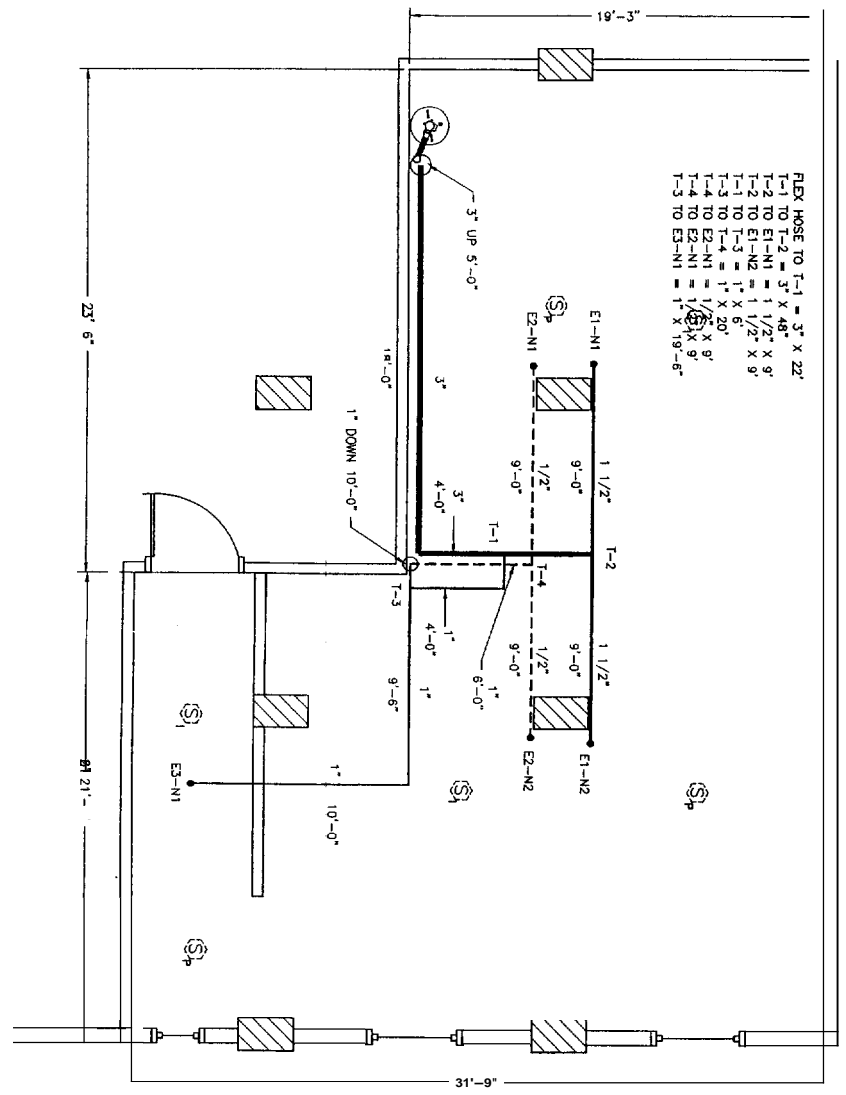
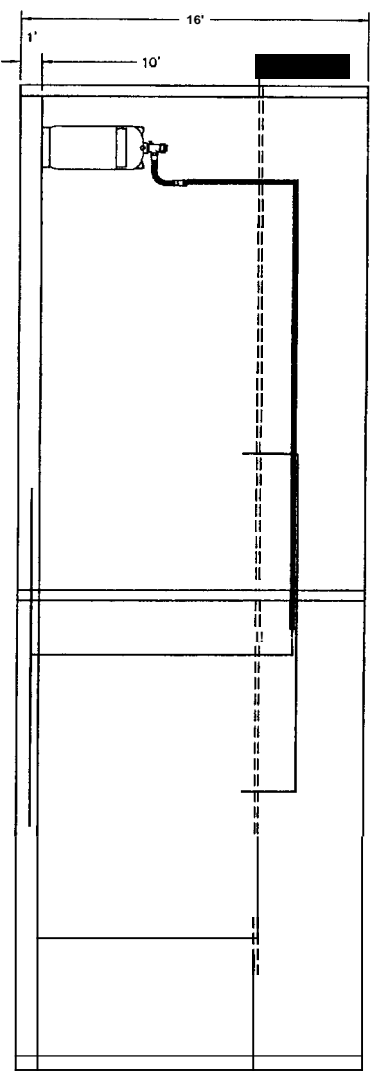


