

REFLECTED CEILING PLAN

1/4" = 1'-0"

NOTE) EYE DESIGNS OPTICAL DISPLAY UNITS ARE EQUIPPED WITH 20 AND 50 WATT HALOGEN INCANDESCENT LIGHT BULBS. THEY REQUIRE ENOUGH VOLTAGE TO POWER 3-4 LIGHTS PER DISPLAY UNIT AND MUST BE PLUGGED INTO A STANDARD ELECTRICAL OUTLET AT A HEIGHT OF 7'-3" AFF. THIS OUTLET MUST BE WIRED TO A SWITCH, LOCATIONS AND SPECS TO BE DETERMINED BY ARCHITECT, CONTRACTOR, AND/OR THE CLIENT.

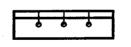
* SEE THE ATTACHED PERMIT CONDINONS.

Plan reviewed by Bu Dul Date 7/13/07

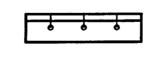
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MISCELLANEOUS SYMBOLS DUPLEX RECEPT. A PHONE/DATA DED./SIMPLEX RECPT. A DOUBLE GANG A PHONE/DATA W/ ISO GROUND QUADRAPLEX RECPT. A PHONE BOX € SWITCH EXIT/EMER. COMBO EP ELECT. PANEL

DISPLAY UNITS

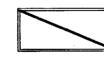


= 38" UNIT HAS 3 LIGHTS AT 20 WATTS PER BULE TOTAL OF 60 WATTS.



= 45" UNIT HAS 3 LIGHTS AT 20 WATTS PER BULB TOTAL OF 60 WATTS.

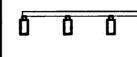
LIGHTING FIXTURE LEGEND



= 2'x4' FLUORESCENT FIXTURE W/ STANDARD PRISMATIC LENS. (USE GENERAL ELECTRIC OR SIMILAR)



= 2'x2' 9 CELL PARABOLIC FLORESCENT LIGHT FIXTURE. (USE GENERAL ELECTRIC OR SIMILAR)



= LOW VOLTAGE TRACK LIGHTING. (USE GENERAL ELECTRIC OR SIMILAR)



= STANDARD RECESSED LIGHT FIXTURE. (USE GENERAL ELECTRIC OR SIMILAR)



= STANDARD RECESSED LIGHT FIXTURE. (USE GENERAL ELECTRIC OR SIMILAR)

= STANDARD RECESSED LIGHT FIXTURE WITH 75 WATT PAR LAMP NARROW SPOT. (USE GENERAL ELECTRIC OR SIMILAR)

PROJECT DESCRIPTION

THE "FAMILY EYECARE ASSOCIATES" PROJECT:

THIS PROJECT IS A PREPARATION FOR A "FIT-UP" PROJECT FOR AN INTERIOR TENANT SPACE OF THE EXISTING BUILDING LOCATED IN ROCHESTER, MN

THE OWNER AND THEIR OTHER AGENTS MAY PROVIDE ADDITIONAL INTERIOR INFORMATION. THE SIGNED ARCHITECTURAL DRAWINGS SHALL TAKE PRECIDENCE OVER DUPLICATE DRAWINGS PREPARED BY OWNER OR OTHER NON-LISCENSED AGENTS. QUESTIONS WITH REGARDS TO DRAWINGS SHALL BE DIRECTED TO THE ARCHITECT.

MECHANICAL, ELECTRICAL AND PLUMBING DESIGNS TO BE PREPARED BY OTHERS.

CODE INFORMATION

CODE USED: 2000 IBC & MINNESOTA BC

OCCUPANTCY CLASS: B

TENANT FLOOR SPACE

1500 SQ. FT.

CONSTRUCTION TYPE: V B - SPRINKLED NUMBER OF STORIES: 1

OCCUPANT LOAD

BUSINESS AREA =

1500 SQ. FT. / 100 = 15 OCC.

15 OCCUPANTS TOTAL OCCUPANTS

REST ROOMS: 1 REQUIRED W/B.O. APPROVAL - 1 PROVIDED

EXITS: 2 EXITS PROVIDED - 1 REQUIRED

PROPER EXIT SIGNS AND LIGHTING TO BE INSTALLED VERIFY W/ ELECTRICAL DESIGN AND SPEC.

