



# ILLINOIS ACCESSIBILITY CODE

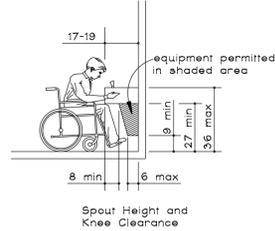
FOR MORE INFORMATION REFER TO THE ILLINOIS ACCESSIBILITY CODE STATE OF ILLINOIS DEVELOPMENT BOARD EFFECTIVE APRIL 24, 1997 CHAPTER 1 400.310 SUBCHAPTER B

INTERPRETATION OF THE ILLINOIS ACCESSIBILITY IS DETERMINED BY THE LOCAL CODE OFFICIAL.

## DRINKING FOUNTAINS

### DRINKING FOUNTAINS AND WATER COOLERS

- A) Spout Height. Spouts shall be no higher than 36 in. (915 mm), measured from the floor or ground surfaces to the spout outlet. (ADAAG 4.15.2)
- B) Spout Location. The spouts of drinking fountains and water coolers shall be at the front of the unit and shall direct the water flow in a trajectory that is parallel or nearly parallel to the front of the unit. The spout shall provide a flow of water at least 4 in. (100 mm) high so as to allow the insertion of a cup or glass under the flow of water. On an accessible drinking fountain with a round or oval bowl, the spout must be positioned so the flow of water is within 3 in. (75 mm) of the front edge of the fountain. (ADAAG 4.15.3)
- C) Controls. Controls shall comply with Section 400.310 (a)(4). Unit controls shall be front mounted or side mounted near the front edge. (ADAAG 4.15.4)

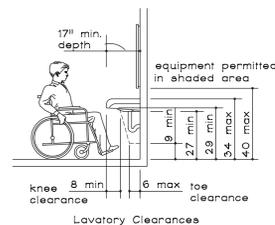


## LAVATORIES, SINKS & MIRRORS

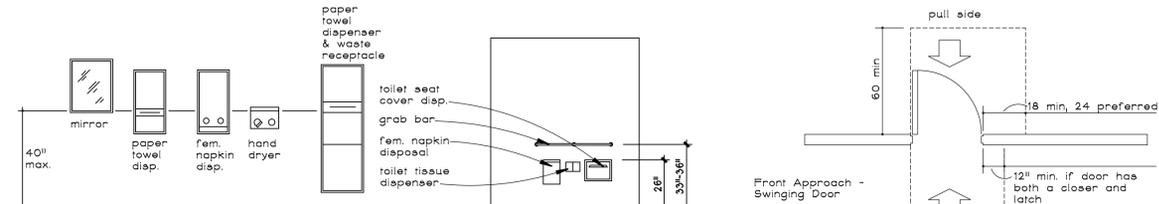
LAVATORIES AND MIRRORS. If lavatories and mirrors are provided, then at least one of each shall comply with the following requirements:

- A) General. The requirements of this subsection shall apply to lavatory fixtures, vanities, and built-in lavatories. (ADAAG 4.19)
- B) Height and Clearances. Lavatories shall be mounted with the rim or counter surface no higher than 34 in. (865 mm) above the finish floor. Provide a clearance of at least 29 in. (735 mm) above the finish floor to the bottom of the apron. (ADAAG 4.19.2)
- C) Clear Floor Space. A clear floor space 30 in by 48 in. (760 mm by 1220 mm) complying with Section 400.220 (d) shall be provided in front of a lavatory to allow forward approach. Such clear floor space shall adjoin or overlap an accessible route and shall extend a maximum of 19 in. (485 mm) underneath the lavatory. (ADAAG 4.19.3)
- D) Exposed Pipes and Surfaces. Hot water and drain pipes under lavatories shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories. (ADAAG 4.19.4)
- E) Faucets. Faucets shall comply with subsection (f)(4) of this Section. Lever-operated, push-type, and electronically controlled mechanisms are examples of acceptable designs. If self-closing valves are used the faucet shall remain open for at least 10 seconds. (ADAAG 4.19.5)
- F) Mirrors. Mirrors shall be mounted with the bottom edge of the reflecting surface no higher than 40 in. (1015 mm) above the finish floor. (ADAAG 4.19.6)

CONTROLS AND DISPENSERS. If controls, dispensers, receptacles, or other equipment are provided, then at least one of each shall be on an accessible route, and shall comply with subsection (n) of this Section. (ADAAG 4.22.7)



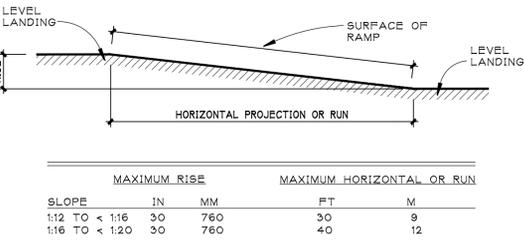
## RESTROOM FIXTURE MOUNTING HEIGHTS



NOTE: OPERATING MECHANISM MEETING HEIGHT OF ALL ACCESSORIES IN PUBLIC RESTROOMS SHALL NOT EXCEED 3'-4" A.F.F.

# RAMP

- 1. General. Any part of an accessible route with a slope greater than 1:20 shall be considered a ramp and shall comply with the following requirements unless another means of accessible vertical access (e.g., accessible elevator or accessible platform lift) is provided. (ADAAG 4.8.1)
- 2. Slope and Rise. The least possible slope shall be used for any ramp. The maximum slope of a ramp in new construction shall be 1:12. The maximum rise for any run shall be 30 in. Curb ramps and interior or exterior ramps to be constructed on existing sites or in existing buildings or facilities where space limitations prohibit the use of a 1:12 slope or less may have slopes and rises as follows: (ADAAG 4.8.2)
  - A) A slope between 1:10 and 1:12 is allowed for a maximum rise of 6 in.
  - B) A slope between 1:8 and 1:10 is allowed for a maximum rise of 3 in. A slope steeper than 1:8 is not allowed. (ADAAG 4.1.6(3)(a))
- 3. Clear Width. The minimum clear width of a ramp shall be 36 in. (915 mm). (ADAAG 4.8.3)
- 4. Landings. Ramps shall have level landings at bottom and top of each ramp run. Landings shall have the following features:
  - A) The landing shall be at least as wide as the ramp run leading to it.
  - B) The landing length shall be a minimum of 60 in. (1525 mm) clear.
  - C) If ramps change direction at landings, the minimum landing size shall be 60 in. by 60 in. (1525 mm by 1525 mm).
  - D) If a doorway is located at a landing, then the area in front of the doorway shall comply with subsection (j)(5) of this Section. (ADAAG 4.8.4)



### COMPONENTS OF A SINGLE RAMP RUN AND SAMPLE RAMP DIMENSIONS

# DOORS

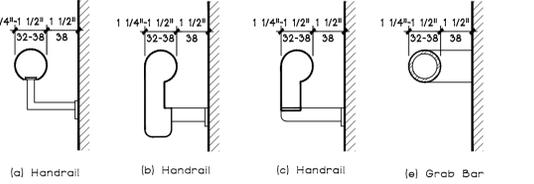
DOORS. All doors to accessible spaces (as defined in Section 400.210) shall comply with the following Requirements:

