499680 SEP21 2009

RECEIVED
SEP 23 2009
Bureau of Air Monitoring & Mobile Sources

ANIMAL CREMATORY
AIR GENERAL PERMIT REGISTRATION FORM

Part II. Notification to Permitting Office

(Detach and submit to appropriate permitting office; keep copy onsite)

Instructions: To give notice to the Department of an eligible facility's intent to use this air general permit, the owner or operator of the facility must detach and complete this part of the Air General Permit Registration Form and submit it to the appropriate Department of Environmental Protection or local air pollution control program office which has permitting authority. Please type or print clearly all information, and enclose the appropriate air general permit registration processing fee pursuant to Rule 62-4.050(4)(o), F.A.C. *($100 as of the effective date of this form)*

0112720-001

Registration Type

Check one:

INITIAL REGISTRATION - Notification of intent to:

- ☒ Construct and operate a proposed new facility.
- ☐ Operate an existing facility not currently using an air general permit (e.g., a facility proposing to go from an air operation permit to an air general permit).

RE-REGISTRATION (for facilities currently using an air general permit) - Notification of intent to:

- ☐ Continue operating the facility after expiration of the current term of air general permit use.
- ☐ Continue operating the facility after a change of ownership.
- ☐ Make an equipment change requiring re-registration pursuant to Rule 62-210.310(2)(e), F.A.C., or any other change not considered an administrative correction under Rule 62-210.310(2)(d), F.A.C.

Surrender of Existing Air Operation Permit(s) - For Initial Registrations Only

If the facility currently holds one or more air operation permits, such permit(s) must be surrendered by the owner or operator upon the effective date of this air general permit. In such case, check the first box, and indicate the operation permits being surrendered. If no air operation permits are held by the facility, check the second box.

- ☐ All existing air operation permits for this facility are hereby surrendered upon the effective date of this air general permit; specifically permit number(s): _____
- ☒ No air operation permits currently exist for this facility.

General Facility Information

Facility Owner/Company Name (Name of corporation, agency, or individual owner who or which owns, leases, operates, controls, or supervises the facility.)

LINDA MORGAN

Site Name (Name, if any, of the facility site; e.g., Plant A, Metropolis Plant, etc. If more than one facility is owned, a registration form must be completed for each.)

Paws & Cherish Pet Cremations LLC. Sole owner of Company & Personal owner of Equipment.

Facility Location (Provide the physical location of the facility, not necessarily the mailing address.)

Street Address: 4340 NW 19th Ave Bay E

City: Deerfield Beach County: Broward Zip Code: 33064

Facility Start-Up Date (Estimated start-up date of proposed **new** facility.) (N/A for existing facilities)

December 2009

Owner/Authorized Representative

Name and Position Title: (Person who, by signing this form below, certifies that the facility is eligible to use this air general permit.)
Print Name and Title: LINDA MORGAN / President / owner

Owner/Authorized Representative Mailing Address
Organization/Firm: Paws & Cherish Pet Cremations LLC / LINDA MORGAN
Street Address: 4340 NW 19th Ave
City: Deerfield Beach County: Broward Zip Code: 33064

Owner/Authorized Representative Telephone Numbers
~~Telephone~~: ~~Fax~~:
Cell phone (optional): 954-695-8156 - only number at this time.

Facility Contact (If different from Owner/Authorized Representative)

Name and Position Title (Plant manager or person to be contacted regarding day-to-day operations at the facility.)
Print Name and Title:

Facility Contact Mailing Address
Organization/Firm:
Street Address:
City: County: Zip Code:

Facility Contact Telephone Numbers
Telephone: Fax:
Cell phone (optional):

Owner/Authorized Representative Statement

This statement must be signed and dated by the person named above as owner or authorized representative

I, the undersigned, am the owner or authorized representative of the owner or operator of the facility addressed in this Air General Permit Registration Form. I hereby certify, based on information and belief formed after reasonable inquiry, that the facility addressed in this registration form is eligible for use of this air general permit and that the statements made in this registration form are true, accurate and complete. Further, I agree to operate and maintain the facility described in this registration form so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof.

I will promptly notify the Department of any changes to the information contained in this registration form.

Signature 9/18/09
Date

Design Calculations

If this is an initial registration for a proposed new animal crematory unit, provide design calculations to confirm a sufficient volume in the secondary chamber combustion zone to provide for at least a 1.0 second gas residence time at 1800 degrees F.

☒ Manufacturer's' design calculations attached.

☐ Registration is not for proposed new animal crematory unit(s).

Description of Facility

Below, or as an attachment to this form, provide a description of all crematory operations at the facility in sufficient detail to demonstrate the facility's eligibility for use of this air general permit and to provide a basis for tracking any future equipment or process changes at the facility. Describe all air pollutant-emitting processes and equipment at the facility, and identify any air pollution control measures or equipment used.

Installation of four Matthews Cremation Division animal cremation units.

(2) Power Pak II and (2) Power Pak Jr - NG FIRED PER TELECON ON 9/25/09 W/ OAR LINDA MORGAN.

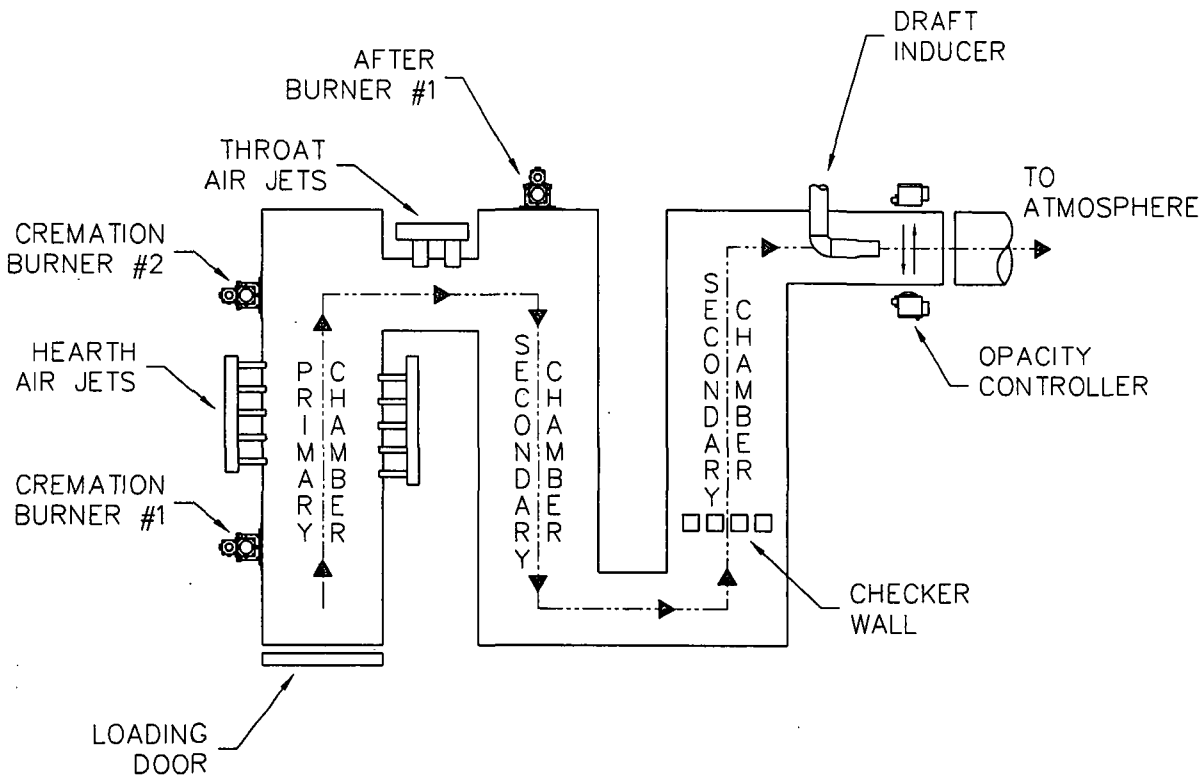
D. Mike

LEGEND OF SYMBOLS

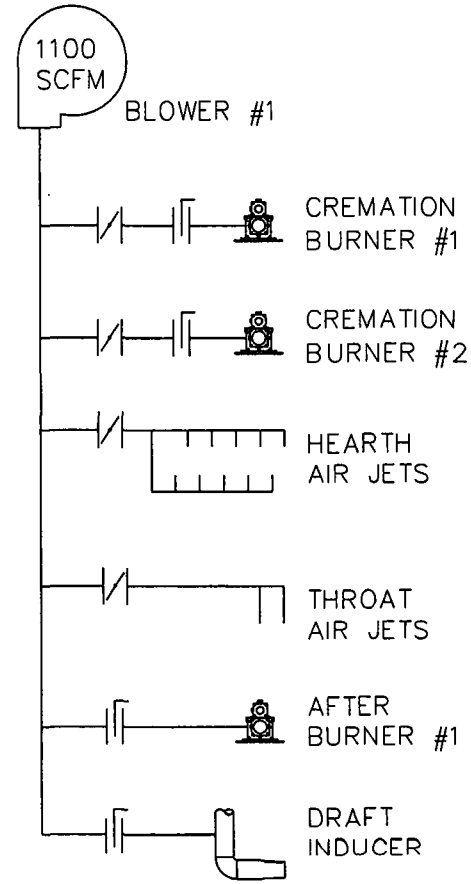
BUTTERFLY VALVE (ON/OFF)

