



Date: January 26, 2022

Margaret Evans
Whitefish Animal Hospital
713 E. 13th St.
Whitefish, MT 59937

Dear Ms. Evans:

Montana Air Quality Permit #5163-01 is deemed final as of January 26, 2022, by the Department of Environmental Quality (DEQ). This permit is for an animal cremation unit. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

A handwritten signature in black ink that reads "Julie A. Merkel".

Julie A. Merkel
Permitting Services Section Supervisor
Air Quality Bureau
(406) 444-3626

A handwritten signature in black ink that reads "Troy Burrows".

Troy Burrows
Air Quality Scientist
Air Quality Bureau
(406) 444-1452

JM:TMB
Enclosures

Montana Department of Environmental Quality
Air, Energy, and Mining Division

Montana Air Quality Permit #5163-01

Whitefish Animal Hospital
713 East 13th St.
Whitefish, MT 59937

January 26, 2022



MONTANA AIR QUALITY PERMIT

Issued To: Whitefish Animal Hospital
713 East 13th St.
Whitefish, MT 59937

MAQP: #5163-01
Application Complete: 11/03/2021
Preliminary Determination Issued: 12/01/2021
Department's Decision Issued: 1/10/2022
Permit Final: 01/26/2022

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Whitefish Animal Hospital, pursuant to Sections 75-2-204, 211 and 215 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

Section I: Permitted Facilities

A. Permitted Equipment

- One Therm-Tec, Inc. S27-T natural gas-fired multiple chamber cremation unit for cremating animal remains with a maximum design process rate of 75 pounds per hour (lbs/hr) and a loading capacity of 400 pounds (lbs) [EU 1]
- One Therm-Tec, Inc. S27-T natural gas-fired multiple chamber cremation unit for cremating animal remains with a maximum design process rate of 50 lbs/hr and a loading capacity of 350 lbs [EU 2]

B. Plant Location

Whitefish Animal Hospital is located at 713 East 13th St., in Whitefish, MT 59937. The legal description of the facility is Section 1, Township 30 North, Range 22 West in Flathead County, Montana.

Whitefish Animal Hospital provided a complete MAQP modification application on November 3, 2021, to install and operate one Therm-Tec, Inc. S27-T natural gas-fired multiple chamber cremation unit for cremating animal remains with a maximum design process rate of 50 lbs/hr and a loading capacity of 350 lbs [EU 2].

Section II: Conditions and Limitations

A. Emission Limitations

1. Whitefish Animal Hospital shall not emit particulate matter in excess of 0.10 grains per dry standard cubic foot adjusted to 12% carbon dioxide (CO₂) into the outdoor atmosphere from EU 1 or EU 2 (ARM 17.8.752).
2. Whitefish Animal Hospital shall not emit an opacity of 10% or greater averaged over six consecutive minutes into the atmosphere from EU 1 or EU 2 (ARM 17.8.752).

B. Operational Limitations

1. Whitefish Animal Hospital shall not incinerate/cremate any material other than animal remains and/or corresponding container unless otherwise approved by the Montana Department of Environmental Quality (Department) in writing (ARM 17.8.749).
2. Whitefish Animal Hospital shall provide written notice to the Department and obtain approval from the Department if material other than what would normally be termed animal remains, or its container, is to be incinerated (ARM 17.8.749).
3. Whitefish Animal Hospital shall utilize only pipeline quality natural gas or propane as supplementary fuel for crematory operations (ARM 17.8.749).
4. The cremation units shall be equipped with auxiliary fuel burners designed to preheat a secondary chamber to the minimum required operating temperature prior to igniting the primary chamber burner. Whitefish Animal Hospital shall maintain an average temperature of at least 1500 degrees Fahrenheit and a minimum temperature of 1450 degrees Fahrenheit in the secondary chamber during cremation (ARM 17.8.752).
5. Whitefish Animal Hospital shall develop operation procedures for the crematoriums, print those procedures in a crematorium operation procedures manual or have them readily accessible via electronic device, and require all personnel who operate the units to familiarize themselves with the operating procedures. The operating procedures manual shall be readily available to all personnel who operated the units. Whitefish Animal Hospital shall keep training records and supply training records and a copy of the operations manual to the Department upon request (ARM 17.8.752).

C. Testing Requirements

1. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
2. The Department of Environmental Quality (Department) may require further testing (ARM 17.8.105).

D. Operational Reporting Requirements

1. Whitefish Animal Hospital shall supply the Department with annual production information for all emission units and emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This

information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. Whitefish Animal Hospital shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include ***the addition of a new emissions unit***, change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).
3. All records compiled in accordance with this permit must be maintained by Whitefish Animal Hospital as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request. These records may be stored at a location other than the plant site upon approval by the Department (ARM 17.8.749).

E. Continuous Emissions Monitoring Systems

1. Whitefish Animal Hospital shall install, calibrate, maintain and operate continuous monitoring and recording equipment on the permitted cremation units to measure the secondary chamber exit gas temperature (ARM 17.8.749).
2. Whitefish Animal Hospital shall record the daily quantity (mass) of material incinerated/cremated in each emitting unit, and the daily hours of operation of the crematorium (date, start time and end time) (ARM 17.8.749).

F. Notification

1. Whitefish Animal Hospital shall provide the Department with written notification of the commencement of construction of the incinerator within 30 days after commencement of constructions (ARM 17.8.749).
2. Whitefish Animal Hospital shall provide the Department with written notification of the actual start-up date of the incinerator within 15 days after the actual start-up date (ARM 17.8.749).

Section III: General Conditions

- A. Inspection – Whitefish Animal Hospital shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment such as Continuous Emission Monitoring Systems (CEMS) or Continuous Emission Rate Monitoring Systems (CERMS), or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if Whitefish Animal Hospital fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Whitefish Animal Hospital of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).
- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement action as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Whitefish Animal Hospital may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.
- H. Duration of Permit – Construction or installation must begin or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).

Montana Air Quality Permit (MAQP) Analysis
Whitefish Animal Hospital
MAQP #5163-01

I. Introduction/Process Description

Whitefish Animal Hospital is located at 713 East 13th St., Whitefish, MT 59937.

A. Permitted Equipment

- One Therm-Tec, Inc. S27-T natural gas-fired multiple chamber cremation unit for cremating animal remains with a maximum design process rate of 75 pounds per hour (lbs/hr) and a loading capacity of 400 pounds (lbs) [EU 1]
- One Therm-Tec, Inc. S27-T natural gas-fired multiple chamber cremation unit for cremating animal remains with a maximum design process rate of 50 lbs/hr and a loading capacity of 350 lbs [EU 2]

B. Source Description

The animal crematorium EU 1 has a maximum incineration design capacity of 75 lbs/hr of animal remains with a loading capacity of 400 lbs. The crematorium will utilize natural gas for combustion in the primary and secondary auxiliary burner with a rating of 1.6 million British thermal units per hour (MMBTU/hr).

The animal crematorium EU 2 has a maximum incineration design capacity of 50 lbs/hr of animal remains with a loading capacity of 350 lbs. The crematorium will utilize natural gas for combustion in the primary and secondary auxiliary burner with a rating of 1.6 million British thermal units per hour (MMBTU/hr).

C. Permit History

On October 18, 2016, the Department issued **MAQP #5163-00** to Whitefish Animal Hospital for the operation of a cremation unit. The permit authorized the operation of a Therm-Tec, Inc. S27-T natural gas-fired multiple chamber cremation unit for cremating animal remains with a maximum design process rate of 75 lbs/hr and a loading capacity of 400 lbs.

D. Current Permit Action

Whitefish Animal Hospital provided a complete MAQP modification application on November 3, 2021, to install and operate one Therm-Tec, Inc. S27-T natural gas-fired multiple chamber cremation unit for cremating animal remains with a maximum design process rate of 50 lbs/hr and a loading capacity of 350 lbs. **MAQP #5163-01** replaces MAQP #5163-00.

E. Response to Public Comment

Person/Group Commenting	Permit Reference	Comment	Department Response

F. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department of Environmental Quality (Department). Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

Whitefish Animal Hospital shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution

control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. [ARM 17.8.204 Ambient Air Monitoring](#)
2. [ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide](#)
3. [ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide](#)
4. [ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide](#)
5. [ARM 17.8.213 Ambient Air Quality Standard for Ozone](#)
6. [ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide](#)
7. [ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter](#)
8. [ARM 17.8.221 Ambient Air Quality Standard for Visibility](#)
9. [ARM 17.8.222 Ambient Air Quality Standard for Lead](#)
10. [ARM 17.8.223 Ambient Air Quality Standard for PM₁₀](#)
11. [ARM 17.8.230 Fluoride in Forage](#)

Whitefish Animal Hospital must maintain compliance with the applicable ambient air quality standards. As part of the air toxics risk assessment required for issuance of the initial MAQP, the Department conducted SCREENVIEW modeling, an Environmental Protection Agency (EPA)-approved air dispersion model. Based on permit screening analysis demonstration the Whitefish Animal Hospital would present negligible risk to human health from potential hazardous air pollutants (HAP).