- 1. Clear Width. Doorways shall have a minimum clear opening of 32-in. (815 mm) with the door open 90 degrees, measured between the face of the door and the opposite stop. Openings more than 24 in. (610 mm) in depth shall comply with Section 400.220 (a) and subsection (a)(2) of this Section
- EXCEPTION: Door not requiring full user passage, such as shallow closets, may have the clear opening reduced to 20 in. (510 mm) minimum. (ADAAG 4.13.5)
- 2. THRESHOLDS AT DOORWAYS. Thresholds at doorways shall not exceed 3/4 in. (19 mm) in height for exterior sliding doors or 1/2 in. (13 mm) for other types of doors. Raised thresholds and floor level changes at accessible doorways shall be beveled with a slope no greater than 1:2 (see subsection (a)(7) of this Section). (ADAAG 4.18.8)
- 3. Door Hardware. Handles, pulls, latches, locks, and other operating devices on accessible doors shall have a shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist to operate. Lever-operated mechanisms, push-type mechanisms, and U-shaped handles are acceptable designs. When sliding doors are fully open, operating hardware shall be exposed and usable from both sides. Hardware required for accessible door passage shall be mounted no higher than 48 in. (1220 mm) above finished floor. (ADAAG 4.13.9)
- 4. Door Closers. If a door has a closer, then the sweep period of the closer shall be adjusted so that from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 in. (75 mm) from the latch, measured to the leading edge of the door. (ADAAG 4.13.10)
- 5. Door Opening Force. The maximum force for pushing or pulling open a door shall be as follows:
  - Fire doors shall have the minimum opening force allowable by the appropriate administrative authority.
  - Other doors:
    - exterior hinged doors: 8.5 lbf (37.8N);
    - interior hinged doors: 5 lbf (22.2N);
    - sliding or folding doors: 5 lbf (22.2N).
 These forces do not apply to the force required to retract latch bolts or disengage other devices that may hold the door in a closed position. (ADAAG 4.13.11)
- 6. Automatic Doors and Power-Assisted Doors. If an automatic door is used, then it shall comply with ANSI/BHMA A156.10-1985. Slowly opening, low-powered, automatic doors shall comply with ANSI A156.19-1984. Such doors shall not open to back check faster than 3 seconds and shall require no more than 15 lbf (66.6N) to stop door movement. If a power-assisted door is used, its door-opening force shall comply with subsection (j)(10) of this Section and its closing shall conform to the requirements in ANSI A156.19-1984. (ADAAG 4.13.12)

# GRAB BARS

Handrails, Grab Bars, and Tub and Shower Seats

- 1) General. All handrails, grab bars, and tub and shower seats required to be accessible shall comply with the requirements of this subsection (a). (ADAAG 4.26.1)
- 2) Size and Spacing of Grab Bars and Handrails. The diameter or width of the gripping surfaces of a handrail or grab bar shall be 1-1/4 in to 1-1/2 in (32 mm to 38 mm), or the shape shall provide an equivalent gripping surface. If handrails or grab bars are mounted adjacent to a wall, the space between the wall and the grab bar shall be 1-1/2 in. (38 mm). Handrails may be located in a recess if the recess is a maximum of 3 in. (75 mm) deep and extends at least 1/8 in. (455 mm) above the top of the rail. (ADAAG 4.26.2)
- 3) Structural Strength. The structural strength of grab bars, tub and shower seats, fasteners, and mounting devices shall meet the following specification:
  - A) Bending stress in a grab bar or seat induced by the maximum bending moment from the Application of 250 lbf (1112N) shall be less than the allowable stress for the material of the grab bar or seat
  - B) Shear stress induced in a grab bar or seat by the application of 250 lbf (1112N) shall be less than the allowable shear stress for the material of the grab bar or seat. If the connection between the grab bar or seat and its mounting bracket or other support is considered to be fully restrained, then direct and torsional shear stresses shall be considered for the combined shear stress, which shall not exceed the allowable shear stress.
  - C) Shear force induced in a fastener or mounting device from the application of 250 lbf (1112N) shall be less than the allowable lateral load of either the fastener or mounting device or the supporting structure, whichever is the smaller allowable load.
  - D) Tensile force induced in a fastener by a direct tension force of 250 lbf (1112N) plus the maximum moment from the application of 250 lbf (1112N) shall be less than the allowable withdrawal load between the fastener and the supporting structure.
  - E) Grab bars shall not rotate within their fittings. (ADAAG 4.26.3)
- 4) ELIMINATING HAZARDS. A handrail or grab bar and any wall or other surface adjacent to it shall be free of any sharp or abrasive elements. Edges shall have a minimum radius of 1/8 in. (3.2 mm). (ADAAG 4.26.4)



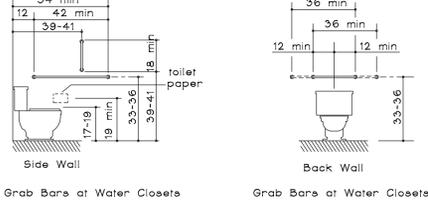
# WATER CLOSETS

WATER CLOSETS

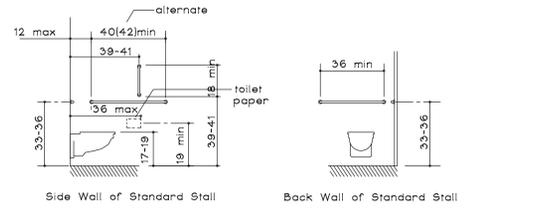
- 1) Grab Bars. Grab bars for water closets not located in stalls shall comply with subsection (a) of this Section. The grab bar behind the water closet shall be 36-in. (915 mm) minimum. (ADAAG 4.16.4) Grab bars at back of flush valve water closets may be provided in two sections if high flushometer riser pipe is required by applicable building or plumbing code.

### TOILET STALLS

Grab bars. Grab bars complying with the length and positioning shall be provided. Grab bars may be mounted with any desired method as long as they have a gripping surface at the locations shown and do not obstruct the required clear floor area. Grab bars shall comply with subsection (a) of this Section. (ADAAG 4.17.6) Grab bars at back of flush valve water closets may be provided in two sections if high flushometer riser pipe is required by applicable building or plumbing code.



## TOILET STALLS



# OPERATING MECHANISMS

CONTROLS AND OPERATING MECHANISMS

- 1) General. Where controls and operating mechanisms are provided in accessible spaces, along accessible routes or as parts of accessible elements (for example, light switches and dispenser controls), operable parts and controls shall comply with the requirements of this subsection (r). (ADAAG 4.1.3(13))
- 2) Clear Floor Space. Clear floor space complying with Section 400.220(d) that allows a forward or parallel approach by a person using a wheelchair shall be provided at controls, dispensers, receptacles, and other operable equipment. (ADAAG 4.27.2)
- 3) Height. The highest operable part of controls, dispensers, receptacles, and other operable equipment shall be placed within at least one of the reach ranges specified in Section 400.220(e) and (f). Electrical and communications system receptacles on walls shall be mounted no less than 15 in. (380 mm) above the floor.
- EXCEPTION: These requirements do not apply where the use of special equipment dictates otherwise or where electrical and communications systems receptacles are not normally intended for use by building occupants. (ADAAG 4.27.4)
- Operation. Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls shall be no greater than 5 lbf (22.2N). (ADAAG 4.27.4)

# DETECTABLE WARNINGS

DETECTABLE WARNINGS

- 1) Detectable Warnings on Walking Surfaces. Detectable warning features on walking surfaces shall consist of exposed aggregate concrete, cushioned surfaces made of rubber or plastic, raised strips, or grooves. Features shall contrast with that of the surrounding surface.
- 2) Tactile Warning on Doors to Hazardous Areas. Doors that lead to areas that might prove dangerous to a person who is visually impaired (for example, doors to loading platforms, boiler rooms, stages, etc.) shall be made identifiable to the touch by a textured surface on the door handle, knob, pull, or other operating hardware. This textured surface may be made by knurling or roughening or by a material applied to the contact surface. Such textured surfaces shall not be provided for emergency exit doors or any doors other than those to hazardous areas. See definition of "Hazardous Areas".
- 3) Detectable Warnings at Stairs. All stairs, except those in dwelling units, in enclosed stair towers, or set to the side of the path of travel shall have a detectable warning at the top of stair runs.
- 4) Detectable Warnings at Hazardous Vehicular Areas. If a walk crosses or adjoins a vehicular way, and the walking surfaces are not separated by curbs, railings, or other elements between the pedestrian areas and vehicular areas, the boundary between the areas shall be defined by a continuous, detectable warning texture, which is 36 in. (915 mm) wide, complying with subsection (t)(1) of this Section. (ADAAG 4.29.5)
- 5) Detectable Warnings at Reflecting Pools. The edges of reflecting pools shall be protected by railings, walls, curbs, or detectable warnings complying with subsection (t)(1) of this Section. (ADAAG 4.29.6)
- 6) Standardization. Textured surfaces for detectable warnings shall be standard within a building, facility, site, or complex of buildings.

