



C & C Services Commercial Construction LLC

Air Quality Construction Permit No. 3292 Modification Application

April 2019
Revised August 13, 2019
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Prepared for:

C & C Services Commercial Construction LLC
2901 2nd St. SW
Albuquerque, NM 87105



Prepared by:

Alliant Environmental, LLC
7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109



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1. Introduction

1.1 General Information

In accordance with New Mexico Administrative Code (NMAC) 20, Chapter 11, Part 41 of the Albuquerque Environmental Health Department (AEHD) Air Quality Program (AQP) Rules and Regulations, C & C Services Commercial Construction LLC (C & C Services) is applying for a New Source Review (NSR) Air Quality Construction permit modification for proposed changes to its crushing and screening facility located at 2901 2nd Street SW Albuquerque, NM 87105.

This document includes all required information pertaining to the project. This submittal includes a completed Long Form Application (Long Form) for air pollutant sources in Bernalillo County, a process description, an area map, a plot plan, emissions calculation data, 20 NMAC Chapter 11, Part 41 General Application Requirements, and permit application review fee.

Technical questions regarding the application may be referred to:

Mr. Luis C. Tarin (Owner)
2901 2nd Street SW
Albuquerque, NM 87105
(505) 280-1730

OR

Mr. Martin Schlupe, Principal Consultant
Alliant Environmental, LLC
7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109
(505) 205-4819
mschlupe@alliantenv.com

Certification by the applicant's official representative that the information in this application is accurate is included with the Application Short Form included in Appendix B. The completed City of Albuquerque Environmental Health Department (AEHD) permit application checklist is also located in Appendix B to ensure that the required items have been included in this application.

2. Process Description

2.1 Overview

C & C Services owns and operates the C & C Services crushing and screening facility located at 2901 2nd Street SW Albuquerque, NM 87105. The facility is a construction material crushing and screening facility. C & C Services performs demolition activities offsite and the debris from the offsite demolition activities is brought onsite so that it can be sorted, crushed, screened and recycled, as applicable. The facility operates under Standard Industrial Classification (SIC) 1429, crushed and broken stone, not elsewhere classified, or North American Industrial Classification System Code 212319, other crushed and broken stone mining and quarrying. Please note that these codes changed and are not the same as listed on the current Permit No. 3292. A site location map of the facility is shown in Figure 2.1. A facility plot plan is provided in Figure 2.2. The facility proposes to change the current operating hours to **12 hours per day, 6 days per week, 52 weeks per year (3,744 hours per year)**. Equipment and processes used at the facility are explained in more detail this section.

2.2 Crushing Process

The site includes one crusher which crushes asphalt, concrete, and rocks brought onsite from demolition activities. Prior to crushing, C & C Services sorts through the demolition material and removes any metal, plastic or other material that cannot be crushed. Emissions associated with the crusher are particulate matter with aerodynamic radii of 10 micro meters and 2.5 micro meters (PM₁₀ and PM_{2.5}). The crusher, when in operation, is controlled with continuous water spray to reduce particulate matter emissions. C & C Services proposes to move the crusher, which is currently located at the north side of the property, to the south side of the property. The north side concrete storage pile will also be moved to the side of the property. This will allow C & C Services to have employees and visitors park their cars at the north side and have minimal cross-over with operations and trucks hauling materials.

2.3 Screening Process

One screen is operated onsite and it is connected to the crusher, prior to the crushing process. The crusher screen is currently included in the permit. Emissions associated with the screening process are PM₁₀ and PM_{2.5}. The screen, when in operation, is controlled using continuous water spray. C & C Services proposes to move the screen, which is currently located at the north side of the property, to the south side of the property. The north side concrete storage pile will also be moved to the side of the property. This will allow C & C Services to have employees and visitors park their cars at the north side and have minimal cross-over with operations and trucks hauling materials.

2.4 Conveyors

There is one (1) conveyor as part of the crusher unit at this facility. Emissions associated with the conveyor are PM₁₀ and PM_{2.5}. The conveyor, when in operation, is controlled using continuous water spray.

2.5 Generator Engine

The currently permitted diesel-fired generator engine associated with the crusher will remain onsite. Combustion emissions associated with the engine include oxides of nitrogen (NO_x), carbon monoxide (CO), sulfur dioxide (SO₂), volatile organic compounds (VOCs), particulate matter (PM), and hazardous air pollutants (HAPs). Revised emission calculations are included in this modification application to reflect the most current and accurate emission factors using EPA Tier 4 emission factors (Engines manufactured in 2014+) and AP-42 Chapter 3.3 emission factors. The generator engine is being requested to **operate 3,744 hours per year (12 hours per day, six days per week, 52 weeks per year)**. This is an increase compared to the currently permitted 2,808 hours per year. Since the engine is part of the crusher, it will also be relocated to the south side of the property.

2.6 Haul Roads and Storage Piles

Emissions associated with haul roads and drop points are PM₁₀ and PM_{2.5}. The haul roads are controlled by water trucks watering the road approximately every two (2) hours and base course. The drop points and storage piles are controlled with water spray. Storage Piles are created by product being dropped by front loader trucks. The front loader trucks also take product from storage piles and load haul trucks. Water spray is applied as dust control during these activities.

2.7 Operational Work Practice

Emissions during malfunction, startup, and shutdown of process equipment are not expected to differ from regular operations.

For fuel-burning equipment, startup and shutdown procedures are normally completed in less than a few minutes. During cold startup, a unit may emit at a higher rate than normal as the unit warms up to operating temperature; however, if the unit has been shutdown for a sufficiently long time that a warm up is required, the small excess emissions occurring during warm up will be more than offset by the lack of emission during the shutdown period. Similarly, if the unit is restarted while warm there should be no excess emissions as the unit is already at operating temperature.

Any emissions during malfunction, startup, and shutdown will be minimized through the application of industry standard and/or manufacturer recommended operating and maintenance practices.

C & C Services will comply with the requirements of 20.11.41 NMAC taking the appropriate steps to minimize emissions.

106°40'30" 106°40' 106°39'30" 106°39' 106°38'30" 106°38'

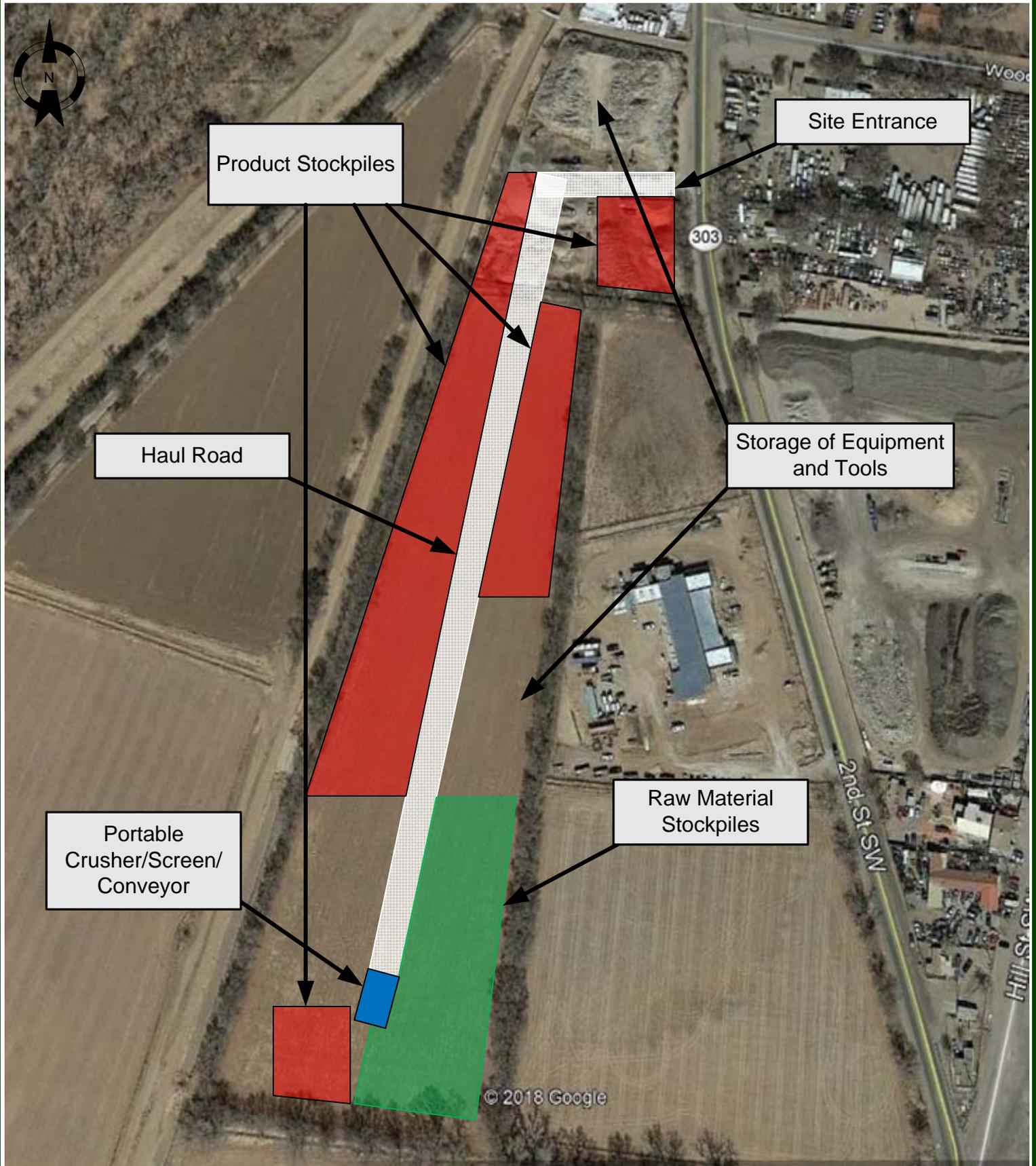


Universal Transverse Mercator (UTM) Projection Zone 13
North American Datum of 1983



Magnetic declination of 9E at center of map
on March 17, 2011

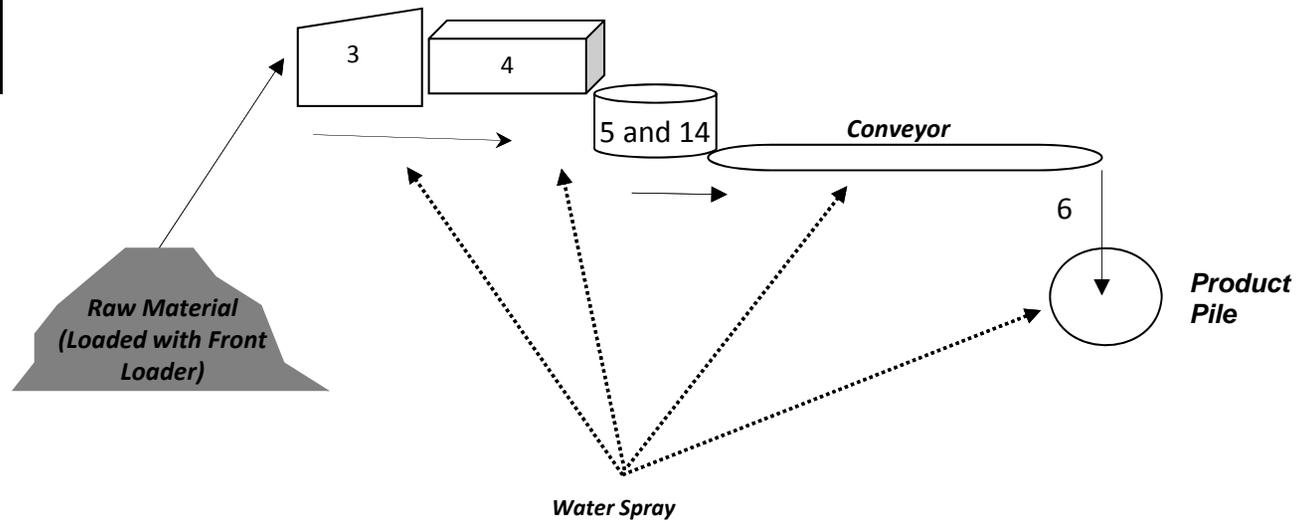
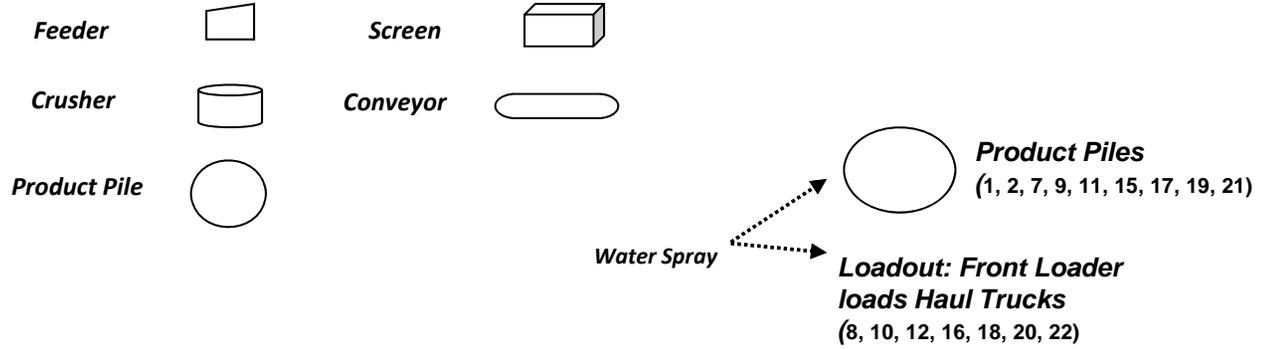
		Area Map		C and C Services Commercial Construction LLC	
Scale: 1:25,000	Drawn by: MDF Chk'd by:	Date: 4/16/2019 Date:	C & C Services N 35° 2' 54.6" Latitude W 106° 39' 26.5" Longitude		Project No.: File Name: C&C Services Figures
					Figure: 2.1



			Process Flow Map		C and C Services Commercial Construction LLC			
Scale:	Drawn by: MDF	Date: 12/10/2019	C & C Services N 35° 2' 54.6" Latitude W 106° 39' 26.5" Longitude			Project No.:	File Name: C&C Services Figures	Figure: 2.2
	Chk'd by:	Date:						

EQUIPMENT SCHEMATIC KEY

Unit No.	Description
1, 2, 7, 9, 11, 15, 17, 19, 21	Product Piles (Front Loader Drop)
8, 10, 12, 16, 18, 20, 22	Loadout (Front Loader loading Truck)
3	Bulk Loading of Feed Hopper
4	Screen
5	Crusher
6	Conveyor / Product Pile Off of Conveyor
14	Generator Engine powering Crusher



C&C Services Commercial
 Construction, LLC
 2901 2nd St., SW
 Albuquerque, NM 87105

Process Flow Diagram
Air Quality Permit No. 3292
Revision Application

C&C Services
 Date: December 10, 2019

3. Project Discussion

3.1 Project Summary

This permit modification application proposes the following:

- Modify all emission unit descriptions to reflect the equipment that is onsite and to easily differentiate between multiple pieces of similar equipment;
- Update all emission units' emission rates using industry-specific and unit-specific emission factors and per NSPS;
- Modify the operating hours for the site to 12 hours per day, six days per week (Monday through Saturday), 52 weeks per year;
- Remove the diesel storage tank from the permit as this tank is not operational and a third-party diesel fuel tank truck is used to supply diesel to the equipment onsite;
- Relocation of equipment, drop points and storage piles.

The requested emission limits can be seen in the AEHD, Air Quality Program Application Short Form and also in the emission calculations included in Appendix A.

4. Emission Estimates

This section describes the methods used to estimate emissions associated with this permitting action.

To estimate material handling particulate (PM₁₀/PM_{2.5}) emission rates for crushing, screening, and conveyor transfer operations, emission factors were obtained from EPA's Compilations of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources (AP-42), Aug. 2004, Section 11.19.2 "Crushed Stone Processing", Table 11.19.2-2.

Haul road emissions were calculated using the AP-42, Section 13.2.2 (11/06) "Unpaved Roads" emission equation.

Combustion emissions from the diesel engine were estimated using EPA emission standards for non-road diesel engines and AP-42 Section 3.3, Table 3.3-1 (10/96) emission factor data. Greenhouse gas emissions (GHG) were estimated based on 40 CFR 98, Subpart C – General Stationary Fuel Combustion – Tier 1 Calculations Methodology using Equations C-1 and C-8.

Detailed emission calculations are included in Appendix A.

5. Air Quality Impacts Analysis

C & C Services is required to demonstrate compliance with ambient air quality standards for specified pollutants. As there are increases in criteria pollutant emissions associated with this application, an air quality impacts analysis is required. Site-wide refined air dispersion modeling for NO₂, CO, SO₂, PM₁₀, and PM_{2.5} was performed to determine if the site would meet the New Mexico/National Ambient Air Quality Standards (NM/NAAQS) for those pollutants.

The impact analysis demonstrates that the ground level concentration of all modeled pollutants are less than the respective NM/NAAQS at the facility fence line or beyond. A detailed modeling report is provided in Appendix D.

6. Regulatory Applicability

6.1 Compliance with AEHD AQP NMAC Rules and Regulations

20.11.2 NMAC – Permit Fees

C & C Services will pay the required fees on an annual basis, as required.

20.11.5 NMAC – Visible Air Contaminants

This regulation limits visible emissions from stationary sources. C & C Services will meet the requirements of this rule.

20.11.8 NMAC – Ambient Air Quality Standards

The Federal and State ambient air quality standards will continue to be met for C & C Services, as can be seen in Section 5.

20.11.20 NMAC – Fugitive Dust Control

This regulation requires the use of reasonable precautions to prevent particulate matter that is generated from becoming airborne. C & C Services will continue to meet any applicable requirements of this rule.

20.11.41 NMAC – Construction Permit

The Albuquerque – Bernalillo County Air Quality Control Board Construction Permit regulation, 20.11.41 NMAC, requires a permit for any stationary source, new or modified, that has a pre-controlled emission rate exceeding 10 pounds per hour or 25 tons per year of any regulated air contaminant for which there are national or New Mexico Ambient Air Quality Standards (AAQS). The regulation also requires that any source exceeding either of these thresholds obtain a permit prior to commencing construction. This regulation ensures that a facility will not cause or contribute to air pollution in violation of any AAQS. This permit application is being submitted to request a modification to C & C Services Permit, number 3292 to reflect the modifications listed in Section 3.

20.11.41.13.E(1) NMAC – Application for Permit - Content

This permit modification application includes a completed permit application form provided by the Air Quality Program (AQP) (see Appendix B).

20.11.41.13.E(2) NMAC – Application for Permit - Content

The name, street and post address of the applicant is provided on page 1-1, on the application form in Appendix B of this application, and on the public notice documents.

20.11.41.13.E(3) NMAC – Application for Permit - Content

The date the initial and this revised application was submitted to the AQP is provided on title page of this application and the signature page on the application form in Appendix B.

20.11.41.13.E(4) NMAC – Application for Permit - Content

This application text and Appendices A through D include attachments, including emission calculations, computations, and all other analyses used to provide information to describe the potential emission rate and nature of all regulated air contaminants that the existing and proposed C & C Services operations emit, and the actual emissions that the source will emit under routine operations. Emissions associated with malfunction, startup and shutdown, if any, are discussed below under 20.11.41.13.E(5). AERMOD air dispersion modeling was performed for all pollutants and a detailed modeling report is included in Appendix D of this application.

20.11.41.13.E(5) NMAC – Application for Permit - Content

The following are the minimum elements that shall be included in the permit application before the department can determine whether the application is administratively complete and ready for technical review. It is not necessary to include an element if the department has issued a written waiver regarding the element and the waiver accompanies the application. However, the department shall not waive any federal requirements. The permit application shall include:

- (5) an operational and maintenance strategy detailing:
 - (a) The steps the applicant will take if a malfunction occurs that may cause emission of a regulated air contaminant to exceed a limit that is included in the permit:
Emissions during malfunction, startup, and shutdown of process equipment are not expected to differ from regular operations. Should a malfunction of any equipment occur, the operation of the equipment will be shutdown immediately.

Any emissions during malfunction, startup, and shutdown will be minimized through the application of industry standard and/or manufacturer recommended operating and maintenance practices and as previously discussed.

- (b) The nature of emissions during startup or shutdown of the source and the source's air pollution equipment:

For fuel-burning equipment, startup and shutdown procedures are normally completed in less than a few minutes. During cold startup, a unit may emit at a higher rate than normal as the unit warms up to operating temperature; however, if the unit has been shutdown for a sufficiently long time that a warm up is required, the small excess emissions occurring during warm up will be more than offset by the lack of emission during the shutdown period. Similarly, if the unit is restarted while warm there should be no excess emissions as the unit is already at operating temperature.

- (c) The steps the applicant will take to minimize emissions during routine startup or shutdown

Any emissions during malfunction, startup, and shutdown will be minimized through the application of industry standard and/or manufacturer recommended operating and

maintenance practices as previously discussed. Operations will be shut down during high wind episodes and as directed by the Air Quality Program.

20.11.41.13.E(6) NMAC – Application for Permit - Content

A USGS aerial topo map downloaded from <http://map-pass.mytopo.com> is included on page 2-3 of this application.

20.11.41.13.E(7) NMAC – Application for Permit - Content

An aerial plot plan/process flow diagram of the facility showing the proposed operations is provided on page 2-4 of this application.

20.11.41.13.E(8) NMAC – Application for Permit - Content

A complete description of the facility, process and emission sources is discussed on previous pages of this application. A process flow diagram is provided on page 2-4 of this application.

20.11.41.13.E(9) NMAC – Application for Permit - Content

Emission Source UTM Coordinates:

ID No.	Source Description	UTM E (m)	UTM N (m)
#1	Material Drop	348,826.97	3,879,288.05
#2	Material Drop	348,832.66	3,879,316.43
#3	Crusher Loading	348,769.92	3,879,291.09
#4	Screen at Crusher	348,770.33	3,879,290.68
#5	Crusher	348,769.86	3,879,290.71
#6	Conveyor at Crusher Drop	348,772.49	3,879,287.50
#7	Product Pile Formation by Front Loader Drop	348,891.16	3,879,655.93
#8	Loadout - Front Loader loading Truck	348,890.92	3,879,654.71
#9	Product Pile Formation by Front Loader Drop	348,789.87	3,879,447.75
#10	Loadout - Front Loader loading Truck	348,788.58	3,879,444.98
#11	Product Pile Formation by Front Loader Drop	348,795.36	3,879,394.43
#12	Loadout - Front Loader loading Truck	348,794.24	3,879,391.21
#13	Haul Road	Numerous	Numerous
#14	Generator (Powering Crusher)	348,769.37	3,879,290.76
#15	Product Pile Formation by Front Loader Drop	348,805.21	3,879,542.67
#16	Loadout - Front Loader loading Truck	348,803.30	3,879,539.50
#17	Product Pile Formation by Front Loader Drop	348,837.06	3,879,539.29
#18	Loadout - Front Loader loading Truck	348,836.13	3,879,535.54
#19	Product Pile Formation by Front Loader Drop	348,784.06	3,879,241.90
#20	Loadout - Front Loader loading Truck	348,787.45	3,879,241.33
#21	Product Pile Formation by Front Loader Drop	348,811.22	3,879,239.64
#22	Loadout - Front Loader loading Truck	348,814.62	3,879,239.64

Controls: The haul roads are controlled by watering (water trucks) approximately every two (2) hours when in use and base course. The drop points, Crusher, screen, and storage piles are controlled with water spray during operation. The generator engine does not have any physical air emission controls. The only control for the engine is based on limited operating hours.

Detailed emissions calculations for all emission sources are provided in Appendix A.

20.11.41.13.E(10) NMAC – Application for Permit - Content

C&C Services will continue to keep daily records of hours of operation of the facility and maintain records of daily, monthly, and annual throughput (in ton) for the facility. Monthly throughput records will be maintained to calculate yearly throughputs based on a 12-months rolling basis. Further, C&C Services will maintain records of water application to storage piles and the haul road. The water spray system will be monitored to ensure it is functioning properly. Any engine maintenance (oil changes, etc.) will be documented and records kept on file.

20.11.41.13.E(11) NMAC – Application for Permit - Content

The maximum and normal operating schedule of the source is six (6) days per week (Monday through Saturday) from 7AM to 7PM.

20.11.41.13.E(12) NMAC – Application for Permit - Content

No other relevant information should be applicable; however, if the AQP requires further information on anything applicable to this permit application, C&C Services will provide such information as available.

20.11.41.13.E(13) NMAC – Application for Permit - Content

The signed signature page certifying to the accuracy of all information as represented in this application and attachments is located in Appendix B.

20.11.41.13.E(14) NMAC – Application for Permit - Content

A review fee check has previously been submitted to the AQP with the initial permit modification application.

20.11.41.13.E(15) NMAC – Application for Permit - Content

All public notice requirements have been fulfilled and proof is provided in Appendix C of this application.

20.11.42 NMAC – Operating Permits

C & C Services' site emits less than the threshold quantities required to obtain an operating permit; therefore, this rule is not applicable.

20.11.47 NMAC – Emission Inventory Requirements

C & C Services will continue to meet the applicable requirements under this rule.

20.11.49 NMAC – Excess Emissions

C & C Services will report excess emissions, if any, as specified under 20.11.49 NMAC.

20.11.63 – New Source Performance Standards

This regulation incorporates the Federal New Source Performance Standards (NSPS) regulations under 40 CFR Part 60. C & C Services will continue to comply with applicable requirements under this part.

20.11.64 – Emission Standards for Hazardous Air Pollutants

This regulation incorporates the Federal National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations under 40 CFR Part 61 and Part 63. C & C Services will continue to comply with applicable requirements under this part.

20.11.65 – Volatile Organic Compounds

This regulation pertains to sources of hydrocarbon vapors from facilities and sources not otherwise regulated or exempted by 40 CFR Part 60. As there are no 20.11.65 affected facilities at this site, this rule is not applicable.

6.2 New Source Performance Standards (NSPS)

40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

This regulation applies to steam generating units that commence construction, modification, or reconstruction after June 9, 1989 and that has a design heat input capacity between 10 MMBtu/hr and 100 MMBtu/hr. As there are no steam generating units at this site, Subpart Dc is not applicable.

40 CFR Part 60, Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels

This regulation applies to volatile organic liquid storage vessels with storage capacity greater than 75 cubic meters (19,810 gallons) and constructed, reconstructed, or modified after July 23, 1984. There are no volatile organic liquid storage vessels onsite; therefore, this regulation is not applicable.

40 CFR Part 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants

This regulation is applicable to facilities in fixed or portable nonmetallic mineral processing plants, including crushers, grinding mills, screening operations, bucket elevators, belt conveyors, bagging operations, storage bins, and enclosed truck or railcar loading stations. C & C Services will continue to meet the requirements of this regulation.

40 CFR Part 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

This regulation applies to owners or operators of stationary CI ICE that commence construction, modification or reconstruction after July 11, 2005. The diesel-fired generator engine (Unit 11)

was manufactured after July 11, 2005 and must comply with Subpart III. C & C Services will meet the applicable requirements of Subpart III for Unit 11.

40 CFR Part 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

Subpart JJJJ is applicable to spark ignition internal combustion engines that commenced construction after June 12, 2006. As there are no spark ignition engines onsite, Subpart JJJJ does not apply.

6.3 National Emission Standards for Hazardous Air Pollutants (NESHAPs)

National Emission Standards for Hazardous Air Pollutants (NESHAPs) are emissions standards for hazardous air pollutants (HAPs) primarily applicable to major sources of HAPs. NESHAP emission limits are established on the basis of a maximum achievable control technology (MACT) determination for the source. A major source of HAPs is defined as having potential emissions in excess of 25 tons per year (tpy) for total HAPs and/or potential emissions in excess of 10 tpy for any individual HAP. C & C Services is a minor source for Hazardous Air Pollutants.