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. [ARM 17.8.304 Visible Air Contaminants](#). This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.
2. [ARM 17.8.308 Particulate Matter, Airborne](#). (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Whitefish Animal Hospital shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. [ARM 17.8.309 Particulate Matter, Fuel Burning Equipment](#). This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.
4. [ARM 17.8.310 Particulate Matter, Industrial Process](#). This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.

5. ARM 17.8.316 Incinerators. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any incinerator, particulate matter in excess of 0.10 grains per standard cubic foot of dry flue gas, adjusted to 12% carbon dioxide and calculated as if no auxiliary fuel had been used. Further, no person shall cause or authorize to be discharged into the outdoor atmosphere from any incinerator emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes.

While Whitefish Animal Hospital is required to comply with the emission limitation specified in Section II.B of MAQP #5163-01, this particular rule does not apply to the incinerator because Whitefish Animal Hospital has applied for and will operate under an MAQP in accordance with ARM 17.8.770 and MCA 75-2-215 for this unit.

6. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.
7. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.
8. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). This facility is not an NSPS affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR Part 60.

D. ARM 17.8, Subchapter 4 – Stack Height and Dispersion Techniques, including, but not limited to:

1. ARM 17.8.401 Definitions. This rule includes a list of definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.402 Requirements. Whitefish Animal Hospital must demonstrate compliance with the ambient air quality standards with a stack height that does not exceed Good Engineering Practices (GEP). The proposed height of the new or modified stack for Whitefish Animal Hospital is below the allowable 65-meter GEP stack height.

E. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. Whitefish Animal Hospital submitted the appropriate permit application fee for the current permit action.
2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

F. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year of any pollutant. Whitefish Animal Hospital does not have a PTE greater than 25 tons per year of any pollutant; however, in accordance with the MCA 75-2-215, an air permit must be obtained prior to the construction and operation of any incinerator, regardless of potential incinerator emissions. Because Whitefish Animal Hospital must obtain an air quality permit, all normally applicable requirements apply in this case.
3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. Whitefish Animal Hospital submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Whitefish Animal Hospital submitted an affidavit of publication of public notice for the November 4, 2021 issue of *Daily Inter Lake* a newspaper of general circulation in the City of Kalispell in Flathead County, as proof of compliance with the public notice requirements.
6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Whitefish Animal Hospital of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.760 Additional Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.
12. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is

commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

13. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
14. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
15. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.
16. ARM 17.8.770 Additional Requirements for Incinerators. This rule specifies the additional information that must be submitted to the Department for incineration facilities subject to 75-2-215, Montana Code Annotated (MCA).
17. ARM 17.8.771 Mercury Emission Standards for Mercury-Emitting Generating Units. This rule identifies mercury emission limitation requirements, mercury control strategy requirements, and application requirements for mercury-emitting generating units.

G. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications-Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source because this facility is not a listed source and the facility's PTE is below 250 tons per year of any pollutant (excluding fugitive emissions).

H. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:
 - a. PTE > 100 tons/year of any pollutant;
 - b. PTE > 10 tons/year of any one hazardous air pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
 - c. PTE > 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) in a serious PM₁₀ nonattainment area.
 - a. The facility's PTE is less than 100 tons/year for any pollutant.
 - b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.
 - c. This source is not located in a serious PM₁₀ nonattainment area.
 - d. This facility is not subject to any current NSPS.
 - e. This facility is not subject to any current NESHAP.
 - f. This source is not a Title IV affected source, or a solid waste combustion unit.
 - g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that Whitefish Animal Hospital will be a minor source of emissions as defined under Title V.

I. MCA 75-2-103, Definitions provided, in part, as follows:

1. “Incinerator” means any single or multiple chamber combustion device that burns combustible material, alone or with a supplemental fuel or catalytic combustion assistance, primarily for the purpose of removal, destructions, disposal, or volume reduction of all or any portion of the input material.
2. “Solid waste” means all putrescible and not putrescible solid, semisolid, liquid or gaseous waste, including but not limited to air pollution control facilities...

J. MCA 75-2-215, Solid or Hazardous Waste Incineration-Additional Permit Requirements

1. MCA 75-2-215 requires air quality permits for all new solid waste incinerators; therefore, Whitefish Animal Hospital must obtain an air quality permit.
2. MCA 75-2-215 requires the applicant to provide, to the Department's satisfaction, a characterization and estimate of emissions and ambient concentrations of air pollutants, including hazardous air pollutants, from the incineration of solid waste. The information in the initial permit application fulfilled this requirement.
3. MCA 75-2-215 requires that the Department reach a determination that the projected emissions and ambient concentrations constitute a negligible risk to public health, safety, and welfare. The Department completed a health risk assessment, based on an emissions inventory and ambient air quality modeling, for this MAQP application. Based on the results of the emission inventory, modeling, and health risk assessment, the Department determined that Whitefish Animal Hospital complies with this requirement.
4. MCA 75-2-215 requires the application of pollution control equipment or procedures that meet or exceed BACT. The Department determined that operating the incinerator (crematorium) according to the manufacturer-recommended operation procedures constitutes BACT.

III. BACT Determination

A BACT determination is required for each new or modified source. Whitefish Animal Hospital shall install on the new or modified source the maximum air pollution control capability which is technically practicable and economically feasible, except that BACT shall be utilized. In addition, MCA 75-2-215 requires a BACT determination for all pollutants resulting from the crematory operations, not only criteria pollutants.

Whitefish Animal Hospital proposes to install and operate a crematorium equipped with a secondary chamber designed specifically to reduce the amount of pollutants, including HAPs, emitted from the incinerator. Previous research conducted by the Department indicates crematoriums of this size have not been required to install additional air pollution control equipment beyond that provided by the controlled air design of the incinerator,

which maintains an appropriate and stable unit temperature and retention of combustion gases within the secondary chamber to maximize pollutant destruction. With the estimated particulate matter emissions being less than 2 tpy, the incremental cost per ton of additional control would be very high and not in line with control costs of other similar sources. In addition, the incinerator is limited by its MAQP to 0.10 grains per dry standard cubic foot for particulate matter and to 10% opacity (visible emissions). Furthermore, the health risk assessment shows negligible risks from the small amount of HAP emissions from this incinerator as proposed.

BACT for products of combustion/incineration (carbon monoxide (CO), oxides of nitrogen (NO_x), volatile organic compounds (VOC), and sulfur dioxide (SO₂) and HAPs) resulting from crematorium operations is proper crematorium design and operation. Proper design includes relying on good turbulence, high temperature and the residence time within the secondary chamber. Turbulence is achieved with proper introduction of air into the combustion chambers. Temperature is achieved by including the requirement that the secondary chamber must be maintained at an operating temperature of 1,500 °F with no single reading less than 1,450 °F. Residence time is achieved by sizing the secondary chamber large enough to support final combustion within the secondary combustion chamber. This design incorporates no heat recovery from the secondary combustion chamber and therefore, the stack volume operates effectively as an extension of the secondary combustion chamber volume. When the volume of the secondary combustion chamber and stack are combined the average residence time is over 1 second. Furthermore, natural gas or propane combustion inherently results in low emissions of air pollutants due to characteristics of the fuel fired. Potential PM₁₀, PM_{2.5}, NO_x, CO, VOC, and SO₂ emissions from the combustion of natural gas or propane to operate the crematorium are less than 2 tpy. Because potential emissions of all regulated pollutants resulting from natural gas or propane combustion are low, incorporation of available pollutant-specific control technologies would result in high cost per ton removed values thereby making pollutant-specific add-on controls for PM₁₀, PM_{2.5}, NO_x, CO, VOC, and SO₂ economically infeasible in this case.

Based on these conclusions, the Department determined that proper unit design, along with the combustion of natural gas or propane as fuel, and proper operation and maintenance of the crematorium with no additional control constitutes BACT. The BACT conclusions prescribed under MAQP #5163-01 provide comparable controls and control cost to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

IV. Emission Inventory

PTE from combustion of natural gas for each EU:

Pollutant	Emission Factor (lb/MMft³)	lb/yr	Ton/yr
PM ₁₀ & PM _{2.5} (including condensable)	7.6	106.52	0.05
NO _x	100	1401.60	0.70
CO	84	1177.34	0.59
SO ₂	0.6	8.41	0.00
VOC	5.5	77.09	0.04

Notes: Emission factors from AP-42 for uncontrolled natural gas combustion in boilers < 100 MMBTU/hr. AP-42 Chapter 1.4 (Tables 1.4-1 and 1.4-2)

PTE from Cremation of Body (including case wrappings) EU 1:

Pollutant	Emission Factor (lb/ton)	lb/yr	Ton/yr
PM ₁₀ & PM _{2.5} (including condensable)	8.50E-02	372.30	0.19
NOx	3.56E+00	1169.46	0.58
CO	2.95E+00	969.08	0.48
SO ₂	2.17E+00	712.85	0.36
VOC	3.00E+00	985.50	0.49

Notes: 1) PM10 emission factor from EPA's FIRE program.

2) Emission factors from other pollutants are from AP-42 for uncontrolled medical waste incineration. AP-42 Chapter 2.3 (Tables 2.3-1 and 2.3-2)

PTE from Cremation of Body (including case wrappings) EU 2:

Pollutant	Emission Factor (lb/ton)	lb/yr	Ton/yr
PM ₁₀ & PM _{2.5} (including condensable)	8.50E-02	437.299	0.2186
NOx	3.56E+00	333.216	0.1666
CO	2.95E+00	276.31	0.1381
SO ₂	2.17E+00	202.18	0.1016
VOC	3.00E+00	28.08	0.014

Notes: 1) PM10 emission factor from EPA's FIRE program.