# SIGNAGE

Signage

- 1) Signage for Particular Elements or Spaces. Elements and spaces of accessible facilities, which shall be identified by the international symbol of accessibility and which shall comply with subsection (u)(6)(A) of this Section are:
  - A) Parking spaces designated as reserved for individuals with disabilities (see Subsection (c)(7) of this Section);
  - B) Accessible passenger loading zones;
  - C) Accessible entrances when not all are accessible (inaccessible entrances shall have directional signage to indicate the route to the nearest accessible entrance);
  - D) Accessible toilet rooms, bathing facilities, and shower facilities when not all are accessible (inaccessible facilities shall have directional signage to indicate the route to the nearest accessible toilet room, bathing or shower facilities).
- 2) Signage. Accessible parking spaces shall be designated as reserved for environmentally limited persons by providing a R7-8 (U.S. Department of Transportation standard) sign which contains the international symbol of accessibility. Such signs shall exhibit the words "100.00 Fine" (or higher amount if required by local ordinance). (See Illinois Vehicle Code [625 ILCS 5/11-301.1].) Signs shall be vertically mounted on a post or wall at front center of the parking space, no more than 5 feet horizontally from the front of the parking space and set a minimum of 4 feet from finished grade to the bottom of the sign. Such signs shall be located so they cannot be obscured by a vehicle parked in the space. (ADAAG 4.6.4)

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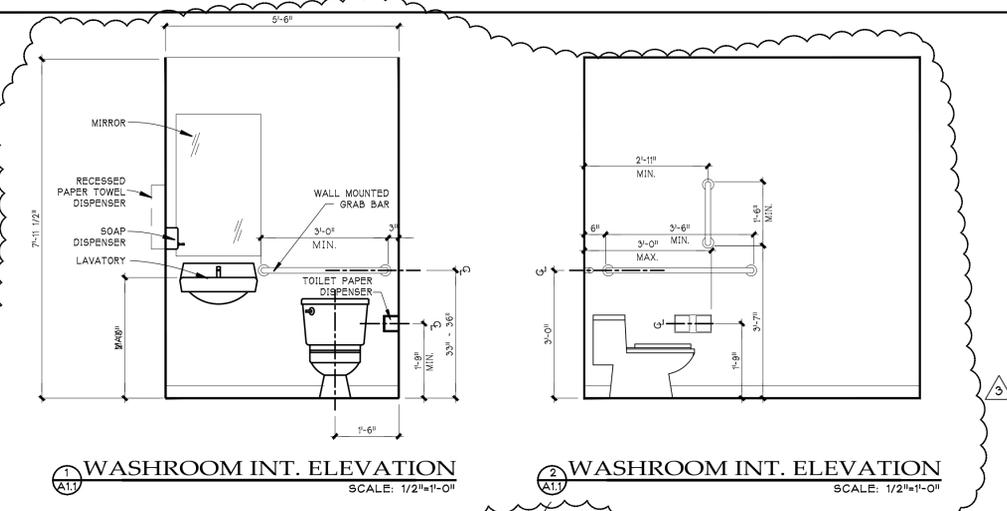
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DATE  
02/28/14

REVISIONS  
A 01/07/14 REV'D FOR PERMIT  
B 04/23/14 REV'D FOR PERMIT  
C 05/06/14 REV'D FOR PERMIT

PROJECT  
14121  
SHEET  
A0.3





### LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER & CATALOG #	LAMPS	WATTS	REMARKS
A	EMERGENCY EXIT LIGHT	RUDD LIGHTING - X1 - EXDMBRWH	2(5.4W)	10.8W	WITH BATTERY BACKUP
B	EMERGENCY LIGHT	RUDD LIGHTING - X2 - EM1SWH	2(5.4W)	10.8W	WITH BATTERY BACKUP
C	2X4 LIGHTING	COOPER LIGHTING - 2EP3GAX328T8332	3(28W)	84W	
D	2X2 LIGHTING	COOPER LIGHTING - 2EP3GAX328T8332	3(17W)	51W	
E	CEILING MOUNT LIGHTING	COOPER LIGHTING - 99F-232-UNV-EB8-U	2(17W)	34W	
F	EXISTING FIXTURE		3(56W)	168W	
G	WALL MOUNT FIXTURE	TO BE SELECT BY OWNER	1	100W	

