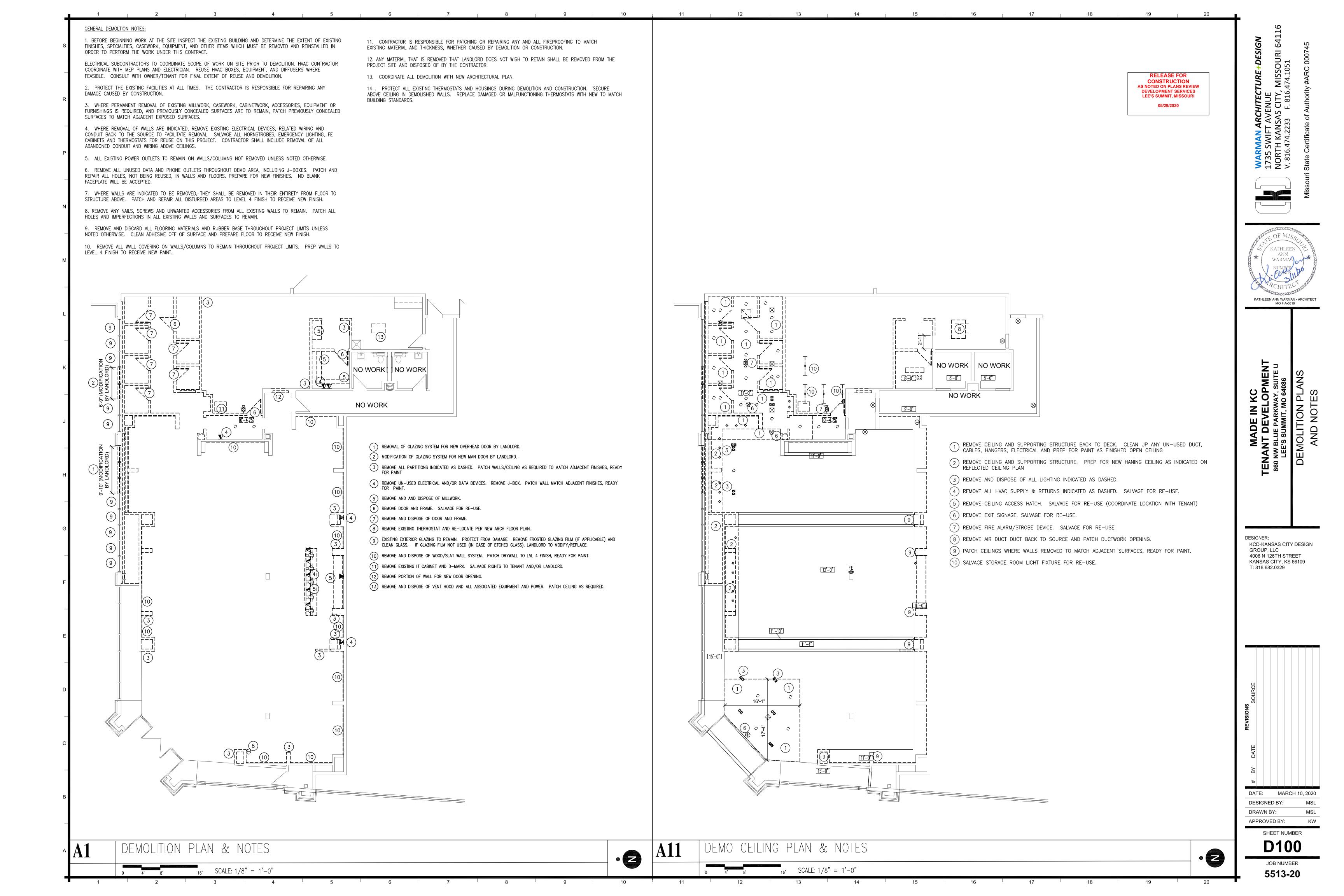
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ARCHITECTURAL DESIGNER: KCD-KANSAS CITY DESIGN GROUP, LL 4006 N 126TH STREET KANSAS CITY, KS 66109 (DIRECT ALL QUESTIONS TO

LANKFORD, FENDLER & ASSOCIATES 1730 WALNUT ST. KANSAS CITY, MO 64108

DATE: MARCH 10, 2020

SHEET NUMBER G101



WARMAN ARCHITECTURE+DESIG
1735 SWIFT AVENUE
NORTH KANSAS CITY, MISSOURI 6
V. 816.474.2233 F. 816.474.1051
souri State Certificate of Authority #ARC 000745

KATHLEEN
ANN
WARMAN
NUMBER
KATHLEEN ANN WARMAN - ARCHITECT
MO # A-5819

TENANT DEVELOPMENT
860 NW BLUE PARKWAY, SUITE U
LEE'S SUMMIT, MO 64086
HITECTI IRAI DI AN REELE

ESIGNER: KCD-KANSAS CITY DESIGN GROUP, LLC 4006 N 126TH STREET

KANSAS CITY, KS 66109

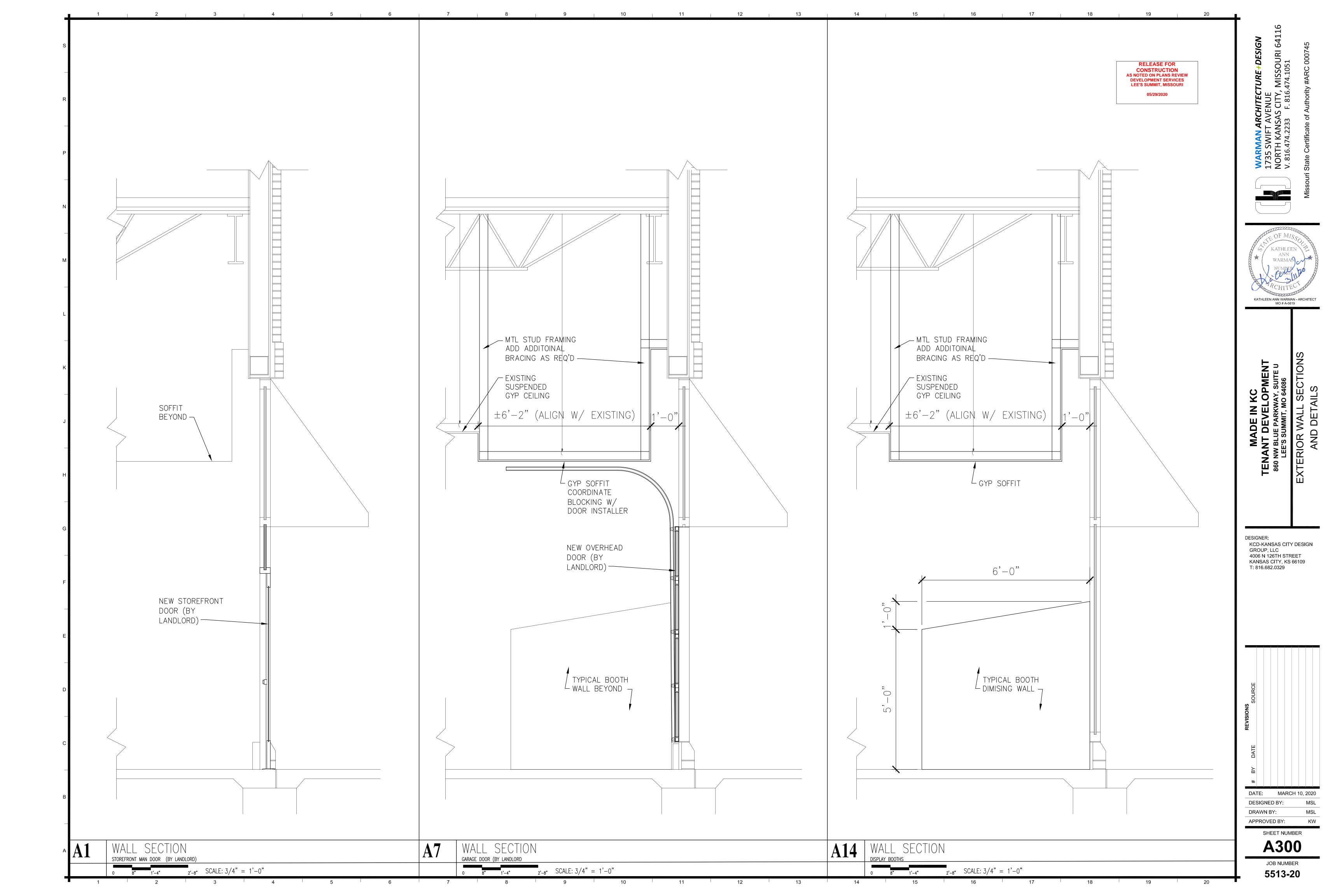
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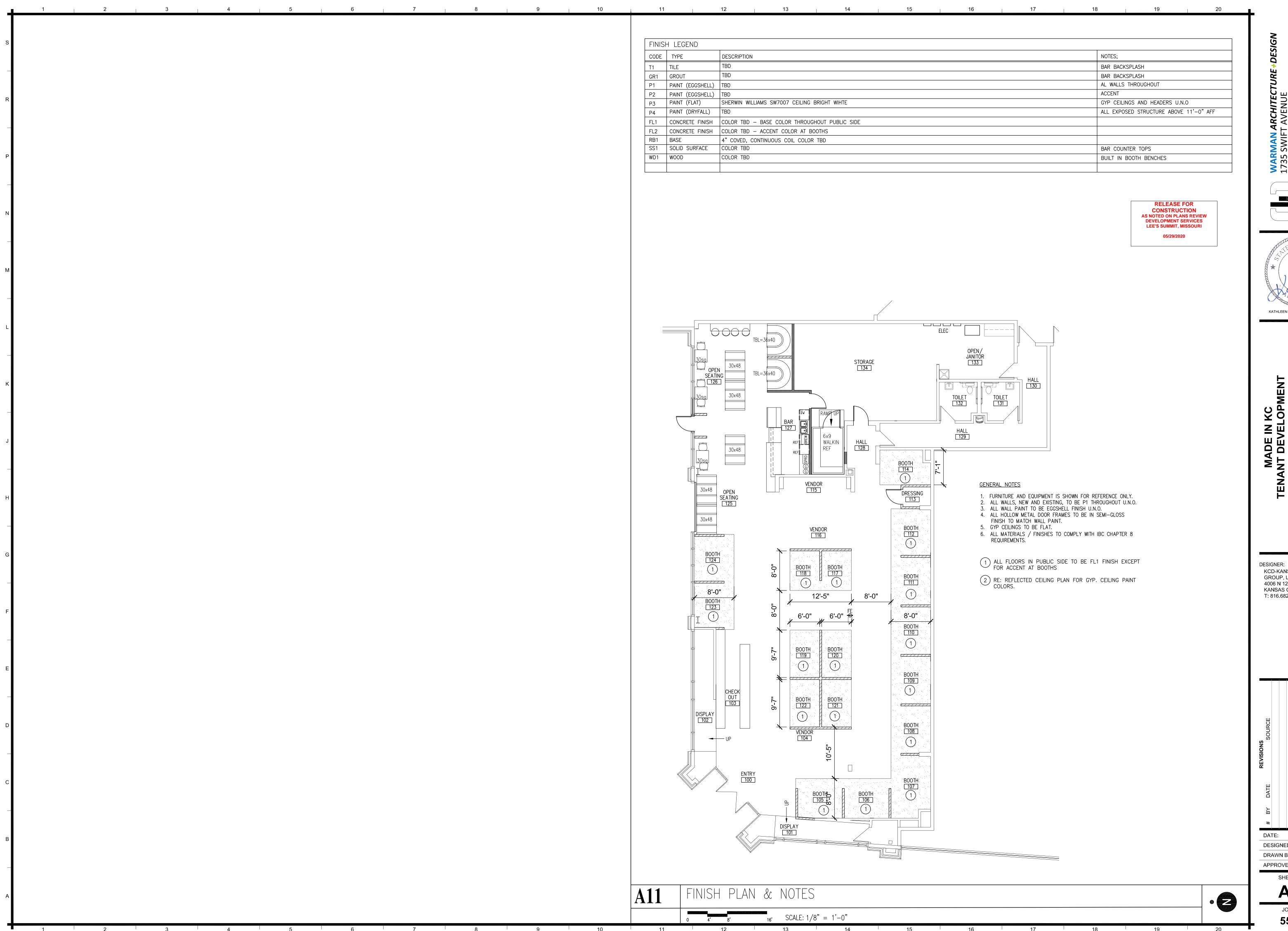
DATE SOURCE

DATE: MARCH 10, 2020
DESIGNED BY: MSL
DRAWN BY: MSL

APPROVED BY:

