



Facultatieve Technologies

Cremation & Incineration Equipment

**West Virginia Department of
Environmental Protection**

Division of Air Quality

Leavitt Funeral Home, Inc.

403 Seventh Street

Parkersburg, West Virginia



INDEX

West Virginia Department of Environmental Protection Division of Air Quality

Application for NSR Permit

Section I		Application for NSR Permit	
Section 2	Attachment A	Business Certificate	
Section 3	Attachment B	Maps	
Section 4	Attachment C	Installation and Start-up Schedule	
Section 5	Attachment D	Regulatory Discussion	Not Used
Section 6	Attachment E	Plot Plan	
Section 7	Attachment F	Detailed Process Flow Diagrams	
Section 8	Attachment G	Process Description	
Section 9	Attachment H	Material Safety Data Sheets	Not Used
Section 10	Attachment I	Emission Units Table	
Section 11	Attachment J	Emission Points Data Summary Sheet	
Section 12	Attachment K	Fugitive Emissions Data Summary Sheet	
Section 13	Attachment L	Emissions Unit Data Sheet	
Section 14	Attachment M	Air Pollution Control Device Sheets	Not Used
Section 15	Attachment N	Supporting Emissions Calculations	
Section 16	Attachment O	Monitoring/Recordkeeping/Reporting/ Testing Plans	
Section 17	Attachment P	Public Notice	
Section 18	Attachment Q	Business Confidential Claims	Not Used
Section 19	Attachment R	Authority Forms	Not Used
Section 20	Attachment S	Title V Permit Revision Information	Not Used
Section 21	Attachment T	Final NSR Permit	

Section I



WEST VIRGINIA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY

601 57th Street, SE
Charleston, WV 25304
(304) 926-0475
www.dep.wv.gov/daq

**APPLICATION FOR NSR PERMIT
AND
TITLE V PERMIT REVISION
(OPTIONAL)**

PLEASE CHECK ALL THAT APPLY TO **NSR (45CSR13)** (IF KNOWN):

- ☐ CONSTRUCTION ☐ MODIFICATION ☒ RELOCATION
☐ CLASS I ADMINISTRATIVE UPDATE ☐ TEMPORARY
☐ CLASS II ADMINISTRATIVE UPDATE ☐ AFTER-THE-FACT

PLEASE CHECK TYPE OF **45CSR30 (TITLE V)** REVISION (IF ANY):

- ☐ ADMINISTRATIVE AMENDMENT ☐ MINOR MODIFICATION
☐ SIGNIFICANT MODIFICATION

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION INFORMATION AS **ATTACHMENT S** TO THIS APPLICATION

FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options (Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant (as registered with the WV Secretary of State's Office):

Leavitt Funeral Home, Inc.

2. Federal Employer ID No. (FEIN):

55-0366805

3. Name of facility (if different from above):

4. The applicant is the:

☒ OWNER ☐ OPERATOR ☐ BOTH

5A. Applicant's mailing address:

403 Seventh Street, Parkersburg, WV
26101

5B. Facility's present physical address:

414 Seventh Street, Parkersburg, WV
26101

6. **West Virginia Business Registration.** Is the applicant a resident of the State of West Virginia? ☒ YES ☐ NO

⇒ If **YES**, provide a copy of the **Certificate of Incorporation/Organization/Limited Partnership** (one page) including any name change amendments or other Business Registration Certificate as **Attachment A**.

⇒ If **NO**, provide a copy of the **Certificate of Authority/Authority of L.L.C./Registration** (one page) including any name change amendments or other Business Certificate as **Attachment A**.

7. If applicant is a subsidiary corporation, please provide the name of parent corporation:

8. Does the applicant own, lease, have an option to buy or otherwise have control of the *proposed site*? ☒ YES ☐ NO

⇒ If **YES**, please explain: Owns Property

⇒ If **NO**, you are not eligible for a permit for this source.

9. Type of plant or facility (stationary source) to be **constructed, modified, relocated, administratively updated** or **temporarily permitted** (e.g., coal preparation plant, primary crusher, etc.):
Animal Crematory

10. North American Industry Classification System (NAICS) code for the facility:
812210

11A. DAQ Plant ID No. (for existing facilities only):

10700131

11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only):

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

12A. ⇨ For Modifications, Administrative Updates or Temporary permits at an existing facility, please provide directions to the <i>present location</i> of the facility from the nearest state road; ⇨ For Construction or Relocation permits , please provide directions to the <i>proposed new site location</i> from the nearest state road. Include a MAP as Attachment B . From I-50 exit Division Street/WV-14/WV-95 toward Camden Avenue - turn right onto Avery Street - turn right onto 7th street - 414 7th Street is on the right side.		
12.B. New site address (if applicable): <div style="text-align: center; font-size: 1.2em;">414 Seventh Street</div>	12C. Nearest city or town: <div style="text-align: center; font-size: 1.2em;">Parkersburg</div>	12D. County: <div style="text-align: center; font-size: 1.2em;">Wood</div>
12.E. UTM Northing (KM): 4346380.07	12F. UTM Easting (KM): <div style="text-align: center; font-size: 1.2em;">451924.46</div>	12G. UTM Zone: 17S
13. Briefly describe the proposed change(s) at the facility: <div style="text-align: center; font-size: 1.2em;">New building to house new animal crematory</div>		
14A. Provide the date of anticipated installation or change: 09/ 01 / 2016 ⇨ If this is an After-The-Fact permit application, provide the date upon which the proposed change did happen: / /		14B. Date of anticipated Start-Up if a permit is granted: <div style="text-align: center; font-size: 1.2em;">09 / 12 / 2016</div>
14C. Provide a Schedule of the planned Installation of/ Change to and Start-Up of each of the units proposed in this permit application as Attachment C (if more than one unit is involved).		
15. Provide maximum projected Operating Schedule of activity/activities outlined in this application: <div style="display: flex; justify-content: space-around; font-weight: bold;"> 24 Hours Per Day 7 Days Per Week 52 Weeks Per Year </div>		
16. Is demolition or physical renovation at an existing facility involved? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
17. Risk Management Plans. If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed changes (for applicability help see www.epa.gov/ceppo), submit your Risk Management Plan (RMP) to U. S. EPA Region III.		
18. Regulatory Discussion. List all Federal and State air pollution control regulations that you believe are applicable to the proposed process (<i>if known</i>). A list of possible applicable requirements is also included in Attachment S of this application (Title V Permit Revision Information). Discuss applicability and proposed demonstration(s) of compliance (<i>if known</i>). Provide this information as Attachment D .		
Section II. Additional attachments and supporting documents.		
19. Include a check payable to WVDEP – Division of Air Quality with the appropriate application fee (per 45CSR22 and 45CSR13). Check in the amount of \$1,000.00 attached to this application		
20. Include a Table of Contents as the first page of your application package.		
21. Provide a Plot Plan , e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as Attachment E (Refer to Plot Plan Guidance) . ⇨ Indicate the location of the nearest occupied structure (e.g. church, school, business, residence).		
22. Provide a Detailed Process Flow Diagram(s) showing each proposed or modified emissions unit, emission point and control device as Attachment F .		
23. Provide a Process Description as Attachment G . ⇨ Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable).		
All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.		

24. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H**.
 ⇨ For chemical processes, provide a MSDS for each compound emitted to the air.

25. Fill out the **Emission Units Table** and provide it as **Attachment I**.

26. Fill out the **Emission Points Data Summary Sheet (Table 1 and Table 2)** and provide it as **Attachment J**.

27. Fill out the **Fugitive Emissions Data Summary Sheet** and provide it as **Attachment K**.

28. Check all applicable **Emissions Unit Data Sheets** listed below:

<input type="checkbox"/> Bulk Liquid Transfer Operations	<input type="checkbox"/> Haul Road Emissions	<input type="checkbox"/> Quarry
<input type="checkbox"/> Chemical Processes	<input type="checkbox"/> Hot Mix Asphalt Plant	<input type="checkbox"/> Solid Materials Sizing, Handling and Storage Facilities
<input type="checkbox"/> Concrete Batch Plant	<input checked="" type="checkbox"/> Incinerator	<input type="checkbox"/> Storage Tanks
<input type="checkbox"/> Grey Iron and Steel Foundry	<input type="checkbox"/> Indirect Heat Exchanger	
<input type="checkbox"/> General Emission Unit, specify		

Fill out and provide the **Emissions Unit Data Sheet(s)** as **Attachment L**.

29. Check all applicable **Air Pollution Control Device Sheets** listed below:

<input type="checkbox"/> Absorption Systems	<input type="checkbox"/> Baghouse	<input type="checkbox"/> Flare
<input type="checkbox"/> Adsorption Systems	<input type="checkbox"/> Condenser	<input type="checkbox"/> Mechanical Collector
<input checked="" type="checkbox"/> Afterburner	<input type="checkbox"/> Electrostatic Precipitator	<input type="checkbox"/> Wet Collecting System
<input type="checkbox"/> Other Collectors, specify		

Fill out and provide the **Air Pollution Control Device Sheet(s)** as **Attachment M**.

30. Provide all **Supporting Emissions Calculations** as **Attachment N**, or attach the calculations directly to the forms listed in Items 28 through 31.

31. **Monitoring, Recordkeeping, Reporting and Testing Plans.** Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O**.
 ➤ Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.

32. **Public Notice.** At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and **Example Legal Advertisement** for details). Please submit the **Affidavit of Publication** as **Attachment P** immediately upon receipt.

33. **Business Confidentiality Claims.** Does this application include confidential information (per 45CSR31)?
☐ YES ☒ NO
 ➤ If **YES**, identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's **"Precautionary Notice – Claims of Confidentiality"** guidance found in the **General Instructions** as **Attachment Q**.

Section III. Certification of Information

34. **Authority/Delegation of Authority.** Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below:

<input type="checkbox"/> Authority of Corporation or Other Business Entity	<input type="checkbox"/> Authority of Partnership
<input type="checkbox"/> Authority of Governmental Agency	<input type="checkbox"/> Authority of Limited Partnership

Submit completed and signed **Authority Form** as **Attachment R**.

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

35A. **Certification of Information.** To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

Certification of Truth, Accuracy, and Completeness

I, the undersigned ☒ **Responsible Official** / ☐ **Authorized Representative**, hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

SIGNATURE _____ DATE: _____
(Please use blue ink) (Please use blue ink)

35B. Printed name of signee: Jonathan C. Leavitt

35C. Title: President

35D. E-mail: jon@leavittfuneralhome.com

36E. Phone: 304-422-6459

36F. FAX: 304-422-4313

36A. Printed name of contact person (if different from above):

36B. Title:

36C. E-mail:

36D. Phone:

36E. FAX:

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Attachment A: Business Certificate | <input checked="" type="checkbox"/> Attachment K: Fugitive Emissions Data Summary Sheet |
| <input checked="" type="checkbox"/> Attachment B: Map(s) | <input checked="" type="checkbox"/> Attachment L: Emissions Unit Data Sheet(s) |
| <input checked="" type="checkbox"/> Attachment C: Installation and Start Up Schedule | <input type="checkbox"/> Attachment M: Air Pollution Control Device Sheet(s) |
| <input type="checkbox"/> Attachment D: Regulatory Discussion | <input checked="" type="checkbox"/> Attachment N: Supporting Emissions Calculations |
| <input checked="" type="checkbox"/> Attachment E: Plot Plan | <input checked="" type="checkbox"/> Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans |
| <input checked="" type="checkbox"/> Attachment F: Detailed Process Flow Diagram(s) | <input checked="" type="checkbox"/> Attachment P: Public Notice |
| <input checked="" type="checkbox"/> Attachment G: Process Description | <input type="checkbox"/> Attachment Q: Business Confidential Claims |
| <input type="checkbox"/> Attachment H: Material Safety Data Sheets (MSDS) | <input type="checkbox"/> Attachment R: Authority Forms |
| <input checked="" type="checkbox"/> Attachment I: Emission Units Table | <input type="checkbox"/> Attachment S: Title V Permit Revision Information |
| <input checked="" type="checkbox"/> Attachment J: Emission Points Data Summary Sheet | <input checked="" type="checkbox"/> Application Fee |

Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.

FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:

- ☐ Forward 1 copy of the application to the Title V Permitting Group and:
- ☐ For Title V Administrative Amendments:
- ☐ NSR permit writer should notify Title V permit writer of draft permit,
- ☐ For Title V Minor Modifications:
- ☐ Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt,
- ☐ NSR permit writer should notify Title V permit writer of draft permit.
- ☐ For Title V Significant Modifications processed in parallel with NSR Permit revision:
- ☐ NSR permit writer should notify a Title V permit writer of draft permit,
- ☐ Public notice should reference both 45CSR13 and Title V permits,
- ☐ EPA has 45 day review period of a draft permit.

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

Section 2



Certificate

*I, Ken Hechter, Secretary of State of the
State of West Virginia, hereby certify that*

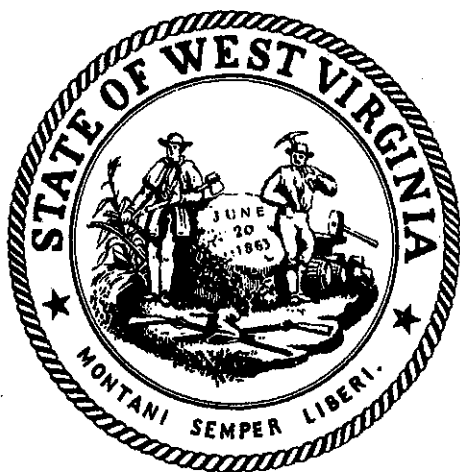
originals of the Articles of Amendment to the Articles of Incorporation of

LEAVITT FUNERAL HOME, INC.

are filed in my office, signed and verified, as required by the provisions of Chapter 31, Article 1,
Section 31 of the West Virginia Code and conform to law. Therefore, I issue this

CERTIFICATE OF AMENDMENT TO THE ARTICLES OF INCORPORATION

of the corporation, to which I have attached a duplicate original of the Articles of Amendment.



*Given under my hand and the
Great Seal of the State of
West Virginia on*

March 8, 2000

Ken Hechter

Secretary of State

FILED
MAR 08 2000
IN THE OFFICE OF
SECRETARY OF STATE
WEST VIRGINIA

Filed in the Office of
Secretary of State of West Virginia
this date: _____

Articles filed in Duplicate Originals

Certificate Fee: \$5.00

License Tax: _____

ARTICLES OF AMENDMENT
to
ARTICLES OF INCORPORATION
of
LEAVITT FUNERAL HOME, INC.

Pursuant to the provisions of Section 31, Article 1, Chapter 31 of the Code of West Virginia, the undersigned corporation adopts the following Articles of Amendment to its Articles of Incorporation:

FIRST: The name of the corporation is Leavitt Funeral Home, Inc.

SECOND: Pursuant to the provisions of Section 107, Article 1, Chapter 31 of the Code of West Virginia, the undersigned corporation adopts the following Articles of Amendment to the Articles of Incorporation of Leavitt Funeral Home, Inc., originally filed in the office of the West Virginia Secretary of State on October 24, 1951, and previously amended on February 19, 1982. The Articles of Incorporation are hereby amended as follows:

- (1) Section IV of the Articles of Incorporation of Leavitt Funeral Home, Inc. is amended to read in its entirety as follows:

"The corporation is organized as:

A. Non-stock, non-profit _____.

B. Stock, for profit X, and the authorized capital stock of said corporation will be One Hundred Thousand Dollars (\$100,000.00), which will be divided into Ten Thousand (10,000) shares of Voting Common Stock, par value Ten Dollars (\$10.00) per share."

- (2) A new Section 7 of the Articles of Incorporation of Leavitt Funeral Home, Inc. is amended to read in its entirety as follows:

"The name and address of the appointed person to whom notice or process may be sent is:

Jonathan C. Leavitt
20 South Hills Drive
Parkersburg, West Virginia 26101"

THIRD: The number of shares of which are outstanding and entitled to vote on said amendments is 282.

FOURTH: The designation and number of outstanding shares of each class entitled to vote thereon as a class were as follows:

<u>CLASS</u>	<u>NO. OF SHARES</u>
Common	282

FIFTH: The number of shares voted for such amendment was 50; and the number of shares voted against the amendment were zero.

SIXTH: The number of each class entitled to vote thereon as a class voted for and against such amendment, respectively, were:

<u>CLASS</u>	<u>NO. OF SHARES</u> <u>FOR</u>	<u>AGAINST</u>
Common	282	0

SEVENTH: The manner in which any exchange, reclassification or cancellation of issued shares provided for in the amendment shall be effected, is as follows: Each holder of record of one or more certificates representing shares of the old common stock shall be entitled to receive one or more certificates representing the proportionate number of shares of the new common stock on surrender of the old certificate for cancellation.

EIGHTH: The amount of the authorized capital stock of this corporation shall be increased from 1,000 shares at the par value of \$100.00 per share to 10,000 shares at the par value of \$10.00 per share. The total authorized capital stock shall thereafter be \$100,000.00.

NINTH: The foregoing amendments were adopted by the Shareholders of Leavitt Funeral Home, Inc. at a meeting of said Shareholders duly called and held on the 31st day of December, 1999, at which a quorum was present.

Dated: December 31, 1999

LEAVITT FUNERAL HOME, INC.

By: Jonathan C. Leavitt
Its President

and

By: Stephen P. Leavitt
Its Secretary

STATE OF WEST VIRGINIA
COUNTY OF WOOD, to wit:

I, Patricia L. McCullough, a notary public, do hereby certify that on this 31st day of December, 1999 personally appeared before me Jonathan C. Leavitt and Stephen P. Leavitt, who, being by me first duly sworn, declared that they are the President and Secretary, respectively, of Leavitt Funeral Home, Inc., that they signed the foregoing document as President and Secretary of the corporation, respectively, and that the statements therein contained are true.

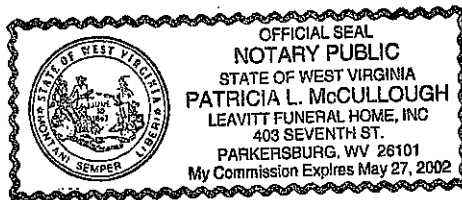
Patricia L. McCullough
Notary Public

My Commission Expires: May 27, 2002

(NOTARIAL SEAL)

These Articles of Amendment were prepared by or under the direction of Richard A. Hudson, Esquire, of the law firm Spilman Thomas & Battle, PLLC, P. O. Box 1469, Parkersburg, West Virginia 26102.

Doc #: 107811



WOOD COUNTY COMMISSION
CORPORATIONS Clerk 04
Date/Time: 03/15/2000 10:32
Trst #: 312449
Book/Page: 50- / 556-
Recd/Tax: 4.00
X .00

Section 3



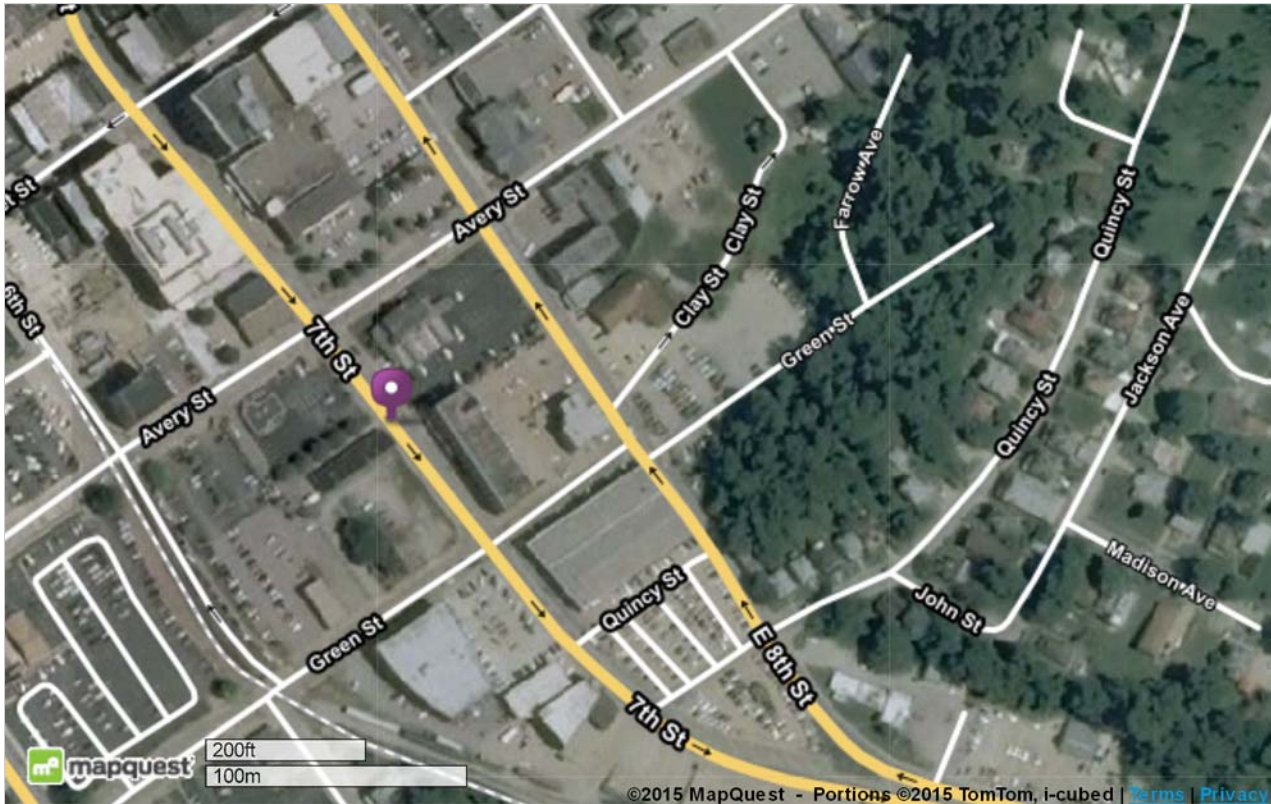
Map of:

414 7th St

Parkersburg, WV 26101-4602

Notes

Location of new crematory for Leavitt Funeral Home, Inc.

