



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD

CHICAGO, IL 60604-3590

SEP 29 2017

REPLY TO THE ATTENTION OF:

VIA E-MAIL

Zayna Eischens, General Manager
Minnesota Valley Alfalfa Producers
7410 Highway 23 Southwest
Raymond, Minnesota 56282
Email: zeischens@mnvap.com

Dear Ms. Eischens:

Enclosed is a file-stamped Consent Agreement and Final Order (CAFO) which resolves Minnesota Valley Alfalfa Producers, docket no. **CAA-05-2017-0044**. As indicated by the filing stamp on its first page, we filed the CAFO with the Regional Hearing Clerk on

September 29, 2017.

Pursuant to paragraph 31 of the CAFO, Minnesota Valley Alfalfa Producers must pay the civil penalty within 30 days of the filing date. Your check must display the case name and case docket number.

Please direct any questions regarding this case to Deborah Carlson, Associate Regional Counsel, at (312) 353-6121.

Sincerely,

Brian Dickens

Brian Dickens, Chief
Air Enforcement and Compliance Assurance Section (MN/OH)

Enclosure

cc: Ann Coyle, Regional Judicial Officer/C-14J
Regional Hearing Clerk/E-19J
Deborah Carlson/C-14J
Sarah Kilgriff/ sarah.kilgriff@state.mn.us

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5



In the Matter of:) **Docket No. CAA-05-2017-0044**
)
Minnesota Valley Alfalfa Producers) **Proceeding to Assess a Civil Penalty**
Raymond, Minnesota,) **Under Section 113(d) of the Clean Air Act,**
) **42 U.S.C. § 7413(d)**
Respondent.)
_____)

Consent Agreement and Final Order

Preliminary Statement

1. This is an administrative action commenced and concluded under Section 113(d) of the Clean Air Act (the CAA), 42 U.S.C. § 7413(d), and Sections 22.1(a)(2), 22.13(b) and 22.18(b)(2) and (3) of the Consolidated Rules of Practice Governing the Administrative Assessment of Civil Penalties and the Revocation/Termination or Suspension of Permits (Consolidated Rules), as codified at 40 C.F.R. Part 22.

2. Complainant is the Director of the Air and Radiation Division, U.S. Environmental Protection Agency (EPA), Region 5.

3. Respondent is Minnesota Valley Alfalfa Producers (MnVAP), a cooperative partnership doing business in Minnesota.

4. Where the parties agree to settle one or more causes of action before the filing of a complaint, the administrative action may be commenced and concluded simultaneously by the issuance of a consent agreement and final order (CAFO). 40 C.F.R. § 22.13(b).

5. The parties agree that settling this action without the filing of a complaint or the adjudication of any issue of fact or law is in their interest and in the public interest.

6. Respondent consents to the assessment of the civil penalty specified in this CAFO and to the terms of this CAFO.

Jurisdiction and Waiver of Right to Hearing

7. Respondent admits the jurisdictional allegations in this CAFO and neither admits nor denies the factual allegations in this CAFO.

8. Respondent waives its right to request a hearing as provided at 40 C.F.R. § 22.15(c), any right to contest the allegations in this CAFO and its right to appeal this CAFO.

Statutory and Regulatory Background

9. The Clean Air Act is designed to, among other things, protect and enhance the quality of the nation's air so as to promote the public health and welfare and the productive capacity of its population. Section 101(b)(1) of the Clean Air Act (CAA), 42 U.S.C. § 7401(b)(1).

10. Title V of the CAA, 42 U.S.C. §§ 7661-7661f, and its implementing regulations at 40 C.F.R. Part 70, establish an operating permit program for certain sources, including "synthetic minor sources." The purpose of Title V is to ensure that all applicable requirements are included in the Title V operating permit for the source.

11. Section 502(a) of the CAA, 42 U.S.C. § 7661a(a), and its implementing regulations at 40 C.F.R. § 70.7(b), state that after the effective date of any permit program approved or promulgated under Title V of the CAA, no source subject to Title V may operate the source except in compliance with its Title V permit.

12. Section 113(a)(3) of the CAA, 42 U.S.C. § 7413(a)(3), authorizes the Administrator to initiate an enforcement action whenever, among other things, the Administrator finds that any person has violated or is in violation of a requirement or prohibition of Title V of the CAA, or any rule promulgated, issued or approved under Title V of the CAA.

13. EPA approved Minnesota's Title V operating permit program on an interim basis on June 16, 1995, and fully approved the program on December 4, 2001. See 60 Fed. Reg. 31637, and 66 Fed. Reg. 62967. Minnesota's Title V operating permit program regulations are codified

at Minnesota Rule 7007, and are federally enforceable pursuant to Section 113(a)(3) of the CAA, 42 U.S.C § 7413(a)(3).