A100



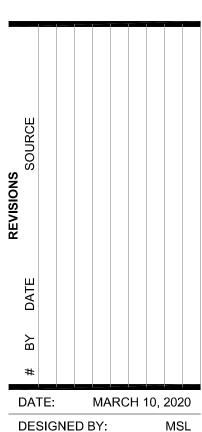


WARMAN ARCHITECTURE+DESIGN 1735 SWIFT AVENUE NORTH KANSAS CITY, MISSOURI 641 V. 816.474.2233 F. 816.474.1051



KATHLEEN ANN WARMAN - ARCHITECT

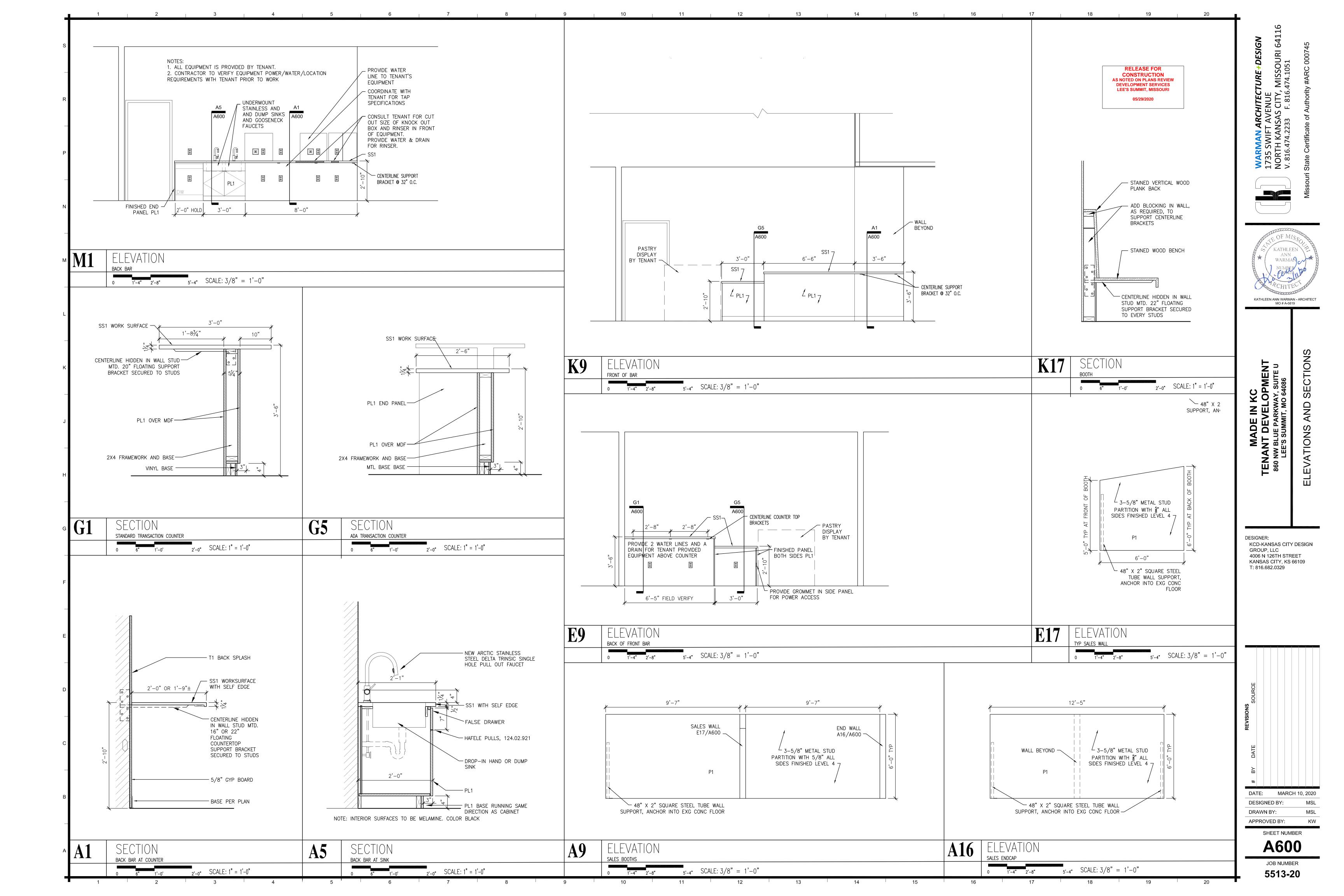
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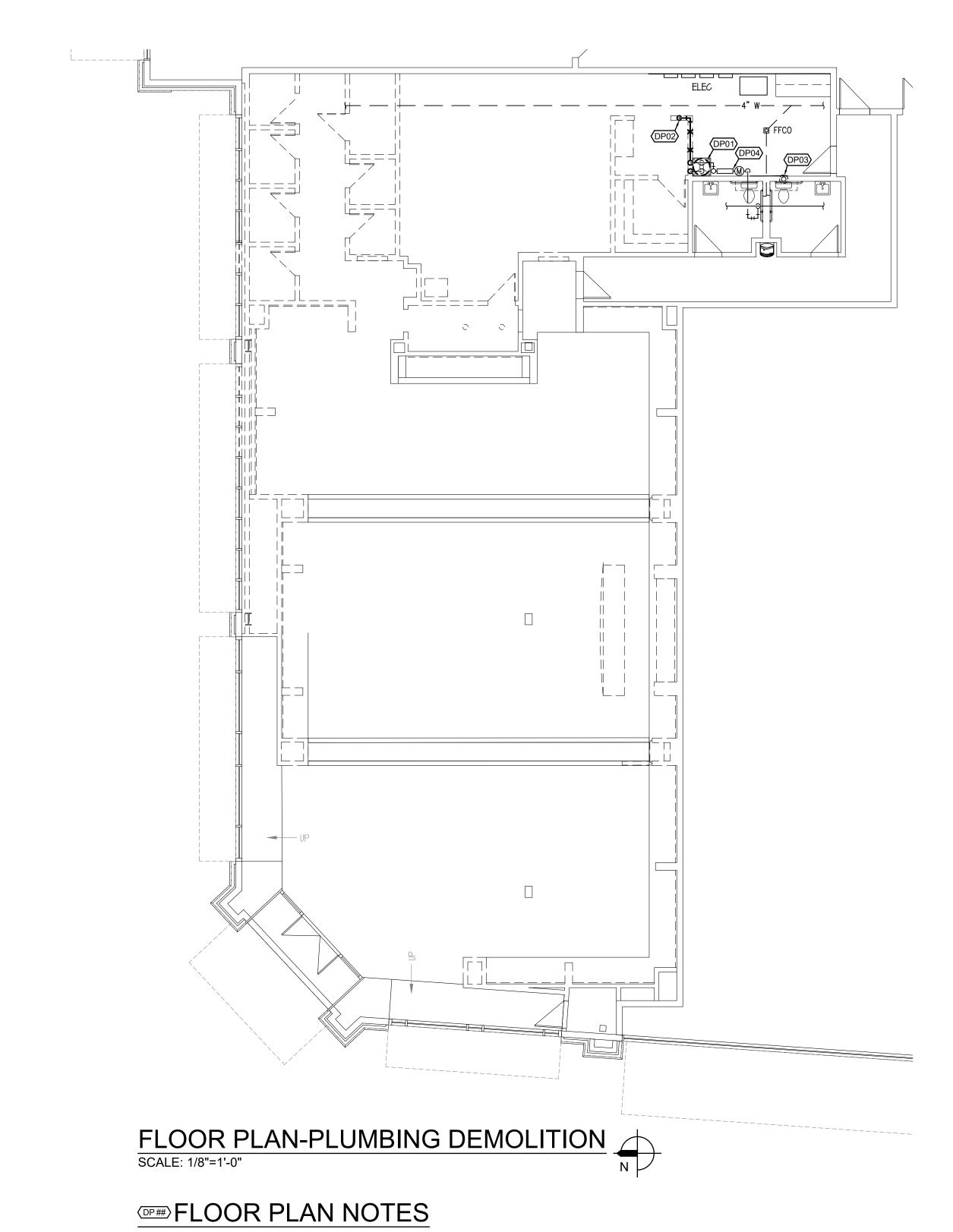


DESIGNED BY: DRAWN BY:

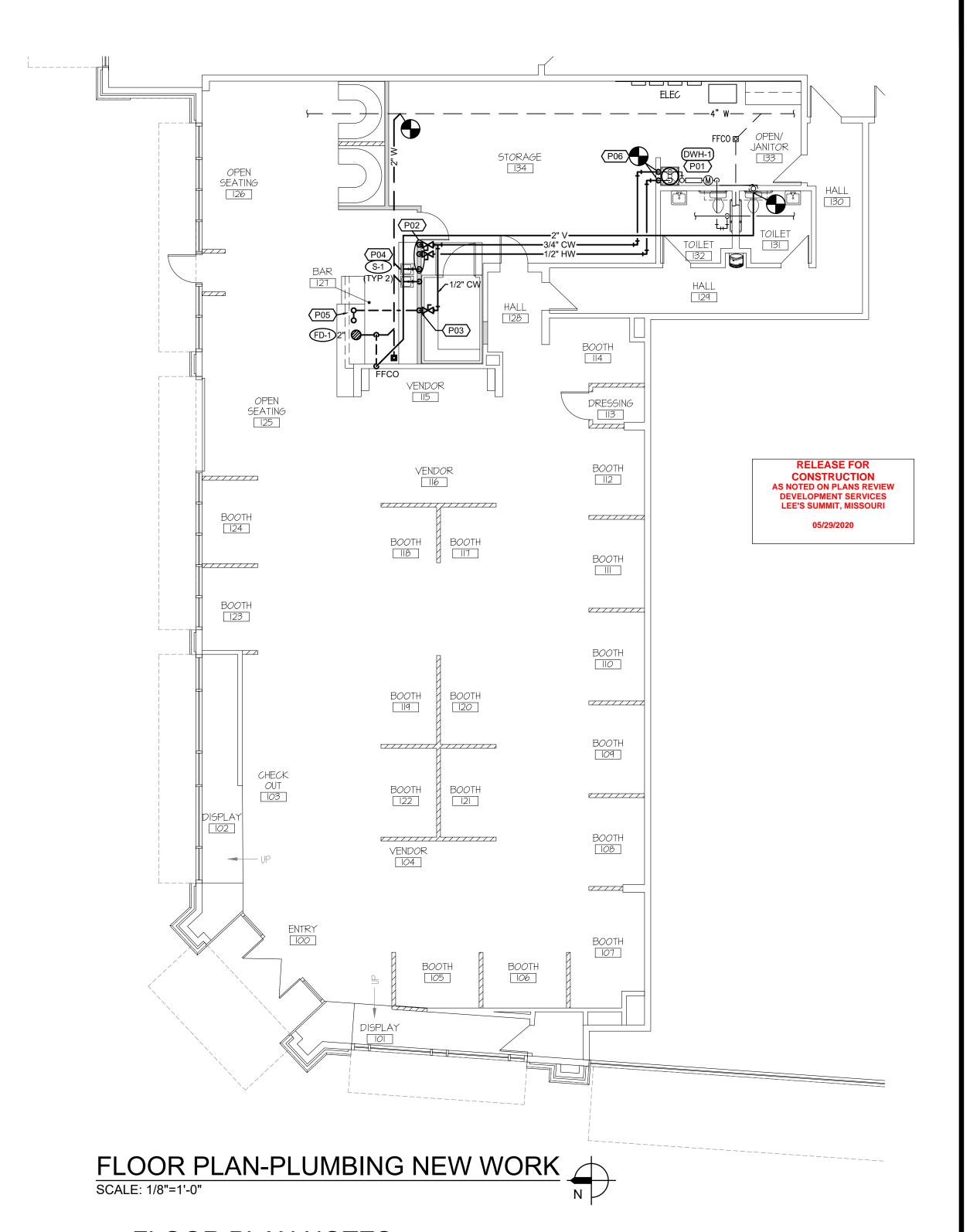
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SHEET NUMBER A400





- REMOVE EXISTING WATER HEATER AND ALL ACCESSORIES. PREPARE REMAINING PIPING FOR RECONNECTION, RE: NEW WORK.
- 2. REMOVE EXISTING OUTLET BOX AND WATER PURIFIER. CAP REMAINING PIPING ABOVE
- 3. EXISTING 3" VENT UP, 4" VENT THROUGH ROOF TO REMAIN.
- 4. EXISTING DOMESTIC WATER METER AND REDUCED PRESSURE BACKFLOW PREVENTER



FLOOR PLAN NOTES

- 1. CONNECT EXISTING HOT AND COLD WATER LINES TO NEW ELECTRIC WATER HEATER ON PLATFORM, RE: ELECTRIC WATER HEATER DETAIL. PIPE WASTE FROM T&P AND DRAIN
- 2. 1/2" HOT WATER AND 3/4" COLD WATER DOWN IN WALL. CONNECT 1/2" HOT AND COLD WATER TO EACH SINK, 1/2" HOT WATER TO DISHWASHER, AND 1/2" COLD WATER TO DOUBLE CHECK BACKFLOW PREVENTER (WATTS 007 OR EQUAL). ROUTE 1/2" COLD WATER FROM BACKFLOW PREVENTER TO OWNER PROVIDED EQUIPMENT AND CONNECT PER MANUFACTUER'S RECOMMENDATIONS. 2" WASTE DOWN, 1-1/2" VENT UP. ROUTE DRAIN FROM DISHWASHER TO TAILPIECE OF SINK WITH HIGH LOOP. COORDINATE FINAL LOCATIONS AND EQUIPMENT CONNECTIONS WITH TENANT PRIOR TO WORK.
- 3. 1/2" COLD WATER BELOW SLAB AND OVER AS INDICATED.

VALVE TO JANITOR SINK AND INDIRECT WASTE.

- 4. PROVIDE 2" HUB DRAIN BELOW FIXTURE. ROUTE WASTE FROM RINSER TO HUB DRAIN AND INDIRECT WASTE.
- 5. 1/2" COLD WATER UP FROM BELOW SLAB. PROVIDE TWO COLD WATER LINES FOR TENANT PROVIDED EQUIPMENT. COORDINATE FINAL LOCATIONS AND EQUIPMENT CONNECTIONS WITH TENANT PRIOR TO WORK.
- 6. RECONNECT EXISTING HOT AND COLD WATER DROPS TO EXISTING JANITOR SINK. EXTEND PIPING AS INDICATED.





ARCHITECTURAL DESIGNER: KCD-KANSAS CITY DESIGN GROUP, LLC 4006 N 126TH STREET KANSAS CITY, KS 66109 T: 816.682.0329

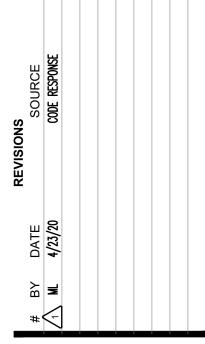
(DIRECT ALL QUESTIONS TO

MICHELLE LOCKMAN)

Phone: 816.221.1411 | Fax: 816.221.1429 LANKFORD | FENDLER + ASSOCIATES, CONSULTING ENGINEERS, INC.

