

From: [Leslie Contos](#)
To: [Planning-Zoning Staff](#)
Subject: Sunroc Concrete Batch Plant permit hearing February 27th
Date: Wednesday, February 21, 2024 11:52:29 AM
Attachments: [Idaho Conservation League Statement.pdf](#)
[DEQ permit.pdf](#)
[Statement of Basis.pdf](#)
[Idaho Press Article.pdf](#)
[Hard2Breathe.pdf](#)
[1975 Aviation Easement Nampa Airport.pdf](#)

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Dear Commissioners,

Please deny the C.U.P. permit for the construction of a Concrete Batch Plant by Sunroc in Nampa.

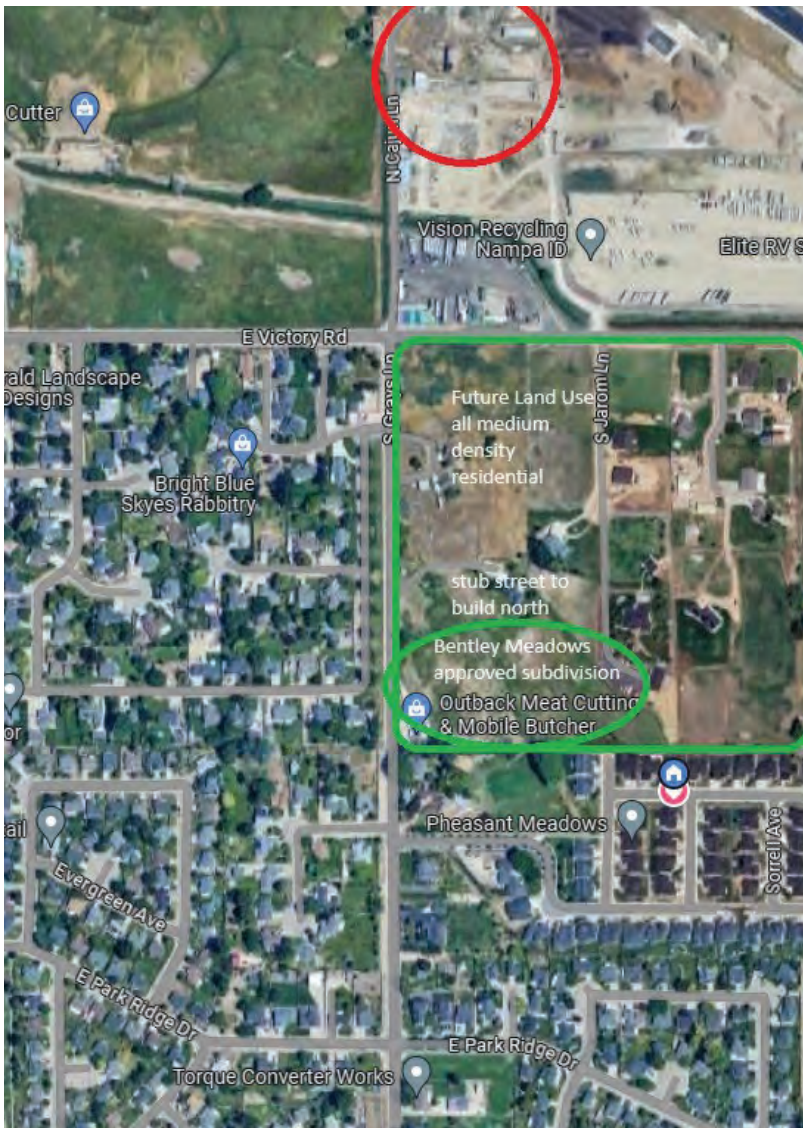
I live 2200 feet from the proposed Concrete Batch Plant and my realtor is on alert that I will put my house up for sale if the permit is approved. I have heard the same from other neighbors. We are willing to sell even though it is not a good market and we will sell at a financial loss. Our family does not have health issues, but we will sell our home at a loss if need be to protect our health. My even greater concerns are for neighbors with health issues and those who cannot afford to move. Hoping the commission does the right thing and denies the permit to protect the health of its residents.

There are residential subdivisions even closer with homes at the southwest corner of Grays and Victory starting at under 1,000 feet. Your commission recently rezoned land near the southeast corner Victory & Grays from county agricultural to medium-density residential this past fall for a planned subdivision named Bentley Meadows arguing the land was an enclave and surrounded by residential. Looking at Nampa's Future Land use map indicates that the whole area south of Victory Road is planned to be medium-density residential putting even more homes within 1,000 feet of the Concrete Batch Plant heavy industrial processes.

Future Land Use Map on the left.

Proposed Concrete Plant (red circle) nearby residential homes, new subdivision approved fall 2023 (green circle) and future medium-density residential (green square).





Reasons the proposed site does not fit the CONDITIONAL USE PERMIT CRITERIA:

10-25-4.A.1: That the proposed use is supported by the Nampa Comprehensive Plan.

The Future Land Use Map is included in the Nampa Comprehensive Plan and it shows that the area surrounding the proposed site will be medium-density residential which does not belong next to heavy industrial use such as a Concrete Batch Plant. The proposed site itself is on the area of the Future Land Use Map designated as Airport Property. This plant is not a good fit next to the airport and its' presence on land given in an easement in 1975 (attached) for the use of the airport violates the easement which is attached.

10-25-4.A.2: That the design, construction, operation and maintenance of the property and project will not adversely impact the intended character and appearance of the general vicinity.

A statement from Idaho Conservation League (attached) regarding serious health concerns for air and water in surrounding areas.

Unhealthy air and water emissions and heavy truck traffic which are part of Concrete Batch Plant operations will impact the character and appearance of the general vicinity.

The in-depth Texas journalism article (attached) reports on the effects of concrete batch plants on nearby neighborhoods. The particulate dust, noise, lights, and traffic, all impact surrounding homes.

10-25-4.A.3: That the proposed use will be served adequately by essential public facilities and services.

A staggering 156,000 gallons of city water PER DAY would be utilized if this plant produces concrete at the 4,000 cubic yards/day allowed by their DEQ permit (attached). Each cubic yard of concrete takes 39 gallons of water. City water is a public facility and resource that needs to be considered.

10-25-4.A.4: That the proposed use will not be detrimental to the economic welfare of the community.

Considering the number of people who will put their homes on the market to move, and the expected loss of home value in the area once the concrete plant is completed, there will be a loss of revenue in property taxes.

Considering the possible impact on Elite Storage needing to move so the stored RV's are not covered in concrete dust, pilots who may not want to store their planes at the airport, or Warhawk Museum who may need to alter how or where they do business, there is a great potential impact on business revenue.

10-25-4.A.5: That the proposed use will not involve activities or processes, materials, equipment and conditions of operation that will be detrimental to any persons, property or general welfare by reason of excessive traffic, noise, smoke, fumes, glare or odors.

Waiting on a report being written by an Idaho public health toxicologist.

Will send separately if not received in time for packet deadline.

All of the toxic chemicals and possible pollutants can be found in the plant's Statement of Basis (attached) used for the DEQ permit.

LIGHT INDUSTRIAL ZONE

10-1-9: Performance Standards

All operations conducted on the premises shall not be allowed to constitute a nuisance by reason of smoke, fumes, odor, steam, gases, vibrations, noise, hazards or other causes, beyond the property boundary lines, and shall comply with the performance standards of this section.

A concrete batch plant by its very nature constitutes a nuisance because of smoke, fumes, odors, noise that will extend beyond the property lines of its business. This is why it should only be in heavy industrial zones.

It is understood that Sunroc will state it will not be a nuisance. It is understood

that DEQ ran a model and granted a permit considering Sunroc would do everything they are supposed to in terms of maintenance and record keeping. The Idaho Press article (Attached) indicates there are numerous EPA violations demonstrating a pattern of not maintaining records, equipment, or reporting violations as they occur. The type of violation that occurred in Kuna in 2017 with a torn air filter is exactly the type of error that occurs with these plants and puts surrounding residents at risk for health issues. Health issues from particulate matter include underdeveloped lungs in children, and increased asthma, bronchitis, heart disease and cancer in both children and adults living nearby.

Passages from reports of people who live near concrete batch plants as found in the attached article:

"the dust that blows from concrete batch plants covers their roofs, their cars, their barbecue pits. They can't go outside. They can't have friends over. The dust, they tell him, is everywhere.

That dust, a kind of air pollution called particulate matter that can penetrate deep into the lungs, is just one part of the problem that concrete batch plants present.

Because the Texas

Commission on Environmental Quality (TCEQ) grants them 24-hour permits, heavy diesel trucks line up as early as 2 a.m. to idle noisily on local streets, waiting to pick up as many as 150

loads every day, emitting even more pollutants like black carbon and nitrogen dioxide. These trucks, Walle says, tear up yards, drainage ditches and other infrastructure governments have

to repair. Even attempts to water down the dust end up creating an ugly muddy slurry that tracks all over the community."

"Behind the fences, mountains of sand and rock and aggregate are loaded around the clock into the drums of the trucks. That, says Corey Williams, research and policy director for Air Alliance Houston, is the largest source of the usty, gritty pollution that Walle has heard so much about. That's also the only place, Williams says, where the plants are required to control the pollution. A vacuum system is supposed to suck the dust into a baghouse, which is supposed to filter out the particulate matter. The problem, Williams explains, is that baghouses have to be maintained and emptied regularly. When they're not, or when that's done improperly, they end up making even more of a mess. It's like when you forget to change the vacuum cleaner bag at home — except, in Texas, no one's coming to remind you. TCEQ, Williams says, rarely returns to plants once permits are granted to inspect the baghouses and other operations. Companies are expected to clean up after themselves. "Nobody's checking," Williams says, "unless somebody from the community is vocal and

makes complaints about emissions." But, without air monitors, residents might not know about those emissions. It's dusty, but they might not know that they're breathing one of the deadliest kinds of air pollution. Particulate matter is linked to serious health conditions, including reduced lung development in children, higher rates of asthma, bronchitis, heart disease and cancer. The most recent data, compiled from a range of sources, including satellite imagery, show that, in 2015 alone, particulate matter was linked to 5,200 premature deaths in Houston."

The Idaho DEQ Permit (attached) also indicates that Sunroc is required to self monitor, self inspect, self-report. This is the danger given past violations. What DEQ requires and what will actually be done will be different based on past behavior.

NOW is the time to stop this from occurring. The power is in your hands, Nampa Planning and Zoning Commission, to protect your residents from future health issues. The Concrete Plant belongs in a heavy industrial area, not next to medium-density subdivisions and our airport.

Leslie Contos. PhD, LCPC
36 S Ravine Way
Nampa ID 83687

**Statement of Basis
Concrete Batch Plant General Permit**

**Permit to Construct No. P-2023.0018
Project ID 63086**

**Sunroc Corporation - Nampa
Nampa, Idaho**

Facility ID 027-00198

Final

**October 16, 2023
Aaron Hoberg
Permit Writer**

AH

The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01. et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

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ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BMP	best management practices
Btu	British thermal units
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS No.	Chemical Abstracts Service registry number
CBP	concrete batch plant
CEMS	continuous emission monitoring systems
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CI	compression ignition
CMS	continuous monitoring systems
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	CO ₂ equivalent emissions
COMS	continuous opacity monitoring systems
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
FEC	Facility Emissions Cap
GHG	greenhouse gases
gph	gallons per hour
gpm	gallons per minute
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
HHV	higher heating value
HMA	hot mix asphalt
hp	horsepower
hr/yr	hours per consecutive 12 calendar month period
ICE	internal combustion engines
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
iwg	inches of water gauge
km	kilometers
lb/hr	pounds per hour
lb/qtr	pound per quarter
m	meters
MACT	Maximum Achievable Control Technology
mg/dscm	milligrams per dry standard cubic meter
MMBtu	million British thermal units
MMscf	million standard cubic feet
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operation and maintenance

O ₂	oxygen
PAH	polyaromatic hydrocarbons
PC	permit condition
PCB	polychlorinated biphenyl
PERF	Portable Equipment Relocation Form
PM	particulate matter
PM _{2.5}	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
ppm	parts per million
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
PTC	permit to construct
PTC/T2	permit to construct and Tier II operating permit
PTE	potential to emit
PW	process weight rate
RAP	recycled asphalt pavement
RFO	reprocessed fuel oil
RICE	reciprocating internal combustion engines
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
scf	standard cubic feet
SCL	significant contribution limits
SIP	State Implementation Plan
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO ₂	sulfur dioxide
SO _x	sulfur oxides
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period
T2	Tier II operating permit
TAP	toxic air pollutants
TEQ	toxicity equivalent
T-RACT	Toxic Air Pollutant Reasonably Available Control Technology
ULSD	ultra-low sulfur diesel
U.S.C.	United States Code
VOC	volatile organic compounds
yd ³	cubic yards
µg/m ³	micrograms per cubic meter

FACILITY INFORMATION

Description

Sunroc Corporation - Nampa has proposed a new stationary central mix concrete batch plant consisting of aggregate stockpiles, a cement storage silo, a cement supplement (fly ash) storage silo, a weigh batcher, and conveyors. The facility combines aggregate, sand, fly ash, and cement and then transfers the mixture into a central drum mixer, along with water, for stationary mixing of the concrete. When using a central mix drum, concrete is transferred to trucks for transport off-site. In addition, water heater(s) are used to heat the water in cold weather prior to use for the mixing of concrete.

The concrete batch plant will be fed a mixture of aggregates from a collocated crusher. The rock crusher will be permitted independently from the concrete batch plant. In the case of collocation of a concrete batch plant with an additional rock crushing plant (secondary to the one rock crushing plant allowed by the permit), the modeling completed by DEQ requires a minimum separation distance of 1,000 ft.

The process begins with materials being fed via front end loader to a compartment bin feeder system and then dispensed in metered proportions to a collecting conveyor. The material will pass over a scalping screen before being conveyed into the central mixer.

Particulate emissions will be controlled by maintaining the moisture content at 1.5% by weight for all ¼ in and smaller aggregate feed materials via water sprays. In addition, all particulate emissions from the central drum mixer will be collected and vented to a high efficiency baghouse with a minimum control efficiency of 99% as proposed by the Applicant.

The Applicant has proposed concrete production rate throughput limits of 288 cubic yards per hour, 4000 cubic yards per day, and 500,000 cubic yards per year.

The Applicant has proposed that line power will be used exclusively at the facility. Therefore, no IC engines powering electrical generators were included in the application.

Permitting History

This is the initial PTC for a new facility thus there is no permitting history.

Application Scope

This is the initial PTC for a new facility.

Application Chronology

March 31, 2023	DEQ received an application and an application and processing fee.
April 6 – April 21, 2023	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
May 1, 2023	DEQ determined that the application was complete.
September 21, 2023	DEQ made available the draft permit and statement of basis for peer and regional office review.
September 28, 2023	DEQ made available the draft permit and statement of basis for applicant review.
October 16, 2023	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Source ID No.	Sources	Control Equipment	Emission Point ID No.
Materials Handling	<u>Material Transfer Points:</u> Materials handling Concrete aggregate transfers Truck unloading of aggregate Aggregate conveyor transfers Aggregate handling	Maintaining the moisture content in ¼" or smaller aggregate material at 1.5% by weight, using water sprays, using shrouds, or other emissions controls	N/A
Concrete Mixer	<u>Concrete Batch Plant – Central Mix:</u> Manufacturer: Erie Strayer Model: MP-11C Manufacture Date: 2023 Max. production: 288 yd ³ /hr, 4,000 yd ³ /day, and 500,000 yd ³ /yr <u>Cement Storage Silo:</u> Storage capacity: 53 cubic yards (yd ³) Bin Vent Filter/Baghouse Manufacturer ^(a) : C&W Model: LPR-8 <u>Second Cement Storage Silo:</u> Storage capacity: 106 cubic yards (yd ³) Bin Vent Filter/Baghouse Manufacturer ^(a) : C&W Model: LPR-8 <u>Third Cement Storage Silo:</u> Storage capacity: 89 cubic yards (yd ³) Bin Vent Filter/Baghouse Manufacturer ^(a) : C&W Model: LPR-8 <u>Fourth Cement Storage Silo:</u> Storage capacity: 89 cubic yards (yd ³) Bin Vent Filter/Baghouse Manufacturer ^(a) : C&W Model: LPR-8 <u>Fly Ash Storage Silo:</u> Storage capacity: 53 cubic yards (yd ³) Bin Vent Filter/Baghouse Manufacturer ^(a) : C&W Model: LPR-8	<u>Weigh Batch Baghouse:</u> Manufacturer: C&W Model: CP-35 PM ₁₀ /PM _{2.5} control efficiency: 99.99% <u>Cement Storage Silo Bin Vent Filter/Baghouse:</u> Manufacturer: C&W Model: LPR-8 PM ₁₀ /PM _{2.5} control efficiency: 99.99% <u>Second Cement Storage Silo Bin Vent Filter/Baghouse:</u> Manufacturer: C&W Model: LPR-8 PM ₁₀ /PM _{2.5} control efficiency: 99.99% <u>Third Cement Storage Silo Bin Vent Filter/Baghouse:</u> Manufacturer: C&W Model: LPR-8 PM ₁₀ /PM _{2.5} control efficiency: 99.99% <u>Fourth Cement Storage Silo Bin Vent Filter/Baghouse:</u> Manufacturer: C&W Model: LPR-8 PM ₁₀ /PM _{2.5} control efficiency: 99.99% <u>Fly Ash Storage Silo Bin Vent Filter/Baghouse:</u> Manufacturer: C&W Model: LPR-8 PM ₁₀ /PM _{2.5} control efficiency: 99.99% <u>Central Mix Bin Vent Filter/Baghouse:</u> Control: Baghouse PM ₁₀ /PM _{2.5} control efficiency: 99.99% <u>Material Transfer Points:</u> Control: Water sprays PM ₁₀ /PM _{2.5} control efficiency: 75%	<u>Weigh Batch Baghouse Exhaust:</u> Exit height: 42 ft Exit diameter: 12 in x 12 in Exit flow rate: 216 acfm <u>Cement Storage Silo Bin Vent Filter/Baghouse Exhaust:</u> Exit height: 73 ft Exit diameter: 12 in x 12 in Exit flow rate: 2340 acfm <u>Second Cement Storage Silo Bin Vent Filter/Baghouse Exhaust:</u> Exit height: 73 ft Exit diameter: 12 in x 12 in Exit flow rate: 2340 acfm <u>Third Cement Storage Silo Bin Vent Filter/Baghouse Exhaust:</u> Exit height: 51 ft Exit diameter: 12 in x 12 in Exit flow rate: 2340 acfm <u>Fourth Cement Storage Silo Bin Vent Filter/Baghouse Exhaust:</u> Exit height: 51 ft Exit diameter: 12 in x 12 in Exit flow rate: 2340 acfm <u>Fly Ash Storage Silo Bin Vent Filter/Baghouse Exhaust:</u> Exit height: 73 ft Exit diameter: 12 in x 12 in Exit flow rate: 2340 acfm <u>Central Mix Bin Vent Filter/Baghouse Exhaust:</u> Exit height: 36 ft Exit diameter: 18 in x 12 in Exit flow rate: 7500 acfm
Boiler	<u>Boiler:</u> Manufacturer: Kemco Heat input rating: 9.9 MMBtu/hr Fuel: Natural Gas	N/A	<u>Boiler Exhaust:</u> Exit height: 20 ft Exit diameter: 12 in Exit temperature: 80 °F

a) Both the storage silo baghouse and supplement storage silo fly ash baghouse are considered process equipment and therefore there is no associated control efficiency. Controlled PM₁₀ emission factors were used when determining PTE and for modeling purposes.

Emissions Inventories

Potential to Emit

IDAPA 58.01.01 defines Potential to Emit as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is state or federally enforceable. Secondary emissions do not count in determining the potential to emit of a facility or stationary source.

Using this definition of Potential to Emit an emission inventory was developed for the concrete batch plant operations at the facility associated with this proposed project using the DEQ developed CBP EI spreadsheet (see Appendix A). Emissions estimates of criteria pollutant PTE were based on the following assumptions:

- Maximum concrete throughput does not exceed 288 yd³/hour, 4,000 yd³/day, and 500,000 yd³/year (per the Applicant).
- Baghouse/cartridge filter control efficiencies were assumed to be 99.0%.
- Fugitive emissions of particulate matter (PM), PM₁₀, and PM_{2.5} from the concrete batch plant material transfer points were assumed to be controlled by manual water sprays, sprinklers, or spray bars, or an equivalent method that reduce PM emissions by an estimated 75%. The assumed 75% control efficiency is based on the Western Regional Air Partnership Fugitive Dust Handbook. According to the Handbook, water suppressant of material handling can range from 50-90% control. Assuming the average of 70% and including another 5% due to Best Management Practices required by the permit allow for 75% control to be a conservative estimate.
- Aggregate is washed before delivery to the concrete batch plant site, and water is used on-site to control the temperature of the aggregate. Particulate matter and PM₁₀ emissions from the weigh batcher transfer point are controlled by a baghouse/cartridge filter, and central mix load-out emissions are controlled by a baghouse. Capture efficiency of the central mix load-out baghouse was estimated at 99%.
- Controlled emissions of particulate toxic air pollutants (TAPs) were estimated based on the presence of bin vent filters/baghouse controlling emissions from the cement/cement supplement silos, a baghouse controlling emissions from the weigh batcher, and 99% control for central mix load-out emissions. Hexavalent chromium content was estimated at 20% of total chromium for cement, and 30% of total chromium for the cement supplement/fly ash. The hexavalent chromium percentages were taken from a University of North Dakota study, by the Energy and Environmental Research Center, Center for Air Toxic Metals. Detailed emissions calculations can be found in Appendix A of this document.
- Determining emissions from a concrete batch plant also includes transfer emissions from the number of drop points throughout the process. The PM₁₀ emissions from central mix loading operations are defined by an equation which includes the wind speed at each drop point and the moisture content of cement and cement supplement, and a number of exponents and constants defined by AP-42 Equation 11.12-2 (6/06). An average value of wind speed and moisture content are 7 mph, 4.17%, and 1.77%, respectively¹. The following equation of particulate emissions is specific to PM₁₀. The resulting emissions were used to determine a factor to help evaluate wind speed variations in AERMOD modeling.

¹ 7 mph was the average wind speed obtained from an average of 19 Idaho airports throughout the state from 1996-2006. This data is from the Western Regional Climate Center (<http://www.wrcc.dri.edu/htmlfiles/westwind.final.html#IDAHO>). 4.17 % and 1.77% were the average percentages for sand and aggregate respectively. These values are based on EPA tests conducted at Cheney Enterprises. The percentages used in AP-42 are typical for most concrete batching operations.

$$E = k(0.0032) * \left[\frac{U^a}{M^b} \right] + c$$

Where:

k = particle size multiplier

a = exponent

b = exponent

c = constant

U = mean wind speed

M = moisture content

- The second transfer emissions calculations were used to determine conveyor emissions. For both coarse and fine aggregate to a conveyor. It was assumed that 82%, which for this facility is 236 yd³/hr (0.82 x 288 yd³/hr), of the concrete produced was aggregates. This percentage was based on 1,865 lb coarse aggregate, 1,428 lb sand, 564 lb cement/supplement and 167 lb water for a total of 4,024 lb concrete as defined by AP-42 Table 11.12-5 (06/06). The fine and coarse aggregate contributions were separated into 36% and 46% of the total concrete production². Employing emission factors from AP-42 Table 11.12-5 (6/06) for conveyor transfer and assuming 75% control efficiency as stated earlier for conveyor transfer PM₁₀ emissions were calculated for each transfer point. For both fine and coarse aggregate the facility has 12 transfer points.
- Any emissions unit outside a 1,000 ft radius from the concrete batch plant was not included in the emissions modeling analysis for this project.

Uncontrolled Potential to Emit

Using the definition of Potential to Emit, uncontrolled Potential to Emit is then defined as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall **not** be treated as part of its design **since** the limitation or the effect it would have on emissions **is not** state or federally enforceable.

The uncontrolled Potential to Emit is used to determine if a facility is a “Synthetic Minor” source of emissions. Synthetic Minor sources are facilities that have an uncontrolled Potential to Emit for regulated air pollutants or HAP above the applicable Major Source threshold without permit limits.

The following table presents the uncontrolled Potential to Emit for regulated air pollutants from all emissions units at the facility as determined by DEQ staff using the DEQ Concrete Batch Plant EI spreadsheet. See Appendix A for a detailed presentation of the calculations and the assumptions used to determine emissions for each emissions unit. For this operation uncontrolled Potential to Emit is calculated with 0% control efficiency for the Concrete Batch Plant itself.

Table 2 UNCONTROLLED POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀ /PM _{2.5}	SO ₂	NO _x	CO	VOC
	T/yr	T/yr	T/yr	T/yr	T/yr
Point Sources					
Concrete batch plant ^(a)	12.05	0.00	0.00	0.00	0.00
Boiler	0.32	0.026	4.25	3.57	0.23
Total, Point Sources	12.37	0.03	4.25	3.57	0.23

a) PM₁₀/PM_{2.5} emissions from the concrete batch plant are considered “fugitive emissions” and therefore are not included in the Potential to Emit.

² The percentages of coarse and fine aggregate are based on the AP-42 concrete composition. One cubic yard of concrete as defined by AP-42 is 4024 total pounds. Similarly, coarse aggregate is 1865 pounds or 46% of the total and sand (fine) aggregate is 1428 pounds or 36%.

The following table presents the uncontrolled Potential to Emit for HAP pollutants from all emissions units at the facility as determined by DEQ staff using the DEQ Concrete Batch Plant EI spreadsheet. See Appendix A for a detailed presentation of the calculations and the assumptions used to determine emissions for each emissions unit. For this operation uncontrolled Potential to Emit is calculated with 0% control efficiency for the Concrete Batch Plant itself.

Table 3 UNCONTROLLED POTENTIAL TO EMIT FOR HAZARDOUS AIR POLLUTANTS

Hazardous Air Pollutants	PTE (T/yr)
Arsenic	6.09E-04
Beryllium	1.36E-06
Cadmium	1.09E-04
Cobalt	3.57E-06
Chromium	1.73E-04
Manganese	4.34E-03
Mercury	1.11E-05
Nickel	3.44E-04
Phosphorus	1.46E-03
Selenium	1.68E-06
Chromium VI	2.50E-05
Benzene	8.93E-05
Formaldehyde	3.19E-03
Hexane	7.65E-02
Toluene	1.45E-04
2-Methylnaphthalene	1.02E-06
3-Methylcholanthrene	7.65E-08
7,12-Dimethylbenz(a)anthracene	6.80E-07
Acenaphthene	7.65E-08
Acenaphthylene	7.65E-08
Anthracene	1.02E-07
Benzo(a)anthracene	7.65E-08
Benzo(a)pyrene	5.10E-08
Benzo(b)fluoranthene	7.65E-08
Benzo(g,h,i)perylene	5.10E-08
Benzo(k)fluoranthene	7.65E-08
Chrysene	7.65E-08
Dibenzo(a,h)anthracene	5.10E-08
Dichlorobenzene	5.10E-05
Fluoranthene	1.28E-07
Fluorene	1.19E-07
Indeno(1,2,3-cd)pyrene	7.65E-08
Naphthalene (24-hour)	2.59E-05
Naphthalene (Annual)	2.59E-05
Phenanthrene	7.23E-07
Pyrene	2.13E-07
PAH HAPs Total	4.85E-07
7-PAH Group (586 listed TAP)	4.85E-07
Total	8.71E-02

Pre-Project Potential to Emit

Pre-project Potential to Emit is used to establish the change in emissions at a facility as a result of this project.

This is a new facility. Therefore, pre-project emissions are set to zero for all criteria pollutants.

Post Project Potential to Emit

Post project Potential to Emit is used to establish the change in emissions at a facility and to determine the facility's classification as a result of this project. Post project Potential to Emit includes all permit limits resulting from this project.

