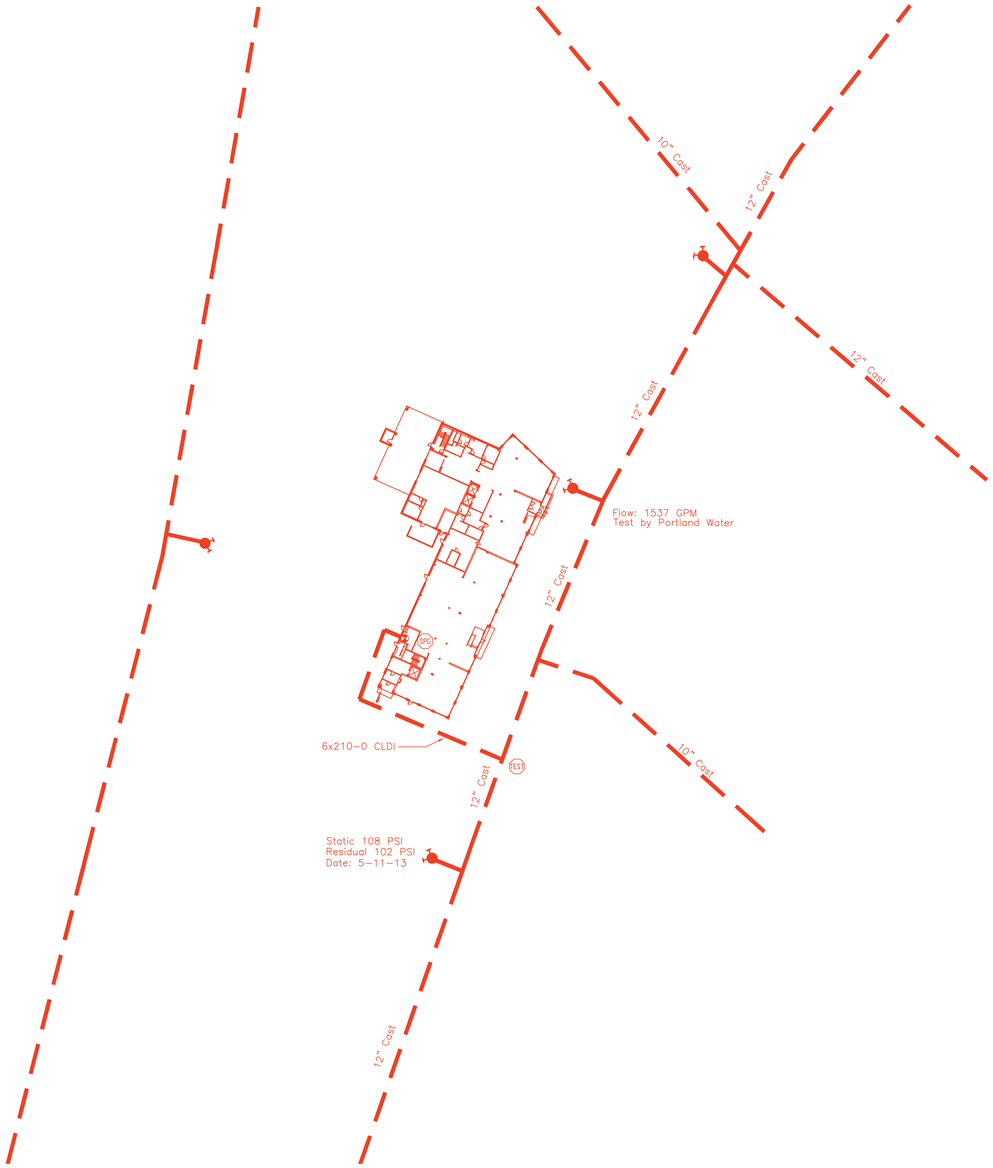
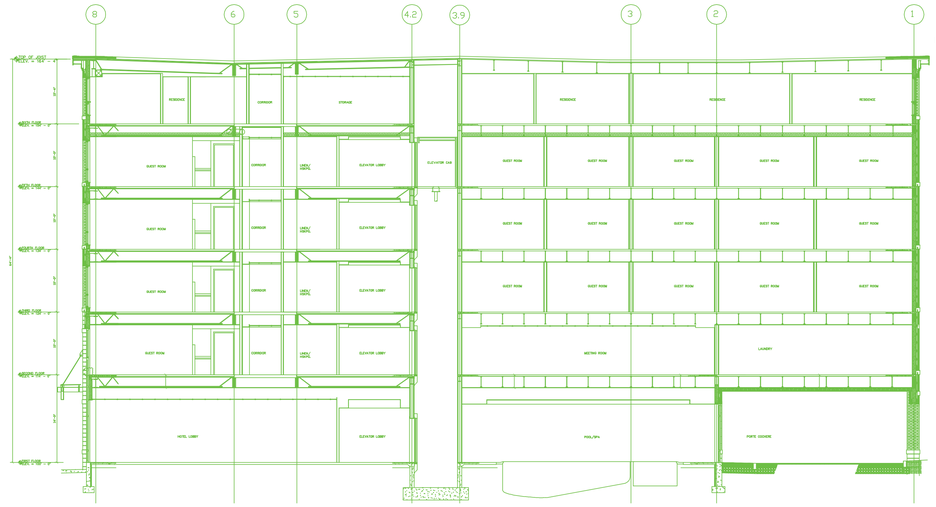
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 08/01/13