14. The Minnesota Pollution Control Agency issued Title V Operating Permit No. 06700023-002 to MnVAP for its facility located at 7410 Highway 23 Southwest, Raymond, Minnesota (“the facility”) on December 18, 2009.

15. Emissions from MnVAP’s SV002 Dryer Cyclone are subject to Title V emissions limitations for particulate matter (PM), PM less than 10 micron (PM₁₀), and PM less than 2.5 micron (PM_{2.5}) that limit emissions to keep the facility from becoming classified as a major source under 40 C.F.R. § 52.21 and Minnesota Rule 7007.3000.

16. MnVAP’s Title V operating permit requirements for SV002 Dryer Cyclone limit emissions of PM to less than or equal to 2.50 pounds per ton of process throughput.

17. MnVAP’s Title V operating permit requirements for SV002 Dryer Cyclone limit emissions of PM₁₀ to less than or equal to 2.40 pounds per ton of process throughput.

18. MnVAP’s Title V operating permit requirements for SV002 Dryer Cyclone limit emissions of PM_{2.5} to less than or equal to 2.40 pounds per ton of process throughput.

19. MnVAP’s Title V operating permit requirements for SV002 Dryer Cyclone limit opacity to less than or equal to 20 percent.

20. The Administrator of EPA (the Administrator) may assess a civil penalty of up to \$45,268 per day of violation and up to a total of \$362,141 for violations that occurred after November 2, 2015 under Section 113(d)(1) of the CAA, 42 U.S.C. § 7413(d)(1), and 40 C.F.R. Part 19.

21. Section 113(d)(1) limits the Administrator’s authority to matters where the first alleged date of violation occurred no more than 12 months prior to initiation of the administration action, except where the Administrator and the Attorney General of the United

States jointly determine that a matter involving a longer period of violation is appropriate for an administrative penalty action.

22. The Administrator and the Attorney General of the United States, each through their respective delegates, have determined jointly that an administrative penalty action is appropriate for the period of violations alleged in this CAFO.

Factual Allegations and Alleged Violations

23. MnVAP owns and operates an alfalfa pelletizing plant at 7410 Highway 23 Southwest, Raymond, Minnesota.

24. On June 14, 2016, EPA issued a request for information, pursuant to Section 114 of the CAA, 42 U.S.C § 7414, that required MnVAP to conduct performance testing for PM, PM₁₀, and PM_{2.5} on emission units EU001 (hay shredder) and EU005 (hay dryer), among other things.

25. On August 23, 2016, MnVAP conducted performance testing for PM, PM₁₀, and PM_{2.5} on stack vent SV002, which routes emissions to the atmosphere from control equipment CE008, which controls emissions from EU001 and EU005.

26. On October 19, 2016, EPA issued to MnVAP a finding of violation alleging, based on the performance test results, that SV002 emits PM at a rate of 6.03 pounds per ton of process throughput, emits PM₁₀ and PM_{2.5} at a rate of 6.04 pounds per ton of process throughput, and has visible emissions with an opacity above 20 percent, in violation of the PM, PM₁₀, and PM_{2.5}, emission limits and opacity limit in its Title V operating permit.

27. On November 2, 2016, MnVAP conducted performance testing on SV002 demonstrating compliance with the emission limits for PM, PM₁₀, PM_{2.5}, and visible emissions after making adjustments to control equipment CE008.

28. On January 12, 2017, representatives of MnVAP and EPA discussed the October 19, 2016 finding of violation.

29. MnVAP violated the PM, PM₁₀, and PM_{2.5}, emission limits and opacity limit in its Title V operating permit.

Civil Penalty

30. Based on analysis of the factors specified in Section 113(e) of the CAA, 42 U.S.C. § 7413(e), the facts of this case and other factors such as cooperation, prompt return to compliance, agreement to perform a supplemental environmental project, Complainant has determined that an appropriate civil penalty to settle this action is \$13,684.

31. Within 30 days after the effective date of this CAFO, Respondent must pay a \$13,684 civil penalty by sending a cashier's or certified check, payable to "Treasurer, United States of America," to:

U.S. EPA
Fines and Penalties
Cincinnati Finance Center
P.O. Box 979077
St. Louis, Missouri 63197-9000

32. Respondent must send a notice of payment that states Respondent's name and the docket number of this CAFO to EPA at the following addresses when it pays the penalty:

Attn: Compliance Tracker (AE-18J)
Air Enforcement and Compliance Assurance Branch
Air and Radiation Division
U.S. Environmental Protection Agency, Region 5
77 W. Jackson Boulevard
Chicago, Illinois 60604

Deborah Carlson (C-14J)
Office of Regional Counsel
U.S. Environmental Protection Agency, Region 5
77 W. Jackson Boulevard
Chicago, Illinois 60604

Regional Hearing Clerk (E-19J)
U.S. Environmental Protection Agency, Region 5
77 W. Jackson Boulevard
Chicago, Illinois 60604

33. This civil penalty is not deductible for federal tax purposes.

34. If Respondent does not pay timely the civil penalty or any stipulated penalties due under paragraph 44 below, EPA may request the Attorney General of the United States to bring an action to collect any unpaid portion of the penalty with interest, nonpayment penalties and the United States enforcement expenses for the collection action under Section 113(d)(5) of the CAA, 42 U.S.C. § 7413(d)(5). The validity, amount and appropriateness of the civil penalty are not reviewable in a collection action.

