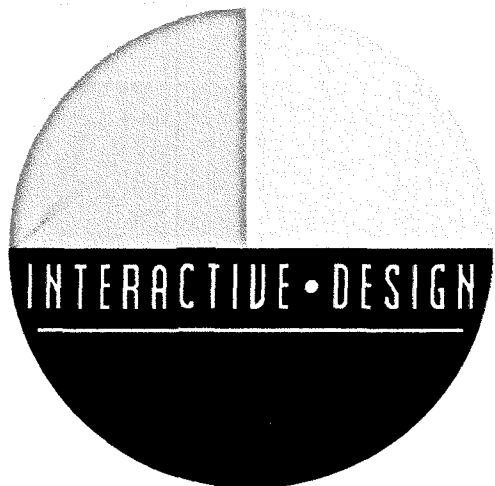


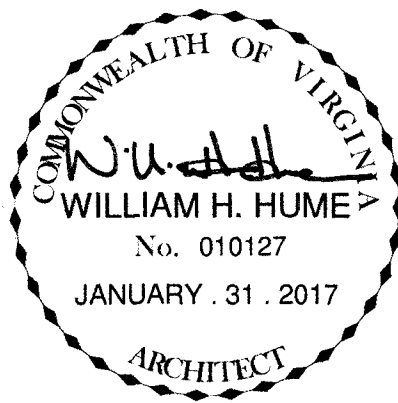
RENOVATIONS TO

BLACKSBURG PEDIATRICS

829 DAVIS STREET
BLACKSBURG, VA 24060



INTERACTIVE DESIGN GROUP
301 6TH STREET SW
ROANOKE, VA 24016
P. 540.342.7534 F. 540.342.7536



PROJECT INFORMATION		BUILDING CODE DATA	SHEET INDEX																																																																																																																
PROJECT DESCRIPTION AND ADDRESS: BLACKSBURG PEDIATRICS - RENOVATION 829 DAVIS STREET BLACKSBURG, VA 24060 CURRENT OWNER: HILLTOP MEDICAL DEVELOPMENT LLC PO BOX 925 BLACKSBURG, VA 24063 CLIENT: DAVID E. BERRY, D.O., PH.D., M.S., FAAP, FACOP CONTACT: TBD PHONE: TBD EMAIL: TBD	SITE INFORMATION: TAX MAP NO.: 378-1.3 ZONING: O - OFFICE FLOOD ZONE: N/A CONTRACTOR: <TBD> <STREET ADDRESS> <CITY, ST ZIP> P. () F. () CONTACT: EMAIL:	APPLICABLE CODES: VUSBC-2012 EDITION WITH 2012 REHABILITATION CODE, 2012 INTERNATIONAL BUILDING CODE, WHICH INCLUDES ALL CODES REFERENCED IN CHAPTER 1 - SECTION 101.2 AND ICC/ANSI 117.1 USE GROUP CLASSIFICATION: B, BUSINESS (SECTION 304) ALLOWABLE HEIGHT AND AREAS (TABLE 503): 2 STORIES / 9,000 SQ. FT. ACTUAL FLOOR AREA: 4,058 SQ. FT. FIRE RESISTANCE RATINGS FOR BUILDING ELEMENTS (TABLE 601): <table><tr><td>STRUCTURAL FRAME:</td><td>0 HR.</td></tr><tr><td>(BEARING WALLS)</td><td></td></tr><tr><td>EXTERIOR:</td><td>0 HR.</td></tr><tr><td>INTERIOR:</td><td>0 HR.</td></tr><tr><td>(NON BEARING WALLS)</td><td></td></tr><tr><td>INTERIOR:</td><td>0 HR.</td></tr><tr><td>FLOOR CONSTR.:</td><td>0 HR.</td></tr><tr><td>ROOF CONSTR.:</td><td>0 HR.</td></tr></table> FIRE RESISTANCE RATING (TABLE 602): 0 HR. > 30 FT. TYPE OF CONSTRUCTION (SECTION 602.5): TYPE V B <i>FIRE BARRIER ASSEMBLIES BETWEEN FIRE AREAS (TABLE 707.3.10): BUSINESS = 2 HR FIRE RESISTANCE RATING</i> DRAFTSTOPPING IN ATTICS (SECTION 718.4): ANY HORIZONTAL AREA IS NOT TO EXCEED 3,000 SQ. FT. MAXIMUM AUTOMATIC SPRINKLER SYSTEM (SECTION 903): BUILDING IS NOT EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM. FIRE ALARM AND DETECTION SYSTEMS (SECTION 907.2.2): BUILDING IS NOT EQUIPPED WITH A FIRE ALARM SYSTEM. DESIGN OCCUPANT LOAD (TABLE 1004.1.1): USE GROUP B - 100 GROSS SQ. FT. / OCCUPANT. 4,058 SQ. FT. / 100 SQ. FT. / OCCUPANT = 41 OCCUPANTS SIZE OF DOORS (SECTION 1008.1.1): ALL EGRESS DOORS ARE 36" WIDE WITH 32" MINIMUM CLEAR OPENING WIDTH COMMON PATH OF EGRESS TRAVEL (SECTION 1014.3): 75 FT MAX ACTUAL MAXIMUM COMMON PATH OF EGRESS TRAVEL = 30 FT EXIT ACCESS TRAVEL DISTANCE (TABLE 1016.1): 200 FT MAX ACTUAL MAXIMUM EXIT ACCESS TRAVEL DISTANCE: 85 FT CORRIDOR FIRE RESISTANCE RATING (TABLE 1018.1): 'SEE LIFE SAFETY PLAN' AND 'FIRE AREA PLAN' REQUIRED CORRIDOR WIDTH (SECTION 1018.2): 44 INCHES MIN., ACTUAL CORRIDOR WIDTHS: 54" MINIMUM. REQUIRED NUMBER OF EXITS: (TABLE 1021.1): 2, EXITS PROVIDED: 3 ACCESSIBILITY (CHAPTER 11) ACCESSIBLE ROUTE (SECTION 1104.1): AT LEAST ONE ACCESSIBLE ROUTE IS REQUIRED. ACCESSIBLE ENTRANCES (SECTION 1105): 60% OF REQUIRED PUBLIC ENTRANCES MUST BE ACCESSIBLE PARKING AND PASSENGER LOADING FACILITIES (SECTION 1106): ACCESSIBLE PARKING SPACES ARE PROVIDED IN EXISTING PARKING LOT. MINIMUM PLUMBING FACILITIES (TABLE 2902.1): <u>PLUMBING FIXTURES ARE PROVIDED WITHIN 3 UNISEX TOILETS</u> B USE: 4,058 SQ. FT. / 100 SQ. FT. / OCCUPANT = 41 OCCUPANTS = 20.5 MALE AND 20.5 FEMALE WATER CLOSETS: 1 PER 25 FOR THE FIRST 50 AND 1 PER 50 FOR THE REMAINDER EXCEEDING 50. MALE (20.5 OCCUPANTS): WATER CLOSETS REQUIRED: 1 / WATER CLOSETS / URINALS PROVIDED: 1.5 FEMALE (20.5 OCCUPANTS): WATER CLOSETS REQUIRED: 1 / WATER CLOSETS PROVIDED: 1.5 LAVATORIES: 1 PER 40 FOR THE FIRST 80 AND 1 PER 80 FOR THE REMAINDER EXCEEDING 80. MALE (20.5 OCCUPANTS): LAVATORIES REQUIRED: 1 / LAVATORIES PROVIDED: 1.5 FEMALE (20.5 OCCUPANTS): LAVATORIES: 1 / LAVATORIES PROVIDED: 1.5 DRINKING FOUNTAIN: 1 PER 100; DRINKING FOUNTAINS REQUIRED: 1 / DRINKING FOUNTAINS PROVIDED: 1 HI, 1 LO SERVICE SINKS: 1 SERVICE SINKS REQUIRED: 1 / SERVICE SINKS PROVIDED: 1	STRUCTURAL FRAME:	0 HR.	(BEARING WALLS)		EXTERIOR:	0 HR.	INTERIOR:	0 HR.	(NON BEARING WALLS)		INTERIOR:	0 HR.	FLOOR CONSTR.:	0 HR.	ROOF CONSTR.:	0 HR.	<table><tr><th>SHEET</th><th>DESCRIPTION</th><th>SHEET</th><th>DESCRIPTION</th></tr><tr><td>G-001</td><td>COVER SHEET</td><td>E-201</td><td>ELECTRICAL SCHEDULES AND DETAILS</td></tr><tr><td>G-002</td><td>GENERAL NOTES AND INFORMATION</td><td>E-301</td><td>ELECTRICAL SPECIFICATIONS</td></tr><tr><td>G-003</td><td>LIFE SAFETY PLAN</td><td>E-302</td><td>ELECTRICAL SPECIFICATIONS</td></tr><tr><td>G-004</td><td>U.L. ASSEMBLIES & FIRE AREA PLAN</td><td></td><td></td></tr><tr><td>A-101</td><td>FLOOR PLAN</td><td></td><td></td></tr><tr><td>A-102</td><td>REFLECTED CEILING PLAN</td><td></td><td></td></tr><tr><td>A-401</td><td>ENLARGED PLANS</td><td></td><td></td></tr><tr><td>A-402</td><td>INTERIOR ELEVATIONS</td><td></td><td></td></tr><tr><td>A-403</td><td>INTERIOR ELEVATIONS</td><td></td><td></td></tr><tr><td>A-601</td><td>DOOR SCHEDULE AND WALL TYPES</td><td></td><td></td></tr><tr><td>A-602</td><td>FINISH PLAN, SCHEDULE & KEY</td><td></td><td></td></tr><tr><td>P-001</td><td>PLUMBING SPECIFICATIONS</td><td></td><td></td></tr><tr><td>P-101</td><td>PLUMBING LEGEND, SCHEDULE & DETAILS</td><td></td><td></td></tr><tr><td>P-201</td><td>PLUMBING FLOOR PLAN</td><td></td><td></td></tr><tr><td>M-001</td><td>MECHANICAL SPECIFICATIONS</td><td></td><td></td></tr><tr><td>M-002</td><td>MECHANICAL SPECIFICATIONS</td><td></td><td></td></tr><tr><td>M-101</td><td>MECHANICAL LEGEND, SCHEDULE, NOTES & CONTROLS</td><td></td><td></td></tr><tr><td>M-201</td><td>MECHANICAL FLOOR PLAN</td><td></td><td></td></tr><tr><td>M-301</td><td>MECHANICAL DETAILS</td><td></td><td></td></tr><tr><td>E-001</td><td>ELECTRICAL LEGEND AND LIGHTING FIXTURE SCHEDULE</td><td></td><td></td></tr><tr><td>E-101</td><td>LIGHTING PLAN</td><td></td><td></td></tr><tr><td>E-102</td><td>POWER AND DATA PLAN</td><td></td><td></td></tr><tr><td>E-103</td><td>FIRE ALARM AND EQUIPMENT PLAN</td><td></td><td></td></tr></table>	SHEET	DESCRIPTION	SHEET	DESCRIPTION	G-001	COVER SHEET	E-201	ELECTRICAL SCHEDULES AND DETAILS	G-002	GENERAL NOTES AND INFORMATION	E-301	ELECTRICAL SPECIFICATIONS	G-003	LIFE SAFETY PLAN	E-302	ELECTRICAL SPECIFICATIONS	G-004	U.L. 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PROJECT CONSULTANTS																																																																																																																			
PLUMBING/MECHANICAL ENGINEER: MDR ENGINEERING, LLC P.O. BOX 20812 ROANOKE, VA 24018 P. (540) 915-1576 F. (540) 915-1576 CONTACT: MELINDA RUBLE, PE E-MAIL: MELINDA@MDRENGINEERING.COM ELECTRICAL ENGINEER: GIBSON ENGINEERING, LLC 50 GRIGGS STREET CHRISTIANSBURG, VA 24073 P. (540) 998-6069 CONTACT: DANIEL GIBSON, PE, LEED AP E-MAIL: GIBSONENGINEERINGLLC@GMAIL.COM	CIVIL ENGINEER: NOT APPLICABLE STRUCTURAL ENGINEER: NOT APPLICABLE																																																																																																																		
LOCATION MAP																																																																																																																			

NO. REVISIONS DATE

RENOVATIONS TO,

BLACKSBURG
PEDIATRICS

829 DAVIS STREET
BLACKSBURG, VA 24060

DATE JANUARY . 31 . 2017

DRAWN JLZ

CHECKED SCF

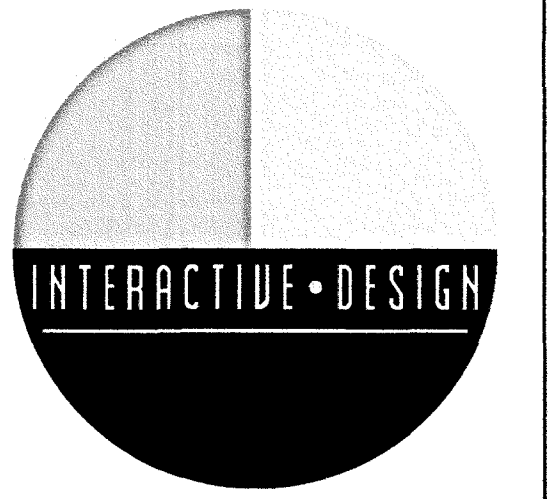
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COVER SHEET

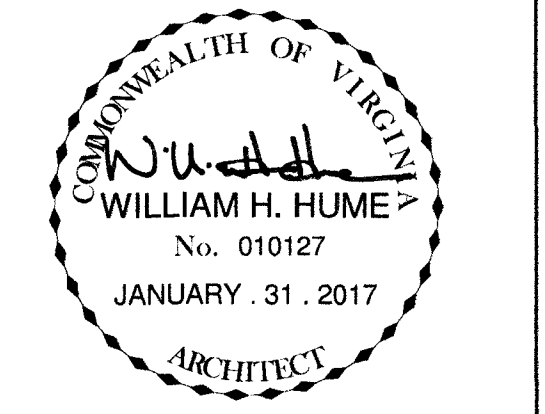
SHEET

G-001

LIST OF ABBREVIATIONS			SYMBOLS		ACCESSORY & FIXTURE MOUNTING DIMENSIONS		GENERAL CONSTRUCTION NOTES	
AB AC ACT AFF ALUM ANOD APPROX ARCH AUTO	ANCHOR BOLT AIR CONDITIONING ACOUSTICAL CEILING TILE ABOVE FINISH FLOOR ALUMINUM ANODIZED APPROXIMATE ARCHITECT AUTOMATIC	NIC NO NOM NTS	NOT IN CONTRACT NUMBER NOMINAL NOT TO SCALE	ROOM NAME 101	ROOM REFERENCE	NOTES: 1. ACCESSORIES AND/OR FIXTURES SHOWN BELOW MAY OR MAY NOT BE UTILIZED IN THIS PROJECT. 2. ACCESSORIES AND/OR FIXTURES SHOWN BELOW MAY OR MAY NOT BE REPRESENTATIVE OF THE ACCESSORIES AND/OR FIXTURES SPECIFIED FOR THIS PROJECT. 3. ALL MOUNTING DIMENSIONS ARE TYPICAL UNLESS NOTED OTHERWISE. 4. SEE TOILET ACCESSORY SCHEDULE FOR TOILET ACCESSORY INFORMATION, IF APPLICABLE.	1. ALL CONSTRUCTION MATERIAL, WORKMANSHIP, AND DESIGN SHALL CONFORM TO THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE, 2012 EDITION, AND OTHER LOCAL CODES PREVAILING AT TIME OF CONSTRUCTION. 2. THE GENERAL CONTRACTOR SHALL COORDINATE ALL TRADES (ARCHITECTURAL, MECHANICAL, ELECTRICAL, STRUCTURAL) WITH THESE DOCUMENTS. THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED OF ANY OMISSIONS. 3. ALL REFERENCES TO THE STANDARD SPECIFICATIONS OF ANY TECHNICAL SOCIETY, ORGANIZATION, OR ASSOCIATION, OR TO CODES OF LOCAL OR STATE AUTHORITIES SHALL MEAN THE LATEST STANDARD, CODE, SPECIFICATION, OR TENTATIVE SPECIFICATIONS ADOPTED AND PUBLISHED AT THE DATE OF TAKING BIDS, UNLESS OTHERWISE NOTED. 4. ALL DIMENSIONS SHOWN ARE TO OUTSIDE FACE OF FRAMING / MASONRY UNLESS NOTED OTHERWISE. 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS, METHODS, TECHNIQUES, AND PROCEDURES OF CONSTRUCTION. 6. THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL VERIFY ANY EXISTING FIELD CONDITIONS, MEASUREMENTS, AND LOCATIONS AFFECTING THEIR WORK. 7. NOTIFY ARCHITECT OF ANY DISCREPANCIES AND EXISTING CONDITIONS NOT COMPLYING WITH DOCUMENTS. 8. DO NOT SCALE OFF OF DRAWINGS. ALWAYS REFER TO DIMENSIONS.	
BD BIT BLDG BM BRG BSMT BTM	BOARD BITUMINOUS BUILDING BEAM BEARING BASEMENT BOTTOM	OPNG OPP OSB	OPENING OPPOSITE ORIENTED STRAND BOARD	1 A101 1	SECTION REFERENCE			
CAB CI CJ CL CLG CLR CMU CO COL CONC CONST CONT CONTR CPT CR CS CSMT CT CTR	CABINET CAST IRON CONTROL JOINT CENTER LINE CEILING CLEAR CONCRETE MASONRY UNIT CASED OPENING COLUMN CONCRETE CONSTRUCTION CONTINUOUS CONTRACTOR CARPET CHAIR RAIL CONTINUOUS SHEATHING CASEMENT CERAMIC TILE COUNTER	PL PLAM PLAS PNL PREF PROP PSF PSI PT PTD PVC PVMT PWD	PLATE PLASTIC LAMINATE PLASTER PANEL PREFINISHED PROPERTY POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PRESSURE TREATED PAINTED POLY VINYL CHLORIDE PAVEMENT PLYWOOD	1 A101 1	ELEVATION REFERENCE			
DEM DEPT DET DIA DIAG DIM DISP DIV DL DN DR DS	DEMOLITION DEPARTMENT DETAIL DIAMETER DIAGONAL DIMENSION DISPENSER DIVISION DEAD LOAD DOWN DOOR DOWNSPOUT	QT RA RAD RD REC REF REFR REG REINF REM REQD RES RET REV RH RM RO ROW	QUARRY TILE RETURN AIR RADIUS ROOF DRAIN RECEPTACLE REFERENCE REFRIGERATOR REGISTER REINFORCED REMOVE REQUIRED RESIDENT RETURN REVISION RIGHT HAND ROOM ROUGH OPENING RIGHT OF WAY	101	DOOR REFERENCE			
EA EIFS EJ ELEC ELEV EMER ENCL ENG ENT EQ EQUIP EST EW EWC EX EXH EXO EXT EXST	EACH EXTERIOR INSULATION & FINISH SYSTEM EXPANSION JOINT ELECTRIC ELEVATOR EMERGENCY ENCLOSURE ENGINEER ENTRANCE EQUAL EQUIPMENT ESTIMATE EACH WAY ELECTRIC WATER COOLER EXISTING EXHAUST EXPOSED EXTERIOR EXISTING	SC SCH SEC SHT SHWR SIM SL DR SPEC SPF SPR SQ FT SS STO STRUC SUSP SYP SYS	SOLID CORE SCHEDULE SECTION SHEET SHOWER SIMILAR SLIDING DOOR SPECIFICATIONS SPRUCE PINE FIR SPRINKLER SQUARE FOOT STAINLESS STEEL STORAGE STRUCTURAL SUSPENDED SOUTHERN YELLOW PINE SYSTEM	101	NEW DOOR - 90 DEG. SWING			
FD FDN FEC FHC FIN FIN FLR FLR FLUOR FRT FT FTG	FLOOR DRAIN FOUNDATION FIRE EXTINGUISHER CABINET FIRE HOSE CABINET FINISH FINISH FLOOR FLOOR FLUORESCENT FIRE RETARDANT TREATED FOOT, FEET FOOTING	T T & G TOP TEL THK THRU TOIL TOS TOW TV TYP	TREAD TONGUE & GROOVE THIN COAT PLASTER TELEPHONE THICK THROUGH TOILET TOP OF STEEL TOP OF WALL TELEVISION TYPICAL	101	EXISTING DOOR - 45 DEG. SWING			
GA GALV GC GL GWB GYP BD	GAGE OR GAUGE GALVANIZED GENERAL CONTRACTOR GLASS GYPSUM WALL BOARD GYPSUM BOARD	UNF UNO VB VCT VERT VIF VTR VWC	UNFINISHED UNLESS NOTED OTHERWISE VAPOR BARRIER VINYL COMPOSITION TILE VERTICAL VERIFY IN FIELD VENT TO ROOF VINYL WALL COVERING	01	STOREFRONT REFERENCE			
HC HDCP HDR HDWE HM HOR HTG HT HVAC HWD HWH	HOLLOW CORE HANDICAP HEADER HARDWARE HOLLOW METAL HORIZONTAL HEATING HEIGHT HEATING / VENTILATION / AIR CONDITIONING HARDWOOD HOT WATER HEATER	W W/ W/O WB WC WD WG WH WIN WP WSCT WSP WWF	WIDE, WIDTH WITH WITHOUT WOOD BASE WATER CLOSET WOOD WIRE GLASS WALL HUNG WINDOW WEATHERPROOF WAINSCOTING WOOD STRUCTURAL PANEL WELDED WIRE FABRIC	2	WINDOW REFERENCE			
ID INCL INSUL INTER	INSIDE DIAMETER INCLUDING, INCLUDED INSULATE, INSULATION INTERIOR			3	GLAZING REFERENCE			
JAN	JANITOR			4	KEYNOTE REFERENCE			
KD KIT	KILN DRIED KITCHEN			5	REVISION REFERENCE			
LAM LAV LB LBL LG LH LL LTL LVR LW	LAMINATE LAVATORY POUND LABEL LONG, LENGTH LEFT HAND LIVE LOAD LINTEL LOUVER LIGHTWEIGHT			6	DEMOLITION REFERENCE			
MAS MAT MAX MECH MFR MH MIN MISC MLD MO MTG MTL	MASONRY MATERIAL MAXIMUM MECHANICAL MANUFACTURER MANHOLE MINIMUM MISCELLANEOUS MOLDING MASONRY OPENING MOUNTING METAL			7	COLUMN REFERENCE			
						TOILET TISSUE DISPENSER & SANITARY NAPKIN DISPOSAL		
						RECESSED DISPENSER LIMITS OUTLET OF DISPENSER TO BE WITHIN SHADED AREA		
						PROTRUDING DISPENSER LIMITS OUTLET OF DISPENSER TO BE WITHIN SHADED AREA		
						PAPER TOWEL DISPENSER		
						BABY CHANGING STATION * TO BOTTOM OF WORK SURFACE ** TO HIGHEST PART OF WORK SURFACE		
						FIRE EXTINGUISHER CABINET		
						HI/LO DRINKING FOUNTAIN * SPOUT OUTLET HEIGHT		
						ELEVATOR CALL BUTTONS AND SIGNALS * CL OF HIGHEST OPERABLE PART		



INTERACTIVE DESIGN GROUP
301 6TH STREET SW
ROANOKE, VA 24016
P. 540.342.7534 F. 540.342.7536



NO.	REVISIONS	DATE

RENOVATIONS TO:

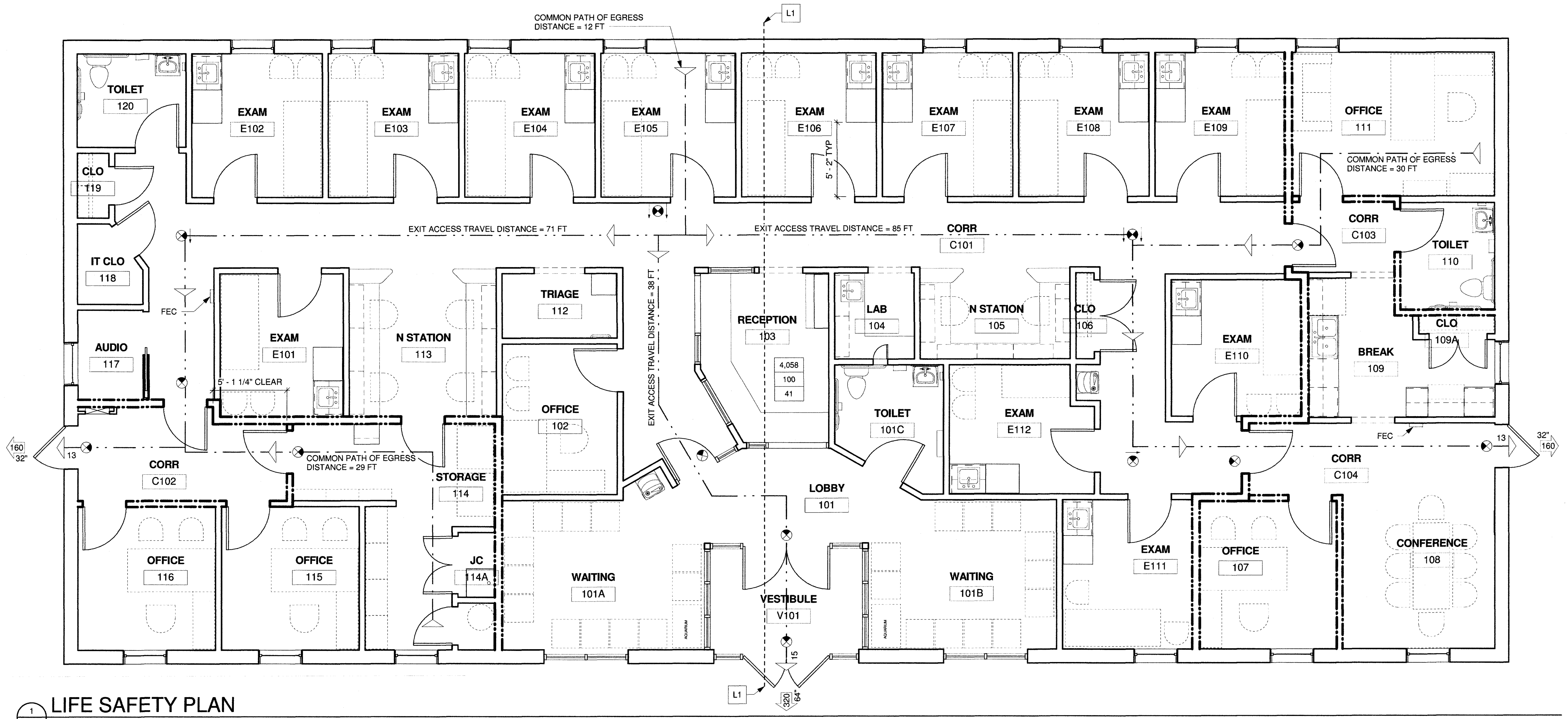
BLACKSBURG PEDIATRICS

829 DAVIS STREET
BLACKSBURG, VA 24060

DATE	JANUARY . 31 . 2017
DRAWN	JLZ
CHECKED	SCF
JOB	1646

LIFE SAFETY PLAN

SHEET
G-003



LIFE SAFETY PLAN
1/4" = 1'-0"

GENERAL LIFE SAFETY NOTES

- FIRE-RESISTANCE ASSEMBLY MARKING AND IDENTIFICATION (IBC SECTION 703.6): FIRE WALLS, FIRE BARRIERS, FIRE PARTITIONS, SMOKE BARRIERS AND SMOKE PARTITIONS OR ANY OTHER WALL REQUIRED TO HAVE PROTECTED OPENINGS OR PENETRATIONS SHALL BE EFFECTIVELY AND PERMANENTLY IDENTIFIED WITH SIGNS OR STENCILING. SUCH IDENTIFICATION SHALL:
 - BE LOCATED IN ACCESSIBLE CONCEALED FLOOR, FLOOR-CEILING OR ATTIC SPACES;
 - BE REPEATED AT INTERVALS NOT EXCEEDING 30 FEET (9144 MM) MEASURED HORIZONTALLY ALONG THE WALL OR PARTITION; AND
 - INCLUDE LETTERING NOT LESS THAN 0.5 INCH (12.7 MM) IN HEIGHT, INCORPORATING THE SUGGESTED WORDING: "FIRE AND/OR SMOKE BARRIER - PROTECT ALL OPENINGS" OR OTHER SIMILAR WORDING.
- SEE ELECTRICAL DRAWINGS FOR EMERGENCY EGRESS LIGHTING.

LIFE SAFETY PLAN NOTES

L1. LINE OF DRAFTSTOPPING - SEE REFLECTED CEILING PLAN FOR MORE INFORMATION.

NOTES LEGEND

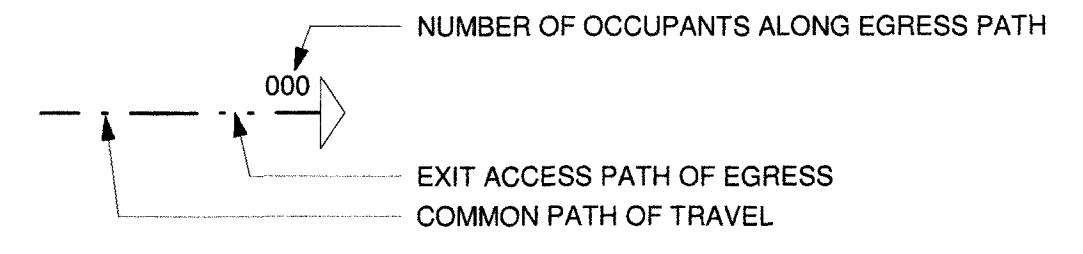
A - GENERAL	G - DOORS / GLAZINGS	P - PLUMBING
C - CIVIL	K - FURNITURE / FINISHES	R - ROOF
E - ELECTRICAL	L - LIFE SAFETY	S - STRUCTURAL
F - FLOORS / CEILINGS	M - MECHANICAL	W - WALLS

LIFE SAFETY PLAN LEGEND

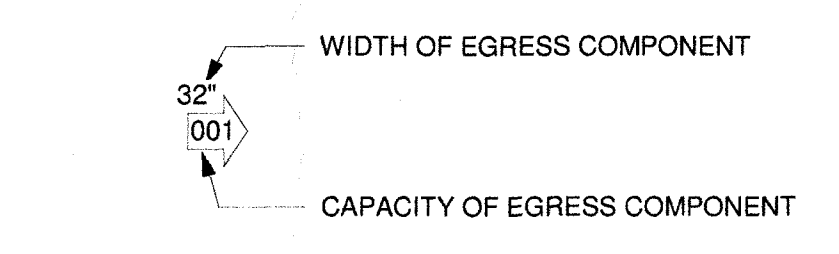
OCCUPANT LOAD CALCULATIONS:

SEE 'FIRE AREA PLAN' ON G-004 FOR OCCUPANCY LOAD CALCULATIONS

MEANS OF EGRESS



EGRESS CAPACITY OF EXITS



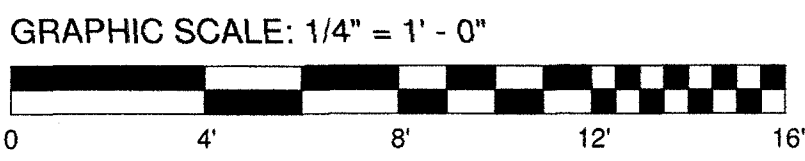
FEC FIRE EXTINGUISHER CABINET TO BE MODEL 2409-R3, ROLLED EDGE, SEMI-RECESSED 2 1/2" BY LARSEN'S MANUFACTURING CO. CABINET TO BE STEEL WITH WHITE BAKED ENAMEL FINISH WITH VERTICAL DUO DOOR AND CLEAR ACRYLIC GLAZING. PROVIDE MP5, 2A-10B-C FIRE EXTINGUISHER IN CABINET. MOUNT BOTTOM OF CABINET 30" AFF.

EXIT LIGHT WITH BATTERY BACKUP - ARROW INDICATES DIRECTION OF EGRESS

EX EXISTING

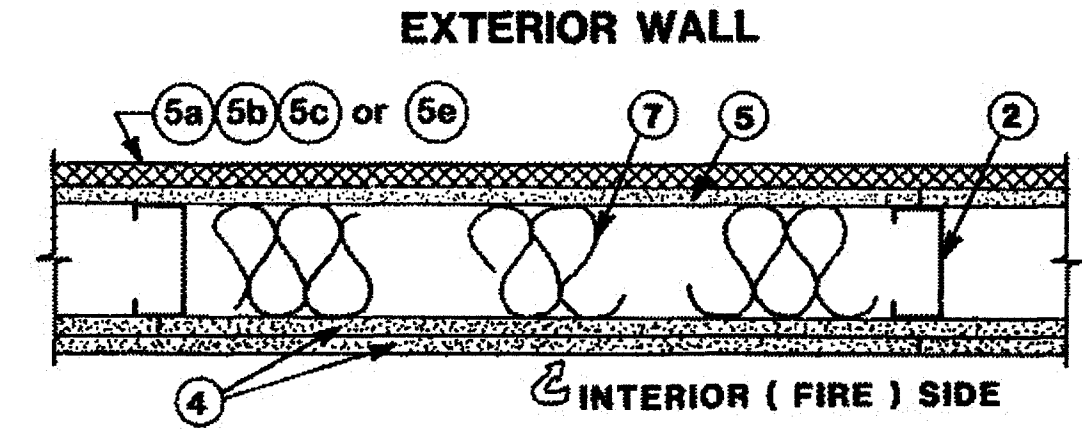
INDICATES NEW 1 HR RATED WALL ASSEMBLY

INDICATES NEW 2 HR RATED WALL ASSEMBLY

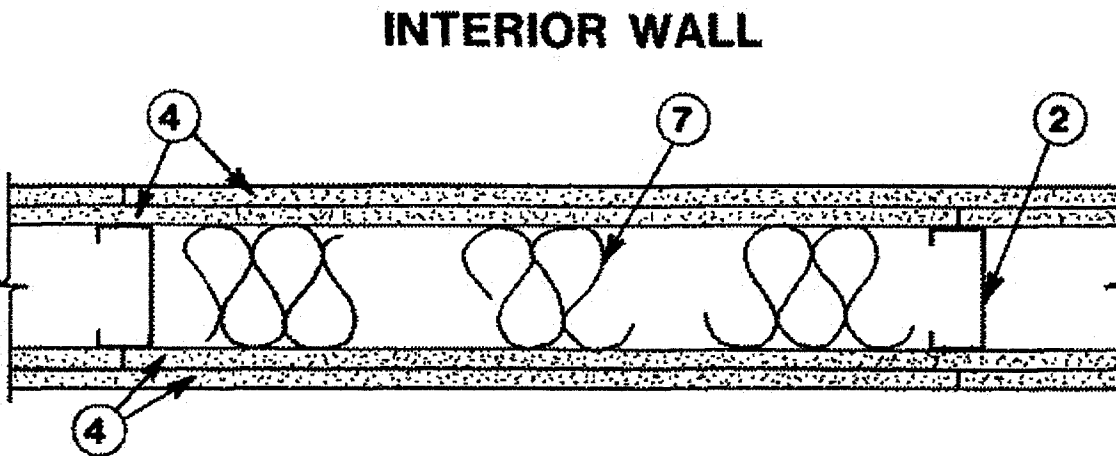


1/30/2017 3:53:57 PM

DESIGN NO. U425
FOR EXTERIOR WALLS, RATINGS APPLICABLE FOR EXPOSURE TO FIRE ON INTERIOR
FACE ONLY. SEE ITEMS 4 AND 5
BEARING WALL RATING — 45 MIN, 1, 1-1/2 OR 2 HR. SEE ITEMS 2 AND 4



HORIZONTAL SECTION



HORIZONTAL SECTION

1. STEEL FLOOR AND CEILING TRACKS — (NOT SHOWN) — TOP AND BOTTOM TRACKS OF WALL ASSEMBLIES SHALL CONSIST OF STEEL MEMBERS, MIN NO. 20 MSG (0.0329 IN., MIN BARE METAL THICKNESS) STEEL OR MIN NO. 20 GSG (0.036 IN. THICK) GALV STEEL OR NO. 20 MSG (0.033 IN. THICK) PRIMED STEEL, THAT PROVIDE A SOUND STRUCTURAL CONNECTION BETWEEN STEEL STUDS, AND TO ADJACENT ASSEMBLIES SUCH AS A FLOOR, CEILING, AND/OR OTHER WALLS. ATTACHED TO FLOOR AND CEILING ASSEMBLIES WITH STEEL FASTENERS SPACED NOT GREATER THAN 24 IN. O.C.

2. STEEL STUDS — MIN 3-1/2 IN. WIDE, NO. 20 MSG (0.0329 IN., MIN BARE METAL THICKNESS) CORROSION PROTECTED COLD FORMED STEEL STUDS DESIGNED IN ACCORDANCE WITH THE CURRENT EDITION OF THE SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE. ALL DESIGN DETAILS ENHANCING THE STRUCTURAL INTEGRITY OF THE WALL ASSEMBLY, INCLUDING THE AXIAL DESIGN LOAD OF THE STUDS, SHALL BE AS SPECIFIED BY THE STEEL STUD DESIGNER AND/OR PRODUCER, AND SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE LOCAL CODE AGENCIES. THE MAX STUD SPACING OF WALL ASSEMBLIES SHALL NOT EXCEED 24 IN. OC (OR 16 IN. OC WHEN ITEM 5B IS USED). STUDS ATTACHED TO FLOOR AND CEILING TRACKS WITH 1/2 IN. LONG TYPE S-12 STEEL SCREWS ON BOTH SIDES OF STUDS OR BY WELDED OR BOLTED CONNECTIONS DESIGNED IN ACCORDANCE WITH THE AISI SPECIFICATIONS.

3. LATERAL SUPPORT MEMBERS — (NOT SHOWN) — WHERE REQUIRED FOR LATERAL SUPPORT OF STUDS, SUPPORT MAY BE PROVIDED BY MEANS OF STEEL STRAPS, CHANNELS OR OTHER SIMILAR MEANS AS SPECIFIED IN THE DESIGN OF A PARTICULAR STEEL STUD WALL SYSTEM.

4. GYPSUM BOARD* — ANY 1/2 IN. THICK UL CLASSIFIED GYPSUM BOARD THAT IS ELIGIBLE FOR USE IN DESIGN NO. X515. ANY 5/8 IN. THICK UL CLASSIFIED GYPSUM BOARD THAT IS ELIGIBLE FOR USE IN DESIGN NOS. L501, G512 OR U505. GYPSUM BOARD BEARING THE UL CLASSIFICATION MARKING AS TO FIRE RESISTANCE. APPLIED VERTICALLY WITH JOINTS BETWEEN LAYERS STAGGERED. OUTER LAYER OF 3 LAYER CONSTRUCTION MAY BE APPLIED HORIZONTALLY UNLESS SPECIFIED BELOW. THE THICKNESS AND NUMBER OF LAYERS AND PERCENT OF DESIGN LOAD FOR THE 45 MIN, 1 HR, 1-1/2 HR AND 2 HR RATINGS ARE AS FOLLOWS:

INTERIOR WALLS

RATING	WALLBOARD PROTECTION BOTH SIDES OF WALL - NO. OF LAYERS & THKNS OF BOARD IN. EACH LAYERS	% OF DESIGN LOAD
45 MIN	*1 LAYER, 1/2 IN. THICK	100
1 HR	*1 LAYER, 5/8 IN. THICK	100
1-1/2 HR	*2 LAYERS, 1/2 IN. THICK	100
2 HR	*2 LAYERS, 5/8 IN. THICK OR	80
	*3 LAYERS, 1/2 IN. THICK	100
	*2 LAYERS, 3/4 IN. THICK	100

*RATINGS APPLICABLE TO ASSEMBLIES SERVING AS EXTERIOR WALLS WHERE CLASSIFIED FIRE RESISTIVE GYPSUM SHEATHING TYPE WALLBOARD IS SUBSTITUTED ON THE EXTERIOR FACE.

EXTERIOR WALLS

RATING	WALLBOARD PROTECTION ON INTERIOR SIDE OF WALL - NO. OF LAYERS & THKNS OF BOARD IN. EACH LAYERS	% OF DESIGN LOAD
45 MIN	1 LAYER, 5/8 IN. THICK	100
1 HR	2 LAYERS, 1/2 IN. THICK	100
1-1/2 HR	2 LAYERS, 5/8 IN. THICK	100
2 HR	3 LAYERS, 1/2 IN. THICK	100
	2 LAYERS, 3/4 IN. THICK	100

ACADIA DRYWALL SUPPLIES LTD (VIEW CLASSIFICATION) — CKNX.R25370

AMERICAN GYPSUM CO (VIEW CLASSIFICATION) — CKNX.R14196

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO (VIEW CLASSIFICATION) — CKNX.R19374

CERTAINTED GYPSUM CANADA INC (VIEW CLASSIFICATION) — CKNX.R15187

CERTAINTED GYPSUM INC (VIEW CLASSIFICATION) — CKNX.R3660

CGC INC (VIEW CLASSIFICATION) — CKNX.R19751

GEORGIA-PACIFIC GYPSUM L L C (VIEW CLASSIFICATION) — CKNX.R2717

LAFARGE NORTH AMERICA INC (VIEW CLASSIFICATION) — CKNX.R18482

LOADMASTER SYSTEMS INC (VIEW CLASSIFICATION) — CKNX.R11809

NATIONAL GYPSUM CO (VIEW CLASSIFICATION) — CKNX.R3501

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM (VIEW CLASSIFICATION) — CKNX.R7094

PANEL REY S A (VIEW CLASSIFICATION) — CKNX.R21796

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD (VIEW CLASSIFICATION) — CKNX.R19262

TEMPLE-INLAND (VIEW CLASSIFICATION) — CKNX.R6937

THAI GYPSUM PRODUCTS PCL (VIEW CLASSIFICATION) — CKNX.R27517

UNITED STATES GYPSUM CO (VIEW CLASSIFICATION) — CKNX.R1319

USG MEXICO S A DE C V (VIEW CLASSIFICATION) — CKNX.R16089

4A. GYPSUM BOARD — NOM. 3/4 IN. GYPSUM BOARD APPLIED VERTICALLY WITH JOINTS BETWEEN LAYERS STAGGERED. THE THICKNESS AND NUMBER OF LAYERS AND PERCENT OF DESIGN LOAD FOR THE 2 HR RATINGS ARE SHOWN IN THE TABLE ABOVE.
ACADIA DRYWALL SUPPLIES LTD — TYPE X
CGC INC — TYPES AR, IP-AR, IP-X3, OR ULTRACODE
UNITED STATES GYPSUM CO — TYPES AR, IP-AR, IP-X3, OR ULTRACODE
USG MEXICO S A DE C V — TYPES AR, IP-AR, IP-X3, OR ULTRACODE

4B. GYPSUM BOARD* — AS AN ALTERNATE TO ITEM 4 - NOM. 5/8 IN. THICK GYPSUM PANELS, WITH SQUARE EDGES, APPLIED HORIZONTALLY. GYPSUM PANELS FASTENED TO FRAMING WITH 1 IN. LONG BUGLE HEAD STEEL SCREWS SPACED A MAX 8 IN. OC, WITH LAST 2 SCREWS 3/4 IN. AND 4 IN. FROM EACH EDGE OF BOARD. HORIZONTAL JOINTS NEED NOT BE BACKED BY STEEL FRAMING. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS ON INTERIOR WALLS NEED NOT BE STAGGERED. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS ON INTERIOR WALLS (MULTILAYER SYSTEMS) STAGGERED A MIN OF 12 IN.
TEMPLE-INLAND — GREENGLASS TYPE X
NATIONAL GYPSUM CO — TYPE FSW-6.

4C. GYPSUM BOARD* — (AS AN ALTERNATE TO ITEMS 4 AND 4A) - 5/8 IN. THICK, 4 FT. WIDE, PAPER SURFACED APPLIED VERTICALLY ONLY AND SECURED AS DESCRIBED IN ITEM 6.
CERTAINTED GYPSUM INC — TYPE SILENTFX
NATIONAL GYPSUM CO — SOUNDBREAK XP TYPE X GYPSUM BOARD
TEMPLE-INLAND — TYPE X COMFORTGUARD SOUND DEADENING GYPSUM BOARD.

4D. WALL AND PARTITION FACINGS AND ACCESSORIES* — (AS AN ALTERNATE TO ITEMS 4 THROUGH 4B) — NOMINAL 5/8 IN. THICK, 4 FT WIDE PANELS, APPLIED VERTICALLY AND SECURED AS DESCRIBED IN ITEM 4.
SERIOUS ENERGY INC — TYPES QUIETROCK ES, QUIETROCK 527.

5. GYPSUM SHEATHING — FOR EXTERIOR WALLS, 1/2 OR 5/8 IN. THICK CLASSIFIED OR UNCLASSIFIED EXTERIOR GYPSUM SHEATHING APPLIED VERTICALLY AND ATTACHED TO STUDS AND RUNNER TRACKS WITH 1 IN. LONG TYPE S-12 BUGLE HEAD SCREWS SPACED 12 IN. OC, ALONG STUDS AND TRACKS. ONE OF THE FOLLOWING EXTERIOR FACINGS ARE TO BE APPLIED OVER THE GYPSUM SHEATHING.

A. SIDING, BRICK, OR STUCCO — ALUMINUM SIDING, STEEL SIDING, BRICK VENEER, OR STUCCO ATTACHED TO STUDS OVER GYPSUM SHEATHING AND MEETING THE REQUIREMENTS OF LOCAL CODE AGENCIES. WHEN A MIN 3-3/4 IN. THICK BRICK VENEER FACING IS USED, THE EXTERIOR WALL RATING IS APPLICABLE WITH EXPOSURE ON EITHER FACE. BRICK VENEER WALL ATTACHED TO STUDS WITH CORRUGATED METAL WALL TIES ATTACHED TO EACH STUD WITH STEEL SCREWS, NOT MORE THAN EACH SIXTH COURSE OF BRICK. WHEN A MIN 3-3/4 IN. THICK BRICK VENEER FACING IS USED, FOAMED PLASTIC (ITEM 10) MAY BE USED.

B. CEMENTITIOUS BACKER UNITS* — 1/2 OR 5/8 IN. THICK, SQUARE EDGE BOARDS, ATTACHED TO STEEL STUDS OVER GYPSUM SHEATHING WITH 1-5/8 IN. LONG, TYPE S-12, CORROSION RESISTANT, WAFER HEAD STEEL SCREWS, SPACED 8 IN. OC. STUDS SPACED A MAX OF 16 IN. OC. JOINTS COVERED WITH GLASS FIBER MESH TAPE.
UNITED STATES GYPSUM CO — TYPE DCB

C. FIBER-CEMENT SIDING — FIBER-CEMENT EXTERIOR SIDINGS INCLUDING SMOOTH AND PATTERNED PANEL OR LAP SIDING.

D. MOLDED PLASTIC* — SOLID VINYL SIDING MECHANICALLY SECURED TO FRAMING MEMBERS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED INSTALLATION DETAILS.
ALSIDE, DIV OF ASSOCIATED MATERIALS INC

E. WOOD STRUCTURAL PANEL OR LAP SIDING — APA RATED SIDING, EXTERIOR, PLYWOOD, OSB OR COMPOSITE PANELS WITH VENEER FACES AND STRUCTURAL WOOD CORE, PER PS 1 OR APA STANDARD PRP-108, INCLUDING TEXTURED, ROUGH SAWN, MEDIUM DENSITY OVERLAY, BRUSHED, GROOVED AND LAP SIDING.

F. BUILDING UNITS* — (NOT SHOWN) - 3 IN. THICK 18 X 24 IN. CELLULAR GLASS BLOCKS, APPLIED TO THE GYPSUM SHEATHING (ITEM 5) WITH PC 88 ADHESIVE OR FASTENED WITH F ANCHORS SPACED A MAXIMUM 24 IN. OC. F ANCHORS FASTENED TO FRAMING MEMBERS WITH 1-1/4 IN. LONG #6 DRYWALL SCREWS.
PITTSBURGH CORNING CORP — TYPE FOAMGLAS

6. FASTENERS — (NOT SHOWN) — SCREWS USED TO ATTACH WALLBOARD TO STUDS: SELF-TAPPING BUGLE HEAD SHEET STEEL TYPE, SPACED 12 IN. O.C. FIRST LAYER TYPE S-12 BY 1 IN. LONG FOR 1/2 AND 5/8 IN. THICK WALLBOARDS AND 1-1/4 IN. LONG FOR 3/4 IN. THICK WALLBOARD. SECOND LAYER TYPE S-12 BY 1-5/8 IN. LONG FOR 1/2 AND 5/8 IN. THICK WALLBOARDS AND 2-1/4 IN. LONG FOR 3/4 IN. THICK WALLBOARD. THIRD LAYER TYPE S-12 BY 1-7/8 IN. LONG.

7. BATTS AND BLANKETS* — PLACED IN STUD CAVITIES OF ALL EXTERIOR WALLS. MAY OR MAY NOT BE USED IN INTERIOR WALLS. ANY GLASS FIBER OR MINERAL WOOL BATT MATERIAL BEARING THE UL CLASSIFICATION MARKING AS TO FIRE RESISTANCE, OF A THICKNESS TO COMPLETELY FILL STUD CAVITY. SEE BATTS AND BLANKETS* (BZJZ) CATEGORY FOR NAMES OF CLASSIFIED COMPANIES.