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COA No. 2006001168



DATE: MARCH 10, 2020 DESIGNED BY:

DRAWN BY: NDK APPROVED BY: GJF

> SHEET NUMBER P100

				TANK				E	_ECTRICA	4L	
MARK NO.	MANUFACTURER	MODEL NO.	TANK LINING	CAPACITY (GAL)	RECOVERY (GPH @ 80°F)	INPUT (KW)	THERMAL EXPANSION TANK MODEL NO.	VOLT	ø	HZ	NC
DWH-1	AO SMITH	DEL-20	GLASS	20	23	4.5	PLT-5	208	1	60	

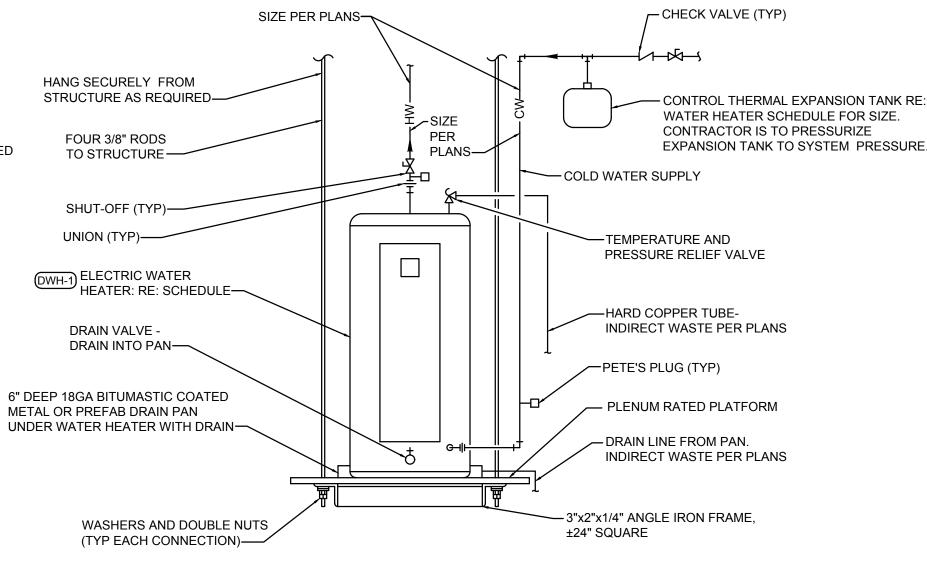
*HEATING KW IS NET CAPACITY AT VOLTAGE AND PHASE INDICATED.

NO SCALE

MEMBRANE CLAMP—

CONTRACTOR TO INSTALL WHERE INDICATED ON PLANS IN ACCESSIBLE LOCATION.

- 2. INSTALL PER MANUFACTURERS RECOMMENDATIONS.
- 3. WATER HEATERS THAT ARE NOT RECIRCULATED SHALL BE EQUIPPED WITH AN INLET AND OUTLET HEAT TRAP, WHETHER INTEGRAL OR EXTERNAL, IN ACCORDANCE WITH THE IECC ENERGY CODE.



NOTE: NO PIPING SHALL BE LOCATED

SIZES UP TO 40 GALLON

ROUND SECURED GASKETED NICKEL BRONZE ADJUSTABLE

WITH VARIATIONS SUITABLE FOR FLOOR COVERING (CARPET

MARKER, RECESSED FOR TILE, SCORIATED FOR UNFINISHED

TOP WITH "CO" CAST IN COVER. PROVIDE CLEANOUT TOP

FLOORS). PROVIDE GASKETED PLUG IN CAST IRON BODY.

THE TOP OF EXPOSED FFCO AFTER INSTALLATION

USE TEFLON JOINT COMPOUND ON PLUG THREADS. CLEAN

DIRECTLY BELOW WATER HEATER.

ELECTRIC WATER HEATER DETAIL

FLOOR SLAB— AS REQUIRED FOR DEPTH OF SEWER— SANITARY

-SAME SIZE AS WASTE UP TO 4" MAXIMUM LONG SWEEP ELBOW AT END OR TURN OF RUN CAST IRON PIPE BELOW FLOOR- COMBINATION WYE AND EIGHTH BEND IN RUN. ENTER TOP OF PIPE SEWER LINE-— ¬ DIRECTION OF FLOW

FLOOR CLEANOUT DETAIL NO SCALE

GENERAL NOTES (TYPICAL ALL SHEETS)

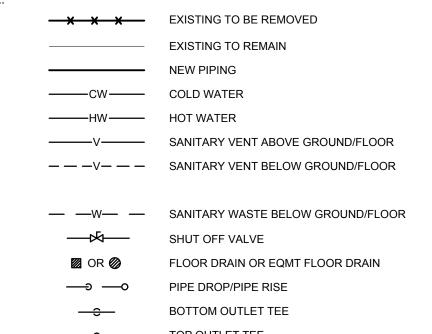
- PLUMBING CONTRACTOR IS RESPONSIBLE TO SEE THAT WORK MEETS AND IS IN ACCORDANCE WITH ALL REQUIREMENTS OF FEDERAL, STATE, AND LOCAL LAWS AND CODES AND/OR REQUIREMENTS, INCLUDING HEALTH CODES AND BUILDING OWNER.
- B. ALL EXISTING PIPING SHOWN ON DRAWINGS IS SCHEMATIC AND IS BASED ON EXISTING RECORD DRAWINGS PROVIDED BY THE OWNER AND DO NOT REFLECT EXACT EXISTING CONDITIONS. CONTRACTOR TO FIELD VERIFY EXACT DEPTH AND/OR LOCATIONS ON JOB SITE. CONTRACTOR SHALL REROUTE NEW WORK TO ACCOMMODATE EXACT LOCATIONS OF EXISTING UTILITIES,
- STUBOUTS AND/OR CONNECTIONS. C. CUTTING AND PATCHING OF FLOORS, WALLS, CEILING, ETC., REQUIRED IN STRICT ACCORDANCE WITH THE RULES AND REGULATIONS OF THE ARCHITECT'S AND/OR BUILDING OWNER
- D. COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION TO AVOID ROUTING
- E. ANY MATERIAL REMOVED THAT OWNER DOES NOT WISH TO RETAIN SHALL BE REMOVED FROM PROJECT SITE AND DISPOSED OF BY CONTRACTOR.
- INSTALL ELASTOMERIC JOINT SEALER AROUND ALL PIPES PASSING THRU INTERIOR NON-RATED CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, AND CONCRETE FLOOR/ROOF SLABS. FOR FIRE RATED INTERIOR CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, AND CONCRETE FLOOR/ROOF SLABS SEAL ALL PIPES. INSTALL FIRESTOP MATERIALS IN ALL GAPS PRIOR TO SEALANT APPLICATION. INSTALL SEALER ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
- G. PLUMBING CONTRACTOR SHALL MAKE FINAL CONNECTION TO ALL EQUIPMENT BY OTHERS. VERIFY CONNECTIONS SIZES AND REQUIREMENTS.
- PIPING ROUTED BELOW COUNTER IN CABINETS SHALL BE ROUTED AS NOTED. NOT TO INTERFERE WITH DRAWERS, SHELVES, EQUIPMENT, ETC., AND SUPPORT FROM BACK WALL OF
- I. PLUMBING CONTRACTOR SHALL BID AND SCHEDULE ALL CORE DRILLING AND HAMMER DRILLING FOR AFTER BUSINESS HOURS.
- PLUMBING CONTRACTOR SHALL SCAN FLOOR UTILIZING GROUND PENETRATING RADAR PRIOR TO ANY CORE DRILLING OR SAW CUTTING OF SLAB AND SHALL VERIFY PLACEMENT WITH BUILDING OWNER'S REPRESENTATIVE PRIOR TO DRILLING.
- K. PLUMBING CONTRACTOR SHALL PROVIDE PRO-SET SYSTEMS 'TRAP GUARD' IN ALL FLOOR DRAIN TRAPS WITHIN PROJECT SCOPE OF WORK.

RELEASE FOR

CONSTRUCTION

L. ALL CABLE TIES FOR LOW VOLTAGE SYSTEMS LOCATED IN PLENUMS UTILIZED FOR AIR MOVEMENT THAT ARE NOT INSTALLED IN CONDUIT SHALL BE 25/50 FLAME AND SMOKE RATED, HELLERMANN TYTON T50 R2C2UL OR EQUIVALENT.

PLUMBING SYMBOLS



FINISHED FLOOR CLEANOUT

CONNECT TO EXISTING

LOCATE AT BUILDING EXIT. AT ENDS OF

AT 100' INTERVALS ON STRAIGHT RUNS,

AND/ OR WHERE SHOWN ON PLANS.

CLEAR AROUND. CONFORM TO LOCAL

RUNS, AT TURNS OF PIPE 90° OR GREATER,

LOCATE CLEANOUTS WHERE THERE IS 18"

CODE FOR OTHER FFCO REQUIREMENTS.

SANITARY VENT THROUGH ROOF

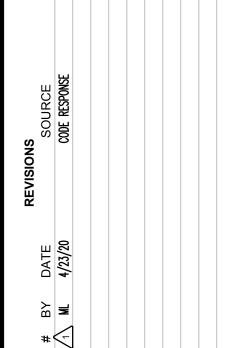
EQUIPMENT TYPE AND DESIGNATION

PLUMBING FIXTURE DESIGNATION

AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI

> ARCHITECTURAL DESIGNER: KCD-KANSAS CITY DESIGN GROUP, LLC 4006 N 126TH STREET KANSAS CITY, KS 66109 T: 816.682.0329 (DIRECT ALL QUESTIONS TO MICHELLE LOCKMAN)

1730 Walnut Street Kansas City, Missouri 64108 1915 Frederick Avenue, St. Joseph, Missouri 64501 Phone: 816.221.1411 | Fax: 816.221.1429 NKFORD | FENDLER + ASSOCIATES, CONSULTING ENGINEERS, INC COPYRIGHT 2020 Project No. 20.6473.00 COA No. 2006001168



DATE: MARCH 10, 2020 DESIGNED BY:

DRAWN BY: NDK APPROVED BY: GJF

> SHEET NUMBER **P200**

> > JOB NUMBER 5513-20

CEILING FLOOR

BAR 127

127

-USE HARD COPPER PIPE

ABOVE FLOOR SLAB OF

SIZE AS SHOWN ON PLANS—

USE ELASTOMERIC UNICELLULAR

SEAMLESS 1/2" INSULATION ON

STUB ABOVE FLOOR ONE INCH

PIPE BELOW FLOOR SLAB AND TO

BAR 127

COPPER PIPE

FLOOR SLAB —

CRUSHED ROCK—

COMPACT EARTH —

PROVIDE STYROFOAM

OR MASONRY SUPPORTS-

PROVIDE FINE SAND BACKFILL -

WATER PIPE UNDER SLAB DETAIL

SURROUND PIPE MINIMUM 4 INCHES—

USE TYPE 'K' SOFT COPPER TUBE

WITHOUT JOINTS BELOW FLOOR-

NO SCALE

COUPLING (TYP)—

NOTES:

1. IF FLOOR SLAB IS EXISTING, SAW CUT,

MINIMUM OF TWELVE INCHES.

EXCAVATE, BACKFILL, REPAIR VAPOR BARRIER

PATCH CONCRETE FLOOR. PIPE SHALL HAVE

LONG RADIUS TURNS WITHOUT KINKS.THERE

2. IF HOT AND COLD WATER PIPES ARE INSTALLED IN SAME TRENCH, SEPARATE THEM BY A

SHALL BE NO CONTACT OF COPPER TUBE WITH

OTHER PIPE, CONDUIT, OR REINFORCING STEEL.

1.0 DESCRIPTION:

- A. Divisions 22 shall be governed by all applicable provisions of the Contract Document.
- B. The Plumbing Contractor shall furnish, install and connect all materials, equipment, apparatuses, and incidentals required for a complete and working installation. For all systems shown and required, the Plumbing Contractor shall supply all necessary labor, equipment, tools, insurance, and tax services, and shall assume full responsibility for all obligations associated with completion of work as provided by the Contract Documents.

2.0 STANDARDS, REGULATIONS AND CODES:

- A. Work shall comply with the edition of the applicable standards, regulations and codes currently in force of all Federal, State and local authorities having jurisdiction. Where quantities, sizes, or other requirements indicated on the drawings or herein specified are in excess of the standard or code requirements, the specifications and/or drawings shall govern. In the absence of other applicable local codes, acceptable to the Architect/Engineer, the International Set of Codes and the National Electrical Code shall apply to this work.
- B. The Plumbing Contractor shall comply with rules and regulations of public utilities and municipal departments affected by connections of services. The Plumbing Contractor shall pay all fees associated there with.
- C. The Plumbing Contractor shall be licensed to perform associated work in the municipality in which the project
- D. All products and types of construction shall meet or exceed the latest edition of applicable standards of
- manufacturer, testing, performance and installation.
- E. Where indicated or required, comply with all provisions of the ADA and/or the ABA Accessibility Guidelines. F. Where indicated or required, comply with all applicable provisions of energy and ventilation codes in force at

3.0 GRAPHIC REPRESENTATION AND JOB CONDITIONS:

- A. The Contract Documents shall serve as working drawings for the general layout of the various items of equipment; are diagrammatic unless specifically dimensioned, and do not necessarily indicate every required item. The Plumbing Contractor shall include all necessary components and accessories as required for a complete working system whether so specifically indicated or not.
- B. Architectural and Structural drawings take precedence over all other drawings in the representation of the general construction work; any conflicts shall be resolved prior to commencing work. Failure to do so shall not be considered a basis for the granting of additional compensation.
- C. Arrange work in a neat, well organized manner. Coordinate work with other trades involved, prior to commencing work. Sub-contractors shall work together to resolve any conflicts of space or routing.
- 4.0 GUARANTEES/WARRANTY:
- A. The Plumbing Contractor shall guarantee/warranty all work performed, including labor, materials and equipment furnished under this contract, against defects in materials and workmanship for a minimum period of one year from the date of the Owner's Representative Final Acceptance of the work. Provide extended warranties as noted in each section or specified for specific products.

