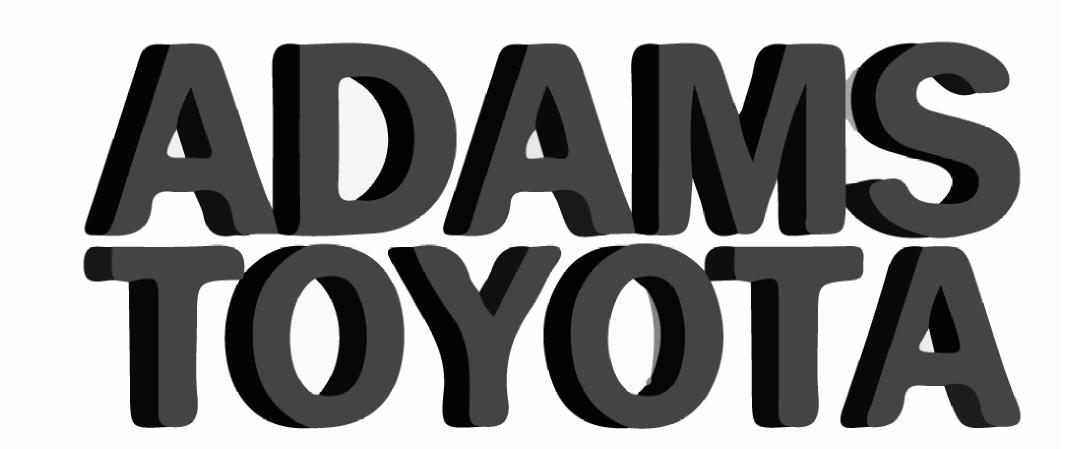
ADAMS TOYOTA RESTROOM RENOVATION





501 NE COLBERN ROAD LEE'S SUMMIT, MO 64086



ARCHITECT



8655 Penrose Lane, Suite 300 Lenexa, KS 66219 Tel: (913) 742-8000

Fax: (913) 742-8570

MEP ENGINEER

smith & boucher engineers

25618 W. 103rd Street Tel: (913) 345-2127

Olathe, KS 66061

DRAWING INDEX

SHEET		PERMIT SET" 07/12/2022
NUMBER	SHEET NAME	
G-000	COVER	X
G-001	SYMBOLS AND ABBREVIATIONS	X
A-101	OVERALL FLOOR PLAN	X
A-102	RESTROOM DEMOLITION, FLOOR, AND CEILING PLAN	X
A-401	INTERIOR ELEVATIONS	X
A-501	SECTIONS, PARTITION AND DOOR SCHEDULES	X
A-601	INTERIOR DETAILS, FINISH SCHEDULE AND LEGEND	X
ME101	MECHANICAL AND ELECTRICAL SYMBOLS AND ABBREVIATIONS	X
ME102	MECHANICAL AND ELECTRICAL - SPECIFICATIONS	X
ME103	MECHANICAL AND ELECTRICAL - SPECIFICATIONS	X
ME202	1ST FLOOR MECHANICAL & ELECTRICAL PLAN	X
ME203	MECHANICAL AND ELECTRICAL ROOF PLAN	X
ME301	MECHANICAL AND ELECTRICAL SCHEDULES	X
ME401	MECHANICAL AND ELECTRICAL DETAILS	X
M201	1ST FLOOR HVAC PLAN	X
P102	ENLARGED PLUMBING PLAN	X
E102	ENLARGED ELECTRICAL	X

CODE/REGULATIONS BUILDING CODE: 2018 INTERNATIONAL BUILDING CODE MECHANICAL CODE: 2018 INTERNATIONAL MECHANICAL CODE PLUMBING CODE: 2018 INTERNATIONAL PLUMBING CODE ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE GAS CODE: 2018 INTERNATIONAL FUEL GAS CODE FIRE PREVENTION: 2018 INTERNATIONAL FIRE CODE ACCESSIBILITY: ICC/ANSI A117.1-2009 OCCUPANCY CLASSIFICATION: MIXED USE AND OCCUPANCY (SECTION 508) BUSINESS GROUP S-1 (EXISTING SERVICE AREA) STORAGE CONSTRUCTION TYPE: PER TABLE 503 TYPE II-B ALLOWABLE BUILDING STORIES: PER TABLE 503 3 STORIES ACTUAL BUILDING STORIES: 1 STORY WITH BASEMENT ALLOWABLE BUILDING HEIGHT: PER TABLE 503 SPRINKLER HEIGHT INCREASE PER SECTION 504.2 MAX. HEIGHT MAY INCREASE 20'-0" ACTUAL BUILDING HEIGHT: 46'-3" 23,000 SF FOR GROUP B BASIC ALLOWABLE BUILDING AREA (PER FLOOR): 17,500 SF FOR GROUP S-1 FRONTAGE AREA INCREASE PER SECTION 506.2 If=[F/P-0.25]W/30 If=[771'/771'-0.25]30/30 If=[1-0.25](1) If= 17,250 SF FOR GROUP B If=75% INCREASE If=13,125 SF FOR GROUP H-4 SPRINKLER AREA INCREASE PER SECTION 506.3 300% INCREASE WITH INCLUSION OF FIRE SPRINKLER SYSTEM PER SECTION 903.3.1.1 Aa=At+[(At*75)/100]+[(At*300)/100] Aa=23,000+[(23,000*75)/100]+[(23,000*300)/100] Aa=23,000+(1,725,000/100)+(6,900,000/100) Aa= 45,125 SF Aa=23,000+17,250+69,000 ACTUAL BUILDING AREA: EXISTING 1ST FLOOR AREA (B) 22.860 SF 1ST FLOOR ADDITION AREA (B) 1,305 SF 22,545 SF 46,710 SF BASEMENT AREA (H-4) BUILDING ELEMENT RATINGS (PER TABLE 601 AND 602) EXTERIOR BEARING WALLS <5 FT FROM CENTER LINE OF RIGHT-OF-WAY ≥5 FT ≤10 FT FROM CENTER LINE OF RIGHT-OF-WAY NA ≥10 FT ≤ 30 FT FROM CENTER LINE OF RIGHT-OF-WAY NA ≥30 FT FROM CENTER LINE OF RIGHT-OF-WAY STRUCTURAL FRAME EXTERIOR NON-BEARING WALLS <5 FT FROM CENTER LINE OF RIGHT-OF-WAY ≥5 FT ≤10 FT FROM CENTER LINE OF RIGHT-OF-WAY NA ≥10 FT ≤ 30 FT FROM CENTER LINE OF RIGHT-OF-WAY NA ≥30 FT FROM CENTER LINE OF RIGHT-OF-WAY INTERIOR BEARING WALLS INTERIOR NON-BEARING WALLS FLOOR / CEILING ASSEMBLIES 1 HR RATED PER TABLE 5A OCCUPANCY SEPARATION

RENOVATION

ADAMS TOYOTA

501 NE COLBERN ROAD

LEE'S SUMMIT MO, 64086

CODE ANALYSIS:

FACILITY NAME:

FACILITY ADDRESS:

TYPE OF CONSTRUCTION:

ROOF / CEILING ASSEMBLIES

EXTERIOR OPENINGS (PER TABLE 704.8) UNPROTECTED >30 FT FROM CENTER LINE OF RIGHT-OF-WAY CORRIDOR FIRE RESISTANCE (PER TABLE 1017.1)

SPRINKLER SYSTEM PER SECTION 903 (NFPA101) PORTABLE FIRE EXTINGUISHER (PER NFPA101) MANUAL FIRE ALARM SYSTEM (PER NFPA 101) OCCUPANCY LOAD FACTORS: PER TABLE 1004.1.1

EXISTING 1ST FLOOR OCCUPANT LOAD EXISTING BASEMENT OCCUPANT LOAD NUMBER OF EXITS REQUIRED(PER 1015.1)

NUMBER OF EXITS PROVIDED

W/ OCCUPANT LOAD > 30

EXIST WIDTH REQUIRED BASEMENT

EXIT ACCESS TRAVEL DISTANCE: (PER TABLE 1016.2)

DEAD-END CORRIDORS: (PER SECTION 1017.3)

NO LIMIT

NR W/ INCLUSION OF FIRE SPRINKLER SYSTEM PROVIDED (NFPA 13) PROVIDED (NFPA 10) PROVIDED

SHOWROOM 1/30 SF; OFFICE 1/100SF CONFERENCE 1/15SF; STORAGE 1/300SF BREAK AREA 1/15SF: LOUNGE 1/15SF SERVICE DRIVE 1/200SF; RPC 1/30 SF SERVICE AREA 1/300SF NEW CAR DELIVERY 1/200SF

382 EXISTING **68 BASEMENT**

TWO (2) FOR 1ST FLOOR AND TWO (2) FOR SIX (6) FOR 1ST FLOOR AND THREE (3) FOR **BASEMENT**

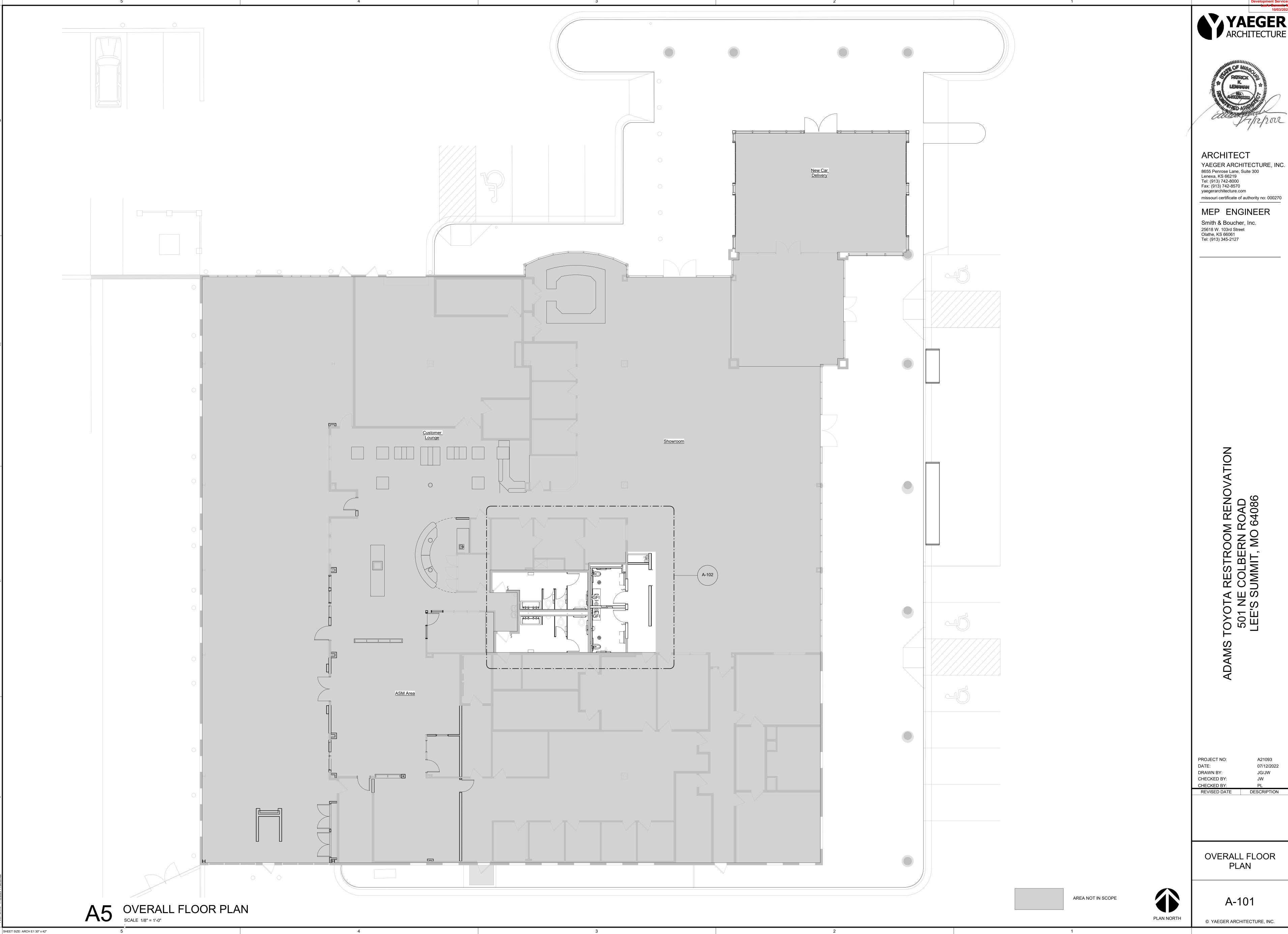
REQUIRED PROVIDED 382x.2 = 6'-5" 21'-0" 9'-0" 68x.2 = 1'-2" 300 FT W/ INCLUSION OF AUTOMATIC SPRINKLER SYSTEM

NOT TO EXCEED 20 FT

CONNECTION ABANDONED CONN GAGE OR GAUGE MASS NOTIFICATION SYSTEM RAD OR R RADIUS **VENT** VENTILATION AFF ABOVE FINISHED FLOOR CONSTR MACH VENT CONSTRUCTION VENTILATOR GALLON MACHINE RANGE GPM MHGY **RCVR** VINYL ASBESTOS TILE ACCESS DOOR CONSTRUCTION JOINT **GALLONS PER MINUTES** MAHOGANY RECEIVER **SYMBOLS LEGEND** SIM XX SIM BLDG. SECTION REFERENCE MCB ROUGHNED CONCRETE JOINT ACCESS PANEL CONTINUOS GALVANIZED MAIN CIRCUIT BREAKER RCJ VENT STACK ACST RECP MLO RECEPTACLE VENT THRU ROOF ACOUSTIC COR GALVANIZED IRON MAIN LUGS ONLY VTR CORNER VERIFY IN FIELD ACOUSTICAL CEILING TILE CG CORR CORNER GUARD ACT MANHOLE RECR RECREATION KEY NOTE REF AWC **GENERAL VERT** ACRYLIC WALL COATING CORRIDOR MANUFACTURE REFERENCE VERTICAL ADD CRES CORROSIVE RESISTANT STEEL GLASS MANUFACTURING REFR **VEST** VESTIBULE ADDITION REFRIGERATOR FINISH KEY NOTE AGG AGGREGATE CMP CORRUGATED METAL PIPE GLASS BLOCK MSNRY OR MAS MASONRY REGISTER VCT VINYL COMPOSTION TILE A/C AIR CONDITIONING CNTR GLAZED WALL TILE MASONRY OPENING COUNTER REGULAR VINYL BASE WALL SECTION REFERENCE VINYL-WALL COVERING COUNTER SINK AIR HANDLING UNIT CSK GOVERNMENT MASONRY UNIT REINFORCEMENT VWC $\langle XX.X \rangle$ DEMOLITION PLAN NOTES ALTERNATE CRS COURSE GOVERNMENT FURNISHED MSTC REMOTE CONTROL VCP VITRIFIED CLAY PIPE COV MATCHED & BEADED COVERED ALTERNATING CURRENT GOVERNMENT INSTALLED M & B REMOVABLE VOLT (xxx)CE COVER ELEVATION MAT OR MAT MATERIAL REQ'D OR RQD VOL VOLUME ALUMINUM GRADE REQUIRED REFLECTED CEILING PLAN NOTES G.B. ALUMINUM CONDUCTOR CFM CUBIC FEET PER MINUTE GRADE BEAM MAX MAXIMUM RETURN AIR ACSR STEEL REINFORCED DETAIL SECTION REFERENCE CUBIC YARDS GRTG GRATING MECH CU YD MECHANICAL REV REVISIONS SIGNAGE MARK AND LOCATION WALL HYDRANT AMERICAN WIRE GAUGE CPS OR ~ CYCLES PER SECOND **GROUND CLEANOUT** MEDICINE CABINET RIDGE GND OR GRND GROUND AMP WALL MIRROR AMPERE CYLINDER MEGAPASCALS RISER AMPS INTERUPTING GROUND ELECTRODE COND METAL **ROOF DRAIN** WTG WALL TILE GROUT VIEW NO CAPACITY **GROUND FAULT** METAL LATH ROOFING WRB WARDROBE DAMPPROFFING FINISH FLOOR REFERENCE METAL THRESHOLD ANCHOR BOLT INTERUPTION ROOM WASHER SHEET DATUM OR DRYER **EXTERIOR ELEVATION REFERENCE** GWB/GYP. BD. RGH WASTER STACK GYPSUM METER ROUGH DEAD LOAD \ NO / ROUGHENED CONTROL JOINT GYPSUM WALLBOARD MILIMETER WATER CLOSET ANGLE ° DEG DEGREE APPROVED APPD MINIMUM RD OR %%C ROUND WATER PROOF DEMO DEMOLISH HANDRAIL **APPROX APPROXIMATE** MISC MISCELLANEOUS RUBBER WATER PROOFING √ VIEW NO DEPT DEPARTMENT **GLASS TYPE** HARDBOARD MONO WATTHOUR METER ARCH ARCHITECTURAL RUBBER BASE DEPR MONOLITHIC DEPRESSION HDW HARDWARE RTS WEATHER PROOF AREA DRAIN RUBBER TRANSITION STRIP MOTOR DET INTERIOR ELEVATION REFERENCE DETAIL TOILET ACCESSORIES REFERENCE HD HEAD RGC ASPH ASPHALT MOTOR GENERATOR RGID GALV. CONDUIT WEATHER STRIPPING DIAG DIAGNOL HEADER MLDG SCH WFIGHT MOULDING SCHEDULE DIA OR Ø DIAMETER HEADQUARTER AUTO AUTOMATIC MTD MOUNTED SCR WELDED WIRE FABRIC SCRFW DIMENSION **ARCHITECT** $\langle XX \rangle$ GLAZING NUMBER REFERENCE HEATER AVG AVERAGE MTN MOUNTAIN SCUT SCUTTLE WHT WHITE NAM ELEV. DIRRECT CURRENT HTG HEATING WIDE FLANGE SPOT ELEVATION SECY SECRETARY DISTRIBUTION YAEGER ARCHITECTURE, INC HEIGHT SECT WINDOW SECTION BALLED AND BURLAPPED DWLS DOWELS SITE PLAN NOTE HIGH POINT 8655 Penrose Lane, Suite 300 WDW DIM WINDOW DIMENSION D.C.J. DOWELED CONTROL JOINT SEQUENCE BATT INSU BATTEN INSULATION HIGH PRESSURE SHTHG WSL WINDOW SILL Lenexa, KS 66219 SHEATHING BATTALION HIGH-STRENGTH GYPSUM Tel: (913) 742-8000 DCL SPOT ELEVATION SHEET DOOR CLOSER BEAM NATIONAL ELECTRIC CODE **HSGYP** PLASTER WITHOUT Fax: (913) 742-8570 W/O SH MET OR SM SHEET METAL DRFR PROPERTY LINE DOOR FRAME BRG BEARING NATIONAL ELECTRICAL H.S. HIGH STRENGTH SIMILAR yaegerarchitecture.com WOOD B.M. **BENCH MARK** DOOR OPENING **NEMA** MANUFACTURER'S HM **HOLLOW METAL** WOOD BASE D OR DBL SLOPE BENT DOUBLE missouri certificate of authority no: 000270 ASSOCIATION HORIZONTAL WOOD BLOCKING WALL PATTERN LOCATION SOUNDPROOF DOUBLE ACTING **BITUMINOUS** BIT NEAR SIDE HORSE POWER SOUTH W. DR. WOOD DOOR REFERENCE DOUBLE HUNG BLK BLOCK NORTH HOSE BIB MEP ENGINEER SPACE HEATER WDF WOOD FINISH BLKG BLOCKING NOT IN CONTRACT NTS HOT WATER WOOD THRESHOLD WD. TH. SPKR SPEAKER DOWN SPOUT BOARD NOT TO SCALE HOUR GRID BUBBLE REFERENCE WKS WORK SHOP SPECIAL DR BOT BOTTOM DRAIN Smith & Boucher, Inc NUMBER HYD HYDRAULIC WROUGHT IRON W.I. DWG D & M DRAWING **SPECIFICATIONS** BOF **BOTTOM OF FOOTING** 25618 W. 103rd Street SPLASH BLOCK DRESSED & MATCHED BOS **BOTTOM OF STEEL** YARD Olathe, KS 66061 SPRAY TEXTURE DRINKING FOUNTAINS BOUNDARY Y.D. YARD DRAIN (1t) WALL PARTITION LOCATION REFERENCE Tel: (913) 345-2127 ILLUMINATING ENGINEERING DWD DRINKING WATER DISPENSER SQUARE BRCG IES BRACING SQUAD SQUADRON BRKT BRACKET DRY BULB SOCIETY STAINLESS STEEL DCJT DUMMY CONTROL JOINT OBSCURE BRK BRICK **INSIDE DIAMETER** STWY STAIRWAY DCO DIAL CENTRAL OFFICE BRICK LEDGE INSUL. OBGL **OBSCURE GLASS** INSULATION STD STANDARD BRDG BRIDGING INTERCOM OB WG OBSCURE WIRE GLASS NORTH ARROW REFERENCE STA STATION EACH FACE BRITISH THERMAL UNIT INTERIOR OFFICE STEEL **EACH WAY** INVERT BTUH BTU PER HOUR ON CENTERS STN STONE BLDG BUILDING IRON **OPNG** OPENING STOP LINE **BUILDING DIRECTORY** EOP EDGE OF PAVEMENT BLDG. DIR IRON PIPE OPPOSITE STOR STORAGE ELECTRICAL OR ELECTRIC INTEGRATED EQUIPMENT OPP. HD. **OPPOSITE HAND BUILDING LINE** STGR STRINGER EL OR ELEV ELEVATION-GRADE OR BLDG B.B. BULLETIN BOARD SHORT CIRCUIT RATING OPS OPERATIONS STR OR STRUCT TRUE NORTH ARROW REFERENCE STRUCTURAL E.W.C. ELECTRIC WATER COOLER OUTSIDE DIMENSION STRUCTURAL CLAY TILE EMB **EMBEDMENT** OVERHEAD STRUCTURAL FACING UNIT **ENCL ENCLOSURE** CABINET SUB FL SUB FLOOR **ENTRANCE** CAS CASING TRIM JANITOR CLOSET EM SUPPLY AIR **ENTRANCE MAT** CHR CHAIR RAIL TRIM JOINT SUSP SUSPENDED CHASE WALL JST JOIST SWITCH **EQUIPMENT** CRN CROWN MOLDING mark — DOOR NUMBER REFERNCE JUNCTION SWITCH BOARD EST **ESTIMATE** CUH CABINET UNIT HEATER JUNCTION BOX PAINT SYM ASSOCIATED ROOM NUMBER SYMMETRICAL ESTIMATED MAXIMUM DEMAND CLKG CALKING PAINTED CAP **EXCAVATE** TBD TACK BOARD CAPACITY PAIR EXH **EXHAUST** CARPET TANGENT PANEL EXIST. **EXISTING** TEL TELEPHONE ROOM NAME CARPET BASE CPB PANEL BOARD ESPN OR **EXPANSION** CRG CARRIAGE **TELEVISION** PAN. B PANIC BOLT 101 - ROOM NUMBER **EXPANSION JOINT** TEMP CSMT CASEMENT **TEMPERATURE** KEY PARAPET **EXPOSED** TERMINAL CAST IRON PARTITION PTN KEY LOCK **EXTERIOR** CATCH BASIN TERRAZO ROOM AREA REFERNCE KICK PLATE PAVEMENT DRAIN EXT **THERMO THERMOSTAT** CEILING **KILOGRAMS** PENNY CEILING SCUTTLE THICK FABRIC WALL COVERING PERFORATED **KILOMETER** THOUSAND **CEILING VENT** PH OR %%C KILOPASCAL THOUSAND CIRCULAR MILLS CEMENT **FAHRENHEIT** PICTURE RAIL MOLDING KILOVOLTS THRESHOLD CEMENT PLASTER CPL FAN COIL UNIT KILOVOLT AMPERES PIECE KVA CTR CENTER TOGGLE FAR SIDE FS KVAR KILOVOLT AMPERES REACTIVE PILING TOILET TOIL CENTER LINE ⊈ OR CL FOC FIBER OPTIC CABLE **KILOWAT** PLASTER CENTER TO CENTER **TOILET PARTITION** C TO C FAAP FIRE ALARM ANNUN. PANEL KITCHEN P. LAM. PLASTIC LAMINATE CERAMIC FLOOR TILE TOPOGRAPHY CFT FACP FIRE ALARM CONTROL PANEL PL OR 12 TOP OF FOOTING CERAMIC FLOOR TILE BASE CFTB FIRE EXTINGUISHER (W/ BRACKET) PLATFORM **PLATF** TOC CERAMIC MOSAIC TILE TOP OF CONCRETE CMT PLUMBING PLBG TOM **TOP OF MASONRY** CTU CWT CERAMIC TILE UNGLAZED F.P.M. FEET PER MINUTE PLYWOOD PLY WD TOS TOP OF STEEL CERAMIC WALL TILE FIG FIGURE POINT OF INTERSECTION TOW TOP OF WALL CKD CHECKED FINISH FIN. LANDING TRANSFORMER CIRCUIT CKT FINISH FLOOR POLISH PORCELAIN LAUNDRY LAU POL CIRCUIT BREAKER TRANSVERSE CKT BKR FIRE EXTINGUISHER CABINET PORCELAIN FLOOR TILE LAVATORY TREAD CIRCULAR FHC FIRE HOSE CABINET LAWN IRRIGATION SYSTEM PORCELAIN FLOOR TILE BASE TYPICAL CLEANOUT FIRE HYDRANT LENGTH POUNDS TELE TERMINAL BOARD CLEAR CLR FIRE PROOF POUNDS/ SQUARE FOOT LIGHT TELE MAIN GROUND BAR CLEAR WIRE GLASS CL WG FIRE PROTECTION POUNDS/ SQUARE INCH LIGHTING CLOSED CLOS UNDERGROUND TELEPHONE FIRE SHUTTERS PREFABRICATED LPS LIGH PROOF SHADE **PREFAB** CLOSET CLO UGE UNDERGROUND ELECTRIC FIXTURE PRESSURE REGULATING VALVE LIGHT WEIGHT PRV COLD WATER UGP FLASHING UNDERGROUND ELECTRIC PRIM PROJECTION LINEAR COLUMN FLR OR FL UGS UNDERGROUND ELECTRIC SEC. FLOOR **PUBLIC ADDRESS** LINTEL COMBINATION COMB UNDERGROUND FLOOR DRAIN **PUSH BOTTON STATION** L OR I LITER COMBUSTION COMB. UNDERWRITERS LABORATORIES FLOOR TILE GROUT PAD MOUNTED SWITCH LIVE LOAD COMMON COM UNEX UNEXCAVATED FI OORING POWER CONDITIONER LOAD COMPANY OPERATION FACILITY COF FL OR 🗆 FLOW LINE UNFIN UNFINISHED LDG LOADING COMPOSITION FLOORING COMPF UNIT COOLER FLUOR FLUORESCENT LG LLV COMP COMPRESSIBLE FOOT CANDLE UNIT HEATER LONG LEG VERTICAL QUARRY TILE CONC CONCRETE UNIT VENTILATOR LONGITUDINAL CONCRETE MASONRY UNITS CMU FDN UNO UNLESS NOTED OTHERWISE FOUNDATION LOW POINT 1/4 RD **QUARTER ROUND** CONCRETE SEALER FRAME LUMBER QTERS QUARTERS CONDENSING UNIT FA OR FR.A UTILITY FRESH AIR LUMEN FULL SIZE FURRING FURR'G CONDUIT (FOR RACEWAY) B2 SYMBOLS SCALE: N.T.S. B5 ABBREVIATIONS SCALE: N.T.S. **GENERAL NOTES** 1. ALL WORK SHALL CONFORM WITH APLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL OBTAIN ALL REQUIRED BUILDING AND OCCUPANT PERMITS. CONTRACTOR SHALL BECOME FULLY ACQUAINTED WITH CONDITIONS RELATED TO THE WORK. ANY DISCREPANCIES BETWEEN THE DRAWIGNS AND THE ACTUAL CONDITIONS SHALL BE REPORTED TO THE Masonry Block (CMU) ARCHITECT FOR RESOLUTION PRIOR TO PROCEEDING WITH THE WORK. DRAWINGS CONTAINED IN THIS SET SHALL NOT BE REPRODUCED FOR SHOP DRAWINGS, COPIES OF THESE DRAWINGS SUBMITTED AS SHOP DRAWINGS WILL BE REJECTED AND RETURNED TO THE CONTRACTOR. 4 CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS AND SEQUENCES OF CONSTRUCTION AND THE SAFETY OF ALL CONSTRUCTION PERSONNEL AND VISITORS. Crushed Rock 5 DO NOT SCALE DRAWINGS, FOLLOW WRITTEN DIMENSIONS OR KEYED NOTES ONLY CONTACT ARCHITECT FOR CLARIFICATIONS IF REQUIRED. Stud Wall (plan) 6 EACH INSTALLER MUST EXAMINE SUBSTRATE AND/OR CONDITIONS UNDER WHICH THE WORK WILL BE INSTALLED AND REPORT TO THE CONTRACTOR IN WRITTING ANY CONDITIONS DETRIMENTAL TO THE PROPER AND TIMELY EXECUTION OF THE INSTALLER'S WORK. DONOT PROCEED UNTIL UNSATISFACTORY CONDITIONS ARE CORRECTED INSTALLATION SHALL CONSTITUTE ACCEPTANCE OF THE Wood Blocking SUBSTRATE AND/OR CONDITIONS. Wood (finish) 7 "TYPICAL" AS USED IN THESE DOCUMENTS SHALL MEAN THAT THE CONDITIONS OR DIMENSION IS THE SAME OR REPRESENTATIVE FOR SIMILAR CONDITIONS THROUGHOUT Plywood 8 ALL DISSIMILAR METAL MATERIALS SHALL BE ISOLATED WITH AN APPROVED NON-METAL ISOLATION MATERIAL. Steel and other Ferrous Metals 9 CONTROL JOINTS (C.J.) SHALL BE INSTALLED AT ALL PARTITIONS. C.J.'S AT GYPSUM PARTITIONS SHALL BE MAXIMUM 30'-0" C.J.'S AT CONCRETE MASONRY UNIT PARTITIONS SHALL BE MAXIMUM 20'-0" O.C. UNLESS OTHERWISE NOTED ON DRAWINGS. REFER TO ELEVATION DRAWINGS FOR EXTERIOR CONTROL JOINT LOCATIONS. REVIEW C.J. LOCATION WITH ARCHITECT PRIOR TO INSTALLATION. Aluminum and other Non-Ferrous Metals 10 PENETRATIONS THROUGH EXISTING FIRE RATED ASSEMBLIES SHALL BE CONSTRUCTED IN STRICT COMPLIANCE WITH AN INDUSTRY RECOGNIZED FIRE-TEST APPLICABLE TO THE ASSEMBLY. PROJECT NO: A21093 Gypsum Board (1" scale and larger) 11 NON-BEARING PARTITIONS SHALL BE ISOLATED FROM THE BUILDING STRUCTURE TO PREVENT TRANSFER OF BUILDING LOADS FROM THE STRUCTURE TO THE PARTITIONS. DATE: 07/12/2022 DRAWN BY: JG/JW 12 WHERE FRT WOOD BLOCKING IS INDICATED, METAL MAY BE UTILIZED AT CONTRACTOR'S DISCRETION. CHECKED BY: PKL Rigid Insulation CHECKED BY: 13 REFER TO MECHANICAL, PLUMBING, ELECTRICAL, AND STRUCTURAL DRAWINGS FOR MORE INFORMATION THAT MAY NOT BE IN THE ARCH, DWGS, CONTRACTOR TO NOTIFY & COORDINATE WITH THE REVISED DATE DESCRIPTION ARCHITECT ANY ISSUES THAT CONFLICT W/THIS NEW DESIGN Earth / Backfill Acoustical Ceiling Panel / Ceramic Tile_ Asphalt Paving _ Sand / Grout / Mortar / Stucco E.I.F.S. / Acrylic Stucco SYMBOLS AND Stone (Plan & Section - 3/4" & larger) **ABBREVIATIONS** G-001 A2 GENERAL NOTES
SCALE: N.T.S. MATERIAL SYBOLS © YAEGER ARCHITECTURE, INC.