2) Emission factors from other pollutants are from AP-42 for uncontrolled medical waste incineration. AP-42 Chapter 2.3 (Tables 2.3-1 and 2.3-2)

Total Criteria Pollutant Emissions ^a			
Pollutant	Nat. Gas (tpy)	Cremation (tpy)	Annual (tpy)
PM ₁₀ & PM _{2.5}	0.05	0.4086	0.4586
NO _x	0.70	0.7466	1.4466
CO	0.59	0.6181	1.2081
SO ₂	0.00	0.4616	0.4616
VOC	0.04	0.504	0.544

Footnotes

CO = carbon monoxide

HAPs = hazardous air pollutants

NOx = oxides of nitrogen

PM = particulate matter

PM₁₀ = particulate matter with an aerodynamic diameter of 10 microns or less

PM_{2.5} = particulate matter with an aerodynamic diameter of 2.5 microns or less

SO₂ = sulfur dioxide

VOC = volatile organic compounds

a. Inventory reflects maximum allowable emissions for all pollutants based on maximum production and year-round operation (8,760 hours). The facility did not take limits on production or hours of operation.

Toxic Emissions from Each Crematory Retort (including fuel and case wrappings)				
HAP Category / Pollutant Name	Emission Factor (lb/ 150 lb body) - or - (lb/MMscf natural gas from AP-42 where not tested/reported in crematory emissions)	CAS #	lb/yr	Fraction of all HAPS
<u>Heavy Metals</u>				
-				
Antimony (less than)	1.51E-05	7440360	6.61E-02	1.91E-04
Arsenic (less than)	1.50E-05	7440382	6.57E-02	1.89E-04
Beryllium	1.37E-06	7440417	6.00E-03	1.73E-05
Cadmium	1.10E-05	7440439	4.82E-02	1.39E-04
Chromium	2.99E-05	7440473	1.31E-01	3.77E-04
Chromium, hx	1.35E-05	18540299	5.91E-02	1.70E-04
Cobalt (less than)	8.75E-07	7440484	3.83E-03	1.10E-05
Lead	6.62E-05	7439921	2.90E-01	8.36E-04
Nickel	3.82E-05	7440020	1.67E-01	4.82E-04
Selenium	4.36E-05	7782492	1.91E-01	5.50E-04
Zinc	3.53E-04	7440666	1.55E+00	4.46E-03
<u>Polycyclic Organic Matter (POM)</u>				
2-methylnaphthalene	2.40E-05	91576	3.36E-04	9.70E-07
3-methylchloranthrene (less than)	9.00E-07	56495	1.26E-05	3.64E-08
7,12 Dibenz(a)anthracene (less than)	8.00E-06		1.10E-04	3.08E-07
Anthracene (less than)	1.62E-05	120127	7.10E-02	2.05E-04
Benzene	2.10E-03	71432	2.94E-02	8.48E-05
Dichlorobenzene	1.20E-03	25321226	1.68E-02	4.85E-05
Hexane	1.80E+00	110543	2.52E+01	7.27E-02
Naphthalene	6.10E-04	91203	8.55E-03	2.46E-05
Phenanathrene	1.70E-05	85018	2.38E-04	6.87E-07
Toluene	3.40E-03	108883	4.77E-02	1.37E-04
Acenaphthene	1.11E-07	83329	4.86E-04	1.40E-06
Acenaphthylene	1.22E-07	208968	5.34E-04	1.54E-06
<u>Polycyclic Organic Matter (POM)</u>				
Benzo(a)anthracene (less than)	4.88E-09	56553	2.14E-05	6.16E-08
Benzo(a)pyrene (less than)	1.46E-08	50328	6.37E-05	1.84E-07
Benzo(b)fluoranthene (less than)	7.95E-09	205992	3.48E-05	1.00E-07
Benzo(g,h,i)perylene (less than)	1.46E-08	191242	6.37E-05	1.84E-07
Benzo(k)fluoranthene (less than)	7.10E-09	207089	3.11E-05	8.96E-08
Chrysene (less than)	2.70E-08	218019	1.18E-04	3.41E-07
Dibenzo(a,h)anthracene (less than)	6.35E-09	53703	2.78E-05	8.02E-08
Fluorene	4.17E-07	86737	1.83E-03	5.26E-06
Fluoranthene	2.05E-07	206440	8.98E-04	2.59E-06
Indeno(1,2,3-cd)pyrene (less than)	7.70E-09	193395	3.37E-05	9.72E-08
Phenanthrene	2.29E-06	85018	1.00E-02	2.89E-05
Pyrene	1.62E-07	129000	7.10E-04	2.05E-06

<u>Dibenzofurans</u>				
1,2,3,4,6,7,8-Heptachlorodebenzofuran (less than)	2.29E-09	67562394	1.00E-05	2.88E-08
1,2,3,4,7,8,9-Heptachlorodibenzofuran (less than)	1.39E-10	55673897	6.09E-07	1.75E-09
1,2,3,4,7,8-Hexachlorodibenzofuran	9.53E-10	70648269	4.17E-06	1.20E-08
1,2,3,6,7,8-Hexachlorodibenzofuran	8.52E-10	57117449	3.73E-06	1.08E-08
1,2,3,7,8,9-Hexachlorodibenzofuran	1.67E-09	72918219	7.31E-06	2.11E-08
2,3,4,6,7,8-Hexachlorodibenzofuran	3.44E-10	60851345	1.51E-06	4.34E-09
1,2,3,7,8-Pentachlorodibenzofuran (less than)	1.47E-10	57117416	6.44E-07	1.86E-09
2,3,4,7,8-Pentachlorodibenzofuran (less than)	4.43E-10	57117314	1.94E-06	5.59E-09
2,3,7,8-Tetrachlorodibenzofuran	5.19E-10	51207319	2.27E-06	6.55E-09
<u>Listed Non-POM Organic HAPs</u>				
Acetaldehyde	1.30E-04	75070	5.69E-01	1.64E-03
Formaldehyde	3.40E-05	50000	1.49E-01	4.29E-04

<u>Listed Acids</u>				
Hydrogen chloride	7.20E-02	7647010	3.15E+02	9.09E-01
Hydrogen fluoride	6.60E-04	7664393	2.89E+00	8.33E-03
<u>Dioxins</u>				
2,3,7,8-tetrachlorodibenzo-p-dioxin	7.94E-11	1746016	3.48E-07	1.00E-09
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	3.79E-09	35822469	1.66E-05	4.78E-08
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	2.75E-10	39227286	1.20E-06	3.47E-09
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	3.97E-10	57653857	1.74E-06	5.01E-09
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	4.92E-10	19408743	2.15E-06	6.21E-09
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	2.33E-10	40321764	1.02E-06	2.94E-09
			3.43E+02	1.00E+00
TOTAL TOXIC EMISSIONS			3.91E-02 lb/hr	

*Formaldehyde and Acetaldehyde emissions factors are from CARB's Test Report No. C-90-004, October, 1992.

Mercury assumed negligible

** All other pollutants determined from Webfire, using SCC 31502101 for Crematoriums. Factors derived from Emissions Testing of a Crematorium, October 29, 1992

*** Pursuant to ARM 17.8.770(1)(a) and (c), only pollutants regulated as a Hazardous Air Pollutant, and which have a chronic inhalation health risk, are calculated.

V. Existing Air Quality

Whitefish Animal Hospital is located at 713 East 13th St., Flathead County, Montana. The immediate area in which the proposed facility is planned is designated nonattainment area for PM₁₀.

Whitefish was designated nonattainment for PM₁₀ by the U.S. Environmental Protection Agency (EPA) in a Federal Register (FR) notice (58 FR 53886) on November 18, 1993. The National Ambient Air Quality Standard (NAAQS) for PM₁₀ is 150 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) for a 24-hour concentration, not to be exceeded more than once per calendar year on an average of 3 years. The PM₁₀ violation was attributed primarily to entrained road dust and residential wood combustion. Control plans were developed to bring Whitefish back into compliance following the nonattainment designation. Whitefish is currently in compliance with the PM₁₀ ambient air quality standard and Montana is in the process of requesting redesignation as attainment/maintenance.

The maximum potential emissions of any pollutant, including PM₁₀, are relatively low and not expected to have any impact on existing air quality. The screening analysis and human health risk assessment performed during the MAQP process demonstrated that the maximum potential HAP emissions pose a negligible risk to human health as required for permit issuance. Additionally, MAQP #5163-01 contains operating and monitoring requirements to ensure that proper operation of the facility would not result in air emissions that violate any ambient air quality standards.

VI. Ambient Air Impact Analysis

Potential emissions from the proposed facility are significantly less than the Department's regulatory permitting threshold; therefore a comprehensive impact analysis is not required to ensure associated emissions do not negatively affect or impede conformance to the Nonattainment or Maintenance Area compliance plans. Whitefish Animal Hospital applied for this MAQP in accordance with ARM 17.8.770 and MCA 75-2-215 for this unit.