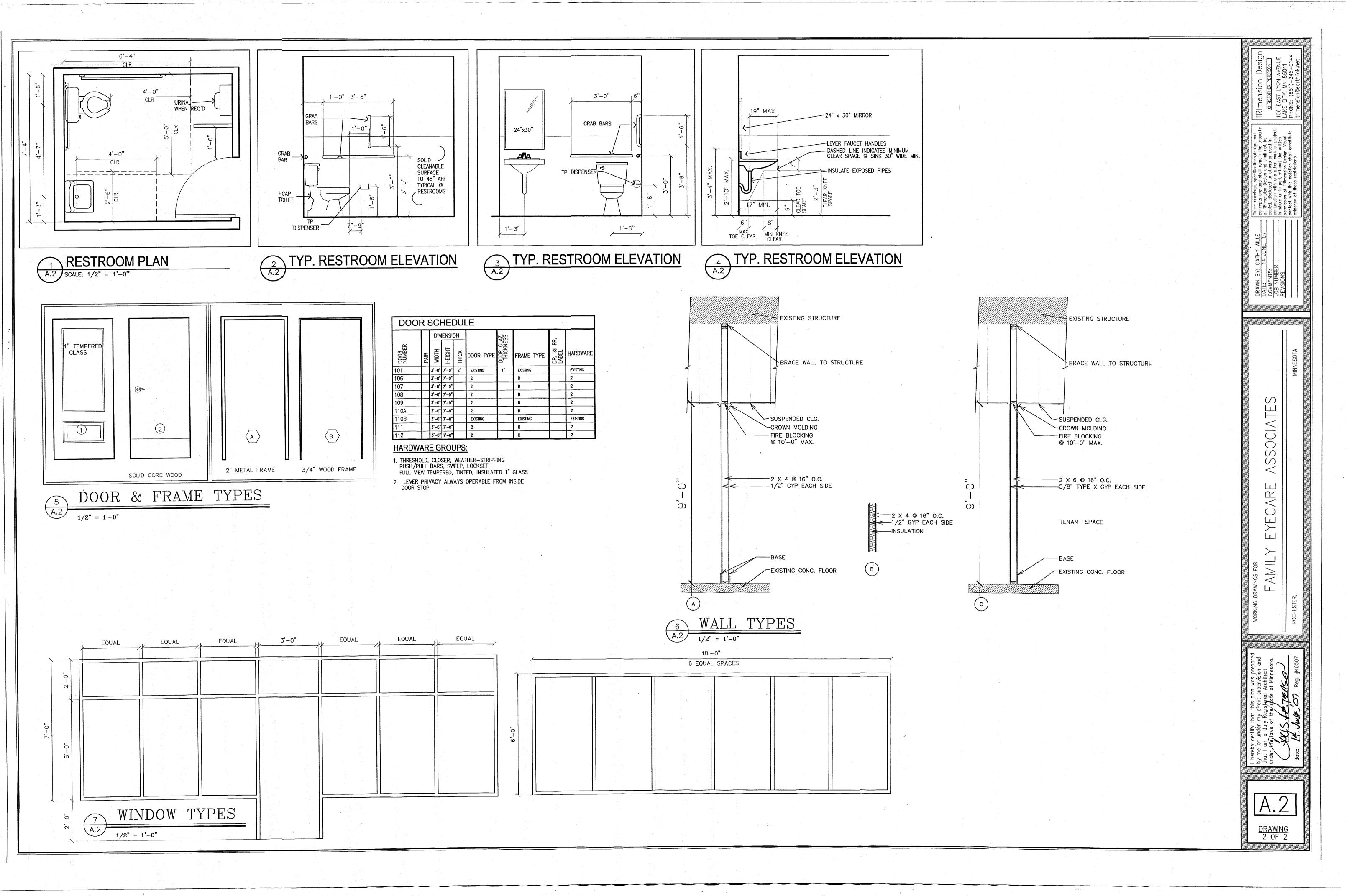
GENERAL PROJECT NOTES

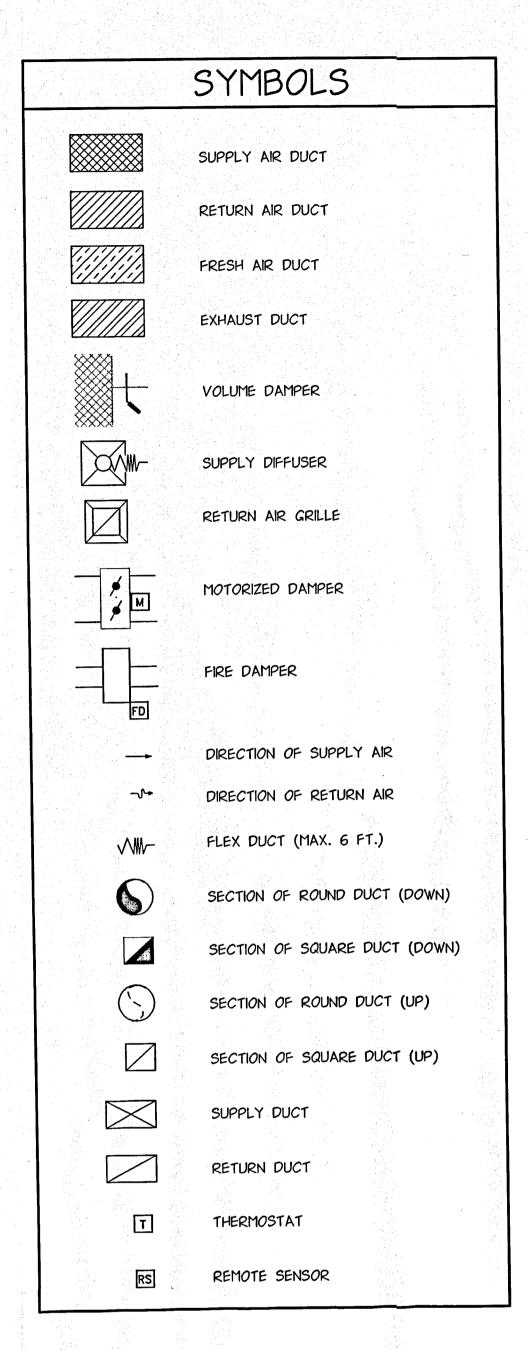
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES TO PROTECT THE PUBLIC AND ADJACENT PROPERTIES FROM DAMAGE THROUGHOUT CONSTRUCTION.
- ANY EXISTING UTILITIES TO BE ABANDONED SHALL BE PROPERLY DISCONNECTED, PLUGGED OR CAPPED, AS REQUIRED BY CODE OR LOCAL
- THESE DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. ADDITIONAL DATA SHALL BE FROM THE ARCHITECT / ENGINEER THROUGH WRITTEN CLARIFICATION ONLY. VERIFY ALL EXISTING CONDITIONS, ELEVATIONS, AND DIMENSIONS BEFORE PROCEEDING WITH ANY PORTION OF ANY WORK.
- NO CHANGES, MODIFICATIONS OR DEVIATIONS SHALL BE MADE FROM THE DRAWINGS OR SPECIFICATIONS WITHOUT FIRST SECURING WRITTEN PERMISSION FROM THE ARCHITECT / ENGINEER.