SHEET SIZE: ARCH E1 30" x 42"

RELEASED FOR
CONSTRUCTION
As Noted on Plans Review



ARCHITECT

Lenexa, KS 66219 Tel: (913) 742-8000 Fax: (913) 742-8570

yaegerarchitecture.com

8655 Penrose Lane, Suite 300

YAEGER ARCHITECTURE, INC.

missouri certificate of authority no: 000270

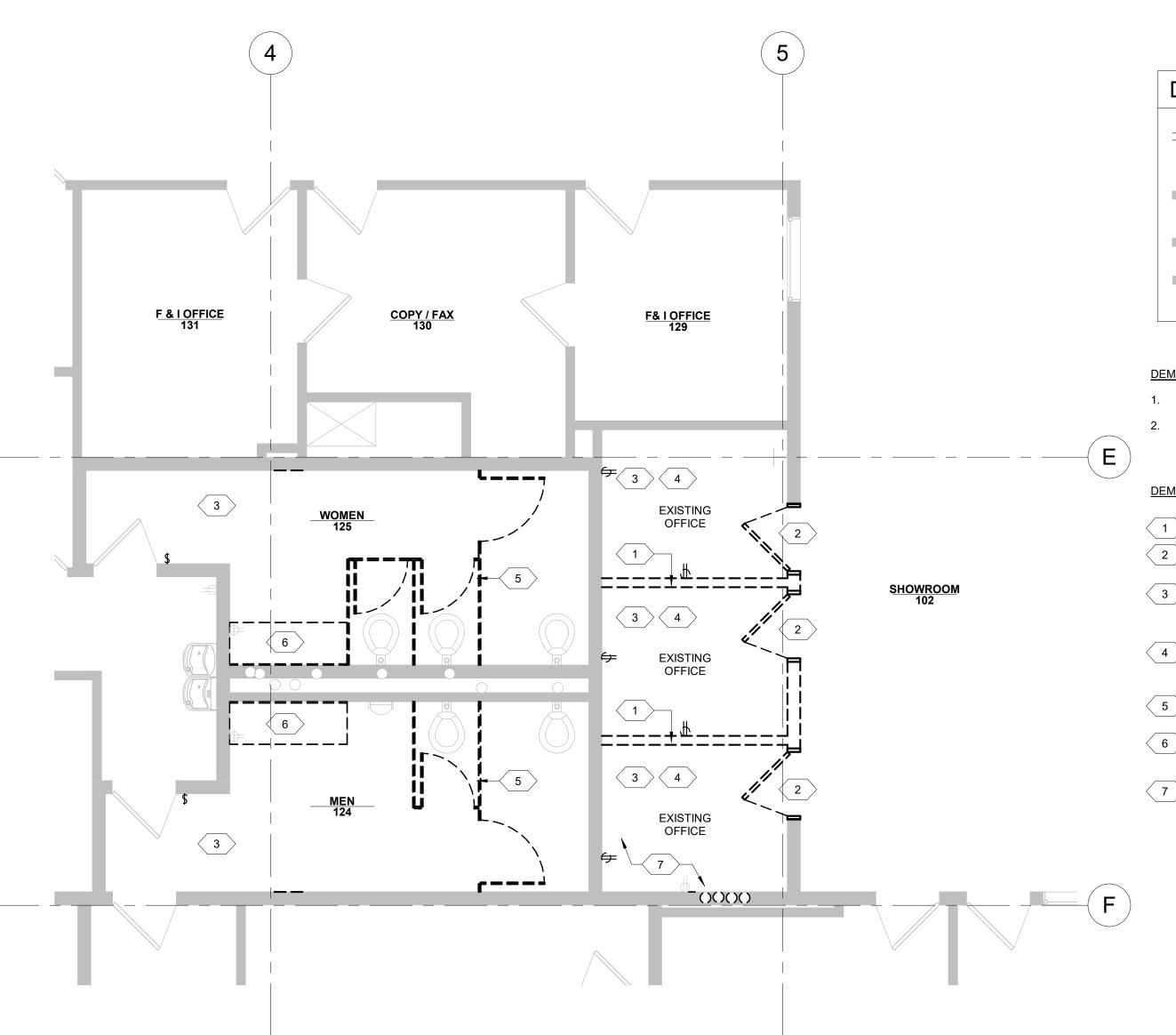
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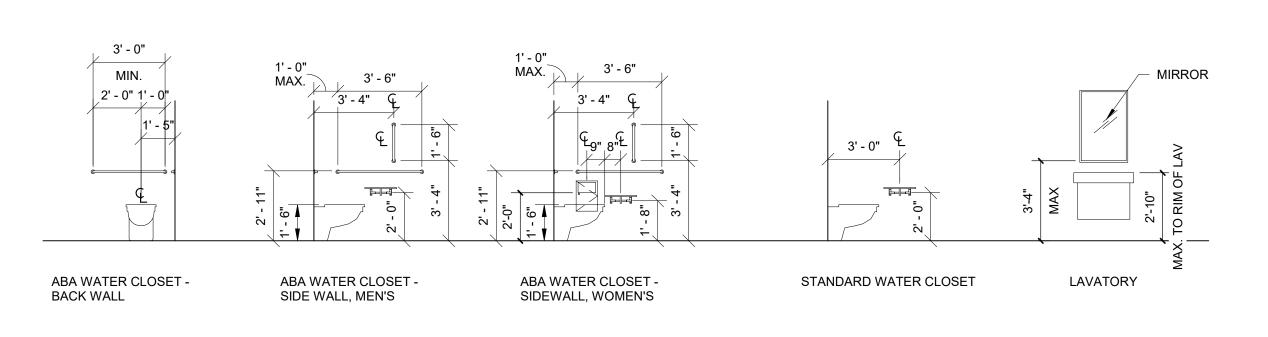
25618 W. 103rd Street

Olathe, KS 66061

Tel: (913) 345-2127



TOILET ACCESSORIES SCHEDULE TYPE MARK DESCRIPTION MANUFACTURER MODEL DCS SURFACE MOUNTED DIAPER CHANGING STATION BRADLEY CORPORATION 962-11 BRADLEY CORPORATION 747F 24" X 36" FRAMELESS FROSTED GLASS MIRROR 3 STAINLESS STEEL GRAB BARS WITH CONCEALED MOUNTING - 42" SIDE, 36" BACK, HORIZONTAL BRADLEY CORPORATION 812 SERIES ORIENTATION - 18" SIDE, VERTICAL ORIENTATION 24" X 36" LIGHTED MIRROR - COORDINATE WITH ELECTRICAL DWGS. RECESSED PAPER TOWEL DISPENSER WITH WASTE RECEPTACLE BRADLEY CORPORATION 235-000000 SANITARY NAPKIN DISPOSAL - SURFACE MOUNTED BRADLEY CORPORATION 4737-11 SPTD SURFACE MOUNTED PAPER TOWEL DISPENSER WITH WASTE RECEPTACLE BRADLEY CORPORATION 238-11 TOILET PAPER DISPENSER -TWO ROLL SIDE BY SIDE WITH SHELF BRADLEY CORPORATION 5263



PAPER TOWEL URINAL DISPENSER/WASTE RECEPTACLE

RE: PLAN FOR TOILET ACCESSORY LOCATIONS

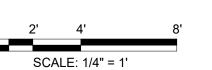
TOILET FIXTURE AND ACCESSORY LOCATIONS

EQ EQ **CEILING LEGEND** 24"X24" ACOUSTICAL LAY-IN PANELS & SUSPENDED 8' - 0" A.F.F. 8' - 0" A.F.F. **CEILING SYSTEM** 5/8" GYPSUM BOARD ON METAL STUDS @ 16" O.C. RE: FINISH SCHEDULE FOR PAINT REQUIREMENTS. B3 A-501 RECESSED CAN LIGHT SMOKE DETECTOR RETURN AIR GRILLE SUPPLY AIR GRILLE EXHAUST AIR GRILLE RETURN EXHAUST FAN

MEN 127 8' - 0" A.F.F.

A3 REFLECTED CEILING PLAN SCALE 1/4" = 1'-0"

MEN 124 8' - 0" A.F.F.





A-102

PROJECT NO:

DATE:

DRAWN BY:

CHECKED BY: CHECKED BY:

© YAEGER ARCHITECTURE, INC.

REVISED DATE DESCRIPTION

RESTROOM

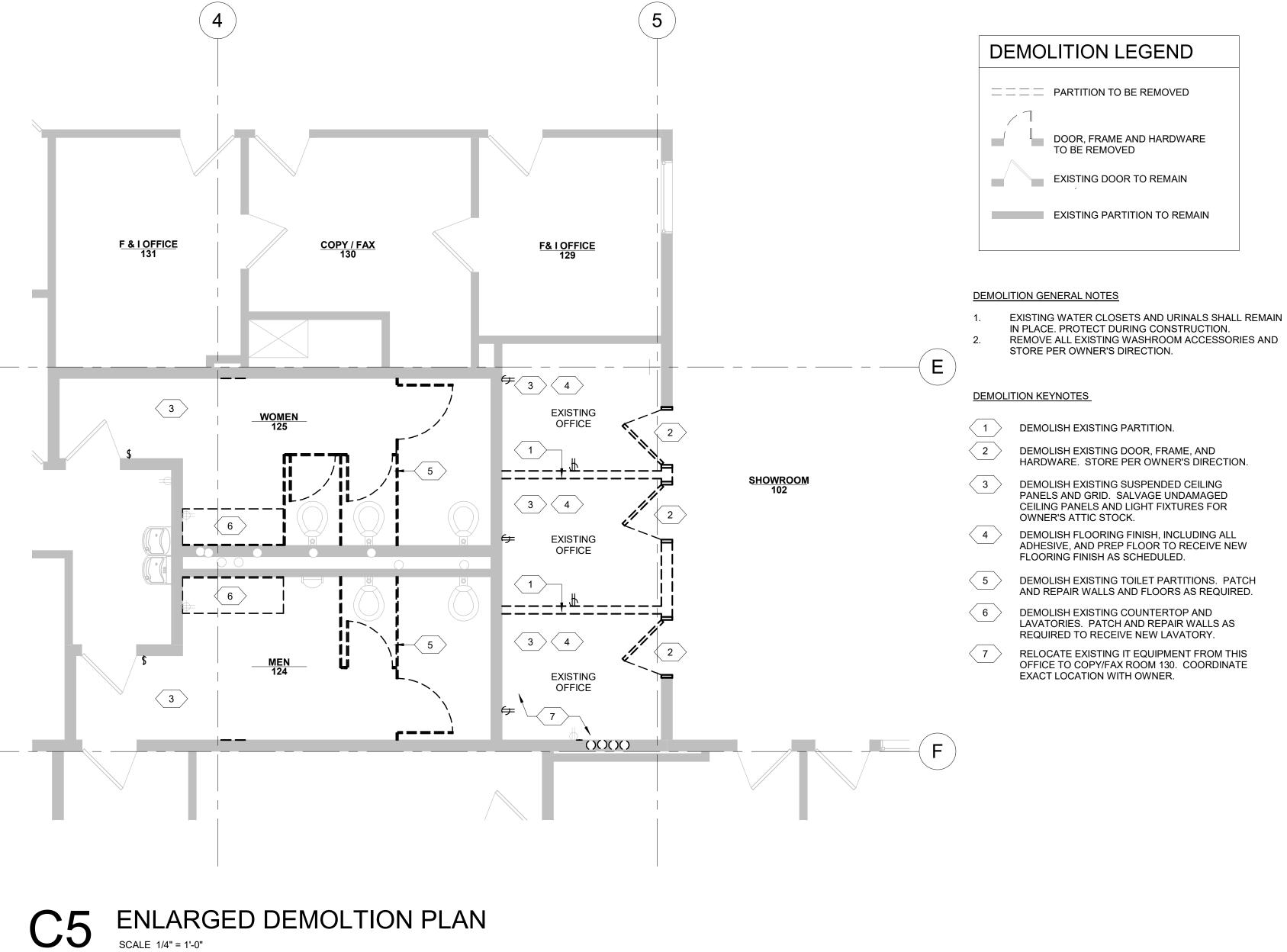
DEMOLITION, FLOOR,

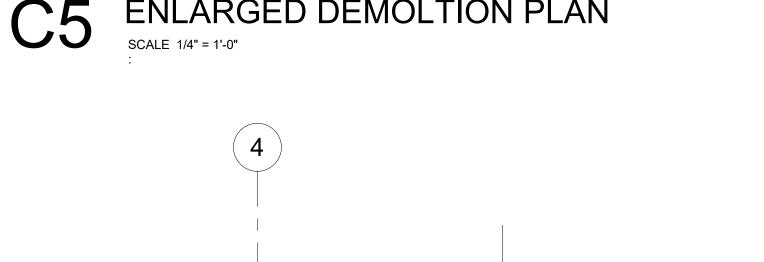
AND CEILING PLAN

A21093

JG/JW

07/12/2022





NEW WORK KEYNOTES F & I OFFICE 131 COPY / FAX 130 F& I OFFICE 129 BLACK GROMMET 9'-6" A3(A-401)A2 B5<(A-401)

GB1)-DCS —

ENLARGED RESTROOM PLAN
SCALE 1/4" = 1'-0"

DEMOLISH EXISTING DOOR, FRAME, AND HARDWARE. STORE PER OWNER'S DIRECTION.

ADHESIVE, AND PREP FLOOR TO RECEIVE NEW

DEMOLISH EXISTING TOILET PARTITIONS. PATCH AND REPAIR WALLS AND FLOORS AS REQUIRED.

RELOCATE EXISTING IT EQUIPMENT FROM THIS

INSTALL FLUSH METAL BASE MB-2.

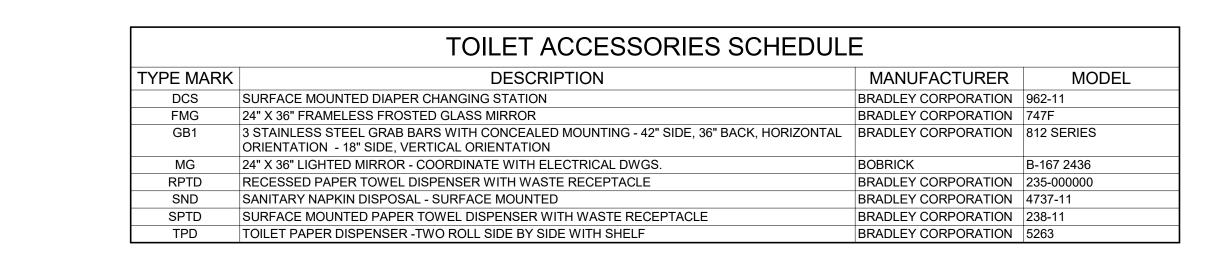
INSTALL RUBBER BASE RB-1.

INSTALL RECESSED METAL BASE MB-1.

PAINT ENDS OF FEATURE WALL P-4.

PAINT WALLS TO MATCH EXISTING P-2. PAINT DOOR FRAMES TO MATCH EXISTING P-3.

INSTALL NEW ADA COMPLIANT RESTROOM IDENTIFICATION SIGN, MATCH EXISTING SIGNAGE







ARCHITECT YAEGER ARCHITECTURE, INC.

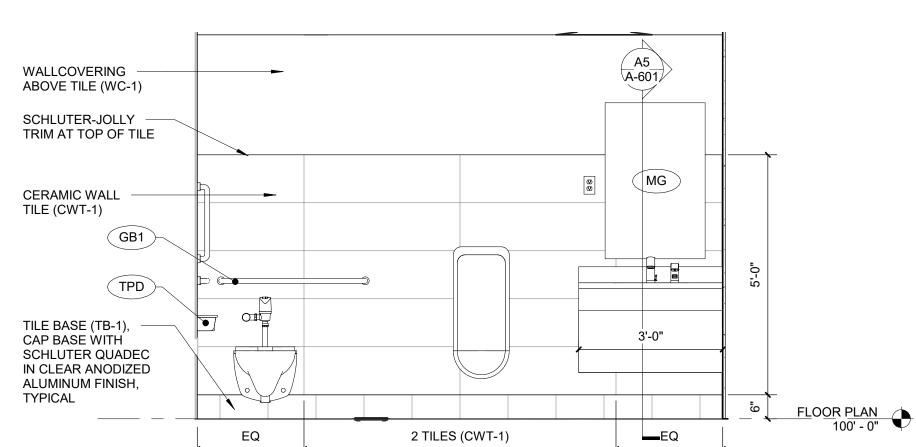
8655 Penrose Lane, Suite 300 Lenexa, KS 66219 Tel: (913) 742-8000 Fax: (913) 742-8570 yaegerarchitecture.com missouri certificate of authority no: 000270

MEP ENGINEER

Smith & Boucher, Inc. 25618 W. 103rd Street Olathe, KS 66061 Tel: (913) 345-2127

NOTE: ALL WALLS WITHIN THIS RESTROOM SHALL RECEIVE SAME BASE, TILE, AND WALLCOVERING FINISH. WALLCOVERING ABOVE TILE (WC-1) SCHLUTER-JOLLY TRIM AT TOP OF TILE CERAMIC WALL TILE (CWT-1) MG TILE BASE (TB-1), CAP 4'-2" BASE WITH SCHLUTER QUADEC IN CLEAR ANODIZED ALUMINUM FINISH, TYPICAL FLOOR PLAN 100' - 0" EQ 2 TILES (CWT-1) EQ

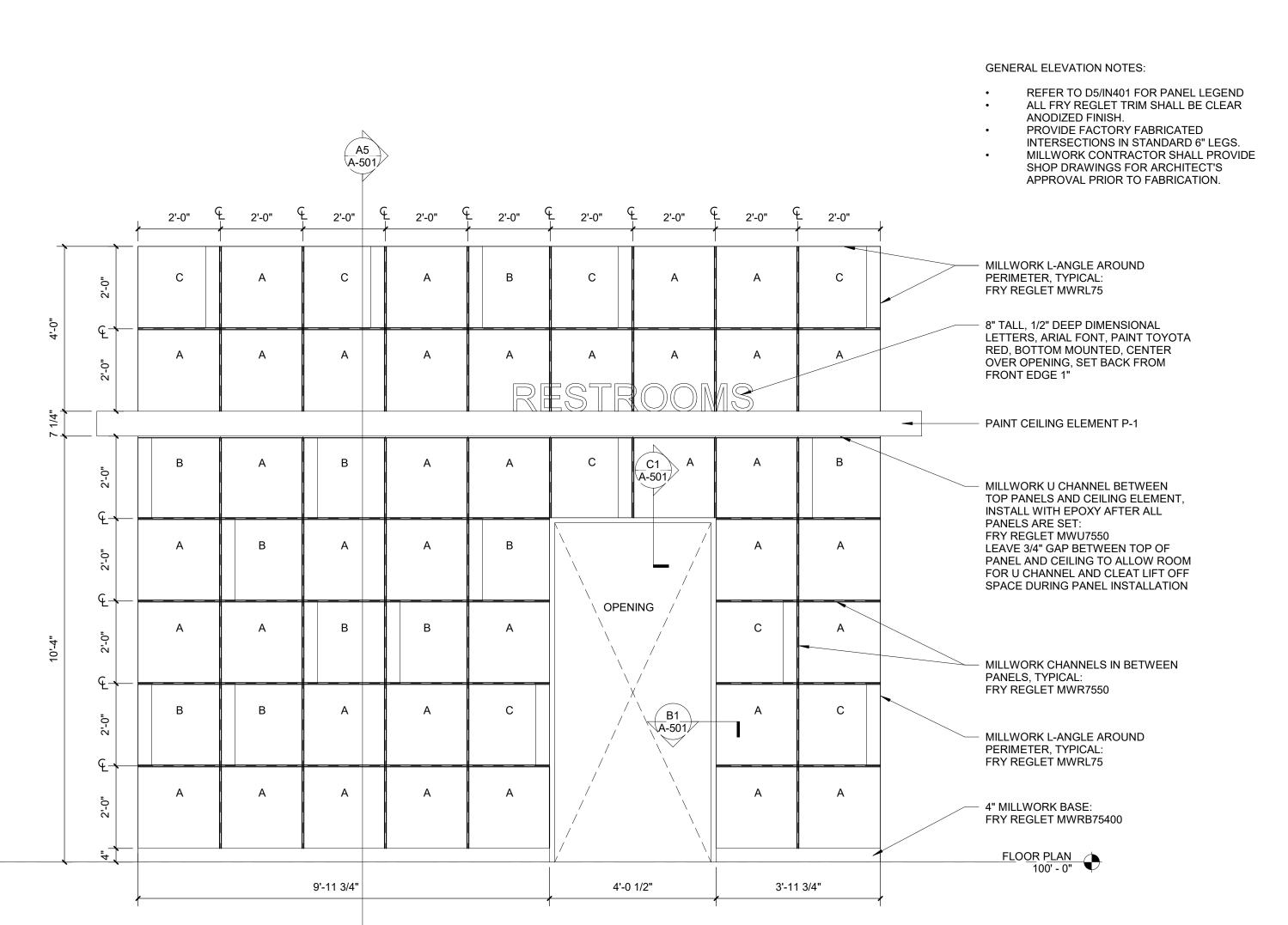
NOTE: ALL WALLS WITHIN THIS RESTROOM SHALL RECEIVE SAME BASE, TILE, AND WALLCOVERING FINISH.



B2 MEN 127 ELEVATION SCALE 1/2" = 1'-0"

				SCHLUTER-JOLLY TRIM AT TOP OF TILE
<u> </u>				CERAMIC WALL TILE (CWT-2)
5'-0" CWT-2			q	TILE BASE (TB-1),
				CAP BASE WITH SCHLUTER QUADEC IN CLEAR ANODIZED ALUMINUM FINISH,
				TYPICAL FLOOR PLAN 100' - 0"
	EQ	8 TILES (CWT-2)	EQ	100 - 0

MULTI-STALL SIDE ELEVATION



B5 SHOWROOM SCREENWALL ELEVATION SCALE 1/2" = 1'-0"

15 TILES (CWT-2)

TYPICAL MULTI-STALL ELEVATION

NOTE: REFER TO D5/IN601 FOR WALL FINISH INFORMATION IN MULTI-STALL RESTROOMS.

WALLCOVERING

CERAMIC WALL

TILE BASE (TB-1),

SCHLUTER QUADEC

ALUMINUM FINISH, -

EQ

CAP BASE WITH

IN CLEAR

ANODIZED

SHEET SIZE: ARCH E1 30" x 42"

TYPICAL

TILE (CWT-2)

ABOVE TILE (WC-2)

SCHLUTER-JOLLY -

TRIM AT TOP OF TILE

GB1

PLASTIC LAMINATE

ACCENT (PL-1)

1/8" METAL TRIM PIECE IN

CLEAR ANODIZED FINISH

- METAL

LAMINATE

PANEL C

VANITY WALL LIGHT (L-1)

EQ EQ 2 TILES EQ (CWT-2)

LAVATORY RE: PLUMBING

TILE BASE (TB-1),

CAP BASE WITH

IN CLEAR

ANODIZED

TYPICAL

FLOOR PLAN 100' - 0"

SCHLUTER QUADEC

ALUMINUM FINISH,

DWGS.

FMG

(ML-1) —

- METAL

LAMINATE

PANEL B

(ML-1) —

LAMINATE

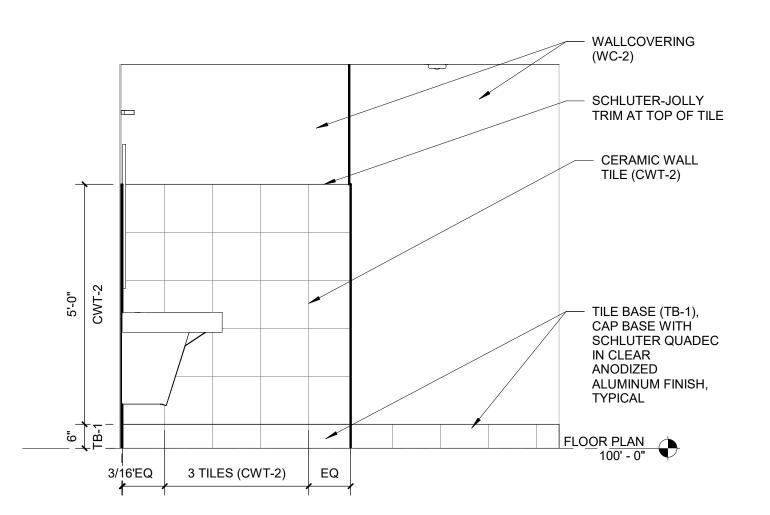
PANEL A

D5 PANEL LEGEND
SCALE 1 1/2" = 1'-0"

LAMINATES ARE ADHERED TO 1/2" MDF SUBSTRATE. PANEL SIZES SHALL COORDINATE WITH DIMENSIONS ON SCREEN WALL ELEVATION B5/IN401

> PAINT ENDS OF FEATURE WALL - PAINT WALL P-2 PROVIDE BLACK GROMMET IN BACK CORNER OF COUNTERTOP FOR ACCESS TO OUTLET INSIDE 12" WIDE SLOT FOR SHREDDING, PROVIDE BLACK PAPER SLOT GROMMET, LOCKABLE CABINET PLASTIC LAMINATE CABINETS PL-1 OUTLET LOCATED INSIDE CABINET RE: ELECT. DWGS. EQ 2'-6"

B3 SHOWROOM CASEWORK ELEVATION SCALE 1/2" = 1'-0"



MULTI-STALL SIDE ELEVATION

DRAWN BY: JG/JW CHECKED BY: CHECKED BY: REVISED DATE DESCRIPTION

A21093

07/12/2022

PROJECT NO:

DATE:

INTERIOR **ELEVATIONS**

CONSTRUCTION
As Noted on Plans Review

	PARTITION SCHEDULE			•
TYPE	DESCRIPTION	WIDTH	FIRE RATING	
1.4A	4 7/8" W, 3 5/8" MTL STUD W/ 5/8" GYPSUM BOARD ON EACH SIDE. FINISH TOP OF WALL WITH 5/8" GYPSUM BOARD.	4 7/8"		
1.7AS	7 1/4" W, 6" MTL STUD W/ 5/8" GYPSUM BOARD ON EACH SIDE TO STRUCT, W/ SOUND BATTS	7 1/4"		
4.1B	4 7/8" W, 3 5/8" MTL STUD W/ 5/8" GB ON ONE SIDE TO 6" INCHES ABOVE CEILING	4 1/4"		•
4.6A	3 1/8" W, 2 1/2" MTL STUD W/ 5/8" GB ON ONE SIDE TO 6" ABOVE CEILING	3 1/8"		

FINISH TOP OF WALL WITH 5/8" GYPSUM

MILLWORK L-ANGLE AROUND PERIMETER:

5/8" GYPSUM BOARD ON BOTH SIDES

5/8" GYPSUM BOARD ON BOTH SIDES

1/2" MDF PANEL WITH PLASTIC LAMINATE FACE.

PANELS SHALL BE MOUNTED WITH MILLWORK CLEAT 25. PANELS SHALL HAVE TWO CLEATS SPANNED ACROSS THE WIDTH OF THE PANEL

OF 6" MTL STUDS 16" O.C.

OF 6" MTL STUDS 16" O.C.

1/2" MDF PANEL WITH PLASTIC LAMINATE FACE. PANELS SHALL BE MOUNTED WITH MILLWORK CLEAT 25. PANELS SHALL HAVE TWO CLEATS SPANNED ACROSS THE WIDTH OF THE PANEL

BOARD, PAINTED P-4

FRY REGLET MWRL75

SBI Roof Level 114' - 0"



MEP ENGINEER

ARCHITECT YAEGER ARCHITECTURE, INC. 8655 Penrose Lane, Suite 300 Lenexa, KS 66219 Tel: (913) 742-8000 Fax: (913) 742-8570 yaegerarchitecture.com missouri certificate of authority no: 000270

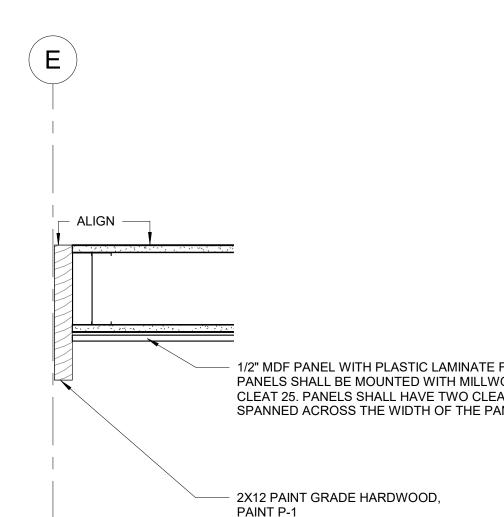
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- 5/8" GYPSUM BOARD ON BOTH SIDES OF 6" MTL STUDS 16" O.C. - 1/2" MDF PANEL WITH PLASTIC LAMINATE FACE. PANELS SHALL BE MOUNTED WITH MILLWORK CLEAT 25. PANELS SHALL HAVE TWO CLEATS SPANNED ACROSS THE WIDTH OF THE PANEL 2X12 PAINT GRADE HARDWOOD,

BOXED MTL STUDS @ HEADER

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

SCREEN WALL OPENING HEAD



1/2" MDF PANEL WITH PLASTIC LAMINATE FACE. PANELS SHALL BE MOUNTED WITH MILLWORK CLEAT 25. PANELS SHALL HAVE TWO CLEATS SPANNED ACROSS THE WIDTH OF THE PANEL

SCREEN WALL OPENING JAMB SCALE 1 1/2" = 1'-0"

> PROJECT NO: A21093 DATE: 07/12/2022 DRAWN BY: JG/JW CHECKED BY: CHECKED BY: REVISED DATE DESCRIPTION

> > SECTIONS, PARTITION AND DOOR SCHEDULES



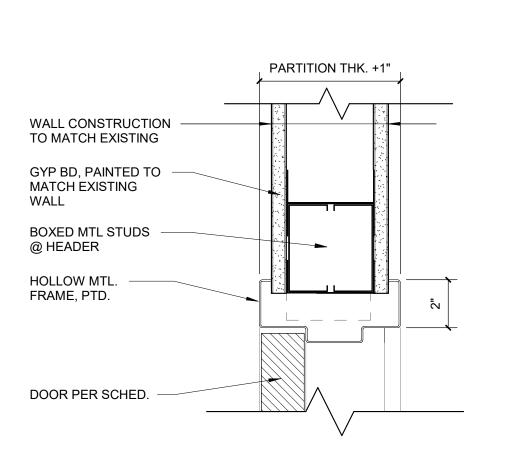
A-501 © YAEGER ARCHITECTURE, INC.

