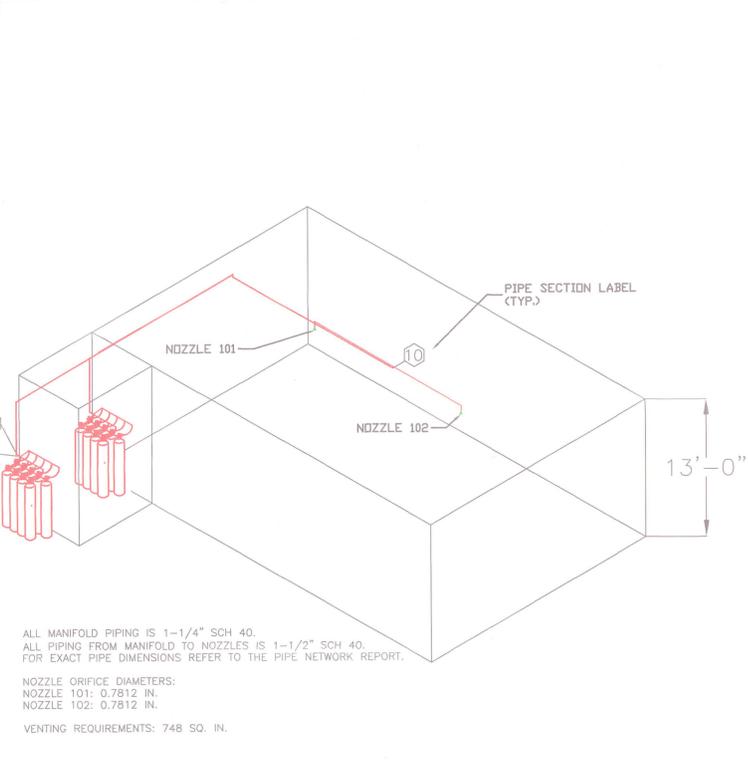
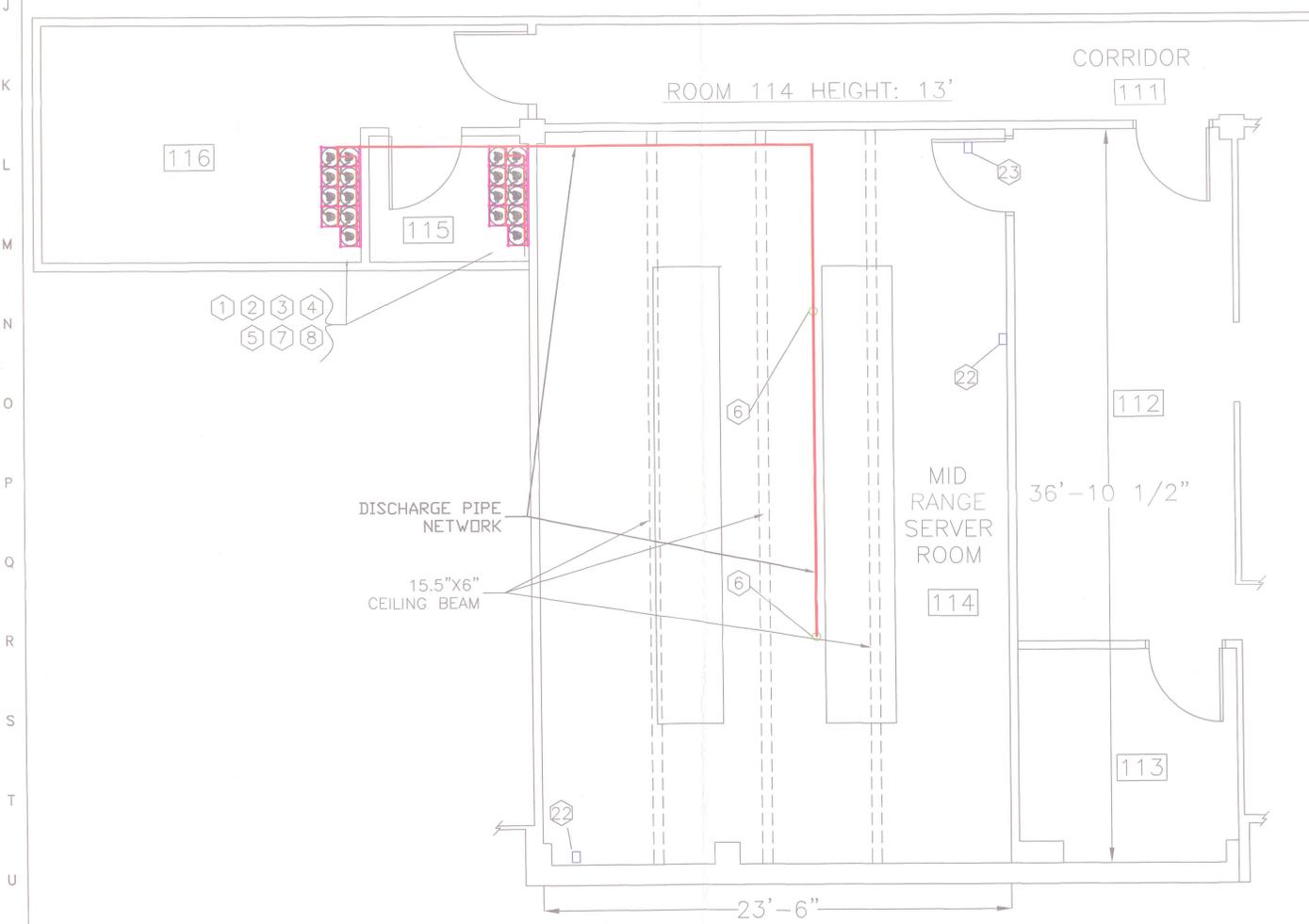


FIKE PROINERT CYLINDER INSTALLATION DETAIL  
SCALE: 1/2" = 1'



PROINERT SYSTEM PIPING - ISOMETRIC VIEW  
SCALE: 1/8" = 1'



FIKE PROINERT SYSTEM MECHANICAL INSTALLATION - PLAN VIEW  
SCALE: 1/4" = 1'

