TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 2, 2023

John MacFarlane
Environmental Protection Specialist, Southwest Region
Federal Aviation Administration, Planning and Programming Branch, ASW 610
10101 Hillwood Parkway, Fort Worth, TX 76177

VIA EMAIL

Subject: General Conformity Concurrence for the 19th Street Cargo Redevelopment Project

Dear John MacFarlane:

The Texas Commission on Environmental Quality (TCEQ) completed its review of the Draft General Conformity Determination for the 19th Street Cargo Redevelopment Project received August 30, 2023, with final revisions received September 21, 2023. The draft determination was prepared by the Dallas Fort Worth International Airport (DFWIA) for the Federal Aviation Administration. The TCEQ reviewed the action in accordance with the general conformity requirements established in Title 40 Code of Federal Regulations (CFR) Part 93, Subpart B and concurs that the project conforms to the Texas State Implementation Plan (SIP).

The proposed action is located in the Dallas-Fort Worth ozone nonattainment area, which is currently classified by the United States Environmental Protection Agency as severe for the 2008 eight-hour ozone standard and moderate for the 2015 eight-hour ozone standard. General conformity requirements apply according to the severe classification. The general conformity demonstration for this action relies on 40 CFR §93.158(a)(5)(i)(a), and the appliable SIP revision is the Dallas-Fort Worth portion of the *Dallas-Fort Worth and Houston-Galveston-Brazoria Serious Classification RFP SIP Revision for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard*, adopted March 4, 2020 and approved by the EPA effective May 24, 2023 (88 FR 24693).

The DFWIA presented data showing that the proposed action would result in nitrogen oxides emissions exceeding the 25 tons per year *de minimis* threshold for general conformity starting in 2025 and extending into the reasonably foreseeable future. Based on comparing the emissions estimated for this action with source category allocations from the quantification of overall excess creditable RFP emissions reductions in the appliable SIP that would be available after meeting the 2020 RFP emissions reduction target and establishing a motor vehicle emissions budget safety margin for transportation conformity (40 CFR §93.101), TCEQ concurs with the determination.

If you require further assistance on this matter, please contact Jamie Zech of the Air Quality Division at 512-239-3935 or jamie.zech@tceq.texas.gov.

Sincerely,

Donna F. Huff, Director
Air Quality Division

cc: Guy Donaldson, United States Environmental Protection Agency, Region 6

DALLAS FORT WORTH INTERNATIONAL AIRPORT

Draft General Conformity Determination

19th Street Cargo Redevelopment Project

SUBMITTED BY:

Dallas Fort Worth International Airport

01 October 2023

DRAFT GENERAL CONFORMITY DETERMINATION

19th Street Cargo Redevelopment Project

Dallas Fort Worth International Airport

Prepared for:

Texas Airport Development Office [ASW-650]

Federal Aviation Administration

10101 Hillwood Parkway

Fort Worth, TX 76177

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ACRONYMS AND ABBREVIATIONS

µq/m^3	micrograms per cubic meter
ACM	asbestos containing materials
ADG	Airplane Design Group
AEDT	Airport Environmental Design Tool
ALP	Airport Layout Plan
AOA	Airport Operations Area
APU	Auxiliary Power Units
AQCR	Air Quality Control Region
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CY	Calendar Year
DFW	Dallas Fort Worth International Airport
EA	Environmental Assessment
EPA	U.S. Environmental Protection Agency
FAA	Federal Aviation Administration
FR	Federal Register
GHG	Greenhouse Gases
GSE	Ground Support Equipment
MOVES	EPA Motor Vehicles Emissions Simulator
MPO	Metropolitan Planning Organization
MVEB	Motor Vehicle Emissions Budget
N_2O	Nitrous Oxide
NAA	No Action Alternative
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
NSR	New Source Review
O_3	Ozone
Pb	Lead
PDD	Project Definition Document
PM	Particulate Matter
PM_{10}	Particulate matter with a diameter less than 10 micrometers
$PM_{2.5}$	Particulate matter with a diameter less than 2.5 micrometers
ppb	parts per billion
ppm	parts per million
RFP	Reasonable Further Progress
SIP	State Implementation Plan
SO_2	Sulphur Dioxide
TCEQ	Texas Commission on Environmental Quality
TexN	Texas NONROAD
tpd	tons per day
tpy	tons per year
USC	U.S. Code
EPA	U.S. Environmental Protection Agency
VOC	Volatile Organic Compounds

EXECUTIVE SUMMARY

The Dallas Fort Worth International Airport (DFW) has prepared a Draft Environmental Assessment (EA) to assess the proposed 19th Street Cargo Redevelopment Project (Proposed Action) within the DFW property boundaries under the National Environmental Policy Act of 1969 (NEPA). The Proposed Action is located south of 19th Street and east of West Airfield Drive, in an area known as the Northwest Cargo Area on DFW Airport, Tarrant County, Texas. DFW is proposing to construct the 19th Street Cargo Redevelopment Project to accommodate cargo growth through 2035, based on the current forecasted growth of 2.6 percent per year. The Proposed Action would include airside and landside improvements that would create an operationally functional cargo area and provide unimpeded aircraft access to the apron and cargo facilities. The Proposed Action would include five new aircraft parking positions and cargo buildings to support operations by aircraft such as the B747-8F, B747-400, and the B777-200.

In summary, and as demonstrated below and detailed in this conformity demonstration, excess emissions reductions exist within the applicable Texas State Implementation Plan (SIP) Revision[1] that could be used to account for ozone precursor emissions generated by the Proposed Action; thereby, meeting the General Conformity Determination requirements.

The potential environmental impacts of this Proposed Action are being assessed by the Federal Aviation Administration (FAA) in the Draft EA, including the detailed air quality analysis that supports this General Conformity Determination. Because DFW is located within an area currently designated by the U.S. Environmental Protection Agency (EPA) as nonattainment for ozone (O_3)[2] under Section 176(c) of the Clean Air Act (CAA), the need to demonstrate conformity is also being undertaken by the FAA.

Section 176(c) of the CAA are known as the General Conformity Rules [42 U.S. Code [USC] 7506(c)]. These rules are applicable to all federal actions within nonattainment areas not encompassed by the Transportation Conformity Rules[3]. The General Conformity Rules are not applicable to certain federal actions, such as those that would result in no emissions increase or an increase that is either *de minimis* or clearly *de minimis*, actions where the emissions are not reasonably foreseeable, and actions that implement a decision to conduct or carry out a conforming program. In addition, general conformity determinations are not required for portions of actions that include major new or modified stationary sources that require a permit under the New Source Review program.

The Proposed Action is located in the Dallas Fort Worth Air Quality Control Region (AQCR 215). AQCR 215 falls within the jurisdiction of the Texas Commission on Environmental Quality (TCEQ). TCEQ is responsible for administering the Texas SIP. The SIP contains future year attainment year emissions inventories estimates. The SIP focuses on reducing the two primary pollutants that result in ozone formation: volatile organic compounds (VOCs) and nitrogen oxides (NOx). The SIP directly applicable to the Proposed Action is the latest approved revision to the SIP, the *Dallas-Fort Worth and Houston-Galveston-Brazoria*[4] *Serious Classification Reasonable Further Progress (RFP) State Implementation Plan Revision for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard* (Project No. 2019-079-SIP-NR; 04 March 2020), approved by EPA on 24 April 2023 with the effective date of 24 May 2023.

[1] Dallas-Fort Worth and Houston-Galveston-Brazoria Serious Classification Reasonable Further Progress (RFP) State Implementation Plan Revision for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard (Project No. 2019-079-SIP-NR; 04 March 2020). This RFP SIP contains estimated future year emissions inventories to demonstrate consistent reductions in ozone precursors between a defined base year (2011) and the area's attainment year (2020).

[2] The EPA has designated the Dallas-Fort Worth AQCR 215 as severe non-attainment under the 2008 8-hour ozone standard and moderate under the 2015 8-hour ozone standard.

[3] Transportation conformity required by CAA Section 176(c) were promulgated in November 1993 and establish the criteria and procedures for determining whether transportation plans, programs, and [highway and mass transit] projects funded by federal dollars conform with the SIP and do not undermine air quality in nonattainment or maintenance areas.

[4] Although the 2020 Serious RFP for the 2008 Ozone NAAQS is for both DFW and HGB, the overall excess creditable RFP emissions reductions of 4.97 tpd NOx and 4.77 tpd VOCs are specific to the DFW nonattainment area.

The purpose of this General Conformity Determination is to document the results of the General Conformity applicability analysis, and to demonstrate that the emissions associated with the Proposed Action conform to the current SIP. In summary, the general conformity process is conducted in three phases: applicability[5], evaluation[6], and determination[7].

A detailed discussion of the methodology used to estimate emissions is provided in the 19th Street Cargo Redevelopment Project General Conformity Determination Protocol (Protocol) included in **Appendix A**.

- Applicability – Determine if the General Conformity Rules were applicable, net (project-related) emission levels of criteria pollutants categorized as maintenance or nonattainment were compared to *de minimis* levels published in the General Conformity Rules. The *de minimis* level for the severe nonattainment ozone NAAQS was used (25 tons per year [tpy] of either VOCs or NO_X).
- Evaluation - Estimate changes in emissions by comparing total direct[8] (construction) and indirect[9] (operational) emissions to the no action emissions levels. For the basis of this analysis, construction was assumed to start in early 2024 and is anticipated to last approximately 15 to 18 months; spanning two calendar years. Details regarding construction schedule, activities and equipment were provided by the project proponent. Full operational implementation is anticipated in Summer 2025, which would include airside emission sources. Airside emissions sources are categorized as all aircraft operations (i.e., take-offs, landings, taxiing) and ground support equipment (GSE). GSE are pieces of equipment that are used to support and service aircraft between flights.
- Determination – If total emissions exceed de minimis levels, a conformity determination is required to show how a project conforms to the SIP and describe the analysis results, as well as any mitigation measures, offsets, or emission reduction credits needed to demonstrate conformity with the applicable SIP

Table ES-1 summarizes the total direct and indirect project-related emissions and notes how those emissions compare to the applicable *de minimis* thresholds. Because emissions are above the *de minimis* threshold for NOx in years 2025 through 2030, a General Conformity Determination is required. As is noted in the General Conformity Regulations, the approaches to demonstrating conformity with the SIP include:

- Conformity Approach A: A written determination from the state/local air quality agency stating that the emissions from the proposed action, together with all other emissions in the non-attainment or maintenance area would not exceed the emissions budget in the SIP.
- Conformity Approach B: A written commitment from the Governor, or the Governor's designed for SIP actions, to include the emissions in a revised SIP (this automatically results in a call for a SIP revision).

[5] The applicability phase has two parts. First, determine if the proposed federal action is located in an EPA-designated nonattainment or maintenance area for one or more of the regulated criteria pollutants

[6] The evaluation phase requires estimating the changes in emissions caused by the action and comparing them to the de minimis thresholds. The change in emissions is the "proposed action emission levels" minus the "no action emission levels," also known as the "net emissions" for a specific calendar year in tpy.

[7] The determination describes how the conformity determination criteria would be met, the results of any conformity analysis conducted, and any mitigation measures, offsets, or emission reduction credits needed to demonstrate conformity with the applicable implementation plan. Any statements that the action's emissions are or will be included in the applicable implementation plan must be documented. Any mitigation measures, offsets, or credits must be identified and the process for their implementation and enforcement must be described, including an implementation schedule. Prior to determining that the Federal action is in conformity, the FAA must obtain written commitments to implement any measures that have been identified as conditions in order for making the general conformity determination. Written commitments could come in the form of a NEPA Record of Decision (ROD) or by a separate commitment document. Reference 40 CFR § 93.160 for further details on mitigation and documentation requirements.

[8] Direct emissions are those that occur at the same time and place as the federal action. As stated in 40 Code of Federal Regulations (CFR) § 93.152.

[9] Indirect emissions are defined as emissions or precursors that are caused or initiated by the federal action and originate in the same nonattainment or maintenance area but occur at a different time or place from the action, are reasonably foreseeable, that the agency can practically control, and for which the agency has continuing program responsibility.

Table ES-1. Total Direct and Indirect Project (Proposed Action) Related Emissions

Year and Emissions Source	NOx Emissions (tpy)	VOC Emissions (tpy)
2024		
Construction – Non-Road	7.69	0.59
Construction – On-Road	0.45	0.25
Total Project-related Emissions	**8.14**	**0.84**
De Minimis Threshold	25.00	25.00
Is a General Conformity Determination Required?	No	No
2025		
Construction – Non-Road	2.31	0.17
Construction – On-Road	1.38	0.09
Operational – Non-Road	195.53	23.54
Total Project-related Emissions	**199.22**	**23.80**
De Minimis Threshold	25.00	25.00
Is a General Conformity Determination Required?	**YES**	No
2030		
Construction – On-Road & Non-Road	NA	NA
Operational- Non-Road	195.77	23.55
Total Project-related Emissions	**195.77**	**23.55**
De Minimis Threshold	25.00	25.00
Is a General Conformity Determination Required?	**YES**	No

Sources: HMMH, 2023, HDR 2022

- Conformity Approach C: Offsetting or mitigating proposed action emissions so there is no net increase within the non-attainment or maintenance area.
- Conformity Approach D: The applicable Metropolitan Planning Organization (MPO) determines that the emissions from the project or portion of the project, are included in a conforming transportation plan and transportation improvement program.

DFW Airport staff met with TCEQ to review the Proposed Action and its expected emissions. During those coordination meetings, TCEQ noted the attainment year emissions inventories approved in the SIP (Dallas-Fort Worth and Houston-Galveston-Brazoria Serious Classification RFP SIP Revision for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard [Project No. 2019-079-SIP-NR; 04 March 2020]) as well as the quantification of overall excess creditable RFP emissions reductions available after meeting the milestone-year emissions reduction targets for NO_X and VOC and establishing motor vehicle emissions budgets (MVEB) for transportation conformity (40 CFR §93.101). To assess conformity to the SIP for the Proposed Action, TCEQ allocated the overall excess creditable RFP emissions reductions quantified in the applicable SIP according to source categories based on the RFP emissions reductions attributed to each source category. TCEQ compared emissions for the Proposed Action to those allocations. TCEQ confirmed that the maximum amount non-road source category emissions could increase due to projects not included in the approved SIP without changing the result of the RFP demonstration are 4.97 tons per day (tpd) NO_X and 4.77 tpd VOC. For on-road source category emissions, those amounts are 26.26 tpd NO_X and 12.55 tpd VOC (for detailed discussions, see ***Section 6.2***).

Based upon the emissions noted in **Table ES-1**, emissions for the Proposed Action in tpd are:

- 2025
  - On-Road Emissions: 0.004 tpd NO_X
  - Non-road Emissions: 0.542 tpd NO_X
- Years 2026-2030 (the reasonably foreseeable horizon)
  - Non-road Emissions: 0.536 tpd NO_X

TCEQ has informed the FAA that their concurrence with the Draft General Conformity Determination is forthcoming and will provide a letter as soon as possible. The letter will be uploaded to https://www.dfwairport.com/business/about/publications/ and accessible for review once it is received.

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SECTION 1 INTRODUCTION

This General Conformity Determination is provided to document the assessment of potential air pollutant emissions from the proposed 19th Street Cargo Redevelopment Project (Proposed Action) within the Dallas Fort Worth International Airport (DFW) property boundaries. DFW is proposing to construct the 19th Street Cargo Redevelopment Project to accommodate reasonably foreseeable cargo growth, based on the current forecasted growth of 2.6 percent per year. The Proposed Action would include airside and landside improvements that would create an operationally functional cargo area and to provide unimpeded aircraft access to the apron. The Proposed Action would provide aircraft parking positions and cargo buildings to support operations by aircraft such as the B747-8F, B747-400, and the B777-200. The Proposed Action is located south of 19th Street and east of West Airfield Drive in Tarrant County, Texas; Section 3 and Figure 3-1 provide a detailed description of the proposed action as well as a project location map. The potential environmental impacts of this Proposed Action are being assessed by the Federal Aviation Administration (FAA) in an Environmental Assessment (EA) under the National Environmental Policy Act of 1969 (NEPA), including the detailed air quality analysis that supports this General Conformity Determination.

Within areas designated by the U.S. Environmental Protection Agency (EPA) as non-attainment or maintenance for any of the National Ambient Air Quality Standards (NAAQS), the Clean Air Act (CAA) requires federal agencies to ensure that their actions conform to State Implementation Plans (SIPs). The requirements for determining conformity to SIPs are detailed in Title 40, Chapter I, Subchapter C, Part 51 of the Code of Federal Regulations (40 CFR 51) and 40 CFR Part 93. For airport improvement projects, the federal action can be the FAA's approval of an Airport Layout Plan (ALP), approval of funding, and/or approval of flight procedures or modifications to flight procedures. DFW, which owns and operates the Airport, seeks the FAA's approval of that portion of the ALP that depicts the proposed development project.

In accordance with Section 176(c) of the CAA, the FAA has assessed whether pollutant and pollutant precursor emissions that would result from the above actions are in conformance with the Texas SIP.

The anticipated effects of the Proposed Action on air quality are assessed in Section 5.2 of the EA, and this General Conformity Determination Report, which include two conditions: a) the No Action (meaning conditions in the future if the Proposed Action is not undertaken, and b) the Proposed Action. In accordance with the General Conformity Regulations, the total direct and indirect project-related emissions were determined by subtracting the emissions of the No Action from that of the Proposed Action. In accordance with 40 CFR §93.154 and 93.156, the Draft General Conformity Determination and NEPA Draft EA for the Proposed Action will be published in local general circulation newspapers to seek input and comments from the public. The Draft General Conformity Determination and Draft EA will be available for 30 days.

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SECTION 2 CONFORMITY RULES AND CRITERIA

Section 176(c) of the CAA (42 United States Code (USC) 7506(C)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity, to demonstrate that the action conforms to the applicable SIP required under Section 110(a) of the CAA (42 USC 7410(a)). In this context, conformity means that such federal actions must be consistent with a SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of those standards. Each federal agency (including the FAA) must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements will conform to the applicable SIP before the action is taken. Specifically, a responsible federal agency is required to determine if the action "conforms" to the applicable SIP by ensuring that the action does not:

- Cause or contribute to any new violations of any NAAQS
- Increase the frequency or severity of any existing violations of any NAAQS
- Delay the timely attainment of any NAAQS or any required interim emission reductions or other milestones

Federal actions subject to conformity are divided into two categories: transportation conformity actions and general conformity actions. The Transportation Conformity Regulations (40 CFR Part 51 and Part 93 Subpart A[10]) cover certain surface transportation actions related to highway and transit. General Conformity actions (40 CFR Part 93 Subpart B)[11] are all other federal actions in nonattainment and maintenance areas that are not covered by Transportation Conformity Regulations.

2.1 Transportation Conformity Requirements

Transportation conformity ensures that certain transportation-related actions of the federal government and recipients of federal highway and transit assistance are consistent with air quality goals as established in the SIP.

The Proposed Action does not include federal funding or a highway or transit component nor does the project involve an alteration to a regionally significant roadway. Therefore, transportation conformity does not apply to the Proposed Action. The total direct and indirect project-related emissions were evaluated under the General Conformity Rule.

2.2 General Conformity Requirements

Projects that are not addressed under Transportation Conformity are evaluated under General Conformity (40 CFR Part 93 Subpart B). Evaluating projects under the General Conformity Rules requires:

1. Determining if the project is exempt.
2. Determining if the project is presumed to conform.
3. Preparation of an applicability analysis, if the project is not exempt or presumed to conform, including an evaluation of whether total direct and indirect project-related emissions would exceed *de minimis* thresholds under the regulations.
4. For projects that exceed *de minimis* levels, a General Conformity Determination is required.

While the FAA has assembled a list of projects presumed to conform (see ***Section 4.2***), the Proposed Action is neither exempt nor presumed to conform. FAA, as the lead federal agency for approval of the General Conformity Determination for the Proposed Action, worked with DFW to develop a General Conformity Determination Protocol (**Appendix A**, DFW 2023) to demonstrate the General Conformity Applicability Analysis and then the General Conformity Determination.

[10] eCFR: 40 CFR Part 93 Subpart A -- Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. or the Federal Transit Laws
[11] eCFR: 40 CFR Part 93 Subpart B -- Determining Conformity of General Federal Actions to State or Federal Implementation Plans

General Conformity applies to any criteria pollutants for which an area is categorized as nonattainment or maintenance. An applicability analysis under General Conformity consists of preparing an emissions inventory for all project-related direct and indirect emissions and comparing those results with the respective *de minimis* thresholds. The regulation defines the thresholds based on pollutant and attainment/ nonattainment designation. The DFW Metropolitan Area Air Quality Control Region (AQCR 215) is designated as *severe* nonattainment for ozone; the applicable *de minimis* thresholds for ozone precursors: NO_X or VOCs are included in **Section 4.3** of this General Conformity Determination. Total direct and indirect project-related emissions were compared to these *de minimis* thresholds. 40 CFR Part 93.159(d) notes that when comparing emissions to *de minimis* thresholds, the following requirements must be considered:

a. Emissions in the year of attainment or the farthest year for which emissions are projected in the maintenance plan.

b. The year in which the total of direct and indirect emissions from the action are expected to be the greatest on an annual basis.

c. Any year for which the SIP has an applicable emissions budget. If total direct and indirect project-related emissions in all of these scenarios are less than *de minimis*, no further analysis is needed. If total direct and indirect project-related emissions are above *de minimis*, a General Conformity Determination is required.

If the peak year of project-related emissions are *de minimis* for the reasonably foreseeable horizon, then all three requirements listed above are also met. In a General Conformity Determination, the rule provides eight basic approaches that conformity can be demonstrated. A few of the approaches, most applicable to the Proposed Action, are (EPA, 2023, FAA 2023, DFW 2023):

1. A written determination from the state/local air quality agency stating that the emissions from the proposed action, together with all other emissions in the non-attainment or maintenance area would not exceed the emissions budget in the SIP (40 CFR 93.158(a));

2. A written commitment from the Governor, or the Governor's designated representative for SIP actions, to include the emissions in a revised SIP (*see* 40 CFR 93.158(a));

3. Offsetting or mitigating proposed action emissions so there is no net increase within the non-attainment or maintenance area (*see* 40 CFR 93.158(a) and 93.160).

4. The applicable Metropolitan Planning Organization (MPO) determines that the emissions from the project or portion of the project, are included in a conforming transportation plan and transportation improvement program (*see* 40 CFR 93.158(a)).

2.3 State Implementation Plan

The Proposed Action is located in the DFW AQCR 215, which falls within the jurisdiction of the Texas Commission on Environmental Quality (TCEQ). TCEQ is responsible for administering the Texas SIP. The SIP contains future year emissions attainment year emissions inventory estimates. Thus, documentation from TCEQ affirming that VOC and NOx emissions resulting from the Proposed Action conform to the applicable SIP under 40 CFR §93.158(a)(5)(i)(a), will demonstrate the Proposed Action's conformance to the SIP in accordance with the General Conformity Rules. The applicable SIP for general conformity purposes in the DFW ozone nonattainment area is the *Dallas-Fort Worth and Houston-Galveston-Brazoria Serious Classification Reasonable Further Progress (RFP) State Implementation Plan Revision for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard* (Project No. 2019-079-SIP-NR; 04 March 2020), approved by EPA on 24 April 2023, with the effective date of 24 May 2023 (2020 Serious SIP Revision). This SIP revision provides emissions inventory for various mobile source categories including non-road equipment (including aircraft and airport equipment) and on-road vehicles.

The purpose of this General Conformity Determination is to document applicability and to demonstrate that the emissions associated with the Proposed Action conform to the purpose of the TCEQ's applicable plans provided in the 2020 Serious RFP SIP Revision.

SECTION 3 DESCRIPTION OF THE PROPOSED FEDERAL ACTION

DFW is proposing to construct the 19th Street Cargo Redevelopment Project (Proposed Action) to accommodate reasonably foreseeable cargo growth, based on the current forecasted growth of 2.6 percent per year (DFW 2022). The Proposed Action would include airside and landside improvements that would create an operationally functional cargo area and to provide unimpeded aircraft access to the apron. The Proposed Action would provide aircraft parking positions and cargo buildings to support operations by aircraft such as the B747-8F, B747-400, and the B777-200. A decision by the FAA to approve the Proposed Action would be necessary for the project to proceed. In the event that FAA does not approve the Proposed Action, the project may be deferred, and DFW may not be able to accommodate the unmet demand for air cargo facilities.

3.1 Project Alternatives

This section summarizes the No Action and Proposed Action Alternatives evaluated in the EA. This section is included to provide a foundation for how the project-related emissions were identified. Project-related emissions reflect emissions above that which would occur with the No Action; emissions of the No Action were subtracted from that of the Proposed Action.

3.1.1 No Action Alternative

Under the No Action Alternative, DFW would keep its existing infrastructure and would not implement the Proposed Action. DFW would not have facilities to meet tenant needs and efficiently accommodate the growth in demand for cargo buildings and aircraft parking positions. DFW would not improve access for Airplane Design Group (ADG) V and VI aircraft that use the apron. The airport would continue experiencing high operating and maintenance costs for obsolete, aging infrastructure and would not generate additional revenue that would contribute to DFW's financial self-sufficiency.

3.1.2 Proposed Action Alternative

The Proposed Action is located south of 19th Street and east of West Airfield Drive in the area known as Northwest Cargo Area on DFW Airport, Tarrant County, Texas (**Figure 3-1**). The Proposed Action would include the demolition of Building 221 and associated structures, construction of two new cargo buildings and five new aircraft parking positions, and the reconstruction and reconfiguration of two existing hardstand aircraft parking positions. The project would also include the construction of a fueling station, an oil/water separator, an underground stormwater collection tank, drainage and communications infrastructure, high-mast lighting, access roadways, Airport Operations Area (AOA) gates, and an AOA fence and other requisite utilities (**Figure 3-2**).

Building 1 would be 240 feet wide (west-to-east) and 740 feet long (north-to-south) with three adjacent aircraft parking positions on the east side of the proposed Building 1. Building 1 would provide approximately 178,000 square feet of warehouse space including approximately 9,100 square feet of office space. Building 1 would have primary access from West Airfield Drive, where a new left turn lane would be added to the southbound direction on West Airfield Drive and a deceleration lane would be added to the northbound direction into the main entry point. Two secondary access driveways located on West Airfield Drive and 19th Street would be constructed to serve passenger vehicles. Building 1 would provide a modern building with adequate space and flexibility to allow for the consolidation of cargo operations.

Building 2 would be 465 feet (west-to-east) and width of 260 feet (north-to-south) with two adjacent aircraft parking positions and reconfigured the landside surface parking. Building 2 would provide approximately 121,000 square feet of warehouse space with approximately 3,000 square feet of flexible office space. Trucks and passenger vehicles would access Building 2 using access driveways on 19th Street; deceleration and dedicated turn lanes would be added to 19th Street to improve access, safety, and efficiency. Building 2 would provide a modern building with adequate space to efficiently support cargo operations and meet the purpose and need for the project.