FIXED BLADE BUTTERFLY DAMPER

FLOW DIAGRAM



AIR SCHEMATIC

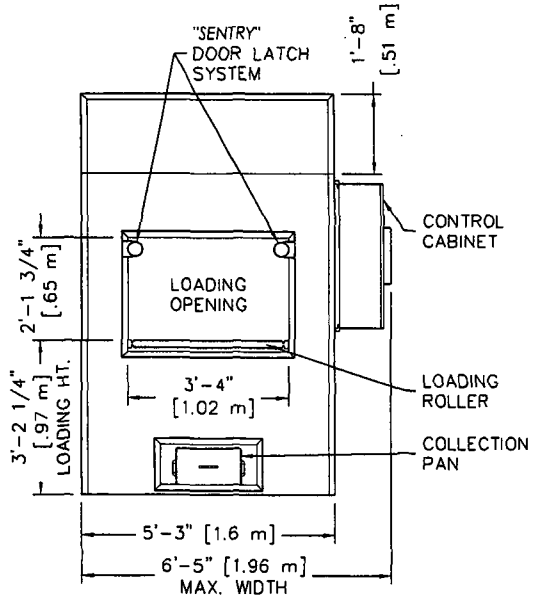


Matthews CREMATION DIVISION
2045 Sprint Boulevard
Apopka, Florida 32703
USA

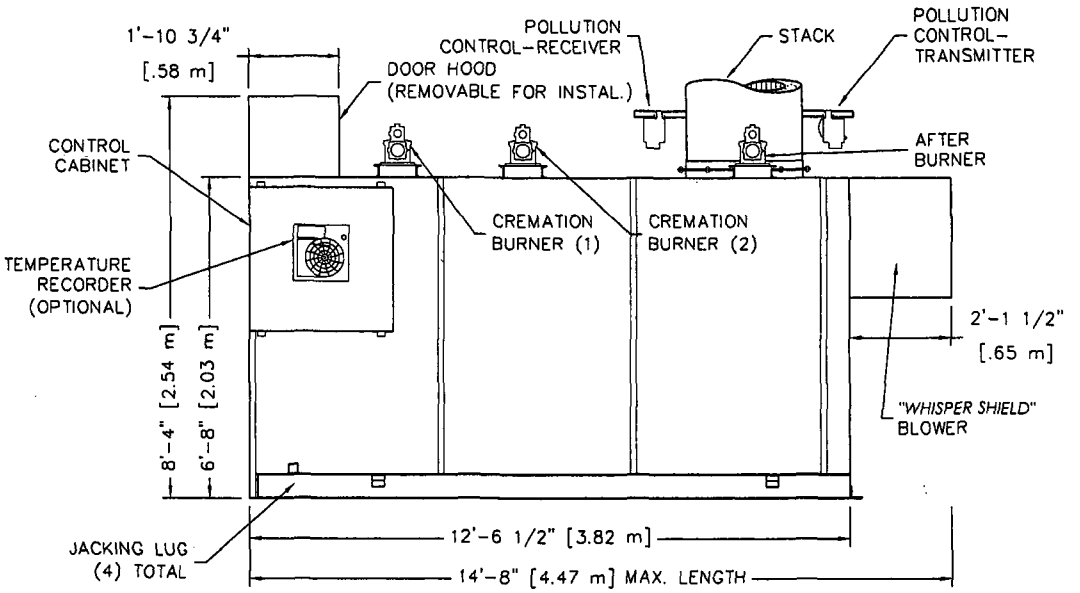
POWER PAK II Pet

FLOW DIAGRAM & AIR SCHEMATIC

DATE:	08-05-05	SCALE:	1/4"=1'
DRAWN:	JG	PLOT SCALE:	1:48
APRVD:		SHEET:	1 OF: 1
DWG FILE:		PPII-PetFlowDiaAirSchem	
DWG #:		0000644	



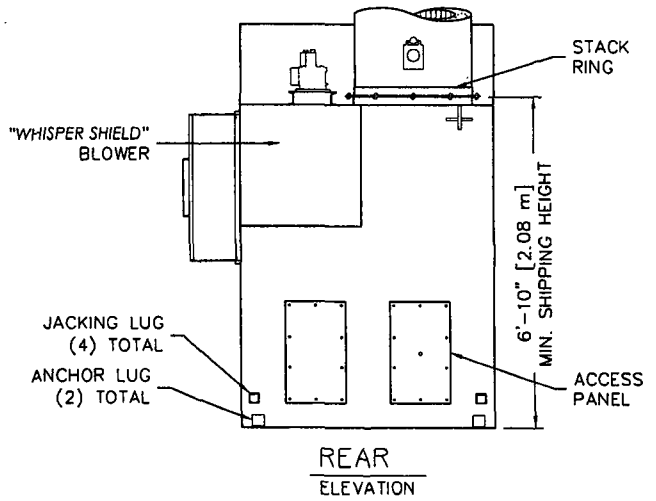
FRONT
ELEVATION



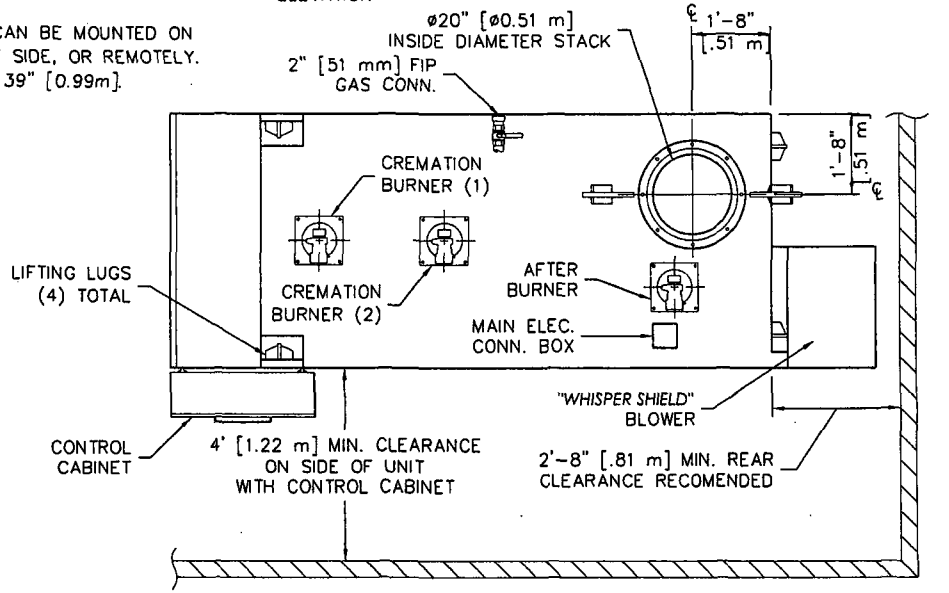
RIGHT SIDE
ELEVATION

NOTES:

1) CONTROL CABINET CAN BE MOUNTED ON THE LEFT OR RIGHT SIDE, OR REMOTELY.
2) CHAMBER WIDTH IS 39" [0.99m].



REAR
ELEVATION



PLAN
VIEW

Matthews CREMATION DIVISION
2045 Sprint Boulevard
Apopka, Florida 32703
USA

POWER-PAK II (PET)

PLAN & ELEVATIONS INCL: CLEARANCES, REQUIREMENTS & RECOMMENDATIONS

DATE: 08-03-09	SCALE: 1/4"=1'
DRAWN: JG	PLOT SCALE: 1:48
APRVD:	SHEET: 1 OF: 1
DWG FILE: PPII-Pet-MarketingPlanElevS1R3	
DWG #: 0000139	

CREMATOR CLEARANCES

	RECOMMENDED		MINIMUM	
TOP: (2)	2 FEET	[610 mm]	6 INCHES	[152 mm]
CABINET SIDE:	4 FEET	[1.22 m]	4 FEET	[1.22 m]
OTHER SIDE:	2 FEET	[610 mm]	6 INCHES	[152 mm]
FRONT:	9 FEET	[2.74 m]	8 FEET	[2.44 m]
REAR:	3 FEET	[0.91 m]	32 INCHES	[812 mm]
STACK:	6 INCHES	[152 mm]	6 INCHES	[152 mm]

1. FOR CLEARANCES OTHER THAN THOSE SHOWN, OR FOR SPECIAL REQUIREMENTS, CONSULT YOUR MCD REP.
2. FROM HIGHEST POINT ON UNIT.
3. CONTROL CABINET MOUNTS ON UNIT'S LEFT OR RIGHT SIDES, OR REMOTELY. (SEE PLAN VIEW, SHEET 1).
4. REAR OF UNIT REFERS TO THE "BACK PLATE", RATHER THAN THE BACK OF THE *"WHISPER SHIELD"*. (SEE PLAN VIEW, SHEET 1).

CREMATOR REQUIREMENTS

FUEL: A PRESSURE REGULATOR ADJUSTABLE TO 7" [178 mm] W.C. FOR NATURAL GAS, OR 11" [279 mm] W.C. FOR LP GAS.

