APPENDIX F

Air Quality

TABLE OF CONTENTS

F-1. Introduction 1
F-2. Project Description 1
F-3. Regulatory Setting 1
F-4. Methodology 2
F-4.1 Models 3
F-4.2 Thresholds of Significance 3
F-5. Assumptions 3
F-6. Emission Factors 7
F-7. Summary of Construction Emissions 10

LIST OF TABLES

Table F-1 Construction Equipment 4
Table F-2 Nonroad Equipment and Hours of Operation 5
Table F-3 Onroad Vehicle Activity Assumptions 6
Table F-4 Nonroad Construction Equipment Specifications 8
Table F-5 Nonroad Construction Equipment Emission Factors 8
Table F-6 Onroad Construction Vehicle Emission Factors 9
Table F-7 Annual Construction Emissions of Alternative 5 Configuration 2 10
Table F-8 Annual Construction Emissions of Alternative 6 Configuration 2 11
Table F-9 Construction Emissions Summary and Comparison to *de minimis* 12

F-1. INTRODUCTION

This document describes the methods used to calculate emissions of carbon monoxide (CO), volatile organic compounds (VOCs), oxides of nitrogen (NO_x), oxides of sulfur (SO_x), particulate matter less than 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and carbon dioxide equivalent (CO_2e) in support of the Environmental Assessment for the proposed Facilities Redevelopment Project (Proposed Action and its action alternatives) at Teterboro Airport (TEB or Airport).

This emissions analysis was conducted to develop a construction emissions inventory pursuant to the National Environmental Policy Act (NEPA) and to determine whether emissions associated with construction of the Proposed Action and its action alternatives would exceed applicable *de minimis* thresholds as documented in the United States Environmental Protection Agency's (USEPA's) General Conformity regulations. To be conservative, construction was anticipated to occur in 2026 over the course of 12 months.

F-2. PROJECT DESCRIPTION

The Proposed Action or its action alternatives would include development of aircraft apron, hangars, and support facilities at the Signature East and Signature South sites to better accommodate both existing and forecasted demand while enhancing safety and efficiency of aircraft operations at the Airport.

As discussed in Chapter 3 of the EA, Alternative 5 (Configurations 2 through 5) and Alternative 6 (Configurations 2 through 7) were identified as fulfilling the Purpose and Need of the Proposed Action and would be reasonable to construct and operate; therefore, each of these configurations was analyzed for environmental impacts in the EA. Although the Proposed Action has been identified as Alternative 5 Configuration 5 and Alternative 6 Configuration 6, construction emissions were conservatively estimated using the largest potential development footprint for both Signature East and Signature South sites (Alternative 5 Configuration 2 and Alternative 6 Configuration 2, respectively). A detailed list of individual project components analyzed is provided in Section F-5.

F-3. REGULATORY SETTING

Under the federal Clean Air Act (CAA), as amended, the USEPA has developed National Ambient Air Quality Standards (NAAQS) for the following air pollutants, referred to as criteria air pollutants: CO, nitrogen dioxide (NO_2), ozone (O_3), sulfur dioxide (SO_2), lead (Pb), PM_{10}, and $PM_{2.5}$. The CAA establishes two standards – primary standards, which define maximum concentrations of criteria air pollutants to protect public health, and secondary standards, which define maximum concentrations of criteria air pollutants to protect public welfare.

Individual states are required to identify general geographical areas where the NAAQS for these criteria air pollutants are not met. The USEPA designates such areas as nonattainment areas and qualifies the nonattainment status by severity of nonattainment, ranging from marginal to moderate to serious to extreme nonattainment. Areas that were in nonattainment but have since attained the NAAQS are considered to be attainment/maintenance areas for several years before being designated as attainment. A state with a nonattainment or maintenance area must prepare a State Implementation Plan (SIP) that describes the programs and requirements that the state will implement to attain or maintain the NAAQS by the deadlines specified in the CAA, as well as subsequent related documents promulgated by the USEPA.

The CAA requires federal agencies to ensure that actions proposed to occur in a designated nonattainment or maintenance area conform to the appropriate SIP, a regulation known as General Conformity. The General Conformity rule establishes the *de minimis* levels by which a proposed action may show that it complies with the SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards. Pursuant to FAA Order 1050.1G, a proposed action would generally be considered in compliance if it would not cause emissions that exceed NAAQS *de minimis* levels.[1] If the Proposed Action or its action alternatives' emissions exceed the *de minimis* levels, a conformity determination would be required.