PIPE NETWORK REPORT

PRO-INERT FLOW CALCULATION SOFTWARE VERSION 1.2.0.0  
 COPYRIGHT © 2007 FIKE CORPORATION  
 UL EX4623, FM 3025843  
 LICENSED TO TERENCE F. MOONEY, INTERSTATE FIRE PROTECTION  
 RESULTS PRINTED ON 4/23/2009  
 PROJECT INFORMATION  
 PROJECT NAME: ROOM 114 - MID RANGE SERVER ROOM  
 PROJECT DESIGNER: TERENCE F. MOONEY  
 PROJECT LOCATION: PORTLAND, ME  
 PROJECT ACCOUNT:  
 PROJECT DESCRIPTION:  
 PROJECT FILENAME: C:\FIKE\PROINERT FLOW CALCULATION\COPY OF MTA\PRO  
 CUSTOMER INFORMATION  
 COMPANY NAME: MAINE TURNPIKE AUTHORITY  
 COMPANY ADDRESS: 2360 CONGRESS STREET  
 PORTLAND, ME  
 AGENT REQUIREMENTS - ENCLOSURE 0001 (MID RANGE SERVER ROOM)  
 ENCLOSURE AREA: 23.45 FT L X 37.2 FT W  
 ENCLOSURE HEIGHT: 13.00 FT  
 VOLUME ADDED: NONE  
 VOLUME SUBTRACTED: NONE  
 PROTECTED VOLUME: 11340.42 FT<sup>3</sup>  
 DESIGN CONCENTRATION 34.2 %  
 MAXIMUM CONCENTRATION 34.2 % AT 70° F  
 MINIMUM TEMPERATURE 70° F  
 MAXIMUM TEMPERATURE 70° F  
 ELEVATION 100 FT  
 AGENT REQUIRED 4787.87 FT<sup>3</sup>  
 NOZZLE INFORMATION - PIPE NETWORK 0001 (PIPE NETWORK 0001)  
 NOZZLE NUMBER TYPE ENCLOSURE NAME REQUESTED AGENT  
 101 360° ROOM 114 - MID RANGE SERVER ROOM 2393.94 FT<sup>3</sup>  
 102 360° ROOM 114 - MID RANGE SERVER ROOM 2393.94 FT<sup>3</sup>  
 TOTAL AGENT DISTRIBUTED THROUGH PIPE NETWORK: 4745.86 FT<sup>3</sup>  
 CYLINDER INFORMATION - PIPE NETWORK 0001 (PIPE NETWORK 0001)  
 CYLINDER TYPE AGENT PER CYLINDER: IG71-090 80 L (200 BAR)  
 MANIFOLD DESCRIPTION: CUSTOM DEFINED (2 ROWS: ROW 1: 5 CYLINDERS, ROW 2: 4 CYLINDERS)  
 ROW PIPE DIAMETER: 1-1/4 IN SCH 40  
 CYLINDER SPACING: 0.876 FT  
 ROW SPACING: 0.876 FT  
 TOTAL NUMBER OF CYLINDERS: 9  
 TOTAL AMOUNT OF AGENT: 5150.72 FT<sup>3</sup>  
 FLOW CALCULATION INPUT DATA - PIPE NETWORK 0001 (PIPE NETWORK 0001)  
 START END LENGTH ELEVATION DIAMETER SCHEDULE 90 THRU SIDE UNION EQUI. LEN CYLINDER AGENT  
 1 2 5.9383 FT 5.9383 FT 1 IN SCH 40T 0 0 0 0 0.0000 FT 1  
 2 3 1.8760 FT 1.0000 FT 1 IN SCH 40T 1 0 0 0 0.0000 FT 2  
 3 4 0.8760 FT 0.0000 FT 1-1/4 IN SCH 40T 0 1 0 0 0.0000 FT 3  
 4 5 0.8760 FT 0.0000 FT 1-1/4 IN SCH 40T 0 1 0 0 0.0000 FT 4  
 5 6 0.8760 FT 0.0000 FT 1-1/4 IN SCH 40T 0 1 0 0 0.0000 FT 5  
 6 7 1.7520 FT 0.0000 FT 1-1/4 IN SCH 40T 1 1 0 0 0.0000 FT 6  
 7 8 1.0417 FT 0.0000 FT 1-1/4 IN SCH 40T 0 1 0 0 0.0000 FT 7  
 8 9 1.0000 FT 1.1000 FT 1-1/2 IN SCH 40T 1 0 0 0 6.0000 FT 8  
 9 10 30.5000 FT 3.5000 FT 1-1/2 IN SCH 40T 6 0 0 1 0.0000 FT 9  
 10 101 7.8300 FT -0.5000 FT 1-1/2 IN SCH 40T 1 0 1 0 0.0000 FT 0 2393.94 FT<sup>3</sup>  
 10 102 9.2900 FT -0.5000 FT 1-1/2 IN SCH 40T 1 0 1 0 0.0000 FT 0 2393.94 FT<sup>3</sup>  
 FLOW CALCULATION OUTPUT DATA - PIPE NETWORK 0001 (PIPE NETWORK 0001)  
 START END PIPE TYPE EQUI LGTH. START PRES. END PRES. AGENT DISCHARGED ORIFICE TIME ARRIVAL END TIME  
 1 2 1 -SCH 40 5.9383 FT 2900 PSIA 645 PSIA 0.7812 1.15 SEC. 65.28 SEC.  
 2 3 1 -SCH 40 4.4985 FT 645 PSIA 645 PSIA 0.7812 1.19 SEC. 65.28 SEC.  
 3 4 1-1/4 -SCH 40 3.1760 FT 645 PSIA 645 PSIA 0.7812 1.19 SEC. 65.28 SEC.  
 4 5 1-1/4 -SCH 40 3.1760 FT 645 PSIA 645 PSIA 0.7812 1.19 SEC. 65.28 SEC.  
 5 6 1-1/4 -SCH 40 3.1760 FT 645 PSIA 645 PSIA 0.7812 1.19 SEC. 65.28 SEC.  
 6 7 1-1/4 -SCH 40 3.1760 FT 645 PSIA 645 PSIA 0.7812 1.19 SEC. 65.28 SEC.  
 7 8 1-1/4 -SCH 40 3.1760 FT 645 PSIA 645 PSIA 0.7812 1.19 SEC. 65.28 SEC.  
 8 9 1-1/2 -SCH 40 6.2158 FT 574 PSIA 460 PSIA 0.7812 1.19 SEC. 65.28 SEC.  
 9 10 1-1/2 -SCH 40 6.2158 FT 574 PSIA 460 PSIA 0.7812 1.19 SEC. 65.28 SEC.  
 10 101 1-1/2 -SCH 40 21.2850 FT 460 PSIA 453 PSIA 2577.95 FT<sup>3</sup> 0.7812 1.15 SEC. 65.28 SEC.  
 13 101 1-1/2 -SCH 40 19.9050 FT 460 PSIA 453 PSIA 2572.77 FT<sup>3</sup> 0.7812 1.19 SEC. 65.28 SEC.

DISCHARGE NOZZLE SCHEDULE

LOCATION	QTY.	SIZE	TYPE	DRILL DIAMETER	PART NUMBER
MID RANGE SERVER ROOM	2	1-1/2 IN.	360 DEG.	0.7812	IG71-075-07812

LEGEND - BILL OF MATERIAL

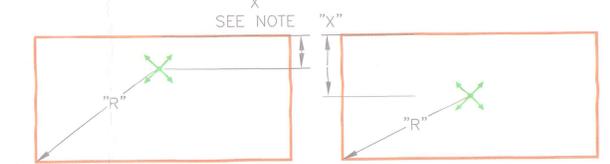
ITEM	QTY.	MFG. P/N	DESCRIPTION
1	18	IG71-090	PROINERT CYLINDER ASSEMBLY KIT - 200 BAR
2	2	IG71-098	COMPLETER KIT
3	2	70-202	MASTER ACTUATOR ASSEMBLY
4	2	IG71-076	MANIFOLD SAFETY DISC OUTLET
5	2	CD2-1207	1-1/2" CHECK VALVE
6	1	IG71-075-07812	DISCHARGE NOZZLE - 1-1/2", 360 DEG.
7	1	IG71-082-004	DOUBLE ROW RACK ASSEMBLY - 8 CYLINDERS (4/4)
8	1	IG71-082-005	DOUBLE ROW RACK ASSEMBLY - 10 CYLINDERS (5/5)
9	1	10-063-1-R-1	SHP PRO CONTROL SYSTEM, 110 VAC, RED
10	1	10-2204	CRM4, RELAY MODULE FOR SHP PRO
11	1	10-2190-1	BATTERY ASSEMBLY, 7AH W/ WIRING ASSEMBLY
12	2	63-1024	HOCHIKI DETECTOR, PHOTOELECTRIC
13	2	63-1033	HOCHIKI DETECTOR, IONIZATION
14	4	67-1034	BASE - 6", 430 OHM
15	1	10-1638	MANUAL RELEASE / KEY RESET (DUAL ACTION)
16	1	10-1639	SYSTEM ABORT SWITCH
17	1	10-1640	MAIN - RESERVE SWITCH
18	2	20-123-50	WALL MOUNT HORN/STROBE, GENTEX GEC3
19	1	20-123-46	WALL MOUNT STROBE, GENTEX GES3 SERIES
20	1	20-10310	AGENT ABORT "PUSH AND HOLD" SIGN
21	1	02-10311	AGENT "MAIN/RESERVE" SIGN
22	1	02-10309	CAUTION "EXIT" SIGN
23	1	02-10313	CAUTION "DO NOT ENTER" SIGN
24	1	02-10312	SYSTEM "RELEASE" SIGN