5.0 WORKMANSHIP:

- A. All work performed under this Contract shall provide a neat and "workmanlike" appearance when completed, to the satisfaction of the Owner's Representative. The complete installation shall function as designed and intended with respect to efficiency, capacity, and noise level, etc.
- 6.0 LOCAL CONDITIONS: A. The Contractor shall carefully examine and become thoroughly familiar with local conditions, existing installations and all other conditions which may affect associated work. The Plumbing Contractor shall locate
- B. The Plumbing Contractor shall carefully examine all contract documents including project drawings and specifications to become familiar with the type of construction, materials, and equipment to be used for all
- work and how it will affect the installation of this contract. C. By the act of submitting a bid, the Plumbing Contractor will be deemed to have made such examination, to have accepted such conditions, to have made allowance therefore, and included all costs in his proposal. Failure to determine existing conditions will not be considered a basis for the granting of additional
- 7.0 OPERATION DURING CONSTRUCTION:
- A. The Plumbing Contractor is responsible for the installation and operation, service and maintenance of all new equipment during construction and prior to acceptance by the Owner of the completed project. Warranty
- periods shall not commence until final acceptance by the Owner or Owner Representative B. The Plumbing Contractor shall provide, at his own expense, all temporary utilities required to provide for and protect the work and as necessary to maintain an adequate work force unless use of existing facilities is specifically permitted.

8.0 SAFETY REGULATIONS:

compensation.

- A. All work shall be performed in compliance with all applicable governing safety regulations, including OSHA regulations. Provide safety lights, guards and signs required.
- 9.0 HOUSEKEEPING:

all existing utilities and protect them during the execution of the work

- A. The Plumbing Contractor shall be responsible for keeping stocks of material and equipment stored on the premises in a neat and orderly manner.
- B. The Plumbing Contractor shall clean and maintain their specific portions of the work on a daily basis or as specified in the General Conditions.
- C. The Plumbing Contractor shall remove from the premises all waste material present as a result of his work.
- 10.0 CONNECTION AND ALTERATION TO EXISTING SYSTEMS:
- A. Connection to the existing building systems must be accomplished under this contract. System "downtime" due to connection shall be kept to an absolute minimum. The Owner's Representative shall judge if at what time, and for what length of time a shut-down can be tolerated.
- B. Provide all temporary piping systems required during construction in order to keep all existing systems
- C. Demolition, cutting and patching to restore surfaces to original condition as necessitated for access to work performed by the Plumbing Contractor or his subcontractors shall be the responsibility of the Plumbing

11.0 SUBSTITUTIONS:

- A. Materials, products and equipment described in the Bidding Documents established a standard of quality to be met by any proposed substitution.
- B. Plumbing Contractor's bids shall be based on the material identified or specified in the contract documents. Any proposals for substitution shall be made in writing to the Architect/Engineer with all supporting documentation, allowing adequate time for appropriate action. The products of other manufacturers may be accepted, if in the opinion of the Architect/Engineer, the substitute material is of quality as good or better than the material specified, and will serve with equal efficiency and dependability the purpose for which the items specified were intended. The burden of proof of equality is entirely upon the proposer.
- C. Refer to Division 1 requirements for additional substitution procedures.
- D. Wherever substitutions alter the design or space requirements, the Plumbing Contractor shall be responsible for and include all associated cost items of the revised design and or construction work required by his or other trades affected by the proposed substitution.

12.0 SHOP DRAWINGS AND PRODUCT DATA:

- A. The checking of shop drawings is a gratuitous assistance and in no way relieves the Plumbing Contractor of responsibility for deviations from the Contract Documents.
- B. Shop drawings and catalog data on all major items of equipment and apparatus, and such other illustrative materials as may be considered necessary by the Owner's Representative shall be submitted by the Plumbing Contractor in adequate time to prevent delay and changes during construction.
- Refer to Architectural Documents for additional shop drawing submission procedures.
- 13.0 OPERATING AND MAINTENANCE BROCHURE:
- A. On completion of the project, the Contractor shall provide manuals electronically (PDF format unless otherwise instructed) containing operating, service and lubrication instructions, and parts lists for all major equipment and manufacturer's guaranties or warranties.

14.0 RECORD DRAWINGS:

- A. Refer to Architectural Documents for additional record drawing submission procedures.
- 15.0 SITE WORK AND CONDITIONS:
- A. The Plumbing Contractor shall do all necessary excavating and backfilling for the installation of associated work. After the piping has been installed, tested and approved, the trenches shall be backfilled to grade with compacted sand, gravel or AB-3 material or other material as required by local authorities. Compact to 85% density for unpaved areas, 95% density for paved area or under slabs.
- B. All water bearing piping shall be 48" minimum below grade, all gas piping shall be 24" minimum below grade, unless instructed otherwise.
- C. Roads, alleys, street, sidewalks and utilities damaged during this work shall be restored to the satisfaction of Owner's Representative and authorities having jurisdiction.
- D. Where subsidence is measurable or observable at excavation during general project warranty period, remove surface, add backfill material, compact, and replace surface treatment. Restore appearance of surface to match adjacent work.

16.0 FOUNDATIONS AND SUPPORTS:

- A. The Plumbing Contractor shall provide concrete bases, hangers and foundations for all machinery and equipment specified or shown in this contract, including pumps, water heaters, motors, etc., unless specifically noted otherwise.
- B. All hangers, brackets, clamps, etc., shall be of standard weight steel. Perforated strap hangers shall not be used in any work. When two (2) or more pipes are run parallel, or where ducts interfere with the proper location of hangers, they may be supported on trapeze hangers. Other hangers shall be hinged ring malleable iron, by Grinnell or Fee and Mason or approved equal with rods and hanger adjusters for adequate size to carry the loads imposed. All piping systems shall each be independently supported from other systems and from equipment so that no weight is born by equipment.
- C. The Plumbing Contractor shall take all precautions against excessive noise or vibration by isolating the various items of equipment from the building structure. Provide flexible connectors where indicated and at all rotating equipment and for equipment mounted on vibration isolators.

17.0 CUTTING AND PATCHING:

A. All necessary cutting, drilling and patching shall be provided by this Plumbing Contractor. Structural members shall not be disturbed without prior approval of the Structural Engineer and/or the Owner's Representative. All areas and surfaces disturbed by work performed under this Contract shall be neatly repaired and refinished to the condition of adjoining surfaces in a manner suitable to the Owner's Representative.

18.0 SLEEVES AND ESCUTCHEONS:

- A. Penetrations thru walls and floors shall be as detailed.
- B. Where not otherwise shown, penetrations shall conform to the following:
- 1. Where pipes or conduits pass through interior partitions, galvanized steel pipe sleeves or galvanized steel sheet sleeves shall be used.
- 2. Where pipes or conduits pass thru concrete floors and walls, walls below grade or exterior walls and slabs on grade, cast iron or steel pipe sleeves shall be used.
- C. Sleeves through interior non-rated walls, including walls indicated as sound partitions, shall be packed with
- fiberglass or mineral wool and caulked. D. Sleeves below grade, in exterior walls or thru slabs on grade shall have lead and oakum or mechanical link seals, Thunder line or acceptable equivalent.
- E. Penetrations of fire rated construction shall be made with a UL listed fire penetration assembly suitable for the rating at each location. Where required, sleeves through fire rated structure shall be fire barrier caulked with putty strip or sheet by 3M, Hilti or acceptable equivalent.
- F. Provide steel (dry locations) or brass (damp locations) escutcheons to completely cover pipe penetration holes in floors, walls, or ceilings. Provide pipe escutcheons with nickel or chrome finish for occupied areas, prime

paint finish for unoccupied areas, brass for exterior. 19.0 MOTORS, CONTROLS AND FIRE ALARM INTERFACE:

A. Disconnects and motor starters for equipment shall be by the Electrical Contractor unless furnished integral with the equipment or as otherwise indicated. Installation shall be by the Electrical Contractor except for devices factory installed and shipped with equipment. Provide manual or magnetic starters with necessary

auxiliary contacts to accomplish the specified or required sequence of operation. 20.0 PIPING IN ELECTRICAL ROOMS:

A. No piping except specifically noted otherwise will be permitted in Electrical Rooms or Data Rooms including Server Rooms and IT Closets. In rooms where piping is indicated over or near electrical equipment, a suitable galvanized sheet metal pan or gutter piped to the drainage system shall be provided.

END OF SECTION

220 100 **PLUMBING**

- A. The work included under this contract consists of providing all labor, materials, tools, transportation, services, etc., necessary to complete the installation and to provide complete working systems of the Plumbing Systems, including hot and cold water, waste and vent, fixtures, equipment and other items described in these specifications, as illustrated in the accompanying drawings or as directed by the Architect/Engineer.
- B. Extend piping systems as indicated on contract documents or to point of connection as follows:
- 1. Points of connection within the existing building.
- 2.0 PIPING. FITTINGS AND VALVES: A. Provide service valves for each item of equipment, at branch piping and elsewhere as indicated or required.
- Provide strainers, check valves and other valves as indicated or required by the application B. Provide a union or flanged connection between each item of equipment and its service valve. Copper to
- ferrous pipe connections shall have isolation coupling, flange or union.
- C. Domestic cold water underground --1. Pipes, copper -- type "K", soft temper, wrought copper fittings, silver solder joints, 1/2" through 3".
- D. Domestic water, interior, above ground -
- a. 2-1/2" and Smaller -Type "L" hard temper, wrought or cast copper fittings, Lead free 95/5 or Eagle Hard Silvabrite or "CB" solder joints, or pressure seal joint fittings with EPDM O-ring seals.
- a. 1/4 turn Service -

Pipe, copper tube -

2. Valves -

- 1) 1/2" thru 2" Nibco 585-66-LF bronze lead free, 600 PSIG, full port, stainless steel ball and stem.
- b. Check, Strainers and Miscellaneous -
- 1) Check 1/2" thru 2" Nibco 413-Y-LF bronze lead free, 200 PSIG, PTFE seats, Y-pattern check
- 2) Check 1/2" thru 2" Nibco 480-Y-LF lead free, 200 PSIG, PTFE seats, spring loaded, resilient
- disc, spring loaded inline non-slam check valve, in pump discharge.

3) Strainer - 1/2" thru 2" - Watts LF777 bronze body, lead free 125 PSIG, 20 mesh stainless steel

- screen. Provide with ball type blowdown valve.
- 3. Provide valves where indicated on the drawings, where required by code or required for service. 4. Securely anchor and support piping, valves and fittings, with adequate provisions for expansion and

contraction. Grade lines, free of traps, to low point at cutDOI-off and drain valve.

5. Hot and cold supply lines to have manufactured pre-charged piston type water hammer arrestors at each and every fixture or group or battery of fixtures to prevent water hammer, sized as shown or per manufacturers recommendation. An arrestor shall also be required at each solenoid actuated quick closing valve. Sioux Chief, JR Smith or equal. Provide access panel where required.

E. Sanitary sewer, vent, interior --

- 1. Pipe Standard weight cast iron hubless with no-hub shielded mechanical joints; solid wall schedule 40 PVC, ABS with solvent cement joints; vents may be galvanized malleable iron.
- 2. Plastic piping shall not be allowed in return air plenums.
- 3. Hub drains, where shown, shall be of material compatible with piping system, 2" minimum connection size, top flared out to accept indirect wastes required at each location. Hub drains shall be fitted with trap guards. Floor mounted hub drains shall extend 2" above finish floor.
- 4. All gravity drainage shall be graded per code but not less than 1/8" per foot unless noted otherwise. 3" and 4" piping shall be sloped at 1/4" per foot where possible and where required by local codes.

F. Sanitary sewer, vent, below grade --

- 1. Pipe Standard weight cast iron hubless with no-hub shielded mechanical joint fittings; solid wall schedule 40 PVC. ABS with solvent cement joints
- 2. All gravity drainage shall be graded per code but not less than 1/8" per foot unless noted otherwise. 3" and 4" piping shall be sloped at 1/4" per foot where possible and where required by local codes.

3.0 CLEANOUTS, TEST TEES, TRAPS AND TRAP SEALS:

- A. Provide cleanout at the base of each stack or riser, at ends of runs greater than 10', each 135 degree aggregate change of direction in horizontal piping, where indicated on the drawings or as required by code. Plugs, extra heavy cast brass, screwed. Scoriated tops in unfinished areas, carpet markets in carpet floors, tile top in tile floors, stainless steel cover in finished walls. Cleanouts same size as pipe up to 4" diameter, 4" cleanouts for larger pipe unless otherwise noted.
- B. All traps shall be deep seal type with liquid seal not less than specified by code.
- C. Where trap primers are not specified provide all floor and hub drains with trap seal with EPDM diaphragm, Provent Proset Series SG22 or TG22, Rectorseal SS series or acceptable equal.
- 4.0 SLEEVES AND SEALS, FLASHINGS, ROOF PIPE SUPPORTS AND UV PROTECTION:
- A. Provide sleeves where piping penetrations are required thru partitions, concrete floors, concrete slabs on or below grade or foundation walls. Where penetrations are through fire rated assemblies, sleeves shall be in accordance with UL listing requirements. Sleeves shall be galvanized steel pipe, sheet steel or cast iron. Sleeves are not required for core drilled penetrations of existing concrete slabs above grade. Penetrations of below grade structures and slabs on grade shall be water proofed with mechanical link seal system, Thunder Line or acceptable equivalent.

5.0 CROSS- CONNECTIONS AND INTERCONNECTIONS:

- A. No plumbing device or piping shall be installed which will provide cross-connection or interconnection between a distributing supply or waste so as to make possible the backflow or back-siphonage of polluted water into the potable water supply system. Where the possibility of back-siphonage exists, water supply to the fixture shall be introduced through a suitable backflow preventer device suitable for the hazard protected. Installed backflow preventers must be approved through the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research.
- 1. They may be an air gap, anti-syphon valve, atmospheric vacuum breaker, pressure vacuum breaker, double check, reduced pressure backflow preventer or as otherwise required by the authority having
- 2. Where not otherwise indicated, miscellaneous equipment items with direct water connections, shall have backflow devices in accordance with authority having jurisdiction. Where not otherwise indicated, equipment such as coffee and tea makers, shall be equipped with dual check valves, ASSE 1024. Drink or carbonated water systems shall be equipped with stainless steel backpressure or backsiphonage devices,

ASSF 1022 6.0 PLUMBING EQUIPMENT:

- A. Water heaters, expansion tanks and other equipment shall be as scheduled or by acceptable equal by one of
- the following: Water Heaters and Accessories:
- Water Heaters: A.O. Smith, State, Rheem.
- Expansion Tanks: Watts, Amtrol, Armstrong, Taco, Wessels.