35. Respondent must pay the following on any amount overdue under this CAFO. Interest will accrue on any overdue amount from the date payment was due at a rate established by the Secretary of the Treasury pursuant to 26 U.S.C. § 6621(a)(2). Respondent must pay the United States enforcement expenses, including but not limited to attorneys fees and costs incurred by the United States for collection proceedings. In addition, Respondent must pay a quarterly nonpayment penalty each quarter during which the assessed penalty is overdue. This nonpayment penalty will be 10 percent of the aggregate amount of the outstanding penalties and nonpayment penalties accrued from the beginning of the quarter. 42 U.S.C. § 7413(d)(5).

Supplemental Environment Project

36. Respondent must complete a supplemental environmental project (SEP) designed to protect the environment and public health by reducing PM emissions by paving the roadway leading to the pellet load out building on MnVAP's property.

37. At its Raymond, Minnesota facility, Respondent must complete the SEP by paving the roadway leading to the pellet load out building, as detailed in Exhibit A, by November 30, 2017.

38. Respondent must spend at least \$51,054 to pave the roadway leading to the pellet load out building on MnVAP's property.

39. Respondent certifies as follows:

I certify that Minnesota Valley Alfalfa Producers is not required to perform or develop the SEP by any law, regulation, order, or agreement or as injunctive relief as of the date that I am signing this CAFO. I further certify that Minnesota Valley Alfalfa Producers has not received, and is not negotiating to receive, credit for the SEP in any other enforcement action.

I certify that Minnesota Valley Alfalfa Producers is not a party to any open federal financial assistance transaction that is funding or could be used to fund the same activity as the SEP. I further certify that, to the best of my knowledge and belief after reasonable inquiry, there is no such open federal financial transaction that is funding or could be used to fund the same activity as the SEP, nor has the same activity been described in an unsuccessful federal financial assistance transaction proposal submitted to EPA within two years of the date that I am signing this CAFO (unless the project was barred from funding as statutorily ineligible). For purposes of this certification, the term "open federal financial assistance transaction" refers to a grant, cooperative agreement, loan, federally-guaranteed loan guarantee or other mechanism for providing federal financial assistance whose performance period has not expired.

40. EPA may inspect the facility at any time to monitor Respondent's compliance with this CAFO's SEP requirements.

41. Respondent must submit a SEP completion report to EPA by January 31, 2018.

This report must contain the following information:

- a. Detailed description of the SEP as completed;
- b. Description of any operating problems and the actions taken to correct the problems;
- c. Itemized cost of goods and services used to complete the SEP documented by copies of invoices, purchase orders or cancelled checks that specifically identify and itemize the individual cost of the goods and services;
- d. Certification that Respondent has completed the SEP in compliance with this CAFO; and
- e. Description of the environmental and public health benefits resulting from the SEP (quantify the benefits and pollution reductions, if feasible).

42. Respondent must submit all notices and reports required by this CAFO by first-class mail to the Compliance Tracker of the Air Enforcement and Compliance Assurance Branch at the address provided in paragraph 32, above.

43. In each report that Respondent submits as provided by this CAFO, it must certify that the report is true and complete by including the following statement signed by one of its officers:

I certify that I am familiar with the information in this document and that, based on my inquiry of those individuals responsible for obtaining the information, it is true and complete to the best of my knowledge. I know that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

44. Following receipt of the SEP completion report described in paragraph 41, above, EPA must notify Respondent in writing that:

- a. It has satisfactorily completed the SEP and the SEP report;
- b. There are deficiencies in the SEP as completed or in the SEP report and EPA will give Respondent 30 days to correct the deficiencies; or
- c. It has not satisfactorily completed the SEP or the SEP report and EPA will seek stipulated penalties under paragraph 46.

45. If EPA exercises option b above, Respondent may object in writing to the deficiency notice within 10 days of receiving the notice. The parties will have 30 days from EPA's receipt of Respondent's objection to reach an agreement. If the parties cannot reach an agreement, EPA will give Respondent a written decision on its objection. Respondent will comply with any requirement that EPA imposes in its decision. If Respondent does not complete the SEP as required by EPA's decision, Respondent will pay stipulated penalties to the United States under paragraph 46, below.