FM-200 MECHANICAL NOTES

1. THE FM-200 SYSTEM PIPE NETWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE KIDDE FM-200 DESIGN AND INSTALLATION MANUAL P/N 90-14200A-0001.
2. ALL DISCHARGE PIPING SHALL BE BLACK OR GALVANIZED STEEL, ASTM A-53 SEAMLESS, OR ERW BLACK A OR B, OR ASTM A-53 FORMER WELDED CLASS F, OR ASTM A-106, GRADE A, B OR C. ALL DISCHARGE PIPING SHALL BE MINIMUM CONFORMING TO ASTM A-197 AND HAVE A MINIMUM WALL THICKNESS CONFORMING TO ASTM A-120 AND ORDINARY CAST IRON PIPE MUST NOT BE USED.
3. FOR THREADED FITTINGS, TETON TYPE ONLY SHALL BE USED, APPLIED TO WALE PIPE THREADS ONLY.
4. SIDEWALL DISCHARGE NOZZLES PROVIDE 180° DISTRIBUTION OF FM-200 AGENT. NOZZLE DISTRIBUTION PATTERN IS: 40" X 44" WITH THE NOZZLE LOCATED IN THE CENTER OF A SIDE WALL OF THE PROTECTED AREA. ROUND NOZZLES PROVIDE 360° DISTRIBUTION OF FM-200 AGENT. NOZZLE DISTRIBUTION PATTERN IS: 40" X 44" WITH THE NOZZLE LOCATED IN THE CENTER OF THE PROTECTED AREA.
5. USE CONCENTRIC BELL REDUCERS WHERE PIPE SIZE CHANGES SIZE PER KIDDE INSTALLATION.
6. BALL TEES MUST HAVE BOTH OUTLETS ON THE HORIZONTAL PLANE.
7. SIDE TEES MUST HAVE THE INLET AND BOTH OUTLETS IN THE HORIZONTAL PLANE.
8. ELBOWS BEFORE THE SPLITS GOING TO SEPARATE HAZARDS MUST BE LOCATED A MINIMUM OF 15 PIPE DIAMETERS (NOMINAL) BEFORE THE SPLITS.
9. TEE SPLITS GOING TO SEPARATE HAZARDS FROM A COMMON SUPPORT LINE MUST BE SPACED A MINIMUM OF 15 PIPE DIAMETERS (NOMINAL) APART.
10. PIPE REDUCERS BEFORE TEE SPLITS MUST BE LOCATED A MINIMUM OF 15 PIPE DIAMETERS (NOMINAL) BEFORE THE SPLITS. PIPE REDUCERS MUST BE OF THE CONCENTRIC REDUCER TYPE.



FM-200 MECHANICAL COMPONENT LAYOUT

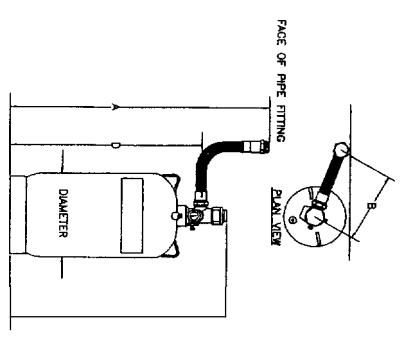
SCALE: 1/4" = 1'

INTERSTATE FIRE PROTECTION
 4 THUNDER RIDGE
 FREEPORT, ME 04032
 UNITED STATES
 PHONE: 207 865 0574
 FAX: 207 865 0574
 ECS SERIES - KID300
 FILE NAME: C:\PROGRAM FILES\KIDDE-FENVAL\ECS SERIES KID300\PROJECTS\HANNAFORD DATA STORAGE\HANNAFORD DATA STORAGE.CALCULATION DATE/TIME: THURSDAY, JULY 15, 2004, 10:14:18 AM
 SYSTEM ACCEPTANCE