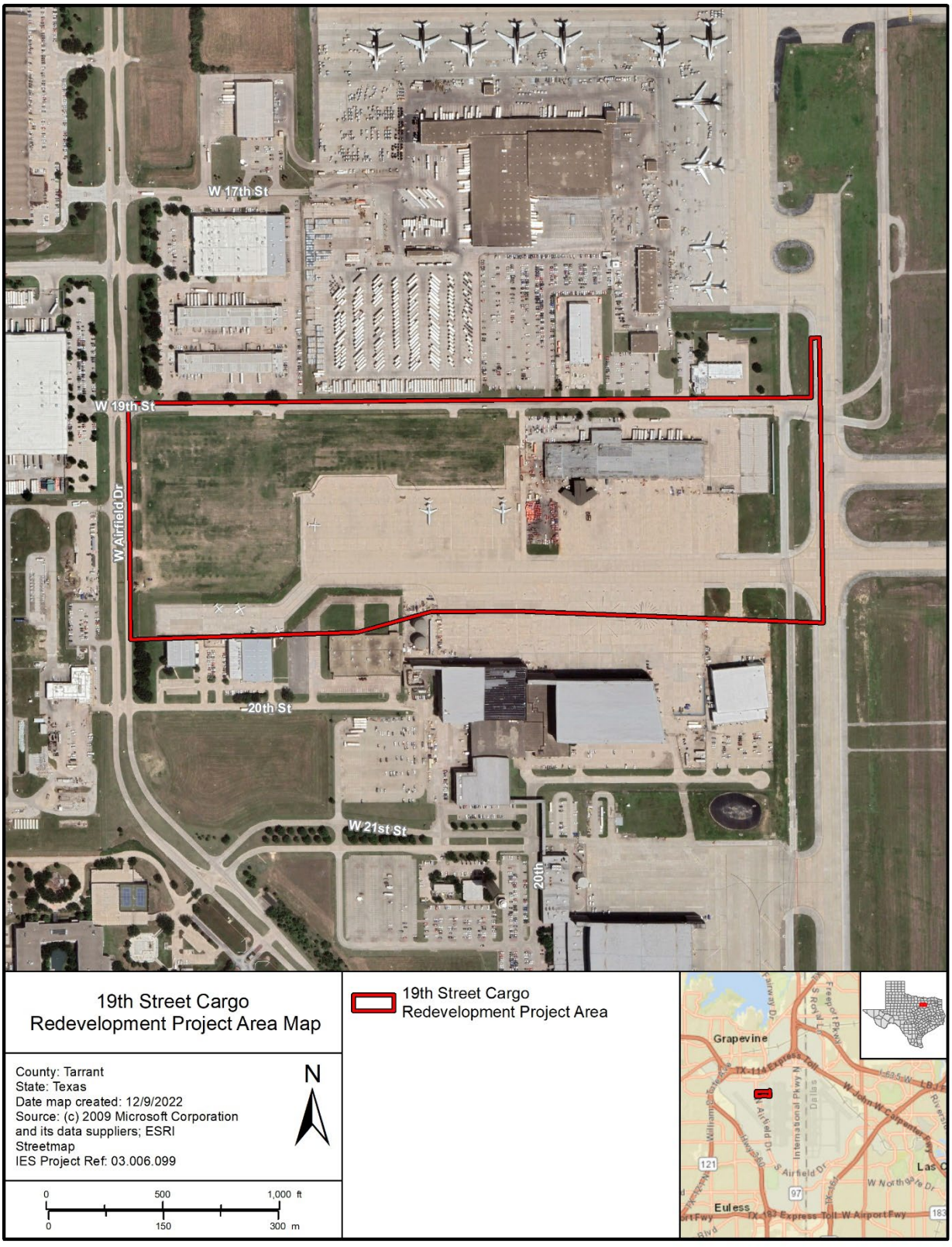

Figure 3-1. 19th Street Redevelopment Project Area

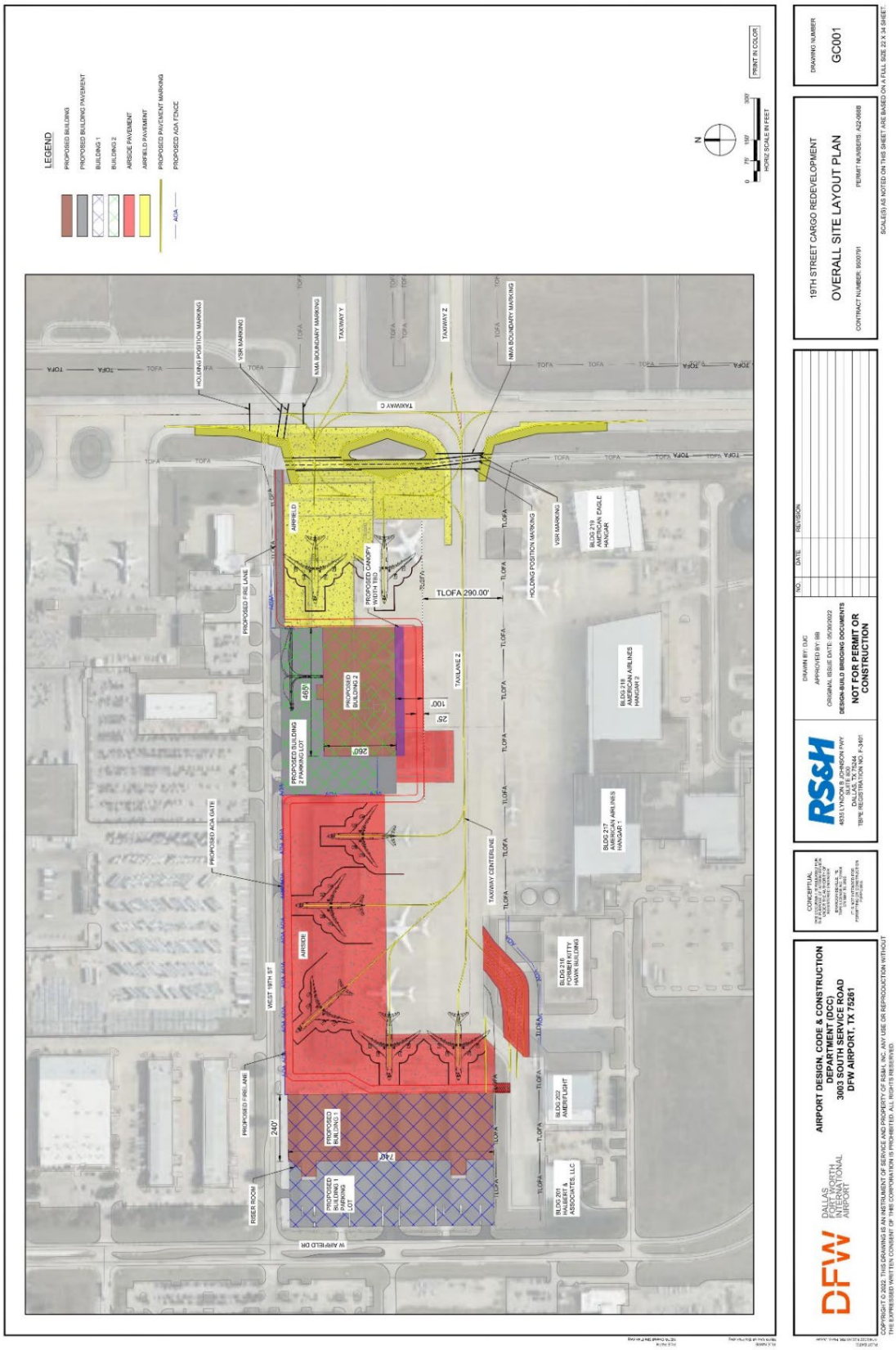

Figure 3-2. Proposed Action

In addition to the cargo buildings and aircraft parking positions, the Proposed Action would include the construction of truck loading docks, truck parking, staging, and queuing positions, and employee parking positions. The Proposed Action would also include the construction of a new aircraft entry point off Taxiway C, to provide access to the new aircraft positions associated with Building 2 as well as access from the south. Additionally, Taxilane Z and the taxiway object free area from Taxiway C to Building 1 would be modified to accommodate larger ADG VI aircraft; new apron pavement would also be constructed to support the larger aircraft utilization. Utilities, drainage infrastructure, and hydrant fuel pits would be designed and constructed to support the efficient utilization of the proposed facilities.

The project would add five new aircraft parking positions. These additional parking positions would enable DFW to serve a greater number of cargo operations. At two turns per day per parking position, 20 additional daily operations by 747-400 and 777-300 aircraft could be enabled by the Proposed Action. Thus, with the Proposed Action, 7,300 additional annual operations in the planning horizon[12] (calendar year 2030) would be expected. The proposed cargo operations would be managed and implemented in accordance with the existing DFW aircraft operations plans and procedures. While the proposed cargo buildings and supporting infrastructure are owned by DFW, the cargo aircraft serving would be operated by tenants and contracted air carriers.

3.2 Construction and Implementation Schedule

If approved by FAA, construction of the Proposed Action would take place in 2024 and 2025 and would include the following phases: mobilization and staging, demolition, and construction of buildings, landside, airside, and airfield improvements. The Proposed Action construction is anticipated to take 15 months starting in early 2024, after FAA approval and completion of the NEPA process. **Table 3-1** summarizes the proposed project construction and implementation schedule.

Table 3-1. Proposed Action Construction and Implementation Schedule by Project Activity

Project Activity	Estimated Start	Estimated End
Construction:		
Contractor Mobilization and Staging	Q1, 2024	Q1, 2024
Demolition of obsolete structures	Q1, 2024	Q2, 2024
Construction of Building 1, aircraft parking positions, loading docks, access driveways, roadway modifications, and utilities	Q1, 2024	Q1, 2025
Building 221 ACM abatement and Demolition of Building 221	Q2, 2024	Q2, 2024
Construction of Building 2, aircraft parking positions, loading docks, utilities, access driveways, roadway modifications, construction of Taxiway C aircraft entry point, and other requisite taxiway modifications	Q3, 2024	Q2, 2025
Operations/Implementation:		
Operations in Building 1	Q1, 2025	N/A
Operations in Building 2	Q2, 2025	N/A

[12] The planning horizon is defined as the amount of time an organization will look into the future when preparing/ delivering a strategic plan or project. For this 19th Street Cargo Redevelopment project, the planning horizon is 2030, 5 years from the first year of operations; this 5-year timeline represents the period DFW is able to plan and forecast cargo growth or demand, with reasonable accuracy.

SECTION 4 APPLICABILITY ANALYSIS

As previously stated, the first step in a general conformity evaluation is an analysis of whether the requirements apply to a proposed federal action in a nonattainment or maintenance area. Unless exempted by the regulations or otherwise presumed to conform, a proposed federal action requires a General Conformity Determination for each nonattainment or maintenance pollutant where the total direct and indirect emissions caused by the proposed action would equal or exceed an annual *de minimis* emission level. If emission levels are lower than the applicable *de minimis* threshold, no further analysis is needed.

4.1 DFW Metropolitan Area AQCR 215 Attainment Status

The Dallas-Fort Worth metropolitan area has been designated as an attainment area for all EPA criteria pollutants except for Ozone based on air quality monitoring data collected by the TCEQ (TCEQ, 2022). The Proposed Action is located at DFW airport, within Dallas and Tarrant counties, which are part of the Dallas-Fort Worth metropolitan Ozone nonattainment area. The Dallas-Fort Worth metropolitan area is designated as a "severe" non-attainment area for the 2008 8-hour, 0.075 parts per million (ppm) Ozone standard, as of 07 October 2022, effective 07 November 2022 (87 Federal Register (FR) 60926). The Dallas-Fort Worth metropolitan area is also designated as a "moderate" nonattainment area under the 2015 8-hour, 0.070 ppm Ozone standard as of 07 November 2022 (87 FR 60897). **Table 4-1** shows the federal designations for the Dallas-Fort Worth-Arlington AQCR based on a current review of the EPA Greenbook for each criteria air pollutant and attainment status.

Table 4-1. Air Quality Attainment Status for Dallas-Fort Worth-Arlington, Texas

Criteria Pollutant	Designation (Dallas-Fort Worth-Arlington)
Ozone (8-hour)	
2015 Standard	Moderate Non-Attainment
2008 Standard	Severe Non-Attainment
1997 Standard (revoked)	Not applicable
Ozone (1-hour) – 1979 (revoked)	Not Applicable
Carbon Monoxide	Attainment
$PM_{2.5}$	Attainment
PM_{10}	Attainment
Sulfur Dioxide	Attainment
Nitrogen Dioxide	Attainment
Lead	Attainment

EPA Greenbook - https://www.epa.gov/green-book/green-book-8-hour-ozone-2008-area-information, 19 August 2023

4.2 Exemptions from General Conformity Requirements

As noted previously, the general conformity requirements apply to a proposed federal action if the total project-related direct and indirect emissions equal or exceed the *de minimis* thresholds. The only exceptions to this applicability criterion are the topical exemptions summarized below. However, the emissions attributable to the Proposed Action do not meet any of the following exemption categories:

- Actions which would result in no emissions increase or an increase in emissions that is clearly below the *de minimis* levels (40 CFR 93.153(c)(2)). Examples include administrative actions and routine maintenance and repair.
- Actions where the emissions are not reasonably foreseeable (40 CFR 93.153(c)(3)).
- Actions which implement a decision to conduct or carry out a conforming program (40 CFR 93.153(c)(4)).
- Actions which include major new or modified sources requiring a permit under the New Source Review program (40 CFR 93.153(d)(1)).
- Actions in response to emergencies or natural disasters (40 CFR 93.153(d)(2)).
- Actions which include air quality research not harming the environment (40 CFR 93.153(d)(3)).

- Actions which include modifications to existing sources to enable compliance with applicable environmental requirements (40 CFR 93.153(d)(4).
- Actions which include emissions from remedial measures carried out under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) that comply with other applicable requirements (40 CFR 93.153(d)(5)).

In addition to these exemptions, the general conformity regulations allow each federal agency to establish a list of activities that are presumed to conform (40 CFR 93.153(f)). The FAA has published its "Presumed to Conform Actions Under General Conformity" in the Federal Register on July 30, 2007[13]. This list consists of 15 airport project categories for FAA actions that are presumed to conform. The Proposed Action is not specifically exempt from the provisions of the general conformity regulations and does not meet the definition of a "Presumed to Conform" project as described in Federal Presumed to Conform Actions Under General Conformity (72 FR 41565).

4.3 *De minimis* Emissions Thresholds

As previously discussed, the General Conformity Rules contain what are known as *de minimis* thresholds. A *de minimis* threshold is a level that provides an indication of the effect that a project may have on local and/or regional air pollutant concentrations. The levels are used to determine if the General Conformity Rules are applicable to a particular action and whether or not a SIP conformity determination is required. If the direct and indirect project-related emissions are higher than a *de minimis* threshold, a SIP conformity determination is required.

The General Conformity Determination for the Proposed Action addresses NO_X and VOC emissions the precursor pollutants for ozone (40 CFR 93.153(b)), as this is the only pollutant for which the area is designated as non-attainment or maintenance. As there are not de minimis specific to ozone, in accordance with practice, to assess ozone emissions required the consideration of the ozone precursors VOCs and NO_X, which were compared to the *de minimis* levels. Emissions of VOCs and NO_X react, in the presence of sunlight, to produce the air pollutant ozone. The DFW metropolitan area designated as *Severe* nonattainment for ozone, therefore, *de minimis* thresholds applicable to the Proposed Action are 25 tons per year (tpy) for either NOx or VOCs

To determine if project-related emissions exceed the *de minimis* thresholds, estimated levels of future direct and indirect emissions with the Proposed Action were compared to the level of emissions with the No Action Alternative.

Direct emissions are defined as emissions that are caused or initiated by a federal action and occur at the same time and place as the action. Indirect emissions are defined as emissions that are caused by the action but may occur later in time and/or may be farther removed in distance from the action itself but are still reasonably foreseeable and, the federal agency can practicably control and will maintain control over due to a continuing program responsibility. For the evaluation of the Proposed Action, primary emission sources to be considered include:

- Direct emissions include project construction (nonroad and on-road construction equipment, employee vehicles, truck traffic, etc.)
- Indirect emissions include aircraft operations (number of annual aircraft operations, aircraft fleet mix, daytime, evening, and nighttime aircraft operations) and GSE operations (support equipment used to service aircraft between flights).

[13] Federal Register: Federal Presumed To Conform Actions Under General Conformity

4.4 Sources of Airport Air Emissions

Emissions from the proposed 19th Street Cargo Redevelopment Project are expected to include construction emissions, including emissions from construction equipment, motor vehicles (employee commute and material delivery), and nonpoint source emissions (e.g., fugitive dust), as well as operational emissions from aircraft, GSE, and auxiliary power units (APU) (**Table 4-2**). Both construction emissions and operational emissions are subject to the CAA General Conformity requirements**.** In addition to emissions from GSE and APUs, aircraft operational emissions also include emissions from start up, taxi out (departure taxi times), climb below the mixing height[14], descend below the mixing height, and taxi in (arrival taxi times).

Table 4-2. Existing Conditions (Baseline) – Operational Emissions based on 2022 Operations (656,676 CY Operations)

Operational Emissions Source	NOx (tpy)	VOC (tpy)
Aircraft	3,494.54	388.17
GSE operation per Landing and Take-off cycle (LTO)	55.43	20.56
APU	115.01	9.48
Total	**3,664.98**	**418.21**

Source: HMMH, 2023

[14] The mixing height is the top of the vertical region of the atmosphere in which pollutant mixing occurs and affects ground level concentrations. Above this height, pollutants that are released generally do not mix with ground level emissions and do not have an effect on ground level concentrations in the local area (FAA AEDT Guidance 2022). For criteria air pollutants, the mixing height of 3,000 AFE ft is used for both the "Climb Below Mixing Height " and the "Descend Below Mixing Height".

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SECTION 5 APPLICABILITY ANALYSIS FOR THE PROPOSED FEDERAL ACTION

5.1 Methodology

A General Conformity Protocol was developed to identify the technical assumptions, methodologies, databases, and models that would be used to develop the air pollutant emission inventories and to conduct the air quality impact analyses under the NEPA evaluation. The Protocol was developed in coordination and collaboration with FAA and TCEQ. In addition, the Protocol identifies the methodology and tools needed to complete the conformity analysis under the CAA (*see **Section 2***). The purpose of the Protocol was (i) to document in advance any data to be collected and analyzed, (ii) to document the approach to the analysis, and (iii) to obtain input from the FAA and TCEQ. A copy of the Protocol is included in **Appendix A.**

5.2 Estimated Emissions

The NAAQS criteria pollutants carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), and sulfur dioxide (SO_2) were evaluated in the EA for both construction and operations of the No Action Alternative and the Proposed Action. This General Conformity Determination only evaluates the ozone precursors (NO_X and VOC) as ozone is the only criteria pollutant in nonattainment for AQCR 215. The total of direct and indirect emissions for the proposed federal action is the difference between the emissions of the No Action and Proposed Action.

In preparing the applicability analysis, two key types of emissions are included: direct (construction of the proposed project) and indirect (operation of the facilities once completed). The total of these direct and indirect project-related emissions is compared to the applicable *de minimis* threshold for the purposes of determining if a General Conformity Determination is required.

5.2.1 Construction Emissions

The No Action Alternative would not involve any construction activities; therefore, no construction emissions would be associated with the No Action Alternative. Air cargo operations would continue to use the existing cargo complexes and there would be no net increase in cargo operations at DFW. As such there would be no additional air quality effects other than those currently produced through existing operational emissions.

The Proposed Action construction emissions were analyzed for anticipated construction years, 2024 and 2025 (**Appendix C**). An air quality analysis was completed to estimate construction emissions and determine the Proposed Action's potential construction-related air quality impacts. The methodology used to prepare the DFW emissions inventories is consistent with the requirements outlined in the latest *FAA Aviation Emissions and Air Quality Handbook (Version 3, Update 1)*, which provides both regulatory context and technical direction for completing airport-related air quality impact assessments.

The Proposed Action would generate air pollutant emissions from heavy-duty construction equipment activity, truck haul trips, and construction worker and vendor truck trips to and from the project areas. Construction emissions include both on-road mobile and off-road source categories. Mobile source exhaust emissions would be generated from on-road vehicles and construction equipment, including but not limited to dump trucks, mixers, passenger vehicles, flatbed trucks, and tractor trailers. Fugitive VOC emissions would be generated by asphalt drying.

The estimated construction emissions from diesel-powered on-road vehicles and off-road construction equipment were modeled using the TCEQ Texas NONROAD version 2 (TexN2.2 Utility) and EPA Motor Vehicles Emissions Simulator, version 3 (MOVES3). The TexN2.2 model was used to estimate Texas-specific (at the county level) emissions from nonroad mobile sources, excluding commercial marine vessels, locomotives, drilling rigs, and aircraft (*see* **Appendix C**). MOVES3 is required by the EPA for developing nonroad emissions estimates for NEPA reviews, SIP revisions, national emissions inventories, and reasonable further progress analyses. Emissions were calculated using the activity estimates for each project component combined with the most recent emission factors from the EPA MOVES3 and in accordance with EPA AP-42 guidance. Refer to **Appendix C** for the construction emissions analysis technical report.

Table 5-1 shows the estimated construction emissions of NO_X and VOCs, by emissions sources. Proposed Action construction activities are anticipated from February 2024 to April 2025. The estimated maximum annual emissions associated with the construction of the Proposed Action would be well below the severe non-attainment ozone *de minimis* threshold of 25 tpy for NO_X or VOC. A concrete batch plant would be necessary to support the construction of the Proposed Action. The batch plant would be authorized under the TCEQ New Source Review (NSR) permitting program and is not evaluated under the General Conformity requirements (40 CFR 93.153 (d)(1)).

Table 5-1. Proposed Action Construction Emissions

Emission Source	NOx (tpy)	VOC (tpy)
2024		
Airfield	1.44	0.10
Airside	1.89	0.14
Building 1	2.65	0.21
Building 2	1.71	0.14
Fugitive Dust	--	--
On road	0.45	0.25
2024 Totals	**8.14**	**0.84**
2025		
Airfield	0.32	0.02
Airside	0.42	0.3
Building 1	0.59	0.05
Building 2	0.38	0.03
Demolition	0.47	0.03
Staging	0.15	0.01
Fugitive Dust	--	--
On road	1.38	0.09
2025 Totals	**3.69**	**0.26**

Notes:
[1] * Calendar Year 2025 was actually modeled as 2023 in both MOVES3 and TexN2.2; however, due to a shift in the construction schedule, the work scheduled for 2023 was shifted to 2025.
[2] Per 40 CFR 93 § 153, since the DFW area is classified as severe nonattainment for O_3, *de minimis* thresholds of 25 tpy would apply for O_3 precursors: NOx and VOCs.

5.2.2 Operational Emissions

Criteria pollutant emissions associated with the No Action for 2025 and 2030 are presented in **Table 5-2**. Under the No Action, the Proposed Action would not be built, and as a result, there would be no additional air quality effects other than those currently produced through existing operations. Aircraft operational emissions include taxi-in, taxi-out, and in-flight operations below mixing height. The No Action operational for NO_X and VOC emissions are shown in **Table 5-2**.

To identify potential operational air emissions from the Proposed Action, an emissions inventory was prepared using FAA's AEDT 3e and compared to the *de minimis* levels for an ozone non-attainment area; per the CAA general conformity rule, the *de minimis* for an ozone severe non-attainment area is 25 tpy each for NO_X and VOC, the precursors to ozone formation. The Proposed Action is expected to result in changes in operational emissions from the additional cargo aircraft operations which include taxi-in, taxi-out, and in-flight operations below mixing height. **Table 5-3** provides the NOx and VOC operational emissions by year. **Table 5-4** provides the comparison between the future No Action and the Proposed Action operational emissions.

Table 5-2. No Action Operational Emissions

Source of Project Emissions	NO_x (tpy)	VOC (tpy)
2025		
Aircraft	4,628.53	462.42
APU	145.86	10.64
GSE	59.37	23.89
2025 TOTAL	**4,833.75**	**496.95**
2030		
Aircraft	4,850.22	449.65
APU	151.60	10.63
GSE	53.40	23.79
2030 TOTAL	**5,055.22**	**484.07**

Source: HMMH, 2023

Table 5-3. Proposed Action Operational Emissions

Source of Project Emissions	NO_x (tpy)	VOC (tpy)
2025		
Aircraft	4,807.20	481.53
APU	148.18	10.76
GSE	73.90	28.21
2025 TOTAL	**5,029.28**	**520.49**
2030		
Aircraft	5,029.16	468.77
APU	153.93	10.75
GSE	67.91	28.10
2030 TOTAL	**5,250.99**	**507.62**

Source: HMMH, 2023

Table 5-4. Net Operational Emissions
Proposed Action minus No Action Operational Emissions

Emission Source	Alternatives	NOx (tpy)	VOC (tpy)
2025			
Aircraft	With Proposed Action	4,807.20	481.53
	No Action	4,628.53	462.42
	Project-Related	**178.68**	**19.11**
GSE LTO	With Proposed Action	73.90	28.21
	No Action	59.37	23.89
	Project-Related	**14.53**	**4.31**
APU	With Proposed Action	148.18	10.76
	No Action	145.86	10.64
	Project-Related	**2.32**	**0.12**
2025	**Net Project-Related Operational Totals**	**195.53**	**23.54**
2030			
Aircraft	With Proposed Action	5,029.16	468.77
	No Action	4,850.22	449.65
	Project-Related	**178.93**	**19.12**
GSE LTO	With Proposed Action	67.91	28.10
	No Action	53.40	23.79
	Project-Related	**14.51**	**4.31**
APU	With Proposed Action	153.93	10.75
	No Action	151.60	10.63
	Project-Related	**2.32**	**0.12**
2030	**Net Project-Related Operational Totals**	**195.77**	**23.55**

Source: HMMH, 2023

5.2.3 Total Direct and Indirect Project-related Emissions

Operation of the Proposed Action would begin prior to the completion of construction. In a phased move-in approach, Building 1 and the associated aircraft parking positions would be made available to tenants while Building 2 is still under construction. As such, for part of the time, the construction and operation of the Proposed Action would occur concurrently. The 2024, 2025, and 2030 combined construction and operational emissions inventories for the Proposed Action are presented in **Table 5-5**. These emissions include the construction and operational minimization measures such as use of newer Tier 4 equipment when possible and feasible, so as to reduce emissions. As shown in **Table 5-5**, the construction emissions are well below the *de minimis* threshold of 25 tpy, for either NOx or VOCs; operational emissions in 2025 and 2030 would exceed the *de minimis* threshold for Ozone precursors (NOx and VOCs).

DFW Staff met with the North Central Texas Council of Governments (NCTCOG) staff to understand what activity is captured within the Metropolitan Transportation Plan (MTP), Mobility 2045 Update (adopted 09 June 2022). While DFW passenger activity is reflected in the Mobility 2045 Update, the Proposed Action cargo and construction activity is not. As such, on-road emissions were calculated for comparison to the applicable SIP RFP.

5.3 Comparison to the *de minimis* Emissions Thresholds and Applicability Determination

As shown in **Table 5-5** the Proposed Action-related emissions were compared to the applicable *de minimis* threshold. As is noted in **Table 5-5**, peak year of project-related emissions would be expected in year 2025 at 199.22 tons of NOx and 23.8 tons of VOC. While the *de minimis* threshold for VOC would not be expected to be exceeded in the reasonably foreseeable horizon, the *de minimis* threshold for NOx would be exceeded beginning in year 2025. Thus, a General Conformity Determination is required for NOx.

Table 5-5. Combined Direct and Indirect Project-Related Emissions

Year and Emissions Source	NOx (tpy)	VOC (tpy)
2024		
Construction – Non-Road	7.69	0.59
Construction – On-Road	0.45	0.25
Total Project-related Emissions	**8.14**	**0.84**
De Minimis Threshold	25.00	25.00
Is a General Conformity Determination Required?	No	No
2025		
Construction – Non-Road	2.31	0.17
Construction – On-Road	1.38	0.09
Operational – Non-Road	195.53	23.54
Total Project-related Emissions	**199.22**	**23.80**
De Minimis Threshold	25.00	25.00
Is a General Conformity Determination Required?	**YES**	No
2030		
Construction – On-Road & Non-Road	NA	NA
Operational- Non-Road	195.77	23.55
Total Project-related Emissions	**195.77**	**23.55**
De Minimis Threshold	25.00	25.00
Is a General Conformity Determination Required?	**YES**	No

Sources: HMMH, 2023, HDR 2022

SECTION 6 GENERAL CONFORMITY DETERMINATION

6.1 Designation of Applicable SIP

The applicable SIP for general conformity purposes in the DFW ozone nonattainment area is the latest approved revision to the SIP, *the Dallas-Fort Worth and Houston-Galveston-Brazoria Serious Classification RFP State Implementation Plan Revision for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard [Project No. 2019-079-SIP-NR; 04 March 2020], approved by EPA on 24 April 2023 with the effective date of 24 May 2023 (also referred to as the 2020 Serious RFP SIP Revision).* This SIP revision provides emissions inventory for various mobile source categories including non-road equipment and on-road vehicles. The target attainment year for this SIP RFP is 2020 with 2021 as a contingency year.