SYSTEM ACCEPTANCE REPORT

PRO-INERT FLOW CALCULATION SOFTWARE VERSION 1.2.0.0  
 COPYRIGHT © 2007 FIKE CORPORATION  
 UL EX4623, FM 3025843  
 LICENSED TO TERENCE F. MOONEY, INTERSTATE FIRE PROTECTION  
 RESULTS PRINTED ON 4/23/2009  
 PROJECT INFORMATION  
 PROJECT NAME: ROOM 114 - MID RANGE SERVER ROOM  
 PROJECT DESIGNER: TERENCE F. MOONEY  
 PROJECT LOCATION: PORTLAND, ME  
 PROJECT ACCOUNT:  
 PROJECT DESCRIPTION:  
 PROJECT FILENAME: C:\FIKE\PROINERT FLOW CALCULATION\MTA\PRO  
 CUSTOMER INFORMATION  
 COMPANY NAME: MAINE TURNPIKE AUTHORITY  
 COMPANY ADDRESS: 2360 CONGRESS STREET  
 PORTLAND, ME  
 AGENT REQUIREMENTS - ENCLOSURE 0001 (ROOM 114 - MID RANGE SERVER ROOM)  
 ENCLOSURE AREA: 23.45 FT L X 37.2 FT W  
 ENCLOSURE HEIGHT: 13.00 FT  
 VOLUME ADDED: NONE  
 VOLUME SUBTRACTED: NONE  
 PROTECTED VOLUME: 11340.42 FT<sup>3</sup>  
 FLOW CALCULATION MESSAGES  
 PRO-INERT FLOW CALCULATION SOFTWARE VERSION 1.2.0.0  
 FINAL CALCULATION WITH SELECTED NOZZLE CODES. CONVERGENCE OF THE ITERATION OF NOZZLE FLOW RATE AND PRESSURE IS 2.5%  
 CALCULATION BASED ON FIKE NOZZLE CODES AND PIPE SIZES.  
 TIME TO DISCHARGE 95% OF MINIMUM DESIGN CONCENTRATION IN ENCLOSURE 1 IS 50.1 SECONDS.  
 CALCULATION PERFORMED ON 4/23/2009 16:02:27  
 SYSTEM CALCULATED WITHIN LIMITS OF IFES UL LISTING AND FM APPROVAL  
 PRO-INERT FLOW CALCULATION SOFTWARE  
 SYSTEM BILL OF MATERIALS - PIPE NETWORK 0001 (PIPE NETWORK 0001)  
 FIKE CORPORATION  
 CYLINDER PARTS LIST  
 QTY PART NUMBER  
 9 IG71-090  
 NOZZLE LIST  
 NUMBER PART NUMBER NOZZLE SIZE NOZZLE TYPE DRILL DIAMETER  
 0102 IG71-075-07812 1-1/2 -SCH 40 360° 0.7812 IN  
 0101 IG71-075-07812 1-1/2 -SCH 40 360° 0.7812 IN  
 VENTING REPORT  
 ENCLOSURE 1 WITH 5 LBS/SQ. FT. ENCLOSURE STRENGTH REQUIRES MINIMUM OF 748 SQUARE INCHES OF VENT AREA OR 5.19 SQUARE FEET.  
 FLOW EFFICIENT FOR VENT MUST BE AT LEAST 0.6. A SAFETY FACTOR OF 2 WAS USED IN THE VENT CALCULATION.  
 BASED ON FLOW RATE OF 8003 SCFM.

NOZZLE AREA COVERAGE

CEILING HEIGHT RANGE	"X" DIMENSION	RADIUS "R" DIMENSION	NOZZLE PATTERN
1.0' TO 16.0' (0.3 TO 5.0 M)	3.0' TO 6.0' (0.92 TO 1.83 M)	35.0' (10.7 M)	360°
1.0' TO 16.0' (0.3 TO 5.0 M)	OVER 6.0' (1.83 M)	24.0' (7.32 M)	360°



360° NOZZLES CAN BE LOCATED UP TO 1'-0" FROM THE CEILING (OR HIGHEST POINT OF PROTECTION WHEN STACKING NOZZLES IN ENCLOSURES MORE THAN 16'-0" HIGH.

PIPE REQUIREMENTS

1. PIPING MATERIALS MUST CONFORM TO THE REQUIREMENTS AS OUTLINED IN NFPA 2001, SECTION 2-2.1., IN THE LATEST EDITION. THE THICKNESS OF THE PIPE SHALL BE CALCULATED IN ACCORDANCE WITH ASME B31.1 POWER PIPING CODE. FOR PROINERT, USE A MINIMUM PIPING DESIGN PRESSURE OF 1000psig (69 BAR) AT 70°F (20° c).
2. ALL DISCHARGE PIPING SHALL BE BLACK OR GALVANIZED STEEL. TYPE SHALL BE SEAMLESS, EDW SEAMLESS GRADE SHALL BE A-106A,B OR C. ERW GRADE SHALL BE A-53A OR B. CLASS 300# MALLEABLE OR DUCTILE IRON FITTINGS ARE ACCEPTABLE THROUGH 4" NPT SIZES. CLASS 2000 FORGED STEEL FITTINGS ARE REQUIRED FOR ALL SIZES GREATER THAN 4". GROOVED FITTINGS MUST BE LISTED & CONFORM TO THE PRESSURE REQUIREMENTS OUTLINED IN NFPA 2001. CAST IRON FITTINGS ARE NOT ACCEPTABLE.
3. FOR THREADED FITTINGS, TEFLON TAPE ONLY SHALL BE USED, APPLIED TO MALE PIPE THREADS ONLY.
4. SCHEDULE 40 WELDED OR THREADED PIPING MATERIALS ARE ACCEPTABLE. SCHEDULE 80 THREADED OR WELDED IS ACCEPTABLE.
5. REDUCING TEES ARE ACCEPTABLE AS LONG AS THE NOMINAL TEE SIZE IS EQUAL TO THE INLET PIPE FEEDING THE TEE. WHEN REDUCING TEES ARE NOT USED, PIPE REDUCTIONS MUST ALWAYS BE MADE DIRECTLY AFTER THE TEE. TEE INLET MUST BE THE SAME SIZE AS THE PIPE FEEDING THE TEE. ALL REDUCERS MUST BE CONCENTRIC REDUCING COUPLINGS.
6. REFER TO FIKE PROINERT INSTALLATION MANUAL SECTION 4 PAGE 5-6 FOR COMPLETE LIST OF ACCEPTABLE PIPING.