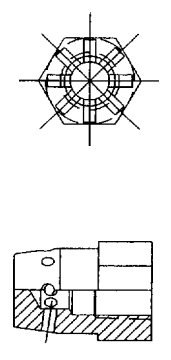
SYSTEM DISCHARGE TIME: 8.1 SECONDS
 PERCENT AGENT IN PIPE: 61.9%
 PERCENT AGENT BEFORE FIRST TEE: 43.2%
 ENCLASURE NAME: MAIN AREA
 MINIMUM DESIGN CONCENTRATION: 6.250%
 ADJUSTED DESIGN CONCENTRATION: 6.294%
 PREDICTED AGENT CONCENTRATION: 6.394%
 MAXIMUM EXPECTED AGENT CONCENTRATION: 6.532% (AT 75 F)
 MINIMUM ADJUSTED PREDICTED NOZZLE AGENT AGENT PRESSURE
 NOZZLE REQUIRED DELIVERED (AVERAGE) E1-N1 153.5 LBS 157.3 LBS 157.5 LBS 134 PSIG
 E1-N2 153.5 LBS 157.2 LBS 157.5 LBS 134 PSIG
 E2-N2 16.4 LBS 16.8 LBS 16.4 LBS 88 PSIG
 ENCLASURE NUMBER: 2
 MINIMUM DESIGN CONCENTRATION: 6.250%
 PREDICTED DESIGN CONCENTRATION: 6.401%
 MAXIMUM EXPECTED AGENT CONCENTRATION: 6.385% (AT 75 F)
 MINIMUM ADJUSTED PREDICTED NOZZLE AGENT AGENT PRESSURE
 NOZZLE REQUIRED DELIVERED (AVERAGE) E2-N1 36.1 LBS 36.9 LBS 37.1 LBS 104 PSIG
 E2-N2 16.4 LBS 16.8 LBS 16.4 LBS 88 PSIG
 PAGE: 1 OF 2
 COPYRIGHT (C) HUGHES ASSOCIATES, INC. LICENSED TO: KIDDE-FENVAL

CTL TYPE	QTY:	A	B	C	D	CTL DIA.	HOSE DIA.
800 # CAPACTY	1	84.5	20	58	50.5	22	3

HOSE IS GROOVED FITTING



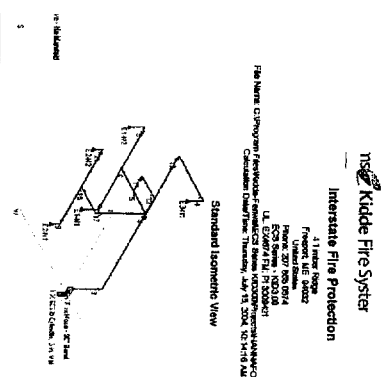
FM-200 CYLINDER DIMENSIONS



FM-200 NOZZLE DETAIL

INTERSTATE FIRE PROTECTION
 4 THUNDER RIDGE
 FREEPORT, ME 04032
 UNITED STATES
 PHONE: 207 865 0574
 FAX: 207 865 0574
 ECS SERIES - KID300
 FILE NAME: C:\PROGRAM FILES\KIDDE-FENVAL\ECS SERIES KID300\PROJECTS\HANNAFORD DATA STORAGE\HANNAFORD DATA STORAGE.CALCULATION DATE/TIME: THURSDAY, JULY 15, 2004, 10:14:18 AM
 PARTS INFORMATION

TOTAL AGENT REQUIRED: 385.0 LBS
 CONTAINER NAME: 600 LB CYLINDER, 3 IN. VALVE (PART: 90-100600-100)
 NUMBER OF CONTAINERS: 1
 NOZZLE TYPE NOZZLE AREA PART NUMBER
 E1-N1 360° 0.9362 SQUARE IN 90-194027-386
 E1-N2 360° 0.9362 SQUARE IN 90-194027-386
 E2-N2 360° 0.2150 SQUARE IN 90-194023-185
 E3-N1 360° 0.3559 SQUARE IN 90-194025-225
 PIPE TYPE DIAMETER LENGTH
 40T 1 1/2 IN 44.70 FT
 40T 1 1/2 IN 22.00 FT
 40T 3 IN 32.90 FT
 OTHER ITEMS:
 1 - 3 IN. FLEX HOSE - 90° BEND (PART: 06-118225-001)
 LIST OF 90 DEGREE ELBOWS:
 2 - 1 IN
 2 - 1-1/2 IN
 2 - 1/2 IN
 2 - 3 IN
 PAGE: 2 OF 2
 COPYRIGHT (C) HUGHES ASSOCIATES, INC. LICENSED TO: KIDDE-FENVAL.