6.2 Comparison to the Applicable SIP for General Conformity

DFW Airport staff met with TCEQ to review the Proposed Action and its expected emissions. During those coordination meetings, TCEQ noted the attainment year emissions inventories approved in the SIP (Dallas-Fort Worth and Houston-Galveston-Brazoria Serious Classification RFP SIP Revision for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard [Project No. 2019-079-SIP-NR; 04 March 2020]) as well as the quantification of overall excess creditable RFP emissions reductions available after meeting the milestone-year emissions reduction targets for NO_X and VOC and establishing motor vehicle emissions budgets (MVEB) for transportation conformity (40 CFR §93.101). To assess conformity to the SIP for the Proposed Action, TCEQ allocated the overall excess creditable RFP emissions reductions quantified in the applicable SIP according to source categories based on the RFP emissions reductions attributed to each source category. TCEQ compared emissions for the Proposed Action to those allocations. TCEQ confirmed that the maximum amount non-road source category emissions could increase due to projects not included in the approved SIP without changing the result of the RFP demonstration are 4.97 tpd NO_X and 4.77 tpd VOC. For on-road source category emissions, those amounts are 26.26 tpd NO_X and 12.55 tpd VOC.

Based upon the emissions noted in **Table 5-5**, emissions for the Proposed Action in tpd are:

- 2025
    - On-Road Emissions: 0.004 tpd NO_X
    - Non-road Emissions: 0.542 tpd NO_X
- Years 2026-2030 (the reasonably foreseeable horizon)
    - Non-road Emissions: 0.536 tpd NO_X

To identify the quantity of emissions needed, the total direct and indirect project related NO_X tpy were converted to an average annual day (tpd) for comparison to the excess emissions for the years in which *de minimis* would be exceeded (2025 -2030). **Table 6-1** shows that the project related NO_X emissions would fit within the overall excess creditable RFP emissions reductions quantified in the applicable SIP according to source categories based on the RFP emissions reductions attributed to each source category. The maximum amount that non-road source category emissions could increase due to projects not included in the approved SIP without changing the result of the RFP demonstration are 4.97 tpd NO_X and 4.77 tpd VOC. For on-road source category emissions, those amounts are 26.26 tpd NO_X and 12.55 tpd VOC (**Table 6-2**)

Per the 2020 Serious SIP RFP excess emissions per category (non-road and on-road), the Proposed Action does fit within the applicable categories for on-road and off-road source emissions. .

Table 6-1. Total Project-Related Emissions Converted from Tons per Year to Tons per Day

Sources of Project Emissions	NO_X (tpy)	NO_X (tpd)
2025		
* 2025 Proposed Action Non-Road Emissions (construction & operations)	197.84	0.542
2025 Proposed Action On-Road Emissions (construction)	1.38	0.004
2026-2030		
2030 Proposed Action Non-Road Emissions (operations)	195.77	0.536

Source: HMMH, 2023 and HDR 2022

Note: * 2025 Proposed Action Non-Road Emissions = construction emissions (2.31 tpy) + operational emissions (195.53 tpy)

Table 6-2. Comparison of SIP Available Excess Emissions and Project Related NOx Emissions

Year	Source of Emissions	Available excess creditable RFP emissions reductions (tpd)	Project Related Emissions (tpd)
2025	Non-Road Sources (construction & operations)	4.97	0.542
	On-Road Sources (construction)	26.26	0.004
2030	Non-Road Sources (operations)	4.428	0.536

Source: Appendix 1 - Dallas-Fort Worth and Houston-Galveston-Brazoria Serious Classification RFP SIP Revision for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard (Project No. 2019-079-SIP-NR; 04 March 2020), approved by EPA on 24 April 2023

6.3 Comparison to the NAAQS

Conformity means that a proposed federal action will not cause or contribute to any new violation of any NAAQS; not increase the frequency or severity of any existing violation of any NAAQS; and not delay timely attainment of any NAAQS or any required interim emission reductions or other milestones (42 USC 7506(c)(1)(B)). The general conformity regulations allow that local and/or area wide air quality modeling may be used to demonstrate that these requirements are met in support of a positive General Conformity Determination (40 CFR 93.158(a)(3) and 40 CFR 93.158(a)(4)(i)). Emissions inventories were developed for both direct and indirect sources of project-related emissions. These models indicated that the only *de minimis* exceedance was for ozone precursor NOx for the reasonably foreseeable years 2025-2030. No other criteria pollutants were found to be above the threshold levels.

6.4 Consistency with Requirements and Milestones in the Applicable SIP

The General Conformity Regulations state that, notwithstanding the other requirements of the rule, a proposed action may not be determined to conform unless the total of direct and indirect emissions from the action complies or is consistent with all relevant requirements and milestones in the applicable SIP (40 CFR 93.158(c)). This includes but is not limited to such issues as reasonable further progress schedules, assumptions specified in the attainment or maintenance demonstration, prohibitions, numerical emission limits, and work practice standards. This section briefly addresses how the Proposed Action was assessed for SIP consistency for this evaluation.

6.4.1 Applicable Requirements from the EPA

The EPA has promulgated, and will continue to promulgate, numerous requirements to support the goals of the CAA with respect to the NAAQS. Typically, these requirements take the form of rules regulating emissions from significant new sources, including emission standards for major stationary point sources and classes of mobile sources, as well as permitting requirements for new major stationary point sources. Since states have the primary responsibility for implementation and enforcement of requirements under the CAA and can impose stricter limitations than the EPA, the EPA requirements often serve as guidance to the states in formulating their air quality management strategies.

6.4.2 Consistency with Applicable Requirements

In operating the Airport, DFW already complies with, and will continue to comply with, a myriad of rules and regulations implemented and enforced by federal, state, regional, and local agencies to protect and enhance ambient air quality in the AQCR 215. DFW will continue to comply with all existing applicable air quality regulatory requirements for activities over which it has direct control and will meet in a timely manner all regulatory requirements that become applicable in the future. Likewise, DFW actively encourages all tenants and users of its facilities to comply with applicable air quality requirements.

6.5 Conclusion

Within areas designated non-attainment or maintenance for any of the NAAQS, the CAA requires that federal agencies ensure that their actions conform to the applicable SIP. The requirements for determining conformity to SIPs are detailed in 40 CFR 51 and 40 CFR 93.

In accordance with Section 176(c) of the CAA, the FAA has assessed whether pollutant and pollutant precursor emissions that would result from the FAA's actions with respect to the Proposed Action are in conformance with the SIP.

- The emission estimates for the General Conformity Determination were prepared:
    - Using the latest planning assumptions.
    - Using the latest and most accurate emission estimation techniques.
    - Based on the applicable air quality models, databases, and other requirements specified in the most recent version of the EPA's Guideline on Air Quality Models, including supplements.
- Based on the results of the evaluation, the total direct and indirect project-related emissions of NO_X were determined to be:
    - Accounted for in the excess creditable RFP emissions reductions available after meeting the milestone-year emissions reduction targets for NO_X and VOC and establishing motor vehicle emissions budgets (MVEB) for transportation conformity (40 CFR §93.101).

As stated in Section 5.2 of the EA that provides a detailed evaluation of the effect of the Proposed Action on air quality, this General Conformity Determination is being published concurrently with EA documentation. While the EA and the General Conformity Determination are evaluating the same Proposed Action, these documents are being prepared to satisfy the requirements of NEPA and the CAA, respectively. The conformity status of a federal action automatically lapses after a period of 5 years (from the date a Final General Conformity Determination is reported) unless the federal action has been completed or a continuous program has been commenced to implement the federal action within a reasonable time. Additionally, if, after the Final General Conformity Determination is made, the federal action is changed so that there is an increase in the total direct and indirect project-related emissions, above the *de minimis* levels, a new General Conformity Determination would be required.

TCEQ has informed the FAA that their concurrence with the Draft General Conformity Determination is forthcoming and will provide a letter as soon as possible. The letter will be uploaded to https://www.dfwairport.com/business/about/publications/ and accessible for review once it is received..

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SECTION 7 PUBLIC PARTICIPATION

The General Conformity Regulation (40 CFR Part 93.156) has a requirement for public participation that is similar to the NEPA process. Section 93.156 (b) states:

> *A federal agency must make public its draft conformity determination under Sec. 93.158 by placing a notice by prominent advertisement in a daily newspaper of general circulation in the area affected by the action and by providing 30 days for written public comment prior to taking any formal action on the draft determination. This comment period may be concurrent with any other public involvement, such as occurs in the NEPA process.*

Section 93.155 (Reporting Requirements) states:

> *(a) A federal agency making a conformity determination under Sec. 93.158 must provide to the appropriate EPA Regional Office(s), State and local air quality agencies and, where applicable, affected Federal land managers, the agency designated under section 174 of the Act and the MPO a 30-day notice which describes the proposed action and the federal agency's draft conformity determination on the action.*
>
> *(b) A Federal agency must notify the appropriate EPA Regional Office(s), State and local air quality agencies and, where applicable, affected federal land managers, the agency designated under Section 174 of the Clean Air Act and the MPO within 30 days after making a final conformity determination under Sec. 93.158.*

To meet these requirements, this Draft General Conformity Determination has been included in the Draft EA, Appendix G. A public notice of its availability has been published in the following local publications, Dallas Morning News, Fort Worth Star Telegram, Fort Worth Report (if they publish notices), and Al Día, along with the notice of the availability of the Draft EA. That notification began the public review and comment period. In addition, the Draft EA, with the Draft General Conformity Determination was sent to the EPA Region 6 Office, and TCEQ. There are currently no federal Class I lands within 100 kilometers of the Proposed Action project area.

- Mr. David Garcia, Air and Radiation Division, EPA Region 6
- Ms. Donna Huff, Deputy Director, Air/Air Quality Division, TCEQ
- Ms. Jamie Zech, PhD, Air Quality Planner, TCEQ
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APPENDIX A

DFW 19th Cargo Redevelopment Project General Conformity Determination Protocol

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DALLAS FORT WORTH INTERNATIONAL AIRPORT

FINAL
General Conformity Determination Protocol
19th Street Cargo Redevelopment Project

SUBMITTED BY:

Dallas Fort Worth International Airport

January 30, 2023

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SECTION 1.0 INTRODUCTION

The Dallas Fort Worth International Airport (DFW) is in the Dallas-Fort Worth ozone nonattainment area (NAA) in Air Quality Control Region (AQCR) 215. DFW is sponsoring different airport development projects with the Federal Aviation Administration (FAA) serving as the Lead Federal Agency (LFA). Federal actions triggering National Environmental Policy Act of 1969 (NEPA) review must be evaluated under federal General Conformity rules. This Protocol documents the methods by which General Conformity will be evaluated for the 19th Street Cargo Redevelopment Project as well as upcoming DFW projects that are likely to exceed *de minimis* thresholds for ozone and trigger General Conformity Review.

1.1 General Conformity Rule

The U.S. Environmental Protection Agency (EPA) defines General Conformity as a process to *ensure that actions taken by the federal government do not interfere with a state's plan to attain and maintain national standards for air quality.* The General Conformity Rule establishes a process to determine whether a federal action conforms to the State Implementation Plan (SIP). The SIP is the cumulative record of all air pollution control strategies, emission budgets, and timetables implemented or adopted by government agencies within Texas to bring NAA into compliance with the National Ambient Air Quality Standards (NAAQS) by a designated deadline. The SIP focuses on reducing the two primary pollutants that lead to ozone formation, volatile organic compounds (VOCs) and nitrogen oxides (NOx). General Conformity refers to the requirements under the Clean Air Act (CAA) Section 176(c) for federal agencies to show that their actions conform to the purpose of the applicable SIP. As described in 40 Code of Federal Regulations (CFR) 51 and 93, issued by the EPA, the General Conformity Applicability Analysis (GCAA) evaluates both direct emissions and indirect emissions, as defined by 40 CFR 93.152. "Direct emissions" are those that occur at the same time and place as the federal action. As stated in 40 CFR 93.152, "indirect emissions" are defined as emissions or precursors that are caused or initiated by the federal action and originate in the same NAA or maintenance area but occur at a different time or place from the action, are reasonably foreseeable, that the agency can practically control, and for which the agency has continuing program responsibility. The GCAA focuses on these direct/indirect emissions while cumulative emissions that also potentially contribute to regional ozone nonattainment are addressed in the project Environmental Assessment (EA).

When developing the General Conformity Rule, the EPA recognized that many actions conducted by federal agencies do not result in substantial increases in air pollutant emissions in NAA and maintenance areas. Therefore, the EPA established levels (also referred to as *de minimis* thresholds) for emissions of each criteria pollutant. If the sum of the increases in direct and indirect emissions caused by a project is calculated to be below the *de minimis* thresholds, no further air quality analysis is needed, and the project would not require a General Conformity Determination (GCD).

1.2 Project Background

For the 19th Street Cargo Redevelopment Project, a General Conformity Applicability Analysis (GCAA) will be performed. As part of the GCAA, it will be determined if a General Conformity Demonstration is needed. The GCAA includes.

1) development of a project emissions inventory and
2) evaluation of the project emission inventory magnitudes against General Conformity *de minimis* thresholds.

If project emissions exceed the *de minimis* threshold, a General Conformity demonstration will be required. Federal agencies can demonstrate conformity using one or more of the following methods,

1) demonstrating that project emissions are specifically identified and accounted for in the SIP;
2) obtaining a written statement from the state agency responsible for the SIP documenting that project emissions along with other emissions in the area will not exceed the SIP emission budget;
3) amending the SIP;
4) documenting that any on-road motor vehicle emissions are included in the area's transportation improvement program (TIP);
5) using emission reduction credits to offset emissions of the same pollutant or precursor in the same nonattainment area; or
6) air quality modeling to demonstrate that the emissions will not cause or contribute to new violations of the standards or increase the frequency or severity of any existing violations.

An overview of the General Conformity evaluation process is shown in **Figure 1-1.**

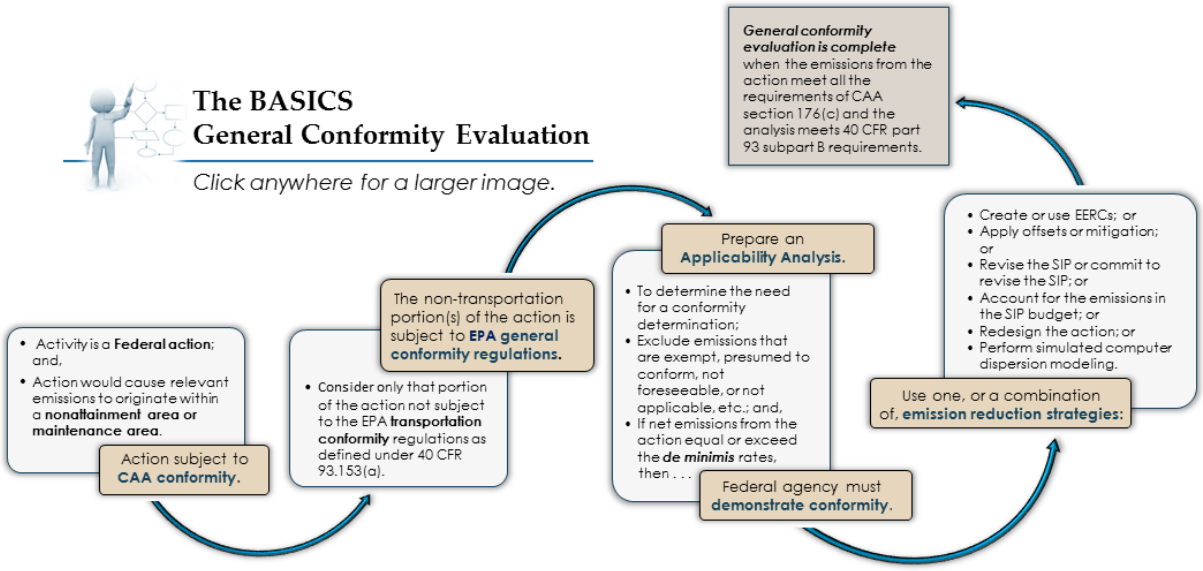

Figure 1-1. EPA Proposed General Conformity Evaluation Process Flow[1]

[1] U.S. EPA. 2022a. General Conformity Training Module I: The Basics. General Conformity Evaluation Quick Steps: https://www.epa.gov/general-conformity/general-conformity-training-module-i-basics. 26 September. Accessed 24 October 2022.

1.2.1 Purpose and Need

This document is intended to be used to inform relevant agencies and stakeholders of the planned technical approach for the GCAA before it is completed such that any adjustments to the approach can be made early in the process and consensus on the final technical approach can be maximized. This document will be reviewed by the DFW, FAA, Texas Commission on Environmental Quality (TCEQ), and any other stakeholders designated by DFW. While this Protocol is not intended to be the 'final' set of rules that will be followed for the GCAA, consensus on the technical methodologies is nevertheless strongly desired to ensure that the Project is completed in a timely manner and that the public and decision-makers receive sufficient information for expeditious evaluation of reports and, if required, issuance of the appropriate General Conformity Determination documents associated with DFW EAs.

1.2.2 Proposed Action Description

The Proposed 19th Street Cargo Redevelopment Project would be located east of West Airfield Drive and south of 19th Street on DFW's west side (**Figure 1-2**). The Proposed Action consists of the development of two new cargo buildings (Buildings 1 and 2) and associated landside surface parking and roadway modifications, new airside aircraft pavement, pavement and alignment modifications to various taxiways for aircraft ingress/egress, new Air Operations Area (AOA) fencing and access gates, a new fueling station, and all associated necessary utilities (e.g., communications, electrical, stormwater, potable water, sanitary sewer, jet fuel, glycol, and natural gas) infrastructure, which includes demolition, relocation, and creation, as necessary for the project. One existing building would be demolished to enable development of Building 2. Additionally, the Proposed Action would generate five new widebody aircraft positions for Building 1 and 2 and improve the two existing hardstand positions (**Figure 1-3**).

1.3 Regulatory Background

The CAA requires standards be established to protect the public from potentially harmful amounts of pollutants. Under the CAA, the EPA established the NAAQS, which includes standards for several criteria pollutants. NAAQS have been set for the following six pollutants, carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), and sulfur dioxide (SO_2) (**Table 1-1**). Areas that meet the NAAQS are designated as attainment, those that do not meet the standards are designated as nonattainment, and those that are in transition from nonattainment to attainment are designated as maintenance. Ozone NAA are further classified as extreme, severe, serious, moderate, and marginal by the degree of non-compliance with the NAAQS.

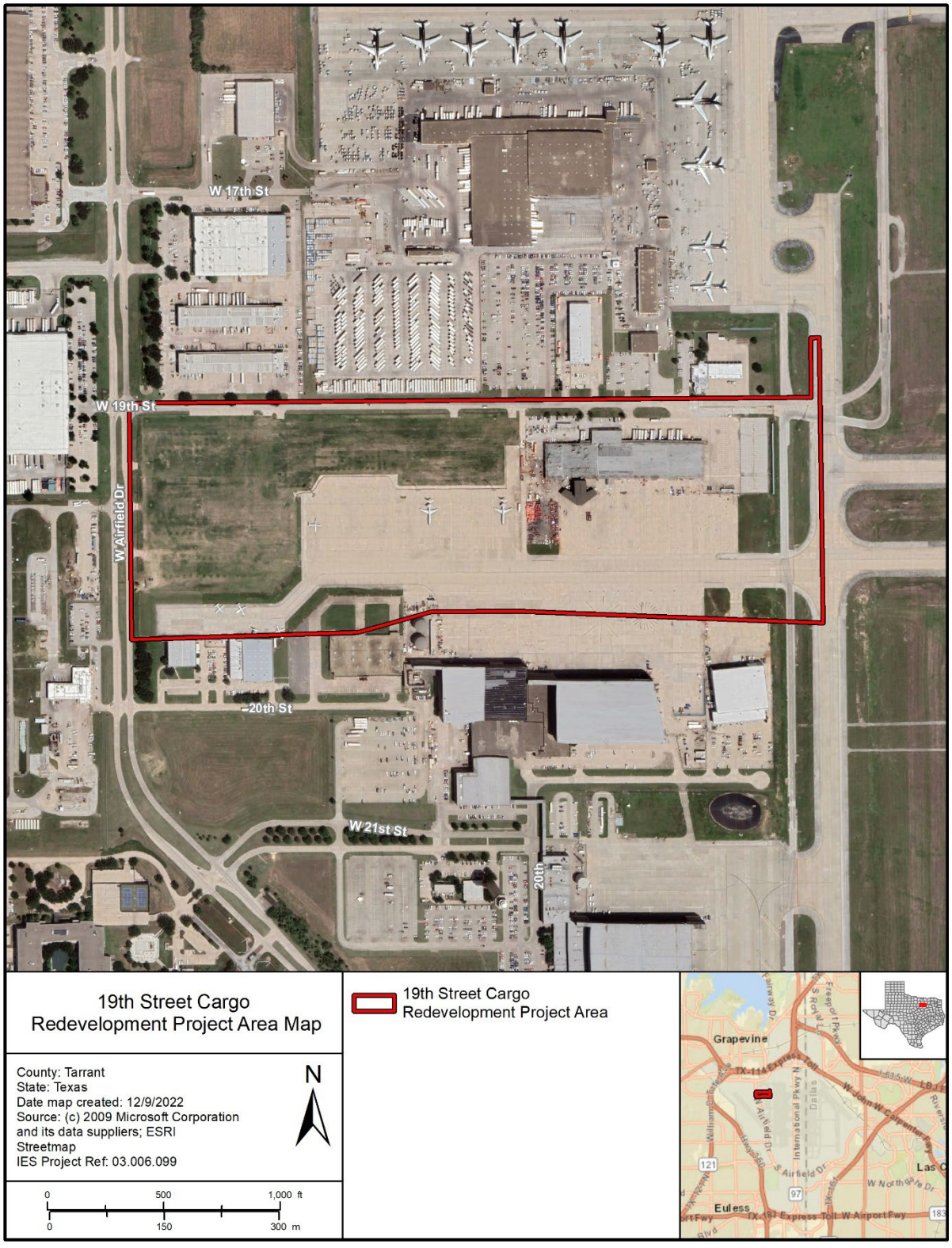

Figure 1-2. General Location of the 19th Street Cargo Redevelopment Project Site

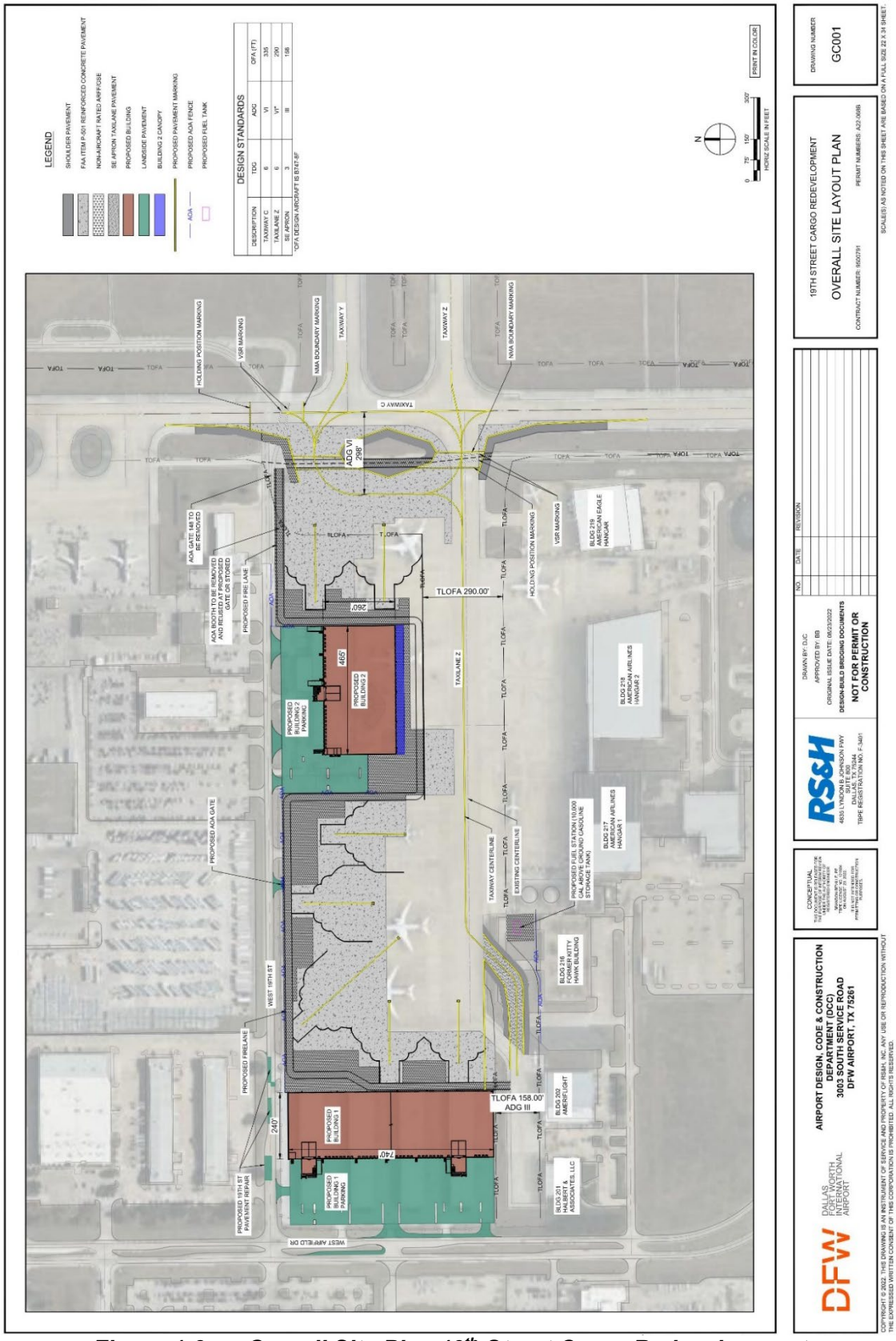

Figure 1-3. Overall Site Plan 19th Street Cargo Redevelopment

Table 1-1. National Ambient Air Quality Standards

Pollutant	Averaging Time	Standard	Type of Standard	Form
CO	1-hour	35 ppm	Primary	Not to be exceeded more than once annually
	8-hour	9 ppm	Primary	
Pb	Rolling quarter	0.15 µg/m^3	Primary Secondary	Not to be exceeded
NO_2	1-hour	100 ppb	Primary	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	1 year	53 ppb	Primary Secondary	Annual Mean
O_3	8-hour	0.070 ppm (2015) 0.075 ppm (2008)	Primary Secondary	Annual 4th highest daily maximum 8-hour concentration, averaged over 3 years
PM_{10}	24-hour	150 µg/m^3	Primary Secondary	Not to be exceeded more than once annually on average over 3 years
$PM_{2.5}$	1 year	12.0 µg/m^3	Primary	Annual mean, averaged over 3 years
	1 year	15.0 µg/m^3	Secondary	Annual mean, averaged over 3 years
	24-hour	35 µg/m^3	Primary Secondary	98th percentile, averaged over 3 years
SO_2	1-hour	75 ppb	Primary	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	3-hour	0.5 ppm	Secondary	Not to be exceeded more than once annually

Notes:
ppm = parts per million;
ppb = parts per billion;
µg/m^3 = micrograms per cubic meter;
$PM_{2.5}$ = particulate matter with a diameter less than 2.5 micrometers (µm);
PM_{10} = particulate matter with a diameter less than 10 micrometers (µm)

Primary standards provide public health and safety protection, including protecting the health of sensitive populations such as asthmatics, children, and the elderly.

Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

Source: USEPA, 2022b

1.3.1 Dallas – Fort Worth Air Quality Control Region

The Dallas-Fort Worth metropolitan area (**Figure 1-4**) has been designated as an attainment area for all criteria pollutants except for ozone based on air quality monitoring data collected by the Texas Commission on Environmental Quality (TCEQ) (TCEQ 2022, EPA 2022d). **Table 1-2** lists 2021 validated data for criteria pollutants at monitoring stations near DFW.

As of 07 November 2022, the Dallas-Fort Worth metropolitan area will be reclassified as "Severe" NAA according to the EPA (87 FR 60926) for failing to meet the 2008 8-hour ozone standard, which is 75 parts per billion (ppb). The SIP requirements for the new Severe classification will be due 18 months after the effective date, 07 November 2022, which will be 08 May 2024. These requirements include attainment demonstration and reasonable further progress (RFP) SIP revisions, reasonably available control measures (RACM) – reasonably available control technologies (RACT) analyses and necessary rules to implement RACM and/or RACT, vehicle miles traveled (VMT) offset demonstration, and contingency plans. The attainment date for the bump-up classification is 20 July 2027 for the 2008 8-hour ozone with a 2026 attainment year.

On 07 October 2022, the EPA published their intent to reclassify 22 "marginal" NAA to "moderate," for failing to meet the 2015 8-hour ozone standard, which is 70 ppb. This reclassification would include the Dallas-Fort Worth metropolitan area with the effective date of 07 November 2022 (87 FR 60897). According to the EPA, the SIP requirements for the new Moderate classification will be due by 01 January 2023. These requirements include attainment demonstration and RFP SIP revisions, RACM/RACT analyses and necessary rules to implement RACM and/or RACT, and contingency plans. The attainment date for the bump-up classification is 03 August 2024 for the 2015 8-hour ozone standard with a 2023 attainment year.

Per federal general conformity rule, the applicable SIP for general conformity purposes is: "the portion (or portions) of the SIP or most recent revision thereof, which has been approved under section 110(k) of the Act . . . and which implements the relevant requirements of the Act." Per TCEQ, the SIP revision that currently qualifies as applicable for general conformity purposes in the DFW ozone nonattainment area is the *Dallas-Fort Worth Reasonable Further Progress State Implementation Plan Revision for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard*, adopted 03 June 2015, supplemented 22 April 2016, and approved by the EPA effective 06 January 2017.

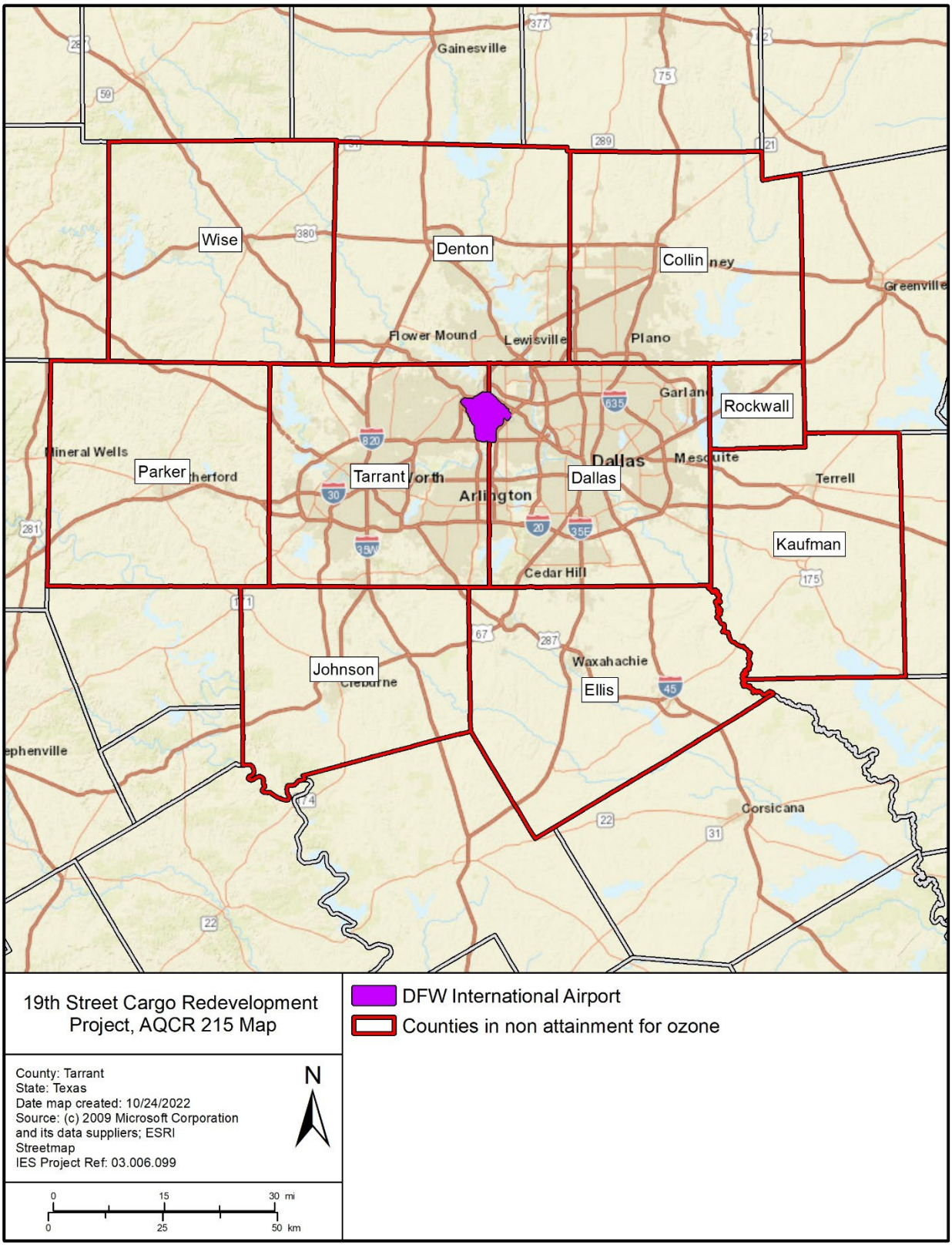

Figure 1-4. Dallas-Fort Worth Metropolitan Area (AQCR 215)

Table 1-2. Air Quality at Dallas-Fort Worth-Arlington, Texas

Pollutant	Federal Standard	2021 Design Value	Active Monitoring Years	Monitoring Site	Current Status
CO	30 ppm (8-hour)	1.1 ppm	2011-2022	Hinton	Attainment
Pb	0.15 µg/m³ (3-month)	0.02 µg/m³ (2019-2021)	2011-2022	Frisco Stonebrook	Attainment
NO_2	100 ppb (1-hour)	43 ppb	2011-2022	Hinton	Attainment
		39 ppb	2018-2020	Dallas North #2	Attainment
		40 ppb	2000-2022	Grapevine Fairway	Attainment
		40 ppb	1990-2022	Keller	Attainment
O_3	0.070 ppm (2015 8-hour)	0.072 ppm	1990-2022	Keller	Nonattainment
		0.071 ppm	1998-2022	Dallas North #2	Nonattainment
		0.067 ppm	2011-2022	Hinton	Nonattainment
		0.074 ppm	2000-2022	Grapevine Fairway	Nonattainment
PM_{10}	150 µg/m³ (24-hour)	0.00 (2019-2021) average exceedances	2009-2022	Earhart	Attainment
$PM_{2.5}$	12 µg/m³ (annual)	8.4 µg/m³	2011-2022	Hinton	Attainment
	35 µg/m³ (24h primary)	19 µg/m³	2011-2022	Hinton	Attainment
SO_2	75 ppb (1-hour)	3 ppb	2011-2022	Hinton	Attainment

Notes:
ppm = parts per million;
ppb = parts per billion;
µg/m³ = micrograms per cubic meter
$PM_{2.5}$ = particulate matter with a diameter less than 2.5 micrometers (µm);
PM_{10} = particulate matter with a diameter less than 10 micrometers (µm)

Design values shown in the table are from available Air Quality System (AQS) sites closest to the DFW, as determined by the EPA Interactive Map of Air Quality Monitors (https://www.epa.gov/outdoor-air-quality-data/interactive-map-air-quality-monitors) and the EPA Design Value Interactive Tool (https://www.epa.gov/air-trends/design-value-interactive-tool). All data from 2021 was current as of 24 October 2022. Design values are commonly used to classify nonattainment areas and are defined as statistics that describe the air quality status of a given location relative to the level of the NAAQS.

- **48-439-3009 Grapevine Fairway, Tarrant County, O_3**
- **48-439-2003 Keller, Tarrant County, O_3**
- **48-113-0069 Dallas Hinton, Dallas County, O_3, SO_2, NO_2, CO, $PM_{2.5}$**
- **48-113-061 Earhart, Dallas County, PM_{10}**
- **48-113-0075 Dallas North #2, Dallas County, O_3, NO_2**
- **48-085-0029 Frisco Stonebrook, Collin County, Pb**

An attainment area is a geographic area that meets or does better than the primary standard defined in the NAAQS.

A nonattainment area is a homogeneous geographical area (usually referred to as an air quality control region) that is in violation of one or more NAAQS and has been designated as nonattainment by the EPA.

Source: EPA 2022b, 2022c, and 2022d.

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SECTION 2.0 GENERAL CONFORMITY APPLICABILITY ANALYSIS

The Dallas-Fort Worth metroplex was recently reclassified as a Severe NAA under the 2008 ozone standard, and the resulting *de minimis* level is 25 tons per year (tpy) for NOx or VOCs. The emissions associated with DFW operations have been quantified by TCEQ as part of the SIP development and approval process (TCEQ, 2015).

The technical assessments to be performed for General Conformity evaluation can be categorized as follows,

- Quantification of NOx and VOC emissions generated during construction,
- Quantification of NOx and VOC emissions generated from operations for sources that could result in emission increases, and
- General Conformity assessment comparing annual project emissions to Dallas-Fort Worth NAA *de minimis* emissions thresholds for ozone nonattainment designations.

Air quality and greenhouse gas (GHG)/climate impacts will be evaluated per NEPA requirements. Therefore, emission inventories for each project are being developed for GHG and criteria pollutants in addition to NOx and VOC. Air dispersion modeling is not anticipated.

2.1 Construction Emissions Analysis

Construction emissions sources to be included in this analysis include:

- Construction equipment
- On-road vehicles
- Fugitive dust

Construction is anticipated over 18 months beginning in the January to March 2024 timeframe with anticipated construction completion in April to May 2025.

2.2 Operational Emissions Analysis

Operational activities are anticipated to begin in Summer 2025 for both Buildings 1 and 2. Operational emissions sources to be included in the GCAA include:

- Aircraft operations
- Auxiliary power units (APU)
- Ground support equipment (GSE)
- On-road vehicles

2.3 De Minimis Emission Thresholds

The General Conformity regulations, under CAA Section 176(c), dictate the process federal agencies use to demonstrate how their actions will not interfere with the prevention and control of air pollution within states' and tribes' nonattainment and maintenance areas for timely attainment of the NAAQS. In accordance with General Conformity regulations, DFW will compare the maximum annual potential project emissions against *de minimis* thresholds for NOx and VOCs (**Table 2-1**). The Dallas-Fort Worth NAA is designated as Severe; therefore the 25 tpy *de minimis* threshold for VOCs or NOx applies.

Table 2-1. General Conformity De Minimis Thresholds for Nonattainment Areas (40 CFR 93.153 (b) (1))

Pollutant	De Minimis Threshold [a] (tons/year)
Ozone (VOCs or NOx):	
Serious	50
Severe	25
Extreme	10
Other ozone NAA's outside an ozone transport region	100
Other ozone NAA's outside an ozone transport region:	
VOC	50
NOx	100
Carbon Monoxide: All maintenance areas	100
SO_2 or NO_2: All NAA's	100
PM_{10}:	
Moderate	100
Serious	70
$PM_{2.5}$ (direct emissions, SO_2, NOx, VOC, and Ammonia):	
Moderate	100
Serious	70
Pb: All NAA's	25

Source: EPA 2022f

SECTION 3.0 EMISSIONS ASSESSMENT METHODOLOGY

Table 3-1 summarizes the proposed scope of the General Conformity Report, i.e., what activities, sources, and pollutants will be assessed as part of the report, as well as what assessments will be performed for each group of pollutants.

Table 3-1. Summary of Proposed Ozone Precursor Emitting Activities for DFW

Activity/Source Types	Emission Types	Emission Rate Basis	Emission Producing Activity (Basis)
Construction			
Construction Equipment	Engine Exhaust Evaporative	MOVES3	Rated horsepower and annual hours of operation by equipment type (DFW Project Estimates)
On-Road Vehicles	Engine Exhaust Evaporative	MOVES3	Vehicle miles traveled by vehicle type (DFW Project Estimates)
Airside Operational			
Aircraft **APU** **GSE**	Engine Exhaust Evaporative	AEDT Version 3e	Aircraft Operations Time-in-mode (DFW Project Estimates)

Notes:
AEDT = FAA Aviation Environmental Design Tool
MOVES3 = EPA Motor Vehicle Emissions Simulator, ver. 3

3.1 Construction Emissions Quantification

This section provides a description of the proposed methodology for estimating NOx and VOC emissions from project construction. The primary sources of construction-related NOx and VOC emissions are off-road construction equipment, construction-related truck trips, vendor vehicles, and employee commute vehicles. Emissions of NOx and VOC associated with each of these activities during all phases of construction will be estimated. Fugitive dust emissions estimation methodology is not described because NOx and VOC emissions would be zero. Additionally, concrete batch plants stationary emissions are not included in this methodology, as these individual plants would undergo New Source Review with TCEQ and be individually permitted.

To estimate project related air emissions, DFW will rely on emissions estimation guidance and models from federal agencies such as EPA and project specific activities and studies. Construction emission estimation methodology is discussed in the following sub-sections.

3.1.1 Construction Hour Estimates

The design engineers incorporated two methods to determine construction hour estimates. The first method utilized was an engineer's estimation of equipment hours based on the quantities of materials and assumed methods of construction based on the engineer's expertise. The project was broken down into major items of construction: Building 1, Building 2, Apron (pavement adjacent to Building 1), Airfield (pavement adjacent to Building 2 including the construction), and parking lot pavement. Each construction activity was assigned an estimated number of crew and equipment to perform the work at a specified work rate (i.e., 1,000 square yards/day for concrete pavement construction). Each construction activity was chronologically sequenced based on normal construction practices and separated by year based on the project phasing. This methodology produced a simplified list of construction equipment that provided an overall view of the effort required while considering the phasing and construction time that spans multiple years.

The second method of estimating equipment hours used the Airport Construction Emissions Inventory Tool (ACEIT) model developed by the Transportation Research Board (TRB) Airport Cooperative Research Program (ACRP). The design engineers used ACEIT, in a limited manner, to cross-reference the initial equipment-hour estimating method. The estimated equipment hours where used as inputs in the MOVES3 and TexN2.2 models. ACRP developed the ACEIT was the first standardized tool developed to assist with estimating airport construction emissions (TRB ACRP 2014).

ACEIT generates on-road vehicle activity based on high-level project information such as project capital costs and project size by phase. The ACEIT model was then run utilizing project specific inputs including the dimensions of the major construction items and project costs developed by DFW. This methodology produced a more robust equipment list to cover minor construction activities and mirror common equipment used during the types of construction included in this project.

The results of the ACEIT Model were reviewed and compared to the Engineer's Estimate of Equipment Hours. The number of hours for several equipment types were adjusted in the ACEIT Model output based on this comparison to reflect equipment type ratios. The Engineer's Estimate took into account the phasing of the project that will split the paving work up and cause the effort to be less efficient than if the entire paving scope could be completed at one time and therefore contingency buffer was added. The total equipment hours were then split into the appropriate construction year using the distribution derived in the engineer's estimate.

3.1.2 On-Road Vehicles

On-road vehicle activity during project construction will be estimated based on DFW-provided vehicle activity estimates and the combined methodology described previously. On-road vehicle activity will be differentiated according to trip purpose (e.g., material delivery, employee commute, water truck). Heavy duty vehicle activities (e.g., material delivery and water truck) will be associated with diesel-fueled, combination short haul trucks and employee commute will be associated with gasoline-fueled passenger cars. Activity estimates will be derived from trip counts and miles per trip provided by DFW.

Emission factors will be estimated based on MOVES3 model output. MOVES3 will be run for Tarrant County at the national scale for calendar years of interest. Emissions and activity will be output from MOVES3 by vehicle type, fuel type, urban road type, and process for each applicable calendar year. Emission factors will be calculated by five process types as follows,

- Rate per distance (RPD) –running exhaust mode
- Rate per distance, brake wear (RPD_Wear) – tire wear and brake wear
- Rate per distance, evaporative (RPD_Evap) – all in-transit and off-network evaporative modes except diurnal
- Rate per vehicle, start (RPV_Start) –start exhaust mode
- Diurnal (DIURNAL) –off-network evaporative fuel vapor venting

Urban Unrestricted Access will be assumed as the representative road types to calculate RPD, RPD_Wear, and RPD_Evap emission factors. All rate per distance emission factors will be calculated in grams per mile; all start exhaust emission factors will be calculated in grams per one-way trip, and all off-network evaporative process emission factors will be calculated in grams per vehicle-day. Emissions will be estimated as the product of applicable project annual activity and MOVES3-based emission factors according to the equation below.

$$Ei = Activity \times EFi / 907185$$

where:

Ei = Emissions of pollutant i (tons per year)

Activity = applicable annual activity (i.e., miles per year, starts per year, or number of vehicles per year)

eFi = emission factor of pollutant i (grams per activity)

907,185 = unit conversion from grams to short tons (grams per short ton)

3.1.3 Construction Equipment

Off-road equipment emissions will be estimated based on project specific activity estimates and emission factors from the latest version of the Texas Nonroad version 2 (TexN 2.2) utility, a tool for estimating Texas specific-specific emissions from non-road mobile sources, excluding commercial marine vessels, locomotives, drilling rigs, and aircraft.

Off-road equipment activity during project construction will be estimated based on DFW-provided vehicle activity estimates. All equipment will be assumed diesel-powered unless otherwise stated. Equipment that will be included in the proposed projects includes, but are not limited to,

- Backhoes
- Cranes
- Excavators
- Forklifts
- Fuel and Dump Trucks
- Loaders
- Off-Highway Truck
- Pavers
- Rollers

Construction equipment (off-road) emissions will be estimated by the following formula:

$$Ei = N \times HP \times LF \times Activity \times eFi / 907185$$

where:

Ei = Emissions of pollutant i (tons per year)

N = number of units (pieces of equipment)

HP = average rated horsepower (horsepower)

LF = equipment load factor (unitless)

Activity = activity (hours per year)

eFi = emission factor of pollutant i (grams per brake horsepower-hour)

907,185 = unit conversion from grams to short tons (grams per short ton)

The number of units and average rated horsepower for applicable equipment will be based on project equipment activity rosters provided by DFW. Equipment load factors and emission factors will be based on TexN2.2 model estimates for applicable equipment types and calendar years (Eastern Research Group [ERG] 2021). TexN2.2 will be run for Tarrant County at a national scale

for applicable calendar years. Emissions and activity will be output from TexN2.2 by equipment type, fuel type, sector, horsepower bin, and process for each applicable calendar year. Emission factors will be calculated based on TexN2.2 output emissions and activity.

3.2 Operational Emissions Quantification

DFW will conduct an analysis to quantify potential emissions of NOx and VOCs resulting from the project's operational activities under the Proposed Action in comparison to the No Action Alternative.

3.2.1 Ground Support Equipment

On-road vehicle activity during project operation will be estimated based on DFW-provided documentation, including ground access vehicle activity estimates for existing and future projects and future No Action conditions.

Emission factors will be estimated based on MOVES3 model output. DFW Airport is in both Tarrant and Dallas Counties. In the case where the projects span multiple counties, the county with the greatest populace should be used, as the county is used to select the appropriate emission factors (ACRP Report 102). According to the most recent population figures, Dallas County population is greater than Tarrant County. Therefore, MOVES3 will be run for Dallas County at the national scale for calendar years of interest. Emissions and activity will be output from MOVES3 by vehicle type, fuel type, urban road type, and process for each applicable calendar year. Emission processes will be calculated as follows:

Table 3-2. MOVES3 Emissions Processes

MOVES Emission Process	Activity Surrogate	
	Description	Metric
Crankcase Running Exhaust	Distance	Miles
Running Exhaust	Distance	Miles
Brake Wear	Distance	Miles
Tire Wear	Distance	Miles
Evaporation Fuel Leaks	Distance	Miles
Evaporation Fuel Vapor Venting	Distance	Miles
Evaporation Permeation	Distance	Miles
Crankcase Start Exhaust	Starts	Vehicles
Start Exhaust	Starts	Vehicle
Crankcase Extended Idle Exhaust	Vehicle Population	Vehicle-days
Extended Idle Exhaust	Vehicle Population	Vehicle-days
Evaporation Fuel Vapor Venting	Vehicle Population	Vehicle-days
Evaporation Fuel Leaks	Vehicle Population	Vehicle-days
Evaporation Permeation	Vehicle Population	Vehicle-days
Refueling Spillage Loss	Vehicle Population	Vehicle-days
Refueling Displacement Vapor Loss	Vehicle Population	Vehicle-days

Urban Restricted and Urban Unrestricted Access will be assumed as the representative road type to calculate the emission factors. All rate per distance emission factors will be calculated in grams per mile; all start exhaust emission factors will be calculated in grams per vehicle, and all off-network evaporative process emission factors will be calculated in grams per vehicle-day. Emissions will be estimated as the product of applicable project annual activity and MOVES3-based emission factors.

3.2.2 Aircraft

Aircraft emissions will be evaluated using the FAA's Aviation Environmental Design Tool (AEDT) Version 3e (May 2022). AEDT models aircraft performance in space and time to estimate fuel consumption, air quality emissions, and noise consequences at airports.

Local meteorology can affect ambient pollutant concentrations depending on the severity of temperature inversions. A temperature inversion occurs when the upper air is warmer than the air near the ground. The base of the temperature inversion is referred to as the mixing height. Air and pollutants mix freely within the mixing layer but are "capped" at the mixing height. Generally, pollutant concentrations are highest when the mixing height is relatively low as pollutants are pressed down toward the surface; conversely, concentrations are less when the mixing height is higher when more mixing is possible.

Emissions from aircraft for this analysis will be calculated when aircraft are operating within the mixing layer, below the mixing height, where the emissions may influence ground-based pollutant concentrations. The mixing height used in this assessment will be defined as 3,000 feet in altitude above field elevation (AFE).

The following types of data will be used in the AEDT modeling efforts,

- FAA's most recent Terminal Area Forecast will be used to identify the total aircraft operations by FAA categories of activity. The TAF data is available to the public on FAA's website.
- FAA Aviation System Performance Metrics (ASPM) will be used to identify the average aircraft taxi in and taxi out times for Fiscal Year 2022 (FY22). The ASPM data is available to the public on FAA's website. For future years under the Proposed Action and No Action scenarios, taxi times provided by DFW by runway end will be used.
- Data on tenant owned GSE will be modeled in AEDT by assigning the model's default GSE by aircraft operation.
- AEDT default APUs and usage times will be used for all aircraft in the No Action scenario, as well as all aircraft in the Proposed Action scenario except those parked in Apron F, for which DFW-provided APU usage times will be used.

<u>Sources of Emissions</u>

Aircraft

- Engine Start-up
- Approach and Climb
- Taxi Operations
- APUs

- Ground Support Equipment
  - Airline/Tenant owned GSE
  - Airport owned vehicles and equipment

Aircraft Fleet Mix and Activity Level

Aircraft emissions depend partly on the physical characteristics and performance parameters of each unique aircraft.

Aircraft Approach and Climb

In addition to the aircraft physical characteristics operating at the DFW, emissions further depend on the time that each aircraft type operates in the various modes that define a landing and take-off (LTO) cycle. A LTO consists of the approach, landing, taxi into the gate/terminal/or parking area, taxi out, takeoff, and climb. The approach and climb portions of the LTO are only evaluated below the mixing height or 3,000 feet AFE.

Aircraft Taxi Time

The amount of time an aircraft spends taxiing affects emissions. Taxi in and taxi out time is dependent on airfield configuration, annual operating levels, and available facilities. Average taxi in and taxi out time for the Existing Condition was determined using FAA's operations and performance data for DFW accessed through the ASPM. Based on ASPM data for DFW for FY22, average taxi in time was 11 minutes and 13 seconds and the average taxi out time was 17 minutes and 48 seconds. This taxi in and taxi out time will be applied to each operation in AEDT to develop the emissions inventory. For future years under the Proposed Action and No Action scenarios, taxi times provided by DFW by runway end will be used.

APUs

Most larger jet aircraft use APUs while at the gate to operate heating, air conditioning, and electric systems. The APU is also used to 'start up' or restart aircraft engines before departing the gate or cargo area. APU usage is controlled by the pilot; therefore, APU use and emissions can vary greatly from one airline/operator to another and even from one aircraft to another. Furthermore, the use of hardstand and cargo operations (when aircraft are not using gates and jet bridges) impacts APU usage.

For this analysis, the AEDT database will be used to assign the specific types of APU equipment used for each aircraft type. When the AEDT database does not define an APU for a specific aircraft type, the most similar APU equipment will be assigned based on the most comparable type of aircraft.

To determine APU use duration, the analysis will assume AEDT use defaults per aircraft. Any general aviation operations will be assigned AEDT default APU equipment and usage per operation as there is no single operator for these operations.

Ground Support Equipment

Most GSE at DFW is owned and operated by individual operators, not DFW. Typical tenant owned GSE includes baggage tractors, belt loaders, aircraft pushback tractors, and catering vehicles that support aircraft operations. For this analysis, tenant owned GSE will be modeled in AEDT by assigning default GSE equipment to each aircraft operation to reflect the existing conditions. The AEDT database provides an estimate of the GSE type, fuel type, number of GSE equipment, and GSE operating times per aircraft operation.

DFW has installed several charging stations for electric ground support equipment (eGSE) throughout and will install additional charging equipment in years to come. While airlines have

electrified hundreds of pieces of GSE to date and are likely to continue this investment, since information is not readily available to estimate electrification effects on the GSE fleet, per DFW input, it will be conservatively assumed for this analysis that tenant owned GSE will be 50 percent electrified and 50 percent standard diesel and gasoline fueled. This is a conservative approach and is anticipated to result in higher emissions than will occur at the airport with the use of eGSE.

3.2.3 Stationary Sources

Stationary sources of air pollution include boilers, generators, and fuel tanks located on DFW property which may be directly affected by the Proposed Action. Emissions from purchased electricity generated off site are not included in the criteria pollutant emissions inventory per the FAA's Aviation Emissions and Air Quality Handbook Version 3 Update 1. Data will be obtained from DFW on the use of stationary sources to estimate project-related emission increases, relative to the No Action Alternative, resulting from boilers, generators, and fuel tanks.

To the extent that fuel storage emissions could increase for the project relative to the No Action, fuel tanks emissions will be modeled in AEDT as a stationary source. Fuel storage is a potential source of evaporative emissions and would only result in VOC emissions.

3.3 Potential Mitigation Measures

Emissions will be estimated as described previously with project mitigations included, to the extent that information on mitigation is provided by DFW. The following mitigation measures may be incorporated into the project air quality analysis,

- Reduce construction period emissions of air pollutants.
    - Use of off-road internal-combustion engine construction equipment that is EPA Tier-4 certified.
    - Use of electric and/or low emitting on-road vehicles.

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SECTION 4.0 APPROACHES TO DEMONSTRATING GENERAL CONFORMITY

A summary of viable options to demonstrate conformity is detailed in the following list. Conducting a GCAA will define the need for a General Conformity Determination. If required, a General Conformity Determination must demonstrate that emissions from the Proposed Action, along with all other emissions in the NAA, would not exceed the emissions budgets in the SIP for each year an action's emissions exceed applicable *de minimis* thresholds for a pollutant.