The Proposed Action or its action alternatives are located in Bergen County, which is designated by the USEPA as a serious nonattainment area for the 2015 8-hour O_3 NAAQS and as a severe 15 nonattainment area[2] for the 2008 8-hour O_3 NAAQS. Bergen County is in attainment for the CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and Pb NAAQS.[3] The *de minimis* threshold for VOCs and NO_x is 25 tons per year; the *de minimis* threshold for Pb is 25 tons per year; and the *de minimis* threshold for CO, SO_x, PM_{10}, and $PM_{2.5}$ is 100 tons per year in Bergen County.

F-4. METHODOLOGY

In support of evaluating air quality effects, estimates were prepared for criteria air pollutants (or their precursor compounds) for which Bergen County is not in attainment and that may be affected by construction of the Proposed Action and its action alternatives. As such, the air quality analysis is based on the following:

- CO – Bergen County is in attainment; however, CO emissions were estimated for informational purposes.
- NO_2 – Bergen County is in attainment; however, NO_2 emissions were estimated as NO_2 is a precursor to O_3.
- O_3 – VOCs and NO_2 are primary precursor compounds that lead to the formation of O_3, so VOC and NO_2 emissions were estimated to evaluate O_3 effects.
- SO_2 – Bergen County is in attainment, but for inventory purposes, emissions of SO_x were estimated, and it was assumed that estimates of SO_x emissions are equal to calculated emissions of SO_2.
- Pb – Although Pb is a criteria pollutant, it was not evaluated in this emissions analysis, because the Proposed Action and its action alternatives would not affect Pb emissions. The primary source of Pb emissions at TEB is aviation gasoline, and the Proposed Action and its action alternatives would not change the number of aircraft operations.
- PM_{10} and $PM_{2.5}$ – Although Bergen County is in attainment, emissions of PM_{10} and $PM_{2.5}$ were estimated for inventory purposes.

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[1] US Department of Transportation, Federal Aviation Administration, Order 1050.1G, *FAA National Environmental Policy Act Implementing Procedures*, June 20, 2025.

[2] Ozone (2008 Standard) severe 15 nonattainment counties have a design value of 0.113 up to but not including 0.119 parts per million. A design value is a statistic that describes the air quality status of a given location relative to the level of NAAQS (as described in 40 CFR Part 50). Sources: US Environmental Protection Agency, *Ozone Designation and Classification Information*, https://www.epa.gov/green-book/ozone-designation-and-classification-information and US Environmental Protection Agency, *Air Quality Design Values*, https://www.epa.gov/air-trends/air-quality-design-values (accessed October 14, 2025).

[3] US Environmental Protection Agency, *Green Book, Criteria Pollutant Nonattainment Summary Report,* data as of July 31, 2025 (accessed August 28, 2025).

F-4.1 MODELS

Construction activity levels for Alternative 5 Configuration 2 and Alternative 6 Configuration 2 were estimated based on knowledge of construction activities for previous similar projects for both onroad and off-road (nonroad) construction emission sources. The USEPA Motor Vehicle Emission Simulator, version 5 (MOVES5) modeling system was used to derive both onroad and nonroad emission factors for use in this analysis. Fugitive emissions for sources such as batch paints, soil handling, and material movement, were estimated using methodologies from the USEPA's *Compilation of Air Emissions Factors* (AP-42).[4] Fugitive VOC emissions associated with asphalt drying were estimated using a rate of 2.62 pounds per acre paved. MOVES5 emissions factors were then applied to the construction activity levels to calculate the emissions for each construction activity. Emissions were calculated for construction of each project component and then summarized to determine overall emissions for each calendar year of construction for the largest action alternatives.