Fire Sprinkler Site Plan
1" = 50'-0"



Building Cross Section
1/8" = 1'-0"

GENERAL NOTES

ALL NEW PIPING TO BE HYDROSTATICALLY TESTED AT NOT LESS THAN 200 PSI FOR 2 HOURS, OR AT 50 PSI IN EXCESS OF THE MAXIMUM PRESSURE, WHEN THE MAXIMUM PRESSURE TO BE MAINTAINED IS IN EXCESS OF 150 PSI, PER N.F.P.A. 13.

DESIGN IS BASED ON LIGHT AND ORDINARY HAZARD.

ALL PIPING 2½" AND UP IS SCHEDULE 10 BLACK STEEL, 2" AND UNDER IS SCHEDULE 40 BLACK STEEL

ALL SYSTEM PIPING TO BE HUNG PER N.F.P.A. 13

ALL ELECTRIC, ALARM, OR CONTROL WIRING IS THE RESPONSIBILITY OF OTHERS

ANY AND ALL REQUIRED BEAM PENETRATIONS ARE THE RESPONSIBILITY OF OTHERS

OWNER TO PROVIDE ADEQUATE HEAT TO PREVENT FREEZING OF PIPE .

ALL MATERIALS ARE TO BE UL LISTED AND/OR FM APPROVED FOR USE IN FIRE PROTECTION SYSTEMS.

ANY AND ALL UNDERGROUND WORK IS THE RESPONSIBILITY OF OTHERS.