7A. FIBER, SPRAYED* — AS AN ALTERNATE TO BATTS AND BLANKETS (ITEM 7) — (100% BORATE FORMULATION) — SPRAY APPLIED CELLULOSE MATERIAL. THE FIBER IS APPLIED WITH WATER TO COMPLETELY FILL THE ENCLOSED CAVITY IN ACCORDANCE WITH THE APPLICATION INSTRUCTIONS SUPPLIED WITH THE PRODUCT. NOMINAL DRY DENSITY OF 2.7 LBS/FT3. ALTERNATE APPLICATION METHOD: THE FIBER IS APPLIED WITHOUT WATER OR ADHESIVE AT A NOMINAL DRY DENSITY OF 3.5 LBS/FT3, IN ACCORDANCE WITH THE APPLICATION INSTRUCTIONS SUPPLIED WITH THE PRODUCT.
U S GREENFIBER L L C — INS735 & INS745 FOR USE WITH WET OR DRY APPLICATION. INS765LD AND INS770LD ARE TO BE USED FOR DRY APPLICATION ONLY.

7B. FIBER, SPRAYED* — AS AN ALTERNATE TO ITEM 7 AND 7A — SPRAY APPLIED CELLULOSE MATERIAL. THE FIBER IS APPLIED WITH WATER TO COMPLETELY FILL THE ENCLOSED CAVITY IN ACCORDANCE WITH THE APPLICATION INSTRUCTIONS SUPPLIED WITH THE PRODUCT. NOMINAL DRY DENSITY OF 4.58 LBS/FT3.
NU-WOOL CO INC — CELLULOSE INSULATION

7C. FIBER, SPRAYED* — AS AN ALTERNATE TO BATTS AND BLANKETS (ITEM 7) - SPRAY APPLIED CELLULOSE FIBER. THE FIBER IS APPLIED WITH WATER TO COMPLETELY FILL THE ENCLOSED CAVITY IN ACCORDANCE WITH THE APPLICATION INSTRUCTIONS SUPPLIED WITH THE PRODUCT. THE MINIMUM DRY DENSITY SHALL BE 4.36 LBS/FT3.
INTERNATIONAL CELLULOSE CORP — CELBAR-RL

8. JOINT TAPE AND COMPOUND — (NOT SHOWN) — VINYL OR CASEIN, DRY OR PREMIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS OF OUTER LAYER. PERFORATED PAPER TAPE, 2 IN. WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS OF OUTER LAYER.

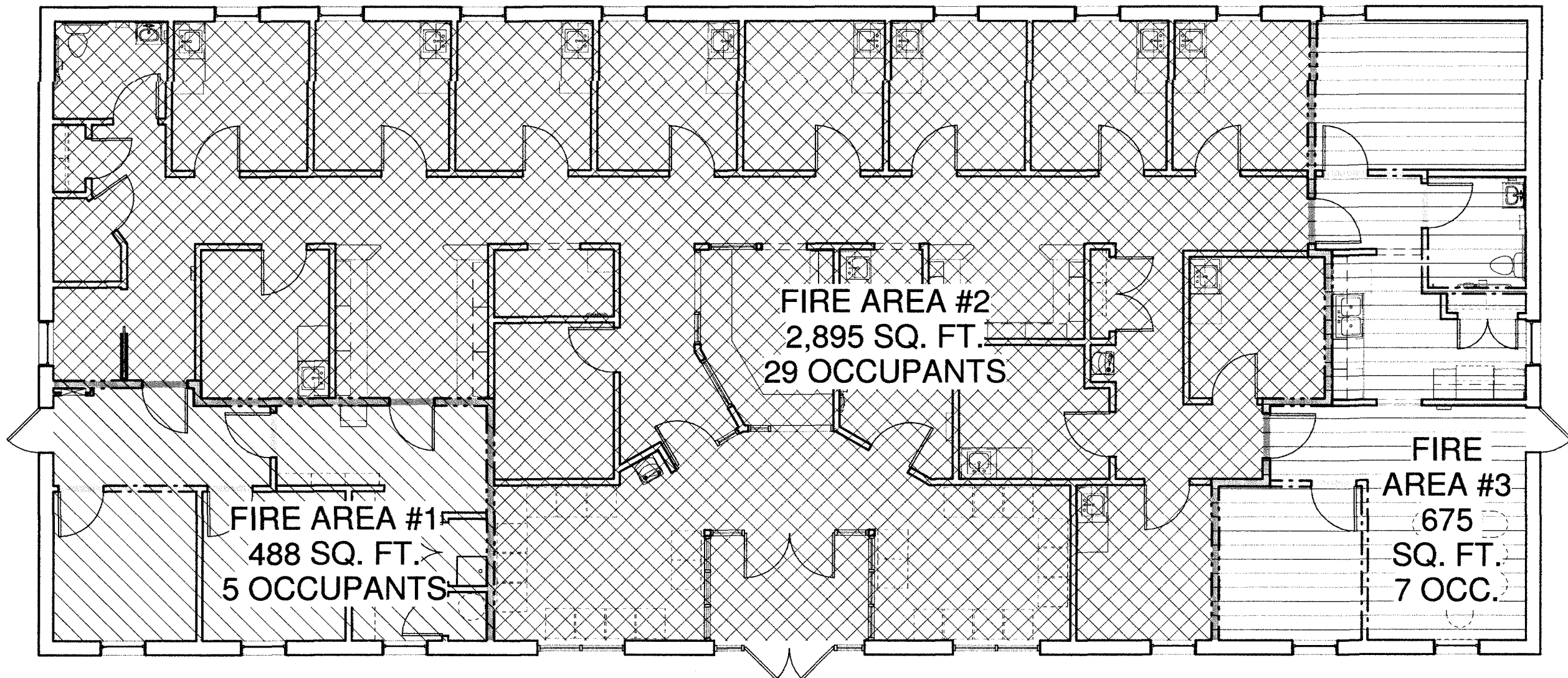
9. FURRING CHANNELS — (OPTIONAL, NOT SHOWN, FOR SINGLE OR DOUBLE LAYER SYSTEMS) — RESILIENT FURRING CHANNELS FABRICATED FROM MIN 25 MSG CORROSION-PROTECTED STEEL, SPACED VERTICALLY A MAX OF 24 IN. OC. FLANGE PORTION ATTACHED TO EACH INTERSECTING STUD WITH 1/2 IN. LONG TYPE S-12 STEEL SCREWS.

10. FOAMED PLASTIC* — NOT SHOWN -FOR USE WITH BRICK VENEER AS OUTLINED IN ITEM 5A - MAXIMUM 2 IN. THICK RIGID POLYSTYRENE INSULATION ATTACHED TO STUDS WITH FASTENERS OF SUFFICIENT LENGTH TO PENETRATE THE FOAM AND 3/16 IN. INTO THE STUD. A MINIMUM 1 IN. AIR SPACE IS TO BE MAINTAINED BETWEEN THE OUTER SURFACE OF THE FOAMED PLASTIC AND THE INNER SURFACE OF THE BRICK VENEER.
OWENS CORNING SPECIALTY & FOAM PRODUCTS
10A. MORTAR DROP PROTECTION — (OPTIONAL, NOT SHOWN) - FOAMED PLASTIC WITH MORTAR CONTROL DEVICE ATTACHED, CONTINUOUS, BY DRAINAGE HOLES AT BOTTOM OF AIR SPACE BEHIND BRICK VENEER.
OWENS CORNING SPECIALTY & FOAM PRODUCTS — WEEPGUARD

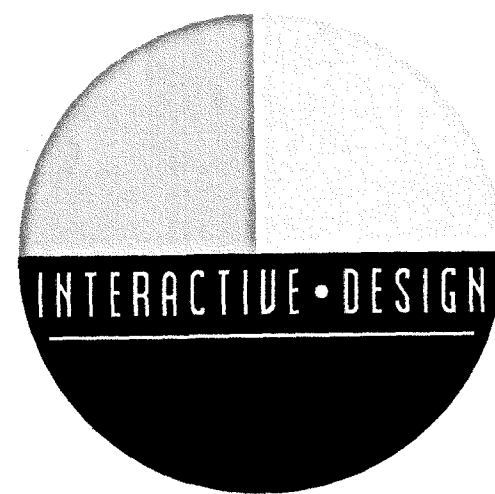
10B. FOAMED PLASTIC* — POLYISOCYANURATE FOAMED PLASTIC INSULATION BOARDS, ANY THICKNESS, CLASSIFIED IN ACCORDANCE WITH BRYX AND / OR CCWV, MAY BE USED WITH ANY EXTERIOR FACING SHOWN UNDER ITEMS 5A, 5C, 5D AND 5E.
THE DOW CHEMICAL CO — TYPE THERMAX SHEATHING, THERMAX LIGHT DUTY INSULATION, THERMAX HEAVY DUTY INSULATION, THERMAX METAL BUILDING BOARD, THERMAX WHITE FINISH INSULATION, THERMAX CI EXTERIOR INSULATION, THERMAX IH INSULATION, THERMAX PLUS LINER PANEL AND THERMAX HEAVY DUTY PLUS (HDP)
HUNTER PANELS — TYPE XCI-CLASS A

11. CEMENTITIOUS BACKER UNITS* — (OPTIONAL ITEM NOT SHOWN - FOR USE ON FACE OF 1 HR OR 2 HR SYSTEMS WITH ALL STANDARD ITEMS REQUIRED) - 1/2 IN., 5/8 IN., 3/4 IN. OR 1 IN. THICK, MIN. 3/2 IN. WIDE, APPLIED VERTICALLY OR HORIZONTALLY WITH VERTICAL JOINTS CENTERED OVER STUDS. FASTENED TO STUDS AND RUNNERS WITH CEMENT BOARD SCREWS OF ADEQUATE LENGTH TO PENETRATE STUD BY A MINIMUM OF 3/8 IN. FOR STEEL FRAMING MEMBERS SPACED A MAX OF 8 IN. OC. WHEN 4 FT. WIDE BOARDS ARE USED, HORIZONTAL JOINTS NEED NOT BE BACKED BY FRAMING. 2-HR SYSTEM - APPLIED VERTICALLY WITH VERTICAL JOINTS CENTERED OVER STUDS. FACE LAYER FASTENED OVER GYPSUM BOARD TO STUDS AND RUNNERS WITH CEMENT BOARD SCREWS OF ADEQUATE LENGTH TO PENETRATE STUD BY A MINIMUM OF 3/8 IN. FOR STEEL FRAMING MEMBERS, AND A MINIMUM OF 3/4 IN. FOR WOOD FRAMING MEMBERS SPACED A MAX OF 8 IN. OC.
NATIONAL GYPSUM CO — TYPE PERMABASE

*BEARING THE UL CLASSIFICATION MARK



1
G-004
1/8" = 1'-0"



INTERACTIVE DESIGN GROUP
301 6TH STREET SW
ROANOKE, VA 24016
P. 540.342.7534 F. 540.342.7536



NO.	REVISIONS	DATE

RENOVATIONS TO,

BLACKSBURG PEDIATRICS

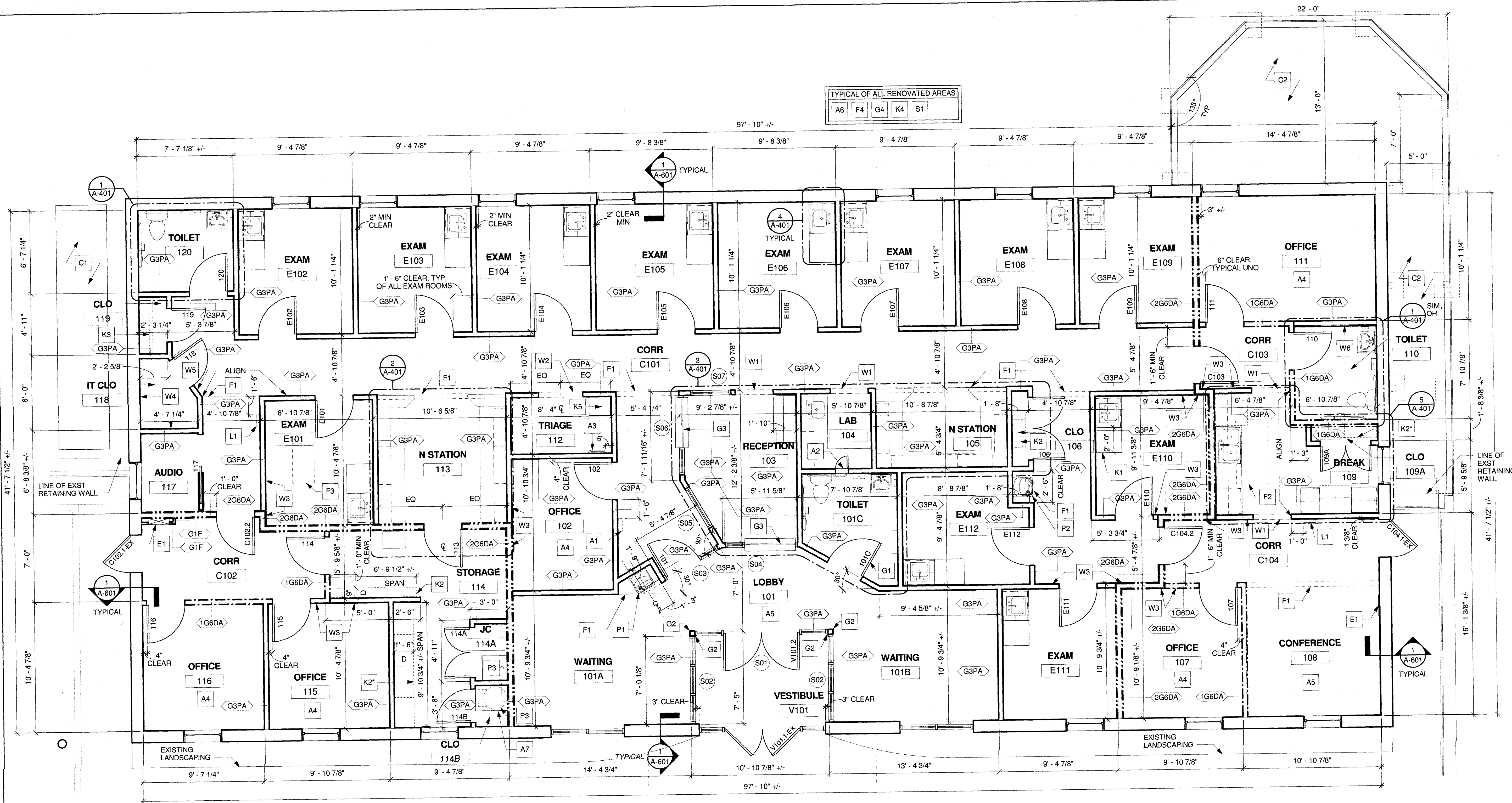
829 DAVIS STREET
BLACKSBURG, VA 24060

DATE	JANUARY 31, 2017
DRAWN	JLZ
CHECKED	SCF
JOB	1646

FLOOR PLAN

SHEET

A-101



FLOOR PLAN

1/4" = 1'-0"

GENERAL CONSTRUCTION NOTES

- SEE G-002 FOR GENERAL CONSTRUCTION NOTES.
- PROVIDE FIRE BLOCKING PER 2012 INTERNATIONAL BUILDING CODE, SECTION 718.
- CONTRACTOR TO ENSURE ALL EXTERIOR WALL PENETRATIONS ARE PROPERLY INSULATED.

NOTES LEGEND

A - GENERAL	G - DOORS / GLAZINGS	P - PLUMBING
C - CIVIL	K - FURNITURE / FINISHES	R - ROOF
E - ELECTRICAL	L - LIFE SAFETY	S - STRUCTURAL
F - FLOORS / CEILINGS	M - MECHANICAL	W - WALLS

FLOOR PLAN NOTES

- WALL-MOUNTED DEFIBRILLATOR, PROVIDED BY OWNER, NIC - PROVIDE BLOCKING AS REQUIRED TO MOUNT AT 48" TO TOP OF BAG HANDLE
- PROVIDE STAINLESS STEEL PASS THROUGH SPECIMEN CABINET - MOUNTING HEIGHT TO BE 48" MAX TO OPERABLE HANDLE AND 38" MIN TO BOTTOM OF CABINET
- PROVIDE 24" W BOBRICK, B-5806.99 X 24", GRAB BAR - MOUNT @ 45 DEG ANGLE - MOUNT LOWEST POINT OF GRAB BAR @ 2'-6" AFF - PROVIDE BLOCKING AS REQ
- PROVIDE BLOCKING IN EACH OFFICE FOR COAT HOOKS - CONSULT WITH OWNER FOR LOCATION AND HEIGHT (TYP)
- PROVIDE BLOCKING IN 'CONFERENCE 108' & 'LOBBY 101' FOR FUTURE WALL-MOUNTED TV BRACKET - CONSULT WITH OWNER FOR LOCATION AND SIZE

FLOOR PLAN NOTES

- PROVIDE 1/2" GWB AT UNDERSIDE OF ROOF TRUSSES - PROVIDE R-38 BATT INSULATION ABOVE GWB, THROUGHOUT (TYP)
- PROVIDE 4" CONCRETE HOUSEKEEPING PAD - SIZE PER HOT WATER HEATER
- CONCRETE PAD FOR MECHANICAL UNITS, APPROX. 19' - 6" W X 4' - 0" D - SEE MECHANICAL DRAWINGS FOR MORE INFORMATION
- "ADD ALTERNATE": PROVIDE TREX DECK SYSTEM, RUN DIAGONALLY, WITH TREX RAILING (MIN 42" HIGH W/ PICKETS @ 4" O.C. MAX) - STYLE AND FINISH TBD - PROVIDE STRUCTURAL ELEMENTS AS OUTLINED BELOW - SEE PLAN FOR LOCATIONS - DECK TO EXTEND FROM EXISTING CONCRETE SIDEWALK AND RAILING; REMOVE EXISTING WALL, RAILING, ETC., AS REQUIRED, FOR CONNECTION
- 30" W X 30" W X 12" D CONCRETE FOOTING - REINFORCE W/ (2) #4 REBAR, EACH WAY - PROVIDE 8" X 8" CONCRETE PIER W/ (4) #4 REBAR AND #3 TIES @ 12" O.C.
- 6X6 LOAD BEARING PT POSTS W/ (2) 2X10 BEAMS
- 2X10 PT/SYP JOISTS & CONTINUOUS RIM JOISTS - COORDINATE JOIST SPAN WITH TYPE OF DECKING AS PER MANUFACTURER'S INSTRUCTIONS
- 2X10 PT/SYP LEDGER BOARD ATTACHED TO EXIST BLDG, PROVIDE FLASHING
- ELECTRICAL PANEL - SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION (TYP)
- GWB CEILING OR BULKHEAD ABOVE - SEE REFLECTED CEILING PLAN (TYP)
- PROVIDE ATTIC ACCESS PANEL WITH 1X4 TRIM - PRIME AND PAINT, PNT-6 - PANEL TO BE WIDTH OF EXISTING OPENING X 5' - 0" L
- PROVIDE ATTIC ACCESS PANEL WITH 1X4 TRIM - PRIME AND PAINT, PNT-6 - ATTIC ACCESS OPENING TO BE FRAMED, TO MATCH EXISTING, BETWEEN THE NEXT SET OF ROOF TRUSSES OVER (TO PLAN RIGHT OF EXISTING OPENING) TO ACCOMMODATE THE NEW LAYOUT - INFILL EXISTING OPENING TO MATCH EXISTING STRUCTURE.

- PROVIDE PLYWOOD, OR OSB, TO MATCH EXISTING, AT TOP OF BOTTOM ROOF TRUSS CHORD, AS REQUIRED, FOR MECHANICAL UNITS AND ACCESS - SEE MECHANICAL DRAWINGS FOR MORE INFORMATION.

- SEE ENLARGED PLAN FOR DOOR LOCATION DETAILS - DASHED LINES INDICATE CLEARANCE REQUIREMENTS (TYP)

- PROVIDE BREAK METAL AT ALL EXPOSED GWB TO MATCH STOREFRONT - GAUGE TO BE HEAVY ENOUGH TO PREVENT OIL CANNING WHEN INSTALLED (TYP)

- SLIDING GLASS (TEMPERED) TRANSACTION WINDOW WITH ANODIZED ALUMINUM TRACK AND HARDWARE - PROVIDE 1 1/2" THICK PLASTIC LAMINATE, PLAM-2, TRANSACTION LEDGE - SEE ENLARGED PLAN FOR LEDGE DIMENSIONS (TYP)

- PROVIDE DRYWALL RETURNS AT PERIMETER OF EXISTING WINDOWS (TYP)

- CASEWORK IN 'EXAM E110' TO BE SHORTER THAN TYPICAL - SEE 4/A-401 FOR MORE INFORMATION

- ADJUSTABLE LAMINATE SHELVING - SEE FLOOR PLAN OR ENLARGED PLAN FOR SHELF DEPTH, SPAN, AND NUMBER OF SECTIONS PER SPAN - EACH SECTION TO HAVE (6) SHELVES, UNO - PROVIDE 6" - 0" H STANDARDS WITH BRACKETS SUITABLE FOR DEPTH OF SHELVES, BOTTOM OF STANDARD @ 1' - 0" A.F.F. - PROVIDE BLOCKING FOR STANDARDS - SHELVES TO BE WHITE LAMINATE OR THERMOSET DECORATIVE FINISH (MELAMINE) - SPANS NOTES WITH AN ASTERISK TO BE SUPER-DUTY OR EXTRA-DUTY QUALITY (TYP)

- ADJUSTABLE LAMINATE SHELVING - SHELVES TO SPAN FULL LENGTH OF CLOSET 'CLO 119' (MAY BE DIVIDED INTO (2) SECTIONS IF NEEDED) - PROVIDE (3) 1' - 0" DEEP SHELVES @ APPROX 1', 2', & 3' AFF & (6) 0' - 9" DEEP SHELVES BETWEEN 3' - 8" +/- AND 7' - 0" AFF - PROVIDE 7' - 0" H STANDARDS WITH BRACKETS SUITABLE FOR DEPTH OF SHELVES, BOTTOM OF STANDARD @ 0' - 6" A.F.F. - PROVIDE BLOCKING FOR STANDARDS - SHELVES TO BE WHITE LAMINATE OR THERMOSET DECORATIVE FINISH (MELAMINE) (TYP)

- SEE FINISH PLAN, A-602, FOR WINDOW COVERING INFORMATION (TYP)

- PROVIDE 1' - 6" W X 1' - 10" D X 1 1/2" THICK PLASTIC LAMINATE, PLAM-2, COUNTERTOP WITH 4" H BACKSPLASH, AGAINST BOTH WALL - MOUNT @ 2' - 10" AFF TO TOP - PROVIDE DIAGONAL PLASTIC LAMINATE, PLAM-1, BRACKETS AS REQUIRED

- FIRE EXTINGUISHER WITH CABINET - SEE LIFE SAFETY PLAN FOR MORE INFORMATION (TYP)

- PROVIDE (1) LOW ELECTRIC WATER COOLER - MOUNTING HEIGHT TO BE 36" MAX TO HEIGHT OF SPOUT OUTLET - SEE PLUMBING DRAWINGS FOR MORE INFORMATION

- PROVIDE (1) HIGH ELECTRIC WATER COOLER - MOUNTING HEIGHT TO BE BETWEEN 38" MIN AND 43" MAX TO HEIGHT OF SPOUT OUTLET - SEE PLUMBING DRAWINGS FOR MORE INFORMATION

- PLUMBING FIXTURE - SEE PLUMBING DRAWINGS FOR MORE INFORMATION (TYP)

- CONTRACTOR TO LEVEL EXISTING GRAVEL BASE AT ALL AREAS PRIOR TO POURING NEW CONCRETE SLAB - NEW CONCRETE SLAB TO BE 4" MIN, 3000 PSI, WITH 6X6 W1.4 X W1.4 WWF - DRILL AND GROUT #4'S @ 2' - 0" O.C. 6" INTO EXISTING SLAB AND 6" INTO NEW SLAB - NEW SLAB TO BE LEVEL WITH EXISTING (TYP)

- 3' - 0" W X 7' - 0" H OPENING WITH DRYWALL RETURNS - PROVIDE (4) CORNER GUARDS - SEE FINISH KEY FOR MORE INFORMATION

- 3' - 6" W X 7' - 0" H OPENING WITH DRYWALL RETURNS - PROVIDE (4) CORNER GUARDS - SEE FINISH KEY FOR MORE INFORMATION

- ALIGN FINISH FACE OF RATED WALL ASSEMBLY WITH FINISH FACE OF ADJACENT WALL ASSEMBLY

- PROVIDE 3/4" THICK PLYWOOD AT FULL LENGTH OF WALL FROM 2' - 0" AFF TO 6' - 0" AFF - SAND AND PAINT TO MATCH ADJACENT WALLS

- ANGLE OF WALL TO BE GENERATED PER ADJACENT WALLS AND WILL NOT BE A STANDARD ANGLE

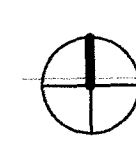
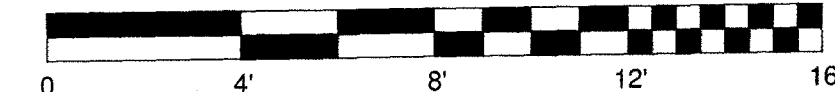
- PROVIDE EXTRA LAYER OF 5/8" GWB BETWEEN 'TOILET 110' & 'OFFICE 111'

FLOOR PLAN LEGEND

- INDICATES EXISTING WALL CONSTRUCTION
- INDICATES NEW WALL CONSTRUCTION

- 90 DEG. SWING INDICATES NEW DOOR
- 45 DEG. SWING INDICATES EXISTING DOOR

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

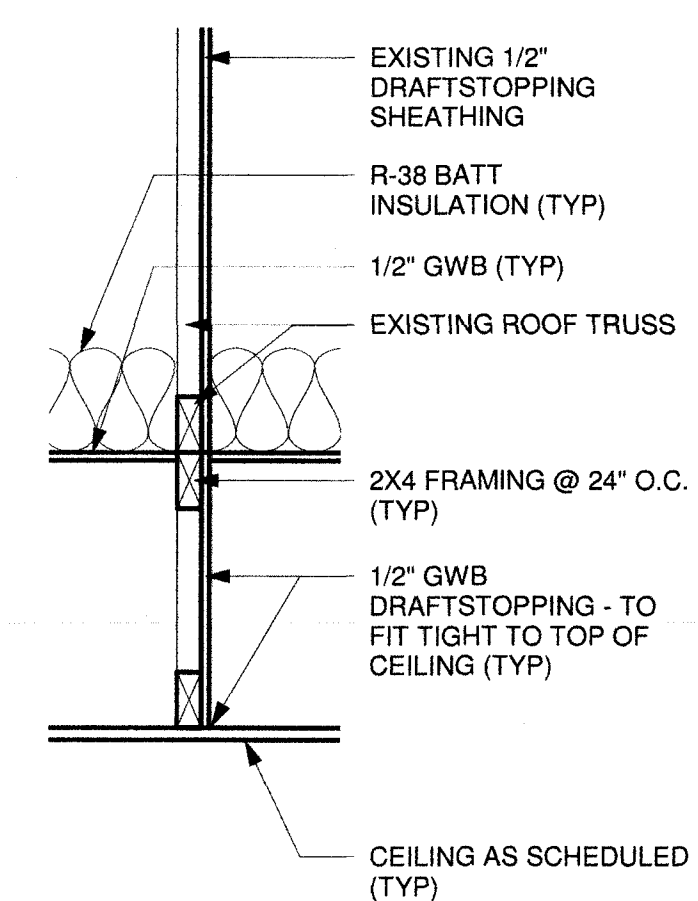




COMMONWEALTH OF VIRGINIA
W. H. Hume
 WILLIAM H. HUME
 No. 010127
 JANUARY 31, 2017
 ARCHITECT

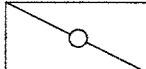
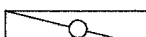
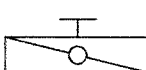
SHEET

A-102



DETAIL

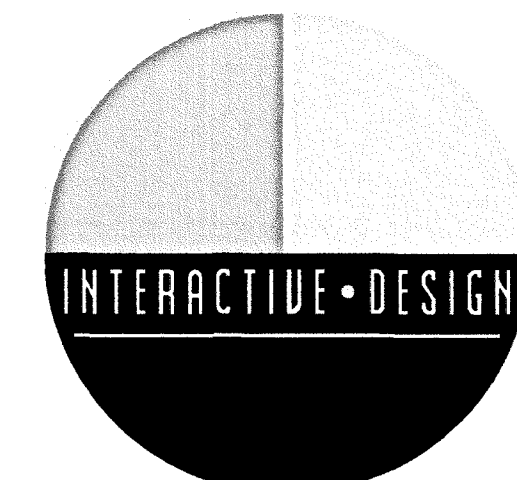
A-102	1/4" = 1'-0"
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	CAN LIGHT
	PENDANT LIGHT
	2' X 2' RECESSED LIGHT FIXTURE
	2' X 4' RECESSED LIGHT FIXTURE
	1' X 4' LIGHT FIXTURE
	WALL-MOUNTED LIGHT FIXTURE
	2' X 2' SUPPLY DIFFUSER
	2' X 2' RETURN GRILLE
EX	EXISTING

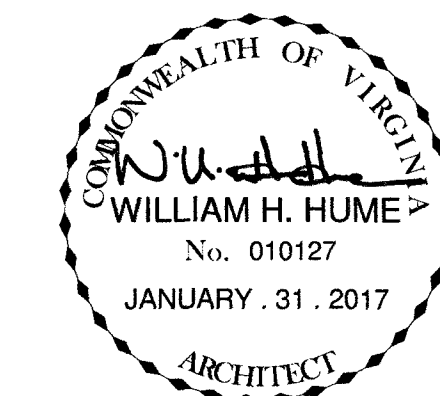
GRAPHIC SCALE: 1/8" = 1' - 0"

0 8' 16' 24' 32'





INTERACTIVE DESIGN GROUP
301 6TH STREET SW
ROANOKE, VA 24016
P. 540.342.7534 F. 540.342.7536



NO. REVISIONS DATE

RENOVATIONS TO,

BLACKSBURG PEDIATRICS

829 DAVIS STREET
BLACKSBURG, VA 24060

DATE JANUARY . 31 . 2017

DRAWN JLZ

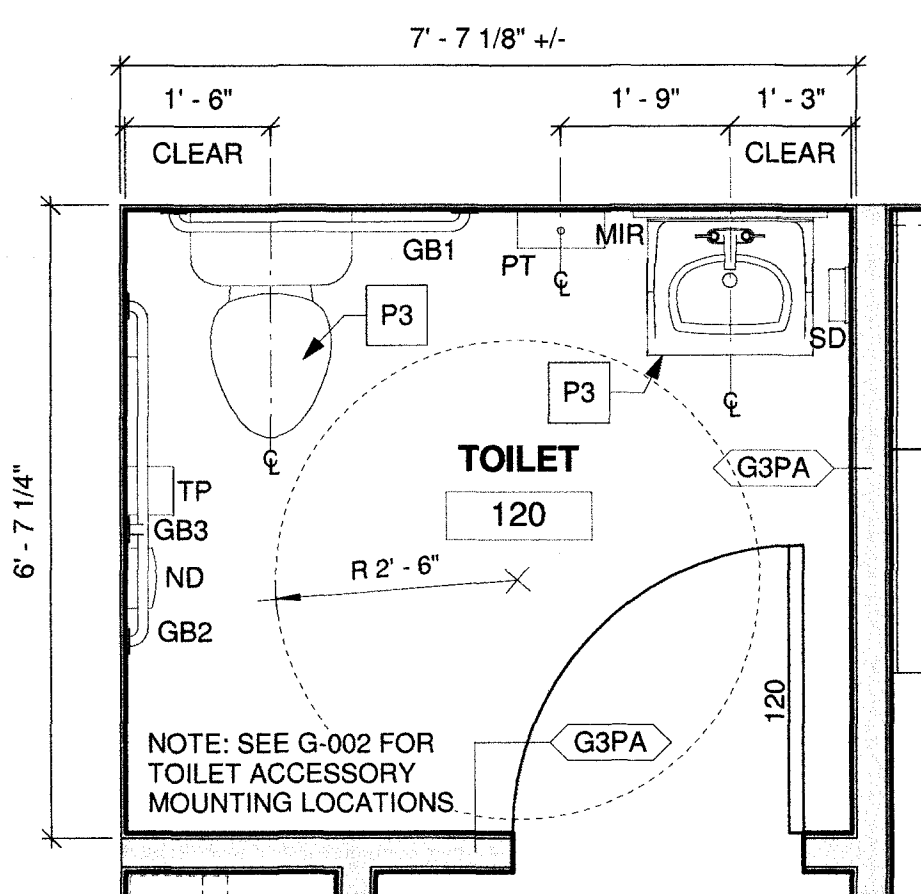
CHECKED SCF

JOB 1646

ENLARGED PLANS

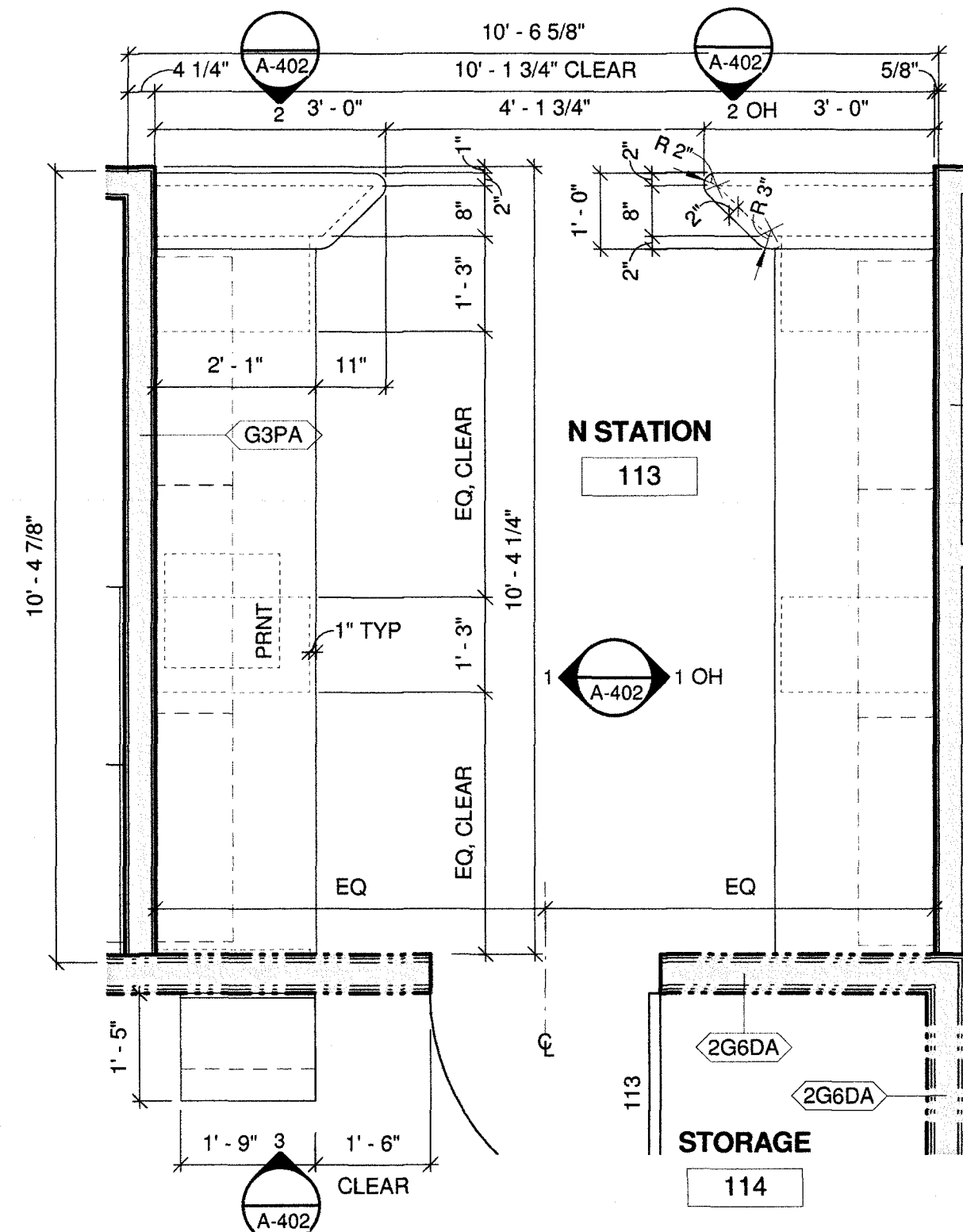
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A-401



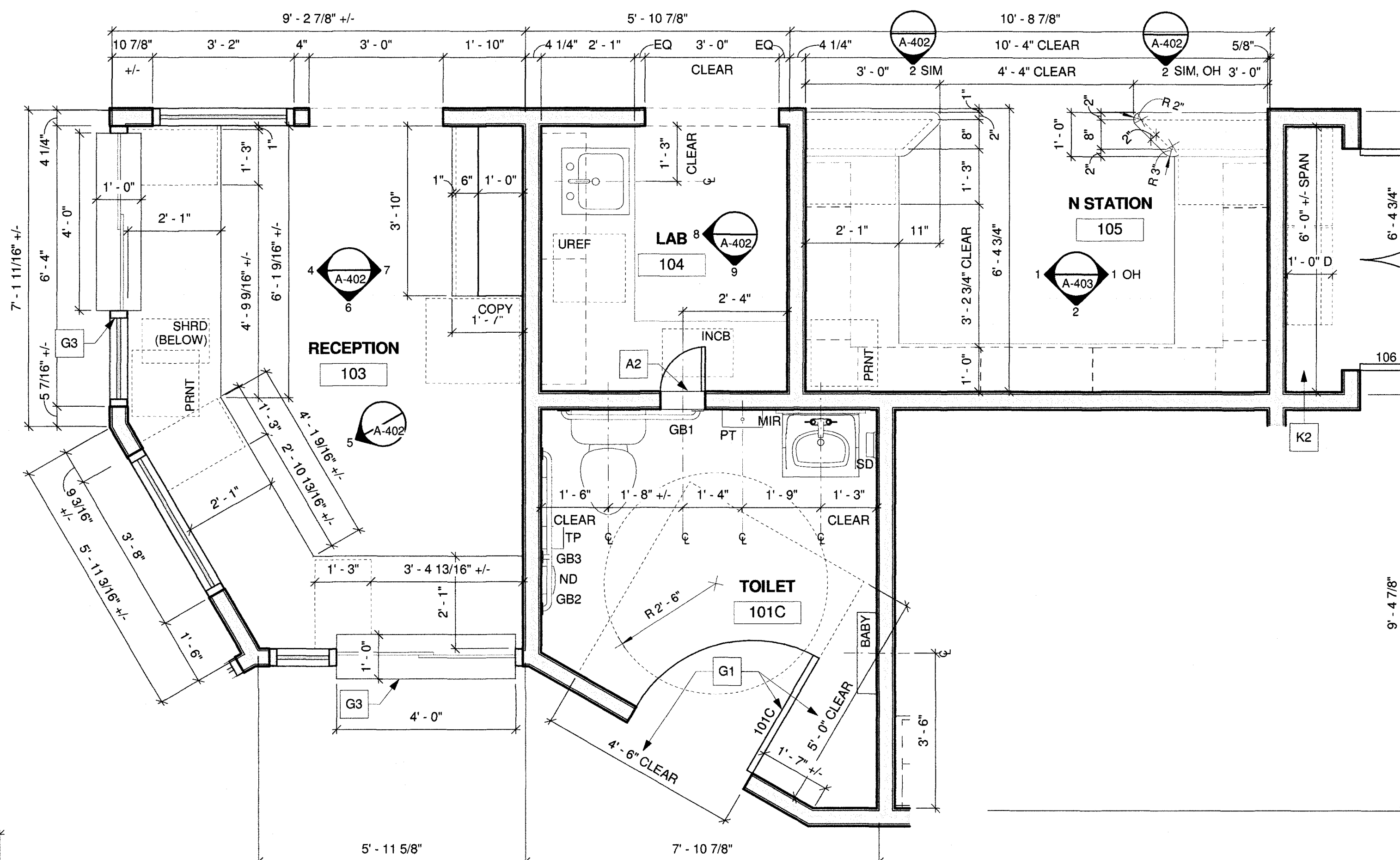
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A-401 1/2" = 1'-0"

ENLARGED PLAN



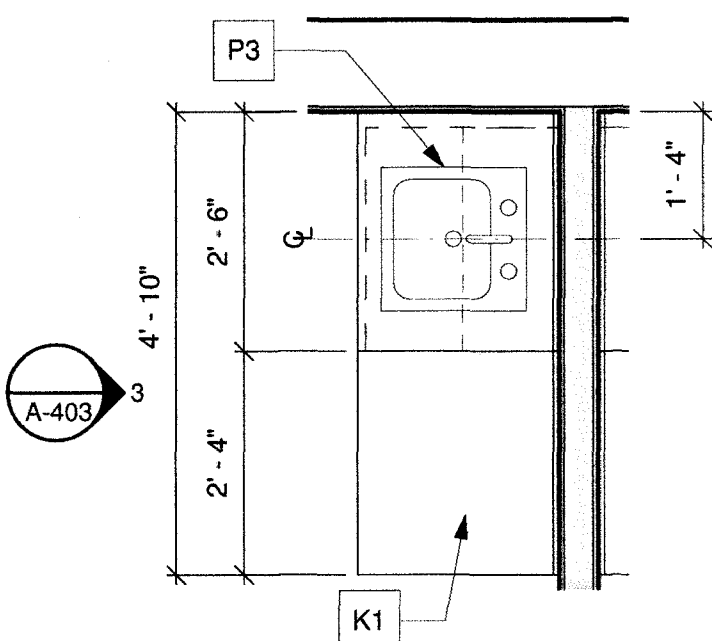
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A-401 1/2" = 1'-0"

ENLARGED PLAN



3
A-401 1/2" = 1'-0"

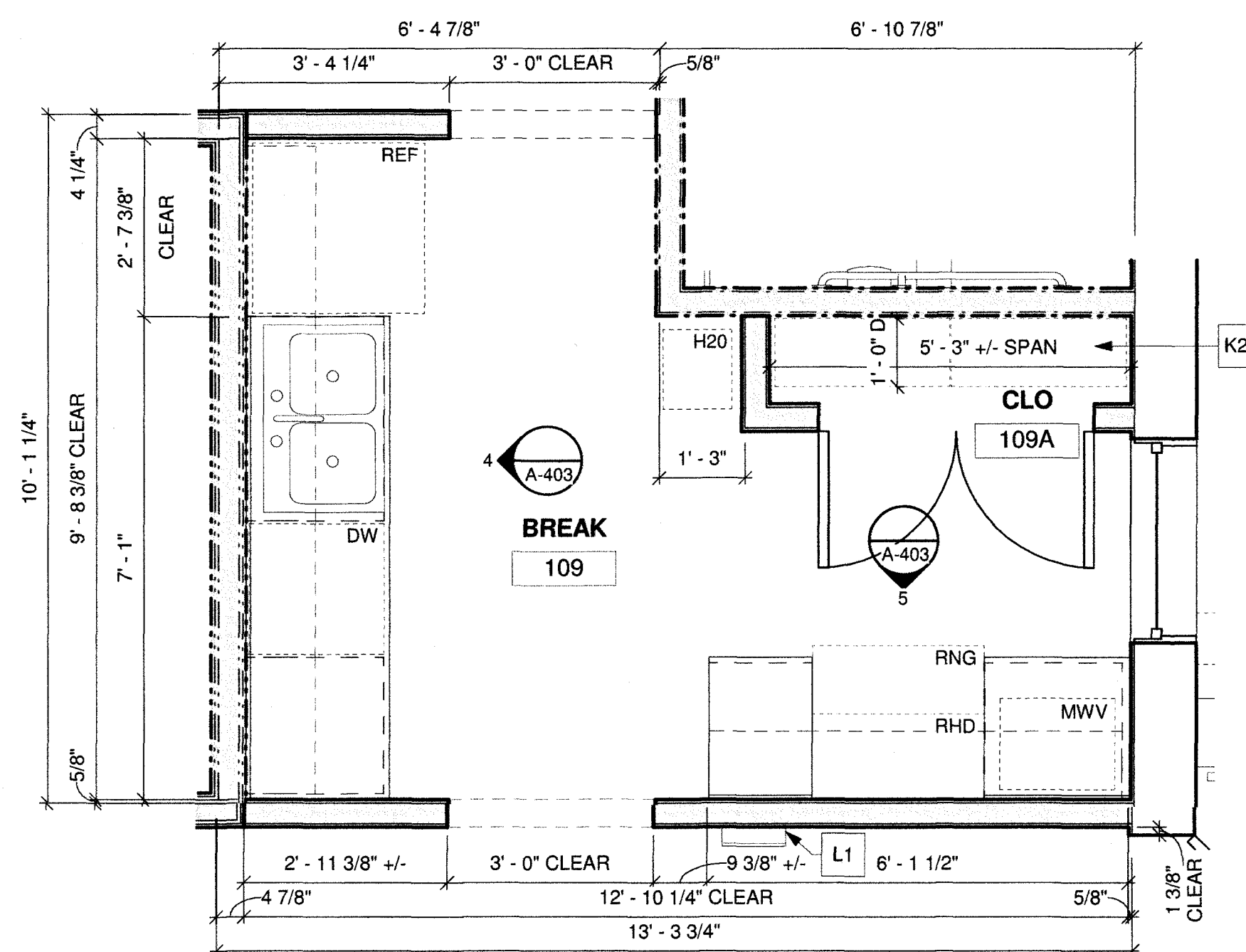
ENLARGED PLAN



NOTE: DESK SECTION OF EXAM CASEWORK IN 'EXAM E110' TO BE 2'-0" W, 4" SHORTER THAN TYPICAL, DUE TO DOOR CLEARANCE REQUIREMENTS

4
A-401 1/2" = 1'-0"

ENLARGED PLAN - TYPICAL



5
A-401 1/2" = 1'-0"

ENLARGED PLAN

TOILET ACCESSORY SCHEDULE					
MARK	ITEM	MANUFACTURER	MODEL #	MOUNTING HEIGHT	
GB1	36" GRAB BAR	BOBRICK	B-5806.99 x 36"	SEE SHEET G-002 FOR MOUNTING DIMENSIONS	
GB2	42" GRAB BAR	BOBRICK	B-5806.99 x 42"	SEE SHEET G-002 FOR MOUNTING DIMENSIONS	
GB3	18" VERTICAL GRAB BAR	BOBRICK	B-5806.99 x 18"	SEE SHEET G-002 FOR MOUNTING DIMENSIONS	
MIR	FRAMED MIRROR - 24" W X 36" H	BOBRICK	B-165 2436	SEE SHEET G-002 FOR MOUNTING DIMENSIONS	
ND	SANITARY NAPKIN DISPOSAL	BOBRICK	B-270	SEE SHEET G-002 FOR MOUNTING DIMENSIONS	
PT	PAPER TOWEL DISPENSER	BOBRICK	B-4262	SEE SHEET G-002 FOR MOUNTING DIMENSIONS	
SD	SOAP DISPENSER	BOBRICK	B-4112	SEE SHEET G-002 FOR MOUNTING DIMENSIONS	
TP	TOILET TISSUE DISPENSER	BOBRICK	B-4288	SEE SHEET G-002 FOR MOUNTING DIMENSIONS	

NOTE: SEE A-402, OR A-403, FOR EQUIPMENT / APPLIANCE SCHEDULE

GENERAL CONSTRUCTION NOTES		
1. SEE G-002 FOR GENERAL CONSTRUCTION NOTES.		
2. PROVIDE FIRE BLOCKING PER 2012 INTERNATIONAL BUILDING CODE, SECTION 718.		
3. CONTRACTOR TO ENSURE ALL EXTERIOR WALL PENETRATIONS ARE PROPERLY INSULATED.		
NOTES LEGEND		
A - GENERAL	G - DOORS / GLAZINGS	P - PLUMBING
C - CIVIL	K - FURNITURE / FINISHES	R - ROOF
E - ELECTRICAL	L - LIFE SAFETY	S - STRUCTURAL
F - FLOORS / CEILINGS	M - MECHANICAL	W - WALLS
FLOOR PLAN NOTES		
A1. WALL-MOUNTED DEFIBRILLATOR, PROVIDED BY OWNER, NIC - PROVIDE BLOCKING AS REQUIRED TO MOUNT AT 48" TO TOP OF BAG HANDLE		
A2. PROVIDE STAINLESS STEEL PASS THROUGH SPECIMEN CABINET - MOUNTING HEIGHT TO BE 48" MAX TO OPERABLE HANDLE AND 39" MIN TO BOTTOM OF CABINET		
A3. PROVIDE 24" W BOBRICK, B-5806.99 X 24", GRAB BAR - MOUNT @ 45 DEG ANGLE - MOUNT LOWEST POINT OF GRAB BAR @ 2' - 6" AFF - PROVIDE BLOCKING AS REQD		
A4. PROVIDE BLOCKING IN EACH OFFICE FOR COAT HOOKS - CONSULT WITH OWNER FOR LOCATION AND HEIGHT (TYP)		
A5. PROVIDE BLOCKING IN 'CONFERENCE 108' & 'LOBBY 101' FOR FUTURE WALL-MOUNTED TV BRACKET - CONSULT WITH OWNER FOR LOCATION AND SIZE		

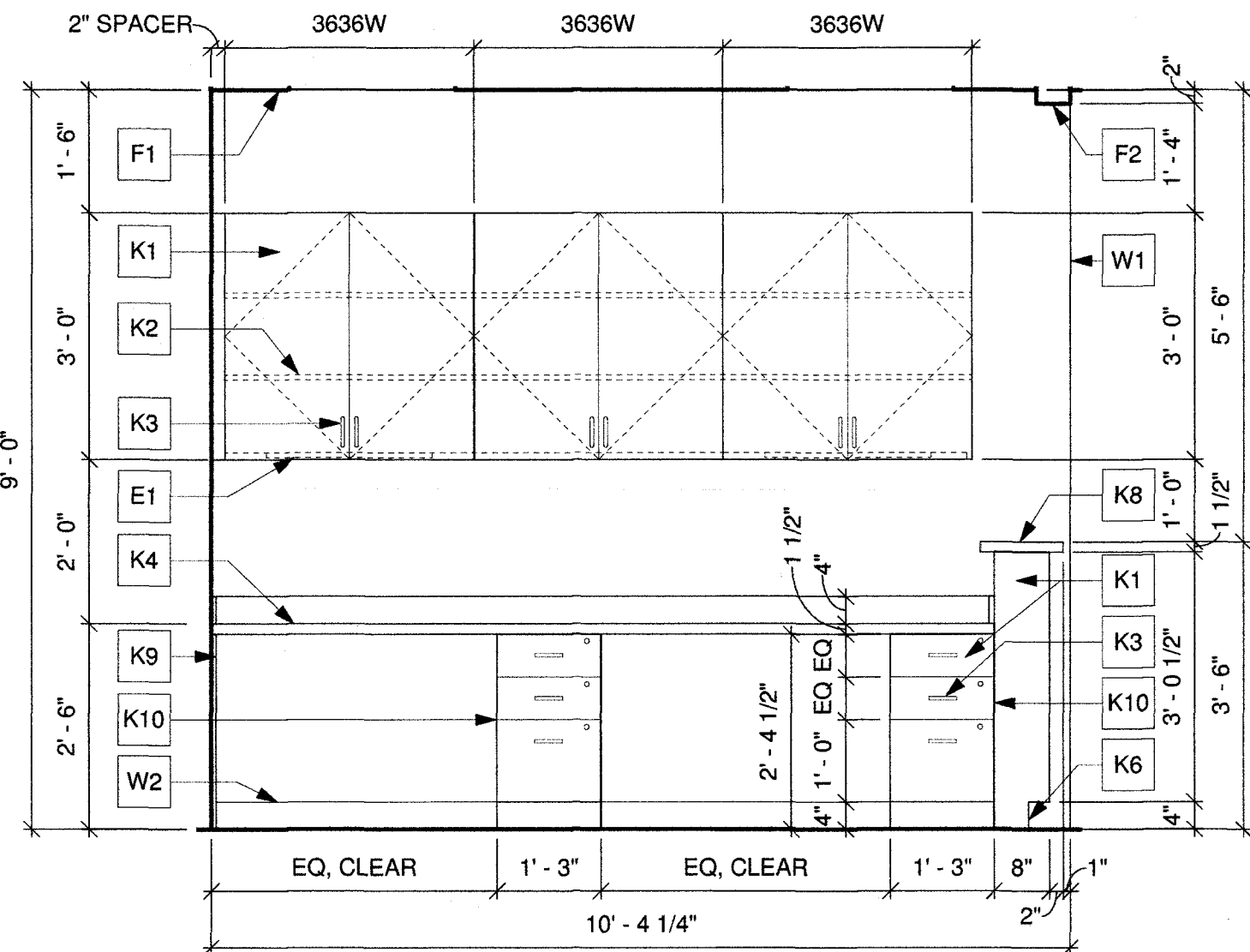
FLOOR PLAN NOTES	
A6. PROVIDE 1/2" GWB AT UNDERSIDE OF ROOF TRUSSES - PROVIDE R-38 BATT INSULATION ABOVE GWB, THROUGHOUT (TYP)	
A7. PROVIDE 4" CONCRETE HOUSEKEEPING PAD - SIZE PER HOT WATER HEATER	
C1. CONCRETE PAD FOR MECHANICAL UNITS, APPROX. 19' - 6" W X 4' - 0" D - SEE MECHANICAL DRAWINGS FOR MORE INFORMATION	
C2. *ADD ALTERNATE*: PROVIDE TREX DECK SYSTEM, RUN DIAGONALLY, WITH TREX RAILING (MIN 42" HIGH W/ PICKETS @ 4" O.C. MAX) - STYLE AND FINISH TBD - PROVIDE STRUCTURAL ELEMENTS AS OUTLINED BELOW, SEE PLAN FOR LOCATIONS - DECK TO EXTEND FROM EXISTING CONCRETE SIDEWALK AND RAILING; REMOVE EXISTING WALL, RAILING, ETC., AS REQUIRED, FOR CONNECTION	
- 30" W X 30" W X 12" D CONCRETE FOOTING - REINFORCE W/ (2) #4 REBAR, EACH WAY - PROVIDE 8" X 8" CONCRETE PIER W/ (4) #4 REBAR AND #3 TIES @ 12" O.C.	
- 6X6 LOAD BEARING PT POSTS W/ (2) 2X10 BEAMS	
- 2X10 PT/SYP JOISTS & CONTINUOUS RIM JOISTS - COORDINATE JOIST SPAN WITH TYPE OF DECKING AS PER MANUFACTURER'S INSTRUCTIONS	
- 2X10 PT/SYP LEDGER BOARD ATTACHED TO EXST BLDG, PROVIDE FLASHING	
E1. ELECTRICAL PANEL - SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION (TYP)	
F1. GWB CEILING OR BULKHEAD ABOVE - SEE REFLECTED CEILING PLAN (TYP)	
F2. PROVIDE ATTIC ACCESS PANEL WITH 1X4 TRIM - PRIME AND PAINT, PNT-6 - PANEL TO BE WIDTH OF EXISTING OPENING X 5' - 0" L	
F3. PROVIDE ATTIC ACCESS PANEL WITH 1X4 TRIM - PRIME AND PAINT, PNT-6 - ATTIC ACCESS OPENING TO BE FRAMED, TO MATCH EXISTING, BETWEEN THE NEXT SET OF ROOF TRUSSES OVER TO PLAIN RIGHT OF EXISTING OPENINGS) TO ACCOMMODATE THE NEW LAYOUT - INFILL EXISTING OPENING TO MATCH EXISTING STRUCTURE.	