The following table presents the post project Potential to Emit for criteria pollutants from all emissions units at the facility as determined by DEQ staff using the DEQ Concrete Batch Plant EI spreadsheet. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 4 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM _{2.5}		PM ₁₀		SO ₂		NO _x		CO		VOC	
	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)
Batch plant	0.055	0.082	0.12	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boiler	0.074	0.295	0.074	0.295	5.8E-3	2.3E-2	0.97	3.89	0.82	3.26	0.053	0.214
Post Project Totals	0.13	0.38	0.19	0.49	0.01	0.02	0.97	3.89	0.82	3.26	0.05	0.21

a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.

b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.

Change in Potential to Emit

The change in facility-wide potential to emit is used to determine if a public comment period may be required and to determine the processing fee per IDAPA 58.01.01.225. The following table presents the facility-wide change in the potential to emit for criteria pollutants.

Table 5 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM _{2.5}		PM ₁₀		SO ₂		NO _x		CO		VOC	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Pre-Project Potential to Emit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Post Project Potential to Emit	0.13	0.38	0.19	0.49	0.01	0.02	0.97	3.89	0.82	3.26	0.05	0.21
Changes in Potential to Emit	0.13	0.38	0.19	0.49	0.01	0.02	0.97	3.89	0.82	3.26	0.05	0.21

Non-Carcinogenic TAP Emissions

TAPs from the handling of cement and fly ash supplement are considered in the TAP potential to emit. TAPs emitted from the boiler have been excluded from consideration per *Idaho Air Rules* Section 210.20, because those TAPs are also federally regulated HAPs. Pre- and post-project, as well as the change in, non-carcinogenic TAP emissions are presented in the following table:

Table 6 PRE- AND POST PROJECT POTENTIAL TO EMIT FOR NON-CARCINOGENIC TOXIC AIR POLLUTANTS

Non-Carcinogenic Toxic Air Pollutants	Pre-Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non-Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Barium	0.0	4.27E-05	4.27E-05	0.033	No
Cobalt	0.0	8.15E-07	8.15E-07	0.0033	No
Copper	0.0	0.00000825	0.00000825	0.013	No
Chromium	0.0	6.536E-05	6.536E-05	0.033	No
Manganese	0.0	4.77E-05	4.77E-05	0.333	No
Mercury	0.0	2.52E-06	2.52E-06	N/A	No
Molybdenum	0.0	1.067E-05	1.067E-05	0.333	No
Phosphorus	0.0	0.000154	0.000154	0.007	No
Selenium	0.0	6.73E-07	6.73E-07	0.013	No
Vanadium	0.0	2.23E-05	2.23E-05	0.003	No
Zinc	0.0	0.000281	0.000281	0.667	No
Pentane	0.0	0.0155	0.0155	118	No
Hexane	0.0	0.0174	0.0174	12	No
Toluene	0.0	0.000033	0.000033	25	No
Naphthalene	0.0	5.92E-06	5.92E-06	3.33	No

None of the PTEs for non-carcinogenic TAP were exceeded as a result of this project. Therefore, modeling is not required for any non-carcinogenic TAP because none of the 24-hour average carcinogenic screening ELs identified in IDAPA 58.01.01.586 were exceeded.

Carcinogenic TAP Emissions

Pre- and post-project, as well as the change in, carcinogenic TAP emissions are presented in the following table:

Table 7 PRE- AND POST PROJECT POTENTIAL TO EMIT FOR CARCINOGENIC TOXIC AIR POLLUTANTS

Carcinogenic Toxic Air Pollutants	Pre-Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Change in Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Arsenic	0.00E-03	5.43E-06	5.43E-06	1.50E-06	Yes
Beryllium	0.00E-03	3.12E-07	3.12E-07	2.80E-05	No
Cadmium	0.00E-03	2.46E-05	2.46E-05	3.70E-06	Yes
Nickel	0.00E-03	2.62E-05	2.62E-05	2.70E-05	No
Chromium VI	0.00E-03	8.92E-07	8.92E-07	5.60E-07	Yes
Benzene	0.00E-03	2.04E-05	2.04E-05	8.00E-04	No
Formaldehyde	0.00E-03	7.28E-04	7.28E-04	5.10E-04	Yes
2-Methylnaphthalene	0.00E-03	2.33E-07	2.33E-07	9.10E-05	No
3-Methylcholanthrene	0.00E-03	1.75E-08	1.75E-08	2.50E-06	No
Acenaphthene	0.00E-03	1.75E-08	1.75E-08	9.10E-05	No
Acenaphthylene	0.00E-03	1.75E-08	1.75E-08	9.10E-05	No
Anthracene	0.00E-03	2.33E-08	2.33E-08	9.10E-05	No
Benzo(a)anthracene	0.00E-03	1.75E-08	1.75E-08	9.10E-05	No
Benzo(a)pyrene	0.00E-03	1.16E-08	1.16E-08	2.00E-06	No
Benzo(b)fluoranthene	0.00E-03	1.75E-08	1.75E-08	2.00E-06	No
Benzo(g,h,i)perylene	0.00E-03	1.16E-08	1.16E-08	9.10E-05	No
Benzo(k)fluoranthene	0.00E-03	1.75E-08	1.75E-08	2.00E-06	No
Chrysene	0.00E-03	1.75E-08	1.75E-08	2.00E-06	No
Dibenzo(a,h)anthracene	0.00E-03	1.16E-08	1.16E-08	2.00E-06	No
Dichlorobenzene	0.00E-03	1.16E-05	1.16E-05	9.10E-05	No
Fluoranthene	0.00E-03	2.91E-08	2.91E-08	9.10E-05	No
Fluorene	0.00E-03	2.72E-08	2.72E-08	9.10E-05	No
Indeno(1,2,3-cd)pyrene	0.00E-03	1.75E-08	1.75E-08	2.00E-06	No
Naphthalene	0.00E-03	5.92E-06	5.92E-06	9.10E-05	No
Phenanthrene	0.00E-03	1.65E-07	1.65E-07	9.10E-05	No
Pyrene	0.00E-03	4.85E-08	4.85E-08	9.10E-05	No
PAH HAPs Total	0.00E-03	1.11E-07	1.11E-07	2.00E-06	No
7-PAH Group	0.00E-03	1.11E-07	1.11E-07	2.00E-06	No

Some of the PTEs for carcinogenic TAP were exceeded as a result of this project. Therefore, modeling is required for arsenic, cadmium, chromium (VI), and formaldehyde because the annual average carcinogenic screening ELs identified in IDAPA 58.01.01.586 were exceeded. Idaho Air Rules Section 210.20 states that if TAP emissions from a specific source are regulated by the Department or EPA under 40 CFR 60, 61, or 63, then a TAP impact analysis under Section 210 is not required for that TAP. Since the water heater has been addressed under 40 CFR 63 Subpart JJJJJ, a TAP analysis for cadmium and formaldehyde is not required. Arsenic and chromium (VI) emissions occur from cement and cement supplement material handling and therefore require modeling.

Post Project HAP Emissions

The following table presents the post project potential to emit for HAP pollutants from all emissions units at the facility as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 8 HAZARDOUS AIR POLLUTANTS EMISSIONS POTENTIAL TO EMIT SUMMARY

Hazardous Air Pollutants	PTE (T/yr)
Arsenic	2.31E-05
Beryllium	1.32E-06
Cadmium	9.98E-05
Cobalt	3.26E-06
Chromium	6.83E-05
Manganese	6.74E-05
Mercury	1.01E-05
Nickel	1.07E-04
Phosphorus	4.65E-05
Selenium	1.59E-06
Chromium VI	3.91E-06
Benzene	8.15E-05
Formaldehyde	2.91E-03
Hexane	6.99E-02
Toluene	1.32E-04
2-Methylnaphthalene	9.32E-07
3-Methylcholanthrene	6.99E-08
7,12-Dimethylbenz(a)anthracene	6.21E-07
Acenaphthene	6.99E-08
Acenaphthylene	6.99E-08
Anthracene	9.32E-08
Benzo(a)anthracene	6.99E-08
Benzo(a)pyrene	4.66E-08
Benzo(b)fluoranthene	6.99E-08
Benzo(g,h,i)perylene	4.66E-08
Benzo(k)fluoranthene	6.99E-08
Chrysene	6.99E-08
Dibenzo(a,h)anthracene	4.66E-08
Dichlorobenzene	4.66E-05
Fluoranthene	1.16E-07
Fluorene	1.09E-07
Indeno(1,2,3-cd)pyrene	6.99E-08
Naphthalene (24-hour)	2.37E-05
Naphthalene (Annual)	2.37E-05
Phenanthrene	6.60E-07
Pyrene	1.94E-07
PAH HAPs Total	4.43E-07
7-PAH Group (586 listed TAP)	4.43E-07
Total	7.35E-02

The estimated PTE for all federally listed HAPs combined is below 25 T/yr and no PTE for a federally listed HAP exceeds 10 T/yr. Therefore, this facility is not a Major Source for HAPs.

Ambient Air Quality Impact Analyses

As presented in the Modeling Memo in Appendix B, the estimated emission rates of PM₁₀, PM_{2.5}, SO₂, NO_x, CO, VOC, and HAP from this project were below applicable screening emission levels (EL) and published DEQ modeling thresholds established in IDAPA 58.01.01.585-586 and in the State of Idaho Air Quality Modeling Guideline³. Facility-wide potential emissions of arsenic (As) and hexavalent chromium (Cr⁶⁺) exceed the applicable ELs of Idaho Air Rules Section 586. Air impact modeling analyses were then required to demonstrate that maximum impacts of As and Cr⁶⁺ are below applicable ambient increment standards expressed in Idaho Air Rules Section 585 and 586 as AACs and AACCs. Refer to the Emissions Inventories section for additional information concerning the emission inventories.

The applicant has demonstrated pre-construction compliance to DEQ's satisfaction that emissions from this facility will not cause or significantly contribute to a violation of any ambient air quality standard. The applicant has also demonstrated pre-construction compliance to DEQ's satisfaction that the emissions increase due to this permitting action will not exceed any acceptable ambient concentration (AAC) or acceptable ambient concentration for carcinogens (AACC) for toxic air pollutants (TAP). A summary of the Ambient Air Impact Analysis for TAP is provided in Appendix B.

As a result of the ambient air quality impact analysis, as well as information submitted by the Applicant for specific operating scenarios, the following conditions (along with corresponding monitoring and record keeping requirements) were placed in the permit:

- The Emissions Limits permit condition,
- The Concrete Production Limits permit condition,
- The Concrete Operation Setback Distance Requirements permit condition,

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Canyon County, which is designated as attainment or unclassifiable for PM_{2.5}, PM₁₀, SO₂, NO₂, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

Facility Classification

The AIRS/AFS facility classification codes are as follows:

For HAPs (Hazardous Air Pollutants) Only:

- | | | |
|------|---|--|
| A | = | Use when any one HAP has permitted emissions > 10 T/yr or if the aggregate of all HAPS (Total HAPs) has permitted emissions > 25 T/yr. |
| SM80 | = | Use if a synthetic minor (uncontrolled HAPs emissions are > 10 T/yr or if the aggregate of all uncontrolled HAPs (Total HAPs) emissions are > 25 T/yr and permitted emissions fall below applicable major source thresholds) and the permit sets limits > 8 T/yr of a single HAP or ≥ 20 T/yr of Total HAPs. |
| SM | = | Use if a synthetic minor (uncontrolled HAPs emissions are > 10 T/yr or if the aggregate of all uncontrolled HAPs (Total HAPs) emissions are > 25 T/yr and permitted emissions fall below applicable major source thresholds) and the permit sets limits < 8 T/yr of a single HAP and/or < 20 T/yr of Total HAPs. |
| B | = | Use when the potential to emit (i.e. uncontrolled emissions and permitted emissions) are below the 10 and 25 T/yr HAP major source thresholds. |

³ Criteria pollutant thresholds in Table 1, State of Idaho Air Quality Modeling Guideline, Doc ID AQ-011, rev. 1, December 31, 2002.

UNK = Class is unknown.

For All Other Pollutants:

A = Use when permitted emissions of a pollutant are > 100 T/yr.

SM80 = Use if a synthetic minor for the applicable pollutant (uncontrolled emissions are > 100 T/yr and permitted emissions fall below 100 T/yr) and permitted emissions of the pollutant are ≥ 80 T/yr.

SM = Use if a synthetic minor for the applicable pollutant (uncontrolled emissions are > 100 T/yr and permitted emissions fall below 100 T/yr) and permitted emissions of the pollutant are < 80 T/yr.

B = Use when the potential to emit (i.e. uncontrolled emissions and permitted emissions) are below the 100 T/yr major source threshold.

UNK = Class is unknown.

Table 9 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Uncontrolled PTE (T/yr)	Permitted PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM ₁₀	12.37	0.49	100	B
PM _{2.5}	12.37	0.38	100	B
SO ₂	0.03	0.02	100	B
NO _x	4.25	3.89	100	B
CO	3.57	3.26	100	B
VOC	0.23	0.21	100	B
HAP (single)	7.65E-02	6.99E-02	10	B
Total HAPs	8.71E-02	7.35E-02	25	B

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201..... Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for the proposed new emissions source. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401..... Tier II Operating Permit

The application was submitted for a permit to construct (refer to the Permit to Construct section), and an optional Tier II operating permit has not been requested. Therefore, the procedures of IDAPA 58.01.01.400–410 were not applicable to this permitting action.

Visible Emissions (IDAPA 58.01.01.625)

IDAPA 58.01.01.624..... Visible Emissions

The sources of PM₁₀ emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Condition 3.4.

Fugitive Emissions (IDAPA 58.01.01.650)

IDAPA 58.01.01.650..... Rules for the Control of Fugitive Emissions

The sources of fugitive emissions at this facility are subject to the State of Idaho fugitive emissions standards. These requirements are assured by Permit Conditions 2.1, 2.2, and 2.3.

Particulate Matter – New Equipment Process Weight Limitations (IDAPA 58.01.01.701)

IDAPA 58.01.01.701..... Particulate Matter – New Equipment Process Weight Limitations

IDAPA 58.01.01.700 through 703 set PM emission limits for process equipment based on when the piece of equipment commenced operation and the piece of equipment's process weight (PW) in pounds per hour (lb/hr). IDAPA 58.01.01.701 and IDAPA 58.01.01.702 establish PM emission limits for equipment that commenced operation on or after October 1, 1979 and for equipment operating prior to October 1, 1979, respectively.

For equipment that commenced operation on or after October 1, 1979, the PM allowable emission rate (E) is based on one of the following four equations:

IDAPA 58.01.01.701.01.a: If PW is < 9,250 lb/hr; $E = 0.045 (PW)^{0.60}$

IDAPA 58.01.01.701.01.b: If PW is $\geq 9,250$ lb/hr; $E = 1.10 (PW)^{0.25}$

For equipment that commenced prior to October 1, 1979, the PM allowable emission rate is based on one of the following equations:

IDAPA 58.01.01.702.01.a: If PW is < 17,000 lb/hr; $E = 0.045 (PW)^{0.60}$

IDAPA 58.01.01.702.01.b: If PW is $\geq 17,000$ lb/hr; $E = 1.12 (PW)^{0.27}$

As discussed previously in the Emissions Inventory Section, concrete has a density of 4,024 lb per cubic yard. Thus, for the new Concrete Batch Plant proposed to be installed as a result of this project with a proposed throughput of 288 y³/hr, E is calculated as follows:

Proposed throughput = 4,024 lb per cubic yard x 288 y³/hr = 1,158,912 lb/hr

Therefore, E is calculated as:

$E = 1.10 \times PW^{0.25} = 1.10 \times (1,158,912)^{0.25} = 36.09 \text{ lb-PM/hr}$

As presented previously in the Emissions Inventories Section of this evaluation the post project PTE for this emissions unit is 0.12 lb-PM₁₀/hr. Assuming PM is 50% PM₁₀ means that PM emissions will be 0.25 lb-PM/hr (0.12 lb-PM₁₀/hr ÷ 0.5 lb-PM₁₀/lb-PM). Therefore, compliance with this requirement has been demonstrated.

Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

IDAPA 58.01.01.301..... Requirement to Obtain Tier I Operating Permit

Post project facility-wide emissions from this facility do not have a potential to emit greater than 100 tons per year for all criteria pollutants or 10 tons per year for any one HAP or 25 tons per year for all HAP combined as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006 and the requirements of IDAPA 58.01.01.301 do not apply.

PSD Classification (40 CFR 52.21)

40 CFR 52.21..... Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore, in accordance with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action. The facility is/is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

NSPS Applicability (40 CFR 60)

The facility is not subject to any NSPS requirements 40 CFR Part 60.

NESHAP Applicability (40 CFR 61)

The facility is not subject to any NESHAP requirements in 40 CFR 61.

MACT Applicability (40 CFR 63)

The facility is not subject to any MACT requirements 40 CFR Part 63.

Permit Conditions Review

This section describes the permit conditions for this initial permit or only those permit conditions that have been added, revised, modified or deleted as a result of this permitting action.

Permit Condition 1.1 establishes the permit to construct scope.

Permit Condition, Table 1.1, provides a description of the purpose of the permit and the regulated sources, the process, and the control devices used at the facility.

FACILITY-WIDE CONDITIONS

As discussed previously, Permit Condition 2.1 establishes that the permittee shall take all reasonable precautions to prevent fugitive particulate matter (PM) from becoming airborne and provides examples of the controls in accordance with IDAPA 58.01.01.650-651.

As discussed previously, Permit Condition 2.2 establishes that the concrete batch plant shall employ efficient fugitive dust controls and provides examples of the controls in accordance with IDAPA 58.01.01.808.01 and 808.02.

Permit Condition 2.3 establishes that the permittee must monitor visible fugitive emissions on a daily basis using a see/no see evaluation and record the results along with corrective actions taken to mitigate the visible emissions.

Permit Condition 2.4 establishes that the permittee shall maintain records as required by the Recordkeeping General Provision.

CONCRETE BATCH PLANT EQUIPMENT

Permit Condition 3.1 provides a process description of the concrete production process at this facility.

Permit Condition 3.2 provides a description of the control devices used on the concrete production equipment at this facility.

Permit Condition 3.3 establishes hourly and annual emissions limits for PM₁₀, PM_{2.5}, SO₂, NO_x, CO, and VOC emissions from the concrete production operation at this facility.

As discussed previously, Permit Condition 3.4 establishes a 20% opacity limit for the concrete batch plant baghouse and the boiler stacks or functionally equivalent openings associated with the concrete production operation.

Permit Condition 3.5 establishes a daily and an annual concrete production limit for the concrete production operation as proposed by the applicant.

Permit Condition 3.6 establishes setback distance restrictions for the concrete production operation. The setback distance restrictions are based upon the results of the Ambient Air Quality Modeling Analysis performed for this project.

Permit Condition 3.7 requires that the applicant employ a baghouse filter to control emissions from the weigh batcher loadout operation as proposed by the applicant.

Permit Condition 3.8 requires that the applicant employ a baghouse to control emissions from the central mix operation as proposed by the applicant.

Permit Condition 3.9 requires that the applicant employ baghouses to control emissions from the cement storage silo operations as proposed by the applicant.

Permit Condition 3.10 requires that the applicant employ a baghouse to control emissions from the fly ash silo operation as proposed by the applicant.

Permit Condition 3.11 requires that the applicant employ industry specific water sprays on material transfer points to control fugitive emissions as proposed by the applicant.

Permit Condition 3.12 establishes that the boiler will only operate a limited number of hours per year. This operational limit was included because it limited emissions from the boiler.

Permit Condition 3.13 establishes that the permittee monitor and record daily concrete production to demonstrate compliance with the Concrete Production Limits permit condition.

Permit Condition 3.14 establishes that the permittee measure and record concrete production equipment setback distances to demonstrate compliance with operating permit requirements.

Permit Condition 3.15 establishes that the permittee shall establish procedures for operating the baghouses controlling emissions from the silos, weigh batcher, and central mix loadout operations. This is a DEQ imposed standard requirement for operations using baghouses to control particulate emissions.

Permit Condition 3.16 establishes that the permittee shall record monthly operation and corresponding annual operation of the boiler to demonstrate compliance with the Boiler Operation Limits permit requirement.

Permit Condition 3.17 establishes that the permittee shall maintain records as required by the Recordkeeping General Provision.

Permit Conditions 4.1 through 4.20 are the general permit conditions included in all minor source permits.

PUBLIC REVIEW

Public Comment Opportunity

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c. During this time, there were no comments on the application and there was not a request for a public comment period on DEQ's proposed action. Refer to the chronology for public comment opportunity dates.

APPENDIX A – EMISSIONS INVENTORIES

Facility: Sunroc Corporation
10/19/2023 10:30 Permit P-2023.0018 Project 63086

Facility ID: 027-00198

Internal Combustion Engine > 600 hp (447 kW)

Fuel Type Toggle =	0
Fuel Consumption Rate	0.00 gal/hr
Calculated MMBtu/hr	0.00 MMBtu/hr
Max Daily Operation	0 hr/day
Max Annual Operation	0 hrs/yr

Rated Power of Large (hp):

0

Not EPA Certified:	No
Certified EPA Tier 1:	No
Certified EPA Tier 2:	No
Certified EPA Tier 3:	No
Certified EPA Tier 4:	No
Blue Sky Engine:	No

Small Internal Combustion Engine #1 < 600 hp (447 kW)

Fuel Type Toggle =	0
Fuel Consumption Rate	0.00 gal/hr
Calculated MMBtu/hr	0.00 MMBtu/hr
Max Daily Operation	0 hr/day
Max Annual Operation	0 hrs/yr

Rated Power of Small #1 (hp):

0

Not EPA Certified:	No
Certified EPA Tier 1:	No
Certified EPA Tier 2:	No
Certified EPA Tier 3:	No
Certified EPA Tier 4:	No
Blue Sky Engine:	No

Small Internal Combustion Engine #2 < 600 hp (447 kW)

Fuel Type Toggle =	0
Fuel Consumption Rate	0.00 gal/hr
Calculated MMBtu/hr	0.00 MMBtu/hr
Max Daily Operation	0 hr/day
Max Annual Operation	0 hrs/yr

Rated Power of Small #2 (hp):

0

Not EPA Certified:	No
Certified EPA Tier 1:	No
Certified EPA Tier 2:	No
Certified EPA Tier 3:	No
Certified EPA Tier 4:	No
Blue Sky Engine:	No

Conversion Factors:

Avg brake-specific fuel consumption (BSFC) =	7000	Btu/hp-hr
1 hp =	0.746	kW
1 lb =	453.592	g

g/kW-hr x (lb/453g) x (hp-hr/7000 Btu) x (0.746 kW/hp) x 10⁶ Btu/MMBtu = lb/MMBtu
g/kW-hr x 0.23486 = lb/MMBtu

Pollutant:	NOx	VOC (total TOC--> VOCs)		CO	PM=PM10
EMISSION FACTORS USED FOR SMALL ENGINE (lb/MMBtu):	0.00	0.00		0.00	0.000
Pollutant:	NOx	VOC (total TOC--> VOCs)		CO	PM=PM10
EMISSION FACTORS USED FOR LARGE ENGINE (lb/MMBtu):	0.00	0.00		0.00	0.000

AP-42, 3.4 (10/96) EMISSION FACTORS (diesel fueled, uncontrolled)

Pollutant:	NOx	VOC (total TOC--> VOCs)		CO	PM10
Emission Factor (lb/MMBtu)	0	0		0.00	0
Emission Factor (g/kW-hr)	0.00	0.00		0.00	0.00

AP-42, Ch 3.3 (10/96) EMISSION FACTORS (diesel fueled, uncontrolled)

Pollutant:	NOx	VOC (total TOC--> VOCs)		CO	PM10
Emission Factor (lb/MMBtu)	4.41	0.36		0.95	0.31
Emission Factor (g/kW-hr)	18.78	1.53		4.05	1.32

Note: Rating for AP-42 PM10 EF of 0.0573 is "E" or Poor. Used Tier 1 PM EF and presumed PM = PM10

40 CFR 89 and 1039, EPA CERTIFIED GENERATOR EMISSION FACTORS (g/kW-hr converted to lb/MMBtu)

Rated Power (kW)	Tier	Applicable?	Model Year ¹	NOx	HC	NMHC + NOx	CO	PM = PM10
kW < 8	1	0	2000	0.0	0.36	2.47	1.88	0.23
kW < 8	2	0	2005	0.00	0.36	1.76	1.88	0.19
kW < 8	4	0	2008	0.00	0.36	1.76	1.88	0.09
kW < 8	BlueSky	0	n/a	0.00	0.36	1.08	1.88	0.11
8 ≤ kW < 19	1	0	2000	0.00	0.36	2.23	1.55	0.19
8 ≤ kW < 19	2	0	2005	0.00	0.36	1.76	1.55	0.19
8 ≤ kW < 19	4	0	2008	0.00	0.36	1.76	1.55	0.09
8 ≤ kW < 19	BlueSky	0	n/a	0.00	0.36	1.06	1.55	0.11
19 ≤ kW < 37	1	0	1999	0.00	0.36	2.23	1.29	0.19
19 ≤ kW < 37	2	0	2004	0.00	0.36	1.76	1.29	0.14
19 ≤ kW < 37	4	0	2008	0.00	0.36	1.10	1.29	0.007
19 ≤ kW < 37	BlueSky	0	n/a	0.00	0.36	1.06	1.29	0.085
37 ≤ kW < 75	1	0	1998	2.16	0.36	0.00	---	---
37 ≤ kW < 75	2	0	2004	0.00	0.36	1.76	1.17	0.09
37 ≤ kW < 75	3	0	2008	0.00	0.36	1.10	1.17	0.09
37 ≤ kW < 75	4	0	2008	0.00	0.36	1.10	1.17	0.007
37 ≤ kW < 75	BlueSky	0	n/a	0.00	0.36	1.10	1.17	0.056
75 ≤ kW < 130	1	0	1997	2.16	0.36	0.00	---	---
75 ≤ kW < 130	2	0	2003	0.00	0.36	1.55	1.17	0.07
75 ≤ kW < 130	3	0	2007	0.00	0.36	0.94	1.17	0.07
75 ≤ kW < 130	4	0	2008	0.09	0.04	0.00	1.17	0.005
75 ≤ kW < 130	BlueSky	0	n/a	0.00	0.36	0.94	1.17	0.042
130 ≤ kW < 225	1	0	1996	2.16	0.31	0.00	2.68	0.13
130 ≤ kW < 225	2	0	2003	0.00	0.31	1.55	0.82	0.05
130 ≤ kW < 225	3	0	2006	0.00	0.31	0.94	0.82	0.05
130 ≤ kW < 560	4	0	2008	0.09	0.04	0.00	0.82	0.005
130 ≤ kW ≤ 560	BlueSky	0	n/a	0.00	0.31	0.94	0.82	0.028
225 ≤ kW < 450	1	0	1996	2.16	0.31	0.00	2.68	0.13
225 ≤ kW < 450	2	0	2001	0.00	0.31	1.50	0.82	0.05
225 ≤ kW < 450	3	0	2006	0.00	0.31	0.94	0.82	0.05
450 ≤ kW < 560	1	0	1996	2.16	0.31	0.00	2.68	0.13
450 ≤ kW < 560	2	0	2002	0.00	0.31	1.50	0.82	0.05
450 ≤ kW < 560	3	0	2006	0.00	0.31	0.94	0.82	0.05
kW > 560	1	0	2000	2.16	0.31	0.00	2.68	0.13
kW > 560	2	0	2006	0.00	0.31	1.50	0.82	0.05

kW > 560	BlueSky	0	n/a	0.00	0.31	0.89	0.82	0.028
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40 CFR 89 and 1039, EPA CERTIFIED GENERATOR EMISSION FACTORS FOR LARGE ENGINE (lb/MMBtu)

