"BYRON BEACH CONDOMINIUM"

8340 HARDING AVENUE , MIAMI BEACH , FL. 33141

SCOPE OF WORK

TO PROVIDE THE DESIGN A NEW FIRE ALARM SYSTEM AS PER NFPA 72 & 101 STANDARDS TO DETECT EARLY FIRE, ALERT BUILDING OCCUPANTS AND FIRE DEPARTMENT IN THE EVENT OF A FIRE.

FIRE ALARM SYSTEM NOTES

1. THE EXTENT OF THE FIRE ALARM SYSTEM WORK IS INDICATED BY THE DRAWINGS AND SCHEDULES.
2. ANY SURFACE MOUNTED FIRE ALARM DEVICES, i.e., PULL STATION, STROBES, HORN/STROBE SHALL BE MOUNTED IN "SYSTEMS" BOXES PROVIDED BY THE MANUFACTURER. DO NOT USE 1900 TYPE ELECTRICAL BOXES PAINTED RED.
3. FIRE ALARM SHALL NOT BE INSTALLED UNTIL CLEANUP OF ALL OF ALL TRADES ARE COMPLETE. FAILURE TO COMPLY WITH THIS NOTE WILL VOID ALL WARRANTIES.
4. ALL FIRE ALARM SYSTEM DEVICES ARE UL LISTED AND COMPATIBLE WITH FIRE ALARM PANEL AND POWER SUPPLY.
5. SIGNALING CIRCUITS SHALL BE POWER LIMITED PER NEC 760-11. CABLE PENETRATION INTO OR THROUGH PLENUM AREAS USED FOR TRANSFER OF ENVIRONMENTAL AIR SHALL BE TEFLON INSULATED TYPE OR OF AN APPROVED TYPE IN ACCORDANCE WITH SECTION 800-3(D) OF THE NATIONAL ELECTRIC CODE.
6. FIRE ALARM CONTROL PANEL MUST BE CONNECTED TO BUILDING COLD-WATER GROUND VIA 1 GREEN #10 THHN OR EQUIVALENT.
7. ALL WIRING MUST CONFORM WITH NEC ARTICLE 760 AND LOCAL CODES. ALL EQUIPMENT SHALL BE UL LISTED. ALL DEVICES SHALL BE COMPATIBLE WITH THE CONTROL PANEL.
8. ALL INSTALLATION MATERIAL SUCH AS CONDUIT FITTINGS, BOXES, HANGERS, ETC. ARE TO BE PROVIDED AND INCLUDED.
9. ALL INITIATING AND INDICATING CIRCUITS MUST BE SUPERVISED.
10. CIRCUIT POLARITY MUST BE OBSERVED.
11. WIRE RUNS ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATION OF ALL EQUIPMENT TO BE DETERMINED IN THE FIELD, BUT SHALL CONFORM WITH THE BASIC LAYOUT AS SHOWN ON DRAWINGS TO PREVENT CIRCUIT OVERLOAD.
12. DETECTORS SHALL NOT BE LOCATED IN DIRECT AIR STREAM FROM SUPPLY AIR OUTLETS. MAINTAIN A MINIMUM CLEAR DISTANCE OF 36". OFFSET/ADJUST LOCATIONS AS REQUIRED.
13. MINIMUM CONDUIT SIZE WILL BE 1/2" UNLESS NOTED OTHERWISE. CONDUIT SHALL BE NO MORE THAN 40% FILLED.
14. DO NOT MARK ID NUMBERS ON DEVICES. LABEL BASE ONLY.
15. POWER UP & POWER DOWN ON PANEL MUST BE DONE IN SEQUENCE:

    POWER DOWN
    A - DISCONNECT BATTERY.
    B - TURN OFF AC POWER PRIMARY & SECONDARY.

    POWER UP
    A - TURN ON AC POWER PRIMARY & SECONDARY.
    B - RECONNECT BATTERIES.
16. THE FIRE ALARM CONTROL PANEL SHALL NOT BE USED TO POWER ANY UNAUTHORIZED EXTERNAL DEVICE.
17. STROBES ARE TO BE WALL MOUNTED AND SYNCRONIZED PER ADA REQUIREMENTS. LOCATION OF THESE DEVICES TO BE DETERMINED IN FIELD. MOUNT STROBES 80" A/F/ TO TOP OF LENS, OR 6" BELOW CEILING TO TOP OF LENS, WHICHEVER IS LOWER.
18. ALL HORNS TO BE TAPPED AT STD SETTING EACH PROVIDING 93 DB AT 10 FT (TYPICAL ANECHOIC DBA).
19. IDENTIFYING NUMBER ADJACENT TO DEVICE SYMBOL DENOTE DEVICE ZONE ADDRESS. DETECTOR 2-02 WILL IDENTIFY THE SECOND DEVICE CONNECTED TO LOOP 1 ON SLC BOARD.
20. HVAC SYSTEM SHALL COMPLY WITH NFPA 90A IN SYSTEM OF OVER 2,000 CFM CAPACITY. DUCT DETECTOR INSTALLATION SHALL BE AT A SUITABLE LOCATION.
21. BUILDING IS PARTIALLY FIRE SPRINKLED.
22. THIS FIRE ALARM SYSTEM WILL BE IN ACCORDANCE WITH CENTRAL STATION REQUIREMENTS (NFPA 72).
23. FIRE ALARM SYSTEM IS MONITOR BY A DIALER WITH (2) SUPERVISED TELEPHONE LINES. THIS FIRE ALARM SYSTEM IS CLASSIFIED AS A REMOTE SUPERVISING STATION (NFPA 72.8.4).
24. FIRE ALARM IS REQUIRED UNDER SECTION NFPA 101.14.3.4
25. THE DESIGN COMPLIES WITH F.B.C. SECTION 11.4.28.3
26. INSTALLATION SHALL COMPLY WITH NFPA 1, 2003, APPLICABLE CHAPTERS.
27. INSTALLATION SHALL COMPLY WITH NFPA 72, 2002, APPLICABLE CHAPTERS.
28. INSTALLATION SHALL COMPLY WITH NFPA 101, 2003 & 2007, APPLICABLE CHAPTERS.
29. INSTALLATION SHALL COMPLY WITH NEC 2002.
30. WATERFLOW SWITCHES IN ALARM SHALL BE SILENCEABLE.
31. ALL HORNS AT ALL SLEEPING AREAS SHALL BE SETTING TO PROVIDE A MINIMUM OF 75 DB (TYPICAL ANECHOIC DBA).