The Department conducted SCREEN3 Modeling, an EPA-approved screening model, using the indicated inputs obtained from the emission inventory and a HAP emission rate of 0.00378 grams per second (g/s), which is the sum of all toxic pollutant and/or HAP emissions from the proposed crematorium. The maximum 1-hour modeled concentration was then converted to an annual average and used in the risk assessment. The individual one-hour results for each pollutant were calculated by multiplying the maximum modeled annual concentration of toxic and/or HAP's in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), by the percentage of each individual pollutant identified within the emission inventory. The emission factors employed in development of the emission inventory were derived from stack test data which includes pollutant contributions of fuel utilized in firing the crematory.

As shown by the Health Risk Assessment of the following Section VII, the Department determined that there is a negligible human health risk associated with the proposed project. With consideration of the modeling accomplished for the Health Risk Assessment, and the small potential to emit of criteria pollutants, the Department determined that the impacts from this permitting action will be minor. Further, that the proposed action will not cause or contribute to a violation of any ambient air quality standard.

VII. Human Health Risk Assessment

A health risk assessment was conducted to determine if the proposed crematorium complies with the negligible risk requirement of MCA 75-2-215. The environmental effects unrelated to human health were not considered in determining compliance with the negligible risk standard, but were evaluated as required by the Montana Environmental Policy Act, in determining compliance with all applicable rules or other requirements requiring protection of public health, safety, and welfare and the environment.

Pursuant to ARM 17.8.770(1)(c), pollutants may be excluded from the human health risk assessment if the Department determines that exposure from inhalation is the only appropriate pathway to consider in the human health risk assessment and if the ambient concentrations of the pollutants (calculated using the potential to emit; enforceable limits or controls may be considered) are less than the levels specified in Table 1 or Table 2 of ARM 17.8.770.

The current incinerator at Whitefish Animal Hospital has a stack height of 5.7302 meters (m) with vertical discharge, a stack exit temperature of ~1450 °F, and a velocity of 7.0104 meters per second (m/s) with a 0.4572 m diameter stack. Ambient air modeling was accomplished using SCREEN3 software; an EPA approved ambient air dispersion. The SCREEN3 Modeling results, extrapolation of individual pollutant concentrations, and comparisons of Table 1 and Table 2 of ARM 17.8.770 are provided below:

The Proposed incinerator at Whitefish Animal Hospital has a stack height of 5.7912 meters (m) with vertical discharge, a stack exit temperature of >1100 °F, and a velocity of >0.9911 meters per second (m/s) with a 0.3566 m inside diameter stack. Ambient air modeling was accomplished using SCREENView software; an EPA approved ambient air dispersion. The SCREENView Modeling results, extrapolation of individual pollutant concentrations, and comparisons of Table 1 and Table 2 of ARM 17.8.770 are provided below:

Hazardous & Toxic Air Pollutant Dispersion Screen Model Run Summary

Stack Parameters

Stack Height:	5.7912	m
Inside Diameter:	0.3566	m
Exit Velocity:	0.9911	m/s
Gas Exit Temperature:	>1100	°F
Emission Rate	0.030	lbs/hr
	.00378	g/sec

Screen Model Run Results

Maximum 1-hour Concentration:	0.6456	µg/m ³
Distance from Maximum 1-hour Concentration:	83	m

HAP Category / Pollutant Name	CAS #	Fraction of all HAPS	Calculated HAP Concentration	ARM 17.8.770 De		

				Minimis Levels		
				Table 1 Cancer Annual	Table 2 Noncancer Chronic Annual	Table 2 Noncancer Acute Annual
<u>Heavy Metals</u>						
Antimony (less than)	7440360	1.84E-04	1.19E-04	N/A	2.00E-03	N/A
Arsenic (less than)	7440382	1.83E-04	1.18E-04	2.33E-05	5.00E-03	N/A
Beryllium	7440417	1.67E-05	1.08E-05	4.17E-05	N/A	N/A
Cadmium	7440439	1.34E-04	8.65E-05	5.56E-05	N/A	N/A
Chromium	7440473	3.64E-04	2.35E-04	8.33E-06	N/A	N/A
Chromium, hx	18540299	1.64E-04	1.06E-04	N/A	N/A	N/A
Cobalt (less than)	7440484	1.07E-05	6.88E-06	N/A	N/A	N/A
Lead	7439921	8.06E-04	5.21E-04	N/A	1.50E-02	N/A
Nickel	7440020	4.65E-04	3.00E-04	3.85E-04	2.40E-03	1.00E-02
Selenium	7782492	5.31E-04	3.43E-04	N/A	5.00E-03	2.00E-02
Zinc	7440666	4.30E-03	2.78E-03	N/A	N/A	N/A
<u>Polycyclic Organic Matter (POM)</u>						
2-methylnaphthalene	91576	1.40E-06	9.06E-07	N/A	N/A	N/A
3-methylchloranthrene (less than)	56495	5.26E-08	3.40E-08	N/A	N/A	N/A
7,12 Dibenz(a)anthracene (less than)		4.68E-07	3.02E-07	N/A	N/A	N/A
Anthracene (less than)	120127	7.02E-08	4.53E-08	N/A	N/A	N/A
Benzene	71432	1.23E-04	7.93E-05	1.20E-02	7.10E-01	N/A
Dichlorobenzene	25321226	7.02E-05	4.53E-05	9.09E-03	8.00E+00	N/A
Hexane	110543	1.05E-01	6.79E-02	N/A	2.00E+00	N/A
Naphthalene	91203	3.57E-05	2.30E-05	N/A	1.40E-01	N/A
Phenanathrene	85018	9.94E-07	6.42E-07	N/A	N/A	N/A
Toluene	108883	1.99E-04	1.28E-04	N/A	4.00E+00	N/A
Acenaphthene	83329	1.35E-06	8.73E-07	N/A	N/A	N/A
Acenaphthylene	208968	1.49E-06	9.59E-07	N/A	N/A	N/A
Benzo(a)anthracene (less than)	56553	5.94E-08	3.84E-08	5.88E-05	N/A	N/A
Benzo(a)pyrene (less than)	50328	1.77E-07	1.14E-07	5.88E-05	N/A	N/A
Benzo(b)fluoranthene (less than)	205992	9.68E-08	6.25E-08	5.88E-05	N/A	N/A
Benzo(g,h,i)perylene (less than)	191242	1.77E-07	1.14E-07	N/A	N/A	N/A
Benzo(k)fluoranthene (less than)	207089	8.65E-08	5.58E-08	5.88E-05	N/A	N/A
Chrysene (less than)	218019	3.29E-07	2.12E-07	N/A	N/A	N/A
Dibenzo(a,h)anthracene (less than)	53703	7.74E-08	4.99E-08	5.88E-05	N/A	N/A
Fluorene	86737	5.08E-06	3.28E-06	N/A	N/A	N/A
Fluoranthene	206440	2.50E-06	1.61E-06	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene (less than)	193395	9.38E-08	6.06E-08	5.88E-05	N/A	N/A
Phenanthrene	85018	2.79E-05	1.80E-05	N/A	N/A	N/A
Pyrene	129000	1.97E-06	1.27E-06	N/A	N/A	N/A

<u>Dibenzofurans</u>						
1,2,3,4,6,7,8-Heptachlorodebenzofuran (less than)	67562394	2.78E-08	5.78E-08	2.63E-09	3.50E-08	N/A
1,2,3,4,7,8,9-Heptachlorodibenzofuran (less than)	55673897	1.69E-09	1.80E-08	N/A	N/A	N/A
1,2,3,4,7,8-Hexachlorodibenzofuran	70648269	1.16E-08	1.09E-09	N/A	N/A	N/A
1,2,3,6,7,8-Hexachlorodibenzofuran	57117449	1.04E-08	7.49E-09	N/A	N/A	N/A
1,2,3,7,8,9-Hexachlorodibenzofuran	72918219	2.03E-08	6.70E-09	N/A	N/A	N/A
2,3,4,6,7,8-Hexachlorodibenzofuran	60851345	4.19E-09	1.31E-08	N/A	N/A	N/A
1,2,3,7,8-Pentachlorodibenzofuran (less than)	57117416	1.79E-09	2.71E-09	N/A	N/A	N/A
2,3,4,7,8-Pentachlorodibenzofuran (less than)	57117314	5.39E-09	1.16E-09	N/A	N/A	N/A
2,3,7,8-Tetrachlorodibenzofuran	51207319	6.32E-09	3.48E-09	N/A	N/A	N/A
<u>Listed Non-POM Organic HAPs</u>						
Acetaldehyde	75070	1.58E-03	1.02E-03	4.55E-02	9.00E-02	N/A
Formaldehyde	50000	4.14E-04	2.67E-04	7.69E-03	3.60E-02	3.70E+00
<u>Listed Acids</u>						
Hydrogen chloride (hydrochloric acid)	7647010	8.77E-01	5.66E-01	N/A	2.00E-01	3.00E+01
Hydrogen fluoride	7664393	8.04E-03	5.19E-03	N/A	5.90E-02	5.80E+00
<u>Dioxins</u>						
2,3,7,8-tetrachlorodibenzo-p-dioxin	1746016	9.67E-10	6.24E-10	N/A	N/A	N/A
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822469	4.62E-08	9.15E-09	N/A	N/A	N/A
SUM of Hexachlorodibenzo-p-dioxin			2.98E-08	N/A	N/A	N/A
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227286	3.35E-09	3.12E-09	N/A	N/A	N/A
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653857	4.84E-09	5.99E-09	N/A	N/A	N/A
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408743	5.99E-09	3.87E-09	N/A	N/A	N/A
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321764	2.84E-09	1.83E-09	N/A	N/A	N/A