F4. PROVIDE PLYWOOD, OR OSB, TO MATCH EXISTING, AT TOP OF BOTTOM ROOF TRUSS CHORD, AS REQUIRED, FOR MECHANICAL UNITS AND ACCESS - SEE MECHANICAL DRAWINGS FOR MORE INFORMATION	
G1. SEE ENLARGED PLAN FOR DOOR LOCATION DETAILS - DASHED LINES INDICATE CLEARANCE REQUIREMENTS (TYP)	
G2. PROVIDE BREAK METAL AT ALL EXPOSED GWB TO MATCH STOREFRONT - GAUGE TO BE HEAVY ENOUGH TO PREVENT OIL CANNING WHEN INSTALLED (TYP)	
G3. SLIDING GLASS (TEMPERED) TRANSACTION WINDOW WITH ANODIZED ALUMINUM TRACK AND HARDWARE - PROVIDE 1 1/2" THICK PLASTIC LAMINATE, PLAM-2, TRANSACTION LEDGE - SEE ENLARGED PLAN FOR LEDGE DIMENSIONS (TYP)	
G4. PROVIDE DRYWALL RETURNS AT PERIMETER OF EXISTING WINDOWS (TYP)	
K1. CASEWORK IN 'EXAM E110' TO BE SHORTER THAN TYPICAL - SEE 4/A-401 FOR MORE INFORMATION	
K2. ADJUSTABLE LAMINATE SHELVING - SEE FLOOR PLAN OR ENLARGED PLAN FOR SHELF DEPTH, SPAN, AND NUMBER OF SECTIONS PER SPAN - EACH SECTION TO HAVE (5) SHELVES, UNO - PROVIDE 6" - 0" H STANDARDS WITH BRACKETS SUITABLE FOR DEPTH OF SHELVES, BOTTOM OF STANDARD @ 1' - 0" A.F.F. - PROVIDE BLOCKING FOR STANDARDS - SHELVES TO BE WHITE LAMINATE OR THERMOSET DECORATIVE FINISH (MELAMINE) - SPANS NOTES WITH AN ASTERISK* TO BE SUPER-DUTY OR EXTRA-DUTY QUALITY (TYP)	
K3. ADJUSTABLE LAMINATE SHELVING - SHELVES TO SPAN FULL LENGTH OF CLOSET 'CLO 119' (MAY BE DIVIDED INTO (2) SECTIONS IF NEEDED) - PROVIDE (3) 1" - 0" DEEP SHELVES @ APPROX. 1' - 2' & 3' AFF & (6) 0" - 9" DEEP SHELVES BETWEEN (3) 1" - 0" AFF - PROVIDE 7' - 0" H STANDARDS WITH BRACKETS SUITABLE FOR DEPTH OF SHELVES, BOTTOM OF STANDARD @ 0' - 6" A.F.F. - PROVIDE BLOCKING FOR STANDARDS - SHELVES TO BE WHITE LAMINATE OR THERMOSET DECORATIVE FINISH (MELAMINE) (TYP)	

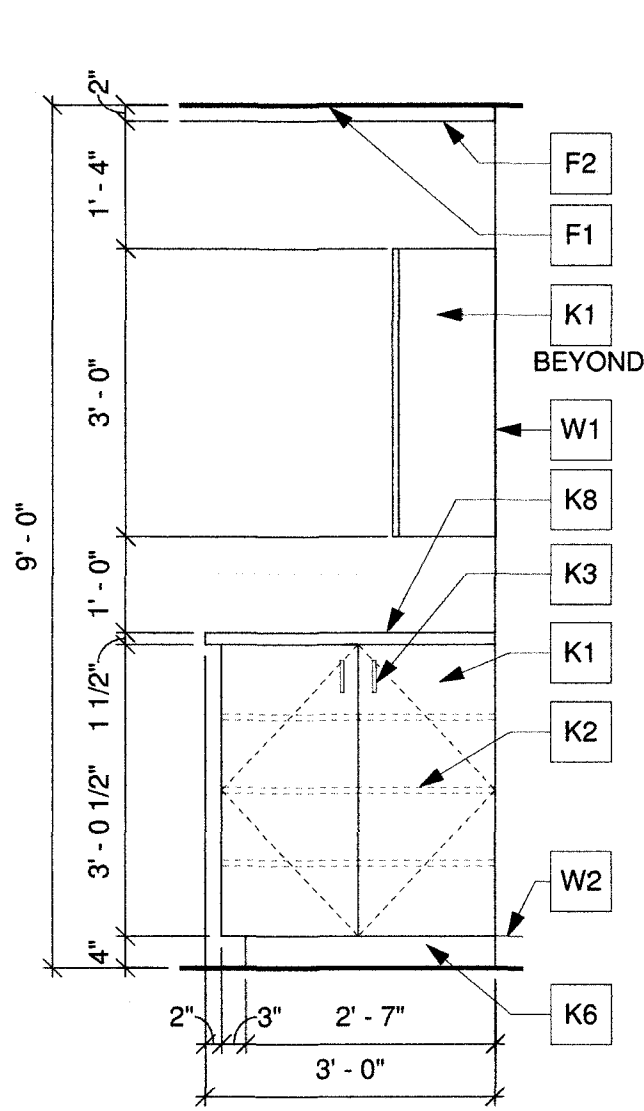
K4. SEE FINISH PLAN, A-602, FOR WINDOW COVERING INFORMATION (TYP)	
K5. PROVIDE 1' - 6" W X 1' - 10" D X 1 1/2" THICK PLASTIC LAMINATE, PLAM-2, COUNTERTOP WITH 4" H BACKSPLASH, AGAINST BOTH WALL - MOUNT @ 2' - 10" AFF TO TOP - PROVIDE DIAGONAL PLASTIC LAMINATE, PLAM-1, BRACKETS AS REQUIRED	
L1. FIRE EXTINGUISHER WITH CABINET - SEE LIFE SAFETY PLAN FOR MORE INFORMATION (TYP)	
P1. PROVIDE (1) LOW ELECTRIC WATER COOLER - MOUNTING HEIGHT TO BE 36" MAX TO HEIGHT OF SPOUT OUTLET - SEE PLUMBING DRAWINGS FOR MORE INFORMATION	
P2. PROVIDE (1) HIGH ELECTRIC WATER COOLER - MOUNTING HEIGHT TO BE BETWEEN 38" MIN AND 43" MAX TO HEIGHT OF SPOUT OUTLET - SEE PLUMBING DRAWINGS FOR MORE INFORMATION	
P3. PLUMBING FIXTURE - SEE PLUMBING DRAWINGS FOR MORE INFORMATION (TYP)	
S1. CONTRACTOR TO LEVEL EXISTING GRAVEL BASE AT ALL AREAS PRIOR TO POURING NEW CONCRETE SLAB - NEW CONCRETE SLAB TO BE 4" MIN, 3000 PSI, WITH 6X6 W1.4 X W1.4 WWF - DRILL AND GROUT #S @ 2' - 0" O.C. 6" INTO EXISTING SLAB AND 6" INTO NEW SLAB - NEW SLAB TO BE LEVEL WITH EXISTING (TYP)	
W1. 3' - 0" W X 7' - 0" H OPENING WITH DRYWALL RETURNS - PROVIDE (4) CORNER GUARDS - SEE FINISH KEY FOR MORE INFORMATION	
W2. 3' - 6" W X 7' - 0" H OPENING WITH DRYWALL RETURNS - PROVIDE (4) CORNER GUARDS - SEE FINISH KEY FOR MORE INFORMATION	
W3. ALIGN FINISH FACE OF RATED WALL ASSEMBLY WITH FINISH FACE OF ADJACENT WALL ASSEMBLY	
W4. PROVIDE 3/4" THICK PLYWOOD AT FULL LENGTH OF WALL FROM 2' - 0" AFF TO 6' - 0" AFF - SAND AND PAINT TO MATCH ADJACENT WALLS	

W5. ANGLE OF WALL TO BE GENERATED PER ADJACENT WALLS AND WILL NOT BE A STANDARD ANGLE	
W6. PROVIDE EXTRA LAYER OF 5/8" GWB BETWEEN 'TOILET 110' & 'OFFICE 111'	
FLOOR PLAN LEGEND	
	INDICATES EXISTING WALL CONSTRUCTION
	INDICATES NEW WALL CONSTRUCTION
	90 DEG. SWING INDICATES NEW DOOR
	45 DEG. SWING INDICATES EXISTING DOOR
GRAPHIC SCALE: 1/4" = 1' - 0"	

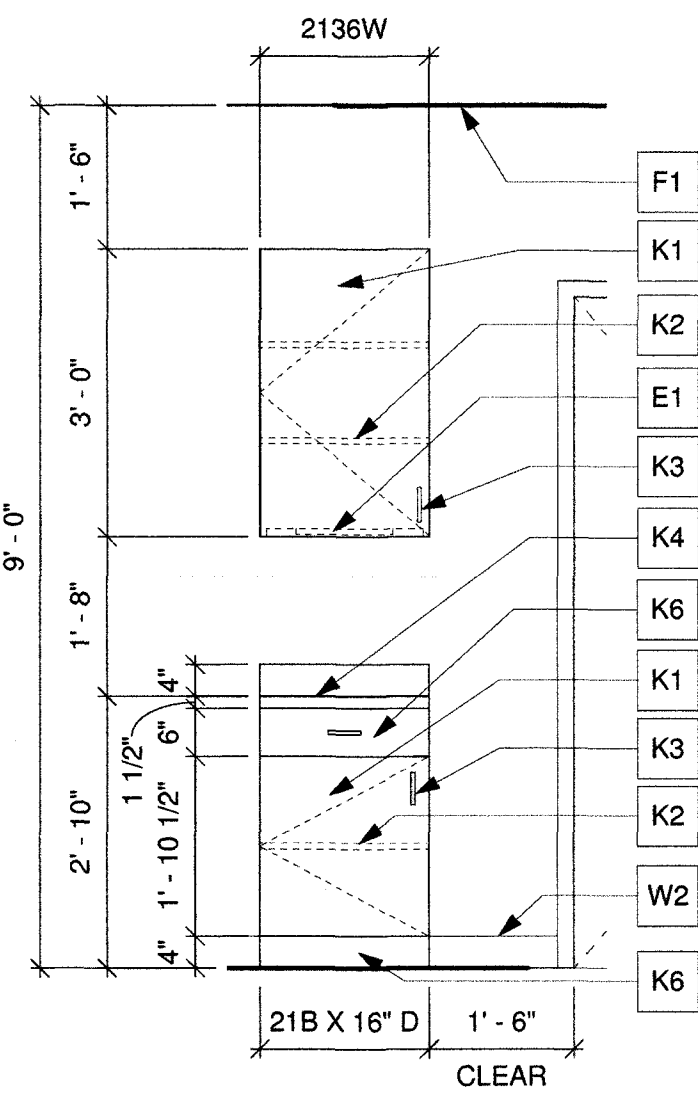
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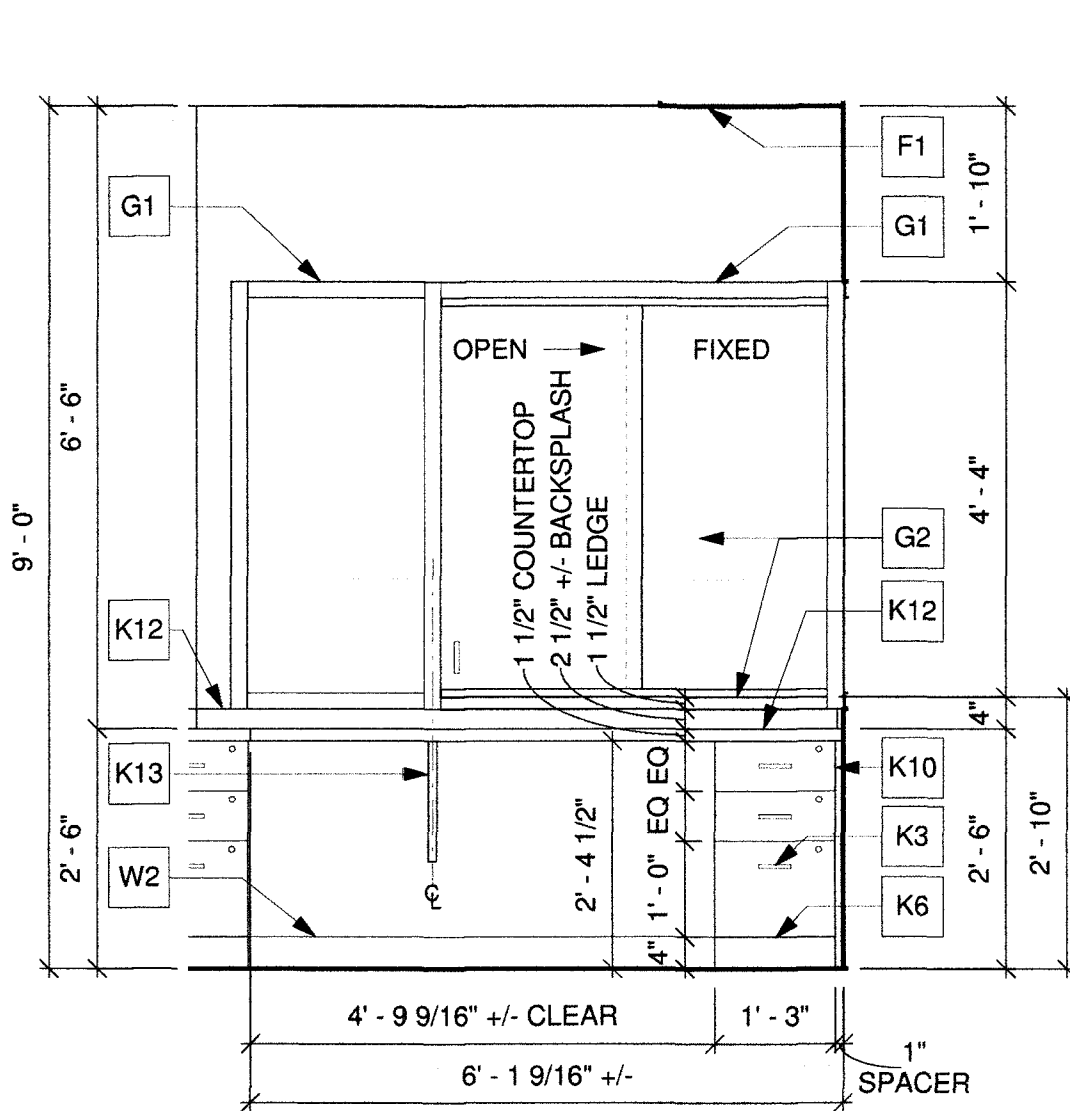
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A-402 1/2" = 1'-0"



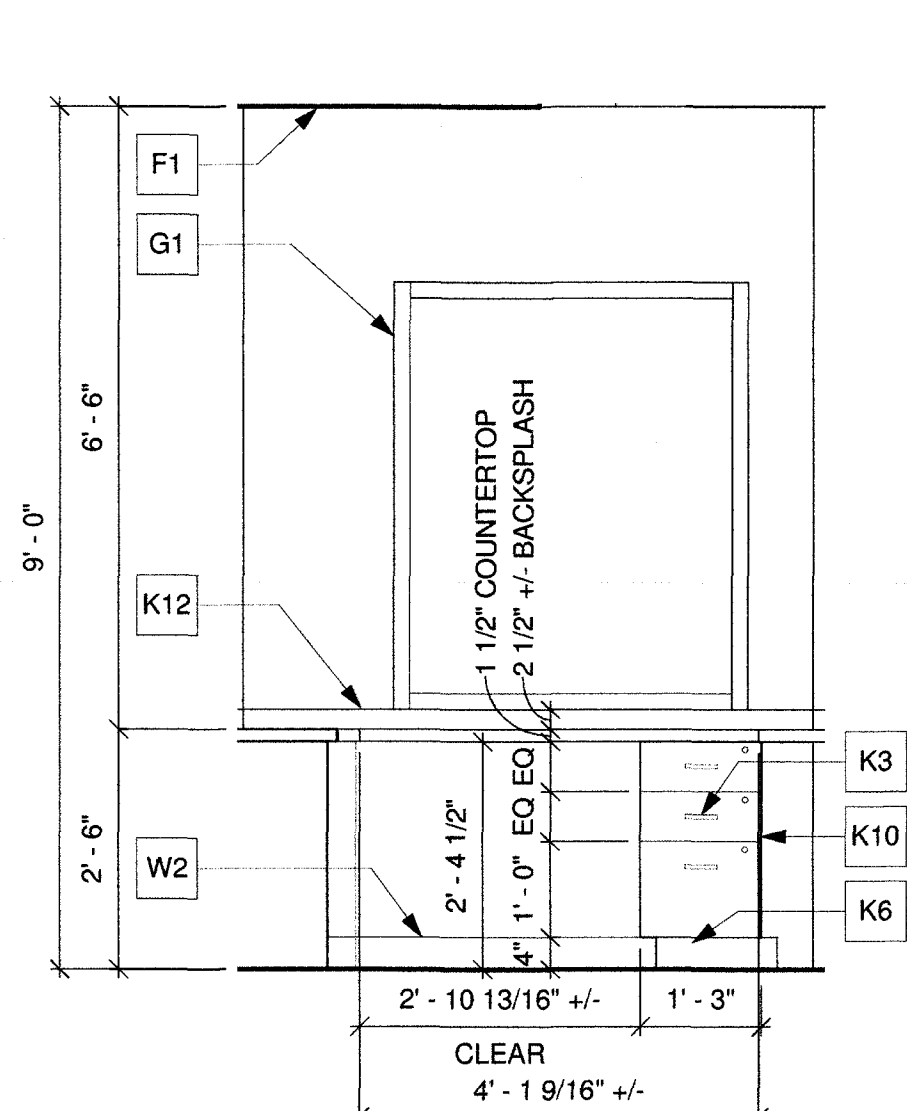
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A-402 1/2" = 1'-0"



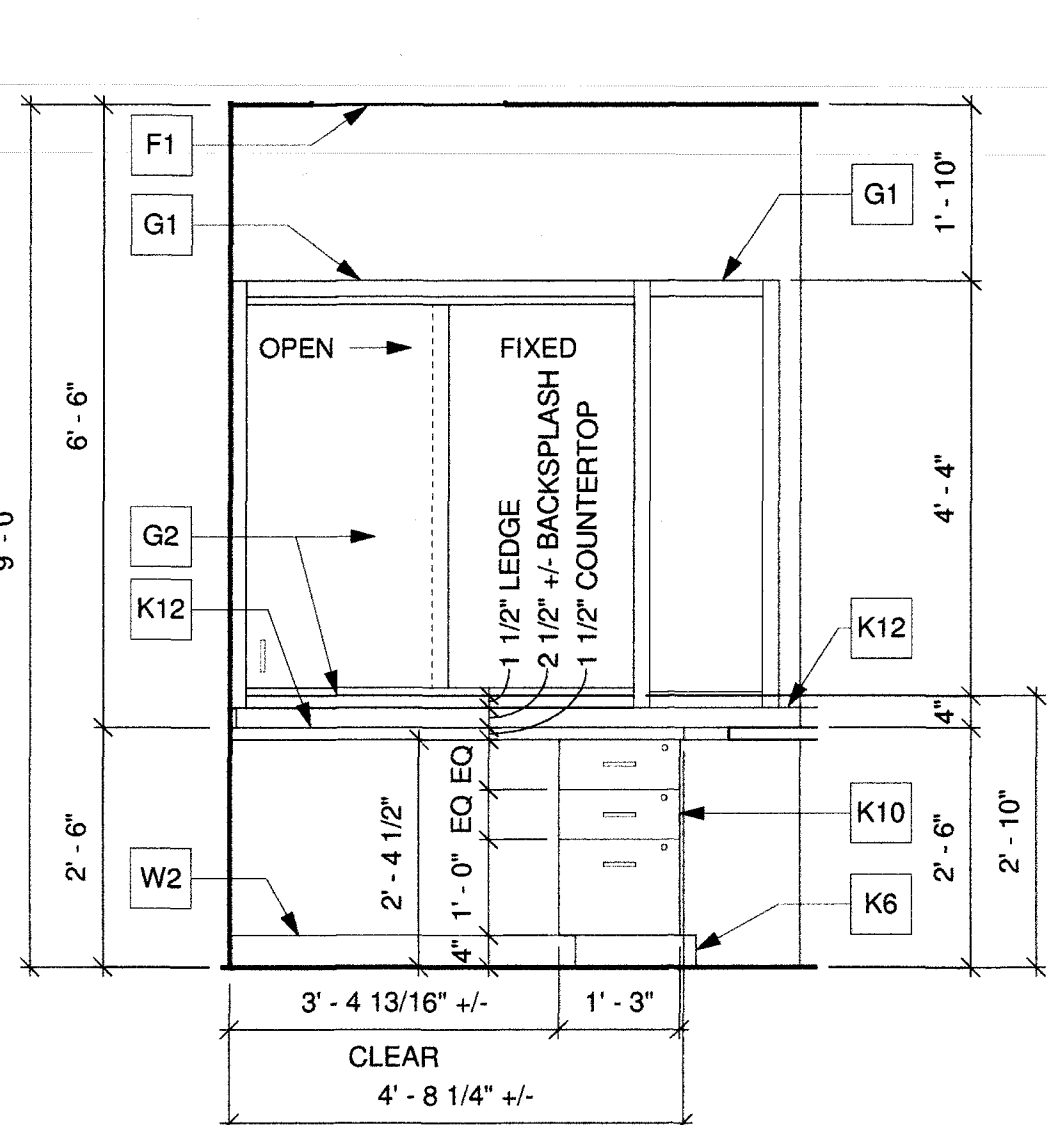
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A-402 1/2" = 1'-0"



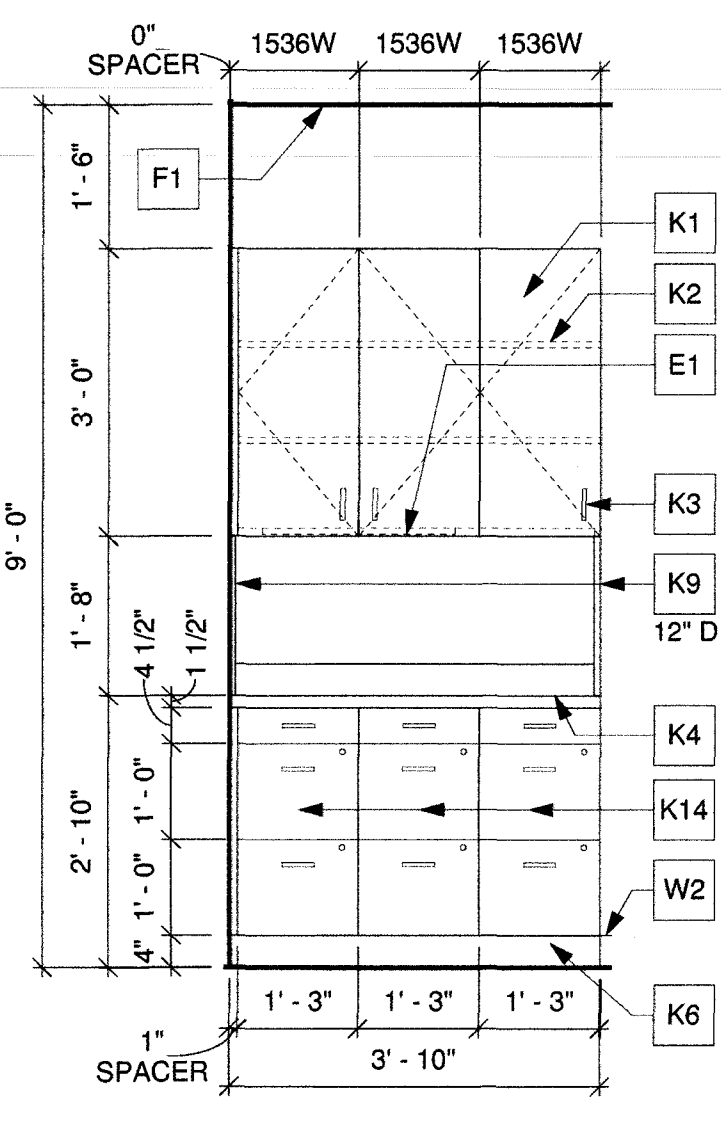
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A-402 1/2" = 1'-0"



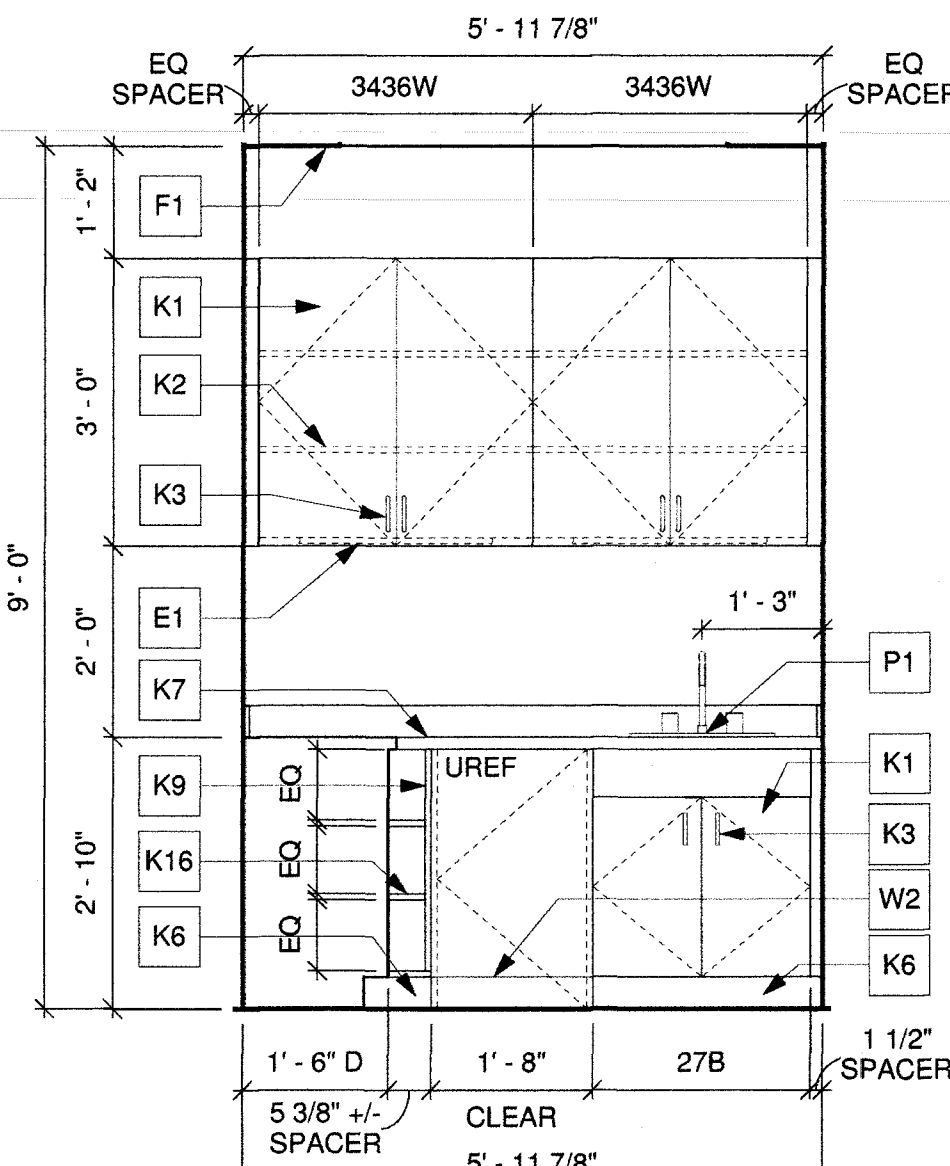
5
A-402 1/2" = 1'-0"



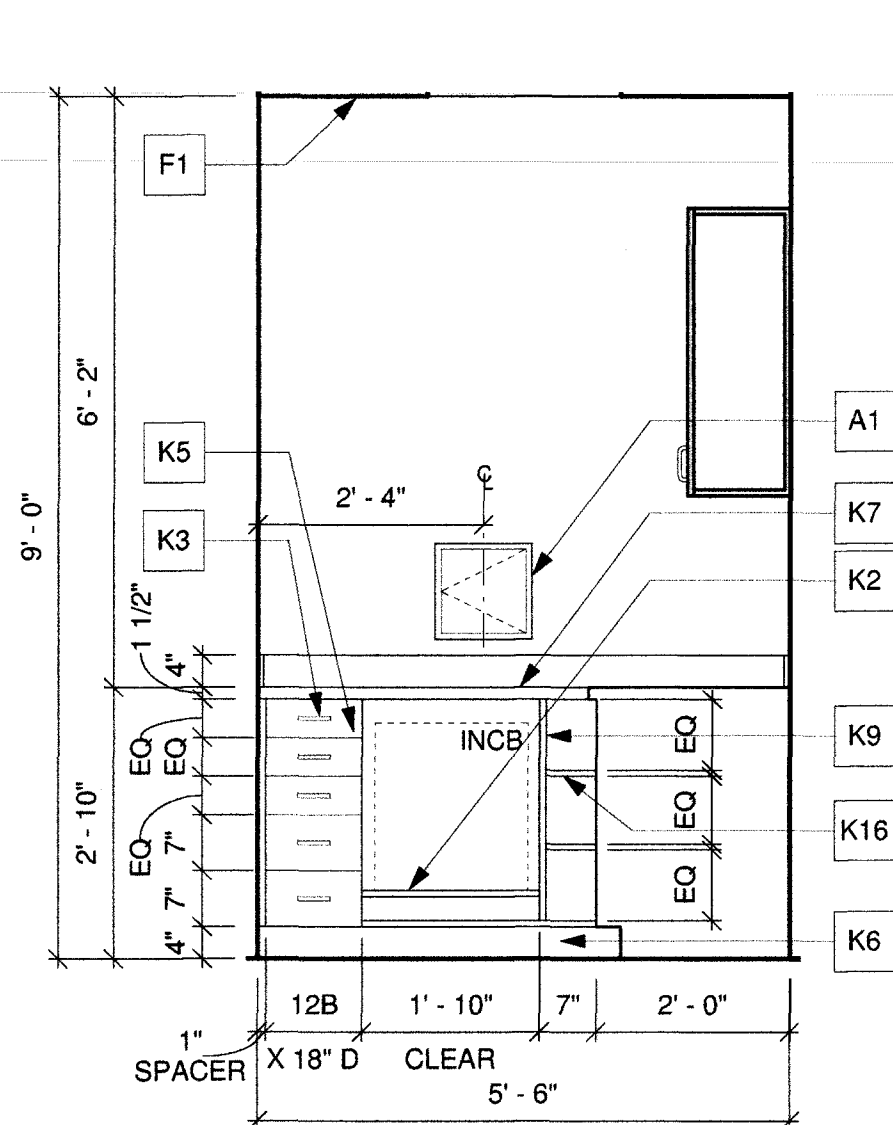
6
A-402 1/2" = 1'-0"



7
A-402 1/2" = 1'-0"



8
A-402 1/2" = 1'-0"



9
A-402 1/2" = 1'-0"

EQUIPMENT / APPLIANCE SCHEDULE

KEY	DESCRIPTION	MANUFACTURER	MODEL #	W X D X H	PROVIDED BY	INSTALLED BY	REMARKS
BABY	BABY CHANGING STATION	KOALA KARE - BOBRICK	KB101-01 (GREY)	22" X 5.25" X 35.5"	CONTRACTOR	CONTRACTOR	SEE G-002 FOR MOUNTING HEIGHT
DW	DISHWASHER W/ FRONT CONTROLS - SS	GE	GLDA696FSS	24" X 25" X 32.5"	CONTRACTOR	CONTRACTOR	NOTE HEIGHT IS A CRITICAL DIMENSION DUE TO ADA HEIGHT CASEWORK
H20	WATER BOTTLE SERVICE	----	----	----	OWNER	OWNER	PROVIDE POWER OUTLET
INCB	EXISTING INCUBATOR	QUINCY LAB	12-140	19" X 13" X 21"	OWNER	OWNER	PROVIDE POWER OUTLET BELOW COUNTER
MWV	COUNTERTOP MICROWAVE - SS	GE	JES2051SNSS	24.125" X 19.5" X 13.75"	CONTRACTOR	CONTRACTOR	2 CU. FT.; 1,200 WATT
REF	EXISTING REFRIGERATOR	----	----	30" X 30" X 63" +/-	OWNER	CONTRACTOR	PROVIDE DIRECT WATER SUPPLY; CONSULT WITH OWNER FOR RELOCATION
RHD	UNDERCABINET RANGE HOOD - SS	GE	JVX5300SJSS	30" X 20" X 5.5"	CONTRACTOR	CONTRACTOR	TO BE VENTED EXTERNALLY
RNG	DROP-IN ELECTRIC RANGE - SS	GE	JD630SFSS	30" X 25.75" X 27"	CONTRACTOR	CONTRACTOR	NOTE HEIGHT IS A CRITICAL DIMENSION DUE TO ADA HEIGHT CASEWORK
UREF	UNDER-COUNTER REFRIGERATOR - SS	MAGIC CHEF	HMBR350SE1	18.5" X 19.3" X 32.5"	CONTRACTOR	CONTRACTOR	PROVIDE POWER OUTLET BELOW COUNTER; DOOR TO HINGE ON LEFT SIDE; NOTE THAT REF IS SAME HEIGHT AS OPENING

NOTE: ALL ITEMS LABELED 'PRNT', 'COPY' OR 'SHRD' ARE FOR REFERENCE ONLY AND ARE OWNER PROVIDED, OWNER INSTALLED

GENERAL INT. ELEV. & CASEWORK NOTES

1. CONTRACTOR TO CONSULT WITH OWNER TO DETERMINE WHICH CABINETS, BASE AND UPPER, ARE TO BE LOCKABLE AND THE PREFERRED LOCKING MECHANISM. (TYP)
2. CONTRACTOR TO PROVIDE 2" DIA GROMMETS AT THE WORKSURFACE IN RECEPTION 105', N STATION 105', & N STATION 113' (2) PER EACH OF THE (9) WORKSTATION AREA - CONSULT WITH OWNER FOR FINAL LOCATIONS. (TYP)
3. PROVIDE PLASTIC LAMINATE, AS NOTED, AT ALL EXPOSED EDGES. (TYP)

INTERIOR ELEV. & CASEWORK NOTES

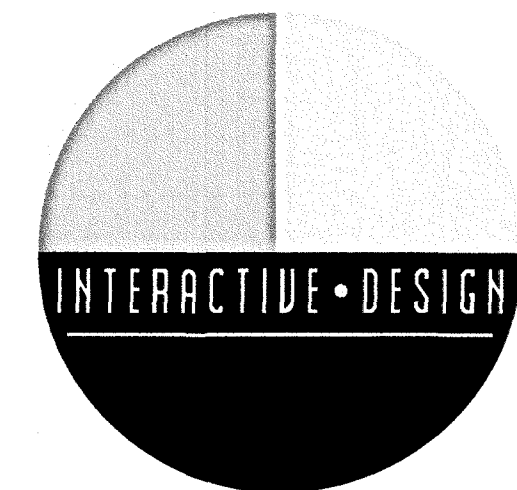
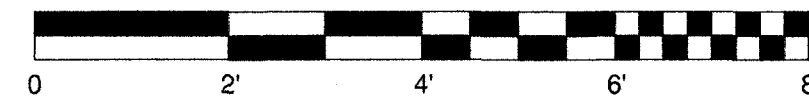
- A1. PASS THROUGH SPECIMEN CABINET - SEE FLOOR PLAN FOR MORE INFORMATION
- E1. UNDER-CABINET LIGHTING - SEE ELECTRICAL DRAWINGS FOR DETAILS (TYP)
- F1. CEILING AS SCHEDULED (TYP)
- F2. BULKHEAD - SEE REFLECTED CEILING PLAN (TYP)
- G1. STOREFRONT - SEE A-601 FOR MORE INFORMATION (TYP)
- G2. SLIDING GLASS (TEMPERED) TRANSACTION WINDOW WITH ANODIZED ALUMINUM TRACK AND HARDWARE - PROVIDE 1 1/2" THICK PLASTIC LAMINATE, PLAM-2, TRANSACTION LEDGE - SEE ENLARGED PLAN FOR LEDGE DIMENSIONS (TYP)
- K1. PLASTIC LAMINATE CASEWORK, PLAM-1 - DOOR AND FRONT OF WALL CABINETS TO EXTEND APPROX. 1" BELOW BOTTOM TO CONCEAL UNDERCABINET LIGHTING AT FRONT AND ALL EXPOSED SIDES (TYP)
- K2. ADJUSTABLE SHELF (TYP)
- K3. HARDWARE PULL (TYP)
- K4. PLASTIC LAMINATE COUNTERTOP AND 4" BACKSPLASH, PLAM-2 (TYP)
- K5. DRAWER (TYP)
- K6. TOE KICK - 4" H X 3" D - PROVIDE VB-2 (TYP)
- K7. SOLID SURFACE COUNTERTOP AND 4" BACKSPLASH, SOL-1 (TYP)
- K8. PLASTIC LAMINATE COUNTERTOP, PLAM-2 (TYP)
- K9. PLASTIC LAMINATE END PANEL, PLAM-1 (TYP)

- K10. PLASTIC LAMINATE, PLAM-1, STORAGE UNIT W/ FILE DRAWER AND (2) STORAGE DRAWERS - 4" H X 3" D TOE KICK, VB-2 - PROVIDE LOCKS ON ALL DRAWERS - PROVIDE TRACKS FOR HANGING FILES IN FILE DRAWER
- K11. SOLID SURFACE TRANSACTION LEDGE, SOL-1 (TYP)
- K12. PLASTIC LAMINATE COUNTERTOP AND 2 1/2" +/- BACKSPLASH, PLAM-2 (TYP)
- K13. SUPPORT BRACKET, PLAM-1 (TYP)
- K14. 18" D PLASTIC LAMINATE, PLAM-1, BASE CABINET WITH (6) FILE DRAWERS WITH LOCKS AND (3) STORAGE DRAWERS (TYP)
- K15. FULL BACK PANEL, PLAM-2 (TYP)
- K16. FIXED SHELF (TYP)
- K17. RANGE TO BE DROP-IN STYLE WITH SMOOTH COOKING SURFACE (SEE EQUIPMENT/APPLIANCE SCHEDULE) - PROVIDE SPACER PANEL AND STRUCTURE, AS REQUIRED, TO SUPPORT - EXTEND BACKSPLASH BEHIND RANGE
- P1. ADA APPROVED FAUCET AND SINK - SEE PLUMBING DRAWINGS (TYP)
- W1. GWB - PAINT AS SCHEDULED (TYP)
- W2. BASE AS SCHEDULED (TYP)

NOTES LEGEND

A - GENERAL	G - DOORS / GLAZINGS	P - PLUMBING
C - CIVIL	K - FURNITURE / FINISHES	R - ROOF
E - ELECTRICAL	L - LIFE SAFETY	S - STRUCTURAL
F - FLOORS / CEILINGS	M - MECHANICAL	W - WALLS