- WHERE LACK OF INFORMATION, OR ANY DISCREPANCY SHOULD APPEAR IN THE DRAWINGS OR SPECIFICATIONS, REQUEST WRITTEN INTERPRETATION FROM THE ARCHITECT / ENGINEER BEFORE PROCEEDING WITH THAT PORTION OF THE WORK.
- ALL WORK AS DUTLINED IN THESE DOCUMENTS, SHALL STRICTLY CONFORM TO ALL APPLICABLE CODES AND ORDINANCES, IN THE EVENT OF CONFLICTS THE MORE STRINGENT REQUIREMENT SHALL GOVERN AND BE MET.
- THE CONTRACTOR SHALL PAY FOR ALL FEES, PERMITS, LICENSES, ETC., NECESSARY FOR PROPER COMPLETION OF THE WORK.
- THE CONTRACTOR SHALL GUARANTEE ALL WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
- PROVIDE ADEQUATE CONCEALED BLOCKING AND ANCHORING FOR ALL CEILING AND WALL MOUNTED EQUIPMENT, HARDWARE AND ACCESSORIES.
- 10. WHEN A SYSTEM OR ASSEMBLY IS CALLED OUT FOR, ALL NECESSARY PARTS AND MATERIALS REQUIRED FOR A COMPLETE INSTALLATION/SYSTEM SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS INSTRUCTIONS.
- COURDINATE WITH ALL TRADES THE LOCATIONS OF SLEEVES OR OTHER PRESET ACCESSORIES INVOLVING OTHER TRADES.
- 12. DISRUPTED EXISTING CONDITIONS i.e. LANDSCAPING, LIGHTING, PEDESTRIAN AND VEHICLE ACCESS SHALL BE MINIMALLY REPLACED AT THE END OF CONSTRUCTION TO MATCH EXISTING AND ADJACENT CONDITIONS PRIOR TO CONSTRUCTION.
- 13. THE CONTRACTOR SHALL VISIT THE JOB SITE AND BECOME FAMILIARIZED WITH ALL EXISTING CONDITIONS WHICH MAY AFFECT THE BID. NO ALLOWANCES WILL BE MADE AFTER THE BID FOR EXISTING CONDITIONS OR THE CONTRACTOR'S FAILURE TO VERIFY EXISTING CONDITIONS.
- 14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING LOCATIONS OF EXISTING UTILITIES.
- 15. ALL DETAILS NOT SHOWN ON THIS PLAN SHALL BE THE RESPONSIBILITY OF THE OWNER AND THE CONTRACTOR. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING AND