DOOR AND FRAME SCHEDULE DOOR FRAME DOOR NUMBER FRAME TYPE | HEAD DETAIL | JAMB DETAIL AWS SET #1 FLUSH PANEL WOOD DOOR WITH 2" INTERIOR HOLLOW C5/AE102 C4/AE102 HOLLOW METAL FRAME FLUSH PANEL WOOD DOOR WITH 2" INTERIOR HOLLOW C5/AE102 C4/AE102 HOLLOW METAL FRAME

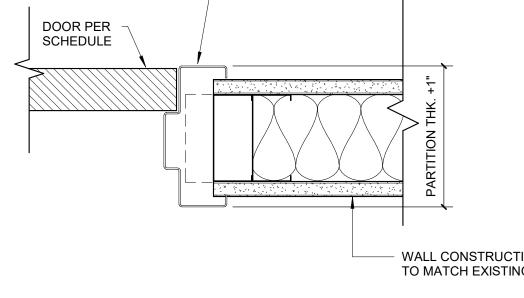
1. DOOR SPECIES AND STAIN FOR NEW WOOD DOORS SHALL MATCH EXISTING. 2. PAINT HOLLOW METAL DOOR FRAMES TO MATCH EXISTING P-2.

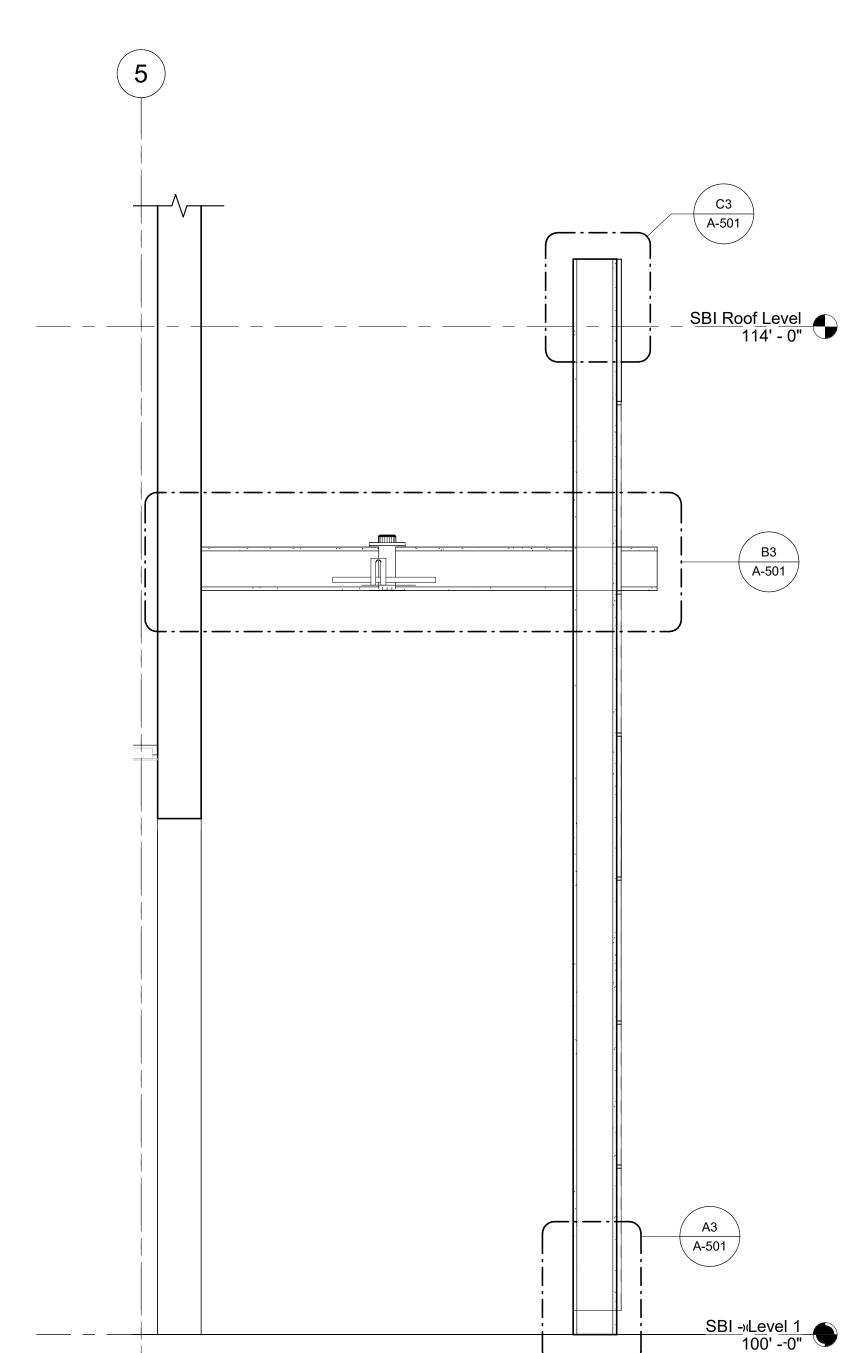
3. HARDWARE SET #1 SHALL INCLUDE 3 HINGES 1 LEVER WITH PRIVACY FUNCTION 1 SURFACE CLOSER

1 SET SILENCERS 1 WALL STOP SOUND GASKETING FINISHES TO MATCH EXISTING HARDWARE



 HOLLOW MTL. CASED OPENING, PTD. DOOR PER SCHEDULE WALL CONSTRUCTION TO MATCH EXISTING



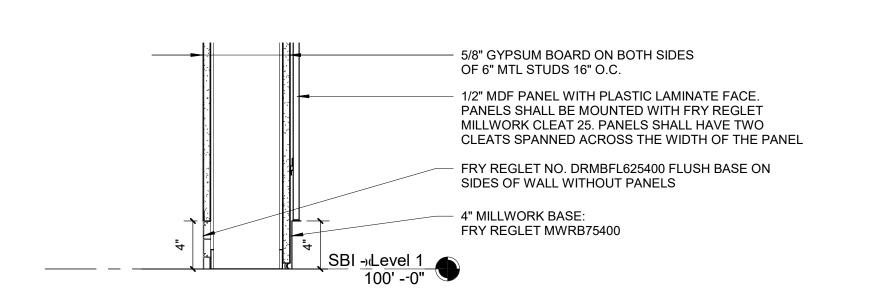


BACK TO EXISTING WALL 5/8" GYPSUM BOARD, PAINT P-1 - 6" METAL STUDS 16" O.C. MILLWORK U CHANNEL BETWEEN TOP PANELS AND CEILING ELEMENT, INSTALL WITH EPOXY AFTER ALL PANELS ARE SET: FRY REGLET PAINT RESTROOM WALL MWU7550. LEAVE 3/4" GAP BETWEEN TOP OF P-2 TO MATCH EXISTING PANEL AND CEILING TO ALLOW ROOM FOR U CHANNEL AND CLEAT LIFT OFF SPACE DURING PANEL INSTALLATION PAINT THIS SIDE OF FEATURE WALL AND FEATURE WALL ENDS P-4 1/2" MDF PANEL WITH PLASTIC LAMINATE FACE. PANELS SHALL BE MOUNTED WITH MILLWORK CLEAT 25. PANELS SHALL HAVE TWO CLEATS SPANNED ACROSS THE WIDTH OF THE PANEL `` € OF CLEAT MILLWORK CHANNEL IN BETWEEN PANELS: FRY REGLET MWR7550 SCREEN WALL CEILING DETAIL

PAINT SURFACES OF

CEILING ELEMENT P-1

BRACE NEW CEILING



SCREEN WALL BASE

A5 SCREEN WALL SECTION SCALE 3/4" = 1'-0"

SHEET SIZE: ARCH E1 30" x 42"

TRUE NORTH

ARCHITECT

Lenexa, KS 66219 Tel: (913) 742-8000 Fax: (913) 742-8570 yaegerarchitecture.com

8655 Penrose Lane, Suite 300

YAEGER ARCHITECTURE, INC.

missouri certificate of authority no: 000270

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INTERIOR FINISH SCHEDULE									
			WALL FINISH			FLOOR			
ROOM NO	ROOM NAME	NORTH	EAST	SOUTH	WEST	BASE FINISH	FLOOR MATERIAL	CEILING MATL	REMARKS
102A	PRINT STATION		P-4	P-2	P-2	REFER TO PLAN	EXISTING CONCRETE	GYPSUM, PAINT P-1	PLAM MILLWORK (PL-1), QUARTZ COUNTERTOP (QZ-1)
124	MEN	CWT-2, WC-2	CWT-2, WC-2	WC-2	WC-2	TB-1	PFT-1	ACT-1	SS-1 COUNTERTOPS, TP-1 TOILET PARTITIONS
125	WOMEN	WC-2	CWT-2, WC-2	CWT-2, WC-2	WC-2	TB-1	PFT-1	ACT-1	SS-1 COUNTERTOPS, TP-1 TOILET PARTITIONS
127	MEN	CWT-1, WC-1	CWT-1, WC-1	CWT-1, WC-1	CWT-1, WC-1	TB-1	PFT-1	ACT-1	QZ-1 COUNTERTOP, PL-1 APRON, TILE TO APPROX. 5'-6" AFF
128	WOMEN	CWT-1, WC-1	CWT-1, WC-1	CWT-1, WC-1	CWT-1, WC-1	TB-1	PFT-1	ACT-1	QZ-1 COUNTERTOP, PL-1 APRON, TILE TO APPROX. 5'-6" AFF

	INTERIOR FINISH LEGEND							
CODE	MANUFACTURER	ITEM NUMBER	COLOR	PRODUCT DESCRIPTION	COMMENTS			
1 FLOORING								
PFT-1	VIRGINIA TILE	ANATOLIA STATION	SHADOW	32" X 32" PORCELAIN TILE	RESTROOMS, USE GROUT GR-1			
2 BASE								
MB-1	FRY REGLET	MWRB75400	CLEAR ANODIZED ALUMINUM	RECESSED BASE ON FEATURE WALL	SHOWROOM SIDE FACE ONLY, UNDER MILLWORK PANEL			
MB-2	FRY REGLET	DRMBFL625400	CLEAR ANODIZED ALUMINUM	FLUSH METAL BASE	METAL BASE FOR OTHER 3 FACES OF FEATURE WALL			
RB-1	MATCH EXISTING	MATCH EXISTING	MATCH EXISTING	RUBBER BASE - MATCH EXISTING SHOWROOM WALL BASE				
TB-1	VIRGINIA TILE	ANATOLIA STATION	SHADOW	12" X 6" BASE, CUT FROM 12" X 24" TILE	CAP WITH SCHLUTER QUADEC TRIM IN CLEAR ANODIZED ALUMINUM FINISH, USE GROUT GR-1			
3 WALL TILE								
CWT-1	EMSER TILE	SPARKLE	WHITE LINEAR	12"X39" TEXTURED CERAMIC WALL TILE	SINGLE RESTROOMS, USE GROUT GR-3			
CWT-2	MOSA	MURALS CHANGE	34510	12"X12" CERAMIC WALL TILE	MULTI-STALL RESTROOMS, USE GROUT GR-2			
	1	•						
4 GROUT GR-1	MAPEI	KERAPOXY CQ	ANTHRACITE	EPOXY GROUT	GROUT FOR FLOOR TILE			
GR-2	MAPEI	KERAPOXY CQ	AVALANCHE	EPOXY GROUT	GROUT FOR WALL TILE			
GR-3	MAPEI	KERAPOXY CQ	WARM GRAY	EPOXY GROUT	GROUT FOR WALL TILE			
5 QUARTZ QZ-1	CORIAN QUARTZ	3CM QUARTZ SLAB	CONCRETE CARRARA	3CM SLAB	EACE EDOEG TYPICAL			
QZ-I	JOURNAL GOARTE	JOUN QUAIT IZ SLAD	CONCRETE CARRARA	JOIN SEAD	EASE EDGES, TYPICAL			
	·	JOIN QUARTZ SLAB	CONCRETE CARRARA	JOIN GLAB	EASE EDGES, TYPICAL			
6 SOLID SURF	FACE							
	·	SOLID SURFACE SHEET	EVEREST EVEREST	1/2" THICK SOLID SURFACE COUNTERTOP	MULTI-STALL RESTROOM COUNTERTOPS			
6 SOLID SURF	FACE CORIAN SOLID							
6 SOLID SURF	FACE CORIAN SOLID							
6 SOLID SURF SS-1 7 LAMINATE	FACE CORIAN SOLID SURFACE	SOLID SURFACE SHEET	EVEREST	1/2" THICK SOLID SURFACE COUNTERTOP	MULTI-STALL RESTROOM COUNTERTOPS			
6 SOLID SURF SS-1 7 LAMINATE ML-1 PL-1	FACE CORIAN SOLID SURFACE FORMICA	SOLID SURFACE SHEET DECOMETAL M5391	EVEREST GRAPHITE VEIL	1/2" THICK SOLID SURFACE COUNTERTOP METAL LAMINATE	MULTI-STALL RESTROOM COUNTERTOPS TYPICAL METAL LAMINATE ON SCREEN WALL			
6 SOLID SURF SS-1 7 LAMINATE ML-1	FACE CORIAN SOLID SURFACE FORMICA	SOLID SURFACE SHEET DECOMETAL M5391	EVEREST GRAPHITE VEIL	1/2" THICK SOLID SURFACE COUNTERTOP METAL LAMINATE	MULTI-STALL RESTROOM COUNTERTOPS TYPICAL METAL LAMINATE ON SCREEN WALL TYPICAL PLASTIC LAMINATE MATCH TOYOTA RED, PMS186C, RGB 235 10 30, HEX			
6 SOLID SURF SS-1 7 LAMINATE ML-1 PL-1 8 PAINT P-1	FACE CORIAN SOLID SURFACE FORMICA WILSONART MDC	DECOMETAL M5391 7965K-12 LIQUAPEARL	GRAPHITE VEIL WALNUT HEIGHTS CUSTOM MATCH	1/2" THICK SOLID SURFACE COUNTERTOP METAL LAMINATE PLASTIC LAMINATE METALLIC PAINT FINISH	MULTI-STALL RESTROOM COUNTERTOPS TYPICAL METAL LAMINATE ON SCREEN WALL TYPICAL PLASTIC LAMINATE MATCH TOYOTA RED, PMS186C, RGB 235 10 30, HEX EB0A1E			
6 SOLID SURF SS-1 7 LAMINATE ML-1 PL-1 8 PAINT P-1	FACE CORIAN SOLID SURFACE FORMICA WILSONART MDC SHERWIN WILLIAMS	DECOMETAL M5391 7965K-12 LIQUAPEARL EG-SHEL INTERIOR PAINT	GRAPHITE VEIL WALNUT HEIGHTS CUSTOM MATCH ORIGAMI WHITE SW7636	1/2" THICK SOLID SURFACE COUNTERTOP METAL LAMINATE PLASTIC LAMINATE METALLIC PAINT FINISH EG-SHEL INTERIOR PAINT	MULTI-STALL RESTROOM COUNTERTOPS TYPICAL METAL LAMINATE ON SCREEN WALL TYPICAL PLASTIC LAMINATE MATCH TOYOTA RED, PMS186C, RGB 235 10 30, HEX EB0A1E CONFIRM MATCHES EXISTING			
6 SOLID SURF SS-1 7 LAMINATE ML-1 PL-1 8 PAINT P-1 P-2 P-3	FACE CORIAN SOLID SURFACE FORMICA WILSONART MDC	DECOMETAL M5391 7965K-12 LIQUAPEARL	GRAPHITE VEIL WALNUT HEIGHTS CUSTOM MATCH	1/2" THICK SOLID SURFACE COUNTERTOP METAL LAMINATE PLASTIC LAMINATE METALLIC PAINT FINISH	MULTI-STALL RESTROOM COUNTERTOPS TYPICAL METAL LAMINATE ON SCREEN WALL TYPICAL PLASTIC LAMINATE MATCH TOYOTA RED, PMS186C, RGB 235 10 30, HEX EB0A1E			
6 SOLID SURF SS-1 7 LAMINATE ML-1 PL-1 8 PAINT P-1 P-2 P-3 P-4	FACE CORIAN SOLID SURFACE FORMICA WILSONART MDC SHERWIN WILLIAMS SHERWIN WILLIAMS SHERWIN WILLIAMS	DECOMETAL M5391 7965K-12 LIQUAPEARL EG-SHEL INTERIOR PAINT GLOSS INTERIOR PAINT	GRAPHITE VEIL WALNUT HEIGHTS CUSTOM MATCH ORIGAMI WHITE SW7636 ORIGAMI WHITE SW7636	METAL LAMINATE PLASTIC LAMINATE METALLIC PAINT FINISH EG-SHEL INTERIOR PAINT GLOSS TRIM PAINT	MULTI-STALL RESTROOM COUNTERTOPS TYPICAL METAL LAMINATE ON SCREEN WALL TYPICAL PLASTIC LAMINATE MATCH TOYOTA RED, PMS186C, RGB 235 10 30, HEX EB0A1E CONFIRM MATCHES EXISTING DOOR FRAMES, CONFIRM MATCHES EXISTING			
6 SOLID SURF SS-1 7 LAMINATE ML-1 PL-1 8 PAINT P-1 P-2 P-3 P-4 9 WALL COVE	FACE CORIAN SOLID SURFACE FORMICA WILSONART MDC SHERWIN WILLIAMS SHERWIN WILLIAMS SHERWIN WILLIAMS SHERWIN WILLIAMS	DECOMETAL M5391 7965K-12 LIQUAPEARL EG-SHEL INTERIOR PAINT GLOSS INTERIOR PAINT EG-SHEL INTERIOR PAINT	EVEREST GRAPHITE VEIL WALNUT HEIGHTS CUSTOM MATCH ORIGAMI WHITE SW7636 ORIGAMI WHITE SW7636 IRON ORE SW7069	METAL LAMINATE PLASTIC LAMINATE METALLIC PAINT FINISH EG-SHEL INTERIOR PAINT GLOSS TRIM PAINT EG-SHEL INTERIOR PAINT	MULTI-STALL RESTROOM COUNTERTOPS TYPICAL METAL LAMINATE ON SCREEN WALL TYPICAL PLASTIC LAMINATE MATCH TOYOTA RED, PMS186C, RGB 235 10 30, HEX EB0A1E CONFIRM MATCHES EXISTING DOOR FRAMES, CONFIRM MATCHES EXISTING 3 SIDES OF FEATURE WALL			
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6 SOLID SURF SS-1 7 LAMINATE ML-1 PL-1 8 PAINT P-1 P-2 P-3 P-4 9 WALL COVE WC-1 WC-2	FACE CORIAN SOLID SURFACE FORMICA WILSONART MDC SHERWIN WILLIAMS SHERWIN WILLIAMS SHERWIN WILLIAMS SHERWIN WILLIAMS SHERWIN WILLIAMS SHERWIN WILLIAMS KOROSEAL	DECOMETAL M5391 7965K-12 LIQUAPEARL EG-SHEL INTERIOR PAINT GLOSS INTERIOR PAINT EG-SHEL INTERIOR PAINT JACOBI HEXAGON GRID	GRAPHITE VEIL WALNUT HEIGHTS CUSTOM MATCH ORIGAMI WHITE SW7636 ORIGAMI WHITE SW7636 IRON ORE SW7069 VOLT EJA9207 ARTEMIS 7422-91	METAL LAMINATE PLASTIC LAMINATE METALLIC PAINT FINISH EG-SHEL INTERIOR PAINT GLOSS TRIM PAINT EG-SHEL INTERIOR PAINT TYPE II VINYL WALLCOVERING TYPE II VINYL WALLCOVERING	MULTI-STALL RESTROOM COUNTERTOPS TYPICAL METAL LAMINATE ON SCREEN WALL TYPICAL PLASTIC LAMINATE MATCH TOYOTA RED, PMS186C, RGB 235 10 30, HEX EB0A1E CONFIRM MATCHES EXISTING DOOR FRAMES, CONFIRM MATCHES EXISTING 3 SIDES OF FEATURE WALL SINGLE RESTROOMS ABOVE TILE MULTI-STALL RESTROOMS ABOVE TILE			
6 SOLID SURF SS-1 7 LAMINATE ML-1 PL-1 8 PAINT P-1 P-2 P-3 P-4 9 WALL COVE WC-1 WC-2 WC-3	FACE CORIAN SOLID SURFACE FORMICA WILSONART MDC SHERWIN WILLIAMS SHERWIN WILLIAMS SHERWIN WILLIAMS SHERWIN WILLIAMS SHERWIN WILLIAMS SHERWIN WILLIAMS KOROSEAL	DECOMETAL M5391 7965K-12 LIQUAPEARL EG-SHEL INTERIOR PAINT GLOSS INTERIOR PAINT EG-SHEL INTERIOR PAINT JACOBI HEXAGON GRID	GRAPHITE VEIL WALNUT HEIGHTS CUSTOM MATCH ORIGAMI WHITE SW7636 ORIGAMI WHITE SW7636 IRON ORE SW7069 VOLT EJA9207 ARTEMIS 7422-91	METAL LAMINATE PLASTIC LAMINATE METALLIC PAINT FINISH EG-SHEL INTERIOR PAINT GLOSS TRIM PAINT EG-SHEL INTERIOR PAINT TYPE II VINYL WALLCOVERING TYPE II VINYL WALLCOVERING	MULTI-STALL RESTROOM COUNTERTOPS TYPICAL METAL LAMINATE ON SCREEN WALL TYPICAL PLASTIC LAMINATE MATCH TOYOTA RED, PMS186C, RGB 235 10 30, HEX EB0A1E CONFIRM MATCHES EXISTING DOOR FRAMES, CONFIRM MATCHES EXISTING 3 SIDES OF FEATURE WALL SINGLE RESTROOMS ABOVE TILE MULTI-STALL RESTROOMS ABOVE TILE BEHIND DRINKING FOUNTAINS RESTROOMS			
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FINISH NOTES:

F & I OFFICE 131

JOINT AT -

5/8" GYPSUM BOARD, PAINT P-1

- 6" METAL STUDS 16" O.C.

WALL TYPE PER PLAN

3CM QUARTZ

COUNTERTOP WITH 4" BACKSPLASH QZ-1

PAPER RECEPTACLE

PLASTIC LAMINATE

ADJUSTABLE SHELF ON

WOOD BLOCKING AS REQUIRED

FLOOR PLAN 100' - 0"

PLAM TOE KICK, SCRIBE TO FLOOR, PL-1

CABINETS (PL-1)

1" INCREMENT RECESSED METAL BRACKET TRACK

1. INSTALL ALL FINISHES ACCORDING TO MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS. 2. BUILT-IN MILLWORK SHALL BE AWI CUSTOM GRADE.

COPY / FAX 130

3. CABINET HINGES SHALL BE EURO-STYLE CONCEALED STYLE. CABINET PULLS SHALL BE APPROXIMATELY 5", BAR PULL STYLE, IN STAINLESS STEEL FINISH.

F& I OFFICE 129

6

FINISH KEYNOTES

- BEGIN TILE PATTERN AS INDICATED. AVOID GROUT JOINTS UNDER URINAL. INSTALL WALL TILE AS INDICATED IN THE FINISH SCHEDULE ON WALLS WITH BOLD DASHED LINE:
- INSTALL WALLCOVERING PER 3 SCHEDULE FROM TOP OF BASE TO CEILING
- ALL WALLS WITHIN THIS RESTROOM 4 SHALL RECEIVE SAME FINISHES AS SHOWN ON LAVATORY WALL
- SHOWN ON LAVATORY WALL ELEVATION
- PAINT OPENING FRAME P-1
- 6 PAINT WALL P-2 TO MATCH EXISTING.
- PAINT BACK AND SIDES OF FEATURE WALL P-4 PAINT MINIMUM 12" AROUND ENTIRE PERIMETER OF FEATURE WALL FACE TO BE COVERED WITH PLAM PANELS
- INSTALL ADA COMPLIANT SCHLUTER RENO-U FLOOR TRANSITION IN EB FINISH
- INSTALL NEW VINYL WALLCOVERING WC-3 FROM INSIDE CORNER TO INSIDE CORNER, FLOOR TO CEILING. TEMPORARILY REMOVE DRINKING FOUNTAIN FOR WALLCOVERING

INSTALLATION AND REINSTALL.

PROJECT NO: DATE: DRAWN BY: CHECKED BY:

07/12/2022 JG/JW CHECKED BY: REVISED DATE DESCRIPTION

A21093

RESTROOM RENCE COLBERN ROAD SUMMIT, MO 64086

INTERIOR DETAILS, FINISH SCHEDULE AND LEGEND

© YAEGER ARCHITECTURE, INC.

A-601

TRUE NORTH



CABINET SECTION

2'-0"

A2 ENLARGED TILE LAYOUT PLAN SCALE 1/4" = 1'-0"

A5 VANITY SECTION
SCALE 1 1/2" = 1'-0"

- FAUCET AND SINK RE: PLUMBING DWGS.

AND FAUCET

ONTO EXPOSED SIDE

 QUARTZ COUNTERTOP AND BACKSPLASH (QZ-1), A&M ADA VANITY BRACKET OR EQUIVALENT,

CONTRACTOR TO CONFIRM BRACKET WILL ACCOMMODATE SINK

- CLAD VANITY BRACKET WITH PLAM APRON, COVER FRONT AND CONTINUE

REMOVABLE PLAM PANEL, PL-1, ALSO

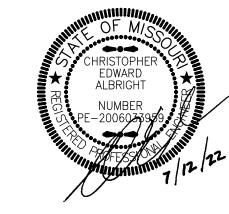
CLAD EXPOSED SIDE OF BRACKET

8" MIN

二二

SHEET SIZE: ARCH E1 30" x 42"

YAEGER



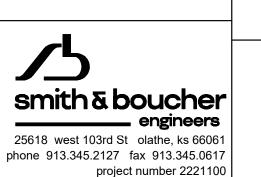
8655 Penrose Lane, Suite 300 missouri certificate of authority no: 000270

MEP ENGINEER

Smith & Boucher, Inc.

A21093 07/12/2022 CEA

MECH. AND ELEC. SYMBOLS AND **ABBREVIATIONS**



ME101

. SPECIFICATIONS AND DRAWINGS ARE COMPLEMENTARY AND WHAT IS CALLED FOR IN ONE SHALL BE AS BINDING AS IF CALLED FOR BY BOTH.

. ALL WORK PERFORMED UNDER THIS SECTION SHALL BE DONE IN A NEAT AND

WORKMANLIKE MANNER BY EXPERIENCED MECHANICS OF THE PROPER TRADE. 1.2 COORDINATION, MEASUREMENTS AND LAYOUTS

PART 1 - GENERAL REQUIREMENTS - HVAC, PLUMBING, AND FIRE PROTECTION

A. THE CONTRACTOR SHALL INSPECT THE SITE WHERE THIS WORK IS TO BE PERFORMED AND FULLY FAMILIARIZE HIMSELF WITH ALL CONDITIONS RELATED TO THIS PROJECT.

3. THE CONTRACTOR SHALL EMPLOY A COMPETENT FOREMAN ON THE JOB TO SEE THAT WORK IS DONE IN ACCORDANCE WITH THE BEST PRACTICES AND IN A SATISFACTORY AND WORKMANLIKE MANNER. THE FOREMAN SHALL KEEP INFORMED AS TO THE WORK OF OTHER TRADES ENGAGED IN THE CONSTRUCTION OF THE PROJECT AND SHALL EXECUTE HIS WORK IN SUCH A MANNER AS NOT TO INTERFERE WITH OR DELAY THE WORK OF

. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL SYSTEMS AND COMPONENTS COVERED UNDER THIS SECTION. WHERE LOCAL CONDITIONS NECESSITATE A REARRANGEMENT, THE CONTRACTOR SHALL PREPARE, AND SUBMIT FOR APPROVAL, DRAWINGS OF THE PROPOSED REARRANGEMENT. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, AND ACCESSORIES THAT MAY BE REQUIRED. THE CONTRACTOR SHALL CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS AFFECTING ALL OF HIS WORK AND SHALL ARRANGE SUCH WORK ACCORDINGLY, FURNISHING SUCH OFFSETS, FITTINGS AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. DRAWINGS SHALL NOT BE SCALED TO DETERMINE DIMENSION.

1.3 PERMITS AND FEES

A. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND LICENSES AND SHALL MAKE ALL DEPOSITS AND PAY ALL FEES REQUIRED FOR THE PERFORMANCE OF WORK UNDER THIS SECTION, OTHER THAN THOSE DEPOSITS OR FEES WHICH ARE FULLY REFUNDABLE TO THE OWNER.

1.4 SUBMITTALS, MATERIALS AND EQUIPMENT

A. ALL ITEMS OF MATERIALS AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE SPECIFIED HEREIN, FREE FROM DEFECTS AND OF THE BEST QUALITY NORMALLY USED FOR THE PURPOSE IN GOOD COMMERCIAL PRACTICE.

3. AS SOON AS POSSIBLE AFTER THE AWARD OF THE CONTRACT, THE CONTRACTOR SHALI SUBMIT FOR REVIEW SIX COPIES OF SHOP DRAWINGS FOR ALL EQUIPMENT TO BE FURNISHED FOR THIS PROJECT. SUBMITTALS SHALL INCLUDE MANUFACTURER'S NAME, MODEL NUMBER, DESCRIPTIVE ENGINEERING DATA AND ALL NECESSARY INFORMATION AS TO FINISH, MATERIAL GAUGES AND ACCESSORIES. AFTER SUCH SHOP DRAWINGS ARE PROCESSED, THREE COPIES WILL BE RETURNED TO THE CONTRACTOR. THE CONTRACTOR SHALL, UPON RECEIPT OF REVIEWED SHOP DRAWINGS PROCEED WITH THE PROCUREMENT AND INSTALLATION OF SUCH EQUIPMENT.

1.5 CODES, LAWS, AND STANDARDS

A. ALL WORK SHALL BE INSTALLED IN COMPLIANCE WITH ALL GOVERNING CODES, APPLICABLE LOCAL LAWS, REGULATIONS, ORDINANCES OR STATUTES OF REGULATORY BODIES HAVING JURISDICTION. THE WORK SHALL BE EXECUTED IN ACCORDANCE WITH SAID LAWS, REGULATIONS, ORDINANCES, STATUES OR CODES, WITHOUT INCREASED COST TO THE OWNER. ANY POINT IN QUESTION SHALL BE REFERRED TO THE ENGINEER FOR APPROVAL. WORK INDICATED ON THE DOCUMENTS THAT IS IN EXCESS OF CODE REQUIREMENTS SHALL NOT BE REDUCED IN QUALITY AND/OR QUANTITY.

B. COMPLY WITH RULES AND REGULATIONS OF PUBLIC UTILITIES AND MUNICIPAL DEPARTMETNS AFFECTED BY CONNECTIONS OF SERVICES.

1.6 RECORD DOCUMENTS

، THIS CONTRACTOR SHALL PREPARE A COMPLETE "AS-BUILT" SET OF DRAWINGS INCORPORATING ALL CHANGES MADE DURING CONSTRUCTION. LOCATION OF UNDERGROUND PIPING SHALL BE LOCATED BY DIMENSION FROM COLUMN LINES.