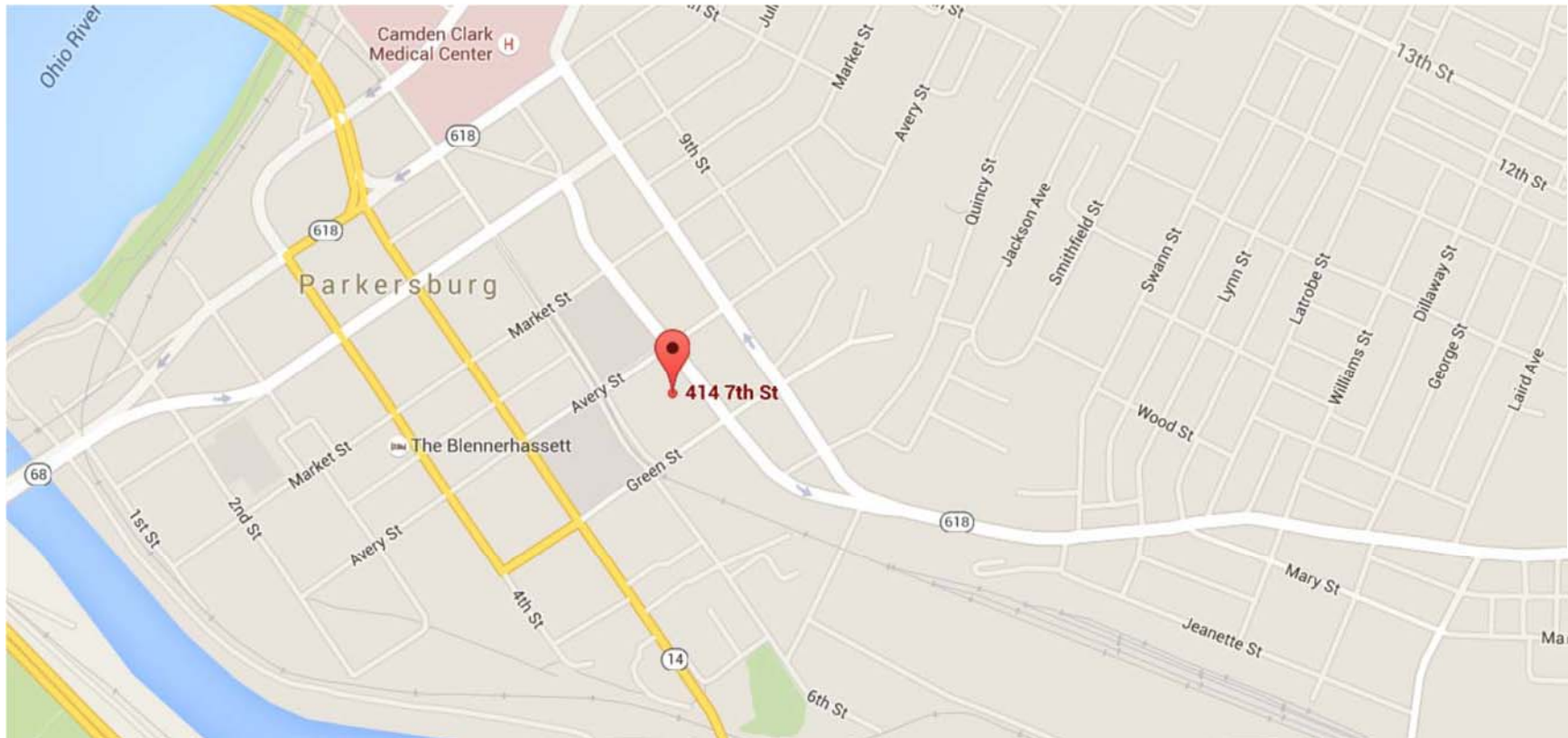


©2015 MapQuest, Inc. Use of directions and maps is subject to the MapQuest Terms of Use. We make no guarantee of the accuracy of their content, road conditions or route usability. You assume all risk of use. [View Terms of Use](#)

Leavitt Funeral Home, Inc.

Crematory Location

**414 Seventh Street
Parkersburg, WV 26101**



Leavitt Funeral Home

Crematory Location

Legend

414 7th St

414 7th St

Old U.S. 50

Google earth

© 2015 Google



100 ft

Section 4

Attachment C

Schedule of Planned Installation of New Animal Cremator

Upon receipt of the Permit for Relocation we are planning on the following schedule for the installation and Start-up of one (1) Facultative Technologies ISI-60 Cremation System. These dates could possibly change due to construction of the new crematory building and manufacturing of the cremator from our vendor, Facultative Technologies. In the event that the dates change we will provide a revised schedule to West Virginia Department of Environmental Protection – Division of Air Quality a minimum of 30 days from the anticipated installation and start-up.

Tuesday, September 6, 2016	Equipment delivered to jobsite, installation begins
Wednesday, September 7, 2016	Equipment installation continues
Friday, September 9, 2016	Installation complete
Monday, September 12, 2016	Operator training
Tuesday, September 13, 2016	Cremator Start-up / Operational

Section 5

**West Virginia Department of Environmental Protection
Division of Air Quality**

Application for NSR Permit

This Section Not Used

Section 6

A T T A C H M E N T

PROPERTY DESCRIPTION

**414 Seventh Street
Parkersburg, WV 26101**

All those certain lots, tracts or parcels of real estate situate, lying and being in the City of Parkersburg, County of Wood and State of West Virginia, more particularly bounded and described as follows:

FIRST TRACT: BEGINNING at a point on the southerly side of Seventh Street 135.27 feet from the southeast corner of Seventh Street and Avery Street, and being at the corner of the estate of Jacob B. Jackson; thence with the line of the estate of Jacob B. Jackson and parallel with Avery Street toward Sixth Street 167.15 feet to a point; thence toward Avery Street and parallel with Sixth Street 25.73 feet to a point; thence toward Sixth Street and parallel with Avery Street 21.9 feet to a point which is 150 feet from Sixth Street; thence easterly and parallel with Sixth Street 84.49 feet to the line of a lot sold by Anna E. Baldwin to Matthew McNulty of record in the Office of the Clerk of the County Commission of Wood County, West Virginia, in Deed Book 46, at page 347; thence toward Seventh Street 34 feet to a lot now or formerly owned by George W. Carney, which is 184 feet from Sixth Street; thence westerly and parallel with Sixth Street 6.92 feet to a corner of the Carney lot; thence toward Seventh Street and parallel with Avery Street 158.3 feet to Seventh Street; thence westerly with the line of Seventh Street 52 feet to the place of beginning.

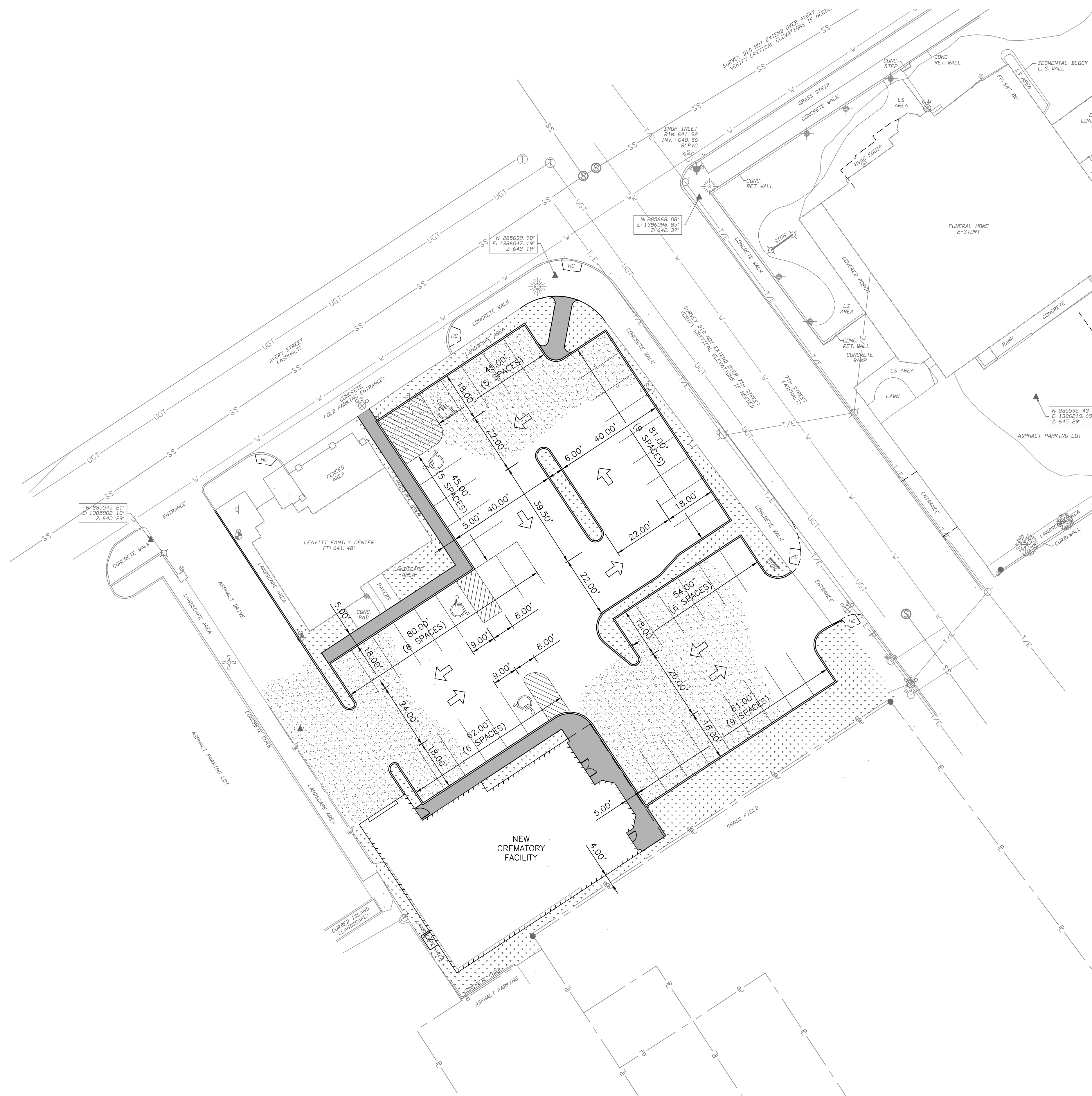
SECOND TRACT: BEGINNING at a point in the eastern line of Avery Street, 146.9 feet north of the northeastern corner of the intersection of Sixth and Avery Streets, a common corner to Lot Numbers 7 and 8 of the Tavenner Estate, shown on the plat hereinafter mentioned; thence in an eastern direction and with the common line of Lot Numbers 7 and 8, 109.27 feet to a point, another common corner to said Lot Numbers 7 and 8; thence at right angles in a northern direction and in a line parallel to the eastern line of Avery Street, 25 feet to a point; thence at right angles in a western direction and in a line parallel with the common line of Lot Numbers 7 and 8, 109.27 feet to a point in the eastern line of Avery Street; thence in a southern direction and with the said eastern line of Avery Street, 25 feet to the place of beginning, being all of Lot No. 8 of the division of the Tavenner Estate, a plat of which is of record in said Clerk's Office in Deed Book 89, at page 206.

BEING the same real estate conveyed unto Home Medical Equipment Co., a West Virginia corporation, by John F. Learman and Patricia L. Learman, husband and wife, by deed dated May 17, 1989, and of record in the aforesaid Clerk's Office in Deed Book 873, at Page 731.

THIRD TRACT: BEGINNING at a point lying N. 30° 16' 18" W. 175.26 feet from the intersection of the Westerly line of 7th Street aka Old Northwestern Pike and the Northerly line of Green Street, said point being the most Northerly corner of a 0.445 acre tract of land as conveyed to F. L. Morehead (DB 935/PG 244) from which the property described herein is a part; thence along said Westerly line of said 7th Street S. 30° 16' 18" E. 1.00 foot to a point; thence leaving said Street S. 63° 18' 32" W. 153.56 feet to a point; thence N. 26° 38' 39" W. 1.00 foot to a point in the Northerly line of the above-mentioned Morehead property; thence along the said Northerly line N. 63° 18' 32" E. 153.50 feet to the point of beginning, containing 154 square feet or .004 acres, as more particularly shown on the Survey of Matthew B. Harper OH PS S-7397 under the supervision of Paul M. Cochran, WV PS No. 48, dated November 1, 1994, attached to a deed of record in the aforesaid Clerk's Office in Deed Book 938, at page 654.

BEING the same real estate conveyed unto Home Medical Equipment Co., a West Virginia corporation, by F. L. Morehead, by deed dated November 23, 1994, and of record in the aforesaid Clerk's Office in Deed Book 938, at Page 654.

This conveyance is made subject to all rights of way, reservations, restrictive and protective covenants, and oil, gas and mineral leases of record in the chain of title in the aforesaid Clerk's Office.