B. Water Heater Installation

- 1. Pipe water heater drains and/or pan drains to indirect waste per code and as noted or detailed. Water heater P&T relief valves shall be piped independently, indirectly wasted 6" above receptor per code and as
- 2. Install vacuum relief valve on each bottom fed storage water heater, installed above the top of the water heater on cold water inlet piping.
- Mount water heaters as indicated on drawings.

7.0 INSULATION:

- A. Pipe insulation shall conform to the International Energy Conservation Code.
- B. Insulate all cold water, hot water piping, Owens Corning or acceptable equal.
- 1. Cold water piping insulation: 1" fiber glass sectional pipe covering with universal vapor barrier jacket.
- 2. Hot Water piping insulation: 1" fiber glass sectional pipe covering with universal vapor barrier jacket.
- C. Seal all joints on cold water insulation to maintain vapor barrier.

requirements for People with Disabilities.

- D. Insulation shall run continuously thru hangers and supports without interruption.
- E. Refer to plumbing fixture schedule for insulation of fixture drains and water piping for compliance with ADA

8.0 PIPE SUPPORTS AND ROUTING:

A. Hangers and Supports.

- 1. Piping shall be supported in accordance with industry standards including support methods, sizes and spacing. All supports and installation shall conform to MSS SP58 and 69 and Fed Spec WW-H-171E and
- 2. Pipe Slopes: Install hangers and supports to provide indicated or required pipe slopes to provide for
- 3. Deflection: Maximum pipe deflections and stresses as allowed by ANSI B31 are not exceeded.
- 4. Each piping system shall be independently supported with no piping bearing on another and installed such that no weight of piping is borne by the equipment. 5. Space hangers and supports within maximum piping span length indicated in MSS SP-58. Install building
- attachments at required locations for proper piping support. 6. Provide copper plated, plastic coated or felt lined hangers where required to prevent electrolysis or
- abrasion on copper or plastic piping systems.
- 7. Hangers shall be designed to allow for expansion and contraction of pipe lines and shall be of adequate size to permit covering when required. Provide protective saddles and blocking where supporting insulated piping to prevent crushing insulation.
- corrosive or damp environments. 9. Cable systems may be used at contractor option. They shall be a complete assembly including cables, adjustable locking fasteners or clips and all upper and lower attachments by Gripple or acceptable equal.

8. All hanger and support parts shall be galvanized steel for non-corrosive environments or stainless steel for

- 1. Piping shall be routed as shown on drawings, parallel to building lines unless otherwise shown,
- coordinated with building structure and other trades. Adjust pipe routing and drop locations with necessary pipe offsets or changes in elevation to accommodate beams and other obstructions. 9.0 EQUIPMENT AND PIPE LABELS:
- A. Equipment labels shall be provided for all plumbing equipment and shall be self adhesive engraved plastic, blue with white lettering, sized, minimum 1-1/2" high, and located for viewing from ground or floor level. Label
- 10.0 MISCELLANEOUS A. Indirect wastes shall discharge full size thru an air gap to a floor, equipment drain or sanitary floor sink. The
- the grate shall be omitted. Drains shall be located so they are accessible and not a tripping hazard. B. Provide escutcheons at all penetrations of exposed walls and ceilings. Escutcheons shall be chrome plated brass in occupied areas, prime paint finish for unoccupied areas unless otherwise noted. Escutcheons for

floor or equipment drain grate shall be fitted with a funnel, the sanitary floor sink shall have a partial grate or

exterior or moist areas shall be brass. 11.0 PROTECTION OF WORK

A. Protection

- 1. Protect and cover piping and fixture waste and water openings to prevent entry of dirt and debris. 2. Cover and protect fixtures and plumbing equipment to prevent damage.

shall indicate drawing designation or unique equipment number.

12.0 TEST, ADJUSTMENTS AND CLEANING:

A. Soil, waste and vent piping testing:

- 1. Fill with water to the top of the highest point of the system extending through roof, but not less than 10 feet water column, and allow to remain for a period of two hours. B. Water line testing:
- 1. Water piping shall be purged and tested with compressed air or water at 50 PSIG above the operating pressure but not to exceed the pressure rating of piping system materials for a period of 2 hours with no
- 2. For renovation projects, isolate and protect fixtures, valves and equipment from over pressurization during

C. After successful testing, sterilize water system with an approved solution in accordance with local health

- 13.0 FIXTURE BRANCH PIPING: A. Fixture branch and connection sizes shall be as shown in the plumbing fixture schedule on the drawings and
- not less than required by code.
- B. Minimum waste or vent size below slab on grade shall be 2". 14.0 FIXTURE AND ACCESSORY MANUFACTURERS:
- A. Refer to plumbing fixture schedule for plumbing fixtures and accessories. Include all fittings and accessories as required for a complete working system. Specified manufacturers and approved equal manufacturers are as

END OF SECTION

FIXTURE, ITEM OR EQUIPMENT APPROVED EQUAL MANUFACTURERS Elkay, Just, Kohler, Advance Tabco Stainless Steel Sinks

BrassCraft, McGuire, ProFlo, Watts, Jones Stephens Stops & Supplies Waste Fittings Dearborn Brass, McGuire, ProFlo, Jones Stephens, Watts

ADA Under Lavatory Pipe Covers Trubro, ProFlo, Plumberex Drains and Drainage Products J R Smith, Wade, Watts, Zurn, Josam

Mixing Valves, point of use Leonard, Acorn, Delta, Wilkins, Watts

RELEASE FOR CONSTRUCTION **AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES** LEE'S SUMMIT, MISSOURI 05/29/2020



MISSOURI 474.1051

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ARCHITECTURAL DESIGNER: KCD-KANSAS CITY DESIGN GROUP, LLC 4006 N 126TH STREET KANSAS CITY, KS 66109 T: 816.682.0329 (DIRECT ALL QUESTIONS TO MICHELLE LOCKMAN)



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DATE: MARCH 10, 2020 **DESIGNED BY:** DRAWN BY: NDK

APPROVED BY: GJF

SHEET NUMBER

JOB NUMBER

5513-20

FIRE PROTECTION DESIGN CRITERIA

- ENTIRE BUILDING AS SHOWN ON DRAWINGS IS CURRENTLY PROVIDED WITH A WET TYPE SPRINKLER SYSTEM. MODIFY SYSTEM AS NECESSARY FOR NEW WALL LAYOUTS AND IN COMPLIANCE WITH THE RULES AND REGULATIONS OF APPLICABLE FEDERAL, STATE AND LOCAL LAWS, CODES AND ORDINANCES, THE OWNER'S INSURANCE COMPANY AND NFPA 13.
- FURNISH ALL MATERIALS, LABOR, TOOLS, TRANSPORTATION, INCIDENTALS AND APPURTENANCES TO COMPLETE IN EVERY DETAIL AND LEAVE IN WORKING ORDER ALL ITEMS OF WORK REQUIRED FOR STRICT COMPLIANCE.
- NEW FIRE PROTECTION PIPING AND FITTINGS SHALL MATCH EXISTING, OR PROVIDE SCHEDULE 40 FOR 2" AND SMALLER WITH THREADED ENDS AND SCHEDULE 10 FOR 1-1/2" AND LARGER WITH ROLL-GROOVED ENDS AND GROOVED JOINTS. ALL PIPING IN AREAS WITH CEILINGS SHALL BE RUN CONCEALED WITH NO EXCEPTIONS UNLESS COORDINATED WITH ARCHITECT AND ENGINEER. PIPE SIZES SHOWN ON PLANS FOR INFORMATION ONLY. VERIFY BY HYDRAULIC CALCULATIONS.
- NEW FIRE SPRINKLERS SHALL MATCH EXISTING IN TYPE, STYLE AND APPEARANCE. ANY REMOVED/RELOCATED FIRE SPRINKLERS MUST BE REPLACED WITH NEW PER NFPA 13. CONTRACTOR RESPONSIBLE FOR FIELD VERIFICATION OF ALL INFORMATION.
- ALL SPRINKLERS IN LAY-IN CEILINGS ARE TO BE CENTERED ±1/2" IN 2'x2' PORTION OF TILE. ALL SPRINKLERS IN GYP-BOARD CEILINGS ARE TO BE CENTERED ±1/2" WITH LIGHT FIXTURES AND ALIGNED WITH ALL OTHER DEVICES IN CEILING IN BOTH DIRECTIONS. COORDINATE WITH ARCHITECT.
- FIRE PROTECTION CONTRACTOR SHALL PREPARE DETAILED AND COORDINATED SHOP DRAWINGS SO AS TO AVOID CONFLICTS IN THE FIELD. CONTRACTOR SHALL COORDINATE WITH REFLECTED CEILING PLAN, DUCTWORK LAYOUT AND LIGHTING LAYOUT. ALL COORDINATION SHALL TAKE PLACE PRIOR TO INSTALLATION.
- CONTRACTOR SHALL FILE ALL DRAWINGS, PAY ALL FEES AND OBTAIN PERMITS AND CERTIFICATES OF INSPECTIONS RELATIVE TO THIS WORK.
- PREPARE AND SUBMIT SHOP DRAWINGS, PRODUCT DATA AND HYDRAULIC CALCULATIONS AS REQUIRED. ALL INFORMATION SHOWN ON FIRE PROTECTION DRAWINGS SHALL BE INCLUDED ON THE SHOP DRAWINGS.
- CONTRACTOR TO BE RESPONSIBLE FOR MAKING FINAL COORDINATION WITH STRUCTURE AND ALL OTHER TRADES PRIOR TO SUBMITTING SHOP DRAWINGS. ALL ELEVATIONS OF PIPE MUST BE SHOWN ON SHOP
- SPRINKLER SYSTEM SHALL BE TESTED AND DRAINED PER NFPA STANDARDS AND LOCAL AND STATE AUTHORITY HAVING JURISDICTION.COMPLETED CONTRACTOR MATERIAL TEST CERTIFICATES SHALL BE FORWARDED TO OWNER.
- FIRE SPRINKLER CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH FIRE ALARM PANEL AND SUPERVISION OF NEW SPRINKLER TAMPER AND FLOW SWITCHES.
- REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- SPRINKLER HEAD PLACEMENT SHALL BE OUT OF THE SWING AREA OF DOORS TO AVOID CONFLICT WITH TALL

RELEASE FOR CONSTRUCTION **AS NOTED ON PLANS REVIEW** LEE'S SUMMIT, MISSOURI

05/29/2020

FIRE PROTECTION LEGEND

RECONFIGURE EXISTING BASE BUILDING FIRE SPRINKLER LAYOUT WITHIN THIS AREA IN ORDER TO PROVIDE PROPER COVERAGE PER NFPA 13 AND LOCAL AUTHORITIES. ALL REMOVED / RELOCATED FIRE SPRINKLERS MUST BE REPLACED WITH NEW PER NFPA 13. NEW SPRINKLERS TO MATCH EXISTING. REFER TO REFLECTED CEILING PLANS FOR COORDINATION WITH LIGHTS, DIFFUSERS, EXIT SIGNS, ETC.

LIGHT HAZARD - PROVIDE PROPER COVERAGE PER NFPA 13 (0.1 GPM PER 1500 SF) PLUS 100 GPM HOSE STREAM ALLOWANCE.

SF) PLUS 250 GPM HOSE STREAM ALLOWANCE.

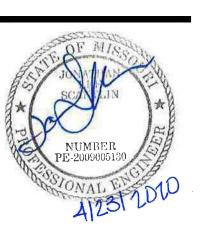


ORDINARY HAZARD GROUP 1 - PROVIDE PROPER COVERAGE PER NFPA 13 (0.15 GPM PER 1500 SF) PLUS 250 GPM HOSE STREAM ALLOWANCE.

ORDINARY HAZARD GROUP 2 - PROVIDE PROPER COVERAGE PER NFPA 13 (0.2 GPM PER 1500



PROVIDE PRE-ENGINEERED CLEAN AGENT FIRE EXTINGUISHING SYSTEM, INCLUDING TANKS, VALVES, PIPING, CONTROL PANEL, NOZZLES, SENSORS AND ALARMS IN ACCORDANCE WITH NFPA 2001, NFPA 72 AND LOCAL AUTHORITIES. SYSTEM INCLUDES SEPARATE ZONES ABOVE AND BELOW THE CEILING AND BENEATH THE RAISED FLOOR. RE: DRAWINGS FOR LOCATION OF MAJOR COMPONENTS.