\* EXISTING CODE COMPLIANT, AND VILLAGE APPROVED, EMERGENCY LIGHTING AND EXIT SIGNS TO REMAIN AS IS

### ELECTRICAL NOTES

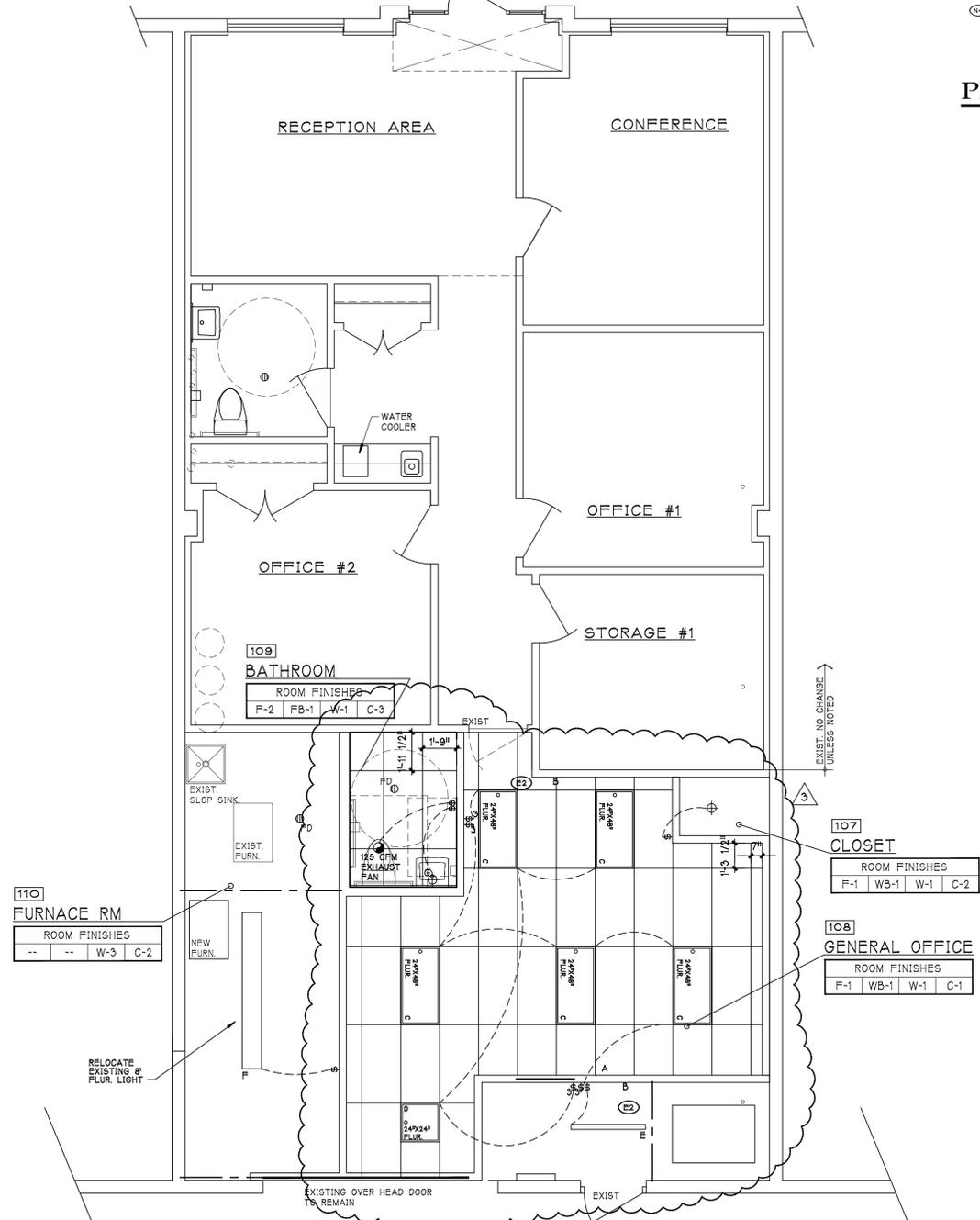
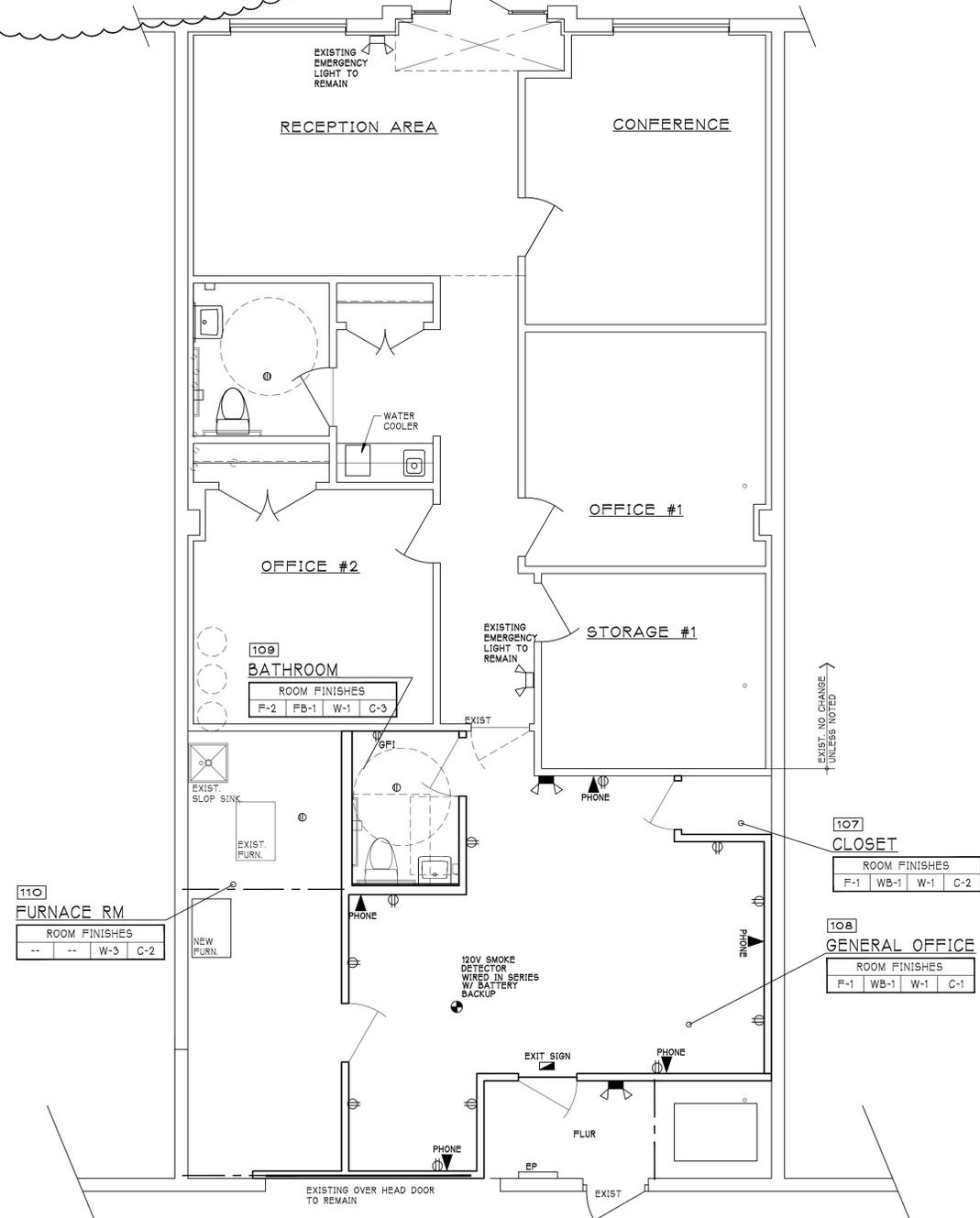
- (E1) ELECTRICAL BOX ON OPPOSITE SIDE OF FIRE RATED WALL ASSEMBLY SHALL BE MOUNTED NO LESS THAN 24" HORIZONTALLY FROM EACH OTHER OR SHALL BE FULLY WRAPPED WITH INTUMESCED PUTTY PADS
- (E2) DUAL VOLTAGE EMERGENCY BATTERY BACKUP LIGHT W/ TOW LAMPS

### GENERAL NOTES

- NOTE: DOOR HARDWARE SHALL BE CAPABLE OF OPERATION WITH THE USE OF ONE (1) HAND & SHALL NOT REQUIRE TIGHT PINCHING, TIGHT GRASPING OR TWISTING OF THE WRIST TO OPERATE. THUMBTURN DEADBOLTS ARE PROHIBITED. LEVER OR PADLOCK DEADBOLT RELEASES ARE ACCEPTABLE. DOOR THRESHOLD SHALL NOT EXCEED ONE-HALF (1/2") IN HEIGHT, THRESHOLDS EXCEEDING ONE-QUARTER (1/4") IN HEIGHT SHALL HAVE A 12 BEVEL. DOOR CLOSERS SHALL MEET OPENING FORCE & SWEEP PERIOD REQUIREMENTS.
- EXISTING TENANT SEPARATION PARTITIONS (8" CMU) 1 HR RATED CONSTRUCTION TIGHT TO UNDERSIDE OF ROOF
- CERAMIC TILE TO BE INSTALLED OVER 3/4" CDX PLYWOOD UNDERLAYMENT. INSTALL UNDERLAYMENT AND TILE OVER ENTIRE FLOOR INCLUDING UNDER VANITY CABINETS.
- (N1) LOCAL AUTHORITY HAVING JURISDICTION SHALL VERIFY THE PUBLIC LAVATORY FAUCETS ARE PROVIDED WITH AN AUTOMATIC SAFETY WATER-MIXING DEVICE. THE DEVICE SHALL BE EITHER THERMOSTATIC PRESSURE BALANCED OR COMBINATION CONTROLLED WHICH SHALL BE ADJUSTED TO A MAXIMUM SETTING OF ONE HUNDRED FIFTEEN (15) DEGREES AT THE TIME OF INSTALLATION.
  - (N2) LOCAL AUTHORITY HAVING JURISDICTION SHALL VERIFY THE PUBLIC LAVATORY FAUCETS ARE PROVIDED WITH AN AUTOMATIC SAFETY WATER-MIXING DEVICE. THE DEVICE SHALL BE EITHER THERMOSTATIC PRESSURE BALANCED OR COMBINATION CONTROLLED WHICH SHALL BE ADJUSTED TO A MAXIMUM SETTING OF ONE HUNDRED FIFTEEN (15) DEGREES AT THE TIME OF INSTALLATION.
  - (N3) SAW CUT & REMOVE EXISTING CONCRETE SLAB AS REQUIRED TO INSTALL NEW DRAIN LINE.
  - (N4) NEW 4" CONCRETE SLAB TO MATCH EXISTING
  - (N5) 5" METAL STUD TO BRACE PARTITION TO EXIST. WALL