46. If Respondent violates any requirement of this CAFO relating to the SEP, Respondent must pay stipulated penalties to the United States as follows:

- a. Except as provided in subparagraph b, below, if Respondent did not complete the SEP satisfactorily according to the requirements of this CAFO, including the schedule in paragraph 37, Respondent must pay a penalty of \$15,316.
- b. If Respondent did not complete the SEP satisfactorily, but EPA determines that Respondent made good faith and timely efforts to complete the SEP and certified, with supporting documents, that it spent at least 90 percent of the amount set forth in paragraph 38, Respondent will not be liable for any stipulated penalty under subparagraph a, above.
- c. If Respondent completed the SEP satisfactorily, but spent less than 90 percent of the amount set forth in paragraph 38, Respondent must pay a penalty of \$1,532.
- d. If Respondent did not submit timely the SEP completion report by paragraph 41, Respondent must pay penalties in the following amounts for each day after the report was due until it submits the report:

<u>Penalty per violation per day</u>	<u>Period of violation</u>
\$100	1 st through 14 th day
\$125	15 th through 30 th day
\$150	31 st day and beyond

47. EPA’s determinations of whether Respondent completed the SEP satisfactorily and whether Respondent made good faith and timely efforts to complete the SEP will bind Respondent.

48. Respondent must pay any stipulated penalties within 15 days of receiving EPA’s written demand for the penalties. Respondent will use the method of payment specified in paragraph 31, above, and will pay interest and nonpayment penalties on any overdue amounts.

49. Any public statement that Respondent makes referring to the SEP must include the following language: “Minnesota Valley Alfalfa Producers (MnVAP) undertook this project under the settlement of the United States Environmental Protection Agency’s enforcement action against MnVAP for violations of the Clean Air Act and its Title V Permit.”

50. If an event occurs which causes or may cause a delay in completing the SEP as required by this CAFO:

- a. Respondent must notify EPA in writing within 10 days after learning of an event which caused or may cause a delay in completing the SEP. The notice must describe the anticipated length of the delay, its cause(s), Respondent's past and proposed actions to prevent or minimize the delay and a schedule to carry out those actions. Respondent must take all reasonable actions to avoid or minimize any delay. If Respondent fails to notify EPA according to this paragraph, Respondent will not receive an extension of time to complete the SEP.
- b. If the parties agree that circumstances beyond the control of Respondent caused or may cause a delay in completing the SEP, the parties will stipulate to an extension of time no longer than the period of delay.
- c. If EPA does not agree that circumstances beyond the control of Respondent caused or may a delay in completing the SEP, EPA will notify Respondent in writing of its decision and any delays in completing the SEP will not be excused.
- d. Respondent has the burden of proving that circumstances beyond its control caused or may cause a delay in completing the SEP. Increased costs for completing the SEP will not be a basis for an extension of time under subparagraph b, above. Delay in achieving an interim step will not necessarily justify or excuse delay in achieving subsequent steps.

51. For federal income tax purposes, Respondent will neither capitalize into inventory or basis, nor deduct any costs or expenditures incurred in performing the SEP.

General Provisions

52. This CAFO resolves only Respondent's liability for federal civil penalties for the violations alleged in this CAFO.

53. The CAFO does not affect the rights of EPA or the United States to pursue appropriate injunctive or other equitable relief or criminal sanctions for any violation of law.

54. This CAFO does not affect Respondent's responsibility to comply with the CAA and other applicable federal, state and local laws. Except as provided in paragraph 52, above, compliance with this CAFO will not be a defense to any actions subsequently commenced pursuant to federal laws administered by EPA.

55. Respondent certifies that it is complying fully with the PM, PM₁₀, and PM_{2.5}, emission limits and opacity limit in its Title V operating permit.

56. This CAFO constitutes an “enforcement response” as that term is used in EPA’s Clean Air Act Stationary Civil Penalty Policy to determine Respondent’s “full compliance history” under Section 113(e) of the CAA, 42 U.S.C. § 7413(e).

57. The terms of this CAFO bind Respondent, its successors and assigns.

58. Each person signing this consent agreement certifies that he or she has the authority to sign for the party whom he or she represents and to bind that party to its terms.

59. Each party agrees to bear its own costs and attorneys fees in this action.

60. This CAFO constitutes the entire agreement between the parties.

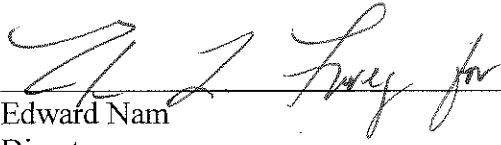
Minnesota Valley Alfalfa Producers, Respondent

9/27/17
Date

Zayna Eischens
Zayna Eischens
General Manager
Minnesota Valley Alfalfa Producers

United States Environmental Protection Agency, Complainant

9/19/17
Date



Edward Nam
Director
Air and Radiation Division
U.S. Environmental Protection Agency, Region 5

Consent Agreement and Final Order
In the Matter of: Minnesota Valley Alfalfa Producers
Docket No. CAA-05-2017-0044

Final Order

This Consent Agreement and Final Order, as agreed to by the parties, shall become effective immediately upon filing with the Regional Hearing Clerk. This Final Order concludes this proceeding pursuant to 40 C.F.R. §§ 22.18 and 22.31. IT IS SO ORDERED.