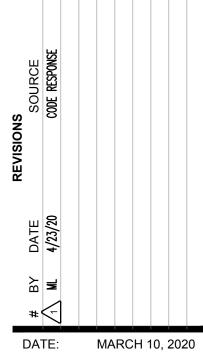


ARCHITECTURAL DESIGNER: KCD-KANSAS CITY DESIGN GROUP, LLC 4006 N 126TH STREET KANSAS CITY, KS 66109 T: 816.682.0329

(DIRECT ALL QUESTIONS TO MICHELLE LOCKMAN)



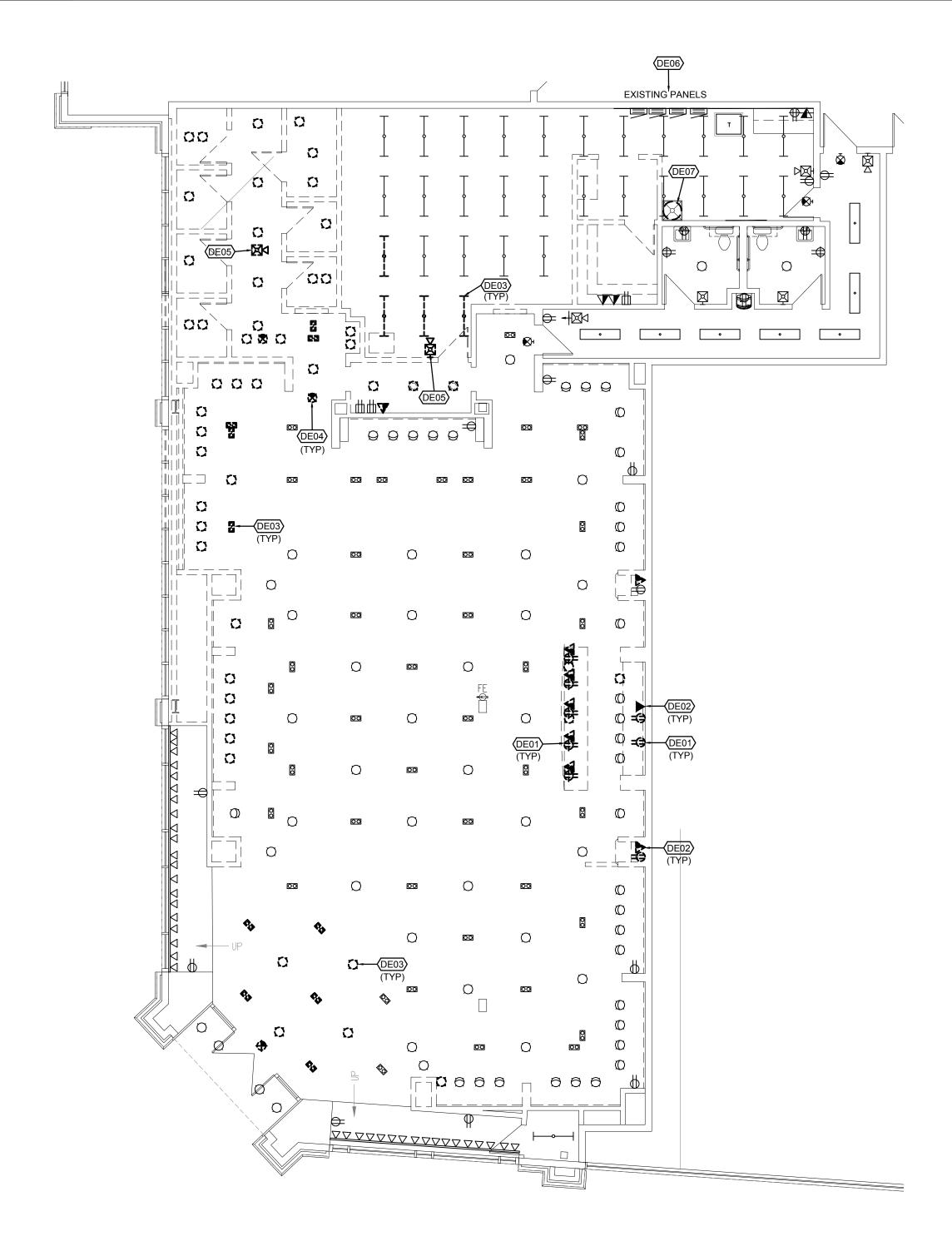
Phone: 816.221.1411 | Fax: 816.221.1429 ANKFORD | FENDLER + ASSOCIATES, CONSULTING ENGINEERS, INC COPYRIGHT 2020 Project No. 20.6473.00 COA No. 2006001168



DESIGNED BY:

DRAWN BY: APPROVED BY:

SHEET NUMBER



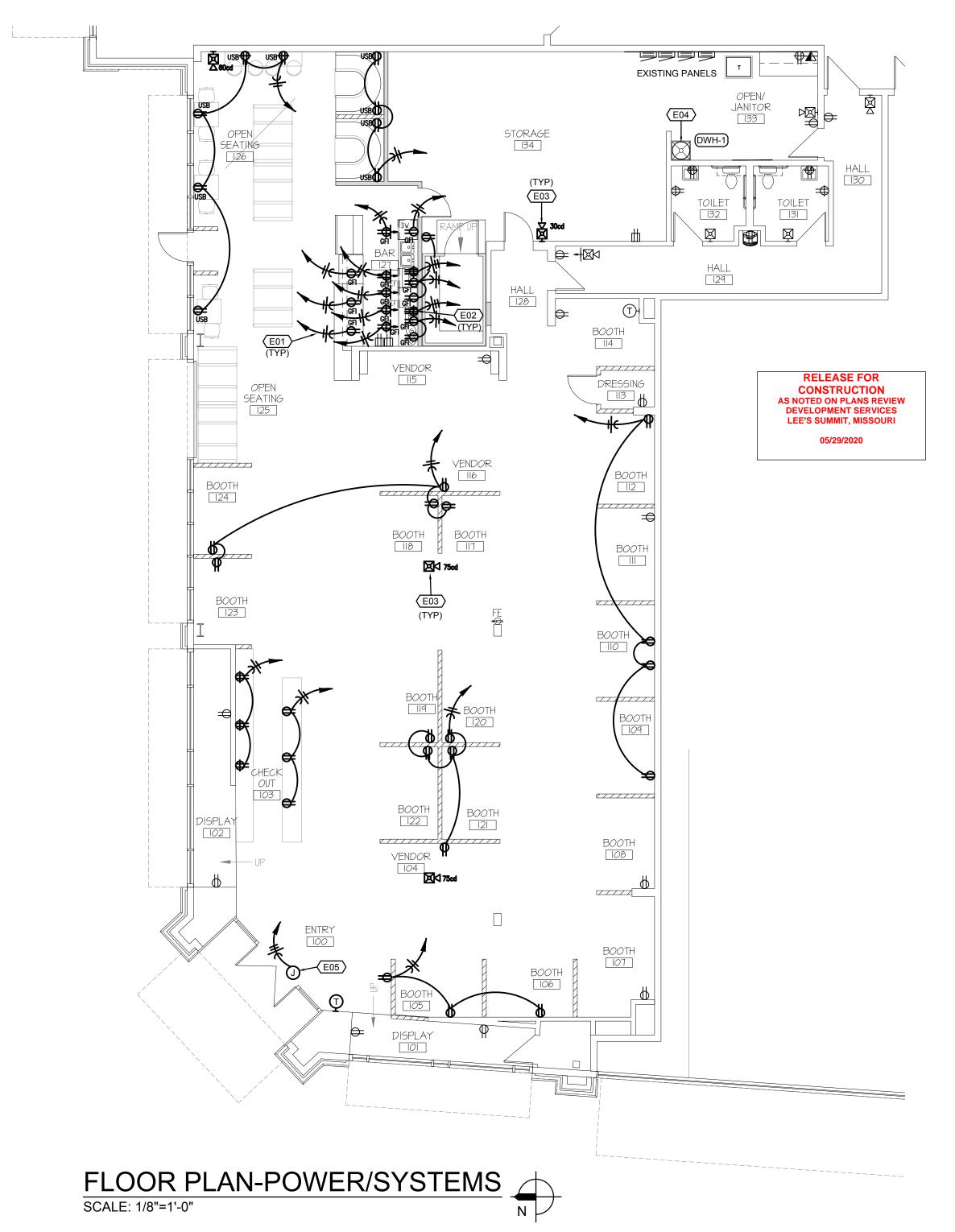
FLOOR PLAN-ELECTRICAL DEMOLITION ___

GENERAL DEMOLITION NOTES

- ALL DEMOLITION WORK SHALL BE PERFORMED BY DEMOLITION CONTRACTOR, INCLUDING LOW VOLTAGE WORK.
- ALL ABANDONED COMMUNICATIONS CABLING SHALL BE REMOVED IN IT'S ENTIRETY.
- ALL CIRCUITS NOT BEING REUSED SHALL BE LABELED AS "SPARE" IN THE PANEL

DEMOLITION PLAN NOTES

- 1. EXISTING RECEPTACLE TO BE REMOVED. REMOVE ALL ASSOCIATED CONDUIT AND WIRING BACK TO SOURCE OR NEAREST DEVICE TO REMAIN.
- 2. EXISTING TELECOMMUNICATIONS RECEPTACLE TO BE REMOVED. REMOVE ALL ASSOCIATED CONDUIT AND WIRING BACK TO SOURCE OR NEAREST DEVICE TO REMAIN.
- 3. EXISTING LIGHTING FIXTURE TO BE REMOVED. REMOVE ALL ASSOCIATED CONDUIT AND WIRING BACK TO SOURCE OR NEAREST DEVICE TO REMAIN.
- 4. EXISTING EXIT SIGN TO BE REMOVED. REMOVE ALL ASSOCIATED CONDUIT AND WIRING BACK TO SOURCE OR NEAREST DEVICE TO REMAIN.
- 5. EXISTING FIRE ALARM DEVICE TO BE REMOVED. REMOVE ALL ASSOCIATED CONDUIT AND
- WIRING BACK TO SOURCE OR NEAREST DEVICE TO REMAIN.
- 6. EXISTING PANELS TO BE REMAIN.
- 7. EXISTING WATER HEATER TO BE REMOVED AND REPLACED. REMOVE ALL ASSOCIATED CONDUIT AND WIRING BACK TO SOURCE.



POWER PLAN NOTES

- 1. HOMERUN TO EXISTING PANEL AND TERMINATE ON A 20A/1P BREAKER.
- 2. HOMERUN TO EXISTING PANEL AND TERMINATE ON A 30A/2P BREAKER. CONFIRM RECEPTACLE TYPE, WIRE AND BREAKER SIZE WITH EQUIPMENT PRIOR TO INSTALLATION.
- 3. CONNECT NEW FIRE ALARM DEVICE TO EXISTING FIRE ALARM SYSTEM.
- 4. PROVIDE A 25A/2P TOGGLE SWITCH FOR DISCONNECT MEANS AND MAKE CONNECTION TO WATER HEATER WITH 3/4" C, 3-#10 & 1-#10 GROUND WIRE. HOMERUN TO EXISTING PANEL AND TERMINATE ON A 25A/2P BREAKER.
- 5. PROVIDE A 25A/2P TOGGLE SWITCH FOR DISCONNECT MEANS AND MAKE CONNECTION TO UNIT HEATER WITH 3/4" C, 3-#10 & 1-#10 GROUND WIRE. HOMERUN TO EXISTING PANEL AND TERMINATE ON A 25A/2P BREAKER.





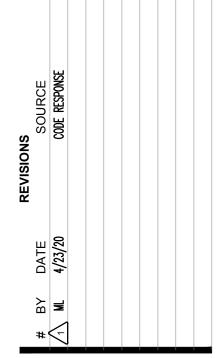
ARCHITECTURAL DESIGNER: KCD-KANSAS CITY DESIGN GROUP, LLC 4006 N 126TH STREET KANSAS CITY, KS 66109

(DIRECT ALL QUESTIONS TO MICHELLE LOCKMAN)

T: 816.682.0329



Phone: 816.221.1411 | Fax: 816.221.1429 COPYRIGHT 2020 Project No. 20.6473.00 COA No. 2006001168



DATE: MARCH 10, 2020 DESIGNED BY:

DRAWN BY: JSV APPROVED BY: GJF

> SHEET NUMBER E100

FLOOR PLAN-LIGHTING SCALE: 1/8"=1'-0"

EIII LIGHTING PLAN NOTES

- 1. RELOCATED LIGHT FIXTURE. CLEAN FIXTURE AND REPLACE LAMPS PRIOR TO REINSTALLATION.
- 2. CONNECT NEW / RELOCATED FIXTURES TO EXISTING LIGHTING CIRCUIT AND CONTROL WITHIN THIS ROOM.
- 3. CONNECT NEW LIGHT FIXTURES TO EXISTING LIGHTING CIRCUITRY MADE AVAILABLE
- FROM DEMOLITION WORK. REFERENCE ARCHITECTURAL PLANS FOR SWITCHING SCHEME.
- 4. NEW / RELOCATED COMBINATION EXIT / EMERGENCY LIGHTING UNIT
- 5. EXISTING LIGHTING, LIGHTING CONTROLS, EXIT AND EMERGENCY LIGHTING WITHIN THIS AREA TO REMAIN.

DIVISION 26

ELECTRICAL GENERAL PROVISIONS

1.0 DESCRIPTION:

- A. Divisions 26 shall be governed by all applicable provisions of the Contract Document.
- B. The Electrical Contractor shall furnish, install and connect all materials, equipment, apparatuses, and incidentals required for a complete and working installation. For all systems shown and required, the Electrical Contractor shall supply all necessary labor, equipment, tools, insurance, and tax services, and shall assume full responsibility for all obligations associated with completion of work as provided by the Contract Documents.
- 2.0 STANDARDS, REGULATIONS AND CODES:
- A. Work shall comply with the edition of the applicable standards, regulations and codes currently in force of all Federal, State and local authorities having jurisdiction. Where quantities, sizes, or other requirements indicated on the drawings or herein specified are in excess of the standard or code requirements, the specifications and/or drawings shall govern. In the absence of other applicable local codes, acceptable to the Architect/Engineer, the International Set of Codes and the National Electrical Code shall apply to this work.
- B. The Electrical Contractor shall comply with rules and regulations of public utilities and municipal departments affected by connections of services. The Electrical Contractor shall pay all fees associated there with.
- C. The Electrical Contractor shall be licensed to perform associated work in the municipality in which the project is
- D. All products and types of construction shall meet or exceed the latest edition of applicable standards of manufacturer, testing, performance and installation.
- E. Where indicated or required, comply with all provisions of the ADA and/or the ABA Accessibility Guidelines.
- F. Where indicated or required, comply with all applicable provisions of energy and ventilation codes in force at the local jurisdiction.

3.0 GRAPHIC REPRESENTATION AND JOB CONDITIONS:

- A. The Contract Documents shall serve as working drawings for the general layout of the various items of equipment; are diagrammatic unless specifically dimensioned, and do not necessarily indicate every required item. The Electrical Contractor shall include all necessary components and accessories as required for a complete working system whether so specifically indicated or not.
- B. Architectural and Structural drawings take precedence over all other drawings in the representation of the general construction work; any conflicts shall be resolved prior to commencing work. Failure to do so shall not be considered a basis for the granting of additional compensation.
- C. Arrange work in a neat, well organized manner. Coordinate work with other trades involved, prior to commencing work. Sub-contractors shall work together to resolve any conflicts of space or routing.
- 4.0 GUARANTEES/WARRANTY:
- A. The Electrical Contractor shall guarantee/warranty all work performed, including labor, materials and equipment furnished under this contract, against defects in materials and workmanship for a minimum period of one year from the date of the Owner's Representative Final Acceptance of the work. Provide extended warranties as noted in each section or specified for specific products.