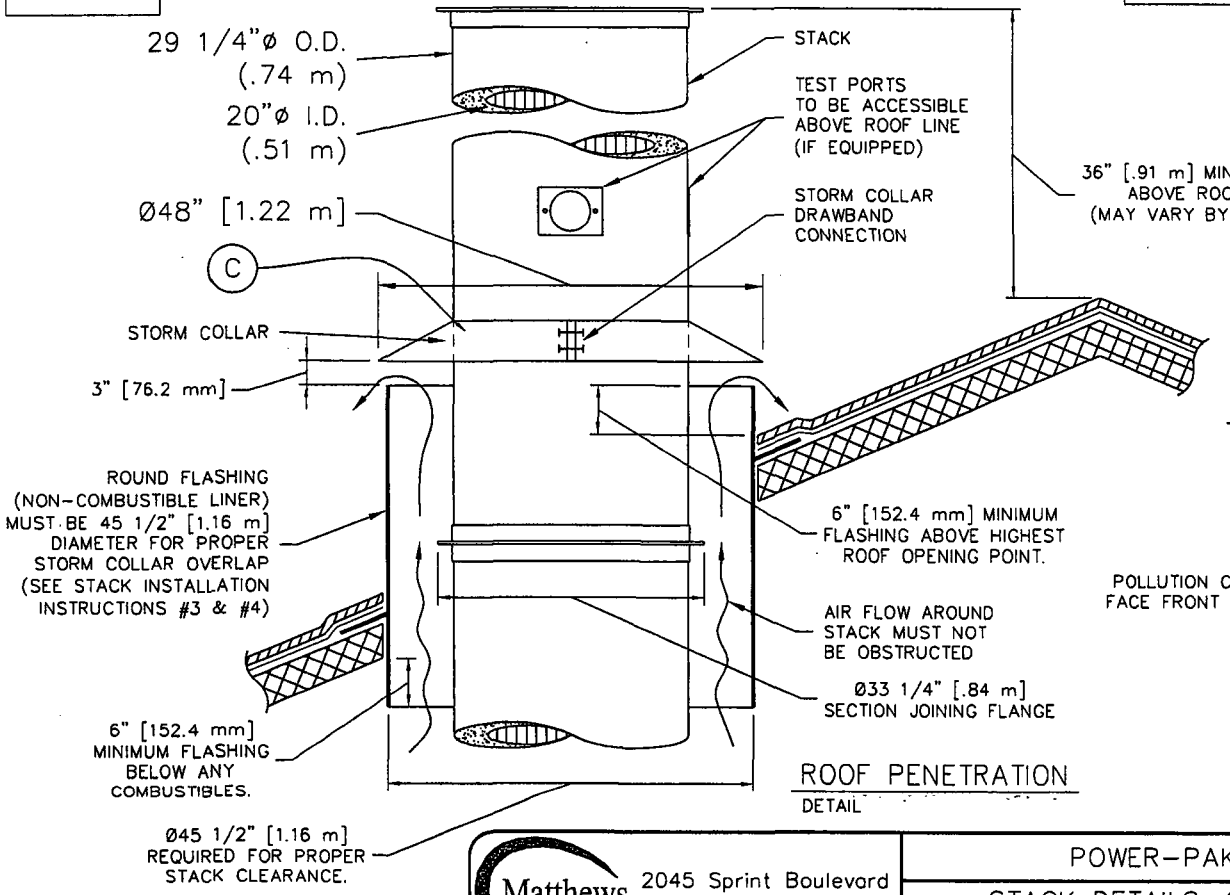
CAPACITY: RANGES FROM 2.0 TO 4.0 MILLION BTU/HR [2.1 TO 3.1 MILLION KILOJOULES/HR] DEPENDING UPON AMOUNT OF BURNERS.

ELECTRICAL: 230 VOLT, 3ø, (40A BREAKER) AND 115v (10A BREAKER), OR 230 VOLT, 1 ø, (70A BREAKER) AND 115v (10A BREAKER) 50/60 HERTZ

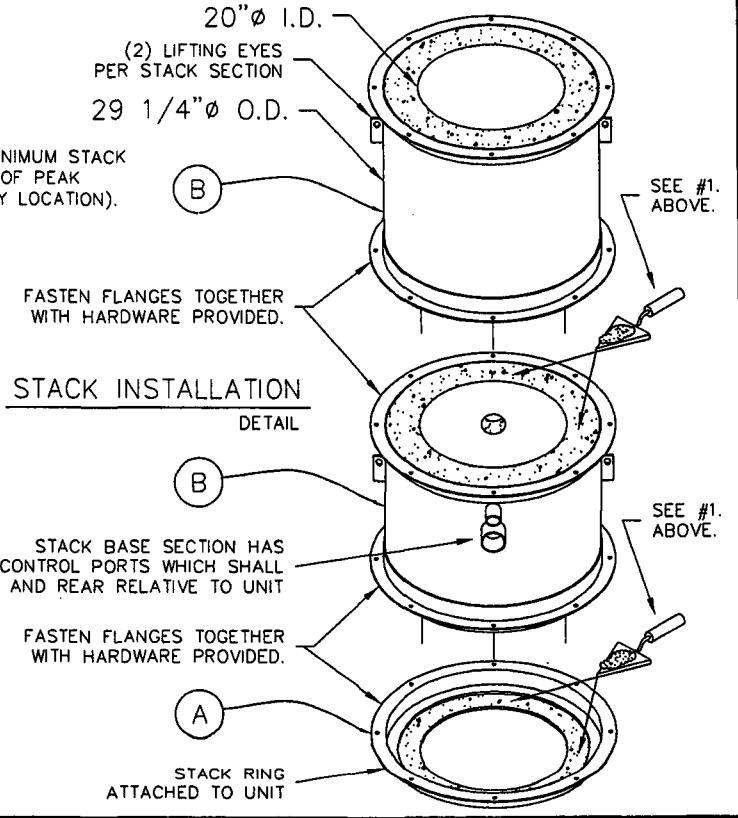
AIR: LOUVER NEAR THE REAR OF THE UNIT CAPABLE OF PASSING 2,500 CU FT/MIN [70.8 CU M/MIN] OF FREE AIR (36" X 36") [914 mm X 914 mm].

STACK INSTALLATION INSTRUCTIONS

1. APPLY A 1/2" THICK MORTAR JOINT TO EXPOSED REFRACTORY SURFACE IN STACK RING. LOWER THE BASE STACK SECTION (B) ONTO STACK RING (A) AND FASTEN WITH HARDWARE PROVIDED (NO MORE THAN (2) STACK SECTIONS SHALL BE LIFTED TOGETHER). REPEAT PROCESS FOR REMAINING STACK SECTIONS. IF SECTIONS OF VARYING LENGTHS ARE SUPPLIED, ASSEMBLE AS TO AVOID FLANGES & LIFTING EYES INTERFERING WITH RAIN COLLAR LOCATION.
2. INSTALL STORM COLLAR ON STACK, 3" [72 mm] ABOVE NON-COMBUSTIBLE LINER (FLASHING), ALLOWING FOR PROPER VENTILATION (SEE DETAIL).
3. APPLY A 1/4" [6 mm] BEAD OF HIGH-TEMPERATURE SILICON SEALANT (PROVIDED BY MCD) TO THE JOINT BETWEEN THE STORM COLLAR (C) AND THE STACK (B).
4. STORM COLLAR IS FURNISHED BY MCD. THE NON-COMBUSTIBLE LINER (FLASHING) TO BE PROVIDED BY THE OTHERS.
5. IF FIFTY PERCENT OF THE STACK LENGTH IS ABOVE THE ROOF, GUY WIRES MAY BE REQUIRED. CONSULT WITH YOUR MCD REP.
6. RAIN CAP NOT REQUIRED.



ROOF PENETRATION DETAIL



STACK INSTALLATION DETAIL

Matthews CREMATION DIVISION
2045 Sprint Boulevard
Apopka, Florida 32703
USA

POWER-PAK II (PET)

STACK DETAILS, CLEARANCES & INSTALLATION INSTRUCTIONS. REFRACTORY STACK DETAIL

DATE:	10-26-06	SCALE:	1/2"=1'
DRAWN:	JG	PLOT SCALE:	1:24
APRVD:		SHEET:	2 OF: 2
DWG FILE:	PPII-Pet-MarketingStackRefS2R4		
DWG #:	0000139		

SPECIFICATIONS- Power-Pak II Pet

1.	Equipment Type	Matthews Cremation Division; Power-Pak II
	A. Model No..	IE43-PPII
	B. Underwriters Laboratories Listing and File No. ..	Listing No. 87E8; File No. MH14647
2.	Dimensions	
	A. Footprint	12' – 6 ½" x 6' – 8"
	B. Maximum Length	14' - 6½"
	C. Maximum Width	6' -5"
	D. Maximum Height	8' - 4"
	E. Chamber Loading Opening	25¾" H x 39" W (into chamber)
3.	Weight	24,000 lbs.
4.	Utility/Air Requirements	
	A. Gross Gas Input, Natural or LP Gas	2,700,000 BTU/hr. max.
	Running Gas Pressure, Natural Gas	7 inches w.c. or greater
	Running Gas Pressure, LP Gas	11 inches w.c. or greater
	B. Electrical Supply	230 volt, 3Ø or 1Ø, 60 hz (other available)
	C. Air Supply	2,500 cfm
5.	Incineration Capacity	
	A. Type 4 Material	200 lbs./hr.
6.	Typical Loading Capacity of Material	
	A. Type 4 Material	400 to 750 lbs.
7.	Construction and Safety Standards	Incineration Institute of America, Underwriters Laboratories
8.	Steel Structure Construction	
	A. Frame	2" square tubing
	B. Front/Rear Plates	3/8" plate
	C. Floor Plates	3/16" plate
	D. Outer Side Casing	12 gauge plate
	E. Inner Side Casing	12 gauge plate
9.	Stack Construction	
	A. Inner Wall	4 ½" insulating firebrick or castable
	B. Outer Wall	12 gauge plate, type 304 s.s., welded seams
10.	Draft Nozzle Construction	Schedule 40 type 316 s.s. pipe
11.	Main Chamber Door Construction	
	A. Steel Shell	3/16" steel, welded with reinforcement
	B. Outer Refractory	1" insulating block
	C. Inner Refractory	4½" insulating firebrick
12.	Primary Chamber Wall Construction	
	A. Outer Casing Wall	12 gauge plate

SPECIFICATIONS- Power-Pak II Pet

B. Inner Frame/Air Compartment ..... 2" air compartment
C. Inner Casing Wall ..... 12 gauge plate
D. Outer Refractory Wall ..... 5" insulating block
E. Inner Refractory Wall ..... 4½" firebrick

13. Secondary Chamber Wall Construction
A. Outer Casing Wall ..... 12 gauge plate
B. Inner Frame/Air Compartment ..... 2" air compartment
C. Inner Casing Wall ..... 12 gauge plate
D. Outer Refractory Wall ..... 6" insulating block
E. Inner Refractory Wall ..... 4½" firebrick

14. Refractory Temperature Ratings
A. Standard Firebrick ..... 3,100° F.
B. Insulating Firebrick ..... 2,600° F.
C. Castable Refractory (Hearth) ..... 2,800° F.
D. Castable Refractory ..... 2,550° F.
E. Insulating Block ..... 1,900° F.
F. Bonding Mortar ..... 3,200° F.