LOCATION MAP

SYMBOL LEGEND

SYMBOL	DESCRIPTION	MODEL	MOUNTING
FACP	FIRE ALARM PANEL	SILENT KNIGHT SK5700	MOUNT 72" A.F.F. TO TOP.
NAC-1	POWER BOOSTER	SILENT KNIGHT SK5495	MOUNT 72" A.F.F. TO TOP.
ANN	ANNUNCIATOR PANEL	SILENT KNIGHT SK5860	MOUNTED INSIDE NEMA 4 BOX 72" A.F.F. TO TOP
SD	PHOTOELECTRIC SMOKE DETECTOR W/ BASE	SILENT KNIGHT SD505-APS	CEILING MOUNT ON A 4" 1900 BOX.
HD	HEAT DETECTOR W/ BASE	SILENT KNIGHT SD505-AHS	CEILING MOUNT ON A 4" 1900 BOX.
P	MANUAL PULL STATION	FIRELITE BG-12	MOUNT 48" A.F.F. TO CNTR ON A 3 1/2" DEEP, 1 GANG BOX.
P WP	WEATHERPROOF MANUAL PULL STATION	FIRELITE BG-12LO	MOUNT 48" A.F.F. TO CNTR ON A 3 1/2" DEEP, 1 GANG BOX.
M	ADDRESABLE MONITOR MODULE	SILENT KNIGHT SD500-MIM	MOUNTS DIRECTLY TO A 4" BOX.
R	ADDRESABLE RELAY MODULE	SILENT KNIGHT SD 500-ARM	MOUNTS DIRECTLY TO A 4" BOX.
H	HORN (MINI-SOUNDER)	SYSTEM SENSOR HW	MOUNT 80" A.F.F. TO BOTTOM, ON A 4" SQUARE BOX
S	MULTI-CANDELA HORN STROBE	SYSTEM SENSOR P2R	MOUNT 80" A.F.F. TO BOTTOM, ON A 4" WEATHER PROOF BOX
S WP	MULTI-CANDELA HORN STROBE WEATHERPROOF DEVICE	SYSTEM SENSOR P2RK	MOUNT 80" A.F.F. TO BOTTOM, ON A 4" WEATHER PROOF BOX
H WP	WEATHERPROOF HORN	SYSTEM SENSOR HRK	MOUNT 80" A.F.F. TO BOTTOM, ON A 4" WEATHER PROOF BOX
	MULTI-CANDELA STROBE DEVICE	SYSTEM SENSOR SR	MOUNT 80" A.F.F. TO BOTTOM, ON A 4" 1900 BOX
WP	MULTI-CANDELA STROBE WEATHERPROOF DEVICE	SYSTEM SENSOR SRK	MOUNT 80" A.F.F. TO BOTTOM, ON A 4" WEATHER PROOF BOX
WF	WATERFLOW SWITCH	PROVIDED BY SPRINKLER COMPANY	MOUNTED ON SPRINKLER RISER PIPE
TS	TAMPER SWITCH	PROVIDED BY SPRINKLER COMPANY.	MOUNTED ON SPRINKLER RISER PIPE
	END OF LINE RESISTOR	( ) K	INSTALL VALUE AS SHOWN ON RISER

SEQUENCE OF OPERATION:

UPON ACTIVATION OF ANY MANUAL STATION THE FOLLOWING SHALL OCCUR:
1. ALL HORNS WILL SOUND UNTIL SYSTEM IS SILENCED.
2. ALL STROBES WILL FLASH UNTIL SYSTEM IS RESET.
3. AN ALARM SIGNAL SHALL BE SENT TO THE FACP & REMOTE ANNUNCIATOR.
4. A SIGNAL SHALL BE SENT TO THE OWNERS CENTRAL STATION VIA DACT.

UPON ACTIVATION OF ANY AUTOMATIC DEVICE THE FOLLOWING SHALL OCCUR:
1. ALL HORNS WILL SOUND UNTIL SYSTEM IS SILENCED.
2. ALL STROBES WILL FLASH UNTIL SYSTEM IS RESET.
3. AN ALARM SIGNAL SHALL BE SENT TO THE FACP & REMOTE ANNUNCIATOR.
4. A SIGNAL SHALL BE SENT TO THE OWNERS CENTRAL STATION VIA DACT.

UPON ACTIVATION OF THE ELEVATOR LOBBY SMOKE DETECTORS (WITH THE EXCEPTION OF THE ELEVATOR LOBBY DETECTOR AT THE PRIMARY LEVEL OF EGRESS), THE FOLLOWING SHALL OCCUR:
1. ALL HORNS WILL SOUND UNTIL SYSTEM IS SILENCED.
2. ALL STROBES WILL FLASH UNTIL SYSTEM IS RESET.
3. AN ALARM SIGNAL SHALL BE SENT TO THE FACP & REMOTE ANNUNCIATOR.
4. A SIGNAL SHALL BE SENT TO THE OWNERS CENTRAL STATION VIA DACT.
5. ELEVATORS SHALL RECALL TO THE PRIMARY LEVEL OF EGRESS.
6. FIREHAT IN ELEVATOR CAB SHALL ILLUMINATE.

UPON ACTIVATION OF THE ELEVATOR LOBBY SMOKE DETECTOR AT THE PRIMARY LEVEL OF EGRESS, THE FOLLOWING SHALL OCCUR:
1. ALL HORNS WILL SOUND UNTIL SYSTEM IS SILENCED.
2. ALL STROBES WILL FLASH UNTIL SYSTEM IS RESET.
3. AN ALARM SIGNAL SHALL BE SENT TO THE FACP & REMOTE ANNUNCIATOR.
4. A SIGNAL SHALL BE SENT TO THE OWNERS CENTRAL STATION VIA DACT.
5. ELEVATORS SHALL RECALL TO THE ALTERNATE LEVEL OF EGRESS.
6. FIREHAT IN ELEVATOR CAB SHALL ILLUMINATE.