- The total direct and indirect emissions from the Proposed Action are specifically identified and accounted for in the federally approved SIP; or
- All direct and indirect emissions are fully offset such that there is no net increase of emissions of the pollutant or its precursors; or
- The Proposed Action will not cause or contribute to a NAAQS violation in the area based on area-wide or local air quality modeling; or
- State/local agency agrees to revise the SIP to accommodate the action's emissions.

The approach used to meet General Conformity requirements will be determined by the FAA in collaboration with DFW. Each approach in the following sections represents a potential path to demonstrate that emissions from the Proposed Action, along with all other emissions in the NAA, would not exceed the SIP emissions budgets. The initial intent is to demonstrate General Conformity for projects with annual emissions above applicable thresholds by identifying emissions in the SIP and/or emissions mitigation and offsetting.

4.1 Emissions Identified and Accounted for in the State Implementation Plan

Through consultation, the FAA must identify the EPA-approved SIP and isolate the action's emissions within the approved SIP budget for years that the direct and indirect emissions of the action are subject to a General Conformity Determination. In the case of the DFW SIP, a comparison will be made to the portions of the applicable SIP's projected emission inventories (EI) that describe the levels of non-road and on-road emissions that provide for meeting reasonable further progress. As part of its review, the TCEQ would evaluate the direct and indirect emissions of the action against the estimated available excess emissions reduction in the applicable SIP revision after demonstrating reasonable further progress and accounting for a NO_X and VOC safety margin for General Conformity purposes. Available excess emissions are the mass of emissions from projects which are not currently in the SIP EI that could be added without exceeding SIP emission budgets. For each year requiring a General Conformity Determination, it must be demonstrated that the action's emissions are within the applicable SIP budget line or category. If identifying an action's emissions in the SIP is the selected General Conformity strategy, General Conformity would be demonstrated by securing statements of concurrence from the TCEQ, FAA, and in some cases the EPA regional authority, that the action's emissions are contained within the SIP and that the action conforms per the General Conformity Rule[2]..

The two parts of the applicable SIP that may be used to evaluate general conformity for the action are the amount of creditable overall emissions reductions that were left over after meeting SIP requirements and were not set aside for another purpose in the SIP and/or the attainment year EI in the SIP for the applicable source category (e.g., non-road), which can be used to show the relative portion of the attainment year EI this project would represent.

[2] If the during the 19th Street Cargo Redevelopment General Conformity Determination process, the EPA approves a more recent SIP revision (AD, RFP, or maintenance plan), that revision, if applicable, would be used to complete the General Conformity Determination.

4.2 Emissions Mitigation and Offsets

In compliance with 40 CFR §§ 93.158(a) and 93.160, mitigation and offsetting can be used to demonstrate conformity as follows according to FAA (2015),

1. "an action's direct and indirect emissions must be fully offset to zero if emissions mitigation and offsetting are used as a General Conformity strategy."
2. "emissions reductions from an offset or mitigation measures used to demonstrate conformity must occur during the same calendar year as the emissions subject to General Conformity."

4.2.1 Emission Reduction Credit Programs

TCEQ's Discrete Emission Reduction Credit Program (DERC) is a voluntary program that allows for the generation of credit for temporary emission reductions for point, area, and mobile sources. Credits may be purchased on an open market; pricing and availability are not limited or regulated.

TCEQ's Emission Reduction Credit Program (ERC) is a voluntary program that allows for the generation of credit for permanent emission reductions for point, area, and mobile sources. Similar to DERC, ERC credits may be purchased on an open market; pricing and availability are not limited or regulated.

4.3 Air Quality Modeling

EPA clarified in its November 2020 memorandum (*Use of Modeling Techniques to Demonstrate General Conformity for Ozone (O_3), Fine Particulate Matter ($PM_{2.5}$) and Nitrogen Dioxide*; USEPA 2020) that a federal agency may choose to demonstrate conformity for ozone, consistent with procedures under 40 CFR 93.15 (c)). The modeling analysis must be consistent with EPA's most recent "Guideline on Air Quality Models". To demonstrate conformity, the analysis must show that the action does not 1) "cause of contribute to any new violation of the standard in any area"; or 2) "increase the frequency or severity of any existing violation of any standard in any area."

4.4 State Implementation Plan Revisions Commitment

In the case that General Conformity is not able to be demonstrated by any method described above, FAA may petition the Governor of the State of Texas (or their designee) to revise the SIP. The Governor (or their designee) must then submit a formal commitment to EPA to change the SIP. FAA may not proceed with the action prior to final approval of the SIP revision by EPA. The decision to add the action to the SIP is determined by the State of Texas. The State has not yet agreed to add an action to the SIP for a General Conformity Determination.

4.5 Determination Documentation

As described in FAA (2015), public and agency involvement is required when a Draft General Conformity Determination is prepared. The Draft General Conformity Determination must be advertised via public notice. During the 30-day comment period, air quality stakeholders (including federal, state, and local agencies and the public) are allowed to provide comment. Upon finalization of the General Conformity Determination, comments and responses received/rendered on the Draft must be made available within 30 days of issuance.

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DFW DALLAS FORT WORTH INTERNATIONAL AIRPORT

APPENDIX B

DFW 19th Street Buildings 1 and 2 Project Definition Document

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19th Street Redevelopment – Building 1 and 2 Project Definition Document

Date: February 2022

Document Number: NCOM-040

Dallas Fort Worth International Airport

DALLAS FORT WORTH INTERNATIONAL AIRPORT

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1 Executive Summary

The goal for this site was to create an operationally functional cargo area large enough for a B747-8F to operate as the critical (design) aircraft. This development is focused on an incremental approach based on the expiration of leases, availability of ramp area, and need for additional capacity. The ultimate build-out of the northwest (NW) Cargo campus will be achieved through multiple phases.

This Project Definition Document (PDD) outlines the preparation and advanced planning analyses necessary for developing Buildings 1 and 2 in the NW Cargo Campus at the Airport. The contents of this document should be used as a guide by the design team stakeholders to understand the anticipated scope, physical layout, and overall project requirements/considerations. It summarizes background information and provides justification for the development of this project. This PDD serves as an initial project framework and is not intended to be a design document.

Primary Need and Justification

The 19th Street Redevelopment area consists of five vacant and obsolete, on and off ramp buildings. These include the Dallas/Fort Worth International Airport (Airport or DFW) Logistics Warehouse (formerly Evergreen), Building 220, and four off-ramp forwarder buildings (formerly AeroTerm A, B, C, and D), all of which are DFW assets. These five buildings have been slated for demolition in September 2021.

Based on actual cargo throughput and forecasted air cargo growth, the current DFW cargo facilities consisting of IAC I, IAC II, and IAC III limit the airport's cargo growth. The three IAC cargo buildings have an estimated throughput capacity of approximately 325,000 annual tons and the airport's actual 2019 throughput are 80% of capacity. Based on the projected growth, the capacity of the three IAC buildings will be exceeded by or before 2025. The addition of the proposed 328,500 square feet (SF) of building space will add enough capacity to accommodate cargo growth through 2035, based on the current forecast of 2.6% per year. DFW's most recent tonnage levels achieved in 2019 exceeded the forecast by 2-3 percentage points.

Scope of 19th Street Redevelopment – Buildings 1 and 2

Development of the Building 1 site will include a 177,600 SF cargo facility with a 30,000 SF mezzanine, and a landside depth of 230-feet allowing for commercial trucks and trailers to circulate, operate and park in front of the facility. The project also provides three parking positions for airplane design group (ADG) VI aircraft on the apron adjacent to the cargo facility, and the associated taxiway infrastructure to accommodate the ADG-VI movements at the Taxiway C/Taxiway Z entrance. Additionally, a realigned taxilane south of the development will be constructed to provide access to Buildings 201 and 202.

Development of the Building 2 site will include a 102,300 SF cargo facility with an 18,600 SF mezzanine level, and a landside depth of 150-feet for the adequate maneuverability of trucks and employee vehicles. Two ADG-VI aircraft parking positions will be provided to the east of the building, three ADG-VI aircraft parking positions are provided to the west of the landside, and an additional ADG-VI capable apron entrance will be provided to the north of the existing Taxiway C/Taxiway Y intersection.

Project Benefits

This project will expand the capabilities of the Airport to handle increased cargo tonnage through a new, right-sized facility and to accommodate additional 747-8F ramp parking positions. This project will begin transforming a portion of the Airport from being outdated and underutilized to a world-class, revenue generating air cargo complex.

Budget

The project budget is estimated at $118.7M. **Appendix A, *Draft Cost Estimate,*** presents the cost estimate.

2 Northwest Cargo Campus Inventory

2.1 Existing Facilities

Located in northwest quadrant of the Airport, the NW Cargo Campus is directly west of Taxiway C and Taxiway Y. As shown in **Figure 2-1, *Location of Northwest Cargo Area Facilities***; the Northwest Cargo Area is currently comprised of obsolete on- and off-ramp buildings, including the following:

1. DFW Logistics warehouse (formerly Evergreen) at 132,103 SF and 12.7 acres *(Building 220)*
    a. Address: 1530 W. 19th Street
    b. Lease expiration: N/A (DFW Board Asset)
2. Former Kitty Hawk facility at 47,700 SF and 4.79 acres *(Building 216)*
    a. Address: 1535 W. 20th Street
    b. Lease expiration: N/A (DFW Board Asset)
3. Ameriflight facility at 40,250 SF and 4.56 acres *(Building 202)*
    a. Address: 1515 W. 20th Street
    b. Lease expiration: September 30, 2027
4. Halbert & Associates, LLC facility at 12,500 SF and 2.71 acres *(Building 201)*
    a. Address: 1481 W. 20th Street
    b. Lease expiration: December 31, 2023
5. Four off-ramp freight forwarder buildings developed by AeroTerm totaling 132,092 SF and 10.12 acres
    a. Freight Forwarder A *(Building 203)*
        i. Address: 1900 W. Airfield Drive
    b. Freight Forwarder B *(Building 208)*
        i. Address: 1910 W. Airfield Drive
    c. Freight Forwarder C *(Building 210)*
        i. Address: 1920 W. Airfield Drive
    d. Freight Forwarder D *(Building 207)*
        i. Address: 1930 W. Airfield Drive
    e. Lease expirations: N/A (DFW Board Asset)
6. American Airlines Hangar 1 *(Building 217)*
    a. Address: 1631 W. 20th Street
    b. Lease expiration: November 30, 2026
7. American Airlines Hangar 2 *(Building 218)*
    a. Address: 1633 W. 20th Street
    b. Lease expiration: November 30, 2026
8. American Eagle Hangar *(Building 219)*

a. Address: 1725 W. 25th Street

b. Lease expiration: August 31, 2026

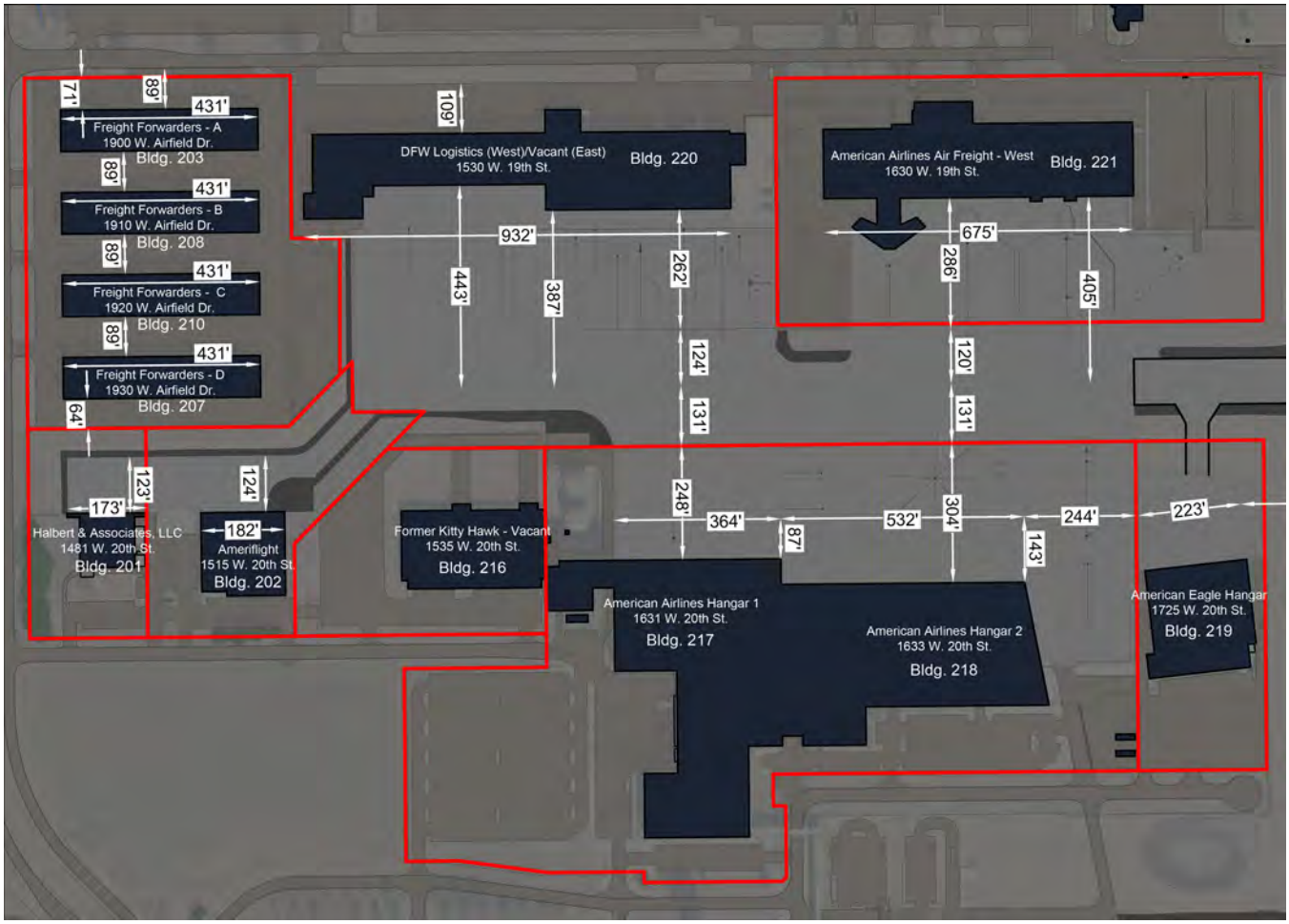
9. American Airlines Air Freight – West *(Building 221)*

a. Address: 1630 W. 19th Street

b. Lease expiration: December 31, 2022

In addition, there are three off-ramp warehouse buildings located at 1830, 1840, and 1850 W. Airfield Drive (north of the four off-ramp freight forwarders referenced above) that total about 195,000 SF, as well as additional freight forwarder buildings on the west side of W. Airfield Drive.

FIGURE 2-1 Location of Northwest Cargo Area Facilities

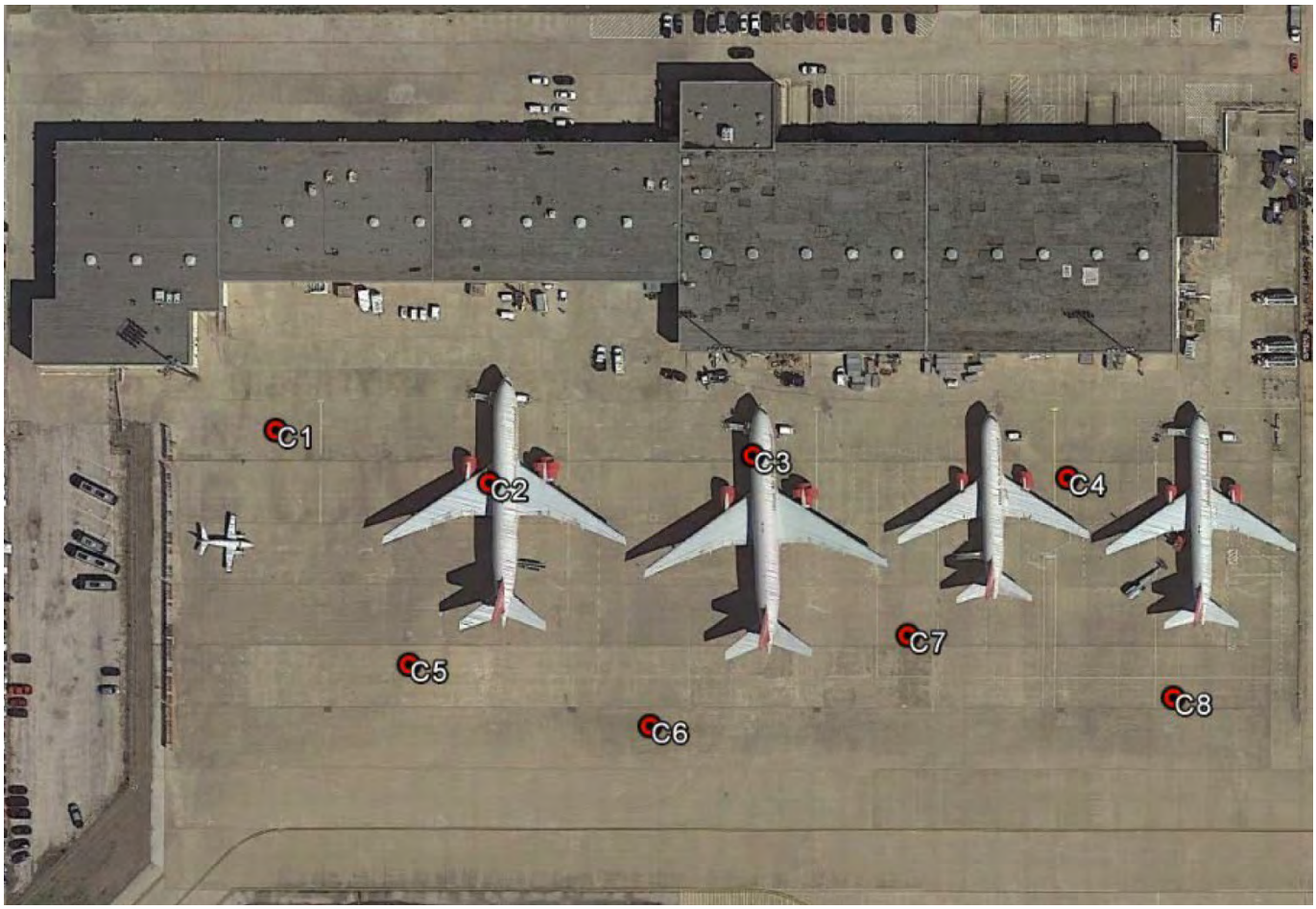


Source: Landrum & Brown, Inc., June 2020

2.2 2018 Pavement Assessment

In September 2018, a pavement assessment of the Evergreen Cargo Ramp was conducted by RS&H. For the geotechnical investigation, the existing concrete was cored in eight locations shown in **Figure 2-2*, Evergreen Cargo Ramp Coring Plan.***

FIGURE 2-2 Evergreen Cargo Ramp Coring Plan



Source: Alliance Geotechnical Group, RS&H, September 2018

For these eight locations, the pavement cores were tested for compressive strength and measured for thickness. The results of this analysis are presented in **Table 2-1, *Evergreen Cargo Ramp Geotechnical Analysis.***

TABLE 2-1 Evergreen Cargo Ramp Geotechnical Analysis

Core Location	Compressive Strength (PSI)	Concrete (in)	Cement Treated Base (in)
C1	6,619	12.3	13*
C2	4,961	13.0	8.0
C3	5,259	12.3	10.0
C4	7,671	16.4	8.1
C5	9,664	15.9	7.5
C6	6,813	16.5	9.0
C7	7,441	15.8	10.6
C8	5,504	17.4	8.8

Note: At C1, about four inches of CTB can't be retrieved. Thickness of CTB at C1 was estimated to be approximately 13.0".

Source: Alliance Geotechnical Group, RS&H, September 2018

In addition to the geotechnical analysis, a pavement condition index (PCI) survey was conducted to establish a PCI value for the existing Evergreen Cargo Ramp. Per the September 2018 PCI assessment, the existing Evergreen Cargo Ramp had a calculated PCI of eight-three (83). This was based on the distresses observed on the surface of the pavement which are indicative of the structural integrity and surface operational condition (localized roughness and safety). The PCI of 83 has a corresponding pavement condition rating of "Satisfactory", as shown in **Table 2-2, *Pavement Condition Index Rating Scale***. For airfield pavement, the standard pavement condition rating is defined in FAA Advisory Circular (AC) 150/5380-7B, *Airport Pavement Management Program*.

TABLE 2-2 Pavement Condition Index Rating Scale

Pavement Condition		PCI Value
Good		100-86
Satisfactory		85-71
Fair		70-56
Poor		55-41
Very Poor		40-26
Serious		11-25
Failed		10-0

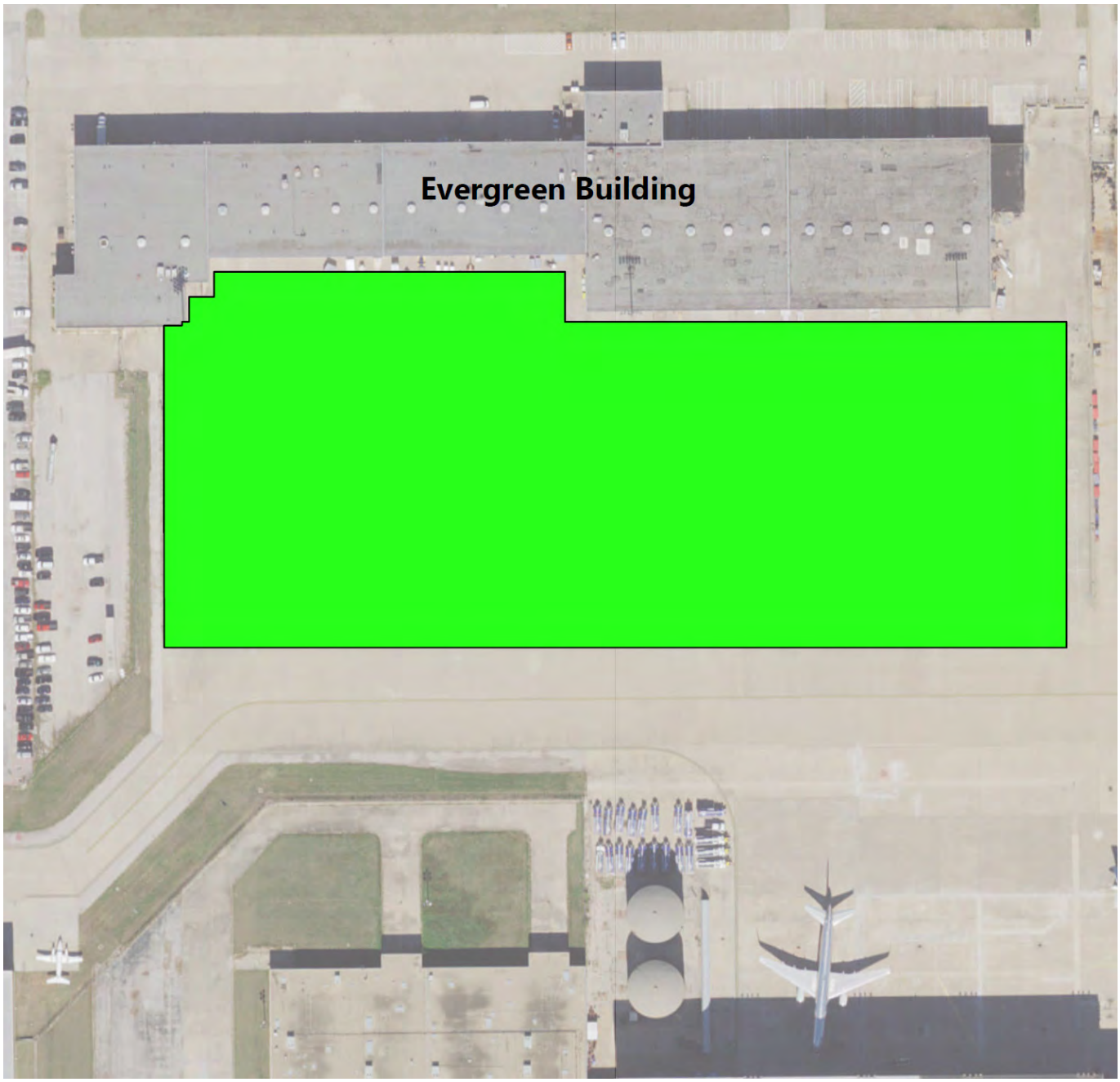
Source: FAA AC 150/5380-7B, October 2014

Figure 2-3*, Evergreen Cargo Ramp Area PCI Survey* presents the extents of the pavement sections included in the sample.

The full results of these analyses are presented in **Appendix B, *2018 Evergreen Cargo Ramp Pavement Assessment,*** which includes the following documents:

- *DO No. 17 OFA Analysis and Demolition of Evergreen Cargo - Pavement Condition Index Survey Technical Memorandum (DRAFT)*, RS&H, September 28, 2018
- *Pavement Coring & Laboratory Testing – Evergreen Cargo Ramp*, Alliance Geotechnical Group, September 28, 2018
- *DFW International Airport Cargo Ramp Evaluation [Falling (heavy) weight deflectometer (HWD) testing]*, The Transtec Group, September 30, 2018

FIGURE 2-3 Evergreen Cargo Ramp Area PCI Survey

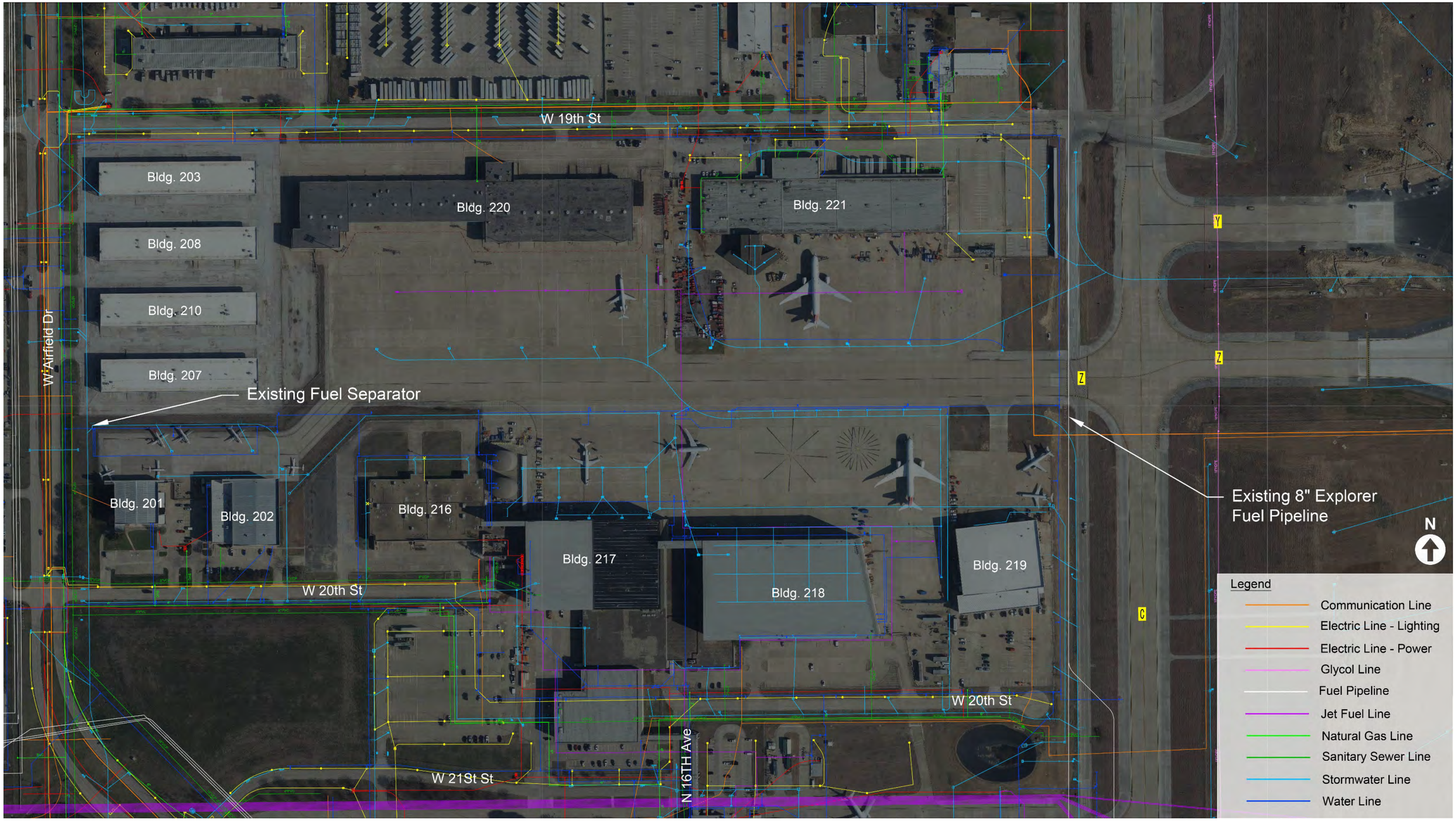


Source: RS&H, September 2018

2.3 Existing Utilities

Having already been extensively developed, this area has access to all the necessary utilities such as power, water, lighting, and sanitary sewer. **Figure 2-4, *NW Cargo Campus Existing Utilities*** provides an overview of the existing utility infrastructure for this area.