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



INTERACTIVE DESIGN GROUP
301 6TH STREET SW
ROANOKE, VA 24016
P. 540.342.7534 F. 540.342.7536



NO.	REVISIONS	DATE

RENOVATIONS TO,

**BLACKSBURG
PEDIATRICS**

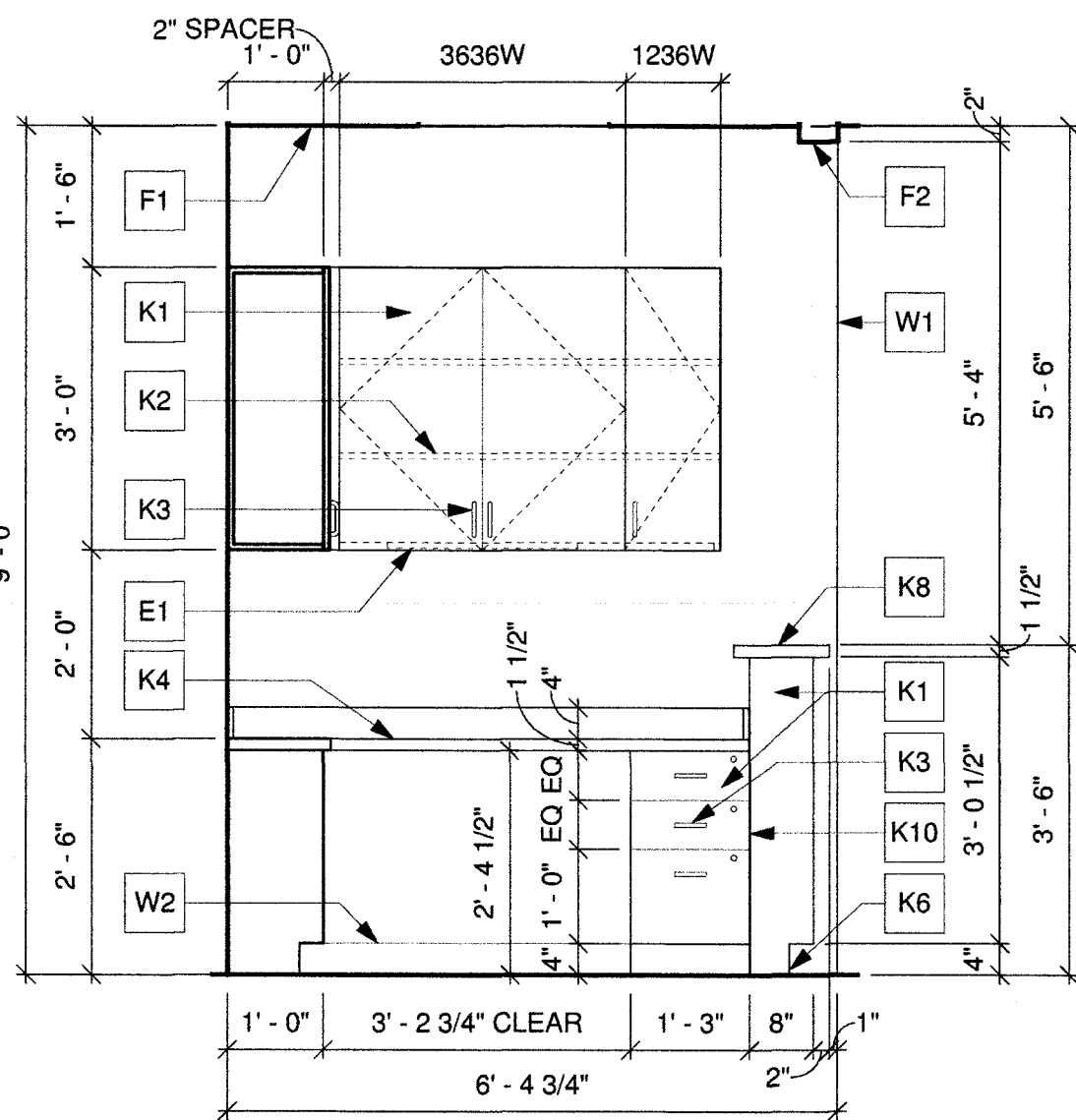
829 DAVIS STREET
BLACKSBURG, VA 24060

DATE	JANUARY . 31 . 2017
DRAWN	JLZ
CHECKED	SCF
JOB	1646

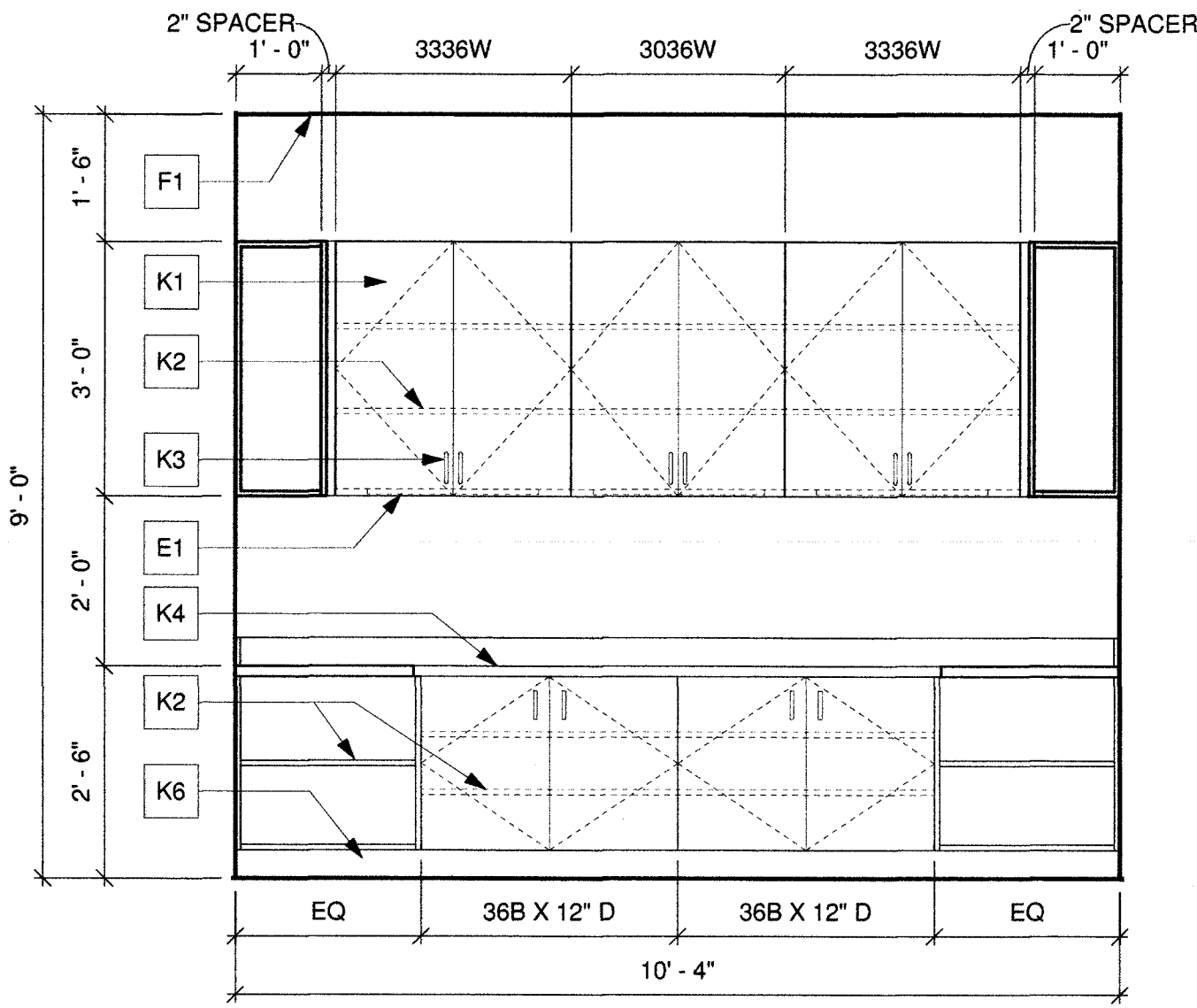
**INTERIOR
ELEVATIONS**

SHEET

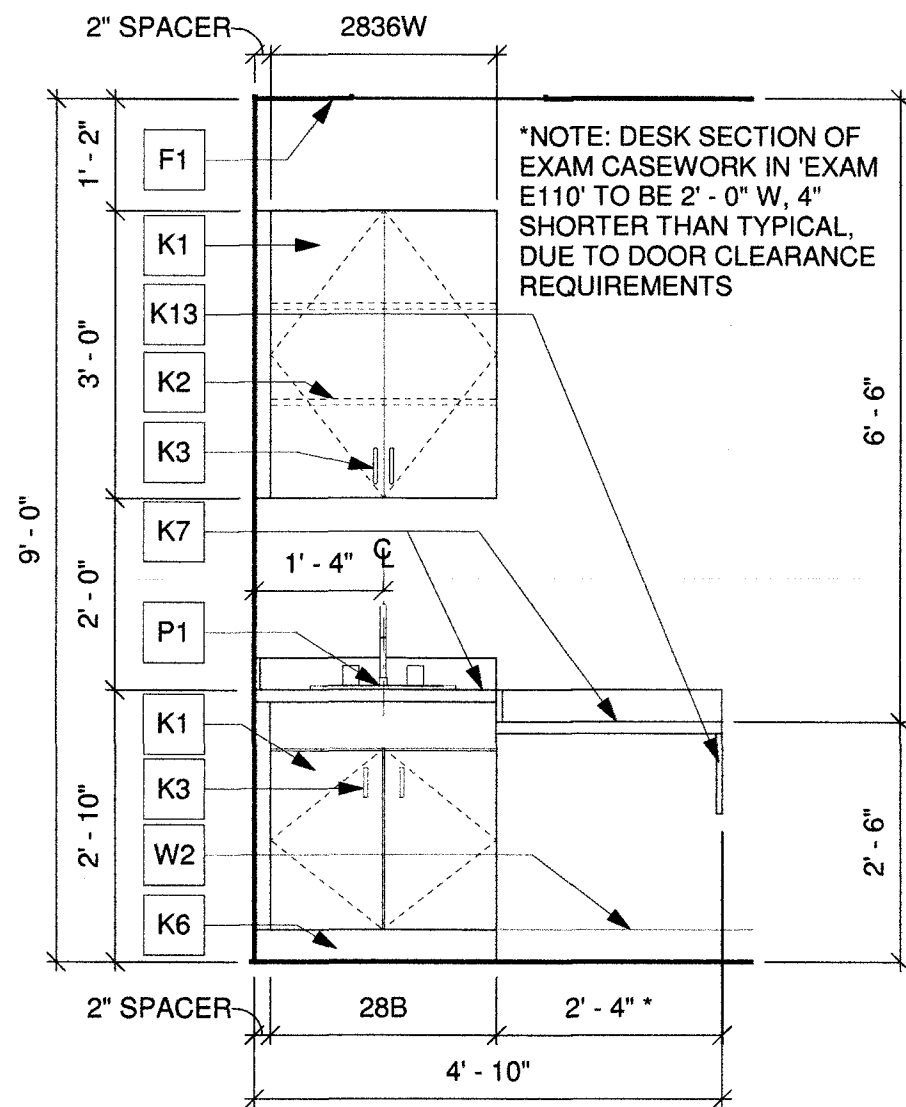
A-402



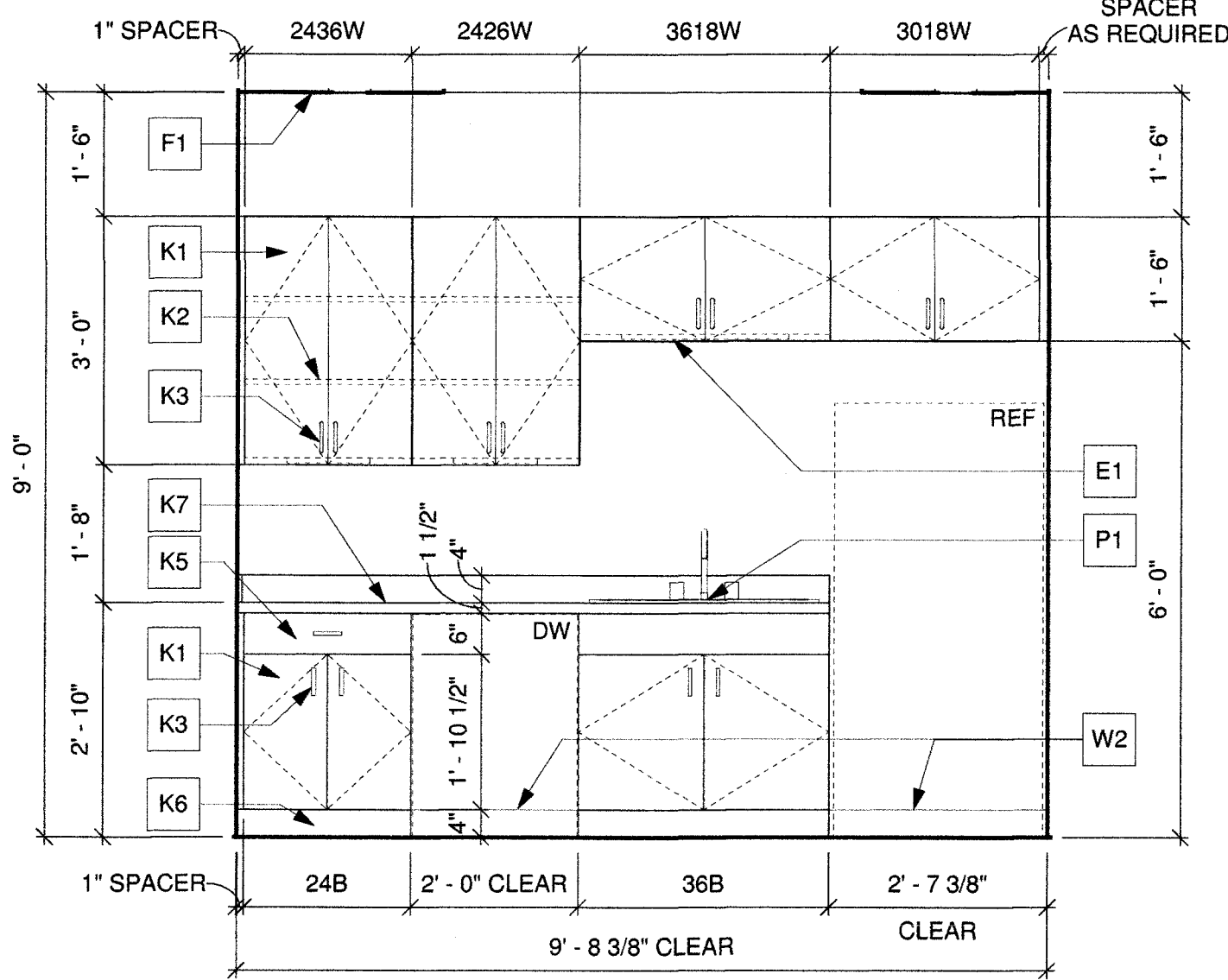
1 INTERIOR ELEVATION
A-403 1/2" = 1'-0"



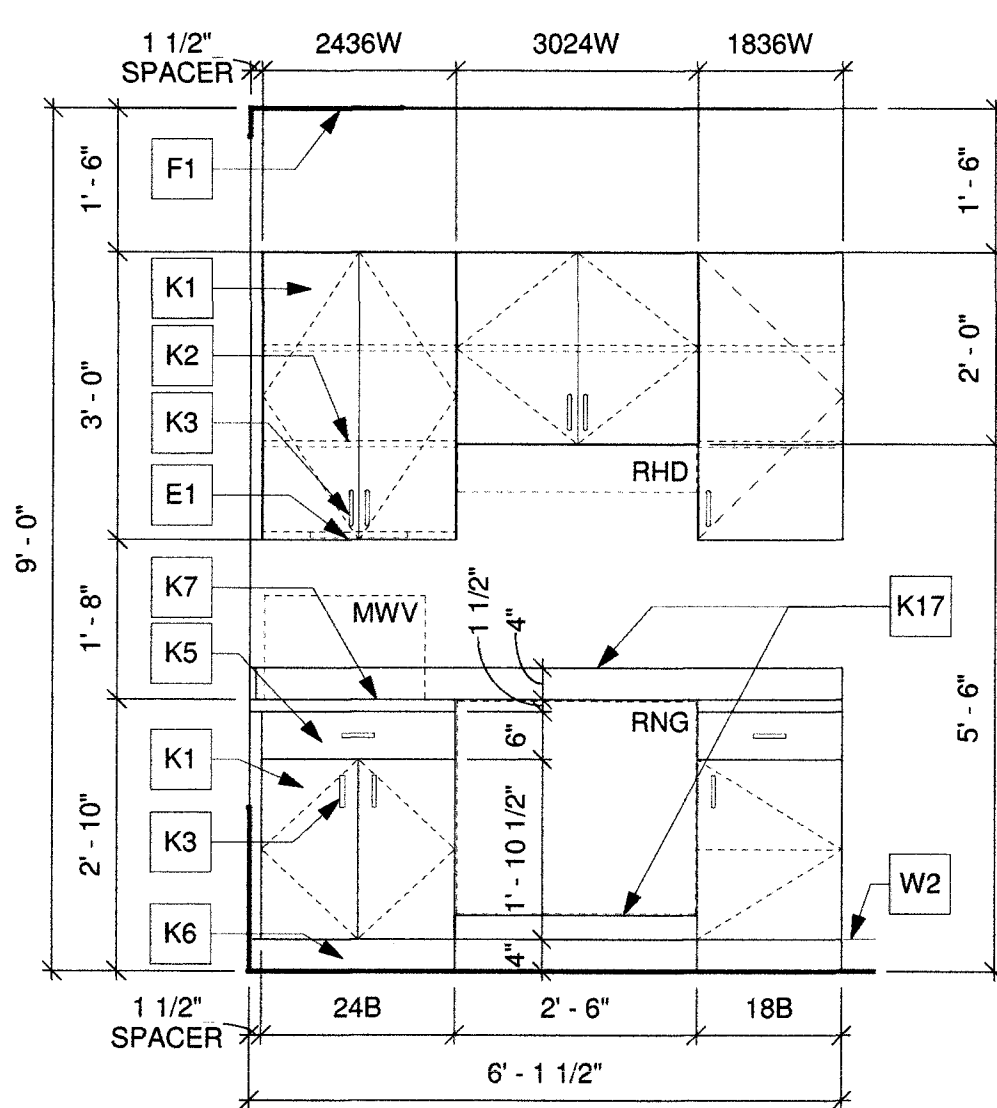
2 INTERIOR ELEVATION
A-403 1/2" = 1'-0"



3 INTERIOR ELEVATION
A-403 1/2" = 1'-0"



4 INTERIOR ELEVATION
A-403 1/2" = 1'-0"



5 INTERIOR ELEVATION
A-403 1/2" = 1'-0"

EQUIPMENT / APPLIANCE SCHEDULE

KEY	DESCRIPTION	MANUFACTURER	MODEL #	W X D X H	PROVIDED BY	INSTALLED BY	REMARKS
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DW	DISHWASHER W/ FRONT CONTROLS - SS	GE	GLDA696FSS	24" X 25" X 32.5"	CONTRACTOR	CONTRACTOR	NOTE HEIGHT IS A CRITICAL DIMENSION DUE TO ADA HEIGHT CASEWORK
H2O	WATER BOTTLE SERVICE	----	----	----	OWNER	OWNER	PROVIDE POWER OUTLET
INCB	EXISTING INCUBATOR	QUINCY LAB	122-140	19" X 13" X 21"	OWNER	OWNER	PROVIDE POWER OUTLET BELOW COUNTER
MWV	COUNTERTOP MICROWAVE - SS	GE	JES2051SNSS	24.125" X 19.5" X 13.75"	CONTRACTOR	CONTRACTOR	2 CU. FT.; 1,200 WATT
REF	EXISTING REFRIGERATOR	----	----	30" X 30" X 63" +/-	OWNER	CONTRACTOR	PROVIDE DIRECT WATER SUPPLY; CONSULT WITH OWNER FOR RELOCATION
RHD	UNDERCABINET RANGE HOOD - SS	GE	JVX5300SJSS	30" x 20" x 5.5"	CONTRACTOR	CONTRACTOR	TO BE VENTED EXTERNALLY
RNG	DROP-IN ELECTRIC RANGE - SS	GE	JD630SFSS	30" X 25.75" X 27"	CONTRACTOR	CONTRACTOR	NOTE HEIGHT IS A CRITICAL DIMENSION DUE TO ADA HEIGHT CASEWORK
UREF	UNDER-COUNTER REFRIGERATOR - SS	MAGIC CHEF	HMBR350SE1	18.5" X 19.3" X 32.5"	CONTRACTOR	CONTRACTOR	PROVIDE POWER OUTLET BELOW COUNTER; DOOR TO HINGE ON LEFT SIDE; NOTE THAT REF IS SAME HEIGHT AS OPENING

NOTE: ALL ITEMS LABELED 'PRNT', 'COPY' OR 'SHRD' ARE FOR REFERENCE ONLY AND ARE OWNER PROVIDED, OWNER INSTALLED

GENERAL INT. ELEV. & CASEWORK NOTES

- CONTRACTOR TO CONSULT WITH OWNER TO DETERMINE WHICH CABINETS, BASE AND UPPER, ARE TO BE LOCKABLE AND THE PREFERRED LOCKING MECHANISM. (TYP)
- CONTRACTOR TO PROVIDE 2" DIA GROMMETS AT THE WORKSURFACE IN 'RECEPTION 103', 'N STATION 105', & 'N STATION 113' - (2) PER EACH OF THE (9) WORKSTATION AREA - CONSULT WITH OWNER FOR FINAL LOCATIONS. (TYP)
- PROVIDE PLASTIC LAMINATE, AS NOTED, AT ALL EXPOSED EDGES. (TYP)

INTERIOR ELEV. & CASEWORK NOTES

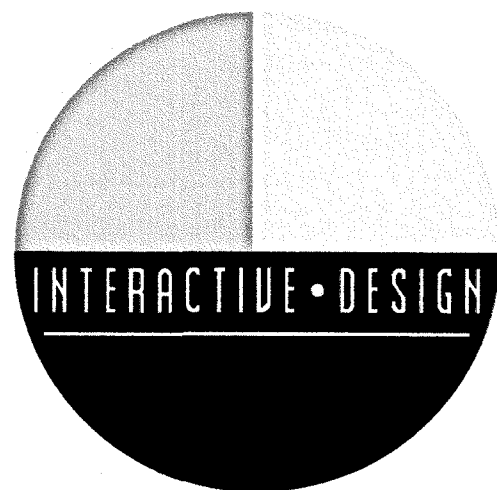
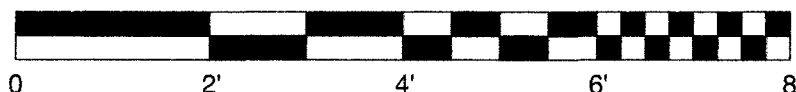
- A1. PASS THROUGH SPECIMEN CABINET - SEE FLOOR PLAN FOR MORE INFORMATION
- E1. UNDER-CABINET LIGHTING - SEE ELECTRICAL DRAWINGS FOR DETAILS (TYP)
- F1. CEILING AS SCHEDULED (TYP)
- F2. BULKHEAD - SEE REFLECTED CEILING PLAN (TYP)
- G1. STOREFRONT - SEE A-601 FOR MORE INFORMATION (TYP)
- G2. SLIDING GLASS (TEMPERED) TRANSACTION WINDOW WITH ANODIZED ALUMINUM TRACK AND HARDWARE - PROVIDE 1 1/2" THICK PLASTIC LAMINATE, PLAM-2, TRANSACTION LEDGE - SEE ENLARGED PLAN FOR LEDGE DIMENSIONS (TYP)
- K1. PLASTIC LAMINATE CASEWORK, PLAM-1 - DOOR AND FRONT OF WALL CABINETS TO EXTEND APPROX. 1" BELOW BOTTOM TO CONCEAL UNDERCABINET LIGHTING AT FRONT AND ALL EXPOSED SIDES (TYP)
- K2. ADJUSTABLE SHELF (TYP)
- K3. HARDWARE PULL (TYP)
- K4. PLASTIC LAMINATE COUNTERTOP AND 4" BACKSPASH, PLAM-2 (TYP)
- K5. DRAWER (TYP)
- K6. TOE KICK - 4" H X 3" D - PROVIDE VB-2 (TYP)
- K7. SOLID SURFACE COUNTERTOP AND 4" BACKSPASH, SOL-1 (TYP)
- K8. PLASTIC LAMINATE COUNTERTOP, PLAM-2 (TYP)
- K9. PLASTIC LAMINATE END PANEL, PLAM-1 (TYP)

- K10. PLASTIC LAMINATE, PLAM-1, STORAGE UNIT W/ FILE DRAWER AND (2) STORAGE DRAWERS - 4" H X 3" D TOE KICK, VB-2 - PROVIDE LOCKS ON ALL DRAWERS - PROVIDE TRACKS FOR HANGING FILES IN FILE DRAWER
- K11. SOLID SURFACE TRANSACTION LEDGE, SOL-1 (TYP)
- K12. PLASTIC LAMINATE COUNTERTOP AND 2 1/2" +/- BACKSPASH, PLAM-2 (TYP)
- K13. SUPPORT BRACKET, PLAM-1 (TYP)
- K14. 18" D PLASTIC LAMINATE, PLAM-1, BASE CABINET WITH (6) FILE DRAWERS WITH LOCKS AND (3) STORAGE DRAWERS (TYP)
- K15. FULL BACK PANEL, PLAM-2 (TYP)
- K16. FIXED SHELF (TYP)
- K17. RANGE TO BE DROP-IN STYLE WITH SMOOTH COOKING SURFACE (SEE EQUIPMENT/APPLIANCE SCHEDULE) - PROVIDE SPACER PANEL AND STRUCTURE, AS REQUIRED, TO SUPPORT - EXTEND BACKSPASH BEHIND RANGE
- P1. ADA APPROVED FAUCET AND SINK - SEE PLUMBING DRAWINGS (TYP)
- W1. GWB - PAINT AS SCHEDULED (TYP)
- W2. BASE AS SCHEDULED (TYP)

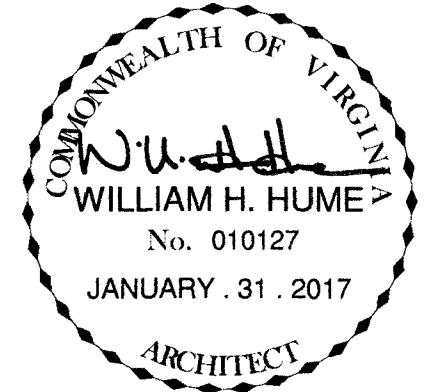
NOTES LEGEND

A - GENERAL	G - DOORS / GLAZINGS	P - PLUMBING
C - CIVIL	K - FURNITURE / FINISHES	R - ROOF
E - ELECTRICAL	L - LIFE SAFETY	S - STRUCTURAL
F - FLOORS / CEILINGS	M - MECHANICAL	W - WALLS

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



INTERACTIVE DESIGN GROUP
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NO. REVISIONS DATE

RENOVATIONS TO,

BLACKSBURG
PEDIATRICS

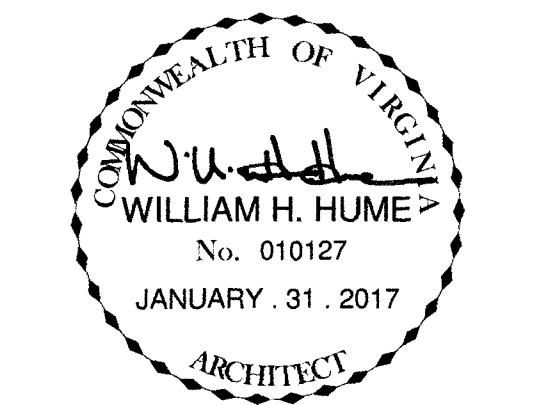
829 DAVIS STREET
BLACKSBURG, VA 24060

DATE JANUARY . 31 . 2017
DRAWN JLZ
CHECKED SCF
JOB 1646

INTERIOR
ELEVATIONS

SHEET

A-403

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829 DAVIS STREET
BLACKSBURG, VA 24060

JOB 1646

SHEET

A-602



FINISH KEY				
KEY	MANUFACTURER	PRODUCT #	COLOR #	REMARKS
ACT-1	USG	2X2 RADAR PANELS W/ SQ EDGE - HIGH-NRC 22421	----	ACOUSTIC CEILING TILE; PROVIDE DOWN DX/DXL 15/16" SUSPENSION SYSTEM
CNG-1	INPRO	4" X 3/4" - 90 DEGREES	TBD	CORNER GUARD - TAPE ON
CNG-2	INPRO	4" X 1 1/2" - 90 DEGREES	TBD	CORNER GUARD - TAPE ON
CNG-3	INPRO	4" X 1 1/2" - 135 DEGREES	TBD	CORNER GUARD - FLEXIBLE
CT-1	FLORIDA TILE	TIME 2.0 THIN TILE, 12" X 24", NATURAL	TBD	CERAMIC FLOOR & WALL TILE; SEE NOTE FN8
CTB-1	FLORIDA TILE	TIME 2.0, 6" X 12" COVE BASE - P36C9	TBD	CERAMIC FLOOR COVE BASE TILE
CTG-1	MAPEI	EPOXY GROUT	TBD	GROUT
LVT-1	TANDUS CENTIVA	SERIES: VENUE, COLLECTION: TBD	TBD	LUXURY VINYL TILE - SEE FINISH SCHEDULE FOR PATTERN
PLAM-1	WILSONART	-----	TBD	PLASTIC LAMINATE - GENERAL CASEWORK
PLAM-2	WILSONART	-----	TBD	PLASTIC LAMINATE - COUNTERTOP
PNT-1	SHERWIN WILLIAMS	-----	TBD	GENERAL WALL PAINT - INTERIOR LATEX, SEMI-GLOSS
PNT-2	SHERWIN WILLIAMS	-----	TBD	TRIM PAINT - METAL - ACRYLIC SEMI-GLOSS
PNT-3	SHERWIN WILLIAMS	-----	TBD	BATHROOM / WET AREA PAINT - WATER BASED EPOXY, SEMI-GLOSS
PNT-4	SHERWIN WILLIAMS	-----	TBD	BULKHEAD & GWB CEILING PAINT - INTERIOR LATEX, FLAT
PNT-5	SHERWIN WILLIAMS	-----	TBD	ACCENT WALL PAINT - INTERIOR LATEX, SEMI-GLOSS
PNT-6	SHERWIN WILLIAMS	-----	TBD	ACCENT WALL PAINT - INTERIOR LATEX, SEMI-GLOSS
PNT-7	SHERWIN WILLIAMS	-----	TBD	ACCENT WALL PAINT - INTERIOR LATEX, SEMI-GLOSS
PNT-8	SHERWIN WILLIAMS	-----	TBD	ACCENT WALL PAINT - INTERIOR LATEX, SEMI-GLOSS
SOL-1	WILSONART	-----	CASHMERE MIRAGE	SOLID SURFACE - COUNTERTOP (COLOR PROVIDED FOR PRICING ONLY, FINAL COLOR TBD)
VB-1	ROPPE	-----	TBD	4" COVE BASE
VB-1	ROPPE	-----	TBD	4" COVE BASE AT CASEWORK TOEKICK
WOOD-1	-----	-----	TBD	WOOD DOOR STAIN COLOR

FINISH NOTES	
FN1. PROVIDE MANUAL ROLLER SHADE WINDOW COVERING WITH FASCIA, EXTRUDED POCKET WITH BOTTOM CLOSURE, SIDE CHANNELS, AND CORD TENSION DEVICE - PROVIDE END CAPS TO COVER EXPOSED MECHANISM, IF REQUIRED - MOUNT SHADE BELOW WINDOW HEADER AND BETWEEN JAMBS - FABRIC TO BE 3% TO 5% OPENNESS - CONSULT WITH ARCHITECT FOR FINISH SELECTIONS (TYP)	
FN2. PROVIDE MANUAL ROLLER SHADE WINDOW COVERING WITH FASCIA, EXTRUDED POCKET WITH BOTTOM CLOSURE, SIDE CHANNELS, AND CORD TENSION DEVICE - PROVIDE END CAPS TO COVER EXPOSED MECHANISM, IF REQUIRED - MOUNT SHADE BELOW WINDOW HEADER AND BETWEEN JAMBS - FABRIC TO BE BLACKOUT - CONSULT WITH ARCHITECT FOR FINISH SELECTIONS (TYP)	
FN3. PROVIDE MANUAL ROLLER SHADE WINDOW COVERING WITH FASCIA AND CORD TENSION DEVICE - PROVIDE END CAPS TO COVER EXPOSED MECHANISM, IF REQUIRED - MOUNT SHADE BELOW WINDOW HEADER AND BETWEEN JAMBS - FABRIC TO BE 3% TO 5% OPENNESS - CONSULT WITH ARCHITECT FOR FINISH SELECTIONS (TYP)	
FN4. PROVIDE (2) CORNER GUARDS, CNG-1, AT EACH WALL END (TYP)	
FN5. PROVIDE (1) CORNER GUARD, CNG-2, AT EACH CORNER (TYP)	
FN6. PROVIDE (1) CORNER GUARD, CNG-3, AT EACH CORNER (TYP)	
FN7. *ADD ALTERNATE*: PROVIDE SHERWIN WILLIAMS, PRO INDUSTRIAL PRE-CATALYZED WATERBASED EPOXY PAINT (SHEEN TO MATCH SCHEDULED) THROUGHOUT (TYP)	
FN8. PROVIDE CT-1, RUN HORIZONTALLY IN BRICK PATTERN, AT PLUMBING WALL, AND (2) ADJACENT SIDE WALLS, TO HEIGHT OF 5' - 6" +/- (HEIGHT TO BE EQUAL TO SUM OF (1) 6" H COVE BASE + (5) 12" H WALL TILES - FINISH WITH SCHLUTER STRIP (BRUSHED SS OR SATIN ANODIZED ALUMINUM) - FLOOR TILE TO RUN DIAGONALLY IN BRICK PATTERN, SEE FINISH PLAN FOR DIRECTION	
FN9. *ADD ALTERNATE*: PROVIDE CERAMIC TILE FINISH AS INDICATED IN NOTE 'FN8' IN TOILET 110'.	
FN10. *ADD ALTERNATE*: PROVIDE CERAMIC TILE FINISH AS INDICATED IN NOTE 'FN8' IN TOILET 120'.	
FINISH LEGEND	
-----	INDICATES ACCENT WALLS, PNT-5, 6, 7 & 8
GRAPHIC SCALE: 1/4" = 1' - 0"	
	
	

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PLUMBING SPECIFICATIONS

1. GENERAL PROVISIONS

- A. INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE INCLUDING REFERENCED CODES AND STANDARDS AND IN ACCORDANCE WITH MANDATES OF THE LOCAL BUILDING OFFICIALS. ALL WORK SHALL BE FIRST CLASS, COMMERCIAL GRADE IN MATERIALS AND INSTALLATION.
- B. THE GENERAL ARRANGEMENT AND LOCATIONS OF PIPING, FIXTURES, ETC. ARE INDICATED BY THE DRAWINGS AND SHALL BE INSTALLED IN ACCORDANCE THEREWITH; WITH THE EXCEPTION OF SUCH CHANGES AS MAY BE REQUIRED ON ACCOUNT OF OTHER TRADES. CONTRACTOR SHALL COORDINATE WORK WITH INSTALLATION OF OTHER SUBCONTRACTORS.
- C. PLUMBING WORK SHALL BE COORDINATED WITH THE CONTRACTOR AS TO SCHEDULING, DIMENSIONING AND LOCATION OF EQUIPMENT.
- D. MAJOR ITEMS ARE SHOWN ON THE PROJECT PLANS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INCIDENTAL ITEMS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM.
- E. ALL PIPING SYSTEMS SHALL TERMINATE 5 FEET BEYOND THE BUILDING LINE UNLESS INDICATED OTHERWISE. EXTENSION OF THESE LINES SHALL BE PROVIDED BY THE SITE CONTRACTOR.
- F. SIMILAR ITEMS SHALL BE PROVIDED BY A SINGLE MANUFACTURER.
- G. ALL REQUIRED WALL OR FLOOR OPENINGS SHALL BE COORDINATED WITH THE CONTRACTOR.
- H. ALL PIPING SHALL BE ABOVE CEILING UNLESS INDICATED OTHERWISE.
- I. DO NOT INSTALL PVC PIPING OR ANY COMBUSTIBLE MATERIAL IN ANY AIR PLENUM.
- J. ALL EQUIPMENT SHALL BE WIPED CLEAN, REMOVING ALL TRACES OF OIL, DIRT, OR PAINT SPOTS.
- K. PROVIDE SUPPORTS TO RIGIDLY ATTACH ALL EQUIPMENT, APPURTENANCES AND PIPE AS REQUIRED FOR SUPPORT. PRIOR TO INSTALLATION OF HANGERS AND INSERTS, THE CONTRACTOR SHALL COORDINATE LOCATIONS AND REQUIREMENTS TO MINIMIZE CONFLICTS WITH OTHER BUILDING SYSTEMS. INSTALLATION OF PIPE HANGERS AND SUPPORTS SHALL BE IN STRICT ACCORDANCE WITH MSS SP-58, 89 AND 89.
- L. CONTRACTOR SHALL MAKE FINAL CONNECTIONS TO ALL EQUIPMENT INDICATED TO BE FURNISHED BY OTHERS.
2. SUBMISSION OF SHOP DRAWINGS, PRODUCT DATA, SAMPLES AND PROJECT INFORMATION
- A. SHOP DRAWINGS SHALL BE SUBMITTED FOR THE FOLLOWING ITEMS:
- (1) STRAINERS
 - (2) FIRE BARRIER PENETRATION SEALS
 - (3) INSULATION
 - (4) CLEANOUTS
 - (5) FLOOR DRAINS
 - (6) GATE VALVES
 - (7) CHECK VALVES
 - (8) ALL SCHEDULED EQUIPMENT INDICATED ON SHEET P2.1
- B. IDENTIFY ALL PLUMBING SHOP DRAWINGS, PRODUCT DATA AND SAMPLES WITH THE NAME OF THE PROJECT. CLEARLY MARK THE SPECIFIC ITEMS INTENDED FOR USE. SUBMIT ALL RELATED ITEMS AT ONE TIME.
- C. PRIOR TO SUBSTANTIAL COMPLETION OF THE PROJECT, SUBMIT THE FOLLOWING INFORMATION FOR REVIEW AND APPROVAL.
- (1) OPERATING AND MAINTENANCE INSTRUCTIONS.
 - (2) "AS BUILT" DRAWINGS.

3. GUARANTEE: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED TO BE FREE FROM DEFECTS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE AND CONTRACTOR SHALL MAKE GOOD, WITHOUT ADDITIONAL COST TO THE OWNER, ANY DEFECTS WHICH MAY APPEAR WITHIN THAT PERIOD. MANUFACTURER'S WARRANTIES EXTENDING BEYOND ONE YEAR SHALL BE PROCESSED AND TURNED OVER TO THE OWNER.

4. "AS BUILT" DRAWINGS: CONTRACTOR SHALL KEEP AN ACCURATE RECORD OF THE LOCATION OF ALL CONCEALED PIPING, VALVES, CONTROLS, ETC., BOTH INTERIOR AND EXTERIOR. ON COMPLETION OF THE WORK, ONE PRINT EACH OF THE CONTRACT DRAWINGS WHICH ARE APPLICABLE SHALL BE NEATLY AND CLEARLY MARKED IN COLOR TO SHOW ALL VARIATIONS BETWEEN THE WORK ACTUALLY PROVIDED AND THAT INDICATED ON THE CONTRACT DRAWINGS.

5. OPERATING AND MAINTENANCE MANUALS

- A. GENERAL: PRIOR TO COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL PROVIDE TWO HARDBACKED LOOSELEAF RING TYPE BINDERS, IDENTIFIED WITH THE NAME OF THE PROJECT. CONTRACTOR SHALL DELIVER THESE BINDERS TO THE ENGINEER FOR REVIEW AND TRANSMITTAL TO THE OWNER.
- B. THE FOLLOWING ITEMS AND OTHER ADDITIONAL PERTINENT DATA FOR EACH ITEM OF EQUIPMENT SHALL BE INCLUDED:
- C. THE OPERATING AND MAINTENANCE MANUALS SHALL BE CONSIDERED A PART OF THE FINAL INSPECTION AND THEY SHALL BE SUBMITTED FOR APPROVAL AT LEAST THIRTY (30) DAYS PRIOR TO REQUEST FOR FINAL INSPECTION.
6. ACCESS DOORS: ACCESS DOORS SHALL BE PROVIDED FOR ALL CONCEALED VALVES, CONTROLS, AND ANY OTHER EQUIPMENT OR MATERIALS REQUIRING INSPECTION OR MAINTENANCE. ACCESS DOORS SHALL BE FURNISHED FOR FLOORS, WALLS AND CEILINGS, OF ADEQUATE SIZE SO THAT CONCEALED ITEMS WILL BE READILY ACCESSIBLE FOR SERVICING OR FOR REMOVAL AND REPLACEMENT IF NECESSARY.

7. IDENTIFICATION

- A. SUBMITTALS
- (1) SUBMIT LIST OF WORDING, SYMBOLS, LETTER SIZE, AND COLOR CODING FOR MECHANICAL IDENTIFICATION.
 - (2) SUBMIT VALVE CHART AND SCHEDULE, INCLUDING VALVE TAG NUMBER, LOCATION, FUNCTION, AND VALVE MANUFACTURER'S NAME AND MODEL NUMBER.
 - (3) PRODUCT DATA: PROVIDE MANUFACTURERS CATALOG LITERATURE FOR EACH PRODUCT REQUIRED.
- B. NAMEPLATES
- (1) DESCRIPTION: LAMINATED THREE-LAYER PLASTIC WITH ENGRAVED LETTERS ON LIGHT CONTRASTING BACKGROUND COLOR.

C. TAGS

- (1) METAL TAGS: BRASS WITH STAMPED LETTERS; TAG SIZE MINIMUM 1-1/2 INCHES (40 MM) DIAMETER.
 - (2) CHART: TYPEWRITTEN LETTER SIZE LIST IN ANODIZED ALUMINUM FRAME.
- D. INSTALLATION
- (1) DECREASE AND CLEAN SURFACES TO RECEIVE ADHESIVE FOR IDENTIFICATION MATERIALS.
 - (2) INSTALL PLASTIC NAMEPLATES WITH CORROSIVE-RESISTANT MECHANICAL FASTENERS, OR ADHESIVE. APPLY WITH SUFFICIENT ADHESIVE TO ENSURE PERMANENT ADHESION AND SEAL WITH CLEAR LACQUER.
 - (3) INSTALL TAGS WITH CORROSION RESISTANT CHAIN.
 - (4) INSTALL PLASTIC PIPE MARKERS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - (5) IDENTIFY CONTROL PANELS AND MAJOR CONTROL COMPONENTS OUTSIDE PANELS WITH PLASTIC NAMEPLATES.
 - (6) IDENTIFY VALVES IN MAIN AND BRANCH PIPING WITH TAGS.
 - (7) IDENTIFY PIPING, CONCEALED OR EXPOSED, WITH PLASTIC PIPE MARKERS OR STENCILLED PAINTING. IDENTIFY SERVICE, FLOW DIRECTION, AND PRESSURE. INSTALL IN CLEAR VIEW AND ALIGN WITH AXIS OF PIPING. LOCATE IDENTIFICATION NOT TO EXCEED 20 FEET (6 M) ON STRAIGHT RUNS INCLUDING RISERS AND DROPS, ADJACENT TO EACH VALVE AND TEE, AT EACH SIDE OF PENETRATION OF STRUCTURE OR ENCLOSURE, AND AT EACH OBSTRUCTION.
 - (8) PROVIDE CEILING TAGS TO LOCATE VALVES ABOVE T-BAR TYPE PANEL CEILINGS. LOCATE IN CORNER OF PANEL CLOSEST TO EQUIPMENT.

B. PIPING SPECIALTIES

- A. PIPE ESCUTCHEONS: INSTALL PIPE ESCUTCHEONS ON EACH PIPE PENETRATION THRU FLOORS, WALLS PARTITIONS, AND CEILINGS WHERE PENETRATION IS EXPOSED TO VIEW AND ON EXTERIOR OF BUILDING. SECURE ESCUTCHEON TO PIPE OR INSULATION SO ESCUTCHEON COVERS PENETRATION HOLE AND IS FLUSH WITH ADJOINING SURFACE. PROVIDE SHEET STEEL ESCUTCHEONS, SOLID OR SPLIT HINGED. FOR AREAS WHERE WATER AND CONDENSATION CAN BE EXPECTED TO ACCUMULATE, PROVIDE CAST BRASS OR SHEET BRASS ESCUTCHEONS, SOLID OR SPLIT HINGED.
- B. PIPE SLEEVES: INSTALL PIPE SLEEVES WHERE PIPING PASSES THROUGH WALLS, FLOORS, CEILINGS, AND ROOFS. DO NOT INSTALL SLEEVES THROUGH STRUCTURAL MEMBERS OF WORK, EXCEPT AS DETAILED ON DRAWINGS, OR AS REVIEWED BY ARCHITECT/ENGINEER. SIZE SLEEVES SO THAT PIPING AND INSULATION (IF ANY) WILL HAVE FREE MOVEMENT IN SLEEVE, INCLUDING ALLOWANCE FOR THERMAL EXPANSION.
- C. FIRE BARRIER PENETRATION SEALS: PROVIDE SEALS FOR ANY OPENING THROUGH FIRE-RATED WALLS, FLOORS, OR CEILINGS USED AS PASSAGE FOR PLUMBING COMPONENTS SUCH AS PIPING. INSTALLATION SHALL BE AS RECOMMENDED BY THE MANUFACTURER. SEALS SHALL BE EQUAL TO ONE OF THE FOLLOWING:
- (1) DOW-CORNING FIRESTOP SYSTEM PENETRATION SEALS INCLUDING FIRE STOP SEALANT AND FIRE STOP FOAM.
 - (2) 3M BRAND "FIRE BARRIER WRAP/STRIP" NO. FS-195, FIRE BARRIER CAULK, CP-25 AND PUTTY NO. 303 SHALL BE USED WHERE PVC, POLYPROPYLENE OR OTHER NON-METALLIC PIPES PASS THROUGH FLOORS AND FIRE RATED WALLS.

9. INSULATION

- A. FLAME/SMOKE RATINGS: PROVIDE COMPOSITE PLUMBING INSULATION (INSULATION, JACKETS, COVERINGS, SEALERS, MASTICS AND ADHESIVES) WITH FLAME-SPREAD RATING OF 25 OR LESS, AND SMOKE-DEVELOPED RATING OF 50 OR LESS, AS TESTED BY ANSI/ASTM E84 (NFPA 255) METHOD. INSULATION SHALL BE LABELED BY THE MANUFACTURER. THE LABEL SHALL INDICATE THE INSULATING VALUE, FLAME SPREAD AND SMOKE-DEVELOPED RATING.
- B. SUBMITTALS: SUBMIT MANUFACTURER'S SPECIFICATIONS AND INSTALLATION INSTRUCTIONS FOR EACH TYPE OF PLUMBING INSULATION. SUBMIT SCHEDULE SHOWING MANUFACTURER'S PRODUCT NUMBER, THICKNESS, AND FURNISHED ACCESSORIES FOR EACH PLUMBING SYSTEM REQUIRING INSULATION.
- C. INSTALLATION: INSULATION SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS USING ONLY ADHESIVES, MASTICS AND PLUMBING FASTENERS APPROVED BY THE INSULATION MANUFACTURER. INSULATION SHALL NOT BE APPLIED UNTIL AFTER THE EQUIPMENT HAS BEEN TESTED WITH RESULTS ACCEPTABLE TO THE ARCHITECT/ENGINEER.
- D. MATERIALS:
- (1) CELLULAR FOAM PIPE INSULATION: TUBULAR, FLEXIBLE, FIRE RESISTANT INSULATION WITH OPERATING TEMPERATURE RANGE OF -40 DEGREES F TO 220 DEGREES F. THERMAL CONDUCTIVITY "K"=0.27 BTU-IN/HOUR-SF-DEG F AT 75 DEGREES F. NO JACKET REQUIRED. EQUAL TO ARMSTRONG ARMAFLEX AP.
- E. PIPE INSULATION
- (1) INSULATION OMITTED: OMIT INSULATION ON EXPOSED PLUMBING FIXTURE RUNOUTS FROM FACES OF WALL OR FLOOR TO FIXTURE; ON UNIONS, FLANGES, STRAINERS, FLEXIBLE CONNECTIONS, AND EXPANSION JOINTS.
 - (2) COVER VALVES, FITTINGS AND SIMILAR ITEMS IN EACH PIPING SYSTEM WITH EQUIVALENT THICKNESS AND COMPOSITION OF INSULATION AS APPLIED TO ADJOINING PIPE RUN.
 - (3) EXTEND PIPING INSULATION WITHOUT INTERRUPTION THROUGH WALLS, FLOORS AND SIMILAR PIPING PENETRATIONS, EXCEPT WHERE OTHERWISE INDICATED.
 - (4) INSTALL PROTECTIVE METAL SHIELDS AND INSULATED INSERTS WHEREVER NEEDED TO PREVENT COMPRESSION OF INSULATION.
 - (5) DOMESTIC COLD WATER PIPING, ABOVE GROUND: PIPING SHALL BE INSULATED WITH 3/4 INCH THICK GLASS FIBER, CELLULAR FOAM, OR POLYETHYLENE PIPE INSULATION.
 - (6) DOMESTIC HOT WATER PIPING (INCLUDING HOT WATER RECIRCULATING): PIPING SHALL BE INSULATED WITH 1/2 INCH THICK GLASS FIBER, CELLULAR FOAM, OR POLYETHYLENE PIPE INSULATION. VAPOR SEAL IS NOT REQUIRED.
 - (7) DOMESTIC HOT WATER PIPING (INCLUDING HOT WATER RECIRCULATING): PIPING SHALL BE INSULATED WITH 1/2 INCH THICK GLASS FIBER, CELLULAR FOAM, OR POLYETHYLENE PIPE INSULATION. VAPOR SEAL IS NOT REQUIRED.

10. PLUMBING PIPING

- A. DOMESTIC WATER PIPING ABOVE GROUND
- PIPE: TYPE L HARD DRAWN COPPER OR CPVC
FITTINGS: CAST BRONZE OR WROUGHT COPPER OR CPVC
JOINTS: SOLDERED USING TIN-ANTIMONY (95-5) SOLDER
- B. DOMESTIC WATER PIPING UNDERGROUND
- PIPE: TYPE K SEAMLESS ROLL STOCK
FITTINGS: CAST BRONZE OR WROUGHT COPPER
JOINTS: SOLDERED USING TIN-ANTIMONY (95-5) SOLDER
- C. SOIL, WASTE AND VENT PIPING BELOW GRADE AND STORM SEWER BELOW GRADE
- SIZE: 4 INCHES AND SMALLER
PIPE: SERVICE WEIGHT CAST IRON ASTM A-74 OR SCH. 40 PVC-DWV ASTM D-2685
FITTINGS: SERVICE WEIGHT CAST IRON OR PVC SOCKET FITTINGS (DWV)
JOINTS: HUB & SPIGOT CAULKED OR COMPRESSION GASKETS FOR CAST IRON OR SOLVENT CEMENT JOINTS FOR PVC
- D. SOIL, WASTE AND VENT PIPING ABOVE GRADE AND STORM DRAINS & ROOF LEADERS
- SIZE: 3 INCHES AND LARGER
PIPE: SERVICE WEIGHT CAST IRON ASTM A-74 OR HUBLESS ASTM C-564
FITTINGS: SERVICE WEIGHT OR HUBLESS CAST IRON
JOINTS: HUB & SPIGOT CAULKED, COMPRESSION GASKETS OR NEOPRENE SLEEVES AND STAINLESS STEEL BANDS FOR CAST IRON
SIZE: 2-1/2 INCHES AND SMALLER: SAME AS 3 INCHES AND LARGER EXCEPT VENTS MAY BE SCH. 40 GALVANIZED STEEL ASTM A120/A53 WITH GALVANIZED CAST IRON OR MALLEABLE IRON FITTINGS.
- E. ALL PIPE OF THE SAME SIZE SHALL BE THE SAME MATERIAL.
- F. SLOPE ALL DRAIN LINES 1/4 INCH PER FOOT MINIMUM FOR SIZES LESS THAN 4 INCHES; SLOPE 1/8 INCH PER FOOT FOR SIZES 4 INCHES AND LARGER.
- G. SOIL, WASTE AND VENT PIPING LOCATED BELOW GRADE SHALL BE MINIMUM 2 INCHES SIZE.
- H. VENTS SHALL EXTEND 12 INCHES ABOVE THE ROOF. ROOF FLASHING SHALL BE COORDINATED WITH BY THE CONTRACTOR.
- I. DOMESTIC HOT AND COLD WATER PIPING SHALL BE 1/2 INCHES SIZE UNLESS INDICATED OTHERWISE.