6.4 NESHAPs for Source Categories (MACT)

40 CFR Part 63, Subpart ZZZZ – NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE)

This regulation applies to owners and operators of stationary Reciprocating Internal Combustion Engines (RICE) located at major and area sources of HAP emissions. C & C Services is considered an area (non-major) source of HAPs. The diesel-fired engine (Unit 11) will meet the applicable requirements of Subpart ZZZZ. As Unit 11 is considered new stationary RICE located at an area source of HAPs, the requirements of Subpart ZZZZ will be met by meeting the requirements of 40 CFR Part 60, Subpart III as stated under §63.6590(c)(1).

40 CFR Part 63, Subpart CCCCCC – NESHAP for Gasoline Dispensing Facilities

This Regulation is applicable to Gasoline Dispensing Facilities (GDF). A GDF is defined as any stationary facility which dispenses gasoline into the fuel tank of a motor vehicle, motor vehicle engine, nonroad vehicle, or nonroad engine, including a nonroad vehicle or nonroad engine used solely for competition. These facilities include, but are not limited to, facilities that dispense gasoline into on- and off-road, street, or highway motor vehicles, lawn equipment, boats, test engines, landscaping equipment, generators, pumps, and other gasoline fueled engines and equipment. As the site does not include a facility that dispenses gasoline, Subpart CCCCCC is not applicable.

6.5 Non-attainment Review

Not Applicable. See Section 7.1

6.6 Prevention of Significant Deterioration (PSD)

Not Applicable. See Section 7.2

7. PSD & NNSR

7.1 Non-Attainment New Source Review (NNSR)

C & C Services is located in Bernalillo County, which has been designated as attainment for all National Ambient Air Quality Standards (NAAQS). As such, NNSR regulatory requirements are not applicable.

7.2 Prevention of Signification Deterioration (PSD)

C & C Services is not one of the 28 named sources in 20.11.61.26 NMAC, Table 1; therefore, PSD applicability is triggered when potential emissions are over 250 tpy for any regulated NSR pollutant. As this site does not have the potential to emit 250 tpy or more of any regulated NSR pollutant, a PSD review is not required.

8. Permit Application Review Fee

This permit modification application is being submitted to authorize the revisions listed in Section 3 to Air Quality Construction Permit No. 3292. A City of Albuquerque Air Quality Program *Permit Application Review Fee* form and the associated permit application review fee has been included with this submittal.

APPENDIX A

Emission Calculations and Supporting Documentation

Emissions Summary

Uncontrolled Emissions

Emission Unit #	Equipment Description	NO _x		CO		VOC		SO ₂		PM _{2.5}		PM ₁₀		Total HAP	
		(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
1	Raw Material Batch Drop by Truck	-	-	-	-	-	-	-	-	0.17	0.72	0.17	0.72	-	-
2	Raw Material Batch Drop by Truck	-	-	-	-	-	-	-	-	0.17	0.72	0.17	0.72	-	-
3	Bulk Loading of Main Feed Hopper (Crusher Loading)	-	-	-	-	-	-	-	-	0.33	1.45	0.33	1.45	-	-
4	Screen (Connected to Crusher)	-	-	-	-	-	-	-	-	2.61	11.43	2.61	11.43	-	-
5	Portable Impact Crusher	-	-	-	-	-	-	-	-	0.72	3.15	0.72	3.15	-	-
6	Conveyor connected to Crusher (Continuous Drop Product Pile Formation)	-	-	-	-	-	-	-	-	0.33	1.45	0.33	1.45	-	-
7	Product Pile Formation (Front Loader Drop)	-	-	-	-	-	-	-	-	0.17	0.72	0.17	0.72	-	-
8	Loadout (Front Loader loading Truck) from Product Pile	-	-	-	-	-	-	-	-	0.17	0.72	0.17	0.72	-	-
9	Product Pile Formation (Front Loader Drop)	-	-	-	-	-	-	-	-	0.17	0.72	0.17	0.72	-	-
10	Loadout (Front Loader loading Truck) from Product Pile	-	-	-	-	-	-	-	-	0.17	0.72	0.17	0.72	-	-
11	Product Pile Formation (Front Loader Drop)	-	-	-	-	-	-	-	-	0.17	0.72	0.17	0.72	-	-
12	Loadout (Front Loader loading Truck) from Product Pile	-	-	-	-	-	-	-	-	0.17	0.72	0.17	0.72	-	-
13	Haul Roads	-	-	-	-	-	-	-	-	0.19	0.81	1.85	8.12	-	-
14	Generator (Powering Crusher)	0.23	1.01	2.01	8.82	0.11	0.48	0.72	3.14	0.01	0.02	0.01	0.02	0.01	0.06
15	Product Pile Formation (Front Loader Drop)	-	-	-	-	-	-	-	-	0.17	0.72	0.17	0.72	-	-
16	Loadout (Front Loader loading Truck) from Product Pile	-	-	-	-	-	-	-	-	0.17	0.72	0.17	0.72	-	-
17	Product Pile Formation (Front Loader Drop)	-	-	-	-	-	-	-	-	0.17	0.72	0.17	0.72	-	-
18	Loadout (Front Loader loading Truck) from Product Pile	-	-	-	-	-	-	-	-	0.17	0.72	0.17	0.72	-	-
19	Product Pile Formation (Front Loader Drop)	-	-	-	-	-	-	-	-	0.17	0.72	0.17	0.72	-	-
20	Loadout (Front Loader loading Truck) from Product Pile	-	-	-	-	-	-	-	-	0.17	0.72	0.17	0.72	-	-
21	Product Pile Formation (Front Loader Drop)	-	-	-	-	-	-	-	-	0.17	0.72	0.17	0.72	-	-
22	Loadout (Front Loader loading Truck) from Product Pile	-	-	-	-	-	-	-	-	0.17	0.72	0.17	0.72	-	-
Totals		0.23	1.01	2.01	8.82	0.11	0.48	0.72	3.14	6.83	29.87	8.50	37.18	0.01	0.06

Controlled Emissions

Emission Unit	Equipment Description	NO _x		CO		VOC		SO ₂		PM _{2.5}		PM ₁₀		Total HAP	
		(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
1	Raw Material Batch Drop by Truck	-	-	-	-	-	-	-	-	0.002	0.004	0.007	0.01	-	-
2	Raw Material Batch Drop by Truck	-	-	-	-	-	-	-	-	0.002	0.004	0.007	0.01	-	-
3	Bulk Loading of Main Feed Hopper (Crusher Loading)	-	-	-	-	-	-	-	-	0.004	0.007	0.01	0.03	-	-
4	Screen (Connected to Crusher)	-	-	-	-	-	-	-	-	0.015	0.028	0.22	0.42	-	-
5	Portable Impact Crusher	-	-	-	-	-	-	-	-	0.030	0.056	0.16	0.30	-	-
6	Conveyor connected to Crusher (Continuous Drop Product Pile Formation)	-	-	-	-	-	-	-	-	0.004	0.007	0.01	0.03	-	-
7	Product Pile Formation (Front Loader Drop)	-	-	-	-	-	-	-	-	0.002	0.004	0.007	0.01	-	-
8	Loadout (Front Loader loading Truck) from Product Pile	-	-	-	-	-	-	-	-	0.002	0.004	0.007	0.01	-	-
9	Product Pile Formation (Front Loader Drop)	-	-	-	-	-	-	-	-	0.002	0.004	0.007	0.013	-	-
10	Loadout (Front Loader loading Truck) from Product Pile	-	-	-	-	-	-	-	-	0.002	0.004	0.007	0.013	-	-
11	Product Pile Formation (Front Loader Drop)	-	-	-	-	-	-	-	-	0.002	0.004	0.007	0.013	-	-
12	Loadout (Front Loader loading Truck) from Product Pile	-	-	-	-	-	-	-	-	0.002	0.004	0.007	0.013	-	-
13	Haul Roads	-	-	-	-	-	-	-	-	0.037	0.069	0.371	0.694	-	-
14	Generator (Powering Crusher)	0.23	0.43	2.01	3.77	0.11	0.20	0.72	1.34	0.012	0.022	0.012	0.022	0.015	0.021
15	Product Pile Formation (Front Loader Drop)	-	-	-	-	-	-	-	-	0.002	0.004	0.007	0.01	-	-
16	Loadout (Front Loader loading Truck) from Product Pile	-	-	-	-	-	-	-	-	0.002	0.004	0.007	0.01	-	-
17	Product Pile Formation (Front Loader Drop)	-	-	-	-	-	-	-	-	0.002	0.004	0.007	0.01	-	-
18	Loadout (Front Loader loading Truck) from Product Pile	-	-	-	-	-	-	-	-	0.002	0.004	0.007	0.01	-	-
19	Product Pile Formation (Front Loader Drop)	-	-	-	-	-	-	-	-	0.002	0.004	0.007	0.01	-	-
20	Loadout (Front Loader loading Truck) from Product Pile	-	-	-	-	-	-	-	-	0.002	0.004	0.007	0.01	-	-
21	Product Pile Formation (Front Loader Drop)	-	-	-	-	-	-	-	-	0.002	0.004	0.007	0.01	-	-
22	Loadout (Front Loader loading Truck) from Product Pile	-	-	-	-	-	-	-	-	0.002	0.004	0.007	0.01	-	-
Totals		0.23	0.43	2.01	3.77	0.11	0.20	0.72	1.34	0.13	0.25	0.90	1.69	0.01	0.02

Notes:

Controlled emissions based on controlled emission factors (AP-42, 19.11) and limited operating hours (12 hours per day, 6 days per week, 52 weeks per year = 3744 hours/hr)

Process Equipment Information

Unit Number	Component Description (or unit's function) ¹	Manufacturer	Manufacture Date.	Model Number	Equipment Size, Capacity or Maximum Process Rate	Emission Factors for Regulated Air Pollutants From AP-42, Chapter 11.19.2 "Crushed Stone Processing"	Units	Emission Factors (lb/ton) UNCONTROLLED		Emission Factors (lb/ton) CONTROLLED	
								PM ₁₀	PM _{2.5}	PM ₁₀	PM _{2.5}
1	Raw Material Batch Drop by Truck	N/A	N/A	N/A	150 TPH	AP-42, Table 11.19.2-2	-	0.0011	0.0011	0.000046	0.000013
2	Raw Material Batch Drop by Truck	N/A	N/A	N/A	150 TPH	AP-42, Table 11.19.2-2	-	0.0011	0.0011	0.000046	0.000013
3	Bulk Loading of Main Feed Hopper (Crusher Loading)	N/A	N/A	N/A	300 TPH	AP-42, Table 11.19.2-2	-	0.0011	0.0011	0.000046	0.000013
4	Screen (Connected to Crusher)	McCloskey	2016	144R	300 TPH	AP-42, Table 11.19.2-2	-	0.0087	0.0087	0.00074	0.00005
5	Portable Impact Crusher Conveyor	McCloskey	2016	144R	300 TPH	AP-42, Table 11.19.2-2	-	0.0024	0.0024	0.00054	0.0001
6	connected to Crusher (Continuous Drop Product Pile Formation)	McCloskey	2016	144R	300 TPH	AP-42, Table 11.19.2-2	-	0.0011	0.0011	0.000046	0.000013
7	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150 TPH	AP-42, Table 11.19.2-2	-	0.0011	0.0011	0.000046	0.000013
8	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150 TPH	AP-42, Table 11.19.2-2	-	0.0011	0.0011	0.000046	0.000013
9	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150 TPH	AP-42, Table 11.19.2-2	-	0.0011	0.0011	0.000046	0.000013
10	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150 TPH	AP-42, Table 11.19.2-2	-	0.0011	0.0011	0.000046	0.000013
11	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150 TPH	AP-42, Table 11.19.2-2	-	0.0011	0.0011	0.000046	0.000013
12	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150 TPH	AP-42, Table 11.19.2-2	-	0.0011	0.0011	0.000046	0.000013
13	Haul Roads				5 Trucks/hr (est.)	12 hours/day =				53 Truck trips per Day, 6 days per week	
14	Generator (Powering Crusher)	Caterpillar	2015	C9	350 hp	12 hours/day =			3744	hours per year	
15	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150 TPH	AP-42, Table 11.19.2-2	-	0.0011	0.0011	0.000046	0.000013
16	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150 TPH	AP-42, Table 11.19.2-2	-	0.0011	0.0011	0.000046	0.000013
17	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150 TPH	AP-42, Table 11.19.2-2	-	0.0011	0.0011	0.000046	0.000013
18	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150 TPH	AP-42, Table 11.19.2-2	-	0.0011	0.0011	0.000046	0.000013
19	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150 TPH	AP-42, Table 11.19.2-2	-	0.0011	0.0011	0.000046	0.000013
20	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150 TPH	AP-42, Table 11.19.2-2	-	0.0011	0.0011	0.000046	0.000013
21	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150 TPH	AP-42, Table 11.19.2-2	-	0.0011	0.0011	0.000046	0.000013
22	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150 TPH	AP-42, Table 11.19.2-2	-	0.0011	0.0011	0.000046	0.000013

Emissions (lb/hr)								UNCONTROLLED (lb/hr)		CONTROLLED (lb/hr)	
Unit No	Equipment	Manufacture	Year	Model	Process Rate/Capacity	Emission Factor Source		PM ₁₀	PM _{2.5}	PM ₁₀	PM _{2.5}
1	Raw Material Batch Drop by Truck	N/A	N/A	N/A	150	AP-42		0.165	0.165	0.007	0.002
2	Raw Material Batch Drop by Truck	N/A	N/A	N/A	150	AP-42		0.165	0.165	0.007	0.002
3	Bulk Loading of Main Feed Hopper (Crusher Loading)	N/A	N/A	N/A	300	AP-42		0.33	0.33	0.014	0.004
4	Screen (Connected to Crusher)	McCloskey	2016	144R	300	AP-42		2.61	2.61	0.222	0.015
5	Portable Impact Crusher	McCloskey	2016	144R	300	AP-42		0.72	0.72	0.162	0.030
6	Conveyor connected to Crusher (Continuous Drop Product Pile Formation)	McCloskey	2016	144R	300	AP-42		0.33	0.33	0.014	0.004
7	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150	AP-42		0.165	0.165	0.007	0.002
8	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150	AP42		0.165	0.165	0.007	0.002
9	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150	AP42		0.165	0.165	0.007	0.002
10	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150	AP-42		0.165	0.165	0.007	0.002
11	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150	AP42		0.165	0.165	0.007	0.002
12	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150	AP-42		0.165	0.165	0.007	0.002
13	Haul Roads	Using Dust Control Percent of			80%	AP42		1.85	0.19	0.37	0.037
14	Generator (Powering Crusher)	Caterpillar	2015	C9	350 hp	See bellow					
15	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150	AP42		0.165	0.165	0.007	0.002
16	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150	AP-42		0.165	0.165	0.007	0.002
17	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150	AP-42		0.165	0.165	0.007	0.002
18	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150	AP-42		0.165	0.165	0.007	0.002
19	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150	AP-42		0.165	0.165	0.007	0.002
20	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150	AP-42		0.165	0.165	0.007	0.002
21	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150	AP-42		0.165	0.165	0.007	0.002
22	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150	AP-42		0.165	0.165	0.007	0.002
TOTAL EMISSIONS								8.48	6.82	0.89	0.12

Emissions (tpy)								UNCONTROLLED (tpy)		CONTROLLED (tpy, based on reduced operating hours)	
Unit No	Equipment	Manufacture	Year	Model	Process Rate/Capacity	Emission Factor Source		PM ₁₀	PM _{2.5}	PM ₁₀	PM _{2.5}
1	Raw Material Batch Drop by Truck	N/A	N/A	N/A	150	AP-42		0.72	0.72	0.01	0.004
2	Raw Material Batch Drop by Truck	N/A	N/A	N/A	150	AP-42		0.72	0.72	0.01	0.004
3	Bulk Loading of Main Feed Hopper (Crusher Loading)	N/A	N/A	N/A	300	AP-42		1.45	1.45	0.03	0.01
4	Screen (Connected to Crusher)	McCloskey	2016	144R	300	AP-42		11.43	11.43	0.42	0.03
5	Portable Impact Crusher	McCloskey	2016	144R	300	AP-42		3.15	3.15	0.30	0.06
6	Conveyor connected to Crusher (Continuous Drop Product Pile Formation)	McCloskey	2016	144R	300	AP-42		1.45	1.45	0.03	0.01
7	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150	AP-42		0.72	0.72	0.01	0.004
8	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150	AP-42		0.72	0.72	0.01	0.004
9	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150	AP-42		0.72	0.72	0.01	0.004
10	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150	AP-42		0.72	0.72	0.01	0.004
11	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150	AP-42		0.72	0.72	0.01	0.004
12	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150	AP-42		0.72	0.72	0.01	0.004
13	Haul Roads	Using Dust Control Percent of			80%	AP-42		8.12	0.81	0.69	0.07
14	Generator (Powering Crusher)	Caterpillar	2015	C9	350 hp	See bellow					
15	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150	AP-42		0.72	0.72	0.01	0.004
16	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150	AP-42		0.72	0.72	0.01	0.004
17	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150	AP-42		0.72	0.72	0.01	0.004
18	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150	AP-42		0.72	0.72	0.01	0.004
19	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150	AP-42		0.72	0.72	0.01	0.004
20	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150	AP-42		0.72	0.72	0.01	0.004
21	Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	150	AP-42		0.72	0.72	0.01	0.004
22	Loadout (Front Loader loading Truck) from Product Pile	N/A	N/A	N/A	150	AP-42		0.72	0.72	0.01	0.004
TOTAL EMISSIONS								37.2	29.9	1.67	0.23

Generator Engine Emissions

Unit No.	Equipment	NO _x	CO	VOC	SO ₂	PM ₁₀ /PM _{2.5}	Total HAP	Max. Single HAP	CO ₂ e	Units
14	Generator (Powering Crusher)	0.23	2.01	0.11	0.72	0.01	0.01	0.005	-	lb/hr
		0.43	3.77	0.20	1.34	0.02	0.02	0.01	1361.05	tpy

Generator Engine Emission Calculations

Unit No. 14
 Emission Point No. 14
 Source Description Generator (Powering Crusher)
 Manufacturer Caterpillar
 Model C9 Displacement: 8.8 L
 Serial No. REH06618
 Type Diesel Engine
 Manufacture Date 2015
 RPM 2200 rpm (Engine Plate)
 Rated Horsepower 350 hp (Engine Plate)
 Rated Power 261 kW-hr (Engine Plate)
 Maximum Annual Operating Hours **3744 hours**

Emission Calculations

Uncontrolled Emission Rates

NO _x	CO	VOC	SO ₂	PM ₁₀ /PM _{2.5}	Units	Comments
0.40	3.50	0.19		0.02	g/kW-hr	NSPS Emission Standards for Tier 4 Engines (2014+)
			2.05E-03		lb/hp-hr	AP-42 Chapter 3.3, Table 3.3-1
0.23	2.01	0.11	0.72	0.01	lb/hr	
1.01	8.82	0.48	3.14	0.05	tpy	Annual emission rate (8760 hrs/yr)

Controlled Emission Limits Based on 3744 hrs/yr Operating Limit

NO _x	CO	VOC	SO ₂	PM ₁₀ /PM _{2.5}	Units	Comments
0.23	2.01	0.11	0.72	0.01	lb/hr	NSPS Emission Standards for Tier 4 Engines (2014+)
0.43	3.77	0.20	1.34	0.02	tpy	AP-42 Chapter 3.3, Table 3.3-1

NOTES:

All PM emissions estimated to be identical to PM-10 and PM-2.5 emissions.

Sample Calculation:

$$(3.5 \text{ g CO/kW-hr}) \times (0.00220462 \text{ lb/g}) \times (261 \text{ kW}) = 2.01 \text{ lb/hr}$$

Fuel Consumption

Max Fuel Consumption	30.0	gal/hr
Fuel Heat Value	18390	Btu/lb
Fuel Density	7.0	lb/gal
Heat Input	3.86	MMBtu/hr

GHG uncontrolled fuel Consumption (8760 hrs/yr)	262,800	gal/yr
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Hazardous Air Pollutants (HAP)	Emission Factor	lb/hr	Uncontrolled 8760 hours tpy	Controlled to Max of 2808 hrs tpy
Acetaldehyde	7.67E-04 lbs/MMBtu	0.003	0.013	0.004
Acrolein	9.25E-05 lbs/MMBtu	0.000	0.002	0.001
Benzene	9.33E-04 lbs/MMBtu	0.004	0.016	0.005
1,3-Butadiene	3.91E-05 lbs/MMBtu	0.000	0.001	0.000
Formaldehyde	1.18E-03 lbs/MMBtu	0.005	0.020	0.006
Toluene	4.09E-04 lbs/MMBtu	0.002	0.007	0.002
Naphthalene	8.48E-05 lbs/MMBtu	0.000	0.001	0.000
Xylenes	2.85E-04 lbs/MMBtu	0.001	0.005	0.002
HAP TOTALS		0.01	0.06	0.02

CO₂e Uncontrolled tpy	1,361
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Note:

CO₂e from estimated sum of CO₂, CH₄, and N₂O from Generator GHG tab and converted to short tons

NOTES:

Emission Factors from EPA AP-42, Table 3.3-2 Specified Organic Compound Emission Factors for Uncontrolled Diesel Engines (October, 1996) for HAPs.

Calculation For Truck Traffic On Haul Roads

Paved roads (p): AP-42 Chapter 13.2.1 (1/11)

Unpaved roads (u): AP-42 Chapter 13.2.2 (11/06)

Equation (2): $E = k \times (sL)^{0.91} \times (W)^{1.02} \times \left(1 - \frac{P}{4 \times 365}\right)$

Equation (1a): $E = k \times \left(\frac{sC}{12}\right)^a \times \left(\frac{W}{3}\right)^b \times \left(\frac{365-P}{365}\right) \times \left(\frac{S}{30}\right)^d \times (1-CE)$

	k
PM	0.011
PM ₁₀	0.0022
PM _{2.5}	0.00054

	k	a	b	d
PM	4.9	0.7	0.45	0.3
PM ₁₀	1.5	0.9	0.45	0.5
PM _{2.5}	0.15	0.9	0.45	0.5

Haul Road / Traffic Parameters

Activity / Road Description	Road Type / Silt Value		Roundtrip Length (feet)		Truck Weight (tons)			Ave. Speed (mph)	Unrestricted Maximum Throughput (ton/yr)	Ave. Truck Capacity (units/truck)		Annual VMT	Number of Trucks per day	Daily Hours of Operations	VMT/hr
			empty	full	empty	full	Ave.								
Haul Trucks	u	4.80	1,300	1,300	17	37	27.0	10	842,400	20	ton	20,741	53	12	2.17

Controlled Emissions Unpaved Haul Road

	Emission Factors (lb/VMT)			Haul Road Emissions (tons/yr)		
	--	PM ₁₀	PM _{2.5}	--	PM ₁₀	PM _{2.5}
Haul Trucks	--	0.17	0.02	--	1.77	0.18
Total Annual Emissions:				--	1.77	0.18

Haul Road Emissions (lb/hr)		
--	PM ₁₀	PM _{2.5}
--	0.37	0.04
--	0.37	0.04

Description of Constants/Variables

- E: haul road emissions (lb/VMT)
- k, d: dimensionless constants from Draft AP-42 Chapter 13.IV (paved)
- k, a, b, c, d: dimensionless constants from AP-42 Tables 13.2.1-1 & 13.2.2-2 (unpaved)
- sL: silt loading (g/m²) of paved road surface
- sC: silt content (%) of unpaved road surface
- W: average vehicle weight (tons)
- P: days/yr with at least 0.01" of precipitation
P = default = 90
- S: mean vehicle speed on road (mph)
- CE: unpaved road, dust control efficiency
CE = default = 0%
- VMT: vehicle miles traveled
- VMT/hr: (2000 ft per truck) x (15 trucks/hr) / (5280 ft/mi) = 5.68

Subpart C - General Stationary Fuel Combustion - Tier 1 Calculation Methodology Using Equations C-1 and C-8

OPTIONAL SPREADSHEET FOR FACILITY RECORDKEEPING PURPOSES

Version e-GGRT RY2018
 Today's date 12/11/2019

Use one spreadsheet for each fuel. Make additional copies as needed.

This spreadsheet is protected and contains locked cells to ensure that you do not inadvertently alter any of the included formulas and/or calculations. To remove this protection and alter this spreadsheet, right-click the "worksheet" tab near the bottom of the screen and select "Unprotect Sheet." When prompted for the password, type "GHG" and click "OK." Please note that making changes to an unprotected sheet could result in incorrect calculations and that you are responsible for the accuracy of the data you report to EPA. For additional help, visit the Microsoft Excel Support website (<http://office.microsoft.com/en-us/excel-help>).

Equation C-1:

$$CO_2 = 1 \times 10^{-3} * Fuel * HHV * EF$$

Equation C-8:

$$CH_4 \text{ or } N_2O = 1 \times 10^{-3} * Fuel * HHV * EF$$

Facility Name:	C&C Services
Reporter Name:	
Unit or Group Name/ ID:	Unit 11
Configuration Type:	
Fuel/ Fuel Type:	Diesel Engine
Reporting Period:	
Comments:	
Unit Type:	General Stationary Fuel Combustion

Fuel Input Data

[Fuel] = Mass or volume of fuel combusted per year, from company records as defined in §98.6 (express mass in short tons for solid fuel, volume in standard cubic feet for gaseous fuel, and volume in gallons for liquid fuel)	112,320.
[HHV] = Default High heat value of the fuel, from Table C-1 (mmBtu/mass or mmBtu/volume)	0.146

Constants

[1 x 10⁻³] = Conversion Factor from kg to metric tons (constant)	0.001
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Annual CO₂ Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-1

[EF] = Fuel-Specific Default CO ₂ Emission Factor, from Table C-1 (kg CO ₂ /mmBtu)	75.04
[CO₂] = Annual CO ₂ emissions from combustion of the specified fuel (metric tons)	1230.5599488

 Enter this value in e-GGRT

Subpart C - General Stationary Fuel Combustion - Tier 1 Calculation Methodology Using Equations C-1 and C-8

OPTIONAL SPREADSHEET FOR FACILITY RECORDKEEPING PURPOSES

Version e-GGRT RY2018
 Today's date 12/11/2019

Annual CH₄ Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-8

[EF] = Fuel-Specific Default Emission Factor for CH ₄ , from Table C-2 (kg CH ₄ /mmBtu)	0.003
[CH ₄] = Annual CH ₄ emissions from combustion of the specified fuel (metric tons)	0.0491962

Note: If you are reporting CH₄ emissions from a pulp mill lime kiln located at a kraft or soda facility under subpart AA, you are required to use the emission factors in Table AA-2 per 98.273(c)(2).

Enter this value in e-GGRT

Annual N₂O Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-8

[EF] = Fuel-Specific Default Emission Factor for N ₂ O, from Table C-2 (kg N ₂ O/mmBtu)	0.0006
[N ₂ O] = Annual N ₂ O emissions from combustion of the specified fuel (metric tons)	0.0098392

Note: If you are reporting N₂O emissions from a pulp mill lime kiln located at a kraft or soda facility under subpart AA, you are required to use the emission factors in Table AA-2 per 98.273(c)(2).

