

Statement of Basis - Narrative

NSR

Type of Permit Action: Regular-New

Facility: Roper - Alto Concrete Batch Plant
Company: Roper Construction Inc
Permit No(s): 9295
Tempo/IDEA ID No.: 40076 - PRN20210001
Permit Writer: Deepika Saikrishnan/Rhonda Romero

Fee Tracking

Tracking	NSR tracking entries completed: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	NSR tracking page attached to front cover of permit folder: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Paid Invoice Attached: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Balance Due Invoice Attached: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Invoice Comments: Filing Fee Paid on 6/25/2021, Invoice #165194 for \$12460 sent on 7/22/21 and paid on 7/28/21 , Invoice #165309 sent on 8/5/21 for \$864.00 and paid on 8/16/21.

Permit Review	Date to Enforcement: 12/9/2021, 12/30/2021	Date of Enforcement Reply: N/A
	Date to Applicant: 09/13/2021, 12/22/2021, 9/30/2022	Date of Applicant Reply: 09/15/2021, 12/23/2021, 10/6/2022
	Date to EPA: N/A	Date of EPA Reply: N/A
	Date to Supervisor: TBD	

1.0 Plant Process Description:

The Roper Construction, Inc's 125 yd³/hour Alto Concrete Batch Plant will include an aggregate feed hopper (Unit 2), aggregate feed hopper conveyor (Unit 3), 4-bin aggregate bin (Unit 4), aggregate weigh batcher with conveyor (Units 5 and 6), cement/fly ash split silo (Units 9 and 10) with screw conveyors and dust collectors (Units 9b and 10b), cement/fly ash batcher (Unit 8) and concrete truck loading area (Unit 7) with central dust control system (Unit 7b) to control fugitive dust from the truck loading area and cement/fly ash batcher, aggregate and sand storage piles (Unit 11) and three heaters .19 MMBtu/h each(units 12,13 and 14). This Facility will limit production to 50,000 yd³/year.

A front-end loader dumps aggregate and sand into the aggregate feed hopper. The aggregate feed hopper conveyor transfers the material to the 4-bin aggregate bin. The aggregate and sand in the 4-bin aggregate bin is measured by the aggregate weigh batcher and transferred to the batcher conveyor. From the batcher conveyor, the aggregate and sand is transferred to the truck loading area where it is loaded into the concrete trucks. Fugitive dust created while loading concrete trucks will be controlled by the central dust control system. Dust collected in the dust control system will be recycled back to the cement silo.

Measured amounts of fly ash and cement from the cement/fly ash split silo are transferred by

screw conveyors or gravity feed to the cement/fly ash batcher. From the cement/fly ash batcher, the measured material is loaded into the concrete trucks at the same time as the aggregate, sand, and water. Fugitive dust created during transfer to the cement/fly ash batcher is controlled by the central dust control system. During loading of the cement/fly ash split silo, fugitive dust is controlled by a dust collector for each compartment of the split silo. Haul roads on site will be paved and maintained to reduce particulate emissions from truck traffic.

The concrete batch plant will operate during the following hours for each month of the calendar year limiting production to the quantity specified for each month block as requested in section 3 of the application.

TABLE 3-1: CBP Plant Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	1	1	1	1	1	1	0	0	0
6:00 AM	0	0	1	1	1	1	1	1	1	1	0	0
7:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
8:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
5:00 PM	0	0	1	1	1	1	1	1	1	1	0	0
6:00 PM	0	0	0	1	1	1	1	1	1	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	10	10	12	14	14	14	14	14	14	12	10	10

CBP Daily Throughput per Month

Months	Cubic Yards Per Day
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January through December	750
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2.0 Description of this Modification: This is a new facility.

3.0 Source Determination:

1. The emission sources evaluated includes a 125 yd³/h concrete batch plant with the following equipment: feeder hopper(unit 2), feeder hopper conveyor (unit 3), 4 overhead aggregate bins (Unit 4), aggregate weigh batcher (unit 5), aggregate weigh conveyor, truck loading with baghouse(unit 7), cement/fly ash weigh batcher (unit 8), cement split silo (unit9), fly ash split silo (unit 10), aggregate and sand storage piles(unit 11) and 3 concrete batch plant heaters (units 12, 13 and 14).