5.0 WORKMANSHIP:

A. All work performed under this Contract shall provide a neat and "workmanlike" appearance when completed, to the satisfaction of the Owner's Representative. The complete installation shall function as designed and

intended with respect to efficiency, capacity, and noise level, etc. 6.0 LOCAL CONDITIONS:

- A. The Electrical Contractor shall carefully examine and become thoroughly familiar with local conditions, existing installations and all other conditions which may affect associated work. The Electrical Contractor shall locate all existing utilities and protect them during the execution of the work
- B. The Electrical Contractor shall carefully examine all contract documents including project drawings and specifications to become familiar with the type of construction, materials, and equipment to be used for all work and how it will affect the installation of this contract.
- C. By the act of submitting a bid, the Electrical Contractor will be deemed to have made such examination, to have accepted such conditions, to have made allowance therefore, and included all costs in his proposal. Failure to determine existing conditions will not be considered a basis for the granting of additional compensation.

7.0 OPERATION DURING CONSTRUCTION:

- A. The Electrical Contractor is responsible for the installation and operation, service and maintenance of all new equipment during construction and prior to acceptance by the Owner of the completed project. Warranty periods shall not commence until final acceptance by the Owner or Owner Representative.
- B. The Electrical Contractor shall provide, at his own expense, all temporary utilities required to provide for and protect the work and as necessary to maintain an adequate work force unless use of existing facilities is specifically permitted.

8.0 SAFETY REGULATIONS:

A. All work shall be performed in compliance with all applicable governing safety regulations, including OSHA regulations. Provide safety lights, guards and signs required.

9.0 HOUSEKEEPING:

- A. The Electrical Contractor shall be responsible for keeping stocks of material and equipment stored on the premises in a neat and orderly manner.
- B. The Electrical Contactor shall clean and maintain their specific portions of the work on a daily basis or as specified in the General Conditions.
- C. The Electrical Contractor shall remove from the premises all waste material present as a result of his work.

10.0 CONNECTION AND ALTERATION TO EXISTING SYSTEMS:

- A. Connection to the existing building systems must be accomplished under this contract. System "downtime" due to connection shall be kept to an absolute minimum. The Owner's Representative shall judge if at what time, and for what length of time a shut-down can be tolerated.
- B. Provide all temporary wiring systems required during construction in order to keep all existing systems
- C. Demolition, cutting and patching to restore surfaces to original condition as necessitated for access to work performed by the Electrical Contractor or his subcontractors shall be the responsibility of the Electrical

11.0 SUBSTITUTIONS:

- A. Materials, products and equipment described in the Bidding Documents established a standard of quality to be met by any proposed substitution.
- B. Electrical Contractor's bids shall be based on the material identified or specified in the contract documents. Any proposals for substitution shall be made in writing to the Architect/Engineer with all supporting documentation, allowing adequate time for appropriate action. The products of other manufacturers may be accepted, if in the opinion of the Architect/Engineer, the substitute material is of quality as good or better than the material specified, and will serve with equal efficiency and dependability the purpose for which the items specified were intended. The burden of proof of equality is entirely upon the proposer.
- C. Wherever substitutions alter the design or space requirements, the Electrical Contractor shall be responsible for and include all associated cost items of the revised design and or construction work required by his or other trades affected by the proposed substitution.

12.0 CUTTING AND PATCHING:

A. All necessary cutting, drilling and patching shall be provided by the Electrical Contractor. Structural members shall not be disturbed without prior approval of the Structural Engineer and/or the Owner's Representative. All areas and surfaces disturbed by work performed under this Contract shall be neatly repaired and refinished to the condition of adjoining surfaces in a manner suitable to the Owner's Representative

13.0 SLEEVES AND ESCUTCHEONS:

- A. Penetrations thru walls and floors shall be as detailed.
- B. Where not otherwise shown, penetrations shall conform to the following:
- 1. Where pipes or conduits pass through interior partitions, galvanized steel pipe sleeves or galvanized steel sheet sleeves shall be used.
- 2. Where pipes or conduits pass thru concrete floors and walls, walls below grade or exterior walls and slabs on grade, cast iron or steel pipe sleeves shall be used.
- C. Sleeves through interior non-rated walls, including walls indicated as sound partitions, shall be packed with fiberglass or mineral wool and caulked.
- D. Penetrations of fire rated construction shall be made with a UL listed fire penetration assembly suitable for the rating at each location. Where required, sleeves through fire rated structure shall be fire barrier caulked with putty strip or sheet by 3M, Hilti or acceptable equivalent.
- E. Provide steel (dry locations) or brass (damp locations) escutcheons to completely cover pipe penetration holes in floors, walls, or ceilings. Provide pipe escutcheons with nickel or chrome finish for occupied areas, prime paint finish for unoccupied areas, brass for exterior.

END OF SECTION

ELECTRICAL

A. The work included under this contract consists of the furnishing of all labor, materials, tools, transportation, services, etc., necessary to complete the installation of the electrical systems and other items herein listed,

all as directed by the Architect or Engineer, which work is comprised of, but not limited to the following

2. Control wiring and electrical installation and connections for items in other contracts as may be listed in the

3. Empty conduit and boxes for future installation of telephone wiring and miscellaneous systems.

B. Raceway wiring systems shall be concealed in all finished parts of the building, where possible. Where the raceways are exposed, they shall be run parallel with the building walls in a neat and workmanlike manner.

an approved installation. Contractor to coordinate with mechanical trades to avoid ductwork and piping.

A. All electrical conductors are to be installed in metal raceways, unless specifically specified or noted

Should it appear necessary to expose any conduit or wiring in finished spaces, it shall be brought to the

Architect's attention immediately and this Contractor shall rearrange associated work as directed to facilitate

otherwise. Galvanized steel or intermediate steel conduit as permitted by code. No conduit smaller than 1/2" to be used. Provide flexible conduit connection for final connection to each motor not to exceed 3' in length

and recessed lighting fixtures not to exceed 6' in length. Provide pull wires in all empty conduit systems.

Identify terminus of each pull wire. All exposed raceways shall be installed with runs parallel and/or

perpendicular with building walls. Fasten all rigid/non-flexible conduit every 8' and 2' from each box. Conduit

shall be EMT where not subject to mechanical damage as permitted by National Electric Code (N.E.C.). EMT connectors and couplings 4" and smaller shall be compression type. Type MC Cable with ground wire is

B. Conduit bushings shall be provided and installed inside all disconnects, pull boxes, panelboards, switchboard

A. Electrical conductors, soft annealed copper with conductivity 98% of that of pure, stranded copper, 90 degree

- 600V insulation and equal to General Cable Company. Wire and cable for all feeders, subfeeders, motor

circuits and high ambient location type shall be THHN. All other branch circuit wiring shall be type XHHN or

• Contractor shall use the following color designations and be consistent throughout the project. Color

a. Branch Circuits: Copper. Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.

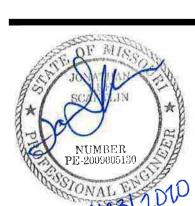
DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI

CONSTRUCTION AS NOTED ON PLANS REVIEW

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a. Exposed Branch Circuits, Including in Crawlspaces: Type THHN, single conductors in raceway or

A. Ground all electrical apparatus in accordance with N.E.C. and as specified herein. Provide a separate grounding conductor for all lighting, receptacle and equipment circuits. All cabinets, switchboards, equipment cases, motor frames, interior metal cold water piping systems, and system neutral conductors shall be effectively grounded. Use solderless pressure type connectors, no perforated strap connectors will be allowed. Ensure continuous bond where flexible conduit is used. Provide bonding jumper inside all flexible conduit. Grounding per N.E.C. 250, and any local requirements.

5.0 SPLICE AND TAPS:

4.0 GROUNDING:

1.0 SCOPE:

2.0 RACEWAYS:

3.0 WIRES AND CABLES:

1. Electrical system for light and power:

b. Lighting fixtures and lamps.

a. Receptacles and wiring devices.

c. Power service to the various motors.

d. Complete lighting and power systems.

e. All systems, wiring and conduit as required.

4. Rough-in and final connection to equipment furnished by others.

allowed in concealed spaces only, behind walls and above ceiling.

B. For conductors #4 or small use the following color-code:

• 208Y/120V, 3-phase: black, red, blue, white.

• 480Y/277V, 3-phase: brown, orange, yellow, gray.

· Green shall be used for ground wire conductor.

or similar type equipment and where permitted by National Electric Code (N.E.C.).

THHN. Minimum wire size shall be #12 gauge AWG. Control wiring may be #14 gauge.

designation for switch legs and or travelers: Violet, Pink or Purple may be used.

D. Conductor insulation and multi-conductor cable application and wiring methods:

A. Make splices at junction boxes, pull boxes, or outlet boxes only.

Metal-clad cable, Type MC.

6.0 CABINETS, JUNCTION AND PULL BOXES:

C. Conductor Material Applications:

A. Flush or surface mounted as indicated on drawings. Provide where shown on drawings and where required by code. Construct of cold gauge steel for flush surface mounting.

7.0 OUTLET BOXES:

A. General Electric, Appleton, Steel City or Raco hot dipped galvanized steel boxes, or equal. Install at terminal of each conduit run, each outlet, or device. Provide size, type and design to suit structural conditions. Adequate to accommodate size and number of raceways, conductors, device or fixture served. Provide plaster rings or covers on boxes where required on exposed work, use approved cast ferrous allov outlet. junction boxes and fittings. Fixture or device cover shall completely conceal the size outlet box used. Instal 3/8" fixture stud for lighting fixtures where required. Locate ceiling outlets to work with architectural features as directed. Switches installed 48" above floor on strike side of door as finally hung. Receptacles and telephone outlets, 18" above finished floor unless otherwise noted. Verify all outlet locations on job with

8.0 LABELING:

- A. Contractor shall label each and every j-box above ceiling with a permanent marker with panel and circuit
- B. Outlets, adhesive film label, machine printed clear background with black letters, by thermal transfer or equivalent process. Minimum letter height shall be 1/4 inch. Face plate shall be labeled with panel and circuit
- C. Interior equipment self-adhesive, engraved, laminated acrylic or melamine label: adhesive backed, with white letters on a dark-gray background. Minimum letter height shall be 3/8 inch (10 mm).

A. Duplex receptacles shall be Hubbell #5352-X grounding type, 20A., 125V.; G.F.C.I. shall be Hubbell GF-5352-X, 20A., 125V.; duplex, G.F.C.I. TYPE. Wall toggle switches shall be Hubbell Number 1221-X and Number 1223-X for single pole and three way types respectively. Other switch, receptacle, and outlet device variations shall be by Hubbell of "Spec. Grade" quality. Equivalent devices of P & S or Leviton will be acceptable in lieu of the above listed devices.

10.0 LIGHTING FIXTURES:

A. This Contractor shall furnish and install complete, unless otherwise specified, a lighting fixture on each and every lighting outlet shown on the drawings of each type scheduled by letter and description. All fixtures shall be equipped with lamps as scheduled or specified herein. All fixtures installed in suspended ceilings must be securely fastened to framing members per NEC 410-36b and local seismic code requirements.

11.0 FIRE ALARM SYSTEM:

- A. Fire alarm system shall be a delegated design, contractor shall be responsible for layout and design of the fire alarm system. Submit all necessary documentation including stamped and signed drawings to the authority having jurisdiction and obtain necessary permits for approval and installation of the system prior to submitting shop drawings.
- B. Fire alarm system shall be relocated or added for code compliance.
- C. All new equipment shall be ADA compliant, be by one manufacturer, and warranted for a minimum of one

END OF SECTION

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> ARCHITECTURAL DESIGNER: KCD-KANSAS CITY DESIGN GROUP, LLC 4006 N 126TH STREET KANSAS CITY, KS 66109 T: 816.682.0329 (DIRECT ALL QUESTIONS TO

MICHELLE LOCKMAN)

+ associates

1730 Walnut Street Kansas City, Missouri 64108 1915 Frederick Avenue, St. Joseph, Missouri 64501

Phone: 816.221.1411 | Fax: 816.221.1429

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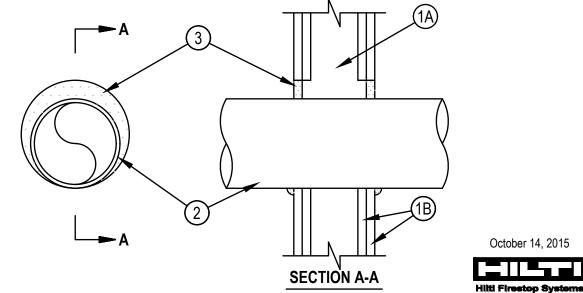
DATE: MARCH 10, 2020 DESIGNED BY:

DRAWN BY: JSV APPROVED BY: GJF SHEET NUMBER

JOB NUMBER

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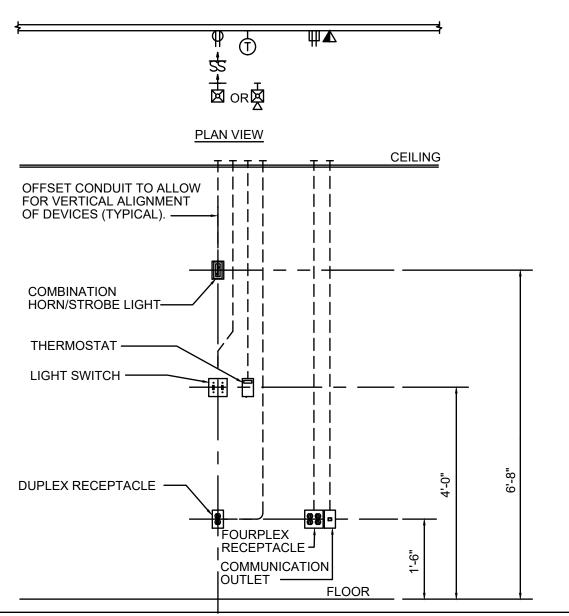
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ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings —1 and 2 Hr (See Items 1 and 3)	F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating at Ambient — Less Than 1 CFM/sq ft	FH Ratings —1 and 2 Hr (See Items 1 and 3)
L Rating at 400 F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
	L Rating at Ambient — Less Than 1 CFM/sq ft
	L Rating at 400 F — Less Than 1 CFM/sq ft