F-4.2 THRESHOLDS OF SIGNIFICANCE

The evaluation of significance involves identifying if the Proposed Action or its action alternatives would cause pollutant concentrations to exceed one or more of the NAAQS for the time period analyzed or would increase the frequency or severity of any such existing violations. Therefore, the largest action alternatives were evaluated for conformity with applicable SIPs. Established under the CAA, the General Conformity rule applies to proposed federal actions in a nonattainment or maintenance area if the total of direct and indirect emissions of the relevant criteria air pollutants and precursor pollutants caused by the largest action alternatives would equal or exceed defined *de minimis* thresholds. If the project would cause an exceedance of *de minimis*, the federal agency would need to make a determination of General Conformity. If project emissions would not exceed the *de minimis* thresholds, the federal agency can determine that the General Conformity rule does not apply, and no further analysis or documentation is required.

F-5. ASSUMPTIONS

Construction of the Proposed Action or its action alternatives would result in short-term changes in air emissions from sources such as exhaust emissions from construction equipment, haul trucks, and construction worker vehicles; VOC emissions from paving and asphalt batching; and fugitive dust emissions from grading, materials handling, and vehicles traveling on paved and unpaved roads.

Construction emissions were conservatively estimated using the largest potential development footprint for both Signature East and Signature South sites (Alternative 5 Configuration 2 and Alternative 6 Configuration 2, respectively). The following project components are evaluated in this air quality emissions inventory:

- Signature East Facilities (Alternative 5, Configuration 2):
  - approximately 213,600 square feet (approximately 4.9 acres) of asphalt apron pavement
  - approximately 33,000 square feet of hangar space
  - one 4,500 square-foot FBO facility
  - 53 automobile parking spaces totaling approximately 32,200 square feet

[4] US Environmental Protection Agency, AP-42, *Compilation of Air Pollutant Emissions Factors*, Fifth Edition, January 1995, as amended.

- Signature South Facilities (Alternative 6, Configuration 2):
  - approximately 430,600 square feet (approximately 10.10 acres) of asphalt apron pavement
  - approximately 80,000 square feet of hangar space
  - one two-story FBO facility with a total square footage of 15,000 square feet and a total floor space of 22,500 square feet
  - 100 automobile parking spaces totaling approximately 58,400 square feet

Construction emissions analyses generally require information such as the type of construction equipment to be used, the amount of time the equipment will operate, estimates of required construction materials, areas to be paved, and the number of employees anticipated to be on site. Nonroad and onroad activity types and equipment were estimated using knowledge of similar previous projects. Construction activities and equipment that were assumed to comprise construction of the largest development footprint are shown in **Table F-1**. While this air quality analysis focuses on the largest potential development footprint, construction of the Proposed Action would include the same construction activities and equipment albeit at a reduced size.

TABLE F-1 CONSTRUCTION EQUIPMENT

CONSTRUCTION EQUIPMENT BY CONSTRUCTION ACTIVITY			
Demolition		**Site Preparation**	
Concrete/Industrial Saws	Excavators	Rubber Tired Dozers	Tractors/Loaders/Backhoes
Rubber Tired Dozers			
Grading		**Building Construction**	
Excavators	Graders	Cranes	Forklifts
Rubber Tired Dozers	Scrapers	Generator Sets	Tractors/Loaders/Backhoes
Tractors/Loaders/Backhoes		Welders	
Paving		**Architectural Coating**	
Pavers	Paving Equipment	Air Compressors	
Rollers			

SOURCE: Ricondo & Associates, Inc., November 2025.

For each construction activity, default nonroad construction equipment and usage hours were assumed based on knowledge of previous similar projects. Default equipment usage hours are estimated based on equipment hours from previous similar projects. A summary of nonroad equipment types, counts, and usage hours for the 2026 construction is presented in **Table F-2**.

Onroad construction vehicle trips include construction worker vehicle trips to and from the job site, off-site hauling trips, and material delivery trips. The number of roundtrips per year for each type of onroad activity were estimated using project dimensions and required quantities of various construction materials. Default round trip distances were assumed. Vehicle miles traveled (VMT) for each onroad activity was calculated by multiplying the total number of vehicle round trips by the round trip distance.