Although not all pollutants exceeded the levels specified in Table 1 or Table 2 of ARM 17.8.770, the Department conducted a full risk assessment. The Department included those

pollutants for which emissions factors are available for crematory operations. Although additional species of pollutants have been identified in documented emission factors for the combustion of natural gas and/or propane, prior analyses indicate those pollutants would pass the human health risk assessment. Therefore, emission factors based on stack test data specific to crematory emissions were used. For those pollutants reviewed, the calculated cancer risks demonstrate there is not more than a negligible health, safety, and welfare risk to the public and to the environment, as defined in ARM 17.8.740(16). The health risk assessment is provided below:

Negligible Risk Assessment							
	Exceed ARM 17.8.770 Table 2 Table 1?	Exceed ARM 17.8.77 0 Table Chronic ?	Exceed ARM 17.8.77 2 Acute?	Cancer URF (2)	Cancer Risk (3)	CNCREL (4) (ug/m3)	CNCREL Quotient (5)
<u>Heavy Metals</u>	No	No	No	N/A	N/A	N/A	N/A
Antimony (less than)	Yes	No	No	0.0043	5.07E-07	0.015	7.86E-03
Arsenic (less than)	No	No	No	0.0024	2.59E-08	0.02	5.39E-04
Beryllium	Yes	No	No	0.0018	1.56E-07	0.01	8.65E-03
Cadmium	Yes	No	No	N/A	N/A	N/A	N/A
Chromium	No	No	No	0.012	1.27E-06	0.1	1.06E-03
Chromium, hx	No	No	No	N/A	N/A	0.1	6.88E-05
Cobalt (less than)	No	No	No	N/A	N/A	0.15	3.47E-03
Lead	No	No	No	N/A	N/A	0.09	3.34E-03
Nickel	No	No	No	N/A	N/A	20	1.71E-05
Selenium	No	No	No	N/A	N/A	N/A	N/A
Zinc							
<u>Polycyclic Organic Matter (POM)</u>	No	No	No	N/A	N/A	N/A	N/A
2-methylnaphthalene	No	No	No	0.0063	2.14E-10	N/A	N/A
3-methylchloranthrene (less than)	No	No	No	0.071	2.14E-08	N/A	N/A
7,12 Dibenz(a)anthracene (less than)	No	No	No	N/A	N/A	N/A	N/A
Anthracene (less than)	No	No	No	7.8E-06	6.18E-10	30	2.64E-06
Benzene	No	No	No	0.000011	4.98E-10	800	5.66E-08
Dichlorobenzene	No	No	No	N/A	N/A	700	9.71E-05
Hexane	No	No	No	0.000034	N/A	3	7.68E-06
Naphthalene	No	No	No	N/A	N/A	N/A	N/A
Phenanthrene	No	No	No	N/A	N/A	5000	2.57E-08
Toluene	No	No	No	N/A	N/A	N/A	N/A
Acenaphthene	No	No	No	N/A	N/A	N/A	N/A
Acenaphthylene	No	No	No	N/A	N/A	N/A	N/A
Benzo(a)anthracene (less than)	No	No	No	0.0011	1.26E-10	N/A	N/A
Benzo(a)pyrene (less than)	No	No	No	0.00011	6.88E-12	N/A	N/A
Benzo(b)fluoranthene (less than)	No	No	No	N/A	N/A	N/A	N/A
Benzo(g,h,i)perylene (less than)	No	No	No	0.00011	6.14E-12	N/A	N/A
Benzo(k)fluoranthene (less than)	No	No	No	0.000011	2.34E-12	N/A	N/A
Chrysene (less than)	No	No	No	0.00011	5.49E-12	N/A	N/A

Negligible Risk Assessment							
	Exceed ARM 17.8.770 Table 2 Table 1?	Exceed ARM 17.8.77 0 Table Chronic ?	Exceed ARM 17.8.77 2 Acute?	Cancer URF (2)	Cancer Risk (3)	CNCREL (4) (ug/m3)	CNCREL Quotient (5)
Dibenzo(a,h)anthracene (less than)	No	No	No	N/A	N/A	N/A	N/A
Fluorene	No	No	No	N/A	N/A	N/A	N/A
Fluoranthene	No	No	No	0.00011	6.66E-12	N/A	N/A
Indeno(1,2,3-cd)pyrene (less than)	No	No	No	N/A	N/A	N/A	N/A
Phenanthrene	No	No	No	N/A	N/A	N/A	N/A
Pyrene	Yes	Yes	No				
Dibenzofurans							
1,2,3,4,6,7,8-							
Heptachlorodebenzofuran n (less than)							
1,2,3,4,7,8,9-							
Heptachlorofodibenzofuran n (less than)							
1,2,3,4,7,8-							
Hexachlorodibenzofuran 1,2,3,6,7,8-							
Hexachlorodibenzofuran 1,2,3,7,8,9-							
Hexachlorodibenzofuran 2,3,4,6,7,8-							
Hexachlorodibenzofuran 1,2,3,7,8-							
Pentachlorodibenzofuran (less than)							
2,3,4,7,8-							
Pentachlorodibenzofuran (less than)							
2,3,7,8-							
Tetrachlorodibenzofuran							
Listed Non-POM Organic HAPs	No	No	No	N/A	N/A	9	1.14E-04
Acetaldehyde	No	No	No	0.00001	3.48E-09	9.8	2.73E-05
Formaldehyde							
Listed Acids	No	Yes	No	N/A	N/A	20	2.83E-02
Hydrogen chloride (hydrochloric acid)	No	No	No	N/A	N/A	14	3.71E-04
Hydrogen fluoride							
Dioxins	No	No	No	33	2.06E-08	0.00004	1.56E-05
2,3,7,8-tetrachlorodibenzo-p-dioxin							
1,2,3,4,6,7,8-Heptachlorodibenzo-p-	No	No	No				

		Negligible Risk Assessment						
		Exceed ARM 17.8.770 Table 1?	Exceed ARM Table 2 Chronic ?	Exceed ARM 0 Table 2 Acute?	Cancer URF (2)	Cancer Risk (3)	CNCREL (4) (ug/m3)	CNCREL Quotient (5)
dioxin								
Sum of Hexachlorodibenzo-p-dioxin	No	No	No	1.3	1.19E-08	N/A	N/A	
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	No	No	No					
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	No	No	No					
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	No	No	No					
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	No	No	No					
	SUM -->				2.02E-06		0.053958	

(1) Source of chronic dose-response values is from USEPA Table 1: Prioritized Chronic Dose-Response Values for Screening Risk Assessments

(2) Cancer Chronic Inhalation Unit Risk Factor, units 1/ $\mu\text{g}/\text{m}^3$

(3) Cancer Risk is unit less and is calculated by multiplying the predicted concentration by the URF.

(4) Chronic Noncancer Reference Exposure Level

(5) CNCREL Quotient Value is calculated by dividing the modeled HAP concentration by the CNCREL.

If no individual pollutant concentration exceeds the Cancer Risk threshold of 1.00E-06 and the sum of all Cancer Risks concentrations do not exceed 1.00E-05, and further, the sum of the Chronic Non-cancer Reference Exposure Level (CNCREL) hazard quotients is less than 1.0, compliance with the negligible risk requirement is demonstrated.

As documented in the Negligible Risk Assessment table and in accordance with the Department's negligible risk requirement, as defined in ARM 17.8.740(16), no individual pollutant concentration exceeds the Cancer Risk threshold of 1.00E-06 and the sum of all Cancer Risks concentrations do not exceed 1.00E-05. Further, the sum of the Chronic Non-cancer Reference Exposure Level (CNCREL) hazard quotients is less than 1.0 as required to demonstrate compliance with the negligible risk requirement.

VIII. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.



Whitefish Animal Hospital

Environmental Assessment for

Montana Air Quality Permit #5163-01

Air Quality Bureau

APPLICANT: Whitefish Animal Hospital		
SITE NAME: Whitefish Animal Hospital		
PROPOSED PERMIT NUMBER: Montana Air Quality Permit (MAQP) #5163-01		
APPLICATION RECEIVED: 11/3/2021		
APPLICATION DEEMED COMPLETE: 11/3/2021		
LOCATION: Lat/Long 48.4, -114.3333	COUNTY: Flathead	
PROPERTY OWNERSHIP:	FEDERAL <input type="checkbox"/> STATE <input type="checkbox"/> PRIVATE <input checked="" type="checkbox"/>	
EA PREPARER:	T. Burrows	
EA Draft Date	EA Final Date	Permit Final Date
12/1/2021	01/10/2022	01/26/2022

COMPLIANCE WITH THE MONTANA ENVIRONMENTAL POLICY ACT

The Montana Department of Environmental Quality (DEQ) prepared this Environmental Assessment (EA) in accordance with requirements of the Montana Environmental Policy Act (MEPA). An EA functions to determine the need to prepare an Environmental Impact Statement (EIS) through an initial evaluation and determination of the significance of impacts associated with the proposed action. However, an agency is required to prepare an EA whenever, as here, statutory requirements do not allow sufficient time for the agency to prepare an EIS (ARM 17.4.607(3)(c)). This document may disclose impacts over which DEQ has no regulatory authority.