PATCHING FOR ALL TRADES.

- 17. ALL MECHANICAL, ELECTRICAL, SPRINKLER AND PLUMBING DRAWINGS TO BE SUBMITTED BY RESPECTIVE SUB-CONTRACTORS.
- 18. ALL KITCHEN EQUIPMENT REQUIREMENTS SHALL BE SUPPLIED BY THE DWNER'S KITCHEN DESIGN AGENT, COORDINATION OF THIS INFORMATION WITH PROPER CONTRACTORS AND SUB-CONTRACTORS PRIOR TO CONSTRUCTION IS THE
- RESPONSIBILITY OF THE OWNER. CONTRACTOR TO COORDINATE WITH LOCAL INSPECTOR/FIRE MARSHALL AS TO TYPES, QUANTITY LOCATION OF SMOKE DETECTORS, FIRE ALARMS, AND FIRE EXTINGUISHERS. EXIT SIGNAGE, AND EMERGENCY BATTERY BACKUP LIGHTING.
 - MASTER KEYS FOR THIS SUITE SHALL BE PROVIDED TO THE LOCAL FIRE DEPT.

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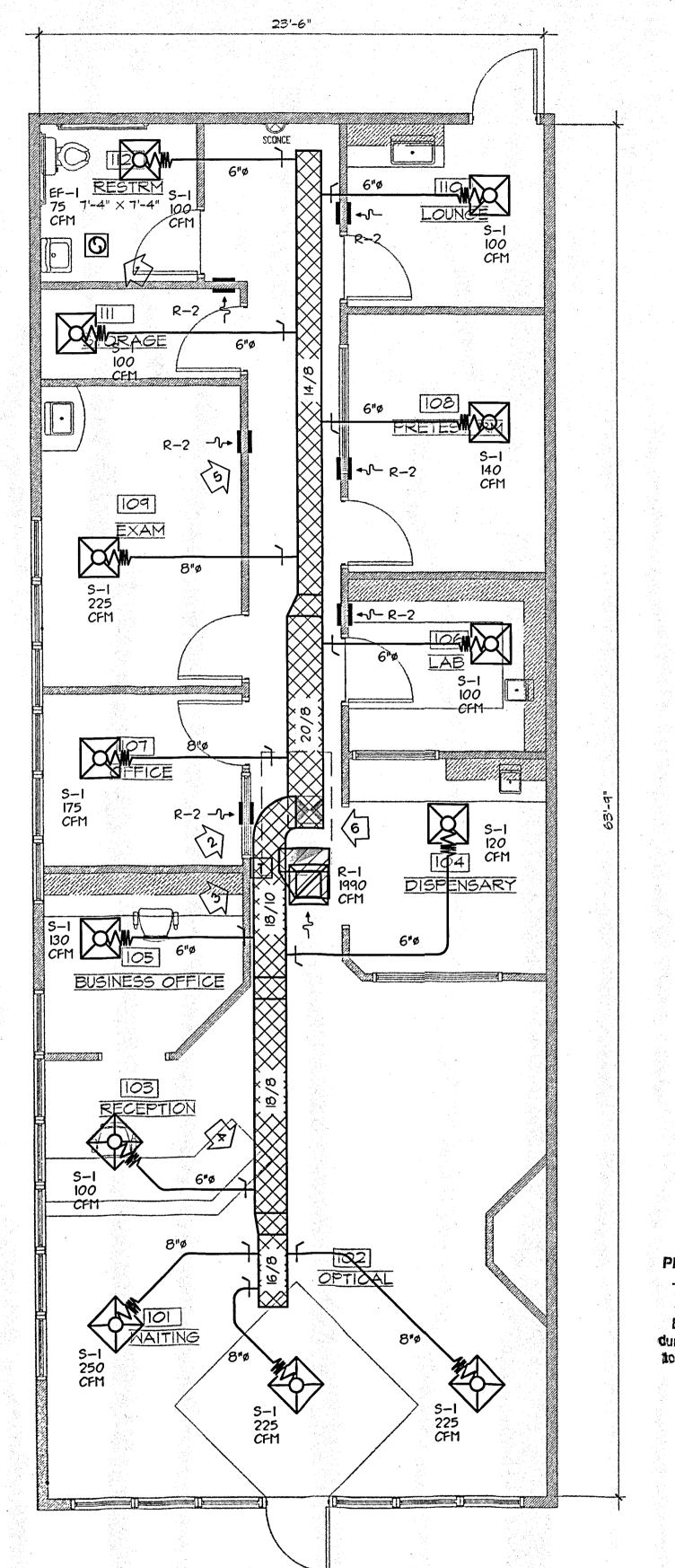




				22.0		. Y.N.	<u> </u>	
			DIF	FUSER SC	HEDUL	E		
MARK	TYPE	MOUNTING	SIZE	MAN'F & MODEL			OPTIONS	NOTE
S-1	SUPPLY	CEILING	24"X24"	EQUAL TO HART	& COOLEY	FPD	VOLUME DAMPER	A,B,C
R-1	RETURN	CEILING	24"X24"	EQUAL TO HART	& COOLEY	RE5		A,B,C
R-2	RETURN	WALL	14x6	EQUAL TO HART	& COOLEY	65D		A,B,C
4% 5% 44								
								The end of section

NOTES:

MECHANICAL CONTRACTOR TO FURNISH AND INSTALL
MECHANICAL CONTRACTOR TO VERIFY CEILING TYPE AND FRAMES PRIOR TO ORDERING
NECK SIZE EQUAL TO DUCT SIZE AT CONN. PT.



CONSTRUCTION NOTES

PROVIDE TURNING VANES FOR ALL ELLS - TYPICAL

EXHAUST FAN DUCTED TO ROOF - TERMINATE WITH WEATHERPROOF CAP. INTERLOCK TO OPERATE WITH LIGHTS.