PAINTING OF PIPING OR EQUIPMENT IS BY OTHERS

ANY AND ALL WORK REQUIRED FOR THE KITCHEN HOOD SYSTEM IS BY OTHERS

THE FURNISHING AND OR INSTALLING OF FIRE EXTINGUISHERS OR CABINETS ARE BY OTHERS

NO STORAGE IS ALLOWED TO EXCEED TWELVE FEET IN HEIGHT

SYSTEM IS DESIGNED AS LIGHT HAZARD IN ALL AREAS EXCEPT MECHANICAL ROOMS (ORDINARY HAZARD GROUP 1), STORAGE AREAS (ORDINARY HAZARD GROUP II), ELECTRICAL ROOMS (ORDINARY HAZARD GROUP 1), AND KITCHEN (ORDINARY HAZARD GROUP 1). ORDINARY HAZARD GROUP II AREAS ARE DESIGNED TO DELIVER .20 GPM PER SQ FT OVER THE MOST REMOTE 1500 SQ FT WITH A HOSE ALLOWANCE OF 250 GPM ORDINARY HAZARD GROUP I AREAS ARE DESIGNED TO DELIVER .15 GPM PER SQ FT OVER THE MOST REMOTE 1500 SQ FT WITH A HOSE ALLOWANCE OF 250 GPM. LIGHT HAZARD AREAS ARE DESIGNED TO DELIVER .10 GPM PER SQ FT OVER THE MOST REMOTE 1500 SQ FT WITH A HOSE ALLOWANCE OF 100 GPM AREAS ARE REDUCED PER NFPA #13 FOR QR SPRINKLERS AND APPLICABLE CEILING HEIGHT

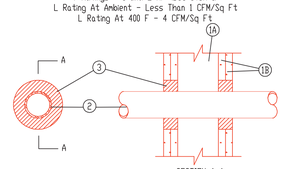
PIPES PENETRATING CONCRETE BLOCK OR FIRE RATED WALLS SHALL HAVE FLEXIBLE GROOVED COUPLING WITHIN 1'-0" ON EITHER SIDE OF THE WALL.

Plans prepared by :

Brian Benoit
RMS #280
NICET Level III, 075934

System No. W-L-2098
F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 1 and 2 Hr (see Item 1)
L Rating At Ambient - Less Than 1 CFM/Sq Ft
L Rating At 400 F - 4 CFM/Sq Ft

WL 2098



SECTION A-A

1. Wall Assembly -- The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs -- Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
   B. Gypsum Board* -- 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 4-3/8 in.

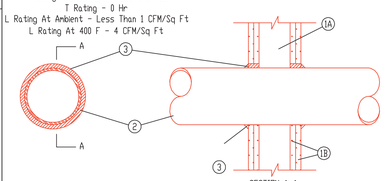
   The hourly F and T Ratings of the firestop systems are equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrants -- One nonmetallic pipe installed within the firestop system. Pipe to be rigidly supported on both sides of floor or wall assembly. The space between pipe and periphery of opening shall be min 3/4 in. to max 1-1/4 in. Pipe to be rigidly supported on both sides of the floor or wall assembly. The following types and sizes of nonmetallic pipes may be used:
   A. Polyvinyl Chloride (PVC) Pipe -- Nom 2 in. diam (or smaller) Schedule 40 PVC pipe for use in closed (process or supply) piping system.
   B. Chlorinated Polyvinyl Chloride (CPVC) Pipe -- Nom 2 in. diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) piping systems.
3. Fill, Void or Cavity Materials* -- Sealant -- Installed to completely fill the annular space between the pipes and gypsum wallboard on both sides of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC -- FS-One Sealant
   *Bearing the UL Classification Mark

HILTI FIRESTOP SYSTEMS

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. January 09, 2003

System No. W-L-1085
F Rating - 1 and 2 Hr (See Item 1B)
T Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/Sq Ft
L Rating At 400 F - 4 CFM/Sq Ft

WL 1085



SECTION A-A

1. Wall Assembly The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
   B. Gypsum Board* 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 13-1/4 in.
   Diam of circular opening cut through gypsum wallboard on each side of wall assembly to be min 1/4 in. to max 1/2 in. larger than outside diam of through penetrant (Item 2). The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrants One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The annular space between the through-penetrant and the periphery of the opening shall be min 0 in. to max 1/4 in. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe Nom 12 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe Nom 12 in. diam (or smaller) cast or ductile iron pipe.
   C. Conduit Nom 6 in. diam (or smaller) steel electrical metallic tubing or steel conduit.
   D. Copper Tubing Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* -- Sealant Fill material to be forced into the annulus to maximum extent possible. Additional fill material to be installed such that a min 1/2 in. crown is formed around the penetrating item and lapping 1/4 in. beyond the periphery of the opening.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC -- FS-One Sealant
   *Bearing the UL Classification Marking