. THIS CONTRACTOR SHALL PREPARE AND SUBMIT TO THE OWNER'S REPRESENTATIVE FIVE BOUND SETS OF OPERATING AND MAINTENANCE MANUALS INCLUDING FINAL COPIES OF EQUIPMENT SHOP DRAWINGS, MANUFACTURER'S LITERATURE FOR ALL EQUIPMENT INSTALLED ON THE PROJECT SHOWING ALL DETAILS OF EQUIPMENT, REPLACEMENT PART DATA AND MAINTENANCE AND OPERATING INSTRUCTIONS. MANUALS SHALL INCLUDE COPIES OF ALL EQUIPMENT WARRANTIES.

1.7 GUARANTEES AND WARRANTIES

A. THE CONTRACTOR SHALL GUARANTEE COMPLETE SYSTEM OPERATION AND THAT THE MATERIAL AND EQUIPMENT FURNISHED AND INSTALLED WILL BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS AND WILL GIVE SATISFACTORY SERVICE UNDER THE SPECIFIED OPERATING CONDITIONS. THE CONTRACTOR AGREES TO REPLACE, WITHOUT EXPENSE TO THE OWNER, ANY PART OF THE APPARATUS WHICH PROVES OR BECOMES DEFECTIVE WITHIN ONE YEAR AFTER THE SYSTEM IS ACCEPTED. NO EQUIPMENT WARRANTY OR GUARANTEE SHALL START UNTIL THE TIME OF BUILDING ACCEPTANCE.

3. ALL WARRANTIES ISSUED BY EQUIPMENT MANUFACTURERS SHALL BE FILLED OUT IN THE OWNER'S NAME AND GIVEN TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF WORK PERFORMED UNDER THIS SECTION.

1.8 FINAL INSPECTION

A. AFTER COMPLETION OF THE ENTIRE PROJECT THE CONTRACTOR SHALL REQUEST FINAL INSPECTION OF THIS PROJECT IN WRITTEN FORM ADDRESSED TO THE ARCHITECT ALONG WITH A STATEMENT TO THE EFFECT THAT ALL INSTALLATIONS HAVE BEEN COMPLETED, CHECKED, ADJUSTED AND BALANCED IN ACCORDANCE WITH REQUIREMENTS OF THIS PROJECT. UPON RECEIPT OF WRITTEN NOTIFICATION OF COMPLETION AND REQUEST FOR FINAL INSPECTION THE ENGINEER WILL PERFORM A FINAL INSPECTION OF THIS WORK AND, IF ALL INSTALLATIONS ARE AS REPRESENTED BY THE CONTRACTOR, THE ENGINEER WILL SUBMIT WRITTEN RECOMMENDATION OF ACCEPTANCE.

^B 1.9 CLEANING

A. DIRT AND REFUSE RESULTING FROM THE PERFORMANCE OF THE WORK SHALL BE REMOVED TO KEEP THE PREMISES REASONABLE CLEAN AT ALL TIMES.

. AFTER COMPLETION OF THE WORK DESCRIBED IN THIS SPECIFICATION AND SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL EXPOSED SURFACES AND EQUIPMENT, REMOVE ALL DIRT, DEBRIS, CRATING, CARTONS, ETC., AND LEAVE ALL INSTALLATIONS FINISHED AND READY FOR OPERATION.

1.10 OPENINGS AND SLEEVES

A. ALL PIPING THROUGH EXTERIOR OR FOUNDATION WALLS SHALL PASS THROUGH SCHEDULE 40 GALVANIZED STEEL SLEEVES WHICH SHALL BE LARGE ENOUGH TO ALLOW FOR PIPE SEAL MATERIAL. SLEEVES IN NEW CONSTRUCTION SHALL HAVE A MINIMUM 2 INCH WATERSTOP IN THE CENTER OF THE SLEEVE. NO SLEEVES ARE PERMITTED THROUGH CONCRETE STRUCTURAL MEMBERS.

1. SPACE BETWEEN PIPE AND SLEEVE IN EXTERIOR UNDERGROOUND WALLS SHALL BE SEALED WITH LINK-SEAL, FLEXICRAFT OR METRAFLEX LINK STYLE PIPE SEALS. 2. IN ABOVE GRADE EXTERIOR WALLS PACK THE SPACE BETWEEN PIPE AND SLEEVE WITH

MINERAL WOOL AND THEN COMPLETE SEAL WITH APPROVED CAULKING COMPOUND FLUSH WITH FINISHED SURFACE. PROVIDE PIPE COLLAR ON INTERIOR SIDE OF WALL.

3. ALL PIPING THROUGH FLOORS SHALL BE PROVIDED WITH SCHEDULE 40 GALVANIZED STEEL PIPE SLEEVES, EXTENDING 1 INCH ABOVE THE FLOOR.

. IN FIRE RATED WALLS: CAULKING SHALL BE A PURE CERAMIC FIBER MADE OF ALUMINA-SILICA, "CERAFIBER-FS" BY JOHNS-MANVILLE. SEALANT SHALL BE GUN GRADE. AN ACRYLIC 2-PART GUN APPLIED, FIRE RETARDANT ELASTIC SEALANT, "DYMERIC" BY TREMCO OR EQUAL BY PERMATITE NO. 1113FR.

1. LIMIT THE SIZE OF THE SPACE BETWEEN THE WALL OR FLOOR AND THE OUTSIDE OF THE PIPE OR DUCT TO 1 INCH MAXIMUM. THIS SPACE IS SUFFICIENT TO ALLOW SOME MOVEMENT OF THE PIPES OR DUCT WITHOUT CRACKING THE CAULKING OR SEALANT. 2. FOR OPENINGS IN WALLS, THE CAULKING SHALL BE APPLIED TO A MINIMUM OF 3 INCH

TOTAL DEPTH. SEALANT SHALL THEN BE APPLIED ON BOTH SIDES OF THE WALL OPENING A MINIMUM OF 1/2 INCH IN DEPTH, FINISHED FLUSH WITH THE WALL. D. D. FOR OPENINGS IN FLOORS, THE CAULKING SHALL BE APPLIED FROM THE UPPER SIDE TO A

MINIMUM OF 3 INCH TOTAL DEPTH RECESSED 1/2 INCH BELOW THE FINISHED FLOOR. THIS 1/2 INCH RECESS SHALL THEN BE FILLED WITH SEALANT TO FLUSH WITH FINISHED

1.11 CUTTING AND PATCHING

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CUTTING OF WALLS, FLOORS, CEILINGS AND ROOFS REQUIRED FOR PERFORMANCE OF HIS WORK.

B. NO STRUCTURAL MEMBER SHALL BE CUT WITHOUT PERMISSION FROM THE ARCHITECT. C. PATCH ALL OPENINGS TO MATCH ADJACENT CONSTRUCTION IN BOTH MATERIAL AND FINISH.

D. ALL CUTTING OF EXISTING CONCRETE FLOORS/SLABS ON GRADE IN THE INTERIOR OF THE BUILDING SHALL BE PERFORMED BY "SAW CUTTING" AND SHALL BE PERFORMED BY THIS CONTRACTOR.

..12 TEMPORARY HEAT

A. THE CONTRACTOR SHALL COOPERATE WITH THE GENERAL CONTRACTOR TO PROVIDE TEMPORARY HEAT AS SOON AS POSSIBLE FOR USE DURING CONSTRUCTION IF TEMPORARY HEAT IS REQUIRED. AIR HANDLING EQUIPMENT SHALL NOT BE OPERATED AT ANY TIME WITHOUT FILTERS IN PLACE AND ALL EQUIPMENT SHALL BE PROTECTED FROM DAMAGE. OPERATING THE EOUIPMENT FOR TEMPORARY HEAT SHALL NOT START THE WARRANTY PERIOD OF THE EQUIPMENT USED.

1.13 DEMOLITION AND NEW WORK

A. THE CONTRACTOR SHALL DO ALL DEMOLITION, ALTERATIONS AND REWORK INDICATED AND/OR REQUIRED TO MAINTAIN THE OPERATION OF ALL EXISTING HVAC SYSTEMS AND TO INTEGRATE THE NEW SYSTEMS IN THE RENOVATED BUILDING AS REQUIRED. THE CONTRACTOR SHALL INCLUDE ALL WORK WHICH MAY BE REQUIRED TO ALTERATIONS AND DEMOLITION WORK. THIS SHALL INCLUDE ALL REMOVAL, RELOCATION AND REWORKING OF PIPING, ITEMS OF HVAC EQUIPMENT, ETC. EXISTING SYSTEMS AND NEW SYSTEMS SHALL BE COMPLETELY INTEGRATED AS INTENDED AND AS INDICATED ON THE PLANS AND IN THE SPECIFICATIONS.

B. THE CONTRACTOR SHALL REMOVE FROM THE PREMISES AND DISPOSE OF PROPERLY ALL EXISTING MATERIAL AND EOUIPMENT WHICH NO LONGER SERVES A PURPOSE IN ALTERED AREAS. THE CONTRACTOR SHALL REMOVE UNUSED DUCTWORK AND PIPING. REMOVE PIPING CONNECTED TO EQUIPMENT BACK TO MAIN AND CAP. UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL MAINTAIN SERVICES TO ALL EXISTING AREAS REQUIRING SUCH SERVICES. THE CONTRACTOR SHALL REROUTE AS REOUIRED SUCH SERVICES WHERE ARE DISRUPTED DUE TO ARCHITECTURAL CHANGES IN THE EXISTING STRUCTURE. ANY EQUIPMENT WHICH IS DESIGNATED TO BE REUSED AND WHICH IS DAMAGED IN THE PROCESS SHALL BE REPLACED BY THE CONTRACTOR WITH NEW EQUIPMENT OF LIKE KIND AT NO COST TO THE OWNER.

1.14 INTERRUPTION OF SERVICES

A. THE CONTRACTOR SHALL SCHEDULE ANY SERVICE INTERRUPTIONS TO THE EXISTING BUILDING WITH THE OWNER'S REPRESENTATIVE. SUCH INTERRUPTIONS SHALL BE PLANNED SO AS TO BE AT TIMES TO CAUSE THE LEAST INCONVENIENCE AND INTERRUPTION TO THE FACILITY'S SCHEDULE.

1.15 EXISTING CONDITIONS

ALL EXISTING CONDITIONS SHOWN ON THE DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS FOR THIS PROJECT HAVE BEEN DETERMINED FROM AVAILABLE DRAWINGS AND FIELD INVESTIGATIONS. CONTRACTORS MAKING PROPOSALS FOR THIS WORK SHALL INVESTIGATE ALL EXISTING CONDITIONS AND BASE THEIR PROPOSALS ON THEIR OBSERVATIONS TO PROVIDE COMPLETE AND FUNCTIONING INSTALLATIONS IN ACCORDANCE WITH THE INTENT OF THE DRAWING AND SPECIFICATIONS FOR THIS PROJECT AND ALL APPLICABLE GOVERNING CODES, RULES, REGULATIONS AND ORDINANCES. FAILURE TO DETERMINE EXISTING CONDITIONS WHICH CAUSE ADDITIONAL WORK WILL NOT CONSTITUTE GROUNDS FOR ADDITIONAL COMPENSATION.

PART 2 - HEATING, VENTILATING AND AIR CONDITIONING

2.1 GENERAL REQUIREMENTS

A. SEE PART 1 FOR GENERAL REQUIREMENTS.

2.2 BELT DRIVES AND GUARDS

A. ALL BELT DRIVES SHALL BE OF THE MULTIPLE "V" TYPE, DAYTON, GATES OR EQUAL STANDARD SLIDE RAILS OR OTHER MEANS OF BELT ADJUSTMENT SHALL BE PROVIDED FOR EACH MOTOR USED WITH A BELT DRIVE.

B. REMOVABLE STEEL GUARDS WITH EXPANDED METAL SCREENS OF ACCEPTABLE DESIGN SHALL BE PROVIDED OVER ALL EXPOSED BELT DRIVES AND COUPLINGS.

A. THE CONTRACTOR SHALL ONLY RUN ALL AIR HANDLING UNITS IN THE BUILDING DURING THE TESTING PERIOD PRIOR TO COMPLETION OF THE WORK. UNITS SHALL NOT BE RUN WITHOUT FILTERS IN PLACE.

B. FILTERS SHALL BE AS MANUFACTURED BY AMERICAN AIR FILTER, CAMFIL FARR OR

2.4 FLEXIBLE CONNECTORS

A. THE CONTRACTOR SHALL INSTALL FLEXIBLE DUCT CONNECTIONS BETWEEN EACH PIECE OF EQUIPMENT HAVING A FAN, AND ITS SHEET METAL SUPPLY AND RETURN DUCTWORK CONNECTIONS, WHICH, WHEN COMPLETED SHALL BE AIRTIGHT.

B. CONNECTORS SHALL PROVIDE A MINIMUM OF 2 INCHES BETWEEN METAL TO INSURE AGAINST TRANSMISSION OF VIBRATION FROM THE FAN UNIT TO THE DUCTWORK.

2.5 MOTORS AND STARTERS A. ALL ELECTRIC MOTORS SHALL BE FURNISHED FOR OPERATION ON ELECTRICAL SERVICES AS DESIGNATED AND SHALL HAVE STARTING TORQUE CHARACTERISTICS SUITABLE FOR THE EQUIPMENT SERVED. ANY CHANGES TO THE ELECTRICAL WIRING DUE TO EQUIPMENT BEING FURNISHED, OTHER THAN THAT SPECIFIED, IS THE RESPONSIBILITY OF THE

B. ACROSS-THE-LINE MANUAL STARTERS AND MAGNETIC STARTERS SHALL BE CUTLER-HAMMER PRODUCTS OR APPROVED EQUAL, UNLESS OTHERWISE SPECIFIED, OF SIZES REQUIRED FOR THE MOTOR HORSEPOWER AND PHASE SERVED. STARTERS LOCATED IN EQUIPMENT AREAS AND UNFINISHED SPACES MAY BE SURFACE MOUNTED TYPES WITH FUNCTIONS IDENTIFIED BY ENGRAVED PLASTIC PLATES.

C. THE MECHANICAL CONTRACTOR SHALL FURNISH TO THE ELECTRICAL CONTRACTOR ALL STARTERS AND STARTER OVERLOADS, ALL NECESSARY WIRING DIAGRAMS AND INSTRUCTIONS TO FACILITATE THE INSTALLATION OF POWER AND CONTROL WIRING TO

2.6 SHEET METAL DUCTWORK

A. SHEET METAL DUCTS AND CONNECTIONS SHALL BE CONSTRUCTED OF G90 GALVANIZED SHEETS OF MILD STEEL. THE DUCTS SHALL BE CONSTRUCTED TO THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA) 2" W.G. PRESSURE CLASS STANDARDS. NO DUCT SHALL BE CONSTRUCTED WITH LESS THAN 24 GUAGE METAL. LOCAL CODES REQUIRING HEAVIER GAUGES SHALL GOVERN. ALL DUCTS SHALL BE SEALED TO SMACNA "B" CLASSIFICATION.

B. DUCT SECTIONS SHALL BE JOINED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION AND REQUIREMENTS OF THE BUILDING CODE HAVING JURISDICTION.

C. DUCT DIMENSIONS SHOWN ARE SHEET METAL DIMENSIONS AND DO NOT NEED TO BE ADJUSTED FOR INSULATION/LINING.

D. CURVED ELBOWS SHALL BE CONSTRUCTED WITH INSIDE RADIUS NOT LESS THAN THE DUCT WIDTH IN THE SAME PLANE. SQUARE ELBOWS SHALL HAVE TURNING VANES. TURNING VANES SHALL BE DESIGNED IN ACCORDANCE WITH ASHRAE RECOMMENDATIONS. MANUFACTURED VANES SHALL BE BY TITUS OR APPROVED EQUAL.

E. CROSSBREAK ALL DUCTWORK SURFACES OVER 18 INCHES IN WIDTH.

F. FULL AREAS SHALL BE MAINTAINED IN TRANSITIONS WHERE A CHANGE IN THE CONFIGURATION OF THE DUCT OCCURS. ALL TAPERING JOINTS SHALL BE REDUCED

G. JOINTS IN DUCTS SHALL BE MADE PRACTICALLY AIRTIGHT AND ANY OPEN CORNER SHALL BE NEATLY PATCHED AND SOLDERED TIGHT. DUCT TAPE WILL NOT BE ACCEPTED AS A JOINT PATCH. LOW PRESSURE SYSTEM DUCT LEAKAGE SHALL NOT EXCEED 2%.

H. CONCEALED ROUND DUCTS SHALL BE CONSTRUCTED TO SMACNA 2" W.G. STANDARDS WITH GROOVED LONGITUDINAL SEAMS AND SLEEVED TYPE TRANSVERSE JOINTS.

I. EXPOSED ROUND DUCTS SHALL BE CONSTRUCTED TO SMACNA 10" W.G. STANDARDS, SPIRAL LOCK SEAM DUCT AND FITTINGS.

A. ALL RECTANGULAR OUTSIDE AIR INTAKE, SUPPLY, RETURN AND TRANSFER AIR DUCTWORK SHALL BE LINED WITH 1/2" THICK 2 LB. DENSITY CERTAINTEED TOUGH GARD DUCT LINER OR EQUAL FROM MANVILLE, KNAUF INSULATION, OR OWENS CORNING UNLESS NOTED OTHERWISE ON THE DRAWINGS. ALL DUCT LINER IS TO COMPLY AND BE INSTALLED IN ACCORDANCE TO NAIMA FIBROUS GLASS DUCT LINER STANDARD AND SMACNA.

A. FLEXIBLE DUCTS SHALL BE UL181 CLASS THERMAFLEX M-KE, OR APPROVED EQUAL, SHALL

NOT BE LONGER THAN 8 FEET AND SHALL NOT HAVE ANY AIR FLOW OBSTRUCTION. 2.9 DUCTWORK SUPPORTS

A. ALL HORIZONTAL DUCTS SHALL BE SUPPORTED WITH HANGERS SPACED NOT MORE THAN 8'-0" APART. HANGERS FOR DUCTS SMALLER THAN 31 INCHES SHALL CONSIST OF 22 GUAGE GALVANIZED STEEL STRAPS SECURELY FASTENED TO THE DUCT AND THE BUILDING CONSTRUCTION. DUCTS OVER 31 INCHES IN WIDTH SHALL BE HUNG WITH 1/4 INCH STEEL ANGLE ON THE BOTTOM OF THE DUCT SUPPORTED WITH STEEL RODS OF APPROPRIATE SIZE SECURELY FASTENED TO THE BUILDING STRUCTURE. ALL SUPPORTS TO MEET SMACNA STANDARDS.

2.10 DUCTWORK INSULATION

A. ALL CONCEALED ROUND DUCTS SHALL BE INSULATED WITH 1-1/2 INCH THICK, 1 POUND PER CUBIC FOOT DENSITY, CERTAIN-TEED DUCT WRAP INSULATION FACED ON ONE SIDE WITH .002 INCH ALUMINUM FOIL WITH A 2 INCH TAB, OR EOUAL PRODUCTS BY MANVILLE, KNAUF INSULATION, OR OWENS CORNING UNLESS NOTED OTHERWISE ON THE DRAWINGS. INSULATION SHALL BE APPLIED IN STRICT COMPLIANCE WITH THE

B. ALL INSULATION SHALL BE UL LISTED; FLAME SPREAD/FUEL CONTRIBUTED/SMOKE DEVELOPED RATING OF 25/50/50 OR LESS IN ACCORDANCE WITH ASTM E84, NFPA 255

2.11 GRILLES, REGISTERS, DIFFUSERS AND LOUVERS

A. FURNISH AND INSTALL ALL GRILLES, REGISTERS, DIFFUSERS AND LOUVERS AS SHOWN AND DESCRIBED ON THE DRAWINGS OR COMPARABLE PRODUCTS OF TITUS OR PRICE. B. THE CONTRACTOR SHALL INFORM THE GENERAL CONTRACTOR OF THE REQUIREMENTS FOR

OPENING SIZES AND FRAMING FOR ALL EQUIPMENT AND SHALL COORDINATE THE INSTALLATION OF ALL SUCH EQUIPMENT WITH THE STRUCTURAL REQUIREMENTS OF THIS

2.12 OPERATING AND MAINTENANCE MANUALS

A. THE EOUIPMENT MANUFACTURER SHALL FURNISH THE OWNER TWO BOUND SETS OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL SYSTEMS.

2.13 START-UP/TESTING, ADJUSTING, BALANCING

A. THE CONTRACTOR SHALL COMPLETE ALL EQUIPMENT INSTALLATIONS, CHECK ALL CONTROL WIRING, START UP AND ADJUST ALL EQUIPMENT AND PLACE ALL SYSTEMS IN

B. AFTER COMPLETION AND START-UP OF ALL SYSTEMS THE CONTRACTOR SHALL ARRANGE

FOR TESTING, ADJUSTING AND BALANCING OF ALL AIR SYSTEMS C. TESTING, ADJUSTING AND BALANCING OF ALL AIR SYSTEMS SHALL BE PERFORMED IN

COMPLETE ACCORDANCE WITH NEBB OR SMACNA STANDARDS. D. UPON COMPLETION OF TESTING, ADJUSTING AND BALANCING, A COMPLETE REPORT OF ALL FINDINGS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FINAL ACCEPTANCE OF THIS PROJECT. THREE COPIES OF THE REPORT SHALL BE PROVIDED.

A. CURBS FOR EXHAUSTERS AND DUCTWORK THROUGH ROOF SHALL BE PATE TYPE PC AS REQUIRED BY ROOF CONSTRUCTION, OR COMPARABLE THYCURB PRODUCTS OF THE THYBAR CORP. ALL CURBS AND SUPPORTS SHALL BE CONSTRUCTED AS REQUIRED TO COMPENSATE FOR SLOPES OF THE ROOF STRUCTURE TO PROVIDE LEVEL SUPPORT OF EQUIPMENT. CURB HEIGHTS AT THE HIGH POINTS OF THE BUILDING STRUCTURE SHALL NOT BE LESS THAN 14 INCHES.

B. CURBS FOR ROOF MOUNTED HEATING, VENTILATING AND AIR CONDITIONING UNITS SHALL BE PROVIDED BY THE EQUIPMENT MANUFACTURER AND SHALL BE DESIGNED TO COMPENSATE FOR SLOPES OF STRUCTURAL STEEL TO PROVIDE LEVEL SUPPORT OF EQUIPMENT. CURBS SHALL BE INSULATED TYPE WITH 1-1/2 INCH THICK INSULATION AND A MINIMUM DENSITY OF 3 POUNDS.

A. VOLUME BALANCING DAMPERS SHALL BE RUSKIN CD-35/CDR-25 OR APPROVED EQUAL. THE DAMPERS SHALL BE CONSTRUCTED OF 16 GAUGE GALVANIZED STEEL, 6 INCH WIDE OPPOSED BLADES AND THE LINKAGE CONCEALED IN FRAME.

B. FIRE DAMPERS SHALL BE PROVIDED WHERE SHOWN ON THE DRAWINGS AND ELSEWHERE AS REOUIRED BY AUTHORITIES HAVING JURISDICTION AND SHALL BE RUSKIN TYPE IBD2. STYLE B, OR COMPARABLE PRODUCTS OF VENT PRODUCTS COMPANY, INC., CURTAIN TYPE HAVING 100% FREE AREA WITH 212 DEGREES F. FUSIBLE LINK APPROVED FOR USE IN PARTITIONS WITH TWO HOUR RATING UNLESS OTHERWISE NOTED, ACCESS PANELS SHALL BE PROVIDED IN DUCTS AND IN THE STRUCTURE FOR ALL FIRE DAMPERS. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S STANDARDS.

2.16 EXHAUST FANS

A. EXHAUST FANS SHALL BE AS SHOWN ON THE DRAWINGS OR COMPARABLE PRODUCTS OF

GREENHECK, COOK, OR CARNES. B. EACH EXHAUSTER SHALL BE PROVIDED WITH A DISCONNECT SWITCH, BACKDRAFT DAMPER AND BIRDSCREEN.

C. ROOF MOUNTED EXHAUST FANS SHALL BE PROVIDED WITH CURBS AS DESCRIBED ABOVE. D. IN-LINE EXHAUST FANS SHALL BE MOUNTED WITH RIS ISOLATORS

E. REFER TO PARAGRAPH TITLED "CURBS" IN THIS SECTION OF THE SPECIFICATION.

2.17 PAINTING: (SEE ARCHITECTURAL SECTION "PAINTING") A. PAINTING, EXCEPT AS SPECIFIED HEREIN, SHALL BE DONE BY OTHERS.

B. EQUIPMENT WHICH HAS DAMAGED FINISH SHALL BE REPAINTED TO MATCH THE ORIGINAL

FACTORY FINISH. C. ALL EXPOSED FERROUS METAL FURNISHED UNDER THIS CONTRACT, SUCH AS HANGERS,

STRUTS, STRUCTURAL STEEL, ETC., SHALL BE GIVEN ONE COAT OF TNEMEC GRAY PRIMER.

PART 3 - PLUMBING

3.1 GENERAL REQUIREMENTS A. SEE PART 1 FOR GENERAL REQUIREMENTS.

A. ALL FLOOR DRAINS AND FIXTURES WITH WASTE CONNECTIONS SHALL BE SEPARATELY TRAPPED WITH A WATER SEALED TRAP PLACED AS CLOSE TO THE FIXTURE OR DRAIN AS POSSIBLE. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL TRAPS REQUIRED INCLUDING TRAPS NOT FURNISHED IN COMBINATION WITH FIXTURES AND EQUIPMENT. ALL EXPOSED TRAPS IN FINISHED SPACES SHALL BE CHROMIUM PLATED BRASS. PROVIDE DEEP SEAL TRAPS AND RUNNING TRAPS WHERE REQUIRED.

B. IN LIEU OF DEEP SEAT TRAPS, FLOOR DRAINS CAN BE PROVIDED WITH PROSET SYSTEMS TRAP GUARD OR EQUAL.

3.3 PIPING INSTALLATION

A. ENDS OF PIPE SHALL BE REAMED AND ALL BURRS REMOVED BEFORE INSTALLATION. PIPING SHALL BE CUT ACCURATELY TO MEASUREMENTS TAKEN ON THE JOB AND SHALL BE INSTALLED WITH AMPLE CLEARANCE FOR INSTALLATION OF COVERINGS.

B. PIPING PASSING THROUGH WALLS OR FLOOR SHALL BE RUN FREE, USING PIPE SLEEVES AND SHALL NOT BE GROUTED IN PLACE. SLEEVES FOR PIPING TO BE INSULATED SHALL BE SIZED TO ALLOW FOR INSULATION THICKNESS. PIPING SHALL BE INSTALLED CONCEALED IN FINISHED ROOMS AND WHEREVER POSSIBLE. EXPOSED PIPES, WHERE PASSING THROUGH FLOORS, FINISHED WALL, OR FINISHED CEILINGS SHALL BE FITTED WITH CHROMIUM PLATED ESCUTCHEON PLATES. PLATES SHALL BE LARGE ENOUGH TO COMPLETELY CLOSE THE HOLES AROUND THE PIPES AND SHALL BE ROUND, NOT LESS THAN 1-1/2" LARGER THAN THE DIAMETER OF THE PIPE. PLATES SHALL BE SECURELY FASTENED IN PLACE.

C. AT LEAST ONE PIPE UNION SHALL BE INSTALLED ADJACENT TO ALL VALVES THAT ARE SCREWED. HOT AND COLD SUPPLIES TO EACH FIXTURE AND WATER HEATER SHALL BE VALVED SEPARATELY AT THE FIXTURE. ALL SUPPLY PIPES TERMINATING AT VALVES OR FIXTURES SHALL BE PROVIDED WITH A WATER HAMMER ARRESTOR OF SUFFICIENT CAPACITY TO PREVENT WATER HAMMER.

D. ALL HOT AND COLD WATER BRANCH LINES SHALL BE VALVED IN AN ACCESSIBLE

. ALL HOT AND COLD WATER PIPING SHALL BE ARRANGED TO DRAIN THE LOWEST POINT AND DRAIN VALVES WITH HOSE THREADS SHALL BE PROVIDED SO THAT THE ENTIRE SYSTEM CAN BE EMPTIED.

3.4 PIPING JOINTS

A. THREADED JOINTS SHALL BE CUT FULL AND CLEAN, WITH NOT MORE THAN THREE THREADS EXPOSED BEYOND FITTINGS. JOINTS SHALL BE MADE UP TIGHT WITH GRAPHITE BASE PIPE JOINT COMPOUND APPLIED TO MALE THREADS ONLY. EXPOSED THREADS OF FERROUS PIPE SHALL BE PAINTED WITH ACID-RESISTING PAINT AFTER PIPING HAS BEEN TESTED AND PROVEN TIGHT. NO CAULKING, LAMP WICK OR OTHER MATERIAL WILL BE

ALLOWED FOR CORRECTION OF DEFECTIVE JOINTS. B. SWEAT OR SOLDERED JOINTS IN COPPER WATER PIPING SHALL BE MADE BY THE APPROPRIATE USE OF APPROVED BRASS WATER FITTINGS PROPERLY SWEATED OR SOLDERED TOGETHER. FLARED JOINTS WHERE SPECIFIED FOR SOFT COPPER TUBING SHALL BE MADE WITH FITTINGS MEETING APPROVED STANDARDS. SURFACES TO BE SOLDERED OR SWEAT SHALL BE CLEANED BRIGHT, PROPERLY FLUXED WITH APPROVED NONCORROSIVE PASTE TYPE FLUX AND MADE WITH 95-5 OR 94-6 SOLDER. THE USE OF SELF-CLEANING FLUXES, 50-50 SOLDER OR PASTE TYPE SOLDER IS PROHIBITED. FLARED JOINTS SHALL BE MADE BY EXPANDING THE TUBE WITH A PROPER FLARING TOOL. ALL

TUBES SHALL BE PROPERLY REAMED. . JOINTS IN BELL AND SPIGOT CAST IRON SOIL PIPE SHALL BE OF SOFT PIG LEAD AND OAKUM WITH LEAD NOT LESS THAN 1" DEEP, AND INSTALLED IN ONE POUR OR TYLER

TY-SEAL GASKETS UNDERGROUND ONLY. D. JOINTS FOR NO-HUB PIPE SHALL BE NEOPRENE WITH STAINLESS STEEL BANDS.

E. JOINTS FOR PLASTIC PIPE, WHEN PERMITTED, SHALL BE SOLVENT WELDED IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS.

3.5 DOMESTIC HOT AND COLD WATER PIPING

A. ALL DOMESTIC HOT AND COLD WATER PIPING WITHIN THE BUILDING SHALL BE COPPER. UNDERGROUND WATER SERVICE OUTSIDE OF THE BUILDING MAY BE TYPE "K" SOFT TEMPER COPPER OR DUCTILE IRON OR CAST IRON PIPE WITH SUPER BELL-TITE, MECHANICAL OR FLANGED JOINTS.

B. COPPER PIPING INSTALLED UNDERGROUND SHALL BE SOFT TEMPER TYPE "K" AND INSTALLED WITHOUT JOINTS.

C. ALL OTHER COPPER PIPING SHALL BE HARD TEMPER TYPE "L". ALL COPPER PIPING SHALL CONFORM TO ASTM-B-88 REQUIREMENTS. SERVICE PIPING OF CAST IRON OF DUCTILE IRON PIPE SHALL CONFORM TO USASI, AWWA AND FEDERAL SPECIFICATIONS.