UPON ACTIVATION OF THE ELEVATOR MACHINE ROOM SMOKE DETECTOR, THE FOLLOWING SHALL OCCUR:
1. ALL HORNS WILL SOUND UNTIL SYSTEM IS SILENCED.
2. ALL STROBES WILL FLASH UNTIL SYSTEM IS RESET.
3. AN ALARM SIGNAL SHALL BE SENT TO THE FACP & REMOTE ANNUNCIATOR.
4. A SIGNAL SHALL BE SENT TO THE OWNERS CENTRAL STATION VIA DACT.
5. ELEVATORS SHALL RECALL TO THE PRIMARY LEVEL OF EGRESS.
6. FIREHAT IN ELEVATOR CAB SHALL BLINK.

UPON ACTIVATION OF THE ELEVATOR TOP OF SHAFT SMOKE DETECTOR, THE FOLLOWING SHALL OCCUR:
1. ALL HORNS WILL SOUND UNTIL SYSTEM IS SILENCED.
2. ALL STROBES WILL FLASH UNTIL SYSTEM IS RESET.
3. AN ALARM SIGNAL SHALL BE SENT TO THE FACP & REMOTE ANNUNCIATOR.
4. A SIGNAL SHALL BE SENT TO THE OWNERS CENTRAL STATION VIA DACT.
5. ELEVATORS SHALL RECALL TO THE PRIMARY LEVEL OF EGRESS.
6. FIREHAT IN ELEVATOR CAB SHALL BLINK.

UPON ACTIVATION OF A WATERFLOW SWITCH, THE FOLLOWING SHALL OCCUR.
1. ALL HORNS WILL SOUND UNTIL SYSTEM IS SILENCED.
2. ALL STROBES WILL FLASH UNTIL SYSTEM IS RESET.
3. AN ALARM SIGNAL SHALL BE SENT TO THE FACP & REMOTE ANNUNCIATOR.
4. A SIGNAL SHALL BE SENT TO THE OWNERS CENTRAL STATION VIA DACT.

UPON ACTIVATION OF A TAMPER SWITCH, THE FOLLOWING SHALL OCCUR.
1. A SUPERVISORY SIGNAL SHALL BE SENT TO THE FACP & REMOTE ANNUNCIATOR.
2. A SUPERVISORY SIGNAL SHALL BE SENT TO THE OWNERS CENTRAL STATION VIA DACT.

FIRE ALARM WIRE LEGEND

A- 16/2 AWG FIRE POWER LIMITED (FPL) FOR INITIATING DEVICES.

B- 16/2 AWG FOR HORN/STROBE DEVICES.

C- 18/2 AWG FOR DATA COMMUNICATION.

NOTE:
WIRE TYPES LISTED IN THE WIRE LEGEND ARE THE MANUFACTURER'S MINIMUM WIRING REQUIREMENTS. CONTRACTOR SHALL CHOOSE WIRE TYPES AND RATING TO MEET THESE REQUIREMENTS AND ALL OF THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND NFPA FOR THE APPLICATIONS AND LOCATIONS OF USE.

FIRE ALARM SHEET INDEX

ALARM & ELECTRONICS
Systems, L.L.C.
Security & Fire Systems
State Certified EF20000605
13973 S.W. 140th Street Miami, FL. 33186
Office: (305) 233-4567 Fax: (305) 233-6550 Toll Free: 1-800-329-3268
Fire Alarm Contractor

Sign & Seal:
TUPACK RHEA, P.E.
Professional Engineer
FL. P.E. Reg. # 49217
9380 Sunset Drive, Suite S-248
Miami, Florida 33173
Office: 305.278.1116
Fax: 305.278.1197
Tupack@tupack.net