Enter this value in e-GGRT

INFORMATION ONLY: Annual CH₄ Mass Emissions For the Specific Fuel Type Converted to Carbon Dioxide Equivalent (metric tons CO₂e)

[GWP _{CH₄}] = Global Warming Potential for CH ₄	25
[CH ₄] = Annual CH ₄ emissions from combustion of the specified fuel (metric tons CO ₂ e)	1.229904

Note: 25 is the GWP effective 1/1/14. The new GWP will affect reports for the 2013 reporting year (submitted to EPA by March 2014) with the exception of reporters who are newly required to report to the GHGRP due to changes to the GWP. Prior to this date, the GWP to use is 21.

INFORMATION ONLY: Annual N₂O Mass Emissions For the Specific Fuel Type Converted to Carbon Dioxide Equivalent (metric tons CO₂e)

[GWP _{N₂O}] = Global Warming Potential for N ₂ O	298
[N ₂ O] = Annual N ₂ O emissions from combustion of the specified fuel (metric tons CO ₂ e)	2.932091136

Note: 298 is the GWP effective 1/1/14. The new GWP will affect reports for the 2013 reporting year (submitted to EPA by March 2014) with the exception of reporters who are newly required to report to the GHGRP due to changes to the GWP. Prior to this date, the GWP to use is 310.

Table C-1 to Subpart C - Default CO₂ Emission Factors

Fuel Type	Default High Heat Value	Default CO ₂ Emission Factor
Coal and Coke	mmBtu/short ton	kg CO ₂ /mmBtu
Anthracite	25.09	103.69
Bituminous	24.93	93.28
Subbituminous	17.25	97.17
Lignite	14.21	97.72
Coal Coke	24.80	113.67
Mixed (Commercial sector)	21.39	94.27
Mixed (Industrial coking)	26.28	93.90
Mixed (Industrial sector)	22.35	94.67
Mixed (Electric Power sector)	19.73	95.52
Natural Gas	mmBtu/scf	kg CO ₂ /mmBtu
(Weighted U.S. Average)	1.026E-03	53.06
Petroleum Products	mmBtu/gallon	kg CO ₂ /mmBtu
Distillate Fuel Oil No. 1	0.139	73.25
Distillate Fuel Oil No. 2	0.138	73.96
Distillate Fuel Oil No. 4	0.146	75.04
Residual Fuel Oil No. 5	0.140	72.93
Residual Fuel Oil No. 6	0.150	75.10
Used Oil	0.138	74.00
Kerosene	0.135	75.20
Liquefied petroleum gases (LPG) ¹	0.092	61.71
Propane ¹	0.091	62.87
Propylene ¹	0.091	67.77
Ethane ¹	0.068	59.60
Ethanol	0.084	68.44
Ethylene ²	0.058	65.96
Isobutane ¹	0.099	64.94
Isobutylene ¹	0.103	68.86
Butane ¹	0.103	64.77
Butylene ²	0.105	68.72
Naphtha (<401 deg F)	0.125	68.02
Natural Gasoline	0.110	66.88
Other Oil (>401 deg F)	0.139	76.22
Pentanes Plus	0.110	70.02
Petrochemical Feedstocks	0.125	71.02
Petroleum Coke	0.143	102.41
Special Naphtha	0.125	72.34
Unfinished Oils	0.139	74.54
Heavy Gas Oils	0.148	74.92
Lubricants	0.144	74.27
Motor Gasoline	0.125	70.22
Aviation Gasoline	0.120	69.25
Kerosene-Type Jet Fuel	0.135	72.22
Asphalt and Road Oil	0.158	75.36
Crude Oil	0.138	74.54
Other Fuels (Solid)	mmBtu/short ton	kg CO ₂ /mmBtu
Municipal Solid Waste	9.95 ³	90.70
Tires	28.00	85.97
Plastics	38.00	75.00
Petroleum Coke	30.00	102.41
Other Fuels (Gaseous)	mmBtu/scf	kg CO ₂ /mmBtu
Blast Furnace Gas	9.20E-05	274.32
Coke Oven Gas	5.99E-04	46.85
Propane Gas	2.52E-03	61.46
Fuel Gas ⁴	1.39E-03	59.00
Biomass Fuels - Solid	mmBtu/short ton	kg CO ₂ /mmBtu
Wood and Wood Residuals (dry basis) ⁵	17.48	93.80
Agricultural Byproducts	8.25	118.17
Peat	8.00	111.84
Solid Byproducts	10.39	105.51
Biomass Fuels - Gaseous	mmBtu/scf	kg CO ₂ /mmBtu
Landfill Gas	4.85E-04	52.07
Other Biomass Gases	6.55E-04	52.07
Biomass Fuels - Liquid	mmBtu/gallon	kg CO ₂ /mmBtu
Ethanol	0.084	68.44
Biodiesel	0.128	73.84
Rendered Animal Fat	0.125	71.06
Vegetable Oil	0.120	81.55

Table C-2 to Subpart C - Default CH₄ and N₂O Emission Factors for Various Types of Fuel

Fuel Type	Default CH₄ Emission Factor (kg CH₄/mmBtu)	Default N₂O Emission Factor (kg N₂O/mmBtu)
Coal and Coke (All fuel types in Table C-1)	1.1E-02	1.6E-03
Natural Gas	1.0E-03	1.0E-04
Petroleum (All fuel types in Table C-1)	3.0E-03	6.0E-04
Fuel Gas	3.0E-03	6.0E-04
Municipal Solid Waste	3.2E-02	4.2E-03
Tires	3.2E-02	4.2E-03
Blast Furnace Gas	2.2E-05	1.0E-04
Coke Oven Gas	4.8E-04	1.0E-04
Biomass Fuels - Solid (All fuel types in Table C-1, except wood and wood residuals)	3.2E-02	4.2E-03
Wood and wood residuals	7.2E-03	3.6E-03
Biomass Fuels - Gaseous (All fuel types in Table C-1)	3.2E-03	6.3E-04
Biomass Fuels - Liquid (All fuel types in Table C-1)	1.1E-03	1.1E-04

Note: Those employing this table are assumed to fall under the IPCC definitions of the "Energy Industry" or "Manufacturing Industries and Construction". In all fuels except for coal the values for these two categories are identical. For coal combustion, those who fall within the IPCC "Energy Industry" category may employ a value of 1 g of CH₄/mmBtu.

Nonroad Compression-Ignition Engines: Exhaust Emission Standards

	Rated Power (kW)	Tier	Model Year	NMHC (g/kW-hr)	NMHC + NOx (g/kW-hr)	NOx (g/kW-hr)	PM (g/kW-hr)	CO (g/kW-hr)	Smoke ^a (Percentage)	Useful Life (hours /years) ^b	Warranty Period (hours /years) ^b	
Federal	kW < 8	1	2000-2004	-	10.5	-	1.0	8.0	20/15/50	3,000/5	1,500/2	
		2	2005-2007	-	7.5	-	0.80	8.0				
		4	2008+	-	7.5	-	0.40 ^c	8.0				
	8 ≤ kW < 19	1	2000-2004	-	9.5	-	0.80	6.6		3,000/5	1,500/2	
		2	2005-2007	-	7.5	-	0.80	6.6				
		4	2008+	-	7.5	-	0.40	6.6				
	19 ≤ kW < 37	1	1999-2003	-	9.5	-	0.80	5.5		5,000/7 ^d	3,000/5 ^e	
		2	2004-2007	-	7.5	-	0.60	5.5				
		4	2008-2012	-	7.5	-	0.30	5.5				
			2013+	-	4.7	-	0.03	5.5				
	37 ≤ kW < 56	1	1998-2003	-	-	9.2	-	-		20/15/50	8,000/10	3,000/5
		2	2004-2007	-	7.5	-	0.40	5.0				
		3 ^f	2008-2011	-	4.7	-	0.40	5.0				
		4 (Option 1) ^g	2008-2012	-	4.7	-	0.30	5.0				
		4 (Option 2) ^g	2012	-	4.7	-	0.03	5.0				
		4	2013+	-	4.7	-	0.03	5.0				
	56 ≤ kW < 75	1	1998-2003	-	-	9.2	-	-		20/15/50	8,000/10	3,000/5
		2	2004-2007	-	7.5	-	0.40	5.0				
		3	2008-2011	-	4.7	-	0.40	5.0				
		4	2012-2013 ^h	-	4.7	-	0.02	5.0				
			2014+ ⁱ	0.19	-	0.40	0.02	5.0				
75 ≤ kW < 130	1	1997-2002	-	-	9.2	-	-	20/15/50	8,000/10	3,000/5		
	2	2003-2006	-	6.6	-	0.30	5.0					
	3	2007-2011	-	4.0	-	0.30	5.0					
	4	2012-2013 ^h	-	4.0	-	0.02	5.0					
		2014+	0.19	-	0.40	0.02	5.0					

Continued

	Rated Power (kW)	Tier	Model Year	NMHC (g/kW-hr)	NMHC + NOx (g/kW-hr)	NOx (g/kW-hr)	PM (g/kW-hr)	CO (g/kW-hr)	Smoke ^a (Percentage)	Useful Life (hours /years) ^b	Warranty Period (hours /years) ^b
Federal	130 ≤ kW < 225	1	1996-2002	1.3 ^j	-	9.2	0.54	11.4	20/15/50	8,000/10	3,000/5
		2	2003-2005	-	6.6	-	0.20	3.5			
		3	2006-2010	-	4.0	-	0.20	3.5			
		4	2011-2013 ^h	-	4.0	-	0.02	3.5			
			2014+ ⁱ	0.19	-	0.40	0.02	3.5			
	225 ≤ kW < 450	1	1996-2000	1.3 ^j	-	9.2	0.54	11.4			
		2	2001-2005	-	6.4	-	0.20	3.5			
		3	2006-2010	-	4.0	-	0.20	3.5			
		4	2011-2013 ^h	-	4.0	-	0.02	3.5			
			2014+ ⁱ	0.19	-	0.40	0.02	3.5			
	450 ≤ kW < 560	1	1996-2001	1.3 ^j	-	9.2	0.54	11.4			
		2	2002-2005	-	6.4	-	0.20	3.5			
		3	2006-2010	-	4.0	-	0.20	3.5			
		4	2011-2013 ^h	-	4.0	-	0.02	3.5			
			2014+ ⁱ	0.19	-	0.40	0.02	3.5			
	560 ≤ kW < 900	1	2000-2005	1.3 ^j	-	9.2	0.54	11.4			
		2	2006-2010	-	6.4	-	0.20	3.5			
		4	2011-2014	0.40	-	3.5	0.10	3.5			
			2015+ ⁱ	0.19	-	3.5 ^k	0.04 ^l	3.5			
	kW > 900	1	2000-2005	1.3 ^j	-	9.2	0.54	11.4			
2		2006-2010	-	6.4	-	0.20	3.5				
4		2011-2014	0.40	-	3.5 ^k	0.10	3.5				
		2015+ ⁱ	0.19	-	3.5 ^k	0.04 ^l	3.5				

Notes on following page.

Notes:

- For Tier 1, 2, and 3 standards, exhaust emissions of nitrogen oxides (NO_x), carbon monoxide (CO), hydrocarbons (HC), and non-methane hydrocarbons (NMHC) are measured using the procedures in 40 Code of Federal Regulations (CFR) Part 89 Subpart E. For Tier 1, 2, and 3 standards, particulate matter (PM) exhaust emissions are measured using the California Regulations for New 1996 and Later Heavy-Duty Off-Road Diesel Cycle Engines.
- For Tier 4 standards, engines are tested for transient and steady-state exhaust emissions using the procedures in 40 CFR Part 1039 Subpart F. Transient standards do not apply to engines below 37 kilowatts (kW) before the 2013 model year, constant-speed engines, engines certified to Option 1, and engines above 560 kW.
- Tier 2 and later model naturally aspirated nonroad engines shall not discharge crankcase emissions into the atmosphere unless these emissions are permanently routed into the exhaust. This prohibition does not apply to engines using turbochargers, pumps, blowers, or superchargers.
- In lieu of the Tier 1, 2, and 3 standards for NO_x, NMHC + NO_x, and PM, manufacturers may elect to participate in the averaging, banking, and trading (ABT) program described in 40 CFR Part 89 Subpart C.
- a** Smoke emissions may not exceed 20 percent during the acceleration mode, 15 percent during the lugging mode, and 50 percent during the peaks in either mode. Smoke emission standards do not apply to single-cylinder engines, constant-speed engines, or engines certified to a PM emission standard of 0.07 grams per kilowatt-hour (g/kW-hr) or lower. Smoke emissions are measured using procedures in 40 CFR Part 86 Subpart I.
- b** Useful life and warranty period are expressed hours and years, whichever comes first.
- c** Hand-startable air-cooled direct injection engines may optionally meet a PM standard of 0.60 g/kW-hr. These engines may optionally meet Tier 2 standards through the 2009 model years. In 2010 these engines are required to meet a PM standard of 0.60 g/kW-hr.
- d** Useful life for constant speed engines with rated speed 3,000 revolutions per minute (rpm) or higher is 5 years or 3,000 hours, whichever comes first.
- e** Warranty period for constant speed engines with rated speed 3,000 rpm or higher is 2 years or 1,500 hours, whichever comes first.
- f** These Tier 3 standards apply only to manufacturers selecting Tier 4 Option 2. Manufacturers selecting Tier 4 Option 1 will be meeting those standards in lieu of Tier 3 standards.
- g** A manufacturer may certify all their engines to either Option 1 or Option 2 sets of standards starting in the indicated model year. Manufacturers selecting Option 2 must meet Tier 3 standards in the 2008-2011 model years.
- h** These standards are phase-out standards. Not more than 50 percent of a manufacturer's engine production is allowed to meet these standards in each model year of the phase out period. Engines not meeting these standards must meet the final Tier 4 standards.
- i** These standards are phased in during the indicated years. At least 50 percent of a manufacturer's engine production must meet these standards during each year of the phase in. Engines not meeting these standards must meet the applicable phase-out standards.
- j** For Tier 1 engines the standard is for total hydrocarbons.
- k** The NO_x standard for generator sets is 0.67 g/kW-hr.
- l** The PM standard for generator sets is 0.03 g/kW-hr.

Citations: Code of Federal Regulations (CFR) citations:

- 40 CFR 89.112 = Exhaust emission standards
- 40 CFR 1039.101 = Exhaust emission standards for after 2014 model year
- 40 CFR 1039.102 = Exhaust emission standards for model year 2014 and earlier
- 40 CFR 1039 Subpart F = Exhaust emissions transient and steady state test procedures
- 40 CFR 86 Subpart I = Smoke emission test procedures
- 40 CFR 1065 = Test equipment and emissions measurement procedures

Table 3.3-1. EMISSION FACTORS FOR UNCONTROLLED GASOLINE AND DIESEL INDUSTRIAL ENGINES^a

Pollutant	Gasoline Fuel (SCC 2-02-003-01, 2-03-003-01)		Diesel Fuel (SCC 2-02-001-02, 2-03-001-01)		EMISSION FACTOR RATING
	Emission Factor (lb/hp-hr) (power output)	Emission Factor (lb/MMBtu) (fuel input)	Emission Factor (lb/hp-hr) (power output)	Emission Factor (lb/MMBtu) (fuel input)	
NO _x	0.011	1.63	0.031	4.41	D
CO	6.96 E-03 ^d	0.99 ^d	6.68 E-03	0.95	D
SO _x	5.91 E-04	0.084	2.05 E-03	0.29	D
PM-10 ^b	7.21 E-04	0.10	2.20 E-03	0.31	D
CO ₂ ^c	1.08	154	1.15	164	B
Aldehydes	4.85 E-04	0.07	4.63 E-04	0.07	D
TOC					
Exhaust	0.015	2.10	2.47 E-03	0.35	D
Evaporative	6.61 E-04	0.09	0.00	0.00	E
Crankcase	4.85 E-03	0.69	4.41 E-05	0.01	E
Refueling	1.08 E-03	0.15	0.00	0.00	E

^a References 2,5-6,9-14. When necessary, an average brake-specific fuel consumption (BSFC) of 7,000 Btu/hp-hr was used to convert from lb/MMBtu to lb/hp-hr. To convert from lb/hp-hr to kg/kw-hr, multiply by 0.608. To convert from lb/MMBtu to ng/J, multiply by 430. SCC = Source Classification Code. TOC = total organic compounds.

^b PM-10 = particulate matter less than or equal to 10 µm aerodynamic diameter. All particulate is assumed to be ≤ 1 µm in size.

^c Assumes 99% conversion of carbon in fuel to CO₂ with 87 weight % carbon in diesel, 86 weight % carbon in gasoline, average BSFC of 7,000 Btu/hp-hr, diesel heating value of 19,300 Btu/lb, and gasoline heating value of 20,300 Btu/lb.

^d Instead of 0.439 lb/hp-hr (power output) and 62.7 lb/mmBtu (fuel input), the correct emissions factors values are 6.96 E-03 lb/hp-hr (power output) and 0.99 lb/mmBtu (fuel input), respectively. This is an editorial correction. March 24, 2009

Table 3.3-2. SPECIATED ORGANIC COMPOUND EMISSION FACTORS FOR UNCONTROLLED DIESEL ENGINES^a

EMISSION FACTOR RATING: E

Pollutant	Emission Factor (Fuel Input) (lb/MMBtu)
Benzene ^b	9.33 E-04
Toluene ^b	4.09 E-04
Xylenes ^b	2.85 E-04
Propylene	2.58 E-03
1,3-Butadiene ^{b,c}	<3.91 E-05
Formaldehyde ^b	1.18 E-03
Acetaldehyde ^b	7.67 E-04
Acrolein ^b	<9.25 E-05
Polycyclic aromatic hydrocarbons (PAH)	
Naphthalene ^b	8.48 E-05
Acenaphthylene	<5.06 E-06
Acenaphthene	<1.42 E-06
Fluorene	2.92 E-05
Phenanthrene	2.94 E-05
Anthracene	1.87 E-06
Fluoranthene	7.61 E-06
Pyrene	4.78 E-06
Benzo(a)anthracene	1.68 E-06
Chrysene	3.53 E-07
Benzo(b)fluoranthene	<9.91 E-08
Benzo(k)fluoranthene	<1.55 E-07
Benzo(a)pyrene	<1.88 E-07
Indeno(1,2,3-cd)pyrene	<3.75 E-07
Dibenz(a,h)anthracene	<5.83 E-07
Benzo(g,h,l)perylene	<4.89 E-07
TOTAL PAH	1.68 E-04

^a Based on the uncontrolled levels of 2 diesel engines from References 6-7. Source Classification Codes 2-02-001-02, 2-03-001-01. To convert from lb/MMBtu to ng/J, multiply by 430.

^b Hazardous air pollutant listed in the *Clean Air Act*.

^c Based on data from 1 engine.

Table 11.19.2-2 (English Units). EMISSION FACTORS FOR CRUSHED STONE PROCESSING OPERATIONS (lb/Ton)^a

Source ^b	Total Particulate Matter ^{r,s}	EMISSION FACTOR RATING	Total PM-10	EMISSION FACTOR RATING	Total PM-2.5	EMISSION FACTOR RATING
Primary Crushing (SCC 3-05-020-01)	ND		ND ⁿ		ND ⁿ	
Primary Crushing (controlled) (SCC 3-05-020-01)	ND		ND ⁿ		ND ⁿ	
Secondary Crushing (SCC 3-05-020-02)	ND		ND ⁿ		ND ⁿ	
Secondary Crushing (controlled) (SCC 3-05-020-02)	ND		ND ⁿ		ND ⁿ	
Tertiary Crushing (SCC 3-050030-03)	0.0054 ^d	E	0.0024 ^o	C	ND ⁿ	
Tertiary Crushing (controlled) (SCC 3-05-020-03)	0.0012 ^d	E	0.00054 ^p	C	0.00010 ^q	E
Fines Crushing (SCC 3-05-020-05)	0.0390 ^e	E	0.0150 ^e	E	ND	
Fines Crushing (controlled) (SCC 3-05-020-05)	0.0030 ^f	E	0.0012 ^f	E	0.000070 ^q	E
Screening (SCC 3-05-020-02, 03)	0.025 ^c	E	0.0087 ^l	C	ND	
Screening (controlled) (SCC 3-05-020-02, 03)	0.0022 ^d	E	0.00074 ^m	C	0.000050 ^q	E
Fines Screening (SCC 3-05-020-21)	0.30 ^g	E	0.072 ^g	E	ND	
Fines Screening (controlled) (SCC 3-05-020-21)	0.0036 ^g	E	0.0022 ^g	E	ND	
Conveyor Transfer Point (SCC 3-05-020-06)	0.0030 ^h	E	0.00110 ^h	D	ND	
Conveyor Transfer Point (controlled) (SCC 3-05-020-06)	0.00014 ⁱ	E	4.6 x 10 ⁻⁵ⁱ	D	1.3 x 10 ^{-5q}	E
Wet Drilling - Unfragmented Stone (SCC 3-05-020-10)	ND		8.0 x 10 ^{-5j}	E	ND	
Truck Unloading -Fragmented Stone (SCC 3-05-020-31)	ND		1.6 x 10 ^{-5j}	E	ND	
Truck Loading - Conveyor, crushed stone (SCC 3-05-020-32)	ND		0.00010 ^k	E	ND	

a. Emission factors represent uncontrolled emissions unless noted. Emission factors in lb/Ton of material of throughput. SCC = Source Classification Code. ND = No data.

b. Controlled sources (with wet suppression) are those that are part of the processing plant that employs current wet suppression technology similar to the study group. The moisture content of the study group without wet suppression systems operating (uncontrolled) ranged from 0.21 to 1.3 percent, and the same facilities operating wet suppression systems (controlled) ranged from 0.55 to 2.88 percent. Due to carry over of the small amount of moisture required, it has been shown that each source, with the exception of crushers, does not need to employ direct water sprays. Although the moisture content was the only variable measured, other process features may have as much influence on emissions from a given source. Visual observations from each source under normal operating conditions are probably the best indicator of which emission factor is most appropriate. Plants that employ substandard control measures as indicated by visual observations should use the uncontrolled factor with an appropriate control efficiency that best reflects the effectiveness of the controls employed.

c. References 1, 3, 7, and 8

d. References 3, 7, and 8

- e. Reference 4
- f. References 4 and 15
- g. Reference 4
- h. References 5 and 6
- i. References 5, 6, and 15
- j. Reference 11
- k. Reference 12
- l. References 1, 3, 7, and 8
- m. References 1, 3, 7, 8, and 15
- n. No data available, but emission factors for PM-10 for tertiary crushers can be used as an upper limit for primary or secondary crushing
- o. References 2, 3, 7, 8
- p. References 2, 3, 7, 8, and 15
- q. Reference 15
- r. PM emission factors are presented based on PM-100 data in the Background Support Document for Section 11.19.2
- s. Emission factors for PM-30 and PM-50 are available in Figures 11.19.2-3 through 11.19.2-6.

Note: Truck Unloading - Conveyor, crushed stone (SCC 3-05-020-32) was corrected to Truck Loading - Conveyor, crushed stone (SCC 3-05-020-32). October 1, 2010.

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Emission factor estimates for stone quarry blasting operations are not presented because of the sparsity and unreliability of available tests. While a procedure for estimating blasting emissions is presented in Section 11.9, Western Surface Coal Mining, that procedure should not be applied to stone quarries because of dissimilarities in blasting techniques, material blasted, and size of blast areas. Emission factors for fugitive dust sources, including paved and unpaved roads, materials handling and transfer, and wind erosion of storage piles, can be determined using the predictive emission factor equations presented in AP-42 Section 13.2.

The data used in the preparation of the controlled PM calculations was derived from the individual A-rated tests for PM-2.5 and PM-10 summarized in the Background Support Document. For conveyor transfer points, the controlled PM value was derived from A-rated PM-2.5, PM-10, and PM data summarized in the Background Support Document.

The extrapolation line was drawn through the PM-2.5 value and the mean of the PM-10 values. PM emission factors were calculated for PM-30, PM-50, and PM-100. Each of these particle size limits is used by one or more regulatory agencies as the definition of total particulate matter. The graphical extrapolations used in calculating the emission factors are presented in Figures 11.19.2-3, -4, -5, and -6.