2. Single Source Analysis:

- A. SIC Code: Do the facilities belong to the same industrial grouping (i.e., same two-digit SIC code grouping, or support activity)? **Yes**
- B. Common Ownership or Control: Are the facilities under common ownership or control? **Yes**
- C. Contiguous or Adjacent: Are the facilities located on one or more contiguous or adjacent properties? **Yes**

3. Is the source, as described in the application, the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes? **Yes**

4.0 PSD Applicability:

A. The source, as determined in 3.0 above, is a PSD minor source.

5.0 History (In descending chronological order, showing NSR and TV): *The asterisk denotes the current active NSR and Title V permits that have not been superseded.

Permit Number	Issue Date	Action Type	Description of Action (Changes)
9295	TBD	New NSR	Application for the construction of a new concrete batch plant.

6.0 Public Response/Concerns: As of September 17, 2021, there has been significant public interest in this permit application and more than 300 written comments have been received along with petitions. The bureau has a record of all the written comments received for this application.

7.0 Compliance Testing: Not applicable for a new facility with no record of testing so far.

8.0 Startup and Shutdown:

A. If applicable, did the applicant indicate that a startup, shutdown, and emergency operational plan was developed in accordance with 20.2.70.300.D(5)(g) NMAC? **N/A**

- B. If applicable, did the applicant indicate that a malfunction, startup, or shutdown operational plan was developed in accordance with 20.2.72.203.A.5 NMAC? **Yes**
- C. Did the applicant indicate that a startup, shutdown, and scheduled maintenance plan was developed and implemented in accordance with 20.2.7.14.A and B NMAC? **Yes**
- D. Does the facility have emissions due to routine or predictable startup, shutdown, and maintenance? If so, have all emissions from startup, shutdown, and scheduled maintenance operations been permitted? **N/A**

9.0 Compliance and Enforcement Status: Teri Waldron provided an email on 9/14/2021 stating that there is no outstanding notice of violation and no settlement agreement for which all actions have not been completed. Conditions from a settlement agreement, or any other applicable requirements, do not need to be included in the NSR permit.

10.0 Modeling: Eric Peters performed the modeling analysis. The following information is detailed in the report dated 10/06/2021.

Modeling Assumptions:

The facility operates from 5AM to 7PM with seasonal operation limited to the scenarios described in Table 5. When the facility operates at maximum production rate, the daily production limit will be reached in 6 hours. When the facility operates at lower production rates, it will take more time to produce the daily maximum concrete volume. 6-hour blocks of time are modeled to capture the maximum potential concentrations by grouping similar meteorological conditions together. For example, the early morning hours are expected to produce the highest concentrations because the wind and dispersion tend to be lowest at that time.

Table 5: Table of Operating Scenarios

Model Scenario	Time Segments 10-Hour Blocks November - February	Time Segments 12-Hour Blocks March & October	Time Segments 14-Hour Blocks April - September
1	7 AM to 1 PM	6 AM to 12 PM	5 AM to 11 AM
2	9 AM to 3 PM	8 AM to 2 PM	7 AM to 1 PM
3	11 AM to 5 PM	10 AM to 4 PM	9 AM to 3 PM
4	11 AM to 5 PM	12 PM to 6 PM	11 AM to 5 PM
5	11 AM to 5 PM	12 PM to 6 PM	1 PM to 7 PM
Permit limit	7 AM to 5 PM	6 AM to 6 PM	5 AM to 7 PM

Permit Conditions:

Permit conditions are required to limit the seasonal operations to maximum daily production, which is 750 cubic yards per day (year-round). In addition, earliest start time and latest end time by month are required conditions and are described in the Permit limit row in Table 5, above.

Conclusion:

This modeling analysis demonstrates that operation of the facility described in this report neither causes nor contributes to any exceedances of applicable air quality standards. The standards relevant at this facility are NAAQS for CO, NO, PM10, PM2.5, and SO₂; NMAAQs for CO, NO₂, and SO₂; and Class I and Class II PSD increments for NO₂, and PM10.