	Date	Revisions
1	02/02/09	CITY OF MIAMI BEACH

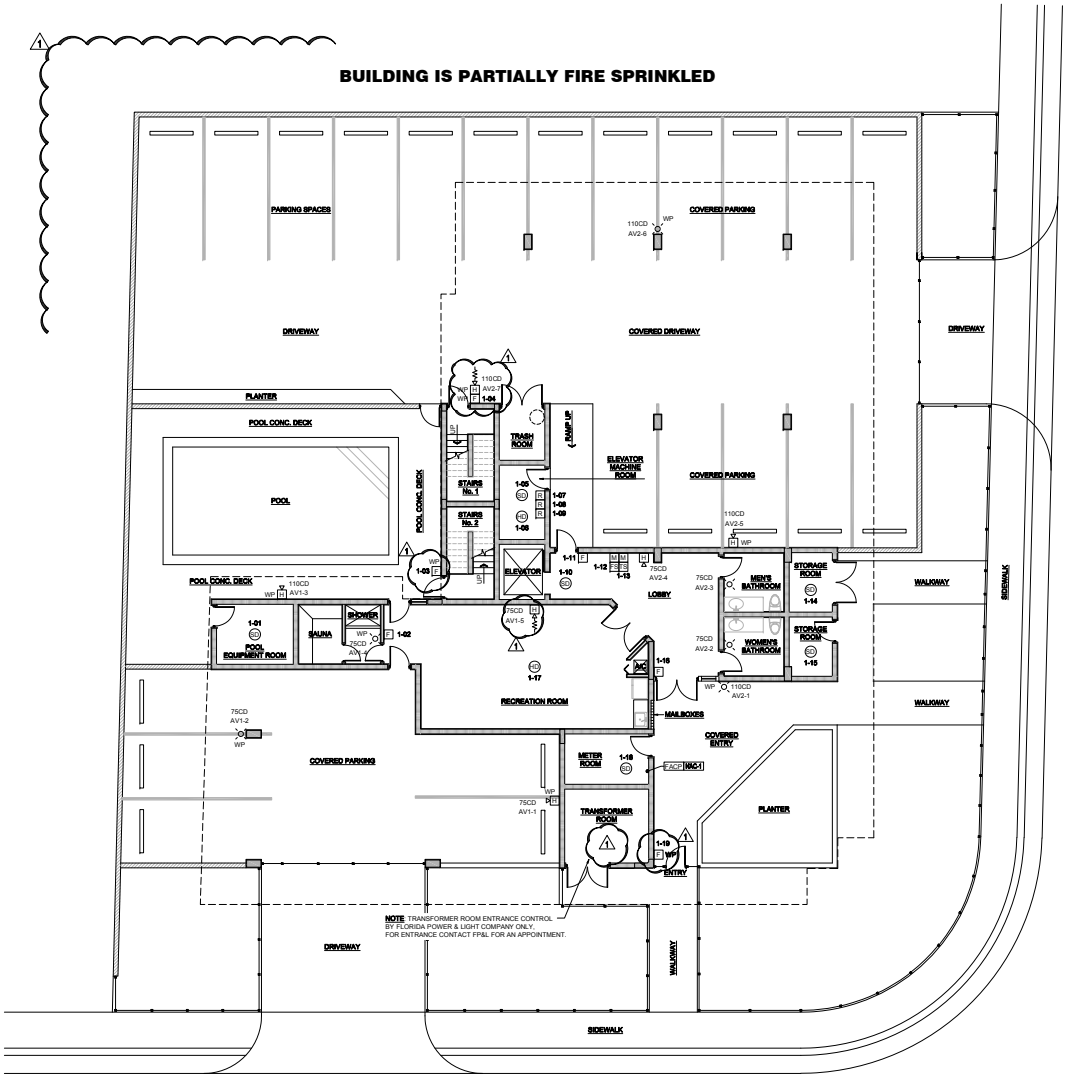
Sheet Title: COVER AND SYSTEM NOTES

Project Name: "BYRON BEACH CONDOMINIUM"
Location: 8340 HARDING AVENUE , MIAMI BEACH , FL. 33141

Date: 01/08/2009
Scale: AS NOTED
Drawn: INVENTION, CORP.
Project No: 0901-0001

Sheet: FA
1 of 9 Sheets

PATH: FILE: D:\2009\09-01\0901-0001\Second Submit\ 0901-0001 Byron Beach Condo 8340 Harding Av, Bal Harbour, FL 33154.dwg



GROUND FLOOR PLAN

SCALE 1/8" = 1'-0"

Fire Alarm Contractor:
ALARM & ELECTRONICS Systems, L.L.C.
Security & Fire Systems
State Certified EF20000625
13975 S.W. 140th Street, Miami, FL 33186
Office: (305) 233-4567 Fax: (305) 233-4650 Toll Free: 1-800-329-3258

Sign & Seal:
TUPACK RHEA, P.E.
Professional Engineer
FL. P.E. Reg. # 62217
9380 Sunset Drive, Suite B-248
Miami, Florida 33173
Office: 305.279.1116
Fax: 305.279.1167
Tupack@tupack.net

Δ	Date	Revisions
1	02/12/09	CITY OF MIAMI BEACH

Sheet Title: GROUND FLOOR PLAN

Project Name: "BYRON BEACH CONDOMINIUM"

Location: 8340 HARDING AVENUE , MIAMI BEACH , FL. 33141

Date: 01/08/2009
Scale: AS NOTED
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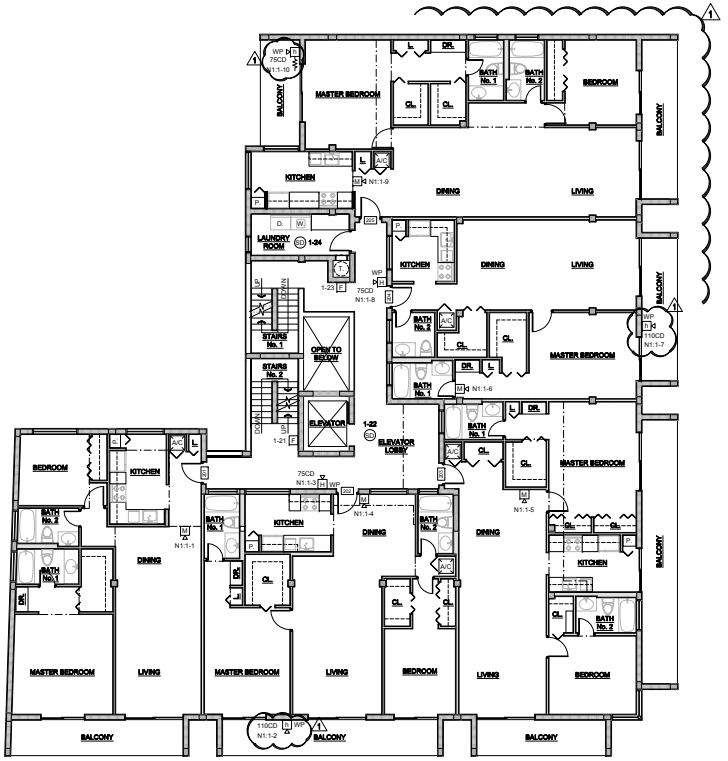

SECOND FLOOR PLAN

SCALE 1/8" = 1'-0"

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ALARM & ELECTRONICS
Systems, L.L.C.
Security & Fire Systems
State Certified EF20000625
13975 S.W. 140th Street, Miami, FL 33186
Office: (305) 233-4567 Fax: (305) 233-4660 Toll Free: 1 800-329-3258

Sign & Seal:

TUPACK RHEA, P.E.
Professional Engineer
FL. P.E. Reg. # 62217
9380 Sunset Drive, Suite B-248
Miami, Florida 33173
Office: 305.279.1116
Fax: 305.279.1167
Tupack@tupack.net

Δ	Date	Revisions
1	02/02/09	CITY OF MIAMI BEACH

Sheet Title: SECOND FLOOR PLAN

Project Name: "BYRON BEACH CONDOMINIUM"

Location: 8340 HARDING AVENUE , MIAMI BEACH , FL. 33141

Date: 01/08/2009
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Project No: 0901-0001

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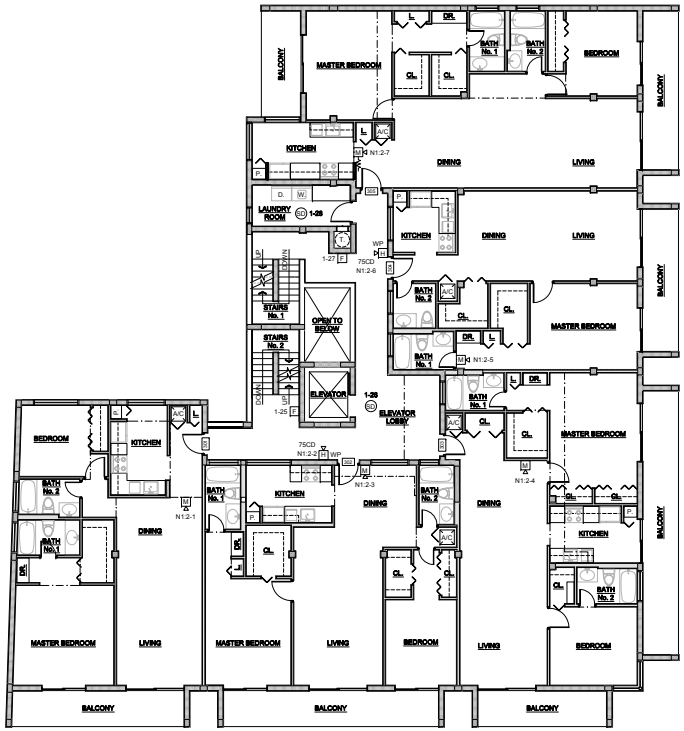