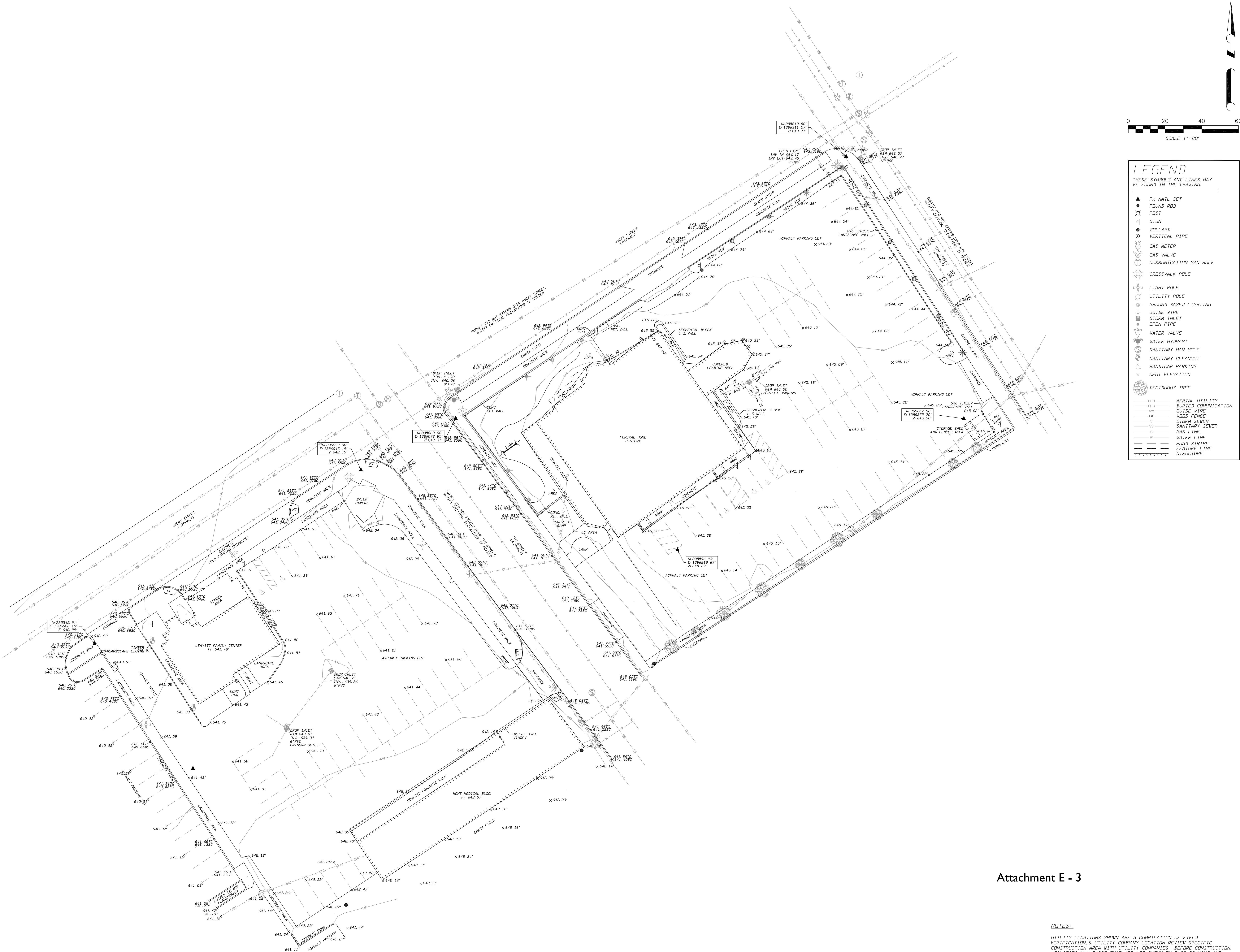
CONCEPTUAL SITE PLAN
SCALE: 1"=20'

Attachment E - 2

Rev.	Description	By	Date
A	ISSUED FOR REVIEW	MAW	06/25/15

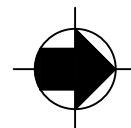
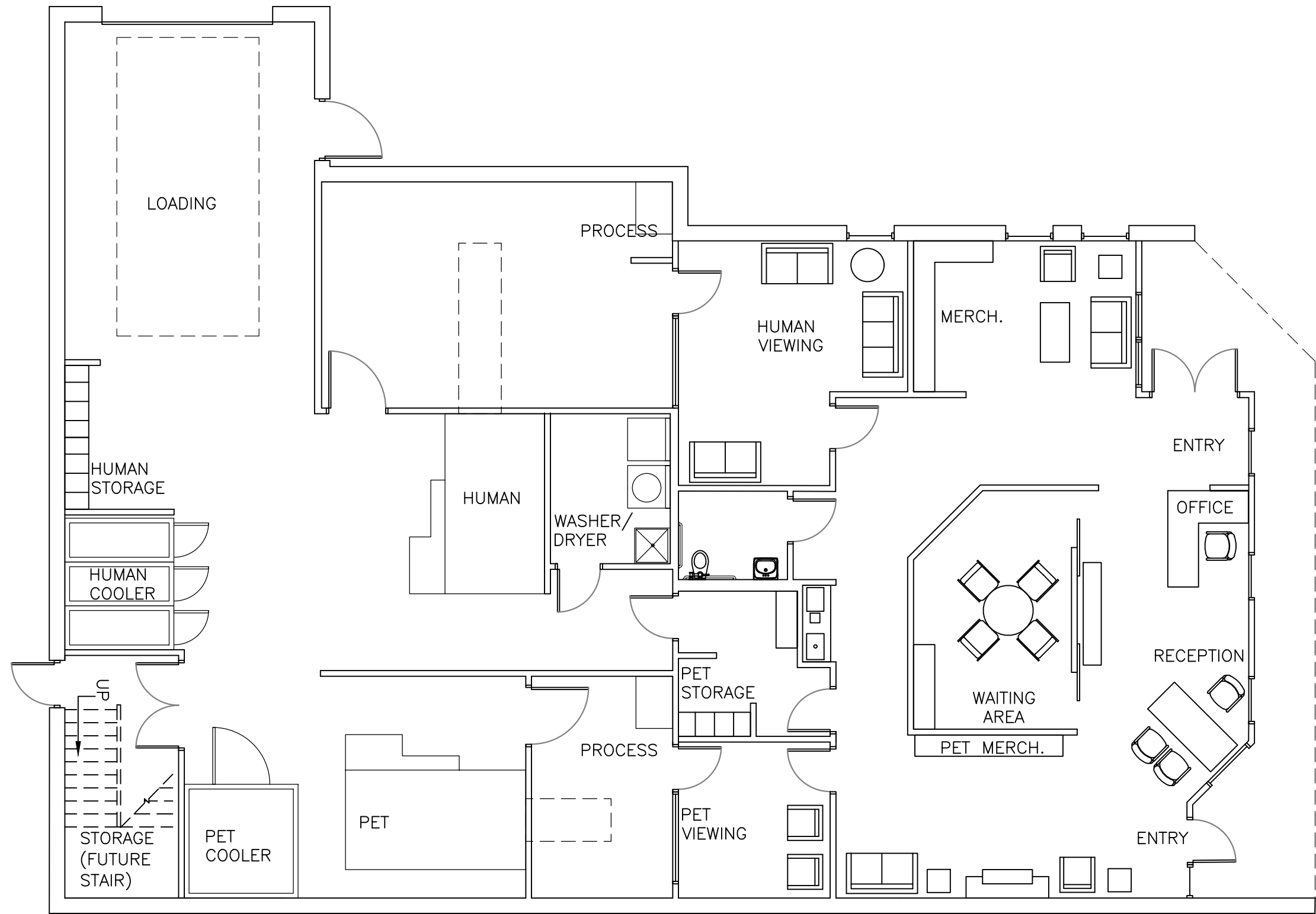
Drawing Description
LEAVITT FUNERAL HOME 403 7TH STREET, PARKERSBURG, WV LEAVITT FUNERAL MASTER PLANNING - PHASE 1 CONCEPTUAL SITE PLAN

Project: 2159037
Designed By: JRB
Drawn By: JRB
Checked By: MAW
Scale: AS NOTED
Plot Date: 06/25/15
Revision: A
Drawing Number: C100




Attachment E - 3

NOTES:
UTILITY LOCATIONS SHOWN ARE A COMPILATION OF FIELD VERIFICATION & UTILITY COMPANY LOCATION REVIEW SPECIFIC CONSTRUCTION AREA WITH UTILITY COMPANIES. BEFORE CONSTRUCTION UTILITIES MAY EXIST THAT ARE NOT SHOWN ON THIS DRAWING AND LOCATIONS SHOWN MAY VARY GREATLY FROM ACTUAL LOCATION.
ELEVATIONS BASED UPON DPUS SOLUTION NAVD 1988
COORDINATES BASED UPON DPUS SOLUTION WV STATE PLANE
COORDINATES NORTH ZONE
UTILITY CONFIRMATION #1512027836 & 1512629950



CONCEPTUAL PLAN D
 SCALE: 1/8" = 1' 0"

Attachment E - 4



PICKERING ASSOCIATES
 Architects • Engineers • Surveyors
 11283 Emerson Avenue
 Parkersburg, West Virginia 26104
 Phone: (304) 464-5305
 Fax: (304) 464-4428

Rev.	Description	By	Date

Drawing Description
 Leavitt Funeral Home
 403 7th St. Parkersburg, WV 26101
 New Crematory Facility
 Conceptual Plan B

Project: 2159037

Designed By:

Drawn By:

Checked By:

Scale: 1/8" = 1'0"