Rated Power (kW)	Tier	Applicable?	Model Year ¹	NOx	HC	NMHC + NOx	CO	PM10
kW < 8	1	0	2000	0.00	0.00	0.00	0.00	0.00
kW < 8	2	0	2005	0.00	0.00	0.00	0.00	0.00
kW < 8	4	0	2008	0.00	0.00	0.00	0.00	0.00
kW < 8	BlueSky	0	n/a	0.00	0.00	0.00	0.00	0.00
8 < kW < 19	1	0	2000	0.00	0.00	0.00	0.00	0.00
8 < kW < 19	2	0	2005	0.00	0.00	0.00	0.00	0.00
8 < kW < 19	4	0	2008	0.00	0.00	0.00	0.00	0.00
8 < kW < 19	BlueSky	0	n/a	0.00	0.00	0.00	0.00	0.00
19 ≤ kW < 37	1	0	1999	0.00	0.00	0.00	0.00	0.00
19 ≤ kW < 37	2	0	2004	0.00	0.00	0.00	0.00	0.00
19 ≤ kW < 37	4	0	2008	0.00	0.00	0.00	0.00	0.00
19 ≤ kW < 37	BlueSky	0	n/a	0.00	0.00	0.00	0.00	0.00
37 ≤ kW < 75	1	0	1998	0.00	0.00	0.00	0.00	0.00
37 ≤ kW < 75	2	0	2004	0.00	0.00	0.00	0.00	0.00
37 ≤ kW < 75	3	0	2008	0.00	0.00	0.00	0.00	0.00
37 ≤ kW < 75	4	0	2008	0.00	0.00	0.00	0.00	0.00
37 ≤ kW < 75	BlueSky	0	n/a	0.00	0.00	0.00	0.00	0.00
75 < kW < 130	1	0	1997	0.00	0.00	0.00	0.00	0.00
75 < kW < 130	2	0	2003	0.00	0.00	0.00	0.00	0.00
75 < kW < 130	3	0	2007	0.00	0.00	0.00	0.00	0.00
75 < kW < 130	4	0	2008	0.00	0.00	0.00	0.00	0.00
75 < kW < 130	BlueSky	0	n/a	0.00	0.00	0.00	0.00	0.00
130 ≤ kW < 225	1	0	1996	0.00	0.00	0.00	0.00	0.00
130 ≤ kW < 225	2	0	2003	0.00	0.00	0.00	0.00	0.00
130 ≤ kW < 225	3	0	2006	0.00	0.00	0.00	0.00	0.00
130 ≤ kW < 560	4	0	2008	0.00	0.00	0.00	0.00	0.00
130 ≤ kW < 560	BlueSky	0	n/a	0.00	0.00	0.00	0.00	0.00
225 < kW < 450	1	0	1996	0.00	0.00	0.00	0.00	0.00
225 < kW < 450	2	0	2001	0.00	0.00	0.00	0.00	0.00
225 < kW < 450	3	0	2006	0.00	0.00	0.00	0.00	0.00
450 < kW < 560	1	0	1996	0.00	0.00	0.00	0.00	0.00
450 < kW < 560	2	0	2002	0.00	0.00	0.00	0.00	0.00
450 < kW < 560	3	0	2006	0.00	0.00	0.00	0.00	0.00
kW > 560	1	0	2000	0.00	0.00	0.00	0.00	0.00
kW > 560	2	0	2006	0.00	0.00	0.00	0.00	0.00
kW > 560	BlueSky	0	n/a	0.00	0.00	0.00	0.00	0.00

Data Input

1. Facility Information

Facility Name:	Sunroc Corporation
Facility ID:	027-00198
Permit and Project No.:	P-2023.0018 Project 63086
Source Type:	Stationary Concrete Batch Plant
Manufacturer/Model:	Erie Strayer

2. Concrete Production Rates

Maximum Hourly Concrete Production Rate:	288	
Proposed Daily Concrete Production Rate:	4,000	cy/day
Proposed Maximum Annual Concrete Production Rate:	500,000	cy/year

3. Concrete Batch Plant Specifications

Is the facility type a truck mix (T) or central mix (C)?	C
What level of PM control is used for loadout, either Truck or Central?	99%
What level of PM control is used for fugitive emissions?	75%

4. Water Heater Usage

Does this facility use a water heater?		Yes		
How many units?		1	Heat Input Rating	
Water Heater #1				
If using a water heater, select the proposed fuel types and enter the heat input rating of water heater #1.	Natural Gas	1	9.9	MMBtu/hr
	Diesel	0		
	Propane	0		
Water Heater #2				
If multiple units, select the proposed fuel types and enter the heat input rating of water heater #2.	Natural Gas	0	0	MMBtu/hr
	Diesel	0		
	Propane	0		
Enter the maximum daily hours of operation for the water heaters.		24		
Enter the maximum annual hours of operation for the water heaters.		8,000		
If diesel fuel is used, select its maximum sulfur content.				

5. Internal Combustion Engine(s)

Are internal combustion engines used to provide electrical power at the facility?	No	Please enter 0 for all units.
How many small engines (less than or equal to 600 bhp) are being used at the facility?	0	
Horsepower rating of small engine #1 (<=600 bhp)?	0	If non-road engine or no engine, enter 0
Horsepower rating of small engine #2 (<=600 bhp)?	0	If non-road engine or no engine, enter 0
Horsepower rating of large engine (greater than 600 bhp)?	0	If non-road engine or no engine, enter 0

For each engine, input the EPA Certification (as explained below):

Enter -1 if no engine
Enter 0 if engine is not Tier Certified
Enter 1 if engine is Tier 1 Certified
Enter 2 if engine is Tier 2 Certified
Enter 3 if engine is Tier 3 Certified
Enter 4 if engine is Tier 4 Certified
Enter 5 if engine is certified "Blue Sky"

The formulas in these cells automatically fill -1 (no engine) if no engine is used and 0 (not tier certified) if an engine is used.

Small IC Engine #1	-1
Small IC Engine #2	-1
Large IC Engine	-1

Enter the maximum daily hours of operation for small engine(s).	0
Enter the annual operating hours for the small IC engine(s).	0
Enter the maximum daily hours of operation for the large engine.	0
Enter the annual operating hours for the large IC engine.	0

6. Transfer Points

Enter the total number of transfer points in the facility? (2 is the default)	12
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Toxic Air Pollutant (TAPs) EMISSIONS INVENTORY, Concrete Batch Plant

10/19/2023 10:30

Facility Information									
Company:	Sunroc Corporation			Concrete Batch Plant			0		
Facility ID:	027-00198			Cement			1		
Permit No.:	P-2023.0018 Project 63086			Water			20 gallons		
Source Type:	Stationary Concrete Batch Plant			Concrete			4024 pounds		
Manufacturer:	Erie Strayer								
Emissions estimates are based on EFs in AP-42, Table 11.12-8 (version 06/06) and the following composition of one yard of concrete:									
DEQ EI VERIFICATION WORKSHEET, Version 032007									
Tip: Blue text or numbers are meant to be changed.									
Black text or numbers indicates it's hard-wired or calculated.									
Review these before you change them.									

NATURAL GAS COMBUSTION, AP-42 SECTION 1.4 (7/98)

Operating Assumptions:
9.9 MMBtu/hr
100% used by heater 1
0% used by heater 2
1,020 MMBtu/MMscf =
24 hr/day
8,000 hr/yr
9.71E-03 MMscf/hr

Fuel Use:
0.233 MMscf/day
77.647 MMscf/year

Criteria Air Pollutants	Emission Factor	Emissions		CBP + Boiler Emissions	Modeling Threshold	Modeling Required?	Modeling Threshold	Modeling Required?
	lb/MMscf	lb/hr	T/yr	T/yr	2002 Guidance		Case-by-Case	
NO2	100	9.71E-01	3.88E+00	3.88E+00	1 T/yr	YES	7 T/yr	No
CO	84	8.15E-01	3.26E+00	3.26E+00	14 lb/hr	No	70 lb/hr	No
PM10	7.6	7.38E-02	2.95E-01	4.81E-01	0.2 lb/hr	No	0.9 lb/hr	No
		7.38E-02	2.95E-01		1 T/yr	No	7 T/yr	No
PM2.5	7.6	7.38E-02	2.95E-01	3.77E-01				
		7.38E-02	2.95E-01					
SOx	0.6	5.82E-03	2.33E-02	2.33E-02	0.2 lb/hr	No	0.9 lb/hr	No
		5.82E-03	2.33E-02		1 T/yr	No	7 T/yr	No
VOC	5.5	5.34E-02	2.14E-01	2.14E-01	40 T/yr	No		
Lead	0.0005	4.85E-06	1.94E-05	1.14E-02	0.6 T/yr	No		
Lead, continued			5.37E-03	lb/quarter	10 lb/mo	No		
TOTAL			7.68E+00	T/yr	Note: 100 lb/mo Pb in guidance reduced by factor of 10 based on latest Pb NAAQS (reduced in 2008 from 1.5 ug/m3 to 0.15 ug/m3)			

Hazardous Air Pollutants (HAPs) and Toxic Air Pollutants (TAPs)				Exceeds EL/Modeling Required?
	lb/MMscf	lb/hr	T/yr	EL (lb/hr)
PAH HAPs				
2-Methylnaphthalene	2.40E-05	2.13E-07	9.32E-07	9.10E-05
3-Methylchloranthrene	1.80E-06	1.60E-08	6.99E-08	2.50E-06
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.55E-07	6.21E-07	
Acenaphthene	1.80E-06	1.60E-08	6.99E-08	9.10E-05
Acenaphthylene	1.80E-06	1.60E-08	6.99E-08	9.10E-05
Anthracene	2.40E-06	2.13E-08	9.32E-08	9.10E-05
Benzo(a)anthracene	1.80E-06	1.60E-08	6.99E-08	9.10E-05
Benzo(a)pyrene	1.20E-06	1.06E-08	4.66E-08	2.00E-06
Benzo(b)fluoranthene	1.80E-06	1.60E-08	6.99E-08	
Benzo(g,h,i)perylene	1.20E-06	1.06E-08	4.66E-08	9.10E-05
Benzo(k)fluoranthene	1.80E-06	1.60E-08	6.99E-08	
Chrysene	1.80E-06	1.60E-08	6.99E-08	
Dibenzo(a,h)anthracene	1.20E-06	1.06E-08	4.66E-08	
Dichlorobenzene	1.20E-03	1.06E-05	4.66E-05	9.10E-05
Fluoranthene	3.00E-06	2.66E-08	1.16E-07	9.10E-05
Fluorene	2.80E-06	2.48E-08	1.09E-07	9.10E-05
Indeno(1,2,3-cd)pyrene	1.80E-06	1.60E-08	6.99E-08	
Naphthalene	6.10E-04	5.92E-06	2.37E-05	3.33
Naphthalene	6.10E-04	5.41E-06	2.37E-05	9.10E-05
Phenanthrene	1.70E-05	1.51E-07	6.60E-07	9.10E-05
Pyrene	5.00E-06	4.43E-08	1.94E-07	9.10E-05
Polycyclic Organic Matter (POM) 7-PAH Group		1.01E-07	4.43E-07	2.00E-06
Non-PAH HAPs				
Benzene	2.10E-03	1.86E-05	8.15E-05	8.00E-04
Formaldehyde	7.50E-02	6.65E-04	2.91E-03	5.10E-04
Hexane	1.80E+00	1.75E-02	6.99E-02	12
Toluene	3.40E-03	3.30E-05	1.32E-04	25
Non-HAP Organic Compounds				
Butane	2.10E+00	2.04E-02	8.15E-02	
Ethane	3.10E+00	3.01E-02	1.20E-01	
Pentane	2.60E+00	2.52E-02	1.01E-01	118
Propane	1.60E+00	1.55E-02	6.21E-02	
Metals (HAPs)				
Arsenic	2.00E-04	1.77E-06	7.76E-06	1.50E-06
Barium	4.40E-03	4.27E-05	1.71E-04	0.033
Beryllium	1.20E-05	1.06E-07	4.66E-07	2.80E-05
Cadmium	1.10E-03	9.75E-06	4.27E-05	3.70E-06
Chromium	1.40E-03	1.36E-05	5.44E-05	0.033
Cobalt	8.40E-05	8.15E-07	3.26E-06	0.0033
Copper	8.50E-04	8.25E-06	3.30E-05	0.013
Manganese	3.80E-04	3.69E-06	1.48E-05	0.067
Mercury	2.60E-04	2.52E-06	1.01E-05	0.003
Molybdenum	1.10E-03	1.07E-05	4.27E-05	0.333
Nickel	2.10E-03	1.86E-05	8.15E-05	2.70E-05
Selenium	2.40E-05	2.33E-07	9.32E-07	0.013
Vanadium	2.30E-03	2.23E-05	8.93E-05	0.003
Zinc	2.90E-02	2.81E-04	1.13E-03	0.667

NOTE: TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinogens.

Case-by-Case Modeling Thresholds may be used ONLY with DEQ Approval

TOTAL CBP + WATER HEATER EMISSIONS (POINT SOURCES, T/YR) **8.25**

DIESEL COMBUSTION, AP-42 SECTION 1.3 (9/98)

Operating Assumptions:
0 MMBtu/hr / 140 MMBtu/10³ gal = 0.00E+00 10³ gal/hr **Fuel Use:**
0% used by heater 1 **0** hr/day **0.00 gal/day**
0% used by heater 2 **0** hr/yr **0 gal/year**
0.0000% sulfur

Criteria Air Pollutants	Emission Factor	Emissions		CBP + Boiler Emissions	Modeling Threshold	Modeling Required?	Modeling Threshold	Modeling Required?
	lb/10 ³ gal	lb/hr	T/yr	T/yr	2002 Guidance		Case-by-Case	
NO2	20	0.00E+00	0.00E+00	0.00E+00	1 T/yr	No	7 T/yr	No
CO	5	0.00E+00	0.00E+00	0.00E+00	14 lb/hr	No	70 lb/hr	No
PM10 (filterable + condensable)	3.3	0.00E+00	0.00E+00	1.85E-01	0.2 lb/hr	No	0.9 lb/hr	No
		0.00E+00	0.00E+00		1 T/yr	No	7 T/yr	No
PM2.5 (filterable + condensable)	1.8	0.00E+00	0.00E+00	8.22E-02				
		0.00E+00	0.00E+00					
SOx (SO2 + SO3)	0	0.00E+00	0.00E+00	0.00E+00	0.2 lb/hr	No	0.9 lb/hr	No
		0.00E+00	0.00E+00		1 T/yr	No	7 T/yr	No
VOC (TOC)	0.556	0.00E+00	0.00E+00	0.00E+00	40 T/yr	No		
Lead EF = 9 lb/10 ¹² Btu	9	0.00E+00	0.00E+00	1.14E-02	0.6 T/yr	No		
Lead, continued			0.00E+00	lb/quarter	10 lb/mo	No		
			0.00E+00	T/yr				

Note: 100 lb/mo Pb in guidance reduced by factor of 10 based on latest Pb NAAQS (reduced in 2008 from 1.5 ug/m3 to 0.15 ug/m3)

Hazardous Air Pollutants (HAPs) and Toxic Air Pollutants (TAPs)					Exceeds EL/ Modeling Required?
	lb/10 ³ gal	lb/hr	T/yr	EL (lb/hr)	
PAH HAPs					
Acenaphthene	2.11E-05	0.00E+00	0.00E+00	9.10E-05	No
Acenaphthylene	2.57E-07	0.00E+00	0.00E+00	9.10E-05	No
Anthracene	1.22E-06	0.00E+00	0.00E+00	9.10E-05	No
Benzo(a)anthracene	4.01E-06	0.00E+00	0.00E+00	9.10E-05	See POM
Benzo(a)pyrene				2.00E-06	See POM
Benzo(b,k)fluoranthene	1.48E-06	0.00E+00	0.00E+00		See POM
Benzo(g,h,i)perylene	2.26E-06	0.00E+00	0.00E+00	9.10E-05	No
Benzo(k)fluoranthene	0.00E+00	0.00E+00	0.00E+00		See POM
Chrysene	2.38E-06	0.00E+00	0.00E+00		See POM
Dibenzo(a,h)anthracene	1.67E-06	0.00E+00	0.00E+00		See POM
Dichlorobenzene				9.10E-05	No
Fluoranthene	4.84E-06	0.00E+00	0.00E+00	9.10E-05	No
Fluorene	4.47E-06	0.00E+00	0.00E+00	9.10E-05	No
Indeno(1,2,3-cd)pyrene	2.14E-06	0.00E+00	0.00E+00		See POM
Naphthalene	1.13E-03	0.00E+00	0.00E+00	3.33	No
Naphthalene	1.13E-03	0.00E+00	0.00E+00	9.10E-05	No
Phenanthrene	1.05E-05	0.00E+00	0.00E+00	9.10E-05	No
Pyrene	4.25E-06	0.00E+00	0.00E+00	9.10E-05	No
Polycyclic Organic Matter (POM)	7-PAH Grou	0.00E+00	0.00E+00	2.00E-06	No
Non-PAH HAPs					
Benzene	2.14E-04	0.00E+00	0.00E+00	8.00E-04	No
Ethyl benzene	6.36E-05	0.00E+00	0.00E+00	2.90E+01	No
Formaldehyde	3.30E-02	0.00E+00	0.00E+00	5.10E-04	No
Hexane	1.80E+00	0.00E+00	0.00E+00	12	No
Toluene	6.20E-03	0.00E+00	0.00E+00	25	No
o-Xylene	1.09E-04			0.007	
Metals (HAPs)	lb/10 ¹² Btu				
Arsenic	4.00E+00	0.00E+00	0.00E+00	1.50E-06	No
Barium				0.033	No
Beryllium	3.00E+00	0.00E+00	0.00E+00	2.80E-05	No
Cadmium	3.00E+00	0.00E+00	0.00E+00	3.70E-06	No
Chromium	3.00E+00	0.00E+00	0.00E+00	0.033	No
Cobalt				0.0033	No
Copper	6.00E+00	0.00E+00	0.00E+00	0.013	No
Manganese	6.00E+00	0.00E+00	0.00E+00	0.067	No
Mercury	3.00E+00	0.00E+00	0.00E+00	0.003	No
Molybdenum				0.333	No
Nickel	3.00E+00	0.00E+00	0.00E+00	2.70E-05	No
Selenium	1.50E+01	0.00E+00	0.00E+00	0.013	No
Vanadium				0.003	No
Zinc	4.00E+00	0.00E+00	0.00E+00	0.667	No

NOTE: TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinogens.

1,1,1-Trichloroethane 2.36E-04 Not a HAP (1,1,2 TCA is a HAP). Not a 585 or 586 TAP.

Case-by-Case Modeling Thresholds may be used ONLY with DEQ Approval

TOTAL CBP + WATER HEATER EMISSIONS (POINT SOURCES, T/YR) **0.28**

PROPANE/BUTANE COMBUSTION, AP-42 SECTION 1.5 (9/98)

Operating Assumptions:
 0 MMBtu/hr / 91.5 MMBtu/10³ gal = 0.00E+00 10³ gal/hr **Fuel Use:**
 0% used by heater 1 0 hr/day **0.00 gal/day**
 0% used by heater 2 0 hr/yr **0 gal/year**

Criteria Air Pollutants	Emission Factor	Emissions		CBP + Boiler Emissions	Modeling Threshold	Modeling Required?	Modeling Threshold	Modeling Required?
		lb/10 ³ gal	lb/hr	T/yr				
NO2	15	0.00E+00	0.00E+00	0.00E+00	1 T/yr	No	7 T/yr	No
CO	8.4	0.00E+00	0.00E+00	0.00E+00	14 lb/hr	No	70 lb/hr	No
PM10 (filterable + condensable)	0.8	0.00E+00	0.00E+00	1.85E-01	0.2 lb/hr	No	0.9 lb/hr	No
		0.00E+00	0.00E+00		1 T/yr	No	7 T/yr	No
PM2.5 (filterable + condensable)	0.8	0.00E+00	0.00E+00	8.22E-02				
		0.00E+00	0.00E+00					
SOx (SO2 + SO3)	1.479	0.00E+00	0.00E+00	0.00E+00	0.2 lb/hr	No	0.9 lb/hr	No
		0.00E+00	0.00E+00		1 T/yr	No	7 T/yr	No
VOC (TOC)	1.1	0.00E+00	0.00E+00	0.00E+00	40 T/yr	No		
Lead EF = 9 lb/10 ¹² Btu	0	0.00E+00	0.00E+00	1.14E-02	0.6 T/yr	No		
Lead, continued			0.00E+00	lb/quarter	10 lb/mo	No		
		TOTAL	0.00E+00	T/yr	Note: 100 lb/mo Pb in guidance reduced by factor of 10 based on latest Pb NAAQS (reduced in 2008 from 1.5 ug/m3 to 0.15 ug/m3)			

Case-by-Case Modeling Thresholds may be used ONLY with DEQ Approval

TOTAL CBP + WATER HEATER EMISSIONS (POINT SOURCES, T/YR)	0.28
--	-------------

CURRENT PTC APPLICATION ESTIMATES

Do you have an internal combustion engine?

No

Internal Combustion Engine(s) AP-42 Section 3.3 or 3.4 (diesel fueled)			
		Fuel Type(s)	Generator Toggle
Generator Make/Model	Enter Info	#2 Fuel Oil (Diesel)	1
Rating of Large Engine (hp)	0.0	Max Sulfur weight percent (w/o)	0.0015%
Rating of Small Engine #1 (hp)	0.0		
Rating of Small Engine #2 (hp)	0.0		
EF OPTIONS:		Use EFs in lb/MMBtu fuel input	
1 hp = 0.7456999 kW	0.7457	Calculated Max Fuel Use Rate, gal/hr (Large)	0.00
Avg brake-specific fuel consumption (BSFC) = 7000 Btu/hp-hr	7000	Calculated Max Fuel Use Rate, gal/hr (small #1)	0.00
Fuel Heating Value, Btu/gal	137,030	Calculated Max Fuel Use Rate, gal/hr (small #2)	0.00
		Calculated MMBtu/hr (Large)	0.00
		Calculated MMBtu/hr (Small #1)	0.00
		Calculated MMBtu/hr (Small #2)	0.00
Note: AP-42 Tables 3.3-x,3.4-x: avg diesel heating value is based on 19,300 Btu/lb with density equal 7.1 lb/gal=> Btu/gal =			137,030

EPA Certification for Large Engine:	-1
Not EPA-certified: Enter "0" (zero)	
Certified Tier I, Tier 2, Tier 3, or Tier 4: Enter 1, 2, 3, or 4	
Certified "BLUE SKY" engine: Enter 5	

EPA Certification for Small Engine #1:	-1	EPA Certification for Small Engine #2:	-1
Not EPA-certified: Enter "0" (zero)		Not EPA-certified: Enter "0" (zero)	
Certified Tier I, Tier 2, Tier 3, or Tier 4: Enter 1, 2, 3, or 4		Certified Tier I, Tier 2, Tier 3, or Tier 4: Enter 1, 2, 3, or 4	
Certified "BLUE SKY" engine: Enter 5		Certified "BLUE SKY" engine: Enter 5	

Facility: Sunroc Corporation

10/19/2023 10:30 Permit/Facility ID: Project 63086 027-00198

User Input Weight % Sulfur = 0.0015% SO2 EF = 1.01 x S

Large Engine

Fuel Type Toggle = 0 0 hp Engine
 Fuel Consumption Rate 0.00 gal/hr
 Calculated MMBtu/hr 0.0000 MMBtu/hr
 Max Daily Operation 0 hr/day
 Max Annual Operation 0 hrs/yr

Pollutant	Emission Factor ^a (lb/MMBtu)	Emissions (lb/hr)	Emissions (T/yr)	TAPs Emissions (lb/hr) Annual or 24-hr Average
PM ^b	0.1	0.000	0.00	
PM-10 (total) ^d	0.000	0.000	0.000	
P.M.-2.5	0.000	0.000	0.000	
CO ^b	0.00	0.000	0.00	
NOx ^b	0.000	0.000	0.00	
SO ₂ ^b (total SOx presume)	0.001515	0.000	0.000	
VOC ^b (total TOC--> VOC)	0.000	0.000	0.000	
Lead				
HCl ^e				
Dioxins^e				
2,3,7,8-TCDD				
Total TCDD				
1,2,3,7,8-PeCDD				
Total PeCDD				
1,2,3,4,7,8-HxCDD ^c				
1,2,3,6,7,8-HxCDD				
1,2,3,7,8,9-HxCDD ^c				
Total HxCDD				
1,2,3,4,6,7,8-Hp-CDD ^c				
Total HpCDD₂				
Octa CDD ^c				
Total PCDD^c				
Furans^e				
2,3,7,8-TCDF				
Total TCDF^c				
1,2,3,7,8-PeCDF				
2,3,4,7,8-PeCDF				
Total PeCDF^c				
1,2,3,4,7,8-HxCDF				
1,2,3,6,7,8-HxCDF				
2,3,4,6,7,8-HxCDF				
1,2,3,7,8,9-HxCDF				
Total HxCDF^c				
1,2,3,4,6,7,8-HpCDF				
1,2,3,4,7,8,9-HpCDF				
Total HpCDF^c				
Octa CDF ^c				
Total PCDF^c				
Total PCDD/PCDF^c				
Non-PAH HAPs				
Acetaldehyde ^c	7.67E-04	0.00E+00	0.00E+00	0.00E+00
Acrolein ^c	9.25E-05	0.00E+00	0.00E+00	0.00E+00
Benzene^{c,e}	9.33E-04	0.00E+00	0.00E+00	0.00E+00
1,3-Butadiene^{c,e}	3.91E-05	0.00E+00	0.00E+00	0.00E+00
Ethylbenzene ^b				
Formaldehyde^{c,e}	1.18E-03	0.00E+00	0.00E+00	0.00E+00
Hexane ^b				
Isooctane				
Methyl Ethyl Ketone ^b				
Pentane ^b				
Propionaldehyde ^b				
Quinone ^b				
Methyl chloroform ^b				
Toluene ^{c,e}	4.09E-04	0.00E+00	0.00E+00	0.00E+00
Xylene ^{c,e}	2.85E-04	0.00E+00	0.00E+00	0.00E+00
PAH, Total		0.00E+00		0.00E+00
POM (7-PAH Group)		0.00E+00	0.00E+00	0.00E+00

- a) Emission factors are from AP-42
 b) AP-42, Table 3.4-1, Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual Fuel Engines, 10/96
 c) AP-42, Table 3.4-3, Speciated Organic Compound Emission Factors for Large Uncontrolled Stationary Diesel Engines, Emission Factor Rating E, 10/96
 d) AP-42, Table 3.4-4, PAH Emission Factors for Large Uncontrolled Stationary Diesel Engines, Emission Factor Rating E, 10/96
 e) IDAPA Toxic Air Pollutant

TAPs lb/hr rates are 24-hr averages except for those in bold text. Lb/hr rates for bold TAPs (carcinogens) are annual averages.