FIGURE 2-4 NW Cargo Campus Existing Utilities



Source: DFW, Airport Layout Plan, June 2020; ETAM, March 2019

3 2019 DFW Cargo Forecast Review

In early 2019, DFW Planning, in conjunction with DFW Research and Analytics, updated the DFW Aviation Activity Forecast. A portion of that update included a forecast of cargo activity. The 20-year forecast of cargo tonnage and cargo freighter operations was prepared out to 2038. The result of the 2019 DFW Forecast update (or the "Forecast") was a projection of 1.5 million tons by 2038 for an average annual growth rate of 2.6 percent and an increase in freighter operations to 36,460.

3.1 Historical Cargo Traffic Analysis of the Forecast

In the Forecast development process, historical cargo data was analyzed from 2008 to 2018 with emphasis given to the most recent five years of traffic at DFW. At the time the Forecast was prepared, DFW was ranked as the 10th busiest cargo airport in the U.S according to ACI North America based on CY 2017 tonnage. The forecast report identified DFW as one of the largest North American air cargo airports in terms of total annual tonnage, but not a traditional cargo gateway such as LAX, MIA, JFK, and ORD or an airport with an integrated carrier national hub operation like MEM, SDF, and CVG.[1] The Airport ranked higher than other secondary cargo gateways such as Hartsfield-Jackson Atlanta International Airport (ATL), Houston George Bush Intercontinental Airport (IAH), and Denver International Airport (DEN) which ranked 12th, 17th, and 23rd respectively in CY 2017 total cargo tonnage. Furthermore, recent ACI reports show DFW has maintained the rank of 10th busiest cargo airport in the U.S. for 2018 and 2019.

DFW was identified in the Forecast as a gateway airport for passengers and is the largest hub airport for American Airlines, but is also a regional hub for UPS. The following historical cargo table **(Table 3-1, *Historical Cargo Tonnage (U.S. Tons)*)** from the 2019 DFW Forecast illustrates cargo segments being well diversified between passenger airlines, integrated cargo airlines, and all-cargo airlines.

TABLE 3-1 Historical Cargo Tonnage (U.S. Tons)

CARRIER TYPE	2014	2015	2016	2017	2018	CAGR 2014-2018
Passenger Airlines (Belly Cargo)	157,675	173,351	180,807	229,367	246,645	11.8%
Integrated Cargo Airlines	290,877	305,803	363,946	366,750	385,019	7.3%
All-Cargo Airlines	235,750	253,416	249,875	289,686	279,825	4.4%
Airport Total	684,302	732,569	794,628	885,804	911,489	7.4%
Annual growth	5.0%	7.1%	8.5%	11.5%	2.9%	

Note: CAGR = Compound Annual Growth Rate, Years shown are fiscal years (October to September)

Source: Dallas Fort Worth International Airport, September 2018

3.2 Air Cargo Forecast Methodology

In the Forecast, air cargo growth at DFW was observed as having experienced continued strong growth since the 2008/2009 Great Recession with strong influence from e-commerce. This key presumption was expected to continue and assumed that it would continue to drive global freight and DFW freight upward. The forecast was partially based on modified versions of the latest independent forecasts[2] prepared by aircraft manufacturers Airbus and Boeing, which projected long-term average growth rates of 4.2 percent and 3.7

[1] Los Angeles Int. Airport (LAX), Miami Int. Airport (MIA), New York-Kennedy Int. Airport (JFK), Chicago O'Hare Int. Airport (ORD), Memphis Int. Airport (MEM), Louisville Int. Airport (SDF), and Cincinnati/Northern Kentucky Int. Airport (CVG).

[2] Airbus Cargo Global Market Forecast 2017-2037, October 2018 and Boeing World Air Cargo Forecast 2017-2037, September 2018.

percent per year, respectively for the cargo industry worldwide. This was also based primarily on anticipated underlying global economic growth and increased global retail e-commerce sales.

According to the Airbus forecast reviewed in the 2019 DFW Forecast, the Asia-Pacific area was expected to become the largest region for international trade, representing about 39 percent in 2037. Asia will continue to lead the world in average annual air cargo growth, with domestic China and intra-East Asia markets expanding 6.3 percent and 5.8 percent per year, respectively. This was of particular interest in the forecast context for DFW, as six of the top ten cargo airlines serving DFW are Asian carriers. Air Cargo transported between the East Asia and North America markets are forecast to grow 4.7 percent or slightly faster than the world average growth rate. Latin American markets to North America are forecast to grow 4.1 percent over the next 20 years after experiencing negative growth from 2007-2017.

The freighter operations forecast is provided in **Table 3-2, *Freighter Operations Forecast*** and estimated that overall all-cargo flights will increase at a 3.3 percent CAGR through 2028 and then moderating to a 1.9 percent CAGR between 2028 and 2038 for an overall 2.6 percent CAGR over the 20-year planning period. Of the two main segments of freighter operations, the integrated carriers and the all-cargo airlines, the largest growth will be experienced by integrator operations. The integrated carriers at DFW, namely UPS and FedEx, were expected to continue to increase frequencies as e-commerce continues to grow. UPS continues to serve last mile delivery for many companies including Amazon. Speed and reliability were assumed to drive down tonnage per operation figures in the forecast and, therefore, increase the need for smaller more nimble aircraft such as the B757 and B767, which have grown operations by nearly 17 percent in the last two years of historical data.

TABLE 3-2 Freighter Operations Forecast

	2015	2018	2028	2038	CAGR 2018 – 2038
Integrated Carriers					
Volume (U.S. tons)	302,890	385,019	507,724	590,277	2.2%
Aircraft Operations	9,320	13,204	19,660	23,830	3.0%
Tonnage per Operation	32.5	29.2	25.8	24.8	-0.8%
All-Cargo Carriers					
Volume (U.S. tons)	251,002	279,825	355,630	414,514	2.0%
Aircraft Operations	5,534	7,334	9,954	12,630	2.8%
Tonnage per Operation	45.4	38.2	35.7	32.8	-0.9%
Total					
Volume (U.S tons)	553,892	664,844	863,354	1,004,791	2.1%
Aircraft Operations	14,854	20,538	28,495	34,554	2.9%
Tonnage per Operation	37.3	32.4	29.2	27.6	-0.8%

Note: CAGR = Compound annual growth rate.

Data from the Integrated Carrier group are included in the freighter volumes for those airlines operating freighter aircraft at the Airport.

Source: Dallas Fort Worth International Airport, April 2019

A detailed and complete review of the Forecast can be found in the 2020 Air Cargo Master Plan.

4 Requirements

Through discussions with stakeholders, the decision was made to develop Buildings 1 and 2 together in the NW Cargo Campus, along with the associated apron and landside infrastructure, versus only initially developing what was referred to in the Air Cargo Master Plan as Phase 1.

The following sections detail the requirements for three key components of the sites: the air cargo facilities, the aeronautical infrastructure (airside), and the landside infrastructure.

4.1 Air Cargo Facility Requirements

As of the draft of this PDD, DFW stakeholders are in the process of reviewing and interviewing potential tenants for these facilities. It is anticipated that once tenants have been selected,, the air cargo facility requirements will be refined based on the anticipated build-out from the tenants. Assessing the facility requirements entails the following:

- Calculating gross building requirements for warehouse, office, and ground service equipment (GSE), based on tailored throughput ratios.
- Identifying and accommodating any specialized facility needs to include perishables, high-risk material, animals, security inspection and clearance, etc.
- Planning the facilities to accommodate peak traffic requirements. Attention is given to options that impact cost and to any unique challenges represented by access and egress points.
- Considering the distances and travel time for cargo to and from the terminal, potential off-airport partners, and the regional highway system.
- Estimating the building footprint based on tenants' operations.

Typically, in larger facilities, mezzanine office space is recommended to reduce the footprint. For express carriers, office space is usually on the ground floor for both operating and security reasons. It is anticipated that a 30,000 SF mezzanine level will be provided for Building 1 and an 18,600 SF mezzanine level will be provided for Building 2.

4.2 Aeronautical Infrastructure Requirements

The aeronautical (airside) infrastructure requirements have three priorities:

- To minimize taxi-time and distance for freighter aircraft;
- To ensure sufficient aircraft ramp to accommodate peak demand for cargo terminal access and parking, specifically respecting average occupancy time for aircraft stands;
- To ensure that the aircraft apron has sufficient access and egress for operating peaks.

In addition, a minimum of 50 feet is provided between the rear of the cargo buildings and the nose of the aircraft for equipment and cargo staging, drive aisles, and equipment maneuvering. This distance is preferred and is available where space allocations between buildings, parking spots and taxi lane geometry allow. However, this setback is not a requirement and can be further refined once the tenants are selected.

The critical aircraft for the development of these facilities is the Boeing 747-8F. **Figure 4-1, *B747-8F*** provides an overview of the dimensions of this aircraft.

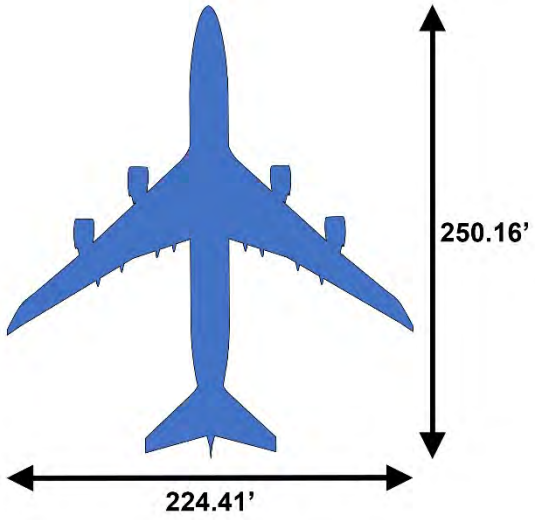
Per Federal Aviation Administration (FAA) Engineering Brief (EB) 78, the equation to calculate the B747-8F specific taxilane centerline to fixed or movable object is 0.6 multiplied by the B747-8F wingspan plus 10 feet. This equates to a B747-8F taxilane object free area (OFA) of 145-feet.

This OFA was used to determine the separation necessary from the ramp entries connecting to Taxiway C through the taxilanes that provide access to Buildings 1 and 2.

According to FAA AC 150/5300-13B, the recommended minimum clearances for aircraft parked on the apron are as follows:

- ADG I and II: 10-feet
- ADG III, IV, V, and VI: 25-feet

FIGURE 4-1 B747-8F



Source: AviPLAN Airside Pro 3

Therefore, 25-feet was provided from wingtip to wingtip for aircraft parked on the apron. Additionally, a 25-foot safety envelope was provided surrounding the aircraft in order to identify future GSE staging and storage areas.

4.3 Landside Infrastructure Requirements

All air cargo will eventually arrive and depart an airport by truck. Therefore, landside planning must consider trucking operations, as well as automobile parking at cargo buildings. Landside planning requirements include truck parking and queuing, roadway geometry, employee parking, customer parking, and potential alternative access for employees. These inputs were combined with industry planning guidelines to size requirements for the facilities and to understand potential traffic on roadways serving the cargo complex.

It is anticipated that two different size parking stalls will be required on the landside, truck docks and employee/customer parking. The employee/customer parking stalls should be 9-feet by 18-feet and the truck docks should be approximately 12.5-feet by 75-feet. An additional 75-feet of maneuvering area should be provided in front of the truck docks.

In order to understand the spatial limitations of the site, industry planning guidelines, specifically International Air Transport Association (IATA) Cargo Facility Guidelines, were used as factors to approximate the necessary number of parking stalls:

- Employee parking (office): 2-3 stalls per 1,000 square feet of office
- Employee parking (warehouse): 3-8 stalls per 10,000 square feet of warehouse
- Customer parking: 2 stalls per 10,000 square feet of warehouse

Based on these factors, an estimated range of parking stalls was calculated for each building:

- Building 1: 150 – 268 stalls
- Building 2: 89 – 159 stalls

Depending on how the facility is built and intended to operate, the number of stalls may fall within or below this range. The inclusion of certain characteristics, such as robotics and automation, would lower the number of required stalls. Once tenants are selected, these numbers should be refined and updated based on the anticipated staffing and operation of the facility.

4.4 Pavement Design Guidelines

Standard pavement designs for aprons at the Airport will be provided by Design, Code, and Construction (DCC) and should adhere to FAA AC 150/5320-6G, *Airport Pavement Design and Evaluation*.

Pavement composition and width for the landside portion of this effort should comply with Section 342 of the DFW Design Criteria Manual (DCM), which refers to the Texas Department of Transportation (TxDOT) Roadway Design Manual and Texas Manual on Uniform Traffic Control Devices.

Also included in the DCM is the requirement for the WB-67 design vehicle to be used when planning any roads at the Airport expected to handle moderate to high volumes of traffic. The WB-67 is a standard semi or tractor trailer with a trailer length of 53-feet and a cab length of approximately 20-feet.

An important consideration for the future pavement design is noted in the September 2018 Falling (heavy) weight deflectometer (HWD) testing document by The Transtec Group. Within this document, it is stated that an analysis was performed to evaluate what type of pavement section would be required for a new design construction. This analysis showed that based on an assumed 2,500 annual departures, 8 inches of CTB, 8-inches of lime treated subgrade, and a subgrade modulus value of 8,000 psi, a Portland Cement Concrete (PCC) section of 17.5 inches would be required. It was also noted that this is approximately 1.5 inches more of concrete than what was observed in the core locations. The design team should review these materials and the design progresses for the aeronautical infrastructure.

4.5 Building Design Guidelines

The main cargo facility and any additional structures included as part of this development effort should comply with those standards outlined in the following DFW Airport documents:

- DFW DCM
- DFW Development Design Guidelines
- DFW Space Planning Standards
- DFW Green Building Standards (included within the latest DFW DCM)

5 Project Overview

The goal for these sites is to create an operationally functional cargo area large enough for a B747-8F to operate as the critical (design) aircraft. The ultimate development of the NW Cargo Campus is focused on an incremental approach based on the expiration of leases, availability of ramp area, and need for additional capacity. To achieve the ultimate build-out,, multiple phases of development will be required. As mentioned previously, this PDD is focused on the development of Buildings 1 and 2.

5.1 Building 1 and 2 Development Overview

The scope for development of the Building 1 site consists of the following:

- 177,600 SF cargo warehouse with a 30,000 SF mezzanine
- Three ADG-VI (B747-8F) aircraft parking positions and associated ramp infrastructure
- 230-foot wide landside maneuvering and parking area for commercial trucks and trailers to circulate, operate, and park in front of the facility including employee parking
- Apron entrance modifications at Taxiway C/Taxiway Z for ADG-VI aircraft
- Airport Operations Area (AOA) fence along West 19th Street
- Realigned taxilane servings Buildings 201 and 202

The scope for development of the Building 2 site consists of the following:

- 102,300 SF cargo warehouse with an 18,600 SF mezzanine
- Five ADG-VI (B747-8F) aircraft parking positions and associated ramp infrastructure
- 150-foot wide landside maneuvering and parking area for commercial trucks and trailers to circulate, operate, and park in front of the facility including employee parking
- ADG-VI apron entrance construction at Taxiway C/Taxiway Y intersection
- AOA fence along West 19th Street

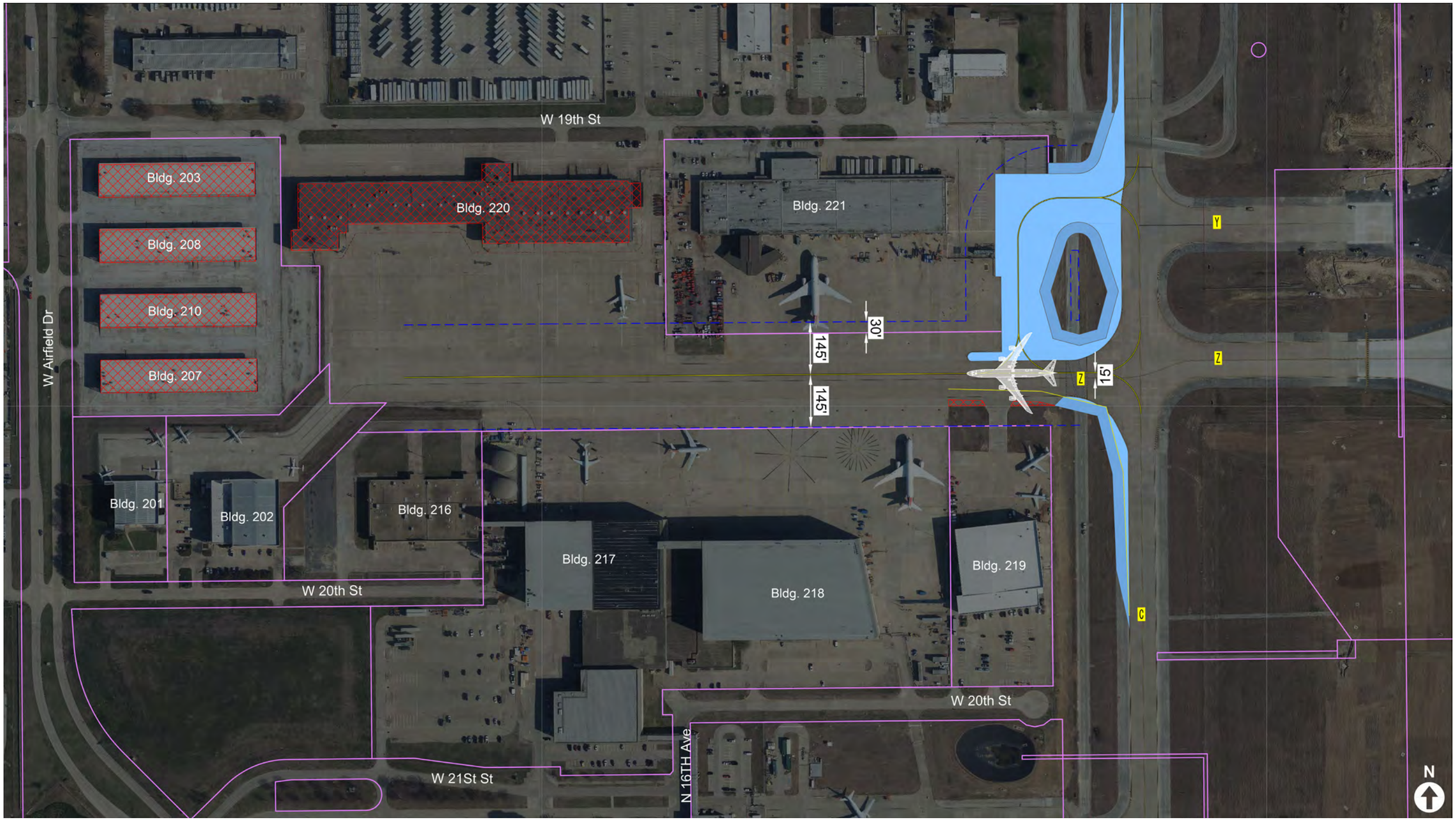
Development of the Building 1 site requires the demolition of the following facilities, which was completed in the fall of 2021: Freight Forwarder A (Bldg. 203), Freight Forwarder B (Bldg. 208) Freight Forwarder C (Bldg. 210), Freight Forwarder D (Bldg. 207), and Evergreen Building (Bldg. 220). The Building 2 site development requires the demolition of the Evergreen Building mentioned above, as well as the American Airlines Air Freight – West Facility (Bldg. 221), which is scheduled for demolition in January 2022.

5.1.1 Apron Infrastructure

The critical aircraft, the B747-8F, is larger than the current critical aircraft (ADG-V Boeing 747-400F) for the area. Therefore, the centerline for Taxilane Z would need to be relocated 15-feet to the north of its existing location, so that a B747-8F taxiing to the cargo area would not penetrate the leasehold to the south for Buildings 217 or 218. Shifting the taxilane centerline would allow American Airlines to continue to operate without disruption on the ramps in front of Buildings 217 and 218.

Two additional apron infrastructure components are required for the apron to be compliant with standards and to operate efficiently. The first is for the existing apron entrance taxiway and shoulder pavement geometry to be modified per FAA AC 150/5300-13B design standards to handle ADG-VI aircraft. The second is to construct a new apron entrance to the north of the existing entrance to provide an additional ingress/egress point into a ramp that currently operates with only a single taxilane. These improvements are highlighted in **Figure 5-1, *NW Cargo Apron Entrance Construction and Modifications***. These modifications will require the closure of Taxiway C where it intersects with Taxiway Y and Z at several points during construction. Therefore, the Airport will be continuously involved with coordination and phasing to maintain the operational capability of airfield pavement, specifically during times of peak aircraft ground movements in the vicinity of the project.

FIGURE 5-1 NW Cargo Apron Entrance Construction and Modifications



Source: DFW Airport Layout Plan, June 2020; Landrum & Brown, Inc., Centurion Planning & Design, September 2021

Figure 5-2, *Overall Apron Development*, provides an overview of the ramp infrastructure required to support the development of Buildings 1 and 2. Approximately 67,000 square yards (SY) of new pavement will be constructed to accommodate up to eight B747-8F aircraft. Three of the aircraft will be positioned east of Building 1, while two aircraft will be positioned east of Building 2. The remaining three aircraft positions are situated between the two buildings and can act as remote cargo loading positions or Remain Over Night (RON) parking positions based on the tenant's needs. With the identified safety envelopes for the B747-8F aircraft, it is anticipated that approximately 305,000 SF of apron space will be available for ground service equipment (GSE) staging, storage, and maneuvering.

To maximize the usable apron adjacent to Building 1 for the three B747-8F aircraft, the taxilane leading into the Ameriflight (Bldg. 202) and Halbert & Associates, LLC (Bldg. 201) ramp would need to be realigned. This taxilane would accommodate ADG-III aircraft with a taxilane OFA of 79-feet to the north and south of the taxilane centerline. Though it currently sits vacant, the former Kitty Hawk facility (Bldg. 216), would have a reduction in leasable area to the north. The facility itself would not be impacted nor would it need to be demolished during the realignment of the taxilane. Additionally, during stakeholder coordination meetings it was indicated that there are elevation issues in the vicinity of this taxilane and Building 216. Therefore, careful consideration should be given to the grade and topography of the realigned taxiway.

To show the flexibility of the site, **Figure 5-3*, Overall Apron Development with B777F Parking***, presents the development with eight B777F aircraft. Due to the design evolution of this project, the ramp provides ultimate flexibility to accommodate different aircraft types as needed by the tenants.

5.1.2 Landside Infrastructure

Figure 5-4*, Building 1 – Landside Alternative 1*, and **Figure 5-5*, Building 1 – Landside Alternative 2***, provide two different layouts to visualize the capacity and capability of the landside at Building 1. Each of these alternatives provide three different components: employee/customer parking, truck docks, and truck staging/queueing. The first landside alternative segregates the trucking and employee traffic while providing 182 employee stalls, 26 truck docks, and 22 truck staging stalls. The second landside alternative integrates the trucking operation by providing truck docks the length of the building and providing employee parking on the northern and southern ends of the landside with truck staging in the middle. The second landside alternative provides 66 employee stalls, 46 truck docks, and 19 truck staging stalls.

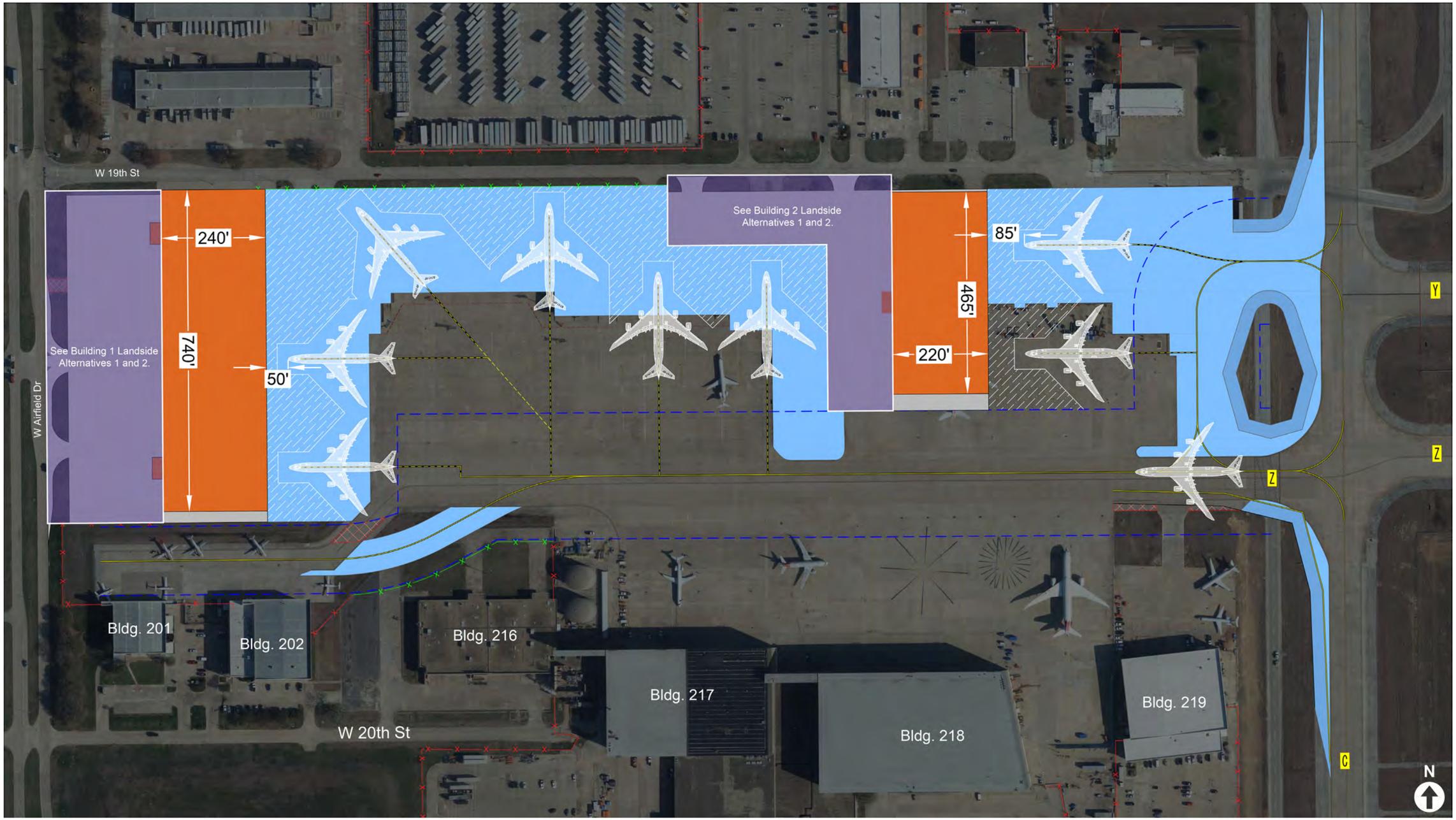
Based on coordination with the stakeholders, two entrances are preferred to segregate truck traffic. The two landside alternatives for Building 1 both show a centralized entry/exit point into the facility with a dedicated turning lane. A second entrance is also provided just south of the centralized entrance. However, TxDOT's Access Management Manual indicates that entrances need to be separated by a lateral distance of at least 360-feet for a one-way 45 MPH road. In both of these alternatives, the southern entrance is approximately 160-feet south of the centralized entrance, nearly 200-feet short of the required separation. Further coordination during the design phase is recommended to identify the opportunities and constraints with siting two entrances.