Plot Date: 7/21/15

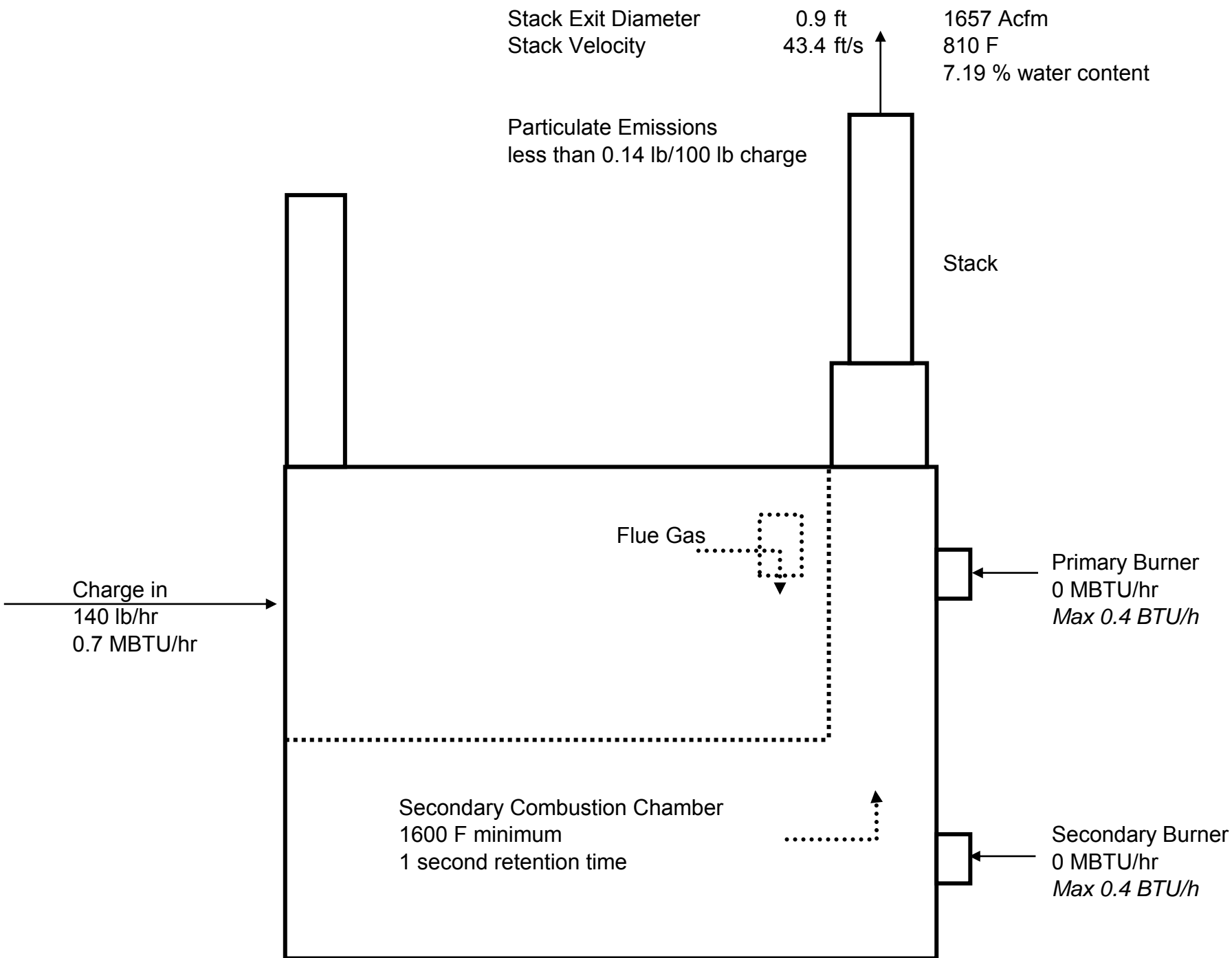
Revision: A

Drawing Number:

A4

Section 7

Attachment 4
Process Flow Diagram



Normal Operating Condition

Energy from charge	0.7 MBTU/hr
Energy from Primary Burner	0 MBTU/hr
Energy from Secondary Burner	0 MBTU/hr
Total Energy	0.7 MBTU/hr



The information on this drawing is CONFIDENTIAL to Facultative Technologies who retain COPYRIGHT of all information disclosed. Express permission from Facultative Technologies must be obtained in writing before any disclosure to a third party can take place.

Drawn	Ernie Kassoff	Title	ISI 60
Date	25-Sept-14		Process Flow Diagram
Project	ISI 60		Normal Operating Condition
Drawn	Ernie Kassoff	Drg No	

Section 8

Attachment G

Process Description of Facultative Technologies ISI 60 Animal Cremator

The Facultative Technologies ISI 60 Animal Cremator is designed to burn animal remains. Its automatic controls will function to cremate efficiently with the minimum of operator intervention. It is designed to operate in compliance within the emission legislation outlined by the West Virginia Department of Environmental Protection – Division of Air Quality.

Below you will find a basic description of the operation of a Facultative Technologies animal cremator. Additional documentation including our Technical Brochure and Technical Specifications can be found following the descriptive.

The Facultative Technologies ISI 60 Animal Cremator is a multiple chamber design (primary and secondary) and in the case of Leavitt Funeral Home, Inc. will be fired with natural gas as auxiliary fuel. The cremator has a nominal burn rate of 140 lbs. per hour with a maximum batch size of 700 lbs. of animal cadavers. The cremator is designed for manual single batch loading.

The standard process of cremation for animal cadavers in a Facultative Technologies cremator is to preheat the machine with the secondary chamber (afterburner) reaching a controlled temperature of not less than 1600°F and the primary chamber is set at ambient temperature. Once these parameters have been met the computerized touch screen instructs the operator to charge the cremator with the animal cadaver into the primary chamber. The operator will then open the door via automated controls, charge the animal cadaver and then close the door of the primary chamber. All functions of the loading process are controlled by the onboard computer/PLC controller. The cremator has a sight glass where the operator can observe the cremation process and thus determine when the complete cremation process has been fully completed. Upon completion of the cremation process the operator opens the primary chamber door and moves the cremated remains into a cooling area for final disposition. The design of the Facultative Technologies ISI 60 Animal Cremator is to cooldown the primary chamber for approximately 60 minutes to a maximum temperature of 600°F prior to the charging of the next animal cadaver. In addition, the process design of the Facultative Technologies cremator is to use the animal cadaver as the primary fuel source and only use natural gas to supplement the cremation process. Once the machines refractory is superheated the use of gas to perform the cremation process is virtually non-existent. The only gas used is in the secondary chamber (afterburner) to maintain the regulated temperature of 1600°F required by the West Virginia Department of Environmental Protection – Division of Air Quality. The sum effect of this design is drastically reducing emissions.

As stated above, the Facultative Technologies is a multi-chamber cremator with a primary chamber where the cremation takes place and then a secondary chamber where destruction of emissions occur.

- 🔍 The Primary Chamber is approximately 70 cu. ft. with a burner located in the top of the hearth area. This burner is designed to modulate between low and high fire with a capacity of 750,000 MMBTU/hr. The temperatures in the primary chamber are controlled by the use of a temperature probe and PLC logic.

- 🌀 The Secondary Chamber is approximately 150 cu. ft. in volume with a burner located in the rear wall. The unique design of our secondary chamber uses a serpentine baffle system to ensure that emissions from the primary chamber have ample time for destruction with a minimum of 1 second retention time prior to reaching the flue stack. As in the primary chamber the burner modulates between low and high fire with a capacity of 1.2 MMBTU/hr. The temperatures in the primary chamber are controlled by the use of a temperature probe and PLC logic.

The exhaust stack is estimated to have a total overall height of 28 ft. above grade level.

Health and Safety:

Statement of Intent

Facultative Technologies the Americas is one of North America's leading suppliers of human and animal cremation systems supporting major blue chip companies throughout the industry. Facultative Technologies the Americas recognizes the impact that its business activities have on employees, the public and the environment.

As part of our corporate strategy, we intend to:

- 🌀 Continuously improve a culture that recognizes the importance of Health, Safety and the impact of its products upon the Environment to the success of its business, and exercises its responsibilities in a manner that reflects this objective.
- 🌀 Ensure that only the highest practical standards are achieved and adhered to in all our undertakings.
- 🌀 Operate facilities in a manner that minimizes risk to employees, visitors, the Environment and community.
- 🌀 Continually improve our performance in Health & Safety and the Environment through active participation, commitment and support of all our employees.

Section 9

**West Virginia Department of Environmental Protection
Division of Air Quality**

Application for NSR Permit

This Section Not Used

Section 10

Attachment I

Emission Units Table

(includes all emission units and air pollution control devices)

that will be part of this permit application review, regardless of permitting status)

[illegible]

¹ For Emission Units (or Sources) use the following numbering system: 1S, 2S, 3S,... or other appropriate designation.

² For Emission Points use the following numbering system: 1E, 2E, 3E, ... or other appropriate designation.

³ New, modification, removal

⁴ For Control Devices use the following numbering system: 1C, 2C, 3C,... or other appropriate designation.

Section I I

Attachment J

EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data															
Emission Point ID No. <i>(Must match Emission Units Table & Plot Plan)</i>	Emission Point Type ¹	Emission Unit Vented Through This Point <i>(Must match Emission Units Table & Plot Plan)</i>		Air Pollution Control Device <i>(Must match Emission Units Table & Plot Plan)</i>		Vent Time for Emission Unit <i>(chemical processes only)</i>		All Regulated Pollutants - Chemical Name/CAS ³ <i>(Speciate VOCs & HAPS)</i>	Maximum Potential Uncontrolled Emissions ⁴		Maximum Potential Controlled Emissions ⁵		Emission Form or Phase <i>(At exit conditions, Solid, Liquid or Gas/Vapor)</i>	Est. Method Used ⁶	Emission Concentration ⁷ (ppmv or mg/m ⁴)
		ID No.	Source	ID No.	Device Type	Short Term ²	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
2E	Upward vertical stack	2S	Cremator	2S	Secondary Combustion Chamber			HCl	0.0% ¹	0.0% ²	0.0% ¹	0.0% ²	Gas	ST _{max} of many tests	186 mg/m ³
								SO2	0.0% ¹	0.0% ²	0.0% ¹	0.0% ²	Gas	ST _{max} of many tests	36 ppmv
								NO	0.0% ¹	0.0% ²	0.0% ¹	0.0% ²	Gas	ST _{max} of many tests	123 ppmv
								NO2	0.0% ¹	0.0% ²	0.0% ¹	0.0% ²	Gas	EE	2 ppmv
								CO	0.0% ¹	0.0% ²	0.0% ¹	0.0% ²	Gas	ST _{max} of many tests	41 ppmv
								VOC	0.0% ¹	0.0% ²	0.0% ¹	0.0% ²	Gas	ST _{max} of many tests	14 ppmv

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

¹ Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.

² Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (ie., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).

³ List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. **LIST** Acids, CO, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO₃, etc. **DO NOT LIST** CO₂, H₂, H₂O, N₂, O₂, and Noble Gases.

⁴ Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁵ Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁶ Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

⁷ Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m³) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO₂, use units of ppmv (See 45CSR10).

Attachment J

EMISSION POINTS DATA SUMMARY SHEET

[illegible]¹ Give at operating conditions. Include inerts.² Release height of emissions above ground level.

Section 12

Attachment K

FUGITIVE EMISSIONS DATA SUMMARY SHEET

The FUGITIVE EMISSIONS SUMMARY SHEET provides a summation of fugitive emissions. Fugitive emissions are those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. Note that uncaptured process emissions are not typically considered to be fugitive, and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET.

Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions).

APPLICATION FORMS CHECKLIST - FUGITIVE EMISSIONS
1.) Will there be haul road activities? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, then complete the HAUL ROAD EMISSIONS UNIT DATA SHEET.
2.) Will there be Storage Piles? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete Table 1 of the NONMETALLIC MINERALS PROCESSING EMISSIONS UNIT DATA SHEET.
3.) Will there be Liquid Loading/Unloading Operations? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the BULK LIQUID TRANSFER OPERATIONS EMISSIONS UNIT DATA SHEET.
4.) Will there be emissions of air pollutants from Wastewater Treatment Evaporation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
5.) Will there be Equipment Leaks (e.g. leaks from pumps, compressors, in-line process valves, pressure relief devices, open-ended valves, sampling connections, flanges, agitators, cooling towers, etc.)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the LEAK SOURCE DATA SHEET section of the CHEMICAL PROCESSES EMISSIONS UNIT DATA SHEET.
6.) Will there be General Clean-up VOC Operations? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
7.) Will there be any other activities that generate fugitive emissions? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET or the most appropriate form.
If you answered "NO" to all of the items above, it is not necessary to complete the following table, "Fugitive Emissions Summary."

FUGITIVE EMISSIONS SUMMARY	All Regulated Pollutants Chemical Name/CAS ¹	Maximum Potential Uncontrolled Emissions ²		Maximum Potential Controlled Emissions ³		Est. Method Used ⁴
		lb/hr	ton/yr	lb/hr	ton/yr	
Haul Road/Road Dust Emissions Paved Haul Roads						
Unpaved Haul Roads						
Storage Pile Emissions						
Loading/Unloading Operations						
Wastewater Treatment Evaporation & Operations						
Equipment Leaks		Does not apply		Does not apply		
General Clean-up VOC Emissions						
Other						

¹ List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO₃, all applicable Greenhouse Gases (including CO₂ and methane), etc. DO NOT LIST H₂, H₂O, N₂, O₂, and Noble Gases.