11. CLEANOUTS

- A. CLEANOUTS SHALL BE THE SAME SIZE AS LINE SERVED, BUT NOT LARGER THAN 4 INCHES, AND SHALL BE PROVIDED AT THE BASE OF EACH SOIL AND WASTE STACK, AT ALL POINTS WHERE DIRECTION CHANGE IS MORE THAN 45 DEGREES, AT MINIMUM INTERVALS OF 50 FEET FOR 4 INCHES AND SMALLER PIPING, AT MINIMUM INTERVALS OF 100 FEET FOR PIPING LARGER THAN 4 INCHES, AS REQUIRED BY CODE AND AS INDICATED ON THE DRAWINGS. COVERS SHALL BE SET FLUSH WITH FLOOR OR WALL.

12. PLUMBING VALVES

- A. PROVIDE SHUT-OFF VALVE AND UNION OR EQUIVALENT AT EACH HOT AND COLD WATER EQUIPMENT CONNECTION. PROVIDE SHUT-OFF VALVE ON EACH BRANCH OR RISER THAT SERVES TWO OR MORE PLUMBING FIXTURES.
- B. LINE SHUT-OFF VALVES SHALL BE 125# BALL TYPE TO MATCH PIPING SYSTEM. ALL FIXTURE SHUT-OFF VALVES TO BE 1/4 TURN BALL TYPE.

13. WATER HEATERS

- A. UL AND NEMA COMPLIANCE: PROVIDE ELECTRIC MOTORS AND ELECTRICAL COMPONENTS REQUIRED AS PART OF PLUMBING EQUIPMENT, WHICH HAVE BEEN LISTED AND LABELED BY UNDERWRITERS LABORATORIES AND COMPLY WITH NEMA STANDARDS.
- B. NEC COMPLIANCE: COMPLY WITH NATIONAL ELECTRICAL CODE (ANSI/NFPA 70) AS APPLICABLE TO INSTALLATION AND ELECTRICAL CONNECTIONS OF ANCILLARY ELECTRICAL COMPONENTS OF PLUMBING EQUIPMENT.
- C. WATER HEATERS SHALL BE FURNISHED WITH ASME RATED TEMPERATURE AND PRESSURE RELIEF VALVE WITH TEST LEVER.

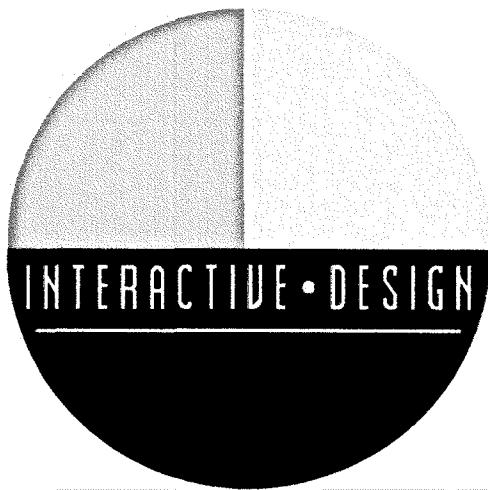
14. PLUMBING FIXTURES

- A. CODES AND STANDARDS: COMPLY WITH APPLICABLE PORTIONS OF NATIONAL STANDARD PLUMBING CODE PERTAINING TO MATERIALS AND INSTALLATION OF PLUMBING FIXTURES.
- (1) ANSI STANDARDS: COMPLY WITH APPLICABLE ANSI STANDARDS PERTAINING TO PLUMBING FIXTURES AND SYSTEMS.
 - (2) PDI COMPLIANCE: COMPLY WITH STANDARDS ESTABLISHED BY PDI PERTAINING TO PLUMBING FIXTURE SUPPORTS.
 - (3) UL COMPLIANCE: CONSTRUCT WATER COOLERS IN ACCORDANCE WITH UL STANDARD 399 "DRINKING-WATER COOLERS", AND PROVIDE UL-LISTING AND LABEL.
 - (4) ANSI COMPLIANCE: CONSTRUCT AND INSTALL BARRIER FREE PLUMBING FIXTURES IN ACCORDANCE WITH ANSI STANDARD A117.1 "SPECIFICATIONS FOR MAKING BUILDINGS AND FACILITIES ACCESSIBLE TO AND USABLE BY PHYSICALLY HANDICAPPED PEOPLE".
- B. ALL EXPOSED FIXTURE SUPPLIES AND WASTE LINES SHALL BE CHROME PLATED.
- C. PLUMBING FIXTURES SHALL BE POSITIVELY VENTED AND TRAPPED IN ACCORDANCE WITH THE BOCA PLUMBING CODE, LATEST EDITION. WET VENTING IS ALLOWED IF WASTE PIPING IS OVERSIZED AND IN ACCORDANCE WITH CODE PROVISIONS. LOCATION OF VENT SHALL NOT EXCEED MAXIMUM DISTANCES TO THE TRAP AS ESTABLISHED WITHIN THE BOCA PLUMBING CODE.
- D. WATER CLOSETS SHALL BE PROPERLY LEVELED, SECURED AND GROUTED IN PLACE.
- E. GENERAL CONTRACTOR TO PROVIDE 2"x6" BACKING BOARD FOR MOUNTING OF WALL HUNG URINALS AND LAVATORIES.

15. CLEANING AND TESTING

- A. ALL WATER PIPING, VALVES, ETC. SHALL BE THOROUGHLY FLUSHED OF FOREIGN MATTER AND TESTED FOR LEAKS FOR A PERIOD OF TWO HOURS AT NOT LESS THAN 25 PSIG. ANY LEAKAGE SHALL BE REPAIRED. DISINFECT DOMESTIC WATER PIPING INCLUDING WATER SERVICE PIPING IN ACCORDANCE WITH AWWA C601.
- B. ALL DRAIN, WASTE AND VENT PIPING SHALL BE TESTED FOR LEAKS BY FILLING PIPING SYSTEM TO OVERFLOW AND ALLOWING TO STAND FOR 24 HOURS. NO VISIBLE DROP IN WATER LEVEL WILL BE ACCEPTABLE.

END OF SPECIFICATIONS



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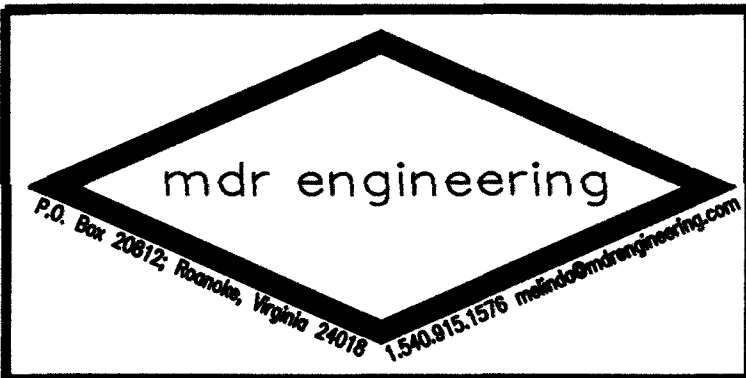
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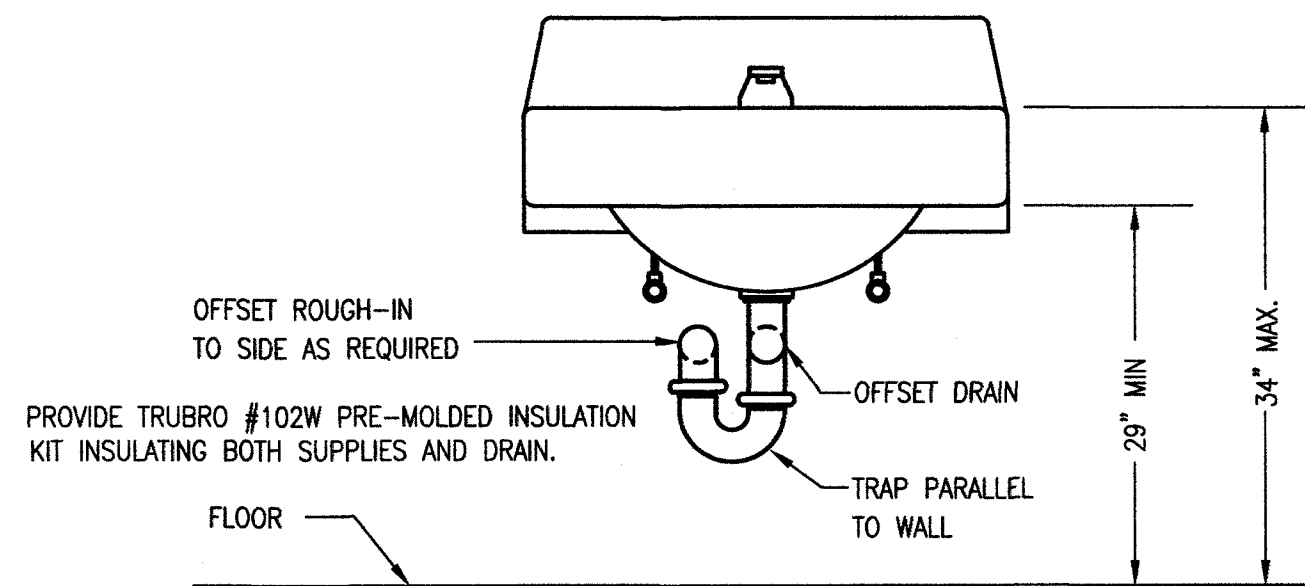
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PLUMBING
SPECIFICATIONS

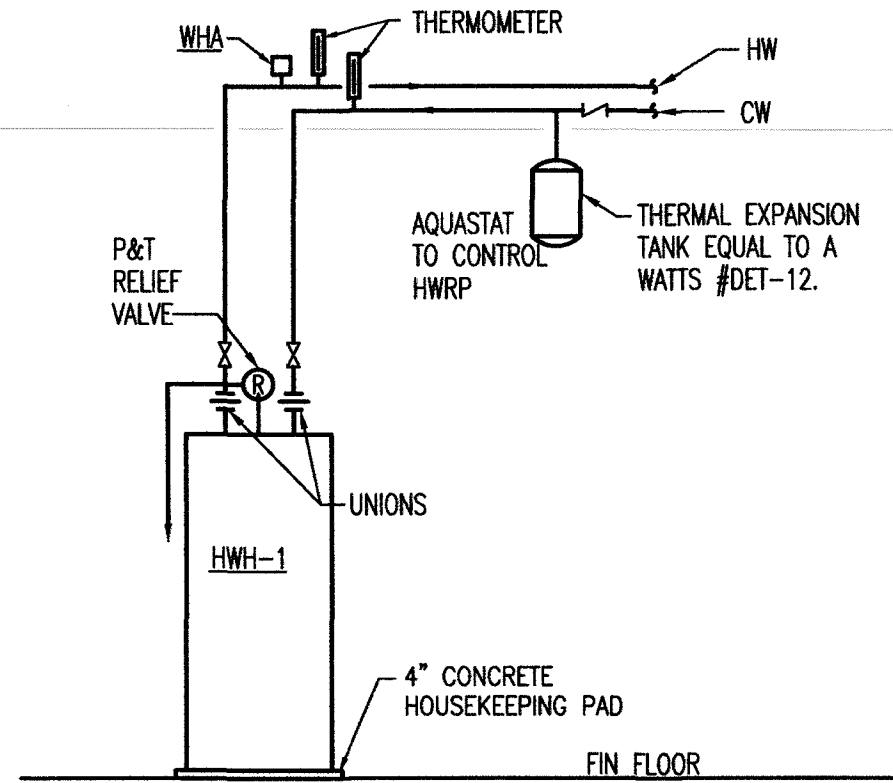
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DETAIL - HANDICAP LAVATORY L-1
NO SCALE



DETAIL - WATER HEATER
NO SCALE

PLUMBING FIXTURE INSTALLATION SCHEDULE

FIXTURE	MARK	MH	CW	HW	VENT	WASTE
WATER CLOSET(HC)	WC-1	17"	3/4"	--	2"	4"
SINK	S-1	COUNTER	1/2"	1/2"	1-1/2"	2"
KITCHEN	KS-1	COUNTER	1/2"	1/2"	1-1/2"	2"
LAVATORY	L-1	34"	1/2"	1/2"	1-1/2"	2"
JANITOR SINK	JS-1	FLOOR	1/2"	1/2"	1-1/2"	2"
ELECTRIC WATER COOLER	EW-1	(A)	1/2"	--	1-1/2"	2"
ELECTRIC WATER COOLER	EW-2	(A)	1/2"	--	1-1/2"	2"

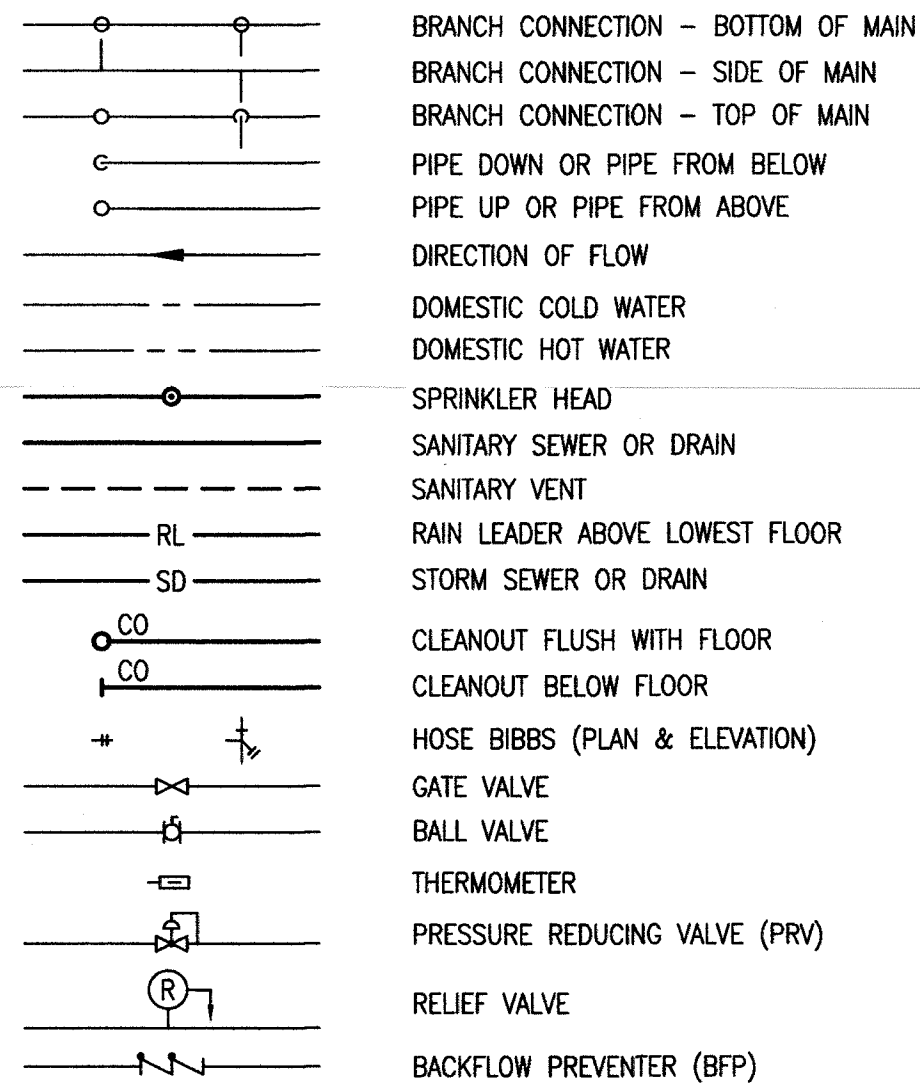
NOTES

1. SIZE GIVEN ARE FOR FIXTURE ONLY. EXCEPTIONS, IF ANY, ARE SHOWN ON PLANS.
2. MOUNTING HEIGHT DIMENSIONS ARE TO FLOOD LEVEL RIM OF FIXTURE, UNLESS NOTED OTHERWISE.
(A) MOUNTING HEIGHT TO BE AS SPECIFIED BY ARCHITECT.
3. THERMOSTATIC MIXING VALVE TO BE MOUNTED HIGH UNDER LAVATORY TO CONCEAL FROM VIEW.

PLUMBING EQUIPMENT SCHEDULE

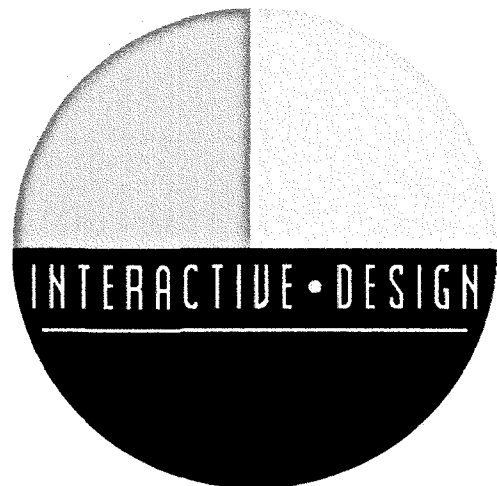
WC-1	KOHLER K-3979 HIGHLINE ELONGATED VITREOUS CHINA WATER CLOSET (HANDICAPPED, TANK TYPE, FLOOR MTD., 1.6 GAL/FLUSH CLASS FIVE FLUSHING TECHNOLOGY; #10-CC OLSONITE ELONGATED SEAT; BOLT CAPS.
L-1	AMERICAN STANDARD A0356.041, VITREOUS CHINA; MOEN FAUCET MODEL NO. 8417F15 WITH WHEELCHAIR OFFSET. GRID STRAINER, AND ANGLE SUPPLIES WITH LOOSE KEY STOPS. PROVIDE ZURN Z1251 CARRIER. PROVIDE THERMOSTATIC MIXING VALVE, WILKINS MODEL ZW1070, ASSE 1070 COMPLIANT
S-1	ELKAY #LRAD1716 STAINLESS HAND WASH SINK, 6" DEEP, 18 GA, TYPE 304 WITH ELKAY FAUCET LK406GN05T6, CHROME P-TRAP AND SUPPLIES, ELKAY #LK18 STRAINERS
KS-1	ELKAY #LRAD-3322 LUSTERSTONE STAINLESS STEEL DOUBLE BOWL HANDICAP KITCHEN SINK, 18 GA., TYPE 302 STAINLESS SELF RIM, 4-HOLE, 6-1/2 DEEP; #420 DELTA FAUCET WITH 8" SPOUT, SINGLE LEVER CONTROL AND SPRAY ATTACHMENT, CHROME P-TRAP AND SUPPLIES, #LK35 STRAINERS. PROVIDE WITH DISPOSAL, BADGER 5XP SERIES AS MANUFACTURED BY INSINKERATOR; 3/4 HP, 120 V, 1725 RPM. UNIT TO BE GALVANIZED STEEL CONSTRUCTION WITH GREY ENAMEL FINISH. CONTROL SHALL BE BY WALL SWITCH.
JS-1	FIAT #MSB-2424 MOLDED STONE MOP SERVICE BASIN, 24"x24"x10"; #830-AA WALL MTD FAUCET W/VACUUM BREAKER & BUCKET HOOK; #832-AA HOSE & BRACKET, #E-77-AA VINYL BUMPER GUARD. #889-CC MOP HANGER & #QDC-3-2 QUICK DRAIN CONNECTOR, #MSG2424 STAINLESS STEEL WALL GUARDS.
EW-1	ELKAY #LZS8WSLK SINGLE STATION ELECTRIC WATER COOLER WITH BOTTLE FILLER, CABINET FINISH SELECTION BY ARCHITECT, FRONT AND SIDE PRESS BARS, LEAD FREE WORKING COMPONENTS; 8.0 GPH CAPACITY AND 3.7 AMPS.
EW-2	ELKAY #LZS8WSLK SINGLE STATION ELECTRIC WATER COOLER WITH BOTTLE FILLER, CABINET FINISH SELECTION BY ARCHITECT, FRONT AND SIDE PRESS BARS, LEAD FREE WORKING COMPONENTS; 8.0 GPH CAPACITY AND 3.7 AMPS.
FD-1	JOSAM #30000-SA-2-17 FLOOR DRAIN, SATIN FINISH BRONZE TOP, NON-CLOG STRAINER, SECURED GRATE; 4"DEEP SEAL TRAP. SET RIM FLUSH WITH FINISH FLOOR.
CO	JOSAM CLEANOUT FLOOR ROUND, SATIN BRONZE TOP, RECESSED PLUG. WALL CHROME FLUSH WALL PLATE, RECESSED PLUG.
HW-1	STATE CSB-52-9-SFE ELECTRIC WATER HEATER, THREE ELEMENTS, 50 GAL. CAPACITY TANK, 37 GAL/HR RECOVERY AT 40 DEG. F. AND 100 DEG.F. RISE, 9000 W; 208/3; T&P RELIEF VALVE.
HWRP-1	BELL & GOSSET #100 CIRCULATING PUMP, 1/12 HP., 120 VOLT, 15 GPM AT 7 FT. HEAD, BRONZE TOP.
WH-1	JOSAM #71050-74-72 WALL HYDRANT, NON FREEZE, CAST BRONZE W/ INTEGRAL VACUUM BREAKER; UNION ELBOW ASSEMBLY AND WALL CLAMP. NOTE: ALL SUPPLY PIPING SHALL BE CONCEALED IN AN APPROVED MANNER.
BFP	WATTS #909 REDUCED PRESSURE ZONE BACKFLOW PREVENTOR, BRONZE CONSTRUCTION, EPOXY COATED CAST IRON CHECK VALVE BODY WITH BRONZE SEATS, FDA APPROVED EPOXY COATED CAST IRON RELIEF VALVE WITH TRIM.
PRV	WATTS 25AUB WATER PRESSURE REDUCING VALVE, BRONZE CONSTRUCTION, WITH INTEGRAL STRAINER AND BUILT-IN BYPASS.

LEGEND



ABBREVIATIONS

ABV	ABOVE
BTU	BRITISH THERMAL UNIT
BEL	BELOW
BET	BETWEEN
CLG	CEILING
CO	CLEANOUT
CONC	CONCRETE
CONN	CONNECT, CONNECTION
CW	COLD WATER
CONT	CONTINUED
DN	DOWN
EA	EACH
EW	ELECTRIC WATER COOLER
F	DEGREES FARENHEIT
FD	FLOOR DRAIN
FL	FLOOR
FR	FROM
FT	FEET
GPM	GALLONS PER MINUTE
GV	GATE VALVE
HB	HOSE BIBB
HW	HOT WATER
IN	INCH, INCHES
MAX	MAXIMUM
MIN	MINIMUM
RD	ROOF DRAIN
REQD	REQUIRED
RL	ROOF LEADER
SH	SHEET
TEMP	TEMPERATURE
TYP	TYPICAL
V	SANITARY VENT
VTR	VENT THRU ROOF
W	SANITARY WASTE
WH	WALL HYDRANT



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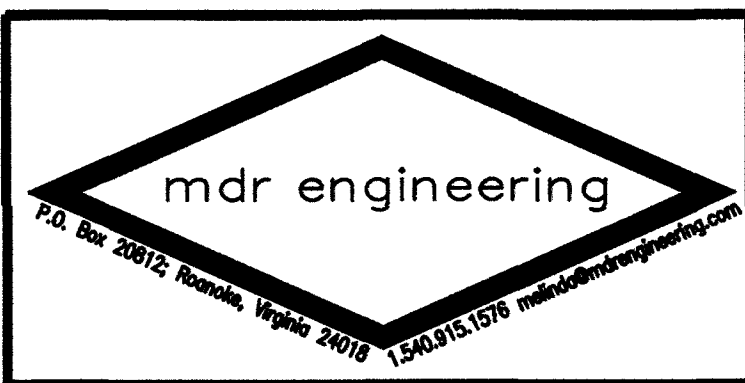
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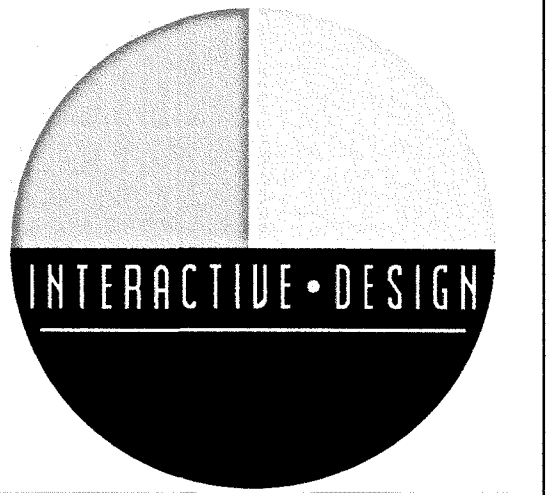
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PLUMBING
LEGEND,
SCHEDULES
& DETAILS

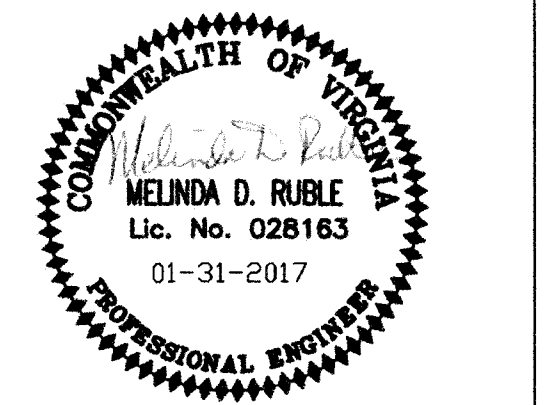
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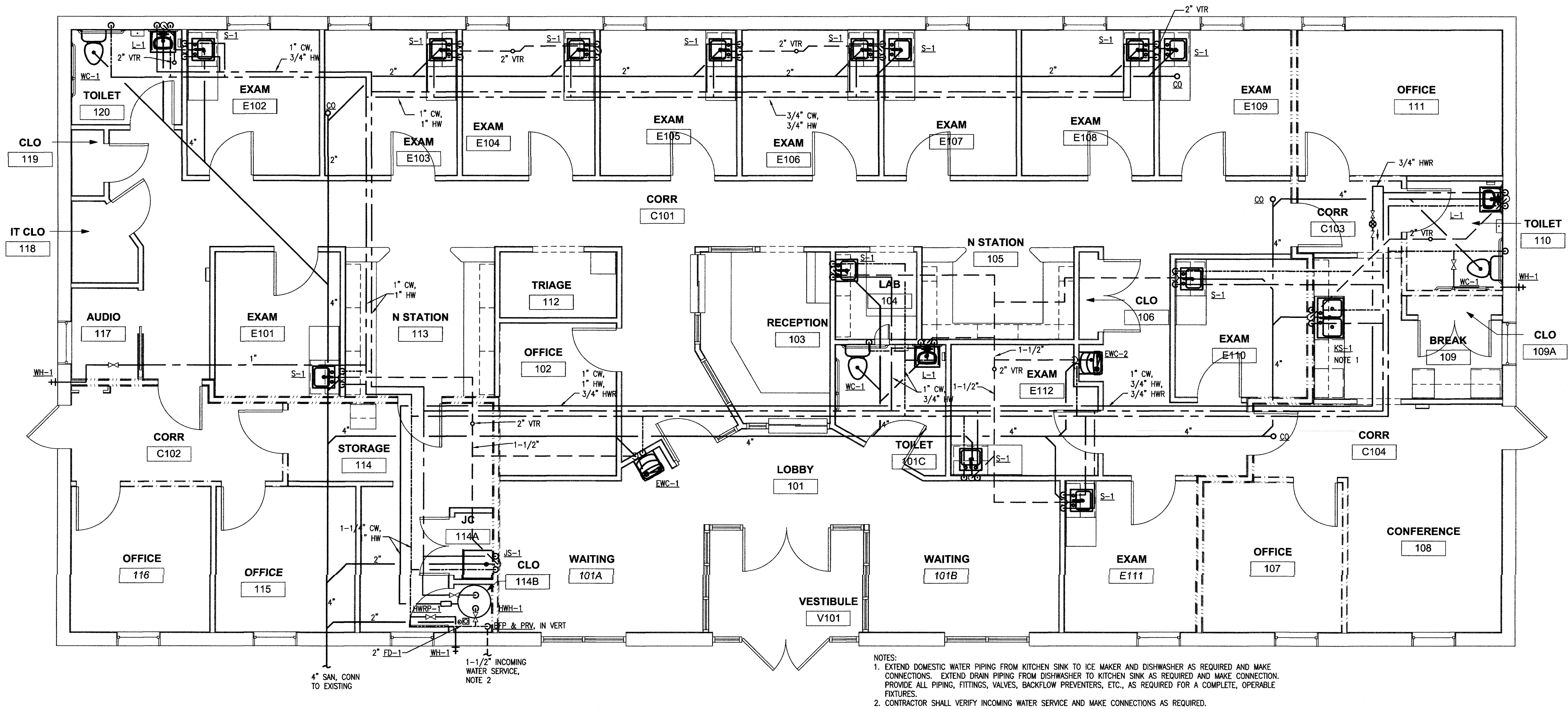
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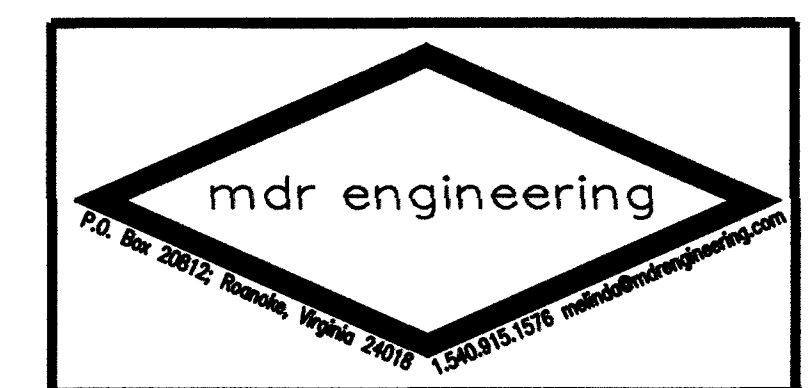
PLUMBING FLOOR PLAN

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FLOOR PLAN - PLUMBING

1/4" = 1'-0"



MECHANICAL SPECIFICATIONS

1. GENERAL PROVISIONS

- A. INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE 2012 INTERNATIONAL MECHANICAL CODE INCLUDING REFERENCED CODES AND STANDARDS AND IN ACCORDANCE WITH MANDATES OF THE LOCAL BUILDING OFFICIALS.
- B. THE GENERAL ARRANGEMENT AND LOCATIONS OF DUCTWORK, PIPING, FIXTURES, ETC. ARE INDICATED BY THE DRAWINGS AND SHALL BE INSTALLED IN ACCORDANCE THEREWITH; WITH THE EXCEPTION OF SUCH CHANGES AS MAY BE REQUIRED ON ACCOUNT OF OTHER TRADES. CONTRACTOR SHALL COORDINATE WORK WITH INSTALLATION OF OTHER SUBCONTRACTORS.
- C. MECHANICAL WORK SHALL BE COORDINATED WITH THE CONTRACTOR AS TO SCHEDULING, DIMENSIONING AND LOCATION OF EQUIPMENT.
- D. MAJOR ITEMS ARE SHOWN ON THE PROJECT PLANS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INCIDENTAL ITEMS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM.
- E. TRADE NAMES AND CATALOG NUMBERS SHALL BE INTERPRETED AS ESTABLISHING A GENERAL DESIGN AND STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS LIMITING COMPETITION. UNLESS STATED OTHERWISE, THE CONTRACTOR MAY USE ANY ARTICLE WHICH, IN HIS JUDGEMENT, AND WITH WRITTEN COMMENT FROM THE ARCHITECT/ENGINEER INDICATING NO OBJECTION, IS EQUAL OR SUPERIOR TO THAT SPECIFIED. DRAWINGS SHOWING CHANGES OR REVISIONS REQUIRED BY THE SUBSTITUTION FOR SPECIFIED ITEMS SHALL BE SUBMITTED WITH THE SHOP DRAWING DATA, AND THE COSTS OF ALL SUCH CHANGES SHALL BE BORNE BY THE CONTRACTOR.
- F. SIMILAR ITEMS SHALL BE PROVIDED BY A SINGLE MANUFACTURER.
- G. ALL REQUIRED WALL OR FLOOR OPENINGS SHALL BE COORDINATED WITH THE CONTRACTOR.
- H. ALL PIPING SHALL BE ABOVE CEILING UNLESS INDICATED OTHERWISE.
- I. DO NOT INSTALL PVC PIPING OR ANY COMBUSTIBLE MATERIAL IN ANY AIR PLENUM.
- J. ALL EQUIPMENT SHALL BE WIPED CLEAN, REMOVING ALL TRACES OF OIL, DIRT, OR PAINT SPOTS.
- K. PROVIDE SUPPORTS TO RIGIDLY ATTACH ALL EQUIPMENT, APPURTENANCES AND PIPE AS REQUIRED FOR SUPPORT. PRIOR TO INSTALLATION OF HANGERS AND INSERTS, THE CONTRACTOR SHALL COORDINATE LOCATIONS AND REQUIREMENTS TO MINIMIZE CONFLICTS WITH OTHER BUILDING SYSTEMS. INSTALLATION OF PIPE HANGERS AND SUPPORTS SHALL BE IN STRICT ACCORDANCE WITH MSS SP-58, 69 AND 89.
- L. CONTRACTOR SHALL MAKE FINAL CONNECTIONS TO ALL EQUIPMENT INDICATED TO BE FURNISHED BY OTHERS.
- M. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED TO BE FREE FROM DEFECTS FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE AND CONTRACTOR SHALL MAKE GOOD, WITHOUT ADDITIONAL COST TO THE OWNER, ANY DEFECT WHICH MAY APPEAR WITHIN THAT PERIOD. MANUFACTURER'S WARRANTIES EXTENDING BEYOND ONE YEAR SHALL BE PROCESSED AND TURNED OVER TO THE OWNER.

2. SUBMISSION OF SHOP DRAWINGS, PRODUCT DATA, SAMPLES AND PROJECT INFORMATION

- A. SHOP DRAWINGS SHALL BE SUBMITTED FOR THE FOLLOWING ITEMS:
- (1) MECHANICAL SLEEVE SEALS
 - (2) FIRE BARRIER PENETRATION SEALS
 - (3) INSULATION
 - (4) ALL MECHANICAL EQUIPMENT
- B. IDENTIFY ALL MECHANICAL SHOP DRAWINGS, PRODUCT DATA AND SAMPLES WITH THE NAME OF THE PROJECT. CLEARLY MARK THE SPECIFIC ITEMS INTENDED FOR USE. SUBMIT ALL RELATED ITEMS AT ONE TIME.
- C. PRIOR TO SUBSTANTIAL COMPLETION OF THE PROJECT, SUBMIT THE FOLLOWING INFORMATION FOR REVIEW AND APPROVAL.
- (1) OPERATING AND MAINTENANCE INSTRUCTIONS.
 - (2) "AS BUILT" DRAWINGS.

3. GUARANTEE: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED TO BE FREE FROM DEFECTS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE AND CONTRACTOR SHALL MAKE GOOD, WITHOUT ADDITIONAL COST TO THE OWNER, ANY DEFECTS WHICH MAY APPEAR WITHIN THAT PERIOD. MANUFACTURER'S WARRANTIES EXTENDING BEYOND ONE YEAR SHALL BE PROCESSED AND TURNED OVER TO THE OWNER.

4. "AS BUILT" DRAWINGS: CONTRACTOR SHALL KEEP AN ACCURATE RECORD OF THE LOCATION OF ALL CONCEALED DUCTWORK, PIPING, VALVES, CONTROLS, ETC., BOTH INTERIOR AND EXTERIOR. ON COMPLETION OF THE WORK, ONE PRINT EACH OF THE CONTRACT DRAWINGS WHICH ARE APPLICABLE SHALL BE NEATLY AND CLEARLY MARKED IN COLOR TO SHOW ALL VARIATIONS BETWEEN THE WORK ACTUALLY PROVIDED AND THAT INDICATED ON THE CONTRACT DRAWINGS.

5. OPERATING AND MAINTENANCE MANUALS

- A. GENERAL: PRIOR TO COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL PROVIDE TWO HARDBACKED LOOSELEAF RING TYPE BINDERS, IDENTIFIED WITH THE NAME OF THE PROJECT. CONTRACTOR SHALL DELIVER THESE BINDERS TO THE ENGINEER FOR REVIEW AND TRANSMITTAL TO THE OWNER.
- B. THE FOLLOWING ITEMS AND OTHER ADDITIONAL PERTINENT DATA FOR EACH ITEM OF EQUIPMENT SHALL BE INCLUDED:
- (1) NAME OF MANUFACTURER.
 - (2) NAME, ADDRESS AND TELEPHONE NUMBER OF NEAREST MANUFACTURER'S REPRESENTATIVE.
 - (3) COPY OF LATEST APPROVED SHOP DRAWING.
 - (4) MANUFACTURER'S OPERATING AND MAINTENANCE MANUAL INCLUDING LUBRICATION DATA.
 - (5) PARTS NUMBERS FOR ALL REPLACEABLE ITEMS.
 - (6) SERIAL NUMBERS OF ALL PRINCIPAL ITEMS OF EQUIPMENT.
 - (7) CONTROL DIAGRAMS AND SEQUENCE OF OPERATION.
 - (8) MANUFACTURER'S WRITTEN GUARANTEES THAT EXTEND BEYOND THE CONTRACTOR'S ONE YEAR GUARANTEE.
- C. THE OPERATING AND MAINTENANCE MANUALS SHALL BE CONSIDERED A PART OF THE FINAL INSPECTION AND THEY SHALL BE SUBMITTED FOR APPROVAL AT LEAST THIRTY (30) DAYS PRIOR TO REQUEST FOR FINAL INSPECTION.

6. ACCESS DOORS: ACCESS DOORS SHALL BE PROVIDED FOR ALL CONCEALED VALVES, CONTROLS, AND ANY OTHER EQUIPMENT OR MATERIALS REQUIRING INSPECTION OR MAINTENANCE. ACCESS DOORS SHALL BE FURNISHED FOR FLOORS, WALLS AND CEILINGS, OF ADEQUATE SIZE SO THAT CONCEALED ITEMS WILL BE READILY ACCESSIBLE FOR SERVICING OR FOR REMOVAL AND REPLACEMENT IF NECESSARY.

7. PAINTING

- A. SCOPE OF WORK: MECHANICAL EQUIPMENT, MATERIALS, AND RELATED PIPING DO NOT REQUIRE PAINTING EXCEPT AS INDICATED BELOW. EXPOSED DUCTWORK SHALL BE PAINTED.
- B. EQUIPMENT WITH A FACTORY APPLIED FINISH WILL NOT REQUIRE ADDITIONAL PAINTING EXCEPT TOUCH-UP WITH MATCHING FINISH WHERE IT IS DAMAGED.
- C. PIPING, FABRICATED SUPPORTS, OR OTHER UNFINISHED AND UNPROTECTED MATERIALS LOCATED OUTDOORS SHALL BE PAINTED WITH A SUITABLE PRIMER AND COMPATIBLE FINISH PAINT. COLOR SHALL BE AS DIRECTED BY ENGINEER.
- D. PAINT INSIDE OF DUCTWORK WITH MATTE BLACK PAINT WHERE VISIBLE BEHIND AIR INLETS AND OUTLETS.
- E. PROTECTION OF WORK: PAINTING SHALL BE DONE WITH ALL POSSIBLE CARE TO PROTECT THIS WORK AND WORK OF OTHER TRADES. ALL DAMAGE TO THIS AND OTHER WORK CAUSED BY THE PAINTING OPERATIONS SHALL BE CORRECTED, CLEANED OR REPAIRED AS REQUIRED. HARDWARE, SPECIAL CONTROL ITEMS, GAUGES, THERMOMETERS, NAMEPLATES, INSTRUMENT GLASS AND OTHER SIMILAR ITEMS SHALL BE REMOVED OR PROPERLY PROTECTED DURING THE PAINTING OPERATIONS TO INSURE THAT THESE ITEMS ARE NOT COVERED OR SPLATTERED WITH PAINT.

8. IDENTIFICATION

- A. SUBMITTALS
- (1) SUBMIT LIST OF WORDING, SYMBOLS, LETTER SIZE, AND COLOR CODING FOR MECHANICAL IDENTIFICATION.
 - (2) SUBMIT VALVE CHART AND SCHEDULE, INCLUDING VALVE TAG NUMBER, LOCATION, FUNCTION, AND VALVE MANUFACTURER'S NAME AND MODEL NUMBER.
 - (3) PRODUCT DATA: PROVIDE MANUFACTURERS CATALOG LITERATURE FOR EACH PRODUCT REQUIRED.
- B. NAMEPLATES
- (1) DESCRIPTION: LAMINATED THREE-LAYER PLASTIC WITH ENGRAVED LETTERS ON LIGHT CONTRASTING BACKGROUND COLOR.
- C. TAGS
- (1) METAL TAGS: BRASS WITH STAMPED LETTERS; TAG SIZE MINIMUM 1-1/2 INCHES (40 MM) DIAMETER.
 - (2) CHART: TYPEWRITTEN LETTER SIZE LIST IN ANODIZED ALUMINUM FRAME.

D. STENCILS

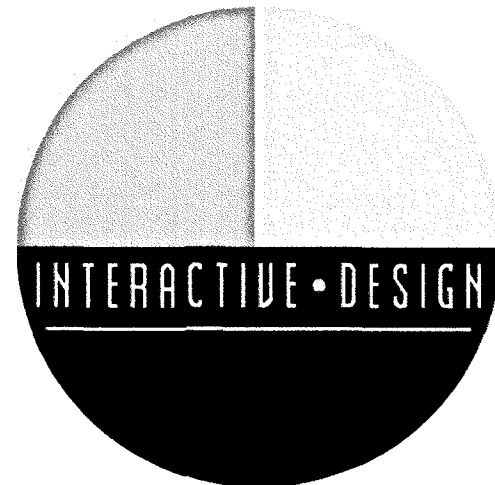
- (1) STENCILS: WITH CLEAN CUT SYMBOLS AND LETTERS OF FOLLOWING SIZE:
- (A) 3/4 TO 1-1/4 INCHES (20-30 MM) OUTSIDE DIAMETER OF INSULATION OR PIPE: 8 INCHES (200 MM) LONG COLOR FIELD, 1/2 INCHES (15 MM) HIGH LETTERS.
 - (B) 1-1/2 TO 2 INCHES (40-50 MM) OUTSIDE DIAMETER OF INSULATION OR PIPE: 8 INCHES (200 MM) LONG COLOR FIELD, 3/4 INCH (20 MM) HIGH LETTERS.
 - (C) 2-1/2 TO 6 INCHES (65-150 MM) OUTSIDE DIAMETER OF INSULATION OR PIPE: 12 INCHES (300 MM) LONG COLOR FIELD, 1-1/4 INCHES (30 MM) HIGH LETTERS.
 - (D) 8 TO 10 INCHES (200-250 MM) OUTSIDE DIAMETER OF INSULATION OR PIPE: 24 INCHES (600 MM) LONG COLOR FIELD, 2-1/2 INCHES (65 MM) HIGH LETTERS.
 - (E) OVER 10 INCHES (250 MM) OUTSIDE DIAMETER OF INSULATION OR PIPE: 32 INCHES (800 MM) LONG COLOR FIELD, 3-1/2 INCHES (90 MM) HIGH LETTERS.
 - (F) DUCTWORK AND EQUIPMENT: 2-1/2 INCHES (65 MM) HIGH LETTERS.
- (2) STENCIL PAINT: AS SPECIFIED IN SECTION 09900, SEMI-GLOSS ENAMEL, COLORS CONFORMING TO ASME A13.1.

E. PIPE MARKERS

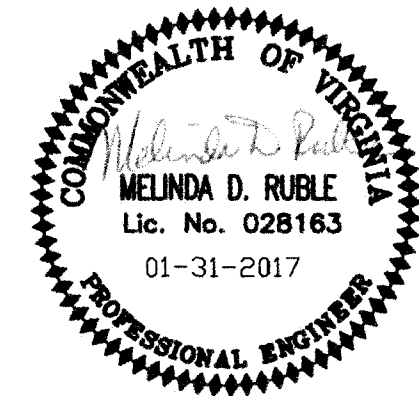
- (1) COLOR: CONFORM TO ASME A13.1.
 - (2) PLASTIC PIPE MARKERS: FACTORY FABRICATED, FLEXIBLE, SEMI-RIGID PLASTIC, PREFORMED TO FIT AROUND PIPE OR PIPE COVERING; MINIMUM INFORMATION INDICATING FLOW DIRECTION ARROW AND IDENTIFICATION OF FLUID BEING CONVEYED.
- F. CEILING TACKS
- (1) DESCRIPTION: STEEL WITH 3/4 INCH (20 MM) DIAMETER COLOR CODED HEAD.
 - (2) COLOR CODE AS FOLLOWS:
 - (A) YELLOW - HVAC EQUIPMENT
 - (B) RED - FIRE DAMPERS/SMOKE DAMPERS
 - (C) GREEN - PLUMBING VALVES
 - (D) BLUE - HEATING/COOLING VALVES

G. INSTALLATION

- (1) DEGREASE AND CLEAN SURFACES TO RECEIVE ADHESIVE FOR IDENTIFICATION MATERIALS.
- (2) INSTALL PLASTIC NAMEPLATES WITH CORROSIVE-RESISTANT MECHANICAL FASTENERS, OR ADHESIVE. APPLY WITH SUFFICIENT ADHESIVE TO ENSURE PERMANENT ADHESION AND SEAL WITH CLEAR LACQUER.
- (3) INSTALL TAGS WITH CORROSION RESISTANT CHAIN.
- (4) INSTALL PLASTIC PIPE MARKERS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- (5) IDENTIFY AIR CONDITIONING UNITS AND FANS WITH PLASTIC NAMEPLATES OR STENCIL PAINTING.
- (6) IDENTIFY CONTROL PANELS AND MAJOR CONTROL COMPONENTS OUTSIDE PANELS WITH PLASTIC NAMEPLATES.
- (7) IDENTIFY DUCTWORK WITH PLASTIC NAMEPLATES OR STENCILLED PAINTING. IDENTIFY WITH AIR HANDLING UNIT OR FAN AND AREA BEING SERVED.
- (8) TAG AUTOMATIC CONTROLS, INSTRUMENTS, AND RELAYS. KEY TO CONTROL SCHEMATIC.
- (9) IDENTIFY PIPING, CONCEALED OR EXPOSED, WITH PLASTIC PIPE MARKERS OR STENCILLED PAINTING. IDENTIFY SERVICE, FLOW DIRECTION, AND PRESSURE. INSTALL IN CLEAR VIEW AND ALIGN WITH AXIS OF PIPING. LOCATE IDENTIFICATION NOT TO EXCEED 20 FEET (6 M) ON STRAIGHT RUNS INCLUDING RISERS AND DROPS, ADJACENT TO EACH VALVE AND TEE, AT EACH SIDE OF PENETRATION OF STRUCTURE OR ENCLOSURE, AND AT EACH OBSTRUCTION.
- (10) PROVIDE CEILING TACKS TO LOCATE VALVES ABOVE T-BAR TYPE PANEL CEILINGS. LOCATE IN CORNER OF PANEL CLOSEST TO EQUIPMENT.