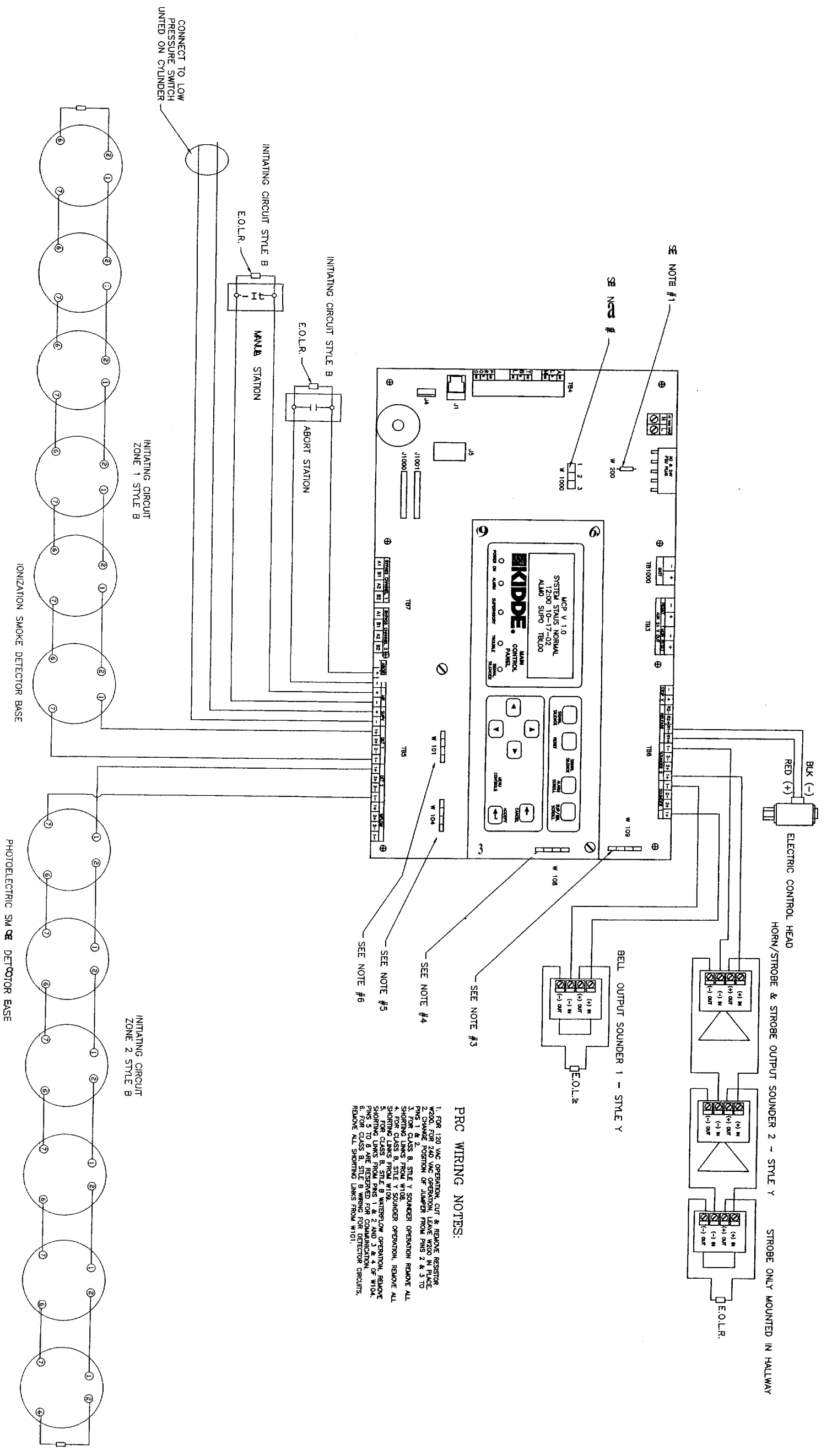
Page: 1 of 1
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HANNAFORD FM-200 MECHANICAL	
Proj. No.	07/12/2004
CAD File:	HANNMECH
Drawn By:	RWN
Created on:	07/12/2004
Designed by:	RWN
Checked by:	
Approved by:	
Project Lead:	D. WILSON
Scale:	AS NOTED