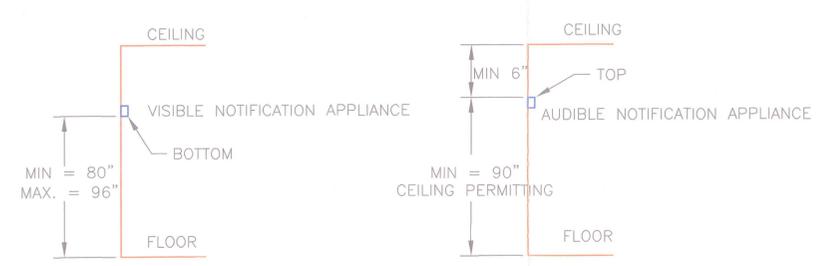
System Information:  
 FIKE PROINERT FIRE SYSTEM WITH  
 SHP PRO DETECTION & CONTROL  
 SYSTEM PROTECTING  
 ROOM 114 MID RANGE SERVER

Client:  
 WRIGHT RYAN CONSTRUCTION, Inc.  
 MAINE TURNPIKE AUTHORITY  
 2360 CONGRESS STREET  
 PORTLAND, ME

Interstate FIRE PROTECTION  
 PO BOX 1005  
 N. CONWAY, NH 03860  
 PO BOX 187  
 GARDINER, ME. 04345

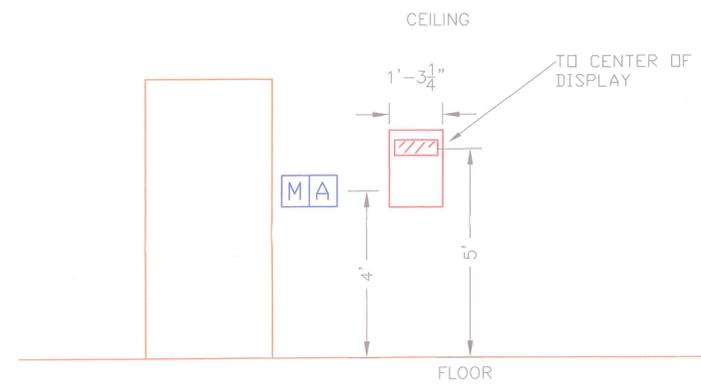
FIKE PROINERT FIRE SYSTEM  
 MECHANICAL PLAN - "AS BUILT"  
 Date: 12/14/2007  
 Rev. 1 01/16/2008  
 Rev. 2 01/28/2009  
 Rev. 3 02/02/2009  
 Rev. 4 02/20/2009  
 Rev. 5 03/04/2009  
 Rev. 6 04/24/2009  
 Rev. 7 05/11/2009  
 Project Lead: P. TWEEDE  
 Scale: AS NOTED

SHEET :  
 FS-M-1



HEIGHT OF NOTIFICATION APPLIANCES

SCALE: 1/4" = 1'