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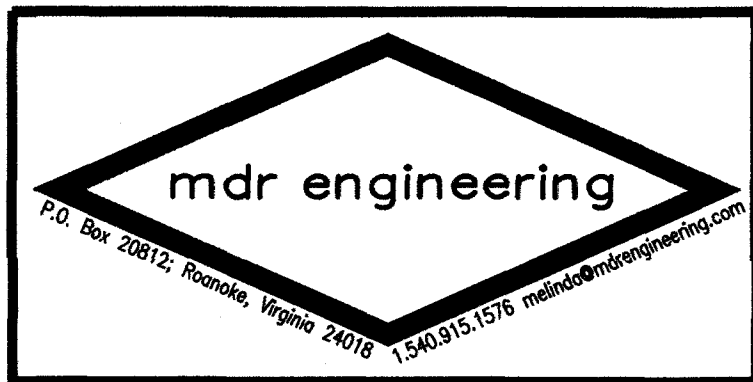
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JOB	1648

MECHANICAL
SPECIFICATIONS

SHEET

M-001



9. INSULATION

- A. FLAME/SMOKE RATINGS: PROVIDE COMPOSITE PLUMBING INSULATION (INSULATION, JACKETS, COVERINGS, SEALERS, MASTICS AND ADHESIVES) WITH FLAME-SPREAD RATING OF 25 OR LESS, AND SMOKE-DEVELOPED RATING OF 50 OR LESS, AS TESTED BY ANSI/ASTM E84 (NFPA 255) METHOD. INSULATION SHALL BE LABELED BY THE MANUFACTURER. THE LABEL SHALL INDICATE THE INSULATING VALUE, FLAME SPREAD AND SMOKE-DEVELOPED RATING.
- B. SUBMITTALS: SUBMIT MANUFACTURER'S SPECIFICATIONS AND INSTALLATION INSTRUCTIONS FOR EACH TYPE OF PLUMBING INSULATION. SUBMIT SCHEDULE SHOWING MANUFACTURER'S PRODUCT NUMBER, THICKNESS, AND FURNISHED ACCESSORIES FOR EACH PLUMBING SYSTEM REQUIRING INSULATION.
- C. INSTALLATION: INSULATION SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS USING ONLY ADHESIVES, MASTICS AND PLUMBING FASTENERS APPROVED BY THE INSULATION MANUFACTURER. INSULATION SHALL NOT BE APPLIED UNTIL AFTER THE EQUIPMENT HAS BEEN TESTED WITH RESULTS ACCEPTABLE TO THE ARCHITECT/ENGINEER. INSULATION WITH A VAPOR BARRIER JACKET SHALL BE APPLIED WITH A CONTINUOUS, UNBROKEN VAPOR SEAL AND ALL JOINTS SHALL BE SEALED WITH A VAPOR BARRIER ADHESIVE UNLESS OTHERWISE INDICATED. STAPLES, STICK CLIPS AND HANGERS SHALL BE VAPOR SEALED WHERE THEY PUNCTURE VAPOR BARRIER JACKETS.
- D. MATERIALS:
- (1) FLEXIBLE DUCT INSULATION: ASTM C1290, MINERAL FIBER BLANKET, WITH OPERATING TEMPERATURE OF 250°F. THERMAL CONDUCTIVITY "K"=0.30 AT 75°F, DENSITY=0.75 LB/CU. FT. F AT 75 DEGREES F. FACTORY APPLIED JACKET (ASJ) SHALL CONSIST OF WHITE KRAFT PAPER BONDED TO ALUMINUM FOIL AND REINFORCED WITH GLASS FIBER YARN. EQUAL TO OWENS-CORNING ASJ.
- (2) RIGID DUCT INSULATION: ASTM C612, RIGID NONCOMBUSTIBLE, WITH MAXIMUM SERVICE TEMPERATURE OF 450°F. THERMAL CONDUCTIVITY "K"=0.23 AT 75°F, DENSITY=3.0 LB/CU. FT. F AT 75 DEGREES F. FACTORY APPLIED JACKET (ASJ) SHALL CONSIST OF WHITE KRAFT PAPER BONDED TO ALUMINUM FOIL AND REINFORCED WITH GLASS FIBER YARN. EQUAL TO OWENS-CORNING ASJ.
- (3) ELASTOMERIC CELLULAR FOAM PIPE INSULATION: ASTM C534, TYPE 1 TUBULAR FORM, UNSLIT TUBING OR PRE-SLIT TUBULAR WITH FACTORY APPLIED PRESSURE SENSITIVE ADHESIVE. "K"=0.27 AT 75 DEGREES F. SERVICE TEMPERATURE 0°F TO 200°F. NO JACKET REQUIRED.
- E. DUCT INSULATION
- (1) DUCT INSULATION: INSULATE ALL SUPPLY AIR, OUTDOOR AIR AND RETURN AIR DUCTS.
- (2) PROVIDE INSULATION WITH VAPOR RETARDER JACKETS. PIPING SYSTEM WITH EQUIVALENT THICKNESS AND COMPOSITION OF INSULATION AS APPLIED TO ADJOINING PIPE RUN.
- (3) EXTEND DUCT INSULATION WITHOUT INTERRUPTION THROUGH WALLS, FLOORS AND SIMILAR PIPING PENETRATIONS, EXCEPT WHERE OTHERWISE INDICATED.
- (4) INSTALL PROTECTIVE METAL SHIELDS AND INSULATED INSERTS WHEREVER NEEDED TO PREVENT COMPRESSION OF INSULATION.
- (5) CONCEALED DUCTWORK: INSULATE WITH 2" THICK FLEXIBLE DUCTWORK INSULATION.
- F. PIPE INSULATION
- (1) REFRIGERANT SUCTION AND HOT GAS PIPING: INSULATE 1-1/2" AND SMALLER PIPES WITH 1" THICK ELASTOMERIC CELLULAR FOAM INSULATION. INSULATE LARGER THAN 1-1/2" PIPES WITH 1-1/2" THICK ELASTOMERIC CELLULAR FOAM.
- (2) CONDENSATE DRAIN PIPING: INSULATE ALL PIPING WITH 1/2" THICK ELASTOMERIC CELLULAR FOAM INSULATION.

10. CONCRETE EQUIPMENT PAD

- A. THE OUTDOOR UNIT SHALL BE MOUNTED ON CONCRETE PAD. CONCRETE PAD SHALL BE 4" HIGH AND SHALL PROJECT NOT LESS THAN 4" BEYOND THE EQUIPMENT ON ALL SIDES. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS, 3% TO 8% AIR ENTRAINMENT. 6" SLUMP MAXIMUM UPON PLACEMENT. CONCRETE SHALL NOT BE PLACED WHEN TEMPERATURE WILL FALL BELOW 32°F DURING PLACEMENT OR DURING A PERIOD OF THREE DAYS AFTER PLACEMENT. ANCHOR BOLTS SHALL BE SET PRIOR TO POURING OF THE SLABS.

11. DUCTWORK

- A. GALVANIZED STEEL DUCTS: ASTM A653/A653M GALVANIZED STEEL SHEET, LOCK-FORMING QUALITY, HAVING G60 ZINC COATING IN CONFORMANCE WITH ASTM A90/90M.
- B. FLEXIBLE DUCTS: UL LABELED, BLACK POLYMER FILM SUPPORTED BY HELICAL WOUND SPRING STEEL WIRE. THE PRESSURE RATING SHALL BE 4" WG POSITIVE AND 0.5" WG NEGATIVE. THE MAXIMUM VELOCITY SHALL BE 4000 FPM AND THE TEMPERATURE RANGE SHALL BE -20°F TO 175°F.
- C. FABRICATE AND SUPPORT IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE.
- D. WHERE RECTANGULAR ELBOWS ARE USED, FURNISH TURNING VANES.
- E. INCREASE DUCT SIZES GRADUALLY, NOT EXCEEDING 15' DIVERGENCE WHEREVER POSSIBLE; MAXIMUM 30' DIVERGENCE UPSTREAM OF EQUIPMENT AND 45' CEONVERGENCE DOWNSTREAM.
- F. FLEXIBLE DUCT CONNECTIONS SHALL BE FABRICATED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE.
- G. VOLUME CONTROL DAMPERS SHALL BE RUSKIN MODEL MD-35 AND SHALL BE FABRICATED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE.
- H. MOTOR OPERATED DAMPERS SHALL BE RUSKIN MODEL MD-36 AND SHALL BE FABRICATED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE. THE DAMPER OPERATOR SHALL PROVIDE SMOOTH PROPORTIONAL CONTROL AND SHALL HAVE SPRING RETURN FOR TWO POSITION CONTROL AND FOR FAIL SAFE OPERATION.
- I. FIRE DAMPERS SHALL BE DYNAMIC UNITS OF TYPES AND SIZES SUITABLE FOR THE MOUNTING POSITION AND PRESSURE CLASSIFICATION OF THE DUCTWORK IN WHICH INSTALLED. PROVIDE FIRE DAMPERS BEARING A 1-1/2 HOUR UL LABEL AND IN CONFORMANCE WITH NFPA 90A AND UL555.
- J. COMBINATION FIRE/SMOKE DAMPERS SHALL BE UNITS OF TYPES AND SIZES SUITABLE FOR THE MOUNTING POSITION AND PRESSURE CLASSIFICATION OF THE DUCTWORK IN WHICH INSTALLED. PROVIDE DAMPERS BEARING A 1-1/2 HOUR UL LABEL AND IN CONFORMANCE WITH NFPA 80, 90A, 92A, 92B AND UL555S.

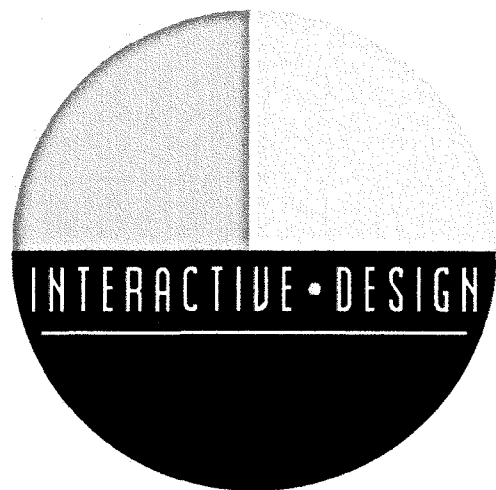
12. DIFFUSERS, REGISTERS AND GRILLES

- A. DIFFUSERS, REGISTERS AND GRILLES SHALL BE THE TYPE, MATERIAL, AIR PATTERN AND FINISH INDICATED ON THE DRAWINGS.
- B. INSTALL AIR OUTLETS AND INLETS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. INSTALL DIFFUSERS, REGISTERS AND GRILLES TO DUCTWORK WITH AIRTIGHT CONNECTION.

13. CLEANING AND TESTING

- A. CLEAN EQUIPMENT AND FIXTURES TO A SANITARY CONDITION WITH CLEANING MATERIALS APPROPRIATE TO THE SURFACE AND MATERIAL BEING CLEANED. CLEAN DUCT SYSTEMS AND FORCE AIR AT HIGH VELOCITY THROUGH DUCT TO REMOVE ACCUMULATED DUST.
- B. REPLACE FILTERS OF OPERATING EQUIPMENT.
- C. HEATING AND COOLING SYSTEMS AND EXHAUST SYSTEMS SHALL BE TESTED, ADJUSTED AND BALANCED (TAB). AIR HANDLING SYSTEMS SHALL BE ADJUSTED TO WITHIN +/- 10% OF DESIGN. THE TOTAL OF AIR OUTLETS AND INLETS SHALL BE ADJUSTED TO WITHIN PLUS 10% AND MINUS 5% OF DESIGN TO SPACE. ADJUST OUTLETS AND INLETS IN SPACE TO WITHIN +/- 10% OF DESIGN.
- D. THE TAB CONTRACTOR SHALL NOT BE AFFILIATED IN ANY WAY BE WITH THE INSTALLING CONTRACTOR OR EQUIPMENT SUPPLIERS.

END OF SPECIFICATIONS



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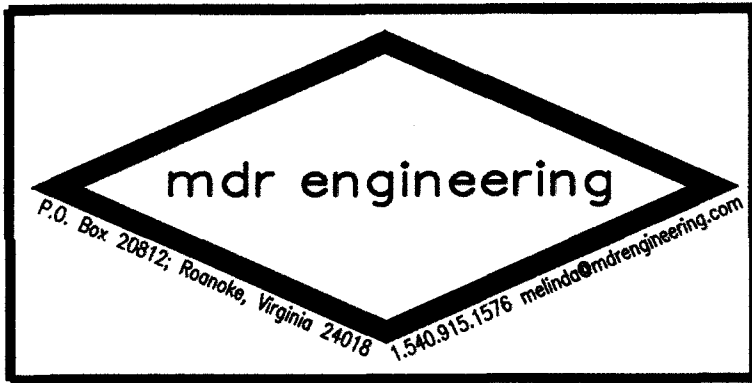
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**MECHANICAL
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M-002



SPLIT SYSTEM HEAT PUMP SCHEDULE

MARK	MANUFACTURER & MODEL NO.	CFM	EVAP FAN HP	VOLTS Ø	INDOOR UNIT												OUTDOOR UNIT					
					S.P. IN WG EXT.	EMERGENCY ELECTRIC HEATER					COOLING CAP'Y @ A.R.I. COND.		O.A. CFM	HEATING BTU MBH @ 47°F	WEIGHT	MARK	MANUFACTURER & MODEL NO.	VOLTS Ø	MCA	MOCP	WEIGHT	
						KW @ 208/3	MBH	STAGES/CIRCUITS	MCA	MOCP	SENS MBH	TOTAL MBH										
AH-1	TRANE TAM7AOC42	1370	1/2	208/1	0.75	10.8	36.9	1	41	45	36.0	42.0	240	56.0	160 LBS.	HP-1	TRANE 4TWA6042A3	208/3	18	30	220 LBS.	
AH-2	TRANE TAM7AOC24	700	1/2	208/1	0.75	7.2	24.6	1	28	30	20.1	24.0	105	56.0	160 LBS.	HP-2	TRANE 4TWA6024A3	208/3	11	15	210 LBS.	
AH-3	TRANE TAM7AOC48	1600	3/4	208/1	0.75	10.8	36.9	1	42	45	42.3	48.0	240	56.0	170 LBS.	HP-3	TRANE 4TWA6048A3	208/3	21	35	250 LBS.	
AH-4	TRANE TAM7AOC42	1150	1/2	208/1	0.75	10.8	36.9	1	41	45	36.0	42.0	175	56.0	160 LBS.	HP-4	TRANE 4TWA6042A3	208/3	18	30	220 LBS.	

NOTES:

- INCLUDE ELECTRONIC, WALL MOUNTED THERMOSTAT WITH AUTOMATIC CHANGE OVER (T-STAT SHALL BE PROGRAMMABLE). THERMOSTAT TO HAVE LOCKABLE COVER UNITS TO BE A MINIMUM OF SEER 16.
- WEIGHTS ARE APPROXIMATE AND INCLUDE ACCESSORIES
- ALL AIR HANDLERS HAVE SINGLE POINT POWER CONNECTIONS

EXHAUST FAN SCHEDULE

MARK	MANUFACTURER & MODEL NO.	CFM	SP. WG	MOTOR WATTS	VOLTS Ø	TYPE	FAN RPM	CONTROL
EF-1	GREENHECK SP-A110	100	0.25	49	120/1	ROOF	950	NOTES 1 & 4
EF-2	GREENHECK CSP-A110	100	0.25	49	120/1	ROOF	950	NOTES 2 & 4
EF-3	GREENHECK SP-A110	100	0.25	49	120/1	ROOF	950	NOTES 3 & 4

NOTES:

1. EF-1 TO BE INTERLOCKED WITH AH-1
2. EF-2 TO BE INTERLOCKED WITH AH-4
3. EF-3 TO BE INTERLOCKED WITH AH-2
4. ALL FANS TO BE PROVIDED WITH INTEGRAL DISCONNECT, SPEED CONTROLLER AND ROOF CAP.

DUCTLESS SPLIT-SYSTEM HEAT PUMP

DSS-1: INDOOR WALL MOUNTED UNIT - MITSUBISHI MSZ-FE12NA, OUTDOOR CONDENSING UNIT - MITSUBISHI MUZ-FE12NA

- A. 12,000 BTU/HR COOLING, 13,600 BTU/HR HEATING, 226 CFM, 23.0 SEER, R-410A.
B. 208 VOLTS, SINGLE PHASE, 12A MOCP, FEED TO OUTDOOR UNIT.
C. DC INVERTER COMPRESSOR.
D. WALL MOUNTED, HARD WIRED CONTROLLER.
E. PROVIDE LOW AMBIENT CONTROL TO 0 DEGREES F.
F. AUTO RESTART ON POWER FAILURE.
G. CONDENSATE PUMP.
H. COORDINATE INDOOR UNIT LOCATION WITH OWNER EQUIPMENT RACKS.
I. OUTDOOR UNIT WEIGHT: 80 LBS.

ELECTRIC WALL HEATER SCHEDULE

MARK	MANUFACTURER & MODEL NO.	MBH	CFM	KW	VOLT/PH
WH-1	MARKEL E3323TID-RP	5.1	400	1.5	120/1

NOTES:

PROVIDE WITH IN-BUILT THERMOSTAT AND DISCONNECT.

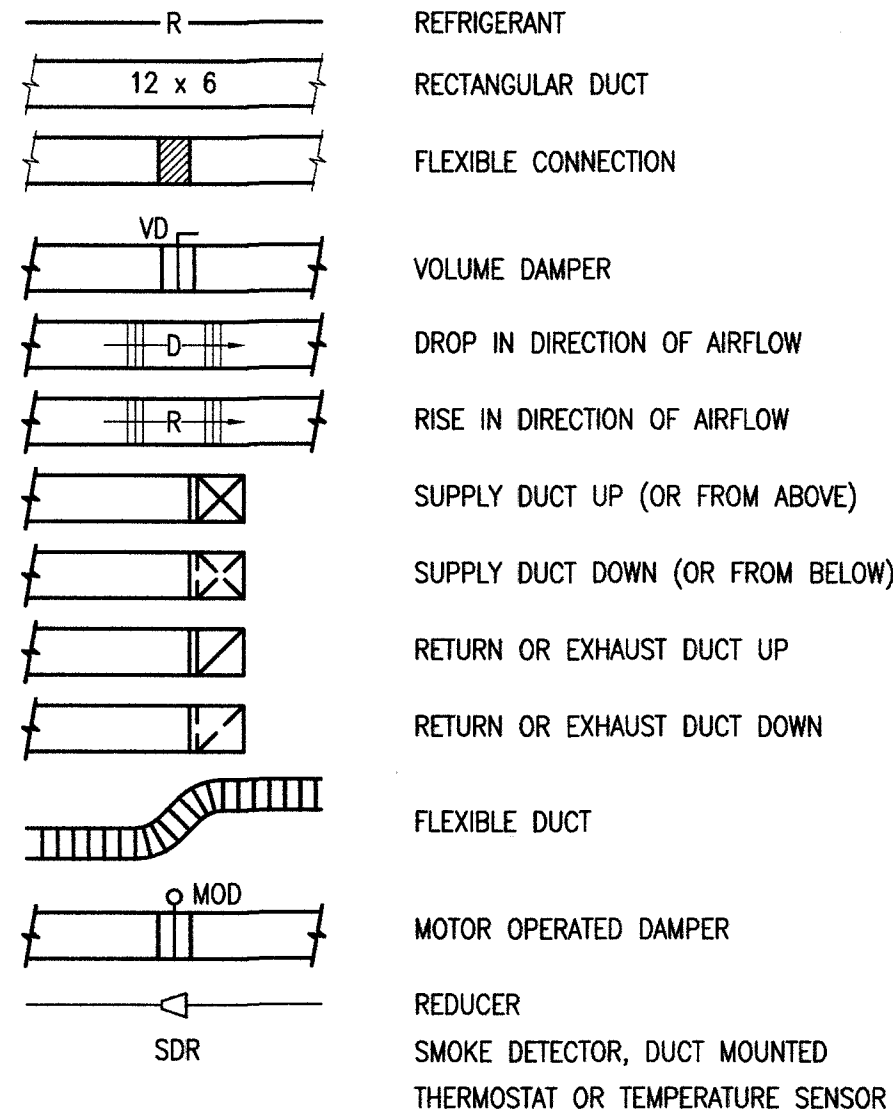
GRILLES, REGISTERS AND DIFFUSERS SCHEDULE

MARK	MANUFACTURER & MODEL NO.	DESCRIPTION	MATERIAL	FINISH	ACCESSORIES & FEATURES
SUPPLY DIFFUSERS					
CD-1	METALAIRE 5800-6	24"x24" DIRECTIONAL DIFFUSER WITH 6"x6" NECK FOR LAY-IN CEILING	STEEL	WHITE	MODEL BDS DAMPER
CD-2	METALAIRE 5800-6	24"x24" DIRECTIONAL DIFFUSER WITH 8"x8" NECK FOR LAY-IN CEILING	STEEL	WHITE	MODEL BDS DAMPER
CD-3	METALAIRE 5800-6	24"x24" DIRECTIONAL DIFFUSER WITH 10"x6" NECK FOR LAY-IN CEILING	STEEL	WHITE	MODEL BDS DAMPER
CD-4	METALAIRE 5800-6	12"x12" DIRECTIONAL DIFFUSER WITH 6"x6" NECK FOR LAY-IN CEILING	STEEL	WHITE	MODEL BDS DAMPER
REGISTERS AND GRILLES					
CR-1	METALAIRE SRH	6X6 CEILING EXHAUST REGISTER	STEEL	WHITE	OPPOSED BLADE DAMPER
CR-2	METALAIRE V4004-1	6X6 CEILING SUPPLY REGISTER	STEEL	WHITE	OPPOSED BLADE DAMPER
CR-3	METALAIRE V4004-1	12X6 CEILING SUPPLY REGISTER	STEEL	WHITE	OPPOSED BLADE DAMPER
CG-1	METALAIRE 7550R-6	24"x24" CEILING RETURN WITH 6"x6" NECK FOR LAY-IN CEILING	STEEL	WHITE	---
CG-2	METALAIRE 7550R-6	24"x24" CEILING RETURN WITH 8"x8" NECK FOR LAY-IN CEILING	STEEL	WHITE	---
CG-3	METALAIRE 7550R-6	24"x24" CEILING RETURN WITH 14"x14" NECK FOR LAY-IN CEILING	STEEL	WHITE	---
CG-4	METALAIRE 7550R-6	8"x8" CEILING RETURN GRILLE	STEEL	WHITE	---

HVAC CONTROLS:

1. PROVIDE DOCUMENTATION AND TRAINING TO OWNER ALONG WITH ONE YEAR WARRANTY. LABEL ALL CONTROLS AND EQUIPMENT THE SAME AS IDENTIFIED ON THE DRAWINGS AND SUBMITTALS. SUBMIT SHOP DRAWINGS AND DETAILED SEQUENCE OF OPERATION OF CONTROL SYSTEM PRIOR TO INSTALLATION.
2. CONTROLS SHALL INCLUDE ALL THERMOSTATS, SENSORS, VALVES, DAMPERS, TRANSFORMERS, STARTERS, RELAYS, WIRING, INTERLOCKS AND OTHER DEVICES TO ENABLE THE SEQUENCE OF OPERATION. CONTROLS SHALL BE COORDINATED WITH THE EQUIPMENT PROVIDED.
3. PROVIDE START-UP AND VERIFICATION OF CONTROL SYSTEM AND SEQUENCE OF OPERATION. COORDINATE WITH TEST AND BALANCE CONTRACTOR TO OPERATE EQUIPMENT IN ALL MODES AND DEVICE POSITIONS.
4. ROOM SENSOR SHALL HAVE DIGITAL DISPLAY AND TIMED OVERRIDE BUTTON. ALL SENSORS SHALL HAVE THE CAPABILITY TO ADJUST ROOM TEMPERATURE SETPOINT OR TO HAVE THIS FUNCTION LOCKED OUT. WIRING TO ZONE SENSOR SHALL BE CONCEALED ABOVE CEILINGS AND IN WALLS. WIREMOLD OR SIMILAR COVERING IS NOT ALLOWED.
5. SPLIT SYSTEM HEAT PUMP: IN OCCUPIED MODE, THE SUPPLY FAN SHALL RUN CONTINUOUSLY, THE OUTSIDE AIR DAMPER SHALL OPEN AND THE UNIT CONTROLLER SHALL MAINTAIN ROOM SETPOINT BY CYCLING THE COMPRESSOR AND ELECTRIC HEAT. IN UNOCCUPIED MODE, THE UNITS SHALL BE DE-ENERGIZED UNTIL A CALL FOR SETBACK HEATING OR COOLING BY THE UNIT CONTROLLER. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED DURING UNOCCUPIED MODE. CONTROLS SHALL INCLUDE CONTROLLER AND START/STOP.

LEGEND



ABBREVIATIONS

BTU	BRITISH THERMAL UNIT
CD	CEILING DIFFUSER
CFD	CEILING FIRE DAMPER
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
COP	COEFFICIENT OF PERFORMANCE
CR	CEILING REGISTER
DB	DRY BULB TEMPERATURE
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EFF	EFFICIENCY
EXT	EXTERNAL
F	DEGREES FAHRENHEIT
FBM	FEET PER MINUTE
FT	FEET
HP	HORSEPOWER
IN	INCH, INCHES
LAT	LEAVING AIR TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
VD	VOLUME DAMPER
MH	MOUNTING HEIGHT
MIN	MINIMUM
MOD	MOTOR OPERATED DAMPER
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
OA	OUTSIDE AIR
PD	PRESSURE DROP
PS	PRESSURE SENSOR
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAGE
RA	RETURN AIR
SP	STATIC PRESSURE
TEMP	TEMPERATURE
TG	TOP GRILLE
TR	TOP REGISTER
TYP	TYPICAL
WB	WET BULB TEMPERATURE
WC, WG	WATER COLUMN
AFB	ABOVE FINISHED FLOOR
ABV	ABOVE
AD	ACCESS DOOR
BEL	BELOW
BET	BETWEEN
CLG	CEILING
CONN	CONNECT, CONNECTION
CONT	CONTINUED
DN	DOWN
EA	EACH
FL	FLOOR
FLEX	FLEXIBLE
FR	FROM
GALV	GALVANIZED
REQD	REQUIRED
SH	SHEET

GENERAL MECHANICAL NOTES

1. ALL PIPING AND DUCTWORK SHALL BE ABOVE CEILING UNLESS OTHERWISE INDICATED.
2. INSTALL THERMOSTATS, HUMIDISTS AND TEMPERATURE AND HUMIDITY SENSORS WITH CENTER AT 4'8" ABOVE FLOOR. WHERE THERMOSTATS AND SNAP SWITCHES (SEE ELECTRICAL DRAWINGS) ARE INDICATED IN CLOSE PROXIMITY ON THE SAME WALL, THE LOCATIONS SHALL BE COORDINATED SO THAT THE THERMOSTAT IS CENTERED DIRECTLY OVER THE SNAP SWITCH OR GROUP OF SNAP SWITCHES.
3. DUCT DIMENSIONS INDICATED ARE SHEET METAL DIMENSIONS.
4. COORDINATE LOCATIONS OF CEILING MOUNTED DIFFUSERS, REGISTERS AND GRILLES WITH LIGHT FIXTURES AND CEILING GRID. REFER TO ELECTRICAL DRAWINGS.
5. FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF SIDE SHOWN OR INDICATED.
6. ACCESS SHALL BE MAINTAINED TO ALL CONTROL DEVICES. ACCESS PANEL SIZES AND LOCATIONS SHALL BE DETERMINED PRIOR TO BIDDING AND SHALL BE INCLUDED IN THE BID PRICE FOR CONTRACT WORK. ACCESS PANELS SHALL BE INSTALLED WHERE REQUIRED AND SHALL BE FIRE RATED WHEN USED IN FIRE RESISTIVE CONSTRUCTION.
7. PIPING AND DUCTWORK SHALL BE SUPPORTED FROM, OR ANCHORED TO, THE BUILDING STRUCTURE; CEILING CONSTRUCTION SHALL NOT BE USED FOR SUPPORT OR ANCHORING OF WORK.
8. TEMPERATURE CONTROL WIRING WIRING LESS THAN 100 VOLTS SHALL BE PROVIDED IN DIVISION 15. WIRING 100 VOLTS AND GREATER SHALL BE PROVIDED IN DIVISION 16.
9. MAINTAIN ACCESS BELOW EQUIPMENT INSTALLED ABOVE CEILINGS. DO NOT OBSTRUCT ACCESS WITH PIPING OR DUCTWORK.
10. DO NOT INSTALL PVC PIPING OR ANY COMBUSTIBLE MATERIAL IN ANY AIR PLENUM.
11. PROVIDE MANUAL VOLUME DAMPERS AS REQUIRED TO PROPERLY BALANCE THE SYSTEM.
12. WHERE DUCTS PASS THROUGH FIRE RATED FLOORS, WALLS OR PARTITIONS, PROVIDE FIRESTOPPING BETWEEN FIRE DAMPER SLEEVE AND SUBSTRATE IN ACCORDANCE WITH ALL CODE REQUIREMENTS. WHERE DUCTS PASS THROUGH SMOKE SEPARATION WALLS, THE OPENING AROUND THE DUCT SHALL BE FULLY SEALED TO PREVENT THE PASSAGE OF SMOKE.
13. CONTRACTOR SHALL CLOSELY COORDINATE LOCATIONS OF ALL PANELBOARDS WITH LOCATIONS OF ALL DUCTWORK AND PLUMBING PIPING. DUCTWORK AND PLUMBING PIPING SHALL NOT BE INSTALLED OVER TOP OF ANY PANELBOARD. DUCTWORK AND PLUMBING PIPING SHALL NOT BE INSTALLED OVER ANY OF THE CODE REQUIRED CLEAR SPACES AT ANY PANELBOARD LOCATION.

NO. REVISIONS DATE

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BLACKSBURG PEDIATRICS

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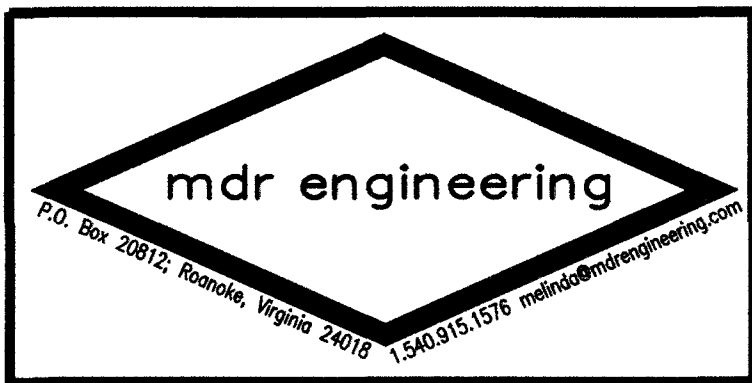
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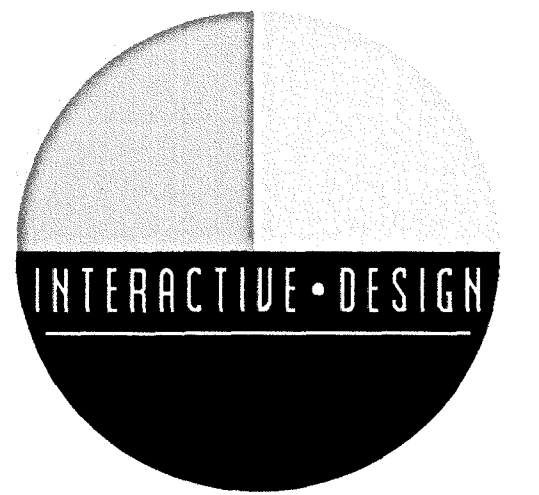
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MECHANICAL
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SCHEDULES,
NOTES &
CONTROLS

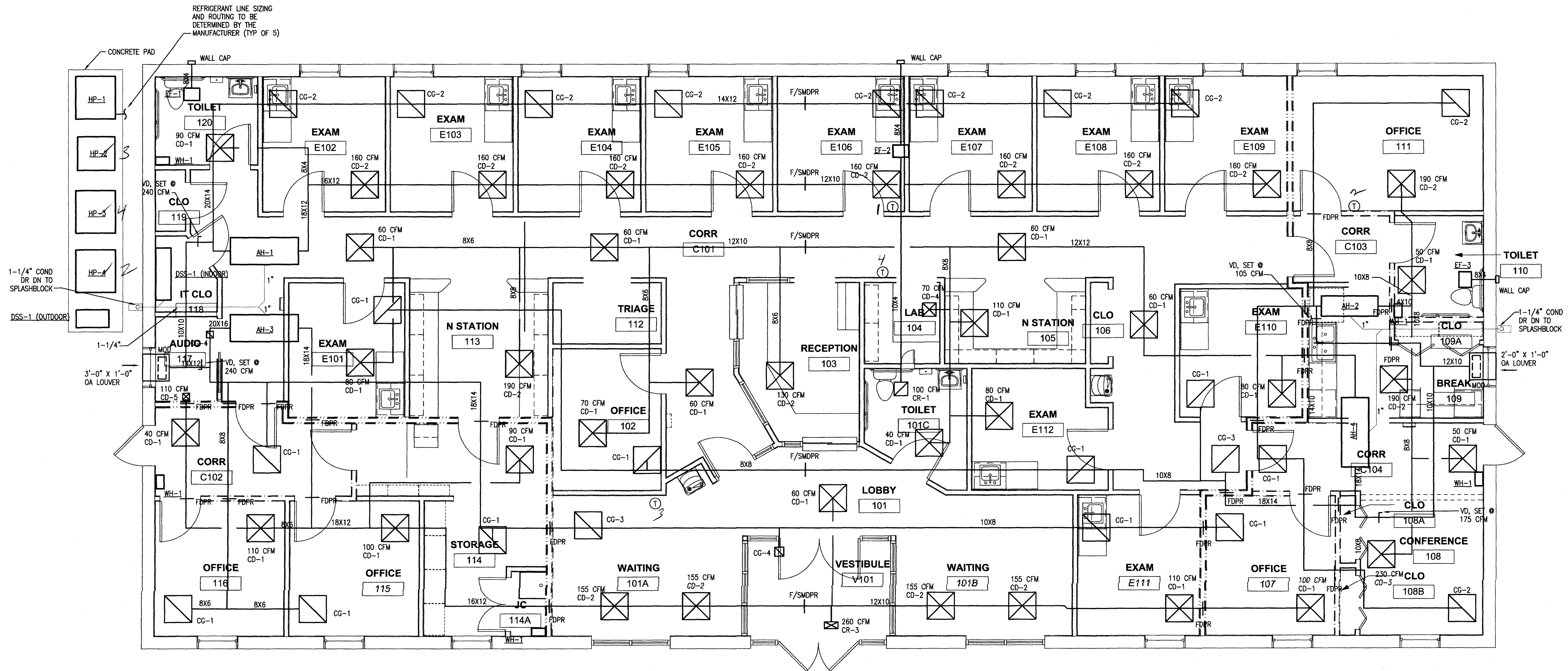
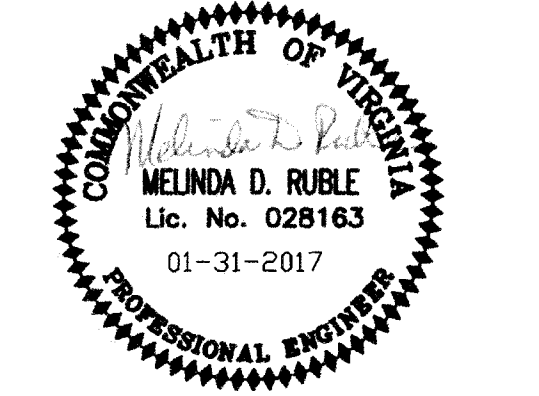
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M-101





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FLOOR PLAN - MECHANICAL

1/4" = 1'-0"

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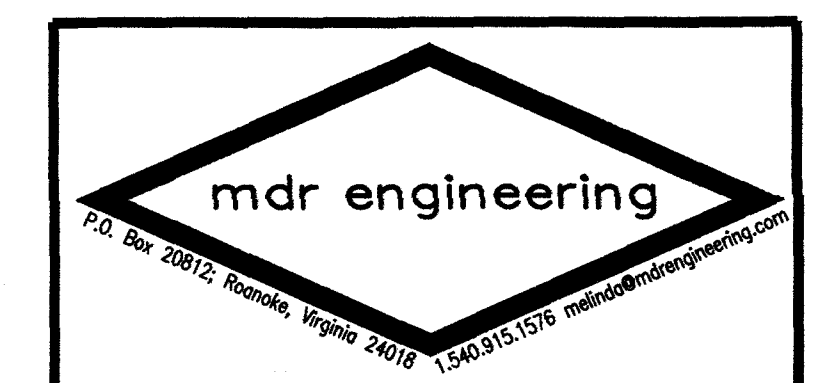
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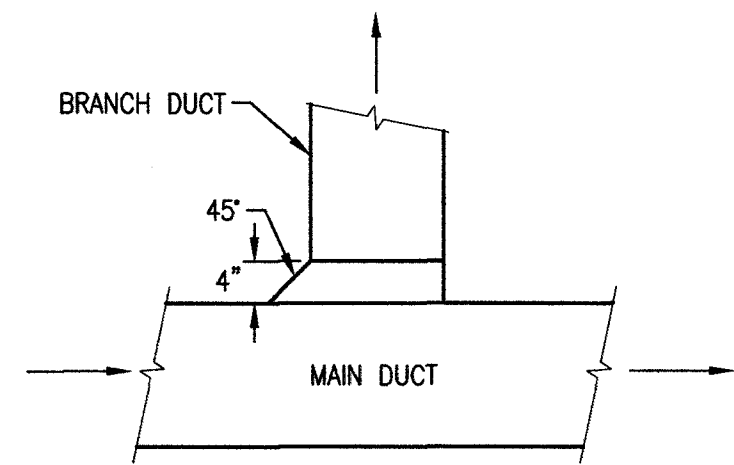
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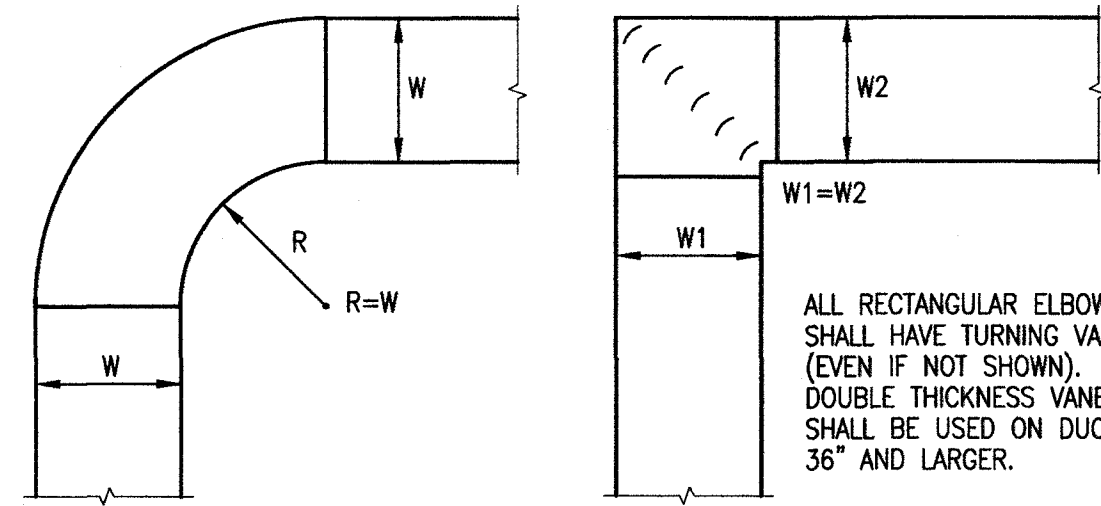
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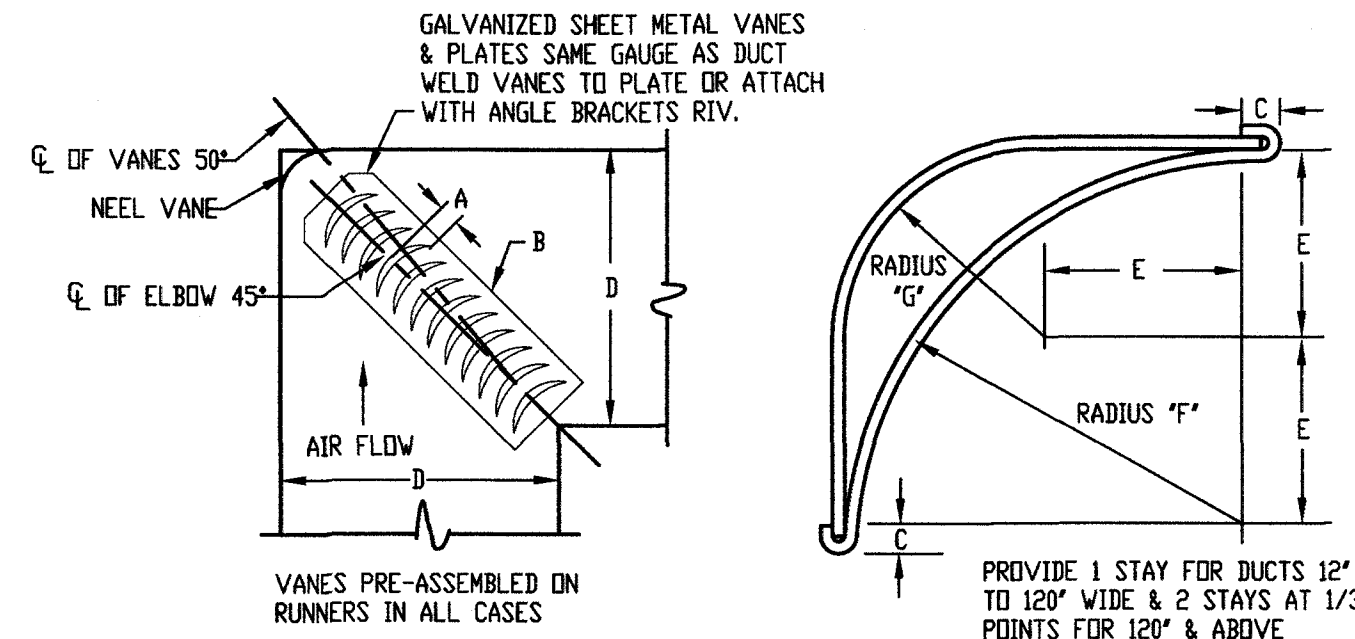




DETAIL - BRANCH DUCT CONNECTION
NO SCALE



DETAIL - DUCT ELBOWS
NO SCALE



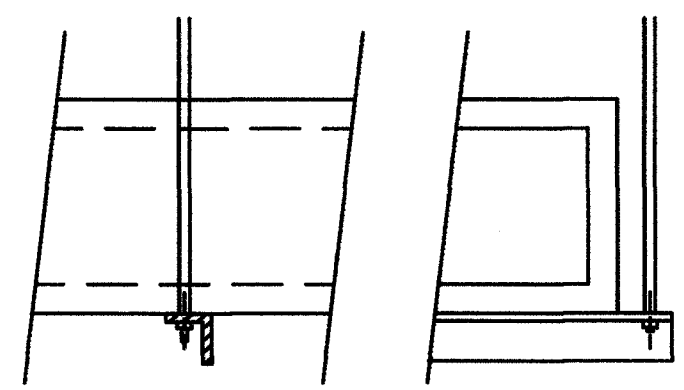
SQUARE ELBOW DETAIL
NOT TO SCALE

HANGER SIZES FOR RECTANGULAR DUCT			
MAX. SIDE	HANGER	HORIZONTAL SUPPORT ANGLE	MAXIMUM SPACING
30"	1"x18" GAGE STRAP	NONE REQUIRED	10'-0"

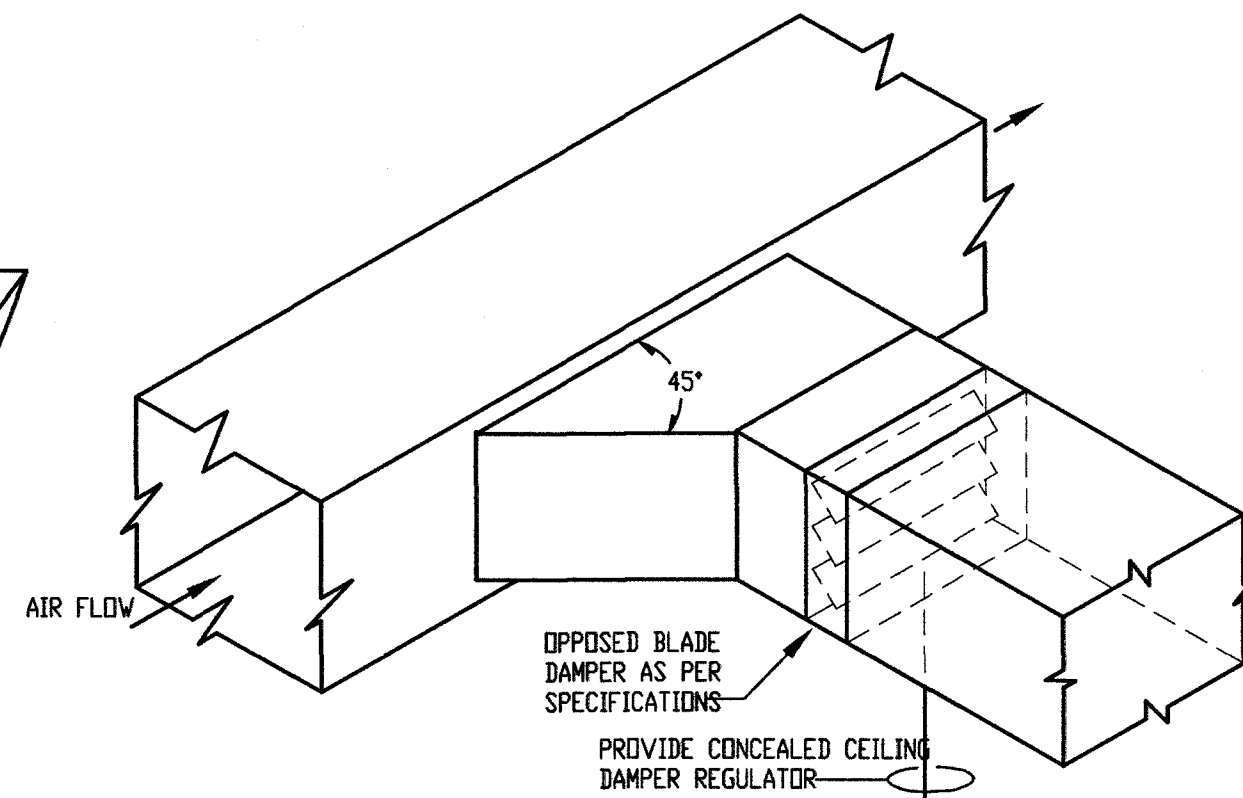
NOTE:
ALL SUPPLY AIR DUCT SHALL BE WRAPPED EXTERNALLY AS PER SPECIFICATIONS

NO POP RIVETS ALLOWED

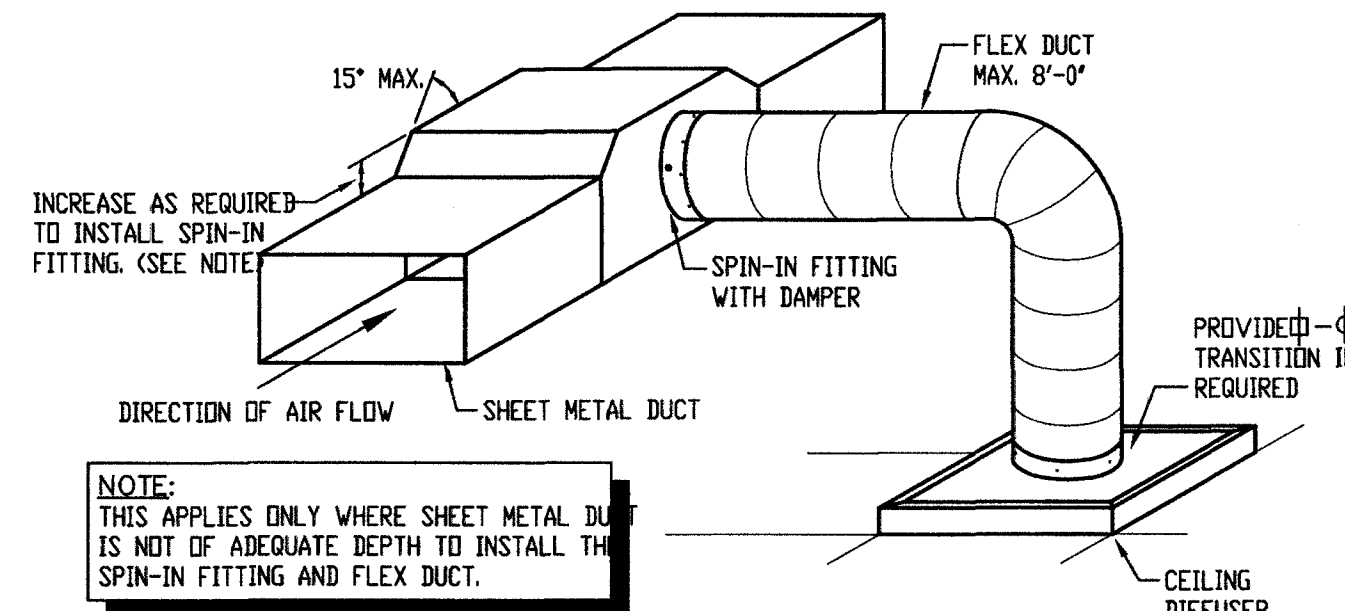
SELF TAPPING CADMIUM PLATED HEX HEAD SHEET METAL SCREW STRAPS TO BE TIGHT AGAINST DUCT.