### Plumbing Notes

- TYPE L COPPER WITH NO LEAD SOLDER REQUIRED ON ABOVE AROUND DOMESTIC WATER. LOCAL AMENDMENT.
- WASTE AND VENT PIPING TO BE SCH 40 PVC OR CAST IRON. LOCAL AMENDMENT.
- UNDERGROUND SANITARY TO BE SCH 40 PVC OR SERVICE WEIGHT CAST IRON. LOCAL AMENDMENT.
- TYPE K COPPER REQUIRED ON UNDERGROUND DOMESTIC WATER. LOCAL AMENDMENT.
- TEMPERED HOT WATER NOT TO EXCEED 110 DEGREES TO BE SUPPLIED TO ALL PUBLIC LAVATORIES
- 75LB AIR TEST OR WASTE PRESSURE REQUIRED ON WATER PIPING AT TIME OF ROUGH INSPECTION.
- ALL EXISTING PLUMBING THAT MAY POSE A HEALTH OR SAFETY HAZARD MUST BE REVISED TO MEET ILLINOIS PLUMBING CODE AND VILLAGE OF WILLOWBROOK ORDINANCES.
- ALL NEW PLUMBING MUST MEET ILLINOIS PLUMBING CODE AND VILLAGE OF WILLOWBROOK ORDINANCES.
- DRINKING WATER TO BE SUPPLIED COMPLYING WITH THE ILLINOIS PLUMBING CODE AND THE ILLINOIS ACCESSIBILITY CODE. THE INSTALLATION OF A HIGH/LOW WATER COOLER IS CODE COMPLIANT.
- CAST IRON REQUIRED FOR UNDERGROUND WASTE IN FILLED GROUND.
- ISOLATION VALVES REQUIRED ON WATER PIPE IN ACCORDANCE WITH THE ILLINOIS PLUMBING CODE SECTION 800.1190.



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DATE: **02/28/14**

REVISIONS	DATE	BY	REVISION
Δ	04/07/14		REV'D FOR PERMIT
Δ	02/28/14		REV'D FOR PERMIT
Δ	02/06/14		REV'D FOR PERMIT

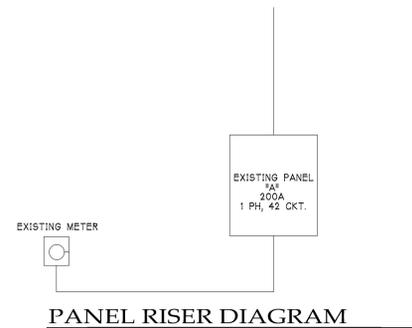
PROJECT: **14121**  
SHEET:

A11

PANEL A \*POCHE AREA SHOW EXISTING ELECTRICAL

CKT. NO.	TRIP AMPS	NO. POLES	DESCRIPTION	PHASE LOAD VA		CCT. NO.	TRIP AMPS	NO. POLES	PHASE LOAD VA		
				A	B				A	B	
1	20	1	CONFERENCE OUTLET	800		2	20	1	OFFICE 1 OUTLETS	800	
3	20	1	RECEPTION OUTLET		1000	4	20	1	OFFICE 2 OUTLETS	800	
5	20	1	WAREHOUSE LIGHTING	540		6	20	1	WAREHOUSE LIGHTING	540	
7	20	1	OFFICE LIGHTING		520	8	20	1	OFFICE LIGHTING	560	
9	20	1	GENERAL OUTLETS	540		10	20	1	GENERAL OUTLETS	540	
11	20	1	O.H. DOOR MOTOR		1000	12	20	1	FIRE ALARM / EXIT LIGHTS	380	
13	20	1	RESTROOM	1176		14	20	1	RESTROOM LIGHTING	540	
15	20	1	EXTERIOR LIGHTS		400	16	20	1	FURN.	1500	
17	20	1	SPACE			18	20	1	FURN.		
18	20	1	CONDENSING UNIT EXISTING	3500							
19	20	1	RESTROOM	1176		20	20	1	OFFICE 1 OUTLETS	800	
21	20	1	OFFICE LIGHTING		560	22	15	1	NEW FURN.	1500	
23	20	1	CONDENSING UNIT	3500		24					
39	20	1	SPACE			40					
41	20	1	SPACE			42					
TOTAL				4232	3480	TOTAL				3220	4740

NOTE:  
POCHE AREA INDICATED EXISTING ELECTRICAL ON PANEL



PANEL RISER DIAGRAM

VENTILATION DATA

ROOM NO.	USE OF SPACE	FLOOR AREA SQ. FT.	ORDINANCE REQ.				PLAN REQ.				REMARKS	
			NATURAL LIGHT AND VENTILATION		MECHANICAL VENTILATION		NATURAL LIGHT AND VENTILATION		MECHANICAL VENTILATION			
			SQ. FT. GLASS AREA	SQ. FT. VENT AREA	C.F.M. AIR SUPPLY	C.F.M. AIR EXHAUST	SQ. FT. GLASS AREA	SQ. FT. VENT AREA	C.F.M. AIR SUPPLY	C.F.M. AIR EXHAUST	SUPPLY	EXHAUST
108	GENERAL OFFICE	341			85	85			300	300	80 CFM	
109	BATHROOM	55			75	75			125	125		

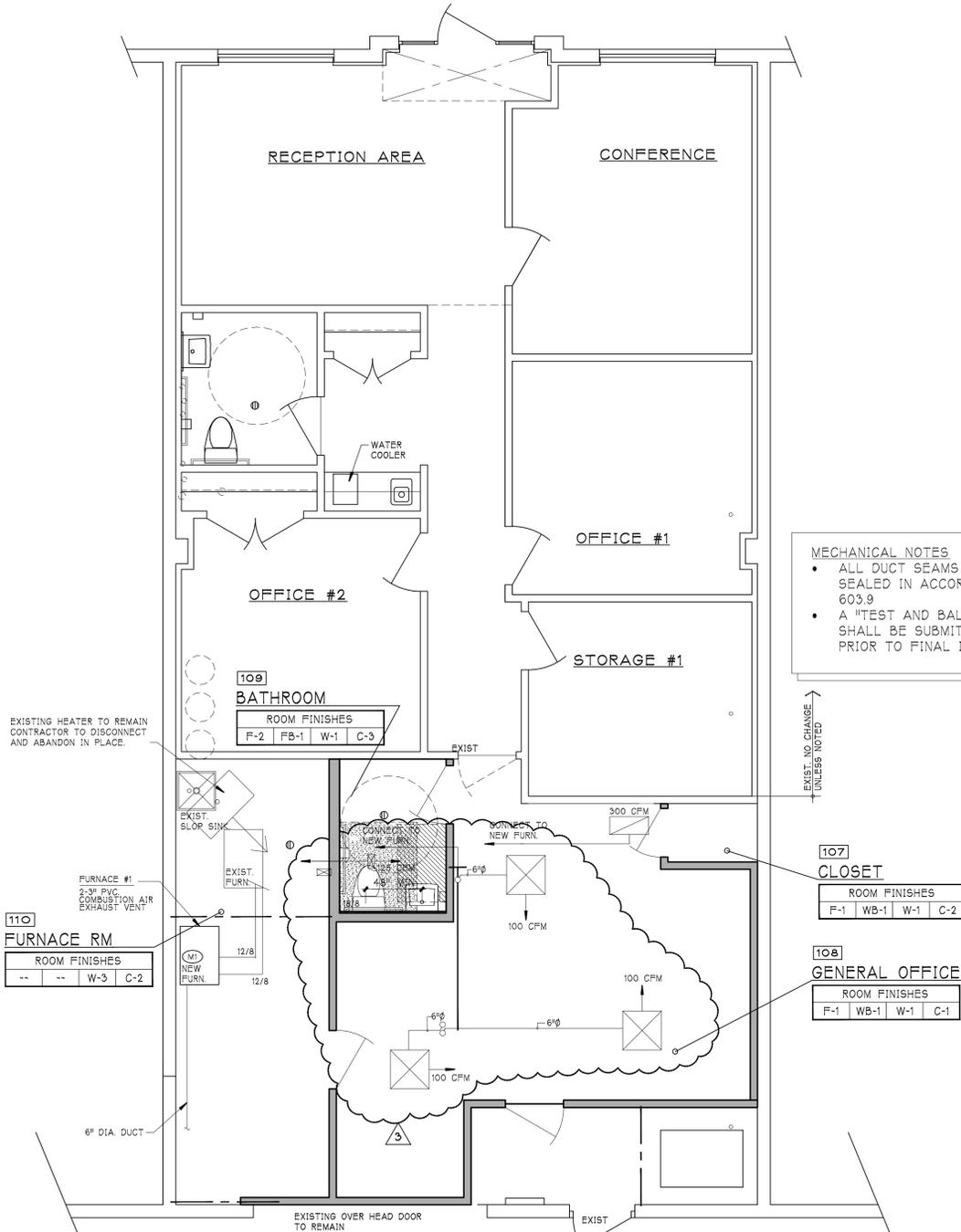
REQUIRED OUTDOOR VENTILATION CALC.  
OFFICE PERSON PER 1000 SF FT = 7  
400-420-580 ÷ 4 PERSON OCCUP  
REQUIRED OUTDOOR AIR = 20 PER PERSON  
20x4 = 80 CFM