INCORPORATION BY REFERENCE

DEQ incorporates by reference the Final EA that has been prepared for Whitefish Animal Hospital for the pet crematorium permitted under Montana Air Quality Permit (MAQP) #5163-00 dated October 21, 2016. That permit and accompanying EA cover similar activities and equipment and is located on the same property. This current EA incorporates the analysis areas and impact analysis

of the EA for MAQP #5163-00 that are applicable to both. This current EA adds additional analysis and impact areas that are specific to this action, and therefore were not discussed in the EA for MAQP #5163-00.

COMPLIANCE WITH THE CLEAN AIR ACT OF MONTANA

The state law that regulates air quality permitting in Montana is the Clean Air Act of Montana (CAA), §§ 75-2-101, *et seq.*, Montana Code Annotated (MCA). DEQ may not approve a proposed action contained in an application for an air quality permit unless the project complies with the requirements set forth in the CAA and the administrative rules adopted thereunder, ARMs 17.8.101 *et. seq.* The project is subject to approval by the DEQ Air Quality Bureau (AQB) as the potential project emissions exceed the 5 tons per year threshold of regulated pollutants for modifications of permitted facilities (ARM 17.8.743). DEQ's approval of an air quality permit application does not relieve Calumet from complying with any other applicable federal, state, or county laws, regulations, or ordinances. Calumet is responsible for obtaining any other permits, licenses, or approvals (from DEQ or otherwise) that are required for any part of the proposed action. Any action DEQ takes at this time is limited to the pending air quality permit application currently before DEQ's AQB and the authority granted to DEQ under the Clean Air Act of Montana. This action is not indicative of any other action DEQ may take on any future (unsubmitted) applications made pursuant to any other authority (*e.g.* Montana's Water Protection Act). DEQ will decide whether to issue the pending air quality permit pursuant to the requirements of the CAA alone. DEQ may not withhold, deny, or impose conditions on the permit based on the information contained in this Environmental Assessment. § 75-1-201(4), MCA.

SUMMARY OF THE PROPOSED ACTION

Whitefish Animal Hospital has applied for an MAQP modification under the CAA to install and operate an additional animal crematorium as follows:

The animal crematorium EU 2 has a maximum incineration design capacity of 50 pounds per hour (lbs/hr) of animal remains with a loading capacity of 350 pounds (lbs). The crematorium would utilize natural gas for combustion in the primary and secondary auxiliary burner with a rating of 1.6 million British thermal units per hour (MMBTU/hr).

This Whitefish Animal Hospital permit action has been assigned MAQP #5163-01 and would allow for the continued operation of the animal hospital as in permit version MAQP #5163-00 along with the proposed EU 2.

Whitefish Animal Hospital's estimated emissions increase from the new unit is less than 2 tons per year (tpy) for each regulated pollutant, which keeps this permit action as a minor permit modification. Whitefish Animal Hospital has conservatively estimated all project emission increases. Emissions associated with the new animal crematorium would be similar to EU 1 at the previously permitted animal hospital.

All information included in the EA is derived from the permit application, discussions with the applicant, analysis of aerial photography, topographic maps, and other research tools.

Table 1: Proposed Action Details

Summary of Proposed Action	
General Overview	The animal hospital is proposing to install and operate an animal crematorium (EU 2) with a maximum incineration design capacity of 50 lbs/hr of animal remains with a loading capacity of 350 lbs. The crematorium would utilize natural gas for combustion in the primary and secondary auxiliary burner with a rating of 1.6 million MMBTU/hr.
Proposed Action Estimated Disturbance	
Disturbance	This permit action takes place in an existing facility within an area zoned commercial, so there is no additional disturbance.
Proposed Action	
Duration	Construction: Construction or commencement for the new or modified sources must start within three years of issuance of the final air quality permit, otherwise the authority to construct expires. Operation Life: Although equipment may have functional lives of 20 to 30 years depending on equipment maintenance efforts, the unit would be expected to remain operational as long as economic conditions are favorable.
Personnel Onsite	No change in staff is necessary to accommodate the new animal crematorium.
Location and Analysis Area	Location: The proposed action is located at the Whitefish Animal Hospital property whose street address is 713 East 13 th Street, Whitefish, MT 59937. This parcel is located within Section 1 of Township 30 North, Range 22 West in Flathead County. Analysis Area: The area being analyzed as part of this environmental review includes the immediate project area, as well as neighboring lands surrounding the analysis area, as reasonably appropriate for the impacts being considered.
Air Quality	The Draft EA would be attached to the Preliminary Determination Air Quality Permit which would include all enforceable conditions for operation of the emitting units. Any revisions to the EA would be addressed and included in the Final EA attached to the Department's Decision.
Conditions Incorporated into the Proposed Action	The conditions developed in the Preliminary Determination of the MAQP dated December 1, 2021, set forth in Sections II.A-D.

PURPOSE AND BENEFIT FOR PROPOSED ACTION

DEQ's purpose in conducting this environmental review is to act upon Whitefish Animal Hospital's air quality permit application #5163-01 to add an additional animal crematorium within the 0.8 acre existing facility.

The benefits of the proposed action, if approved, include allowing Whitefish Animal Hospital to continue current operations with its existing permitted crematorium while also authorizing the installation and operation of a new animal crematorium.

Authority to Whitefish Animal Hospital for operation of the animal crematorium would continue until the permit is revoked, either at the request of Whitefish Animal Hospital or by DEQ because of non-compliance with the conditions within the air quality permit.

REGULATORY RESPONSIBILITIES

In accordance with ARM 17.4.609(3)(c), DEQ must list any federal, state, or local, authorities that have concurrent or additional jurisdiction or environmental review responsibility for the proposed action and the permits, licenses, and other authorizations required. Whitefish Animal Hospital must conduct its operations according to the terms of its permit, the CAA, §§ 75-2-101, *et seq.*, MCA, and ARMs 17.8.101, *et seq.*

Whitefish Animal Hospital must cooperate fully with, and follow the directives of, any federal, state, or local entity that may have authority over the animal hospital. These permits, licenses, and other authorizations may include: City of Whitefish, Flathead County Sanitarian, Occupational Safety and Health Administration (worker safety), DEQ AQB (air quality) and Water Protection Bureau (groundwater and surface water discharge; stormwater), and Montana Department of Transportation and Flathead County (road access).

Whitefish Animal Hospital's new animal crematorium would be located within the 0.8-acre perimeter of the current Whitefish Animal Hospital property boundary.

EVALUATION AND SUMMARY OF POTENTIAL IMPACTS TO THE PHYSICAL AND HUMAN ENVIRONMENT IN THE AREA AFFECTED BY THE PROPOSED ACTION:

The impact analysis will identify and evaluate direct and secondary impacts. Direct impacts are those that occur at the same time and place as the action that triggers the effect. Secondary impacts mean "a further impact to the human environment that may be stimulated or induced by or otherwise result from a direct impact of the action." ARM 17.4.603(18). Where impacts are expected to occur, the impacts analysis estimates the duration and intensity of the impact. The duration of an impact is quantified as follows:

- **Short-term:** Short-term impacts are defined as those impacts that would not last longer than the proposed operation of the site.
- **Long-term:** Long-term impacts are defined as impacts that would remain or occur following shutdown of the proposed facility.

The severity of an impact is measured using the following:

- **No Impact:** There would be no change from current conditions.
- **Negligible Impact:** An adverse or beneficial effect would occur but would be at the lowest levels of detection.
- **Minor Impact:** The effect would be noticeable but would be relatively small and would not affect the function or integrity of the resource.
- **Moderate Impact:** The effect would be easily identifiable and would change the function or integrity of the resource.

- **Major Impact:** The effect would alter the resource.

1. TOPOGRAPHY, GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

The project would not be expected to affect the geology, stability, and moisture of the project area. The crematorium operates within a building located in an area zoned as commercial and no new construction or ground disturbance to the area is required.

Direct Impacts: Proper crematorium operation would result in minor air pollution emissions to the ambient environment. These pollutants would deposit on the soils in the surrounding area. However, any impact from deposition of these pollutants would likely be very minor due to dispersion characteristics and the low concentration of those pollutants emitted.

Secondary Impacts: No secondary impacts to topography, geology, stability, and moisture would be expected because the animal crematorium is located within the existing Whitefish Animal Hospital property.

2. WATER QUALITY, QUANTITY, AND DISTRIBUTION:

The project would not be expected to affect water quantity or distribution in the project area. The crematorium operates within a building and does not discharge or use water during operation.

Direct Impacts: Emissions from the project may potentially affect water quality in the project area due to air pollutant deposition. However, any emissions and resulting deposition impacts from the project would likely be very minor due to the low concentration of those pollutants emitted.

Secondary Impacts: No secondary impacts to water quality, quantity and distribution would be expected, nor any impacts from stormwater runoff.

3. AIR QUALITY:

The project would result in the emissions of various criteria pollutants and HAPs to the ambient air in the project area.