Action: The permit can be issued based on this modeling analysis. Modeling report submitted by Montrose Air Quality Services (dated 6/22/2021) Modeling was last revised on 9/23/2022. The air quality analysis demonstrates compliance with applicable regulatory requirements. Model(s) Used: AERMOD version 21112 was used to run the modeling analysis.

11.0 State Regulatory Analysis(NMAC/AQCR):

Citation 20 NMAC	Title	Applies (Y/N)	Unit(s) or Facility	Justification:
2.1	General Provisions	Yes	Entire Facility	The facility is subject to Title 20 Environmental Protection Chapter 2 Air Quality of the New Mexico Administrative Code so is subject to Part 1 General Provisions, Update to Section 116 of regulation for Significant figures & rounding. Applicable with no permitting requirements.
2.3	Ambient Air Quality Standards	Yes	Entire Facility	NSR: 20.2.3 NMAC is a SIP approved regulation that limits the maximum allowable concentration of Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide. The TSP NM ambient air quality standard was repealed by the EIB effective November 30, 2018. Air dispersion modeling was performed for this project to show compliance with the NMAAQs. See form UA4 for a discussion and the results of the air dispersion modeling.
2.7	Excess Emissions	Yes	Entire Facility	Applies to all facilities' sources
2.33	Gas Burning Equipment - Nitrogen Dioxide	No		This facility has existing gas burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year per unit
2.61	Smoke and Visible Emissions	Yes	12, 13 and 14	Units 12, 13 and 14 are natural gas hot water heaters that apply to 20.2.61.109 NMAC. This regulation limits opacity to 20% applies to Stationary Combustion Equipment.
2.70	Operating Permits	No		The source is not a Title V Major Source as defined at 20.2.70.7 NMAC.
2.72	Construction Permits	Yes	Entire Facility	Potential emission rate (PER) for the facility is greater than 10 pph or greater than 25 tpy for any pollutant subject to a state or federal ambient air quality standard.

Citation 20 NMAC	Title	Applies (Y/N)	Unit(s) or Facility	Justification:
2.73	NOI & Emissions Inventory Requirements	Yes, Always	Entire Facility	NOI: 20.2.73.200 NMAC applies (requiring a NOI application) Emissions Inventory Reporting: 20.2.73.300 NMAC applies.
2.74	Permits-Prevention of Significant Deterioration	No		This facility is not a PSD major source
2.75	Construction Permit Fees	Yes	Entire Facility	This facility is subject to 20.2.72 NMAC and is in turn subject to 20.2.75 NMAC.
2.77	New Source Performance Standards	No	Sources subject to 40 CFR 60	This stationary source is not applicable to the requirements of 40 CFR Part 60
2.78	Emissions Standards for HAPs	No	Sources subject to 40 CFR 61	This stationary source is not applicable to the requirements of 40 CFR Part 61
2.79	Permits <input checked="" type="checkbox"/> Nonattainment Areas	No		This facility is located in an Attainment Area.
2.80	Stack Heights	Yes	12, 13 and 14	The objective of this Part is to establish requirements for the evaluation of stack heights and other dispersion techniques in permitting decisions. The Department shall give no credit for reductions in emissions due to the length of a source's stack height that exceeds good engineering practice or due to any other dispersion technique. The facility will meet all requirements of good engineering practices.
2.82	MACT Standards for Source Categories of HAPs	No	sources subject to 40 CFR 63	This stationary source is not applicable to the requirements of 40 CFR Part 63.

12.0 Federal Regulatory Analysis:

Federal Regulation	Title	Applies (Y/N)	Unit(s) or Facility	Comments
Air Programs Subchapter C (40 CFR 50)	National Primary and Secondary Ambient Air Quality Standards	Yes	Entire Facility	Independent of permit applicability; applies to all sources of emissions for which there is a Federal Ambient Air Quality Standard. Dispersion modeling was performed to show compliance with all applicable NAAQS and PSD Class I and II Increment.
NSPS Subpart A (40 CFR 60)	General Provisions	No	sources subject to a Subpart in 40 CFR 60	No NSPS Subparts in 40 CFR 60 applies to this facility.
40 CFR 60.40c, Subpart Dc	Standards of Performance for	No		Except as provided in paragraphs (d), (e), (f), and (g) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction,