15. Chamber Volumes (not including external flues, stacks or chimneys)
A. Primary Chamber ..... 64 cubic feet
B. Secondary Chamber ..... 74 cubic feet

16. Emission Control Features
A. Secondary Chamber with Afterburner ..... Included
B. Opacity Monitor and Controller with Visual and Audible Alarms ..... Included
C. Auxiliary Air Control System ..... Included
D. Microprocessor Temperature Control System ..... Included

17. Operating Temperatures
A. Primary Chamber ..... 1,200° F. - 1,800° F.
B. Secondary Chamber ..... 1,400° F. - 1,800° F. (as required)

18. Secondary Chamber Retention Time
A. Type 4 Material ..... > 1 second

19. Ash Removal ..... Door functions as a heat shield. Sweep out beneath front door into a hopper that fills a collection pan.

20. Safety Interlocks
A. High Gas Pressure ..... Optional
B. Low Gas Pressure ..... Optional
C. Blower Air Pressure ..... Included
D. Door Position ..... Included
E. Opacity ..... Included
F. Motor Starter Function ..... Included
G. Chamber Temperature ..... Included
H. Motor Overload ..... Included

SPECIFICATIONS- Power-Pak II Pet

I. Flame Quality ..... Included
J. Burner Safe Start ..... Included

22. Burner Description ..... The nozzle mix burners used on this cremation equipment are industrial quality and designed for incinerator use.

23. Ultraviolet Flame Detection ..... Ultraviolet flame detection has proven to be the most reliable means of flame safety. The system is completely sealed in a quartz capsule to eliminate problems, caused by moisture and dust created in the cremation process, which effect flame rod detectors.

24. Operating Panel Indicating Lights
    A. Safe Run ..... Included
    B. Door Closed ..... Included
    C. Pollution Alarm ..... Included
    D. Afterburner On (Secondary Burner) ..... Included
    E. Cremation Burners On ..... Included
    F. Low Fire Cremation Burner On ..... Included
    G. Afterburner (Second ary Burner) Reset ..... Included
    H. Cremation Burners Reset ..... Included
    I. Hearth Air ..... Included
    J. Throat Air Off ..... Included

25. Automatic Timer Functions
    A. Master Cycle ..... Included
    B. Afterburner (Secondary Burner) ..... Included
    C. Cremation Burners ..... Included
    D. Low Fire Cremation Burner ..... Included
    E. Hearth Air ..... Included
    F. Throat Air ..... Included
    G. Pollution Monitoring ..... Included
    H. Afterburner (Secondary Burner) Prepurge ..... Included
    I. Cremation Burner Prepurge ..... Included
    J. Cool Down ..... Included

26. Exterior Finish
    A. Primer ..... 2 coats rust inhibiting
    B. Finish ..... 2 coats textured finish

27. Start-Up and Training ..... Startup of cremation equipment and training of operators to properly operate and maintain the equipment is performed on-site under actual operating conditions. Included is a comprehensive owner's manual, with details on the equipment, its components and proper operation.

28. Environmental Submittals ..... Complete technical portion of state environmental permits. Engineering calculations, technical data, existing stack test results and equipment blueprints provided.

Air Emissions Testing

IE43-PPII, Power-Pak II Cremator

Reflections Pet Funeral Home
Pinellas Park, Florida

May 7, 2002

Testing Performed By:

Southern Environmental Sciences, Inc.

1.0 INTRODUCTION

Southern Environmental Sciences, Inc. conducted emissions testing of the Industrial Equipment & Engineering Company Model IE43-PPII, Power-Pak II cremator (serial number 0691201) on May 7, 2002. The unit is located at Reflections Pet Funeral Home in Pinellas Park, Florida (permit number 1030136-004-AC). Testing was conducted for the particulates, carbon monoxide, and visible emissions. Oxygen (O_2) concentrations were measured in order to correct results to 7% O_2.

2.0 SUMMARY OF RESULTS

The equipment was found to be in compliance with all applicable emission limiting standards. Results of the particulate and carbon monoxide testing for runs 2, 3, and 4 are summarized in Table 1.

The average measured particulate emission concentration was 0.022 grains per dry standard cubic foot (corrected to 7% O_2).

The average measured carbon monoxide emission concentration was 2.5 parts per million by volume (corrected to 7% O_2).

A visible emissions evaluation was conducted over a 60-minute period. The maximum three minute average opacity was 0 percent.

The data for the first run, run 1, were not valid because of a problem with the pitot tube used in the sampling train. The field data sheets for run 1 are included in the appendix. The data were not analyzed.

EMISSIONS TEST SUMMARY

Company: REFLECTION PET FUNERAL HOME
Source: IEE POWER-PAK II ANIMAL CREMATORY

	Run 2	Run 3	Run 4
Date of Run	5/7/02	5/7/02	5/7/02
Start Time (24-hr. clock)	1456	1628	1916
End Time (24-hr. clock)	1554	1742	2028
Vol. Dry Gas Sampled Meter Cond. (DCF)	31.172	47.554	50.327
Gas Meter Calibration Factor	1.000	1.000	1.000
Barometric Pressure at Barom. (in. Hg.)	30.15	30.09	30.08
Elev. Diff. Manom. to Barom. (ft.)	0	0	0
Vol. Gas Sampled Std. Cond. (DSCF)	30.172	45.527	48.276
Vol. Liquid Collected Std. Cond. (SCF)	2.801	5.587	6.177
Moisture in Stack Gas (% Vol.)	8.5	10.9	11.3
Molecular Weight Dry Stack Gas	29.62	29.36	29.40
Molecular Weight Wet Stack Gas	28.63	28.11	28.11
Stack Gas Static Press. (in. H2O gauge)	-0.02	-0.01	-0.01
Stack Gas Static Press. (in. Hg. abs.)	30.15	30.09	30.08
Average Square Root Velocity Head	0.167	0.196	0.199
Average Orifice Differential (in. H2O)	0.814	1.213	1.290
Average Gas Meter Temperature (Deg. F)	90.8	96.3	95.1
Average Stack Gas Temperature (Deg. F)	1393.5	1291.1	1207.3
Pitot Tube Coefficient	0.84	0.84	0.84
Stack Gas Vel. Stack Cond. (ft./sec.)	17.56	20.27	20.05
Effective Stack Area (sq. ft.)	2.18	2.18	2.18
Stack Gas Flow Rate Std. Cond. (DSCFM)	604	717	741
Stack Gas Flow Rate Stack Cond. (ACFM)	2,298	2,654	2,625
Net Time of Run (min.)	60.0	72.0	72.0
Nozzle Diameter (in.)	0.601	0.601	0.601
Percent Isokinetic	92.3	97.7	100.3
Oxygen (%)	8.4	10.7	10.0
Particulate Collected (mg.)	31.0	56.6	56.5
Particulate Emissions (lb./hr.)	0.082	0.118	0.115
Particulate Emissions (gr./DSCF)	0.016	0.019	0.018
Particulate Emissions (gr./DSCF @ 7% O2)	0.018	0.026	0.023
Avg. Particulate Emissions (gr./DSCF @ 7)		0.022	
Allowable Part. Emissions (gr./DSCF @ 7%)		0.08	
CO Emissions (ppm)	4.1	1.0	1.2
CO Emissions (ppm @ 7% O2)	4.6	1.4	1.6
Avg. CO Emissions (ppm @ 7% O2)		2.5	
Allowable CO Emissions (ppm @ 7% O2)		100	

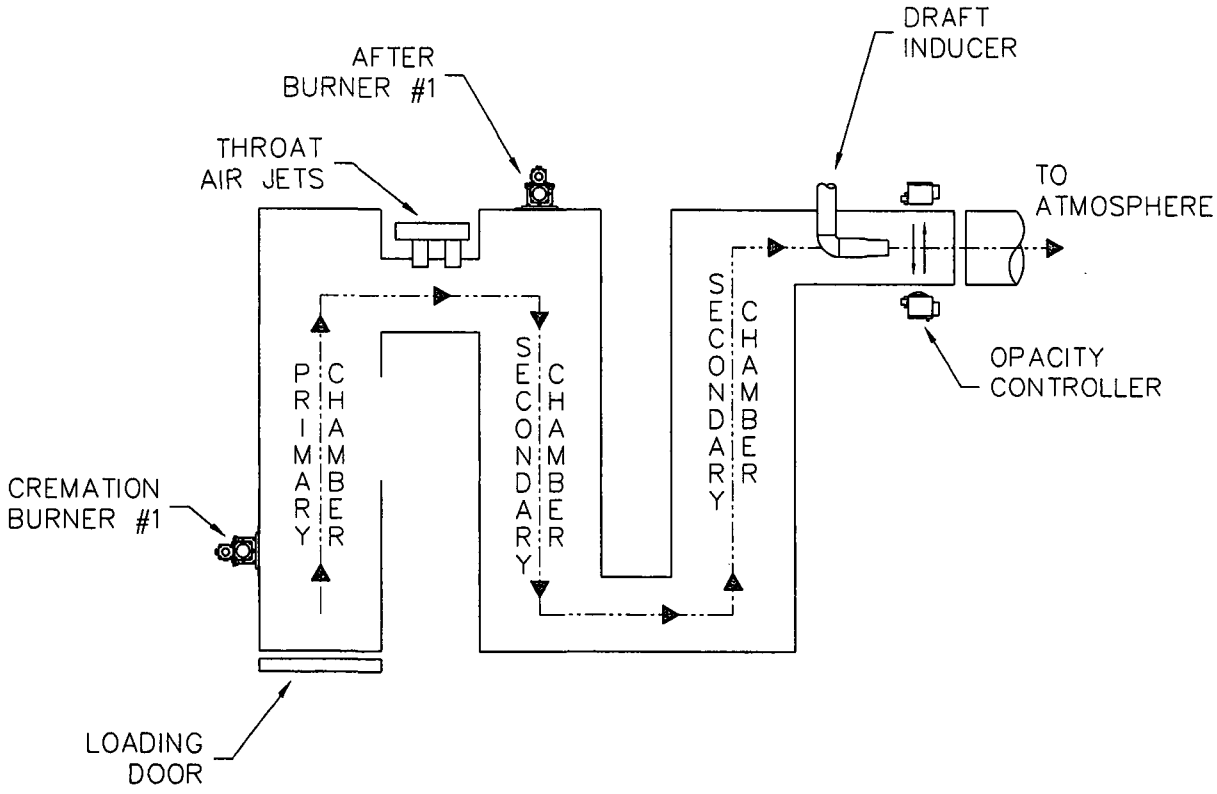
Note: Standard conditions 68˚F, 29.92 in. Hg