SOLDER-JOINT, UNIONS SHALL BE GROUND JOINT TYPE AND SHALL BE INSTALLED WHERE NECESSARY TO PROVIDE EASE OF DISCONNECTION OF THE PIPING SYSTEM. PRESS FITTINGS FOR COPPER WATER PIPING ARE ACCEPTABLE WHERE PERMITTED BY GOVERNING

D. FITTINGS FOR USE WITH TYPE "K" AND "L" COPPER PIPING SHALL BE WROUGHT COPPER

E. WHEN A CONNECTION BETWEEN COPPER PIPE AND FERROUS PIPE IS NECESSARY, SAID CONNECTION SHALL BE MADE BY USING BRASS CONVERTER FITTING. F. DRAINS INDICATED ON THE DRAWINGS AND AT LOW POINTS IN CONNECTION WITH THE HOT AND COLD WATER DISTRIBUTION SYSTEM SHALL CONSIST OF 1/2" FAUCET WITH

HOSE THREADS. DRAINS SHALL BE INSTALLED AT LOW POINTS IN THE HOT AND COLD

3.6 VALVES FOR DOMESTIC WATER

A. FOR PIPING 1/2" - 2": MILWAUKEE BA-150 BALL VALE, BRONZE, TEFLON SEATS AND PACKING, 400 LBS W.O.G., SOLDER END. B. FOR PIPING 2-1/2" AND LARGER: MILWAUKEE ML224E BUTTERFLY VALVE, FULL LUG BODY,

3.7 CROSS CONNECTIONS AND INTERCONNECTIONS

EPDM SEATS, STAINLESS STEEL DISC, LEVER OPERATOR.

WATER PIPING AND ALL PIPING SHALL GRADE TO DRAIN.

A. NO INSTALLATION SHALL BE MADE OF PLUMBING FIXTURE, DEVICE OR PIPING THAT WILL PROVIDE A CROSS CONNECTION OR INTERCONNECTION BETWEEN A DISTRIBUTING WATER SUPPLY FOR DRINKING OR DOMESTIC PURPOSES AND A POLLUTED SUPPLY SUCH AS A DRAINAGE SYSTEM OR A SOIL OR WASTE PIPE THAT WILL PERMIT OR MAKE POSSIBLE A BACKFLOW OF SEWAGE, POLLUTED WATER OR WASTE INTO THE WATER SUPPLY SYSTEM.

3.8 SOIL, WASTE, DRAIN AND VENT PIPING

A. UNDERGROUND SOIL, WASTE, DRAIN AND VENT PIPE AND FITTINGS, THROUGHOUT THE BUILDING BELOW THE BASE SLAB TO THE LOCATIONS NOTED OUTSIDE OF THE BUILDING, SHALL BE COATED HUB-AND- SPIGOT SERVICE WEIGHT CAST IRON. SCHEDULE 40 PVC SOLID PLASTIC PIPE MAY BE USED WHERE PERMITTED BY GOVERNING CODES. NO-HUB PIPE WILL NOT BE PERMITTED UNDERGROUND.

B. SOIL, WASTE, DRAIN, VENT PIPE, AND FITTINGS ABOVE GROUND INSIDE OF THE BUILDING SHALL BE SERVICE WEIGHT HUB-AND- SPIGOT OR NO-HUB CAST IRON PIPE. SCHEDULE 40 PVC SOLID PLASTIC PIPE MAY BE USED WHERE PERMITTED BY GOVERNING CODES. PVC PIPING RUN IN RETURN AIR PLENUM SPACE SHALL BE INSTALLED WITH A 1 HOUR RATED COVERING OVER ALL PIPE, FITTINGS AND VALVES.

C. CHANGES IN PIPE SIZE ON SOIL, WASTE, AND DRAIN LINES SHALL BE MADE WITH REDUCING FITTINGS. CHANGES IN DIRECTION IN DRAINAGE PIPING SHALL BE MADE BY THE APPROPRIATE USE OF 45 DEGREE Y'S, LONG OR SHORT SWEEP QUARTER BENDS, SIXTH, EIGHTH, OR SIXTEENTH BENDS, OR BY A COMBINATION OF THESE OR EQUIVALENT FITTINGS. SINGLE AND DOUBLE SANITARY TEES AND SHORT QUARTER BENDS MAY BE USED IN DRAINAGE LINES ONLY WHERE THE DIRECTION OF FLOW IS FROM THE HORIZONTAL TO THE VERTICAL. QUARTER BENDS MAY BE USED IN SOIL AND WASTE LINES ON THE DISCHARGE FROM WATER CLOSETS IN SLAB ON GRADE AREAS.

D. SEWER LINES SHALL BE LOCATED IN GENERAL AS SHOWN ON THE DRAWINGS. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN SUCH A MANNER AS TO MAINTAIN PROPER CLEARANCES AND SUFFICIENT SLOPE TO INSURE DRAINAGE.

E. HORIZONTAL SOIL, WASTE, AND DRAIN PIPES SHALL BE GIVEN A GRADE OF NOT LESS THAN 1/4" PER FOOT FOR SIZES UP TO 3" UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR APPROVED IN WRITING BY THE ENGINEER. HORIZONTAL SOIL, WASTE, AND DRAIN PIPES SHALL BE GIVEN A GRADE OF NOT LESS THAN 1/8" PER FOOT FOR SIZES 4" AND LARGER WHEN FIRST APPROVED BY THE ADMINISTRATIVE AUTHORITY.

POUND LEAD SHEETS TURNED DOWN INTO THE STACK AT LEAST 2" AND EXTENDED 12" IN ALL DIRECTIONS FROM THE PIPE AT THE ROOF LINE. VENTS THROUGH ROOF SHALL NOT BE LESS THAN 3". PVC PIPING SHALL NOT BE USED FOR VENT PIPING THROUGH THE ROOF. G. WHERE APPLICABLE FOR THE ROOFING SYSTEM USED, PROVIDE FLASHING VIA PLEATED

F. VENT STACKS SHALL BE EXTENDED FULL SIZE THROUGH THE ROOF AND FLASHED WITH 4

EPDM CONE IN LIEU OF LEAD. H. VENTS SHALL BE AIR AND WATER TIGHT.

 VENT CONNECTIONS SHALL BE INSTALLED ON ALL FIXTURES AND EQUIPMENT CONNECTED TO SOIL AND WASTE SYSTEMS AND ALL FLOOR DRAINS SHALL BE VENTED OR CONNECTED TO A VENTED LINE AS SHOWN ON THE DRAWINGS AND AS REQUIRED BY CODE.

J. ALL VENT STACKS IN OR AT OUTSIDE WALLS SHALL BE OFFSET 1'-6" MINIMUM FROM OUTSIDE WALLS BEFORE GOING THROUGH THE ROOF, TO FACILITATE FLASHING.

K. RISERS SHALL BE INSTALLED ABSOLUTELY PLUMB AND STRAIGHT. BRANCHES SHALL BE RUN IN STRAIGHT LINES AND PITCH UNIFORMLY TO MAINS. L. RISERS, BRANCHES AND MAINS SHALL BE CONCEALED IN THE CONSTRUCTION EXCEPT

WHERE SHOWN OTHERWISE. BRANCHES FOR CLOSETS SHALL BE FINISHED AT THE WALL

LINE WITH PROPER FLANGE TO RECEIVE THE FIXTURE WHEN SET, AND THEY SHALL BE TRUE AND LEVEL SO THAT CLOSET BASE WILL HAVE FULL BEARING ON THE WALL. M. ALL SOIL AND VENT STACKS SHALL OFFSET WHERE REQUIRED TO MISS OBSTRUCTIONS AND AS REQUIRED TO CLEAR FLOOR BEAMS AND SPANDREL BEAMS AT FLOOR LINES AND HUG WALL CONSTRUCTION ABOVE FLOOR.

N. PROHIBITED FITTINGS. THE DRILLING AND TAPPING OF BUILDING DRAINS, SOIL, WASTE OR VENT PIPE AND THE USE OF SADDLE HUBS OR BANDS IS PROHIBITED. ANY FITTING OR CONNECTION WHICH HAS AN ENLARGEMENT CHAMBER OR RECESS WITH A LEDGE, SHOULDER OR REDUCTION OF THE PIPE AREA THAT OFFERS AN OBSTRUCTION TO THE FLOW IS PROHIBITED.

O. PROHIBITED CONNECTIONS. NO FIXTURES, DEVICES OR CONSTRUCTION SHALL BE INSTALLED WHICH WOULD ALLOW A BACKFLOW CONNECTION BETWEEN A DISTRIBUTION SYSTEM OF WATER FOR DRINKING AND DOMESTIC PURPOSES TO THE DRAINAGE SYSTEM, SOIL OR WASTE PIPING SO AS TO PERMIT OR MAKE POSSIBLE THE BACKFLOW OF SEWAGE OR WASTE INTO THE WATER SYSTEM.

FIBER PIPE INSULATION IN MOLDED SECTIONS WITH FACTORY APPLIED ALL SERVICE VAPOR BARRIER JACKET OR APPROVED EQUAL. THE END JOINT STRIPS AND OVERLAP SEAMS SHALL BE SEALED WITH A VAPOR BARRIER MASTIC AND STAPLED WITH OUTWARD CLINCHING STAPLES SPACED NOT TO EXCEED 4" CENTERS. STAPLES AND SEAMS SHALL BE SEALED WITH A COAT OF VAPOR BARRIER MASTIC. JOINTS SHALL BE COVERED BY JOINT

A. ALL COLD WATER PIPING SHALL BE INSULATED WITH CERTAIN-TEED 1/2" THICK GLASS

GLASS FIBER PIPE INSULATION IN MOLDED SECTIONS WITH FACTORY APPLIED ALL SERVICE JACKET OR APPROVED EQUAL. THIS INSULATION SHALL BE CLOSELY BUTTED TOGETHER AND SECURED BY JOINT TAPE MATCHING THE INSULATION COVER.

C. ALL PIPING SURFACES TO BE INSULATED SHALL BE CLEAN AND DRY AND PIPING SHALL

B. ALL DOMESTIC HOT WATER PIPING SHALL BE INSULATED WITH 1" THICK CERTAIN-TEED

HAVE BEEN TESTED AND APPROVED BEFORE THE INSULATION IS APPLIED. D. ALL VALVES, FITTINGS AND FLANGES SHALL BE INSULATED WITH CERTAIN-TEED GLASS FIBER PIPE INSULATION, OR APPROVED EQUAL. INSULATION SHALL BE SECURELY HELD IN PLACE AND COVERED WITH ZESTON PRE-MOLDED PVC FITTING COVERS. FITTING COVERS MAY BE PROVIDED WITH FIBERGLASS INSULATION INSERTS.

E. ALL PIPE INSULATION SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER BY AN INSULATION CONTRACTOR REGULARLY ENGAGED IN INSULATION WORK.

F. PROVIDE HEAVY DENSITY RIGID FOAM INSERTS AT ALL HANGER LOCATIONS ON LINES 2" AND LARGER TO BE INSULATED, UNLESS OTHERWISE NOTED OR SPECIFIED.

3.10 WATER HAMMER ARRESTORS A. WATER HAMMER ARRESTORS SHALL BE PROVIDED FOR ALL QUICK CLOSING VALVES INCLUDING BUT NOT LIMITED TO DRINKING FOUNTAINS, DISHWASHERS, FAUCETS, FLUSHOMETER VALVES, ICE MAKERS, SELF-CLOSING VALVES, SPRING LOADED VALVES, AND WASHING MACHINES AND AS REQUIRED BY THE LOCAL INSPECTION AUTHORITY

HAVING JURISDICTION. B. WATER HAMMER ARRESTORS SHALL BE INSTALLED PER MANUFACTURES SPECIFICATIONS

AND SHALL CONFORM TO ASSE 1010 AND PER STANDARD PDI-WH-201. C. WATER HAMMER ARRESTOR SHALL BE SIOUX CHIEF MODEL OR APPROVED EQUAL. AIR CHAMBERS ARE NOT PERMITTED.

3.11 PIPE HANGERS AND SUPPORTS

UNLESS OTHERWISE NOTED OR SPECIFIED.

PROVIDE VERTICAL SUPPORT EVERY 10 FEET.

TESTS MAY BE WITNESSED IF DEEMED NECESSARY.

A. ALL NON-INSULATED COPPER PIPING SHALL BE SUPPORTED BY ANVIL FIGURE CT65 COPPER PLATED CARBON STEEL HANGERS. B. NON-INSULATED STEEL PIPING 2" AND SMALLER SHALL BE SUPPORTED BY ANVIL FIGURE

108 SPLIT PIPE RING HANGER WITH FIGURE 114 TURNBUCKLE ADJUSTER. NON-INSULATED

STEEL PIPING 2-1/2" AND LARGER SHALL BE SUPPORTED BY ANVIL 260 HANGERS WITH C. ALL CAST IRON PIPE SHALL BE SUPPORTED WITH ANVIL FIGURE 260 CLEVIS HANGERS WITH TURNBUCKLE ADJUSTERS.

D. ALL SCHEDULE 40 SOLID PLASTIC PVC PIPING SHALL BE SUPPORTED WITH ANVIL FIGURE 260 ADJUSTABLE CLEVIS HANGERS WITH #168 SHIELD. E. ALL INSULATED PIPING SHALL BE PROVIDED WITH ANVIL FIGURE 260 ADJUSTABLE CLEVIS HANGER WITH #168 SHIELD. HANGER SHALL BE INSTALLED EXTERIOR TO INSULATION

F. ALL HANGERS SHALL UTILIZE THREADED RODS. NO PERFORATED STRAP IRON HANGERS

OR WIRE HANGERS WILL BE ALLOWED. G. HANGERS AND SUPPORTS SHALL BE SPACES AS FOLLOWS: 1. COPPER PIPE: 1-1/4" AND SMALLER - 6 FEET, 1-1/2" AND LARGER - 10 FEET.

2. STEEL PIPE: 1" AND SMALLER - 8 FEET, 1-1/4" AND LARGER - 10 FEET.

ONE HANGER AT EACH JOINT.) H. PROVIDE ANVIL FIGURE CT-121 RISER CLAMP FOR COPPER PIPING UP THROUGH 4".

3. CAST IRON PIPE: ALL SIZES - 5 FEET. (10 FEET WITH 10' LENGHTS OF PIPE. MINIMUM

I. STEEL AND CAST IRON PIPE PROVIDE ANVIL FIGURE 261 RISER CLAMP FOR PIPING 1-1/2" AND SMALLER AND FIGURE 40 RISER CLAMP FOR PIPING ABOVE 2". PROVIDE VERTICAL SUPPORT EVERY 15 FEET.

FREE OF LEAKS.

A. ALL PLUMBING SYSTEMS INSTALLED UNDER THIS SECTION OF THESE SPECIFICATIONS SHALL BE TESTED AND APPROVED AS HEREIN DESCRIBED AND AS REQUIRED BY THE LOCAL INSPECTION AUTHORITY HAVING JURISDICTION.

B. THE NEW DRAINAGE AND VENT SYSTEM SHALL BE TESTED BY PLUGGING ALL OPENINGS

WITH TEST PLUGS, EXCEPT THOSE AT THE TOPS OF STACKS, AND FILLING THE SYSTEM WITH WATER. TEST RESULTS WILL BE SATISFACTORY IF THE WATER LEVEL REMAINS STATIONARY FOR NOT LESS THAN ONE HOUR WHEN ALL PARTS OF THE SYSTEM ARE SUBJECTED TO A PRESSURE OF AT LEAST 10 FEET OF WATER. IF LEAKS DEVELOP, THEY SHALL BE REMEDIED AND THE TEST REPEATED AFTER THE SYSTEM IS MADE TIGHT. C. THE WATER SYSTEM TEST PROCEDURE SHALL CONSIST OF CHARGING THE ENTIRE SYSTEM

SYSTEM SHALL REMAIN CLOSED FOR A PERIOD OF 24 HOURS WITH NO FIXTURE BEING USED. THE PRESSURE DIFFERENTIAL FOR THIS 24-HOUR PERIOD SHALL NOT EXCEED 5 D. THE INSPECTION AUTHORITY HAVING JURISDICTION AND THE ARCHITECT SHALL BE

TO OPERATING PRESSURE AND THEN ISOLATING THE SYSTEM FROM ITS SOURCE. THE

NOTIFIED AT LEAST 24 HOURS PRIOR TO PERFORMANCE OF ALL TESTS SO THAT THE

E. ALL PLUMBING FIXTURES AND ACCESSORIES SHALL BE TESTED, ADJUSTED AND MADE

3.13 WATER SYSTEM FLUSHING AND STERILIZATION

A. IMMEDIATELY UPON COMPLETION OF THE NEW WATER DISTRIBUTION SYSTEM AND PRIOR TO PLACING THIS SYSTEM IN SERVICE, THE ENTIRE NEW SYSTEM SHALL BE FLUSHED AND STERILIZED.

B. THIS SYSTEM SHALL BE FILLED WITH WATER SLOWLY AND CAREFULLY SO THAT AIR MAY READILY ESCAPE THROUGH OPEN DRAINS AND FIXTURE VALVES. ALL DRAINS AND FIXTURE VALVES SHALL BE OPENED, STARTING WITH VALVES NEAREST THE WATER SERVICE ENTRY, AND WATER RUN UNTIL IT HAS RUN CLEAR FROM ALL OUTLETS FOR NOT LESS THAN 10 MINUTES.

C. AFTER THIS ENTIRE WATER SYSTEM HAS BEEN THOROUGHLY FLUSHED, THE CONTRACTOR SHALL STERILIZE THE ENTIRE SYSTEM AS REQUIRED BY LOCAL CODES AND THE STATE BOARD OF HEALTH. IN THE EVENT THAT LOCAL CODES OR THE STATE BOARD OF HEALTH DO NOT HAVE SPECIFIC REQUIREMENTS FOR WATER SYSTEM STERILIZATION, THE FOLLOWING PROCEDURE SHALL BE EMPLOYED:

1. A CHLORINE WATER MIXTURE OF A CHLORINE BEARING COMPOUND SUCH AS HIGH TEST CALCIUM HYPOCHLORITE OR SODIUM HYPOCHLORITE SHALL BE INTRODUCED INTO THE SYSTEM AT THE BEGINNING OF THE BUILDING WATER SERVICE.

2. IF A CHLORINE GAS WATER MIXTURE IS USED, IT SHALL BE FED INTO THE SYSTEM BY MEANS OF A SOLUTION FEED CHLORINA TING DEVICE WHICH MUST BE EQUIPPED WITH MEANS FOR PREVENTING THE BACKFLOW OF WATER INTO THE CHLORINE CYLINDER. 3. IF CHLORINE BEARING COMPOUND SUCH AS A HIGH TEST CALCIUM HYPOCHLORITE OR SODIUM HYPOCHLORITE IS USED, THE POWDER SHALL FIRST BE MADE INTO A PASTE

AND THEN THINNED TO APPROXIMATELY 1% CHLORINE SOLUTION (10,000 PPM).

4. THE RATE OF CHLORINE MIXTURES FLOW INTO THE SYSTEM SHALL BE PROPORTIONED TO THE RATE OF WATER ENTERING THE PIPE SO THAT A CHLORINE DOSE OF NOT LESS THAN 10 PPM WILL BE PRODUCED THROUGHOUT THE SYSTEM. THIS SOLUTION SHALL BE RETAINED IN THE SYSTEM FOR NOT LESS THAN 24 HOURS AND SHALL PRODUCE NOT LESS THAN 10 PPM OF CHLORINE AT THE END OF THE RETENTION PERIOD. 5. THE SYSTEM BEING STERILIZED SHALL BE ISOLATED FROM THE WATER SUPPLY

SOURCE SO AS TO POSITIVELY ASSURE THAT TREATED WATER WILL NOT BACKFLOW

INTO THE SUPPLY LINE. SYSTEM STERILIZATION SHALL BE PERFORMED IN

COOPERATION WITH THE SERVING UTILITY AND SHALL COMPLY IN ALL RESPECTS WITH 6. AFTER STERILIZATION IS COMPLETED THE ENTIRE SYSTEM SHALL BE FLUSHED AND TESTED. TEST RESULTS SHALL BE SUBMITTED TO THE AUTHORITIES HAVING

JURISDICTION FOR REVIEW PRIOR TO ACCEPTANCE OF THIS PROJECT

3.14 ACCESS DOORS

A. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THE ARCHITECTURAL PLANS/ SPECIFICATIONS AND ADVISING THE GENERAL CONTRACTOR PRIOR TO BIDDING OF THE NEED FOR ACCESS DOORS IN SHEETROCK OR PLASTERED CEILINGS AND WALLS AND ALL OTHER LOCATIONS WHERE ACCESS IS REQUIRED FOR

B. ACCESS DOORS SHALL BE FLUSH-MOUNTED OF A STYLE SPECIFICALLY SUITED FOR THE TYPE OF CONSTRUCTION IN WHICH THEY ARE TO BE USED, AND SIZES AND COLORS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. IN AREAS WHERE THERE ARE REMOVABLE CEILINGS, ACCESS DOORS MAY BE OMITTED, PROVIDED CEILING PANELS USED FOR ACCESS ARE CLEARLY MARKED. THE TYPE OF ACCESS DOOR USED SHALL BE

MILCOR, OR AN APPROVED EQUAL. C. ACCESS DOORS SHALL BE FURNISHED BY THE PLUMBING CONTRACTOR FOR INSTALLATION

BY THE GENERAL CONTRACTOR. D. IN THE EVENT THAT THE PLUMBING CONTRACTOR FAILS TO ADVISE THE GENERAL CONTRACTOR OF REQUIRED ACCESS DOORS PRIOR TO BIDDING, THE COST TO FURNISH AND INSTALL ACCESS DOORS SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.

3.15 PLUMBING FIXTURES

A. ALL FIXTURES SHOWN OR SCHEDULED ON THE DRAWINGS SHALL BE FURNISHED AND INSTALLED, SET FIRM AND TRUE, CONNECTED TO ALL REQUIRED PIPING SERVICES, THOROUGHLY CLEANED, AND LEFT READY FOR USE.

B. ALL EXPOSED FITTINGS AND PIPING AT THE FIXTURES SHALL BE CHROME PLATED. SUPPLY PIPING SHALL BE VALVED AT EACH FIXTURE.

C. ALL CHINA FIXTURES SHALL BE NEW, OF THE BEST GRADE VITREOUS WARE, WITHOUT PIT HOLES OR BLEMISHES, AND THE OUTLINES SHALL BE GENERALLY TRUE. ALL FIXTURES (THE SAME TYPE SHALL BE OF ONE MANUFACTURER THROUGHOUT THE ENTIRE INSTALLATION. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT WHICH IN HIS OPINION, IS FAULTY. ALL FIXTURES AND FLANGES ON SOIL PIPE SHALL BE MADE ABSOLUTELY GASTIGHT AND WATERTIGHT. RUBBER GASKETS OR PUTTY WILL NOT BE PERMITTED FOR THIS CONNECTION. CLOSET BOLTS SHALL BE STAINLESS STEEL AND NOT LESS THAN 1/4" IN DIAMETER AND SHALL BE EQUIPPED WITH CHROMIUM PLATED NUTS AND WASHERS. FIXTURES WITH OUTLET FLANGES SHALL BE SET AT THE PROPER DISTANCE FROM FLOOR OR WALL TO MAKE A FIRST CLASS JOINT WITH THE CLOSET SETTING COMPOUND OR GASKET AND THE FIXTURES USED.

D. PLUMBING FIXTURES SHALL BE AS SPECIFIED, OR EQUIVALENT PRODUCTS MANUFACTURED BY ELJER, CRANE, OR AMERICAN STANDARD. ALL WATER CLOSETS, LAVATORIES, URINALS AND SINKS SHALL BE PRODUCTS OF ONE MANUFACTURER. FIXTURES SHALL BE INSTALLED COMPLETE WITH ALL NECESSARY ACCESSORIES AND TRIM. INSTALLATION OF COUNTERTOP SINKS SHALL BE COORDINATED WITH THE COUNTERTOP SUPPLIER.

E. DRAINS AND ACCESSORIES SHALL BE AS SPECIFIED OR EQUIVALENT PRODUCTS OF WADE,

JAY R. SMITH, OR JOSAM. F. INSULATE EXPOSED LAVATORY "P" TRAP ON ADA LISTED FIXTURES WITH PLUMBEREX TRAP GEAR OR EQUAL.

A. PAINTING, EXCEPT AS SPECIFIED HEREIN, SHALL BE DONE BY OTHERS. B. EQUIPMENT WHICH HAS DAMAGED FINISH SHALL BE REPAINTED TO MATCH THE ORIGINAL

C. ALL EXPOSED FERROUS METAL FURNISHED UNDER THIS CONTRACT, SUCH AS HANGERS, STRUTS, STRUCTURAL STEEL, ETC. SHALL BE GIVEN ONE COAT OF TNEMEC GRAY PRIMER.

3.16 PAINTING (SEE ARCHITECTURAL SECTION "PAINTING")

PART 4 - FIRE PROTECTION 4.1 GENERAL REQUIREMENTS

A. SEE PART 1 FOR GENERAL REQUIREMENTS.

INCLUDING SERVICE LINE FOR THE BUILDING. B. THIS SECTION INCLUDES MODIFICATION AND EXTENSION OF THE EXISTING WET PIPE

A. THIS SECTION INCLUDES PROVIDING A COMPLETE WET PIPE FIRE-SUPPRESSION SYSTEM

FIRE-SUPPRESSION SYSTEM INSIDE THE BUILDING.

4.4 PERFORMANCE REQUIREMENTS

STANDARDS:

4.3 SYSTEM DESCRIPTION A. FURNISH AND INSTALL A COMPLETE WET PIPE AUTOMATIC SPRINKLER SYSTEM FOR FIRE PROTECTION. ALL ELEMENTS AND COMPONENTS OF THE SYSTEM SHALL BE IN COMPLIANCE WITH NFPA PAMPHLET 13, "STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS"

PIPING CONTAINING WATER AND THAT IS CONNECTED TO WATER SUPPLY. THE SYSTEM MODIFICATIONS SHALL BE IN COMPLIANCE WITH NFPA PAMPHLET 13, "STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS", AND ALL CODES AND STANDARDS REFERENCED.

A. FIRE-SUPPRESSION SPRINKLER SYSTEM DESIGN FOR THE PROJECT AREA SHALL BE

B. NEW AUTOMATIC SPRINKLERS WILL BE ATTACHED TO OR EXTENDED FROM EXISTING

SUBMITTED TO AND APPROVED BY THE AUTHORITIES HAVING JURISDICTION. B. FIRE PROTECTION SYSTEM SHALL BE DESIGNED UNDER THE FOLLOWING APPLICABLE

AND ALL CODES AND STANDARDS REFERENCED.

1. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

2. INTERNATIONAL FIRE CODE AND ALL REFERENCED MATERIAL 3. REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.

4. REQUIREMENTS OF THE OWNER'S INSURING AGENCY.

C. SPRINKLER HEAD SPACING, PIPE SIZING AND FLOW CALCULATION SHALL BE HYDRAULICALLY CALCULATED IN ACCORDANCE WITH NFPA STANDARD 13. CALCULATIONS SHALL INCLUDE OUTSIDE AND INSIDE HOSE REQUIREMENTS. 1. MARGIN OF SAFETY FOR AVAILABLE WATER FLOW AND PRESSURE: 10 PERCENT IN

PIPING, VALVES, AND BACKFLOW PREVENTERS. 2. SPRINKLER OCCUPANCY HAZARD CLASSIFICATIONS: AS INDICATED OR AS REQUIRED

3. MINIMUM DENSITY FOR AUTOMATIC-SPRINKLER PIPING DESIGN: AS INDICATED OR AS

EXCESS OF BASE REQUIREMENTS, INCLUDING LOSSES THROUGH WATER-SERVICE

4. MAXIMUM PROTECTION AREA PER SPRINKLER: AS INDICATED OR AS REQUIRED BY 5. A HAZEN AND WILLIAMS COEFFICIENT "C" OF 120 SHALL BE USED FOR ALL ABOVE GRADE PIPING AND ANY EXISTING UNDERGROUND PIPING. A COEFFICIENT "C" OF 140

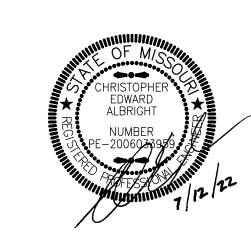
MAY BE USED FOR NEW UNDERGROUND SERVICE ENTRANCE PIPING.

A. INSTALLATION OF SPRINKLER SYSTEM PIPING SHALL NOT PROCEED UNTIL APPROVED SUBMITTALS ARE RECEIVED BY THE INSTALLER. SUBMITTALS SHALL INCLUDE THE FOLLOWING:

1. SPRINKLER PIPING SYSTEM LAYOUT DRAWINGS AND HYDRAULIC CALCULATIONS. ALL WORKING DRAWINGS SHALL BE PREPARED ACCORDING TO NFPA 13 AND BE STAMPED BY A CERTIFIED FIRE PROTECTION ENGINEER. THE SUBMITTALS SHALL HAVE BEEN APPROVED BY AUTHORITIES HAVING JURISDICTION, INCLUDING HYDRAULIC CALCULATIONS.

2. APPROVED SPRINKLER EQUIPMENT AND ACCESSORIES.





ARCHITEC^{*}

YAEGER ARCHITECTURE, INC. 8655 Penrose Lane, Suite 300 Lenexa, KS 66219 Tel: (913) 742-8000 Fax: (913) 742-8570 yaegerarchitecture.com

MEP ENGINEER

missouri certificate of authority no: 000270

Smith & Boucher, Inc. 25618 W. 103rd Street Olathe, KS 66061 Tel: (913) 345-2127

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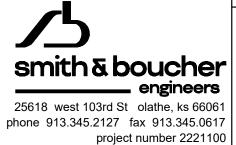
SPECIFICATIONS

REVISED DATE DESCRIPTION

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1. ENGINEERING RESPONSIBILITY: PREPARATION OF WORKING PLANS, CALCULATIONS, AND FIELD TEST REPORTS BY A QUALIFIED PROFESSIONAL ENGINEER.

NFPA STANDARDS: FIRE-SUPPRESSION-SYSTEM EQUIPMENT, SPECIALTIES, ACCESSORIES, INSTALLATION, AND TESTING SHALL COMPLY WITH THE FOLLOWING:
 NFPA 13, "INSTALLATION OF SPRINKLER SYSTEMS."

4.7 MANUFACTURERS

- A. THE FOLLOWING REQUIREMENTS APPLY TO PRODUCT SELECTION:
- 1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH PROJECT REQUIREMENTS, ALL PRODUCTS AND MATERIAL SHALL BE LISTED IN FM APPROVAL GUIDE AND IN UL PUBLICATIONS FOR THE SERVICE.

4.8 FIRE PROTECTION WATER SERVICE

A. WATER SERVICE PIPING FOR FIRE PROTECTION IS EXISTING AND SHALL BE MODIFIED TO MEET THE PROJECT REQUIREMENTS.

4.9 FIRE PROTECTION PIPE AND FITTINGS

- A. 2" AND SMALLER: THREADED-END, STANDARD-WEIGHT STEEL PIPE: ASTM A 53/A 53M, ASTM A 135, OR ASTM A 795, WITH FACTORY- OR FIELD-FORMED THREADED ENDS.