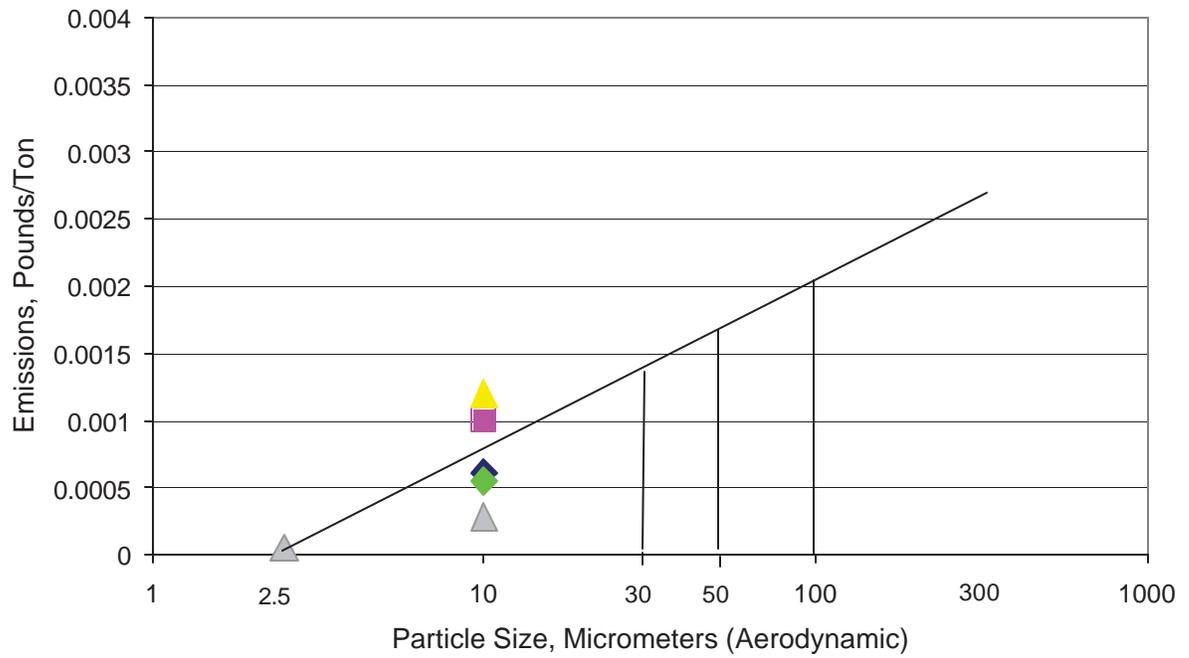


Figure 11-19-3. PM Emission Factor Calculation, Screening (Controlled)

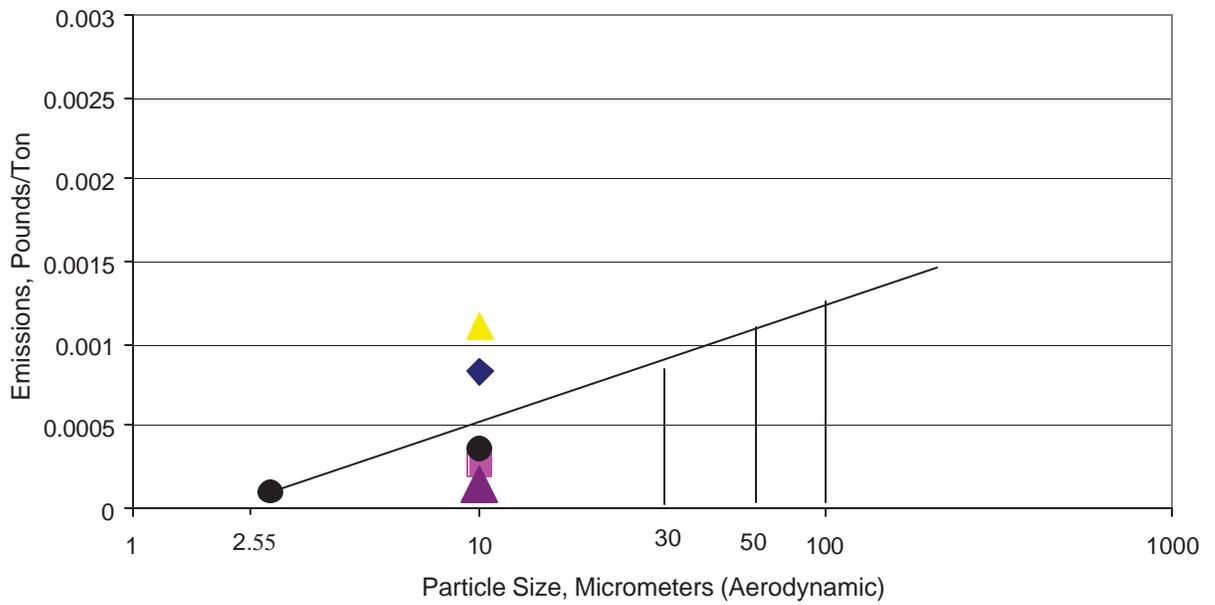


Figure 11.19-4. PM Emission Factor Calculation, Tertiary Crushing (Controlled)

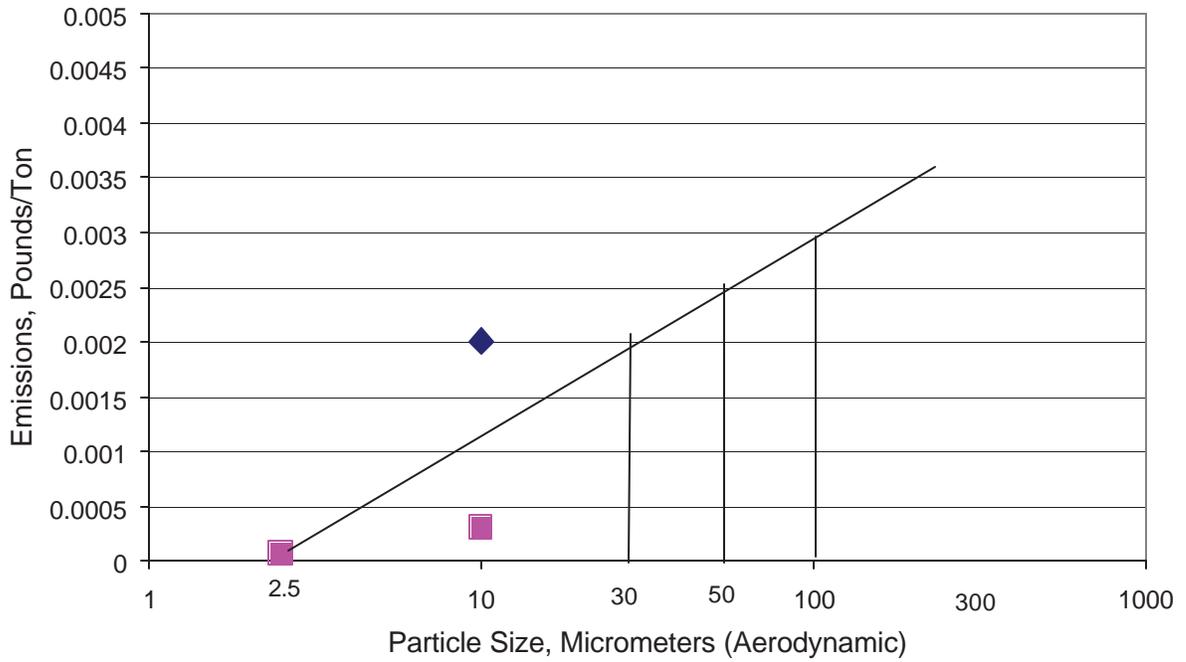


Figure 11-19.5. PM Emission Factor Calculation, Fines Crushing (Controlled)

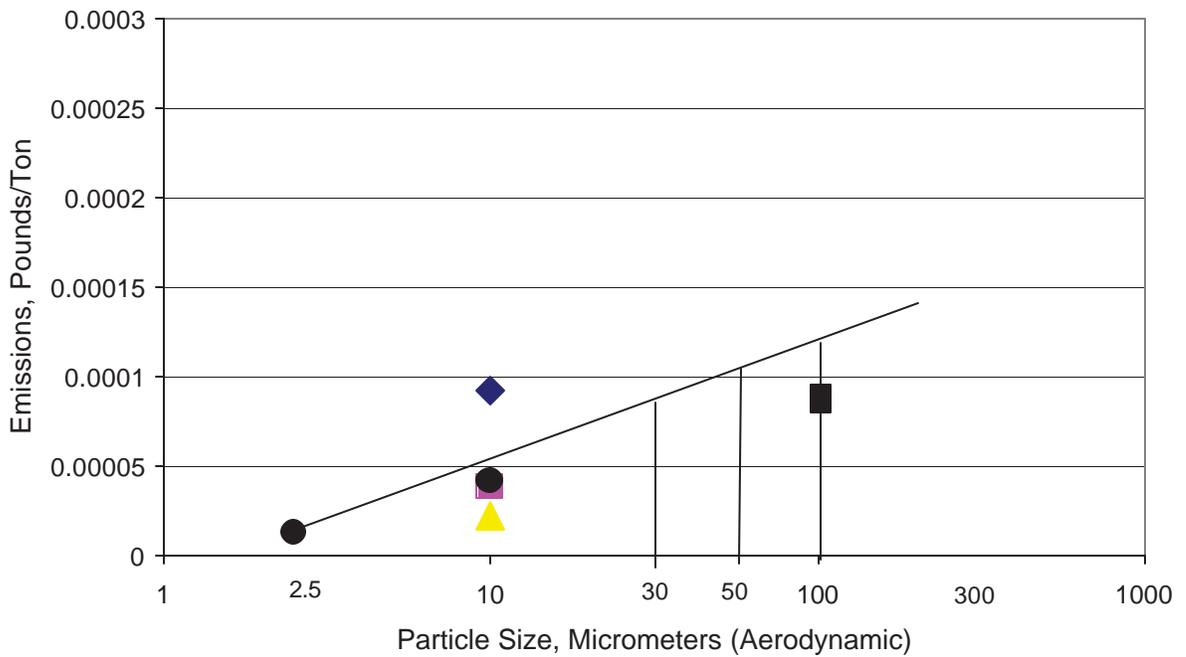


Figure 11.19-6. PM Emission Factor Calculation, Conveyor Transfer Points (Controlled)

The uncontrolled PM emission factors have been calculated from the controlled PM emission factors calculated in accordance with Figures 11.19.2-3 through 11.19.2-6. The PM-10 control efficiencies have been applied to the PM controlled emission factor data to calculate the uncontrolled PM emission rates.

Screening PM-10

Controlled = 0.00073 Lbs./Ton.

Uncontrolled = 0.00865 Lbs./Ton.

Efficiency = 91.6%

Tertiary Crushing PM-10

Controlled = 0.00054

Uncontrolled = 0.00243

Efficiency = 77.7%

Fines Crushing PM-10:

Controlled = 0.0012

Uncontrolled = 0.015

Efficiency = 92.0%

Conveyor Transfer Points PM-10

Controlled = 0.000045

Uncontrolled = 0.0011

Efficiency = 95.9%

The uncontrolled total particulate matter emission factor was calculated from the controlled total particulate matter using Equation 1:

$$\text{Uncontrolled emission factor} = \frac{\text{Controlled total particulate emission factor}}{(100\% - \text{PM-10 Efficiency \%})/100\%}$$

Equation 1

The Total PM emission factors calculated using Figures 11.19.2-3 through 11.19.2-6 were developed because (1) there are more A-rated test data supporting the calculated values and (2) the extrapolated values provide the flexibility for agencies and source operators to select the most appropriate definition for Total PM. All of the Total PM emission factors have been rated as E due to the limited test data and the need to estimate emission factors using extrapolations of the PM-2.5 and PM-10 data.

Table 13.2.2-1. TYPICAL SILT CONTENT VALUES OF SURFACE MATERIAL ON INDUSTRIAL UNPAVED ROADS^a

Industry	Road Use Or Surface Material	Plant Sites	No. Of Samples	Silt Content (%)	
				Range	Mean
Copper smelting	Plant road	1	3	16 - 19	17
Iron and steel production	Plant road	19	135	0.2 - 19	6.0
Sand and gravel processing	Plant road	1	3	4.1 - 6.0	4.8
	Material storage area	1	1	-	7.1
Stone quarrying and processing	Plant road	2	10	2.4 - 16	10
	Haul road to/from pit	4	20	5.0-15	8.3
Taconite mining and processing	Service road	1	8	2.4 - 7.1	4.3
	Haul road to/from pit	1	12	3.9 - 9.7	5.8
Western surface coal mining	Haul road to/from pit	3	21	2.8 - 18	8.4
	Plant road	2	2	4.9 - 5.3	5.1
	Scraper route	3	10	7.2 - 25	17
	Haul road (freshly graded)	2	5	18 - 29	24
Construction sites	Scraper routes	7	20	0.56-23	8.5
Lumber sawmills	Log yards	2	2	4.8-12	8.4
Municipal solid waste landfills	Disposal routes	4	20	2.2 - 21	6.4

^aReferences 1,5-15.

The following empirical expressions may be used to estimate the quantity in pounds (lb) of size-specific particulate emissions from an unpaved road, per vehicle mile traveled (VMT):

For vehicles traveling on unpaved surfaces at industrial sites, emissions are estimated from the following equation:

$$E = k (s/12)^a(W/3)^b \quad (1a)$$

and, for vehicles traveling on publicly accessible roads, dominated by light duty vehicles, emissions may be estimated from the following:

$$E = \frac{k (s/12)^a(S/30)^d}{(M/0.5)^c} - C \quad (1b)$$

where k , a , b , c and d are empirical constants (Reference 6) given below and

E = size-specific emission factor (lb/VMT)

s = surface material silt content (%)

W = mean vehicle weight (tons)

M = surface material moisture content (%)

S = mean vehicle speed (mph)

C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

The source characteristics s , W and M are referred to as correction parameters for adjusting the emission estimates to local conditions. The metric conversion from lb/VMT to grams (g) per vehicle kilometer traveled (VKT) is as follows:

$$1 \text{ lb/VMT} = 281.9 \text{ g/VKT}$$

The constants for Equations 1a and 1b based on the stated aerodynamic particle sizes are shown in Tables 13.2.2-2 and 13.2.2-4. The PM-2.5 particle size multipliers (k -factors) are taken from Reference 27.

Table 13.2.2-2. CONSTANTS FOR EQUATIONS 1a AND 1b

Constant	Industrial Roads (Equation 1a)			Public Roads (Equation 1b)		
	PM-2.5	PM-10	PM-30*	PM-2.5	PM-10	PM-30*
k (lb/VMT)	0.15	1.5	4.9	0.18	1.8	6.0
a	0.9	0.9	0.7	1	1	1
b	0.45	0.45	0.45	-	-	-
c	-	-	-	0.2	0.2	0.3
d	-	-	-	0.5	0.5	0.3
Quality Rating	B	B	B	B	B	B

*Assumed equivalent to total suspended particulate matter (TSP)

“-“ = not used in the emission factor equation

Table 13.2.2-2 also contains the quality ratings for the various size-specific versions of Equation 1a and 1b. The equation retains the assigned quality rating, if applied within the ranges of source conditions, shown in Table 13.2.2-3, that were tested in developing the equation:

Table 13.2.2-3. RANGE OF SOURCE CONDITIONS USED IN DEVELOPING EQUATION 1a AND 1b

Emission Factor	Surface Silt Content, %	Mean Vehicle Weight		Mean Vehicle Speed		Mean No. of Wheels	Surface Moisture Content, %
		Mg	ton	km/hr	mph		
Industrial Roads (Equation 1a)	1.8-25.2	1.8-260	2-290	8-69	5-43	4-17 ^a	0.03-13
Public Roads (Equation 1b)	1.8-35	1.4-2.7	1.5-3	16-88	10-55	4-4.8	0.03-13

^a See discussion in text.

As noted earlier, the models presented as Equations 1a and 1b were developed from tests of traffic on unpaved surfaces. Unpaved roads have a hard, generally nonporous surface that usually dries quickly after a rainfall or watering, because of traffic-enhanced natural evaporation. (Factors influencing how fast a road dries are discussed in Section 13.2.2.3, below.) The quality ratings given above pertain to the mid-range of the measured source conditions for the equation. A higher mean vehicle weight and a higher than normal traffic rate may be justified when performing a worst-case analysis of emissions from unpaved roads.

The emission factors for the exhaust, brake wear and tire wear of a 1980's vehicle fleet (C) was obtained from EPA's MOBILE6.2 model ²³. The emission factor also varies with aerodynamic size range

APPENDIX B

Air Quality Construction Permit Application Forms

**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Authority-to-Construct Permits (20.11.41 NMAC)**

15. Permitting Action Being Requested

New Permit Permit Modification Technical Permit Revision Administrative Permit Revision
 Current Permit #: 3292 Current Permit #: _____ Current Permit #: _____

PROCESS EQUIPMENT TABLE

(Generator-Crusher-Screen-Conveyor-Boiler-Mixer-SprayGuns-Saws-Sander-Oven-Dryer-Furnace, Incinerator, etc.)

Process Equipment Unit	Manufacturer	Model #	Serial #	Manufacture Date	Installation Date	Modification Date	Size or Process Rate (Hp;kW;Btu;ft ³ ;lbs; tons;yd ³ ;etc.)	Fuel Type
Example 1. Generator	Unigen	B-2500	A56732195C-222	7/96	7/97	N/A	250 Hp - HR. ¥R-	Diesel
Example 2. Spray Gun	HVLP Systems	Spray-N-Stay 1100	k26-56-95	01/97	11/97	N/A	0.25 gal. - HR. ¥R-	Electric Compressor
1. Raw Material Batch Drop by Truck	N/A	N/A	N/A	N/A	February 2017	N/A	150 tons/hr	N/A
2. Raw Material Batch Drop by Truck	N/A	N/A	N/A	N/A	February 2017	N/A	150 tons/hr	N/A
3. Bulk Loading of Main Feed Hopper (Crusher Loading)	N/A	N/A	N/A	N/A	February 2017	N/A	300 tons/hr	N/A
4. Screen (Connected to Crusher)	McCloskey	144R	84202	2016	February 2017	N/A	300 tons/hr	Electric
5. Portable Impact Crusher	McCloskey	144R	84202	2016	February 2017	N/A	300 tons/hr	Electric
6. Conveyor connected to Crusher (Continuous Drop Product Pile Formation)	McCloskey	144R	84202	2016	February 2017	N/A	300 tons/hr	Electric
7. Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	N/A	February 2017	N/A	150 tons/hr	N/A
8. Loadout (Front Loader loading truck from Product Pile)	N/A	N/A	N/A	N/A	February 2017	N/A	150 tons/hr	N/A
9. Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	N/A	February 2017	N/A	150 tons/hr	N/A
10. Loadout (Front Loader loading truck from Product Pile)	N/A	N/A	N/A	N/A	February 2017	N/A	150 tons/hr	N/A
11. Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	N/A	February 2017	N/A	150 tons/hr	N/A
12. Loadout (Front Loader loading truck from Product Pile)	N/A	N/A	N/A	N/A	February 2017	N/A	150 tons/hr	N/A
13. Haul Road	N/A	N/A	N/A	N/A	February 2017	N/A	53 trucks/day	N/A
14. Generator (Powering Crusher)	Caterpillar	C9	REH06618	2015	February 2017	N/A	261 kW (350 hp)	Diesel
15. Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	N/A	May 2019	N/A	150 tons/hr	N/A
16. Loadout (Front Loader loading truck from Product Pile)	N/A	N/A	N/A	N/A	May 2019	N/A	150 tons/hr	N/A
17. Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	N/A	May 2019	N/A	150 tons/hr	N/A
18. Loadout (Front Loader loading truck from Product Pile)	N/A	N/A	N/A	N/A	May 2019	N/A	150 tons/hr	N/A

19. Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	N/A	May 2019	N/A	150 tons/hr	N/A
20. Loadout (Front Loader loading truck from Product Pile)	N/A	N/A	N/A	N/A	May 2019	N/A	150 tons/hr	N/A
21. Product Pile Formation (Front Loader Drop)	N/A	N/A	N/A	N/A	May 2019	N/A	150 tons/hr	N/A
22. Loadout (Front Loader loading truck from Product Pile)	N/A	N/A	N/A	N/A	May 2019	N/A	150 tons/hr	N/A

1. Basis for Equipment Size or Process Rate (Manufacturers data, Field Observation/Test, etc.) Manufacturer data Submit information for each unit as an attachment

EXEMPTED SOURCES AND EXEMPTED ACTIVITIES

(Generator-Crusher-Screen-Conveyor-Boiler-Mixer-Spray Guns-Saws-Sander-Oven-Dryer-Furnace-Incinerator, etc.)

Process Equipment Unit	Manufacturer	Model #	Serial #	Manufacture Date	Installation Date	Modification Date	Size or Process Rate (Hp;kW;Btu;ft ³ ;lbs; tons;yd ³ ;etc.)	Fuel Type
Example 1. Generator	Unigen	B-2500	A56732195C-222	7/96	7/97	N/A	250 Hp - HR. YR.	Diesel
Example 2. Spray Gun	HVLP Systems	Spray-N-Stay 1100	k26-56-95	01/97	11/97	N/A	0.25 gal. - HR. YR.	Electric Compressor
Front Loaders, Backhoes, etc for material distribution	Varies	Varies	Varies	Varies	Varies	Varies	Varies	Diesel
							HR. YR.	
							HR. YR.	

1. Basis for Equipment Size or Process Rate (Manufacturers data, Field Observation/Test, etc.) Manufacturer Data Submit information for each unit as an attachment

Note: This equipment is exempt under 20.11.41.2.F.(2)(c) NMAC.

**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Authority-to-Construct Permits (20.11.41 NMAC)**

UNCONTROLLED EMISSIONS OF INDIVIDUAL AND COMBINED PROCESSES

(Process potential under physical/operational limitations during a 24 hr/day and 365 day/year = 8,760 hrs)

Process Equipment Unit*	Carbon Monoxide (CO)	Oxides of Nitrogen (NOx)	Nonmethane Hydrocarbons NMHC (VOCs)	Oxides of Sulfur (SOx)	Total Suspended Particulate Matter (TSP)	Method(s) used for Determination of Emissions (AP-42, Material balance, field tests, manufacturers' data, etc.)
Example I. Generator	1. 9.1 lbs/hr	27.7 lbs/hr	1.3 lbs/hr	0.5 lbs/hr	2.0 lbs/hr	AP-42
	1a. 39.9 tons/yr	121.3 tons/yr	5.7 tons/yr	2.2 tons/yr	8.8 tons/yr	
1. Raw Material Batch Drop by Truck	1. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.17 lbs/hr	AP-42
	1a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.72 tons/yr	
2. Raw Material Batch Drop by Truck	2. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.17 lbs/hr	AP-42
	2a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.72 tons/yr	
3. Bulk Loading of Main Feed Hopper (Crusher Loading)	3. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.33 lbs/hr	AP-42
	3a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	1.45 tons/yr	
4. Screen (Connected to Crusher)	4. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	2.61 lbs/hr	AP-42
	4a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	11.43 tons/yr	
5. Portable Impact Crusher	5. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.72 lbs/hr	AP-42
	5a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	3.15 tons/yr	
6. Conveyor connected to Crusher (Continuous Drop Product Pile Formation)	6. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.33 lbs/hr	AP-42
	6a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	1.45 tons/yr	
7. Product Pile Formation (Front Loader Drop)	7. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.17 lbs/hr	AP-42
	7a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.72 tons/yr	
8. Loadout (Front Loader loading Truck from Product Pile)	8. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.17 lbs/hr	AP-42
	8a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.72 tons/yr	
9. Product Pile Formation (Front Loader Drop)	9. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.17 lbs/hr	AP-42
	9a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.72 tons/yr	
10. Loadout (Front Loader loading Truck from Product Pile)	10. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.17 lbs/hr	AP-42
	10a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.72 tons/yr	
11. Product Pile Formation (Front Loader Drop)	11. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.17 lbs/hr	AP-42
	11a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.72 tons/yr	
12. Loadout (Front Loader loading Truck from Product Pile)	12. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.17 lbs/hr	AP-42
	12a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.72 tons/yr	
13. Haul Roads	13. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	1.85 lbs/hr	AP-42
	13a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	8.12 tons/yr	

14. Generator (Powering Crusher)	14.	2.01 lbs/hr	0.23 lbs/hr	0.11 lbs/hr	0.72 lbs/hr	0.01 lbs/hr	NSPS Standards for non-emergency Diesel Engines (2014+), AP-42
	14a.	8.82 tons/yr	1.01 tons/yr	0.48 tons/yr	3.14 tons/yr	0.05 tons/yr	
15. Product Pile Formation (Front Loader Drop)	15.	- lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.17 lbs/hr	AP-42
	15a.	- tons/yr	- tons/yr	- tons/yr	- tons/yr	0.72 tons/yr	
16. Loadout (Front Loader loading Truck from Product Pile)	16.	- lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.17 lbs/hr	AP-42
	16a.	- tons/yr	- tons/yr	- tons/yr	- tons/yr	0.72 tons/yr	
17. Product Pile Formation (Front Loader Drop)	17.	- lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.17 lbs/hr	AP-42
	17a.	- tons/yr	- tons/yr	- tons/yr	- tons/yr	0.72 tons/yr	
18. Loadout (Front Loader loading Truck from Product Pile)	18.	- lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.17 lbs/hr	AP-42
	18a.	- tons/yr	- tons/yr	- tons/yr	- tons/yr	0.72 tons/yr	
19. Product Pile Formation (Front Loader Drop)	19.	- lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.17 lbs/hr	AP-42
	19a.	- tons/yr	- tons/yr	- tons/yr	- tons/yr	0.72 tons/yr	
20. Loadout (Front Loader loading Truck from Product Pile)	20.	- lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.17 lbs/hr	AP-42
	20a.	- tons/yr	- tons/yr	- tons/yr	- tons/yr	0.72 tons/yr	
21. Product Pile Formation (Front Loader Drop)	21.	- lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.17 lbs/hr	AP-42
	21a.	- tons/yr	- tons/yr	- tons/yr	- tons/yr	0.72 tons/yr	
22. Loadout (Front Loader loading Truck from Product Pile)	22.	- lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.17 lbs/hr	AP-42
	22a.	- tons/yr	- tons/yr	- tons/yr	- tons/yr	0.72 tons/yr	
Total		2.01 lbs/hr	0.23 lbs/hr	0.11 lbs/hr	0.72 lbs/hr	8.50 lbs/hr	
		8.82 tons/yr	1.01 tons/yr	0.48 tons/yr	3.14 tons/yr	37.18 tons/yr	

* If any one (1) of these process units, or combination of units, has an uncontrolled emission greater than (>) 10 lbs/hr or 25 tons/yr for any of the above pollutants (based on 8760 hrs of operation), then a permit will be required. Complete this application along with additional checklist information requested on accompanying instruction sheet.

* If all of these process units, individually and in combination, have an uncontrolled emission less than or equal to (\leq) 10 lbs/hr or 25 tons/yr for all of the above pollutants (based on 8760 hrs of operation), but > 1 ton/yr for any of the above pollutants - then a source registration is required.

Note: If your source does not require a registration or permit, based on above pollutant emissions, complete the remainder of this application to determine if a registration or permit would be required for any Toxic or Hazardous air pollutants used at your facility.

Copy this page if additional space is needed for either table (begin numbering with 11., 12., etc.)

NOTE: Uncontrolled Emission rates for PM10 and PM2.5 are provided on the attached excel spreadsheet.

**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Authority-to-Construct Permits (20.11.41 NMAC)**

CONTROLLED EMISSIONS OF INDIVIDUAL AND COMBINED PROCESSES

(Based on current operations with emission controls OR requested operations with emission controls)

Process Equipment Units listed on this Table should match up to the same numbered line and Unit as listed on Uncontrolled Table (pg.2)

Process Equipment Unit	Carbon Monoxide (CO)	Oxides of Nitrogen (NOx)	Nonmethane Hydrocarbons NMHC (VOCs)	Oxides of Sulfur (SOx)	Total Suspended Particulate Matter (TSP)	Control Equipment	% Efficiency
I. Example Generator	1. 9.1 lbs/hr	27.7 lbs/hr	1.3 lbs/hr	0.5 lbs/hr	2.0 lbs/hr	Operating Hours	N/A
	1a. 18.2 tons/yr	55.4 tons/yr	2.6 tons/yr	1.0 tons/yr	4.0 tons/yr		
1. Raw Material Batch Drop by Truck	1. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.007 lbs/hr	Water spray and operating hours	95-98%
	1a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.01 tons/yr		
2. Raw Material Batch Drop by Truck	2. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.007 lbs/hr	Water spray and operating hours	95-98%
	2a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.01 tons/yr		
3. Bulk Loading of Main Feed Hopper (Crusher Loading)	3. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.01 lbs/hr	Water spray and operating hours	95-98%
	3a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.03 tons/yr		
4. Screen (Connected to Crusher)	4. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.22 lbs/hr	Water spray and operating hours	91-99%
	4a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.42 tons/yr		
5. Portable Impact Crusher	5. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.16 lbs/hr	Water spray and operating hours	77-95%
	5a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.30 tons/yr		
6. Conveyor connected to Crusher (Continuous Drop Product Pile Formation)	6. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.01 lbs/hr	Water spray and operating hours	95-98%
	6a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.03 tons/yr		
7. Product Pile Formation (Front Loader Drop)	7. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.007 lbs/hr	Water spray and operating hours	95-98%
	7a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.01 tons/yr		
8. Loadout (Front Loader loading Truck from Product Pile)	8. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.007 lbs/hr	Water spray and operating hours	95-98%
	8a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.01 tons/yr		
9. Product Pile Formation (Front Loader Drop)	9. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.007 lbs/hr	Water spray and operating hours	95-98%
	9a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.01 tons/yr		
10. Loadout (Front Loader loading Truck from Product Pile)	10. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.007 lbs/hr	Water spray and operating hours	95-98%
	10a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.01 tons/yr		
11. Product Pile Formation (Front Loader Drop)	11. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.007 lbs/hr	Water spray and operating hours	95-98%
	11a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.01 tons/yr		
12. Loadout (Front Loader loading Truck from Product Pile)	12. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.007 lbs/hr	Water spray and operating hours	95-98%
	12a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.01 tons/yr		
13. Haul Roads	13. - lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.37 lbs/hr	Water spray and operating hours	80%
	13a. - tons/yr	- tons/yr	- tons/yr	- tons/yr	0.69 tons/yr		
14. Generator (Powering Crusher)	14. 2.01 lbs/hr	0.23 lbs/hr	0.11 lbs/hr	0.72 lbs/hr	0.01 lbs/hr	Operating hours (3744 hrs/yr)	N/A
	14a. 3.77 tons/yr	0.43 tons/yr	0.20 tons/yr	1.34 tons/yr	0.02 tons/yr		

15. Product Pile Formation (Front Loader Drop)	15.	- lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.007 lbs/hr	Water spray and operating hours	95-98%
	15a.	- tons/yr	- tons/yr	- tons/yr	- tons/yr	0.01 tons/yr		
16. Loadout (Front Loader loading Truck from Product Pile)	16.	- lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.007 lbs/hr	Water spray and operating hours	95-98%
	16a.	- tons/yr	- tons/yr	- tons/yr	- tons/yr	0.01 tons/yr		
17. Product Pile Formation (Front Loader Drop)	17.	- lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.007 lbs/hr	Water spray and operating hours	95-98%
	17a.	- tons/yr	- tons/yr	- tons/yr	- tons/yr	0.01 tons/yr		
18. Loadout (Front Loader loading Truck from Product Pile)	18.	- lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.007 lbs/hr	Water spray and operating hours	95-98%
	18a.	- tons/yr	- tons/yr	- tons/yr	- tons/yr	0.01 tons/yr		
19. Product Pile Formation (Front Loader Drop)	19.	- lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.007 lbs/hr	Vehicle speed; watering; operating hours	95-98%
	19a.	- tons/yr	- tons/yr	- tons/yr	- tons/yr	0.01 tons/yr		
20. Loadout (Front Loader loading Truck from Product Pile)	20.	- lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.007 lbs/hr	Water spray and operating hours	95-98%
	20a.	- tons/yr	- tons/yr	- tons/yr	- tons/yr	0.01 tons/yr		
21. Product Pile Formation (Front Loader Drop)	21.	- lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.007 lbs/hr	Water spray and operating hours	95-98%
	21a.	- tons/yr	- tons/yr	- tons/yr	- tons/yr	0.01 tons/yr		
22. Loadout (Front Loader loading Truck from Product Pile)	22.	- lbs/hr	- lbs/hr	- lbs/hr	- lbs/hr	0.007 lbs/hr	Water spray and operating hours	95-98%
	22a.	- tons/yr	- tons/yr	- tons/yr	- tons/yr	0.01 tons/yr		
Total		2.01 lbs/hr	0.23 lbs/hr	0.11 lbs/hr	0.72 lbs/hr	0.90 lbs/hr		
		3.77 tons/yr	0.43 tons/yr	0.20tons/yr	1.34 tons/yr	1.69 tons/yr		

1. Basis for Control Equipment % Efficiency (Manufacturers data, Field Observation/Test, AP-42, etc.)

Submit information for each unit as an attachment manufacturer's data; site observations from previously monitored sources, AP-42

2. Explain and give estimated amounts of any Fugitive Emissions associated with facility processes

fugitive emission from material handling and vehicle traffic

NOTE: Controlled Emission rates for PM_{10} and $PM_{2.5}$ are provided on the attached excel spreadsheet. Water spray is applied onto the haul road every two (2) hours based on weather conditions. During crushing, screening and before loading, water spray is applied continuously.