THERMOSTAT FOR HVAC CONTROLS MOUNTED AT 48° A.F.F.

, VOLUME DAMPER TYPICAL ALL BRANCHES, ALL SYSTEMS.

HIGH/LOW TRANSFER GRILLE - TYPICAL 'R-2'.

6 RTU-1 IS EXISTING ON ROOF.

GENERAL NOTES

DUCTS ARE SIZED FOR FREE AREA. DIMENSIONS AND LOCATIONS CAN BE CHANGED AS LONG AS VELOCITIES AND PRESSURE DROPS ARE MAINTAINED.

DUCT SIZING AS FOLLOWS: FIRST NUMBER IS FOR SIDE SHOWN - SECOND NUMBER IS FOR SIDE NOT SHOWN. RATIO SHALL NOT EXCEED 1:5. INSTALL EXTERIOR INSULATION ON SUPPLY & RETURN. INSTALL ALL DUCT PER '85 SMACNA STANDARDS.

3. COORDINATE DIFFUSER LAYOUT WITH SUSPENDED CEILING AND LIGHT FIXTURE LAYOUT.

REVIEWED for CODE COMPLIANCE Plan reviewed by Kin Date 7/13/07

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HYAC PLAN

MI



STANLEY F. MAASS, P.E.

717 S. BROADWAY Rochester, MN 55904

507-285-0316

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I HEREBY CERTIFY THAT THIS PLAN OR SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Stanle Mans 6-11-07 9779

NUMBER DATE

PROJ. NO. ________ DATE <u>6-11-07</u> DRAWN BY <u>cc</u> REVISIONS .

AUTOCAD FILE NAME

F08M1.DWG=48

DRAWING NO:

	MECHANICAL EQUIPMENT SCHEDULE																				
MARK	MARK AREA SERVED		HEATING		COOLING			FAN SECTION		N	FRESH AIR DATA			MANUFACTURER			GENERAL				
TIARK	ARLA SERVED	nput	output	type	cap.	nom.tons	seer	cfm	s.p.	h.p.	fresh a r	mn.cfm	act.cfm	name	model no.	options	veight	filters	curb o.d.	CONTROLS AND REMARKS	NOTE
EXISTING RTU—I	STORE	MBH 15 <i>0</i>	МВН 12 <i>0</i>	GAS	MBH 60	5	14	1990	VER.	VER.	PER IMC TABLE 403.3	335	400	BRYANT	EXISTING	ECONOMIZER	EXISTING	-	EXISTING	7 DAY PROGRAMMABLE T-STAT	A

NOTES:

A. MECHANICAL CONTRACTOR TO INSPECT AND CLEAN EXISTING ROOF TOP UNIT. REPORT ANY PERFORMANCE/OPERATION PROBLEMS TO OWNER IMMEDIATELY.

						FA	AN SO	CHEDUL	E				
MARK	AREA SERVED	MANUFACTURER AND MODEL NO.	C.F.M.	S.P.	SONES	н.р.	WEIGHT	ELECTRICAL	LOCATION	INTERLOCK AND CONTROLS	ACCESSORIES	U.L. NO.	NOTE
EF-I	BATHROOM	BROAN #684 OR EQUAL	75	.125	3.9	1/4	_	120/IPH	CEILING	v/ LIGHTS	BACKDRAFT DAMPER	-	Α
NOTES:													

SPECIFICATIONS

1500/1600 GENERAL REQUIREMENTS

A. GENERAL

1. The general conditions of the general construction specifications and any referenced documents therein shall be considered an integral part of this specification and shall govern the plumbing and electrical construction work.

B. DRAWINGS AND MEASUREMENTS

1. The drawings are not intended to be scaled or used for shop drawings. Refer to architectural drawing and equipment drawings for proper rough in dimensions.