TABLE F-2 NONROAD EQUIPMENT AND HOURS OF OPERATION

EQUIPMENT TYPE	COUNT PER DAY	TOTAL HOURS
Signature East		
Air Compressors	1	16
Concrete/Industrial Saws	1	21
Cranes	1	323
Excavators	5	258
Forklifts	3	1,109
Generator Sets	1	370
Graders	1	98
Pavers	2	129
Paving Equipment	2	129
Rollers	2	129
Rubber Tired Dozers	6	434
Scrapers	2	196
Tractors/Loaders/Backhoes	9	1,559
Welders	1	370
Signature South		
Air Compressors	1	33
Concrete/Industrial Saws	1	44
Cranes	1	681
Excavators	5	545
Forklifts	3	2,336
Generator Sets	1	779
Graders	1	207
Pavers	2	272
Paving Equipment	2	272
Rollers	2	272
Rubber Tired Dozers	6	915
Scrapers	2	414
Tractors/Loaders/Backhoes	9	3,286
Welders	1	779
Total	**74**	**15,976**

SOURCE: Ricondo & Associates, Inc., November 2025.

Table F-3 summarizes the onroad activity for the largest potential development footprint. The following types of onroad construction trips were assumed in the analysis:

- Asphalt Delivery – Delivery of asphalt material to the project site.
- Construction Worker Trips – Travel of construction workers to/from the project site in passenger vehicles.
- Subbase Material Delivery – Delivery of base material used for asphalt paving.

TABLE F-3 ONROAD VEHICLE ACTIVITY ASSUMPTIONS

TRIP TYPE	EQUIPMENT CATEGORY	FUEL	ROUND TRIP DISTANCE (MILES)	ROUND TRIPS PER YEAR	VEHICLE MILES TRAVELED
Signature South[1]					
Apron					
Asphalt 18 Wheeler	Combination Short-haul Truck	Diesel	40	156	6,240
Dump Truck – Asphalt	Single Unit Short-haul Truck	Diesel	40	221	8,840
Dump Truck – Subbase Material	Single Unit Short-haul Truck	Diesel	40	1,328	53,120
Passenger Car	Passenger Car	Gasoline	30	17,544	526,320
FBO Facility					
Cement Mixer	Combination Short-haul Truck	Diesel	40	174	6,960
Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	40	93	3,720
Passenger Car	Passenger Car	Gasoline	30	1,419	42,570
Tractor Trailer	Combination Short-haul Truck	Diesel	40	4	160
Hangar					
Cement Mixer	Single Unit Short-haul Truck	Diesel	40	463	18,520
Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	40	247	9,880
Passenger Car	Passenger Car	Gasoline	30	11,352	340,560
Tractor Trailer	Combination Short-haul Truck	Diesel	40	64	2,560
Parking Lot					
Asphalt 18 Wheeler	Combination Short-haul Truck	Diesel	40	21	840
Dump Truck – Asphalt	Single Unit Short-haul Truck	Diesel	40	30	1,200
Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	40	180	7,200
Passenger Car	Passenger Car	Gasoline	30	19,866	595,980
Signature East[2]					
Apron					
Asphalt 18 Wheeler	Combination Short-haul Truck	Diesel	40	78	3,120
Dump Truck – Asphalt	Single Unit Short-haul Truck	Diesel	40	110	4,400
Dump Truck – Subbase Material	Single Unit Short-haul Truck	Diesel	40	659	26,360
Passenger Car	Passenger Car	Gasoline	30	17,544	526,320
FBO Facility					
Cement Mixer	Combination Short-haul Truck	Diesel	40	58	2,320
Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	40	31	1,240
Passenger Car	Passenger Car	Gasoline	30	1,419	42,570
Tractor Trailer	Combination Short-haul Truck	Diesel	40	4	160
Hangar					
Cement Mixer	Single Unit Short-haul Truck	Diesel	40	174	6,960
Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	40	93	3,720
Passenger Car	Passenger Car	Gasoline	30	4,257	127,710
Tractor Trailer	Combination Short-haul Truck	Diesel	40	24	960
Parking Lot					
Asphalt 18 Wheeler	Combination Short-haul Truck	Diesel	40	12	480
Dump Truck – Asphalt	Single Unit Short-haul Truck	Diesel	40	17	680
Dump Truck Subbase Material	Single Unit Short-haul Truck	Diesel	40	99	3,960
Passenger Car	Passenger Car	Gasoline	30	19,866	595,980
			Total:	**97,607**	**2,971,610**

NOTES:
FBO – Fixed Based Operator
1 Alternative 6 Configuration 2, the largest of the Signature South configurations, was analyzed in this emissions inventory.
2 Alternative 5 Configuration 2, the largest of the Signature East configurations, was analyzed in this emissions inventory.
SOURCE: Ricondo & Associates, Inc., November 2025.