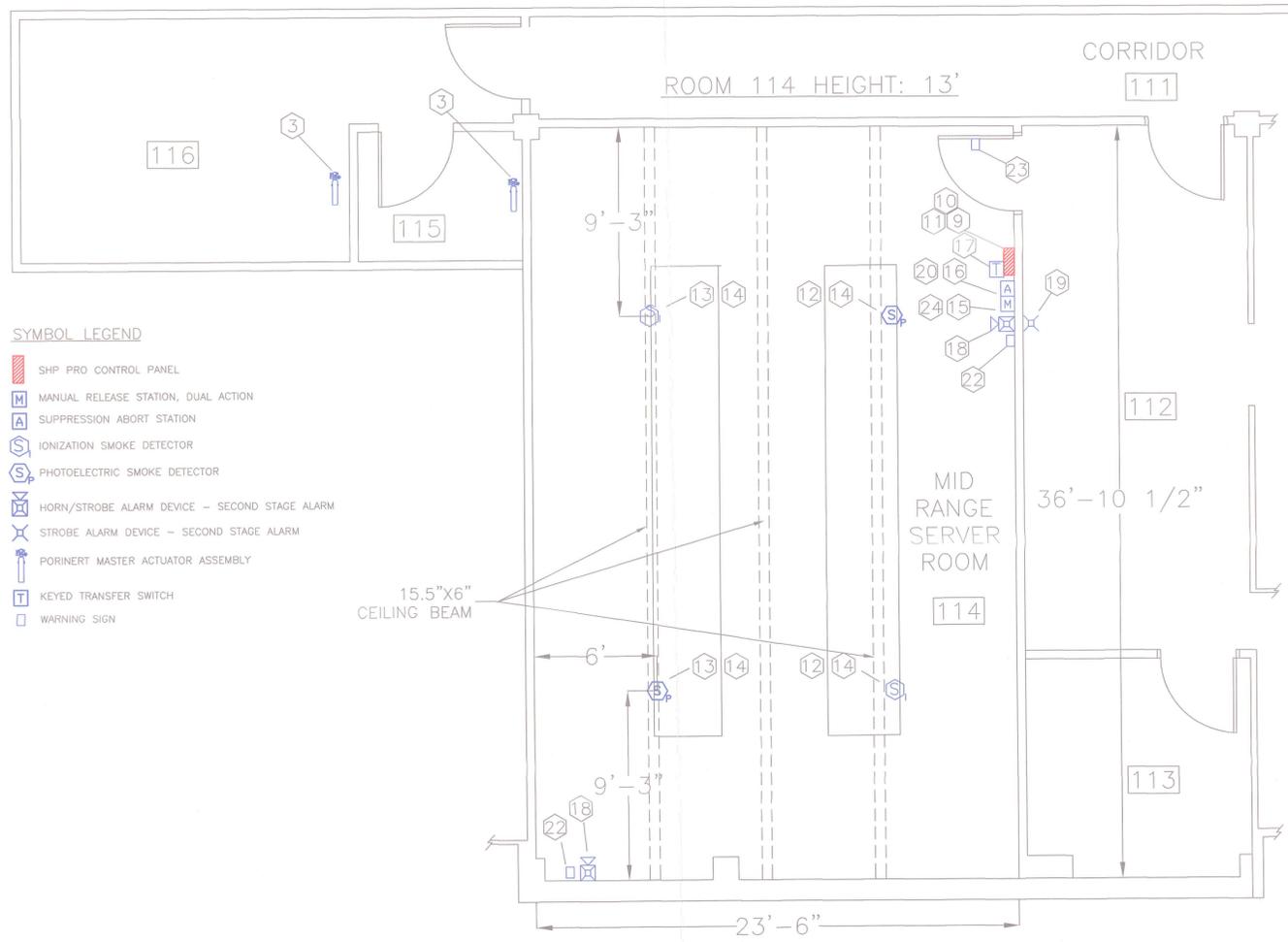


HEIGHT OF INITIATING DEVICES & CONTROL PANEL

SCALE: NONE

FIRE DETECTION & CONTROL NOTES

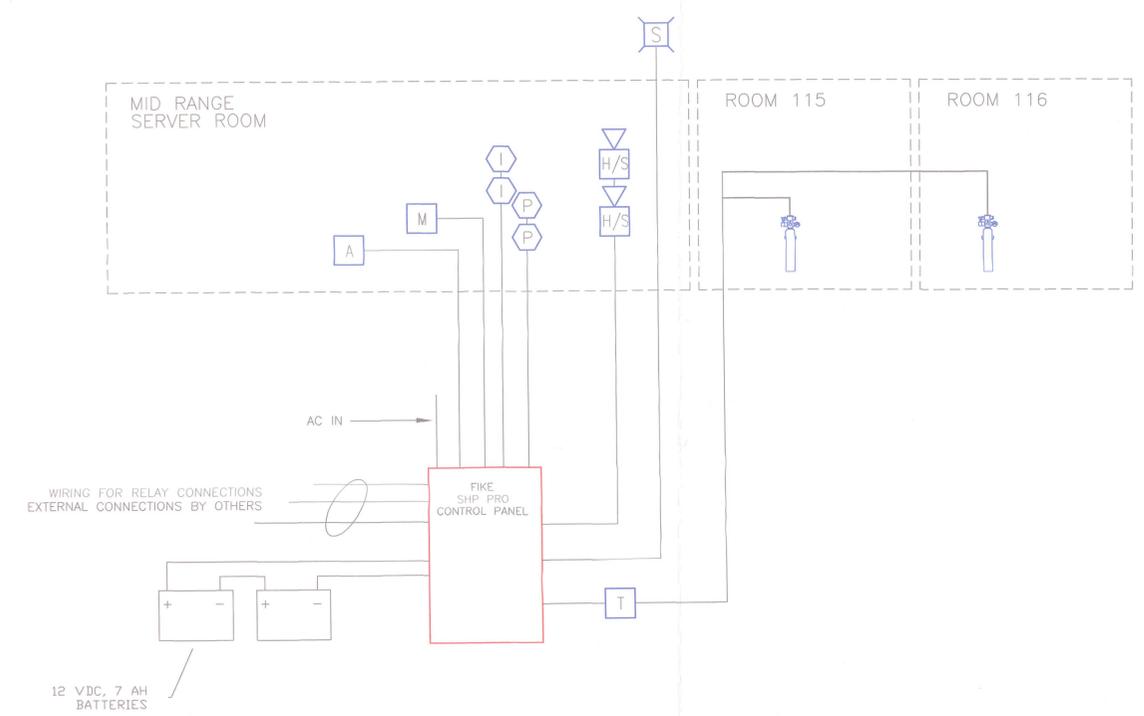
- INTERSTATE FIRE PROTECTION SHALL FURNISH AND INSTALL ALL MATERIALS, LABOR AND SERVICES REQUIRED TO INSTALL A COMPLETE FIRE SUPPRESSION SYSTEM TO THE OWNER'S SPECIFICATION AS WELL AS ALL APPLICABLE FIRE PREVENTION CODES.
- THE FIRE SUPPRESSION INSTALLATION SHALL BE MADE IN COMPLIANCE WITH NFPA 2001, CLEAN - AGENT FIRE EXTINGUISHING SYSTEMS (LATEST EDITION). THE FIRE DETECTION INSTALLATION SHALL BE MADE IN COMPLIANCE WITH NFPA 72, NATIONAL FIRE ALARM CODE (LATEST EDITION), AND SHALL BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
- THE PROINERT SYSTEM SHALL BE CONTROLLED BY A FIKE SHP PRO CONTROL PANEL. THIS PANEL IS U.L. LISTED FOR FIRE SUPPRESSION AND FIRE ALARM SERVICE. THIS PANEL WILL BE REFERRED TO AS THE "FACP".
- THE FACP SHALL BE MOUNTED IN THE ROOM AS SHOWN AND SHALL BE ACCESSIBLE.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DEDICATED CIRCUIT, WITH A LOCKING BREAKER. THE FACP SHALL HAVE BATTERY BACK-UP SUFFICIENT TO OPERATE THE FACP FOR A MINIMUM OF 24 HOURS IN STAND-BY MODE AND AN ADDITIONAL 5 MINUTES IN ALARM MODE.
- THE FACP SHALL COMMUNICATE ALARM AND TROUBLE CONDITION TO THE EXISTING BUILDING FIRE ALARM SYSTEM.
- THE FACP SHALL ACCEPT INPUTS FROM THE FOLLOWING DEVICES:
  - MANUAL PULL STATIONS,
  - SMOKE DETECTORS
  - SUPPRESSION ABORT STATIONS
- THE FACP SHALL BE PROGRAMMED AS FOLLOWS:
  - UPON RECEIPT OF AN ALARM FROM A SINGLE SMOKE DETECTOR:
    - INITIATE A TROUBLE SIGNAL
    - INITIATE ZONE ONE ALARM (SLOW PULSE HORN SIGNAL & STROBE)
    - INITIATE A SIGNAL TO THE BUILDING FIRE ALARM SYSTEM.
  - UPON RECEIPT OF AN ALARM FROM A SECOND SMOKE DETECTOR
    - INITIATE A 30 SECOND PROINERT AGENT PRE-DISCHARGE COUNTDOWN
    - INITIATE PRE-DISCHARGE ALARMS (FAST PULSE HORN SIGNAL & STROBES)
    - AFTER A 30 SECOND COUNTDOWN; RELEASE PROINERT AGENT.
    - INITIATE DISCHARGE ALARMS (STEADY TONE HORN SIGNAL & STROBES)
  - UPON RECEIPT OF A SIGNAL FROM A SINGLE MANUAL RELEASE STATION:
    - IMMEDIATELY RELEASE PROINERT AGENT.
    - INITIATE DISCHARGE ALARMS (STEADY TONE HORN SIGNAL & 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 ECARO-25 FIRE SUPPRESSION SYSTEM.
- INTERSTATE FIRE PROTECTION SHALL PROVIDE "AS BUILT" DRAWINGS OF THE ECARO FIRE SUPPRESSION SYSTEM.



SHP PRO DETECTION & CONTROL SYSTEM LAYOUT - PLAN VIEW

SCALE: 1/4" = 1'

- DETECTOR SPACING NOTES:
- CEILING HEIGHT IS 13 FEET. BEAM DEPTH IS 15.5 INCHES. NFPA CODE 72 PARAGRAPH 5.7.3.2.4.2 SUBPARAGRAPH 1 STATES; " FOR CEILINGS WITH BEAM DEPTHS OF LESS THAN 10 PERCENT OF THE CEILING HEIGHT (0.1 H), SMOOTH CEILING SPACING SHALL BE PERMITTED.
  - 10% OF CEILING HEIGHT IS 15.6 INCHES.