Pollutant	Emission Factor ^a (lb/MMBtu)	Emissions (lb/hr)	Emissions (T/yr)	TAPs Emissions (lb/hr) Annual or 24-hr Average
PAH HAPs				
2-Methylnaphthalene				
3-Methylchloranthrene ^e				
Acenaphthene ^{c1}	1.42E-06	0.00E+00	0.00E+00	0.00E+00
Acenaphthylene ^{c1}	5.06E-06	0.00E+00	0.00E+00	0.00E+00
Anthracene ^{c1}	1.87E-06	0.00E+00	0.00E+00	0.00E+00
Benzo(a)anthracene ^{c1}	1.68E-06	0.00E+00	0.00E+00	0.00E+00
Benzo(a)pyrene ^{c1,e}	1.88E-07	0.00E+00	0.00E+00	0.00E+00
Benzo(b)fluoranthene ^{c1}	9.91E-08	0.00E+00	0.00E+00	0.00E+00
Benzo(e)pyrene				
Benzo(g,h,i)perylene ^{c1}	4.89E-07	0.00E+00	0.00E+00	0.00E+00
Benzo(k)fluoranthene ^{c1}	1.55E-07	0.00E+00	0.00E+00	0.00E+00
Chrysene ^{c1}	3.53E-07	0.00E+00	0.00E+00	0.00E+00
Dibenzo(a,h)anthracene ^{c1}	5.83E-07	0.00E+00	0.00E+00	0.00E+00
Dichlorobenzene				
Fluoranthene ^{c1}	7.61E-06	0.00E+00	0.00E+00	0.00E+00
Fluorene ^{c1}	2.92E-05	0.00E+00	0.00E+00	0.00E+00
Indeno(1,2,3-cd)pyrene ^{c1}	3.75E-07	0.00E+00	0.00E+00	0.00E+00
Naphthalene ^{c1,e}	8.48E-05	0.00E+00	0.00E+00	0.00E+00
Perylene				
Phenanthrene ^{c1}	2.94E-05	0.00E+00	0.00E+00	0.00E+00
Pyrene ^{c1}	4.78E-06	0.00E+00	0.00E+00	0.00E+00
Non-HAP Organic Compounds				
Acetone ^e				
Benzaldehyde				
Butane				
Butyraldehyde				
Crotonaldehyde ^e				
Ethylene				
Heptane				
Hexanal				
Isovaleraldehyde				
2-Methyl-1-pentene				
2-Methyl-2-butene				
3-Methylpentane				
1-Pentene				
n-Pentane				
Valeraldehyde				
Metals				
Antimony ^e				
Arsenic^e				
Barium ^e				
Beryllium^e				
Cadmium^e				
Chromium ^e				
Cobalt ^e				
Copper ^e				
Hexavalent Chromium^e				
Manganese ^e				
Mercury ^e				
Molybdenum ^e				
Nickel^e				
Phosphorus ^e				
Silver ^e				
Selenium ^e				
Thallium ^e				
Vanadium ^e				
Zinc ^e				

Facility: Sunroc Corporation

10/19/2023 10:30

Permit/Facility ID:

P-2023.0018

Project 63086 027-00198

Greenhouse Gas Emissions when Combusting Natural Gas

	Emission Factor (EF)	EF Units	EF Source	T/yr	Global Warming Potential	CO ₂ e (T/yr)
Water Heater #1 Emissions						
CO ₂	120000	lb/MMscf	AP-42 Table 1.4-2	4658.82	1	4658.82
Methane	2.3	lb/MMscf	AP-42 Table 1.4-2	8.93E-02	21	1.88E+00
N ₂ O	2.2	lb/MMscf	AP-42 Table 1.4-2	8.54E-02	310	2.65E+01

* Assumes a heating value of 1,020 Btu/scf and a heater with a rating of 9.9 MMBtu/hr.

	Emission Factor (EF)	EF Units	EF Source	T/yr	Global Warming Potential	CO ₂ e (T/yr)
Water Heater #2 Emissions						
CO ₂	120000	lb/MMscf	AP-42 Table 1.4-2	0.00	1	0.00
Methane	2.3	lb/MMscf	AP-42 Table 1.4-2	0.00E+00	21	0.00E+00
N ₂ O	2.2	lb/MMscf	AP-42 Table 1.4-2	0.00E+00	310	0.00E+00

* Water Heater #2 does not burn Natural Gas.

Greenhouse Gas Emissions when Combusting #2 Diesel

	Emission Factor (EF)	EF Units	EF Source	T/yr	Global Warming Potential	CO ₂ e (T/yr)
Water Heater #1 Emissions						
CO ₂	Molecular conversion from C to CO ₂			0.00	1	0.00
Methane	1	lb/10 ³ gal	AP-42 Table 1.3-3	0.00E+00	21	0.00E+00
N ₂ O	0.53	lb/10 ³ gal	AP-42 Table 1.3-8	0.00E+00	310	0.00E+00

* Water Heater #1 does not burn Diesel.

	Emission Factor (EF)	EF Units	EF Source	T/yr	Global Warming Potential	CO ₂ e (T/yr)
Water Heater #2 Emissions						
CO ₂	Molecular conversion from C to CO ₂			0.00	1	0.00
Methane	1	lb/10 ³ gal	AP-42 Table 1.3-3	0.00E+00	21	0.00E+00
N ₂ O	0.53	lb/10 ³ gal	AP-42 Table 1.3-8	0.00E+00	310	0.00E+00

* Water Heater #2 does not burn Diesel.

Greenhouse Gas Emissions when Combusting LPG

	Emission Factor (EF)	EF Units	EF Source	T/yr	Global Warming Potential	CO ₂ e (T/yr)
Water Heater #1 Emissions						
CO ₂	14300	lb/10 ³ gal	AP-42 Table 1.5-1	0.00	1	0.00
Methane	0.9	lb/10 ³ gal	AP-42 Table 1.5-1	0.00E+00	21	0.00E+00
N ₂ O	0.2	lb/10 ³ gal	AP-42 Table 1.5-1	0.00E+00	310	0.00E+00

* Water Heater #1 does not burn Propane.

	Emission Factor (EF)	EF Units	EF Source	T/yr	Global Warming Potential	CO ₂ e (T/yr)
Water Heater #2 Emissions						
CO ₂	14300	lb/10 ³ gal	AP-42 Table 1.5-1	0.00	1	0.00
Methane	0.9	lb/10 ³ gal	AP-42 Table 1.5-1	0.00E+00	21	0.00E+00
N ₂ O	0.2	lb/10 ³ gal	AP-42 Table 1.5-1	0.00E+00	310	0.00E+00

* Water Heater #2 does not burn Propane.

Greenhouse Gas Emissions when Combusting Diesel Fuel

	Emission Factor (EF)	EF Units	EF Source	T/yr	Global Warming Potential	CO ₂ e (T/yr)
Small Engine #1 Emissions ≤ 600 bhp						
CO ₂	1.15	lb/bhp-hr	AP-42 Table 3.3-1	0.00	1	0.00

* There are no engines at this facility.

	Emission Factor (EF)	EF Units	EF Source	T/yr	Global Warming Potential	CO ₂ e (T/yr)
Small Engine #2 Emissions ≤ 600 bhp						
CO ₂	1.15	lb/bhp-hr	AP-42 Table 3.3-1	0.00	1	0.00

* There is no second small engine at this facility.

	Emission Factor (EF)	EF Units	EF Source	T/yr	Global Warming Potential	CO ₂ e (T/yr)
Large Engine #1 Emissions > 600 bhp						
CO ₂	1.16	lb/bhp-hr	AP-42 Table 3.4-1	0.00	1	0.00

* There is no large engine at this facility.

Total Greenhouse Gas Emissions

	CO ₂ e (T/yr)
CO ₂	4658.82
Methane	1.88
N ₂ O	26.48
Total¹	4687

1. Note that this total does not necessarily equal the sum of the maximum CO₂, CH₄, and N₂O emission rates listed in the three cells above.

Facility: 9/21/2023 11:34	Sunroc Corporation Permit/Facility ID:	027-00198	P-2023.0018 Project 63086
Max Hourly Production	288 cy/hr	82% T/hr is Aggregate =	236 cy/hr
Max Daily Production	4,000 cu/dav	82% T/hr is Aggregate =	3,280 cu/dav
Max Annual Production	500,000 cy/yr	82% T/hr is Aggregate =	410,000 cy/yr

Aggregate is considered both coarse and fine (sand).The 82% is based on 1,865 lb coarse aggregate, 1,428 lb sand, 564 lb cements/supplement and 167 lb water for a total of 4,024 lb concrete

Truck Mix Operations Drop Points, AP-42 11-12 (06/06)				
E = k (0.0032) x(U ² / M ³) ^{1/4} c =		9.71E-02	3.88E-02 lb/ton for PM10	5.83E-03 lb/ton for PM2.5
k = particle size multiplier	0.8 for PM	0.32 for PM10	0.048 for PM2.5	
a = exponent	1.75 for PM	1.75 for PM10	1.75 for PM2.5	
b = exponent	0.3 for PM	0.3 for PM10	0.3 for PM2.5	
c = constant	0.013 for PM	0.0052 for PM10	0.00078 for PM2.5	
U = mean wind speed =	10 mph			
M = moisture content =	6 %			

Mean wind speed 7 mph was the average wind speed obtained from an average of 19 Idaho airports throughout the state from 1996-2006.
This data is from the Western Regional Climate Center (<http://www.wrcc.dcl.edu/htmlfiles/westwind.html#IDAH0>).
Moisture Content: 4.17 % and 1.77% were the average percentages for sand and aggregate respectively. These values are based on EPA tests conducted at Cheney Enterprises Cement plant in Roanoke, VA, 1994. (AP-42 11-12 06/06).

Windspeed Variation Factors for AERMOD modeling			PM10		PM2.5	
Wind Category	Upper windspeed (mph)	Avg windspeed (mph)	E @ avg mph	F = E avg/mph E @ 10mph	E @ avg mph	E @ 10mph
Cat 1:	1.54	0.77	1.72	6.75E-03	0.1738	1.01E-03
Cat 2:	3.09	2.32	5.18	1.58E-02	0.4077	2.38E-03
Cat 3:	5.14	4.12	9.20	3.43E-02	0.8831	5.15E-03
Cat 4:	8.23	6.69	14.95	7.32E-02	1.885	1.10E-02
Cat 5:	10.80	9.52	21.28	1.31E-01	3.382	1.97E-02
Cat 6:	14.00	12.40	27.74	2.06E-01	5.298	3.09E-02

Central Mix Operations Drop Points, AP-42 11-12 (06/06)				
E = k (0.0032) x(U ² / M ³) ^{1/4} c =		2.08E-03	1.23E-03 lb/ton for PM10	2.54E-04 lb/ton for PM2.5
k = particle size multiplier	0.19 for PM	0.13 for PM10	0.03 for PM2.5	
a = exponent	0.95 for PM	0.45 for PM10	0.45 for PM2.5	
b = exponent	0.9 for PM	0.9 for PM10	0.9 for PM2.5	
c = constant	0.001 for PM	0.001 for PM10	0.0002 for PM2.5	
U = mean wind speed =	10 mph			
M = moisture content =	6 %			

Mean wind speed 7 mph was the average wind speed obtained from an average of 19 Idaho airports throughout the state from 1996-2006.
This data is from the Western Regional Climate Center (<http://www.wrcc.dcl.edu/htmlfiles/westwind.html#IDAH0>).
Moisture Content: 4.17 % and 1.77% were the average percentages for sand and aggregate respectively. These values are based on EPA tests conducted at Cheney Enterprises

Windspeed Variation Factors for AERMOD modeling			PM10		PM2.5	
Wind Category	Upper windspeed (m/s)	avg windspeed (mph)	E @ avg mph	E @ 10mph	E @ avg mph	E @ 10mph
Cat 1:	1.54	0.77	1.72	1.11E-03	0.8964	2.24E-04
Cat 2:	3.09	2.32	5.18	1.87E-03	1.5160	2.40E-04
Cat 3:	5.14	4.12	9.20	2.13E-03	1.7291	2.52E-04
Cat 4:	8.23	6.69	14.95	2.41E-03	1.949	2.65E-04
Cat 5:	10.80	9.52	21.28	2.65E-03	2.146	2.76E-04
Cat 6:	14.00	12.40	27.74	2.86E-03	2.315	2.85E-04

Conveyor and Scalping Screen Emission Points
Moisture/Control %:
Aggregate for CBP typically stabilizes between 5-6% by weight--> Apply additional **25%** control to lb/hr, etc. for the higher moisture.
Sand aggregate for CBPs is **36%**
Coarse aggregate for CBPs is **46%**

Fine Aggregate (Sand) Transfer to Conveyor		Transfer from truck to conveyor: 236 cy/hr				12 Transfer Points			
Pollutant	Emission Factor Table 11.12-5 CONVEYOR TRANSFER PT CONTROLLED (lb/cy)	Emissions Per Transfer Point				Total Emissions			
		Emissions (lb/hr)	Emissions (lb/hr)	Emissions (T/yr)	Emissions (lb/hr)	Emissions (lb/hr)	Emissions (T/yr)	Emissions (lb/hr)	
		1-hr Average	24-hr Average	Annual Average	1-hr Average	24-hr Average	Annual Average	Annual Average	
PM (total)	0.0025	0.115	0.087	9.98E-02	2.28E-02	1.380	0.799	1.20E+00	2.74E-01
PM-10 (total)	7.00E-04	0.054	0.031	4.66E-02	1.06E-02	0.644	0.373	5.59E-01	1.28E-01
PM-2.5 (total)	2.25E-04	0.017	0.010	1.50E-02	6.56E-02	0.207	0.120	1.80E-01	7.87E-01

Coarse Aggregate Transfer to Conveyor		Transfer from truck to conveyor:		236 cy/hr		12 Transfer Points			
Pollutant	Emission Factor Table 11.12-5 CONVEYOR TRANSFER PT CONTROLLED (lb/cy)	Emissions Per Transfer Point							
		Emissions				Total Emissions			
		Emissions (lb/hr)	Emissions (lb/hr)	Emissions (T/yr)	Emissions (lb/hr) Annual Average	Emissions (lb/hr) 1-hr Average	Emissions (lb/hr) 24-hr Average	Emissions (T/yr)	Emissions (lb/hr) Annual Average
		1-hr Average	24-hr Average						
PM (total)	0.0094	0.636	0.368	5.52E-01	1.26E-01	7.631	4.416	6.62E+00	1.51E+00
PM-10 (total)	3.10E-03	0.306	0.178	2.67E-01	6.10E-02	3.636	2.139	3.21E+00	7.33E-01
PM-2.5 (total)	9.60E-04	0.095	0.055	8.26E-02	3.63E-01	1.145	0.662	9.94E-01	4.35E+00

0.186
1.00
1.256

Final Concrete Batch Plant Emissions Inventory

Listed Below are the emissions estimates for the units selected.

Company:	Sunroc Corporation
Facility ID:	027-00198
Permit No.:	P-2023.0018 Project 63086
Source Type:	Stationary Concrete Batch Plant
Manufacturer/Model:	Erie Strayer

Production

Maximum Hourly Production Rate:	288 cy/hr
Proposed Daily Production Rate:	4000 cy/day
Proposed Maximum Annual Production Rate:	500000 cy/year

		Tons/year							
Emissions Units		PM _{2.5}	PM ₁₀	SO ₂	NO _x	CO	VOC	Lead	THAPs
CBP Type:	Central Mix	0.082	0.19	NA	NA	NA	NA	2.73E-05	N/A
Water Heater #1:	Water Heater #1	0.295	0.295	2.33E-02	3.882	3.261	0.214	1.94E-05	4687
Water Heater #2:	No Water Heater	0.000	0.000	0.00E+00	0.000	0.000	0.000	0.00E+00	0
Small Diesel Engine(s) *:	No Engine	0.00	0.00	0.00E+00	0.00	0.00	0.00	NA	0
Large Diesel Engine *:	No Large Engine	0.00	0.00	0.00E+00	0.00	0.00	0.00	NA	0
Annual Totals (T/yr)		0.38	0.48	2.33E-02	3.88	3.26	0.21	4.67E-05	7.35E-02

		Pounds/hour							
Emissions Units		PM _{2.5}	PM ₁₀	SO ₂	NO _x	CO	VOC	Lead	THAPs
CBP Type:	Central Mix	0.055	0.12	NA	NA	NA	NA	6.55E-06	
Water Heater #1:	Water Heater #1	0.074	0.074	5.82E-03	0.971	0.815	0.053	4.85E-06	
Water Heater #2:	No Water Heater	0.000	0.000	0.00E+00	0.000	0.000	0.000	0.00E+00	
Small Diesel Engine(s) *:	No Engine	0.00	0.00	0.00E+00	0.00	0.00	0.00	NA	
Large Diesel Engine *:	No Large Engine	0.00	0.00	0.00E+00	0.00	0.00	0.00	NA	
Daily Totals (lb/hr)		0.13	0.20	5.82E-03	0.97	0.82	0.05	1.14E-05	1.85E-02

* The Large engine may run :
 * The Small engine(s) may run :

There is no large engine. hr/yr
 There is no small engine. hr/yr

HAPS & TAPS Emissions Inventory

Metals	HAP	TAP	lb/hr	T/yr	Averaging Period	EL lb/hr	Exceeded?
Arsenic	X	X	5.26E-06	2.31E-05	Annual	1.50E-06	Yes
Barium		X	4.27E-05	1.71E-04	24-hour	3.30E-02	No
Beryllium	X	X	3.02E-07	1.32E-06	Annual	2.80E-05	No
Cadmium	X	X	2.28E-05	9.98E-05	Annual	3.70E-06	Yes
Cobalt	X	X	8.15E-07	3.26E-06	24-hour	3.30E-03	No
Copper		X	8.25E-06	3.30E-05	24-hour	1.30E-02	No
Chromium	X	X	6.54E-05	6.83E-05	24-hour	3.30E-02	No
Manganese	X	X	4.77E-05	6.74E-05	24-hour	3.33E-01	No
Mercury	X	X	2.52E-06	1.01E-05	24-hour	N/A	No
Molybdenum (soluble)		X	1.07E-05	4.27E-05	24-hour	3.33E-01	No
Nickel	X	X	2.45E-05	1.07E-04	Annual	2.70E-05	No
Phosphorus	X	X	1.54E-04	4.65E-05	24-hour	7.00E-03	No
Selenium	X	X	6.73E-07	1.59E-06	24-hour	1.30E-02	No
Vanadium		X	2.23E-05	8.93E-05	24-hour	3.00E-03	No
Zinc		X	2.81E-04	1.13E-03	24-hour	6.67E-01	No
Chromium VI	X	X	8.92E-07	3.91E-06	Annual	5.60E-07	Yes
Non PAH Organic Compounds							
Pentane		X	1.55E-02	6.21E-02	24-hour	118	No
Methyl Ethyl Ketone	X	X	0.00E+00	0.00E+00	24-hour	39.3	No
Non-PAH HAPs							
Acetaldehyde	X	X	0.00E+00	0.00E+00	Annual	3.00E-03	No
Acrolein	X	X	0.00E+00	0.00E+00	24-hour	1.70E-02	No
Benzene	X	X	1.86E-05	8.15E-05	Annual	8.00E-04	No
1,3 - Butadiene	X	X	0.00E+00	0.00E+00	Annual	2.40E-05	No
Ethyl Benzene	X	X	0.00E+00	0.00E+00	24-hour	29	No
Formaldehyde	X	X	6.65E-04	2.91E-03	Annual	5.10E-04	Yes
Hexane	X	X	1.75E-02	6.99E-02	24-hour	12	No
Methyl Chloroform	X	X	0.00E+00	0.00E+00	24-hour	127	No
Propionaldehyde	X	X	0.00E+00	0.00E+00	24-hour	2.87E-02	No
Quinone	X	X	0.00E+00	0.00E+00	24-hour	2.70E-02	No
Toluene	X	X	3.30E-05	1.32E-04	24-hour	25	No
o-Xylene	X	X	0.00E+00	0.00E+00	24-hour	29	No
PAH HAPs							
2-Methylnaphthalene	X	X	2.13E-07	9.32E-07	Annual	9.10E-05	No
3-Methylcholanthrene	X	X	1.60E-08	6.99E-08	Annual	2.50E-06	No
7,12-Dimethylbenz(a)anthracene	X		1.55E-07	6.21E-07	N/A	N/A	N/A
Acenaphthene	X	X	1.60E-08	6.99E-08	Annual	9.10E-05	No
Acenaphthylene	X	X	1.60E-08	6.99E-08	Annual	9.10E-05	No
Anthracene	X	X	2.13E-08	9.32E-08	Annual	9.10E-05	No
Benzo(a)anthracene	X	X	1.60E-08	6.99E-08	Annual	9.10E-05	No
Benzo(a)pyrene	X	X	1.06E-08	4.66E-08	Annual	2.00E-06	No
Benzo(b)fluoranthene	X	X	1.60E-08	6.99E-08	Annual	2.00E-06	No
Benzo(e)pyrene	X	X	0.00E+00	0.00E+00	Annual	2.00E-06	No
Benzo(g,h,i)perylene	X	X	1.06E-08	4.66E-08	Annual	9.10E-05	No
Benzo(k)fluoranthene	X	X	1.60E-08	6.99E-08	Annual	2.00E-06	No
Chrysene	X	X	1.60E-08	6.99E-08	Annual	2.00E-06	No
Dibenzo(a,h)anthracene	X	X	1.06E-08	4.66E-08	Annual	2.00E-06	No
Dichlorobenzene	X	X	1.06E-05	4.66E-05	Annual	9.10E-05	No
Fluoranthene	X	X	2.66E-08	1.16E-07	Annual	9.10E-05	No
Fluorene	X	X	2.48E-08	1.09E-07	Annual	9.10E-05	No
Indeno(1,2,3-cd)pyrene	X	X	1.60E-08	6.99E-08	Annual	2.00E-06	No
Naphthalene (24-hour)	X	X	5.92E-06	2.37E-05	24-hour	3.33	No
Naphthalene (Annual)	X	X	5.41E-06	2.37E-05	Annual	9.10E-05	No
Perylene	X		0.00E+00	0.00E+00	N/A	N/A	N/A
Phenanthrene	X	X	1.51E-07	6.60E-07	Annual	9.10E-05	No
Pyrene	X	X	4.43E-08	1.94E-07	Annual	9.10E-05	No
PAH HAPs Total	X	X	1.01E-07		Annual	2.00E-06	No
7-PAH Group (586 listed TAP)	X	X	1.01E-07	4.43E-07	Annual	2.00E-06	No

Total HAPs Emissions (lb/hr) and (T/yr): 1.85E-02 7.35E-02

6.99E-02 Maximum Annual TAP (T/yr)

Uncontrolled Criteria Pollutants

Source	PM10/PM2.5		SO2		NOx		CO		VOC	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Concrete Batch Plant	2.75	12.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Heater #1	0.07	0.30	0.01	0.02	0.97	3.88	0.82	3.26	0.05	0.21
Water Heater #2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Small Diesel Engine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Large Diesel Engine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Note: The emissions from the transfer drop points are the emissions from the material handling

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

MEMORANDUM DRAFT

DATE: August 28, 2023

TO: Aaron Hoberg, Permit Writer, Air Program

FROM: Kevin Schilling, Air Quality Dispersion Modeling Supervisor, Air Program

PROJECT: P-2023.0018 Project 63086 – Initial Permit to Construct (PTC) for the Sunroc Corporation (SRC) Concrete Batch Plant in Nampa, Idaho.

SUBJECT: Demonstration of Compliance with IDAPA 58.01.01.203.02 (NAAQS) and 203.03 (TAPs) as it relates to air quality impact analyses.

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Acronyms, Units, and Chemical Nomenclature

AAC	Acceptable Ambient Concentration of a non-carcinogenic TAP
AACC	Acceptable Ambient Concentration of a Carcinogenic TAP
acfm	Actual cubic feet per minute
AERMAP	The terrain data preprocessor for AERMOD
AERMET	The meteorological data preprocessor for AERMOD
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
Appendix W	40 CFR 51, Appendix W – Guideline on Air Quality Models
As	Arsenic
BPIP	Building Profile Input Program
BRC	Below Regulatory Concern
CBP	Concrete Batch Plant
CFR	Code of Federal Regulations
CMAQ	Community Multi-Scale Air Quality Modeling System
CO	Carbon Monoxide
cy	cubic yards
DEQ	Idaho Department of Environmental Quality
EL	Emissions Screening Level of a TAP
EPA	United States Environmental Protection Agency
GEP	Good Engineering Practice
HAP	Hazardous Air Pollutant
hr	hours
<i>Idaho Air Rules</i>	Rules for the Control of Air Pollution in Idaho, located in the Idaho Administrative Procedures Act 58.01.01
IMC	Staker & Parson Companies dba Idaho Materials and Construction
ISCST3	Industrial Source Complex Short Term 3 dispersion model
K	Kelvin
m	Meters
m/sec	Meters per second
mmBtu	Million British Thermal Units
NAAQS	National Ambient Air Quality Standards
NO	Nitrogen Oxide
NO ₂	Nitrogen Dioxide
NO _x	Oxides of Nitrogen
NWS	National Weather Service
O ₃	Ozone
Pb	Lead
PM ₁₀	Particulate matter with an aerodynamic particle diameter less than or equal to a nominal 10 micrometers
PM _{2.5}	Particulate matter with an aerodynamic particle diameter less than or equal to a nominal 2.5 micrometers
ppb	parts per million
PRIME	Plume Rise Model Enhancement
PTC	Permit to Construct

PTE	Potential to Emit
SRC	Sunroc Corporation
SIL	Significant Impact Level
SO ₂	Sulfur Dioxide
TAP	Toxic Air Pollutant
tpy	tons per year
VOC	Volatile Organic Compounds
µg/m ³	Micrograms per cubic meter of air

1.0 Summary

Sunroc Corporation (SRC) submitted an initial Permit to Construct (PTC) application for a new stationary concrete batch plant (CBP) in Nampa, Idaho. The *Idaho Administrative Procedures Act* 58.01.01.203.02 and 203.03 (*Idaho Air Rules* Section 203.02 and 203.03) requires that no permit be issued unless it is demonstrated that applicable emissions do not result in violation of a National Ambient Air Quality Standard (NAAQS) or Toxic Air Pollutant (TAP) increment. Facility-wide allowable emissions of all criteria pollutants are below levels defined as Below Regulatory Concern (BRC) and therefore exempt from the NAAQS compliance demonstration requirement. Allowable emissions of applicable TAPs were below screening emission levels (ELs) except for arsenic (As) and hexavalent chromium (Cr 6+), thereby demonstrating compliance with TAP increments. TAP air impact modeling analyses were performed for As and Cr6+ to demonstrate compliance with the TAP increment. This memorandum provides a summary of the analyses used to demonstrate compliance with applicable NAAQS and TAP increments, as required by *Idaho Air Rules* Section 203.02 and 203.03.

SRC prepared the PTC application for this project and DEQ calculated potential emissions, evaluated those emissions for applicability of requirements to demonstrate compliance with applicable NAAQS and TAP increments, and performed any air impact analyses necessary for permit issuance. DEQ review of submitted data and analyses, as summarized by this memorandum, addressed only the rules, policies, methods, and data pertaining to the air impact analyses used to demonstrate that estimated emissions associated with operation of the facility or modification will not cause or significantly contribute to a violation of any applicable air quality standard. This review did not address/evaluate compliance with other rules or analyses not pertaining to the air impact analyses. Evaluation of emission estimates was primarily the responsibility of the DEQ permit writer and is addressed in the main body of the DEQ Statement of Basis, and emission calculation methods were not evaluated in this modeling review memorandum.

Table 1 presents key assumptions and results to be considered in the development of the permit. *Idaho Air Rules* require air impact analyses be conducted in accordance with methods outlined in 40 CFR 51, *Appendix W Guideline on Air Quality Models (Appendix W)*. *Appendix W* requires that air quality impacts be assessed using atmospheric dispersion models with emissions and operations representative of design capacity or as limited by an enforceable permit condition.

The submitted information and analyses, in combination with DEQ's analyses: 1) utilized appropriate methods and models; 2) was conducted using reasonably accurate or conservative model parameters and input data (review of emissions estimates was addressed by the DEQ permit writer); 3) adhered to established DEQ guidelines for new source review dispersion modeling; 4) showed either a) that estimated potential/allowable emissions are at a level defined as BRC and do not require a NAAQS compliance demonstration; b) that predicted pollutant concentrations from emissions associated with the project as modeled were below Significant Impact Levels (SILs) or other applicable regulatory thresholds; or c) that predicted pollutant concentrations from emissions associated with the project as modeled, when appropriately combined with co-contributing sources and background concentrations, were below applicable NAAQS at ambient air locations where and when the project has a significant impact; 5) showed that TAP emissions increases associated with the project will not result in increased emissions above ELs or ambient air impacts exceeding allowable TAP increments. This conclusion assumes that conditions in Table 1 are representative of facility design capacity or operations as limited by an enforceable permit condition. The DEQ permit writer should use Table 1 and other information presented in this memorandum to generate appropriate permit provisions/restrictions to ensure compliance with applicable standards and ensure the requirements of *Appendix W* are met regarding emissions representative of design capacity or permit allowable rates.