GENERAL NOTES

- DUCTWORK PER SMCA STANDARD
  - SUPPLY DUCT TO BE 1/2" LINED
- (M) CONDENSER UNIT TO BE LOCATED ON THE ROOF W/ CLEARANCE PER MANUFACTURE

MECHANICAL EQUIPMENT

- FURNACE ONE (1) AMERICAN STANDARD MODEL #AVCIB060A9361A, 2 1/2 TON BOX EFFICIENT FURNACE, 120V (OR EQUAL)
- CONDENSER UNIT ONE (1) AMERICAN STANDARD MODEL #4TTB30306 2 1/2 TON CONDENSER ON ROOF WITH MATCHING A-COIL, 208-230 VOLT SINGLE PHASE
- EXHAUST ONE (1) BROAN 125 CFM BATHROOM EXHAUST FAN AND VENTING



MECHANICAL NOTES

- ALL DUCT SEAMS AND JOINTS SHALL BE SEALED IN ACCORDANCE WITH SECT. 603.9
- A "TEST AND BALANCE" REPORT WILL BE SHALL BE SUBMITTED TO THE VILLAGE PRIOR TO FINAL INSPECTION.

MECHANICAL PLAN

7300 Madison Renovation  
Willowbrook, Illinois 60527

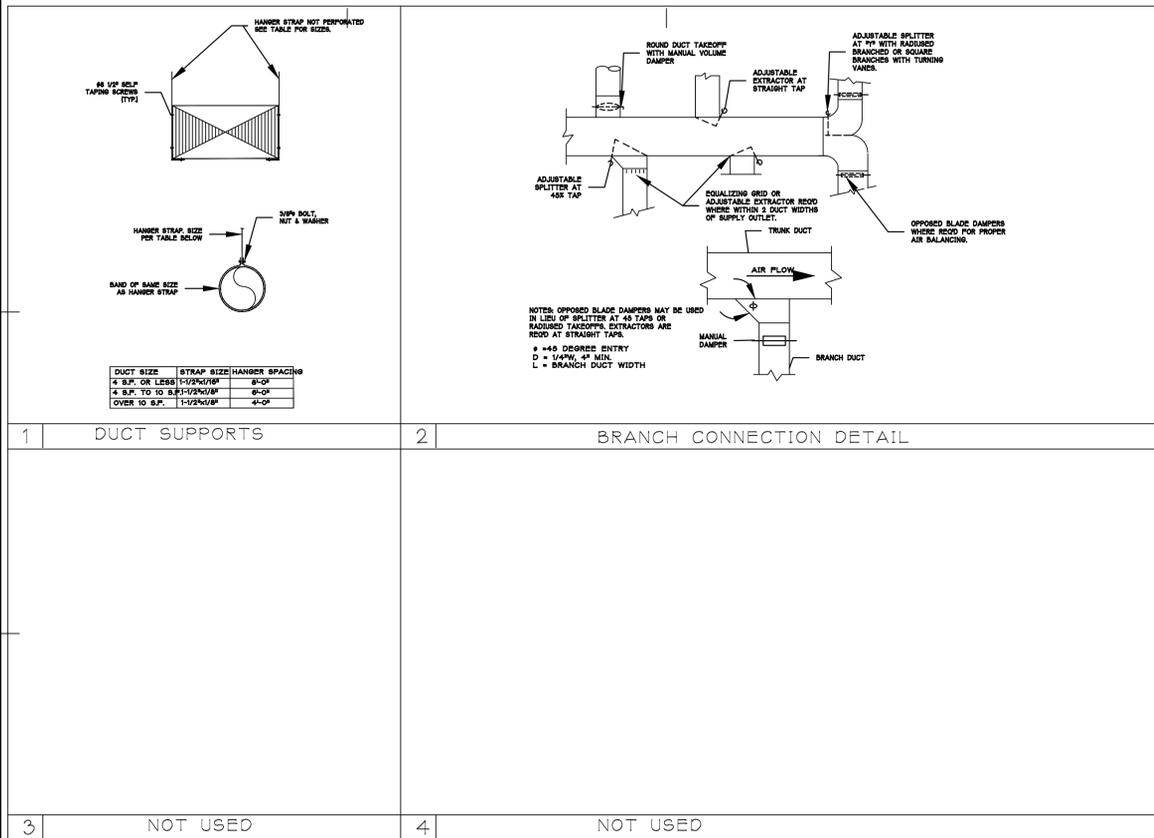
swa architects  
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DATE  
02/28/14

REVISIONS	REV'D FOR PERMIT
Δ	04/07/14 REV'D FOR PERMIT
Δ	02/28/14 REV'D FOR PERMIT
Δ	02/06/14 REV'D FOR PERMIT

PROJECT  
14121

SHEET  
M1.0



GAS-FIRED FURNACE SCHEDULE														
AREA SERVED	QTY	TAG	CARRIER MODEL NO.	CFM	ESP	H.P.	INPUT BTU	OUTPUT BTU	TYPE	VOLTS	PHASE	MOTOR FLA	MAX. FUSE	REMARKS
FURNACE	1	F-1	58MV100F100-08	800	0.5	3/4	40,000	36,000	UPFLOW	120	1	8.5	20	

NOTES: FURNACE SHALL BE DIRECT VENT 82% OR HIGHER ENERGY EFFICIENCY RATED. THERMOSTAT SHALL BE 7-DAY ENERGY STAR QUALIFIED PROGRAMMABLE THERMOSTAT

CONDENSING UNIT SCHEDULE																
AREA SERVED	QTY	TAG	CARRIER MODEL	QUANTITY OF COMPTONS	COMP. H.P.	REFR. TYPE	LB. OF REFR.	REMO.	LOCATION	AIR COOLED	SAFETY VALVE	LRA	RLA	VOLTS	PH.	MAX. CIRCUIT BREAKER
FURNACE	1	CU-2	24ABR348A0030-31	1	2.0	2.0	R-410A	3.75	YES	GROUND	YES	HENRY-450PSI	-	208-230	1	20 AMP

NOTES: SEER RATING FOR CONDENSING UNIT SHALL BE MIN OF 14 WITH R410A REFRIGERANT

EXHAUST FAN SCHEDULE										
TAG	AREA SERVED	BASED ON MFR. MODEL NO.	DRIVE TYPE	C.F.M.	E.S.P.	TIP SPEED F.P.M.	MOTOR			NOTES
							H.P.	VOLT	Ø	
TE	SEE PLAN	BROAN	-	75	-	3785	1/16	120	1	

NOTES: ALL TOILET EXHAUST FANS SHALL HAVE A 4% SHEET METAL DUCT TO A ROOF CAP OR WALL OUTLET TO THE EXTERIOR

**GENERAL SPECIFICATIONS**

**A. STATEMENT OF INTENT**

- IT IS THE INTENT OF THESE DOCUMENTS THAT THE CONTRACTOR PROVIDE ALL LABOR, MATERIAL, EQUIPMENT AND TOOLS NECESSARY FOR THE INSTALLATION OF ALL WORK SHOWN ON THE PLANS AND/OR DESCRIBED HEREIN, INCLUDING ALL APPURTENANCES REQUIRED TO SET RESPECTIVE SYSTEMS IN OPERATION. THE TERM "FURNISH AND INSTALL" WILL NOT BE USED, BUT IS INTENDED UNLESS SPECIFIC NOTATION IS MADE TO THE CONTRARY.
- ALL ITEMS OF WORK AND ALL SYSTEMS ARE TO BE COMPLETE IN ALL DETAILS, READY FOR SATISFACTORY OPERATION. PROVIDE ALL NECESSARY DEVICES AND RELATED APPARATUS FOR COMPLETE SYSTEMS EVEN THOUGH SUCH ITEMS MAY NOT BE SPECIFICALLY MENTIONED.