SHP PRO DETECTION & CONTROL RISER DIAGRAM

- SYMBOL LEGEND
- SHP PRO CONTROL PANEL
  - MANUAL RELEASE STATION, DUAL ACTION
  - SUPPRESSION ABORT STATION
  - IONIZATION SMOKE DETECTOR
  - PHOTOELECTRIC SMOKE DETECTOR
  - HORN/STROBE ALARM DEVICE - SECOND STAGE ALARM
  - STROBE ALARM DEVICE - SECOND STAGE ALARM
  - PROINERT MASTER ACTUATOR ASSEMBLY
  - KEYED TRANSFER SWITCH
  - WARNING SIGN

System Information:  
 FIKE PROINERT FIRE SYSTEM WITH  
 SHP PRO DETECTION & CONTROL  
 SYSTEM PROTECTING  
 ROOM 114 MID RANGE SERVER

Client:  
 WRIGHT RYAN CONSTRUCTION, Inc.  
 MAINE TURNPIKE AUTHORITY  
 2360 CONGRESS STREET  
 PORTLAND, ME

**Interstate FIRE PROTECTION**  
 PO BOX 1005  
 N. CONWAY, NH 03860  
 PO BOX 187  
 GARDINER, ME. 04345

Revisions:	Date:
ii	12/14/2007
Rev. 1	01/16/2008
Rev. 2	01/28/2009
Rev. 3	02/02/2009
Rev. 4	02/20/2009
Rev. 5	03/04/2009
Rev. 6	04/14/2009
Rev. 7	05/11/2009

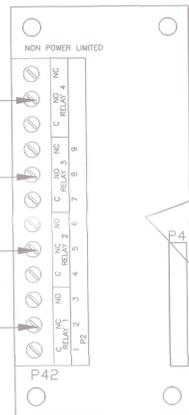
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 Drawn By: T. MOONEY  
 Created on: 12/15/2007  
 Designed By: T. MOONEY  
 Checked By:  
 Approved By:  
 Project Lead: D. BOLDUC & P. TWEEDE  
 Scale: AS NOTED

**RELAY MODULE:**

THE OPTIONAL RELAY MODULE PROVIDES FOUR (4) ADDITIONAL SPDT DRY RELAY CONTACTS. THE RELAY MODULE IS MOUNTED TO SHP PRO MAIN CONTROLLER AT HEADER P8 AND/OR P9 AND IS MECHANICALLY SECURED USING THE (4) SUPPLIED STANDOFFS & SCREWS. THE RELAYS ACTIVATE UPON SELECTED EVENTS PER THE CONFIGURATION OF THE DIP SWITCHES. CONTACTS ARE NOT SUPERVISED.

**RELAY FUNCTION P-8**

- RELAY : 4 ABORT ACTIVE
- RELAY : 3 RELEASE, AUTOMATIC OR MANUAL RELEASE
- RELAY 2: 2 OR MORE SMOKE DETECTORS IN ALARM & 30 SECOND PRE-DISCHARGE COUNTDOWN.
- RELAY 1: FIRST SMOKE DETECTOR ALARM.

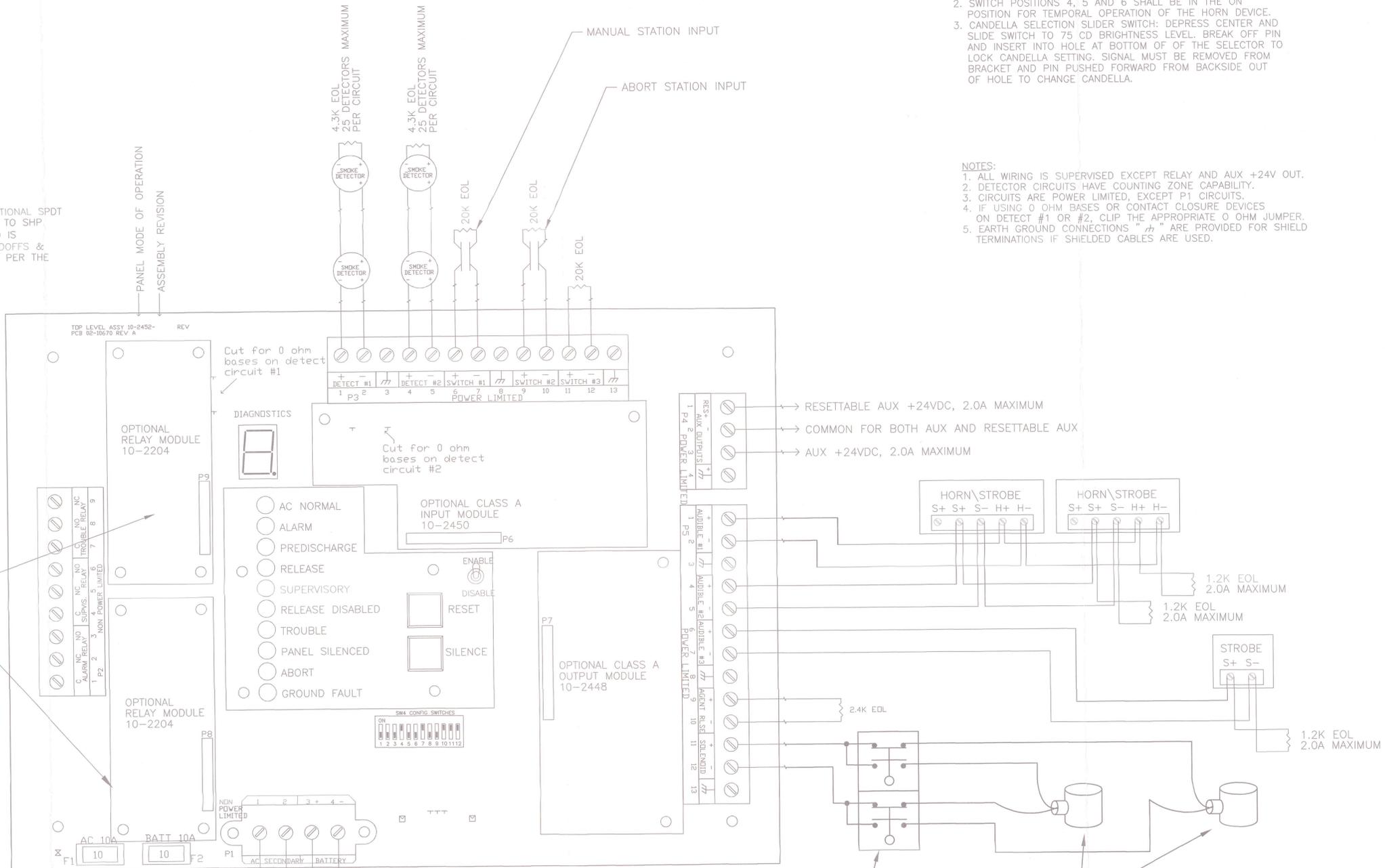


**RELAY FUNCTION P-9**

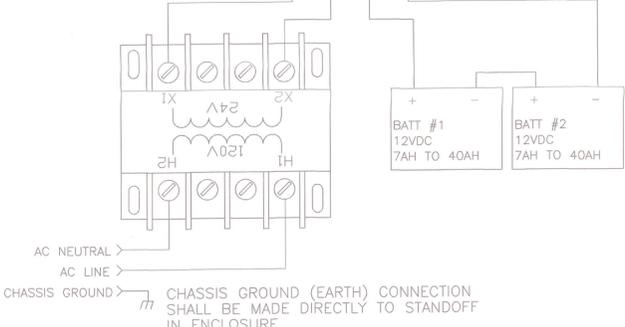
- RELAY 1: ALARM.
- RELAY 2: RELEASE.
- RELAY 3: SUPERVISORY.
- RELAY 4: TROUBLE.