Interstate FIRE PROTECTION
 PO BOX 1405
 N CONWAY, NH 03860
 PO BOX 187
 GARDINER, ME. 04345

Client:
HANNAFORD BROTHERS
DATA STORAGE SITE
340 CUMBERLAND AVE.
PORTLAND, ME 04101

System Information:
FY-200 FIRE SUPPRESSION
SYSTEM PROTECTING
DATA BACK UP SITE



- PRC WIRING NOTES:**
1. FOR 120 VAC OPERATION, CUT & REMOVE RESISTOR WIRE FROM OPERATOR LEAVE WIRE IN PLACE.
 2. CHANGE POSITION OF FUSE FROM PINS 2 & 3 TO PINS 1 & 2.
 3. FOR CLASS B, STYLE Y SOUNDER OPERATION, REMOVE ALL SHORTING LINKS FROM W108.
 4. FOR CLASS B, STYLE Y SOUNDER OPERATION, REMOVE ALL SHORTING LINKS FROM W104.
 5. FOR CLASS B, STYLE B WATERFLOW OPERATION, REMOVE PINS 3 TO 8 WIRE RESISTORS FROM 2 AND 3 & 4 OF W104.
 6. FOR CLASS B, STYLE B WIRING FOR DETECTOR CIRCUITS, REMOVE ALL SHORTING LINKS FROM W101.

HANNAFORD FM-200 WIRING	
Proj. no.	Revisions: Date:
CAD File: HANNAFORD	07/19/2004
Drawn By: RWH	
Created on: 07/12/2004	
Designed by: RWH	
Checked by:	
Approved by:	
Project Lead: D. WILSON	
Scale: AS NOTED	

Interstate FIRE PROTECTION

PO BOX 1005
N. CONWAY, NH 03860

PO BOX 187
GARDINER, ME. 04345

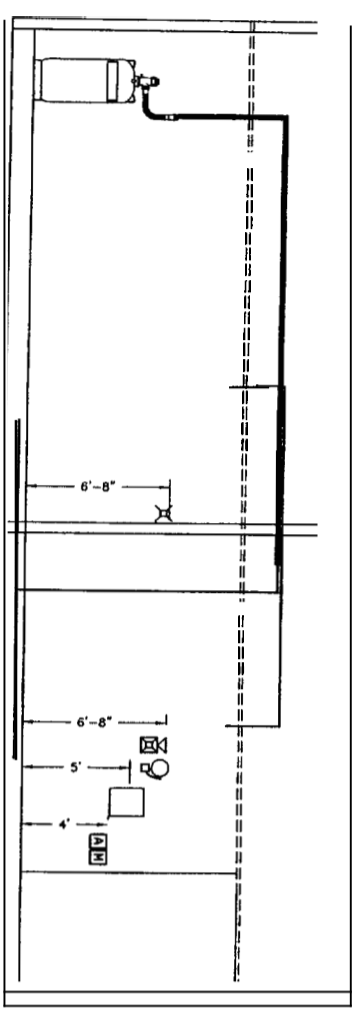
Client:
HANNAFORD BROTHERS
DATA STORAGE SITE
340 CUMBERLAND AVE.
PORTLAND, ME 04101

System Information:

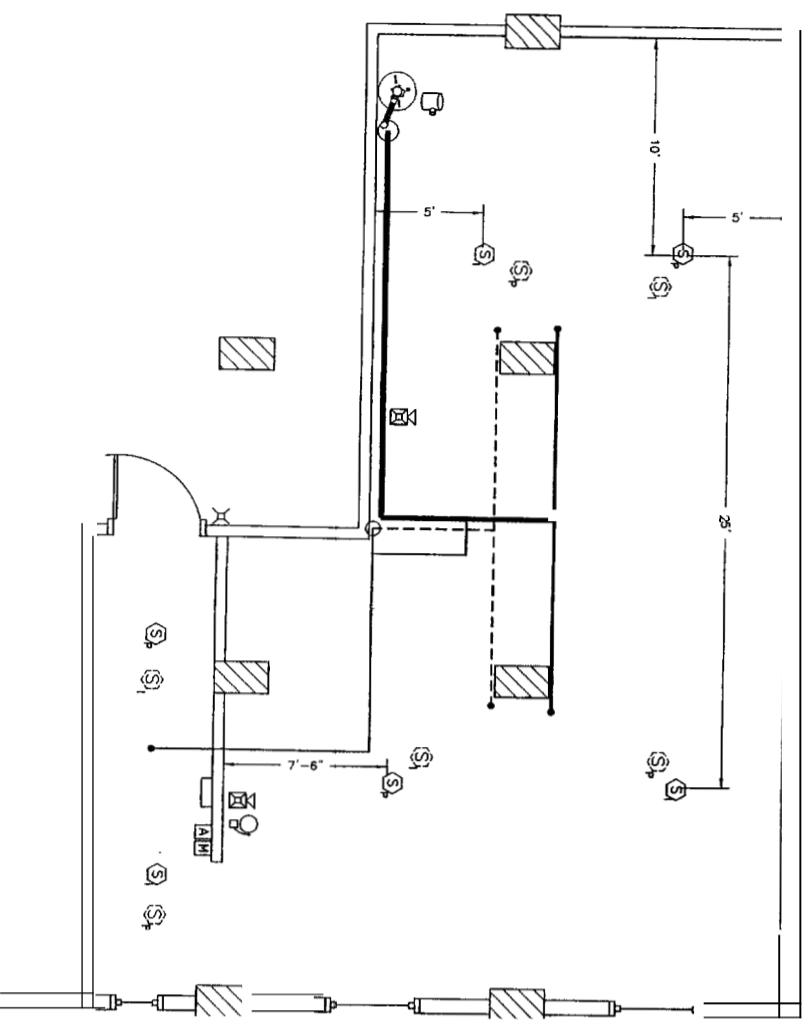
FM-200 FIRE SUPPRESSION
SYSTEM PROTECTING
DATA BACK UP SITE

FIRE DETECTION & CONTROL NOTES

- INTERSTATE FIRE PROTECTION SHALL FURNISH AND INSTALL ALL MATERIALS, LABOR AND SERVICES REQUIRED TO INSTALL A COMPLETE FIRE SUPPRESSION SYSTEM TO THE OWNER'S SPECIFICATION AS WELL AS ALL APPLICABLE FIRE PREVENTION CODES.
- THE FIRE SUPPRESSION INSTALLATION SHALL BE MADE IN COMPLIANCE WITH NFPA 72, THE FIRE DETECTION INSTALLATION SHALL BE MADE IN COMPLIANCE WITH NFPA 72, NFPA 70, CLEAN - AGENT FIRE EXTINGUISHING SYSTEMS (LATEST EDITION), NFPA 704, FIRE ALARM CODE (LATEST EDITION), AND SHALL BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
- THE FIRE SUPPRESSION SYSTEM SHALL BE CONTROLLED BY A KIDDE GEMINI II CONTROL PANEL. THIS PANEL WILL BE USED FOR FIRE SUPPRESSION AND FIRE ALARM SERVICE.
- THE PANEL SHALL BE MOUNTED TO THE FACE OF THE FACED AS SHOWN AND SHALL BE ACCESSIBLE. THE ELECTRICAL CONTRACTOR SHALL PERFORM ALL WIRING AND SHALL BE RESPONSIBLE FOR A MINIMUM OF 24 HOURS IN STAND-BY MODE AND AN ADDITIONAL 3 MINUTES IN A LARM MODE.
- THE FACED SHALL HAVE BATTERY BACK-UP CAPABLE TO OPERATE THE FACED FOR A MINIMUM OF 24 HOURS IN STAND-BY MODE AND AN ADDITIONAL 3 MINUTES IN A LARM MODE.
- THE FACED SHALL COMMUNICATE ALARM AND TROUBLE CONDITION TO THE EXISTING BUILDING MANUAL PULL STATIONS.