**B. CODES: REGULATIONS**

- IF THE CONTRACTOR OBSERVES THAT ANY OF THE CONTRACT DOCUMENTS ARE AT VARIANCE WITH THE LAWS, ORDINANCES, RULES AND REGULATIONS OF ANY PUBLIC AUTHORITY BEARING ON THE PERFORMANCE OF THE WORK, HE SHALL PROMPTLY NOTIFY THE ARCHITECT IN WRITING AND ANY NECESSARY CHANGES SHALL BE ADJUSTED BY APPROPRIATE MODIFICATIONS. IF THE CONTRACTOR PERFORMS ANY WORK KNOWING IT TO BE CONTRARY TO SUCH NOTICE TO THE ARCHITECT, HE SHALL ASSUME FULL RESPONSIBILITY THEREOF AND SHALL BEAR ALL COSTS ATTRIBUTABLE THERETO.
- COMPLY WITH ALL APPLICABLE REGULATIONS OF UTILITY COMPANIES SERVING THE PROJECT.
- COMPLY WITHIN ALL APPLICABLE RECOMMENDATIONS OF THE NATIONAL FIRE PROTECTION ASSOCIATION, NATIONAL ELECTRIC CODE, AMERICAN SOCIETY OF MECHANICAL ENGINEERS, FACTORY INSURANCE ASSOCIATION AND FACTORY MUTUAL INSURANCE COMPANIES.
- WHERE APPLICABLE, MATERIAL OR EQUIPMENT SHALL BEAR THE STAMP OR SEAL OF UL, ASME, AIA AND NEMA.
- COMPLIANCE WITH OWNERS AND ARCHITECTS REQUIREMENTS.

**C. DRAWINGS AND EXISTING CONDITIONS**

- THE DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL EQUIPMENT. FOLLOW THE MECHANICAL PLANS AS CLOSELY AS POSSIBLE FOR THE INSTALLATION OF PIPING AND EQUIPMENT. DUE TO THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO SHOW ALL OFFSETS, AND DETAIL EVERY POINT AT WHICH EXIGENCIES OF CONSTRUCTION MAY REQUIRE SPECIAL ATTENTION.
- SHOULD CONDITIONS NECESSITATE ANY REARRANGEMENTS, OR IF PIPING CAN BE RUN TO BETTER ADVANTAGE, PREPARE AND SUBMIT DRAWINGS SHOWING THE CHANGES BEFORE PROCEEDING WITH THE WORK. IF SUCH CHANGES ARE APPROVED, THEY SHALL BECOME A PART OF THE CONTRACT AFTER THEIR APPROVAL.
- ANY ADDITIONAL FITTINGS, VALVES, DUCTS, CONDUITS OR SPECIALTIES REQUIRED OR OTHER APPURTENANCES NECESSARY, DUE TO THE FIELD CONDITIONS OR CODE REQUIREMENTS, SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR, AT NO EXTRA COST TO THE OWNER.
- THE CONTRACTOR SHALL VISIT AND INSPECT THE EXISTING BUILDING AND TENANT SPACE AND THOROUGHLY FAMILIARIZE HIMSELF WITH ACTUAL JOB CONDITIONS BEFORE BEGINNING WORK AND PRIOR TO BID.
- VERIFY EXISTING CONDITIONS AND LOCATIONS IN FIELD PRIOR TO BEGINNING WORK. CONTRACTOR SHALL MAKE A DETAILED EXAMINATION OF ALL LOCATIONS WHERE NEW WORK IS TO BE INSTALLED AND EXAMINE EXISTING STRUCTURAL SUPPORTING BEAMS, JOISTS, ETC.
- WHILE THE SIZE AND LOCATION OF NEW WORK AND EQUIPMENT IN THE EXISTING BUILDING HAS BEEN INDICATED ON THE DRAWINGS AS ACCURATELY AS POSSIBLE, CONTRACTOR SHALL ADJUST HIS WORK AS REQUIRED TO AVOID EXISTING BEAMS AND JOISTS NOT SHOWN ON PLANS. CONTRACTOR SHALL ADAPT HIS WORK TO MEET ALL ACTUAL CONDITIONS IN THE EXISTING TENANT SPACE.

**D. CUTTING AND PATCHING**

- CUTTING OF EXISTING WORK: CUTTING TO BE BY TRADE INSTALLING THE WORK
- NO CUTTING OF STRUCTURAL WORK OR FIREPROOF WITHOUT ARCHITECT'S WRITTEN CONSENT.
- PATCHING: UNLESS NOTED OTHERWISE TO BE BY EACH TRADE, SEE GENERAL CONDITIONS REGARDING CUTTING AND PATCHING AT CORRECTIVE WORK.

**E. CLEANING: REMOVAL OF RUBBISH**

- RUBBISH: EACH TRADE TO PROMPTLY REMOVE ALL DEBRIS, SURPLUS AND DISCARDED MATERIAL FROM THE PREMISES. IN FINISHING STAGES COOPERATE WITH OTHER CONTRACTORS IN THIS, AND SHARE IN PROPRATE BASIS BEFORE COMPLETION OF THE WORK, REPLACE ALL FILTERS.

**F. TESTING, BALANCING AND ADJUSTING**

- CERTIFICATES OF APPROVAL AND/OR ACCEPTANCE OF TESTS BY REGULATING AGENCIES HAVING JURISDICTION SHALL BE PROVIDED BEFORE FINAL ACCEPTANCE IS GIVEN. SUCH CERTIFICATES OR APPROVAL SHALL BE IN THE HANDS OF THE OWNER BEFORE THE ARCHITECT SHALL ARRANGE FINAL INSPECTION.
- THE ARCHITECT MAY ELECT BEFORE THE DATE OF FINAL ACCEPTANCE OF THE WORK TO HAVE THE CAPACITY AND EFFICIENCY TESTS CONDUCTED BY A QUALIFIED TESTING ORGANIZATION. RESULTS INDICATING THAT ITEMS OF THE WORK DO NOT MEET THE REQUIREMENTS OF THE DRAWINGS AND THE SPECIFICATION SHALL MAKE THE CONTRACTOR RESPONSIBLE FOR THE COST OF ADDITIONAL WORK NECESSARY TO MEET THE SPECIFICATION. THE ARCHITECT SHALL DEDUCT SUCH COSTS FROM THE FINAL PAYMENT TO THE CONTRACTOR INVOLVED.
- ALL TESTING, BALANCING AND OPERATION OF THE NEW AND EXISTING SYSTEMS SHALL BE PERFORMED BY COMPETENT AND EXPERIENCED PERSONNEL WHO HAVE FORMERLY DONE SIMILAR WORK AND WHOSE QUALIFICATIONS AND PERFORMANCE SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. FAN SHALL BE SET TO DESIGN REQUIREMENTS BY REPLACING SHEAVES IF NECESSARY WITHIN MINIMUM DAMPENING.
- THE CONTRACTOR SHALL SUBMIT WRITTEN AIR BALANCING REPORTS TO THE ARCHITECT FOR APPROVAL, CONTAINING THE FOLLOWING INFORMATION:
  - QUANTITY OF AIR IN CFM AT EACH AIR OUTLET OR INLET. MATERIALS
  - TOTAL QUANTITY OF SUPPLY, RETURN AND OUTSIDE AIR IN CFM FOR EACH UNIT.
  - R.P.M. OF FAN AND MOTOR.
  - AMPERE INPUT TO EACH MOTOR.
  - PRESSURE IN INCHES WATER GAUGE AT INLET AND DISCHARGE OF FAN OR BLOWER.