Figure 5-6, *Building 2 – Landside Alternative 1*, and **Figure 5-7, *Building 2 – Landside Alternative 2***, highlight two development options for the landside pavement west of Building 2. The first alternative provides 30 employee parking spaces, 18 truck docks connected to the building, and 14 truck/trailer staging positions west of the building. The second alternative, which has a similar layout to the first, provides 80 employee parking spaces, 17 truck docks, and 4 truck/trailer staging positions. The main difference between the two layouts is the number of employee vehicle parking spaces provided. Once a tenant is selected for this building, requirements for the amount of parking and truck staging can be refined.

The layout for both alternatives includes two entrances to provide more efficient ingress/egress for the landside operations. The idea is for all truck traffic to enter the site through the western entrance upon arrival, utilize the truck staging spaces if needed, and then once unloaded, proceed through the eastern exit back onto W. 19th Street.

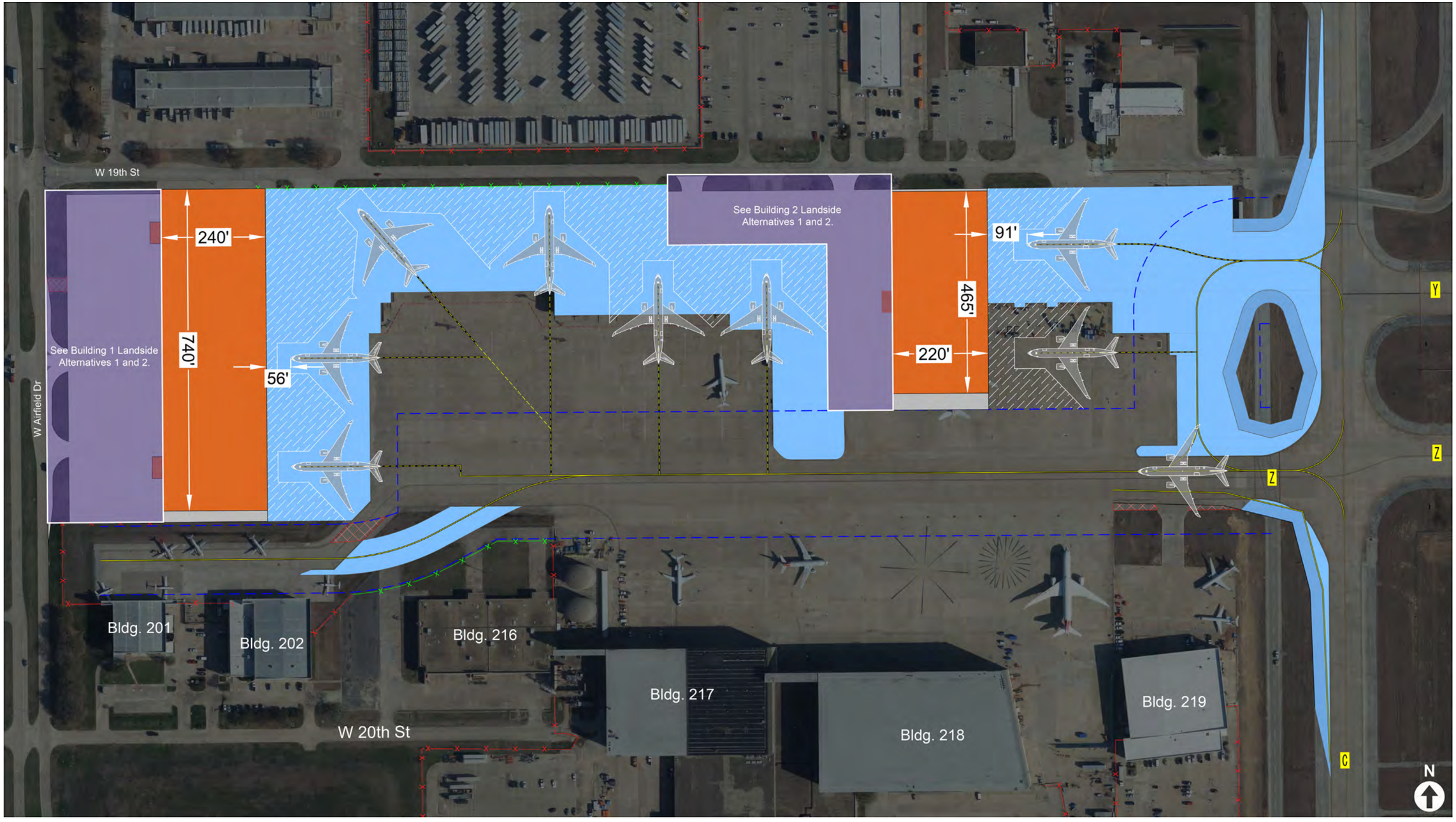
It is anticipated that the truck staging stalls can be modified as needed based on tenant needs for both buildings. Though truck staging is provided within these sites, an airport-wide truck staging and queuing study is recommended to assess the capacity for the overall system at the Airport.

FIGURE 5-2 Overall Apron Development



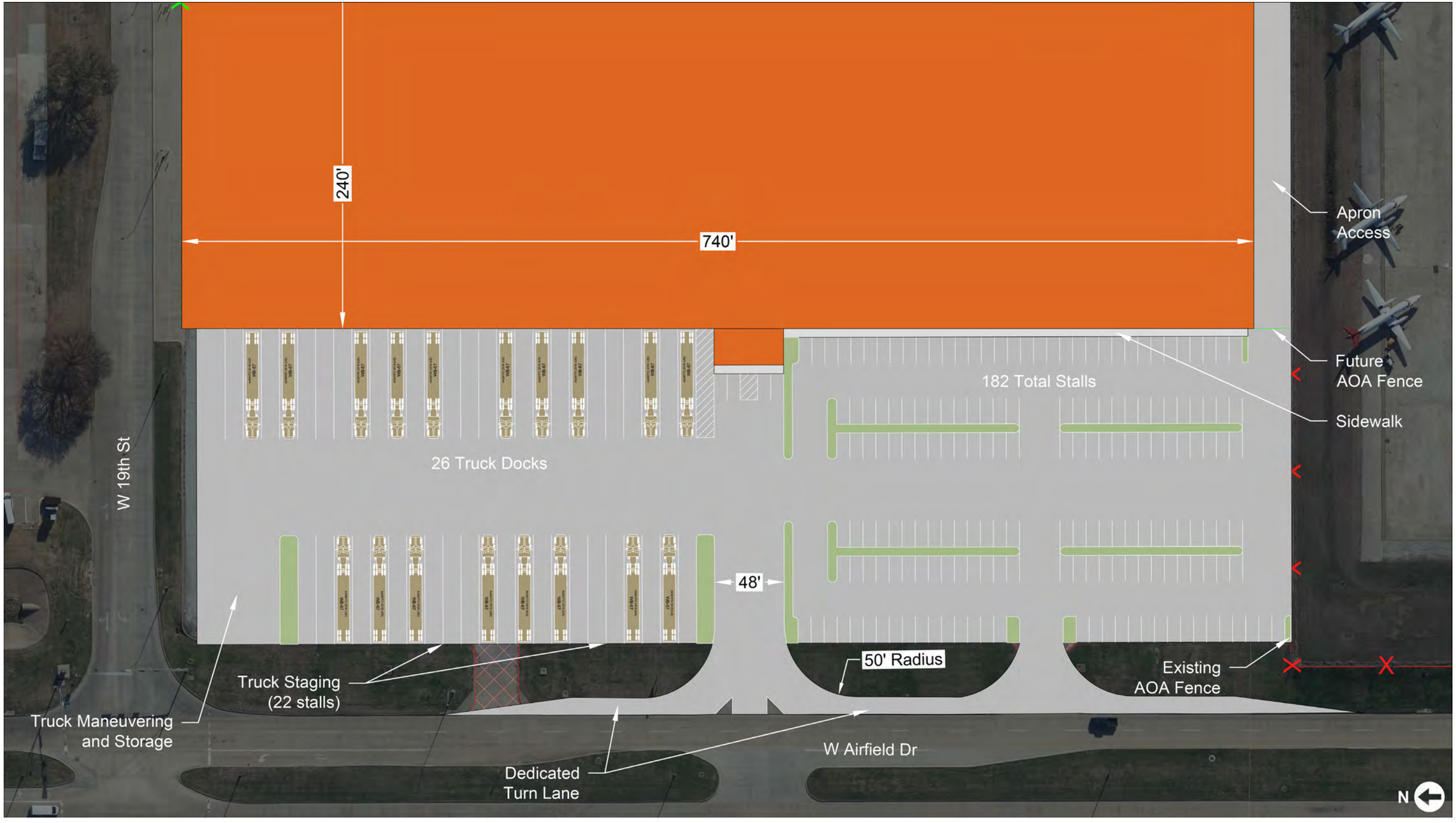
Source: DFW Airport Layout Plan, June 2020; Landrum & Brown, Inc., Centurion Planning & Design, January 2022

FIGURE 5-3 Overall Apron Development with B777F Parking



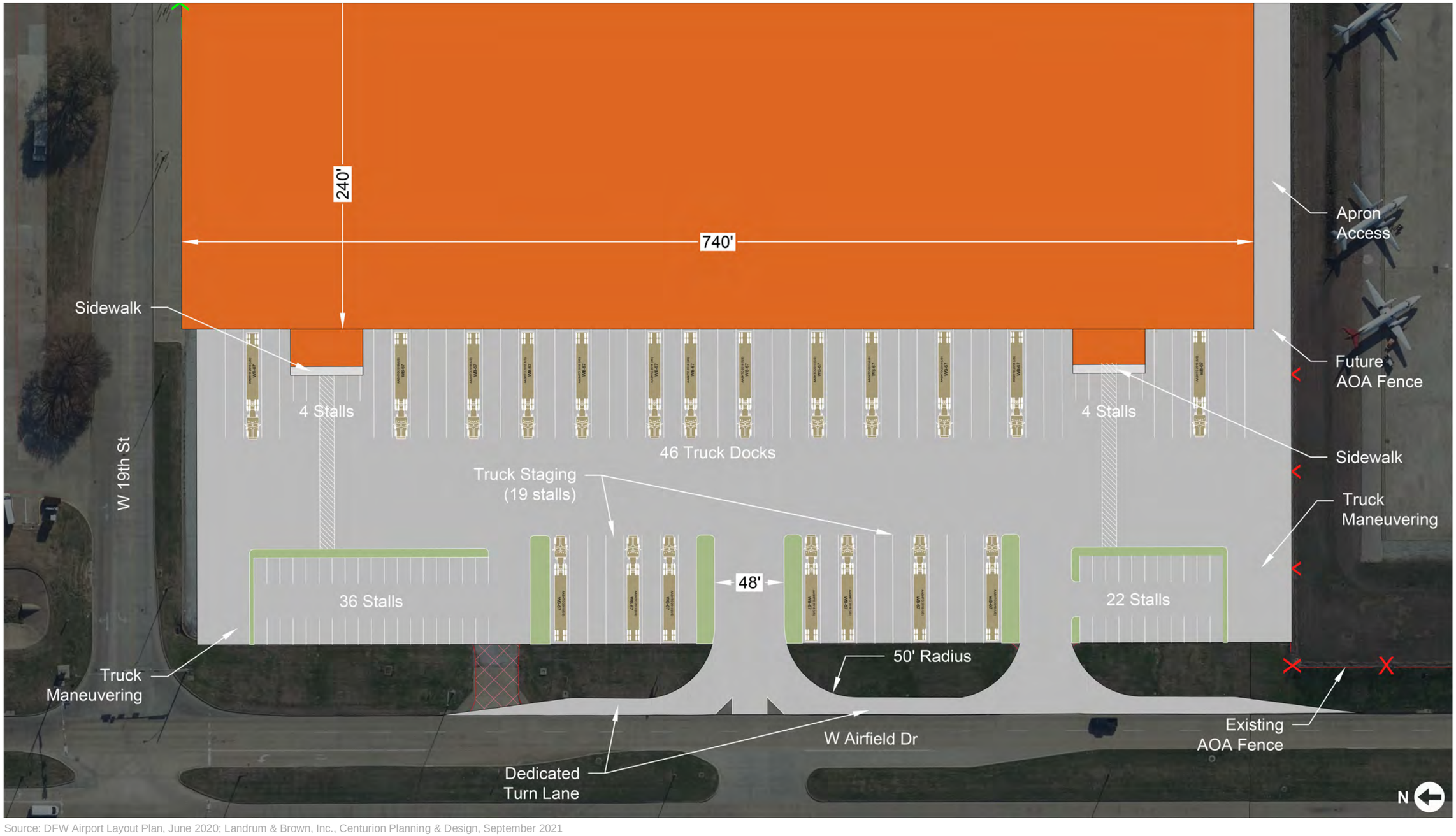
Source: DFW Airport Layout Plan, June 2020; Landrum & Brown, Inc., Centurion Planning & Design, January 2022

FIGURE 5-4 Building 1 – Landside Alternative 1



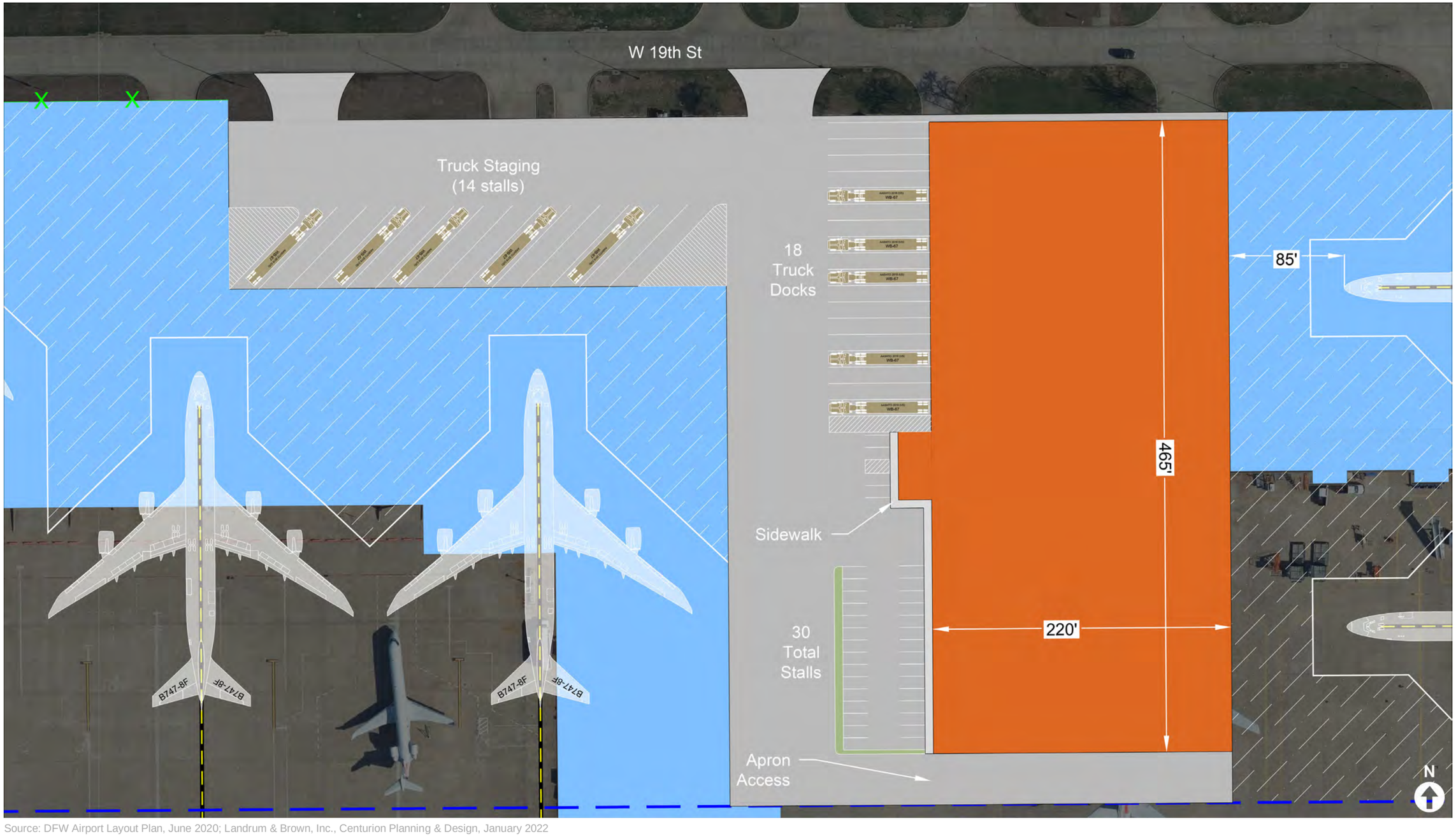
Source: DFW Airport Layout Plan, June 2020; Landrum & Brown, Inc., Centurion Planning & Design, September 2021

FIGURE 5-5 Building 1 – Landside Alternative 2



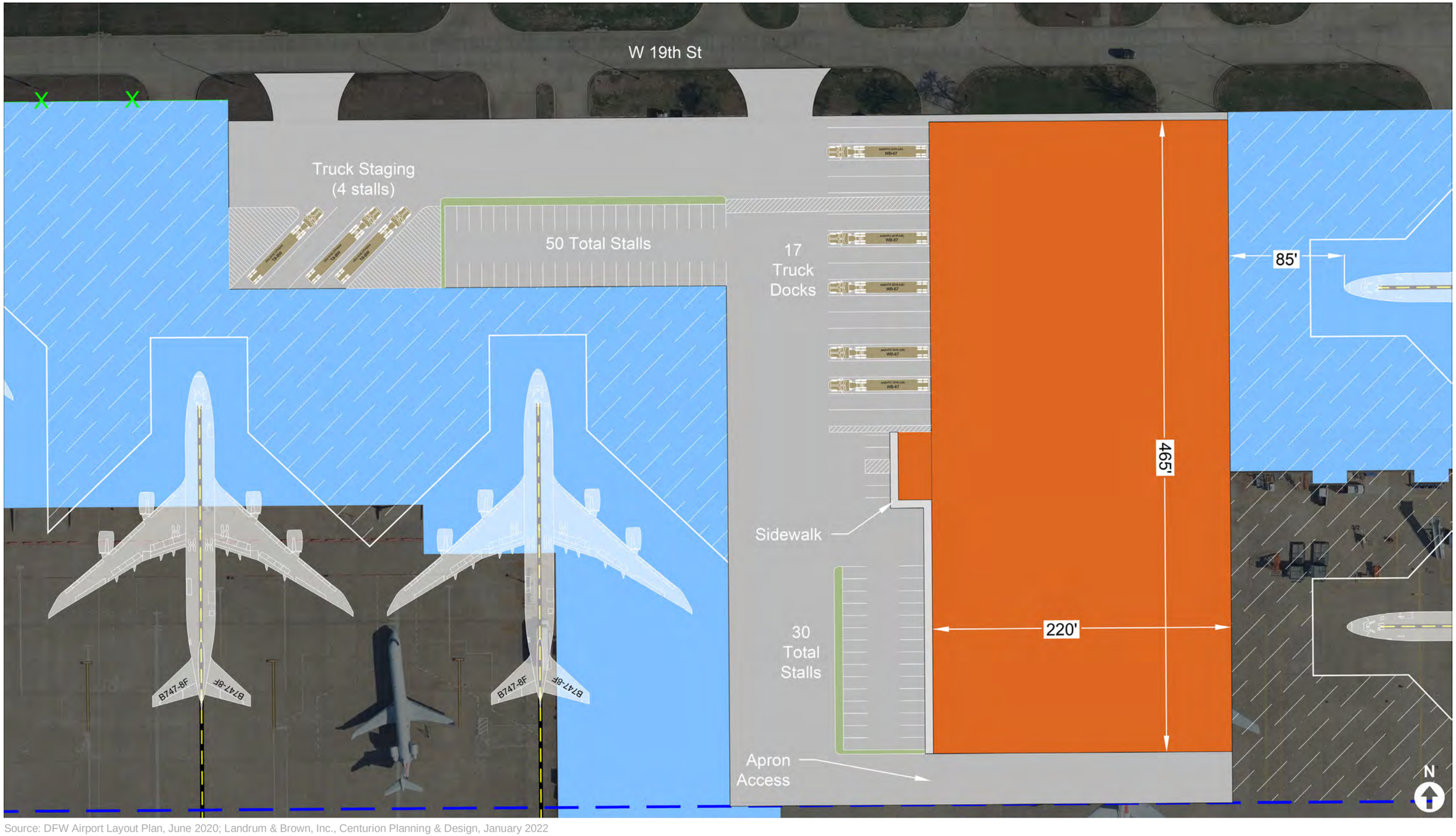
Source: DFW Airport Layout Plan, June 2020; Landrum & Brown, Inc., Centurion Planning & Design, September 2021

FIGURE 5-6 Building 2 – Landside Alternative 1



Source: DFW Airport Layout Plan, June 2020; Landrum & Brown, Inc., Centurion Planning & Design, January 2022

FIGURE 5-7 Building 2 – Landside Alternative 2



Source: DFW Airport Layout Plan, June 2020; Landrum & Brown, Inc., Centurion Planning & Design, January 2022

Figure 5-8*, Combined Development Alternative,* presents landside alternative 2 for both Buildings 1 and 2, combined with the overall apron development to represent a complete development alternative. Either landside alternatives for each Building could be paired with one another to create a recommended alternative based on the tenant's and Airport's evaluation.

Appendix C, *Representative Landside Renderings,* presents several preliminary renderings to provide an overview and scale of the available Building 1 site.

5.2 Additional Infrastructure Requirements

Based on stakeholder coordination, it anticipated that three additional infrastructure needs are required as part of developing Buildings 1 and 2:

- Underground Stormwater Collection Tank
- Oil/Water Separator
- Conduit for High-Mast Lighting

Further analysis is needed to assess the location, requirements, and associated impacts of these three infrastructure needs.

5.3 Development Quantities

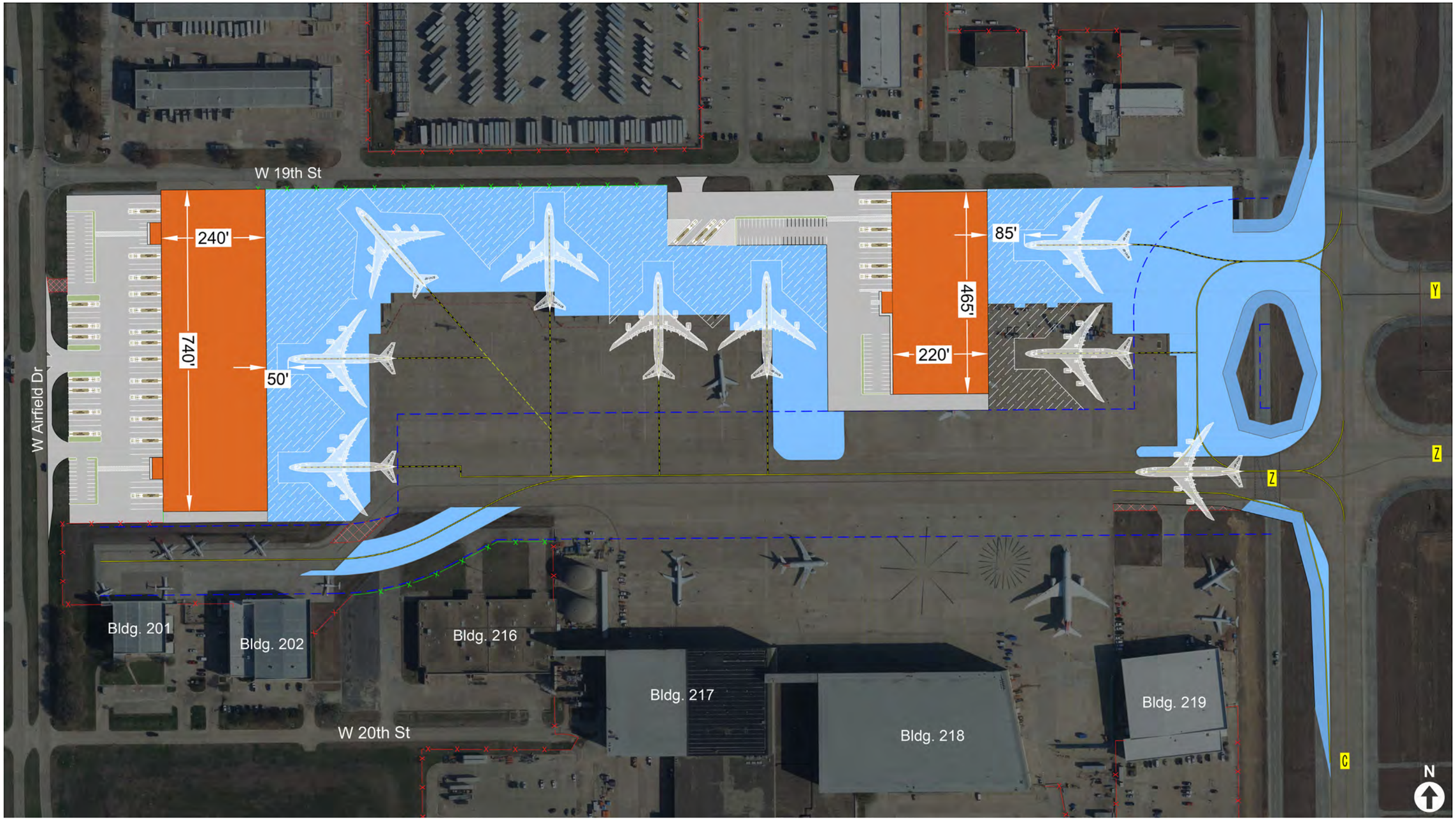
Table 5-1 through Table 5-6 provide quantities for the apron entrance construction and modifications, , the overall apron development, and two landside alternatives each for Buildings 1 and 2. It should be noted that while these quantities cover a large portion of the required infrastructure for this effort, they are not exhaustive and serve only as a basis for the development of the Rough Order of Magnitude (ROM) cost estimates. The quantities will be further refined and adjusted as the project moves forward into design.