Federal Regulation	Title	Applies (Y/N)	Unit(s) or Facility	Comments
	Small Industrial-Commercial-Institutional Steam Generating Units			modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h). The combined hot water heaters (units 12, 13 and 14) are rated smaller than 10 MMBtu/h.
NESHAP 40 CFR 61 Subpart A	General Provisions	No	Sources subject to 40 CFR 61	No NESHAP Subparts in 40 CFR 61 applies to this facility.
MACT Subpart A (40 CFR 63)	General Provisions	No	Sources subject to 40 CFR 63	Applies if any other subpart applies, and no subpart applies

13.0 Exempt and/or Insignificant Equipment that do not require monitoring:

Unit Number	Source Description	Make	Model No.	Max Capacity	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5)	Date of Manufacture /Reconstruction ²
			Serial No.	Capacity Units	Insignificant Activity citation (e.g. IA List Item #1. a)	Date of Installation /Construction ²
T1	Diesel Storage Tank	TBD	TBD	1000	20.2.72.202.B.2a NMAC	TBD
			TBD	Gallons	NA	N/A
T2	Diesel Storage Tank	TBD	TBD	1000	20.2.72.202.B.2a NMAC	N/A
			TBD	Gallons	NA	N/A
T3	Diesel Storage Tank	TBD	TBD	1000	20.2.72.202.B.2a NMAC	N/A
			TBD	Gallons	NA	N/A

14.0 New/Modified/Unique Conditions (Format: Condition#: Explanation):

- A105A: The nomenclature used in table 2C of the application is the same as wet dust suppression system.
- A108A: The allowable hours of operation determined by modeling scenarios and permit limit specified in the modeling report
- A108A: Monitoring and Record keeping language from permit # 2113M2 A108A
- A108B: seasonal operations limited by daily maximum productions specified by month as

recommended in modeling report.

- A108B: Monitoring and recordkeeping language from permit #8585 A401B
- A108C: Tech Services requested adding language about being notified if operations cease
- A112B: The facility haul roads are paved and maintained to control particulate emissions
- A112C: Nighttime road requirements, odometer monitoring or monitor date and time of sweeping
- A502A: Template condition for wet dust suppression system but updated to require water sprays anytime visible emissions and additional moisture content for aggregate/sand piles.
- A502B: Standard language for FDCP but specified the language from permit #8585 A303B "adequately moist to control dust during storage handling or covered at all times"
- A503A: Operating requirements for baghouses including monitoring during each loading event to ensure the differential pressure is within manufacturer's specified normal differential pressure
- A503B: from permit# 9149 condition 202B but recordkeeping (3) modified to include total hours of operation per day rather than 24 hours and (5) maintenance of silo chute removed.
- A503C: from permit# 9149 condition 202A
- A503D: from permit#9149 condition 202C

Revised permit conditions as of 10/6/2022:

1. In Table 102.A – The Particulate Matter 10 microns or less (PM10) and the Particulate Matter 2.5 microns or less (PM2.5) annual emission rates were revised. Annual emissions for both PM 10 and PM 2.5 decreased.
2. In Table 104.A – For Unit 1, Haul Road, the permitted capacity was updated. The daily truck trips per day were reduced from 305 trips per day to 127 trips per day.
3. In Table 105.A – The control equipment list was updated to include controls for an unpaved haul road. Those controls include the unpaved haul road being paved and swept.
4. Table 106.A – The annual emissions for PM 10 and PM 2.5 decreased for each piece of regulated equipment or activity except for the water heaters. For the haul roads, the hourly emissions for PM 10 increased while the PM 2.5 emissions decreased.
5. Permit Condition A108.A – Hours of operation were updated.
6. Permit Condition A108.B – Facility throughput was reduced.
7. Permit Condition A112.A – Truck trips per day were reduced.
8. Permit Condition A112.B – The haul road control requirements, monitoring, and recordkeeping were updated based on updated calculation methodology.

15.0 Permit specialist's notes to other NSR or Title V permitting staff

- Conditions A502, A 503 include language in conditions for similar types of equipment in permit 9149 and 8585.