THIRD FLOOR PLAN

SCALE 1/8" = 1'-0"

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Fire/Alarm Contractor:

ALARM & ELECTRONICS
Systems, L.L.C.
Security & Fire Systems
State Certified EF20000625
13975 S.W. 140th Street, Miami, FL 33186
Office: (305) 233-4567 Fax: (305) 233-4569 Toll Free: 1 800-329-3258

Sign & Seal:

TUPACK RHEA, P.E.
Professional Engineer
FL. P.E. Reg. # 62217
9380 Sunset Drive, Suite B-248
Miami, Florida 33173
Office: 305.279.1116
Fax: 305.279.1167
Tupack@tupack.net

Δ	Date	Revisions
1	12/12/2008	CITY OF MIAMI BEACH

Sheet Title: THIRD FLOOR PLAN

Project Name: "BYRON BEACH CONDOMINIUM"

Location: 8340 HARDING AVENUE , MIAMI BEACH , FL. 33141

Date: 01/08/2009
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Drawn: INVENTION, CORP.
Project No: 0901-0001

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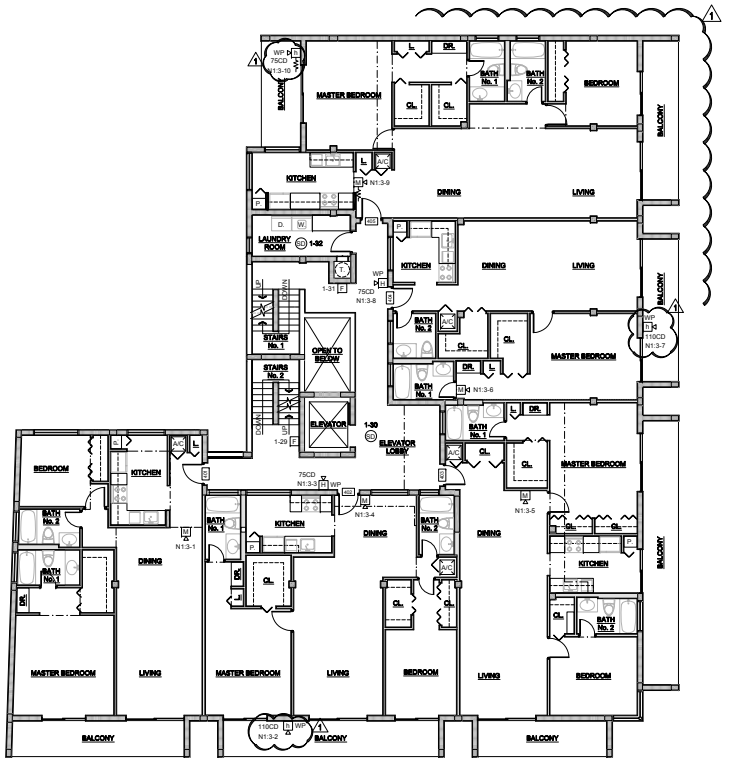

FOURTH FLOOR PLAN

SCALE 1/8" = 1'-0"

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Fire/Alarm Contractor:

ALARM & ELECTRONICS
Systems, L.L.C.
Security & Fire Systems
State Certified EF20000635
13975 S.W. 140th Street, Miami, FL 33186
Office: (305) 233-4567 Fax: (305) 233-4660 Toll Free: 1 800-329-3258

Sign & Seal:

TUPACK RHEA, P.E.
Professional Engineer
FL. P.E. Reg. # 62217
9380 Sunset Drive, Suite B-248
Miami, Florida 33173
Office: 305.279.1116
Fax: 305.279.1167
Tupack@tupack.net

Δ	Date	Revisions
1	12/12/2008	CITY OF MIAMI BEACH

Project Name:
"BYRON BEACH CONDOMINIUM"

Location:
8340 HARDING AVENUE , MIAMI BEACH , FL. 33141

Sheet Title:
FOURTH FLOOR PLAN

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Project No: 0901-0001

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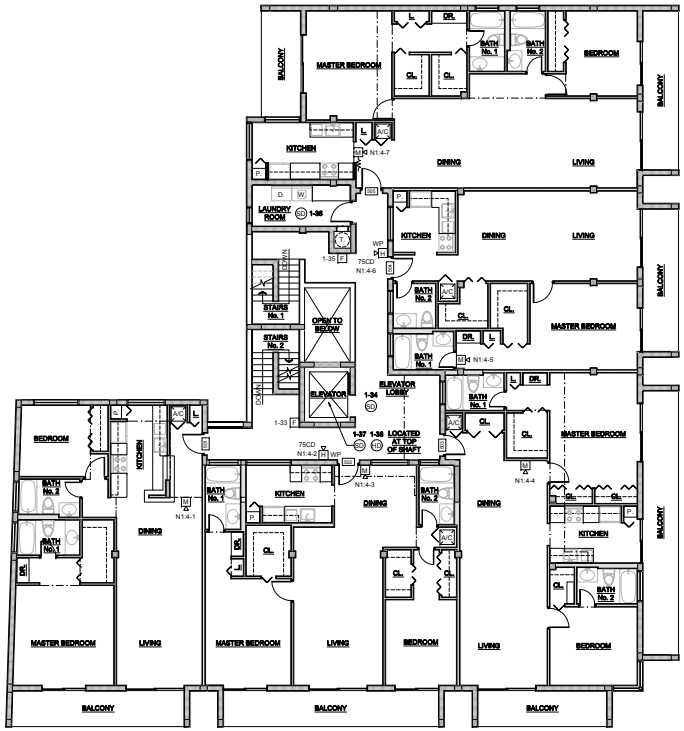