September 29, 2017
Date

Ann L. Coyle
Ann L. Coyle
Regional Judicial Officer
U.S. Environmental Protection Agency
Region 5

Consent Agreement and Final Order
In the matter of: Minnesota Valley Alfalfa Producers
Docket Number: CAA-05-2017-0044

CERTIFICATE OF SERVICE

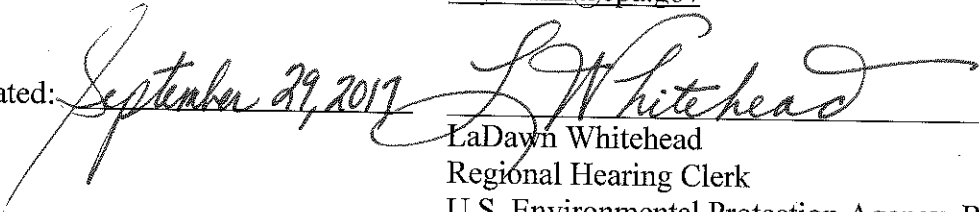
I certify that I served a true and correct copy of the foregoing **Consent Agreement and Final Order**, docket number CAA-05-2017-0044, which was filed on September 29, 2017, in the following manner to the following addressees:

Copy by E-mail to Respondent: Zayna Eischens
zeischens@mnvap.com

Copy by E-mail to Attorney for Complainant: Deborah Carlson
Carlson.deboraha@epa.gov

Copy by E-mail to Attorney for Respondent: J. Michael Valentine
jmvalentine@hotmail.com

Copy by E-mail to Regional Judicial Officer: Ann Coyle
coyle.ann@epa.gov

Dated: September 29, 2017 
LaDawn Whitehead
Regional Hearing Clerk
U.S. Environmental Protection Agency, Region 5

CAA-05-2017-0044

Exhibit A



DUININCK INCORPORATED

408 6th St. PO Box 208 Prinsburg, MN 56281
An Equal Opportunity Employer

ESTIMATE #: **214916**
 PREPARED BY: **Lucas Post**
 PHONE: (320) 235-3318
 FAX: (320) 978-4978
 EMAIL: lucasp@duininck.com
 www.duininck.com

JOB NAME	MN VALLEY ALFALFA PRODUCERS: 2017 PROJECT	DATE:	9/19/2017
SOLD TO:	MN VALLEY ALFALFA PRODUCERS	CONTACT NAME:	ZAYNA EISCHENS
BILL TO:	7410 HWY 23 SW RAYMOND, MN 56282	OFFICE #	(320) 212-4569 FAX #
		JOB LOCATION:	ALONG RAIL SPUR RAYMOND, MN

WE PROPOSE HEREBY TO FURNISH THE MATERIAL & LABOR - COMPLETE IN ACCORDANCE WITH SPECIFICATIONS:

Item Description

A) BASE BID: PAVING

MOBILIZATION
 EXCAVATE AREAS TO ALLOW FOR 12" OF CLASS 5 GRAVEL BASE
 FURNISH AND INSTALL 6" DRAIN TILE (INCLUDING TEES AND INLETS) AND TAP INTO EXISTING 8" LINE
 FURNISH AND INSTALL GEO TEXTILE FABRIC
 PLACE AND COMPACT 12" OF CLASS 5 GRAVEL BASE UNDER ALL PROPOSED ASPHALT
 FINAL SHAPE GRAVEL BASE
 2.5" COMPACTED BITUMINOUS NONWEAR COURSE (HEAVY DUTY AREA)
 3" COMPACTED BITUMINOUS WEAR COURSE (LIGHT DUTY AREAS)
 1.5" COMPACTED BITUMINOUS WEAR COURSE (HEAVY DUTY)

Total Price for above A) BASE BID: PAVING Items: \$49,724.00

B) OPTIONAL SHOULDERING

PLACE AND COMPACT GRAVEL SHOULDER ALONG OUTSIDE OF ASPHALT DRIVEWAY AND ALONG TRACKS

Total Price for above B) OPTIONAL SHOULDERING Items: \$1,330.00

Total Alternate Price: \$51,054.00

- Notes:**
- Quote ONLY good for 20 Days without verbal commitment or mutually agreed upon extension. Please review & respond ASAP.
 - DI Requires min. 2 weeks notice to start construction unless mutual agreement has been agreed upon.