Summary of Submittals and Actions

March 30, 2023 Application received by DEQ.
March 31, 2023 Regulatory start date.
May 1, 2023 Application determined complete by DEQ.

Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES	
Criteria/Assumption/Result	Explanation/Consideration
General Criteria Pollutant Emissions Rates The final emission inventory indicates that facility-wide emissions of all criteria pollutants are at levels considered BRC, and as such, NAAQS compliance demonstrations are not required for permit issuance.	<p>A NAAQS compliance demonstration may be required for applicable facility-wide emissions rates greater than BRC thresholds. Emissions were based on concrete production of 500,000 cubic yards/year (cy/year).</p> <p>BRC is evaluated for emissions only on an annual-averaged basis and only for non-fugitive emissions. Permit restrictions on averaging periods shorter than annual are not necessary to assure emissions are below BRC thresholds.</p> <p>Emissions as listed in the permit application and DEQ Statement of Basis must represent maximum allowable emissions as given by design capacity, inherently limited by the nature of the process or configuration of the facility, or as limited by the issued permit for the specific pollutant and averaging period.</p>
Setback from Ambient Air Boundary. A minimum 20-meter (66-foot) separation must be maintained between point source emission release points (storage silo vents and the release point of the mixer baghouse) and the nearest point of public access (generally the property boundary).	This setback is needed to assure compliance with the TAP Acceptable Ambient Concentrations of Carcinogens (AACCs). If an emission collection and control system were not used on the mixer, the minimum setback distance would be substantially greater.
Allowable Throughput. An annual throughput restriction of 500,000 cubic yards of concrete was used to demonstrate compliance with TAP increment standards.	An annual throughput restriction is also needed to ensure that annual emissions of criteria pollutants remain below BRC levels. Throughput restrictions for shorter averaging periods are not necessary to assure NAAQS compliance because no NAAQS compliance demonstrations are required for permit issues (because annual allowable emissions of all criteria pollutants are below BRC levels).

2.0 Background Information

This section provides background information applicable to the project and the site where the facility is located. It also provides a brief description of the applicable air impact analyses requirements for the project.

2.1 Project Description

The PTC application is for operations of a new stationary CBP in Nampa, Idaho. Emission sources include:

- Loading cement and cement supplement into storage silos (controlled by a fabric filter);
- Handling of sand and aggregate, with emissions from a weigh batcher captured and controlled by a baghouse;
- Mixing of cement, supplement, aggregate, and sand in a central mixer, with emissions captured and controlled by a baghouse.
- Operation of a 9.9 million British thermal units/hour (mmBtu/hour) natural gas-fired boiler.

No other emission sources are described in the application. The PTC addresses all air pollutant emitting activities associated with the CBP.

2.2 Facility Location and Area Classification

The SRC facility will be located at 39 N. Picard Lane in Nampa, Idaho, in Canyon County (Northing: 4,732,000 meters; Easting: 694,500 meters; UTM Zone 11). Canyon County is designated as an attainment area for sulfur dioxide (SO₂), nitrogen dioxide (NO₂), carbon monoxide (CO), lead (Pb), ozone (O₃), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM₁₀), and particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers (PM_{2.5}). The area is not classified as non-attainment for any criteria pollutants. Land use in the area is primarily agricultural with scattered rural residential. The terrain surrounding the immediate project site is relatively flat.

2.3 Air Impact Analyses Required for All Permits to Construct

Idaho Air Rules Sections 203.02 and 203.03:

No permit to construct shall be granted for a new or modified stationary source unless the applicant shows to the satisfaction of the Department all of the following:

02. NAAQS. *The stationary source or modification would not cause or significantly contribute to a violation of any ambient air quality standard.*

03. Toxic Air Pollutants. *Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.*

Atmospheric dispersion modeling, using computerized simulations, is used to demonstrate compliance with both NAAQS and TAPs. Idaho Air Rules Section 202.02 states:

02. Estimates of Ambient Concentrations. *All estimates of ambient concentrations shall be based on the applicable air quality models, data bases, and other requirements specified in 40 CFR 51 Appendix W (Guideline on Air Quality Models).*

DEQ's finding of *satisfaction* for not causing a violation of NAAQS or TAP increment is the key requirement for permit issuance. DEQ's stationary source modeling group has determined that *satisfaction* constitutes a high level of confidence. This is a level between what is *more likely than not* and what is *beyond reasonable doubt*, considering all sources of variability and uncertainty in methods and data used in the analyses.

2.4 Significant Impact Level and Cumulative NAAQS Impact Analyses

A SIL analysis may be performed for the proposed project in lieu of a cumulative NAAQS impact analysis as a screening approach to demonstrate *de minimis* impacts. The SIL analysis involves modeling criteria air pollutant emissions, those occurring from a new facility or the realized emission increase resulting from a proposed modification, to determine the potential impacts to ambient air. Air impact

analyses are required by *Idaho Air Rules* to be conducted according to methods outlined in *Appendix W*. *Appendix W* requires that facilities be modeled using emissions and operations representative of design capacity or as limited by a federally enforceable permit condition.

A facility or modification is considered to have a significant impact on air quality if maximum modeled impacts to ambient air exceed the established SIL listed in *Idaho Air Rules* Section 006 (referred to as a “significant contribution” in *Idaho Air Rules*) or as incorporated by reference as per *Idaho Air Rules* Section 107.03.b. Table 2 lists the applicable SILs.

If modeled maximum pollutant impacts to ambient air from the emissions sources associated with a new facility or modification exceed the SILs, then a cumulative NAAQS impact analysis is necessary to demonstrate compliance with NAAQS and *Idaho Air Rules* Section 203.02.

A cumulative NAAQS impact analysis for attainment area pollutants involves assessing impacts to ambient air (typically the design values consistent with the form of the standard) from facility-wide emissions and emissions from any nearby co-contributing sources, and then adding a DEQ-approved background concentration value to the modeled result that is appropriate for the criteria pollutant/averaging-period at the facility location and the area of significant impact. The resulting pollutant concentrations in ambient air are then compared to the NAAQS listed in Table 2. Table 2 also lists SILs and specifies the modeled design value that must be used for comparison to the NAAQS. NAAQS compliance is evaluated on a receptor-by-receptor basis for the modeling domain.

If the cumulative NAAQS impact analysis indicates a violation of the standard, the permit may not be issued if the proposed project contributes (usually defined as impacts exceeding the SIL) to the modeled violation. This evaluation is made specific to both time and space. As an example, consider a hypothetical case where the SIL analysis indicates the project (new source or modification) has impacts exceeding the SIL and the cumulative impact analysis indicates a violation of the NAAQS. If project-specific impacts are below the SIL at the specific receptors showing the violations during the times when modeled violations occurred, then the project does not have a significant contribution to the specific violations.

Compliance with *Idaho Air Rules* Section 203.02 is generally demonstrated if: a) applicable specific criteria pollutant emission increases are at a level defined as BRC, using the criteria established by DEQ regulatory interpretation (DEQ, 2014) (see Section 3.1.1 of this memorandum); or b) all modeled impacts of the SIL analysis are below the applicable SIL and/or project related emissions are at a level determined to be inconsequential to NAAQS compliance; or c) modeled design values of the cumulative NAAQS impact analysis (modeling all emissions from the facility and co-contributing sources, and adding a background concentration) are less than applicable NAAQS at receptors where impacts from the proposed facility/modification exceeded the SIL or other identified level of consequence; or d) if the cumulative NAAQS analysis showed NAAQS violations, the impact of proposed facility/modification to any modeled violation was inconsequential (typically assumed to be less than the established SIL) for that specific receptor and for the specific modeled time when the violation occurred.

2.5 Toxic Air Pollutant Analyses

Emissions of toxic substances are generally addressed by *Idaho Air Rules* Section 161:

Any contaminant which is by its nature toxic to human or animal life or vegetation shall not be emitted in such quantities or concentrations as to alone, or in combination with other contaminants, injure or unreasonably affect human or animal life or vegetation.

Table 2. APPLICABLE REGULATORY LIMITS				
Pollutant	Averaging Period	Significant Impact Levels^a (µg/m³)^b	Regulatory Limit^c (µg/m³)	Modeled Design Value Used^d
PM ₁₀ ^e	24-hour	5.0	150 ^f	Maximum 6 th highest ^g
PM _{2.5} ^h	24-hour	1.2	35 ⁱ	Mean of maximum 8 th highest ^j
	Annual	0.3 ^k	12 ^l	Mean of maximum 1 st highest ^m
Carbon monoxide (CO)	1-hour	2,000	40,000 ⁿ	Maximum 2 nd highest ^o
	8-hour	500	10,000 ⁿ	Maximum 2 nd highest ^o
Sulfur Dioxide (SO ₂)	1-hour	3 ppb ^p (7.8 µg/m ³)	75 ppb ^q (196 µg/m ³)	Mean of maximum 4 th highest ^r
	3-hour	25	1,300 ⁿ	Maximum 2 nd highest ^o
	24-hour	5	365 ⁿ	Maximum 2 nd highest ^o
	Annual	1.0	80 ^s	Maximum 1 st highest ^o
Nitrogen Dioxide (NO ₂)	1-hour	4 ppb (7.5 µg/m ³)	100 ppb ^t (188 µg/m ³)	Mean of maximum 8 th highest ^u
	Annual	1.0	100 ^s	Maximum 1 st highest ^o
Lead (Pb)	3-month ^v	NA	0.15 ^s	Maximum 1 st highest ^o
	Quarterly	NA	1.5 ^s	Maximum 1 st highest ^o
Ozone (O ₃)	8-hour	40 TPY VOC ^w	70 ppb ^x	Not typically modeled

a. *Idaho Air Rules* Section 006 (definition for significant contribution) or as incorporated by reference as per *Idaho Air Rules* Section 107.03.b.

b. Micrograms per cubic meter.

c. Incorporated into *Idaho Air Rules* by reference, as per *Idaho Air Rules* Section 107.

d. The maximum 1st highest modeled value is always used for the significant impact analysis unless indicated otherwise. Modeled design values are calculated for each ambient air receptor.

e. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.

f. Not to be exceeded more than once per year on average over 3 years.

g. Concentration at any modeled receptor when using five years of meteorological data.

h. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.

i. 3-year mean of the upper 98th percentile of the annual distribution of 24-hour concentrations.

j. 5-year mean of the 8th highest modeled 24-hour concentrations at the modeled receptor for each year of meteorological data modeled. For the SIL analysis, the 5-year mean of the 1st highest modeled 24-hour impacts at the modeled receptor for each year.

k. This value is the upper limit as listed in 40 CFR 51.165(b)(2). Without monitoring data supporting this value, DEQ will use the 0.2 µg/m³ value recommended by EPA (EPA, 2018).

l. 3-year mean of annual concentration.

m. 5-year mean of annual averages at the modeled receptor.

n. Not to be exceeded more than once per year.

o. Concentration at any modeled receptor.

p. Interim SIL established by EPA policy memorandum.

q. 3-year mean of the upper 99th percentile of the annual distribution of maximum daily 1-hour concentrations.

r. 5-year mean of the 4th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of 1st highest modeled 1-hour impacts for each year is used.

s. Not to be exceeded in any calendar year.

t. 3-year mean of the upper 98th percentile of the annual distribution of maximum daily 1-hour concentrations.

u. 5-year mean of the 8th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of maximum modeled 1-hour impacts for each year is used.

v. 3-month rolling average.

w. An annual emissions rate of 40 ton/year of VOCs is considered significant for O₃.

x. Annual 4th highest daily maximum 8-hour concentration averaged over three years.

Permitting requirements for TAPs from new or modified sources are specifically addressed by *Idaho Air Rules* Section 203.03 and require the applicant to demonstrate to the satisfaction of DEQ the following:

Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant

carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.

Per Section 210, if the total project-wide emissions increase of any TAP associated with a new source or modification exceeds screening emission levels (ELs) of *Idaho Air Rules* Section 585 or 586, then the ambient impact of the emissions increase must be estimated. If ambient impacts are less than applicable Acceptable Ambient Concentrations (AACs) for non-carcinogens of *Idaho Air Rules* Section 585 and Acceptable Ambient Concentrations for Carcinogens (AACCs) of *Idaho Air Rules* Section 586, then compliance with TAP requirements has been demonstrated.

Idaho Air Rules Section 210.20 states that if TAP emissions from a specific source are regulated by the Department or EPA under 40 CFR 60, 61, or 63, then a TAP impact analysis under Section 210 is not required for that TAP. The DEQ permit writer evaluates the applicability of specific TAPs to the Section 210.20 exclusion.

3.0 Analytical Methods and Data

This section describes the methods and data used in analyses to demonstrate compliance with applicable air quality standards and air quality impact assessment requirements. The DEQ Statement of Basis provides a discussion of the methods and data used to estimate criteria and TAP emission rates.

3.1 Emissions Source Data

Emission rates used in the impact modeling applicability analyses and air impact modeling analyses, as listed in this memorandum, should be reviewed by the DEQ permit writer and compared with those in the final emission inventory. All criteria air pollutant and TAP emission rates listed in Section 3.1.1 of this memorandum must be equal to or greater than the facility's potential emissions calculated in the PTC emission inventory or proposed permit allowable emission rates.

3.1.1 Modeling Applicability and Modeled Criteria Pollutant Emissions Rates

A criteria pollutant-specific NAAQS compliance demonstration may not be required where facility-wide potential to emit (PTE) values for that criteria pollutant would qualify for a BRC permit exemption as per *Idaho Air Rules* Section 221 (equal to 10 percent of the emissions defined as *significant*) if it were not for potential emissions of other criteria pollutants or TAPs. DEQ's regulatory interpretation policy of exemption provisions of *Idaho Air Rules* is: "A DEQ NAAQS compliance assertion will not be made by the DEQ modeling group for specific criteria pollutants having a project emissions increase below BRC levels, provided the proposed project would have qualified for a Category I Exemption for BRC emissions quantities except for the emissions of another criteria pollutant" (DEQ 2014). The interpretation policy also states that the exemption criteria of uncontrolled PTE not to exceed 100 ton/year (*Idaho Air Rules* Section 220.01.a.i) is not applicable when evaluating whether a NAAQS impact analysis is required. A permit will be issued limiting PTE below 100 ton/year, thereby negating the need to maintain calculated uncontrolled PTE under 100 ton/year. The BRC exemption cannot be used to exempt a project from a pollutant-specific NAAQS compliance demonstration in cases where a PTC is required (a modification as per *Idaho Air Rules* Section 005.68) for the action regardless of emissions quantities, such as the modification of an existing emissions or throughput limit.

The submitted emission inventory shows that facility-wide controlled PTE emissions of all criteria pollutants are below BRC levels, as listed in Table 3. Fugitive emissions, as defined in *Idaho Air Rules* Section 005.47, are not considered in determining whether a source meets the applicable exemption criteria unless required by federal law, as stated in *Idaho Air Rules* Section 220.01. Fugitive emissions from the handling sand and aggregate were excluded from the BRC evaluation.

Table 3. CRITERIA POLLUTANT NAAQS COMPLIANCE DEMONSTRATION APPLICABILITY			
Criteria Pollutant	BRC Level (ton/year)	Applicable Facility Wide PTE Emissions^a (ton/year)	Air Impact Analyses Required?
PM ₁₀	1.5	0.48	No
PM _{2.5}	1.0	0.38	No
Carbon Monoxide (CO)	10.0	3.3	No
Sulfur Dioxide (SO ₂)	4.0	0.023	No
Nitrogen Oxides (NO _x)	4.0	3.9	No
Lead (Pb)	0.06	0.00005	No
Ozone (as VOC)	4.0	0.21	No

^a Fugitive emissions are excluded from consideration as per *Idaho Air Rules*.

3.1.2 Toxic Air Pollutant Emissions Rates

TAP compliance for the SRC CBP was demonstrated on a facility-wide basis. TAPs from the handling of cement and fly ash supplement are considered in the TAP applicability assessment. TAPs emitted from the boiler may be excluded from consideration as per *Idaho Air Rules* Section 210.20, provided those TAPs are also federally regulated HAPs.

Facility-wide potential emissions of arsenic (As) and hexavalent chromium (Cr⁶⁺) exceed the applicable ELs of *Idaho Air Rules* Section 586. Air impact modeling analyses were then required to demonstrate that maximum impacts of As and Cr⁶⁺ are below applicable ambient increment standards expressed in *Idaho Air Rules* Section 585 and 586 as AACs and AACCs.

Table 4 lists the TAP modeled emissions rates for As and Cr⁶⁺.

Table 4. EMISSIONS RATES MODELED FOR TAP IMPACT ANALYSES			
Source ID	Description	Annual Averaged Emission Rates (lb/hr^a)	
		Arsenic	Chromium⁶⁺
SILO	Cement storage silo filling	5.94 E-8	8.13 E-8
SUPSILO	Cement supplement (fly ash) storage silo filling	2.08 E-6	7.63 E-7
MIXBH	Concrete mixer baghouse emissions release point	1.35 E-6	4.87 E-8

^a Pounds per hour for annual averaging period.

Emissions of As and Cr⁶⁺ occur from the handling of both dry cement and fly ash cement supplement. Emissions from the filling of storage silos are controlled by a filtration system and emissions from the mixer are captured and routed to a baghouse prior to release to the atmosphere.

As and Cr⁶⁺ are carcinogenic TAPs that are regulated on a long-term basis. Therefore, the appropriate emission rates for impact analyses are maximum annual emissions, expressed as an average pound/hour value over an 8,760-hour period.

3.1.3 Emissions Release Parameters

Table 5 lists emission release parameters, including stack height, stack diameter, exhaust temperature, and exhaust velocity for emission sources modeled in the air impact analyses. Emission point release parameters were based on information provided by the applicant. The application indicated the silo vents exhausted vertically and uninterrupted, and the mixer baghouse vented horizontally. The vents were also modeled using an exhaust temperature of 0 Kelvin, which triggers the model to set the release temperature equal to the ambient air temperature. This eliminates thermal buoyancy of the plume.

Table 5. POINT SOURCE STACK PARAMETERS USED IN MODELING					
Point Source Parameters					
Release Point	Description	Stack Height (meters)^a	Stack Gas Flow Temp. (Kelvin)	Stack Flow Velocity (m/sec)^b	Stack Dia. (meters)^a
SILO	cement storage silo filling	15.5 (51 feet)	0 ^c	11.9 (2,340 acfm)	0.34 ^d (1.13 feet)
SUPSILO	cement storage silo filling	22.3 (73 feet)	0 ^c	11.9 (2,340 acfm)	0.34 ^d (1.13 feet)
MIXBH	mixer baghouse	11.0 (36 ft)	0 ^c	7.92 (2,340 acfm)	0.42 ^e (1.38 feet)

^a. Values in meters with equivalent value in parentheses given in feet.

^b. Meters per second as derived from the volumetric flow rate in parentheses given in actual cubic feet per minute (acfm).

^c. Set to 0 to direct model to use a release temperature equal to the ambient air temperature specified in the meteorological data input file.

^d. Effective diameter based on a 1.0 ft X 1.0 ft release area.

^e. Effective diameter based on a 1.5 ft X 1.0 ft release area.

The submitted application provided stack heights for the storage silo vents and the mixer baghouse vent. DEQ performed air impact modeling by using a generic layout that is frequently used for modeling portable CBP facilities. Receptors surround the emission sources starting at 20 meters from the center of the facility, which corresponds to the baghouse vent of the mixer. The generic layout has only one silo for cement storage and one silo for cement supplement storage, while the application identified four cement silos and one cement supplement silo. DEQ used the most conservative stack parameters for the single cement silo in the model (minimum stack height and flow rate). DEQ asserts this approach conservatively represents the equipment configuration and will likely result in over-estimation of impacts. A 10-meter square building, 10 meters tall, was used to represent structures at the plant. The mixer baghouse vent was positioned at the center of the building and the silos were positioned at corners of the building.

The distance between the mixer baghouse vent (at the center of the facility) and the nearest point of ambient air (area where public access is not precluded) is critical to results and assuring impacts are below AACCs. The results presented in Section 4 show that a minimum setback separation distance of 20 meters (66 feet) between the emission points and the nearest point of ambient air (as defined in Section 3.3.8 of this memorandum) is needed to assure compliance with the As and Cr6+ AACCs.

3.2 Background Concentrations

Background concentrations are used if a cumulative NAAQS impact analysis is needed to demonstrate compliance with applicable NAAQS. Cumulative NAAQS analyses were not required for this project because emissions of all criteria pollutants were below levels defined as BRC, and as such, a NAAQS compliance demonstration was not required for any criteria pollutants.

3.3 Impact Modeling Methodology

This section describes the modeling methods used by the applicant and/or DEQ to demonstrate preconstruction compliance with applicable air quality standards.

3.3.1 General Overview of Impact Analyses

DEQ performed the project-specific air pollutant emissions inventory and air impact analyses based on information submitted from the SRC facility. The submitted information/analyses, in combination with results from DEQ's air impact analyses, demonstrate compliance with applicable air quality standards to DEQ's satisfaction, provided the facility is operated as described in the submitted application and in this memorandum.

The SRC CBP is a stationary facility that will not relocate from Nampa site. Although the generic site layout was used in the analyses, impact modeling was performed using Boise meteorological data, which DEQ determined was adequately representative for the site. Terrain was not considered in DEQ's analyses, but the area is effectively flat with respect to air dispersion considerations. The general modeling method used for assessing impacts from the SRC CBP was the following:

1. Use a polar receptor grid with the emission points located at the center in a conservatively tight grouping.
2. Run the model using the Boise meteorological data.
3. Identify the controlling receptor from model result for each pollutant. The controlling receptor is the one just beyond (further from the emission points) the most distant receptor showing a concentration value over the applicable standard.
4. Determine the distance between the controlling receptor and the center point of the modeled facility (the mixer baghouse vent).
5. The minimum setback requirement distance is the furthest distance between the controlling receptor and center point, considering all model runs.
6. Compliance with identified applicable standards is assured provided the CBP operates as described and the minimum setback between emission sources and the nearest point of ambient air is maintained.

Table 6 provides a brief description of parameters used in the modeling analyses.

3.3.2 Modeling Methodology

Final project-specific modeling and other required impact analyses were generally conducted using data and methods described in the DEQ *Air Modeling Guideline* (DEQ 2021).

3.3.3 Model Selection

Idaho Air Rules Section 202.02 requires that estimates of ambient concentrations be based on air quality models specified in *Appendix W*. The refined, steady state, multiple-source, Gaussian dispersion model AERMOD was promulgated as the replacement model for ISCST3 in December 2005. AERMOD retains

the single straight-line trajectory of ISCST3 but includes more advanced algorithms to assess turbulent mixing processes in the planetary boundary layer for both convective and stable stratified layers.

AERMOD version 22112 was used for the air impact modeling analyses to evaluate impacts of the facility. This version was the current version at the time the application was received by DEQ.

Table 6. MODELING PARAMETERS		
Parameter	Description/Values	Documentation/Addition Description
General Facility Location	Nampa, Idaho	39 N. Picard Lane in Nampa, Idaho (Northing: 4,732,000 meters; Easting: 694,500 meters; UTM Zone 11).
Model	AERMOD	AERMOD with the PRIME downwash algorithm, version 22112.
Meteorological Data	Boise, Idaho	See Section 3.3.4 of this memorandum for additional details of the meteorological data.
Terrain	Not Considered	Flat terrain was assumed in the analyses.
Building Downwash	Considered	A 10 m X 10 m X 10 m structure was conservatively assumed at the center of the facility. BPIP-PRIME was used to evaluate building dimensions for consideration of downwash effects in AERMOD.
Receptor Grid	Polar Grid	Adequate to resolve maximum modeled impacts

3.3.4 Meteorological Data

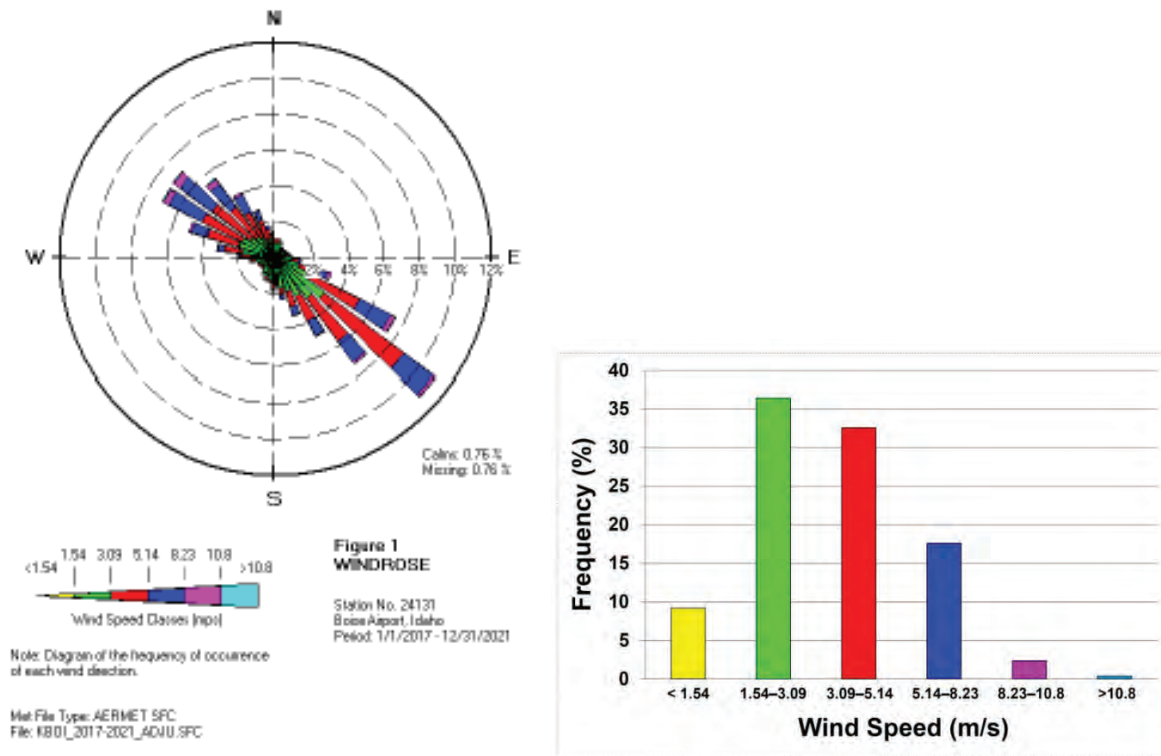
DEQ processed a meteorological dataset from Boise, Idaho (KBOI; station ID 726810-24131), covering the years 2017-2021. The upper air soundings required by AERMET were obtained from the Boise airport station (site ID 24131). Surface characteristics were determined by DEQ staff using AERSURFACE Version 20060. Land Cover, Impervious, and Tree Canopy data were collected in 2016 National Land Cover Database (NLCD) format. DEQ modeling staff evaluated annual moisture conditions for the AERSURFACE runs based on 30 years of Boise Airport precipitation data. Year 2018 and 2021 were assessed as having average moisture content, defined as total annual precipitation that is within the 30th and 70th percentiles of the 31-year precipitation data. Years 2017, 2019, and 2020 were assessed as wet years, defined as total annual precipitation larger than the 70th percentile of the 31-year precipitation data. Continuous snow cover for extended periods was evident from examination of local climatological records for the years 2016-2020 and therefore was assessed in the processing.

Figure 1 shows a wind rose and wind speed histogram at the Boise Airport. AERMINUTE Version 15272 was used to process Automated Surface Observing Systems (ASOS) wind data for use in AERMET. The percent calm distribution for the period from 2016-2020 is 0.76%. Missing data account for 0.76% of the data period. Impact modeling results presented in this memorandum were obtained by using the most recently processed meteorological dataset (AERMET Version 22112) generated by DEQ. The “adjust u star” (ADJ_U*) option was applied in AERMET to enhance model performance during low wind speeds under stable conditions. DEQ provided meteorological data to the applicant, with and without the ADJ_U* option enabled. DEQ determined that these data are adequately representative of the meteorology at the SRC CBP site for minor source permitting.