C. DEFINITIONS

1. The "owner" or "own." shall be an authorized representative of FAMILY EYECARE ASSOC. "Rep." shall be the engineer, architect or others acting in the interests of FAMILY EYECARE ASSOC. "Provide" means to furnish and install.

D. EXAMINATION OF SITE AND DOCUMENTS

1. Carefully examine all contract documents and inspect the site to form a clear understanding of the entire project. Note that some drawings are reproductions from originals and all dimensions and conditions must be verified by contractor. No extras will be allowed for oversights.

E. SITE WORK

1. Remove existing construction as required to complete the project. Protect all existing construction indicated to remain. Dispose of all debris and waste material off the site. Salvageable material, equipment, etc. shall be delivered to owner on site.

F. MATERIALS

1. All materials and equipment shall be new and the best suited for the purpose intended unless approved otherwise by owner, architect or engineer (own./rep.) in writing.

G. SUBSTITUTION

1. Where material or equipment is followed by the words "or approved equal," contractor must submit all necessary technical information and receive a written approval from own./rep. for approval of these changes. If the words "or equal" are used, no review is required but contractor is responsible for providing proper substitutions.

H. GOVERNING CODES

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1. All work shall be executed in accordance with current and applicable federal, state and municipal codes, standards, statutes or requirements of authorized approval agencies.

I. PERMITS/LICENSES

1. All fees, permits, licenses, etc. necessary to complete the work shall be paid for by this contractor

J. CORRELATION OF WORK

1. This contractor shall correlate and organize his work with the work of all other contractors involved in the project and avoid interferences between his components and those of others. If conflicts occur, the own./rep. shall be notified immediately to avoid extra costs. Work schedules are subject to approval by the owners project superintendent.

K. EXCAVATING AND BACK FILLING

1. This contractor shall do all excavation and back filling required to complete his work. All pipes, ducts, conduits, etc. shall have uniform bearing on sand or gravel free from debris. Test all installations before back filling Fill shall be dampened or tamped in 6" layers to assure a proper final finish level. Any damage caused by settling will be repaired by this contractor. All open pits or trenches shall be protected as required to prevent accidents.

L. SERVICE INSTRUCTIONS

1. This contractor shall, at the end of the project, familiarize the owner's personnel in the operation, maintenance and servicing of equipment installed and provide the owner with a set of operating and servicing instructions in duplicate complete with available technical equipment literature.

M. CUTTING, PATCHING AND RESURFACING

1. This contractor is responsible for all cutting, drilling, altering, patching or resurfacing necessary to complete his work. Any surface which is disturbed in any way by this contractor shall be repaired and refinished to match the original.

N. GUARANTEE

1. This contractor shall guarantee all work installed by him against any defects in material or workmanship for a period of one year after date of final acceptance by the own./rep. at no extra expense to the owner.

O. ELECTRICAL/MECHANICAL CORRELATION

1. The electrical contractor will provide a branch circuit for each item shown on the mech. or electedocuments. This branch circuit will include a disconnect means with protection and connection to the equipment at two points. The mechanical contractor shall provide the point of termination for each item of equipment.

2. The mechanical contractor shall furnish and mount electrical motors required for the mechanical equipment specified and will furnish all required starters, controllers, switches, etc. for the electrical contractor to install. The electrical contractor is responsible for final test and trouble shooting.

A. SCOPE

1. The work under this section includes performing all the labor and furnishing all materials and equipment necessary for complete HVAC systems, including HVAC equipment, ductwork, grilles, registers, refrigerant piping for split systems, exhaust fans, flue vents, and all temperature, humidity, etc. controls.

B. GENERAL MATERIALS

1. Securely attach all ductwork to the building structure in a manner free from vibration and swaying. Ducts 36" wide or less shall have 1" galv. strip Hangers on 4 feet centers. Ducts over 36" wide shall be supported by trapeze hangers of angle bottom and drop rods on 4 feet centers. Provide sleeves for all duct passing thru walls, partitions, floors, etc. All hangers and sleeves must be compatible with and not crush insulation.