Payments to be made as follows: **Monthly Progress Payments** Payment Type Check Credit Card
Interest charge of 1.5% will be charged 30 days after invoice. **Send Checks to above address.**

Authorized Signature _____ <p>Note: This proposal may be withdrawn by Duininck Incorporated if not accepted WITHIN 20 DAYS.</p>	Credit Card Authorization (To be charged monthly) Number: _____ Expiration Date: _____ Type: Visa MC Name on Card: _____ Authorization: _____
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<p><i>For Internal Use Only</i></p> Job Start Date: _____ Job Completion Date: _____ Job Number: _____	Signature to endorse the contract _____ Date: _____ <p>The above prices, conditions, specifications, & payment terms are hereby accepted. You are authorized to do the work as specified.</p>
--	---



**DUININCK
INCORPORATED**

408 6th St. PO Box 208 Prinsburg, MN 56281
An Equal Opportunity Employer

ESTIMATE #: **214916**

PREPARED BY: **Lucas Post**

PHONE: (320) 235-3318

FAX: (320) 978-4978

EMAIL: lucasp@duininck.com

www.duininck.com

Additional Terms & Conditions of this Contract:

- (a) Any person or company supplying labor or materials for this improvement to your property may file a lien against your property if that person or company is not paid for the contributions.
- (b) Under Minnesota law, you have the right to pay persons who supplied labor or materials for this improvement directly and deduct this amount from our contract price, or withhold the amounts due them from us until 120 days after completion of the improvement unless we give you a lien waiver signed by persons who supplied any labor or material for the improvement and who gave you timely notice.
- (c) You agree to pay reasonable costs of collection, including attorney's fees, if payment is not made when due according to the terms agreed to within this contract.
- (d) All material is guaranteed to be as specified. All work to be complete in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become extra charges over and above the estimate. All agreements are contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Duininck Incorporated employees are fully covered by Workers Compensation Insurance according to all applicable statutes.

Additional Information and Diagrams:



DUINICK
INCORPORATED

408 - Sixth Street
P.O. Box 208
Prinsburg, MN 56281-0208

320-978-6011
Fax: 320-978-4978
Toll Free: 800-328-8949

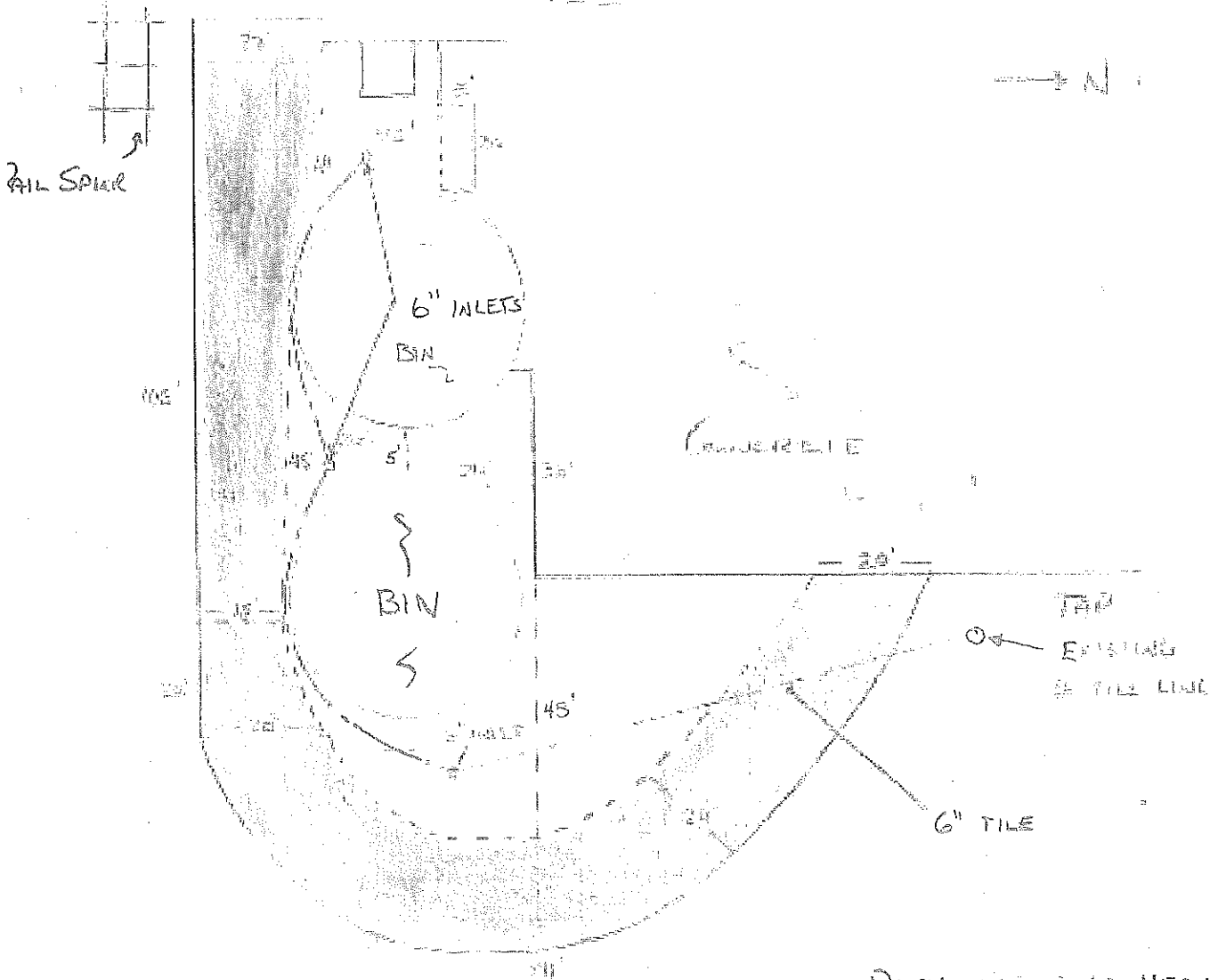
www.duinick.com

PROJECT

Handwritten: 2017 [unclear]

DATE

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LIGHT SHADE IS LIGHT DUTY



AMERICAN
ENGINEERING
TESTING, INC.

Memo

Date: September 21, 2017
To: J. Michael Valentine
Valentine & Associates
From: Michael Behnke
Senior Environmental Scientist
American Engineering Testing Inc.
AET Project No. 03-06262
Re: Technical Memo – MnVAP Particulate Calculations from Road Traffic

The attached spreadsheets summarize PM/PM₁₀/PM_{2.5} emission rate calculations performed for vehicle traffic on MnVAP's paved and unpaved roads for the existing paving/non-paving configuration and for the configuration after paving the current unpaved surface associated with the weigh scale location. The potential to emit for both configurations were calculated using the same methodology (standard EPA AP-42) as incorporated in essentially the same spreadsheets that have been used for previous emissions reporting and permitting exercises for the facility. As per the drawing provided by the paving contractor, 296 feet of currently unpaved road will be converted to paved road. For the PTE calculations, the existing permit annual production limit of 122,640 tons per year and unrestricted operation of 8760 hours per year were used for both configurations. The calculation results are summarized in the following table:

	Existing Paving Scenario PTE TPY (tons per year)			New Paving Scenario PTE TPY (tons per year)			Percent Reduction
	Unpaved	Paved	Total	Unpaved	Paved	Total	
PM	14.7	2.02	16.72	12.49	2.18	14.67	12.3
PM₁₀	4.33	0.39	4.72	3.68	0.42	4.10	13.1
PM_{2.5}	0.67	0.10	0.77	0.57	0.10	0.67	13.0

Paving the road surfaces resulting in an overall 12-13 % reduction in total road emissions. These emissions are ground level fugitives (not through an exhaust stack) and are relatively close to the property boundary. Therefore, reducing these emissions have a greater impact to ambient air quality near the plant than other facility process emissions that vent through the main exhaust stack. Reducing road emissions should result in a disproportionately greater improvement in local ambient air particulate concentrations than a corresponding reduction in stack emissions.

Attachments: Emission Calculations, Diagram.

Minnesota Valley Alfalfa Producers
 Fugitive Dust Emissions From Vehicle Traffic - Unpaved Roads
 PTE for Existing Road Configuration

Mean Vehicle Weight Calculation

Vehicle Fleet	Number of Vehicles (trucks/year)	Loaded Weight (tons)	Empty Weight (tons)	Average Weight (tons)	Travel Distance (mi/trip)	VMT (mi/yr)
Alfalfa haul trucks	4,906	40.0	15.0	27.5	0.4	1,962
Pellet haul trucks	4,088	40.0	10.0	25.0	0.4	1,635

Total Alfalfa Throughput = 122,640 tons/yr Current permit limit
 Alfalfa haul truck capacity = 25.0 tons/truck
 Number of alfalfa haul trucks = 122640 tons/yr / 25 tons/truck = 4,906 trucks/year

Amount of pellets hauled by truck = 122,640 tons
 Percentage of pellets hauled offsite by truck = 100%
 Pellet haul truck capacity = 30.0 tons/truck
 Number of pellet haul trucks = 122640 tons/yr / 30 tons/truck = 4,088 trucks/year

Total Potential Vehicle Miles Traveled = 1962 + 1635 = 3,597 miles/year

Mean fleet weight =
$$\frac{\sum (\text{avg. vehicle wt} * \text{VMT/yr})}{\text{Total VMT/yr}}$$

Mean fleet weight =
$$\frac{(27.5 \text{ tons} * 1962 \text{ mi/yr}) + (25 \text{ tons} * 1635 \text{ mi/yr})}{3597 \text{ miles/year}}$$

Mean fleet weight = 26.36 tons

Minnesota Valley Alfalfa Producers
Fugitive Dust Emissions From Vehicle Traffic

FS 001 UNPAVED ROADS

The emission factor for PM and PM10 from truck traffic on unpaved roads is calculated using the AP-42 equation below:

$$E \text{ (lb/VMT)} = k * (s/12)^a * (W/3)^b * [(365-p)/365] \quad \text{Equations 1a and 2}$$