LEGEND OF SYMBOLS

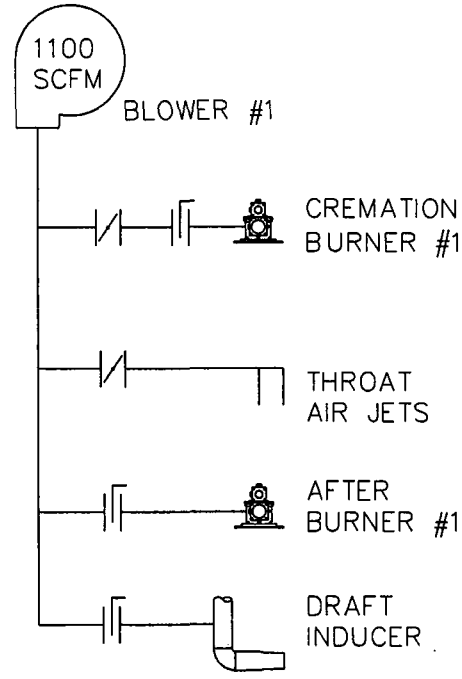
BUTTERFLY VALVE (ON/OFF)

FIXED BLADE BUTTERFLY DAMPER

FLOW DIAGRAM



AIR SCHEMATIC



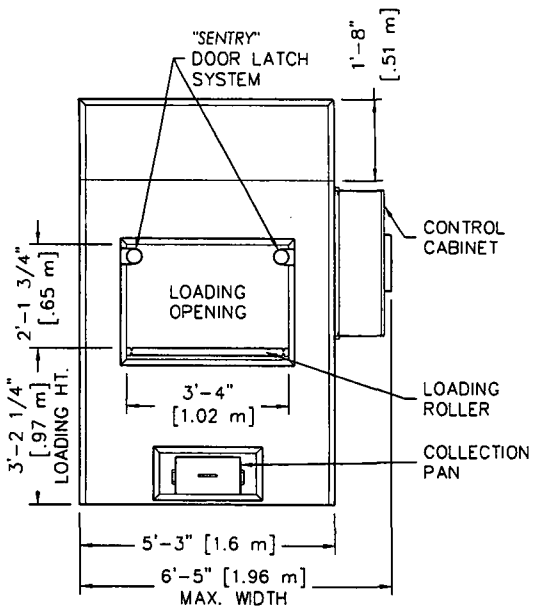
Matthews CREMATION DIVISION

2045 Sprint Boulevard
Apopka, Florida 32703
USA

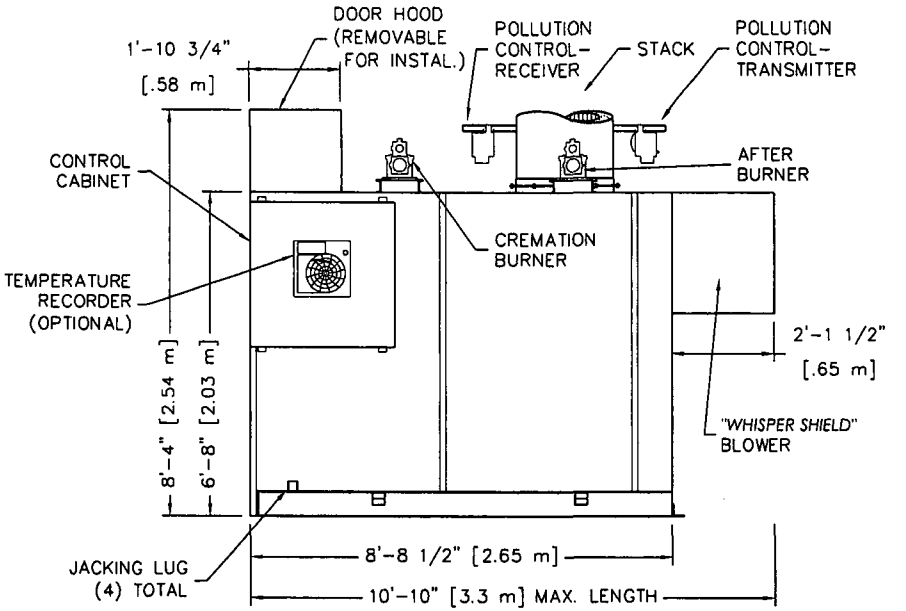
POWER PAK Jr

FLOW DIAGRAM
& AIR SCHEMATIC

DATE:	08-05-05	SCALE:	1/4"=1'
DRAWN:	JG	PLOT SCALE:	1:48
APRVD:		SHEET: 1	OF: 1
DWG FILE:		PPJrFlowDiaAirSchem	
DWG #:		0000613	



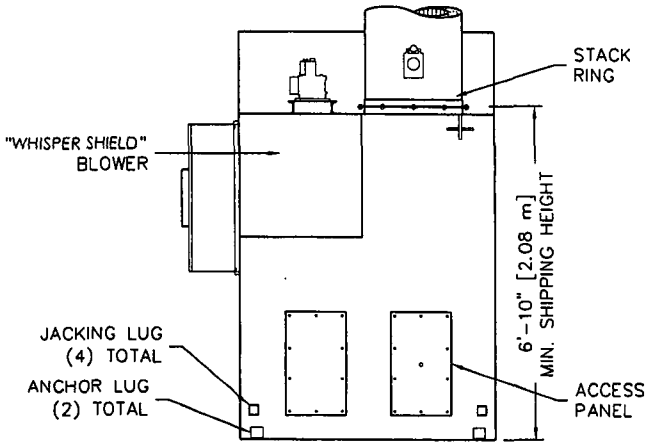
FRONT ELEVATION



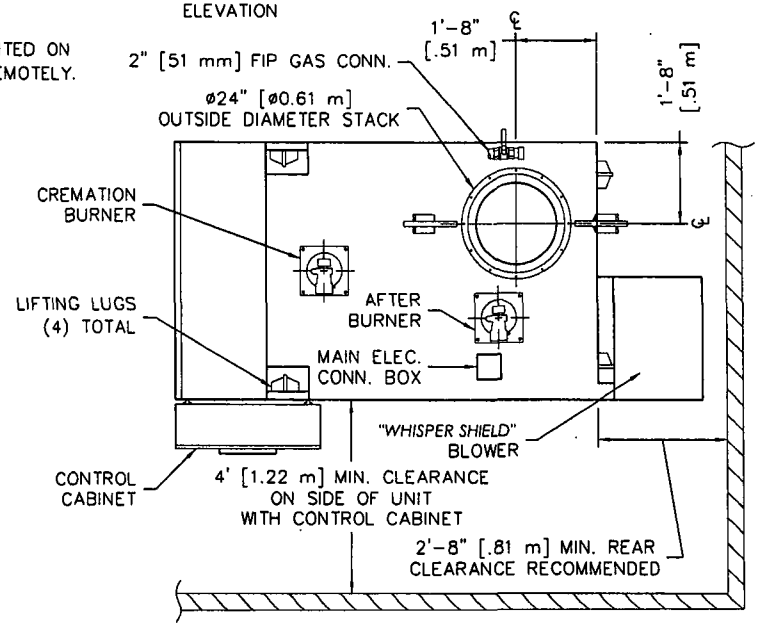
RIGHT SIDE ELEVATION

NOTES:

1) CONTROL CABINET CAN BE MOUNTED ON THE LEFT OR RIGHT SIDE, OR REMOTELY.
2) CHAMBER WIDTH IS 39" [0.99m].