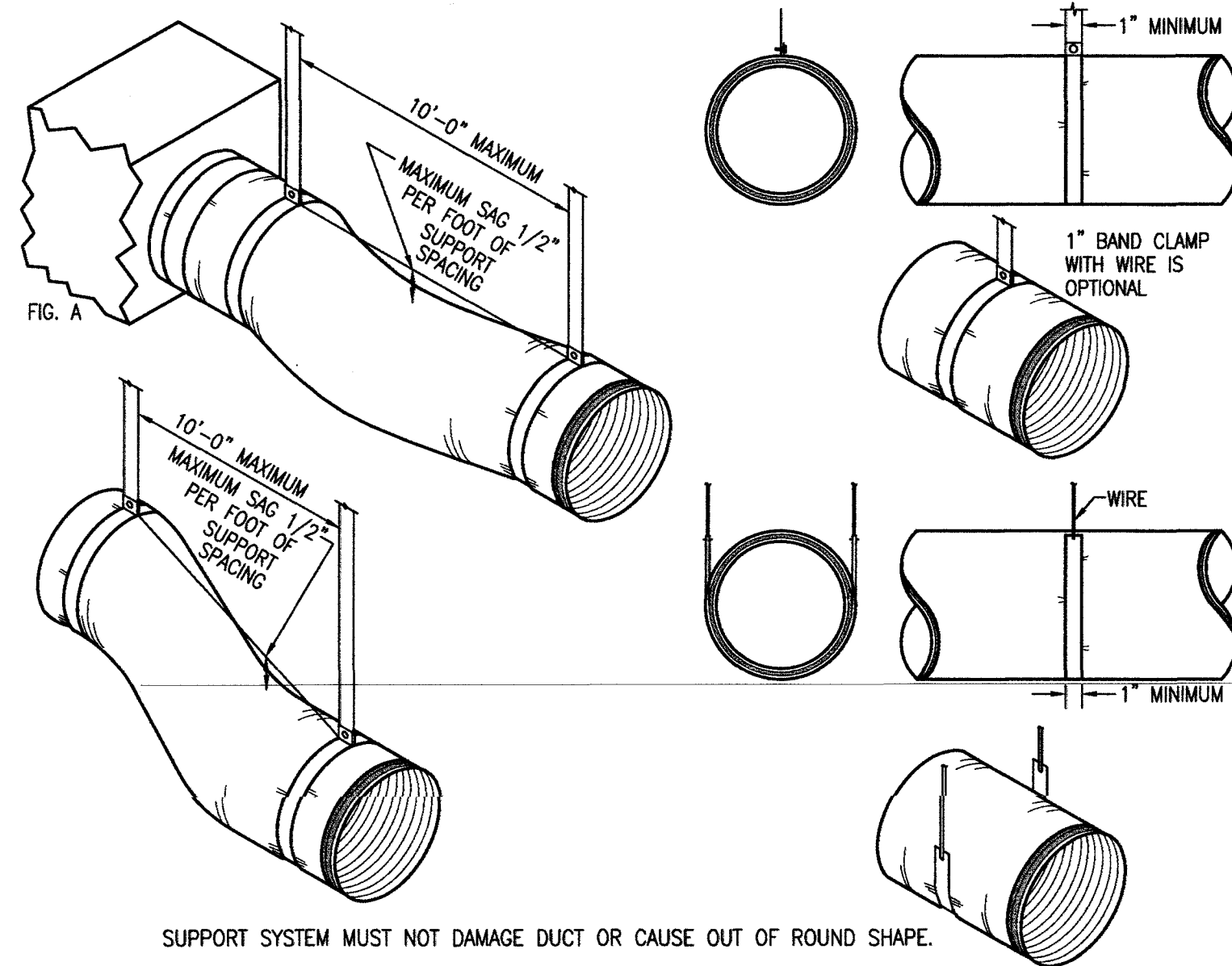
DUCT STRAP HANGER DETAIL
NOT TO SCALE



BRANCH DUCT TAKE-OFF @ SUPPLY MAIN
NOT TO SCALE

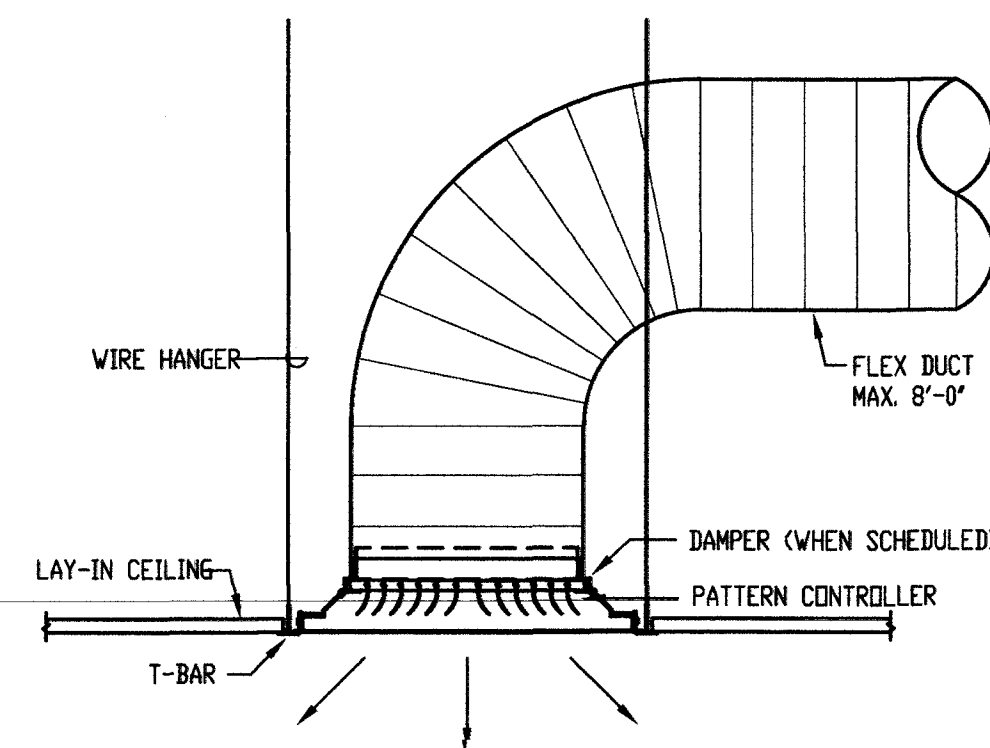


FLEX DUCT TAKE-OFF @ SHEET METAL DUCT DETAIL
NOT TO SCALE

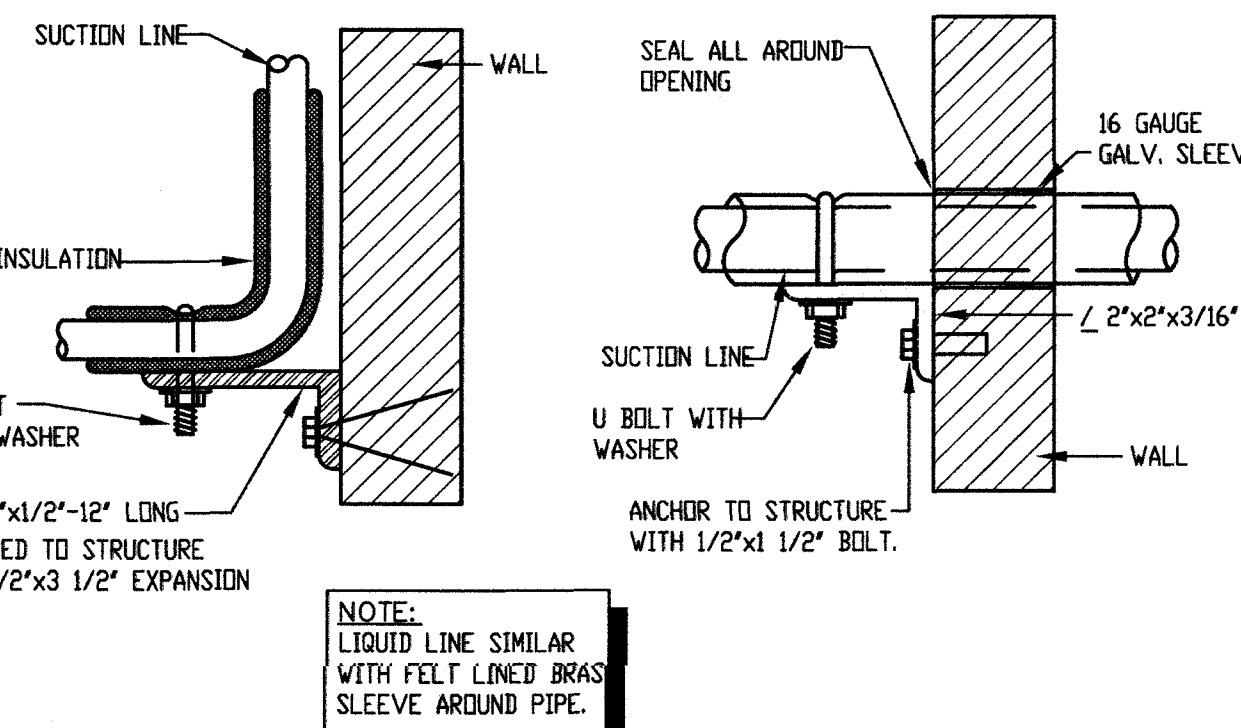


SUPPORT SYSTEM MUST NOT DAMAGE DUCT OR CAUSE OUT OF ROUND SHAPE.

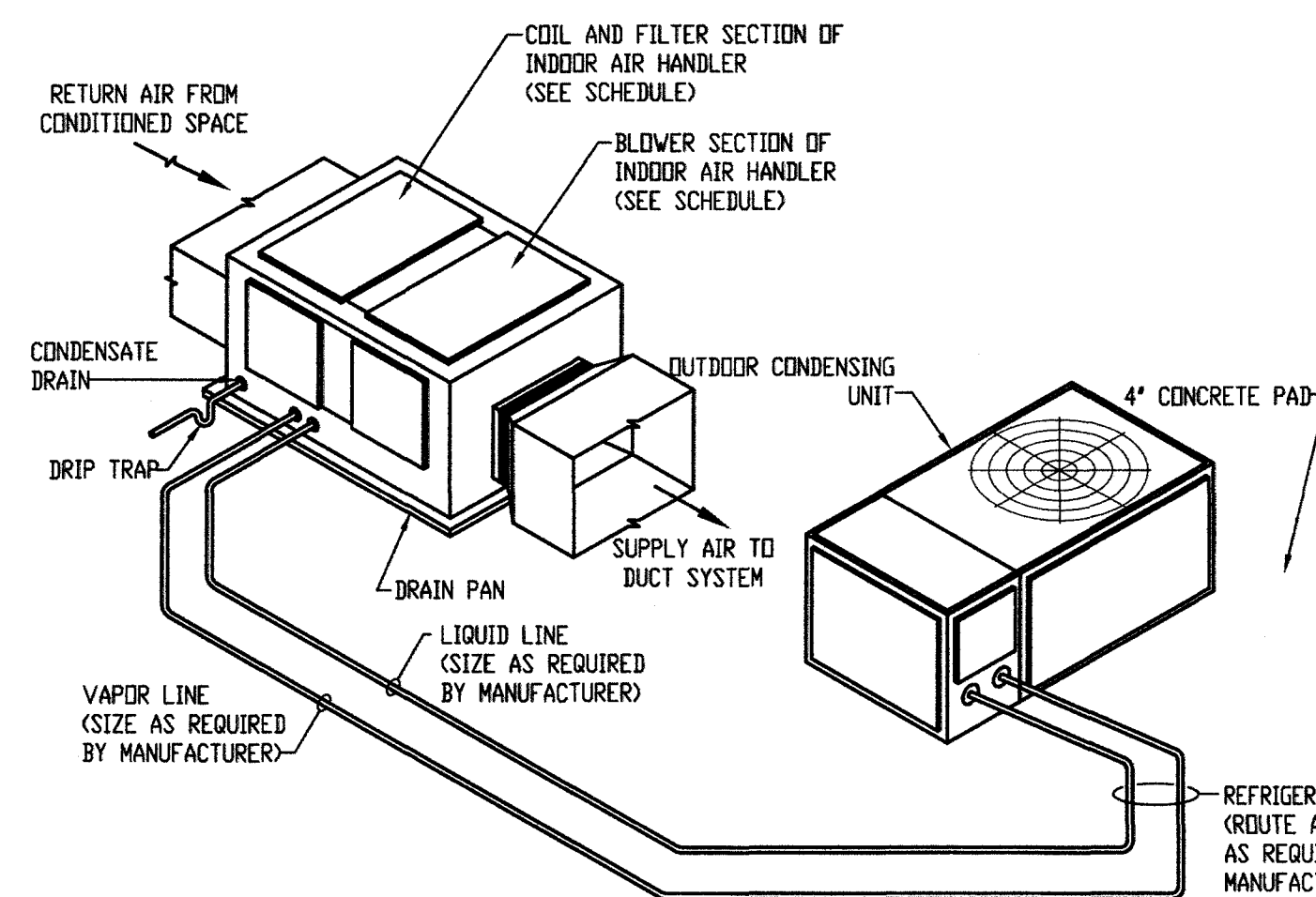
DETAIL - FLEXIBLE DUCT SUPPORTS
NO SCALE



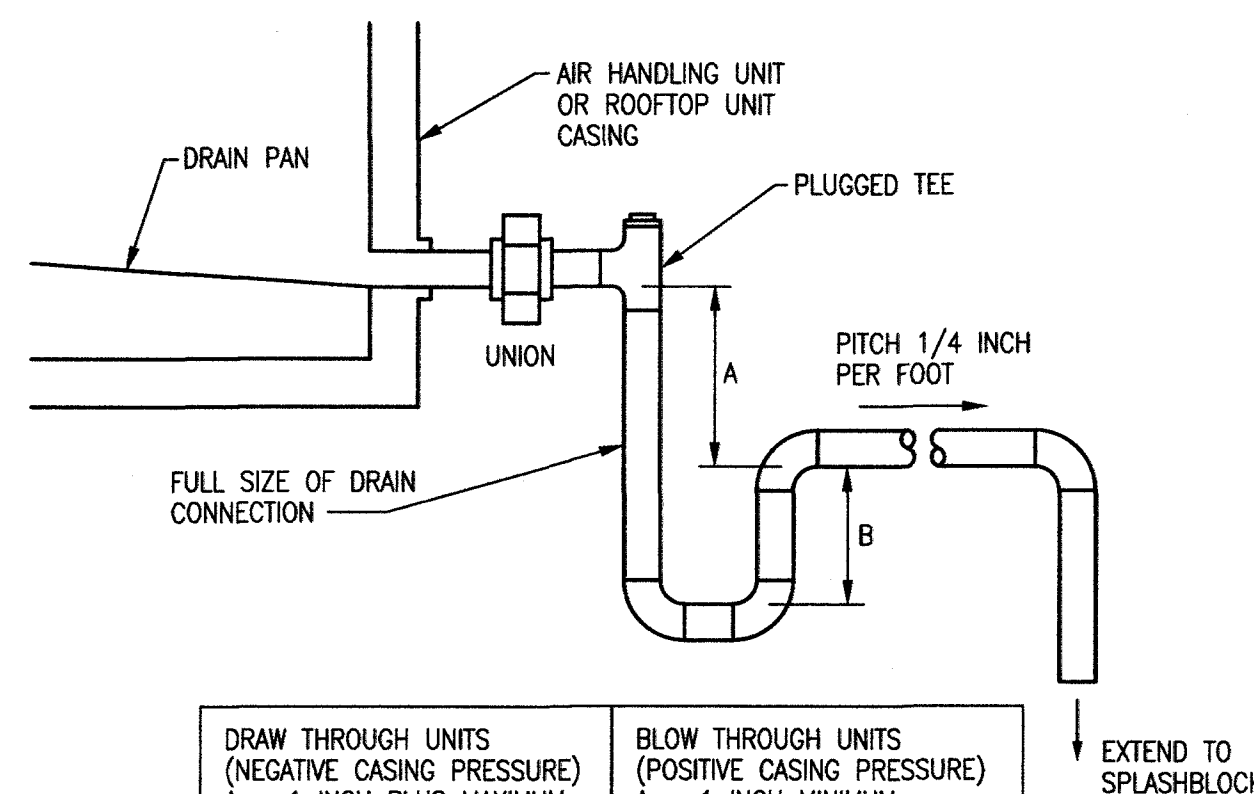
LAY-IN CEILING DIFFUSER DETAIL
NOT TO SCALE



REFRIGERANT PIPE SUPPORTS AT WALL
NOT TO SCALE

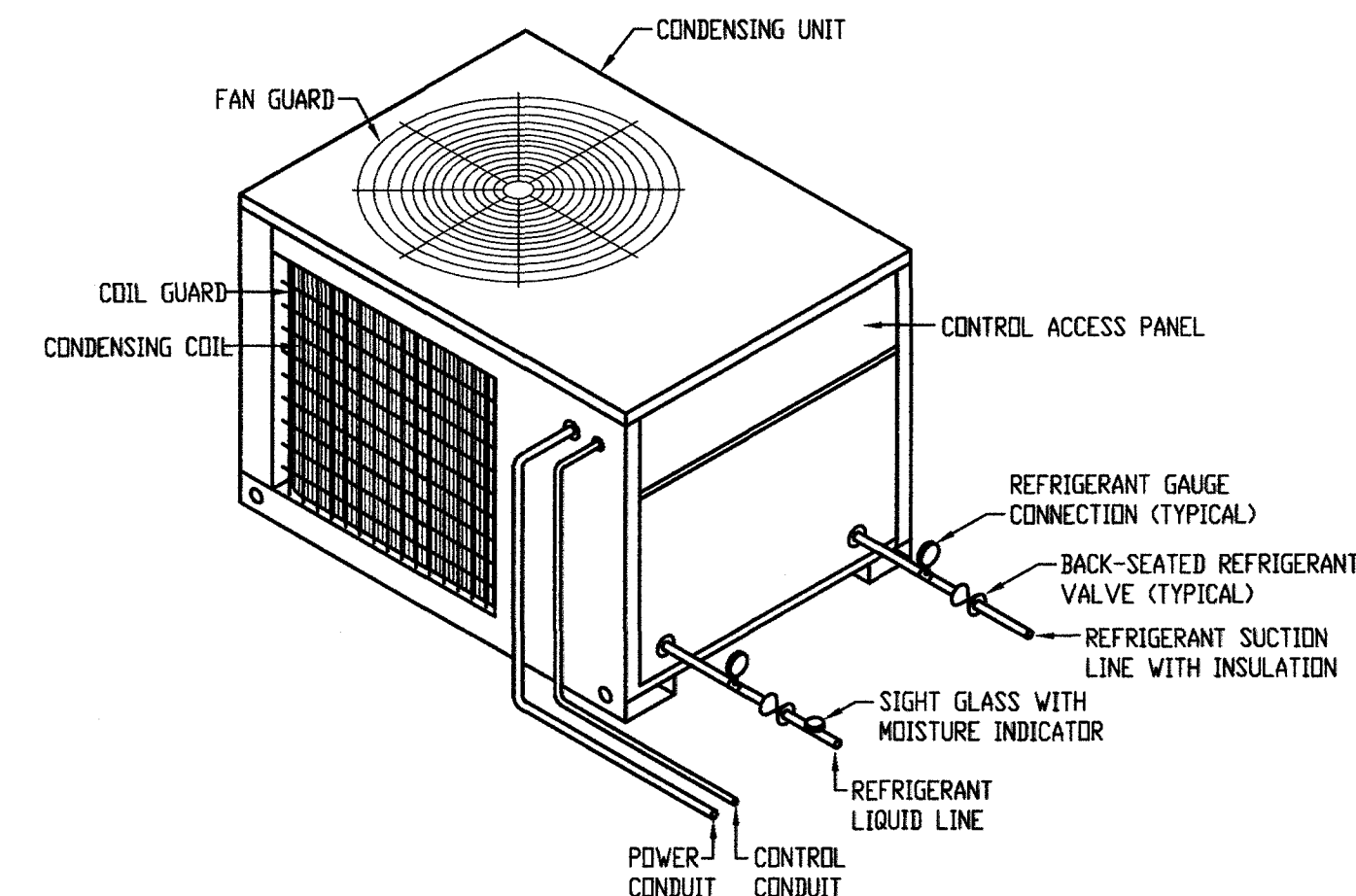


TYPICAL SPLIT SYSTEM HEAT PUMP DETAIL

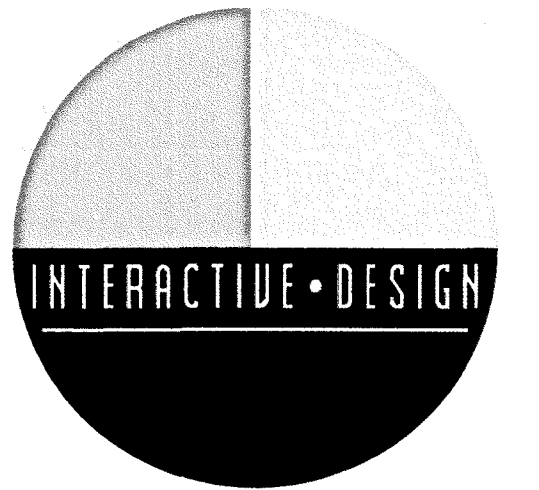
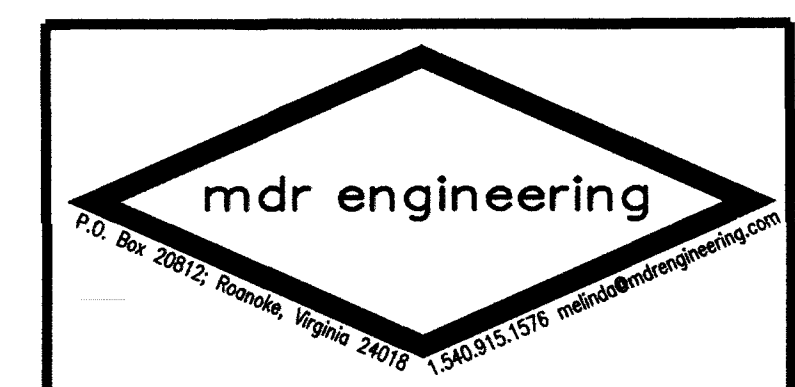


DRAW THROUGH UNITS (NEGATIVE CASING PRESSURE)	BLOW THROUGH UNITS (POSITIVE CASING PRESSURE)
A = 1 INCH PLUS MAXIMUM CASING STATIC PRESSURE	A = 1 INCH MINIMUM
B = A/2	B = 1 INCH PLUS MAXIMUM CASING STATIC PRESSURE

DETAIL - CONDENSATE DRAIN
NO SCALE



AIR COOLED CONDENSING UNIT DETAIL
NOT TO SCALE



INTERACTIVE DESIGN GROUP
301 6TH STREET SW
ROANOKE, VA 24016
P. 540.342.7534 F. 540.342.7536



NO. REVISIONS DATE

RENOVATIONS TO,

BLACKSBURG PEDIATRICS

829 DAVIS STREET
BLACKSBURG, VA 24060

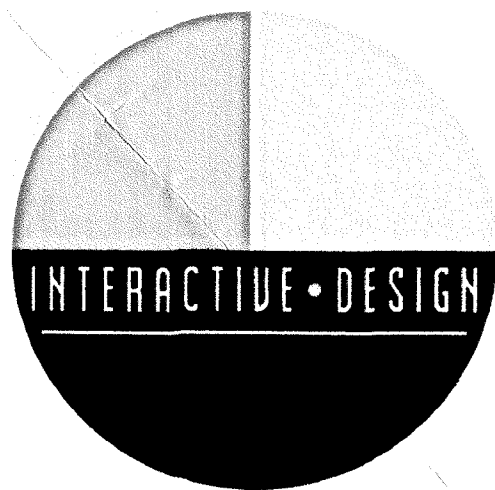
DATE JANUARY . 31 . 2017
DRAWN MDR
CHECKED MDR
JOB 1646

MECHANICAL DETAILS

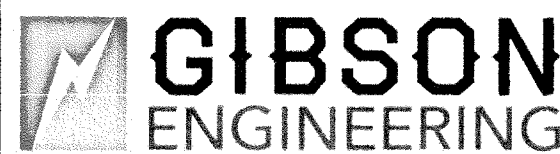
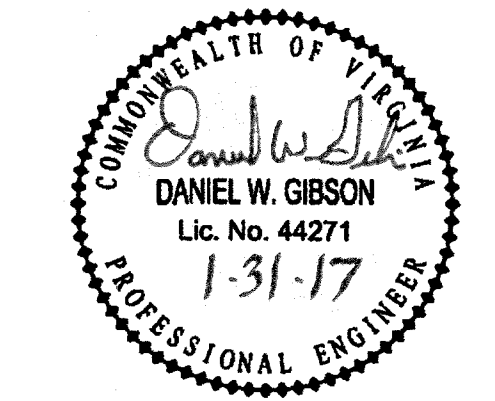
SHEET
M-301

GENERAL NOTES		ELECTRICAL LEGEND	
1. MECHANICAL EQUIPMENT IS SHOWN IN APPROXIMATE LOCATIONS. FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT AND PIPING, SEE MECHANICAL DRAWINGS. SOME MECHANICAL EQUIPMENT IS LOCATED ON THE ROOF. VERIFY LOCATION WITH MECHANICAL AND PROVIDE ALL CONDUIT AND WIRING TO OUTDOOR EQUIPMENT. 2. WHERE LIGHT SWITCHES ARE INDICATED TO BE MOUNTED BEHIND DOOR, MOUNT SUCH SWITCHES A MINIMUM OF 3'-9" FROM HINGED SIDE. 3. REVISE PANELBOARD SCHEDULES ON PANEL DIRECTORIES TO REFLECT FINAL INSTALLATION CONDITIONS. 4. LOCATE ALL RACEWAYS TO AVOID INTERFERENCE WITH DUCTS, PIPES, MECHANICAL EQUIPMENT, WITH REMOVAL OF CEILING TILES, OR WITH ACCESS TO EQUIPMENT WHICH REQUIRES PERIODIC ADJUSTMENT OR MAINTENANCE. 5. PROVIDE NAMEPLATES ON THE EXTERIOR OF ALL ELECTRICAL PANELS AND ENCLOSURES WITH THE DEVICE ID, RATING, POWER SOURCE AND INSTALLATION DATE AND BY WHICH SWITCH OR STARTER. 6. COUNTER AND TOILET RECEPTACLES TO BE GFI AND COUNTER HEIGHT EXCEPT WHERE NOTED. REFRIGERATOR RECEPTACLE TO BE 36" AFF. 7. LIGHT FIXTURE TYPE IS SHOWN ONLY ONCE AS TYPICAL FOR THE ENTIRE ROOM UNLESS SPECIFICALLY INDICATED OTHERWISE. 8. UNLESS INDICATED OTHERWISE, SIZE CONDUITS IN ACCORDANCE WITH NFPA 70. 9. COORDINATE WITH THE MECHANICAL CONTRACTOR TO ENSURE ALL WORKING CLEARANCE AND DEDICATED WORKING SPACE OF PANELBOARDS. 10. COORDINATE ELECTRICAL INSTALLATION WITH ALL CASEWORK TO BE INSTALLED. PROVIDE THE NECESSARY JUNCTION BOXES FOR ALL POWER AND DATA CONNECTIONS INDICATED. 11. GROUNDING CONDUCTORS ARE NOT INDICATED IN BRANCH CIRCUIT RACEWAYS. PROVIDE GROUND CONDUCTORS AS REQUIRED BY NEC. 12. OCCUPANCY SENSORS SHOULD CONTROL ALL LIGHTING IN ROOMS, BOTH INBOARD AND OUTBOARD SWITCHING WHERE APPLICABLE, UNLESS INDICATED OTHERWISE. 13.PROVIDE PLASTIC BUSHING ON THE END OF ALL CONDUIT. 14.PROVIDE LABELS ON ALL RECEPTACLES INDICATING PANEL AND CIRCUIT FEEDING EACH DEVICE.	E N	FLUORESCENT LIGHTING FIXTURE, RECESSED, SURFACE OR PENDANT CEILING MOUNTED, 'E' INDICATES LIGHTS ARE PROVIDED WITH INTEGRAL BATTERY. N INDICATES NIGHT LIGHT (TYP). COORDINATE WITH OWNER FOR DESIRED NIGHT LIGHT LOCATIONS. EXIT LIGHTING FIXTURE, SURFACE CEILING MOUNTED, DIRECTIONAL ARROWS AS INDICATED. VR SUBSCRIPT INDICATES VANDAL RESISTANT. EXIT LIGHTING FIXTURE, SURFACE WALL MOUNTED, DIRECTIONAL ARROWS AS INDICATED. FURNITURE WHIPS UNLESS INDICATED OTHERWISE, FOR FURNITURE WHIPS PROVIDE DATA AND POWER QUAD-PLEX WALL RECEPTACLE DUPLEX WALL RECEPTACLE, MOUNTING HEIGHT = 1'-6", EXCEPT 'C' SUBSCRIPT INDICATES MOUNTING IN CASEWORK(TYP). 'GF' SUBSCRIPT INDICATES GROUND FAULT, 'WP' SUBSCRIPT INDICATES WEATHERPROOF, 'EWC' SUBSCRIPT INDICATES GROUND FAULT BEHIND ELECTRIC WATER COOLER. '*' INDICATES MOUNTED HEIGHT = 8" ABOVE COUNTER(TYP). 'TV' INDICATES COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL PLANS FOR TV LOCATIONS. OCCUPANCY SENSOR, DUAL TECHNOLOGY FIRE ALARM CONTROL PANEL FIRE ALARM HORN/STROBE FIRE ALARM STROBE FIRE ALARM PULL STATION FIRE ALARM SMOKE DETECTOR	S S3 Sos TV Ds CONDUCTORS IN CONDUIT CONCEALED IN CEILING OR WALL. BRANCH CIRCUIT HOME RUN TO PANELBOARD. NOTATION INDICATES PANELBOARD & BRANCH CIRCUIT CONNECTION. CONDUCTORS IN CONDUIT CONCEALED IN SLAB OR BELOW GRADE. CONDUCTORS IN CONDUIT TURNED UP. CONDUCTORS IN CONDUIT TURNED DOWN. SINGLE-POLE SWITCH, MOUNTING HEIGHT = 4'-0" TO TOP. LOWER CASE SUBSCRIPT WHEN USED, INDICATES FIXTURES CONTROLLED (TYP). THREE-WAY SWITCH, MOUNTING HEIGHT = 4'-0" TO TOP. INTEGRAL OCCUPANCY SENSOR SWITCH, MOUNTING HEIGHT = 4'-0" TO TOP. COMBINATION PHONE OUTLET AND DATA OUTLET. DATA SYSTEM OUTLET, MOUNTING HEIGHT = 1'-6" UNLESS INDICATED OTHERWISE. PROVIDE 1' CONDUIT FROM BOX TO ABOVE ACCESSIBLE CEILING. WHERE MOUNTED BESIDE COUNTER RECEPTACLE: MOUNT SAME HEIGHT AS RECEPTACLE. 'TV' SUBSCRIPT INDICATES TV OUTLET MOUNTED AT 6'-0". PROVIDE COAXIAL CABLE BACK TO IT CLOSET 118 DIMMER SWITCH, MOUNTING HEIGHT = 4'-0" TO TOP, SUBSCRIPT INDICATES FIXTURES CONTROLLED WITH THIS SWITCH PANELBOARD, 208Y/120-VOLT, 3-PHASE, 4-WIRE, MOUNTING HEIGHT=6'-0" TO TOP. SEE PANELBOARD SCHEDULES. DISCONNECT SWITCH, EXTERNALLY OPERATED, 240V, 3 Ø UNLESS OTHERWISE NOTED. NOTATION INDICATES NUMBER OF POLES AND AMPERAGE CAPACITY. 'NF' SUBSCRIPT INDICATES NON FUSED. 220 VOLT RECEPTACLE FOR RANGE. COORDINATE WITH EQUIPMENT PROVIDED TO PROVIDE MATCHING CORD AND PLUG COMBINATION
	LEGEND NOTES: 1. ALL MOUNTING HEIGHTS ARE TO TOP OF DEVICE UNLESS INDICATED OTHERWISE.		

LEGEND NOTES:
1. ALL MOUNTING HEIGHTS ARE TO TOP OF DEVICE UNLESS INDICATED OTHERWISE.



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2100 LUBNA DR
CHRISTIANSBURG VA 24073
P. 540.998.6069

NO.	REVISIONS	DATE
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RENOVATIONS TO,

BLACKSBURG
PEDIATRICS

829 DAVIS STREET
BLACKSBURG, VA 24060

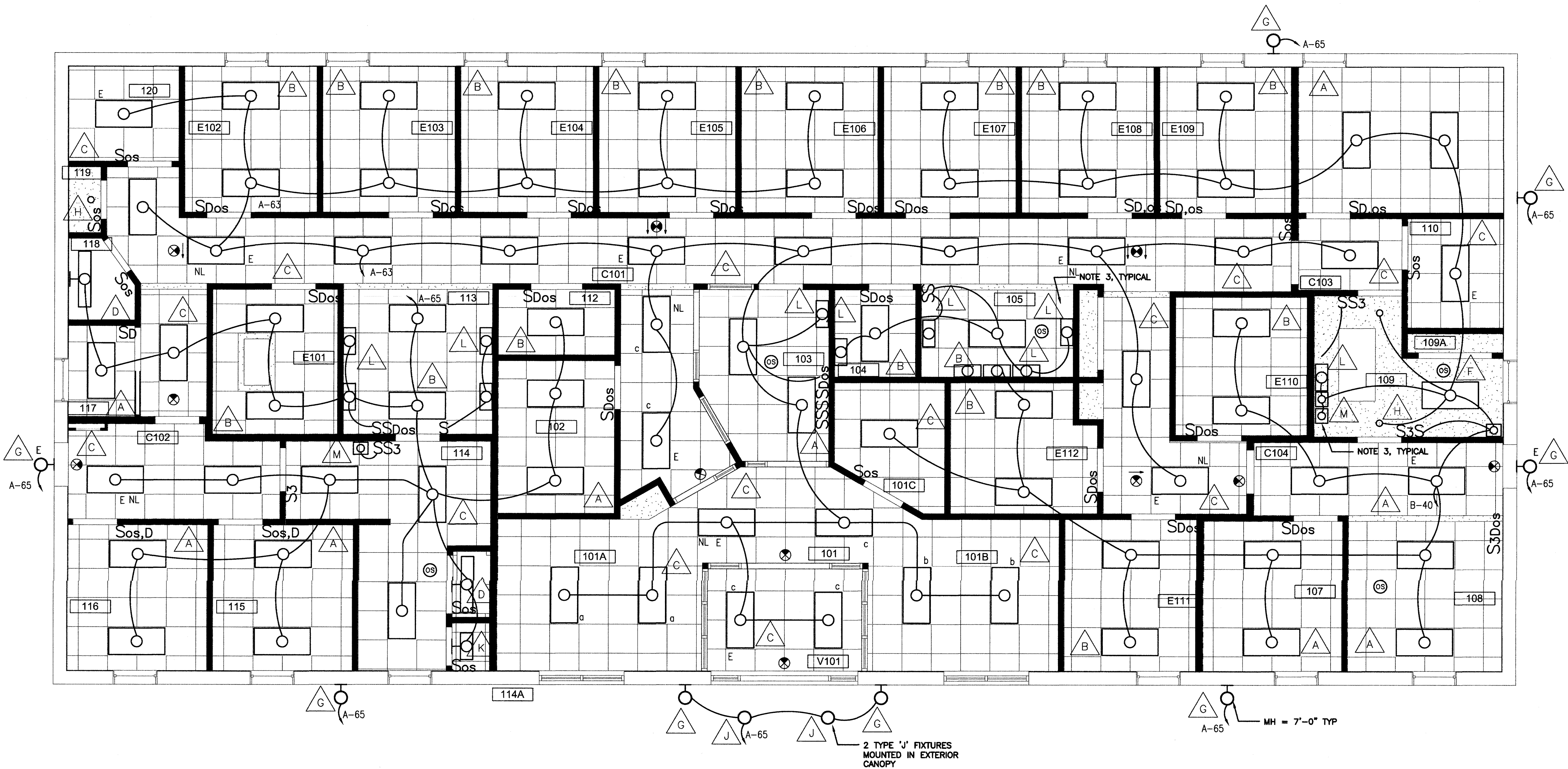
DATE	JANUARY . 31 . 2017
DRAWN	DWG
CHECKED	DWG
JOB	1646

ELECTRICAL
LEGEND AND
LIGHTING FIXTURE
SCHEDULE

SHEET
E-001

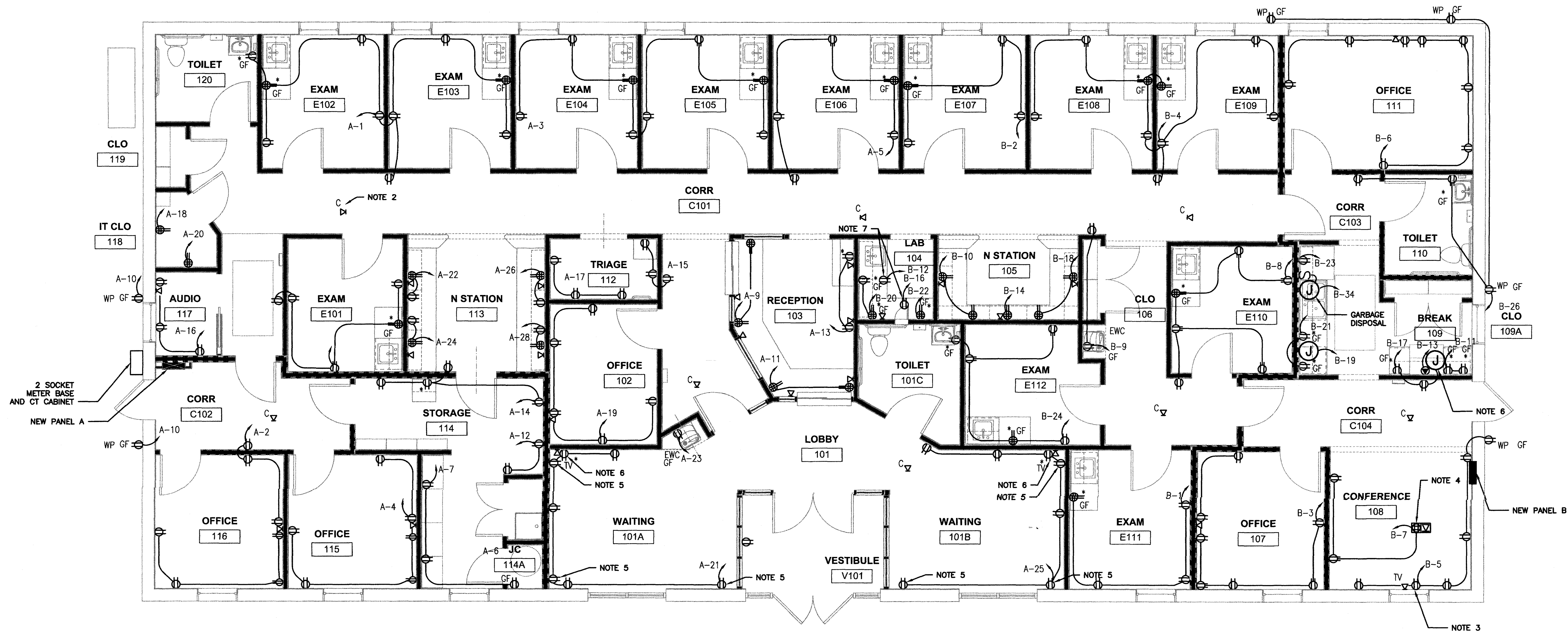
NOTES THIS SHEET:

- 1. PROVIDE A ROOF MOUNTED PHOTOCELL AND A TIME CLOCK TO CONTROL EXTERIOR BUILDING MOUNTED LIGHTS. PROVIDE ADDITIONAL HOT WIRES TO BATTERY BALLASTS ON EMERGENCY EXTERIOR LIGHTS.
- 2. PROVIDE SWITCHES TO CONTROL LIGHTS IN ROOMS C101, 101A, 101B, V101, 101 AND 103. SEE SUBSCRIPT FOR LIGHTS TO CONTROL WITH SINGLE SWITCH. CORRIDOR C101 TO BE CONTROLLED WITH SINGLE SWITCH.
- 3. SEE ARCHITECTURAL DRAWINGS FOR UNDER CABINET LIGHT LOCATIONS, QUANTITY AND LENGTH.

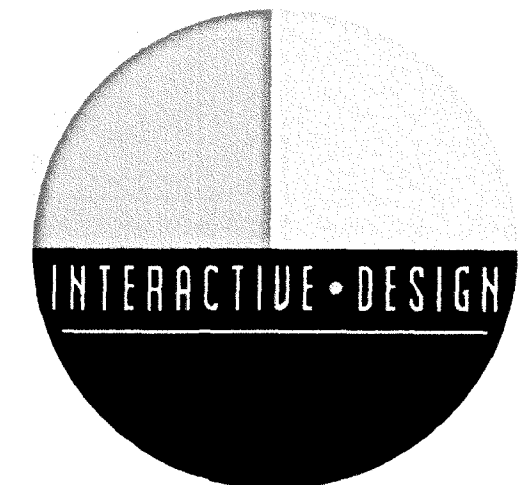


NOTES THIS SHEET:

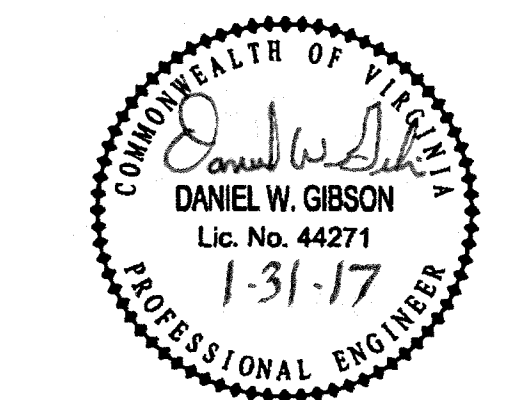
1. COORDINATE WITH PNS FOR DATA OUTLET REQUIREMENTS. PROVIDE 1" CONDUIT TO ABOVE CEILING WITH PULL CORD.
2. DATA DROP IN CEILING FOR WIRELESS ACCESS POINT. TYPICAL OF 8.
3. COORDINATE TV MOUNTING HEIGHTS WITH OWNER.
4. PROVIDE FLOOR BOX WITH DOUBLE DUPLEX RECEPTACLE AND 2 DATA OUTLETS AND SPACE FOR AV CONTROL OF TV. PROVIDE 2-1" CONDUITS FOR DATA TO NEAREST WALL AND 1-2" DATA OUTLET TO TV LOCATION.
5. PROVIDE RECEPTACLE WITH 2 OUTLETS AND 2 USB CHARGING STATIONS.
6. CONNECT CIRCUIT TO HOOD ABOVE RANGE.
7. PROVIDE RECEPTACLE BELOW CASEWORK FOR UNDER COUNTER EQUIPMENT.



FIRST FLOOR FLOOR PLAN – POWER AND DATA
1/4" = 1'-0"



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GIBSON
ENGINEERING

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P. 540.998.6069

NO.	REVISIONS	DATE

RENOVATIONS TO,
BLACKSBURG PEDIATRICS

829 DAVIS STREET
BLACKSBURG, VA 24060

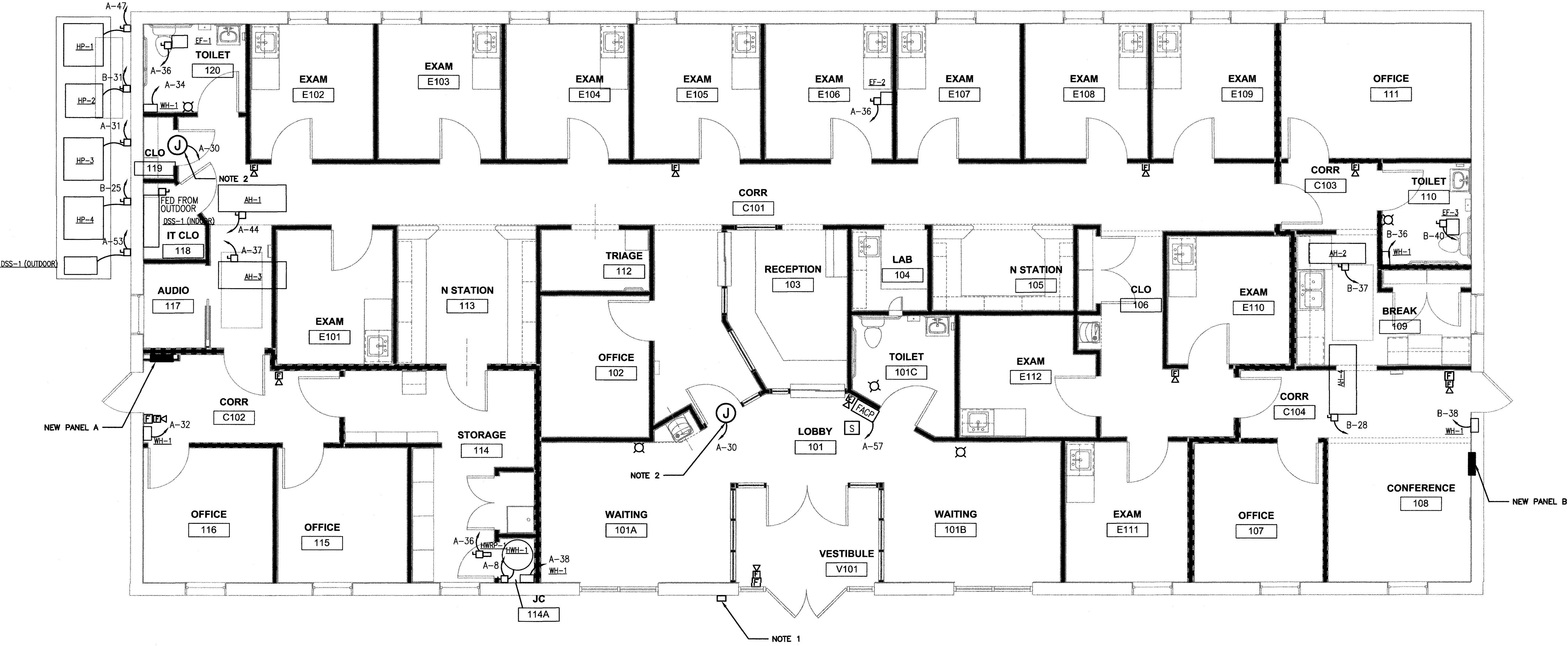
DATE	JANUARY . 31 . 2017
DRAWN	DWG
CHECKED	DWG
JOB	1646

POWER AND DATA
PLAN

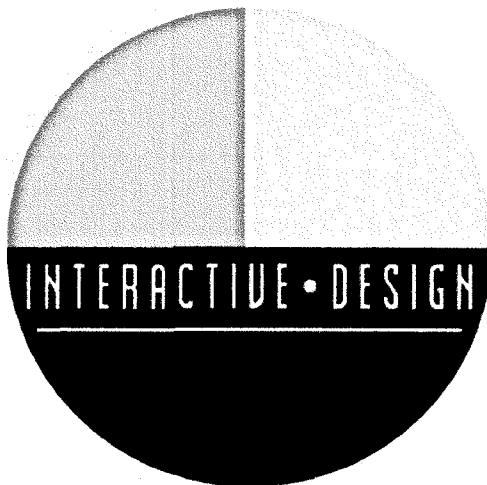
SHEET
E-102

NOTES THIS SHEET:

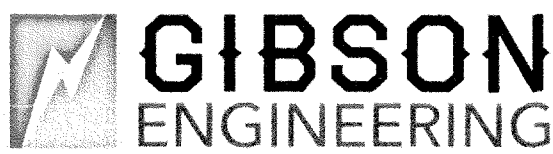
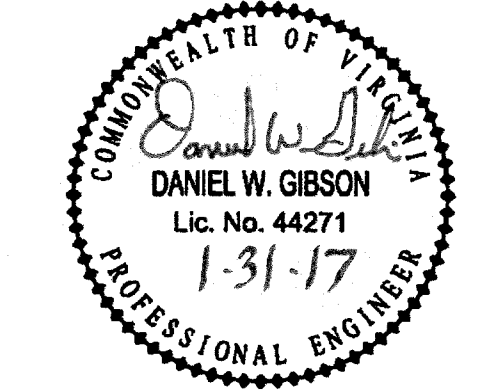
- 1. COORDINATE WITH FIRE MARSHAL FOR LOCATION OF KNOX BOX.
- 2. PROVIDE POWER AS REQUIRED FOR ELECTRIC LOCK ON DOOR HARDWARE KEY PAD. COORDINATE WITH HARDWARE PROVIDER FOR REQUIREMENTS.