3.3.5 Effects of Terrain on Modeled Impacts

Terrain effects on dispersion were not considered in the analysis using the generic site layout. DEQ contends that assuming flat terrain is not a critical limitation of the analyses because most substantial emissions points associated with CBPs are near ground-level and the immediate surrounding area is flat for consideration of effects on pollutant dispersion. Emissions sources near ground-level typically have maximum pollutant impacts near the source, minimizing the potential effect of surrounding terrain to influence the magnitude of maximum modeled impacts.

Figure 1. (LEFT) WIND ROSE AND (RIGHT) WIND SPEED HISTOGRAM AT THE BOISE AIRPORT IN IDAHO (2017-2021)



3.3.6 Facility Layout

DEQ's analyses used a conservative generic facility layout. This approach is frequently used for portable plants because the specific layout will vary depending on product needs and specific characteristics of the site and equipment. In this case, for the stationary CBP, the general layout was used as a screening approach to eliminate the need to obtain specific equipment dimensions and exact positioning on the site. To provide conservative results, DEQ used a tight grouping of emissions sources at the center of a polar receptor grid. Sources were positioned within 7 meters from the center of the facility. The mixer baghouse vent was placed at the center of the facility. Table 7 lists the modeled coordinates of emission sources.

Table 7. COORDINATES OF MODELED SOURCES			
Source Identification Code	Description	Modeled Coordinates (meters)	
		Easting	Northing
MIXBH	Loadout baghouse vent	0.0	0.0
SILO	Cement storage silo vent	-5.0	5.0
SUPSILO	Cement supplement storage silo vent	-5.0	-5.0

3.3.7 Effects of Building Downwash on Modeled Impacts

Potential downwash effects on emissions plumes were accounted for in the model by using building dimensions and locations (locations of building corners and building heights). A 10-meter-square building, 10 meters high, was used in the analysis to conservatively account for downwash. Dimensions

and orientation of buildings were used as input to the Building Profile Input Program for the Plume Rise Model Enhancements downwash algorithm (BPIP-PRIME) to calculate direction-specific dimensions and Good Engineering Practice (GEP) stack height information for input to AERMOD.

3.3.8 *Ambient Air Boundary*

Ambient air is defined in Section 006 of the Idaho Air Rules as “that portion of the atmosphere, external to buildings, to which the general public has access.” Ambient air is typically considered areas external to the identified property boundary where the facility is located, assuming that reasonable measures will be taken to preclude public access.

DEQ’s analysis methods, using a generic facility layout, were used to generate minimum setback distances between emissions points and the property boundary or the established boundary to ambient air (if not the same as the property boundary). Setback distances were specified as the distance between emission sources and the closest point of potential public access. Compliance with applicable air quality standards and increments is not demonstrated unless setback distances are maintained.

3.3.9 *Receptor Network*

A polar grid with 5-meter receptor spacing extending out to 40 meters, 10-meter spacing extending out to 100 meters, 25-meter spacing extending out to 400 meters, and 50-meter spacing extending out to 500 meters was used in the non-site-specific modeling performed by DEQ. Since maximum impacts from these relatively short stack heights occur very near the sources, a more extensive receptor grid was not necessary to establish setback distances and assure compliance with applicable standards.

3.3.10 *Good Engineering Practice Stack Height*

An allowable good engineering practice (GEP) stack height may be established using the following equation in accordance with 40 CFR 51.100:

$H = S + 1.5L$, where:

H = good engineering practice stack height measured from the ground-level elevation at the base of the stack.

S = height of the nearby structure(s) measured from the ground-level elevation at the base of the stack.

L = lesser dimension, height or projected width, of the nearby structure.

Emission release points from all SRC CBP sources are below GEP stack height. Therefore, it is important to account for plume downwash caused by structures at the facility.

3.3.11 *Crucial CBP Characteristics Affecting Air Quality Impacts*

Table 8 lists characteristics of the CBP that are critical to the TAPs compliance demonstrations.

Table 8. IMPORTANT CHARACTERISTICS OF CBP USED IN DEQ ANALYSES	
Parameter	Value or Description
Concrete Production Rates	500,000 cy/year.
Mixer emissions	Emissions are collected and routed to a baghouse before release to the atmosphere.
Cement and supplement silo emissions	Emissions are controlled by a fabric filter.
Weigh batcher emissions	Emissions are controlled by a fabric filter.
Seasonal Restriction	None were assessed.

4.0 NAAQS and TAPs Impact Modeling Results

4.1 Results for NAAQS Analyses

NAAQS compliance demonstrations were not performed for the SRC CBP facility. *Idaho Air Rules* Section 203.02, requiring a NAAQS compliance demonstration, is not applicable to pollutants having project emissions that are less than BRC levels, provided the project would have qualified for a BRC permitting exemption except for the emissions levels of another criteria pollutant exceeding the ton/year BRC threshold. Applicable emissions of all criteria pollutants were below BRC levels.

4.2 Results for TAPs Impact Analyses

Dispersion modeling was required to demonstrate compliance with TAP increments specified by *Idaho Air Rules* Section 585 and 586 for those TAPs with facility-wide emissions exceeding ELs. DEQ determined required setback distances from the modeling results for each TAP with emissions exceeding the EL. Table 9 lists controlling setback distances for each TAP. Setback distances are the closest allowable distance between the property boundary and emission sources (silo vents and the release point of the truck loadout baghouse). The maximum setback distance required for demonstrating compliance with TAP increments was 20 meters (66 feet).

Table 9. SETBACK DISTANCES AS A FUNCTION OF TAP AND METEOROLOGICAL DATASET		
Meteorological Dataset	Setback Distance in meters^a	
	Arsenic AACC = (2.3E-4 µg/m³)	Chromium 6+ AACC = (8.3E-5 µg/m³)
Boise	<20 (66 feet)	<20 (<66 feet)

^a. Setback in meters. Value in parentheses are feet.

5.0 Conclusions

The information submitted with the PTC application, combined with DEQ air impact analyses, demonstrated to DEQ's satisfaction that emissions from the SRC CBP facility, as described in this memorandum, will not cause or significantly contribute to a violation of any ambient air quality standard.

References

DEQ. 2014. “Policy on NAAQS Compliance Demonstration Requirements.” Idaho Department of Environmental Quality Policy Memorandum. July 11, 2014.

DEQ. 2021. “Guideline for Performing Air Quality Impact Analyses.” Stationary Source Program. AQ Division. Idaho Department of Environmental Quality. <https://www.deq.idaho.gov/permits/air-quality-permitting>. July 2021.

EPA. 2021. “User’s Guide for the AMS/EPA Regulatory Model – AERMOD.” U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Emissions Monitoring and Analysis Division. EPA-454/B-21-001. April 2021. (Section 3.3.2.2).

APPENDIX C – FACILITY DRAFT COMMENTS

The following comments were received from the facility on October 10, 2023:

Facility Comment: Section 3.1: The facility is a central mix concrete batch plant, not a truck mix.

DEQ Response: DEQ fixed the wording of the type of plant to a central mix.

Facility Comment: Section 3.2: the weigh batcher control device is listed as a water spray, the correct control device is a baghouse as noted in Table 1.1 and Section 3.7.

DEQ Response: DEQ corrected the control device description in this section.

https://www.idahopress.com/news/local/operating-in-good-faith-nampa-concrete-plant-consequences-remain-unclear/article_f019ea06-c798-11ee-b340-dfefa538302b.html

'Operating in good faith': Nampa concrete plant consequences remain unclear

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Feb 17, 2024



A capacity crowd fills the council chambers at Nampa City Hall on Jan. 23 as members of the public show up to contest a proposed concrete plant to be built within city limits.

Brian Myrick / Idaho Press

NAMPA — Frustrations and concerns have continued to build surrounding the potential of a concrete plant being built near the homes of some Nampa residents.

Construction company Sunroc's recent proposal is for a concrete plant within Nampa city limits. Sunroc is based in Utah but has several sites in Idaho, Wyoming and Nevada.

A previous Planning and Zoning vote scheduled for Jan. 23 was postponed at Sunroc's request despite over 100 residents coming to speak in opposition. Sunroc Director of Marketing and Communications Julie Warnick said the company needed more time to talk to the city, with conversations still ongoing.

The proposed concrete plant would be located at 39 N Picard Lane off of Victory Road, across the street from nearby residential areas and near several schools including Columbia High School.

The plant would produce a peak capacity of 4,000 cubic yards of cement a day, according to application documents. Warnick said it would create approximately 40 jobs locally.

Nampa residents remain concerned about potential dust pollution and the traffic of large vehicles, with Tuesday's community townhall giving residents the opportunity to speak. Residents also voiced concerns about the plant's proximity to the nearby Nampa Municipal Airport.

Warnick said the proposed site has a "lower profile than typical" with flight paths in mind.

RISK FACTORS

Idaho Conservation League Associate Will Tiedemann has experience consulting private companies with environmental compliance, finding that each situation is different.

With smaller plants like the one detailed in the proposal, emissions tend to be relatively low, and if the plant's management is up to par, 95% to 99% of dust emissions would be contained, he said.

Ultimately, Tiedemann said it is up to the plant's management.

"If you don't clean them out or change some of the filters, or run them at better proper pressures, and get proper airflow through them, that control just can be significantly different, maybe not even working at all," Tiedemann said.

Concrete plants are associated with particulate matter pollution, with a usual component being heavy metals, according to Tiedemann.

The risks a nearby plant poses to residents remain unclear, with Tiedemann comparing the plant to living by a highway.

"I don't think it's unreasonable for a citizen to have concerns even if a concrete batch is operated quite well as far as controlling pollution," Tiedemann said. "Air quality is always going to be better living in the middle of the wilderness, so to say, than in an urban setting."

Tiedemann said the health impacts of concrete plant dust are largely unknown, requiring more research.

While the Department of Environmental Quality (DEQ) looks at records and keeps an eye on facilities, Tiedemann said a company's self-inspection and record keeping is important.

Hazards like fugitive dust clouds leaving the property may not be visible to the DEQ, while the company oversees its own daily operations.

"The history of operations shows a lot about what a company values and what they deem important," Tiedemann said. "A facility coming in, (with a) potentially bad track record, is a pretty big red flag."

SUNROC'S TRACK RECORD

The Environmental Protection Agency (EPA) records Civil Enforcement reports of organizations violating environmental protocol or failing to meet requirements for their facility's permits.

Looking into Sunroc's history in Idaho, the company has been involved in several EPA enforcement cases. Three of these cases were filed within a span of two years.

Based on Tiedemann's experience, the level of these infractions brings Sunroc's upper management into question, with violations occurring at multiple, separate locations.

With that said, Sunroc Community Relations Director Nate McDonald offered context to the following violations that were recorded by the EPA.

In 2018, a Sunroc sand and gravel facility located in Boise, north of Chinden Boulevard, was fined \$425,000 for several violations over the span of a four-year period. The EPA penalized the company for discharging sediment-laden water without a proper permit into the Boise River and failing to follow the requirements of the EPA-issued general permit.

McDonald said Sunroc had purchased this location in 2009 and kept the same operations, management and staffing team.

"A few years later, after the fact, we then learned about the violations that were happening," McDonald said.

Sunroc mistakenly had the wrong permits, McDonald said, and when notified, worked closely with the EPA to return to compliance.

It wasn't the company's first case of water pollution in Idaho, however.

In 2017, Sunroc settled a lawsuit concerning violations in Boise's Barber Valley. The company was fined \$1,650 for discharging polluted water into Warm Springs Creek and the Lower Boise River while also failing to properly monitor the water's contents.

The settlement addressed operations and maintenance violations, failure to maintain records and violations of the EPA's stormwater construction permit.

McDonald said that the incident had occurred on a day with heavy rain, wiping out one of their barricades. While the team immediately fixed it, the violation was still recorded.

Also in 2017, Sunroc's Kuna location incurred a penalty of \$1,200. McDonald said the location was acquired just a year prior and the violation stemmed from a torn air filter.

While EPA records show violations at Sunroc facilities in St. Anthony and Pocatello, the company acquired both facilities after violations occurred.

Considering each of these cases, Sunroc has paid a total of \$427,850 to the state and federal government for violations in Idaho. The company has also spent \$116,250 to comply with EPA's orders.

Recent developments posted by the EPA on Feb. 13 outline proposed settlements at two Sunroc locations in Caldwell.

At its Notus sand and gravel mining facility, the EPA alleged violations of the Clean Water Act, failure to maintain a Stormwater Pollution Prevention Plan and failure to comply with its stormwater permit which covers discharges of pollutants into the Boise River. Sunroc would be charged \$4,395 for these violations.

McDonald said part of this case was a berm that was not properly stabilized, resulting in an accidental crumple. As for the prevention plan, the company was required to make some minor updates.

Sunroc's Maddens ready-mix concrete plant committed similar violations and will be fined \$2,344, resulting from the same outdated Stormwater Pollution Prevention Plan according to McDonald.

The violations show a pattern of water pollution, Tiedemann said, though, air quality issues could exist as well.

Tiedemann explained that air pollution violations can often slip under the radar due to Idaho environmental enforcement. With the Clean Water Act, the EPA is required to make penalties public, providing an opportunity for public comment. The same requirement is not enforced by the Clean Air Act, meaning a company's air quality track record is not as apparent.

Tiedemann added, via email, that it is concerning that the violations occurred at different facilities across the state.

"If one site had several violations it could be a failure of local staff and perhaps an isolated issue that is not indicative of Sunroc's environmental ethics and their approaches to environmental permitting and compliance on a company-wide scale," he wrote.

While Tiedemann said the specifics of each case could tell a different story, he has concerns that the nature of the violations could be indicative of high-level management failure at Sunroc.

McDonald said that Sunroc's Idaho violations were largely due to uncontrollable circumstances or mistakes, referring to instances of severe weather, operations set by prior ownership and incorrect permits.

McDonald said Sunroc takes local regulations seriously, with monitoring systems in place specifically for water and air.

"We definitely believe in community building," McDonald said. "And we want to be a support."

NAMPA PERMITTING PROCESS

Before a project is presented to the Nampa Planning and Zoning Committee, groups must go through the city's application process, which can vary based on the type of project, Nampa Director of Planning and Zoning Rodney Ashby wrote in an email.

Sunroc went through a pre-application meeting with staff to review city code and determine whether the plant met the qualifications of the zoning area.

A conditional use permit may be required depending on the project's size, traffic concerns, the effect on nearby land use and the impact of the community's development.

The Planning and Zoning Committee's upcoming Feb. 27 meeting will decide whether the plant is approved for its conditional use permit.

Nampa City Code, Title 10, states the following project requirements for conditional use permits: will not adversely impact the intended appearance of the general vicinity, is supported by the Nampa Comprehensive Plan, will not be detrimental to the community's economy and will not involve operations that will be detrimental. This includes, within reason, "excessive traffic, noise, smoke, fumes, glare or odors."

City staff reviews project information and compiles a staff report with the permit criteria in mind. The report is then shared with the Planning and Zoning Commission, categorizing reasons to approve or deny the project.

"The concrete plant is permitted in a light or heavy industrial area with an approved conditional use permit," Ashby wrote. "The commission may require additional conditions as part of their approval to mitigate concerns."

The city relies on the Idaho Department of Environmental Quality's permit process to evaluate the environmental and health impacts of such a project.

As for traffic, Ashby said a limited-scope analysis has been recommended, but the project will not include enough traffic to require a full impact study.

The Planning and Zoning Committee will meet on Feb. 27 at Nampa City Hall where they will likely come to a final decision on Sunroc's proposal. According to McDonald, Sunroc plans to do more outreach and share additional information with the community before the vote.

"It seems like there's an outpouring of citizens mentioning these issues, but it definitely doesn't mean that these are hyper-local issues," Tiedemann said about concerns surrounding plants. "I think that's a great thing, to have that concern, as long as it's well-informed."

Haadiya Tariq is a reporter for the Idaho Press. She focuses on Nampa, Caldwell and Canyon County. You can follow her on Twitter @HaadiyaTariq or email her at htariq@idahopress.com.

If You Go

The Warhawk Air Museum will be hosting a community meeting on Feb. 13 starting at 6 p.m. with a moderated discussion. According to museum Executive Director Carson Spear Spear, a Sunroc representative will be present.

A final vote on the concrete plant's conditional use permit is scheduled to take place at the next Planning and Zoning Committee meeting on Feb. 27 at Nampa City Hall. Residents can sign up for the public comment period to voice their opinions.

Haadiya Tariq



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"ICL shares concerns with Sunroc's plans for a new concrete batch plant near Victory and Happy Valley Roads in Nampa. Concrete batch plants are known for emitting particulate matter and heavy metals, threatening our precious air and water quality. While these risks can be minimized with properly-functioning equipment and oversight, Sunroc's track record includes notable and frequent violations, such as recent water pollution issues in Caldwell, reported by the EPA. This history raises concerns associated with Sunroc's proposed Nampa facility. We urge neighbors and concerned citizens to contact the Idaho Department of Environmental Quality for information on concrete batch plant pollution and Sunroc's compliance history. ICL stands with local community partners in expressing concerns about Sunroc's proposed plant in Nampa."

Air Quality

PERMIT TO CONSTRUCT

Permittee	Sunroc Corporation - Nampa
Permit Number	P-2023.0018
Project ID	63086
Facility ID	027-00198
Facility Location	39 N. Picard Lane Nampa, ID 83687

Permit Authority

This permit (a) is issued according to the “Rules for the Control of Air Pollution in Idaho” (Rules), IDAPA 58.01.01.200–228; (b) pertains only to emissions of air contaminants regulated by the State of Idaho and to the sources specifically allowed to be constructed or modified by this permit; (c) has been granted on the basis of design information presented with the application; (d) does not affect the title of the premises upon which the equipment is to be located; (e) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment; (f) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances; and (g) in no manner implies or suggests that the Idaho Department of Environmental Quality (DEQ) or its officers, agents, or employees assume any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment. Changes in design, equipment, or operations may be considered a modification subject to DEQ review in accordance with IDAPA 58.01.01.200–228.

Date Issued October 16, 2023



Aaron Hoberg, Permit Writer



Mike Simon, Stationary Source Bureau Chief

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1 Permit Scope

Purpose

1.1 This is the initial permit to construct (PTC) for a stationary concrete batch plant facility.

Regulated Sources

Table 1.1 lists all sources of regulated emissions in this permit.

Table 1.1 Regulated Sources

Permit Section	Source	Control Equipment
2	<u>Material Transfer Points:</u> Materials handling Concrete aggregate transfers Truck unloading of aggregate Aggregate conveyor transfers Aggregate handling	Maintaining the moisture content in ¼” or smaller aggregate material at 1.5% by weight, using water sprays, using shrouds, or other emissions controls
3	<u>Concrete Batch Plant – Central Mix:</u> Manufacturer: Erie Strayer Model: MP-11C Manufacture Date: 2023 Max. production: 288 yd ³ /hr, 4,000 yd ³ /day, and 500,000 yd ³ /yr <u>Cement Storage Silo:</u> Storage capacity: 53 cubic yards (yd ³) Bin Vent Filter/Baghouse Manufacturer ^(a) : C&W Model: LPR-8 <u>Second Cement Storage Silo:</u> Storage capacity: 106 cubic yards (yd ³) Bin Vent Filter/Baghouse Manufacturer ^(a) : C&W Model: LPR-8 <u>Third Cement Storage Silo:</u> Storage capacity: 89 cubic yards (yd ³) Bin Vent Filter/Baghouse Manufacturer ^(a) : C&W Model: LPR-8 <u>Fourth Cement Storage Silo:</u> Storage capacity: 89 cubic yards (yd ³) Bin Vent Filter/Baghouse Manufacturer ^(a) : C&W Model: LPR-8 <u>Fly Ash Storage Silo:</u> Storage capacity: 53 cubic yards (yd ³) Bin Vent Filter/Baghouse Manufacturer ^(a) : C&W Model: LPR-8	<u>Weigh Batcher Baghouse:</u> Manufacturer: C&W Model: CP-35 PM ₁₀ /PM _{2.5} control efficiency: 99.99% <u>Cement Storage Silo Bin Vent Filter/Baghouse:</u> Manufacturer: C&W Model: LPR-8 PM ₁₀ /PM _{2.5} control efficiency: 99.99% <u>Second Cement Storage Silo Bin Vent Filter/Baghouse:</u> Manufacturer: C&W Model: LPR-8 PM ₁₀ /PM _{2.5} control efficiency: 99.99% <u>Third Cement Storage Silo Bin Vent Filter/Baghouse:</u> Manufacturer: C&W Model: LPR-8 PM ₁₀ /PM _{2.5} control efficiency: 99.99% <u>Fourth Cement Storage Silo Bin Vent Filter/Baghouse:</u> Manufacturer: C&W Model: LPR-8 PM ₁₀ /PM _{2.5} control efficiency: 99.99% <u>Fly Ash Storage Silo Bin Vent Filter/Baghouse:</u> Manufacturer: C&W Model: LPR-8 PM ₁₀ /PM _{2.5} control efficiency: 99.99% <u>Central Mix Baghouse:</u> Control: Baghouse PM ₁₀ /PM _{2.5} control efficiency: 99.99% <u>Material Transfer Points:</u> Control: Water sprays PM ₁₀ /PM _{2.5} control efficiency: 75%

^{a)} The storage silo baghouses are process equipment as they are part of the physical and operational design of the silos; therefore, the potential to emit does not have to be federally enforceable when calculating PTE from the silo's. PM₁₀ controlled emission factors were used when determining PTE and for modeling purposes.

Table 1.1 Regulated Sources (continued)

Permit Section	Source	Control Equipment
3	<u>Boiler:</u> Manufacturer: Kemco Heat input rating: 9.9 MMBtu/hr Fuel: Natural Gas	N/A

2 Facility-Wide Conditions

Fugitive Dust Control

2.1 Reasonable Control of Fugitive Emissions

In accordance with IDAPA 58.01.01.650-651, all reasonable precautions must be taken to prevent particulate matter from becoming airborne.

The permittee must monitor and maintain records of the frequency and the method(s) used (e.g., water, chemical dust suppressants) to reasonably control fugitive dust emissions.

The permittee must maintain records of all fugitive dust complaints received. The permittee must take appropriate corrective action as expeditiously as practicable after receipt of a valid complaint. The records must include, at a minimum, the date that each complaint was received and a description of the following: the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

The permittee must conduct a daily facility-wide inspection of potential sources of fugitive dust emissions, during daylight hours and under normal operating conditions to ensure that the methods used to reasonably control fugitive dust emissions are effective. If fugitive dust emissions are not being reasonably controlled, the permittee must take corrective action as expeditiously as practicable. The permittee must maintain records of the results of each fugitive dust emissions inspection. The records must include, at a minimum, the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time fugitive emissions were present (if observed), any corrective action taken in response to the fugitive dust emissions, and the date the corrective action was taken.

2.2 Fugitive Emissions Controls

In accordance with IDAPA 58.01.01.650 and 651, the concrete batch plant must employ efficient fugitive dust controls. The Permittee must implement and maintain, but are not limited to, the following controls:

- Application, where practical, of water, or suitable chemicals to, or the covering of, dirt roads, material stockpiles, and other surfaces which can create dust. This fugitive dust control is employed at this facility and the Permittee must be able to demonstrate this to DEQ staff.
- Installation and use, where practical, of hoods, fans, and fabric filters systems to enclose the handling of dusty materials. This fugitive dust control is employed at this facility and the Permittee must be able to demonstrate this to DEQ staff.

Good operating practices, including water spraying or other suitable measures, must be employed to prevent dust generation and atmospheric entrainment during operations such as stockpiling, screen changing and general maintenance. The Permittee must be able to demonstrate this to DEQ staff.

Monitoring and Recordkeeping Requirements

2.3 Fugitive Dust Monitoring and Recordkeeping

The permittee must conduct a facility-wide inspection of potential sources of visible fugitive emissions during daylight hours and under normal operating conditions once each day that the concrete batch plant operates, to demonstrate compliance with the Reasonable Control of Fugitive Emissions and the Fugitive Emissions Controls permit conditions. The inspection must consist of a see/no see evaluation for each potential source of visible fugitive emissions. If any visible fugitive emissions are present from any source of fugitive emissions, the permittee must take appropriate corrective action as expeditiously as practicable to mitigate the visible fugitive emissions.

The permittee must maintain records of the results of each see/no see evaluation of visible fugitive emissions inspection. The records must include, at a minimum, the date and results of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time visible fugitive emissions are present (if observed), any corrective action taken in response to the visible fugitive emissions, and the date corrective action was taken.

2.4 Recordkeeping

All monitoring and recordkeeping documentation required by this permit must be maintained in accordance with the Recordkeeping general provision.

3 Concrete Batch Plant Equipment

3.1 Process Description

The facility is a stationary central mix concrete batch plant consisting of aggregate stockpiles, cement storage silos, a cement supplement (fly ash) storage silo, a weigh batcher, and conveyors. The facility combines aggregate, sand, fly ash, and cement and then transfers the mixture into a central drum along with a measured amount of water for stationary mixing of the concrete. When using a central mix drum, concrete is transferred to trucks for transport off-site. Power will be supplied to the facility by using line power.

3.2 Control Device Descriptions

Table 3.1 Concrete Batch Plant Description

Emissions Units / Processes	Control Devices	Emission Points
Cement storage silo	Baghouse ^(a)	Vertical exhaust at 73 feet
Cement storage silo #2	Baghouse ^(a)	Vertical exhaust at 73 feet
Cement storage silo #3	Baghouse ^(a)	Vertical exhaust at 51 feet
Cement storage silo #4	Baghouse ^(a)	Vertical exhaust at 51 feet
Cement supplement storage silo fly ash	Baghouse ^(a)	Vertical exhaust at 73 feet
Weigh batcher	Baghouse	Vertical exhaust at 42 feet
Central loadout	Baghouse	Horizontal exhaust at 36 feet
Material transfer points (fugitive)	Industry specific water sprays	
Natural Gas/Diesel-fired boiler	N/A	Boiler exhaust

^{a)} As discussed previously, the baghouses are considered process equipment.

Emission Limits

3.3 Emission Limits

The emissions from the concrete batch plant and boiler stacks must not exceed any emissions rate limit in the following table.

Table 3.2 Concrete Batch Plant Emission Limits^(a)

Source	PM _{2.5} ^(b)		PM ₁₀ ^(b)		SO ₂		NO _x		CO		VOC	
	lb/hr ^(c)	T/yr ^(d)	lb/hr ^(c)	T/yr ^(d)	lb/hr ^(c)	T/yr ^(d)	lb/hr ^(c)	T/yr ^(d)	lb/hr ^(c)	T/yr ^(d)	lb/hr ^(c)	T/yr ^(d)
Batch plant ^(e)	0.055	0.082	0.12	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boiler	0.074	0.295	0.074	0.295	5.8E-3	2.3E-2	0.97	3.89	0.82	3.26	0.053	0.214

- In absence of any other credible evidence, compliance is ensured by complying with permit operating, monitoring, and record keeping requirements.
- Particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers and two point five (2.5) micrometers, including condensable particulate as defined in IDAPA 58.01.01.006. Note: PM₁₀/PM_{2.5} is a 24 hr daily average calculation.
- Pounds per hour, as determined by a test method prescribed by IDAPA 58.01.01.157, EPA reference test method, continuous emission monitoring system (CEMS) data, or DEQ-approved alternative.
- Tons per any consecutive 12-calendar month period.
- The batch plant source includes the combined emissions from the cement storage silos, supplemental cement silo storage, weigh batcher, and central loadout.

3.4 Opacity Limit

Emissions from the concrete batch plant baghouse and boiler stacks, or any other stack, vent, or functionally equivalent opening associated with the concrete batch plant baghouse and boiler, must not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required by IDAPA 58.01.01.625. Opacity must be determined by the procedures contained in IDAPA 58.01.01.625.