F-6. EMISSION FACTORS

Along with activity data, emission factors are key inputs for the estimation of construction emissions. Emission factors for both nonroad and onroad emissions were generated using MOVES5. Emissions factors developed using MOVES5 were applied to estimates of VMT and nonroad construction equipment, as determined based off previous projects of similar scale.

The following assumptions were used to develop appropriate emission factors for use in estimating construction emissions for the largest action alternatives:

- **Construction years –** Vehicle and equipment age affects the emission factors assigned to a specific vehicle or piece of equipment. Emission factors were derived for the 2026 construction year.
- **Project location –** Emission factors can be derived on a national or local basis. National average emission factors, as distributed to Bergen County using default distribution assumptions, were assumed in this analysis.
- **Equipment type –** Default nonroad construction equipment was selected based on construction activities specific to each project component. Default onroad vehicles were assumed to include light-duty, gasoline passenger cars for construction worker trips and heavy-duty, diesel short-haul trucks for material transport.
- **Fuel type –** By default, all nonroad construction equipment was assumed to be diesel, except for chain saws, which were assumed to be gasoline due to the lack of diesel data available for such equipment. Default fuel types for onroad vehicles were based on equipment type, as noted above.
- **Fugitive emissions –** Equipment-related emission factors for sources of fugitive emissions were derived using estimates of evaporative emissions, brake and tire-dust emissions, and re-suspended dust emissions. Dust emission factors in the analysis included dust emissions associated with activities such as earth moving, wind erosion, material handling, vehicles traveling on paved and unpaved roads, and material batching. Non-equipment related evaporative emission factors in the analysis included asphalt drying and asphalt storage and batching.

Table F-4 presents the default nonroad equipment specifications assumed in the analysis. **Table F-5** shows the nonroad emission factors for each piece of construction equipment.

TABLE F-4 NONROAD CONSTRUCTION EQUIPMENT SPECIFICATIONS

EQUIPMENT TYPE	FUEL	HORSEPOWER	LOAD FACTOR
Air Compressors	Diesel	175	0.43
Concrete/Industrial Saws	Diesel	40	0.59
Cranes	Diesel	300	0.43
Excavators	Diesel	175	0.59
Forklifts	Diesel	100	0.59
Generator Sets	Diesel	175	0.43
Graders	Diesel	300	0.59
Pavers	Diesel	175	0.59
Paving Equipment	Diesel	11	0.43
Rollers	Diesel	100	0.59
Rubber Tired Dozers	Diesel	175	0.59
Scrapers	Diesel	600	0.59
Tractors/Loaders/Backhoes	Diesel	100	0.21
Welders	Diesel	175	0.43

SOURCE: Ricondo & Associates, Inc., November 2025.

TABLE F-5 NONROAD CONSTRUCTION EQUIPMENT EMISSION FACTORS

EQUIPMENT BY YEAR	EMISSION FACTORS (GRAMS PER HORSEPOWER-HOUR)						
	CO	NO_X	SO_X[1]	PM_{10}	$PM_{2.5}$	VOC	CO_2e
2026							
Air Compressors	0.351	0.941	0.002	0.052	0.050	0.049	537.702
Concrete/Industrial Saws	0.482	2.075	0.002	0.065	0.063	0.088	591.708
Cranes	0.136	0.574	0.001	0.025	0.024	0.029	533.260
Excavators	0.072	0.365	0.001	0.014	0.014	0.016	541.908
Forklifts	0.293	1.047	0.002	0.052	0.051	0.034	569.602
Generator Sets	0.351	0.941	0.002	0.052	0.050	0.049	537.702
Graders	0.062	0.226	0.001	0.014	0.013	0.014	537.670
Pavers	0.132	0.704	0.001	0.023	0.023	0.025	550.760
Paving Equipment	0.338	1.134	0.002	0.055	0.053	0.067	556.533
Rollers	0.218	0.934	0.002	0.036	0.035	0.039	559.613
Rubber Tired Dozers	0.195	0.777	0.001	0.034	0.033	0.033	539.945
Scrapers	0.165	0.389	0.001	0.026	0.025	0.024	536.763
Tractors/Loaders/Backhoes	1.093	1.822	0.002	0.194	0.188	0.183	665.507
Welders	0.351	0.941	0.002	0.052	0.050	0.049	537.702

NOTES:

1 For purposes of this analysis, it was assumed that estimates of SO_x emissions are equal to calculated emissions of SO_2.