HILTI FIRESTOP SYSTEMS

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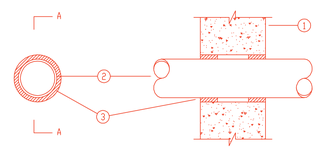
Page: 1 of 2

System No. W-J-1042
F Rating - 4 Hr
T Rating - 0 Hr

WL 1042



SECTION A-A

1. Wall Assembly - Min 7-5/8 in. thick wall assembly constructed of any UL Classified Concrete Blocks*. Min 4 hr fire rated wall. Max diam of opening is 13-5/8 in.
   See Concrete Blocks (QAZT) category in the Fire Resistance Directory for names of manufacturers.
3. Through Penetrants - One metallic pipe, conduit or tubing to be installed concentrically within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The annular space between pipe, conduit or tubing and the periphery of the opening shall be min 3/8 in. to 1/2 in. maximum. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe - Nom 12 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Conduit - Nom 4 in. diam (or smaller) steel electrical metallic tubing or 6 in. diam steel conduit.
   C. Copper Tubing - Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   D. Copper Pipe - Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
4. Fill, Void or Cavity Material* - Sealant - Min 2 in. thickness applied within annulus, flush with both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI, INC. - FS-ONE Sealant
   *Bearing the UL Classification Marking

HILTI FIRESTOP SYSTEMS

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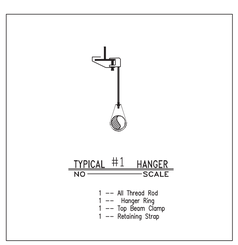
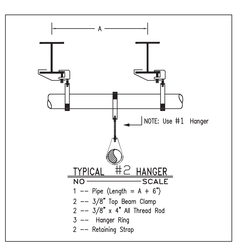
Wall Penetration Details



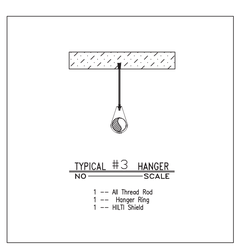
TYPICAL #1 HANGER
NO SCALE

1 -- All Thread Rod
1 -- Hanger Ring
1 -- Top Beam Clamp
1 -- Retaining Strap



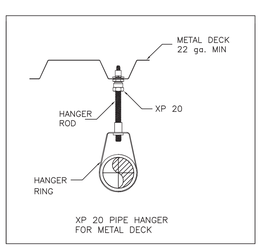
TYPICAL #2 HANGER
NO SCALE

1 -- Pipe (Length = A + 6")
2 -- 3/8" Top Beam Clamp
2 -- 3/8" x 4" All Thread Rod
3 -- Hanger Ring
2 -- Retaining Strap



TYPICAL #3 HANGER
NO SCALE

1 -- All Thread Rod
1 -- Hanger Ring
1 -- HILTI Shield



XP 20 PIPE HANGER
FOR METAL DECK

Hampshire
FIRE PROTECTION
8 NORTH WENTWORTH AVENUE LONDONDERRY, NH 03053
PH:(603) 432-8221 FAX: (603) 434-3194
WEBSITE: HAMPSHIREFIRE.COM
MASS LIC# 003941 MAINE LIC# 238
VERMONT CERTIFIED

WATER SUPPLY DATA		
Static pressure	108	psi
Residual pressure	102	psi
Flow	1537	gpm
Location	Corner of Commercial & Maple	
Elevation	0'-0"	
Date	May 11 2013	Time 6:00 AM
Information	Portland Water	

SPRINKLERS	
Total This Sheet	Total This Job
Symbol	Description

Drawing Title	Fire Sprinkler Site Plan, Notes & Details		
Contract No	4398CME	Revisions:	Date:
Drawn By	EVW	1	
		2	
		3	
Scale	As Noted	4	
		5	
Date	05-25-13	6	
		7	
Approval By	Portland ME		

Project:
Marriott Courtyard Hotel
321 Commercial Street
Portland ME 04101

Contract with:
Opechee Construction
11 Corporate Drive
Belmont NH 03220

FIRE PROTECTION ENGINEER STAMP

FP1 OF 8