**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Authority-to-Construct Permits (20.11.41 NMAC)**

****TOXIC EMISSIONS**

VOLATILE, HAZARDOUS, & VOLATILE HAZARDOUS AIR POLLUTANT EMISSION TABLE

Product Categories (Coatings, Solvents, Thinners, etc.)	Volatile Organic Compound (VOC), Hazardous Air Pollutant (HAP), or Volatile Hazardous Air Pollutant (VHAP) Primary To The Representative As Purchased Product	Chemical Abstract Service Number (CAS) Of VOC, HAP, Or VHAP From Representative As Purchased Product	VOC, HAP, Or VHAP Concentration Of Representative As Purchased Product (pounds/gallon, or %)	1. How were Concentrations Determined (CPDS, MSDS, etc.)	Total Product Purchases For Category	(-)	Quantity Of Product Recovered & Disposed For Category	(=)	Total Product Usage For Category
					lbs/yr		lbs/yr		lbs/yr
EXAMPLE 1. Cleaning Solvents	TOLUENE	108883	70%	PRODUCT LABEL	200 gal/yr	(-)	50 gal/yr	(=)	150 gal/yr
					lbs/yr		lbs/yr		lbs/yr
Not Applicable					gal/yr	(-)	gal/yr	(=)	gal/yr
					gal/yr		gal/yr		gal/yr
2.					lbs/yr	(-)	lbs/yr	(=)	lbs/yr
					gal/yr		gal/yr		gal/yr
3.					lbs/yr	(-)	lbs/yr	(=)	lbs/yr
					gal/yr		gal/yr		gal/yr

1. Basis for percent (%) determinations (Certified Product Data Sheets, Material Safety Data Sheets, etc.). Submit, as an attachment, information on one (1) product from each Category listed above which best represents the average of all the products purchased in that Category.

****NOTE: A REGISTRATION IS REQUIRED, AT MINIMUM, FOR ANY AMOUNT OF HAP OR VHAP EMISSION. A PERMIT MAY BE REQUIRED FOR THESE EMISSIONS, IF THE SOURCE MEETS THE REQUIREMENTS OF PART 41.**

Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Authority-to-Construct Permits (20.11.41 NMAC)

MATERIAL AND FUEL STORAGE TABLE

(Tanks, barrels, silos, stockpiles, etc.) Copy this table if additional space is needed (begin numbering with 4., 5., etc.)

Storage Equipment	Product Stored	Capacity (bbls - tons gal - acres, etc)	Above or Below Ground	Construction (welded, riveted) & Color	Install Date	Loading Rate	Offloading Rate	True Vapor Pressure	Control Equipment	Seal Type	% Eff.
Example 1. Tank	diesel fuel	5,000 gal.	Below	welded/ brown	3/93	3000gal HR. YR.	500 gal. - HR. YR.	N/A Psia	N/A	N/A	N/A
Example 2. Barrels	Solvent	55 gal Drum	Above - in storage room	welded/green	N/A	N/A HR. YR.	N/A HR. YR.	N/A Psia	N/A	N/A	N/A
Not Applicable						HR. YR.	HR. YR.	Psia			
2.						HR. YR.	HR. YR.	Psia			
3.						HR. YR.	HR. YR.	Psia			

1. Basis for Loading/Offloading Rate (Manufacturers data, Field Observation/Test, etc.) _____
Submit information for each unit as an attachment.

2. Basis for Control Equipment % Efficiency (Manufacturers data, Field Observation/Test, AP-42, etc.) _____
Submit information for each unit as an attachment.

STACK AND EMISSION MEASUREMENT TABLE

If any equipment from the Process Equipment Table (Page 2) is also listed in this Stack Table, use the same numbered line for the Process Equipment unit on both Tables to show the association between the Process Equipment and it's Stack. Copy this table if additional space is needed (begin numbering with 4., 5., etc.).

Process Equipment	Pollutant (CO, NOx, TSP, Toluene, etc)	Control Equipment	Control Efficiency	Stack Height & Diameter in feet	Stack Temp.	Stack Velocity & Exit Direction	Emission Measurement Equipment Type	Range-Sensitivity-Accuracy-
Example 1. Generator	CO, NOx, TSP, SO ₂ , NMHC	N/A	N/A	18 ft. - H 0.8 ft. - D	225 °F	6,000 ft ³ /min - V Exit - upward	N/A	N/A
Example 2. Spray Gun	TSP, xylene, toluene, MIBK	Spray Booth	99% for TSP	9 ft. - H 0.5 ft. - D	ambient	10,000 ft ³ /min - V Exit - horizontal	N/A	N/A
11. Generator #1 (at Crusher)	NOx, CO, VOC, SO ₂ , PM, HAPS	N/A	N/A	14 ft. - H 0.33 ft. - D	468.3 °F	63.65 ft/sec - V Exit - upward	N/A	N/A

1. Basis for Control Equipment % Efficiency (Manufacture data, Field Observation/Test, AP-42, etc.) Submit information for each unit as an attachment

ADDITIONAL COMMENTS OR INFORMATION

I, the undersigned, a responsible officer of the applicant company, certify that to the best of my knowledge, the information stated on this application, together with associated drawings, specifications, and other data, give a true and complete representation of the existing, modified existing, or planned new stationary source with respect to air pollution sources and control equipment. I also understand that any significant omissions, errors, or misrepresentations in these data will be cause for revocation of part or all of the resulting registration or permit.

Signed this 11 day of DECEMBER, 2019

Louis Tarin
Print Name

Owner
Print Title


Signature



City of Albuquerque

Environmental Health Department

Air Quality Program



Pre-Permit Application Meeting Checklist

Any person seeking a permit under 20.11.41 NMAC, Authority-to-Construct Permits, shall do so by filing a written application with the Department. Prior to submitting an application, the applicant shall contact the department in writing and request a pre-application meeting for information regarding the contents of the application and the application process. This checklist is provided to aid the applicant and **a copy must be submitted with the application.**

Applications that are ruled incomplete because of missing information will delay any determination or the issuance of the permit. The Department reserves the right to request additional relevant information prior to ruling the application complete in accordance with 20.11.41 NMAC.

Name: **C&C Services Commercial Construction LLC**

Contact: **Luis Tarin, Owner**

Company/Business: **C&C Services Commercial Construction LLC**

- Fill out and submit a Pre-Permit Application Meeting Request form
⇒ Available online at <http://www.cabq.gov/airquality>

- Emission Factors and Control Efficiencies
Notes: See the attached emissions calculations for information on emission factors used and control efficiencies.

- Air Dispersion modeling guidelines and protocol
Notes: Air dispersion modeling was performed for the modifications included in this submittal. An Air Dispersion Modeling Protocol was submitted to the Air Quality Program during the pre-application meeting on February 1, 2019.

- Department Policies
Notes:

- Air quality permit fees
Notes: A City of Albuquerque, Air Quality Program *Permit Application Review Fee Checklist* and the appropriate application fee is included with this submittal.

- ☒ Public notice requirements
 - ☒ Replacement Part 41 Implementation
 - ☒ 20.11.41.13 B. Applicant's public notice requirements
 - ☒ Providing public notice to neighborhood association/coalitions
 - Neighborhood association: See attached determination
 - Coalition: See attached determination
 - Notes: The above listed neighborhood associations and/or coalitions were sent a copy of the *Notice of Intent to Construct* form.

- ☒ Posting and maintaining a weather-proof sign
 - Notes: A weather-proof sign was posted at the facility entrance.

- ☒ Regulatory timelines
 - 30 days to rule application complete
 - 90 days to issue completed permit
 - Additional time allotted if there is significant public interest and/or a significant air quality issue
 - Public Information Hearing
 - Complex permitting action
- Notes:



City of Albuquerque

Environmental Health Department

Air Quality Program



Permit Application Checklist

Any person seeking a permit under 20.11.41 NMAC, Authority-to-Construct Permits, shall do so by filing a written application with the Department. Prior to ruling a submitted application complete each application submitted shall contain the required items listed below. **This checklist must be returned with the application.**

Applications that are ruled incomplete because of missing information will delay any determination or the issuance of the permit. The Department reserves the right to request additional relevant information prior to ruling the application complete in accordance with 20.11.41 NMAC.

All applicants shall:

1. Fill out and submit the *Pre-permit Application Meeting Request* form
 - a. Attach a copy to this application
2. Attend the pre-permit application meeting (Meeting was held on February 1, 2009 at 1:30PM)
 - a. Attach a copy of the completed *Pre-permit Application Meeting Checklist* to this application
3. Provide public notice to the appropriate parties
 - a. Attach a copy of the completed *Notice of Intent to Construct* form to this form
 - i. Neighborhood Association(s): See attached list of determinations
 - ii. Coalition(s): See attached list of determinations
 - b. Attach a copy of the completed *Public Sign Notice Guideline* form
4. Fill out and submit the *Permit Application*. All applications shall:
 - A. be made on a form provided by the Department. Additional text, tables, calculations or clarifying information may also be attached to the form.
 - B. at the time of application, include documentary proof that all applicable permit application review fees have been paid as required by 20 NMAC 11.02. Please refer to the attached permit application worksheet.
 - C. contain the applicant's name, address, and the names and addresses of all other owners or operators of the emission sources.
 - D. contain the name, address, and phone number of a person to contact regarding questions about the facility.
 - E. indicate the date the application was completed and submitted

Application Checklist

Revised November 13, 2013

- F. contain the company name, which identifies this particular site.
- G. contain a written description of the facility and/or modification including all operations affecting air emissions.
- H. contain the maximum and standard operating schedules for the source after completion of construction or modification in terms of hours per day, days per week, and weeks per year.
- I. provide sufficient information to describe the quantities and nature of any regulated air contaminant (including any amount of a hazardous air pollutant) that the source will emit during:
 - Normal operation
 - Maximum operation
 - Abnormal emissions from malfunction, start-up and shutdown
- J. include anticipated operational needs to allow for reasonable operational scenarios to avoid delays from needing additional permitting in the future.
- K. contain a map, such as a 7.5-minute USGS topographic quadrangle, showing the exact location of the source; and include physical address of the proposed source.
- L. contain an aerial photograph showing the proposed location of each process equipment unit involved in the proposed construction, modification, relocation, or technical revision of the source except for federal agencies or departments involved in national defense or national security as confirmed and agreed to by the department in writing.
- M. contain the UTM zone and UTM coordinates.
- N. include the four digit Standard Industrialized Code (SIC) and the North American Industrial Classification System (NAICS).
- O. contain the types and **potential emission rate** amounts of any regulated air contaminants the new source or modification will emit. Complete appropriate sections of the application; attachments can be used to supplement the application, but not replace it.
- P. contain the types and **controlled** amounts of any regulated air contaminants the new source or modification will emit. Complete appropriate sections of the application; attachments can be used to supplement the application, but not replace it.
- Q. contain the basis or source for each emission rate (include the manufacturer's specification sheets, AP-42 Section sheets, test data, or other data when used as the source).
- R. contain all calculations used to estimate **potential emission rate** and **controlled** emissions.

- S. contain the basis for the estimated control efficiencies and sufficient engineering data for verification of the control equipment operation, including if necessary, design drawings, test reports, and factors which affect the normal operation (e.g. limits to normal operation).
- T. contain fuel data for each existing and/or proposed piece of fuel burning equipment.
- U. contain the anticipated maximum production capacity of the entire facility and the requested production capacity after construction and/or modification.
- V. contain the stack and exhaust gas parameters for all existing and proposed emission stacks.
- W. provide an ambient impact analysis using a atmospheric dispersion model approved by the US Environmental Protection Agency (EPA), and the Department to demonstrate compliance with the ambient air quality standards for the City of Albuquerque and Bernalillo County (See 20.11.01 NMAC). If you are modifying an existing source, the modeling must include the emissions of the entire source to demonstrate the impact the new or modified source(s) will have on existing plant emissions.
- X. contain a preliminary operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup, or shutdown.
- Y. contain a process flow sheet, including a material balance, of all components of the facility that would be involved in routine operations. Indicate all emission points, including fugitive points.
- Z. contain a full description, including all calculations and the basis for all control efficiencies presented, of the equipment to be used for air pollution control. This shall include a process flow sheet or, if the Department so requires, layout and assembly drawings, design plans, test reports and factors which affect the normal equipment operation, including control and/or process equipment operating limitations.
- AA. contain description of the equipment or methods proposed by the applicant to be used for emission measurement.
- BB. be signed under oath or affirmation by a corporate officer, authorized to bind the company into legal agreements, certifying to the best of his or her knowledge the truth of all information submitted.



Pre-Permit Application Meeting Request Form

Air Quality Program- Environmental Health Department

Please complete appropriate boxes and email to aqd@cabq.gov or mail to:

Environmental Health Department
Air Quality Program
P.O. Box 1293
Room 3047
Albuquerque, NM 87103

Name:	Louis Tarin
Company/Organization:	C & C Services Commercial Construction LLC
Point of Contact: (phone number and email): Preferred form of contact (circle one): Phone E-mail	Phone: (505) 280-1730 Email: candcservices@live.com
Preferred meeting date/times:	February 1, 2019 at 13:30
Description of Project:	Permit No. 3292 modification application for proposed expansion of the property and operational area as well as increasing operating hours from 9 hours per day, 6 days per week, 52 weeks per year to 12 hours per day, six days per week, 52 weeks per year. In addition, C & C Services is in the process of evaluating if two additional generator engines and additional screens can be added to the permit.

City of Albuquerque- Environmental Health Department
 Air Quality Program- Permitting Section
 Phone: (505) 768-1972 Email: aqd@cabq.gov



City of Albuquerque

Environmental Health Department

Air Quality Program



Permit Application Review Fee Instructions

All source registration, authority-to-construct, and operating permit applications for stationary or portable sources shall be charged an application review fee according to the fee schedule in 20.11.2 NMAC. These filing fees are required for both new construction, reconstruction, and permit modifications applications. Qualified small businesses as defined in 20.11.2 NMAC may be eligible to pay one-half of the application review fees and 100% of all applicable federal program review fees.

Please fill out the permit application review fee checklist and submit with a check or money order payable to the "City of Albuquerque Fund 242" and either:

1. be delivered in person to the Albuquerque Environmental Health Department, 3rd floor, Suite 3023 or Suite 3027, Albuquerque-Bernalillo County Government Center, south building, One Civic Plaza NW, Albuquerque, NM or,
2. mailed to Attn: Air Quality Program, Albuquerque Environmental Health Department, P.O. Box 1293, Albuquerque, NM 87103.

The department will provide a receipt of payment to the applicant. The person delivering or filing a submittal shall attach a copy of the receipt of payment to the submittal as proof of payment. Application review fees shall not be refunded without the written approval of the manager. If a refund is requested, a reasonable professional service fee to cover the costs of staff time involved in processing such requests shall be assessed. Please refer to 20.11.2 NMAC (effective January 10, 2011) for more detail concerning the "Fees" regulation as this checklist does not relieve the applicant from any applicable requirement of the regulation.



City of Albuquerque

Environmental Health Department Air Quality Program



Permit Application Review Fee Checklist

Please completely fill out the information in each section. Incompleteness of this checklist may result in the Albuquerque Environmental Health Department not accepting the application review fees. If you should have any questions concerning this checklist, please call 768-1972.

I. COMPANY INFORMATION:

Company Name	C and C Services Commercial Construction LLC		
Company Address	2145 Don Andres Road SW Albuquerque, New Mexico 87105		
Facility Name	C and C Services		
Facility Address	2901 Second Street SW Albuquerque, New Mexico 87105		
Contact Person	Mr. Luis C. Tarin, Owner		
Contact Person Phone Number	(505) 280-1730		
Are these application review fees for an existing permitted source located within the City of Albuquerque or Bernalillo County?	Yes	No	
If yes, what is the permit number associated with this modification?	Permit #3292		
Is this application review fee for a Qualified Small Business as defined in 20.11.2 NMAC? (See Definition of Qualified Small Business on Page 4)	Yes	No	

II. STATIONARY SOURCE APPLICATION REVIEW FEES:

If the application is for a new stationary source facility, please check all that apply. If this application is for a modification to an existing permit please see Section III.

Check All That Apply	Stationary Sources	Review Fee	Program Element
Air Quality Notifications			
	AQN New Application	\$562.00	2801
	AQN Technical Amendment	\$307.00	2802
	AQN Transfer of a Prior Authorization	\$307.00	2803
X	Not Applicable	See Sections Below	
Stationary Source Review Fees (Not Based on Proposed Allowable Emission Rate)			
	Source Registration required by 20.11.40 NMAC	\$ 573.00	2401
	A Stationary Source that requires a permit pursuant to 20.11.41 NMAC or other board regulations and are not subject to the below proposed allowable emission rates	\$ 1,146.00	2301
X	Not Applicable	See Sections Below	
Stationary Source Review Fees (Based on the Proposed Allowable Emission Rate for the single highest fee pollutant)			
	Proposed Allowable Emission Rate Equal to or greater than 1 tpy and less than 5 tpy	\$ 859.00	2302
	Proposed Allowable Emission Rate Equal to or greater than 5 tpy and less than 25 tpy	\$ 1,719.00	2303
	Proposed Allowable Emission Rate Equal to or greater than 25 tpy and less than 50 tpy	\$ 3,438.00	2304
	Proposed Allowable Emission Rate Equal to or greater than 50 tpy and less than 75 tpy	\$ 5,157.00	2305
	Proposed Allowable Emission Rate Equal to or greater than 75 tpy and less than 100 tpy	\$ 6,876.00	2306
	Proposed Allowable Emission Rate Equal to or greater than 100 tpy	\$8,594.00	2307
X	Not Applicable	See Section Above	

Federal Program Review Fees (In addition to the Stationary Source Application Review Fees above)			
	40 CFR 60 - "New Source Performance Standards" (NSPS)	\$ 1,146.00	2308
	40 CFR 61 - "Emission Standards for Hazardous Air Pollutants (NESHAPs)	\$ 1,146.00	2309
	40 CFR 63 - (NESHAPs) Promulgated Standards	\$ 1,146.00	2310
	40 CFR 63 - (NESHAPs) Case-by-Case MACT Review	\$ 11,459.00	2311
	20.11.61 NMAC, Prevention of Significant Deterioration (PSD) Permit	\$ 5,730.00	2312
	20.11.60 NMAC, Non-Attainment Area Permit	\$ 5,730.00	2313
X	<i>Not Applicable</i>	<i>Not Applicable</i>	

III. MODIFICATION TO EXISTING PERMIT APPLICATION REVIEW FEES:

If the permit application is for a modification to an existing permit, please check all that apply. If this application is for a new stationary source facility, please see Section II.

Check All That Apply	Modifications	Review Fee	Program Element
Modification Application Review Fees (Not Based on Proposed Allowable Emission Rate)			
	Proposed modification to an existing stationary source that requires a permit pursuant to 20.11.41 NMAC or other board regulations and are not subject to the below proposed allowable emission rates	\$ 1,146.00	2321
	<i>Not Applicable</i>	<i>See Sections Below</i>	
Modification Application Review Fees (Based on the Proposed Allowable Emission Rate for the single highest fee pollutant)			
	Proposed Allowable Emission Rate Equal to or greater than 1 tpy and less than 5 tpy	\$ 859.00	2322
X	Proposed Allowable Emission Rate Equal to or greater than 5 tpy and less than 25 tpy	\$ 1,719.00	2323
	Proposed Allowable Emission Rate Equal to or greater than 25 tpy and less than 50 tpy	\$ 3,438.00	2324
	Proposed Allowable Emission Rate Equal to or greater than 50 tpy and less than 75 tpy	\$ 5,157.00	2325
	Proposed Allowable Emission Rate Equal to or greater than 75 tpy and less than 100 tpy	\$ 6,876.00	2326
	Proposed Allowable Emission Rate Equal to or greater than 100 tpy	\$ 8,594.00	2327
	<i>Not Applicable</i>	<i>See Section Above</i>	
Major Modifications Review Fees (In addition to the Modification Application Review Fees above)			
	20.11.60 NMAC, Permitting in Non-Attainment Areas	\$ 5,730.00	2333
	20.11.61 NMAC, Prevention of Significant Deterioration	\$ 5,730.00	2334
X	<i>Not Applicable</i>	<i>Not Applicable</i>	
Federal Program Review Fees (This section applies only if a Federal Program Review is triggered by the proposed modification) (These fees are in addition to the Modification and Major Modification Application Review Fees above)			
X	40 CFR 60 - "New Source Performance Standards" (NSPS)	\$ 1,146.00	2328
	40 CFR 61 - "Emission Standards for Hazardous Air Pollutants (NESHAPs)	\$ 1,146.00	2329
X	40 CFR 63 - (NESHAPs) Promulgated Standards	\$ 1,146.00	2330
	40 CFR 63 - (NESHAPs) Case-by-Case MACT Review	\$11,459.00	2331
	20.11.61 NMAC, Prevention of Significant Deterioration (PSD) Permit	\$ 5,730.00	2332
	20.11.60 NMAC, Non-Attainment Area Permit	\$ 5,730.00	2333
	<i>Not Applicable</i>	<i>Not Applicable</i>	

IV. ADMINISTRATIVE AND TECHNICAL REVISION APPLICATION REVIEW FEES:

If the permit application is for an administrative or technical revision of an existing permit issued pursuant to 20.11.41 NMAC, please check one that applies.

Check One	Revision Type	Review Fee	Program Element
	Administrative Revisions	\$ 250.00	2340
	Technical Revisions	\$ 500.00	2341
X	Not Applicable	See Sections II, III or V	

V. PORTABLE STATIONARY SOURCE RELOCATION FEES:

If the permit application is for a portable stationary source relocation of an existing permit, please check one that applies.

Check One	Portable Stationary Source Relocation Type	Review Fee	Program Element
	No New Air Dispersion Modeling Required	\$ 500.00	2501
	New Air Dispersion Modeling Required	\$ 750.00	2502
X	Not Applicable	See Sections II, III or V	

VI. Please submit a check or money order in the amount shown for the total application review fee.

Section Totals	Review Fee Amount
Section II Total	\$ 0.00
Section III Total	\$ 3,151.00
Section IV Total	\$ 0.00
Section V Total	\$ 0.00
Total Application Review Fee	\$ 3,151.50

*Application review fee from Section III of \$1,719.00 is halved (to \$859.50) for qualified small business. Full federal source review fees for 40 CFR PARTS 60 NSPS and 63 NESHAP (promulgated standards) of \$1,146.00 each (\$2,292.00) applies.

I, the undersigned, a responsible official of the applicant company, certify that to the best of my knowledge, the information stated on this checklist, give a true and complete representation of the permit application review fees which are being submitted. I also understand that an incorrect submittal of permit application reviews may cause an incompleteness determination of the submitted permit application and that the balance of the appropriate permit application review fees shall be paid in full prior to further processing of the application.

Signed this 30th day of April 2019

Luis C. Tarin
Print Name

Owner
Print Title

[Signature]
Signature

Definition of Qualified Small Business as defined in 20.11.2 NMAC:

“Qualified small business” means a business that meets all of the following requirements:

- (1) a business that has 100 or fewer employees;
- (2) a small business concern as defined by the federal Small Business Act;
- (3) a source that emits less than 50 tons per year of any individual regulated air pollutant, or less than 75 tons per year of all regulated air pollutants combined; and
- (4) a source that is not a major source or major stationary source.

Note: Beginning January 1, 2011, and every January 1 thereafter, an increase based on the consumer price index shall be added to the application review fees. The application review fees established in Subsection A through D of 20.11.2.18 NMAC shall be adjusted by an amount equal to the increase in the consumer price index for the immediately-preceding year. Application review fee adjustments equal to or greater than fifty cents (\$0.50) shall be rounded up to the next highest whole dollar. Application review fee adjustments totaling less than fifty cents (\$0.50) shall be rounded down to the next lowest whole dollar. The department shall post the application review fees on the city of Albuquerque environmental health department air quality program website.

APPENDIX C
Proof of Public Notice



Tim Keller, Mayor

Environmental Health Department

Air Quality Program

Interoffice Memorandum



Sandra K. Begay, Director

TO: MARTIN R. SCHLUEP, ALLIANT ENVIRONMENTAL
FROM: REGAN EYERMAN, SENIOR ENVIRONMENTAL HEALTH SCIENTIST
SUBJECT: DETERMINATION OF NEIGHBORHOOD ASSOCIATIONS AND COALITIONS WITHIN 0.5 MILES OF 2901 2ND ST. SW, ALBUQUERQUE, NM 87105
DATE: 02/21/2019

DETERMINATION:

On 5/24/16 I used the City of Albuquerque Zoning Advanced Map Viewer (<http://sharepoint.cabq.gov/gis>) to review which City of Albuquerque (COA) Neighborhood Associations (NAs) and Neighborhood Coalitions (NCs) are located within 0.5 miles of 2901 2nd St. SW, Albuquerque in Bernalillo County, NM.

I then used the City of Albuquerque Office of Neighborhood Coordination's Monthly Master NA List January 2019 Excel Spreadsheet and the Bernalillo County Monthly Neighborhood Association February 2019 Excel file to determine the contact information for each NA and NC located within 0.5 miles of 2901 2nd St. SW, Albuquerque in Bernalillo County, NM.