SOURCE: Ricondo & Associates, Inc., November 2025, using the US Environmental Protection Agency MOVES5 emission model.

Onroad emission factors by year are presented in **Table F-6**. Key assumptions and notes regarding the modeling of these factors are as follows:

- Road type – urban unrestricted
- Fuel type – gasoline (passenger cars) and diesel (trucks)
- CO emission factors include running exhaust, crankcase running exhaust, and crankcase start exhaust
- VOC emission factors include running exhaust, evaporative permeation and fuel vapor venting, crankcase running exhaust, refueling displacement vapor loss, and refueling spillage loss
- NO_x emission factors include running exhaust and crankcase start exhaust
- SO_2 emission factors include running exhaust and start exhaust
- PM emission factors include running exhaust, brakewear, tirewear, and crankcase running exhaust
- CO_2e emission factors include running exhaust

TABLE F-6 ONROAD CONSTRUCTION VEHICLE EMISSION FACTORS

	EMISSION FACTORS (POUNDS PER MILE)						
VEHICLE CATEGORY	CO	NO_x	SO_x[1]	PM_{10}	$PM_{2.5}$	VOC	CO_2e
Combination Short-haul Truck	0.040	0.003	0.000	0.000	0.000	0.000	1.686
Passenger Car	0.002	0.000	0.000	0.000	0.000	0.000	0.384
Single Unit Short-haul Truck	0.008	0.001	0.000	0.000	0.000	0.000	1.096

NOTES:
1 For purposes of this analysis, it was assumed that estimates of SO_x emissions are equal to calculated emissions of SO_2.
SOURCE: Ricondo & Associates, Inc., November 2025, using the US Environmental Protection Agency MOVES5 emissions model.

Fugitive emissions were calculated based on project-specific specifications, as well as methodologies included in the USEPA's AP-42 guidance. The types of fugitive emissions sources associated with the Proposed Action or its action alternatives are as follows:

- Asphalt drying (VOC)
- Asphalt storage and batching (CO, NO_x, SO_2, PM_{10}, VOC)
- Material movement on paved and unpaved roads (PM_{10})
- Soil handling (PM_{10})
- Unstabilized land and wind erosion (PM_{10})

F-7. SUMMARY OF CONSTRUCTION EMISSIONS

Emissions for nonroad and onroad construction equipment were estimated using the following equations:

- *Nonroad Equipment Emissions (tons/year) = emission factor (grams per horsepower-hour) * size (horsepower) * load factor * hours per year * (1 ton/907,185 grams)*
- *Onroad Vehicle Emissions (tons/year) = emission factor (pounds per vehicle-mile) * miles per year * (1 ton/2,000 pounds)*

Table F-7 and **Table F-8** summarize the annual emissions of criteria air pollutants and CO_2e estimated by source for construction of the largest potential development footprint of each site in 2026.

TABLE F-7 ANNUAL CONSTRUCTION EMISSIONS OF ALTERNATIVE 5 CONFIGURATION 2

PROJECT COMPONENT AND EMISSIONS SOURCE	EMISSIONS (TONS/YEAR)						METRIC TONS/YEAR
	CO	NO_X	SO_X[1]	PM_{10}	$PM_{2.5}$	VOC	CO_2e
Onroad							
Apron	0.731	0.029	0.001	0.001	0.001	0.013	111.043
FBO Facility	0.062	0.002	0.000	0.000	0.000	0.001	9.486
Hangar	0.194	0.008	0.000	0.000	0.000	0.003	26.863
Parking Lot	0.647	0.020	0.001	0.001	0.001	0.010	106.624
Nonroad							
Architectural Coating	0.001	0.003	0.000	0.000	0.000	0.000	1.609
Building Construction	0.217	0.518	0.001	0.037	0.036	0.034	274.496
Demolition	0.002	0.011	0.000	0.000	0.000	0.000	11.330
Grading	0.052	0.123	0.000	0.009	0.009	0.009	132.368
Paving	0.007	0.033	0.000	0.001	0.001	0.001	22.574
Site Preparation	0.055	0.114	0.000	0.010	0.009	0.009	59.499
Fugitive							
Apron	0.517	0.032	0.006	0.198	0.000	0.006	0.000
FBO Facility	0.000	0.000	0.000	0.056	0.000	0.000	0.000
Hangar	0.000	0.000	0.000	0.168	0.000	0.000	0.000
Parking Lot	0.078	0.005	0.001	0.087	0.000	0.003	0.000
Total	**2.563**	**0.898**	**0.010**	**0.568**	**0.057**	**0.091**	**757.892**