 1. MALLEABLE-IRON THREADED FITTINGS: ASME B16.3.
- 2. STEEL THREADED PIPE NIPPLES: ASTM A 733, MADE OF ASTM A 53/A 53M OR ASTM A 106, SCHEDULE 40, SEAMLESS STEEL PIPE. INCLUDE ENDS MATCHING JOINING METHOD
- 3. STEEL THREADED COUPLINGS: ASTM A 865.
- B. 2-1/2" AND LARGER" STANDARD WEIGHT STEEL PIPE: ASTM A 53/A 53M, ASTM A 135, OR ASTM A 795, WITH WELDED OR ROLL/CUT GROOVE ENDS.
- 1. STANDARD WEIGHT WELDING FITTINGS OR STANDARD WEIGHT FITTINGS WITH GROOVED JOINTS.
- C. HANGERS FOR FIRE PROTECTION PIPING SHALL BE AS FOLLOWS:
- 1. ANVIL FIGURE 69 GALVANIZED CARBON STEEL ADJUSTABLE SWIVEL RING HANGER.
- D. HANGER AND SUPPORT SPACING SHALL BE AS FOLLOWS:
- HANGER AND SUPPORT SPACING SHALL BE AS FOLLOWS:
- 8 FEET FOR PIPING 1" AND SMALLER.
 10 FEET FOR PIPING 1-1/4" THROUGH 3".
- 3. 12 FEET FOR PIPING 4" AND LARGER.

4.10 SPRINKLER HEADS

- A. SPRINKLER HEADS SHALL BE BY CENTRAL OR EQUIVALENT GRINNELL, STAR, VIKING OR RELIABLE. THE STYLES SHALL BE AS FOLLOWS:
- 1. AREAS WITH FINISHED CEILINGS: CENTRAL SPRINKLER MODEL "A", RECESSED AUTOMATIC SPRINKLER, POLISHED CHROME FINISH, ADJUSTABLE 2-PIECE ESCUTCHEON.
- 2. AREAS WITH FINISHED CEILINGS: CENTRAL SPRINKLER MODEL "76A", ADJUSTABLE FLUSH CONCEALED AUTOMATIC SPRINKLER, COVER PLATE WITH FLAT WHITE FINISH.
- 3. AREAS WITHOUT CEILINGS: CENTRAL SPRINKLER MODEL "A", PENDANT AUTOMATIC
- SPRINKLER, ROUGH BRONZE FINISH.
- 4. AREAS WITHOUT CEILINGS: CENTRAL SPRINKLER MODEL "A", UPRIGHT AUTOMATIC SPRINKLER, ROUGH BRONZE FINISH.
- 5. AREAS PROTECTED WITH SIDEWALL SPRINKLERS: CENTRAL SPRINKLER MODEL "H", HORIZONTAL SIDEWALL SPRINKLER, POLISHED CHROME FINISH.

 SPRINKLER HEADS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE
- MANUFACTURER'S INSTALLATION GUIDE.

 C. SPRINKLER HEADS SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE CENTERS OF CEILING TILES WITHOUT THE USE OF SWING JOINTS.
- D. SPRINKLER HEADS SHALL BE LOCATED IN THE CENTER OF CEILING TILES WITH A TOLERANCE OF +/- 2 INCHES. SPRINKLER HEADS SHALL BE INSTALLED WITH SWING

4.11 PIPING INSTALLATION

JOINTS TO LOCATE HEADS.

- A. LOCATIONS AND ARRANGEMENTS: INSTALL PER NFPA 13 REQUIREMENTS AND AS INDICATED ON DRAWINGS.
- B. HANGERS AND SUPPORTS: COMPLY WITH NFPA 13 FOR HANGER MATERIALS.1. INSTALL SPRINKLER SYSTEM PIPING ACCORDING TO NFPA 13.

4.12FIELD QUALITY CONTROL

- A. PERFORM THE FOLLOWING FIELD TESTS AND INSPECTIONS AND PREPARE TEST REPORTS:

 1. LEAK TEST: AFTER INSTALLATION, CHARGE SYSTEM AND TEST FOR LEAKS. REPAIR LEAKS AND RETEST UNTIL NO LEAKS EXIST.
- 3. REPORT TEST RESULTS PROMPTLY AND IN WRITING TO ARCHITECT AND AUTHORITIES HAVING JURISDICTION.

PART 1 - GENERAL REQUIREMENTS - ELECTRICAL

1.1 SUMMARY OF WORK

- A. THE CONTRACT DOCUMENTS REQUIRE THE FURNISHING AND INSTALLING OF COMPLETE FUNCTIONING ELECTRICAL SYSTEMS, AND EACH ELEMENT THEREOF, AS SPECIFIED OR INDICATED IN THE CONTRACT DOCUMENTS OR REASONABLY INFERRED, TO COMPLETELY CONSTRUCT AND LEAVE READY FOR OPERATION THE SYSTEMS AS SHOWN ON THE DRAWINGS AND HEREIN DESCRIBED, INCLUDING EVERY ARTICLE, DEVICE OR ACCESSORY, WHETHER OR NOT SPECIFICALLY CALLED FOR BY ITEM. ELEMENTS OF THE WORK INCLUDE MATERIALS, LABOR, SUPERVISION, SUPPLIES, EQUIPMENT, TRANSPORTATION, AND UTILITIES.
- B. SPECIFICATIONS AND DRAWINGS ARE COMPLEMENTARY AND WHAT IS CALLED FOR IN ONE SHALL BE AS BINDING AS IF CALLED FOR BY BOTH.
- C. ALL WORK PERFORMED UNDER THIS SECTION SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER BY EXPERIENCED MECHANICS OF THE PROPER TRADE.

.2 COORDINATION, MEASUREMENTS AND LAYOUTS

- A. THE CONTRACTOR SHALL INSPECT THE SITE WHERE THIS WORK IS TO BE PERFORMED
- AND FULLY FAMILIARIZE HIMSELF WITH ALL CONDITIONS RELATED TO THIS PROJECT.

 B. THE CONTRACTOR SHALL EMPLOY A COMPETENT FOREMAN ON THE JOB TO SEE THAT WORK IS DONE IN ACCORDANCE WITH THE BEST PRACTICES AND IN A SATISFACTORY AND WORKMANLIKE MANNER. THE FOREMAN SHALL KEEP INFORMED AS TO THE WORK OF OTHER TRADES ENGAGED IN THE CONSTRUCTION OF THE PROJECT, AND SHALL EXECUTE HIS WORK IN SUCH A MANNER AS NOT TO INTERFERE WITH OR DELAY THE WORK OF OTHER TRADES.
- C. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL SYSTEMS AND COMPONENTS COVERED UNDER THIS SECTION. WHERE LOCAL CONDITIONS NECESSITATE A REARRANGEMENT, THE CONTRACTOR SHALL PREPARE, AND SUBMIT FOR APPROVAL, DRAWINGS OF THE PROPOSED REARRANGEMENT. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, AND ACCESSORIES THAT MAY BE REQUIRED. THE CONTRACTOR SHALL CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS AFFECTING ALL OF HIS WORK AND SHALL ARRANGE SUCH WORK ACCORDINGLY, FURNISHING SUCH OFFSETS, FITTINGS AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. DRAWINGS SHALL NOT BE SCALED TO DETERMINE DIMENSION.

1.3 PERMITS AND FEES

A. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND LICENSES AND SHALL MAKE ALL DEPOSITS AND PAY ALL FEES REQUIRED FOR THE PERFORMANCE OF WORK UNDER THIS SECTION, OTHER THAN THOSE DEPOSITS OR FEES WHICH ARE FULLY REFUNDABLE TO THE OWNER.

1.4 SUBMITTALS, MATERIALS AND EQUIPMENT

- A. ALL ITEMS OF MATERIALS AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE SPECIFIED HEREIN, FREE FROM DEFECTS AND OF THE BEST QUALITY NORMALLY USED FOR THE PURPOSE IN GOOD COMMERCIAL PRACTICE.
- B. AS SOON AS POSSIBLE AFTER THE AWARD OF THE CONTRACT, THE CONTRACTOR SHALL SUBMIT FOR REVIEW SIX COPIES OF SHOP DRAWINGS FOR ALL EQUIPMENT TO BE FURNISHED FOR THIS PROJECT. SUBMITTALS SHALL INCLUDE MANUFACTURER'S NAME, MODEL NUMBER, DESCRIPTIVE ENGINEERING DATA AND ALL NECESSARY INFORMATION AS TO FINISH, MATERIAL GAUGES AND ACCESSORIES. AFTER SUCH SHOP DRAWINGS ARE PROCESSED, THREE COPIES WILL BE RETURNED TO THE CONTRACTOR. THE CONTRACTOR SHALL, UPON RECEIPT OF REVIEWED SHOP DRAWINGS PROCEED WITH THE PROCUREMENT AND INSTALLATION OF SUCH EQUIPMENT.

1.5 CODES, LAWS, AND STANDARDS

A. ALL WORK SHALL BE INSTALLED IN COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE, THE NATIONAL BOARD OF FIRE UNDERWRITERS, THE NATIONAL ELECTRICAL SAFETY CODE, AND ALL GOVERNING CODES, APPLICABLE LOCAL LAWS, REGULATIONS, ORDINANCES OR STATUTES OF REGULATORY BODIES HAVING JURISDICTION. THE WORK SHALL BE EXECUTED IN ACCORDANCE WITH SAID LAWS, REGULATIONS, ORDINANCES, STATUES OR CODES, WITHOUT INCREASED COST TO THE OWNER. ANY POINT IN QUESTION SHALL BE REFERRED TO THE ENGINEER FOR APPROVAL. WORK INDICATED ON THE DOCUMENTS THAT IS IN EXCESS OF CODE REQUIREMENTS SHALL NOT BE REDUCED IN QUALITY AND/OR QUANTITY.

B. COMPLY WITH RULES AND REGULATIONS OF PUBLIC UTILITIES AND MUNICIPAL DEPARTMETNS AFFECTED BY CONNECTIONS OF SERVICES. 2.5 FUSES

1.6 RECORD DOCUMENTS

A. THIS CONTRACTOR SHALL PREPARE A COMPLETE "AS-BUILT" SET OF DRAWINGS INCORPORATING ALL CHANGES MADE DURING CONSTRUCTION. LOCATION OF

UNDERGROUND CONDUIT SHALL BE LOCATED BY DIMENSION FROM COLUMN LINES.

B. THIS CONTRACTOR SHALL PREPARE AND SUBMIT TO THE OWNER'S REPRESENTATIVE FIVE BOUND SETS OF OPERATING AND MAINTENANCE MANUALS INCLUDING FINAL COPIES OF EQUIPMENT SHOP DRAWINGS, MANUFACTURER'S LITERATURE FOR ALL EQUIPMENT INSTALLED ON THE PROJECT SHOWING ALL DETAILS OF EQUIPMENT, REPLACEMENT PART DATA AND MAINTENANCE AND OPERATING INSTRUCTIONS. MANUALS SHALL INCLUDE COPIES OF ALL EQUIPMENT WARRANTIES.

1.7 GUARANTEES AND WARRANTIES

- A. THE CONTRACTOR SHALL GUARANTEE COMPLETE SYSTEM OPERATION AND THAT THE MATERIAL AND EQUIPMENT FURNISHED AND INSTALLED WILL BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS AND WILL GIVE SATISFACTORY SERVICE UNDER THE SPECIFIED OPERATING CONDITIONS. THE CONTRACTOR AGREES TO REPLACE, WITHOUT EXPENSE TO THE OWNER, ANY PART OF THE APPARATUS WHICH PROVES OR BECOMES DEFECTIVE WITHIN ONE YEAR AFTER THE SYSTEM IS ACCEPTED. NO EQUIPMENT
- WARRANTY OR GUARANTEE SHALL START UNTIL THE TIME OF BUILDING ACCEPTANCE.

 B. ALL WARRANTIES ISSUED BY EQUIPMENT MANUFACTURERS SHALL BE FILLED OUT IN THE OWNER'S NAME AND GIVEN TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF WORK PERFORMED UNDER THIS SECTION.

A. AFTER COMPLETION OF THE ENTIRE PROJECT THE CONTRACTOR SHALL REQUEST FINAL INSPECTION OF THIS PROJECT IN WRITTEN FORM ADDRESSED TO THE ARCHITECT ALONG WITH A STATEMENT TO THE EFFECT THAT ALL INSTALLATIONS HAVE BEEN COMPLETED, CHECKED, ADJUSTED AND BALANCED IN ACCORDANCE WITH REQUIREMENTS OF THIS PROJECT. UPON RECEIPT OF WRITTEN NOTIFICATION OF COMPLETION AND REQUEST FOR FINAL INSPECTION THE ENGINEER WILL PERFORM A FINAL INSPECTION OF THIS WORK AND, IF ALL INSTALLATIONS ARE AS REPRESENTED BY THE CONTRACTOR, THE ENGINEER WILL SUBMIT WRITTEN RECOMMENDATION OF ACCEPTANCE.

1.9 CLEANIN

- A. DIRT AND REFUSE RESULTING FROM THE PERFORMANCE OF THE WORK SHALL BE REMOVED TO KEEP THE PREMISES REASONABLE CLEAN AT ALL TIMES.
- B. AFTER COMPLETION OF THE WORK DESCRIBED IN THIS SPECIFICATION AND SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL EXPOSED SURFACES AND EQUIPMENT, REMOVE ALL DIRT, DEBRIS, CRATING, CARTONS, ETC., AND LEAVE ALL INSTALLATIONS FINISHED AND READY FOR OPERATION.

1.10 OPENINGS AND SLEEVES

- A. ALL PIPING THROUGH EXTERIOR OR FOUNDATION WALLS SHALL PASS THROUGH SCHEDULE 40 GALVANIZED STEEL SLEEVES WHICH SHALL BE LARGE ENOUGH TO ALLOW FOR PIPE SEAL MATERIAL. SLEEVES IN NEW CONSTRUCTION SHALL HAVE A MINIMUM 2 INCH WATERSTOP IN THE CENTER OF THE SLEEVE. NO SLEEVES ARE PERMITTED THROUGH CONCRETE STRUCTURAL MEMBERS.
- 1. SPACE BETWEEN PIPE AND SLEEVE IN EXTERIOR UNDERGROOUND WALLS SHALL BE SEALED WITH LINK-SEAL, FLEXICRAFT OR METRAFLEX LINK STYLE PIPE SEALS.
- 2. IN ABOVE GRADE EXTERIOR WALLS PACK THE SPACE BETWEEN PIPE AND SLEEVE WITH MINERAL WOOL AND THEN COMPLETE SEAL WITH APPROVED CAULKING COMPOUND

 Output

 Description:
- FLUSH WITH FINISHED SURFACE. PROVIDE PIPE COLLAR ON INTERIOR SIDE OF WALL.

 B. ALL PIPING THROUGH FLOORS SHALL BE PROVIDED WITH SCHEDULE 40 GALVANIZED STEEL PIPE SLEEVES, EXTENDING 1 INCH ABOVE THE FLOOR.
- C. IN FIRE RATED WALLS: CAULKING SHALL BE A PURE CERAMIC FIBER MADE OF ALUMINA-SILICA, "CERAFIBER-FS" BY JOHNS-MANVILLE. SEALANT SHALL BE GUN GRADE. AN ACRYLIC 2-PART GUN APPLIED, FIRE RETARDANT ELASTIC SEALANT, "DYMERIC" BY TREMCO OR EQUAL BY PERMATITE NO. 1113FR.
- 1. LIMIT THE SIZE OF THE SPACE BETWEEN THE WALL OR FLOOR AND THE OUTSIDE OF THE PIPE OR DUCT TO 1 INCH MAXIMUM. THIS SPACE IS SUFFICIENT TO ALLOW SOME MOVEMENT OF THE PIPES OR DUCT WITHOUT CRACKING THE CAULKING OR SEALANT.
- 2. FOR OPENINGS IN WALLS, THE CAULKING SHALL BE APPLIED TO A MINIMUM OF 3 INCH TOTAL DEPTH. SEALANT SHALL THEN BE APPLIED ON BOTH SIDES OF THE WALL OPENING A MINIMUM OF 1/2 INCH IN DEPTH, FINISHED FLUSH WITH THE WALL. D.
- D. FOR OPENINGS IN FLOORS, THE CAULKING SHALL BE APPLIED FROM THE UPPER SIDE TO A MINIMUM OF 3 INCH TOTAL DEPTH RECESSED 1/2 INCH BELOW THE FINISHED FLOOR. THIS 1/2 INCH RECESS SHALL THEN BE FILLED WITH SEALANT TO FLUSH WITH FINISHED

1.11 CUTTING AND PATCHING

- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CUTTING OF WALLS, FLOORS, CEILINGS AND ROOFS REQUIRED FOR PERFORMANCE OF HIS WORK.
- B. NO STRUCTURAL MEMBER SHALL BE CUT WITHOUT PERMISSION FROM THE ARCHITECT.
- C. PATCH ALL OPENINGS TO MATCH ADJACENT CONSTRUCTION IN BOTH MATERIAL AND FINISH.
- D. ALL CUTTING OF EXISTING CONCRETE FLOORS/SLABS ON GRADE IN THE INTERIOR OF THE BUILDING SHALL BE PERFORMED BY "SAW CUTTING" AND SHALL BE PERFORMED BY THIS

1.12 TEMPORARY HEAT

A. THE CONTRACTOR SHALL COOPERATE WITH THE GENERAL CONTRACTOR TO PROVIDE TEMPORARY HEAT AS SOON AS POSSIBLE FOR USE DURING CONSTRUCTION IF TEMPORARY HEAT IS REQUIRED. AIR HANDLING EQUIPMENT SHALL NOT BE OPERATED AT ANY TIME WITHOUT FILTERS IN PLACE AND ALL EQUIPMENT SHALL BE PROTECTED FROM DAMAGE. OPERATING THE EQUIPMENT FOR TEMPORARY HEAT SHALL NOT START THE WARRANTY PERIOD OF THE EQUIPMENT USED.

1.13 DEMOLITION AND NEW WORK

- A. THE CONTRACTOR SHALL DO ALL DEMOLITION, ALTERATIONS AND REWORK INDICATED AND/OR REQUIRED TO MAINTAIN THE OPERATION OF ALL EXISTING ELECTRICAL SYSTEMS AND TO INTEGRATE THE NEW SYSTEMS IN THE RENOVATED BUILDING AS REQUIRED. THE CONTRACTOR SHALL INCLUDE ALL WORK WHICH MAY BE REQUIRED TO ALTERATIONS AND DEMOLITION WORK. THIS SHALL INCLUDE ALL REMOVAL, RELOCATION AND REWORKING OF WIRE AND CONDUIT, OUTLET BOXES, JUNCTION BOXES, ETC. EXISTING SYSTEMS AND NEW SYSTEMS SHALL BE COMPLETELY INTEGRATED AS INTENDED AND AS INDICATED ON THE PLANS AND IN THE SPECIFICATIONS.
- B. THE CONTRACTOR SHALL REMOVE FROM THE PREMISES AND DISPOSE OF PROPERLY ALL EXISTING MATERIAL AND EQUIPMENT WHICH NO LONGER SERVES A PURPOSE IN ALTERED AREAS. THE CONTRACTOR SHALL REMOVE CONNECTIONS TO EQUIPMENT BACK TO PANEL OR JUNCTION BOX. MAINTIAN CIRCUIT CONNECTIVITY. UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL MAINTAIN SERVICES TO ALL EXISTING AREAS REQUIRING SUCH SERVICES. THE CONTRACTOR SHALL REROUTE AS REQUIRED SUCH SERVICES WHERE ARE DISRUPTED DUE TO ARCHITECTURAL CHANGES IN THE EXISTING STRUCTURE. ANY EQUIPMENT WHICH IS DESIGNATED TO BE REUSED AND WHICH IS DAMAGED IN THE PROCESS SHALL BE REPLACED BY THE CONTRACTOR WITH NEW EQUIPMENT OF LIKE KIND AT NO COST TO THE OWNER.

1.14 INTERRUPTION OF SERVICES

A. THE CONTRACTOR SHALL SCHEDULE ANY SERVICE INTERRUPTIONS TO THE EXISTING BUILDING WITH THE OWNER'S REPRESENTATIVE. SUCH INTERRUPTIONS SHALL BE PLANNED SO AS TO BE AT TIMES TO CAUSE THE LEAST INCONVENIENCE AND INTERRUPTION TO THE FACILITY'S SCHEDULE.

1.15 EXISTING CONDITIONS

ALL EXISTING CONDITIONS

ALL EXISTING CONDITIONS SHOWN ON THE DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS FOR THIS PROJECT HAVE BEEN DETERMINED FROM AVAILABLE DRAWINGS AND FIELD INVESTIGATIONS. CONTRACTORS MAKING PROPOSALS FOR THIS WORK SHALL INVESTIGATE ALL EXISTING CONDITIONS AND BASE THEIR PROPOSALS ON THEIR OBSERVATIONS TO PROVIDE COMPLETE AND FUNCTIONING INSTALLATIONS IN ACCORDANCE WITH THE INTENT OF THE DRAWING AND SPECIFICATIONS FOR THIS PROJECT AND ALL APPLICABLE GOVERNING CODES, RULES, REGULATIONS AND ORDINANCES. FAILURE TO DETERMINE EXISTING CONDITIONS WHICH CAUSE ADDITIONAL WORK WILL NOT CONSTITUTE GROUNDS FOR ADDITIONAL COMPENSATION.

PART 2 - ELECTRICAL

2.1 GENERAL REQUIREMENTS

A. SEE PART 1 FOR GENERAL REQUIREMENTS

2.2 IDENTIFICATION OF SWITCHES AND APPARATUS

A. ALL CABINETS, SAFETY SWITCHES, AND OTHER APPARATUS USED FOR OPERATION AND CONTROL OF CIRCUITS, APPLIANCES, AND EQUIPMENT UNDER THIS CONTRACT SHALL BE PROPERLY IDENTIFIED BY MEANS OF ENGRAVED PLASTIC PLATES EITHER BLACK WITH WHITE LETTERS OR WHITE WITH BLACK LETTERS.

2.3 GROUNDING

A. ALL CONDUCTORS, MOTOR FRAMES, RACEWAYS, CABINETS, ETC., THAT REQUIRE GROUNDING SHALL BE GROUNDED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE, THOSE OF THE SERVING UTILITY AND LOCAL AUTHORITIES HAVING JURISDICTION.

2.4 SAFETY SWITCHES

- A. SAFETY SWITCHES, AS MANUFACTURED BY GENERAL ELECTRIC, CROUSE-HINDS, CUTLER-HAMMER, SQUARE D, SIEMENS, OR APPROVED EQUAL, SHALL BE FURNISHED AND INSTALLED (WHERE NOT FURNISHED BY OTHERS) WHEREVER SHOWN ON THE DRAWINGS SPECIFIED, OR REQUIRED BY THE NATIONAL ELECTRICAL CODE.
- B. SAFETY SWITCHES SHALL BE HEAVY DUTY TYPE, UNDERWRITERS' LABORATORIES SHORT CIRCUIT LABELED FOR AT LEAST 100,000 AMPERES WITH CLASS R REJECTION FUSEHOLDERS SO AS TO COMPLY WITH NEC 100-9. SWITCHES INSIDE OF BUILDING SHALL BE FURNISHED IN NEMA 1 GENERAL PURPOSE ENCLOSURES. SWITCHES OUTSIDE OF BUILDING SHALL BE FURNISHED IN NEMA 3R ENCLOSURES UNLESS OTHERWISE SPECIFIED.
- C. EACH MOTOR SHALL BE PROVIDED WITH A DISCONNECTING MEANS IN ACCORDANCE WITH REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.

2.14 FIRE ALARM SYSTEM

A. THIS CONTRACTOR SHALL FURNISH AND INSTALL CARTRIDGE AND PLUG TYPE FUSES AS

MANUFACTURED BY THE BUSSMAN MANUFACTURING COMPANY, GOULD/SHAWMUT, CEFCO.

OR APPROVED EQUAL, IN ALL FUSIBLE EQUIPMENT. TIME-DELAY TRIONIC OR FUSETRON

FUSES, UL CLASS RK5, SHALL BE INSTALLED ON ALL MOTOR CIRCUITS. NON TIME-DELAY

AMP-TRAP (A2K OR A6K) OR BUSSMAN LIMITRON (KTN OR KTS), UL CLASS RK1 SHALL BE

INSTALLED ON CIRCUITS FEEDING PANELBOARDS. ALL OTHER CIRCUITS SHALL BE

PROTECTED BY FAULT-TRAP, UL CLASS RK5, FUSES OR APPROVED EQUAL. CLASS K FUSES

A. ALL ELECTRICAL WIRING, INCLUDING LOW VOLTAGE WIRING, SHALL BE INSTALLED IN

3. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 EPC-40-PVC. ALL CONDUITS SHALL BE

C. CONDUIT INSTALLED IN CONCRETE SLABS OR ABOVE GROUND SHALL BE GALVANIZED

D. WHEN PVC CONDUITS PENETRATE CONCRETE FLOOR CONSTRUCTION, CONTRACTOR SHALL

F. ALL FITTINGS SHALL BE OF THE COMPRESSION TYPE AND WATERTIGHT FOR

G. CONDUIT FOR INTERIOR WIRING, IN GENERAL, SHALL BE THINWALL TUBING UNLESS

H. RACEWAYS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET AND FITTING TO FITTING. A

RUN OF CONDUIT BETWEEN OUTLETS OR FITTINGS SHALL NOT CONTAIN MORE THAN THE

EQUIVALENT OF FOUR QUARTER-BENDS INCLUDING THOSE BENDS LOCATED IMMEDIATELY

AT THE OUTLET OR FITTING. THE RADIUS OF BENDS SHALL NEVER BE SHORTER THAN

THAT OF THE CORRESPONDING TRADE ELBOW. THE SYSTEM SHALL BE COMPLETE WITH

OUTLETS, DISTRIBUTION BOXES, ETC., SMOOTH INSIDE AND MECHANICALLY SECURE IN

PLACE. APPROVED STRAPS, HANGERS, OR SUPPORTS SHALL BE USED TO SECURE

CONDUITS IN PLACE. CONDUITS SHALL, IN GENERAL, BE SUPPORTED AT INTERVALS NOT

EXCEEDING 10'-0" AND WITHIN 3'-0" OF EACH OUTLET BOX, JUNCTION BOX, CABINET OR

CONDUITS SHALL BE PROTECTED DURING CONSTRUCTION; PLUG AND KEEP CLEAN AND

DRY. CONDUIT ENDS SHALL BE BUTTED IN CENTERS OF COUPLINGS. NO CRACKS OR FLATTENED SECTIONS WILL BE PERMITTED AT BENDS OR ELSEWHERE. ALL ENDS OF

CONDUIT SHALL BE REAMED TO REMOVE ROUGH EDGES. RUNNING THREADS WILL NOT BE

I. CONDUITS SHALL BE CONCEALED WITHIN THE WALLS, CEILINGS, AND FLOORS WHERE

C. NO. 10 AWG AND SMALLER CONDUCTORS SHALL BE SOLID WITH TYPE THHN INSULATION

AND NO. 8 AWG AND LARGER CONDUCTORS SHALL BE STRANDED WITH TYPE THHN

INSULATION EXCEPT THAT CONDUCTORS WITHIN 3 INCHES OF LIGHT FIXTURE BALLASTS

SHALL HAVE RHH, THHN, OR EQUAL INSULATION RATED FOR 90 DEGREES C. APPLICATION.

A. ELECTRICAL OUTLETS AND EQUIPMENT ARE SO LOCATED ON THE DRAWINGS TO SHOW

INTENT OF DESIGN. MINOR VARIATIONS IN THESE LOCATIONS MAY BE MADE BY THIS

CONTRACTOR TO COMPLY WITH STRUCTURAL AND OTHER REQUIREMENTS AS DETERMINED

IN THE COURSE OF CONSTRUCTION. IT SHALL BE THE DUTY OF THIS CONTRACTOR TO

TAKE HIS OWN MEASUREMENTS AND BE RESPONSIBLE FOR SAME. THIS CONTRACTOR

SHALL ALSO REVIEW THE ARCHITECTURAL DRAWINGS AND THOSE DRAWINGS USED BY

OTHER CONTRACTORS IN ORDER TO DETERMINE EXACT LOCATIONS FOR ELECTRICAL

5. RECEPTACLES ABOVE COUNTERS: CENTERLINE 10-INCHES ABOVE COUNTER AND

A. GROUPS OF SWITCHES, OUTLETS OR SWITCH AND OUTLET COMBINATIONS SHALL BE

B. WALL PLATES SHALL FIT AND COVER PROPERLY THE DEVICE AND WALL OPENING. NO OPEN

. WALL PLATES SHALL BE SET VERTICAL AND SHALL FINISH FLUSH WITH ALL SURROUNDING

D. WALL PLATES FOR ALL DEVICES AND TELEPHONE OUTLETS SHALL MATCH THE EXISTING

A. SINGLE-POLE WALL TUMBLER SWITCHES FOR GENERAL USE SHALL BE SPECIFICATION

GRADE HUBBELL NO. 1121, OR APPROVED EQUAL, MECHANICALLY SILENT TYPE WITH

PLASTIC HANDLES, RATED 20 AMPERES AC, 120/277 VOLTS. GENERAL USE SWITCHES

INDICATED ON PLANS AS DOUBLE POLE, 3-WAY, 4-WAY OR LOCK TYPE WITH KEY GUIDE

SHALL BE THE SAME SERIES AS THE SINGLE-POLE SWITCHES. DEVICE COLOR SHALL

NO. 5362, OR APPROVED EQUAL, DUPLEX GROUNDING TYPE RECEPTACLES RATED 20

C. RECEPTACLES DESIGNATED WITH GROUND FAULT PROTECTION SHALL BE HUBBELL NO.

A. FURNISH AND INSTALL TELEPHONE OUTLETS AS NOTED ON THE DRAWINGS WITH 3/4 INCH

C. FURNISH AND INSTALL COVER PLATES SUITABLE FOR USE WITH THE EQUIPMENT TO BE

A. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL LIGHTING FIXTURES AND LAMPS AS

AND LAMPS SHALL BE PROPERLY CLEANED AND ADJUSTED AFTER INSTALLATION.

C. LAMPS SHALL BE AS MANUFACTURED BY GENERAL ELECTRIC, SYLVANIA OR PHILLIPS.

CONTRACTOR IN THE PRESENCE OF THE ARCHITECT OR HIS REPRESENTATIVE.