**G. GUARANTEE**

- THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK INSTALLED UNDER THIS CONTRACT. HE SHALL MAKE GOOD, REPAIR OR REPLACE AT HIS OWN COST AND EXPENSE, AS MAY BE NECESSARY, ANY DEFECTIVE WORK OR MATERIAL WHICH MAY SHOW ITSELF WITHIN ONE YEAR AFTER DATE OF THE FINAL CERTIFICATE, IF IN THE OPINION OF THE ARCHITECT SAID DEFECT IS DUE TO IMPERFECTION IN MATERIAL OR WORKMANSHIP.
- ALL MATERIAL, WORKMANSHIP AND EQUIPMENT SHALL BE GUARANTEED FOR ONE YEAR AFTER SYSTEM ACCEPTANCE. PROVIDE TYPEWRITTEN OPERATING INSTRUCTIONS AND EQUIPMENT WARRANTIES AS A PART OF THIS CONTRACT. THE CONTRACTOR SHALL PROVIDE A ONE YEAR SERVICE AND MAINTENANCE AGREEMENT. THIS CONTRACTOR SHALL NOTIFY THE STORE MANAGER 48 HOURS PRIOR TO THE START OF TURN-OVER AND INSTRUCT THE MANAGER IN THE SYSTEM OPERATION.

**H. INSURANCE**

- THE CONTRACTOR SHALL PURCHASE AND MAINTAIN SUCH INSURANCE AS WILL PROTECT HIM FROM CLAIMS INCLUDING WORKMANSHIP COMPENSATION AND PUBLIC LIABILITY WHICH MAY ARISE OUT OF OR RESULT FROM THE CONTRACTOR'S OPERATIONS UNDER THE CONTRACT, WHETHER SUCH OPERATIONS BE BY HIMSELF OR BY ANY SUBCONTRACTOR OR BY ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM, OR BY ANYONE FOR WHOSE ACTS ANY OF THEM MAY BE LIABLE.

**I. COORDINATION AND INSTALLATION**

- THE ENTIRE INSTALLATION SHALL BE PERFORMED IN A FIRST-CLASS WORKMANLIKE MANNER. THE COMPLETE SYSTEM SHALL BE FULLY OPERATIONAL AND ACCEPTANCE BY OWNER SHALL BE A CONDITION OF THE CONTRACT.
- ALL WORK SHALL BE COORDINATED WITH OTHER TRADES IN ORDER TO AVOID INTERFERENCES, PRESERVE HEADROOM, AVOID OMISSIONS AND VERIFY EQUIPMENT LOCATIONS.
- DUCTWORK AND PIPING SHALL BE CONCEALED WHERE POSSIBLE, RUN IN STRAIGHT LINES PARALLEL AND/OR PERPENDICULAR TO THE BUILDING CONSTRUCTION, AS HIGH AS POSSIBLE.
- ALL OUTSIDE AIR INTAKES SHALL BE INSTALLED A MINIMUM OF 10'-0" FROM ALL EXHAUST AS PER LOCAL CODES (VERIFY IN

**J. DEMOLITION**

- THIS CONTRACTOR SHALL VISIT THE JOB SITE AND DETERMINE THE EXTENT OF WORK REQUIRED TO REMOVE ALL EXISTING HVAC SYSTEMS AND EQUIPMENT.
- ALL DEMOLITION WORK SHALL BE CONSIDERED A PART OF THE PROJECT.
- THIS CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS WITH THE GENERAL CONTRACTOR PRIOR TO BID.

**K. DUCTWORK**

- ALL DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL STATE AND LOCAL CODES, ASHRAE STANDARDS AND SMAGNA STANDARDS.
- ALL FLEXIBLE DUCTWORK SHALL BE WIRE MOLD WG U/L TYPE 181 AS APPROVED BY LOCAL CODES.
- ALL OUTSIDE AIR DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET METAL AND WRAPPED WITH 1-1/2" THICK FIBERGLASS INSULATION WITH FACTORY APPLIED VAPOR BARRIER, IN ACCORDANCE WITH LOCAL CODES.
- ALL DUCTWORK INSULATING MATERIALS SHALL HAVE A MAXIMUM FLAME SPREAD RATING OF 25, SMOKE DEVELOPED RATING SHALL NOT EXCEED 50. ALL VALUES SHALL BE IN ACCORDANCE WITH ASTM TEST E84 - SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS.

- FURNISH AND INSTALL ALL STARTING COLLARS, MANUAL DAMPERS, SPLITTERS AND DEFLECTORS SHOWN ON THE DRAWINGS OR WHEREVER REQUIRED FOR THE PROPER AIR FLOW AND BALANCING OF THE ENTIRE AIR SYSTEM. ALL SQUARE (90) ELBOWS SHALL BE PROVIDED WITH TURNING VANES.

**L. ELECTRICAL MOTORS**

- THIS CONTRACTOR SHALL FURNISH MOTORS, MOTOR STARTERS AND CONTROLS FOR ALL MECHANICAL EQUIPMENT PROVIDED HEREIN, INCLUDING SETTING OF ALL LOOSE MOTORS FURNISHED. MOUNTING OF STARTERS AND ALL POWER WIRING WILL BE BY ELECTRICAL TRADES. PROVIDE MANUAL STARTERS FOR ALL SINGLE PHASE MOTORS AND MAGNETIC STARTERS FOR ALL THREE PHASE MOTORS, ALL U/L LABELS, NEMA RATED.

**M. PIPING AND FITTINGS**

- ALL PIPE SHALL BE NEW, CUT SQUARE, REAMED AND FREE OF BURRS. PRIOR TO INSTALLATION IT SHALL BE THOROUGHLY CLEANED AND THREADS SHALL BE TAPERED. PIPE SHALL BE CUT ACCURATELY TO MEASUREMENTS ESTABLISHED AT THE BUILDING AND WORKED INTO PLACE WITHOUT SPRINGING OR FORGING OPEN ENDS. ALL JOINTS SHALL BE CLOSED DURING CONSTRUCTION TO PREVENT DIRT OR BUILDING MATERIALS FROM ENTERING. CHANGES IN DIRECTION SHALL BE MADE WITH FITTINGS AND CHANGES IN SIZES WITH ECCENTRIC REDUCING FITTINGS. ALL FITTINGS SHALL BE CATALOGED AND MANUFACTURED BY AN APPROVED MANUFACTURER.
- VALVES AND UNIONS OR FLANGES SHALL BE PROVIDED TO ISOLATE EACH PIECE OF EQUIPMENT, BRANCH CIRCUIT OR SECTION OF PIPING. SWING JOINTS SHALL BE PROVIDED AT RUN OUTS TO EQUIPMENT AS WELL AS SUFFICIENT EXPANSION OF LOOPS OR SWING CONNECTIONS AT OTHER POINTS TO ALLOW FOR SERVICE, MAINTENANCE REPAIR OR REPLACEMENT OF EQUIPMENT WITHOUT CUTTING OR SPRINGING PIPING.
- ALL PIPING AND FITTINGS SHALL CONFORM TO ALL ASTM AND AIA STANDARDS.
- ALL CONDENSING WATER PIPING AND CONDENSATE DRAIN PIPING SHALL BE INSULATED AS REQUIRED TO MATCH EXISTING.

**N. TEMPERATURE CONTROL**

- THIS CONTRACTOR SHALL FURNISH AND INSTALL A FULLY OPERATIONAL TEMPERATURE CONTROL SYSTEM IN ACCORDANCE WITH OWNERS AND LOCAL CODE REQUIREMENTS.
- THIS CONTRACTOR SHALL PROVIDE ALL NECESSARY COMPONENTS INCLUDING RETURN AIR AND OUTSIDE AIR DAMPERS, DAMPER OPERATORS, INTERLOCK WIRING, CONTROL WIRING, THERMOSTATS WITH LOCKING COVER, CONTROL VALVES, ETC., AS REQUIRED TO MATCH THE EXISTING SYSTEM.