² Give rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

³ Give rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁴ Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

Section 13

Attachment L
Emission Unit Data Sheet
(INCINERATOR)

Control Device ID No. (must match List Form):

Equipment Information

1. Manufacturer: Facultatieve Technologies	2. Model No. FT ISI 60
3. On a separate sheet sketch or draw the proposed incinerator showing the location and dimensions (inside and out) of (1) the primary combustion chamber, (2) the secondary combustion chamber, (3) the flame port, (4) auxiliary burners, and (5) dampers with special emphasis on dimensions of the flame port and secondary combustion chambers (inside). Also , sketch in the minimum distance the gas travels through the secondary combustion chamber.	
4. Rated capacity of the incinerator for the type of waste to be burned: Maximum: 140 lb/hr <div style="text-align: right; margin-right: 100px;">Typical: 140 lb/hr</div> <div style="text-align: right; margin-right: 100px;">Annual: 204 tons/yr</div>	
5. By what means is waste charged? <input checked="" type="checkbox"/> Batch <input type="checkbox"/> Continuous <input type="checkbox"/> Periodically	
6. Type: <input type="checkbox"/> Multiple Chamber <input type="checkbox"/> Single Chamber <input checked="" type="checkbox"/> Other, specify: Primary & Secondary Chamber	
7. Projected operating schedule: 12 hr/day 250 day/yr	

Primary Combustion Chamber

8. Volume: 70 ft ³	9. Effective grate area: 20 ft ²
10. Maximum temperature: 1500 °F	11. Burning rate: 7 lb/ft ² /hr
12. Heat release in primary chamber: <div style="text-align: right; margin-right: 100px;">9375 BTU/hr/ft³</div>	13. Total heat release in incinerator: <div style="text-align: right; margin-right: 100px;">9375 BTU/hr/ft³</div>

Secondary Combustion Chamber

14. Volume: 150 ft ³	15. Cross sectional area: 50 ft ²
16. Volume of gas through secondary combustion chamber: 1657 ACFM @ 1650 °F	17. Gas velocity through secondary combustion chamber: 43.4 ft/sec
18. Minimum gas temperature: 1600 °F	19. Minimum retention time of gas: 1 sec
20. Minimum distance of gas travel through secondary combustion chamber: 16 ft	21. Location of air admission: <div style="text-align: right; margin-right: 100px;">Secondary air valve</div>

Flame Port

22. Flame port area: 0.102 ft ²	23. Velocity through flame port: 315 ft/sec
---	--

Dampers

24. Type: Butterfly	25. Number 1
26. Diameter: 6 inches	27. Capacity: 500 ACFM @ 50 °F

Combustion Air

28. Type of draft: <input type="checkbox"/> Sliding damper <input type="checkbox"/> Barometric damper Windshielding? <input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Natural <input type="checkbox"/> Forced <input type="checkbox"/> Induced <input type="checkbox"/> No	29. If draft is forced or induced, describe ID fans or blowers: Number HP rating Rated flow Rated speed Fan rated draft	 HP ft ³ /min RPM in. H ₂ O
30. Theoretical air/refuse ratio: 6.1 lb air/lb refuse			
31. Percent of total air applied as: variable overfire air variable underfire air			

Auxiliary Burners

32. Proposed type and fuel: Natural Gas	
33. Primary Burner Capacity: 0.75 MMBTU/hr Number: 1 Manufacture: Facultatieve Technologies Model: HH VFB 350 Estimated capacity: .75 BTU/hr Fuel: Natural Gas How controlled? Temperature & PLC Logic Is there a temperature indicator? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	34. Secondary Burner Capacity: 1.5 MMBTU/hr Number: 1 Manufacture: Facultatieve Technologies Model: HH VFB 350 Estimated capacity: 1.2 BTU/hr Fuel: Natural Gas How controlled? Temperature & PLC Logic Is there a temperature indicator? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Miscellaneous Devices and Controls

35. Automatic loading device. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe.	36. Self closing doors. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
37. Sparks arrestor <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	38. Flame failure protection equipment <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
39. Method of creating turbulence for combustion gases. Describe. Multiple changes in direction due to internal baffle walls	40. Method of cleaning secondary or settling chamber. Describe. Clean out ports allow rodding & raking of all gas passes
41. Other interlocking devices or controls. If yes, describe. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Installation

42. Indoor Installation: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe method of supplying combustion air. Appropriately sized louver in external wall	43. Outdoor Installation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
---	---

Stack or Vent Data

44. Inside diameter or dimensions: 1.5 ft	45. Gas exit temperature: 810 °F
46. Height: 28 ft	47. Stack serves: <input checked="" type="checkbox"/> This equipment only <input type="checkbox"/> Other equipment also (submit type and rating of all other equipment exhausted through this stack or vent)
48. Gas flow rate: 2850 ft/min	
49. Estimated percent of moisture: 7.19 %	

Waste

50. Source of waste: <input type="checkbox"/> Hospital <input type="checkbox"/> Restaurant <input type="checkbox"/> Store <input type="checkbox"/> Industry <input type="checkbox"/> Apartment <input checked="" type="checkbox"/> Crematory <input type="checkbox"/> Warehouse <input type="checkbox"/> Public Institution <input type="checkbox"/> Other, specify:	
51. Describe fully, in detail, the composition of waste feed to the incinerator: Animal cadavers	
52. Expected BTU/lb as fired: 4630 BTU/lb	53. Daily amount: 1100 lb
54. Does incinerator have a charge hopper <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	55. What is the volume of the charge hopper? N/A ft ³
56. Does the charge hopper have automatic control? <input type="checkbox"/> Yes <input type="checkbox"/> No NA	57. Is the waste charged to the incinerator weighed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
58. Is the secondary chamber preheated prior to charging waste? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	59. At what secondary temperature does waste charging begin? 1600 °F
60. Is the ash waste quenched? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	61. Is all the waste burned generated on site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
62. For hospital waste, is the ash inspected for recognizable combustible components? <input type="checkbox"/> Yes N/A <input type="checkbox"/> No	
63. For hospital waste, are recognizable combustible components of the ash reburned? <input type="checkbox"/> Yes N/A <input type="checkbox"/> No	
64. Is any waste received from outside the local government boundary? <input type="checkbox"/> Yes N/A <input type="checkbox"/> No	
65. Are hazardous or special waste burned? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please describe:	66. Are potential infectious waste burned? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
67. How will the waste material from process and control equipment be disposed of? Returned to family	
68. Method of charging waste solids: <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Manual charge hopper <input type="checkbox"/> Automatic charge hopper <input type="checkbox"/> Other, specify:	69. Method of feeding liquids: <input type="checkbox"/> Lab pack <input type="checkbox"/> Injection as a primary burner fuel <input type="checkbox"/> Injection as a secondary burner fuel <input type="checkbox"/> Other, specify: N/A
70. Rated steam flow – heat recovery boiler: N/A lbs/hr	71. Rated pressure – recovery boiler: N/A PSIG

Emissions Stream

72. Emission rates:

Pollutant	Pounds per Hour lb/hr	grain/ACF	@ °F	PSIA	Tons per Year Tons/yr	Parts per Million ppm
CO	up to 0.081	0.0057	750	14.7	up to 0.08	29
Hydrocarbons	Part of V.O.C.'s					
NO _x	up to 0.254	0.0179	750	14.7	up to 0.24	55
Pb						
PM ₁₀	up to 0.163	0.0114	750	14.7	up to 0.15	N/A
SO ₂	up to 0.163	0.0114	750	14.7	up to 0.15	36
VOCs	up to 0.016	0.0011	750	14.7	up to 0.02	25
Other (specify) HCl	up to 0.163	0.0014	750	14.7	up to 0.15	10
Hg	0	0	---	---	0	0

73. If an *Air Pollution Control Device* is not submitted, the emission rates should be the same as those reported home "Maximum Potential and Maximum Actual Emissions" on the *Emission Points Data Summary Sheet*.

74. Emissions rates should be substantiated by submitting *stack test data* and/or *calculations*.

Fuel Usage Data

75. Estimated annual fuel cost: \$	
76. Firing rate: Maximum: 2 mmBTU/hr Typical: 2 mmBTU/hr Design: 2 mmBTU/hr	77. Fuel type: <input checked="" type="checkbox"/> Natural Gas <input type="checkbox"/> Coal <input type="checkbox"/> Fuel Oil, No. <input type="checkbox"/> Other, specify:
78. Typical heating content of fuel: 1037 BTU/cuft	79. Typical fuel sulfur content: 0 wt. %
80. Typical fuel ash content: 0 wt. %	81. Annual fuel usage: 10000000 cuft
82. Please complete an <i>Air Pollution Control Device Sheet(s)</i> for the control(s) used on this Emission Unit, if applicable.	
83. Have you included the air pollution rates on the Emissions Points Data Summary Sheet? Yes	

84. Proposed Monitoring, Recordkeeping, Reporting, and Testing

Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING PLAN: Please list (1) describe the process parameters and how they were chosen (2) the ranges and how they were established for monitoring to demonstrate compliance with the operation of this process equipment operation or air pollution control device.

The Facultatieve Technologies ISI 60 Animal Cremator is set to operate on temperature set points for both the primary and secondary chambers. The amount of secondary air that is delivered to the system to regulate oxygen levels is dictated by the secondary chamber temperature, and the more the temperature rises air is then provided to the system. The primary chamber burner will operate up to a certain temperature set by the PLC/software system to ensure that the secondary chamber temperature is above the required minimum temperature of 1600 F. Temperatures are indicated both on digital readouts located on the control panel cabinet and the operator interface touch screen.

TESTING PLAN: Please describe any proposed emissions testing for this process equipment or air pollution control device.

Although emission testing is not required by the Division of Air Quality. However, we understand if requested both stack testing and/or emission testing will be provided.

RECORDKEEPING: Please describe the proposed recordkeeping that will accompany the monitoring.

The on-board computer system that the Facultatieve Technologies ISI 60 cremator utilizes keeps complete records of each cremation including time of start, time of finish, all temperatures in both primary and secondary chambers, operators name and deceased name for each cremation. If desired, the operator can enter reason of death and has the capability to enter additional comments. The reports summary is programmable for each site and can include any information required by federal, state or local agencies.

REPORTING: Please describe the proposed frequency of reporting of the recordkeeping.

Records are kept for each cremation processed in the Facultatieve Technologies FT ISI 60 cremator. Reports can be issued after each cremation weekly, monthly or yearly. All information is stored on the computer hard drive and any or all of the information is available at any time.

85. Please describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.

The Facultatieve Technologies cremator is driven with an on-board computer and programmable logic controller. The software ensures that the machine only operates within the manufacturers design criteria. Password protected software can only be manipulated by Facultatieve Technologies engineers. Facultatieve Technologies provides "real time" monitoring and technical support for all machines by means of a dedicated IP Address. This internet connection is password protected as well, not allowing unauthorized access to the machine. Maintenance of replaceable parts is reviewed during the crematory training which is provided with all machine installations. Service contracts are in place for all FT cremators with bi-yearly factory maintenance provided.