REAR ELEVATION



PLAN VIEW

Matthews CREMATION DIVISION
2045 Sprint Boulevard
Apopka, Florida 32703
USA

POWER-PAK Jr

PLAN & ELEVATIONS INCL: CLEARANCES, REQUIREMENTS & RECOMMENDATIONS

DATE:	10-26-06	SCALE:	1/4"=1'
DRAWN:	JG	PLOT SCALE:	1:48
APRVD:		SHEET: 1	OF: 2
DWG FILE:		PPJr-MarketingPlanElevR2	
DWG #:		0000142	

CREMATOR CLEARANCES

	RECOMMENDED		MINIMUM	
TOP: (2)	2 FEET	[610 mm]	6 INCHES	[152 mm]
CABINET SIDE:	4 FEET	[1.22 m]	4 FEET	[1.22 m]
OTHER SIDE:	2 FEET	[610 mm]	6 INCHES	[152 mm]
FRONT:	9 FEET	[2.74 m]	8 FEET	[2.44 m]
REAR:	3 FEET	[0.91 m]	32 INCHES	[812 mm]
STACK:	6 INCHES	[152 mm]	6 INCHES	[152 mm]

1. FOR CLEARANCES OTHER THAN THOSE SHOWN, OR FOR SPECIAL REQUIREMENTS, CONSULT YOUR MCD REP.
2. FROM HIGHEST POINT ON UNIT.
3. CONTROL CABINET MOUNTS ON UNIT'S LEFT OR RIGHT SIDES, OR REMOTELY. (SEE PLAN VIEW, SHEET 1).
4. REAR OF UNIT REFERS TO THE "BACK PLATE", RATHER THAN THE BACK OF THE *"WHISPER SHIELD"*. (SEE PLAN VIEW, SHEET 1).

CREMATOR REQUIREMENTS

FUEL: A PRESSURE REGULATOR ADJUSTABLE TO 7" [178 mm] W.C. FOR NATURAL GAS, OR 11" [279 mm] W.C. FOR LP GAS.

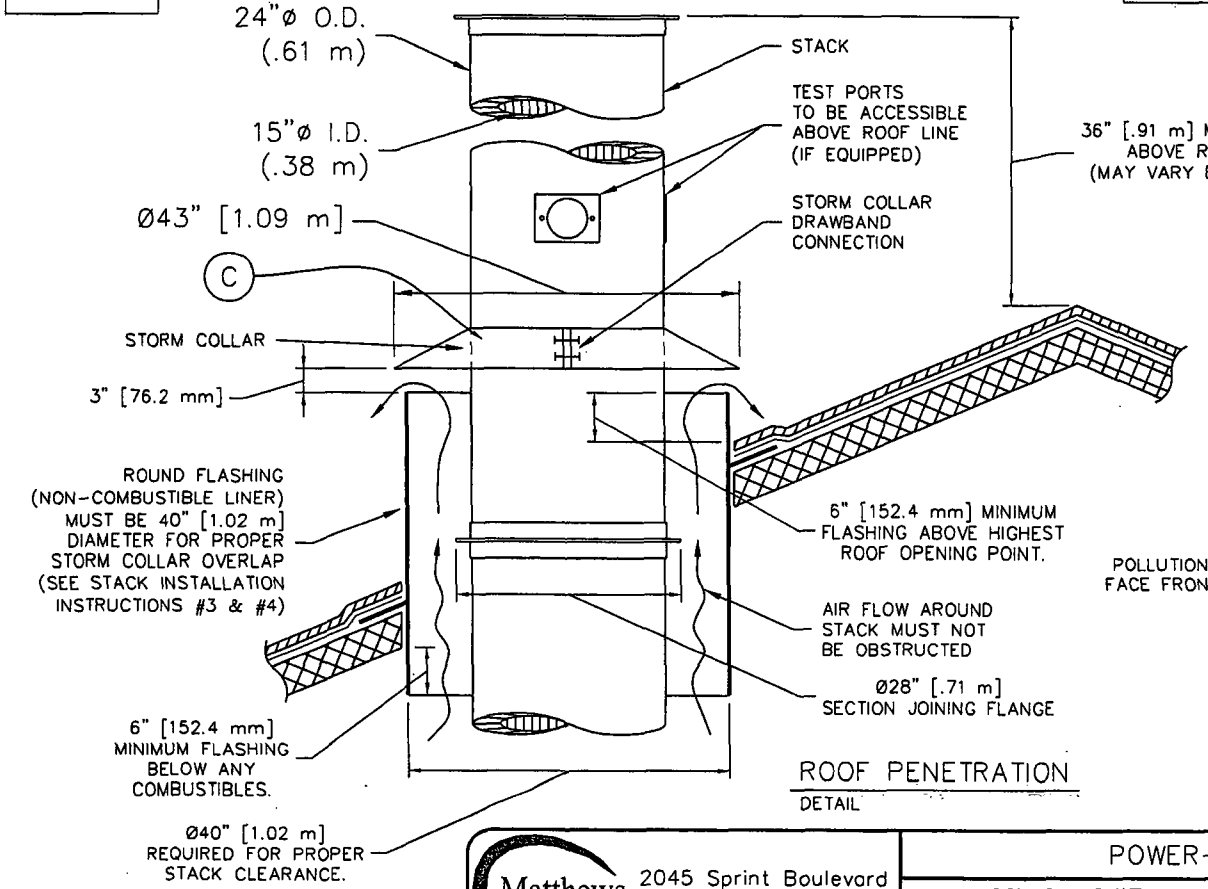
CAPACITY: RANGES FROM 2.0 TO 3.0 MILLION BTU/HR [2.1 TO 3.1 MILLION KILOJOULES/HR] DEPENDING UPON AMOUNT OF BURNERS.

ELECTRICAL: 230 VOLT, 3ø, (40A BREAKER) AND 115v (10A BREAKER), OR 230 VOLT, 1ø, (70A BREAKER) AND 115v (10A BREAKER) 50/60 HERTZ

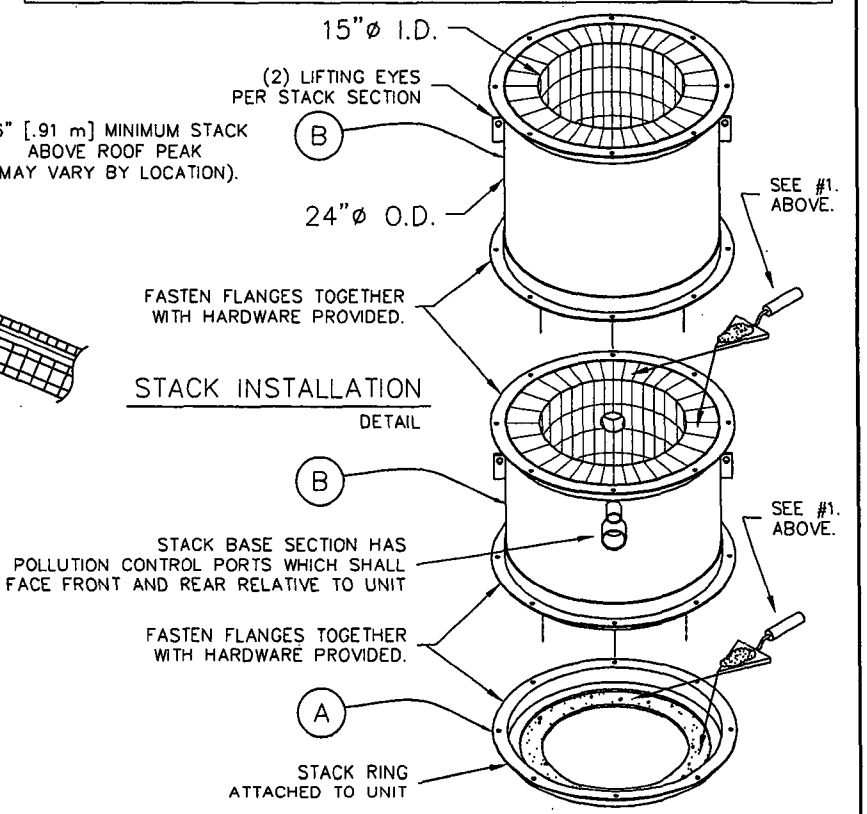
AIR: LOUVER NEAR THE REAR OF THE UNIT CAPABLE OF PASSING 2,500 CU FT/MIN [70.8 CU M/MIN] OF FREE AIR (36" X 36") [914 mm X 914 mm].

STACK INSTALLATION INSTRUCTIONS

1. APPLY A 1/2" THICK MORTAR JOINT TO EXPOSED REFRACTORY SURFACE IN STACK RING. LOWER THE BASE STACK SECTION (B) ONTO STACK RING (A) AND FASTEN WITH HARDWARE PROVIDED (NO MORE THAN (2) STACK SECTIONS SHALL BE LIFTED TOGETHER). REPEAT PROCESS FOR REMAINING STACK SECTIONS. IF SECTIONS OF VARYING LENGTHS ARE SUPPLIED, ASSEMBLE AS TO AVOID FLANGES & LIFTING EYES INTERFERING WITH RAIN COLLAR LOCATION.
2. INSTALL STORM COLLAR ON STACK, 3" [72 mm] ABOVE NON-COMBUSTIBLE LINER (FLASHING), ALLOWING FOR PROPER VENTILATION (SEE DETAIL).
3. APPLY A 1/4" [6 mm] BEAD OF HIGH-TEMPERATURE SILICON SEALANT (PROVIDED BY MCD) TO THE JOINT BETWEEN THE STORM COLLAR (C) AND THE STACK (B).
4. STORM COLLAR IS FURNISHED BY MCD. THE NON-COMBUSTIBLE LINER (FLASHING) TO BE PROVIDED BY THE OTHERS.
5. IF FIFTY PERCENT OF THE STACK LENGTH IS ABOVE THE ROOF, GUY WIRES MAY BE REQUIRED. CONSULT WITH YOUR MCD REP.
6. RAIN CAP NOT REQUIRED.



ROOF PENETRATION
DETAIL



STACK INSTALLATION
DETAIL

Matthews CREMATION DIVISION
2045 Sprint Boulevard
Apopka, Florida 32703
USA

POWER-PAK Jr

STACK DETAILS, CLEARANCES & INSTALLATION INSTRUCTIONS. REFRACTORY STACK DETAIL

DATE:	10-26-06	SCALE:	1/2"=1'
DRAWN:	JG	PLOT SCALE:	1:24
APRVD:		SHEET:	2 OF: 2
DWG FILE:	PPJr-MarketingStackRefS2R4		
DWG #:	0000142		

SPECIFICATIONS- Model Power-Pak Jr.