FIRE ALARM AND EQUIPMENT PLAN
1/4" = 1'-0"



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P. 540.998.6069

NO.	REVISIONS	DATE

RENOVATIONS TO,

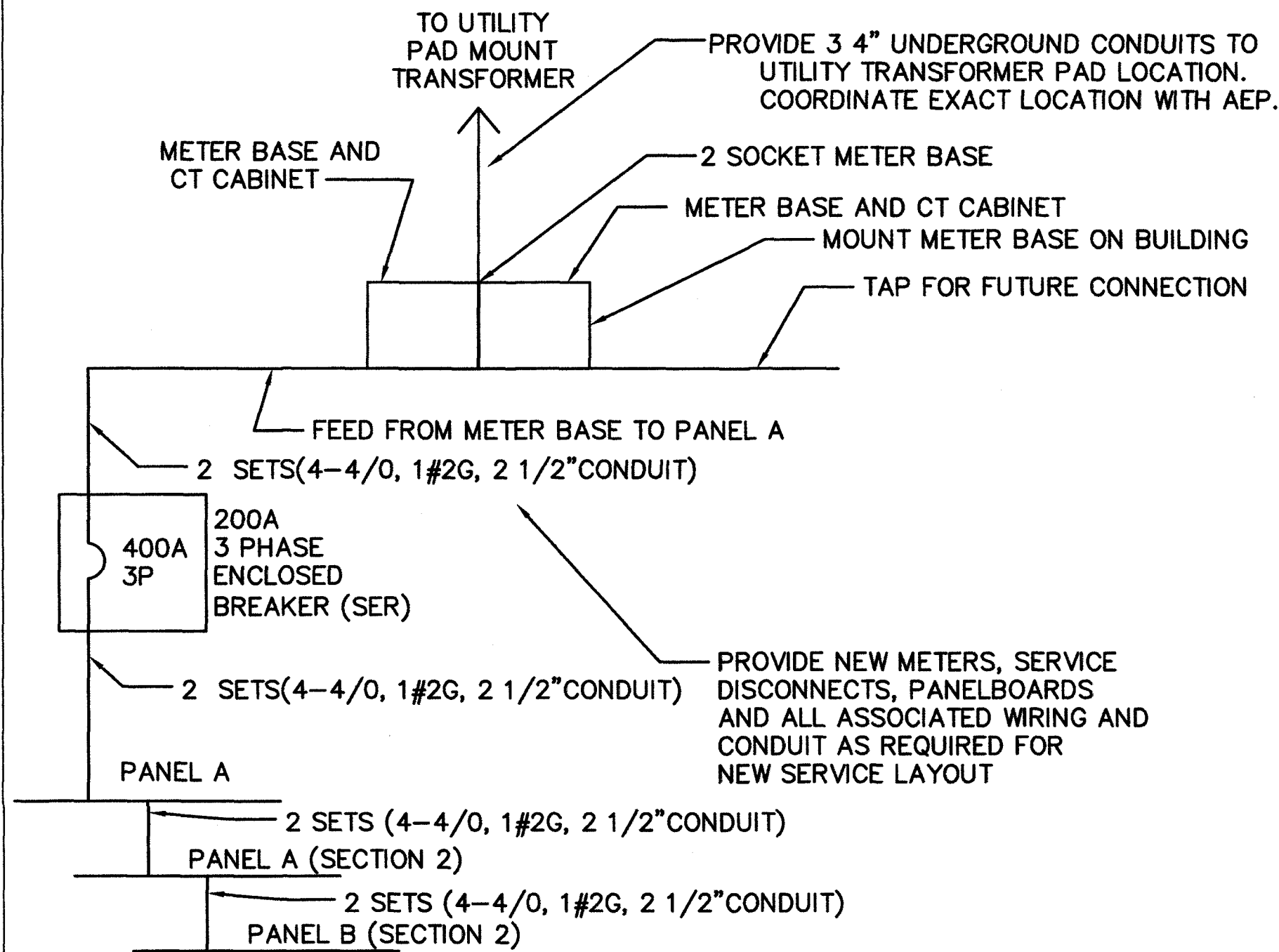
BLACKSBURG PEDIATRICS

829 DAVIS STREET
BLACKSBURG, VA 24060

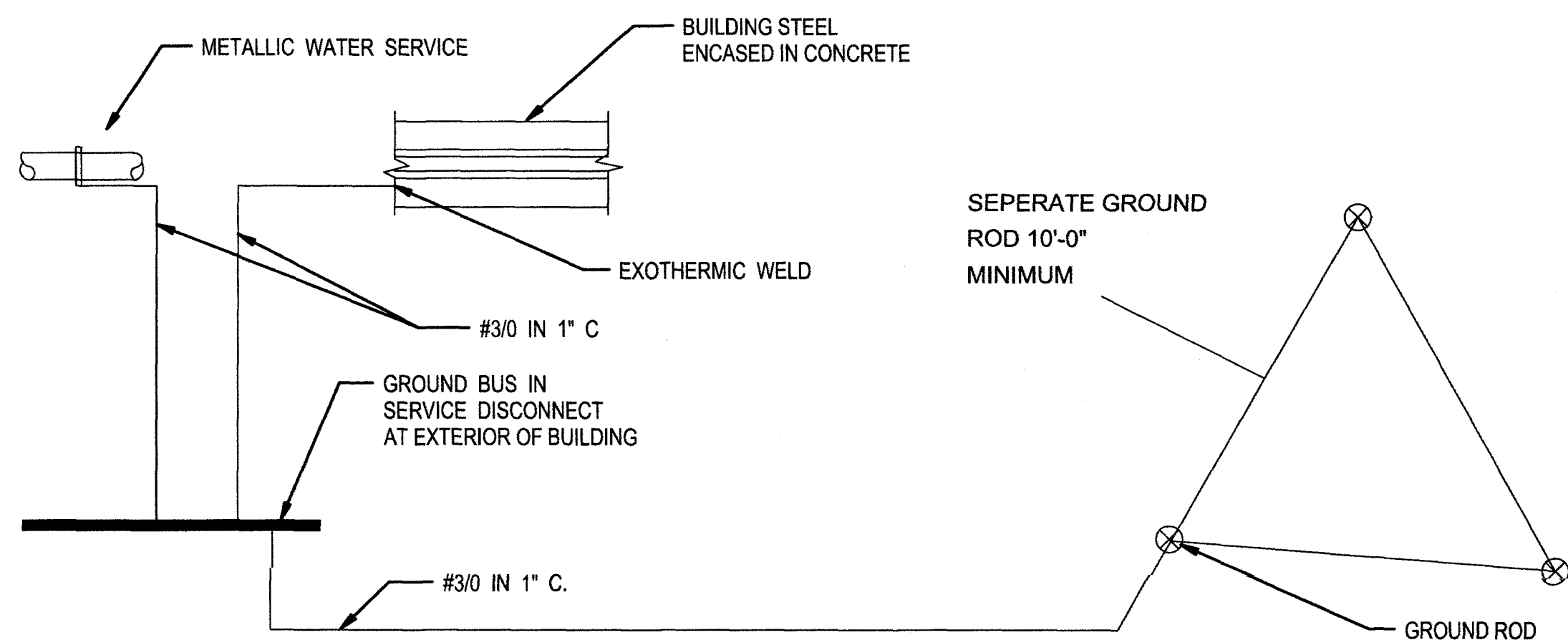
DATE	JANUARY . 31 . 2017
DRAWN	DWG
CHECKED	DWG
JOB	1648

FIRE ALARM AND
EQUIPMENT PLAN

SHEET
E-103

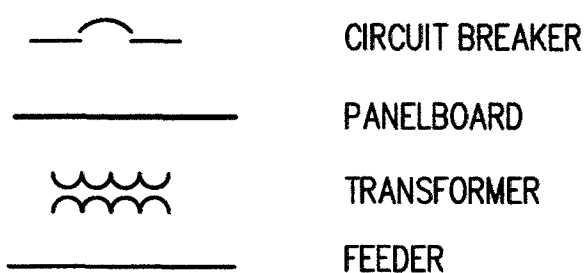


ONE LINE DIAGRAM



GROUNDING DETAIL

ONE-LINE LEGEND



LIGHTING FIXTURE SCHEDULE

MARK	MANUFACTURER	MODEL NUMBER	INPUT VOLTAGE	LAMPS		MNTG.	REMARKS
				NO.	TYPE		
A	LITHONIA LIGHTING	2VTL4-60L-ADP-MVOLT-LP835-N80	MVOLT		LED	REC	2X4 VOLUMETRIC, TROFFER, DIMMIBLE
B	LITHONIA LIGHTING	2TL4-40L-FW-A19-EZ1-LP835	MVOLT		LED	REC	RECESSED MOUNTED, VOLUMETRIC LIGHT, WITH ACRYLIC LENS, DIMMIBLE
C	LITHONIA LIGHTING	2TL4-30L-FW-A19-EZ1-LP835	MVOLT		LED	REC	RECESSED MOUNTED, VOLUMETRIC LIGHT, WITH ACRYLIC LENS
D	LITHONIA LIGHTING	STL4-60L-SLD-LP835	MVOLT		LED	SURF	SURFACE MOUNTED LED, WALL MOUNTED
E	LITHONIA LIGHTING	STL4-48L-SLD-LP835	MVOLT		LED	SURF	SURFACE MOUNTED LED, WALL MOUNTED
F	LITHONIA LIGHTING	STL4-48L-SLD-LP835	MVOLT		LED	SURF	SURFACE MOUNTED LED, CEILING MOUNTED
G	LIGMAN LIGHTING	UCO 30166 41W 2 1 W30 300K 06 120	MVOLT		LED	SURF	DECORATIVE WALL MOUNTED SCONCE, BRONZE FINISH
H	LITHONIA LIGHTING	LDN6-40/-10-L06-AR-120	MVOLT		LED	REC	6" RECESSED DOWNLIGHT
J	LITHONIA LIGHTING	LDN6-40/-10-L06-AR-120-EL	MVOLT		LED	REC	6" RECESSED DOWNLIGHT WITH INTEGRAL EMERGENCY BALLAST
K	LITHONIA LIGHTING	STL2-48L-SLD-LP840	MVOLT		LED	SURF	SURFACE MOUNTED LED, WALL MOUNTED
L	LITHONIA LIGHTING	UCLD 24IN 30K 90CRI WH	MVOLT		LED	SURF	UNDERCABINET LIGHT, CONNECT TO WALL MOUNTED SWITCH, SEE ARCH FOR LENGTH
M	LITHONIA LIGHTING	UCLD 12IN 30K 90CRI WH	MVOLT		LED	SURF	UNDERCABINET LIGHT, CONNECT TO WALL MOUNTED SWITCH, SEE ARCH FOR LENGTH
EXIT	LITHONIA LIGHTING	EDG-R-EL	MVOLT		LED	REC	EXIT LIGHT, RED LETTERS ON WHITE FACE. PROVIDE CHEVRONS AS NEEDED. , NICKEL CADMIUM BATTERY.
* NOTE: ALL LAMPS AND LED FIXTURES ARE TO BE 3500 KELVIN COLOR TEMPERATURE							

PANEL A (SECTION 1)																					
VOLTAGE: 208Y/120					PHASE: 3					BUS AMPS: 400A					☐ SURFACE MOUNTED			KAIC RATING: 22,000			
					WIRE: 4					MAIN BREAKER AMPS: 400A					☒ FLUSH MOUNTED						
CKT NO.	BRKR	WIRE		*	CIRCUIT DESCRIPTION	LOAD - KVA				CKT NO.	BRKR	WIRE		*	CIRCUIT DESCRIPTION	LOAD - KVA					
		NO	SIZE			PHA	PHB	PHC	3 PH			NO	SIZE			PHA	PHB	PHC	3 PH		
43	1	20			SPARE					44	3	45	8		AH-1					11.5	
45	1	20			SPARE																
47	3	30	2	10	HP-1				5.1												
										50	1	20			SPARE						
										52	1	20			SPARE						
53	2	15	2	12	DSS-1 OUTDOOR				2.5	54	1	20			SPARE						
										56	1	20			SPARE						
57	1	20	2	12	FIRE ALARM CONT					58	1	20			SPARE						
59	1	20	2	10	LIGHTING					60	1	20			SPARE						
61	1	20	2	10	LIGHTING					62	1	20			SPARE						
63	1	20			SPARE					64	1	20			SPARE						
65	1	20	2	10	EXTERIOR LIGHTING					66	1	20			SPARE						
67	1	20			SPARE					68	1	20			SPARE						
69	1	20			SPARE					70	1	20			SPARE						
71	1	20			SPARE					72	1	20			SPARE						
TOTAL LEFT SIDE						0.0	0.0	0.0	7.6	TOTAL RIGHT SIDE						0.0	0.0	0.0	11.5		
TOTAL RIGHT SIDE						0.0	0.0	0.0	11.5	TOTAL						0.0	0.0	0.0	19.1		
TOTAL						0.0	0.0	0.0	19.1	TOTAL CONNECTED LOAD									19.1		
* NOTES																					
1. PROVIDE FEED THRU LUGS TO PANEL B.																					
Z. PROVIDE FEED THRU LUGS TO PANEL A SECTION Z																					

* NOTES
1. PROVIDE FEED THRU LUGS TO PANEL B.
2. PROVIDE FEED THRU LUGS TO PANEL A SECTION 2.

PANEL A (SECTION 1)																											
VOLTAGE: 208Y/120						PHASE: 3						BUS AMPS: 400A						FLUSH MOUNTED					K&IC RATING:				
						WIRE: 4						MAIN BREAKER AMPS: 400A						X SURFACE MOUNTED									
CKT		BRKR		WIRE		CIRCUIT		LOAD - KVA				CKT		BRKR		WIRE		CIRCUIT		LOAD - KVA							
NO.	P	AMPS	NO	SZ	*	DESCRIPTION	PHA	PHB	PHC	3 PH	NO.	P	AMPS	NO	SZ	*	DESCRIPTION	PHA	PHB	PHC	3 PH						
1	1	20	2	12		RCPT EXAM 102,103	1.8				2	1	20	2	12		RCPTS OFFICE 116	1.3									
3	1	20	2	12		RCPT EXAM 104,105	1.4		0.9		4	1	20	2	12		RCPTS OFFICE 115	1.1									
5	1	20	2	12		RCPT STRG 114	0.5				6	2	30	2	10		WATER HTR RM 114A	2.5			2.5						
9	1	20	2	12		RCPT REC 103		0.7			10	1	20	2	12		RCPT EXTERIOR		0.4								
11	1	20	2	12		RCPT REC 103			0.7		12	1	20	2	12		RCPT STRG 114			0.4							
13	1	20	2	12		RCPT REC 103	0.7				14	1	20	2	12		RCPT STRG 114	0.4									
15	1	20	2	12		RCPT TRIAGE 112		0.5			16	1	20	2	12		RCPT AUDIO 117		0.5								
17	1	20	2	12		RCPT TRIAGE 112			0.5		18	1	20	2	12		RCPT IT CLOSET			1.0							
19	1	20	2	12		RCPT OFFICE 102	0.9				20	1	20	2	12		RCPT IT CLOSET	1.0									
21	1	20	2	12		RCPTS WAITING 101A		1.1			22	1	20	2	12		RCPT N STAT 113										
23	1	20	2	12		EWG WAITING 101A			1.0		24	1	20	2	12		RCPT N STAT 113	0.5		0.5							
25	1	20	2	12		RCPTS WAITING 101B	1.1				26	1	20	2	12		RCPT N STAT 113	0.5									
27	1	20				SPARE					28	1	20	2	12		RCPT N STAT 113		0.5								
29	1	20				SPARE					30	1	20				DOOR HARDWARE				0.5						
31	3	35	4	8		HP-3				6.0	32	1	20				WH-1 RM C102	1.5									
											34	1	20				WH-1 RM 120										
											36	1	20				FANS/CIRC PUMP			1.0							
37	3	45	4	8		AH-3				12.0	38	1	20				WH-1 RM 114A	1.5									
											40	1	20				SPARE										
											42	1	20				SPARE										
TOTAL LEFT SIDE							5.0	3.8	3.2	18.0	TOTAL RIGHT SIDE							8.7	4.6	5.9	0.0						
TOTAL RIGHT SIDE							8.7	4.6	5.9	0.0	TOTAL							13.7	8.3	9.1	18.0						
TOTAL							13.7	8.3	9.1	18.0	TOTAL CONNECTED LOAD							49.1									
* NOTES																											
1. PROVIDE FEED THRU LUGS TO PANEL B.																											

* NOTES
1. PROVIDE FEED THRU LUGS TO PANEL B.

PANEL B																															
VOLTAGE: 208Y/120						PHASE: 3						BUS AMPS: 400A						MAIN BREAKER AMPS: 400A						FLUSH MOUNTED				KAIC RATING: 22,000			
WIRE: 4																		X SURFACE MOUNTED													
CKT		BRKR		WIRE		*		CIRCUIT				LOAD - KVA				CKT		BRKR		WIRE		*		CIRCUIT				LOAD - KVA			
NO.	P	AMPS	NO	SZ	DESCRIPTION	PHA	PHB	PHC	3 PH	NO.	P	AMPS	NO	SZ	DESCRIPTION	PHA	PHB	PHC	3 PH												
1	1	20	2	12	RCPT EXAM 111	0.7				2	1	20	2	12	RCPT EXAM 107	0.7															
3	1	20	2	12	RCPT OFF 107	1.3				4	1	20	2	12	RCPT EXAM 108,109	1.4															
5	1	20	2	12	RCPT CONF 108	1.1				6	1	20	2	12	RCPT OFF 111	1.4			1.4												
7	1	20	2	12	RCPT CONF 108	0.7				8	1	20	2	12	RCPT EXAM 110	1.1															
9	1	20	2	12	EWG 106	1.0				10	1	20	2	12	RCPT NRS STN 105	0.4															
11	1	20	2	12	RCPT BREAK 109	1.0				12	1	20	2	12	RCPT LAB 104	0.4			0.4												
13	2	50	2	8	RCPT RANGE	4.5				14	1	20	2	12	RCPT NRS STN 105	0.4															
						4.5				16	1	20	2	12	RCPT LAB 104	0.4															
17	1	20	2	12	RCPT BREAK 109	1.0				18	1	20	2	12	RCPT NRS STN 105	0.4			0.4												
19	1	20	2	12	DISH WASHER 109	0.9				20	1	20	2	12	RCPT LAB 104	0.4															
21	1	20	2	12	RCPT BREAK 109	1.0				22	1	20	2	12	RCPT LAB 104	0.5															
23	1	20	2	12	FRIDGE	1.0				24	1	20	2	12	RCPT RM 112	0.9			0.9												
25	3	30	4	10	HP-4	5.1				26	1	20	2	12	EXT. TOILET 110	0.5															
										28	3	45	4	8	AH-4				11.5												
31	3	15	4	12	HP-2	3.2				34	1	20	2	12	GARBAGE DISP																
										36	1	20	2	12	WH-1 TOILET 110	1.5			1.5												
37	3	30	4	10	AH-2	8.0				38	1	20	2	12	WH-1 TOILET 110	1.5															
										40	1	20	2	10	LIGHTING	1.5			1.5												
										42	1	20	2	10	SPARE				0.0												
TOTAL LEFT SIDE						6.8	7.8	4.1	16.3	TOTAL RIGHT SIDE						4.6	4.2	4.6	11.5												
TOTAL RIGHT SIDE						4.6	4.2	4.6	11.5	TOTAL CONNECTED LOAD						59.8															
TOTAL						11.4	12.0	8.6	27.8																						
* NOTES																															

ELECTRICAL SPECIFICATIONS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Provide new lighting and power as required for new circuits as necessary. Provide new panelboards from the Meter Panel located in the ally. Provide all necessary power as required for new mechanical system.

1.2 QUALITY ASSURANCE

A. General

- a. Comply with IEEE C2, "National Electrical Safety Code".
- b. IEEE Compliance: Comply with applicable Institute of Electrical and Electronics Engineers, Inc. standards pertaining to generator construction.
- c. NEC Compliance: Comply with NFPA 70, "National Electrical Code" as applicable to construction and installation of products required in this specification.
- d. UL and NEMA Compliance and Labeling: Provide products which have been labeled by Underwriters Laboratories and have been certified to comply with UL requirements.
- e. IEEE Compliance: Comply with STD 241, "IEEE Recommended Practice for Electrical Power Systems in Commercial Buildings" pertaining to communication systems.

B. MOTOR CONTROLLERS

- a. UL and NEMA Compliance and Labeling: Provide products which have been labeled by Underwriters' Laboratories and have been certified to comply with UL and NEMA.

C. LIGHTING

- a. NEMA Compliance: Comply with applicable requirements of NEMA Std.s. Pub/No.'s LE 1 and LE 2 pertaining to lighting equipment.
- b. UL Compliance: Comply with UL standards, including UL 486A and B, pertaining to lighting fixtures. Provide lighting fixtures and components which are UL listed and labeled. Provide exterior fixtures with "Suitable for Wet Location" label.

- c. CBM Labels: Provide fluorescent lamp ballasts which comply with Certified Ballast Manufacturers Association standards and carry the CBM label.

1.3 COORDINATION OF ELECTRICAL WORK

- A. General: Refer to the division sections for general coordination requirements applicable to the entire work. It is recognized that the contract documents are diagrammatic in showing certain physical relationships which must be established within the electrical work and in its interface with other work including utilities and mechanical work and that such establishment is the exclusive responsibility of the Contractor.

- a. Arrange electrical work in a neat, well organized manner with conduit and similar services running parallel with primary lines of the building construction and with the maximum headroom possible, but a minimum 7'_0" overhead clearance.
- b. Locate operating and control equipment properly to provide easy access and arrange entire electrical work with adequate access for operation and maintenance.
- c. Advise other trades of openings required in their work for the subsequent move_in of large units of electrical equipment.
- d. Coordinate all other work, including power outages, with Owner's Schedule of Operation.

- B. Product Handling: Space at the project for storage of materials and products is limited. Coordinate the deliveries of electrical materials and products with the scheduling and sequencing of the work so that storage requirements at the project are minimized. In general, do not deliver individual items of electrical equipment to the project substantially ahead of the time of installation.

1.3 ELECTRICAL SYSTEM IDENTIFICATION

- A. Conduit Systems: Provide adequate marking of primary conduits which are exposed or concealed in accessible spaces, to distinguish each run as either a power or signal/communication conduit. Except as otherwise indicated, use orange banding with black lettering. Provide self adhesive or snap on type plastic markers. Indicate voltage ratings of conductors where above 240 V. Locate markers at ends of conduit runs, near switches and other control devices and near items of equipment served by the conductors. Switch_leg conduit and short branches for power connections need not be marked, except where conduit is larger than 1 inch. Label all junction boxes with branch circuit numbers terminated within.
- B. Identification Labels and Warning Signs: Provide engraved plastic laminate or baked enamel labels on major units of electrical equipment including switchboards, panelboards, motor controllers, disconnect switches, signal and similar systems. Label shall include equipment identification mark and voltage characteristics and shall be melamine plastic, 0.125_inch thick, white with black center core. Provide warning signs where there is hazardous exposure or danger associated with access to or operation of electrical facilities. Provide text of sufficient clarity and lettering of sufficient size, minimum 0.25 inch nominal block style, to convey adequate information at each location; mount permanently in an appropriate and effective location.

1.4 PAINTING ELECTRICAL WORK

- A. General: Except as otherwise indicated, comply with the applicable provisions of Division 9 for electrical work painting. Electrical equipment shall have factory applied painting systems which shall meet the requirements of NEMA ICS6. The work of this article shall include general field painting of electrical work.
- a. Coordinate the painting with the painting of other work of a similar nature and comply with indicated color and color matching requirements. Except as otherwise indicated, paint surfaces of electrical work which would normally be painted in the application and exposure indicated.
- B. Do not paint over nameplates on equipment, sliding/rotating shaft surfaces, non_ferrous hardware/accessories/trim and similar items where painting would normally be omitted.

1.5 ELECTRICAL SYSTEM PERFORMANCE

- A. General: The overall system performances of electrical work are of even greater importance than the specified individual unit_of work performances. Each unit of electrical work has been designed and specified to perform at minimum levels of output and efficiency and is intended to contribute to and be compatible with the entire system. Compatibility of actual performances by electrical system performances is the Contractor's responsibility.
- B. Adjustments: Where it has been determined that electrical systems do not or will not perform in compliance with the specified performances, adjustments or corrections shall be made to the work as necessary to achieve required performances.

1.6 ELECTRICAL WORK CLOSEOUT

- A. Additional Service: Perform services within the above 12-month period not classified as routine maintenance or as warranty work as described in Division 1 Section "Warranties and Bonds" when authorized in writing. Compensation for additional services must be agreed upon in writing prior to performing services.
- B. Closeout Coordination: Coordinate closeout operations with closeout of mechanical systems and other power consuming equipment.
- C. Record Drawings: Maintain a blue_line set of electrical contract drawings and/or shop drawings in clean, undamaged condition, for indication of major electrical equipment or concealed lines located in position other than that shown on the contract drawings. Mark_up whatever drawings are most capable of showing installed conditions accurately. In general, record every substantive installation of electrical work which previously is either not shown or shown inaccurately, specifically record the following:
- a. Work concealed behind or within other work, in a nonaccessible location.
- b. Main feeders with switchgear, panelboards, and control devices located, identified and numbered. This information shall be displayed in a glazed, hardwood frame, minimum two (2) feet square, near the main service disconnect.
- c. Maintenance procedures and schedules.
- d. Testing procedures and acceptable parameters.
- G. Cleaning and Lubrication: After final testing of each electrical system, clean system both externally and internally. Comply with manufacturer's instructions for lubrication of both power and hand operated equipment. Touch_up minor damage to factory_painted finishes and provide one pint of touch-up paint for each color of major equipment installed.

1.10 SUBMITTALS

A. LIGHTING

1. Product Data: Submit manufacturer's product data and installation instructions on each type building lighting fixture photocell, contactor and component.
2. Shop Drawings: Submit fixture shop drawings where specifically indicated in booklet form with separate sheet for each fixture, assembled in "luminaire type" alphabetical or numerical order, with proposed fixture and accessories clearly indicated on each sheet.
3. Maintenance Data: Submit maintenance data and parts list for each lighting fixture and accessory, including "trouble_shooting" maintenance guide. Include that data, product data, and shop drawings in a maintenance manual.

PART 2 - PRODUCTS

2.1 CABLE AND WIRE

- A. Provide factory-fabricated wire or cable of the size, rating, material and type as indicated for each service in compliance with NECA - Standard of Installation. Where not indicated, provide proper selection as determined by the work requiring the installation to comply with NEC standards. Conductors shall be rated 600 volt of insulation type THW, THWN, THHN, or USE installed in compliance with National Electrical Code requirements.
- B. Provide bonding conductors for sizes No. 8 AWG and smaller of solid bare copper per ASTM B 1, and for sizes No. 6 AWG and larger stranded bare copper per ASTM B 8.
- C. No. 10 AWG and smaller diameter shall be solid copper; No. 8 AWG and larger diameter shall be stranded copper.
- D. Provide color coding for service, feeder, branch, control, and signaling circuit conductors. Color shall be green for grounding conductors and white for neutrals; except where neutrals of more than one system are installed in same raceway or box, other neutral shall be white with colored (not green) stripe. Color of ungrounded conductors in different voltage systems shall be as follows:
- a. 120/208 volt, 3-phase:
- i. Phase A - black.
- ii. Phase B - red.
- iii. Phase C - blue.
- E. Provide the following types of cables in NEC approved locations and applications where indicated. Provide cable UL listed for its intended use.
- a. Metal clad cable: Type MC.
- F. Provide UL 486A, factory-fabricated, solderless, metal connectors of the size, ampacity, rating, material, type and class as indicated for each service. Where not indicated, provide proper selection as determined by the work requiring the installation to comply with NEC standards. Provide insulating tape in compliance with UL 510.

2.2 ELECTRICAL RACEWAYS

- A. Metal Conduit, Tubing and Fittings: Provide metal conduit, tubing and fittings of type, grade, size and weight indicated for each service. Where type and grade are not indicated, provide proper selection as determined by the work requiring the installation to comply with NEC standards for wiring requirements.
- a. Rigid Steel Conduit: ANSI C80.1, UL 6.
- b. Intermediate Steel Conduit (Zinc Coated Steel): UL 1242.
- c. Rigid Metal Conduit Fittings: UL 514B, cadmium- or zinc-coated threaded type.
- d. Electrical Metal Tubing (EMT): ANSI C80.3, UL 797.
- e. EMT Fittings: UL 514B, compression or set-screw type
- f. Flexible Metal Conduit: Cadmium- or zinc-coated steel.
- g. Flexible Metal Conduit Fittings: UL 514B, cadmium- or zinc-coated.
- h. Liquid-Tight Flexible Metal Conduit: UL 360, provide liquid-tight flexible metal conduit comprised of single strip, continuous, flexible, interlocked, double-wrapped steel, galvanized inside and outside; forming smooth internal wiring channel; with liquid-tight jacket of flexible polyvinyl chloride.
- i. Liquid-Tight Flexible Metal Conduit Fittings: FS W-F-406.
- B. Wireways: Electrical wireways shall be of types, sizes, and number of channels as indicated. Fittings and accessories including but not limited to couplings, offsets, elbows, expansion joints, adapters, hold-down straps, and end caps shall match and mate with wireway as required for complete system. Where features are not indicated, select to fulfill wiring requirements and comply with applicable provisions of NEC. Wireway covers shall be hinged type.
- C. Surface Metal Raceways and Fittings: UL 5, two-piece steel, totally enclosed. Snap cover type with wiring devices, sizes and channels as indicated. Wiremold, or approved equal.
- a. Type a: Two section, steel, approximately 7/8 inch x 1 1/4 inch wide, with 20 amp, 125V, specification grade grounding surge protection receptacles 2'-6" on centers, alternating circuits. Provide with ivory paintable finish.

2.3 ELECTRICAL OUTLET BOXES AND FITTINGS

- A. Interior Outlet Boxes: UL 514A, provide galvanized flat rolled sheet steel interior outlet wiring boxes, flush mounted of type, shapes and sizes, including box depths, to suit each respective location and installation; construct with stamped knockouts in back and sides, and with threaded screw holes with corrosion-resistant screws for securing box covers and wiring devices. Provide feraloy cast outlet boxes where surface mounted with threaded conduit hubs to suit each respective location and installation.
- B. Weatherproof Outlet Boxes: Provide corrosion-resistant cast metal weatherproof outlet wiring boxes, of types, shapes and sizes, with threaded conduit ends, cast metal face plates with spring-hinged waterproof caps suitably configured for each application, including faceplate gaskets and corrosion-resistant fasteners. Weatherproof while in operation.
- C. Cast-Iron Floor Boxes: Fully adjustable, waterproof, with threaded raceway entrances, adjusting rings, gaskets, and brass floor plates. Provide multi-section boxes with individual screw type brass section covers, barrier between compartments and provide for a duplex receptacle under one or more of the covers. Telephone outlets shall have provisions to accommodate 10-wire telephone terminal block. Provide gaskets where required to ensure watertight installation. Provide trim suitable for floor conditions.

2.4 WIRING DEVICES

- A. General: Provide factory-fabricated wiring devices, in types, colors and electrical ratings for applications indicated and complying with NEMA Standards Publication No. WD 1. Where types and grades are not indicated, provide proper selection as determined by installer to fulfill wiring requirements, and comply with NEC and NEMA standards for wiring devices. Provide receptacles with isolated ground and/or surge protection where indicated.
- B. Receptacles:
- a. Heavy Duty Duplex: UL 498, provide duplex heavy duty type receptacles, 2-pole, 3-wire grounding, with green hexagonal equipment ground screw, ground terminals and poles internally connected to mounting yoke, 20-amperes, 125 volt, almond nylon face with metal plaster ears, side wiring, NEMA Configuration 5-20R, unless otherwise indicated.
- b. Ground Fault Receptacle: Provide ground fault protected duplex receptacle
- i. Provide with cast aluminum weatherproof cover where indicated to be WP while in operation.
- c. Surge Protection Receptacle: Provide duplex heavy duty type receptacles 20-amperes, 125 volt, almond face with electrical surge and noise protection.
- C. Switches:
- a. Snap: UL 20, provide general duty flush single-pole toggle switches, 20-amperes, 120-277 volts AC only, with mounting yoke insulated from mechanism, equip with plaster ears, almond switch handle and side wired screw terminals. Single pole, Three-way and Four-way as indicated on drawings.
- b. Motion Sensing, Ceiling Mounted: Provide dual technology ultrasonic and passive infrared or microphonic and passive infrared motion detector, manual off switch, 0 to 4800 watt fluorescent switching capacity, 277 volts AC, 360 sensing coverage, six to 15 minute off time delay, LED walk test indicator, bypass switch, suitable for use in classrooms, 5_year warranty, UL listed, Universal Energy Control (UNENCO) Switchomatic Coordinate with connected wattage and type of room light fixtures.
- D. Wiring Device Accessories:
- a. Wall Plates: Provide UL listed, one-piece device plates for outlets and fittings to fit the device installed. For flush-mounted outlets on finished walls, provide 0.04-inch thick, type 302 satin finished stainless steel switch and outlet plates of types, sizes and with ganging and cutouts as indicated. Install with metal screws for securing plates to devices; screw heads colored to match finish of plate.
- b. For surface mounted boxes, provide feraloy cast outlet plates on all outlet boxes, type suitable for wiring device installed in box.
- c. Provide plate with engraved legend where indicated.

2.5 SAFETY AND DISCONNECT SWITCHES

- A. General: UL 98, NEMA KS1, provide surface-mounted, sheet-steel enclosed switches, of types, sizes and electrical characteristics indicated; 3-blades, 4-wire with amperage rating as required, 60 hertz and visible blades with door in open position. Provide with safety handle which is easily recognizable and is capable of being padlocked in the open position and operating mechanism for quick-make and quick-break. Current carrying parts of high-conductivity copper, with silver-tungsten type switch contacts. Provide NEMA 1 type enclosures indoors and NEMA 3R type enclosures with raintight hubs outdoors.

- B. Provide General Duty Type: 240 volts AC, Type GD. Heavy Duty Type: 600 volts AC.

- C. Switches used as motor disconnect means shall be horsepower rated. Fused switches shall utilize Class R fuseholder and fuses unless indicated otherwise or recommended by equipment manufacturer.

2.6 ELECTRICAL GROUNDING AND BONDING EQUIPMENT

- A. General: UL 467. Provide grounding products of types indicated and of sizes and ratings as required by NEC. Provide all material required including but not necessarily limited to, cable/wire, connectors, terminals (solderless lugs), grounding rods/electrodes, bonding jumper braid and other items and accessories needed for a complete installation. Where more than one type meets indicated requirements, selection is installer's option. Where materials or components are not otherwise indicated, provide products complying with NEC, and established industry standards.

- A. Electrical Grounding Conductors: Unless otherwise indicated, provide electrical grounding conductors for grounding connections matching power supply wiring materials except bare or green insulation and sized according to NEC. Equipment grounding conductors shall have green insulation. Solid conductors shall comply with ASTM B-3, stranded conductors with ASTM B-8.

- B. Grounding Connectors: Provide listed and labeled grounding connectors for the required materials. Provide high-conductivity plated pressure connector units or exothermic welded connections.

2.7 THROUGH PENETRATION FIRE STOPS

- A. General: UL 1479, ASTM E814, materials and assemblies shall be UL listed and labeled and FM approved for fire ratings consistent with penetrated barriers.

- B. Provide putty one part composition sealant composed of synthetic elastomeric organic/inorganic intumescent materials which expand when exposed to heat. Provide additional sealing systems, sheet steel, foil or retaining wire as required.

2.8 ACCESS PANELS AND DOORS

- A. General: Provide factory-fabricated and assembled units, complete with attachment devices and fasteners ready for installation. Joints and seams shall be continuously welded steel, with welds ground smooth and flush with adjacent surfaces.

- B. Frames: 16-gage steel, with a 1-inch-wide exposed perimeter flange for units installed in unit masonry, pre-cast, or cast-in-place concrete, ceramic tile, or wood paneling. Provide with 1-inch wide exposed perimeter flange and adjustable metal masonry anchors. For installation in masonry, concrete, ceramic tile, or wood.

- C. Flush Panel Doors: Provide 14-gage sheet steel, with concealed spring hinges or concealed continuous piano hinge set to open 175 degrees; factory-applied prime paint.

- D. Fire-Rated Units: Insulated flush panel doors, with continuous piano hinge and self-closing mechanism.

- E. Locking Devices: Flush, screwdriver-operated cam locks.

2.9 COMBINATION MOTOR CONTROLLERS

- A. General: Motor circuit protector; molded-case circuit-type breaker type with magnetic-only trip element calibrated to coordinate with the actual locked-rotor current of the connected motor and the controller overload relays. Provide breakers that are factory assembled with the controller, interlocked with unit cover or door, and arranged to disconnect the controller. Provide motor circuit-protectors with field-adjustable trip elements.

2.10 LIGHTING FIXTURES

- A. Provide lighting fixtures of sizes, types, and ratings indicated in lighting fixture schedule

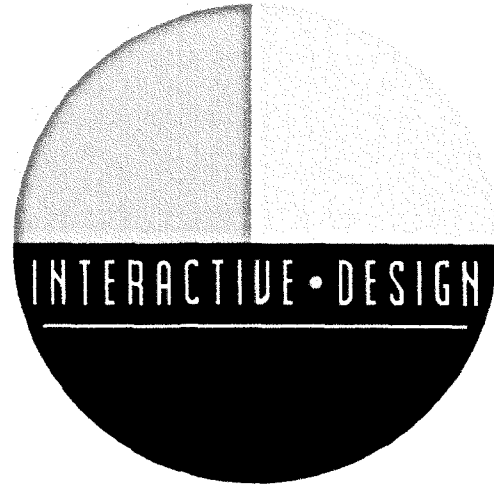
- B. Wiring: Provide electrical wiring within fixture suitable for connecting to branch circuit.
- a. NEC Type AF for 120 volt, minimum No. 18 AWG.
- b. NEC Type SF_2 for 277 volt, minimum No. 18 AWG.

- C. Fluorescent Lamp Ballasts: Fluorescent fixtures shall have electronic ballasts unless specifically indicated otherwise. The electronic ballast shall as a minimum meet the following characteristics:
- a. Ballast shall comply with UL 935, ANSI C82.11, and NFPA 70 unless specified otherwise. Ballast shall be designed for operation of the lamps in the indicated application. Ballasts shall be designed to operate on the voltage system to which they are connected.
- b. Power factor shall be 0.95 (minimum). Lamp current crest factor shall be 1.7 (maximum). Ballast shall operate at a frequency of 20,000 Hertz (minimum).
- c. Ballast shall have light regulation of plus or minus 10 percent lumen output with a plus or minus 10 percent input voltage regulation. Ballast shall have 10 percent flicker (maximum) using any compatible lamp.
- d. Ballast shall be UL listed Class P with a sound rating of "A".
- e. Ballast enclosure size shall conform to standards of electromagnetic ballasts. Ballast shall have circuit diagrams and lamp connections displayed on ballast packages. Ballast shall operate lamps in a parallel circuit configuration that permits the operation of remaining lamps if one or more lamps fail or are removed. Ballast lamp lead wire color code shall comply with ANSI C82.11 for parallel or independent lamp operation.
- f. Ballast shall operate in an instant start mode.
- g. Ballast factor shall be 85 percent (minimum).
- h. Electronic ballast shall have a full replacement warranty of 5 years from date of substantial completion, including parts and labor.
- i. Ballast shall be capable of starting and maintaining operation at a minimum of 50 degrees F for F32T8 lamps, unless otherwise indicated. When indicated, ballast shall be capable of starting and maintaining operation at a minimum of zero degrees F for F32T8 lamps.
- j. Total Harmonic Distortion (THD): Shall be less than 20 percent.
- k. Input Wattage: 62 watts (maximum) when operating two F32T8 lamps.
- l. Provide three and four lamp fixtures with two ballasts per fixture to accommodate multilevel switching.

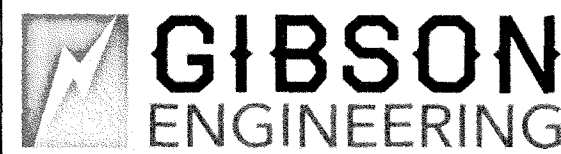
2.11 MOTION DETECTORS

- A. Indoor Motion Detectors: Provide passive infrared motion sensor to operate lights on detection of occupancy, 120/277 volts, field adjustable.

- B. Outdoor Motion Detectors: Passive infrared motion sensor in weatherproof enclosure with adjustable digital sensitivity and time delay and isolated SPDT relay contact. Provide unit suitable for operation at temperatures as low as -40F. Provide adjustable mounting bracket.



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NO.	REVISIONS	DATE

RENOVATIONS TO,

BLACKSBURG
PEDIATRICS

829 DAVIS STREET
BLACKSBURG, VA 24060

DATE	JANUARY . 31 . 2017
DRAWN	DWG
CHECKED	DWG
JOB	1646

ELECTRICAL
SPECIFICATIONS

SHEET

E-301

INSTALLATION
PART 3 - INSTALLATION

3.1 General

- A. Verify final locations for rough_in with field measurements and with the requirements of the actual equipment to be connected.
- B. Rough_in for owner furnished equipment to make equipment operate as intended, including providing miscellaneous wiring items.
- C. Adjust operating mechanisms for free mechanical movement. Clean interior and exterior using manufacturer's approved methods and materials.
- D. Touch-up scratched or marred surfaces to match original finish.
- E. In general, perform cutting and patching as necessary. Exercise care where cutting, channeling, chasing or drilling floors, walls, partitions, ceilings or other surfaces for installation of electrical work.

- F. Patch finished surfaces and building components using new materials specified for the original installation and experienced installers. Installers' qualifications refer to the materials and methods required for the surface and building components being patched.

3.2 CABLE, WIRE AND CONNECTORS

- A. Provide insulated conductors installed in conduit, except where specifically indicated or specified otherwise or required by NEC to be installed otherwise. Provide insulated equipment grounding conductor in feeder and branch circuits, including lighting circuits. Grounding conductor shall be separate from electrical system neutral conductor.
- B. Coordinate cable and wire installation with electrical raceway and equipment installation. Conductor sizes indicated are copper. Pull conductors together where more than one is being installed. Use pulling means and lubricant that will not damage conductor or raceway. Use splice and tap connectors which are compatible with conductor material, and only in accessible junction, pull or outlet boxes.
- C. Tighten electrical connectors and terminals, including screws and bolts, in accordance with manufacturer's published torque tightening values. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL 486A.

3.2 ELECTRICAL RACEWAYS

- A. Provide with complete electrical raceway system before installing conductors within raceways. Provide support as required by NEC but within 1 foot of a change in direction or connection to an enclosure, cover ends of empty conduit to prevent entry of debris during rough-in, provide bonding type locknuts at boxes. Conceal conduit, unless indicated otherwise within finished walls, ceilings and floors. Run exposed conduits parallel or perpendicular to the building structure, close to the ceiling or beams. Keep raceways at least 6 inches away from parallel runs of flues, steam, and hot water pipes.
- B. Use the following wiring methods:
- a. Outdoors:
- i. Intermediate metal conduit
- ii. Rigid metal conduit
- iii. Liquid-tight flexible metal conduit
- b. Indoors:
- i. Electrical metallic tubing
- ii. Flexible metal conduit
- iii. Rigid metal conduit (where exposed and subject to damage)
- C. Use raceway fittings that are of types compatible with the associated raceway and suitable for the use and location. For intermediate steel conduit, use threaded rigid steel conduit fittings except as otherwise indicated.
- D. Run exposed, parallel, or banked raceways together. Make bends in parallel or banked runs from the same center line so that the bends are parallel. Factory elbows may be used in banked runs only where they can be installed parallel. This requires that there be a change in the plane of the run such as from wall to ceiling and that the raceways be of the same size. In other cases provide field bends for parallel raceways.
- E. Install pull wires in empty raceways. Use No. 14 AWG zinc-coated steel or monofilament plastic line having not less than 200-lb. tensile strength. Leave not less than 12 inches of slack at each end of the pull wire.
- F. Flexible Connections: Use short length (maximum of 6 ft.) of flexible conduit for recessed and semirecessed lighting fixtures, for equipment subject to vibration, noise transmission, or movement; and for all motors. Use liquid-tight flexible conduit in wet locations. Install separate ground conductor across flexible connections.
- G. Surface Metal Raceway: Install to walls, cabinets, and ceilings as recommended by equipment manufacturer with fasteners suitable for the material to which the surface metal raceway is being attached. Install a separate green ground conductor in raceway from the junction box supplying the raceway to receptacle or fixture ground terminals. Provide as an integral part or install wiring devices as indicated. Make cuts and other modifications with factory cuts and other modifications with factory furnished tools specifically designed for the purpose.

3.3 ELECTRICAL BOXES AND FITTINGS

- A. Provide weatherproof outlet boxes for interior and exterior locations exposed to moisture, flush mounted boxes for connection to concealed conduit and pull boxes as required for installation of conductors. Sizes shall be adequate to meet NEC volume requirements, but not smaller than sizes indicated. Remove knockouts only as required and plug unused openings.
- B. Fasten boxes rigidly to substrate or structural surfaces to which they are to be mounted, or solidly embed electrical boxes in concrete or masonry.

3.4 WIRING DEVICES

- A. Install wiring devices in clean outlets after wiring has been installed. Do not install plates and cover installed wiring devices until painting is complete.
- B. Ground all wiring devices unless indicated otherwise. Test wiring devices for correct polarity, proper ground and electrical continuity.
- C. Install covers and device plates with edges in continuous contact with finished wall surfaces without use of mats or similar devices. Plaster or caulking used as a filling to repair openings around outlets shall not be applied without removing the cover or device plate. Plates installed in wet areas shall be gasketed.

3.5 SAFETY AND DISCONNECT SWITCHES

- A. Install disconnect switches used for motor-driven equipment within sight of the controller and motor and not more than 50 feet from the controller and motor unless indicated otherwise.
- B. Provide an electrical ground for all disconnect switches.
- C. Test all switches for proper operation by operating them energized, but without load for six opening/closing cycles. Inspect switch and correct deficiencies, then retest to demonstrate compliance.

3.6 ELECTRICAL GROUNDING EQUIPMENT

- A. Install electrical grounding systems where shown, in accordance with applicable portions of National Electrical Code, **NECA 331-2014 "Standard for Building and Service Entrance Grounding and Bonding,"** and in accordance with recognized industry practices to ensure that products comply with requirements and serve intended functions.
- B. Provide separate grounding conductor with wiring in all raceways.
- C. Provide grounding electrode conductor and connect to reinforcing steel in foundation footing where indicated.
- D. Install clamp-on connectors only on thoroughly cleaned metal contact surfaces, to ensure electrical conductivity and circuit integrity.

3.7 LIGHTING FIXTURES

- A. General: Install lighting fixtures of types indicated, where shown and at indicated heights, in accordance with lighting fixture manufacturer's written instructions and with recognized industry practices. Comply with NEMA standards and requirements of National Electrical Code pertaining to installation of lighting fixtures and with applicable portions of NECA's "Standards of Installation".

- B. Fasten surfaced fluorescent fixtures to suspended ceiling system near corner of each unit. Bolt fixture to main ceiling supports with stud_clips minimum 1/2_20. Support fixtures weighing in excess of 56 pounds directly from the building structure. Recessed and semi_recessed fixtures may be supported from suspended ceiling support system ceiling tees if the ceiling system support wires are provided at a minimum of four wires per fixture and located not more than 6 inches from each corner of each fixture. In addition, provide support clips securely fastened to ceiling grid members at or near corner of each recessed fixture.

- C. Secure pendant mounted fluorescent fixtures via outlet box directly to building structure with approved bolting and clamps. Provide each stem or hanger with an approved swivel joint to ensure a continued plumb installation.

- D. Mounting heights indicated are to bottom of ceiling_mounted fixtures and to center of wall mounted fixtures.

- E. Install all exit lights lighting units plumb, square and level with walls and ceilings and secure in accordance with manufacturer's written instructions Mounting heights shall be to bottom of unit.

- F. Clean lighting fixtures of dirt and debris upon completion of installation. Protect installed fixtures from damage during remainder of construction period.

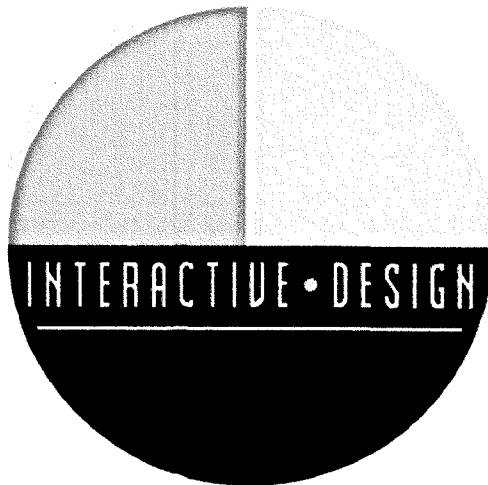
- G. Do not install interior fixture lens until construction is complete or protect lens from accumulation of dust and debris.

- H. Adjust all fixtures with adjustable aiming to meet the Architect/Engineer's approval.

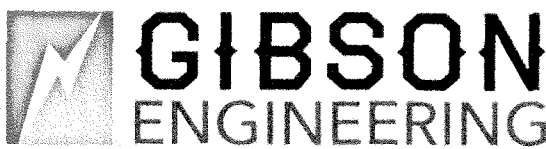
- I. Test all lighting fixtures for compliance with intended purpose. Correct malfunctioning or noisy units, then retest to demonstrate compliance.

- J. At date of substantial completion, replace all lamps which are observed to be noticeably dimmed as judged by the Architect/Engineer.

- K. Provide tight equipment grounding connections to comply with tightening torques specified in UL 486A for each lighting fixture.



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NO.	REVISIONS	DATE

RENOVATIONS TO,

**BLACKSBURG
PEDIATRICS**

829 DAVIS STREET
BLACKSBURG, VA 24060

DATE	JANUARY . 31 . 2017
DRAWN	DWG
CHECKED	DWG
JOB	1646

**ELECTRICAL
SPECIFICATIONS**

SHEET

E-302