C. SHEET METAL WORK

1. Ductwork shall be manufactured of tight coat galvanized guaranteed to double seam without fracture. designed for low pressure application. Ducts larger than 18" shall have cross breaks. Round branch duct connections to mains shall be made with spin-in-conical takeoff with integral volume damper and quadrant • operator and extractor air scoop. Exhaust air, release air and air intake ducts shall be equipped with 2" deep pans soldered absolutely watertight. All ductwork exposed to the weather shall be double wall insulated. Canvas connections are required at each air handling unit. Sizes indicated on drawing are inside dimensions. Ducts in attic spaces shall be caulked air tight and shall be wrapped with two (2) layers of 2" 2#/C.F. w/ vapor barrier unless the duct is completely on the conditioned side of the attic insulation.

D. ACCESS PANELS

1. Provide access panels at all fire dampers, motorized volume dampers, control equipment or other equipment to permit easy inspection and maintenance. Panels shall be located on bottom or sides of duct such that maintenance can be performed. Panels shall be set in rigid frame with closed cell soft gasket, double wall insulated and complete with two latches for doors up to 18" X 18" and four latches for larger doors.

E. FIRE DAMPERS

1. Furnish and install curtain type fire dampers where indicated on the drawings. Dampers shall be solid steel, curtain type, corrosion resistant, galvanized steel blades. In open position, blades shall stack compactly for minimal air resistance and be held in place by a fusible link rated at 160 degrees F. Dampers shall bear UL label, meet NFPA requirements, and be approved by local codes. Dampers shall be so installed as to stay in place at the protected opening, even though the duct may become disrupted during a fire, by the use of a steel sleeve and perimeter angles on both sides of the opening. Dampers shall not be supported by ductwork. The connecting ducts shall not be continuous, but shall be terminated at the fire damper sleeves. Connection between fire damper sleeves and ducts shall be by "S" type or other approved slip joints. Sleeve gauge may not be less than listed for duct gauges in the SMACNA fire damper guide.

1570 HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS F. CLEANING

1. As the system of ductwork supplying air to the building is put into service in whole or in part, extreme precautions are to be taken to prevent dust—laden air from being discharged into areas served. Thoroughly vacuum clean each section before turning it over to service. Replace all filters after all construction is completed.

G. HEATING AND VENTILATION UNITS

1. Use existing HVAC UNIT as shown. This unit shall be installed complete with fresh air motorized dampers or intake fan, enthalpy controlled economizer (where applicable), washable electrostatic filters, static pressure by—pass, heating/cooling thermostats with seven day programmable night set back.

H. EXHAUST FANS

1. Furnish and install Ammerman, Pace, Broan, or equal, exhaust fans as scheduled on the drawings. Furnish these units complete with accessories as required or shown and interlock with HVAC units.

I. BALANCING OF SYSTEM

1. The HVAC Contractor shall operate all of the fans and adjust the air volume at all grilles and registers as on the drawings or as otherwise directed by the Engineer to obtain satisfactory operating conditions.

2. In the presence of the Mechanical Inspector or an owner's representative, this Contractor shall test the various air systems at his own expense with proper instruments to insure that the proper quantities of air being handled by each system is in accordance with the drawings and specifications. The Contractor shall in the progress of these tests, make up and submit for the Engineer's approval a tabulation showing test and adjusted results of air flow through each register, grilles and diffuser.

J. CONTROLS

1. During occupied periods the furnace fans and bathroom exhaust fans shall operate continuously and the fresh air dampers shall remain open.

2. During unoccupied periods, the furnaces shall operate intermittently as required to maintain temperature set points. Fresh air dampers shall be closed and exhaust fans shall not be required to run.

3. All controls shall be provided by the mechanical contractor

STANLEY F. MAASS, P.

| | Rochester, MN 55904

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SIGNATURE
6-11-07 9779
DATE NUMBER

FAMILY EYECAR ASSOCIATES ROCHESTER, MN

ROJ. NO.	Ø7Ø8
ATE	6-11-07
RAWN RY	

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DRAWING NO:

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