Direct Impacts: the maximum potential emission levels of criteria air pollutants is relatively low and not expected to have more than a minor impact on air quality. In addition, it has been demonstrated by air dispersion modeling that any air quality impacts from HAP emissions from the project would be minor and would constitute negligible risk to human health and the environment.

The Department conducted air dispersion modeling to determine the ambient air quality impacts from HAPs that would be generated by the crematorium. The SCREENView model was selected for the air dispersion modeling. The full meteorology option was selected to provide a conservative result. Receptors were placed from 1 to 1,000 meters in a simple terrain array.

Stack parameters and emission rates used in the SCREENView model are contained in Section VII of the permit analysis and are on file with the Department. Stack velocity and gas

temperature were taken from data provided by the manufacturer of the crematorium. Due to the dispersion characteristics and low levels of pollutants that would be emitted from the proposed project the Department determined that any impacts to air quality would be minor.

Secondary Impacts: There would be no secondary air quality impacts.

4. VEGETATION COVER, QUANTITY AND QUALITY:

There are no known rare or sensitive plants or cover types present in the site area. No fragile or unique resources or values, or resources of statewide or societal importance, are present. The proposed action is located at the existing Whitefish Animal Hospital in an area that is zoned commercial and where the vegetation is limited.

Direct Impacts: Air emissions from the project may potentially affect vegetation cover, quantity, and quality in the project area. However, any emissions and resulting impacts from the project would be expected to be minor due to the dispersion characteristics and the low concentration of those pollutants emitted.

Further, the crematorium would operate an existing building located in an area zoned as commercial and no new construction or ground disturbance is required. Overall, any impact to the vegetation cover, quantity, and quality of the proposed project area would likely be minor.

Secondary Impacts: No secondary impacts are expected.

5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

The proposed action is located at the existing Whitefish Animal Hospital in an area that is zoned commercial and where there is limited wildlife habitat.

Direct Impacts: Emissions from the proposed project would potentially affect terrestrial and aquatic life and habitats in the proposed project area. However, as detailed in Section V and Section VI of the permit analysis, any emissions and resulting impacts from the project would be minor due to the low concentration of those pollutants emitted.

Further, the proposed crematorium would operate within an existing building located in an area zoned as commercial and no additional construction or ground disturbance to the area would be required. Overall, any impact to the terrestrial and aquatic life and habitats of the proposed project area would be expected to be minor.

Secondary Impacts: No secondary impacts to terrestrial, avian and aquatic life and habitats stimulated or induced by the direct impacts analyzed above would be expected.

6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:

The Department, in an effort to assess any potential impacts to any unique endangered, fragile, or limited environmental resources in the initial proposed area of operations, contacted the Montana Natural Heritage Program (MNHP) to identify any species of concern associated with the proposed site location. Search results concluded there are 12 species of special concern within the defined area; the Little Brown Myotis, the Hoary Bat, the Fisher, the Evening Grosbeak, the Pileated Woodpecker, the Common Loon, Cassin's Finch, Varied Thrush, the

Northern Alligator Lizard, the Westslope Cutthroat Trout, the Bull Trout and the Subarctic Bluet.

Direct Impacts: The current permit action could potentially result in minor impacts to any existing unique endangered, fragile, or limited environmental resource in the proposed area of operation. However, the proposed crematorium would require no new construction and would operate within a building located in an area zoned as commercial thereby limiting the potential for impact to any unique endangered, fragile, or limited environmental resource in the proposed location.

The identified species of concern are peripatetic in nature and not likely associated with the immediate location of the proposed project, as the site is zoned commercial as is the general surrounding site area. Further, as detailed in Section VI of the permit analysis, any emissions and resulting impacts from the project would be minor due to the low concentration of those pollutants emitted. Overall, any impact to this unique endangered, fragile, or limited environmental resource of the proposed project area would expect to be negligible.

Secondary Impacts: The proposed action and the installation and operation of the animal crematorium would have no secondary impacts to endangered species because the permit conditions are protective of human and animal health and all lands involved in the proposed action and the animal hospital location is currently used for industrial operations and would not change the effect to the environment.

7. HISTORICAL AND ARCHAEOLOGICAL SITES:

The Department contacted the Montana Historical Society – State Historical Preservation Office (SHPO) to identify any historical and/or archeological sites that may be present in the proposed area of construction/operation. Search results from when the facility was originally permitted 5 years ago concluded that there are no previously recorded sites within the area proposed for the project. There is a low likelihood cultural property would be impacted, so a recommendation for a cultural resource inventory is unwarranted at this time. However, should cultural materials be inadvertently discovered during this project the SHPO office must be contacted, and the site investigated.

Direct Impacts: There are no previously recorded sites in the area. Therefore, no impacts to historical and archeological sites would be expected.

Secondary Impacts: No secondary impacts to historical and archaeological sites are anticipated since the proposed action and construction and operation of the animal crematorium are located on land currently in industrial use.

8. SAGE GROUSE EXECUTIVE ORDER:

The project would not be in core, general or connectivity sage grouse habitat, as designated by the Sage Grouse Habitat Conservation Program (Program) at: <HTTP://SAGEGROUSE.MT.GOV>.

Direct Impacts: The proposed action is not located within Sage Grouse habitat, so no direct impacts would occur.

Secondary Impacts: No secondary impacts to sage grouse or sage grouse habitat would be expected since the proposed action is not located within Sage Grouse habitat.

9. AESTHETICS:

The project would result in no impacts to the aesthetic nature of the project area because the crematorium operates within a building located in an area zoned as commercial and a no new construction or site disturbance is required.

Direct Impacts: Because the facility location area is currently designated for commercial use, the project would not change the aesthetic nature of the area. Further, visible emissions from the source would be limited to 10% opacity. Therefore, the project would expect to result in only a minor impact to aesthetics of the area.

Secondary Impacts: No secondary impacts are expected.

10. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

The site is located in an area characterized by commercial businesses. The operation of the Whitefish Animal Hospital provides veterinary services for the city of Whitefish and surrounding areas.

Direct Impacts: The proposed project would result in minor demands on environmental resources of water and air as discussed in Section 2 and 3, respectively, of this EA. Further, as detailed in Section V and Section VI of the permit analysis, project impacts on air resources in the proposed project area would be minor due to dispersion characteristics and the low concentration of those pollutants emitted. Finally, because the project is small by industrial standards, relatively little energy would be required for operation and the resulting impact on energy resources would likely be minor.

Secondary Impacts: The secondary impacts from this project on the environment in the immediate are expected to be minor. This facility is within an urban area and the air pollution emissions from this facility are negligible. The Department believes that this facility would be expected to operate in compliance with all applicable rules and regulations as outlined in MAQP #5163-01.

11. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES:

The site is surrounded by commercial properties.

Direct Impacts: No other environmental resources are known have been identified in the area beyond those discussed above. Hence, there is no impact to other environmental resources.

Secondary Impacts: No secondary impacts to other environmental resources are anticipated as a result of the proposed action.

12. HUMAN HEALTH AND SAFETY:

The applicant would be required to adhere to all applicable state and federal safety laws. As described in Section VII of the MAQP Analysis, modeling and analysis of hazardous air pollutants showed negligible risk to human health. Furthermore, the potential to emit of conventional air pollutants would be very low on an industrial scale.

Direct Impacts: Negligible change in impacts to human health and safety are anticipated as a result of this project action.

Secondary Impacts: No secondary impacts to human health and safety are anticipated as a result of the proposed action.

13. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION:

The site is currently zoned commercial and is adjacent to other industrial and commercial properties. There is no agricultural activity at the site.

Direct Impacts: No effects to agricultural or industrial production would occur as a result of the project. The proposed project is to provide cremation services for deceased animals.

Secondary Impacts: No secondary impacts to industrial, commercial, and agricultural activities and production are anticipated as a result of the proposed action.

14. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

The proposed project would not require any new employees for the operation of the crematory.

Direct Impacts: Any impact to the quantity and distribution of employment would not be expected.

Secondary Impacts: No secondary impacts are expected.

15. LOCAL AND STATE TAX BASE AND TAX REVENUES:

The proposed project may provide additional revenue for Whitefish Animal Hospital.

Direct Impacts: The impact to local and state tax base and tax revenue would be minor because the project would not require any additional employees.

Secondary Impacts: No secondary impacts to local and state tax base and tax revenues are anticipated as a result of the proposed action.

16. DEMAND FOR GOVERNMENT SERVICES:

Government services would be required for acquiring the appropriate permits from government agencies. In addition, the permitted source of emissions would be subject to periodic inspections by government personnel.

Direct Impacts: Overall, demands for government services would be minor, mainly through oversight by DEQ AQB.

Secondary Impacts: No secondary impacts are anticipated on government services with the proposed action.

17. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

The facility is currently located within the city of Whitefish and is zoned commercial.

Direct Impacts: Whitefish Animal Hospital's proposed action is on property which is already zoned as commercial. No impacts from the proposed action would be expected relative to any locally adopted community planning goals.

Secondary Impacts: No secondary impacts to the locally adopted environmental plans and goals are anticipated as a result of the proposed action.

18. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

The current site of the proposed animal crematorium is in an area of commercial use. No wilderness areas or other recreational sites are in the vicinity. Access to recreational opportunities would not be limited or modified by this facility. The incinerator would be located within an existing building site that has already been established for similar use. All recreational opportunities, if available in the area, would still be accessible.

Direct Impacts: Permit conditions would require opacity of the emissions to be 10% or less while operating. The potential to emit of the proposed incinerator would be very small. Therefore, minor, if any impact to the quality of recreational and wilderness activities would be expected as a result of this project.

Secondary Impacts: No secondary impacts to access and quality of recreational and wilderness activities are anticipated as a result of the proposed action.

19. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

The proposed project would not require any new employees for the operation of the crematory.

Direct Impacts: The project would not add to the population or require additional housing, therefore, no impacts to density and distribution of population and housing are anticipated.

Secondary Impacts: No secondary impacts to density and distribution of population and housing are anticipated as a result of the proposed action.

20. SOCIAL STRUCTURES AND MORES:

Whitefish Animal Hospital owns and operates a veterinary hospital. Whitefish Animal Hospital is proposing to operate a natural gas fired multiple chambered cremation unit with a maximum design capacity of 50 lbs/hr of animal remains. The incinerator emissions would be extremely low on an industrial scale and opacity limitations of MAQP #5163-01 would require 10% or less opacity while operating.

Direct Impacts: The proposed action is located on an existing commercial site, no disruption of native or traditional lifestyles would be expected, therefore, no impacts to social structure and mores are anticipated.

Secondary Impacts: No secondary impacts to social structures and mores are anticipated as a result of the proposed project.

21. CULTURAL UNIQUENESS AND DIVERSITY:

Based on the required information provided by Whitefish Animal Hospital, DEQ is not aware of any unique qualities of the area that would be affected by the proposed action on this existing refinery facility.

Direct Impacts: No impacts to cultural uniqueness and diversity are anticipated from this project.

Secondary Impacts: No secondary impacts to cultural uniqueness and diversity are anticipated as a result of the proposed action.

22. PRIVATE PROPERTY IMPACTS:

The proposed action would take place on privately-owned land. The analysis done in response to the Private Property Assessment Act indicates no impact. DEQ does not plan to deny the application or impose conditions that would restrict the regulated person's use of private property so as to constitute a taking. Further, if the application is complete, DEQ must take action on the permit pursuant to § 75-2-218(2), MCA. Therefore, DEQ does not have discretion to take the action in another way that would have less impact on private property—its action is bound by a statute.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
YES	NO	
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

23. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Due to the nature of the proposed action, no further direct or secondary impacts are anticipated from this project.

ADDITIONAL ALTERNATIVES CONSIDERED:

No Action Alternative: In addition to the proposed action, the Department also considered the “no-action” alternative. The no action alternative would mean that either animal remains would be disposed of in the local landfill or the clients would take the remains to a local business that already has the ability to cremate the remains. The facility could possibly lose out on a business opportunity and potential revenue for the existing animal hospital providing a variety of veterinary services. Therefore, the “no-action” alternative was eliminated from further consideration.

Other Ways to Accomplish the Action: Other alternatives considered were discussed in the BACT analysis, Section III in the MAQP Analysis.

CUMULATIVE IMPACTS:

Cumulative impacts are the collective impacts on the human environment within the borders of the proposed action when considered in conjunction with other past and present actions related to the proposed action by location and generic type. Related future actions must also be considered when these actions are under concurrent consideration by any state agency through preimpact statement studies, separate impact statement evaluation, or permit processing procedures.

Currently, there is an air quality permit application from Whitefish Animal Hospital requesting the addition of a second animal crematorium. No other permit applications for this facility are currently pending before DEQ. Although additional permits may be necessary for this facility in the future, without a pending permit application containing the requisite information, DEQ cannot speculate about which permits may be necessary or which permits may be granted or denied. There may, therefore, be additional cumulative impacts (*e.g.* to water) associated with this facility in the future, but those impacts would be analyzed by future environmental reviews associated with those later permitting actions. This environmental review analyzes only the proposed action submitted by Whitefish Animal Hospital, which is the air quality permit regulating the emissions from the equipment as listed in the “proposed action” section, above.

There are other sources of industrial emissions in the vicinity. The animal crematorium would have emissions including CO, VOCs, NO_x and particulate matter as detailed in MAQP #5163-01. These emissions are limited through enforceable conditions within the air quality permit. The proposed action would not be expected to have any discernable impact. No change in the EPA air quality designation would be expected.

DEQ considered potential impacts related to this project and potential secondary impacts. Due to the limited activities in the analysis area, cumulative impacts related to this proposed action would be minor.

PUBLIC INVOLVEMENT:

Scoping for this proposed action consisted of internal efforts to identify substantive issues and/or concerns related to the proposed action. Internal scoping consisted of internal review of the EA document by DEQ Air Permitting staff. Additionally, the EA for the Whitefish Animal Hospital was reviewed extensively.

Internal efforts also included queries to the following websites/ databases/ personnel:

- Montana State Historic Preservation Office
- Montana DEQ
- Montana Natural Heritage Program

A thirty-day public comment period occurs along with the Preliminary Determination on MAQP #5163-01 is posted to the DEQ website.

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION:

The proposed action would be fully located on privately-owned land. All applicable local, state, and federal rules must be adhered to, which, at some level, may also include other local, state, federal, or tribal agency jurisdiction. Other Governmental Agencies which may have overlapping or sole jurisdiction include but may not be limited to: City of Whitefish, Flathead County Commission or County Planning Department (zoning), Occupational Safety and Health Administration (worker safety), DEQ AQB (air quality) and Water Protection Bureau (groundwater and surface water discharge; stormwater), DNRC (water rights), and MDT and Flathead County (road access).

NEED FOR FURTHER ANALYSIS AND SIGNIFICANCE OF POTENTIAL IMPACTS

Under ARM 17.4.608, DEQ is required to determine the significance of impacts associated with the proposed action. This determination is the basis for the agency's decision concerning the need to prepare an environmental impact statement and also refers to DEQ's evaluation of individual and cumulative impacts. DEQ is required to consider the following criteria in determining the significance of each impact on the quality of the human environment:

1. The severity, duration, geographic extent, and frequency of the occurrence of the impact.

“Severity” is analyzed as the density of the potential impact while “extent” is described as the area where the impact is likely to occur. An example could be that a project may propagate ten noxious weeds on a surface area of 1 square foot. In this case, the impact may be a high severity over a low extent. If those ten noxious weeds were located over ten acres there may be a low severity over a larger extent.

“Duration” is analyzed as the time period in which the impact may occur while “frequency” is analyzed as how often the impact may occur. For example, an operation that occurs throughout the night may have impacts associated with lighting that occur every night (frequency) over the course of the one season project (duration).

2. The probability that the impact will occur if the proposed action occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact will not occur.
3. Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts.
4. The quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources and values.
5. The importance to the state and to society of each environmental resource or value that would be affected.
6. Any precedent that would be set as a result of an impact of the proposed action that would commit the DEQ to future actions with significant impacts or a decision in principle about such future actions.
7. Potential conflict with local, state, or federal laws, requirements, or formal plans.

The significance determination is made by giving weight to these criteria in their totality. For example, impacts with moderate or major severity may be determined to be not significant if the

duration of the impacts is considered to be short-term. As another example, however, moderate or major impacts of short-term duration may be considered to be significant if the quantity and quality of the resource is limited and/or the resource is considered to be unique or fragile. As a final example, moderate or major impacts to a resource may be determined to be not significant if the quantity of that resource is high or the quality of the resource is not unique or fragile.

Preparation of an EA is the appropriate level of environmental review under MEPA if statutory requirements do not allow sufficient time for an agency to prepare an environmental impact statement, pursuant to ARM 17.4.607. An agency determines whether sufficient time is available to prepare an environmental impact statement by comparing statutory requirements that establish when the agency must make its decision on the proposed action with the time required to obtain public review of an environmental impact statement plus a reasonable period to prepare a draft environmental review and, if required, a final environmental impact statement.

SIGNIFICANCE DETERMINATION

The severity, duration, geographic extent, and frequency of the occurrence of the primary, secondary, and cumulative impacts associated with the proposed action would be limited. Whitefish Animal Hospital proposes to install and operate a second animal crematorium with an existing commercial facility.

DEQ has not identified any significant impacts associated with the proposed action for any environmental resource. Approving Whitefish Animal Hospital's air quality permit modification application would not set precedent that commits DEQ to future actions with significant impacts or a decision in principle about such future actions.

DEQ's issuance of a modified MAQP to Whitefish Animal Hospital for this proposed operation also does not set a precedent for DEQ's review of other applications, including the level of environmental review. A decision on the appropriate level of environmental review is made based on case-specific considerations of the criteria set forth in ARM 17.4.608.

DEQ does not believe that the proposed action has any growth-inducing or growth-inhibiting aspects or that it conflicts with any local, state, or federal laws, requirements, or formal plans. Based on a consideration of the criteria set forth in ARM 17.4.608, the proposed state action is not predicted to significantly impact the quality of the human environment. Therefore, at this time, preparation of an EA is determined to be the appropriate level of environmental review under MEPA.

Environmental Assessment and Significance Determination Prepared By:

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Name	Title

EA Reviewed By:

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Name	Title

References

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