Duplicates have been deleted. They are as follows:

Neighborhood Association or Coalition	Name	Email or Mailing Address
Mountain View Community Action	Marla Painter	marladesk@gmail.com
Mountain View Community Action	Josie Lopez	josiemlopez@gmail.com
Mountain View N.A.	Nora Garcia	ngarcia49@yahoo.com
Mountain View N.A.	Julian Vargas	218 Ray Barr SW 87105
San Jose N.A.	Robert Brown	ra64me@gmail.com
San Jose N.A.	Olivia Price Greathouse	snase@gmail.com
South Valley Alliance	Sara Newton Juarez	snjart@yahoo.com
South Valley Alliance	Zoe Economou	zoecon@unm.edu
South Valley Coalition of N.A.'s	Rod Mahoney	rmahoney01@comcast.net
South Valley Coalition of N.A.'s	Marcia Fernandez	mbfernandez1@gmail.com
Southwest Alliance of Neighbors	Johnny Pena	johnnypena@comcast.net
Southwest Alliance of Neighbors	Jerry Gallegos	jgallegoswccd@gmail.com
Southwest Alliance of Neighbors	Cherise Quezada	cherquezada@yahoo.com
Westside Coalition of N.A.'s	Harry Hendriksen	hlhen@comcast.net
Westside Coalition of N.A.'s	Rene Horvath	aboard10@juno.com



Notice of Intent to Construct

Under 20.11.41.13B NMAC, the owner/operator is required to *provide public notice by certified mail or electronic mail to the designated representative(s) of the recognized neighborhood associations and recognized coalitions that are with-in one-half mile of the exterior boundaries of the property on which the source is or is proposed to be located* if they propose to construct or establish a new facility or make modifications to an existing facility that is subject to 20.11.41 NMAC – Construction Permits. **A copy of this form must be included with the application.**

Applicant’s Name and Address: **Luis Tarin, 2901 2nd Street SW, Albuquerque, NM 87105**

Owner / Operator’s Name and Address: **Luis Tarin, 2901 2nd Street SW, Albuquerque, NM 87105**

Actual or Estimated Date the Application will be submitted to the Department: **April 30, 2019 or sooner.**

Exact Location of the Source or Proposed Source: **2901 2nd Street SW, Albuquerque, NM 87105**

Description of the Source: **EXISTING (Air Quality Construction Permit No. 3292). Onsite storage of construction demolition materials**

Nature of the Business: **Demolition contractor**

Process or Change for which the permit is requested: **C&C Services purchased the plot of land to the south of the current site and will be expanding operations onto this new land.**

Preliminary Estimate of the Maximum Quantities of each regulated air contaminant the source will emit:

Net Changes In Emissions

(Only for permit Modifications or Technical Revisions)

Initial Construction Permit

	Pounds Per Hour (lbs/hr)	Tons Per Year (tpy)
CO	2.86	4.02
NOx	0.33	0.46
VOC	0.15	0.22
SO ₂	1.02	1.44
TSP	2.73	3.83
PM10	1.04	1.46
PM2.5	0.19	0.27
VHAP	N/A	N/A

	lbs/hr	tpy	Estimated Total TPY
CO	- 0.85	- 0.25	3.77
NOx	- 0.10	- 0.03	0.43
VOC	- 0.04	- 0.02	0.20
SO ₂	- 0.30	- 0.10	1.34
TSP	- 1.83	- 2.14	1.69
PM10	- 0.18	+ 0.23	1.69
PM2.5	- 0.06	- 0.02	0.25
VHAP	N/A	N/A	N/A

Maximum Operating Schedule: 3,744 hours/year

Normal Operating Schedule: 3,744 hours/year

Current Contact Information for Comments and Inquires:

Name: Luis Tarin, Owner
Address: 2901 2nd Street SW, Albuquerque, NM
Phone Number: (505) 280-1730
E-Mail Address: candcservices@live.com

Last Revised 10/25/2018

City of Albuquerque- Environmental Health Department
Air Quality Program- Permitting Division
Phone: (505) 768-1972 Email: aqd@cabq.gov

If you have any comments about the construction or operation of the above facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to the address below:

Environmental Health Manager
Permitting Division
Albuquerque Environmental Health Department
Air Quality Program
PO Box 1293
Albuquerque, New Mexico 87103
(505) 768-1972

Other comments and questions may be submitted verbally.

Please refer to the company name and facility name, as used in this notice or send a copy of this notice along with your comments, since the Department may not have received the permit application at the time of this notice. Please include a legible mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, if required, the Department's notice will be published on the City of Albuquerque's website, <https://www.cabq.gov/airquality/air-quality-permits> and mailed to neighborhood associations and neighborhood coalitions near the facility location or near the facility proposed location.

Last Revised 10/25/2018

City of Albuquerque- Environmental Health Department
Air Quality Program- Permitting Division
Phone: (505) 768-1972 Email: aqd@cabq.gov

SUBJECT: Public Notice of Proposed Air Quality Construction Permit Application

Dear Neighborhood Association/Coalition Representative(s),

Why did I receive this public notice?

You are receiving this notice in accordance with New Mexico Administrative Code (NMAC) 20.11.41.13.B(1) which requires any applicant seeking an Air Quality Construction Permit pursuant to 20.11.41 NMAC to provide public notice by certified mail or electronic mail to the designated representative(s) of the recognized neighborhood associations and recognized coalitions that are within one-half mile of the exterior boundaries of the property on which the source is or is proposed to be located.

What is the Air Quality Permit application review process?

The City of Albuquerque, Environmental Health Department, Air Quality Program (Program) is responsible for the review and issuance of Air Quality Permits for any stationary source of air contaminants within Bernalillo County. Once the application is received, the Program reviews each application and rules it either complete or incomplete. Complete applications will then go through a 30-day public comment period. Within 90 days after the Program has ruled the application complete, the Program shall issue the permit, issue the permit subject to conditions, or deny the requested permit or permit modification. The Program shall hold a Public Information Hearing pursuant to 20.11.41.15 NMAC if the Director determines there is significant public interest and a significant air quality issue is involved.

What do I need to know about this proposed application?

Applicant Name	C and C Services Commercial Construction LLC
Site or Facility Name	C & C Services
Site or Facility Address	2901 Second Street SW, Albuquerque, NM 87105
New or Existing Source	EXISTING (Air Quality Construction Permit No. 3292)
Anticipated Date of Application Submittal	April 30, 2019
Summary of Proposed Source to Be Permitted	C&C Services has been in operation under its current Air Quality Construction Permit number 3292 since February 24, 2017. C&C Services operates onsite storage of construction demolition materials to be screened, crushed and recycled. C&C Services has purchased the plot of land to the south of their current site and is proposing to expand operations onto this new land. Emissions from current and proposed equipment based on the most recent emissions data available are presented in this permit modification application. In addition, C&C Services proposes a limiting operating schedule from 7AM to 7PM Monday through Saturday.

What emission limits and operating schedule are being requested?

See attached Notice of Intent to Construct form for this information.

How do I get additional information regarding this proposed application?

For inquiries regarding the proposed source, contact:

- NAME: **Luis Tarin, Owner**
- EMAIL ADDRESS: **candcservices@live.com**
- PHONE NUMBER: **(505) 280-1730**

For inquiries regarding the air quality permitting process, contact:

- City of Albuquerque Environmental Health Department Air Quality Program
- aqd@cabq.gov
- (505) 768-1972



City of Albuquerque

Environmental Health Department

Air Quality Program



Public Notice Sign Guidelines

Any person seeking a permit under 20.11.41 NMAC, Authority-to-Construct Permits, shall do so by filing a written application with the Department. *Prior to submitting an application, the applicant shall post and maintain a weather-proof sign provided by the department. The applicant shall keep the sign posted until the department takes final action on the permit application; if an applicant can establish to the department's satisfaction that the applicant is prohibited by law from posting, at either location required, the department may waive the posting requirement and may impose different notification requirements. A copy of this form must be submitted with your application.*

Applications that are ruled incomplete because of missing information will delay any determination or the issuance of the permit. The Department reserves the right to request additional relevant information prior to ruling the application complete in accordance with 20.11.41 NMAC.

Name: C and C Services Commercial Construction LLC
Contact: Luis Tarin, Owner
Company/Business: C and C Services Commercial Construction LLC

- The sign must be posted at the more visible of either the proposed or existing facility entrance (or, if approved in advance and in writing by the department, at another location on the property that is accessible to the public)
- The sign shall be installed and maintained in a condition such that members of the public can easily view, access, and read the sign at all times.
- The lower edge of the sign board should be mounted a minimum of 2' above the existing ground surface to facilitate ease of viewing
- Attach a picture of the completed, properly posted sign to this document

Check here if the department has waived the sign posting requirement.

Alternative public notice details:

Martin Schluep

From: Martin Schluep <mschluep@alliantenv.com>
Sent: Tuesday, April 30, 2019 11:08 AM
To: marladesk@gmail.com; josiemlopez@gmail.com
Cc: 'Eyerman, Regan V.'; 'Tavarez, Isreal L.'; 'C and C Services'; 'Martin Schluep'
Subject: Air Quality Permit No. 1158-M1 Revision Public Notice
Attachments: C&C Services_NOI to Construct_4-30-19.pdf; C&C Services_Public Notice Cover Letter_4-30-19.pdf

Dear Mountain View Community Action Representative,

The City of Albuquerque Environmental Health Department Air Quality Program requires that all registered representatives of neighborhood associations and coalitions within one-half mile of a facility submitting an air quality permit application be notified prior to the submittal, under regulation 20.11.41.13 New Mexico Administrative Code (NMAC).

Alliant Environmental, LLC is sending this notification on behalf of C and C Services Commercial Construction LLC, regarding the proposed revision to existing Air Quality Construction Permit #3292. This facility is located at 2901 Second Street SW, Albuquerque, NM 87105. The revised site-wide emissions of all pollutants decreased compared to the currently authorized permitted values.

Please see the attached *Public Notice Cover Letter* and *Notice of Intent to Construct* form for more information.

Sincerely,

Martin R. Schluep
Alliant Environmental, LLC
7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109
(C) 505.205.4819
(F) 505.771.0793
www.alliantenv.com
[Facebook](#)

Martin Schluep

From: Martin Schluep <mschluep@alliantenv.com>
Sent: Tuesday, April 30, 2019 11:27 AM
To: ra64me@gmail.com; sjnase@gmail.com
Cc: 'Eyerman, Regan V.'; 'Tavarez, Isreal L.'; 'C and C Services'; 'Martin Schluep'
Subject: Air Quality Permit No. 3292 Revision Public Notice
Attachments: C&C Services_NOI to Construct_4-30-19.pdf; C&C Services_Public Notice Cover Letter_4-30-19.pdf

My apologies, I listed the incorrect permit number in the subject line in the original notification. The correct permit number is 3292.

Martin R. Schluep
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7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109
(C) 505.205.4819
(F) 505.771.0793
www.alliantenv.com
[Facebook](#)

From: Martin Schluep [mailto:mschluep@alliantenv.com]
Sent: Tuesday, April 30, 2019 11:13 AM
To: 'ra64me@gmail.com' <ra64me@gmail.com>; 'sjnase@gmail.com' <sjnase@gmail.com>
Cc: 'Eyerman, Regan V.' <reyerman@cabq.gov>; 'Tavarez, Isreal L.' <ITavarez@cabq.gov>; 'C and C Services' <candcservices@live.com>; 'Martin Schluep' <mschluep@alliantenv.com>
Subject: Air Quality Permit No. 1158-M1 Revision Public Notice

Dear San Jose Neighborhood Association Representative,

The City of Albuquerque Environmental Health Department Air Quality Program requires that all registered representatives of neighborhood associations and coalitions within one-half mile of a facility submitting an air quality permit application be notified prior to the submittal, under regulation 20.11.41.13 New Mexico Administrative Code (NMAC).

Alliant Environmental, LLC is sending this notification on behalf of C and C Services Commercial Construction LLC, regarding the proposed revision to existing Air Quality Construction Permit #3292. This facility is located at 2901 Second Street SW, Albuquerque, NM 87105. The revised site-wide emissions of all pollutants decreased compared to the currently authorized permitted values.

Please see the attached *Public Notice Cover Letter* and *Notice of Intent to Construct* form for more information.

Sincerely,

Martin R. Schluep
Alliant Environmental, LLC
7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109
(C) 505.205.4819
(F) 505.771.0793
www.alliantenv.com
[Facebook](#)

Martin Schluep

From: Martin Schluep <mschluep@alliantenv.com>
Sent: Tuesday, April 30, 2019 11:11 AM
To: ngarcia49@yahoo.com
Cc: 'Eyerman, Regan V.'; 'Tavarez, Isreal L.'; 'C and C Services'; 'Martin Schluep'
Subject: Air Quality Permit No. 1158-M1 Revision Public Notice
Attachments: C&C Services_NOI to Construct_4-30-19.pdf; C&C Services_Public Notice Cover Letter_4-30-19.pdf

Dear Mountain View Neighborhood Association Representative,

The City of Albuquerque Environmental Health Department Air Quality Program requires that all registered representatives of neighborhood associations and coalitions within one-half mile of a facility submitting an air quality permit application be notified prior to the submittal, under regulation 20.11.41.13 New Mexico Administrative Code (NMAC).

Alliant Environmental, LLC is sending this notification on behalf of C and C Services Commercial Construction LLC, regarding the proposed revision to existing Air Quality Construction Permit #3292. This facility is located at 2901 Second Street SW, Albuquerque, NM 87105. The revised site-wide emissions of all pollutants decreased compared to the currently authorized permitted values.

Please see the attached *Public Notice Cover Letter* and *Notice of Intent to Construct* form for more information.

Sincerely,

Martin R. Schluep
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7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109
(C) 505.205.4819
(F) 505.771.0793
www.alliantenv.com
[Facebook](#)

Martin Schluep

From: Martin Schluep <mschluep@alliantenv.com>
Sent: Tuesday, April 30, 2019 11:13 AM
To: ra64me@gmail.com; sjnase@gmail.com
Cc: 'Eyerman, Regan V.'; 'Tavarez, Isreal L.'; 'C and C Services'; 'Martin Schluep'
Subject: Air Quality Permit No. 1158-M1 Revision Public Notice
Attachments: C&C Services_NOI to Construct_4-30-19.pdf; C&C Services_Public Notice Cover Letter_4-30-19.pdf

Dear San Jose Neighborhood Association Representative,

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Alliant Environmental, LLC is sending this notification on behalf of C and C Services Commercial Construction LLC, regarding the proposed revision to existing Air Quality Construction Permit #3292. This facility is located at 2901 Second Street SW, Albuquerque, NM 87105. The revised site-wide emissions of all pollutants decreased compared to the currently authorized permitted values.

Please see the attached *Public Notice Cover Letter* and *Notice of Intent to Construct* form for more information.

Sincerely,

Martin R. Schluep
Alliant Environmental, LLC
7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109
(C) 505.205.4819
(F) 505.771.0793
www.alliantenv.com
[Facebook](#)

Martin Schluep

From: Martin Schluep <mschluep@alliantenv.com>
Sent: Tuesday, April 30, 2019 11:16 AM
To: snjart@yahoo.com; zoecon@unm.edu
Cc: 'Eyerman, Regan V.'; 'Tavarez, Isreal L.'; 'C and C Services'; 'Martin Schluep'
Subject: Air Quality Permit No. 3292 Revision Public Notice
Attachments: C&C Services_NOI to Construct_4-30-19.pdf; C&C Services_Public Notice Cover Letter_4-30-19.pdf

Dear South Valley Alliance Representative,

The City of Albuquerque Environmental Health Department Air Quality Program requires that all registered representatives of neighborhood associations and coalitions within one-half mile of a facility submitting an air quality permit application be notified prior to the submittal, under regulation 20.11.41.13 New Mexico Administrative Code (NMAC).

Alliant Environmental, LLC is sending this notification on behalf of C and C Services Commercial Construction LLC, regarding the proposed revision to existing Air Quality Construction Permit #3292. This facility is located at 2901 Second Street SW, Albuquerque, NM 87105. The revised site-wide emissions of all pollutants decreased compared to the currently authorized permitted values.

Please see the attached *Public Notice Cover Letter* and *Notice of Intent to Construct* form for more information.

Sincerely,

Martin R. Schluep
Alliant Environmental, LLC
7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109
(C) 505.205.4819
(F) 505.771.0793
www.alliantenv.com
[Facebook](#)

Martin Schluep

From: Martin Schluep <mschluep@alliantenv.com>
Sent: Tuesday, April 30, 2019 11:18 AM
To: rmahoney01@comcast.net; mbfernandez1@gmail.com
Cc: 'Eyerman, Regan V.'; 'Tavarez, Isreal L.'; 'C and C Services'; 'Martin Schluep'
Subject: Air Quality Permit No. 3292 Revision Public Notice
Attachments: C&C Services_NOI to Construct_4-30-19.pdf; C&C Services_Public Notice Cover Letter_4-30-19.pdf

Dear South Valley Coalition of Neighborhood Associations Representative,

The City of Albuquerque Environmental Health Department Air Quality Program requires that all registered representatives of neighborhood associations and coalitions within one-half mile of a facility submitting an air quality permit application be notified prior to the submittal, under regulation 20.11.41.13 New Mexico Administrative Code (NMAC).

Alliant Environmental, LLC is sending this notification on behalf of C and C Services Commercial Construction LLC, regarding the proposed revision to existing Air Quality Construction Permit #3292. This facility is located at 2901 Second Street SW, Albuquerque, NM 87105. The revised site-wide emissions of all pollutants decreased compared to the currently authorized permitted values.

Please see the attached *Public Notice Cover Letter* and *Notice of Intent to Construct* form for more information.

Sincerely,

Martin R. Schluep
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7804 Pan American Fwy. NE, Suite 5
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(F) 505.771.0793
www.alliantenv.com
[Facebook](#)

Martin Schluep

From: Martin Schluep <mschluep@alliantenv.com>
Sent: Tuesday, April 30, 2019 11:21 AM
To: johnnyepena@comcast.net; jgallegoswccdg@gmail.com; cherquezada@yahoo.com
Cc: 'Eyerman, Regan V.'; 'Tavarez, Isreal L.'; 'C and C Services'; 'Martin Schluep'
Subject: Air Quality Permit No. 3292 Revision Public Notice
Attachments: C&C Services_NOI to Construct_4-30-19.pdf; C&C Services_Public Notice Cover Letter_4-30-19.pdf

Dear Southwest Alliance of Neighbors Representative,

The City of Albuquerque Environmental Health Department Air Quality Program requires that all registered representatives of neighborhood associations and coalitions within one-half mile of a facility submitting an air quality permit application be notified prior to the submittal, under regulation 20.11.41.13 New Mexico Administrative Code (NMAC).

Alliant Environmental, LLC is sending this notification on behalf of C and C Services Commercial Construction LLC, regarding the proposed revision to existing Air Quality Construction Permit #3292. This facility is located at 2901 Second Street SW, Albuquerque, NM 87105. The revised site-wide emissions of all pollutants decreased compared to the currently authorized permitted values.

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Sincerely,

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(F) 505.771.0793
www.alliantenv.com
[Facebook](#)

Martin Schluep

From: Martin Schluep <mschluep@alliantenv.com>
Sent: Tuesday, April 30, 2019 11:23 AM
To: hlhen@comcast.net; aboard10@juno.com
Cc: 'Eyerman, Regan V.'; 'Tavarez, Isreal L.'; 'C and C Services'; 'Martin Schluep'
Subject: Air Quality Permit No. 3292 Revision Public Notice
Attachments: C&C Services_NOI to Construct_4-30-19.pdf; C&C Services_Public Notice Cover Letter_4-30-19.pdf

Dear Westside Coalition of Neighborhood Associations Representative,

The City of Albuquerque Environmental Health Department Air Quality Program requires that all registered representatives of neighborhood associations and coalitions within one-half mile of a facility submitting an air quality permit application be notified prior to the submittal, under regulation 20.11.41.13 New Mexico Administrative Code (NMAC).

Alliant Environmental, LLC is sending this notification on behalf of C and C Services Commercial Construction LLC, regarding the proposed revision to existing Air Quality Construction Permit #3292. This facility is located at 2901 Second Street SW, Albuquerque, NM 87105. The revised site-wide emissions of all pollutants decreased compared to the currently authorized permitted values.

Please see the attached *Public Notice Cover Letter* and *Notice of Intent to Construct* form for more information.

Sincerely,

Martin R. Schluep
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Albuquerque, NM 87109
(C) 505.205.4819
(F) 505.771.0793
www.alliantenv.com
[Facebook](#)

Martin Schluep

From: Martin Schluep <mschluep@alliantenv.com>
Sent: Tuesday, April 30, 2019 11:26 AM
To: marladesk@gmail.com; josiemlopez@gmail.com
Cc: 'Eyerman, Regan V.'; 'Tavarez, Isreal L.'; 'C and C Services'; 'Martin Schluep'
Subject: Air Quality Permit No. 3292 Revision Public Notice
Attachments: C&C Services_NOI to Construct_4-30-19.pdf; C&C Services_Public Notice Cover Letter_4-30-19.pdf

My apologies, I listed the incorrect permit number in the subject line in the original notification. The correct permit number is 3292.

Martin R. Schluep
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From: Martin Schluep [mailto:mschluep@alliantenv.com]
Sent: Tuesday, April 30, 2019 11:08 AM
To: 'marladesk@gmail.com' <marladesk@gmail.com>; 'josiemlopez@gmail.com' <josiemlopez@gmail.com>
Cc: 'Eyerman, Regan V.' <reyerman@cabq.gov>; 'Tavarez, Isreal L.' <ITavarez@cabq.gov>; 'C and C Services' <candcservices@live.com>; 'Martin Schluep' <mschluep@alliantenv.com>
Subject: Air Quality Permit No. 1158-M1 Revision Public Notice

Dear Mountain View Community Action Representative,

The City of Albuquerque Environmental Health Department Air Quality Program requires that all registered representatives of neighborhood associations and coalitions within one-half mile of a facility submitting an air quality permit application be notified prior to the submittal, under regulation 20.11.41.13 New Mexico Administrative Code (NMAC).

Alliant Environmental, LLC is sending this notification on behalf of C and C Services Commercial Construction LLC, regarding the proposed revision to existing Air Quality Construction Permit #3292. This facility is located at 2901 Second Street SW, Albuquerque, NM 87105. The revised site-wide emissions of all pollutants decreased compared to the currently authorized permitted values.

Please see the attached *Public Notice Cover Letter* and *Notice of Intent to Construct* form for more information.

Sincerely,

Martin R. Schluep
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[Facebook](#)

Martin Schluep

From: Martin Schluep <mschluep@alliantenv.com>
Sent: Tuesday, April 30, 2019 11:27 AM
To: ngarcia49@yahoo.com
Cc: 'Eyerman, Regan V.'; 'Tavarez, Isreal L.'; 'C and C Services'; 'Martin Schluep'
Subject: Air Quality Permit No. 3292 Revision Public Notice

My apologies, I listed the incorrect permit number in the subject line in the original notification. The correct permit number is 3292.

Martin R. Schluep
Alliant Environmental, LLC
7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109
(C) 505.205.4819
(F) 505.771.0793
www.alliantenv.com
[Facebook](#)

From: Martin Schluep [mailto:mschluep@alliantenv.com]
Sent: Tuesday, April 30, 2019 11:11 AM
To: 'ngarcia49@yahoo.com' <ngarcia49@yahoo.com>
Cc: 'Eyerman, Regan V.' <reyerman@cabq.gov>; 'Tavarez, Isreal L.' <ITavarez@cabq.gov>; 'C and C Services' <candcservices@live.com>; 'Martin Schluep' <mschluep@alliantenv.com>
Subject: Air Quality Permit No. 1158-M1 Revision Public Notice

Dear Mountain View Neighborhood Association Representative,

The City of Albuquerque Environmental Health Department Air Quality Program requires that all registered representatives of neighborhood associations and coalitions within one-half mile of a facility submitting an air quality permit application be notified prior to the submittal, under regulation 20.11.41.13 New Mexico Administrative Code (NMAC).

Alliant Environmental, LLC is sending this notification on behalf of C and C Services Commercial Construction LLC, regarding the proposed revision to existing Air Quality Construction Permit #3292. This facility is located at 2901 Second Street SW, Albuquerque, NM 87105. The revised site-wide emissions of all pollutants decreased compared to the currently authorized permitted values.

Please see the attached *Public Notice Cover Letter* and *Notice of Intent to Construct* form for more information.