**SW4 CONFIGURATION SWITCH SETTINGS**

S1	OFF	CLEAN AGENT
S2	OFF	TROUBLE RELAY - NO DELAY
S3	OFF	AUDIBLE OPTION 3
S4	ON	GENTEX - SYNC. PROTOCOL
S5	OFF	PRE-DISCHARGE DELAY 30 SECONDS
S6	OFF	ABORT - TYPE 1 FOR AGENT RELEASE OUTPUT ONLY.
S7	ON	DETECTOR ACTIVATES SOLENOID
S8	ON	CROSS-ZONED DETECTION
S9	ON	
S10	ON	
S11	ON	
S12	ON	



- HORN\STROBE NOTES:**
- SWITCH POSITIONS 1, 2 AND 3 SHALL BE IN THE OFF POSITION FOR ISOLATED HORN AND STROBE POWER INPUTS.
  - SWITCH POSITIONS 4, 5 AND 6 SHALL BE IN THE ON POSITION FOR TEMPORAL OPERATION OF THE HORN DEVICE.
  - CANDELLA SELECTION SLIDER SWITCH: DEPRESS CENTER AND SLIDE SWITCH TO 75 CD BRIGHTNESS LEVEL. BREAK OFF PIN AND INSERT INTO HOLE AT BOTTOM OF OF THE SELECTOR TO LOCK CANDELLA SETTING. SIGNAL MUST BE REMOVED FROM BRACKET AND PIN PUSHED FORWARD FROM BACKSIDE OUT OF HOLE TO CHANGE CANDELLA.
- NOTES:**
- ALL WIRING IS SUPERVISED EXCEPT RELAY AND AUX +24V OUT.
  - DETECTOR CIRCUITS HAVE COUNTING ZONE CAPABILITY.
  - CIRCUITS ARE POWER LIMITED, EXCEPT P1 CIRCUITS.
  - IF USING 0 OHM BASES OR CONTACT CLOSURE DEVICES ON DETECT #1 OR #2, CLIP THE APPROPRIATE 0 OHM JUMPER.
  - EARTH GROUND CONNECTIONS "H" ARE PROVIDED FOR SHIELD TERMINATIONS IF SHIELDED CABLES ARE USED.



**JUNCTION BOX REQUIREMENTS**

QTY.	DEVICE	BACK BOX REQUIREMENT
4	SMOKE/THERMAL	3 1/2" OR 4" OCTAGON
1	MANUAL STATION	4" SQUARE
1	ABORT STATION	4" SQUARE
0	BELLS	4" SQUARE
2	HORN\STROBE	4" SQUARE
1	STROBE ONLY	4" SQUARE
1	TRANSFER SWITCH	4" SQUARE / DOUBLE DEEP
2	MASTER ACTUATOR ASSMLY.	4" SQUARE

**POWER CALCULATIONS**

**SERVER ROOM**

Table 1: NORMAL (STANDBY) OPERATION

Part	Qty.	mA	Total
10-2452 Controller	1	130	130
10-2454 Auxiliary Output	1	2	2
10-2454-01 CSM Module	1	2	2
<b>TOTAL NORMAL (STANDBY) CURRENT (mA)</b>			<b>134</b>

Table 2: ALARM OPERATION

Part	Qty.	Amperes	Total
10-2452 Controller	1	0.1	0.1
10-2454 CSM Module (all Relays)	1	0.1	0.1
10-12-18 Bell	0	0	0
10-12-05 Horn/Strobe	2	0.692	1.384
10-12-05 Strobe	1	0.132	0.132
<b>TOTAL ALARM CURRENT (DRAW (AMPS))</b>			<b>2.316</b>

Table 3: AMPERE-HOUR CALCULATIONS

Category	Value	Hours	Total
Total Standby Current	0.134	24	3.216
Standby Current	0.134	24	3.216
<b>Total Alarm Current Draw</b>	<b>2.316</b>	<b>1</b>	<b>2.316</b>
<b>Sum of Standby Current &amp; Alarm Current Draw</b>	<b>3.132</b>	<b>1</b>	<b>3.132</b>
<b>Multiply By Deteriorating Safety Margin Factor</b>	<b>1.2</b>		<b>3.7584</b>
<b>Battery Size, Total Ampere Hours Required (Rounded Up)</b>			<b>4</b>
<b>DETERMINED BATTERY SIZE (Ampere-Hours) TO BE INSTALLED</b>			<b>7</b>