- MANUAL PULL STATIONS:
 - SMOKE DETECTOR
 - SUPPRESSION ABOUT STATIONS
- THE FACED SHALL BE PROGRAMMED AS FOLLOWS:
 - UPON RECEIPT OF AN ALARM FROM A SINGLE SMOKE DETECTOR:
 - INITIATE A TROUBLE SIGNAL
 - INITIATE ZONE ONE ALARM (BELLS)
 - INITIATE A SIGNAL TO THE BUILDING FIRE ALARM SYSTEM.
 - UPON RECEIPT OF AN ALARM FROM A SECOND SMOKE DETECTOR:
 - INITIATE A 30 SECOND FM-200 PRE-DISCHARGE COUNTDOWN
 - INITIATE ZONE TWO ALARMS (HORN/STROBE, MARCH TIME)
 - SHUT DOWN HVAC EQUIPMENT AND CLOSE FRESH AIR DAMPERS VIA SEA Y'S
 - AFTER A 30 SECOND COUNTDOWN, RELEASE FM-200 AGENT.
 - UPON RECEIPT OF A SIGNAL FROM A SINGLE MANUAL RELEASE STATION:
 - IMMEDIATELY RELEASE FM-200 AGENT.
 - INITIATE ZONE TWO ALARMS (HORN/STROBES AND STROBES)
 - INITIATE A SIGNAL TO THE BUILDING FIRE ALARM SYSTEM.
 - SHUT DOWN HVAC EQUIPMENT AND CLOSE FRESH AIR DAMPERS.
- INTERSTATE FIRE PROTECTION SHALL FURNISH A ONE YEAR WARRANTY ON ALL PARTS AND LABOR AND SHALL RELAY TO THE OWNER THE MANUFACTURER'S WARRANTY ON ANY SUCH PARTS.
- INTERSTATE FIRE PROTECTION SHALL PROVIDE TRAINING IN THE SAFE OPERATION OF THE FM-200 FIRE SUPPRESSION SYSTEM.
- INTERSTATE FIRE PROTECTION SHALL PROVIDE "AS BUILT" DRAWINGS OF THE FM-200 FIRE SUPPRESSION SYSTEM.



NOTIFICATION APPLIANCES: 80"
TOP OF CONTROL PANEL: 60"
MANUAL INITIATING DEVICES: 48"