1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

- A. Studs Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is
- present between the penetrating item and the framing on all four sides. B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of
- opening is 32-1/4 in. (819 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls. The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly.
- 2.Through-Penetrants One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. (57 mm). Pipe may be installed with continuous point contact. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
- A. Steel Pipe Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe. B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
- C. Conduit Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) . diam steel conduit.
- D. Copper Tubing Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
- E. Copper Pipe Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe. 3.Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe wall interface on
- HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC FS-One Sealant or FS-ONE MAX Intumescent Sealant
- Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada),

GYPSUM/STUD WALL FIRE STOPPING DETAIL NO SCALE NON-INSULATED METALLIC PIPES

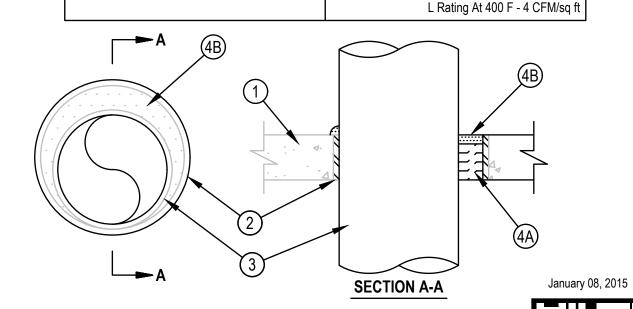


NOTE: ALIGN ALL DEVICES VERTICALLY. IF ANY DEVICE(S) ARE FOUND NOT TO BE INSTALLED PER DETAIL, CONTRACTOR SHALL RELOCATE AND PAY ALL ASSOCIATED COSTS ASSOCIATED WITH THE RELOCATION(S).

TYPICAL WALL MOUNTING DEVICE DETAIL



System No. C-AJ-1380				
ANSI/UL1479 (ASTM E814)	CAN/ULC S115			
F Rating - 2 Hr	F Rating - 2 h			
T Rating - 0 Hr	FT Rating - 0 H			
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Rating - 2 H			
L Rating At 400 F - 4 CFM/sq ft	FTH Rating - 0 H			
	L Rating At Ambient - Less Than 1 CFM/sq			



1. Floor or Wall Assembly — Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 31-7/8 in. (810 mm).

- 2. Metallic Sleeve (Optional) Nom 32 in. (813 mm) diam (or smaller) Schedule 40 steel pipe cast or grouted into floor or wall assembly, flush with floor or
- 3. Through-Penetrant One metallic pipe or conduit to be installed either concentrically or eccentrically within the firestop system. Pipe or conduit to be rigidly supported on both sides of floor assembly. The annular space between pipe or conduit and periphery of opening shall be min 0 in. (point contact) to
- max 1-7/8 in. (48 mm). The following types and sizes of metallic pipes or conduits may be used: A. Steel Pipe — Nom 30 in.(762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
- B. Cast Iron Pipe Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
- C. Copper Pipe Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

See Concrete Blocks (CAZT) in the Fire Resistance Directory for names of manufacturers.

- D. Copper Tubing Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing. E. Conduit — Nom 6 in. (152 mm) diam (or smaller) steel conduit.
- F. Conduit Nom 4 in. (102 mm) (or smaller) steel electrical metallic tubing (EMT).
- 4. Firestop System The firestop system shall consist of the following:
- A. Packing Materials Min 2 in. (51 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor to accommodate the required thickness of fill material.
- B. Fill Void or Cavity Materials* Sealant Min 1/2 in. (13 mm) thickness of fill material applied within annulus, flush with top surface of floor. At point contact, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the concrete/sleeve/pipe interface on the top surface of the floor and both
- HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC FS-ONE Sealant or FS-ONE MAX Intumescent Sealant
- * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively

CONCRETE WALL/FLOOR FIRE STOPPING DETAIL

NO SCALE NON-INSULATED METALLIC PIPES

AND CONDUIT SIZING CHART*							
RRENT N DEVICE (AMPS)	REQUIRED CONDUCTOR SIZE	EQUIPMENT GROUNDING CONDUCTOR SIZE	SINGLE PHASE 2 WIRE + GND. CONDUIT SIZE	SINGLE PHASE 3 WIRE + GND. CONDUIT SIZE	THREE PHASE 3 WIRE + GND. CONDUIT SIZE	THREE PHASE 4 WIRE + GND. CONDUIT SIZE	
	12 AWG	12 AWG	3/4"	3/4"	3/4"	3/4"	
	12 AWG	12 AWG	3/4"	3/4"	3/4"	3/4"	
	10 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"	

BRANCH CIRCUIT COPPER CONDUCTOR

OVERCURRENT PROTECTION DEVICE RATING (AMPS)	REQUIRED CONDUCTOR SIZE	EQUIPMENT GROUNDING CONDUCTOR SIZE	SINGLE PHASE 2 WIRE + GND. CONDUIT SIZE	SINGLE PHASE 3 WIRE + GND. CONDUIT SIZE	THREE PHASE 3 WIRE + GND. CONDUIT SIZE	THREE PHASE 4 WIRE + GND. CONDUIT SIZE
15	12 AWG	12 AWG	3/4"	3/4"	3/4"	3/4"
20	12 AWG	12 AWG	3/4"	3/4"	3/4"	3/4"
25	10 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
30	10 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
35	8 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
40	8 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
45	6 AWG	10 AWG	3/4"	3/4"	3/4"	1"
50	6 AWG	10 AWG	3/4"	3/4"	3/4"	1"
60	4 AWG	10 AWG	1"	1"	1"	1-1/4"
70	4 AWG	8 AWG	1"	1"	1"	1-1/4"
80	3 AWG	8 AWG	1"	1-1/4"	1-1/4"	1-1/4"
90	2 AWG	8 AWG	1"	1-1/4"	1-1/4"	1-1/4"
100	1 AWG	8 AWG	1-1/4"	1-1/2"	1-1/2"	1-1/2"

- * = UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- * = UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL BRANCH CIRCUITS AND FEEDERS TO BE PROVIDED WITH A NEUTRAL WIRE.
- * = ALL CONDUCTORS SIZED ON THE POWER RISER DIAGRAM OR IN BRANCH CIRCUIT CONDUCTOR TABLE ARE BASED ON 3 CURRENT CARRYING CONDUCTORS IN A RACEWAY OR CABLE. CONDUCTORS SHALL BE DERATED IN ACCORDANCE WITH THE NEC IF 4 OR MORE CONDUCTORS ARE PLACED IN A RACEWAY OR CABLE

RELEASE FOR CONSTRUCTION AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI

GENERAL NOTES (TYPICAL ALL SHEETS)

- A. REFER TO ARCHITECTS REFLECTED CEILING PLANS FOR EXACT PLACEMENT OF LIGHT FIXTURES, SPEAKER AND F.A. DEVICES IN THE CEILING SYSTEM.
- B. WIRING TO BE REMOVED BACK TO THE NEAREST DEVICE TO REMAIN. WIRING SHALL
- NOT BE TAKEN PAST THE FIRST JUNCTION BOX BEFORE THE PANELBOARD.
- FROM PROJECT SITE AND DISPOSED OF BY THE CONTRACTOR.
- AND IS INTENDED TO SHOW WHICH DEVICES ARE TO BE GROUPED ON INDIVIDUAL CIRCUITS. EXISTING WIRING THAT CONFORMS TO THE INTENT OF THE DRAWINGS MAY
- PROVIDE UPDATED, TYPEWRITTEN PANELBOARD DIRECTORY FOR EACH PANELBOARD WHICH CIRCUITS HAVE BEEN ADDED TO OR MODIFIED.
- F. SUPPORT ALL LIGHT FIXTURES WITH A MINIMUM OF (4) 12 GA. HANGER WIRES TO
- G. CONNECT EXIT AND EMERGENCY LIGHTS TO HOT LEG, NOT SWITCH LEG.

FLECTRICAL SYMBOLS

	TAIOTAL OTIVIDOLO
	BRANCH CIRCUIT CONCEALED IN CEILING OR WALL. ARROWS INDICATE HOMERUNS TO PANEL. ALL CONDUCTORS ARE MINIMUM NO.12 UNLESS NOTED OTHERWISE. PHASE CONDUCTORS NEUTRAL CONDUCTOR SWITCH-LEG AND OR TRAVELER GROUND CONDUCTOR
5	CONDUIT CONCEALED IN CEILING OR WALL WITH THREE CONDUCTORS: 1-PHASE; 1-NEUTRAL; 1-GROUND WIRE, MINIMUM NO.12 WIRE UNLESS OTHERWISE SPECIFIED ON DRAWINGS.
	CONDUIT RUN UNDERGROUND OR CONCEALED IN FLOOR SLAB.
$\longrightarrow \hspace{1cm}$	GROUNDING CONDUCTOR NO.12 WIRE EXCEPT AS NOTED
🛇 or 🔯	EXIT SIGN - SINGLE FACED - ARROWS AS SHOWN ON DRAWING. SHADED SIDE(S) INDICATES FACE SIDE(S) OF EXIT.
1~1	

18 1	EXIT SIGN - DOUBLE FACED - ARROWS AS SHOWN ON DRAWING. SHADED SIDE(S) INDICATES FACE SIDE(S) OF EXIT.
□3 □ _{OR} 3 3	COMBINATION EXIT SIGN/EMERGENCY LIGHTING UNIT - CEILING OR WALL

-	MOUNTED. SHADED SIDE(S) INDICATES FACE SIDE(S) OF EXIT.
\longmapsto	STRIP FIXTURE, LETTER DENOTES FIXTURE TYPE, REFER TO SCHEDULE

- DUPLEX RECEPTACLE. +1'-6" AFF OR AS NOTED
- +1'-6" AFF OR AS NOTED
- FA COMBINATION AUDIBLE/VISUAL WALL MOUNTED, +6'-8" AFF
- THERMOSTAT OUTLET BOX WITH 3/4"C, STUBBED UP OUT OF BOX TO ABOVE ACCESSIBLE CEILING. THERMOSTAT AND WIRING BY OTHERS. +4'-0" AFF OR
- INDICATES WIRING DEVICE ABOVE RE: DRAWING
- ELECTRICAL EQUIPMENT PROVIDED BY AND INSTALLED BY E.C.
- HEIGHT TO CENTERLINE OF OUTLET BOX ABOVE FINISHED FLOOR
- ABOVE FINISH FLOOR
- FIRE ALARM

ANY MATERIAL REMOVED THAT OWNER DOES NOT WISH TO RETAIN SHALL BE REMOVED D. NEW CIRCUITRY SHOWN FOR NEW/EXISTING POWER AND LIGHTING IS DIAGRAMMATIC



	RICAL STIVIDULS
	BRANCH CIRCUIT CONCEALED IN CEILING OR WALL. ARROWS INDICATE HOMERUNS TO PANEL. ALL CONDUCTORS ARE MINIMUM NO.12 UNLESS NOTED OTHERWISE. PHASE CONDUCTORS NEUTRAL CONDUCTOR SWITCH-LEG AND OR TRAVELER GROUND CONDUCTOR
55	CONDUIT CONCEALED IN CEILING OR WALL WITH THREE CONDUCTORS: 1-PHASE; 1-NEUTRAL; 1-GROUND WIRE, MINIMUM NO.12 WIRE UNLESS OTHERWISE SPECIFIED ON DRAWINGS.
	CONDUIT RUN UNDERGROUND OR CONCEALED IN FLOOR SLAB.
	GROUNDING CONDUCTOR NO.12 WIRE EXCEPT AS NOTED
OR 😥	EXIT SIGN - SINGLE FACED - ARROWS AS SHOWN ON DRAWING. SHADED SIDE(S) INDICATES FACE SIDE(S) OF EXIT.
181	EXIT SIGN - DOUBLE FACED - ARROWS AS SHOWN ON DRAWING. SHADED SIDE(S) INDICATES FACE SIDE(S) OF EXIT.
D⊠O _R ST	COMBINATION EXIT SIGN/EMERGENCY LIGHTING UNIT - CEILING OR WALL MOUNTED. SHADED SIDE(S) INDICATES FACE SIDE(S) OF EXIT.
$\vdash \multimap \vdash$	STRIP FIXTURE, LETTER DENOTES FIXTURE TYPE, REFER TO SCHEDULE
O OR O	WALL WASH OR RECESSED CEILING LIGHT FIXTURE
×	PENDANT MOUNTED LIGHT FIXTURE, SIZE AND TYPE AS NOTED
$\nabla \nabla \nabla$	TRACK LIGHTING, SIZE AND TYPE AS NOTED

208Y/120V OR 120/240V PANELBOARD (SURFACE) TOP MOUNTED 6'-0" AFF

DUPLEX RECEPTACLE INSTALLED ABOVE COUNTERTOP

DUPLEX RECEPTACLE W/GROUND FAULT PROTECTION.

HEAVY DUTY RECEPTACLE. VOLTAGE, PHASE AND AMPS AS NOTED. +1'-6"

FA COMBINATION AUDIBLE/VISUAL CEILING MOUNTED (FLUSH)

EXISTING TO REMAIN

ARCHITECTURAL DESIGNER: KCD-KANSAS CITY DESIGN GROUP, LLC 4006 N 126TH STREET KANSAS CITY, KS 66109 T: 816.682.0329 (DIRECT ALL QUESTIONS TO MICHELLE LOCKMAN)



Phone: 816.221.1411 | Fax: 816.221.1429 COPYRIGHT 2020 Project No. 20.6473.00 COA No. 2006001168



DATE: MARCH 10, 2020 DESIGNED BY:

DRAWN BY: JSV APPROVED BY: GJF

E300

SHEET NUMBER