Sincerely,

Martin R. Schluep
Alliant Environmental, LLC
7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109
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(F) 505.771.0793
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[Facebook](#)

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U.S. Postal Service™ CERTIFIED MAIL® RECEIPT

Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

ALBUQUERQUE, NM 87105

OFFICIAL USE

Certified Mail Fee	\$3.50
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$0.55
Total Postage and Fees	\$4.20



Sent To Julian Vargas, Mountain View N.A.
 Street and Apt. No., or PO Box No. 218 Ray Bart SW
 City, State, ZIP+4® Albuquerque, NM 87105



PROPOSED AIR QUALITY CONSTRUCTION PERMIT



April 30, 2019

1. Applicant's Name: Luis Tera Address: 2301 2nd St SW, Albuquerque, NM 87102
 Owner or Operator's Name: Luis Tera
 Owner or Operator's Address: 2301 2nd St SW, Albuquerque, NM 87102
 Actual or Estimated Date the Application will be Submitted to the Department: April 29 and April 30, 2019
2. Exact Location of the Source or Proposed Source: 2301 2nd St SW, Albuquerque, NM 87102
3. Description of the Source: Building (Dumb Air 2019) Onsite storage of construction materials
 Nature of the Business: Demolition Contractor

Processes or Changes for which the permit is being requested: 2-26 Services provided for the job of work for the work of the second site and not beyond operations site for one week
 Maximum Volume of the Material Quantities of each regulated air pollutant the source will emit:

Water Consumption Permit

Source No.	Flow Rate (GPM)	Time Per Year (Hours)
001	7.88	8,760
002	0.22	0,200
003	0.22	0,200
004	0.22	0,200
005	0.22	0,200
006	0.22	0,200
007	0.22	0,200
008	0.22	0,200
009	0.22	0,200
010	0.22	0,200
011	0.22	0,200
012	0.22	0,200
013	0.22	0,200
014	0.22	0,200
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021	0.22	0,200
022	0.22	0,200
023	0.22	0,200
024	0.22	0,200
025	0.22	0,200
026	0.22	0,200
027	0.22	0,200
028	0.22	0,200
029	0.22	0,200
030	0.22	0,200
031	0.22	0,200
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034	0.22	0,200
035	0.22	0,200
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037	0.22	0,200
038	0.22	0,200
039	0.22	0,200
040	0.22	0,200
041	0.22	0,200
042	0.22	0,200
043	0.22	0,200
044	0.22	0,200
045	0.22	0,200
046	0.22	0,200
047	0.22	0,200
048	0.22	0,200
049	0.22	0,200
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068	0.22	0,200
069	0.22	0,200
070	0.22	0,200
071	0.22	0,200
072	0.22	0,200
073	0.22	0,200
074	0.22	0,200
075	0.22	0,200
076	0.22	0,200
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084	0.22	0,200
085	0.22	0,200
086	0.22	0,200
087	0.22	0,200
088	0.22	0,200
089	0.22	0,200
090	0.22	0,200
091	0.22	0,200
092	0.22	0,200
093	0.22	0,200
094	0.22	0,200
095	0.22	0,200
096	0.22	0,200
097	0.22	0,200
098	0.22	0,200
099	0.22	0,200
100	0.22	0,200

Net Change in Emissions

For permit modifications on subsequent operations

Source No.	Flow Rate (GPM)	Time Per Year (Hours)	Estimated Total Flow Rate (GPM)
001	7.88	8,760	2,330
002	0.22	0,200	0.44
003	0.22	0,200	0.44
004	0.22	0,200	0.44
005	0.22	0,200	0.44
006	0.22	0,200	0.44
007	0.22	0,200	0.44
008	0.22	0,200	0.44
009	0.22	0,200	0.44
010	0.22	0,200	0.44
011	0.22	0,200	0.44
012	0.22	0,200	0.44
013	0.22	0,200	0.44
014	0.22	0,200	0.44
015	0.22	0,200	0.44
016	0.22	0,200	0.44
017	0.22	0,200	0.44
018	0.22	0,200	0.44
019	0.22	0,200	0.44
020	0.22	0,200	0.44
021	0.22	0,200	0.44
022	0.22	0,200	0.44
023	0.22	0,200	0.44
024	0.22	0,200	0.44
025	0.22	0,200	0.44
026	0.22	0,200	0.44
027	0.22	0,200	0.44
028	0.22	0,200	0.44
029	0.22	0,200	0.44
030	0.22	0,200	0.44
031	0.22	0,200	0.44
032	0.22	0,200	0.44
033	0.22	0,200	0.44
034	0.22	0,200	0.44
035	0.22	0,200	0.44
036	0.22	0,200	0.44
037	0.22	0,200	0.44
038	0.22	0,200	0.44
039	0.22	0,200	0.44
040	0.22	0,200	0.44
041	0.22	0,200	0.44
042	0.22	0,200	0.44
043	0.22	0,200	0.44
044	0.22	0,200	0.44
045	0.22	0,200	0.44
046	0.22	0,200	0.44
047	0.22	0,200	0.44
048	0.22	0,200	0.44
049	0.22	0,200	0.44
050	0.22	0,200	0.44
051	0.22	0,200	0.44
052	0.22	0,200	0.44
053	0.22	0,200	0.44
054	0.22	0,200	0.44
055	0.22	0,200	0.44
056	0.22	0,200	0.44
057	0.22	0,200	0.44
058	0.22	0,200	0.44
059	0.22	0,200	0.44
060	0.22	0,200	0.44
061	0.22	0,200	0.44
062	0.22	0,200	0.44
063	0.22	0,200	0.44
064	0.22	0,200	0.44
065	0.22	0,200	0.44
066	0.22	0,200	0.44
067	0.22	0,200	0.44
068	0.22	0,200	0.44
069	0.22	0,200	0.44
070	0.22	0,200	0.44
071	0.22	0,200	0.44
072	0.22	0,200	0.44
073	0.22	0,200	0.44
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076	0.22	0,200	0.44
077	0.22	0,200	0.44
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081	0.22	0,200	0.44
082	0.22	0,200	0.44
083	0.22	0,200	0.44
084	0.22	0,200	0.44
085	0.22	0,200	0.44
086	0.22	0,200	0.44
087	0.22	0,200	0.44
088	0.22	0,200	0.44
089	0.22	0,200	0.44
090	0.22	0,200	0.44
091	0.22	0,200	0.44
092	0.22	0,200	0.44
093	0.22	0,200	0.44
094	0.22	0,200	0.44
095	0.22	0,200	0.44
096	0.22	0,200	0.44
097	0.22	0,200	0.44
098	0.22	0,200	0.44
099	0.22	0,200	0.44
100	0.22	0,200	0.44

4. Maximum Operating Schedule: 7:00 AM - 5:00 PM
 Normal Operating Schedule: 7:00 AM - 5:00 PM
5. Current Contact Information for Compliance and Reporting:
 Name: Luis Tera
 Address: 2301 2nd St SW, Albuquerque, NM 87102
 Phone Number: 505-253-1234
 E-Mail Address: luis.tera@terra.com

City of Montgomery - Environmental Health Department - Air Quality Program - Regulatory Service Division
 1000 North 10th Street, Suite 1000, Montgomery, AL 36102

THIS SIGN SHALL REMAIN POSTED UNTIL THE DEPARTMENT TAKES FINAL ACTION ON THE PERMIT APPLICATION.

From: mschluep@alliantenv.com
To: rroibal@comcast.net
Cc: Munoz-Dyer, Carina G.; Tavarez, Isreal L.; mschluep@alliantenv.com; candcservices@live.com
Subject: Air Quality Permit No. 3292 Revision Public Notice
Date: Wednesday, January 29, 2020 6:53:49 PM
Attachments: [C&C Services NOI to Construct 1-29-20.pdf](#)
[C&C Services Public Notice Cover Letter.pdf](#)

Dear South Valley Coalition of Neighborhood Associations Representative,

The City of Albuquerque Environmental Health Department Air Quality Program requires that all registered representatives of neighborhood associations and coalitions within one-half mile of a facility submitting an air quality permit application be notified prior to the submittal, under regulation 20.11.41.13 New Mexico Administrative Code (NMAC).

Alliant Environmental, LLC is sending this notification on behalf of C and C Services Commercial Construction LLC, regarding the proposed revision to existing Air Quality Construction Permit #3292. This facility is located at 2901 Second Street SW, Albuquerque, NM 87105. The revised site-wide emissions of all pollutants decreased compared to the currently authorized permitted values.

Please see the attached Public Notice Cover Letter and Notice of Intent to Construct form for more information.

Sincerely,

Martin R. Schluep
Alliant Environmental, LLC
7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109
505.205.4819
<https://hes32-ctp.trendmicro.com:443/wis/clicktime/v1/query?url=www.alliantenv.com&umid=1ef10ce4-ecb4-4bdf-8bbd-fc6bb7c31a15&auth=c5e193b2792d33bbda0d14ee5f909adbb398f028-5f8ab47ddb1699e5ab8c8a3162251551d2bc28e5>

=====
This message has been analyzed by Deep Discovery Email Inspector.

From: mschluep@alliantenv.com
To: aboard111@gmail.com
Cc: Munoz-Dyer, Carina G.; Tavarez, Isreal L.; mschluep@alliantenv.com; candcservices@live.com
Subject: Air Quality Permit No. 3292 Revision Public Notice
Date: Wednesday, January 29, 2020 6:58:06 PM
Attachments: [C&C Services NOI to Construct 1-29-20.pdf](#)
[C&C Services Public Notice Cover Letter.pdf](#)

Dear Westside Coalition of Neighborhood Associations Representative,

The City of Albuquerque Environmental Health Department Air Quality Program requires that all registered representatives of neighborhood associations and coalitions within one-half mile of a facility submitting an air quality permit application be notified prior to the submittal, under regulation 20.11.41.13 New Mexico Administrative Code (NMAC).

Alliant Environmental, LLC is sending this notification on behalf of C and C Services Commercial Construction LLC, regarding the proposed revision to existing Air Quality Construction Permit #3292. This facility is located at 2901 Second Street SW, Albuquerque, NM 87105. The revised site-wide emissions of all pollutants decreased compared to the currently authorized permitted values.

Please see the attached Public Notice Cover Letter and Notice of Intent to Construct form for more information.

Sincerely,

Martin R. Schluep
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505.205.4819
<https://hes32-ctp.trendmicro.com:443/wis/clicktime/v1/query?url=www.alliantenv.com&umid=2ecc6e6c-d3d9-42be-833e-8bf7b73cecfb&auth=c5e193b2792d33bbda0d14ee5f909adbb398f028-8796cec771381bd269826df1e8ae89036bba649e>

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This message has been analyzed by Deep Discovery Email Inspector.

APPENDIX D
Air Quality Impacts Analysis



C & C Services Commercial Construction LLC

**Air Quality Construction Permit No. 3292
Modification Application**

Air Dispersion Modeling Report_Rev2

December 11, 2019

Prepared for:

C&C Services Commercial Construction LLC
2901 2nd St. SW
Albuquerque, NM 87105



Prepared by:

Alliant Environmental, LLC
7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109



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List of Attachments

- Attachment A – Area Map / Plot Plan
- Attachment B – Modeled Site Volume Source Parameters

Section 1 Introduction

C&C Services Commercial Construction LLC (C&C Services) is applying for a New Source Review (NSR) Air Quality Construction permit modification for proposed changes to its crushing and screening facility located at 2901 2nd Street SW Albuquerque, NM 87105. An incomplete determination letter from the Albuquerque Environmental Health Department Air Quality Program was issued to C&C Services on May 29, 2019 with additional information or revision requests. The following are the requests made with responses in bold:

1. The annual averaging models used emission rates different from the rates used in the short-term models. Table 2 on page 7 of the modeling report says “annual emission rate based on 3744 hours per year.” However, Section 4.1.1 of the New Mexico Environment Department (NMED) Air Dispersion Modeling Guidelines dated 07Feb2019 states:

“All averaging periods shall be modeled using the maximum short-term emission rate allowed in the permit. The preferred method of modeling all averaging periods is to use maximum short-term emission rates and to use the hours of operation model input option to limit the facility’s emissions.”

Response:

The model was revised accordingly and the modeling results in Tables 6 and 7 now reflect all annual modeled concentrations based on the corresponding short term (lb/hr) emission rates. The hours of operations were entered into the model to limit the facility’s emissions. (8-14-2019)

2. The layout of sources in the modeling file C&C_SIL.BST does not match up with a 22May2019 site visit to C&C Services by the Air Quality Program (AQP). The modeling places the screen about 150 feet northwest of the crusher. The 22May2019 site visit revealed the screen and crusher are actually part of the same piece of equipment

Response:

This was addressed in the revised model. The crusher and the screen are located at the same location right next to each other. (8-14-2019)

3. The modeling submitted for C&C Services shows the crushing and screening equipment near the south end of the property. However, the Program visited the facility on May 22, 2019, and during this site visit, the Program observed that the crushing and screening unit was located near the north end of the operation. The models need to reflect the exact location of the process equipment.

Response:

With this permit revision application, C&C Services proposes to re-locate the existing crusher and screen to the south end of the property and re-organize the entire operation. This includes moving raw material and finished product stockpiles to new locations spread out towards the south end of the property. The revised air dispersion model reflects this proposed re-location of equipment and

stockpiles and associated drop and transfer points. The north side of the property which currently shows a large stockpile of raw material (concrete to be recycled) will become a parking area for employees and customers. This will result in minimal crossing of large trucks and small passenger cars and pickup trucks, thus creating a safer work environment. (8-14-2019)

4. The site visit conducted on May 22, 2019, showed that the stockpiles were located throughout the facility. However, the modeling only had stockpiles along the west side of the facility. Additionally, C&C Services modeling report did not provide explanation of the locations of stockpiles that were modeled or why some of the observed stockpiles were not included in the model.

Response:

With this permit revision application, C&C Services proposes to re-locate the existing crusher and screen to the south end of the property which also includes re-location of some of the existing stockpiles (see Plot Plan in Attachment A). The revised air dispersion model includes all drop and/or transfer points of material at the proposed new locations. These drop and transfer points are modeled as volume sources. Specific volume source parameters and how they were calculated are discussed further in this report. Per NMED's Air Dispersion Modeling Guidelines, 07February 2019, modeling of wind erosion of stockpiles is optional, as it is stated in AP-42 not to use the equations for wind erosion in a steady state model.

Concrete stockpiles currently located at the north end of the property will be moved to the southeast side of the property and the north side area will be cleared for employees to park their vehicles so that there is less chance of haul trucks and employee and visitor traffic to collide, as discussed above. Other stockpiles or drop points associated with these stockpiles that were not included in the model include large parts of recycled metal or plastic. This is material that will not be crushed, or screened and is stored in piles, but have no quantifiable particulate emissions. (8-14-2019)

5. The cumulative short-term NO₂ model does not have receptors inside the Albuquerque Asphalt (AA) property. The model must include receptors on all the properties of nearby sources, unless C&C Services provides an acceptable explanation of why these receptors are not included in the model.

Response

If receptors are placed within the AA property (fenceline), AA's own NO₂ emitting sources will trigger an exceedance of the short-term NO₂ N/NMAAQS on their property. The C&C Services SIL model included receptors within the AA fenceline and the modeled concentrations inside the AA fenceline from C&C NO₂ emissions show minimal impact (between 5.32 ug/m³ and 7.46 ug/m³, which are below the 1-hr NO₂ SIL).

The same applies to the annual NO₂, SO₂, PM_{2.5}, the 24-hour PM_{2.5} and PM₁₀, and the 1-hour, 3-hour and 24-hour SO₂ standards. The impacts from the C&C Services

facility alone within the AA property are below the SILs. Therefore, any exceedances caused on AA property is caused by AA. (8-14-2019)

6. The east and south fencelines in the model do not line up with the fence in Google Earth imagery dated 25Oct2018. The site visit conducted May 22, 2019 confirmed that the fence along the east and south boundaries of the site are located west and north of the tree lines, respectively.

Response:

The revised model incorporated the Google Earth 25Oct2018 imagery and modeled with revised fenceline coordinates which were reviewed and confirmed on-site. (8-14-2019)

7. The modeled path of the haul road does not match Google Earth imagery dated 25Oct2018. The haul road dimensions used were for both large and small trucks and they do not meet NMED Guidance. The size truck should be consistent between the vertical and horizontal dimensions, and the width and length volumes. The model should reflect the types of trucks that are used for hauling at the facility.

Response:

As discussed under No. 6 above, the latest Google Earth imagery was used in the revised model. Large trucks are used to haul material for normal operation which include semi-trucks, dump trucks, and roll-off container trucks. The revised model includes the appropriate volume source parameters, as discussed in this report. The haul road included in the model is the haul road location as proposed in this modeling report and the permit revision application. (8-14-2019)

8. The vertical and horizontal dimensions chosen for volume sources are not NMED Guidelines or with the modeling report submitted.
 - a. As an example, C&C_PM_LT_Surr.BST uses an initial horizontal dimension of 2.33 meters for C&C's crusher; Page 7 of the modeling report demonstrates the appropriate initial horizontal dimension should be 1.16 meters, which agrees with the NMED Air Dispersion Modeling Guidelines.
 - b. The initial vertical dimension used in the models for haul road segments is smaller than the NMED Air Dispersion Modeling Guidelines recommended value for a small truck.

Response:

The revised model addressed and incorporated the above request. The modeling report includes a discussion explaining these parameters and calculation thereof. (8-14-2019)

9. The models used outdated background data. The Program sent 2018 background data in October 2018.

Response:

The latest background data as provided by the Air Quality Program was used in the revised air dispersion model and report. (8-14-2019)

Please note that more detailed discussion on the above provided responses are included throughout the following modeling report.

Applicant and Consultant information:

Applicant: Mr. Luis C. Tarin (Owner)
2901 2nd Street SW
Albuquerque, NM 87105
(505) 280-1730
candcservices@live.com

Air Dispersion Modeling Report Preparer Contact Information:

Alliant Environmental, LLC
Mr. Martin R. Schluep, Principal
7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109
Phone: (505) 205-4819
E-mail : mschluep@alliantenv.com

Section 2 Facility/Process Description

C&C Services owns and operates the C&C Services crushing and screening facility located at 2901 2nd Street SW Albuquerque, NM 87105. The facility is a construction material crushing and screening facility. C&C Services performs demolition activities offsite and the debris from the offsite demolition activities is brought onsite so that it can be sorted, crushed, screened and recycled, as applicable. The facility proposes to change the current operating hours to 12 hours per day, 6 days per week, 52 weeks per year (3,744 hours per year).

Detailed Process Description Specific to Modeling:

Material (concrete, asphalt, rocks, construction debris etc.) is brought on-site via trucks. The material is dropped at specified storage pile areas. This corresponds with the application Short Form Process Equipment Table and Emission Tables:

#1 Raw Material Batch Drop by Truck

#2 Raw Material Batch Drop by Truck

The raw material is then picked up by a front loader truck and loaded into the main feed hopper (crusher loading).

#3 Bulk Loading of Main Feed Hopper (Crusher Loading)

The crusher has a screen attached that feeds into the crusher.

#4 Screen (connected to Crusher)

#5 Portable Impact Crusher

The crushed material is then dropped onto a pile using a conveyor (connected to crusher).

#6 Conveyor connected to Crusher (Continuous Drop Product Pile Formation)

The crushed product is moved to various storage pile locations within the facility by front loader trucks. These create more Product Pile Formation and also Loadout locations where a front loader trucks loads haul trucks with material:

#7-#12, #15-#22

The haul road is modeled using volume sources set up in the model per NMED's modeling guidelines. A total of 89 haul road sources are included in the model. The total haul road emission rates for PM₁₀ and PM_{2.5} were divided by the number of haul road volumes (89) for each volume specific emission rate.

#13 Haul Road

A Caterpillar C9, 350 horsepower diesel powered generator engine provides the necessary power for the crusher.

#14

Location of C & C Services Facility:

2901 2nd Street SW Albuquerque, NM 87105

UTM Coordinates (NAD83): 348,845 m East, 3,879,677 m North, Zone 13

Elevation = 1,506 meters

An aerial map showing the location of the facility and a Plot Plan are provided in Attachment A.

Section 3

Modeling Requirements Description

The following pollutants and averaging periods had to be modeled and are included in this modeling analysis:

- 1-Hour and Annual NO₂
- 1-, 3-, 24-Hour and Annual SO₂
- 1-Hour and 8-Hour CO
- 24-Hour and Annual PM_{2.5}
- 24-Hour PM₁₀

Section 4

Modeling Inputs and Methodology

The calculated hourly emission rates (lb/hr) for NO_x, SO₂, CO, PM₁₀ and PM_{2.5} were applied in the AERMOD model. Per NMED Modeleing Guidelines and per the AEHD AQP's request, all averaging periods were modeled using the maximum proposed short-term emission rates. Hours of operation entered into the model input option was chosen to limit the facility's annual emissions, instead of modeling actual proposed annual emission rates.

Mr. Jeff Stonesifer from the AEHD AQP provided guidance on which surrounding sources and what background data to use for this project. For the modeling of C&C Services, the PM₁₀ and PM_{2.5} background concentrations from the South Valley monitor were added to the modeled concentrations. The South Valley monitor samples a mixed residential and industrial area approximately two (2) miles south of C&C Services. Because of the proximity and similar land use, the South Valley monitor is adequately representative of the area around C&C Services. Therefore, only the closest sources near C&C Services were included in the model. Namely, PM₁₀ and PM_{2.5} emissions from Albuquerque Asphalt and the Bernalillo County Animal Shelter's animal crematory were included in the model.

For combustion gas modeling from the diesel-fired generator engine, Albuquerque Asphalt, the Bernalillo County Animal Shelter's animal crematory, and PNM's Rio Bravo Generating Station were included in the model as nearby sources. The Del Norte monitor was used for the NO₂ background concentration. It is located in a high traffic area with many stop lights. The nearest major intersections to C&C Services are 2nd Street and Rio Bravo as well as 2nd Street and Bridge. Both intersections are over a mile from C&C Services. The background from the Del Norte monitor therefore conservatively covers the other sources of NO₂ emissions near C&C Services. Table 1 shows the surrounding source data included in the model. Buildings associated with these surrounding sources, as provided by EHD AQP) were included in the building downwash model. Table 2 provides a summary of all pollutants' NM/NAAQS and background concentrations added to the modeled concentrations. Further details to the background concentrations are discussed in the paragraphs below.

Table 1. Surrounding Sources Permitted Emissions Included in Model

Source	Description	NO _x		SO ₂		PM ₁₀		PM _{2.5}	
		lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Albuquerque Asphalt, Inc.	Diesel-fired Generator Engine	9.30	12.29	0.11	0.14	0.66	0.87	0.66	0.87
Bernalillo County Animal Shelter	Animal Crematory	0.41	0.10	0.16	0.04	0.06	0.02	0.06	0.02
PNM Rio Bravo Generating Station	Generating Station (Diesel and Natural Gas)	288.10	320.10	84.80	61.10	34.00	32.90	30.90	30.00

Note:

The PNM Rio Bravo Generating Station operates a dual fuel turbine. Either diesel or natural are permitted as fuel.

The highest emission rates for all pollutants listed above was chosen to be included in the model. This is the most conservative approach.

Table 2. New Mexico/National Ambient Air Quality Standards and Background Data

Criteria Pollutant	Averaging Period	NAAQS	NMAAQS	Background Concentration	Monitoring Station
		ug/m ³	ug/m ³	ug/m ³	
NO ₂	Annual	99.66	94.02	30.0	Del Norte HS
	1-Hour	188.03	---	82.8	Del Norte HS
PM _{2.5}	Annual	12	---	7.2	South Valley
	24-Hour	35	---	18.0	South Valley
PM ₁₀	24-Hour	150	150	35.0	South Valley
SO ₂	Annual	80	52.4	0	N/A
	24-Hour	365	261.9	0	N/A
	3-Hour	1,309.3	---	0	N/A
	1-Hour	196.4	---	13.1	Del Norte HS
CO	8-Hour	10,303.6	9,960.1	1,718.0	South Valley
	1-Hour	40,069.6	14,997.5	2,635.0	South Valley

NM/NAAQS Design Values:

The following modeled values were used to compare to the N/NMAAQS for each pollutant's design values according to the modeling guidance:

1-hour NO₂: high 8th high was used with five years of representative meteorological data as a conservative approximation of the 98th percentile.

Annual NO₂: High 1st high

PM_{2.5} 24-hour: The high 8th high was used with five years of representative meteorological data as a conservative approximation of the 98th percentile

PM_{2.5} Annual: High 1st high

PM₁₀ 24-hour: High 2nd high

SO₂ 1-hour: High 4th high was used with five years of representative meteorological data as a conservative approximation of the 99th percentile

SO₂ 3-hour and 24-hour: High 1st high

SO₂ Annual: High 1st high

CO 1-Hour and 8-Hour: Modeled below the Significant Impacts Level (SIL)

All SILs were compared against the high 1st high modeled values to determine the radius of impact (ROI).

1-Hour and Annual NO₂ Modeling:

To determine the ROI, the Tier 3 Plume Volume Molar Ratio Method (PVMRM) for modeling the conversion of NO_x to NO₂ in AERMOD for the C&C Services generator stack was applied using the EPA approved “In Stack Ratio” (ISR) for NO_x of 0.15. The high 1st high concentration was used and compared against the 1-hour NO₂ Significant Impact Levels (SIL) of 7.5 ug/m³ to determine the 1-Hour NO₂ ROI (see Table 6 for detailed results).

The Tier 3 PVMRM for modeling the conversion of NO_x to NO₂ in AERMOD was also applied for National/New Mexico Ambient Air Quality Standard (N/NMAAQS) analysis, including the surrounding sources discussed above. The following EPA approved ISR’s for the modeled NO_x emission point sources were applied:

- C&C (diesel powered generator engine): 0.15
- PNM RBGS (Rio Bravo Generator Station Turbine, distant source): 0.2
- Bernalillo County Animal Shelter animal crematory (natural gas combustion): 0.5
- Albuquerque Asphalt (diesel powered generator engine): 0.15

Background ozone concentrations added to the AERMOD model were provided by the EHD AQP. The 98th percentile NO₂ value associated with the five year meteorological data is the design value; i.e., the high 8th highest modeled concentration including neighboring sources plus background concentration was compared to the N/NMAAQS. A NO₂ background concentration of 82.8 µg/m³ provided by the EHD AQP, was added to the modeled 98th percentile 1-Hour NO₂ concentration. The maximum predicted annual NO₂ impact shows a concentration below the SIL; therefore, annual NO₂ emissions from the facility alone are below the N/NMAAQS. No further analysis is required.

1-Hour, 3-Hour, 24-Hour, and Annual SO₂ Modeling:

For the 1-hour SO₂ averaging period, the 99th percentile SO₂ value associated with the five year meteorological data is the design value; i.e., the high 4th highest modeled concentration was compared against the N/NMAAQS. A background concentration of 13.1 ug/m³ from the Del Norte monitoring station was added to the modeled concentration, which also includes the above mentioned surrounding sources. The high 1st high concentrations modeled were compared against the N/NMAAQS for the 3-Hour, 24-Hour and Annual averaging times. No background data for these averaging times are available.

1-Hour and 8-Hour CO Modeling:

The maximum predicted impacts for the 1-hour and 8-Hour averaging times for CO showed concentrations below the SIL; therefore, CO emissions from the facility alone are below the N/NMAAQS. No further analysis is required.

24-Hour and Annual PM_{2.5} and PM₁₀ Modeling:

For the 24-Hour averaging period for PM₁₀, the high 2nd high concentration modeled was compared to the N/NMAAQS, including background concentrations.

For the 24-Hour averaging period for PM_{2.5}, the high 8th high concentration modeled was compared to N/NMAAQS, including background concentrations

The following background concentrations as provided by the EHD AQP were added to the 24-Hour modeled concentrations of PM₁₀ and PM_{2.5}:

PM₁₀: 35.0 ug/m³

PM_{2.5}: 18.0 ug/m³

For the annual averaging period for PM_{2.5}, the high 1st high concentration modeled was compared to the N/NMAAQs, including background concentration. The following background concentration was added to the annual modeled concentrations PM_{2.5}:

PM_{2.5}: 7.2 ug/m³

All background concentrations were monitored at the South Valley monitoring station. There is no annual PM₁₀ NM/NAAQS.

Model Used: AERMOD model (Providence/Oris Solutions Beeline-BEEST software Version 11.14) was used to run the modeling analysis.

Number of Model Runs: AERMOD- Four (4) modeling runs:

- C&C_SIL (to review all Significant Impact Limits of all pollutants and averaging periods based on the C&C Services site emissions only)
- C&C_SO2_Surr (for all SO₂ averaging periods, including surrounding sources)
- C&C_NO2_Surr (for all NO₂ averaging periods, including surrounding sources)
- C&C_PM_Surr (for all PM₁₀ and PM_{2.5} averaging periods, including surrounding sources)

Table 3 below shows the facility's emission stack parameters for the diesel-fired generator engine used in the model. The engine's stack was modeled as a point source. The rest of the plant's sources (feeder, crusher, conveyors, drop points, and haul roads) were modeled as volume sources. The haul road is made up of 89 volume sources; therefore, the haul road PM₁₀ and PM_{2.5} emissions were divided by 89 and entered into the model per each haul road volume source.

Table 3. Table of Emissions and Stack (Point Source) Parameters

Stack	Source Description	Stack Height (ft.)	Stack Temp (°F)	Stack Velocity (ft/s)	Stack Dia. (ft.)	NO _x Hourly Emission Rate (lb/hr)	SO ₂ Hourly Emission Rate (lb/hr)	CO Hourly Emission Rate (lb/hr)	PM ₁₀ Hourly Emission Rate (lb/hr)	PM _{2.5} Hourly Emission Rate (lb/hr)
Engine	Diesel-fired generator engine stack	14	468.3	63.65	0.33	0.23	0.72	2.01	0.01	0.01

Sample calculations of Initial Vertical and Horizontal Dimensions Sigma Z_o and Sigma Y_o:

Crusher Sigma Z_o (initial vertical dimension): Crusher Height / 2.15 = 5 m / 2.15 = 2.33 m

Crusher Sigma Y_o (initial horizontal dimension): Crusher width / 4.3 = 5 m / 4.3 = 1.16 m

Crusher Release Height = 6 m

Screen Sigma Z_o: Screen Height / 2.15 = 5 m / 2.15 = 2.33 m

Screen Sigma Y_o: Screen Width / 4.3 = 5 m / 4.3 = 1.16 m

Screen Release Height = 4 m

Transfer (drop) points Sigma Z_o: Height / 2.15 = 2 m / 2.15 = 0.93 m

Transfer (drop) points Sigma Y_o: Width / 4.3 = 2 m / 4.3 = 0.47 m

Transfer (drop) points (elevated) Release Height = 4 m

Modeling of wind erosion of stockpiles is optional, as it is stated in AP-42 not to use the equations for wind erosion in a steady state model. The drop and transfer points volume source parameters were calculated according the NMED's 07 February, 2019 Air Dispersion Modeling Guidelines (p. 63 and 64). The equipment and transfer point dimensions at C&C Services as proposed in this application are comparable to the example provided in NMED's modeling guidelines; therefore, the same values were used to calculate the modeling parameters for these volume sources.