NOTES:
FBO – Fixed Based Operator
1 For purposes of this analysis, it was assumed that estimates of SO_x emissions are equal to calculated emissions of SO_2.
SOURCE: Ricondo & Associates, Inc., November 2025, using the US Environmental Protection Agency MOVES5 emissions model.

TABLE F-8 ANNUAL CONSTRUCTION EMISSIONS OF ALTERNATIVE 6 CONFIGURATION 2

PROJECT COMPONENT AND EMISSIONS SOURCE	EMISSIONS (TONS/YEAR)						METRIC TONS/YEAR
	CO	NO_X	SO_X[1]	PM_{10}	$PM_{2.5}$	VOC	CO_2e
Onroad							
Apron	0.918	0.042	0.001	0.001	0.001	0.017	130.814
FBO Facility	0.090	0.004	0.000	0.000	0.000	0.002	13.373
Hangar	0.518	0.022	0.001	0.001	0.001	0.009	76.968
Parking Lot	0.669	0.022	0.001	0.001	0.001	0.011	109.022
Nonroad							
Architectural Coating	0.002	0.006	0.000	0.000	0.000	0.000	3.389
Building Construction	0.458	1.092	0.002	0.078	0.076	0.071	578.403
Demolition	0.005	0.023	0.000	0.001	0.001	0.001	23.873
Grading	0.110	0.259	0.001	0.019	0.018	0.018	278.918
Paving	0.015	0.069	0.000	0.002	0.002	0.003	47.566
Site Preparation	0.116	0.240	0.000	0.021	0.020	0.020	125.373
Fugitive							
Apron	1.042	0.065	0.012	0.327	0.000	0.013	0.000
FBO Facility	0.000	0.000	0.000	0.073	0.000	0.000	0.000
Hangar	0.000	0.000	0.000	0.447	0.000	0.000	0.000
Parking Lot	0.141	0.009	0.002	0.100	0.000	0.002	0.000
Total	**4.084**	**1.852**	**0.019**	**1.070**	**0.120**	**0.166**	**1,387.701**

NOTES:
FBO – Fixed Based Operator
1 For purposes of this analysis, it was assumed that estimates of SO_x emissions are equal to calculated emissions of SO_2.
SOURCE: Ricondo & Associates, Inc., November 2025, using the US Environmental Protection Agency MOVES5 emissions model.

Table F-9 compares the maximum annual emissions with the applicable *de minimis* thresholds. Even with the short-term increase in emissions from construction of the largest potential development footprint, emission levels of the Proposed Action would be well below *de minimis* thresholds. Changes in criteria air pollutant emissions due to construction of the Proposed Action or its action alternatives would not result in adverse effects on air quality.

TABLE F-9 CONSTRUCTION EMISSIONS SUMMARY AND COMPARISON TO *DE MINIMIS*

	EMISSIONS (TONS/YEAR)					
	CO	NO_X	SO_X[1]	PM_{10}	$PM_{2.5}$	VOC
Signature East (Alternative 5 Configuration 2)	2.56	0.90	0.01	0.57	0.06	0.09
Signature South (Alternative 6 Configuration 2)	4.08	1.85	0.02	1.07	0.12	0.17
Total Emissions	**6.64**	**2.75**	**0.03**	**1.64**	**0.18**	**0.26**
de minimis threshold	100.00	25.00	100.00	100.00	100.00	25.00
Difference (Under)/Over *de minimis* Threshold	(93.36)	(22.25)	(99.97)	(98.36)	(99.82)	(24.74)
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

NOTE:
1 For purposes of this analysis, it was assumed that estimates of SO_x emissions are equal to calculated emissions of SO_2.
SOURCE: Ricondo & Associates, Inc., November 2025, using the US Environmental Protection Agency MOVES5 emissions model.