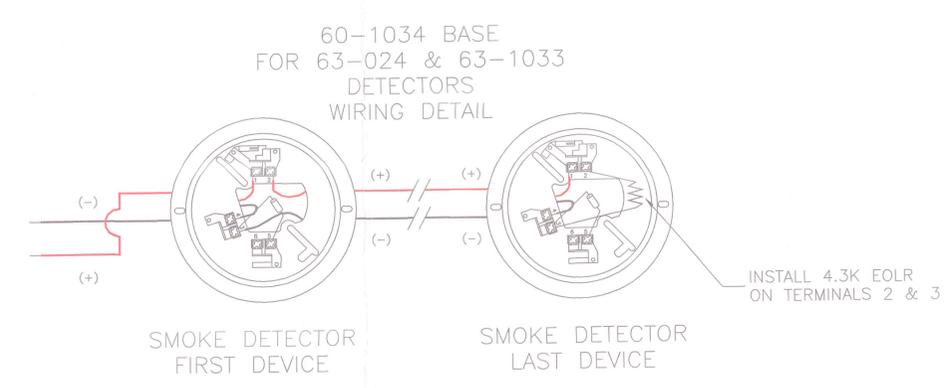
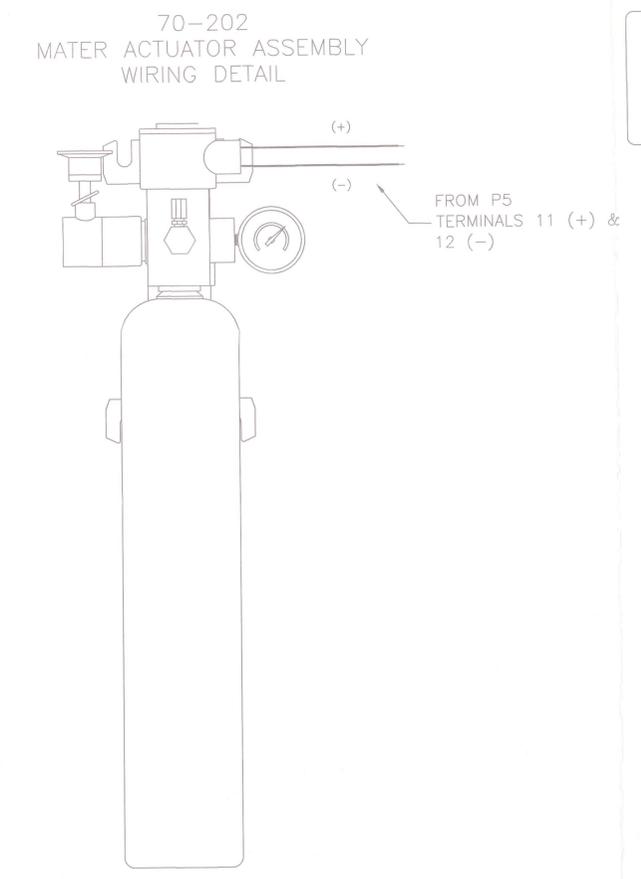
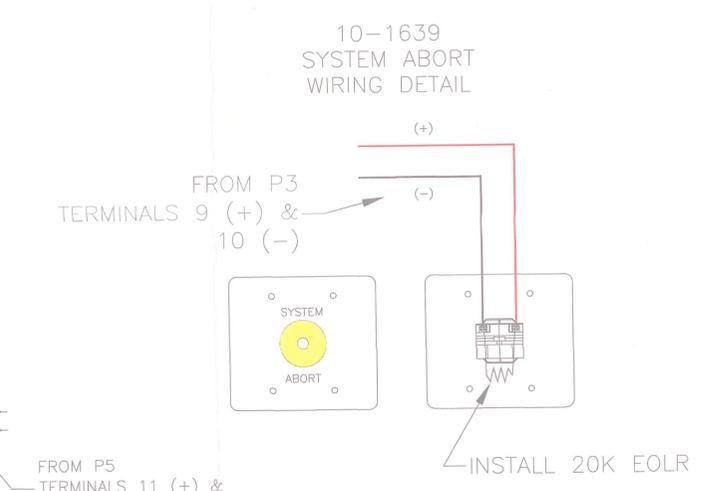
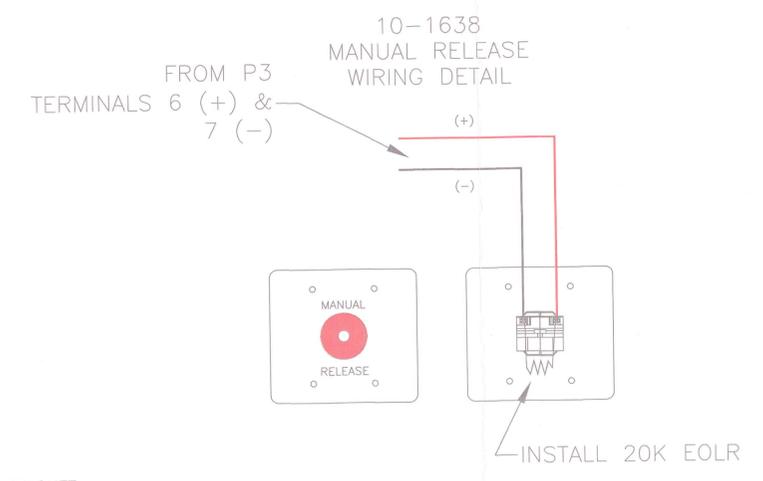
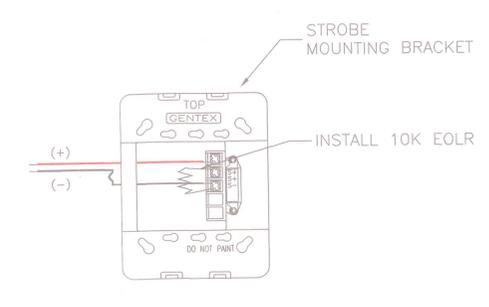
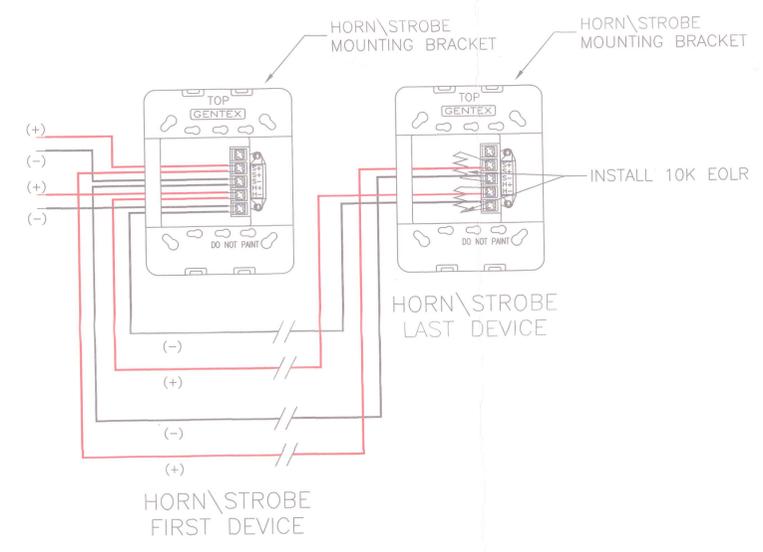
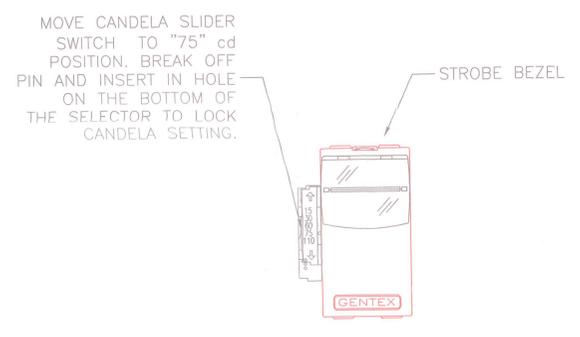
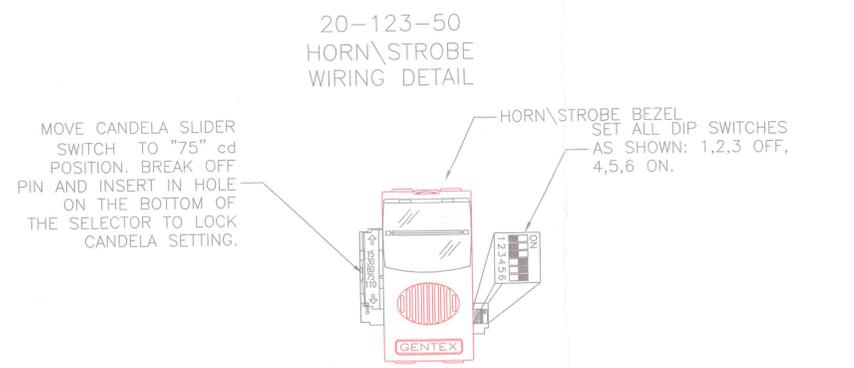
System Information:  
 FIKE PRONERT FIRE SYSTEM WITH  
 SHP PRO DETECTION & CONTROL  
 SYSTEM PROTECTING  
 ROOM 114 MID RANGE SERVER

Client:  
 WRIGHT RYAN CONSTRUCTION, Inc.  
 MAINE TURNPIKE AUTHORITY  
 2360 CONGRESS STREET  
 PORTLAND, ME

**Interstate FIRE PROTECTION**  
 PO BOX 1005  
 N. CONWAY, NH 03860  
 PO BOX 187  
 GARDINER, ME. 04345

SHP PRO CONTROL PANEL  
 PANEL WIRING PLAN - "AS BUILT"  
 Date: 12/14/2007  
 Revisions:  
 Rev. 1 01/16/2008  
 Rev. 2 01/28/2009  
 Rev. 3 02/02/2009  
 Rev. 4 02/20/2009  
 Rev. 5 05/04/2009  
 Rev. 6 04/24/2009  
 Rev. 7 05/11/2009  
 Proj. no.:  
 CAD File: MTA.dwg  
 Drawn By: T. MOONEY  
 Created on: 12/14/2007  
 Designed by: T. MOONEY  
 Checked by:  
 Approved by:  
 Project Lead: P. TWEDIE  
 Scale: NOT TO SCALE

SHEET :



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SHP PRO CONTROL PANEL DEVICE WIRING - "AS BUILT"

Revisions:	Date:
1	12/14/2007
2	01/15/2008
3	01/28/2009
4	02/02/2009
5	02/20/2009
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