FIFTH FLOOR PLAN

SCALE 1/8" = 1'-0"

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Fire Alarm Contractor:

ALARM & ELECTRONICS
Systems, L.L.C.
Security & Fire Systems
State Certified EF20000625
13975 S.W. 140th Street, Miami, FL 33186
Office: (305) 233-4567 Fax: (305) 233-4569 Toll Free: 1 800-329-3258

Sign & Seal:

TUPACK RHEA, P.E.
Professional Engineer
FL. P.E. Reg. # 62217
9380 Sunset Drive, Suite B-248
Miami, Florida 33173
Office: 305.279.1116
Fax: 305.279.1167
Tupack@tupack.net

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1	02/12/09	CITY OF MIAMI BEACH

Project Name:
"BYRON BEACH CONDOMINIUM"

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8340 HARDING AVENUE , MIAMI BEACH , FL. 33141

Sheet Title:
FIFTH FLOOR PLAN

Date: 01/08/2009
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Project No: 0901-0001

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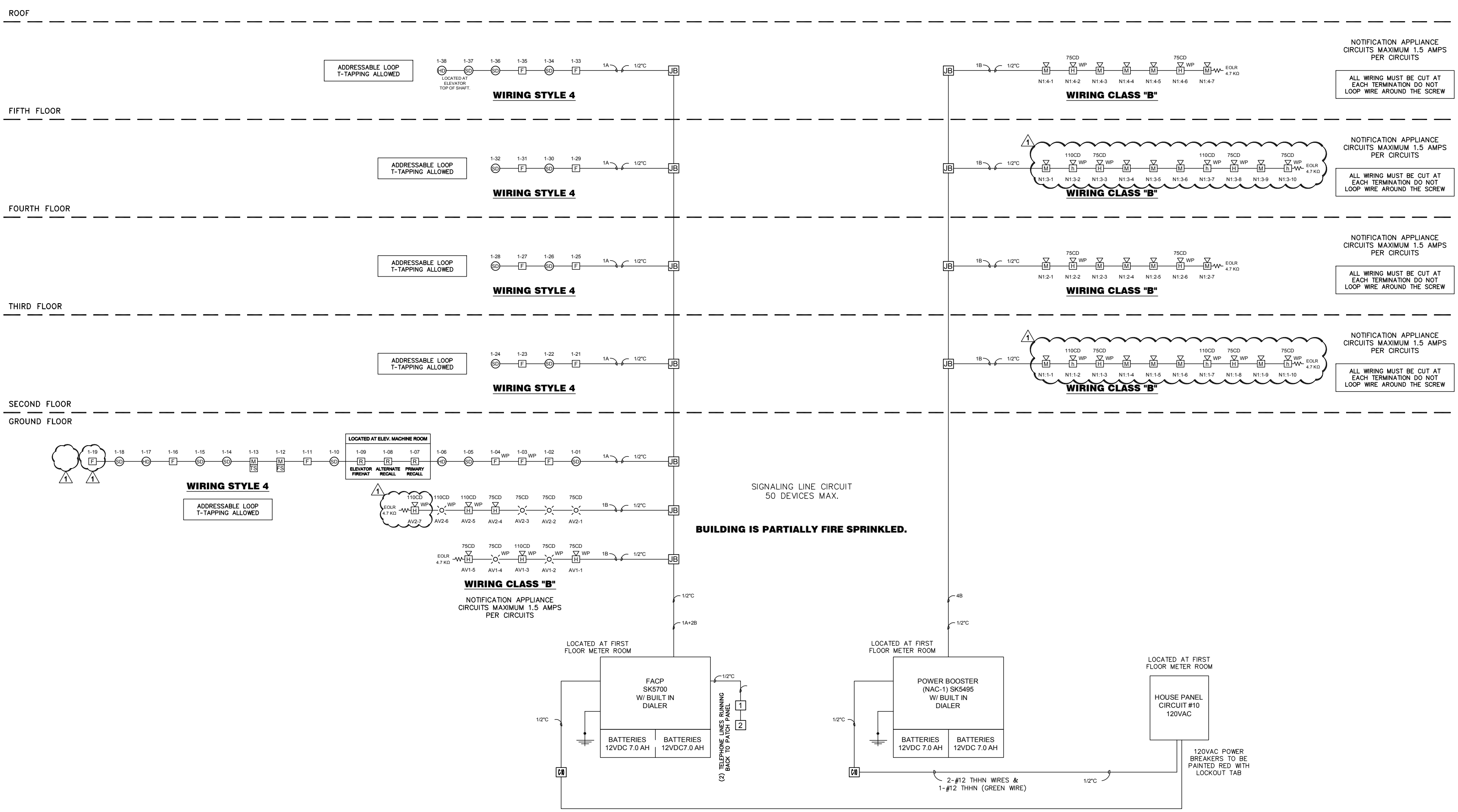


FIRE ALARM SYSTEM RISER DIAGRAM

SCALE: N.T.S.

ALARM & ELECTRONICS
Systems, L.L.C.
Security & Fire Systems
State Certified EF20000605
13973 S.W. 140th Street, Miami, FL 33186
Office: (305) 233-4567 Fax: (305) 233-6650 Toll Free: 1 800-329-3258

TUPACK RHEA, P.E.
Professional Engineer

Date	Revisions
02/02/09	CITY OF MIAMI BEACH

Sheet Title: FIRE ALARM SYSTEM RISER DIAGRAM

Project Name: "BYRON BEACH CONDOMINIUM"

Location: 8340 HARDING AVENUE, MIAMI BEACH, FL 33141

Date: 01/08/2009
Scale: AS NOTED
Drawn: INVENTION, CORP.
Project No: 0901-0001

Sheet: FA-6

FIRE ALARM PANEL BATTERY CALCULATION SK5700

LOCATED AT FIRST FLOOR METER ROOM

FIRE ALARM PANEL STANDBY BATTERIES SHALL BE SIZE TO
PROVIDE 24 HOURS SUPERVISION (STANDBY)
PLUS 5 MINUTES OF ALARM FOR ALL DEVICES.