F. LIGHT FIXTURES SHALL BE SUPPORTED FROM ROOF STRUCTURE PER UBC 47-18.

INDICATED ON THE DRAWINGS AND HEREIN DESCRIBED. MATERIAL, EQUIPMENT, OR

SERVICES NECESSARY TO COMPLETE THE INSTALLATION OF THESE FIXTURES, BUT NOT

SPECIFICALLY MENTIONED, SHALL BE FURNISHED AS THOUGH SPECIFIED. ALL FIXTURES

3. ALL ADJUSTABLE LIGHTING FIXTURES SHALL BE CAREFULLY POSITIONED BY THIS

D. BALLASTS SHALL BE AS NOTED IN FIXTURE SCHEDULE. BALLASTS IN FIXTURES

E. THIS CONTRACTOR SHALL FURNISH AND INSTALL FIXTURES HEREIN SPECIFIED OR AS

G. GENERAL CONTRACTOR SHALL PROVIDE ALL FIRE-RATED ENCLOSURES FOR LIGHT

A. ALL SERVICE ENTRANCE EQUIPMENT, DISCONNECT SWITCHES, PANELBOARDS, RELAYS,

MOTOR STARTERS, CONTACTORS, TELEPHONE TERMINAL CABINETS, TV EOUIPMENT AND

RISER JUNCTION BOXES, AND OTHER ELECTRICAL EQUIPMENT UNDER THIS CONTRACT,

SHALL BE PROVIDED WITH PROPER IDENTIFICATION. IDENTIFICATION SHALL BE BY THE

USE OF ENGRAVED COLOR CODED PLASTIC NAMEPLATES WITH WHITE LETTERING

SCREWED TO THE COVER OF THE EQUIPMENT. USE OF EMBOSSED PLASTIC "TAPE" LABELS

AS PREPARED BY "TYPEWRITER" TYPE EQUIPMENT SHALL NOT BE USED. COLOR CODING

1. EQUIPMENT CONNECTED TO A NORMAL POWER SOURCE SHALL BE BLACK WITH WHITE

DESIGNATED FOR EMERGENCY LIGHTING MUST BE COMPATIBLE WITH THE EMERGENCY

GF-5362, OR APPROVED EQUAL, 120 VOLT, 20 AMP GROUND FAULT INTERRUPTER TYPE.

B. CONVENIENCE OUTLETS IN FINISHED SPACES SHALL BE SPECIFICATION GRADE HUBBELL

AMPERES AC, 120 VOLT. DEVICE COLOR SHALL MATCH EXISTING.

CONDUIT TO ABOVE LAY-IN CEILINGS WITH END BUSHINGS.

B. PROVIDE PULL WIRES IN ALL TELEPHONE CONDUITS.

OR UNFINISHED SURFACES SHALL SHOW AFTER INSTALLATION OF THE WALL PLATES.

OUTLETS AND EQUIPMENT. DO NOT SCALE DRAWINGS FOR OUTLET LOCATIONS.

POSSIBLE AND UNLESS OTHERWISE NOTED. EXPOSED CONDUIT SHALL BE RUN PARALLEL

UNDERGROUND AND IN SLAB LOCATIONS. COMPRESSION OR SCREWED FITTINGS FOR

USE RIGID STEEL OR IMC ELBOWS AND EXTENSION. PVC CONDUIT/FITTINGS SHALL NOT

CONDUIT AS HEREIN SPECIFIED. NO CONDUIT OR TUBING OF LESS THAN 3/4 INCH

NOMINAL SIZE SHALL BE USED BELOW GRADE; NO LESS THAN 1/2 INCH NOMINAL SIZE

ARE NOT ACCEPTABLE.

SHALL BE USED ABOVE GRADE.

RIGID STEEL OR EPC-40-PVC.

OTHERWISE NOTED.

FITTING.

2.7 WIRE AND CABLE

A. WIRE AND CABLE SHALL BE COPPER.

B. EQUIPMENT MOUNTING HEIGHTS:

(A) FLOOR TO BOTTOM: 16".

(A) FLOOR TO BOTTOM: 16".

MOUNTED UNDER ONE GANG-PLATE.

DEVICE COLOR SHALL MATCH EXISTING.

UNIT USED WITH MINIMUM LEAKAGE.

FIXTURES INSTALLED IN FIRE-RATED CEILINGS.

SHOWN ON THE DRAWINGS.

2.13 IDENTIFICATION OF EQUIPMENT

LETTERS.

(A) FLOOR TO TOP: 48".

(A) FLOOR TO CENTERLINE: 24".

INTERIOR RECEPTACLES:

2. EXTERIOR RECEPTACLES:

3. TELEPHONE OUTLETS:

SWITCHES:

2.9 WALL PLATES

SURFACES.

DEVICES.

MATCH EXISTING.

CONNECTED.

2.12 LIGHTING FIXTURES

B. ALL CONDUCTORS SHALL BE COPPER.

2.8 LOCATIONS OF OUTLETS AND EQUIPMENT

E. THINWALL TUBING SHALL BE E.M.T.

INSTALLED WITH MINIMUM 24 INCH COVER.

BE PERMITTED TO BE EXPOSED ABOVE THE FLOOR.

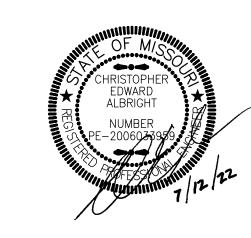
TO OR AT RIGHT ANGLES WITH THE BUILDING LINES.

2.6 CONDUIT

- A. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT, WIRE, CONDUIT AND ENGINEERING SERVICES NECESSARY TO INSURE A COMPLETE AND FUNCTIONAL FIRE ALARM SYSTEM AS DESCRIBED HEREIN AND AS SHOWN ON THE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL MATERIAL AND EQUIPMENT COMPATIBLE TO THE SYSTEM SUPPLIED. ANY EQUIPMENT NOT SPECIFICALLY MENTIONED IN THIS SPECIFICATION OR NOT SHOWN ON THE DRAWINGS BUT REQUIRED FOR THE PROPER OPERATION OF THE FIRE ALARM SYSTEM SHALL BE
- B. ALL EQUIPMENT AND COMPLETED INSTALLATION SHALL BE IN COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE, NFPA, LOCAL CODES, THESE SPECIFICATIONS AND AUTHORITIES HAVING JURISDICTION WITH THE STRICTER REQUIREMENTS GOVERNING IN CASE OF POSSIBLE VARIANCES. ALL COMPONENTS OF THE SYSTEM SHALL BE STANDARD OF THE MANUFACTURER, LISTED BY UNDERWRITERS' LABORATORIES, INC. AND BEAR THEIR MARK.
- C. THE FIRE ALARM EQUIPMENT SHALL BE THAT OF THE GE-EST COMPANY OR COMPARABLE SYSTEMS BY PYROTRONICS, NOTIFIER OR SIMPLEX. THE ALARM CONTRACTOR SHALL PROVIDE, AT THE REQUEST OF THE OWNER, MEANS BY WHICH THE SYSTEM CAN BE SERVICED, MAINTAINED AND MONITORED BY COMPETENT QUALIFIED INDIVIDUALS.
- D. THE SYSTEM SHALL BE ADDRESSABLE, ELECTRICALLY SUPERVISED AND UTILIZE 2-WIRE, CLASS B CIRCUITS FOR ALL ALARM INITIATION ZONES AND SIGNAL CIRCUITS. THE SYSTEM SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FIRE ALARM CONTROL PANEL, MANUAL AND AUTOMATIC ALARM INITIATING DEVICES AND AUDIBLE/VISUAL ALARM INDICATING DEVICES. THE SYSTEM SHALL HAVE THE CAPABILITY OF BEING MONITORED VIA AN OUTSIDE PHONE LINE PROVIDED BY THE OWNER.
- E. ACTUATION OF ANY MANUAL OR AUTOMATIC INITIATING DEVICE SHALL CAUSE THE FOLLOWING:
- 1. ALL AUDIBLE INDICATING DEVICES TO SOUND.
- 2. VISUAL INDICATING DEVICES TO FLASH.
- 3. SHUTDOWN ALL AIR HANDLING UNITS.
- F. THE FIRE ALARM CONTROL PANEL IS EXISTING AND PROGRAMMING SHALL BE MODIFIED TO ACCOMMODATE THE FLOORPLAN CHANGES OF THIS PROJECT.
- G. SMOKE AND THERMAL DETECTORS SHALL BE SIGA-PHS WITH SIGA-SB LISTED BY UNDERWRITERS' LABORATORIES. DETECTORS SHALL BE INTERCHANGEABLE AND COMPATIBLE WITH IONIZATION DETECTORS USING THE SAME TYPE BASES. INTERNAL DETECTOR CIRCUITS SHALL BE SHIELDED AGAINST ELECTRICAL INTERFERENCE, AND SHALL BE RESISTANT TO TRANSIENTS, "NOISE" AND RF INTERFERENCE. THE DETECTORS SHALL BE CAPABLE OF OPERATING ON EITHER A 2-WIRE LOOP WITH END-OF-LINE RESISTOR OR ON A 4-WIRE LOOP USING 24VDC. A 135 DEGREE F. FIXED TEMPERATURE HEAT ELEMENT SHALL BE INCLUDED IN THE BASE.
- H. MANUAL STATIONS SHALL BE GE-EST MODEL SIGA-278 NONCODED, SINGLE ACTION TYPE. THE STATION SHALL BE DESIGNED FOR SEMI-FLUSH MOUNTING ON A 4 INCH OUTLET BOX. STATIONS SHALL BE CONSTRUCTED SO THAT ONCE IT HAS BEEN PULLED, IT CAN BE RESET ONLY BY AUTHORIZED PERSONNEL USING A RESET KEY.
- I. FIRE ALARM AUDIBLE/VISUAL UNITS SHALL BE GE-EST AND G1R SERIES FLUSH-MOUNTED COMBINATION HORN AND FLASHING LIGHT. HORN SHALL BE RED VIBRATING TYPE OPERATING AT 24VDC. THE FLASHING LIGHT SHALL BE XENON STROBE AND OPERATE AT GREATER THAN 1000 CANDLEPOWER. THE UNIT SHALL FLASH AT APPROXIMATELY TWO FLASHES PER SECOND. A FLASH RATE OF GREATER THAN TWO FLASHES PER SECOND IS NOT ACCEPTABLE. BOTH THE HORN AND STROBE SHALL OPERATE ON 24VDC SUPPLIED FROM THE CONTROL PANEL.
- J. THERMAL HEAT DETECTORS SHALL BE SIGA-HFS, 190 DEGREE F. FIXED TEMPERATURE TYPE. WHEN UNIT IS ACTIVATED, THE UNITS SHALL BE NON-RESTORABLE AND GIVE VISUAL EVIDENCE OF SUCH OPERATION.
- K. DUCT SMOKE DETECTORS SHALL BE SIGA-SD AND SHALL BE OF THE SOLID STATE PHOTOELECTRIC TYPE. NO RADIOACTIVE MATERIALS SHALL BE USED. DETECTOR CONSTRUCTION SHALL BE OF THE SPLIT TYPE, THAT IS, MOUNTING BASE WITH TWIST-LOCK DETECTING HEAD. CONTACTS BETWEEN THE BASE AND HEAD SHALL BE OF THE BIFURCATED TYPE USING SPRING-TYPE, SELFWIPING CONTACTS. REMOVAL OF THE DETECTOR HEAD SHALL INTERRUPT THE SUPERVISORY CIRCUIT OF THE FIRE ALARM DETECTION LOOP AND CAUSE A TROUBLE SIGNAL AT THE CONTROL PANEL. DUCT HOUSING COUPLINGS SHALL BE SLOTTED TO INSURE PROPER ALIGNMENT OF THE SAMPLING AND EXHAUST TUBES. DETECTOR SHALL HAVE AN ALARM LED VISIBLE THROUGH A TRANSPARENT FRONT COVER. DETECTORS SHALL OBTAIN THEIR OPERATING POWER FROM THE SUPERVISED CURRENT IN THE FIRE ALARM LOOP. INSTALLATION MUST COMPLY WITH NFPA-90A. PROVIDE SIGA-LED REMOTE ALARM LED INDICATOR/KEY TEST SWITCH FOR EACH UNIT. MOUNT SWITCH ON WALL NEAR EACH UNIT AND LABEL.
- L. MAGNETIC DOOR HOLDERS SHALL BE 1504-AQ AND SHALL HAVE AN APPROXIMATE HOLDING FORCE OF 35 POUNDS. THE DOOR PORTION SHALL HAVE A STAINLESS STEEL PIVOTAL MOUNTED ARMATURE WITH SHOCK ABSORBING NYLON BEARING. UNIT SHALL BE CAPABLE OF BEING EITHER SURFACE, FLUSH, SEMI-FLUSH OR FLOOR-MOUNTED AS REQUIRED. DOOR HOLDERS SHALL BE UL LISTED FOR THEIR INTENDED PURPOSE.
- M. POWER LIMITED CIRCUIT CABLES SHALL BE UL LISTED AND AS MANUFACTURED BY GE., WEST PENN OR BELDON. CONDUCTORS SHALL BE SOLID GAUGES #18 (FOR PULL STATIONS AND SMOKE DETECTOR) AND #16 FOR HORNS, LIGHTS AND DOOR HOLDERS). CABLES SHALL BE TWISTED PAIRS TO REDUCE SUSCEPTIBILITY TO TRANSIENT NOISE. ALL FIRE ALARM WIRING SHALL BE INSTALLED IN CONDUIT UNLESS NOTED OTHERWISE.



CONSTRUCTIONAs Noted on Plans Review



ARCHITEC

YAEGER ARCHITECTURE, INC. 8655 Penrose Lane, Suite 300 Lenexa, KS 66219 Tel: (913) 742-8000 Fax: (913) 742-8570 yaegerarchitecture.com missouri certificate of authority no: 000270

MEP ENGINEER

Smith & Boucher, Inc 25618 W. 103rd Street Olathe, KS 66061 Tel: (913) 345-2127

> ADAMS TOYOTA RESTROOMS 501 NE COLBERN ROAD LEE'S SUMMIT, MO 64086

PROJECT NO: DATE: DRAWN BY: CHECKED BY:

CHECKED BY: CEA

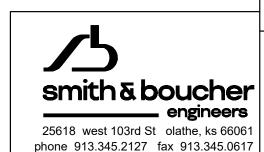
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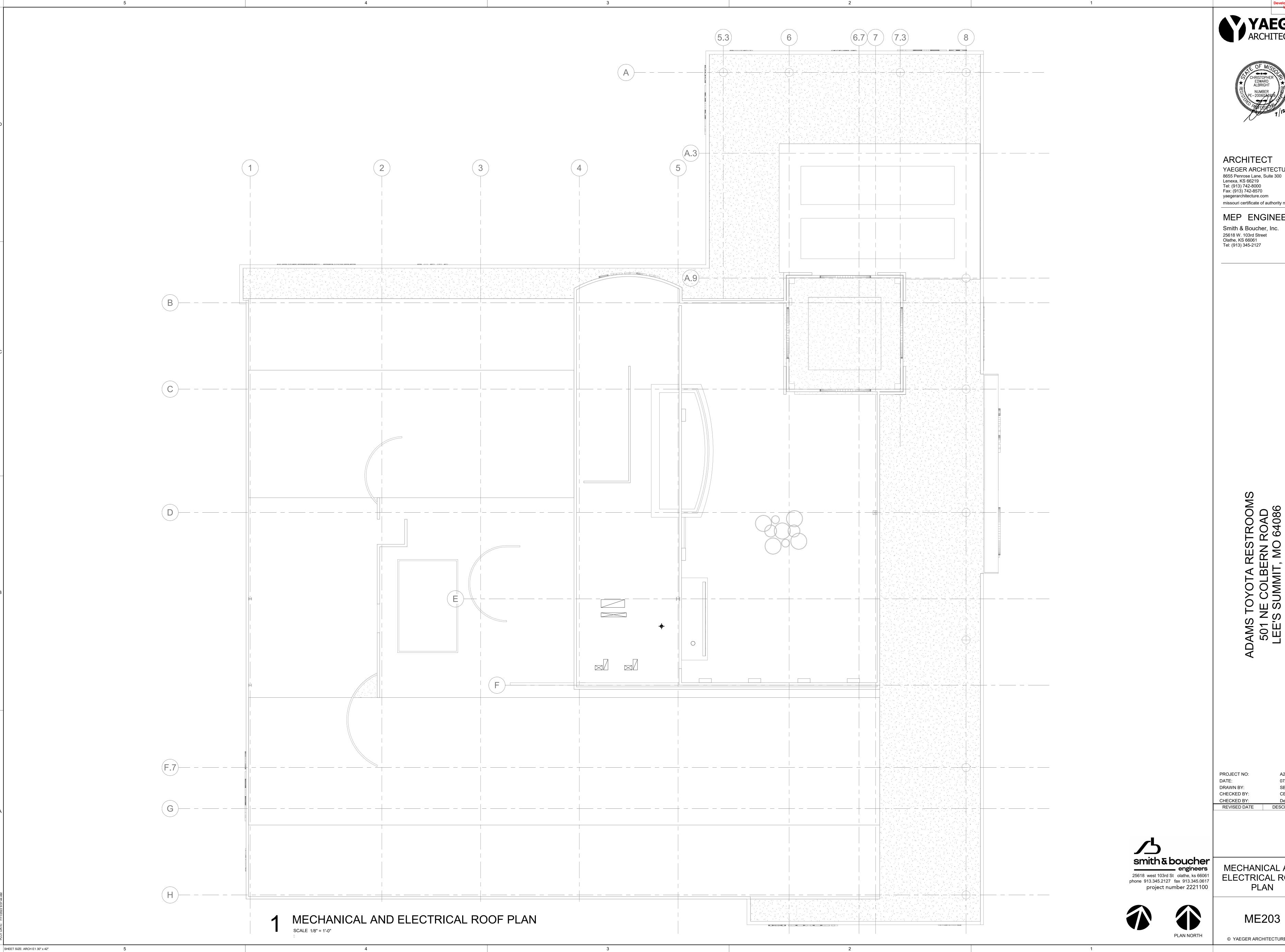
07/12/2022

MECH. AND ELEC. SPECIFICATIONS



project number 2221100

ME103



MARK				FITTINGS	FITTINGS						
	MANUFACTURER/ MODEL	DESCRIPTION	MANUFACTURER/ MODEL	DESCRIPTION	NOTES	cw	HW	SAN	VENT		
WC-1	AMERICAN STANARD	ADA WATER CLOSET: RIGHT HEIGHT, WHITE VITREOUS CHINA, FLOOR	SLOAN	ADA COMPLIANT EXPOSED, TOP SPUD, MANUAL, WATER CLOSET	5	1"		4"	2"		
	CADET	MOUNTED, FLOOR DISCHARGE, PRESSURE ASSISSTED FLUSH TANK,	ROYAL	FLUSHOMETER WITH METAL NON-HOLD-OPEN OSCILLATING HANDLE							
		WATER CLOSET WITH CHROME FINISHED HANDLE AND FULLY GLAZED	111-1.28	AND ADJUSTABLE TAILPIECE. 1.28 GPF							
		TRAP. 1.6GPF. FURNISH AND INSTALL WITH MATCHING SEAT LESS COVER.									
				PROVIDE WALL AND SPUD FLANGES.							
UR-1	KOHLER	ADA COMPLIANT URINAL: WHITE VITREOUS CHINA WALL HUNG URINAL WITH	SLOAN	EXPOSED, MANUAL, 3/4" TOP SPUD, URINAL FLUSHOMETER WITH	5	3/4"		2"	1-1/2"		
	BARDON	3/4" TOP SPUD, 0.5 GALLON SIPHON JET FLUSHING ACTION.	ROYAL	METAL NON-HOLD-OPEN OSCILLATING HANDLE AND ADJUSTABLE TAILPIECE, 0.5 GPF.							
	K-4991-ET		186-0.5								
		PROVIDE CARRIER AS REQUIRED TO SUIT APPLICATION FOR MOUNTING IN									
	WADE	CHASE.		PROVIDE WALL AND SPUD FLANGES.							
L-1	SLOAN	ADA COMPLIANT LAVATORY: TWO STATION CORIAN SOLID SURFACE	SLOAN	LAVATORY FACUET: ADA COMPLIANT, BATTERY POWERED, CENTER SET, POLISHED	1,2,3,4,	1/2"	1/2"	1-1/2"	1-1/2"		
	AD-82000	COUNTER TOP, STAND ALONE SINK SYSTEM, RECTANGULAR BASIN WITH OVERFLOW DRAIN. 60"X23-1/2"X5" OVERALL DIMENSIONS, PROVIDE WITH	EFX-250	FINISH, FAUCET. 0.5 GPM.	5,6,7						
		ANGLES STAINLESS STEEL ENCLOSURE, STRAINER AND CHROME PLATED TAIL PIECE.	ESD-500	LAVATORY SOAP DISPENSER: BATTERY POWERED, CENTER SET, POLISHED CHROME FINISH.							
		TALL ILOC.	EHD-510	LAVATORY DRYER: BATTERY POWERED, CENTER SET, POLISHED CHROME FINISH							
			LEONARD LF-170	ASSE 1070 COMPLIANT POINT OF USE MIXING VALVE. INSTALL ABOVE CEILING.							
L-2	KOHLER		SLOAN	LAVATORY FACUET: ADA COMPLIANT, BATTERY POWERED, CENTER SET, POLISHED	1,2,3,4,	1/2"	1/2"	1-1/2"	1-1/2"		
		ADA COMPLIANT LAVATORY: WHITE, VITREOUS CHINA, UNDERMOUNT, RECTANGULAR BASIN WITH OVERFLOW DRAIN. 19-13/16"X15-5/8"X6-3/4"	EFX-250	FINISH, FAUCET. 0.5 GPM.							
		OVERALL DIMENSIONS. PROVIDE WITH STRAINER AND CHROME PLATED TAIL PIECE.	ESD-500	LAVATORY SOAP DISPENSER: BATTERY POWERED, CENTER SET, POLISHED CHROME FINISH.							
			LEONARD LF-170	ASSE 1070 COMPLIANT POINT OF USE MIXING VALVE. INSTALL ABOVE CEILING.							

1: PROVIDE CHROME PLATED BRASS TAILPIECE AND GRID DRAIN.

2: PROVIDE CHROME PLATED BRASS P-TRAP. 3: PROVIDE LOOSE KEY STOPS AND FLEXIBLE RISERS.

PROJECT NAME: AUTOCAD FILE LOCATION \ NAME: LAST CORRECTION BY ♦ DATE ♦ TIME: PLOTTED BY ♦ DATE ♦ TIME:

4: INSULATE EXPOSED TAILPIECE, P-TRAP, AND WATER RISERS PER ADA REQUIREMENTS. REFER TO SPECIFICATIONS FOR INSULATION METHODS.

5: PROVIDE CAULK AROUND FIXTURE CONNECTION TO FLOOR/WALL. COLOR BY ARCHITECT.

6: QUANTITY OF FAUCET HOLES SHALL MATCH FAUCET TYPE.

7: PROVIDE CONCEALED ARM TYPE CARRIER WITH SQUARE TUBULAR STEEL UP-RIGHTS AND BLOCK TYPE BASES.

PIPE INSULATION SCHEDULE - PLUMBING							
SERVICE	PIPE SIZE	INSULATION					
DOMESTIC COLD WATER	1/2" - 2"	1/2" FIBERGLASS, ASJ OR 1/2" FLEXIBLE CLOSED CELL ELASTOMERIC					
	2-1/2" AND LARGER	1" FIBERGLASS, ASJ OR 1" FLEXIBLE CLOSED CELL ELASTOMERIC					
DOMESTIC HOT WATER							
RECIRCULATING HOT WATER	ALL	1" FIBERGLASS, ASJ, OR 1" FLEXIBLE CLOSED CELL ELASTOMERIC					
TEMPERED WATER							
EXPOSED FIXTURE WASTETRAPS AND DOMESTIC HOT WATER AT		TRUBRO LAV AGUARD MOLDED PROTECTIVE PIPE COVER OVER					
HANDICAPPED ACCESSIBLE SINKS AND LAVATORIES	ALL	1/2" FIBERGLASS INSULATION					

1: FOR ALL PIPING 2-1/2" AND LARGER, PROVIDE RIGID FOAM INSERTS AT ALL HANGERS AND SUPPORT LOCATIONS.

DRA	DRAIN SCHEDULE							
MARK	MANUFACTURER	MODEL	DESCRIPTION					
FD-1	WADE	1100-TSD-A6	CAST IRON DRAIN WITH ADJUSTABLE TOP AND 6" NICKEL BRASS STRAINER WITH VANDAL RESISTANT SCREWS. PROVIDE WITH GREEN DRAIN TRAP GUARD OR EQUAL.					

NOTES: 1: REFER TO PLANS FOR OUTLET SIZES.

PLUMBING FIXTURE CONN. SCHEDULE											
FIXTURE DESIG. CW HW WASTE VENT											
LAVATORY	L-1	1/2"	1/2"	1-1/2"	1-1/2"						
FLUSH VALVE WATER CLOSET	WC-1	1-1/4"		4"	2"						
URINAL	UR-1	1"		2"	1-1/2"						
SINK	S-1	1/2"	1/2"	1-1/2"	1-1/2"						
JANITOR SINK	JS-1	1/2"	1/2"	3"	1-1/2"						
ELECTRIC DRINKING FOUNTAIN	EDF-1	1/2"		1-1/2"	1-1/4"						

1: PIPE SIZES ARE MINIMUM, REFER TO RISER DIAGRAM.

FΑ	N SCHEDULE	
DESI	GNATION	EF-1
FAN	TYPE	EXHAUST
SER	/ICE	RESTROOM
MAN	UFACTURER	BROAN - NUTONE
MOD	EL	HB80RL
	СҒМ	80
	STATIC PRESSURE	0.1
⋖	FAN DIAMETER	
DAT	FAN RPM	
UNIT DATA	BRAKE HORSEPOWER	
	MOTOR HORSEPOWER	
	VOLTAGE/PHASE	120V / 1PH
	DRIVE	
	PANEL & CIRCUIT	L-2-80
AT/	WIRE & CONDUIT	(2) #12, (1) #12, IN 3/4"C.
٥ <u>۲</u>	OVERCURRENT DEVICE	20A/1P
NTR	DISCONNECT	
00/	STARTER	
CAL	COMBINATION STARTER	-
ELECTRICAL/CONTROL DATA	CONTROL	_
ELE	DAMPER TYPE	
	DAMPER VOLTAGE	<u>-</u>
REF	ERENCE DRAWING/DETAIL	_
REM	ARKS	1,2

1: EXHAUST FAN WILL BE PROVIDED BY OWNER.

2. CONNECT FAN INTO LIGHTING CIRCUIT.

TYPE	DESCRIPTION	MOUNTING	LAMP	VOLTS	MANUFACTURER	V-A
Α	2" ROUND RECESSED DOWN LIGHT. MATTE DIFFUSE LENS, CLEAR SEMI	RECESSED	500 LUMENS	UNV	GOTHAM - EVO 2	18
AX	SPECULAR FINISH, MEDIUM DISTRIBUTION, TRIM LOCK RETENTION SYSTEM.		3000K		OR APPROVED EQUAL.	
	FLANGE TYPE AS REQUIRED FOR CEILING, MOUNTING HARDWARE, WITH		LED			
	INTEGERAL 0-10V 10% DIMMABLE DRIVER. RATED FOR WET LOCATIONS					
	(X) = PROVIDE WITH INTEGRAL EMERGENCY BATTERY PACK.					
В	24" DECORATIVE LINEAR VANITY FIXTURE WITH METAL HOUSING AND FROSTED	SURFACE	1500 LUMENS	120	AFX - BARLOW BARV	22
	ACRYLLIC LENS, IN POLISHED CHROME. RATED FOR DAMP LOCATIONS.		3000K		OR APPROVED EQUAL.	