Section 14

**West Virginia Department of Environmental Protection
Division of Air Quality**


Application for NSR Permit

This Section Not Used

Section 15

Attachment Ia

Estimated Normal Emissions

Estimated Unabated Pollutants from Cremators																														
	Normalised 0°C 11% O ₂ dry basis																													
Pollutant	Units	Josselin 03/11	Use	Mass																										
					lb/h	Grain/Acf	Grain/scf	PPM																						
Dioxin	ng/m³	Not measured	1	369 ng/h	766929 ng/yr	8.1E-07	0.0000	0.0000		0.00 ton/yr																				
PAH	mg/m³	Not measured	0	0 mg/h	0 mg/yr	0.000	0.0000	0.0000	0	0.00 ton/yr																				
TEQ	ng/m³	Not measured	0	0 ng/h	0 ng/yr	0.000	0.0000	0.0000		0.00 ton/yr																				
Mercury	mg/m³	Not measured	0	0 mg/h	0 mg/yr	0.000	0.0000	0.0000	0.0	0.00 ton/yr																				
Heavy Metals	mg/m³	0.06	0.06	22 mg/h	46016 mg/yr	0.000	0.0000	0.0000		0.00 ton/yr																				
Particulate	mg/m³	54.3	200	73743 mg/h	153385719 mg/yr	0.163	0.0114	0.0814		0.15 ton/yr																				
HCl	mg/m³	40.05	200	73743 mg/h	153385719 mg/yr	0.163	0.0114	0.0814	45	0.15 ton/yr																				
HF	mg/m³	Not measured	2	737 mg/h	1533857 mg/yr	0.002	0.0001	0.0008	1	0.00 ton/yr																				
SO _x	mg/m³	121.76	200	73743 mg/h	153385719 mg/yr	0.163	0.0114	0.0814	25	0.15 ton/yr																				
NO _x (as NO ₂)	mg/m³	279.5	313	115276 mg/h	239773309 mg/yr	0.254	0.0179	0.1273	55	0.24 ton/yr																				
CO	mg/m³	12.8	100	36872 mg/h	76692859 mg/yr	0.081	0.0057	0.0407	29	0.08 ton/yr																				
VOC	mg/m³	2.39	20	7374 mg/h	15338572 mg/yr	0.016	0.0011	0.0081	10	0.02 ton/yr																				
NO	mg/m³	(also included in NO _x above)	200	73743 mg/h	153385719 mg/yr	0.163	0.0114	0.0814	54	0.15 ton/yr																				
NO ₂	mg/m³	(also included in NO _x above)	6	2212 mg/h	4601572 mg/yr	0.005	0.0003	0.0024	1	0.00 ton/yr																				
Flue Gas Oxygen		17.34 %v/v dry																												
Flue Gas Moisture		7.19 %v/v																												
Flue Gas Volume		2820 Am³/h	1096 Nm³/h wet	1017 Nm³/h dry	369 Nm³/h (11%O ₂ dry gas)																									
Flue Gas Temperature		430 °C			233 scfm (11% O2 dry gas at 20°C)																									
	8 hour day		4 Cremations per day																											
	5 days per week		20 Cremations per week																											
	52 weeks per year		1040 Cremations per year																											
	2080 hours per year																													
						<table><tr><td>Drawn</td><td>Ernie Kassoff</td><td colspan="3">Title</td></tr><tr><td>Date</td><td>1/10/2010</td><td colspan="3">Estimated Emissions Inventory</td></tr><tr><td>Project</td><td>ISI 60</td><td colspan="3"></td></tr><tr><td>Scale</td><td>1:100</td><td colspan="3">EI 0001</td></tr></table>					Drawn	Ernie Kassoff	Title			Date	1/10/2010	Estimated Emissions Inventory			Project	ISI 60				Scale	1:100	EI 0001		
Drawn	Ernie Kassoff	Title																												
Date	1/10/2010	Estimated Emissions Inventory																												
Project	ISI 60																													
Scale	1:100	EI 0001																												

Section 16

Attachment O

Monitoring, Recordkeeping, Reporting and Testing Plans

Monitoring:

The Facultatieve Technologies FT II Cremator monitors the rate of cremation based upon the charging weight of the deceased. The machine monitors and displays temperatures in the primary chamber secondary chamber and exhaust stack. In addition since our design utilizes a fan to create draft we constantly monitor the suction throughout the cremator. Lastly we monitor and adjust the oxygen levels in the primary and secondary chambers. All of these functions are displayed in "real time" on the on-board 15" touch screen and are accessible via internet connection

Recordkeeping:

The on-board computer system that the FT II utilizes keeps complete records of each cremation including time of start, time of finish, all temperatures both in the primary and secondary chambers, operator name for each cremation and deceased name. In addition, if so desired the operator has the option to enter reason for death and has the capability to enter additional comments. The reports summary is programmable for each site and can include any information required by federal, state or local agencies.

Reporting:

Records are kept for each cremation processed in the Facultatieve Technologies FT ISI 60 Cremator. Reports can be issued after each cremation, weekly, monthly or yearly. All information is stored on the computer hard drive and access to any or all of the information is available at any time. Copies of basic reports from our Operator Training Manual are included within this section

Testing Plans:

Emission testing is not required by the Division of Air Quality, however we understand if requested both stack testing and/or emissions tests will be provided.

Section 17

AIR QUALITY PERMIT NOTICE

Notice of Application

Notice is given that Leavitt Funeral Home, Inc. has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Modification Permit for a crematory located at 414 Seventh Street, Parkersburg, in Wood County, West Virginia.

The applicant estimates the increased potential to discharge the following Regulated Air Pollutants will be:

Particulate Matter (PM ₁₀)	up to 0.00 tons per year
Carbon monoxide (CO)	up to 0.00 tons per year
Nitrogen Oxide (NO _x)	up to 0.00 tons per year
Sulfur Dioxide (SO ₂)	up to 0.00 tons per year
Hydrocarbons (part of VOC)	up to 0.00 tons per year
Hydrogen Chloride (HCl)	up to 0.00 tons per year
Mercury (Hg)	up to 0.00 tons per year

Startup of operation is planned to begin on or about the 15th day of July, 2011. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1250, during normal business hours.

Dated this the ____ day of _____, 2011*

By: Leavitt Funeral Home, Inc.
Jonathan C. Leavitt
President
403 Seventh Street
Parkersburg, WV 26101

Section 18

**West Virginia Department of Environmental Protection
Division of Air Quality**

Application for NSR Permit

This Section Not Used

Section 19

**West Virginia Department of Environmental Protection
Division of Air Quality**

Application for NSR Permit

This Section Not Used

Section 20

**West Virginia Department of Environmental Protection
Division of Air Quality**

Application for NSR Permit

This Section Not Used

Section 2I

FT ISI-60 Animal Cremator Technical Specifications

New Design Facultatieve ISI-60 Animal Cremator

Using state-of-the-art technology for controls and combustion chambers, Facultatieve Technologies ISI crematory systems are designed to give you years of reliable, automated operation. Built and installed by experienced master craftsmen.



- ✓ **New FT Door Design**
- ✓ **Heavy Duty steel construction**
- ✓ **3000°F Refractory Lining**
- ✓ **Decorative Panels with Stainless Steel Clad Charging Door**
- ✓ **Easy Replaceable Animal Grade Tile Hearth Floor**
- ✓ **Complete EPA Compliance**
- ✓ **Simple Automatic Control System**
- ✓ **Reliable FT Designed Burners**
- ✓ **Burns Efficiently & Cleanly**
- ✓ **Easily Accessible Secondary Chamber**
- ✓ **Refractory Lined Stack**
- ✓ **Easy to Service & Maintain**
- ✓ **Electric 208-230 V, 60 Hz, 1 Phase**
- ✓ **Natural Gas or Propane**
- ✓ **Digital Temperature Controls**
- ✓ **One Year Warranty**

FT ISI 60 Animal Cremator



ISI – 60

Height 9' – 8 1/2"

Width 7' x 10"

Length 12' x 3"

Weight 29,000 lbs (inc. stack)

Fuel Natural gas

Charge opening 36"W x 30"H x 4"

Maximum batch load 700 lbs

Burn rate 140 lbs/h

Burner ratings

Primary burner 750,000 btu/h max

Secondary burner 1,5 mbtu/h max

Natural gas usage typically 1,000 cf/h



BENEFITS OF FACULTATIEVE TECHNOLOGIES ISI ANIMAL CREMATORS

There are **four** (4) main benefits designed into the Facultatieve Technologies ISI Series Animal Cremators enabling them to be manufactured with a high quality of workmanship and provide unmatched performance in the animal cremation market.

1. *Modular Construction*

The Facultatieve Technologies *ISI Series Animal* cremators modular construction enables the cremator to be fully assembled and tested under close supervision within our American manufacturing facility located in Medina, Ohio. Every Facultatieve Technologies *ISI Series Animal Crematory* is completely piped, wired and test fired prior to shipping. This insures a smooth and efficient installation. Once commissioned, the cremator can be put on-line, enabling the client to maximize his operations while minimizing down time.

2. *High Technology Insulation Materials*

The Facultatieve Technologies *ISI Animal Cremator* design utilizes the most modern insulation materials, including micro porous materials. This reduces heat rejection from the cremator refractory shell, while optimizing the heat retention within the cremator.

These modern insulation materials increase the efficiency of the cremation process and the durability of the lining. Longer brick and refractory life, means less maintenance and repair costs.

3. *Specific Materials Used for Hearth Floor*

Facultatieve Technologies *ISI Animal Cremators* utilize specially designed tiles for the hearth floor. Due to the nature of the biological animal content the hearth floor that is used for a human cremation machines will not withstand the oils/fat that animals release during the cremation process. The Facultatieve Technologies tile design allows the oils/fat to pass through the tiles (no pooling) and super heated and eliminated in the secondary chamber thus reducing the possibility of damage to the hearth floor. This system ensures that the life of the hearth floor is maximized.

4. *User Friendly Control System for Operation and Commissioning*

Facultatieve Technologies *ISI Animal Cremators* are designed with industry standard and very simple, yet fully automatic controls. Both the combustion air and fuel are automatically modulated based on chamber temperature to conserve fuel and insure a clean and efficient cremation cycle.

Facultatieve Technologies Technology Advantages

Operating System

The control system fitted to all Facultatieve Technologies ISI Series Animal Cremators is based upon the use of basic relay logic with user friendly and industry standard controls. Relay and timer logic keep the system simple and easy to maintain and troubleshoot. All of our control panels are designed and fabricated in a UL approved panel shop and carry all UL Labels and documentation.

All Facultatieve Technologies ISI Series Cremators are fully automatic and controlled by a temperature based system. There are digital temperature controllers that sense the temperature in each combustion chamber and then automatically control the gas and air. For example, if a large case is being cremated and the temperature starts to rise, the controllers will automatically modulate the burners and combustion air to keep the temperatures within safe limits.

The benefits of our combustion engineering and knowledge are wide ranging:

- Fast and Efficient Cremation Performance
- Energy Efficiency – Minimal Fuel Usage
- Exceptional Environmental Performance
- High Levels of Automation
 - ❖ Equipment Requiring Little or No Manual Intervention.

Energy Efficiency

Energy efficiency isn't just about how well a cremator is controlled; it has to be designed into the product on the drawing board. Facultatieve Technologies ISI Animal Cremators are the result of just that - the selection of modern refractory and insulation materials utilized ensures the most advanced energy efficiency.

To ensure excellent energy efficiency all Facultatieve Technologies ISI Animal Cremators are fitted with a modulating secondary chamber burner. The highly developed control system fires the burner at the **required rate** for each individual cremation, and not simply on/off or high/low fire. The cremation burner is also fully modulating to yield the same results. The result of such a design feature is **lower energy consumption**, and better controlled emissions to ensure a higher degree of environmental compliance.

Facultatieve Technologies can attest to the fact that **fuel** consumption varies upon number of cremations accomplished per day by the cremator, the type of container used, and the composition of the animals. With proper operation we would expect a cremator to consume less gas (average) the more cremations it makes per day.

Burner Information

To ensure minimal fuel usage, the two burners fitted to all Facultatieve Technologies ISI Animal Cremators are configured for **fully modulating control**, and are ignited automatically. The burner system is protected against flame failure, thereby complying with all federal, state and local regulations.

The main chamber burner has an operational rating of 750,000 btu/h, which enables normal operating temperature in the range of 1,200°F to be achieved in the main chamber.

The secondary combustion zone burner has a maximum rating of 2,000,000 btu/h which enable minimum temperatures of 1,800°F to be achieved in the secondary chamber as required by many state Environmental Regulations.