Factor	Description	PM Value	PM10 Value	PM2.5 Value
E =	Emission factor (lb/VMT, vehicle miles traveled)	8.17	2.41	0.37
k =	Particle size multiplier (dimensionless) (from Table 13.2.2-2)	4.9	1.5	0.23
s =	Silt content of road surface material (%) (from MPCA Modeling Guidance)	10.0	10.0	10.0
a =	Constant (dimensionless) (from Table 13.2.2-2)	0.7	0.9	0.9
W =	Mean vehicle weight (ton) (See mean fleet weight calculation)	26.36	26.36	26.36
b =	Constant (dimensionless) (from Table 13.2.2-2)	0.45	0.45	0.45
p =	number of days with at least 0.01 in of precipitation per year (Figure 13.2.2-1)	105	105	105

Reference: Emission calculations based on Fifth Edition AP-42 Chapter 13.2.2 "Unpaved Roads" (12/03).

Fugitive Dust from Unpaved Roads

Emission Source	Annual Vehicle-miles Traveled (VMT/yr)	Uncontrolled Emissions (lb/yr)	Uncontrolled Emissions (tons/yr)	Control Efficiency (%)	Controlled Emissions (tons/yr)
PM from fleet	3,597	29,391	14.70	0%	14.70
PM10 from fleet	3,597	8,670	4.33	0%	4.33
PM2.5 from fleet	3,597	1,331	0.67	0%	0.67

Minnesota Valley Alfalfa Producers
Fugitive Dust Emissions From Vehicle Traffic - Paved Roads

Mean Vehicle Weight Calculation

Vehicle Fleet	Number of Vehicles (trucks/year)	Loaded Weight (tons)	Empty Weight (tons)	Average Weight (tons)	Travel Distance (mi/trip)	Average Vehicle Speed (mi/hr)	Operating Hours (hr/yr)	VMT (mi/yr)
Front end loaders	1	10.0	10.0	10.0	0.29	2.0	8760	17,520
Alfalfa haul trucks	4,906	40.0	15.0	27.5	0.29		8760	1,423
Pellet haul trucks	4,088	40.0	10.0	25.0	0.29		8760	1,186

Total Alfalfa Throughput =

122,640 tons/yr

Alfalfa haul truck capacity =

25.0 tons/truck

Number of alfalfa haul trucks = 122640 tons/yr / 25 tons/truck =

4,906 trucks/year

Amount of pellets hauled by rail =

0 tons

Amount of pellets hauled by truck =

122,640 tons

Pellet haul truck capacity =

30.0 tons/truck

Number of pellet haul trucks = 122640 tons/yr / 30 tons/truck =

4,088

trucks/year

Total Potential Vehicle Miles Traveled =

20,128 miles/year

Mean fleet weight =

$$\frac{\sum (\text{avg. vehicle wt} * \text{VMT/yr})}{\text{Total VMT/yr}}$$

Mean fleet weight =

$$\frac{(27.5 \text{ tons} * 1423 \text{ mi/yr}) + (25 \text{ tons} * 1186 \text{ mi/yr}) + (10 \text{ tons} * 17520 \text{ mi/yr})}{20128 \text{ miles/year}}$$

Mean fleet weight = 12.12 tons

Minnesota Valley Alfalfa Producers
 Fugitive Dust Emissions From Vehicle Traffic

F5 002 PAVED ROADS

The emission factor for PM and PM10 from truck traffic on paved roads is calculated using the AP-42 equation below:

$E = [k \times (sl/2)^{0.65} \times (W/3)^{1.5} - C]^x (1-P/4N)$ Equation 2

Factor	Description	PM Value	PM10 Value	PM2.5 Value
E =	Annual emission factor (lb/VMT, vehicle miles traveled)	0.22	0.04	0.01
k =	Particle-size specific constant (lb/VMT)	0.082	0.016	0.004
sl =	Road surface silt loading (g/m ² , AP-42 Table 13.2.1-2)	0.4	0.4	0.4
W =	Mean vehicle weight (ton)	12.12	12.12	12.12
C =	Emission factor for 80's fleet parameters	0.00047	0.00047	0.00036
P =	Number of wet days in averaging period	105	105	105
N =	Number of days in averaging period	365	365	365

Pollutant	Miles Traveled (VMT/year)	Annual Uncontrolled PM Emissions (lb/yr)	Control Efficiency (%)	Annual Controlled PM Emissions (tpy)
PM	20,128	4,361	0%	2.18
PM10	20,128	844	0%	0.42
PM2.5	20,128	206	0%	0.10

References:
 Emission calculations based on AP-42 (12/03) Chapter, 13.2.1 "Paved Roads".