CIRCUITS NUMBERS/DESCRIPTION	DEVICE COUNT	STANDBY CURRENT (amps)	ALARM CURRENT (amps)	75cd STROBE max current draw 0.158	110cd STROBE max current draw 0.202	HORN ONLY MAX CURRENT DRAW 0.099	75cd HORN/STB MAX CURRENT DRAW 0.176	110cd HORN/STB MAX CURRENT DRAW 0.212	TOTAL STANDBY (amps)	TOTAL ALARM (amps)
MOTHERBOARD SK5700	1	0.20000	0.32500						0.200	0.325
SMOKE DETECTOR SD355-ARS	16	0.00055	0.00055						0.009	0.009
HEAT DETECTOR SD365-AHS	4	0.00055	0.00055						0.002	0.002
ADDRESSABLE RELAY MODULE SD500-ARM	3	0.00055	0.00055						0.002	0.002
ADDRESSABLE MONITOR MODULE SD500-MM	2	0.00055	0.00055						0.001	0.001
PULL STATION BG-12	14	0.00030	0.00030						0.004	0.004
AV1				2	0	0	2	1	0.000	0.528
AV2				3	1	0	1	2	0.000	1.100
				TOTAL DRAW (AMPS)					0.218	1.971

STANDBY 24 HOURS				ALARM/SOUNDING PERIOD IN HOURS (5 MINUTES x 1/60) = 0.0833 HOURS								
REQUIRED STANDBY TIME (HOURS)		TOTAL SYSTEM STANDBY CURRENT (AMPS)		REQUIRED STANDBY CAPACITY (AMP-HOURS)		REQUIRED ALARM TIME (HOURS)		TOTAL SYSTEM ALARM CURRENT (AMPS)		REQUIRED ALARM CAPACITY (AMP-HOURS)
24	x	0.218	=	5.23		0.083	x	1.97	=	0.16
REQUIRED STANDBY CAPACITY (AMP-HOURS)		REQUIRED ALARM CAPACITY (AMP-HOURS)		REQUIRED AMPERE HOUR BATTERY	DERATING FACTOR@ 1.2		MINIMUM AMP-HOUR BATTERY REQUIRED			7.0 AMP - HOUR BATTERIES WILL BE PROVIDED
5.23	+	0.16	=	5.39	x 1.2	=	6.47			

VOLTAGE DROP TABLE - NOTIFICATION ALARM CIRCUITS

CIRCUIT #	MAX OUTPUT	OR VCC OUTPUT	WIRE SIZE	DRAWIN ALARM AMPS	OR DISTANCE FT.	VCC DROP	VCC @ LAST DEVICE
AV1	1.5	20.4	14	0.528	100	0.27	20.13
AV2	1.5	20.4	14	1.100	50	0.29	20.11

See NFPA 70 CHAPTER 9 table #8 for wire gage resistance
(14 awg = 5.2ohm/1000')

POWER BOOSTER (NAC-1) SK5495

LOCATED AT FIRST FLOOR METER ROOM

FIRE ALARM PANEL STANDBY BATTERIES SHALL BE SIZE TO
PROVIDE 24 HOURS SUPERVISION (STANDBY)
PLUS 5 MINUTES OF ALARM FOR ALL DEVICES.

CIRCUIT #	75cd STROBE max current draw 0.132	110cd STROBE max current draw 0.202	HORN ONLY max current draw 0.099	75cd HORN/STB max current draw 0.176	110cd HORN/STB max current draw 0.212	TOTAL DEVICE COUNT	TOTAL STANDBY (mA)	TOTAL ALARM (mA)	MAX LOAD PER CIRCUIT 1.5 (AMPS)
NI:1	0	0	5	3	2	10	0	1.30	1.5
NI:2	0	0	5	2	0	7	0	0.70	1.5
NI:3	0	0	5	3	2	10	0	1.30	1.5
NI:4	0	0	5	2	0	7	0	0.70	1.5
MAIN CIRCUIT BOARD						1	0.091	0.145	
						TOTAL DRAW	0.09	4.13	

STANDBY 24 HOURS				ALARM/SOUNDING PERIOD IN HOURS (5 MINUTES x 1/60) = 0.0833 HOURS								
REQUIRED STANDBY TIME (HOURS)		TOTAL SYSTEM STANDBY CURRENT (AMPS)		REQUIRED AMPERE HOUR BATTERY		REQUIRED ALARM TIME (HOURS)		TOTAL SYSTEM ALARM CURRENT (AMPS)		REQUIRED ALARM CAPACITY (AMP-HOURS)
24	x	0.09	=	2.164		0.083	x	4.13	=	0.34
REQUIRED STANDBY TIME (HOURS)		REQUIRED ALARM CAPACITY (AMP-HOURS)		REQUIRED AMPERE HOUR BATTERY		DERATING FACTOR@ 1.2		MINIMUM AMP-HOUR BATTERY REQUIRED		7.0 AMP - HOUR BATTERIES WILL BE PROVIDED
2.164	+	0.34	=	2.53	x	1.2	=	3.03		

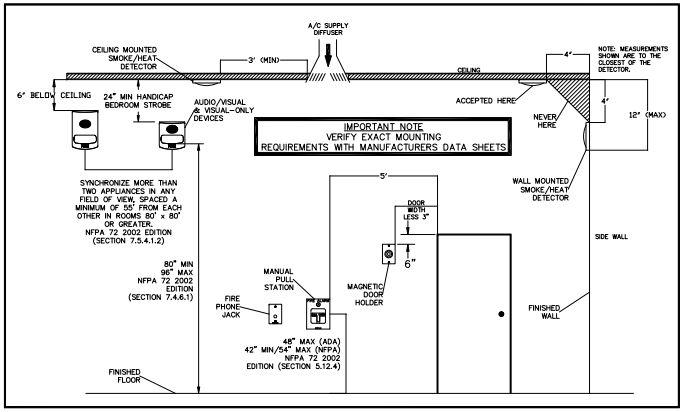
VOLTAGE DROP TABLE - NOTIFICATION ALARM CIRCUITS

CIRCUIT #	MAX OUTPUT (AMPS)	CIRCUIT VCC OUTPUT	WIRE SIZE	DRAWIN ALARM	CIRCUIT DISTANCE IN FEET	VCC DROP	VCC @ LAST DEVICE
NI:1	1.5	20.4	14	1.30	100	0.67	19.73
NI:2	1.5	20.4	14	0.70	100	0.36	20.04
NI:3	1.5	20.4	14	1.30	100	0.67	19.73
NI:4	1.5	20.4	14	0.70	100	0.36	20.04

See NFPA 70 CHAPTER 9 table #8 for wire gage resistance
(14 awg = 5.2ohm/1000')

BATTERY CALCULATION

SCALE: N.T.S.