PANEL L-2 (SEC MAIN BUS AMPS: 225 A 200 A VOLTAGE: 208Y/120 V 3 PH / 4 W		TION 1) (EXIST AIC: SECTIONS: MOUNTING: ENCLOSURE TYPE:			10,000 A 1 - 42 SPACE RECESSED NEMA 1			EQUIPMENT GROUND BUS		
CIRCUIT DES	SCRIPTION	POLES	AMPS	CKT NO	CKT NO	AMPS	POLES	CIRCUIT DESCRIPTION		
	ENTRY	1	20	1	2	20	1	ASM		
	SALES TOWER	1	20	3	4	20	1	EF #11		
	SALES TOWER	1	20	5	6	20	1	EF #10		
	GM OFFICE	1	20	7	8	20	1	SWITCHBOARD		
	OFFICE AB	1	20	9	10	20	1	LOUNGE		
	CASHIER	1	20	11	12	20	1	VENDING		
	COPIER	1	20	13	14	20	1	VENDING		
	EF #17	1	20	15	16	20	1	VENDING		
	GEN. OFFICE	1	20	17	18	20	1	RESTRM / COPY		
	DISPOSAL	1	20	19	20	20	1	EF #16		
	REFRIG.	1	20	21	22	20	1	COPIER		
	BRK ROOM	1	20	23	24	20	1	COPY / STORAGE		
	BRK ROOM	1	20	25	26	20	1	COPY / OFFICE		
	CONFERENCE	1	20	27	28	20	1	RENTAL		
	DEALER / CONF.	1	20	29	30	20	1	CUST. CONFR.		
	DEALER / CONF.	1	20	31	32	20	1	CLERK / SERVICE		
	REFRIG.	1	20	33	34	20	1	LOUNGE		
	SF #1	1	20	35	36	20	1	ASM OFFICE		
	DEALER #110	1	20	37	38	20	1	P FAN SALES		
	GEN. OFFICE		20	39	40	20		LTG 104		
	GEN. OFFICE	1	20	41	42	20	1	LTG 110		

PANEL MAIN BUS AMPS: MAIN BREAKER: VOLTAGE: PHASES/WIRES:	L-2 (SEC 225 A 200 A 208Y/120 V 3 PH / 4 W	ECTION 2) (EXIST AIC: SECTIONS: MOUNTING: ENCLOSURE TYPE:			TING) 10,000 A ALL SPACE RECESSED NEMA 1			EQUIPMENT GROUND BUS
CIRCUIT DESCRIPTION		POLES	AMPS	CKT NO	CKT NO	AMPS	POLES	CIRCUIT DESCRIPTION
	RSTRM / BRK	1	20	43	44	20	1	RECP. SALES
EF #1		1	20	45	46	20	1	OH DOOR
OH DOOR			20	47	48	20	1	OH DOOR
OH DOOR			20	49	50	20	1	FACP
OH DOOR			20	51	52	20	1	COMPUTER
P FAN ASM			20	53	54	20	1	COMPUTER
LTG 117			20	55	56	20	1	COMPUTER
NORTH SIGN			20	57	58	20	1	COMPUTER
NORTH SIGN			20	59	60	20	1	ASM SIGNAGE
NORTH SIGN			20	61	62	20	1	ASM SIGNAGE
NORTH SIGN			20	63	64	20	1	SOUTH SIGN
NORTH SIGN			20	65	66	20	1	SOUTH SIGN
PRKG LOT			20	67	68	20	1	RECEP. RTU
	PRKG LOT		20	69	70	20		EF #18
PRKG SIGN			20	71	72	25	2	CU-1
PRKG SIGN			20	73	74	20		AOM DECED
PRKG SIGN			20	75 77	76 78	20		ASM RECEP.
SPARE			20	79	80	20		ASM RECEP. RESTROOM LTG / EF
PARKING PARKING			20 20	79 81	82	20 20	1	SPARE
SALES TOWER			20	83	84	20	•	SPARE
	SALES TOWER	1	20	63	04	20	ı	SPARE

CONSTRUCTION
As Noted on Plans Review



ARCHITECT

YAEGER ARCHITECTURE, INC. 8655 Penrose Lane, Suite 300 Lenexa, KS 66219 Tel: (913) 742-8000 Fax: (913) 742-8570 yaegerarchitecture.com

MEP ENGINEER

missouri certificate of authority no: 000270

Smith & Boucher, Inc. 25618 W. 103rd Street Olathe, KS 66061 Tel: (913) 345-2127

PROJECT NO: DRAWN BY: CHECKED BY: CHECKED BY:

A21093 07/12/2022 CEA REVISED DATE DESCRIPTION

MECHANICAL AND

smith & boucher engineers

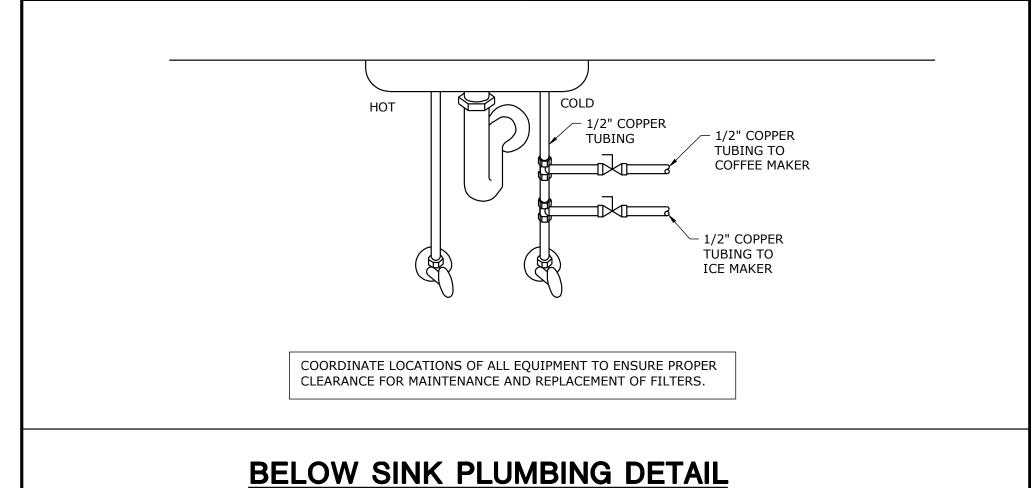
25618 west 103rd St olathe, ks 66061 phone 913.345.2127 fax 913.345.0617 project number 2221100

ME301

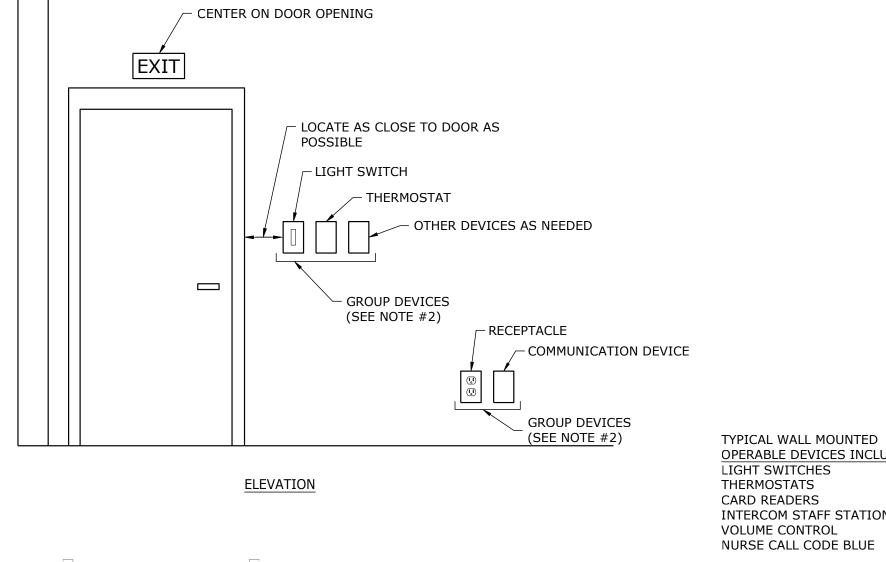
ELECTRICAL

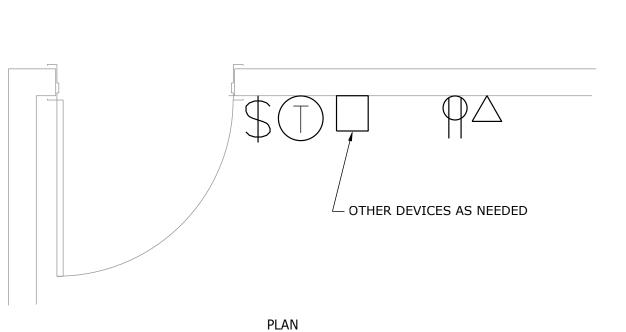
SCHEDULES

FLOOR DRAIN WITH SWEEP NOT TO SCALE

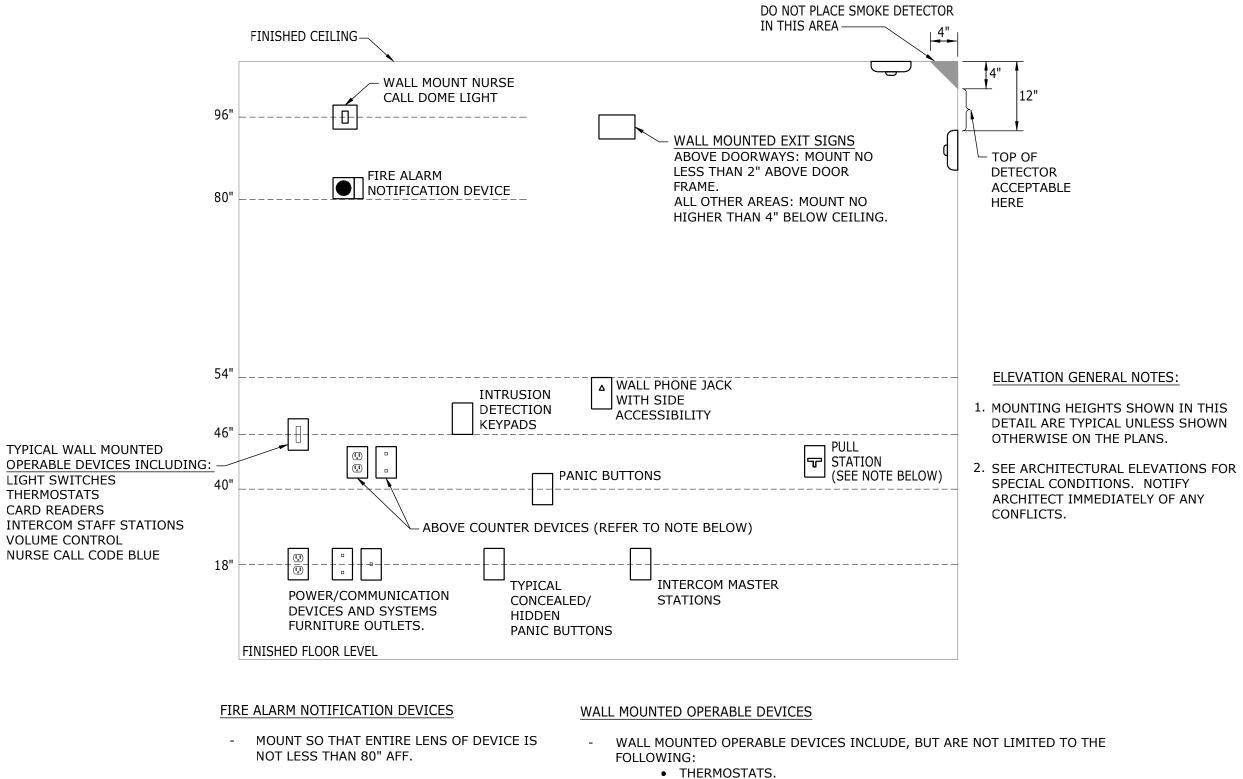


NOT TO SCALE





- 1. FOR GENERAL MOUNTING REFERENCE ONLY, REFER TO PLANS FOR ALL DEVICE LOCATIONS AND QUANTITIES.
- 2. UNLESS NOTED OTHERWISE, DEVICE LOCATIONS SHOWN NEXT TO ONE ANOTHER ON PLAN (OR SAME LOCATION ON DIFFERENT SHEETS) TO BE MOUNTED SUCH THAT THE FINISHED FACE PLATES ARE 2" APART. PROVIDE SPANNER BRACKET BETWEEN WALL STUDS FOR BACK BOX MOUNTING AS NEEDED.



PUSH BUTTONS

ABOVE COUNTER DEVICES

MOUNTING HEIGHTS.

LIGHTING SWITCHES/DIMMERS/CONTROLS

W/ ARCHITECTURAL DETAILS PRIOR TO WORK BEGINNING.

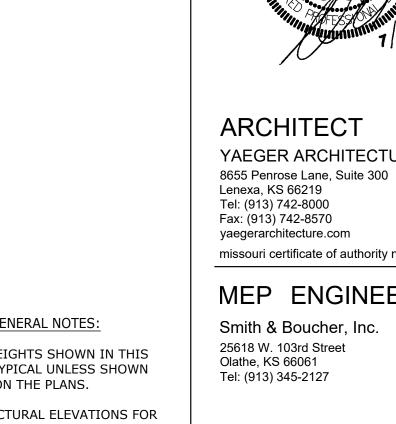
FLEXIBLE BRANCH DUCT DETAIL

OTHER CONTROL OR "CALL" DEVICES

INTERCOM-STAFF STATIONS (MASTER STATIONS @ 18" AFF)

ABOVE COUNTER DEVICES SHALL BE LOCATED 2" ABOVE THE BACKSPLASH OF COUNTER TO THE BOTTOM OF DEVICES (PLAN DESIGNATION $\oplus \boxplus \Delta$). VERIFY

REFER TO LIGHT FIXTURE SCHEDULE AND ARCHITECTURAL ELEVATIONS FOR



ARCHITECT YAEGER ARCHITECTURE, INC.

Tel: (913) 742-8000 Fax: (913) 742-8570 yaegerarchitecture.com missouri certificate of authority no: 000270

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WALL MOUNTED DEVICES: MOUNTING HEIGHTS NO SCALE

<u>PULL STATIONS</u> (FIRE ALARM ACTIVATION DEVICE)

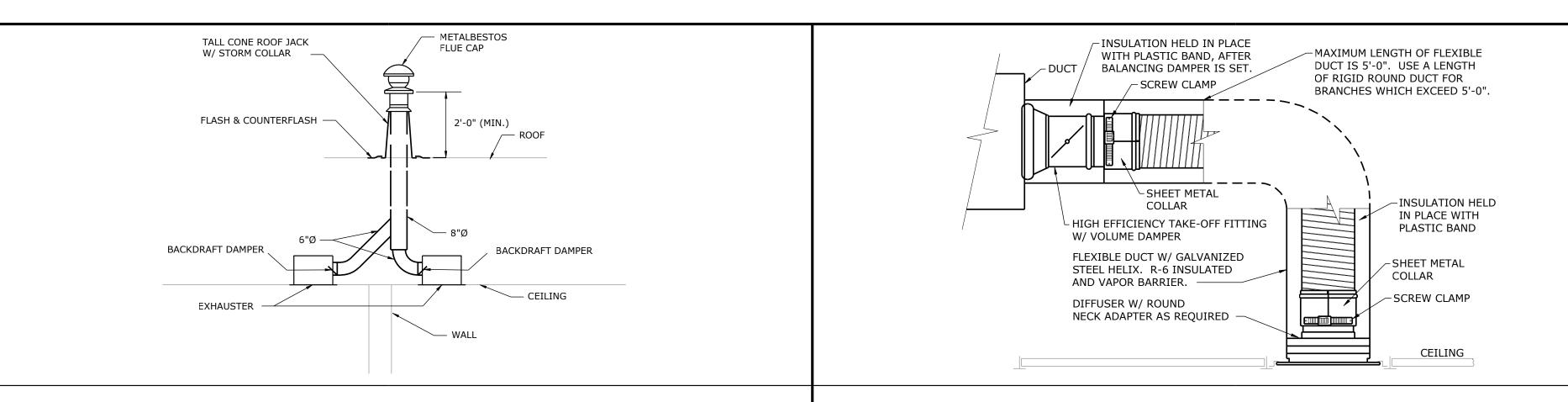
HIGHEST OPERABLE PART SHALL NOT BE

APPROACH) ADA 2010. OPERABLE PART

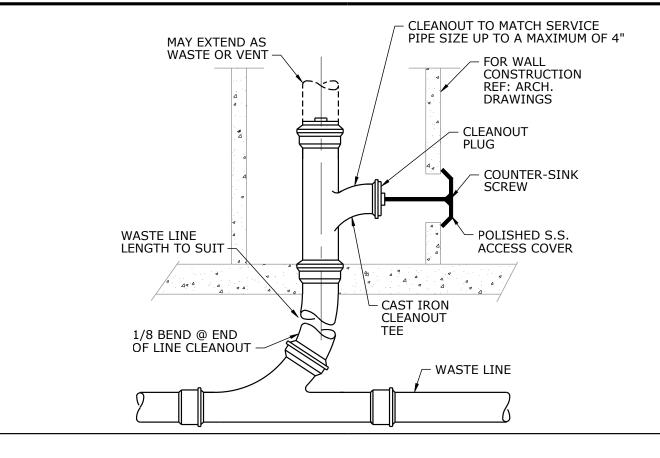
AFF (NFPA).

MORE THAN 48" ABOVE THE FLOOR (FRONT

(T-HANDLE) SHALL BE NOT LESS THAN 42"



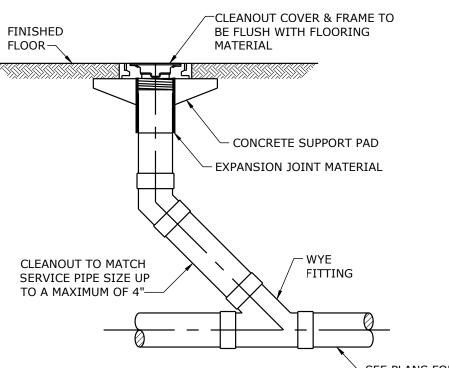
DOUBLE TOILET ROOM EXHAUST DETAIL NOT TO SCALE 233423-17



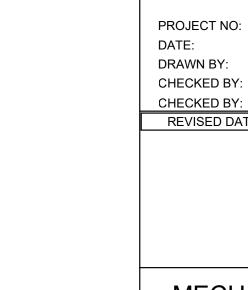
WALL CLEANOUT
NOT TO SCALE

CLEANOUT COVER & FRAME TO **FINISHED** BE FLUSH WITH FLOORING FLOOR — MATERIAL — CONCRETE SUPPORT PAD — EXPANSION JOINT MATERIAL CLEANOUT TO MATCH FITTING SERVICE PIPE SIZE UP TO A MAXIMUM OF 4"—— SEE PLANS FOR PIPE SIZES

FINISH FLOOR CLEANOUT DETAIL



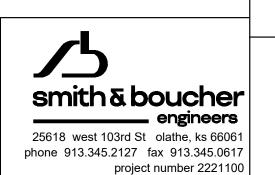
NOT TO SCALE



MECHANICAL AND ELECTRICAL DETAILS

REVISED DATE DESCRIPTION

CHECKED BY:



ME401

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A21093

CEA

07/12/2022

GENERAL NOTES:

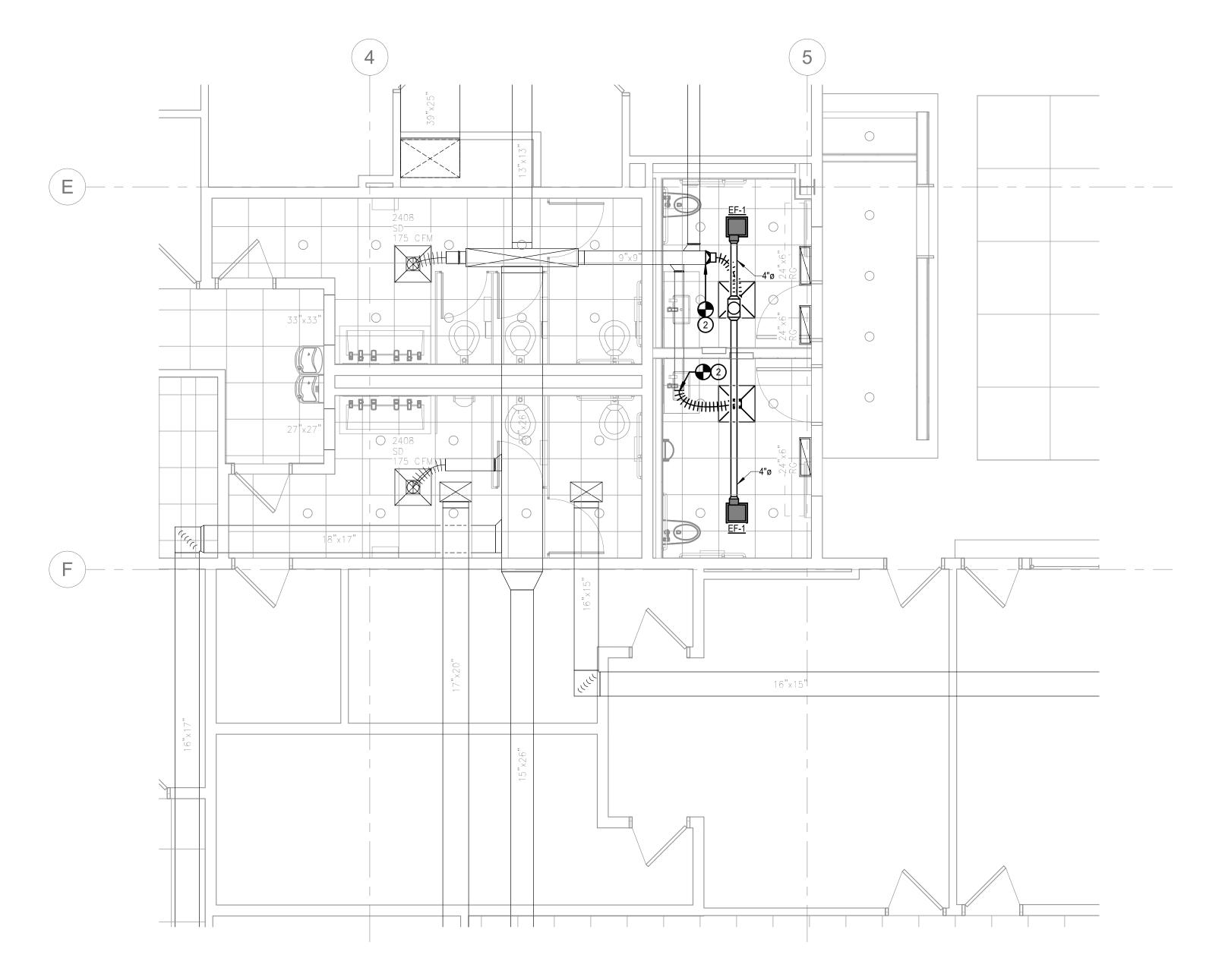
- 1. INFORMATION SHOWN ON THE DRAWINGS IS INTENDED TO CONVEY SCOPE AND IS ARRANGED FOR DRAWING CLARITY. IT IS NOT TO BE TAKEN AS AN AS-BUILT CONDITION. THE SYSTEM INSTALLATION SHALL BE COORDINATED WITH STRUCTURE, CEILINGS, WALLS, AND ALL OTHER TRADES TO PROVIDE FOR A COMPLETE AND WORKING SYSTEM.
- 2. ALL DUCTWORK IS SHOWN DIAGRAMMATICALLY AND DOES NOT INCLUDE ALL OFFSETS, DROPS, AND RISES. CAREFULLY COORDINATE DUCT AND PIPE ROUTING WITH STRUCTURE AS WELL AS ALL OTHER TRADES TO MAINTAIN EQUIPMENT CLEARANCES, EQUIPMENT ACCESSIBILITY, DESIRED CEILING HEIGHTS, AND AESTHETICS. THE CONTRACTOR SHALL INCLUDE ANY NEEDED OFFSETS AND CHANGES OF DIRECTION IN THE BID PRICING.
- 3. COORDINATE ALL DUCT PENETRATIONS WITH STRUCTURAL PRIOR TO CUTTING FLOORS OR BEARING WALLS.
- 4. WALL MOUNTED DEVICES SUCH AS THERMOSTATS, TEMPERATURE SENSORS, HUMIDITY SENSORS, AND PRESSURE SENSORS ARE SHOWN ON PLANS FOR CLARITY AND GENERAL REFERENCE OF LOCATIONS. LOCATIONS SHOW ARE NOT TO BE CONSIDERED THE EXACT MOUNTING LOCATION. COORDINATE THE INSTALLATION OF ALL WALL MOUNTED DEVICES WITH THE ARCHITECTURAL ELEVATIONS AND OTHER TRADES WALL MOUNTED DEVICES. GROUP THE INSTALLATION OF ALL THE DEVICES TO THE EXTENT POSSIBLE AND LOCATED DEVICES SUCH THAT THEY DO NOT CONFLICT WITH MILL WORK, TELEVISIONS, FURNITURE, TEACHING BOARDS, AND OTHER SIMILAR OBSTRUCTIONS.
- 5. PROVIDE FIRESTOPPING AT PENETRATIONS OF ALL RATED WALLS. REFER TO CODE PLANS FOR LOCATIONS OF RATED WALLS.
- 6. FURNISH ALL EXPOSED DUCTWORK IN FINISHED SPACES WITH PAINTABLE FINISH. PROVIDE A TRIM FLANGE AT WALL PENETRATIONS OF EXPOSED DUCTWORK, FINISH BY ARCHITECT.
- 7. DUCT SIZES SHOWN ARE SHEET METAL DIMENSIONS. WHERE DUCT LINER IS REQUIRED, DUCT SIZES ARE NOT REQUIRED TO BE INCREASED TO ACCOUNT FOR LINER.
- 8. ALL SERVICES SHOWN WITH HALF TONE LINE WEIGHT ARE EXISTING.9. RETURN GRILLES ARE 22"X22" RG-1 UNLESS NOTED OTHERWISE.

DEMOLITION PLAN NOTES:

- REMOVE EXISTING DIFFUSER/GRILLE IN ITS ENTIRETY BACK TO SOURCE OR NEAREST DEVICE SCHEDULED TO REMAIN.
- (2) EXISTING DIFFUSER TO BE RELOCATED UNDER NEW WORK.

NEW WORK PLAN NOTES:

- 1 PROVIDE CEILING MOUNTED RESTROOM EXHAUST FAN IN APPROXIMATE LOCATION SHOWN. ROUTE COMBINED EXHAUST DUCT UP THROUGH ROOF. COORDINATE FINAL ROOF PENETRATION LOCATION WITH EXISTING CONDITIONS. EXHAUST DUCT PENETRATION SHALL NOT BE LOCATED WITHIN 10 FEET OF ANY AIR INTAKE VENT.
- 2 RELOCATE EXISTING DIFFUSER RETAINED DURING DEMOLITION TO LOCATION SHOWN. PROVIDE NEW FLEX DUCT FOR RECONNECTION TO EXISTING SYSTEM.



C2 DEMOLITION ENLARGED HVAC PLAN - RESTROOM

SHEET SIZE: ARCH E1 30" x 42"

24 ENLARGED HVAC PLAN - RESTROOM





ARCHITECT

8655 Penrose Lane, Suite 300 Lenexa, KS 66219 Tel: (913) 742-8000 Fax: (913) 742-8570 yaegerarchitecture.com

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> ADAMS TOYOTA RESTROOMS 501 NE COLBERN ROAD 1 FF'S SUMMIT, MO 64086

PROJECT NO: DATE: DRAWN BY: CHECKED BY:

REVISED DATE DESCRIPTION

07/12/2022

1ST FLOOR HVAC PLAN



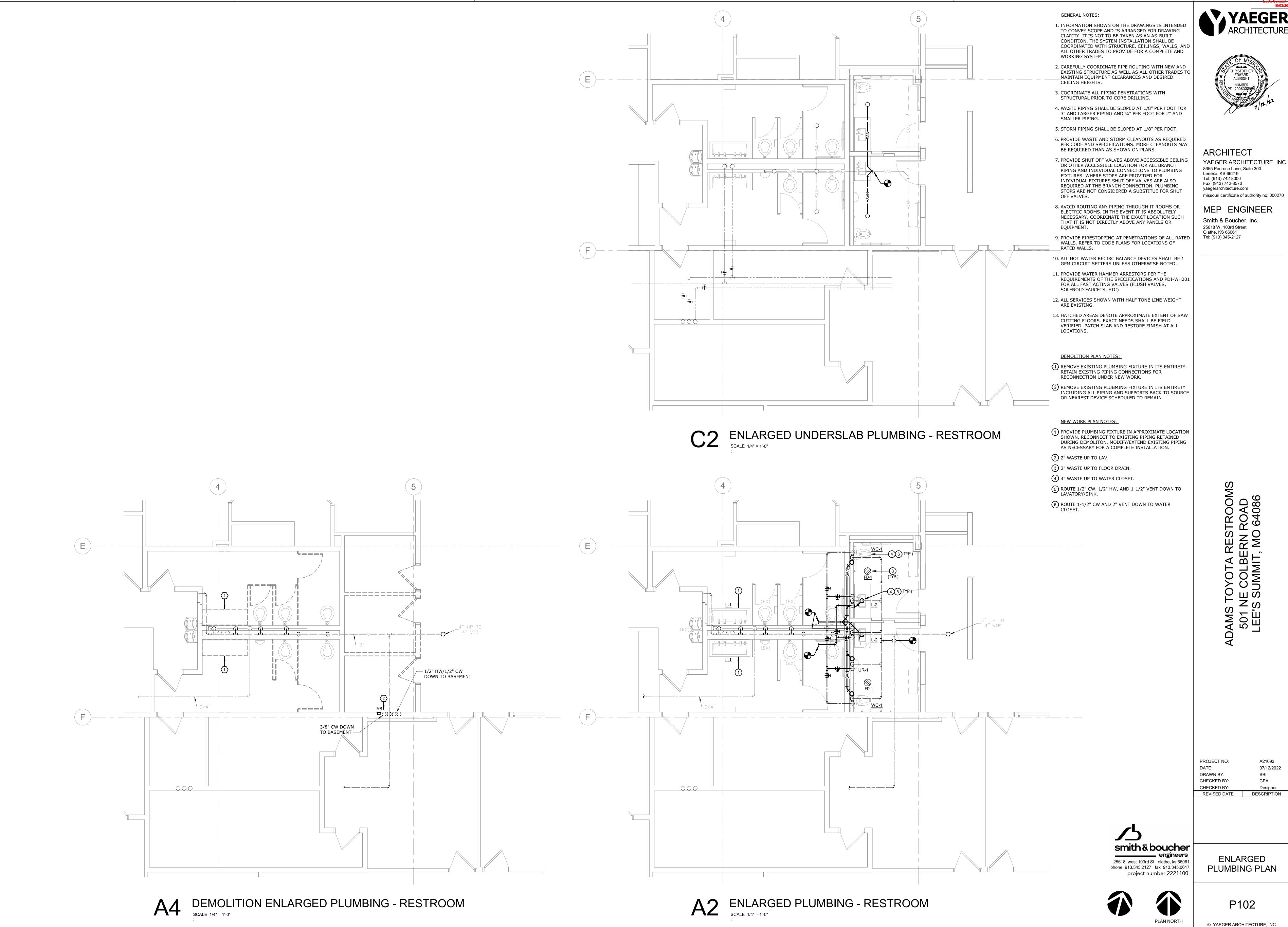


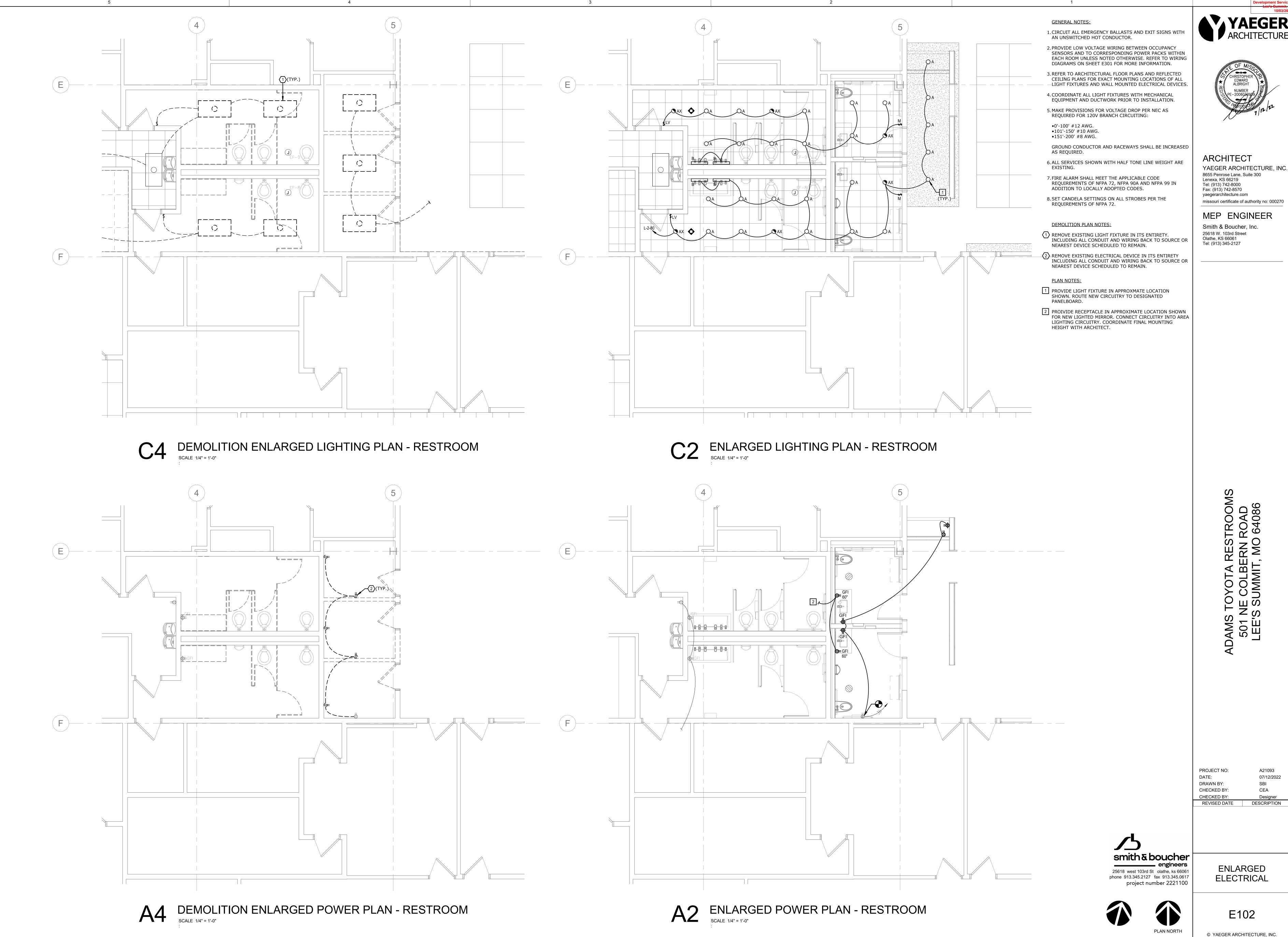
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25618 west 103rd St olathe, ks 66061 phone 913.345.2127 fax 913.345.0617

project number 2221100

M201





SHEET SIZE: ARCH E1 30" x 42"