Haul Roads for Site Specific Model:

Per NMED's Air Dispersion Modeling Guidelines, 07 February, 2019, large trucks are used under normal operating scenario to haul materials in and out of the site. The height of the volume (H) or plume height is equal to 1.7 times the height of the truck generating the emissions. The initial vertical sigma is determined by dividing the height of the plume by 2.15. The release height is determined by dividing the height of the volume by two. This is the center of the volume.

The road width is the actual width of the road plus six meters. The additional width represents the turbulence caused by the vehicle as it moves along the road. This width is the side of the base of the volume source. This site's haul road has two road widths as the hauls road leads into a one way loop at the south end of the property before re-joining the haul road going north towards the entrance/exit of the site.

Road width(1) = 8 m plus 6 m = 14 m (this is the part of the haul road where trucks go in both directions)

Road width(2) = 3.5 m plus 6 m = 9.5 m (this is the part of the haul road that is one way under normal operation)

The initial horizontal dimension (Sigma Y_o) for each haul road volume is determined as follows:

For the single volume (one way road), width(2) / 2.15 = 9.5 m / 2.15 = 4.42m

For adjacent volumes (truck going both ways), width(1) / 2.15 = 14 m / 2.15 = 6.51 m

Large trucks: Truck Height = 4 m

Height of Volume = 1.7 x 4 = 6.8 m

Release Height = 6.8 m / 2 = 3.4 m

Initial Vertical dimension (Sigma Zo) = Height of Volume / 2.15 = 6.8 m / 2.15 = 3.16 m

The total length (into and out of the facility) of the haul road is approximately 715 m long. The haul road width is 8 m. The number of volume sources for the haul road is length / width = 715 m / 8 m = 89

The haul road emission rates were divided by 89 for each volume source of the haul road.

Factors Used: The SHRDOW factors were used for the C & C Services facility for operation time during 7AM and 7PM Monday through Saturday

Modeling Parameters: The AERMOD regulatory default parameters were included in assumptions made by the model. Building downwash caused by nearby buildings (Bernalillo County Animal Shelter) as well as buildings associated with the other surrounding sources were included (BPIP files provided by EHD AQP), was considered using the latest version of the Building Profile Input Program (BPIP) with the PRIME algorithms. Building tiers and coordinates for the closest permanent structure/building (Bernalillo County Animal Shelter) are shown in Table 4.

Table 4. Building Tiers and Coordinates Used In BPIP PRIME For Nearby Bernalillo County Animal Shelter

Tier	Tier Height (ft)	Easting (m)	Northing (m)
Tier1	9	348,891.00	3,879,460.00
		348,886.00	3,879,458.00
		348,884.93	3,879,461.06
		348,890.00	3,879,463.00
Tier2	13	348,906.14	3,879,457.71
		348,893.36	3,879,453.13
		348,890.00	3,879,463.00
		348,902.93	3,879,467.62
Tier3	28	348,920.00	3,879,414.00
		348,902.93	3,879,467.61
		348,914.87	3,879,471.56
		348,932.45	3,879,417.95

Tier4	16	348,914.87	3,879,471.56
		348,930.17	3,879,476.51
		348,945.14	3,879,433.48
		348,929.18	3,879,427.97
Tier5	13	348,897.89	3,879,465.82
		348,895.66	3,879,472.20
		348,900.86	3,879,473.96
		348,903.03	3,879,467.65
Tier6	13	348,908.72	3,879,469.53
		348,906.45	3,879,476.18
		348,911.53	3,879,477.94
		348,913.79	3,879,471.21

Complex Terrain Data: Elevations of receptors and facility sources were obtained from 7.5-minute USGS topographical National Elevation Data (NED) files for the applicable region. The NED file was provided by Mr. Jeff Stonesifer of the AEHD AQP.

Dispersion Coefficient: The selection of the appropriate dispersion coefficients used in the modeling analysis was based on the classification method defined by Auer (1978). This model considers the dispersion coefficients to be rural or urban depending on the land use within three kilometers (km) of the facility if greater than 50% meets certain land use or zoning classifications. Based on the site location (see aerial map), the rural dispersion was used.

Receptor Grid: For each pollutant, the radius of significant impact (ROI) around the facility was established using a Cartesian grid as shown in Table 5. The ROI values are shown in Table 5. Extra fine receptors were placed at 25-meter intervals around the C & C Services fenceline.

Table 5. Used Grid Resolutions in the Initial Modeling Domain

Grid Type	Description	Shape	Spacing (m)	Length (Km)
Along fenceline	Extra Fine	Fenceline	25	Fenceline
Cartesian	Fine	Square	100	1,000
Cartesian	Medium	Square	250	2,500
Cartesian	Coarse	Square	500	5,000
Cartesian	Extra Course	Square	1,000	7,000

Meteorological Data: AERMOD – The AEHD AQP provided meteorological data set “KABQ-AERMET-v19191-2001-2005” was used as provided by the AQP. This data set best represents the meteorological data for the C & C Services site. Note: The meteorological data has been updated since the first submittal of this site’s modeling report. This revised report and modeling files include the latest available meteorological data provided by the AQP.

Modeling Files: AERMOD – There are four (4) AERMOD modeling file associated with this air dispersion modeling project, as discussed above. The files includes all modeled pollutants and their respective averaging times.

Section 5 Results

This modeling analysis demonstrates that operation of the facility described in this report neither causes nor contributes to any exceedances of N/MNAAQS. This air quality analysis demonstrates compliance with applicable regulatory requirements. Tables 6 and 7 show a detailed summary of the modeled results compared to the applicable standards.

Receptors within the Albuquerque Asphalt property/fenceline (east of C&C Services) that showed an exceedance of a NM/NAAQS were not included in the cumulative impacts analysis since the C&C Services site only modeling showed that impacts of all pollutants and averaging times from C&C Services on Albuquerque Asphalt's property are below the significant impacts level. Therefore, C&C Services' impact on Albuquerque Asphalt's property is insignificant. Albuquerque Asphalt's own sources may exceed the NM/NAAQS within their property/fenceline.

Table 6. Significant Impacts Level Analyses and ROI's

Units	Criteria Pollutant	Averaging Period	Significance Level (ug/m ³)	NAAQS (ug/m ³)	GLC _{max} (ug/m ³)	GLC _{max} < Significance Level? If Yes, NAAQS is met (ug/m ³)	ROI (m)
#14	NO ₂	1-hour	7.5	188	21.32	No	352.6
#14	NO ₂	Annual	1.0	94	0.63	Yes, no further analysis required	0.0
#1-#22	PM _{2.5}	24-hour	1.2	35	3.36	No	254.8
#1-#22	PM _{2.5}	Annual	0.3	12	0.67	No	235.1
#1-#22	PM ₁₀	24-hour	5.0	150	41.58	No	284.6
#14	CO	1-hour	2000	14,992	222.01	Yes, no further analysis required	0.0
#14	CO	8-hour	500	9,957	83.33	Yes, no further analysis required	0.0
#14	SO ₂	1-hour	7.8	196.4	79.53	No	1,419.4
#14	SO ₂	3-hour	25.0	1,309	53.09	No	182.4
#14	SO ₂	24-hour	5.0	261.8	15.10	No	134.2
#14	SO ₂	Annual	1.0	52.4	2.23	No	110.3

Table 7. N/NMAAQs Analyses

Units	Criteria Pollutant	Averaging Period	NAAQS (ug/m ³)	GLC _{max} (ug/m ³)	Background Concentration (ug/m ³)	GLC _{max} incl. Background conc. (ug/m ³)	GLC _{max} incl. Background conc. < NAAQS?	ROI (m)	Percent of Standard (%)
#14	NO ₂	1-hour	188	96.00	82.80	178.80	Yes	353	95.1
#1-#22	PM _{2.5}	24-hour	35	7.00	18.00	25.00	Yes	255	71.4
#1-#22	PM _{2.5}	Annual	12	2.66	7.20	9.86	Yes	235	82.1
#1-#22	PM ₁₀	24-hour	150	69.56	35.00	104.56	Yes	285	69.7
#14	SO ₂	1-hour	196.4	75.33	13.10	88.43	Yes	1,419	45.0
#14	SO ₂	3-hour	1,309	53.54	--	53.54	Yes	182	4.1
#14	SO ₂	24-hour	261.8	15.15	--	15.15	Yes	134	5.8
#14	SO ₂	Annual	52.4	2.30	--	2.30	Yes	110	4.4

Note:

1-hour NO₂ GLC_{max} is the high 8th high.

Annual NO₂ GLC_{max} is the high 1st high.

PM_{2.5}: 24-hour modeled concentrations is the high 8th high.

PM_{2.5}: Annual modeled concentrations is the high 1st high.

PM₁₀: 24-hour modeled concentrations is the high 2nd high.

SO₂: 1-hour modeled concentration is high 4th high, 3-hour modeled concentration is high 1st high, 24-hour modeled concentration is high 1st high, and annual modeled concentration is high 1st high

Background Concentrations:

1-hour and annual NO₂ background concentration added from Del Norte monitoring site ID 35-001-0023.

24-hour and annual PM_{2.5} background concentration added from South Valley monitoring site ID 35-001-0029.

24-hour PM₁₀ background concentration added based on the Air Quality Program's input.

1-hour SO₂ background concentration added from Del Norte monitoring site ID 35-001-0023.

All background concentrations provided by the Albuquerque Environmental Health Department Air Quality Program.

Surrounding Sources:

For combustion pollutants exceeding the SIL, the following surrounding sources were added to the model in addition to the background concentrations for each pollutant:

- Albuquerque Asphalt, Inc.
- Bernalillo County Animal Care Services (Animal Crematory)
- PNM Rio Bravo Generating Station

For particulate matter, the following immediate surrounding sources were added to the model in addition to the background concentrations:

- Albuquerque Asphalt, Inc.
- Bernalillo County Animal Care Services (Animal Crematory)

Attachment A
Area Map / Plot Plan / Process Flow Diagram

106°40'30" 106°40' 106°39'30" 106°39' 106°38'30" 106°38'

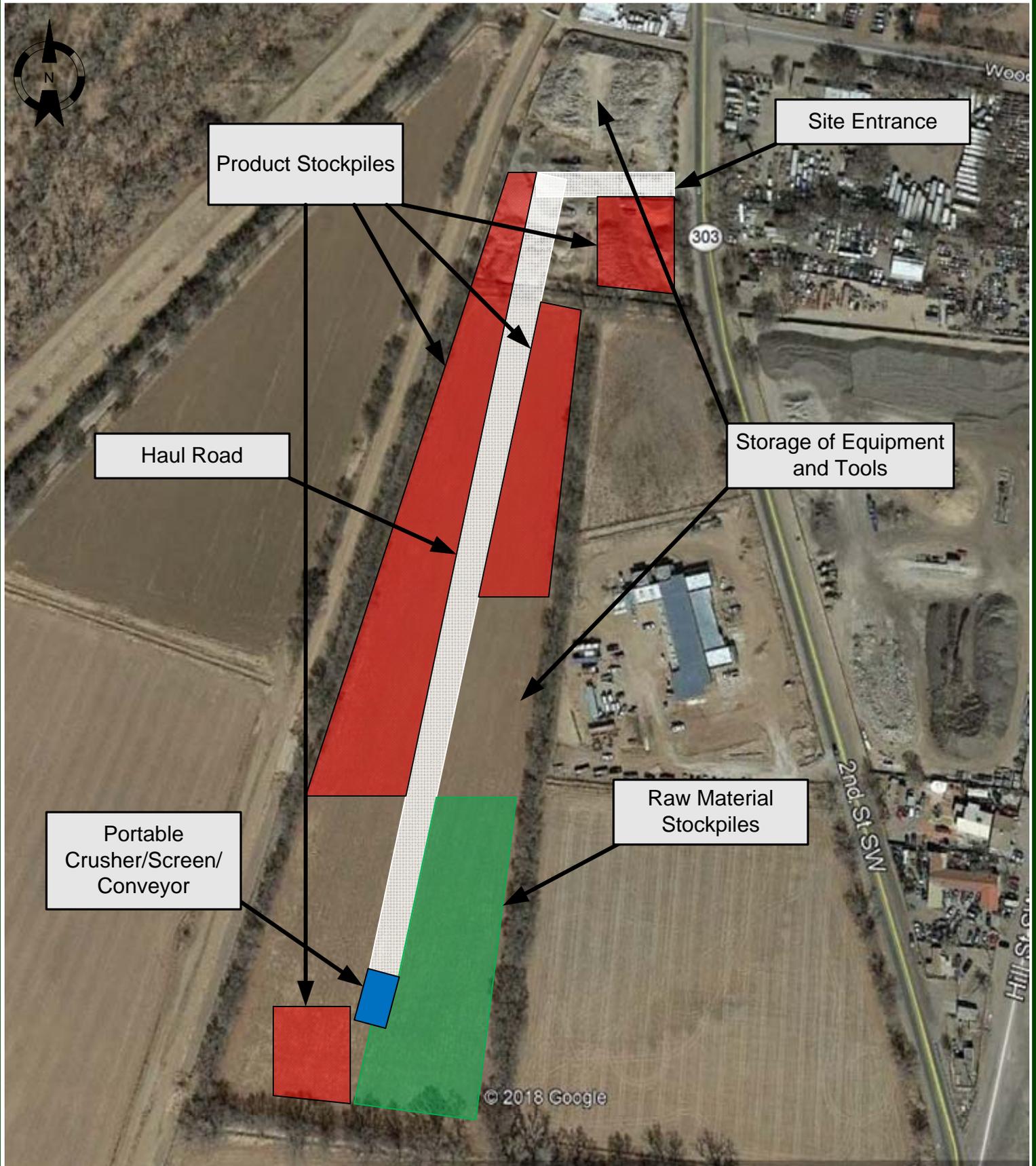


Universal Transverse Mercator (UTM) Projection Zone 13
North American Datum of 1983



Magnetic declination of 9E at center of map
on March 17, 2011

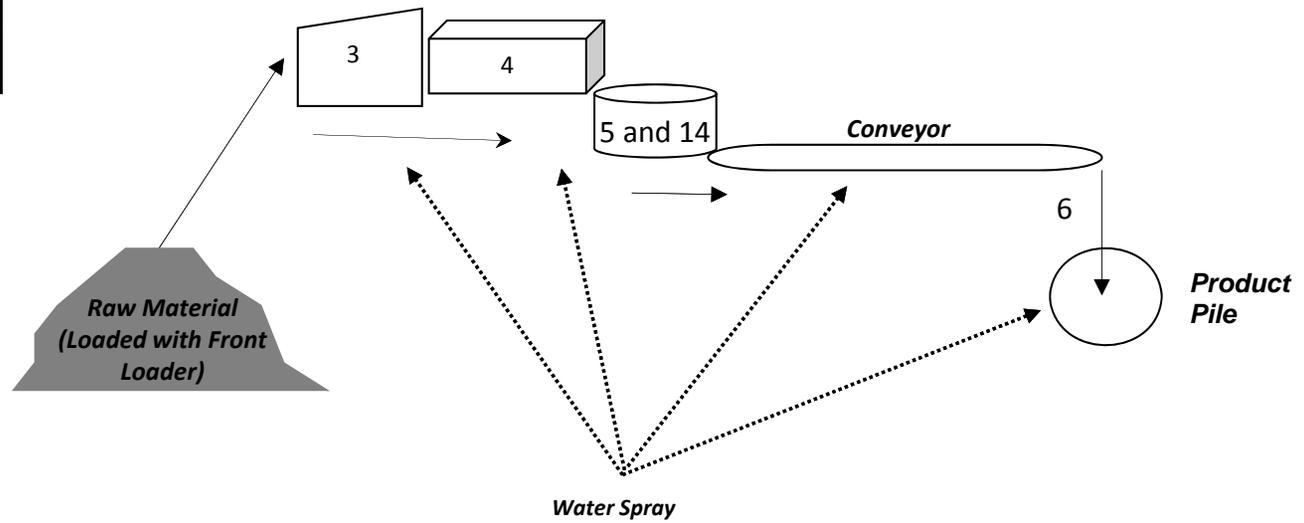
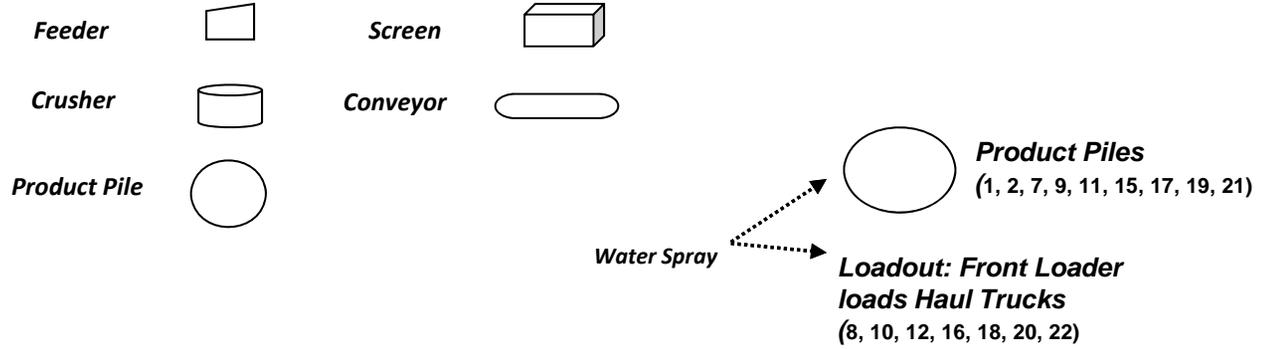
		Area Map		C and C Services Commercial Construction LLC	
Scale: 1:25,000	Drawn by: MDF	Date: 4/16/2019	C & C Services N 35° 2' 54.6" Latitude W 106° 39' 26.5" Longitude		Project No.:
	Chk'd by:	Date:			File Name: C&C Services Figures
					Figure: 2.1



			Process Flow Map		C and C Services Commercial Construction LLC			
Scale:	Drawn by: MDF	Date: 12/10/2019	C & C Services N 35° 2' 54.6" Latitude W 106° 39' 26.5" Longitude			Project No.:	File Name: C&C Services Figures	Figure: 2.2
	Chk'd by:	Date:						

EQUIPMENT SCHEMATIC KEY

Unit No.	Description
1, 2, 7, 9, 11, 15, 17, 19, 21	Product Piles (Front Loader Drop)
8, 10, 12, 16, 18, 20, 22	Loadout (Front Loader loading Truck)
3	Bulk Loading of Feed Hopper
4	Screen
5	Crusher
6	Conveyor / Product Pile Off of Conveyor
14	Generator Engine powering Crusher



C&C Services Commercial
 Construction, LLC
 2901 2nd St., SW
 Albuquerque, NM 87105

Process Flow Diagram
Air Quality Permit No. 3292
Revision Application

C&C Services
 Date: December 10, 2019

Attachment B
Modeled Site Volume Source Parameters

C&C Services Volume Source Parameters

Source ID	Source Description	UTM E (m)	UTM N (m)	Release Height (m)	Initial Horizontal Dim (m)	Initial Vertical Dim (m)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)
#1	Material Drop	348,826.97	3,879,288.05	4	0.47	0.93	0.01	0.002
#2	Material Drop	348,832.66	3,879,316.43	4	0.47	0.93	0.01	0.002
#3	Crusher Loading	348,769.92	3,879,291.09	4	0.47	0.93	0.014	3.90E-03
#4	Screen at Crusher	348,770.33	3,879,290.68	4	1.16	2.33	0.222	1.50E-02
#5	Crusher	348,769.86	3,879,290.71	6	1.16	2.33	1.60E-01	3.00E-02
#6	Conveyor at Crusher Drop	348,772.49	3,879,287.50	4	0.47	0.93	1.40E-02	3.90E-03
#7	Product Pile Formation by Front Loader Drop	348,891.16	3,879,655.93	4	0.47	0.93	7.00E-03	2.00E-03
#8	Loadout - Front Loader loading Truck	348,890.92	3,879,654.71	4	0.47	0.93	7.00E-03	2.00E-03
#9	Product Pile Formation by Front Loader Drop	348,789.87	3,879,447.75	4	0.47	0.93	7.00E-03	2.00E-03
#10	Loadout - Front Loader loading Truck	348,788.58	3,879,444.98	4	0.47	0.93	7.00E-03	2.00E-03
#11	Product Pile Formation by Front Loader Drop	348,795.36	3,879,394.43	4	0.47	0.93	7.00E-03	2.00E-03
#12	Loadout - Front Loader loading Truck	348,794.24	3,879,391.21	4	0.47	0.93	7.00E-03	2.00E-03
#15	Product Pile Formation by Front Loader Drop	348,805.21	3,879,542.67	4	0.47	0.93	7.00E-03	2.00E-03
#16	Loadout - Front Loader loading Truck	348,803.30	3,879,539.50	4	0.47	0.93	7.00E-03	2.00E-03
#17	Product Pile Formation by Front Loader Drop	348,837.06	3,879,539.29	4	0.47	0.93	7.00E-03	2.00E-03
#18	Loadout - Front Loader loading Truck	348,836.13	3,879,535.54	4	0.47	0.93	7.00E-03	2.00E-03
#19	Product Pile Formation by Front Loader Drop	348,784.85	3,879,229.65	4	0.47	0.93	7.00E-03	2.00E-03
#20	Loadout - Front Loader loading Truck	348,786.83	3,879,229.41	4	0.47	0.93	7.00E-03	2.00E-03
#21	Product Pile Formation by Front Loader Drop	348,811.71	3,879,226.88	4	0.47	0.93	7.00E-03	2.00E-03
#22	Loadout - Front Loader loading Truck	348,814.33	3,879,226.56	4	0.47	0.93	7.00E-03	2.00E-03
C&CRHR#1	Haul Road	348,865.06	3,879,679.52	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CRHR#2	Haul Road	348,855.47	3,879,678.22	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CRHR#3	Haul Road	348,847.13	3,879,673.81	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CRHR#4	Haul Road	348,845.51	3,879,667.30	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CRHR#5	Haul Road	348,845.80	3,879,658.73	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CRHR#6	Haul Road	348,846.97	3,879,652.14	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CRHR#7	Haul Road	348,847.36	3,879,646.01	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CRHR#8	Haul Road	348,846.95	3,879,639.99	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CRHR#9	Haul Road	348,845.49	3,879,634.63	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CRHR#10	Haul Road	348,843.77	3,879,628.04	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CAFHR#11	Haul Road	348,841.33	3,879,622.23	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#12	Haul Road	348,838.97	3,879,616.56	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#13	Haul Road	348,834.83	3,879,609.50	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#14	Haul Road	348,831.45	3,879,603.05	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#15	Haul Road	348,828.47	3,879,594.32	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#16	Haul Road	348,825.51	3,879,582.78	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#17	Haul Road	348,823.27	3,879,573.55	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#18	Haul Road	348,822.25	3,879,565.65	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#19	Haul Road	348,820.51	3,879,558.89	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#20	Haul Road	348,820.35	3,879,552.17	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#21	Haul Road	348,819.58	3,879,544.74	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#22	Haul Road	348,818.73	3,879,535.17	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#23	Haul Road	348,818.49	3,879,525.07	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#24	Haul Road	348,818.67	3,879,515.65	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#25	Haul Road	348,817.42	3,879,506.37	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#26	Haul Road	348,816.01	3,879,497.30	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#27	Haul Road	348,814.11	3,879,487.35	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#28	Haul Road	348,812.73	3,879,479.07	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#29	Haul Road	348,810.22	3,879,469.78	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#30	Haul Road	348,808.13	3,879,462.50	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#31	Haul Road	348,806.61	3,879,450.33	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#32	Haul Road	348,805.84	3,879,439.03	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#33	Haul Road	348,806.09	3,879,428.25	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#34	Haul Road	348,806.34	3,879,417.83	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#35	Haul Road	348,806.62	3,879,409.39	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#36	Haul Road	348,806.48	3,879,401.11	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#37	Haul Road	348,805.77	3,879,393.12	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#38	Haul Road	348,805.29	3,879,387.14	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#39	Haul Road	348,804.21	3,879,380.77	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#40	Haul Road	348,803.24	3,879,370.15	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#41	Haul Road	348,801.75	3,879,361.41	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#42	Haul Road	348,797.96	3,879,354.36	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#43	Haul Road	348,794.75	3,879,347.16	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#44	Haul Road	348,792.14	3,879,340.89	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#45	Haul Road	348,789.39	3,879,333.24	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#46	Haul Road	348,786.83	3,879,325.97	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#47	Haul Road	348,785.52	3,879,320.16	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#48	Haul Road	348,784.98	3,879,313.58	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#49	Haul Road	348,785.92	3,879,306.92	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#50	Haul Road	348,789.29	3,879,300.91	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#51	Haul Road	348,797.26	3,879,296.69	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#52	Haul Road	348,807.41	3,879,296.32	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#53	Haul Road	348,815.52	3,879,299.49	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#54	Haul Road	348,819.15	3,879,305.45	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#55	Haul Road	348,819.71	3,879,311.98	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#56	Haul Road	348,818.60	3,879,319.62	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#57	Haul Road	348,817.20	3,879,327.44	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#58	Haul Road	348,815.32	3,879,336.53	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#59	Haul Road	348,812.49	3,879,346.67	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#60	Haul Road	348,811.00	3,879,356.22	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#61	Haul Road	348,809.11	3,879,368.57	3.4	4.42	3.16	4.17E-03	4.17E-04
C&CFHR#62	Haul Road	348,809.96	3,879,378.67	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#63	Haul Road	348,811.38	3,879,388.37	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#64	Haul Road	348,811.85	3,879,398.31	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#65	Haul Road	348,811.57	3,879,411.19	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#66	Haul Road	348,811.11	3,879,423.02	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#67	Haul Road	348,811.01	3,879,439.78	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#68	Haul Road	348,811.40	3,879,452.10	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#69	Haul Road	348,813.95	3,879,463.05	3.4	6.51	3.16	0.004	4.17E-04
C&CFHR#70	Haul Road	348,816.68	3,879,475.77	3.4	6.51	3.16	0.004	4.17E-04
C&CFHR#71	Haul Road	348,818.10	3,879,487.82	3.4	6.51	3.16	0.004	4.17E-04
C&CFHR#72	Haul Road	348,820.16	3,879,498.58	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#73	Haul Road	348,821.63	3,879,506.12	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#74	Haul Road	348,822.89	3,879,515.80	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#75	Haul Road	348,822.71	3,879,526.40	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#76	Haul Road	348,823.88	3,879,537.50	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#77	Haul Road	348,824.89	3,879,547.90	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#78	Haul Road	348,825.93	3,879,560.41	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#79	Haul Road	348,826.85	3,879,571.00	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#80	Haul Road	348,830.30	3,879,581.84	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#81	Haul Road	348833.39	3879592.63	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#82	Haul Road	348838.13	3879603.49	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#83	Haul Road	348843.52	3879617.8	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#84	Haul Road	348847.7	3879627.21	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#85	Haul Road	348850.88	3879635.77	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#86	Haul Road	348853.72	3879647.37	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#87	Haul Road	348856.59	3879657.98	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#88	Haul Road	348860.54	3879669.31	3.4	6.51	3.16	4.17E-03	4.17E-04
C&CFHR#89	Haul Road	348868.37	3879674.9	3.4	6.51	3.16	4.17E-03	4.17E-04