DEVICE MOUNTING HEIGHTS

SCALE: N.T.S.

ALARM & ELECTRONICS
Systems, L.L.C.
Security & Fire Systems
State Certified EF20000605
13973 S.W. 140th Street Miami, FL. 33186
Office: (305) 233-4567 Fax: (305) 233-6550 Toll Free: 1-800-329-3268

Fire Alarm Contractor

Sign & Seal:

TUPACK RHEA, P.E.
Professional Engineer
FL. P.E. Reg. # 49217
9380 Sunset Drive, Suite S-248
Miami, Florida 33173
Office: 305.278.1118
Fax: 305.278.1197
Tupack@tupack.net

No.	Date	Revisions
1	03/02/09	CITY OF MIAMI BEACH

Sheet Title:
BATTERY CALCULATION
& DEVICE MOUNTING DETAILS

Project Name:
"BYRON BEACH CONDOMINIUM"

Location:
8340 HARDING AVENUE , MIAMI BEACH , FL. 33141

Date: 01/08/2009
Scale: AS NOTED
Drawn: INVENTION, CORP.
Project No: 0901-0001

Sheet:
FA-7
8 OF 9 Sheets

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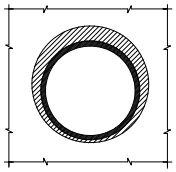
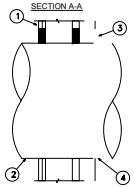
PENETRATION DETAIL # 1

U.L SYSTEM NO. WL1054
METAL PIPE THROUGH GYPSUM WALL ASSEMBLY
F RATING = 1-HR. OR 2-HR.
T RATING = 0-HR.
L RATING AT AMBIENT = LESS THAN 1 CFM/SQ. FT.
L RATING AT 400°F = LESS THAN 4 CFM/SQ. FT.

FRONT VIEW



SECTION A-A



1. GYPSUM WALL ASSEMBLY (1-HR. OR 2-HR. FIRE-RATING)(2-HR. SHOWN.)
2. PENETRATING ITEM TO BE ONE OF THE FOLLOWING:
   A. MAXIMUM 20" DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
   B. MAXIMUM 6" DIAMETER COPPER PIPE.
   C. MAXIMUM 6" DIAMETER STEEL CONDUIT.
   D. MAXIMUM 4" DIAMETER EWT.
3. a. MINIMUM 5/8" DEPTH HILTI FS-ONE FIRESTOP SEALANT OR EQUIVALENT = 1-HR. FIRE-RATING
   b. MINIMUM 1-1/4" DEPTH HILTI FS-ONE FIRESTOP SEALANT OR EQUIVALENT = 2-HR. FIRE-RATING
4. MINIMUM 1/2" BEAD HILTI FS-ONE FIRESTOP SEALANT OR EQUIVALENT FOR POINT OF CONTACT.

NOTE: 1. MAXIMUM DIAMETER OF OPENING = 22-1/4".
2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 2-1/4".

INSTALLATION INSTRUCTIONS FOR UL NO. WL1054

STEP 1 - PREPARATION: ALL SURFACES MUST BE CLEAN,SOUND, DRY AND FROST FREE PRIOR TO APPLICATION OF FIRESTOPPING MATERIALS.

STEP 2 - FIRESTOPPING SEALANT: APPLY A MINIMUM 5/8" OR 1-1/4" DEPTH OF FS-ONE

TOOL EXCESS SEALANT BEYOND PERIMETER OF THE

SEAL UNDISTURBED FOR 48 HOURS.

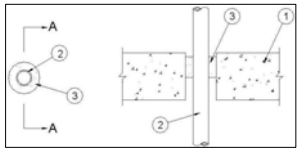
CONDUIT FIRESTOPPING DETAIL

NOT TO SCALE

PENETRATION DETAIL # 2

SYSTEM No. C-AJ-1505

February 18, 2004
F Rating - 3 Hr
T Rating - 3/4 Hr



SECTION A-A

1. **Floor or Wall Assembly** - Min 4-1/2 in.114 mm) thick reinforced lightweight or normal weight (100-150 pcf (1600-2400 kg/cu meter structural concrete. Floor may also be constructed of any min 6 in. 152 mm) thick UL Classified hollow-core Precast Concrete Wall may also be constructed of any UL Classified **Concrete Blocks*.** Max diam of opening is 3 in. (76 mm).

See **Precast Concrete Units (CFTV)** and **Concrete Block** (CAZT) categories in the Fire Resistance Directory for names of manufacturers.

2. Through Penetrants One metallic pipe, conduit or tubing to be installed within the firestop system. The annular space shall be min 3/8 10 mmto max 3/4 in.19 mm). Pipe, conduit or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. Steel Pipe Nom 1-1/2 in. (38 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Conduit Nom 1-1/2 in. (38 mm) diam (or smaller) steel electrical metallic tubing or rigid steel conduit.

3. Fill, Void or Cavity Material* - Putty or Equivalent Sealant Material - Min 2 in. (51 mm) thickness of fill material applied within the annulus, recessed ¼ to 3/8 in. (6 to 10 mm from top surface of floor or both surfaces of wall. In floors constructed of hollow-core precast concrete units, fill material to be installed flush with both surfaces of assembly.

TREMCO INC. -- TREMstop Putty or Equivalent Material

*Bearing the UL Classification Mark

ALARM & ELECTRONICS
Systems, L.L.C.
Security & Fire Systems
State Certified EF20000605
13973 S.W. 140th Street Miami, FL. 33186
Office: (305) 233-4567 Fax: (305) 233-6950 Toll Free: 1-800-329-3268

Fire Alarm Contractor

Sign & Seal:

TUPACK RHEA, P.E.
Professional Engineer
FL. P.E. Reg. # 46217
9380 Sunset Drive, Suite S-248
Miami, Florida 33173
Office: 305.278.1118
Fax: 305.278.1197
Tupack@tupack.net

Δ	Date	Revisions
1	02/02/09	CITY OF MIAMI BEACH

Sheet Title:

PENETRATION DETAILS

Project Name:

"BYRON BEACH CONDOMINIUM"

Location:

8340 HARDING AVENUE , MIAMI BEACH , FL. 33141

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FA-8

9 OF 9 Sheets

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