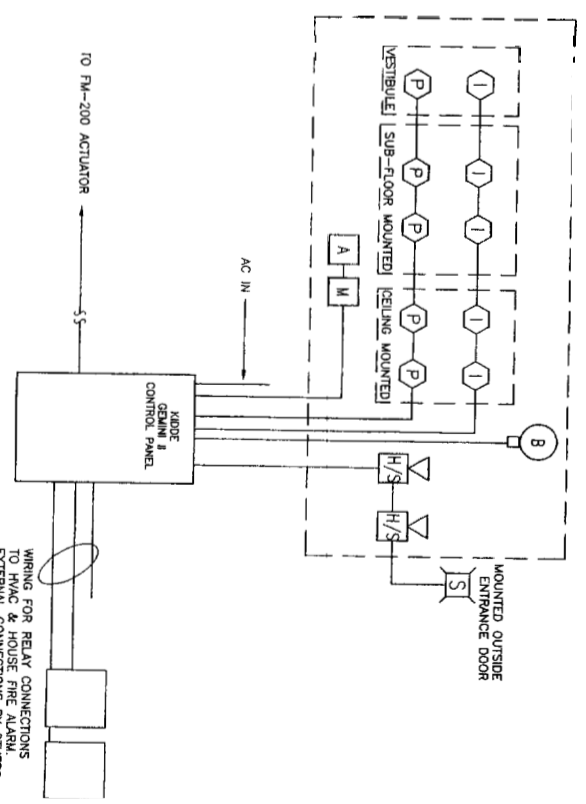
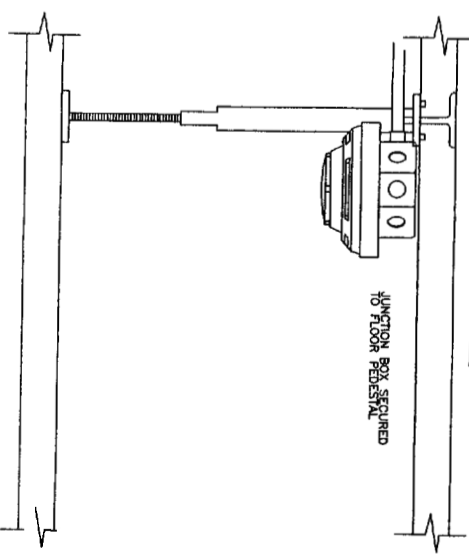
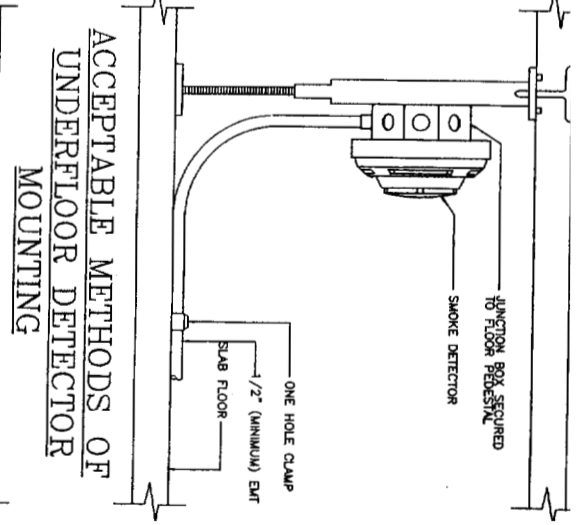
LAYOUT OF ELECTRICAL DEVICES
SCALE: 1/4" = 1'

LEGEND

- Ⓢ PSD-7155 PHOTOELECTRIC DETECTOR (SUB-FLOOR)
- Ⓢ CPD-7055 IONIZATION DETECTOR (SUB-FLOOR)
- Ⓢ CPD-7055 IONIZATION DETECTOR (SUB-FLOOR)
- Ⓢ PSD-7155 PHOTOELECTRIC DETECTOR
- Ⓢ SPSST MANUAL RELEASE STATION
- Ⓢ SUPPRESSION ABOUT STATION
- Ⓢ 6" BELL - FIRST STAGE ALARM
- Ⓢ HORN/STROBE - SECOND STAGE ALARM
- Ⓢ STROBE - SECOND STAGE ALARM
- Ⓢ ELECTRIC CYLINDER VALVE ACTUATOR
- Ⓢ GEMINI II CONTROL PANEL

JUNCTION BOX REQUIREMENTS

QTY.	DEVICE	BACK BOX REQUIREMENT
12	SMOKE/THERMAL	3 1/2" OR 4" OCTAGON
1	MANUAL STATION	SINGLE GANG / DOUBLE DEEP
1	ABOUT STATION	SINGLE GANG / DOUBLE DEEP
1	BELLS	4" SQUARE
2	HORN/STROBE	4" SQUARE
1	STROBE ONLY	4" SQUARE
0	ISO-X MODULE	4" SQUARE
0	XPC-5 MODULE	BB-25 (PROVIDED)
0	KEYED MAINT. SWITCH	4" SQUARE WITH W/T ADAPTER
1	SOLENOID ACTUATORS	SINGLE GANG W/ FLEX CONDUIT



ONE LINE DIAGRAM

HANNAFORD FM-200 ELECTRICAL

Proj. no. CAD File: HANNELECT
 Drawn By: RWH
 Created on: 07/12/2004
 Designed by: RWH
 Checked by:
 Approved by:
 Project Lead: D. WILSON
 Scale: AS NOTED

Revisions: Date: 07/19/2004

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