Operating Requirements

3.5 Concrete Production Limits

Concrete production from this facility must not exceed the following limits:

- 4,000 cubic yards per day
- 500,000 cubic yards per consecutive 12-months

3.6 Concrete Batch Plant Operation Setback Distance Requirements

The permittee must maintain the following minimum setback distances from the leased or owned property boundary to the truck loadout:

- 66 feet (\pm 6 feet).

3.7 Weigh Batch Baghouse Filter Control Equipment

The permittee must install, operate, and maintain a baghouse filter to control emissions from the weigh batcher.

3.8 Baghouse System Control Equipment

The permittee must install, operate, and maintain a baghouse to control emissions from the central loadout operation.

3.9 Cement Storage Silos Baghouse Control Equipment

The permittee must install, operate, and maintain a baghouse filter at the cement storage silos to control emissions from silo operations.

3.10 Fly Ash Storage Silo Baghouse Control Equipment

The permittee must install, operate, and maintain a baghouse filter at the fly ash storage silo to control emissions from silo operation.

3.11 Industry Specific Water Sprays Control Equipment

The permittee must install, operate, and maintain industry specific water sprays on material transfer points to control fugitive emissions.

3.12 Boiler Operation Limits

Operation of the boiler must not exceed the following limits:

- 8,000 hours per year

Monitoring and Recordkeeping Requirements

3.13 Concrete Production Recordkeeping

For each day that the concrete batch plant is operated the Permittee must maintain the following records:

- The amount of concrete produced in cubic yards per day to demonstrate compliance with the Concrete Production Limits permit condition.

Monthly concrete production must be determined by summing daily production over the previous calendar month. Consecutive 12-months of concrete production must be determined by summing the monthly production over the previous consecutive 12-month period to demonstrate compliance with the consecutive 12-months Concrete Production Limits permit condition.

3.14 Concrete Batch Plant Operation Setback Distance Recordkeeping

The permittee must measure and record the distance, to an accuracy of plus or minus six feet, between the leased or owned property boundary and the concrete weigh batcher exhaust stack to demonstrate compliance with the Concrete Batch Plant Operation Setback Distance Requirements permit condition.

3.15 Baghouse/Filter System Procedures

Within 60 days of initial start-up, the permittee must have developed a Baghouse Filter System Procedures document for the inspection and operation of the baghouse filter system which controls particulate matter emissions from the cement silos, fly ash silo, weigh batcher and central loadout operation. The Baghouse Filter System Procedures document must be a permittee-developed document independent of the manufacturer supplied operating manual but may include summaries of procedures included in the manufacturer supplied operating manual.

The Baghouse Filter System Procedures document must describe the procedures that will be followed to comply with the General Compliance General Provisions and must contain requirements for monthly see/no-see visible emissions inspections of the baghouse. The inspection must occur during daylight hours and under normal operating conditions.

The Baghouse/Filter System Procedures document must include a schedule and procedures for corrective action that will be taken if visible emissions are present from the cement silos, fly ash silo, weigh batcher and central loadout operation baghouses at any time. At a minimum the document must include:

- Procedures to determine if bags or cartridges are ruptured; and
- Procedures to determine if bags or cartridges are not appropriately secured in place.

The permittee must maintain records of the results of each baghouse filter system inspection. The records must include, but not be limited to, the following:

- Date and time of inspection;
- Equipment inspected (e.g. exterior housing of baghouse, fan motor, auger, inlet air ducting);
- Description of whether visible emissions were present, and if visible emissions were present a description of the corrective action that was taken; and
- Date corrective action was taken.

The Baghouse Filter System Procedures document must be submitted to DEQ within 60 days of initial start-up and must contain a certification by a responsible official. Any changes to the Baghouse Filter System Procedures document must be submitted within 15 days of the change.

The Baghouse Filter System Procedures document must remain on-site at all times and must be made available to DEQ representatives upon request.

The operating, monitoring, and recordkeeping requirements specified in the Baghouse Filter System Procedures document are incorporated by reference into this permit and are enforceable permit conditions.

3.16 Boiler Operation Recordkeeping

The permittee must monitor and record monthly operation of the boiler. Annual operation must be determined by summing the monthly operation over the previous consecutive 12-month period to demonstrate compliance with the Boiler Operation Limits permit condition.

3.17 Recordkeeping

All monitoring and recordkeeping documentation required by this permit must be maintained in accordance with the Recordkeeping general provision.

4 General Provisions

General Compliance

- 4.1 The permittee has a continuing duty to comply with all terms and conditions of this permit. All emissions authorized herein must be consistent with the terms and conditions of this permit and the “Rules for the Control of Air Pollution in Idaho.” The emissions of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, must constitute a violation of this permit, the “Rules for the Control of Air Pollution in Idaho,” and the Environmental Protection and Health Act (Idaho Code §39-101, et seq).

[Idaho Code §39-101, et seq.]

- 4.2 The permittee must at all times (except as provided in the “Rules for the Control of Air Pollution in Idaho”) maintain in good working order and operate as efficiently as practicable all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

[IDAPA 58.01.01.211]

- 4.3 Receiving a permit to construct, a Tier I operating permit, a Tier II operating permit, a Permit by Rule, or a Certificate of Registration for portable equipment does not relieve any owner or operator of the responsibility to comply with all applicable local, state, or federal statutes, rules, and regulations.

[IDAPA 58.01.01.108]

Inspection and Entry

- 4.4 Upon presentation of credentials, the permittee must allow DEQ or an authorized representative of DEQ to do the following:

- Enter upon the permittee’s premises where an emissions source is located, emissions-related activity is conducted, or where records are kept under conditions of this permit;
- Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;
- Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
- As authorized by the Idaho Environmental Protection and Health Act, sample or monitor, at reasonable times, substances or parameters for the purpose of determining or ensuring compliance with this permit or applicable requirements.

[Idaho Code §39-108]

Construction and Operation Notification

- 4.5 The Department may cancel a permit to construct if the construction is not begun within two (2) years from the date of issuance, or if during the construction, work is suspended for one (1) year.

[IDAPA 58.01.01.211.02]

- 4.6 The permittee must furnish DEQ written notifications as follows:

- A notification of the date of initiation of construction, within five working days after occurrence; except in the case where pre-permit construction approval has been granted then

notification must be made within five working days after occurrence or within five working days after permit issuance whichever is later;

- A notification of the date of any suspension of construction, if such suspension lasts for one year or more; and
- A notification of the initial date of achieving the maximum production rate, within five working days after occurrence - production rate and date.

[IDAPA 58.01.01.211.01]

- A notification of the anticipated date of initial start-up of the stationary source or facility not more than sixty days or less than thirty days prior to such date; and
- A notification of the actual date of initial start-up of the stationary source or facility within fifteen days after such date.

[IDAPA 58.01.01.211.03]

Performance Testing

4.7 If performance testing (air emissions source test) is required by this permit, the permittee must provide notice of intent to test to DEQ at least 15 days prior to the scheduled test date or shorter time period as approved by DEQ. DEQ may, at its option, have an observer present at any emissions tests conducted on a source. DEQ requests that such testing not be performed on weekends or state holidays.

4.8 All performance testing must be conducted in accordance with the procedures in IDAPA 58.01.01.157. Without prior DEQ approval, any alternative testing is conducted solely at the permittee's risk. If the permittee fails to obtain prior written approval by DEQ for any testing deviations, DEQ may determine that the testing does not satisfy the testing requirements. Therefore, at least 30 days prior to conducting any performance test, the permittee is encouraged to submit a performance test protocol to DEQ for approval. The written protocol must include a description of the test method(s) to be used, an explanation of any or unusual circumstances regarding the proposed test, and the proposed test schedule for conducting and reporting the test.

4.9 Within 60 days following the date in which a performance test required by this permit is concluded, the permittee must submit to DEQ a performance test report. The written report must include a description of the process, identification of the test method(s) used, equipment used, all process operating data collected during the test period, and test results, as well as raw test data and associated documentation, including any approved test protocol.

[IDAPA 58.01.01.157]

Monitoring and Recordkeeping

- 4.10** The permittee must maintain sufficient records to ensure compliance with all of the terms and conditions of this permit. Monitoring records must include, but not be limited to, the following: (a) the date, place, and times of sampling or measurements; (b) the date analyses were performed; (c) the company or entity that performed the analyses; (d) the analytical techniques or methods used; (e) the results of such analyses; and (f) the operating conditions existing at the time of sampling or measurement. All monitoring records and support information must be retained for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes, but is not limited to, all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. All records required to be maintained by this permit must be made available in either hard copy or electronic format to DEQ representatives upon request.

[IDAPA 58.01.01.211]

Excess Emissions

- 4.11** The permittee must comply with the procedures and requirements of IDAPA 58.01.01.130-136 for excess emissions. The provisions of IDAPA 58.01.01.130-136 must govern in the event of conflicts between the excess emissions general provisions and the regulations of IDAPA 58.01.01.130-136.

During an excess emissions event, the permittee must, with all practicable speed, initiate and complete appropriate and reasonable action to correct the conditions causing the excess emissions event; to reduce the frequency of occurrence of such events; to minimize the amount by which the emission standard is exceeded; and must, as provided below or upon request of DEQ, submit a full report of such occurrence, including a statement of all known causes, and of the scheduling and nature of the actions to be taken.

[IDAPA 58.01.01.132]

- 4.12** In all cases where startup, shutdown, or scheduled maintenance of any equipment or emission unit is expected to result or results in an excess emissions event, the permittee must demonstrate compliance with IDAPA 58.01.01.133.01(a) through (d), including, but not limited to, the following:

- Ensure that no scheduled startup, shutdown, or maintenance resulting in excess emissions occurs during any period in which an Air Quality Advisory has been declared by DEQ.
- Notifying DEQ of the excess emissions event as soon as reasonably possible, but no later than two hours prior to the start of the event, unless the permittee demonstrates to DEQ's satisfaction that a shorter advance notice was necessary.
- Reporting and recording the information required pursuant to the excess emissions reporting and recordkeeping requirements and IDAPA 58.01.01.135 and 136 for each excess emissions event due to startup, shutdown, or scheduled maintenance.

[IDAPA 58.01.01.133]

- 4.13** In all cases where upset or breakdown of equipment or an emissions unit, or the initiation of safety measures, results or may result in an excess emissions event, the permittee must demonstrate compliance with IDAPA 58.01.01.134.01(a) and (b) and the following:

- Immediately undertake all appropriate measures to reduce and, to the extent possible, eliminate excess emissions resulting from the event and to minimize the impact of such excess emissions on the ambient air quality and public health.

- Notify DEQ of any upset, breakdown, or safety event that results in excess emissions. Such notification must identify the time, specific location, equipment or emissions unit involved, and (to the extent known) the cause(s) of the occurrence. The notification must be given as soon as reasonably possible, but no later than 24 hours after the event, unless the permittee demonstrates to DEQ's satisfaction that the longer reporting period was necessary.
- Report and record the information required pursuant to the excess emissions reporting and recordkeeping facility wide conditions and IDAPA 58.01.01.135 and 136 for each excess emissions event caused by an upset, breakdown, or safety measure.
- During any period of excess emissions caused by upset, breakdown, or operation under facility safety measures, DEQ may require the permittee to immediately reduce or cease operation of the equipment or emissions unit causing the period until such time as the condition causing the excess has been corrected or brought under control. Such action by DEQ will be taken upon consideration of the factors listed in IDAPA 58.01.01.134.03 and after consultation with the permittee.

[IDAPA 58.01.01.134]

- 4.14** The permittee must submit a written report to DEQ for each excess emissions event, no later than 15 days after the beginning of such an event. Each report must contain the information specified in IDAPA 58.01.01.135.02.

[IDAPA 58.01.01.135]

- 4.15** The permittee must maintain excess emissions records at the facility for the most recent five calendar-year period. The excess emissions records must be made available to DEQ upon request and must include the information requested by IDAPA 58.01.01.136.03(a) and (b) as summarized in the following:

- An excess emissions log book for each emissions unit or piece of equipment containing copies of all reports that have been submitted to DEQ pursuant to IDAPA 58.01.01.135 for the particular emissions unit or equipment; and
- Copies of all startup, shutdown, and scheduled maintenance procedures and upset, breakdown, or safety preventative maintenance plans that have been developed by the permittee in accordance with IDAPA 58.01.01.133 and 134, and facility records as necessary to demonstrate compliance with such procedures and plans.

[IDAPA 58.01.01.136]

Certification

- 4.16** All documents submitted to DEQ—including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, or compliance certification—must contain a certification by a responsible official. The certification must state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

[IDAPA 58.01.01.123]

False Statements

- 4.17** No person must knowingly make any false statement, representation, or certification in any form, notice, or report required under this permit or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.125]

Tampering

- 4.18** No person must knowingly render inaccurate any monitoring device or method required under this permit or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.126]

Transferability

- 4.19** This permit is transferable in accordance with procedures listed in IDAPA 58.01.01.209.05.

[IDAPA 58.01.01.209.05]

Severability

- 4.20** The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, must not be affected thereby.

[IDAPA 58.01.01.211]

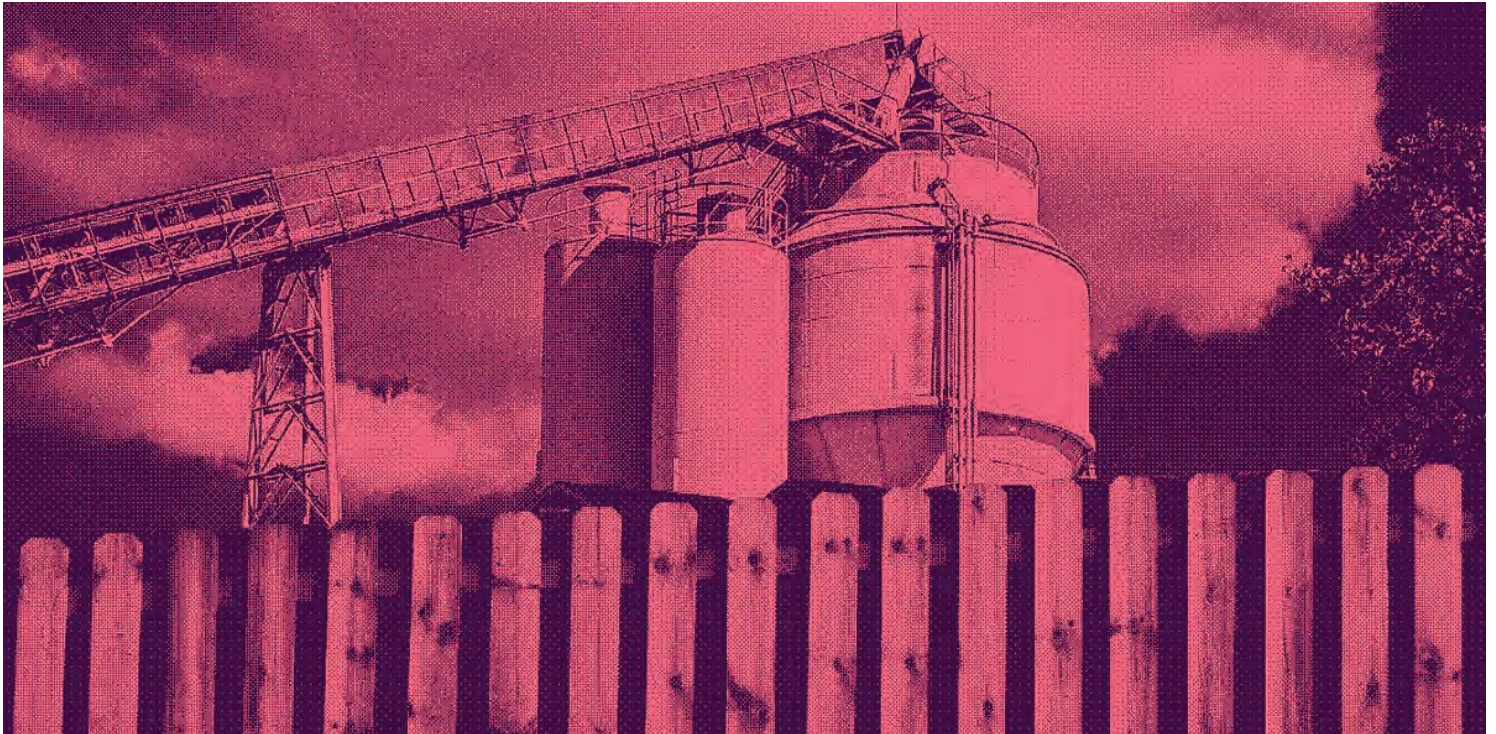
URBAN EDGE

It's hard to breathe with a concrete plant in your backyard

INSIGHTS :

Aug. 19, 2020

ALLYN WEST



NIMBY opposition alone isn't enough to counter the harmful effects of air pollutants emitted by concrete batch plants located in underserved and over-polluted communities in Harris County, which is home to more of these facilities than any county in Texas. Too often, much of the pollution and many of the polluters largely go unchecked by the state.

"Literally," state Rep. Armando Walle says, "you can't breathe."

The residents the Houston Democrat has represented since 2008 in House District 140, which includes the city and parts of unincorporated Harris County between Loop 610, Beltway 8, Highway 290 and the Eastex Freeway, tell him that the dust that blows from concrete batch plants covers their roofs, their cars, their barbecue pits. They can't go outside. They can't have friends over.

The dust, they tell him, is everywhere.

That dust, a kind of air pollution called particulate matter that can penetrate deep into the lungs, is just one part of the problem that concrete batch plants present. Because the Texas Commission on Environmental Quality (TCEQ) grants them 24-hour permits, heavy diesel trucks line up as early as 2 a.m. to idle noisily on local streets, waiting to pick up as many as 150 loads every day, emitting even more pollutants like black carbon and nitrogen dioxide. These trucks, Walle says, tear up yards, drainage ditches and other infrastructure governments have to repair. Even attempts to water down the dust end up creating an ugly muddy slurry that tracks all over the community.

Environmental Protection Agency data compiled by the Houston Chronicle show that there are at least 188 plants in Harris County alone, the most in Texas.

That's why, earlier this year, Walle and 280 residents showed up at a meeting to demand answers from a company seeking a permit for a new plant near hundreds of homes in Aldine. It was heated, Walle says, until the owner slipped TCEQ a note to withdraw the request in the middle of the meeting. That came just one week after a company seeking a permit for a new plant next door to a couple's home and a park in Acres Homes agreed, after years of residents' pressure, to build it somewhere else.

Keeping these plants out were wins for the health of these communities. But there are already eight concrete batch plants in Aldine. On the other side of I-45, in District B, which includes Acres Homes, there are more than a dozen. Environmental Protection Agency data compiled by the Houston Chronicle show that there are at least 188 plants in Harris County alone, the most in Texas.

And there are more in Texas than any other state. Though they produce one of the ubiquitous materials of cities, the concrete we pour for everything from sidewalks to stormwater pipes to skyscrapers, the unique combination of Houston's lack of zoning, the region's relentless outward growth and an overly permissive state environmental agency means that too many concrete batch plants are making it too hard to breathe.

What happens at concrete batch plants?

Behind the fences, mountains of sand and rock and aggregate are loaded around the clock into the drums of the trucks. That, says Corey Williams, research and policy director for Air Alliance Houston, is the largest source of the dusty, gritty pollution that Walle has heard so much about.

It's like when you forget to change the vacuum cleaner bag at home — except, in Texas, no one's coming to remind you.

That's also the only place, Williams says, where the plants are required to control the pollution. A vacuum system is supposed to suck the dust into a baghouse, which is supposed to filter out the particulate matter.

The problem, Williams explains, is that baghouses have to be maintained and emptied regularly. When they're not, or when that's done improperly, they end up making even more of a mess. It's like when you forget to change the vacuum cleaner bag at home — except, in Texas, no one's coming to remind you.

TCEQ, Williams says, rarely returns to plants once permits are granted to inspect the baghouses and other operations. Companies are expected to clean up after themselves. "Nobody's checking," Williams says, "unless somebody from the community is vocal and makes complaints about emissions."

But, without air monitors, residents might not know about those emissions. It's dusty, but they might not know that they're breathing one of the deadliest kinds of air pollution. Particulate matter is linked to serious health conditions, including reduced lung development in children, higher rates of asthma, bronchitis, heart disease and cancer. The most recent data, compiled from a range of sources, including satellite imagery, show that, in 2015 alone, particulate matter was linked to 5,200 premature deaths in Houston.

Volatile organic compounds (VOCs) are also a problem at concrete batch plants, says Dr. Latrice Babin, director of Harris County Pollution Control. VOCs can irritate the eyes and respiratory system and cause shortness of breath, headaches, fatigue, skin problems and impair the memory. Higher concentrations of VOCs can damage the liver, kidney and brain, according to Babin.

Particulate matter is linked to serious health conditions, including reduced lung development in children, higher rates of asthma, bronchitis, heart disease and cancer.

“Living near these facilities, you are exposed to higher levels of harmful pollution,” says Fern Uennatornwarangoon, air quality policy manager with Environmental Defense Fund (EDF). Even inside a community, the pollution from a concrete batch plant can be comparable with the pollution along a congested freeway.

The findings of [new research](#) from EDF, which drove 32,000 miles in 22 Houston neighborhoods with air monitors mounted on Google Street View cars “confirm communities’ lived experience. They’ve always known where these problematic facilities are,” Uennatornwarangoon says. In Houston, almost one-third of the concrete batch plants in the city are located a short walk from a school or day care.

The health impacts of this pollution are profound, and they are disproportionately borne. Because land has been cheapened by [redlining](#), disinvestment, restrictive covenants and [environmental racism](#), polluters concentrate unevenly across the region, often intentionally in communities of color and low wealth, compounding other issues and creating [entrenched disparities](#), almost all of which are being exacerbated by the [coronavirus pandemic](#). Those who are exposed the most to pollution are the least responsible for it.

Fifth Ward, on the other side of the freeway from Acres Homes, has [four concrete batch plants and 10 metal recyclers](#) — and has higher rates of COPD, coronary heart disease and stroke than the city average. Asthma rates edge close to 11%, compared with 7% in River Oaks — where there are stormwater pipes and sidewalks and skyscrapers, but not a single concrete batch plant.

What can be done?

As residents in Aldine and Acres Homes prove, relentless community organizing can keep new concrete batch plants out — if the community knows when one’s coming in. TCEQ requires companies to post signs at proposed sites and print notices in a local newspaper to get their

permits, but that's "the bare minimum," Williams says. The state is burdening the communities threatened by these plants to protect themselves. Unless you drove by or scoured the fine print, you'd never know.

Dr. Bakeyah Nelson, Air Alliance Houston's executive director, has said that permits should also consider the context of the site and the cumulative impacts of exposure to many sources of pollution. The permit, she said, shouldn't be based only on what is supposed to happen inside the fence.

What's needed most going forward is a reevaluation of the entire permitting process. "The issue is lax enforcement from the state, and I think it's by design," Walle says. "I can't remember the last time TCEQ rejected a permit."

He says he has filed bill after bill in recent legislative sessions to require more protections. Right now, for example, plants are required to maintain a buffer zone only of 440 yards from the nearest school, home or church. He thinks that should be increased. He thinks TCEQ should conduct more inspections. He thinks the agency should scrutinize permits more closely. He thinks the state should be more creative, he says, and give local health agencies and pollution control more authority.

In Houston, almost one-third of the concrete batch plants in the city are located a short walk from a school or day care.

He'd like to see TCEQ have the budget to hire more full-time employees who can focus on this particular problem, he says.

The bills, he says, go nowhere. "Industry kills them."

But pollution is killing Texans. It's inconvenient for industry and those in power to listen to people in communities like Aldine and Acres Homes, but that's who we need to listen to, and work together, so everyone can breathe clean air.

“Do you want to live next to a concrete batch plant?” Walle says he has asked the owners of companies who are seeking permits that, right now, don’t always lead to plants that are good for the health of the community. “I’m not saying they’re bad people,” he says. “I’m saying, ‘Be better neighbors.’”

Allyn West is a senior communications specialist for the Environmental Defense Fund. You can follow him on Twitter @allynwest. This article first appeared on the One Breath Partnership website.

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23, 120
INSTRUMENT NO 755291

AVIATION EASEMENT

WHEREAS, BURRILANE FARMS, INC., an Idaho corporation, hereinafter called the Grantor, is the owner in fee of that certain tract of land situated in the County of Canyon, State of Idaho, more particularly described as follows, to-wit:

Exhibit "A" attached hereto and made a part hereof, which said property shall be hereinafter called "Grantor's Property" and which property is outlined on the attached map marked Exhibit "B" and made a part hereof and shown on said attached map as Parcel No. 7(c) and Parcel No. 8.

NOW, THEREFORE, in consideration of the sum of TEN AND NO/100 DOLLARS (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Grantor, for itself and its assigns and successors in interest, does hereby grant, bargain, sell and convey unto the City of Nampa, Idaho, hereinafter called the Grantee, its successors and assigns, for the use and benefit of the public, an easement and right of way in and over the above land, appurtenant to the Nampa Municipal Airport, for the unobstructed passage of all aircraft, ("aircraft" being defined for the purpose of this instrument as any contrivance now known or hereafter invented, used or designed for navigation of or flight in the air) by whomever owned or operated.

The Grantor agrees that the easement and rights hereby granted to the Grantee in and over the Grantor's Property is an easement in the airspace above Grantor's Property above an imaginary plane extending horizontally 125 feet at a right angle in both a Southwesterly and in a Northwesterly direction from the surface of the new runway centerline, for the entire length of all of Grantor's Property lying along or in the vicinity of

the Airport and thence extending outward and upward from the outer edges of the above described plane surface, on a slope of 7:1 (7 feet horizontal to each 1 foot rise vertically) to the outer boundaries of the Grantor's Property, or to a height of 150 feet above the highest point on the runway centerline, whichever is first encountered, as shown on Exhibit "B" map attached hereto, together with the right to cause in said airspace above Grantor's Property such ordinary and usual noise, vibrations, fumes, dust, fuel particles and all other effects that may be caused by the operation of aircraft landing at, or taking off from, or operating at or on, the Nampa Municipal Airport; and Grantor does hereby fully waive, remise and release any right or cause of action which it may now have, or which it may have in the future, against Grantee, its successors and assigns, due to such ordinary and usual noise, vibrations, fumes, dust, fuel particles and all other effects that may be caused by the operation of aircraft landing at, or taking off from, or operating at or on, the new runway to be immediately constructed at the Nampa Municipal Airport.

The easements and rights hereby granted include the continuing right in the Grantee to prevent the erection or growth upon Grantor's Property of any building, structure, tree, plant, crop, or other object extending into the airspace above the afore-said imaginary planes and to remove from said airspace such buildings, structure, tree, plant, crop, or other object now upon, or which in the future may be upon, said property, together with the right of ingress to, egress from, and passage of said property for the above purposes.

To have and to hold said easements and rights of way,

and all rights appertaining thereto unto the Grantee, its successors and assigns, until said Nampa Municipal Airport shall be abandoned or ceased to be used for said airport purposes.

And for the consideration hereinabove set forth, the Grantor, for itself and its successors and assigns, does hereby agree that for and during the life of said easements and rights it will not hereafter erect, permit the erection or growth of, or permit or suffer to remain on said property, any building, structure, tree, plant, crop or other object extending into the aforesaid prohibited airspace and that it shall not hereafter use or permit or suffer the use of Grantor's Property in such a manner as to create electrical interference with radio communications between any installation upon said Airport and aircraft, or as to make it difficult for flyers to distinguish between airport lights and others, or as to impair visibility in the vicinity of the Airport, or as to otherwise endanger the landing, taking off, or maneuvering of aircraft. It is further agreed that vehicular traffic within the Primary Surface Plane of the above described property as shown on Exhibit "B" shall be limited to that necessary for the farming thereof and that entry of such vehicular traffic shall be coordinated in advance with the airport operator and that any vehicles and/or equipment used upon said Primary Surface or which may extend upwards through the adjacent 7:1 Transitional Slope Surface over the property shall carry an appropriate flag or light as required by Grantee and that any such vehicles and/or equipment must be removed from said Primary Surface as soon as practicable when not needed for agricultural purposes. If such lights are required, the initial expense thereof shall be divided equally between the parties. Operators of such vehicles and/or equipment upon the Primary

EXHIBIT "A"

PARCEL 1:

All that part of the SE 1/4SW 1/4 lying North and East of the Center line of Mason Creek, Section 24, Township 3 North, Range 2, West of the Boise Meridian, Canyon County, Idaho.