1. Equipment Type	Model Power-Pak Jr.
A. Model No.	IE43-PPJR
B. Underwriters Laboratories Listing and File No.	87E8; MH14647
2. Dimensions	
A. Footprint	8' – 8 ½" x 6' -8"
B. Maximum Length	10' – 10" (3.3 m)
C. Maximum Width	6' -5" (1.96 m)
D. Maximum Height	8' - 4" (2.54 m)
E. Chamber Loading Opening	25 3/4" H x 39" W (655 mm x 990 mm)
3. Weight	18,000 lbs. (8,165 kg)
4. Utility/Air Requirements	
A. Gross Gas Input, Natural or LP Gas	2,000,000 BTU/hr. (2,100,000 kJ/h)
Running Gas Pressure, Natural Gas	7 inches (180 mm) water column or greater
Running Gas Pressure, LP Gas	11 inches (280 mm) water column or greater
B. Electrical Supply	230 volt, 3Ø or 1Ø, 50/60 hz (other available)
C. Air Supply	2,500 cfm (70 standard m^3/min)
5. Incineration Capacity	75 lbs./hr. (34 kg/h)
6. Typical Loading Capacity of Waste Types	300 lbs. (136 kg/h)
7. Construction and Safety Standards	Incineration Institute of America, Underwriters Laboratories, Canadian Standards Association
8. Steel Structure Construction	
A. Frame	2" (51 mm) square tubing
B. Front/Rear Plates	3/8" (10 mm) plate
C. Floor Plates	3/16" (5 mm) plate
D. Outer Side Casing	12 gauge (3 mm) plate
E. Inner Side Casing	12 gauge (3 mm) plate
9. Stack Construction	
A. Inner Wall	4 1/2" (110 mm) insulating firebrick or castable
B. Outer Wall	12 gauge (3 mm) sheet, 304 s.s., welded seams (unlined stack available)
10. Draft Nozzle Construction	Schedule 40 type 316 s.s. pipe, welded connections
11. Main Chamber Door Construction	
A. Steel Shell	3/16" (5 mm) steel, welded with reinforcement
B. Outer Refractory	1" (25 mm) insulating block
C. Inner Refractory	4½" (110 mm) insulating firebrick
12. Primary Chamber Wall Construction	
A. Outer Casing Wall	12 gauge (3 mm) sheet
B. Inner Frame/Air Compartment	2" (51 mm) air compartment
C. Inner Casing Wall	12 gauge (3 mm) sheet
D. Outer Refractory Wall	5" (127 mm) insulating block
E. Inner Refractory Wall	4½" (110 mm) firebrick

SPECIFICATIONS- Model Power-Pak Jr.

13. Secondary Chamber Wall Construction
    - A. Outer Casing Wall ..... 12 gauge (3 mm) sheet
    - B. Inner Frame/Air Compartment ..... 2" (51 mm) air compartment
    - C. Inner Casing Wall ..... 12 gauge (3 mm) sheet
    - D. Outer Refractory Wall ..... 6" (150 mm) insulating block
    - E. Inner Refractory Wall ..... 4½" (110 mm) firebrick

14. Refractory Temperature Ratings
    - A. Standard Firebrick ..... 3,100° F. (1700° C)
    - B. Insulating Firebrick ..... 2,600° F. (1430° C)
    - C. Castable Refractory (Hearth) ..... 2,550° F. (1370° C)
    - D. Castable Refractory ..... 2,550° F. (1370° C)
    - E. Insulating Block ..... 1,900° F. (1040° C)
    - F. Bonding Mortar ..... 3,200° F. (1760° C)

15. Chamber Volumes (not including external flues, stacks or chimneys)
    - A. Primary Chamber ..... 27 cubic feet (0.8 m^3)
    - B. Secondary Chamber ..... 37 cubic feet (1.0 m^3)

16. Emission Control Features
    - A. Secondary Chamber with Afterburner ..... Included
    - B. Opacity Monitor and Controller with Visual and Audible Alarms ..... Included
    - C. Auxiliary Air Control System ..... Included
    - D. Microprocessor Temperature Control System ..... Included

17. Operating Temperatures
    - A. Primary Chamber ..... 1,200° F. - 1,800° F. (650° C - 1000° C)
    - B. Secondary Chamber ..... 1,400° F. - 1,800° F. (760° C - 1000° C) as required

18. Secondary Chamber Retention Time ..... > 1 second

19. Ash Removal ..... Door functions as a heat shield. Sweep out beneath front door into hopper that fills collection pan.

20. Safety Interlocks
    - A. High Gas Pressure ..... Optional
    - B. Low Gas Pressure ..... Optional
    - C. Blower Air Pressure ..... Included
    - D. Door Position ..... Included
    - E. Opacity ..... Included
    - F. Motor Starter Function ..... Included
    - G. Chamber Temperature ..... Included
    - H. Motor Overload ..... Included
    - I. Flame Quality ..... Included
    - J. Burner Safe Start ..... Included

22. Burner Description ..... The nozzle mix burners used on this cremation equipment are industrial quality and designed for incinerator use.

SPECIFICATIONS- Model Power-Pak Jr.

23. Ultraviolet Flame Detection ..... Ultraviolet flame detection has proven to be the most reliable means of flame safety. The system is completely sealed in a quartz capsule to eliminate problems, caused by moisture and dust created in the cremation process, which effect flame rod detectors.

24. Operating Panel Indicating Lights
    - A. Safe Run ..... Included
    - B. Door Closed ..... Included
    - C. Pollution Alarm ..... Included
    - D. Afterburner On (Secondary Burner) ..... Included
    - E. Cremation Burner On ..... Included
    - F. Low Fire Cremation Burner On ..... Included
    - G. Afterburner (Secondary Burner) Reset ..... Included
    - H. Cremation Burner Reset ..... Included
    - I. Hearth Air ..... Included
    - J. Throat Air Off ..... Included

25. Automatic Timer Functions
    - A. Master Cycle ..... Included
    - B. Afterburner (Secondary Burner) ..... Included
    - C. Cremation Burner ..... Included
    - D. Low Fire Cremation Burner ..... Included
    - E. Hearth Air ..... Included
    - F. Throat Air ..... Included
    - G. Pollution Monit oring ..... Included
    - H. Afterburner (Secondary Burner) Prepurge ..... Included
    - I. Cremation Burner Prepurge ..... Included
    - J. Cool Down ..... Included

26. Exterior Finish
    - A. Primer ..... 2 coats rust inhibiting
    - B. Finish ..... 2 coats textured finish

27. Start-Up and Training ..... Startup of cremation equipment and training of operators to properly operate and maintain the equipment is performed on-site under actual operating conditions. Included is a comprehensive owner's manual, with details on the equipment, its components and proper operation.

28. Environmental Submittals ..... Complete technical portion of state environmental permits. Engineering calculations, technical data, existing stack test results and equipment blueprints provided.

EMISSIONS TESTING REPORT

IE43-PPJ, POWER-PAK JUNIOR CREMATOR

PREPARED FOR:

SPCA OF PINELLAS COUNTY

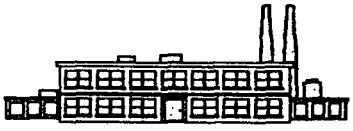
LARGO, FLORIDA
NOVEMBER 12, 2004

PREPARED BY:

ATC

AIR TESTING & CONSULTING, INC.
333 FALKENBURG ROAD, SUITE B-214
TAMPA, FLORIDA 33619

ATC



AIR TESTING & CONSULTING, INC.

333 FALKENBURG ROAD, SUITE B-214
TAMPA, FLORIDA 33619

To the best of my knowledge, all field and analytical procedures comply with Florida Department of Environmental Protection requirements and all test data and plant operating data are true and correct.

Kenneth Given

Kenneth E. Given, P.E.

12/17/04

Date

TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION

On November 12, 2004, Air Testing & Consulting, Inc. conducted emissions testing on the Mathews Cremation Division Model IE43-PPJ, Power-Pak Junior. The unit is located at the SPCA of Pinellas County, 9099 130th Ave. North, Largo, Florida. Testing included:

(1) *O_2 - EPA METHOD 3A*
(2) *SO_2 - EPA METHOD 6*
(3) *NOx - EPA METHOD 7E*
(4) *CO - EPA METHOD 10*
(5) *VOC – EPA METHOD 25A*
(7) *PARTICULATE/ HYDROGEN CHLORIDE – EPA METHOD 26A*
(8) *VE - EPA METHOD 9*

These tests were performed at the request of Mathews Cremation Division. The burn rate during the testing was 75 lbs/hr.

2.0 SUMMARY OF RESULTS

The results of the emission testing are presented in the Test Summary and the Summary of Test Data. The particulate emissions averaged 0.0255 grains per dry standard cubic foot (grs/dscf), CO emissions averaged 10.47 parts per million (ppmv), SO_2 emissions averaged 86.48 ppmv, VOC emissions averaged 1.37, NOx emissions averaged 173 ppmv and HCL emissions averaged 12.8 ppmv, each corrected to 7% O_2. A visible emissions test was conducted over a 60 minute period. Opacity, highest six-minute average, on the stack, was 0%.