Burner Data

Please see attached burner specifications for the Facultatieve Technologies HH-VFB 350 Low NOx Burner that is used on all FT ISI animal cremators.

Environmental Compliance

Facultatieve Technologies ISI Series Animal Cremators are designed to ensure environmental compliance throughout all the cremation markets of the US. They are designed to ensure a residence time in excess of one (1) second in the cremators secondary chamber during all periods of operation while maintaining a minimum temperature of 1800°F in the secondary combustion chamber. The secondary chamber minimum operating temperature is normally specified in the terms and conditions of the local EPA or air quality operating permit.

Modular Design

To **maximize** the **possibilities** of installation, the modular design of Facultatieve Technologies ISI Animal Cremators allows the modification of the flue gas discharge stack and can be supplied in a number of different configurations. The flue gas discharge stack can be configured for **TOP** outlet, **BOTTOM** outlet, or **SIDE** outlet, and all these options available in right hand or left hand versions. The standard design is top left discharge. This enables the Facultatieve Technologies ISI Series Animal Cremators to be installed to fit your application in numerous variations allowing installation flexibility.

Ash Removal

Facultatieve Technologies ISI Series Animal Cremators are single end design which requires the cremated remains to be removed from the front of the machine near the loading door. After the cremation cycle, the system automatically goes into a cooldown cycle (generally 60-90 minutes). Once the chamber is cool enough for removal, the cremated remains can be raked and brushed into the cremated remains collection tray.

Performance and Capacity

The capacity of the crematory is different for each model. The cremation time is dependent on size and composition of animal(s), type of container (if any), and the number of cremation cycles in that day.

End of Section

SPECIFICATIONS for ISI-60 ANIMAL CREMATOR

DESIGN PARAMETERS:

The cremation chamber is designed to be loaded after the chamber has completed the cool-down cycle from the previous cremation. To begin the burn cycle, the loading door is closed and the start button is actuated. The afterburner will drive to high fire and begin preheating the secondary chamber to the desired temperature. When the secondary chamber temperature is reached (approximately 30-45 minutes from cold start), the cremation chamber burner ignites. The burn cycle continues until the adjustable 0-5 hour timer times out. A second adjustable cool-down timer then takes control, turning off the burners and allowing the blower air to force-cool the chambers. The cremains removal is done when the furnace is cool prior to loading the next batch. The burn cycle depends on the size of the load and animal composition; the normal cool-down period is 90 minutes.

The ISI-60 incorporates a "hot hearth" design. The animals are cremated on a hot hearth. The exhaust gases circulate under the hearth where the afterburner is located prior to being discharged to the stack. Hot hearths are the most efficient design for incinerating pathological waste. The heat from the afterburner radiates up through the hearth helping to burn the animal and its greases and liquids.

MATERIALS TO BE CREMATED:	Animals	
MAXIMUM CHARGE SIZE:	700 lbs.	
BURN RATE:	140 lbs./hour	
CYCLE TIMERS:	Preheat timer	0-60 minutes
	Burn timer	0-6 hrs
	Cool-Down timer	0-6 hrs
FUEL:	Natural Gas	
	maximum	2,750,000 btu/hr
	Required Pressure	2 psi (regulated)
	Avg. consumption	1,200 cfh natural gas
ELECTRICAL:	220 V, 1 PH, 60 Hz, 60 Amp service (standard)	
	<u>Optional:</u>	
	230/460 V, 3 PH, 60 Hz, 60 Amp service	
	(3-phase electric required for ejector fan option)	

Note: all electric service must have neutral wire of equal gauge size as hot and ground wires.

OUTSIDE MACHINE DIMENSIONS 13'-5" L x 7'-10" W x 10'H

CONCRETE PAD:

14' L x 10' W x 6" reinforced concrete

Recommendation:

25' x 13' x 6" thick reinforced concrete

(This allows 3' clearance around retort and 8' in front for loading)

PRIMARY CHAMBER:

Shell:

A 1/2" steel plate on front wall, 1/4" ga. steel on back wall and sides reinforced with structural angle and channel. All seams are continuous welded

Internal Dimensions:

5'L x 4'W x 3'-6" H (70 cu. ft.)

Hearth Area:

4'W x 5'L (20 sq. ft.)

Operating Temperature:

Ambient to 2,400°F

Burner:

Roof mounted FT HH-VFB 350 burner

100-750,000 btu / h each

Fully modulating

Refractory:

Hot Hearth – 3" Tiles made out of special Castable Refractory designed to work with Animal Grease and Liquids. Working surface is 2,800°F, super-duty, abrasion and thermal shock resistant castable.

Side Walls – 2" mineral wool block insulation with 4-1/2" super-duty firebrick.

Bridge Wall – 9" super-duty firebrick

Roof – 4-1/2" 2,800°F castable with 2" loose fill ceramic fiber insulation.

Loading Door:

36"W x 30"H x 4" thick, refractory lined

Electric Hoist operated, guillotine style

Thermocouple:

18" long, type K with ceramic protection tube.

SECONDARY CHAMBER:

Shell:

Side walls – same as primary chamber

Retention Time:

Base – structural I-beam skid base with 1/4" plate floor and front wall (continuous weld)

1-second at 1,800°F minimum

Combustion Air:

The air required to complete the combustion of the off gases are introduced through the afterburner and through the secondary air manifolds. The secondary air is fully modulated based on temperature to help conserve fuel.

Afterburner:

FT HH-VFB 350 burner

100-2,000,000 btu / h

Fully modulating

Refractory:

Side Walls – 2" mineral wool block insulation with 4-1/2" super-duty firebrick

Tunnels – 2,800°F castable refractory

Floor – 2" insulation material topped with 4 1/2" super duty firebrick for a solid floor

Thermocouple:

18" type K with ceramic protection tube

STACK:

12 gauge steel shell that is flanged and bolted together in 4' sections. Total of 5 (five) sections for a height of 20 feet assembled.

18" I.D. / 24" O.D.

Lined with 1/4" ceramic paper and 2 3/4" of castable refractory (2800°F rating)

Painted with two (2) coats of high temperature paint.

Optional:

10' long 1/8" stainless steel, flanged and bolted to Coander, unlined and to only be used with Coander Induced Draft System which cools exhaust gases to 500°F

PAINT AND PREPARATION:

All exterior metal parts are machine tool cleaned and painted with 2 coats of high temperature paint (ISI-gray). Machine is wrapped in decorative sheet steel cladding, powder coated for esthetics.

COMBUSTION AIR BLOWER:

Direct drive, high-pressure blower, 5-hp

ID DRAFT BLOWER:

3 Phase Inverter Driven 5 HP Blower

PIPING:

The retort will be completely piped and pre-assembled for shop testing. There will be a 2" NPT union for the gas service connection on the rear of the machine.

WIRING:

The entire retort will be pre-wired and tested at our manufacturing facility prior to shipment.

Wiring upon installation only requires one main service to the control panel (by others)

CONTROLS & INSTRUMENTATION

CONTROL PANEL

All of the controls and instrumentation will be mounted in a UL approved, NEMA 4 control panel.

Temperature Controllers:

Three (3) total – primary burner, afterburner and secondary combustion air.

1/16 DIN Future Design Controls (model 9300 or equivalent)

7-Day Temp. Chart Recorder:

Single pen, continuously records secondary chamber temperature

Future Design Controls DR 5000 (or equivalent)

Timers:

ATC, Series 425 (or equivalent)

Digital readout, adjustable

Limit Switch for Load Door:

Disables primary burner if door is opened

Optional:

Weathering for Outdoor Install

Rigid conduit with weather seals at all connections. Weather hoods over all burners and gas train

Rain shield over top of control panel.

ESTIMATED SHIPPING WEIGHT:

25,000 LBS (including stack)



THE HH-VFB 350 Hot Head Gas Burner

The HH-VFB 350 burner is manufactured by Facultatieve Technologies specifically for use on cremators.

Cremators require different flame shapes and characteristics than are available with most other types of burner.

Firing range:	120 to 450 kW (400,000 to 1.54 million Btu/hour)
Fuel:	Natural Gas Calorific Value (gross) 35 to 45 MJ/m ³ (940 to 1200 Btu/ft ³)

Test carried out:

The firing test for thermal NOx formation by the HH-VFB 350 burner was carried out with the burners firing into a cremator at their normal firing levels.

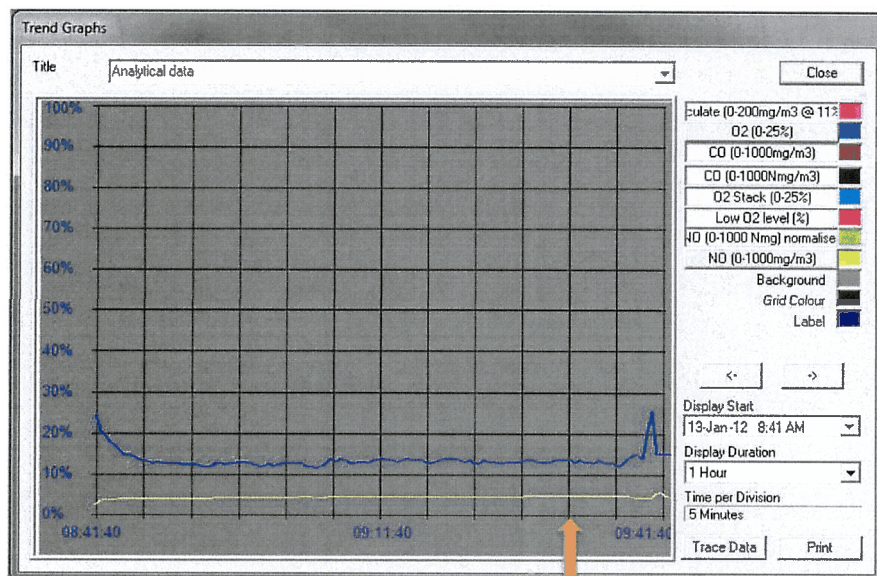
Primary burner:	280 kW (0.95 million Btu/hour)
Secondary burner:	320 kW (1.1 million Btu/hour)
Test date:	January 13 th , 2012
Measured NOx	39.4 ppm dry gas corrected to 3% oxygen
Low NOx limit	60 ppm

A Mallalieu
Vice President Technical

Cremator Burner NOx evaluation

Test results

Rawdon Crematorium, Leeds, England, FTII preheat 13th January 2012 (gas burners only firing)



Using data time ~ 09:40

NO 49 mg/m³ actual dry gas at 0°C
Oxygen 3.6 %v/v wet basis

Burners Natural Gas
Main Burner 250 kW net
Afterburner 350 kW net
Total 600 kW net

Calculated burner gases:

Temperature	850 °C				
	kg/h	Nm ³ /h	Am ³ /h	% v/v dry	% v/v total
Carbon Dioxide	121	61	252	9.47	8.00
Oxygen	39	28	114	4.26	3.60
Nitrogen	703	560	2301	86.27	72.91
Nitric Oxide	0.032	0.024	0.098	0.00	0.00
Hydrogen Chloride	0	0	0	0.00	0.00
Water Vapour	96	119	489		15.49
	959	767	3156	100.00	100.00

NO measured 49 mg/m³ dry gas
Dry gas volume 649 Nm³/h
Mass emission NO 0.032 kg/h
Volume emission NO 0.024 Nm³/h
Volumetric emission NO 36.60 ppm actual gas, dry 0°C
Volumetric emission NO corrected 39.36 ppm dry gas, 0°C, 3% oxygen

Facultative Technologies Ltd
Moor Road
Leeds LS10 2DD, England
Phone : +44 (0)113 276 8888
Fax : +44 (0)113 271 8188
E mail : info@facultative-technologies.co.uk