PARCEL 2:

Beginning at the Northeast corner of the Northwest quarter of the Northwest quarter of the Southwest quarter of Section 24, Township 3 North, Range 2, West of the Boise Meridian, Canyon County, Idaho, which point shall be known as the REAL POINT OF BEGINNING;

Thence East 193.3 feet along the Northern boundary of the Northeast quarter of the Northwest quarter of the Southwest quarter to a point which is 853.3 feet East of the Northwest corner of the Southwest quarter of said Section 24;

Thence South 45°00'00" East 660 feet to a point on the Eastern boundary of said Northwest quarter, said Southwest quarter, said Section 24;

Thence Southerly 196.6 feet along said Eastern boundary to the Southeast corner of the Northeast quarter, said Northwest quarter, said Southwest quarter of said Section 24;

Thence West 660 feet along the Southern boundary of said Northeast quarter, said Northwest quarter, said Southwest quarter of said Section 24 to the Southwest corner of said Northeast quarter, said Northwest quarter, said Southwest quarter, said Section 24;

Thence North 663.3 feet along a line parallel to the Western boundary of the Southwest quarter of said Section 24 to the REAL POINT OF BEGINNING.

Consisting of 7.5499 acres, more or less.

PARCEL 3:

Commencing at the Northeast corner of the Southeast Quarter of the Southwest Quarter of Section 24 in Township 3 North and Range 2 West from the Boise Meridian and bearing South 215 feet, along the East boundary of the aforesaid Southeast Quarter of the Southwest Quarter to the REAL POINT OF BEGINNING.

Thence continuing South 275 feet, along the East boundary of the aforesaid Southeast Quarter of the Southwest Quarter; thence N 39°10' W 160 feet and N 33°40' E 281.7 feet to the REAL POINT OF BEGINNING.

Containing .32 of an acre.

ADDITIONAL PARCELS:

Those additional parcels which are portions of Section 24,
Township 3 North, Range 2 West, Boise Meridian, Canyon County,
Idaho, described on the attached copies of Warranty Deeds,
which said copies of Warranty Deeds are a part of this Exhibit
"A".

THIS INSTRUMENT Made this 22nd day of December, 1971, in the year of our Lord one thousand nine hundred and seventy one between

CITY OF NAMPA IDAHO, a municipal corporation duly organized and existing under the laws of the State of Idaho

in the County of Canyon, party of the first part, and BURRILANE FARMS, INC., an Idaho corporation, of Nampa, County of Canyon, State of Idaho, party of the second part.

WITNESSETH, That the said party of the first part, having been hereunto duly authorized by resolution of its Board of Directors, for and in consideration of the sum of TEN AND NO/100 DOLLARS,

lawful money of the United States of America, to it in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, has granted, bargained and sold, and by these presents does grant, bargain, sell, convey and confirm unto the said party of the second part, and to its heirs and assigns forever, all the following described real estate situated in Canyon County, State of Idaho, to-wit:

A portion of the Northwest 1/4 Southeast 1/4, Section 24, Township 3 North, Range 2 West, Boise Meridian, Canyon County, Idaho, more particularly described by metes and bounds as follows:

Commencing at the Northwest corner of the Northwest 1/4 Southeast 1/4, Section 24, Township 3 North, Range 2 West, Boise Meridian, Canyon County, Idaho and running Southerly 316.56 feet along the Westerly boundary of the said Northwest 1/4 Southeast 1/4, Section 24, to the TRUE POINT OF BEGINNING;

thence South 57°19'40" East 1508.42 feet, more or less, to a point on the Easterly boundary of the said Northwest 1/4 Southeast 1/4, Section 24;

thence Southerly 159.57 feet, more or less, along said Easterly boundary of the Northwest 1/4 Southeast 1/4, Section 24, to a point 220.00 feet Northeasterly and at right angles from the proposed centerline of the Nampa Municipal Airport Runway, said point also being 21.75 feet Northerly from the Southeast Corner of the said Northwest 1/4 Southeast 1/4, Section 24;

thence North 54°03'15" West 1010.80 feet, more or less, along a line parallel to and 220.00 feet Northeasterly from the said proposed centerline of the Nampa Municipal Airport Runway to a point on the said Easterly boundary of the Northwest 1/4 Southeast 1/4, Section 24;

thence Northerly 48.94 feet, more or less, along said Easterly boundary of the Northwest 1/4 Southeast 1/4, Section 24, to the point of beginning;

Containing 7.100 Acres, more or less.

To HAVE AND TO HOLD all and singular the above mentioned and described premises, together with the appurtenances, unto the party of the second part, and to its heirs and assigns forever. And the said party of the first part, and its successors, the said premises in the quiet and peaceable possession of the said party of the second part, and its successors, against the said party of the first part, and its successors, and against all and

682214

This Instrument, Made this 22nd day of August, 1967, in the year of our Lord one thousand nine hundred and seventy one

CITY OF NAMPA, IDAHO, a Municipal

a corporation duly organized and existing under the laws of the State of Idaho

and having its principal office located at

in the County of

Canyon, party of the first part, and

MUNICIPAL TRAILS, INC., an Idaho corporation,

of Nampa, County of Canyon, State of

Idaho party of the second part,

WITNESSETH, That the said party of the first part, having been hereto duly authorized by resolution of its Board of Directors, for and in consideration of the sum of

-----TEN AND NO/100----- DOLLARS,

lawful money of the United States of America, to it in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, has granted, bargained and sold, and by these presents does grant, bargain, sell, convey and confirm unto the said party of the second part, and to its successors and assigns forever, all the following described real estate situated in Canyon, County of Canyon

A portion of the Northeast 1/4 Southwest 1/4 and Northwest 1/4 Southwest 1/4, Section 24, Township 3 North, Range 2 West, Boise Meridian, Canyon County, Idaho, more particularly described by metes and bounds as follows:

Commencing at the Northeast corner of the Northeast 1/4 Southwest 1/4, Section 24, Township 3 North, Range 2 West, Boise Meridian, Canyon County, Idaho, and running Southerly 795.84 feet along the Easterly boundary of the said Northeast 1/4 Southwest 1/4, Section 24, to a point 130.00 feet Southwesterly of and at right angles distance from the proposed centerline of the Nampa Municipal Airport Runway, said point being the TRUE POINT OF BEGINNING;

thence continuing Southerly 490.30 feet, more or less, along said Easterly boundary of the Northeast 1/4 Southwest 1/4, Section 24, to the Northeasterly corner of that certain tract of land conveyed by Instrument No. 572987 as recorded in the office of the Canyon County Recorder;

thence North 48°24'30" West 1915.83 feet, more or less, along the Northeasterly boundary of that certain tract of land conveyed by said Instrument No. 572987 to a point on the Northerly boundary of the Northwest 1/4 Southwest 1/4, said Section 24,

thence North 89°17' East 110 feet, more or less, along said Northerly boundary of the Northwest 1/4 Southwest 1/4, Section 24, to the Northeast corner thereof;

thence continuing North 89°17' East 239 feet, more or less, along the Northerly boundary of the said Northeast 1/4 Southwest 1/4, Section 24, to a point 130.00 feet Southwesterly of and at right angle distance from the said proposed centerline of the Nampa Municipal Airport Runway;

thence South 54°03'15" East 1339 feet, more or less, along a line parallel to and 130.00 feet Southwesterly from the said proposed centerline of the Nampa Municipal Airport Runway to the point of beginning;

Containing 11.265 Acres, more or less.

INSTRUMENT NO. 583722

THIS INDENTURE, Made this 25th day of November

In the year of our Lord one thousand nine hundred and sixty-six, between

ESTHER H. CARTER, a widow,

of Nampa, County of Canyon, State of Idaho,

the part y of the first part, and BURRILANE FARMS, INC., an Idaho corporation,

of Nampa, County of Canyon, State of Idaho,

the party of the second part.

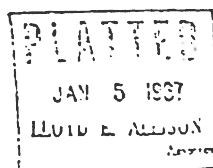
WITNESSETH, That the said part y of the first part, for and in consideration of the sum of

---TWO THOUSAND SIX HUNDRED and NO/100----- DOLLARS, lawful money of the United States of America, to her in hand paid by the said part y of the second part, the receipt whereof is hereby acknowledged, has granted, bargained and sold, and by these presents does grant, bargain, sell, convey and confirm unto the said part y of the second part, and to its heirs and assigns forever, all of the following described real estate, situated in the County of Canyon, State of Idaho, to-wit:

This parcel is situated in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 24; Township 3 North; Range 2 West of the Boise Meridian, Canyon County, Idaho, and is more particularly described as follows:

BEGINNING at the SE corner of said NE $\frac{1}{4}$ SE $\frac{1}{4}$; thence N 89° 24' W, along the South boundary of said NE $\frac{1}{4}$ SE $\frac{1}{4}$, a distance of 1320.93 feet to the SW corner of said NE $\frac{1}{4}$ SE $\frac{1}{4}$; thence North, along the West boundary of said NE $\frac{1}{4}$ SE $\frac{1}{4}$, a distance of 337.30 feet; thence S 89°21'30" E, parallel with the North boundary of the S $\frac{1}{2}$ S $\frac{1}{2}$ of said NE $\frac{1}{4}$ SE $\frac{1}{4}$, a distance of 731.28 feet; thence S 0°03'30" W, parallel with the East boundary of said NE $\frac{1}{4}$ SE $\frac{1}{4}$, a distance of 13.18 feet; thence S 89°24' E, parallel with the South boundary of said NE $\frac{1}{4}$ SE $\frac{1}{4}$, a distance of 590.0 feet to a point on the East boundary of said NE $\frac{1}{4}$ SE $\frac{1}{4}$; thence S 0°03' 30" W, along the East boundary of said NE $\frac{1}{4}$ SE $\frac{1}{4}$, a distance of 323.60 feet to the Point of BEGINNING.

This parcel contains 10.04 acres.



TOGETHER, With all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining, the reversion and reversions, remainder and remainders, rents, issues and profits thereof; and all estate, right, title and interest in and to the said property, as well in law as in equity, of the said part y of the first part.

TO HAVE AND TO HOLD, All and singular the above mentioned and described premises, together with the appurtenances, unto the part y of the second part, and to its heirs and assigns forever, and the said part y of the first part, and their heirs, the said premises in the quiet and peaceable possession of the said part y of the second part, its heirs and assigns, against the said part y of the first part, and her heirs, and against all and every person and persons whomsoever, lawfully claiming or to claim the same shall and will WARRANT and by these presents forever DEFEND.

INSTRUMENT NO. 585602

THIS INDENTURE, Made this 1st day of December

in the year of our Lord one thousand nine hundred and sixty-six, between

LOUIS IHLI and LEONA IHLI, husband and wife,

of Nampa, County of Canyon, State of Idaho,

the parties of the first part, and BURRILANE FARMS, INC., an Idaho corporation,

of Nampa, County of Canyon, State of Idaho,

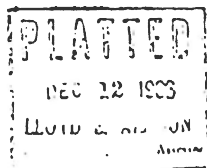
the party of the second part.

WITNESSETH, That the said parties of the first part, for and in consideration of the sum of
---TWO THOUSAND FIVE HUNDRED and NO/100----- DOLLARS,
lawful money of the United States of America, to them in hand paid by the said
party of the second part, the receipt whereof is hereby acknowledged, have granted, bargained
and sold, and by these presents do grant, bargain, sell, convey and confirm unto the said party
of the second part, and to its heirs and assigns forever, all of the following described real estate,
situated in the County of Canyon, State of Idaho, to-wit:

This parcel is situated in the NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 24; Township
3 North; Range 2 West of the Boise Meridian, Canyon County, Idaho, and
is more particularly described as follows:

Commencing at the NE corner of said NW $\frac{1}{4}$ SE $\frac{1}{4}$; thence South, along
the East boundary of said NW $\frac{1}{4}$ SE $\frac{1}{4}$ a distance of 614.72 feet to the TRUE
POINT OF BEGINNING; thence continuing South along said East boundary,
a distance of 530.00 feet; thence N 57°19'40" W a distance of 544.00
feet; thence North, parallel with the East boundary of said NW $\frac{1}{4}$ SE $\frac{1}{4}$, a
distance of 241.91 feet; thence S 89°17' E. parallel with the North
boundary of said NW $\frac{1}{4}$ SE $\frac{1}{4}$, a distance of 458.20 feet to the TRUE POINT OF
BEGINNING.

This parcel contains 4.06 acres.



TOGETHER, With all and singular the tenements, hereditaments and appurtenances thereunto
belonging or in anywise appertaining, the reversion and reversions, remainder and remainders, rents,
issues and profits thereof; and all estate, right, title and interest in and to the said property, as well in
law as in equity, of the said parties of the first part.

TO HAVE AND TO HOLD, All and singular the above mentioned and described premises, together
with the appurtenances, unto the party of the second part, and to its heirs and assigns forever,
and the said parties of the first part, and their heirs, the said premises in the quiet and peaceable
possession of the said party of the second part, its heirs and assigns, against the said parties of
the first part, and their heirs, and against all and every person and persons whomsoever, lawfully
claiming or claiming the same shall and will WARRANT and by these presents forever DEFEND.

THIS INDENTURE, Made this 20th day of November,

In the year of our Lord one thousand nine hundred and forty-three, between
Lizzie Burri, a widow at this date and ever since the 16th day of
January, 1927,

of Nampa, County of Canyon, State of Idaho,

the party of the first part, and

George L. Burri and Mildred L. Burri, husband and wife,

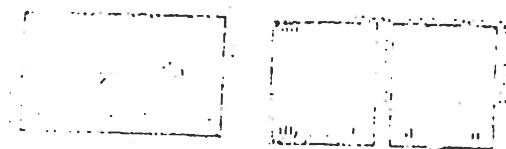
of Nampa, County of Canyon, State of Idaho,

the parties of the second part.

WITNESSETH, That the said party of the first part, for and in consideration of the sum of
Five Thousand and No/100 - - - - - DOLLARS,
lawful money of the United States of America,

to her in hand paid by the said
parties of the second part, the receipt whereof is hereby acknowledged, have granted, bargained
and sold, and by these presents do grant, bargain, sell, convey and confirm unto the said parties
of the second part, and to their heirs and assigns forever, all of the following described real estate,
situated in the County of Canyon, State of Idaho, to-wit:

The Southwest Quarter (SW¹/₄) of the Southeast Quarter (SE¹/₄) of Sec-
tion Twenty-four (24), Township Three (3) North, Range Two (2) West
of the Boise Meridian, in Canyon County, Idaho, together with all water
rights, ditches and rights of way for ditches thereto belonging or
used in connection therewith, together with all the tenements, here-
ditaments and appurtenances thereto belonging or in anywise apper-
taining, EXCEPTING THEREFROM the following described tract of land, to
wit: BEGINNING at a point 16 feet East of the Quarter Section corner
between Sections Twenty-four (24) and Twenty-five (25), Township Three
(3) North, Range Two (2) West of the Boise Meridian, in Canyon County,
Idaho; thence North 351 feet to a point 25 feet South of the center
line of the Macon Creek Drain, as the same is now located and construct-
ed; thence South 82°30' East, 340 feet along the South side of said
Macon Creek Drain; thence South 58°00' East, 100 feet; thence South
32°15' East, 200 feet; thence South 51°45' East, 72 feet; thence South
12°10' East, 40 feet to the center of the East Power Line Road, as the
same is now located and constructed; thence West along the center line
of said East Power Line Road, 586 feet to the place of beginning, con-
taining 3.36 acres.



TOGETHER, With all and singular the tenements, hereditaments and appurtenances thereunto
belonging or in anywise appertaining, the reversion and reversions, remainder and remainders, rents
issues and profits thereof; and all estate, right, title and interest in and to the said property, as well
in law as in equity, of the said party of the first part.

TO HAVE AND TO HOLD, All and singular the above mentioned and described premises, together
with the appurtenances, unto the parties of the second part, and to their heirs and assigns forever
and the said party of the first part, and her heirs, the said premises in the quiet and peaceable
possession of the said parties of the second part, their heirs and assigns, against the said party
of the first part, and her heirs, and against all and every person and persons whomsoever, lawfully
claiming or to claim the same shall and will WARRANT and by these presents forever DEFEND.

INSTRUMENT NO. 578215

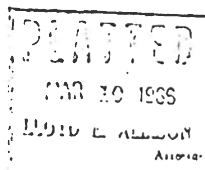
THIS INDENTURE, Made this 1st day of March
in the year of our Lord one thousand nine hundred and sixty-six, between
LOUIS IRLI and LEONA IRLI, husband and wife,
of Nampa, County of Canyon, State of Idaho,
the parties of the first part, and BUTRILANE FARMS, INC., an Idaho corporation,
of Nampa, County of Canyon, State of Idaho,
the party of the second part.

WITNESSETH, That the said parties of the first part, for and in consideration of the sum of

-----SIX THOUSAND and NO/100----- DOLLARS,
lawful money of the United States of America, to them in hand paid by the said
party of the second part, the receipt whereof is hereby acknowledged, have granted, bargained
and sold, and by these presents do grant, bargain, sell, convey and confirm unto the said party
of the second part, and to its heirs and assigns forever, all of the following described real estate,
situated in said County of Canyon, State of Idaho, to-wit:
This parcel is situated in the NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 24, Township 3 North,
Range 2 West of the Boise Meridian and is more particularly described
as follows: Commencing at the NE corner of said NW $\frac{1}{4}$ SE $\frac{1}{4}$; thence N.
89°17' W. along the North boundary of said NW $\frac{1}{4}$ SE $\frac{1}{4}$, a distance of 458.20
feet to the TRUE POINT OF BEGINNING. Thence South, parallel with the
East boundary of said NW $\frac{1}{4}$ SE $\frac{1}{4}$, a distance of 836.63 feet; thence N.
57°19'40" W. a distance of 1024.13 feet to a point on the West boundary
of said NW $\frac{1}{4}$ SE $\frac{1}{4}$; thence North, along the West boundary of said NW $\frac{1}{4}$ SE $\frac{1}{4}$,
a distance of 314.54 feet to the NW corner of said NW $\frac{1}{4}$ SE $\frac{1}{4}$; thence
S 89°17' E. along the North boundary of said NW $\frac{1}{4}$ SE $\frac{1}{4}$, a distance of 86.15
feet to the TRUE POINT OF BEGINNING. This parcel contains 11.59 acres.

ALSO

Commencing at the NE corner of the NW $\frac{1}{4}$ SE $\frac{1}{4}$, Section 24, Township 3 North,
Range 2, West of the Boise Meridian, Canyon County, Idaho, thence South
50 feet; thence West on a line parallel to the North boundary line of
the NW $\frac{1}{4}$ SE $\frac{1}{4}$, a distance of 458.20 feet; thence North 50 feet; thence East
on the North boundary line of said NW $\frac{1}{4}$ SE $\frac{1}{4}$, a distance of 458.20 feet
to the place of beginning. Being a strip of land 50 feet in width by
458.20 feet in length and containing 0.33 of an acre.



TOGETHER, With all and singular the tenements, hereditaments and appurtenances thereunto
belonging or in anywise appertaining, the reversion and reversions, remainder and remainders, rents,
issues and profits thereof; and all estate, right, title and interest in and to the said property, as well
as the same, of the said parties of the first part.

TO HAVE AND TO HOLD, All and singular the above mentioned and described premises, together
with the appurtenances, unto the party of the second part, and to its heirs and assigns forever,
and the said parties of the first part, and their heirs, the said premises in the quiet and peaceful
possession of the said party of the second part, its heirs and assigns, against the said parties
of the first part, and their heirs, and against all and every person and persons whomsoever, lawfully
claiming or to claim the same shall and will WARRANT and by these presents forever DEFEND.

THIS INDENTURE, Made this 1st day of November

in the year of our Lord one thousand nine hundred and sixty-five, between

LOUIS IHLE and LEONA IHLE, husband and wife,

of Nampa, County of Canyon, State of Idaho,

the parties of the first part, and BURRILANE FARMS, INC., an Idaho corporation,

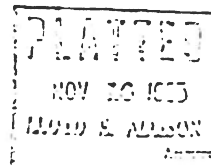
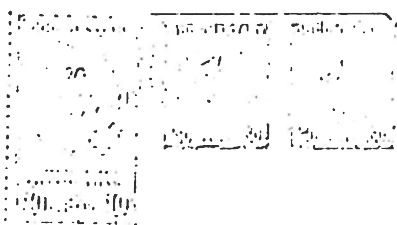
of Nampa, County of Canyon, State of Idaho,

the party of the second part.

WITNESSETH, That the said parties of the first part, for and in consideration of the sum of

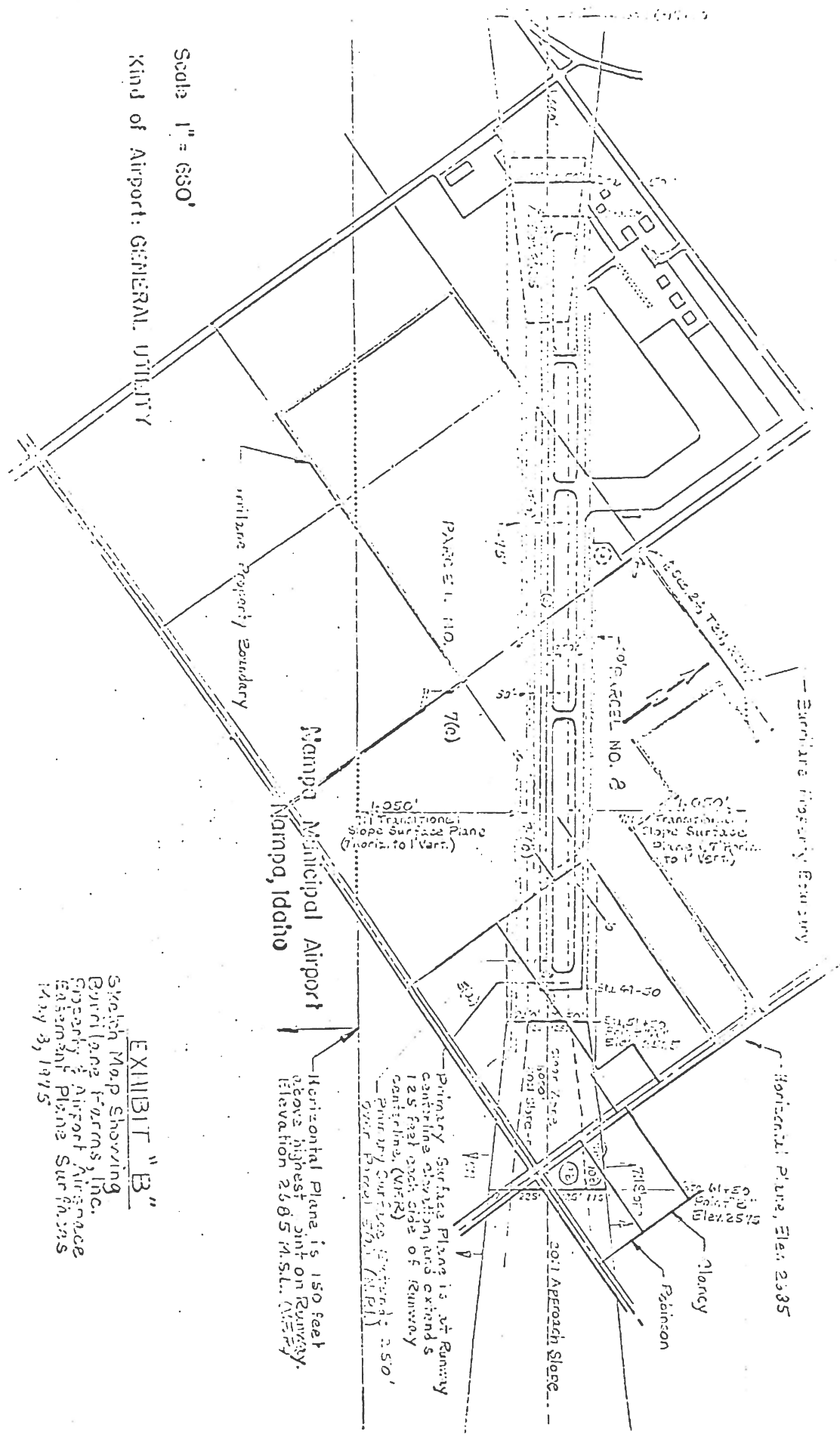
-----TEN THOUSAND and NO/100----- DOLLARS,
lawful money of the United States of America, to them in hand paid by the said
party of the second part, the receipt whereof is hereby acknowledged, have granted, bargained
and sold, and by these presents do grant, bargain, sell, convey and confirm unto the said party
of the second part, and to its heirs and assigns forever, all of the following described real estate,
situated in the County of Canyon, State of Idaho, to-wit:

In Canyon County, State of Idaho and situated in the Northwest One-Quarter of the Southwest One-Quarter and in the Northeast One-Quarter of the Southwest One-Quarter. Both being a part of Section 24, Township 3 North, Range 2 West of the Boise Meridian and beginning at a point on the Northern boundary of said Northwest one-quarter which is 853.3 feet East of the Northwest corner of said Northwest one-quarter of the Southwest one-quarter of said Section 24 which point shall be known as the REAL POINT OF BEGINNING; Thence East along said Northern boundary of said Northwest one-quarter of the Southwest one-quarter for a distance of 352.46 feet to a point which is 150 feet Southwest-erly from the center line of the Nampa Municipal Airport Runway; thence South 42°24'30" East 1,915.83 feet parallel to and 150 feet Southwest-erly from the center line of said airport runway to a point on the East boundary of the Northeast one-quarter of the Southwest one-quarter of said Section 24; thence South along said East boundary 42.6 feet to the Southeast corner of said Northeast one-quarter of the Southwest one-quarter of said Section 24; thence West along the South boundary of said Northeast one-quarter of the Southwest one-quarter of said Section 24 a distance 1,320 feet more or less to the Southwest corner of said Northeast one-quarter of the Southwest one-quarter of said Section 24; thence North along the West boundary of said Northeast one-quarter of the Southwest one-quarter of said Section 24 to a point 466.7 feet South of the Northwest corner of said Northeast one-quarter of the Southwest one-quarter of said Section 24; thence North 45°00'00" West 660 feet to the REAL POINT OF BEGINNING. (Access to the property is hereby granted along a strip 30 feet wide along the South boundary of the Southwest One-Quarter of the Northwest One-Quarter of said Section 24.)



TOGETHER, With all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining, the reversion and reversions, remainder and remainders, rents, issues and profits thereof; and all estate, right, title and interest in and to the said property, as well in law as in equity, of the said parties of the first part.

TO HAVE AND TO HOLD, All and singular the above mentioned and described premises, together with the appurtenances, unto the party of the second part, and to its heirs and assigns forever, and the said parties of the first part, and their heirs, the said premises in the quiet and peaceable possession of the said party of the second part, its heirs and assigns, unto the said party of the first part, and their heirs, and assigns, forever, lawfully claiming or to claim the same shall and lawfully may.



Sketch Map Showing
 Property of Airport Airspace
 Elevation Plane Surfaces
 May 3, 1975

EXHIBIT "B"

755201'

FILED

JUL 23 11 30 AM '75

WALSH & FRY
NOTARY PUBLIC & RECORDER

C. Link

RECORDED

AT THE REQUEST OF

~~PLANNED RECORDS CO.~~
PLANNED RECORDS CO.

OF

Miss.

FEE *15.00*

Burricane Farms, Inc.

to

City of Tampa.

*Aviation
Easement*

Ida. Abet.