TEST SUMMARY
SPCA of PINELLAS COUNTY
CREMATORY INCINERATOR
NOVEMBER 12, 2004

RUN #	% O_2	PARTICULATE GR/DSCF @ 7% O_2	CO ppmv @ 7% O_2	HCL ppmv @ 7% O_2	SO_2 ppmv @ 7% O_2	VOC ppmv @ 7% O_2	NOx ppmv @ 7% O_2	PROCESS RATE PPH
1	11.8	0.0396	15	4.970	20.8	2	65	75
2	11.0	0.0169	10	3.810	108.5	1	199	75
3	10.0	0.0199	6	29.630	130.2	1	255	75
AVG	10.92	0.0255	10.33	12.80	86.5	1.3	173	75

SUMMARY OF TEST DATA

FACILITY : SPCA of Pinellas County UNIT : POWER-PAK JR.

TEST DATE : 11/12/04

	RUN 1	RUN 2	RUN 3	AVERAGES
DATE	11/12/04	11/12/04	11/12/04	
PROCESS RATE (POUNDS/HOUR)	75	75	75	
START TIME	10:55	12:36	14:09	
END TIME	12:01	13:41	15:14	
STACK DIAMETER (INCHES)	12	12	12	
NOZZLE DIAMETER (INCHES)	0.400	0.400	0.400	
TEST TIME (MINUTES)	64	64	64	
NUMBER OF TEST POINTS PER RUN	16	16	16	
STACK GAS TEMPERATURE (°F)	1238.9	1262.6	1281	1260.9
STACK GAS MOISTURE (%)	8.40	10.32	10.27	9.67
STACK GAS MOLECULAR WEIGHT	28.99	28.76	28.77	
STACK GAS VOLUME SAMPLED (CUBIC FEET)	46.135	36.820	37.030	39.995
VOLUME SAMPLED (SCF @ 68°F)	46.222	36.825	37.020	40.022
STACK GAS VELOCITY (FEET PER SECOND)	45.96	39.27	39.48	41.57
STACK GAS FLOW RATE (ACFM)	2165.8	1850.8	1860.6	1959.0
STACK GAS FLOW RATE (DSCFM @ 68°F)	618.7	510.5	508.0	545.7
ISOKINETIC SAMPLING RATE, %I	105.1	101.5	102.5	
OXYGEN, %	11.75	11.0	10.0	10.9
PARTICULATE CONC (GR/DSCF) @7% O_2	0.0396	0.0169	0.0199	**0.0255**
PARTICULATE MASS RATE (LBS/HOUR)	0.2097	0.0739	0.0868	**0.1235**
CO CONC @ 7% O_2, ppmv	15	10	6	**10.47**
CO MASS RATE (LBS/HOUR)	0.0270	0.0156	0.0111	**0.0179**
NOx CONC @ 7% O_2, ppmv	65	199	255	**173**
NOx MASS RATE (LBS/HOUR)	0.188	0.520	0.728	**0.479**
VOC CONC @ 7% O_2, ppmv	2	1	1	**1.37**
VOC MASS RATE (LBS/HOUR)	0.0051	0.0035	0.0024	**0.0037**
HCL CONC @ 7% O_2, ppmv	4.97	3.81	29.63	**12.80**
HCL MASS RATE (LBS/HOUR)	0.012	0.008	0.067	**0.029**
SO_2 CONC @ 7% O_2, ppmv	20.81	108.45	130.16	**86.48**
SO_2 MASS RATE (LBS/HOUR)	0.084	0.392	0.515	**0.331**

FIELD DATA AND SAMPLES UNDER THE CONTROL OF: TIM CAPELLE

LABORATORY ANALYSIS UNDER THE CONTROL OF: ATC, STL LABORATORIES

3.0 PROCESS DESCRIPTION

The IE43-PPJ, Power-Pak Junior cremator has a multiple chamber with a 75 pound per hour normal burning capacity. Animal remains are loaded into the primary chamber. The afterburner ignites and heats the secondary chamber to the required temperature. The secondary chamber temperature is maintained by a process controller that automatically modulates the gas flow to the afterburner.

After the secondary chamber has been heated sufficiently, the cremator burner ignites and the cremation process is initiated. A typical cremation takes from 1 to 2 hours, but the time may vary depending on the body weights and various other factors.

A gas flow schematic is shown in Figure 1.

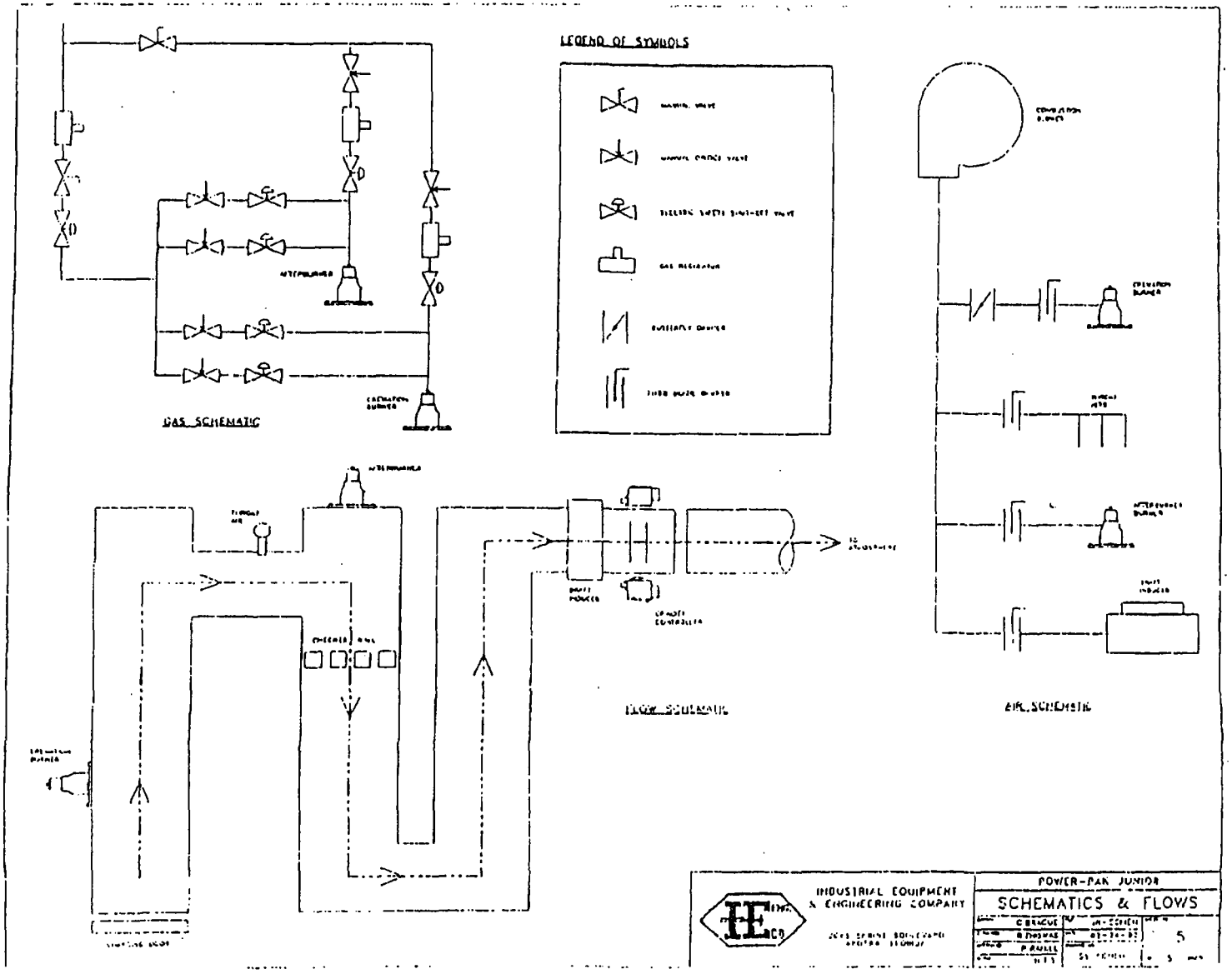


Figure 1 – Gas Flow Schematic

September 18, 2009

FDEP Receipts
P.O. Box 3070
Tallahassee, FL 32803-7555

Enclosed is a $100.00 check to FDEP as required, along with all forms and signature.

I have also enclosed a copy of a letter, from the City of Deerfield, that certifies the property address/location of the crematory is a permitted zoning use.

If there is anything else, please call me.

Thank you,

Linda Morgan
Paws & Cherish
4340 19th Ave Bay E
Deerfield Beach, FL 33064
954-695-8156

150 N. E. Second Avenue Deerfield Beach, Florida 33441-3598 Telephone (954) 480-4200 Fax (954) 480-4268

City of DEERFIELD BEACH

August 28, 2009

Linda Morgan
23290 Foxtail Creek
Bonita Springs, FL 43135

RE: ZONING CERTIFICATION—4340 NW 19TH AVE, DEERFIELD BEACH, FLORIDA

Dear Ms. Morgan:

This is to certify that the above referenced property is zoned M-3 (Intense Manufacturing & Industrial) per the Broward County Zoning Code. This property has been annexed to the City of Deerfield Beach from Broward County. Upon annexation, the zoning did not change. The Broward County zoning districts and regulations still apply but are administered by the City. A copy of the section of the Code regulating the uses in this district is enclosed. The use of the property as an animal crematory is permitted.

Yours truly,

Gerald R. Ferguson

Gerald R. Ferguson, AICP
Director of Planning and Growth Management

GRF/AM

Enclosure (1)

Lind
Paws
4340 NW 19"' Ave., Bay E
Deerfield Beach, FL 33064

UNITED STATES POSTAL SERVICE

1000

32803

U.S. POSTAGE
PAID
COCONUT CREEK.FL
33073
SEP 18, '09
AMOUNT

$1.90

00033932-05

FDEP Receipts
P.O. Box 3070
Tallahassee, FL 32803-7555

FIRST CLASS MAIL