TABLE 5-1 NW Cargo Apron Entrance Construction and Modifications Quantities

Item No.	Description	Units	Estimated Quantities	Estimated Unit Price	Subtotal
1.01	17.5" Continuously Reinforced Concrete Pavement	SY	16,600	-	-
1.02	8" Cement Treated Base	SY	17,150	-	-
1.03	3" P-401 Asphalt Taxiway Shoulder Pavement	TONS	800	-	-
1.04	6" P-401 Asphalt Taxiway Shoulder Pavement (Base) Layer	TONS	1,800	-	-
1.05	Pavement Markings - Yellow	SF	6,300	-	-
1.06	Pavement Markings - Black Border	SF	10,800	-	-
1.07	Taxiway Edge Light	EA	30	-	-
1.08	Taxiway Edge Light Removal	EA	17	-	-
1.09	Taxiway Centerline Light	EA	40	-	-
1.10	Taxiway Centerline Light Removal	EA	12	-	-

Source: Centurion Planning & Design, September 2021

FIGURE 5-8 Combined Development Alternative



Source: DFW Airport Layout Plan, June 2020; Landrum & Brown, Inc., Centurion Planning & Design, January 2022

TABLE 5-2 Overall Apron Development Quantities

Item No.	Description	Units	Estimated Quantities	Estimated Unit Price	Subtotal
1.01	17.5" Continuously Reinforced Concrete Pavement	SY	69,650	-	-
1.02	8” Cement Treated Base	SY	71,350	-	-
1.03	Pavement Demolition	SY	375	-	-
1.04	Pavement Markings - Yellow	SF	4,950	-	-
1.05	Pavement Markings - Black Border	SF	7,450	-	-
1.06	Pavement Markings - White (Angled)	SF	305,000	-	-
1.07	High-Mast Ramp Light	EA	10	-	-
1.08	Aircraft Parking Guidance System	EA	8	-	-
1.10	AOA Fence	LF	3,450	-	-

Source: Centurion Planning & Design, September 2021

TABLE 5-3 Landside Alternative 1 – Building 1 Quantities

Item No.	Description	Units	Estimated Quantities	Estimated Unit Price	Subtotal
1.01	10" TxDOT 360 PCC Pavement	SY	20,200	-	-
1.02	8" TxDOT 247 Type A Grade 1-2 Flex-Base	SY	20,850	-	-
1.03	8" Lime-Treated Subgrade	SY	21,900	-	-
1.04	6" Raised Curb - Perimeter	LF	2,100	-	-
1.05	6" Raised Curb – Grass Island	SF	7,000	-	-
1.06	Drainage Inlets	EA	4	-	-
1.07	Excavation and Enbankment	CY	-	-	-
1.08	Pavement Markings - 4" White (Solid)	LF	7,650	-	-
1.09	Pavement Markings - 4" White (Angled Stripe)	SF	1,200	-	-
1.10	Landscaping	LS	1	-	-
1.11	High-Mast Light Pole	EA	-	-	-
1.12	Cargo Building	SF	149,200	-	-
1.13	Pavement Demolition	SY	310	-	-
1.14	Sidewalk	SF	2,110	-	-
1.15	Ramp Access Gate	LF	25		

Source: Centurion Planning & Design, September 2021

TABLE 5-4 Landside Alternative 2 – Building 1 Quantities

Item No.	Description	Units	Estimated Quantities	Estimated Unit Price	Subtotal
1.01	10" TxDOT 360 PCC Pavement	SY	20,200	-	-
1.02	8" TxDOT 247 Type A Grade 1-2 Flex-Base	SY	20,850	-	-
1.03	8" Lime-Treated Subgrade	SY	21,900	-	-
1.04	6" Raised Curb - Perimeter	LF	2,100	-	-
1.05	6" Raised Curb – Grass Island	SF	5,900	-	-
1.06	Drainage Inlets	EA	4	-	-
1.07	Excavation and Enbankment	CY	-	-	-
1.08	Pavement Markings - 4" White (Solid)	LF	12,400	-	-
1.09	Pavement Markings - 4" White (Angled Stripe)	SF	2,600	-	-
1.10	Landscaping	LS	1	-	-
1.11	High-Mast Light Pole	EA	-	-	-
1.12	Cargo Building	SF	150,500	-	-
1.13	Pavement Demolition	SY	310	-	-
1.14	Sidewalk	SF	600	-	-
1.15	Ramp Access Gate	LF	25	-	-

Source: Centurion Planning & Design, September 2021

TABLE 5-5 Landside Alternative 1 – Building 2 Quantities

Item No.	Description	Units	Estimated Quantities	Estimated Unit Price	Subtotal
1.01	10" TxDOT 360 PCC Pavement	SY	15,050	-	-
1.02	8" TxDOT 247 Type A Grade 1-2 Flex-Base	SY	15,450	-	-
1.03	8" Lime-Treated Subgrade	SY	16,100	-	-
1.04	6" Raised Curb - Perimeter	LF	1,000	-	-
1.05	6" Raised Curb – Grass Island	SF	1,050	-	-
1.06	Drainage Inlets	EA		-	-
1.07	Excavation and Enbankment	CY	-	-	-
1.08	Pavement Markings - 4" White (Solid)	LF	3,700	-	-
1.09	Pavement Markings - 4" White (Angled Stripe)	SF	5,000	-	-
1.10	Landscaping	LS	1	-	-
1.11	High-Mast Light Pole	EA	-	-	-
1.12	Cargo Building	SF	102,300	-	-
1.13	Pavement Demolition	SY	350	-	-
1.14	Sidewalk	SF	1,600	-	-
1.15	Ramp Access Gate	LF	40	-	-

Source: Centurion Planning & Design, September 2021

TABLE 5-6 Landside Alternative 2 – Building 2 Quantities

Item No.	Description	Units	Estimated Quantities	Estimated Unit Price	Subtotal
1.01	10" TxDOT 360 PCC Pavement	SY	15,050	-	-
1.02	8" TxDOT 247 Type A Grade 1-2 Flex-Base	SY	15,450	-	-
1.03	8" Lime-Treated Subgrade	SY	16,100	-	-
1.04	6" Raised Curb - Perimeter	LF	1,000	-	-
1.05	6" Raised Curb – Grass Island	SF	2,500	-	-
1.06	Drainage Inlets	EA		-	-
1.07	Excavation and Enbankment	CY	-	-	-
1.08	Pavement Markings - 4" White (Solid)	LF	4,050	-	-
1.09	Pavement Markings - 4" White (Angled Stripe)	SF	6,200	-	-
1.10	Landscaping	LS	1	-	-
1.11	High-Mast Light Pole	EA	-	-	-
1.12	Cargo Building	SF	102,300	-	-
1.13	Pavement Demolition	SY	350	-	-
1.14	Sidewalk	SF	1,600	-	-
1.15	Ramp Access Gate	LF	40	-	-

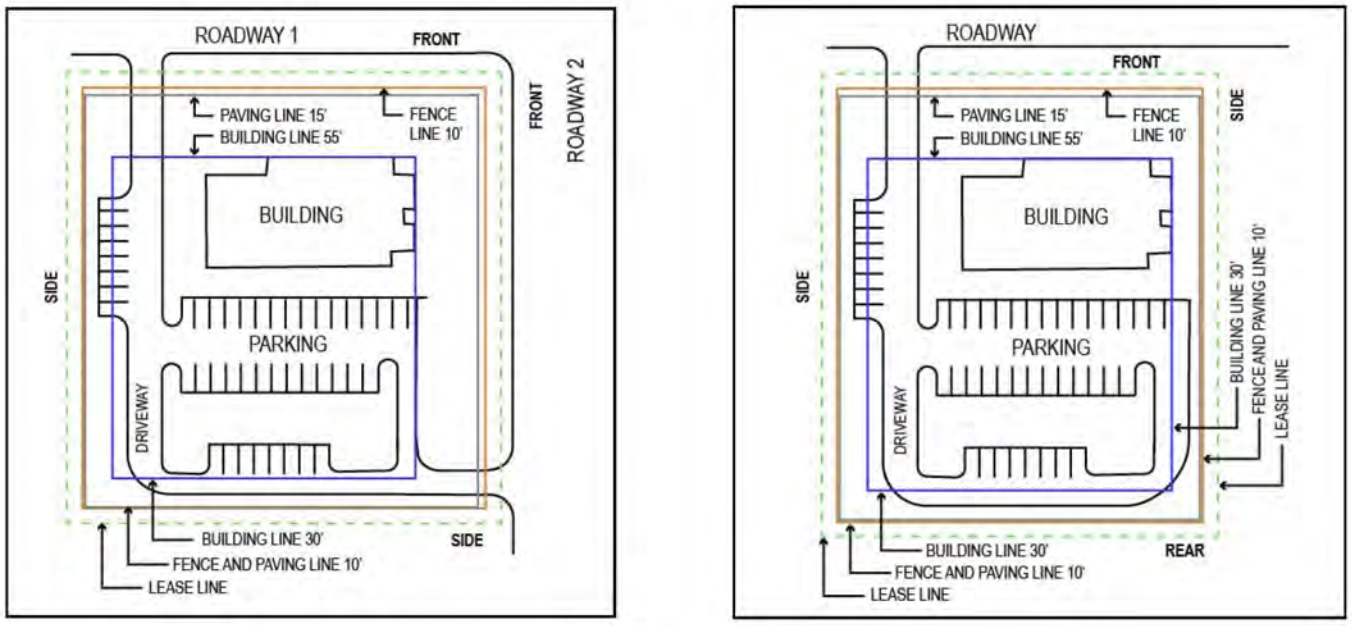
Source: Centurion Planning & Design, September 2021

5.4 Development Design Guidelines

5.4.1 Lease Line Setbacks

One of the development guidelines for the site is the DFW Development Design Guidelines from June 2020. Upon recent discussions with stakeholders, it is anticipated that the project will need to follow these standards. Included within these guidelines are provisions for setbacks from the lease lines. Section 2.2.1.1., Front, Side, and Rear Yard Setbacks details the possible requirements for the site which are shown below in **Figure 5-9, *DFW Development Design Guideline Setbacks.***

FIGURE 5-9 DFW Development Design Guideline Setbacks



Source: DFW Development Design Guidelines, June 2020

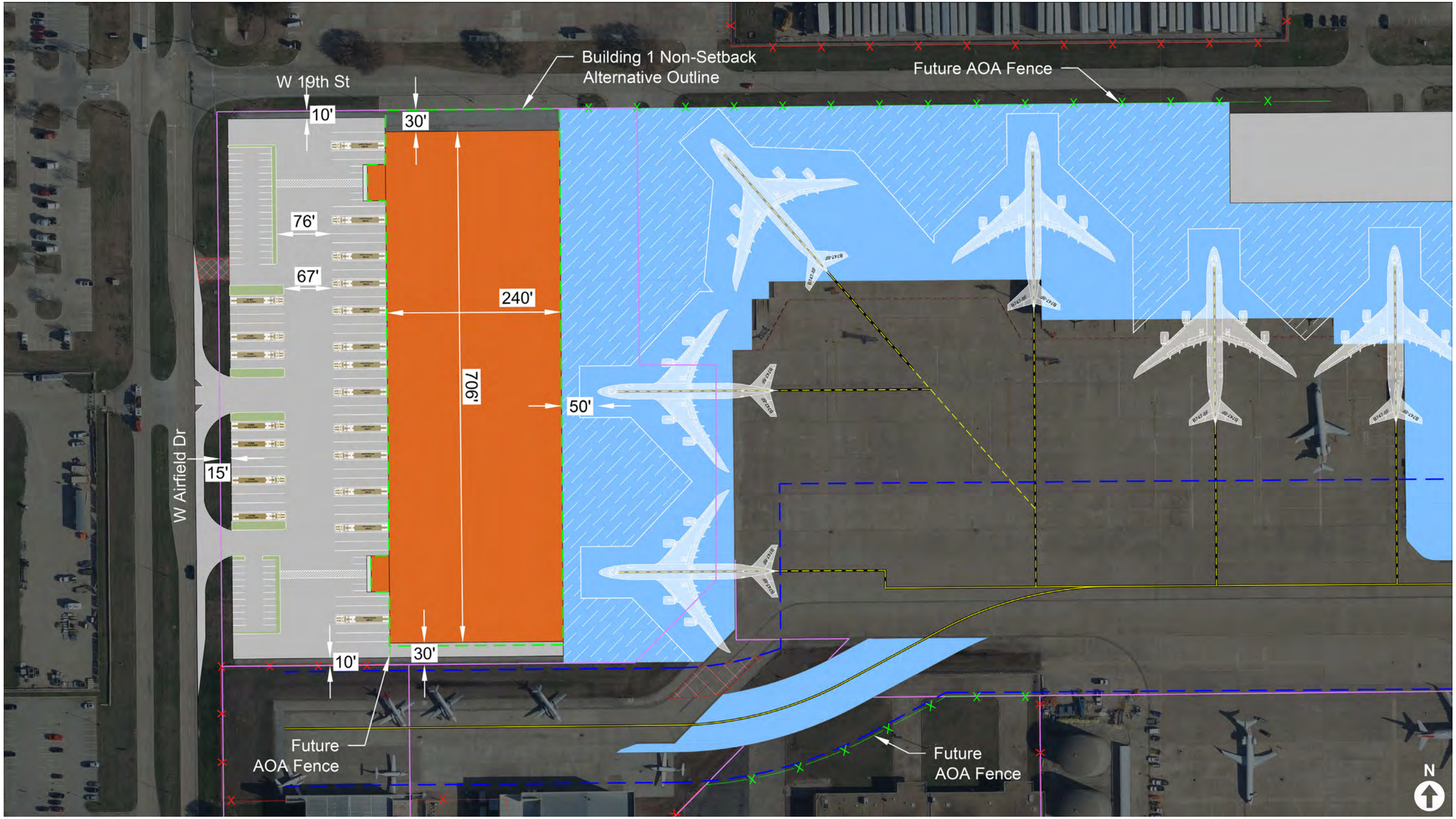
The alternatives mentioned above provide for development out to the lease line. Should these lease line setbacks need to be implemented, there are varying impacts to the development of the sites. The Building 1 site will be referenced when discussing these impacts. With Building 1's landside area adjacent to West Airfield Drive, it is anticipated that a 15-foot setback from the lease line to the paved lot would be required due to the egress point and this being considered a front yard. For the northern and southern sides, since there is no egress point, it is anticipated that these would be considered side yards and would require a 10-foot setback to paved areas or a fence and a 30-foot setback to the building. **Figure 5-10, *DFW Development Design Guideline Setback Alternative,*** presents a future alternative for the Building 1 site that follows these guidelines. Additionally,

An additional consideration that should be further investigated in the design phase is the potential expansion of West 19th Street. Specific workshops detailing the additional requirements should be conducted in the early part of the design phase to address these additional requirements.

5.4.2 Landscape Requirements

It is expected that the landscape design for this project will adhere to the requirements established in the Development Design Guidelines. This pertains to design, plants, hardscape, drainage, and street furniture.

FIGURE 5-10 DFW Development Design Guideline Setback Alternative



Source: DFW Airport Layout Plan, June 2020; Landrum & Brown, Inc., Centurion Planning & Design, January 2022

5.5 Overview of Future Development Phase

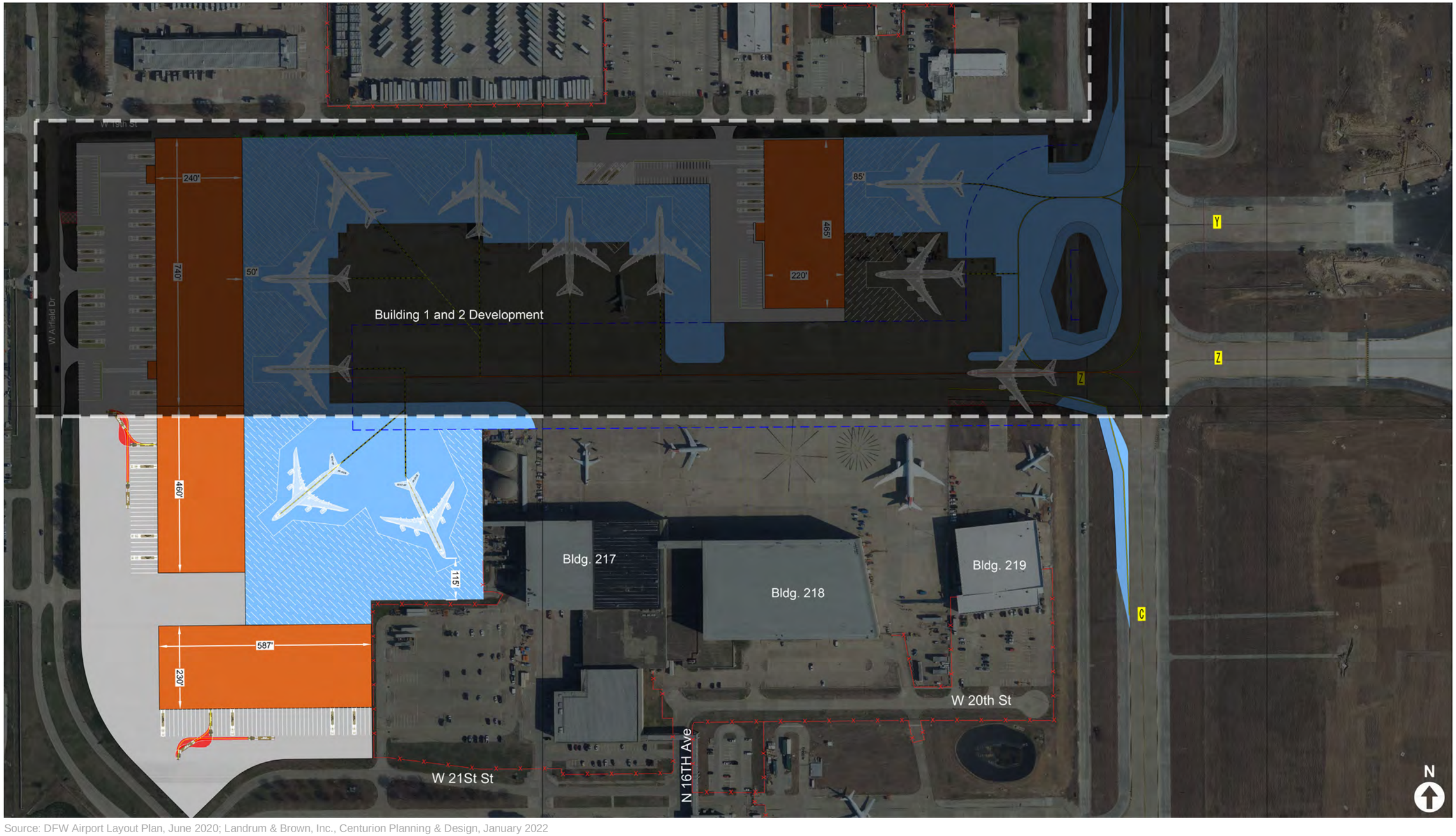
The 2020 Cargo Master Plan, developed through coordination with all Airport stakeholders, encompasses cargo development across the entire Airport, including future expansions of the 19th Street cargo campus. Initiating the future phase of redevelopment for the NW Cargo Campus requires the relocation of Ameriflight (Bldg. 202) and Halbert & Associates, LLC (Bldg. 201), as their existing facilities would need to be demolished. This phase also requires the demolition of the former Kitty Hawk building (Bldg. 216). While Ameriflight (in particular) serves a critical function in the air cargo industry, providing FAA Part 121 and Part 135 service for integrated carriers, the development of a complex with B747-8F freighters as the design aircraft would be incompatible with the small feeder aircraft operated by Ameriflight. The relatively small footprint of the Ameriflight operation would allow it to be relocated to another part of the airfield with relative ease.

As shown in **Figure 5-11, *Future Phase of the NW Cargo Campus,*** a 110,400 SF facility is provided to the south. Overall, this phase provides five B747-8F contact stands and five remote B747-8F positions. A landside depth of 230-feet would allow commercial trucks and trailers (75-foot length) to circulate, operate, and park in front of the building. This depth would also allow for ultimate flexibility in the use of this space for employee parking, storage, etc.

Additionally, a facility of approximately 135,000 SF would be constructed to the west of AA Hangar 1. The ramp would expand south over W. 20th St., to connect to the new 135,000 SF facility. With this additional ramp area, a total of 10 B747-8F parking positions are provided along with a total facility footprint of approximately 525,000 SF.

For all future development initiatives, please refer to the 2020 Cargo Master Plan.

FIGURE 5-11 Future Phase of the NW Cargo Campus



Source: DFW Airport Layout Plan, June 2020; Landrum & Brown, Inc., Centurion Planning & Design, January 2022

6 Environmental Considerations

An approved Environmental Assessment (EA) is required for any potential request for federal funding. An EA is a concise document used to describe a proposed action's anticipated environmental impacts. The EA will be developed following the PDD, concurrently with the design of the project. If it is found that significant impacts would not occur, then a Finding of No Significant Impact (FONSI) can be prepared. However, if it is found that significant impacts would occur, then an Environmental Impact Statement (EIS) must be prepared. The following environmental resources will be assessed in the EA:

- Air Quality
- Biological resources
- Climate
- Coastal resources
- Department of Transportation, Section 4(f) resources
- Farmlands
- Hazardous materials, solid waste, and pollution prevention
- Historical, architectural, archeological, and cultural resources
- Land use
- Natural resources and energy supply
- Socioeconomics, environmental justice, and children's environmental health and safety risks
- Visual effects
- Water resources (including wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers)
- Topographical Conditions, Drainage, and Stormwater Management

In addition to the list above, community outreach is an important component of the project, specifically regarding the EA. The communities surrounding the Airport need to be engaged through regular communication and information sharing and have an opportunity to provide input on the EA on an as needed basis based on the project's impact to the community.

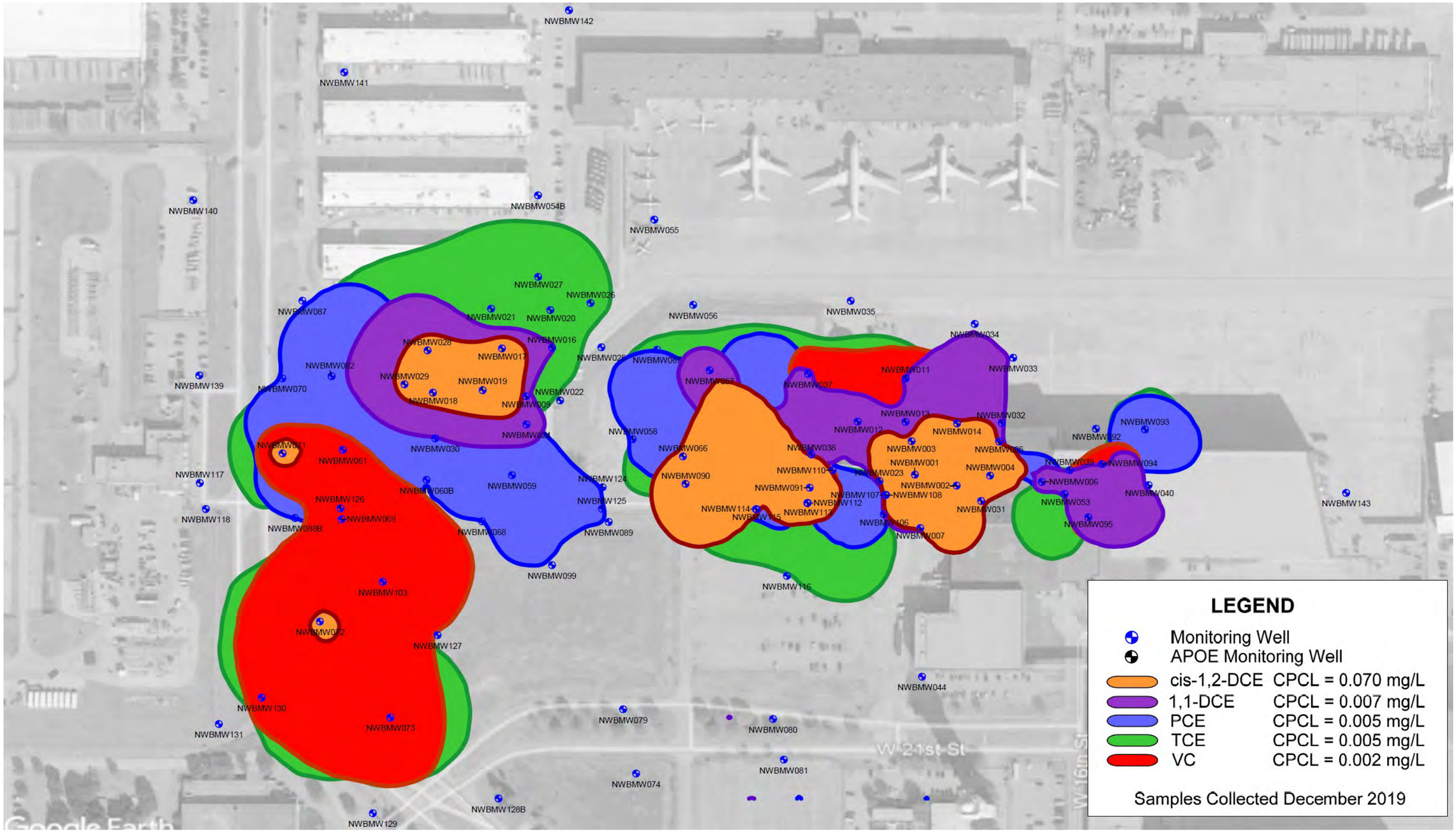
6.1 Groundwater and Soil

Environmental Affairs (EAD) provided multiple exhibits for the Northwest Cargo area that show various plumes of chemicals that have leached into the soil as part of previous developments, as shown in **Figure 6-1, *Plume Footprint Map for all COCs above CPCL***. The monitoring wells throughout this area constantly monitor the directional movement and overall size of these plumes. Currently, the depth at which construction efforts would encounter these chemicals would be approximately 20-feet below the surface. EAD noted that the only task that will likely need to be completed for this area would be soil remediation. In addition, given the location of the future cargo facility, several of the monitoring wells will need to be relocated.

Additionally, **Appendix D, *Concentration Maps at West Cargo,*** provides the actual concentrations contours for each of the five contaminants in the area. This includes the following documents:

- *1, 1-DCE Groundwater Concentration Map*, EAD, December 2019
- *CIS-1, 2-DCE Groundwater Concentration Map*, EAD, December 2019
- *PCE Groundwater Concentration Map*, EAD, December 2019
- *TCE Groundwater Concentration Map*, EAD, December 2019
- *Vinyl Chloride Groundwater Concentration Map*, EAD, December 2019

FIGURE 6-1 Plume Footprint Map for all COCs above CPCL



Source: DFW EAD, December 2019

6.2 Materials Management

To reduce project cost and reuse acceptable scrap materials/millings from other projects at the Airport, it is recommended that a materials management plan be developed. This plan should include the discard of scrap materials/millings from the Northwest Cargo development and the use of materials for new facility construction from other projects at the Airport (e.g., Runway 18R/36L Rehabilitation, NE EAT. As of December 12, 2020, the following quantities were inventoried at the East Materials Management Site (EMMS):

- Asphalt: 36,803 cubic yards
- Concrete (processed): 35,790 cubic yards
- Cement Treated Base (CTB): 19,845 cubic yards
- Reinforced Concrete Base (RCB): 14 cubic yards
- Suitable Fill: 457,043 cubic yards
- Topsoil: 8,605 cubic yards

It is recommended that this material be considered as much as possible for the Northwest Cargo development.

7 Operational Considerations

7.1 Construction Staging Areas, Logistics, and Airfield Security

Construction staging areas and operational logistics for this project have yet to be determined. However, airfield security will be maintained by a temporary construction fence for the facility and apron buildout. The only time construction operations will occur within the AOA is for the fillet modifications to the existing apron entrance and construction of the future apron entrance. The contractor must always coordinate with DFW Operations with regards to construction efforts. This communication is critical as the Airport has a requirement to maintain at least one active apron entrance into the NW Cargo area throughout construction.

7.2 Design and Construction Schedule

The initial project schedule is currently in development with PCG, and NEPA timelines are still being determined. The goal is to commence construction of both Buildings 1 and 2 as soon as possible, with asset handover to the tenants planned to occur as early as 2024.

7.3 Permitting Overview

It is expected that FAA Form 7460-1, Notice of Proposed Construction or Alternation, will be required for all work as part of the project and must be submitted in a timely manner to avoid project delays. Additionally, all contractors, consultants, and other individuals working on the project must follow “The Code of Rules and Regulations of the Dallas-Fort Worth International Airport Board.” A copy of this code can be found on the Airport’s website at: https://www.dfwairport.com/about/publications/index.php.

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Appendix A: Draft Cost Estimate

DRAFT

DESIGN, CODE & CONSTRUCTION
Project Controls Group

19th Street Redevelopment Ph1 & 3
CIP BUDGET ESTIMATE SUMMARY

					Owner's Soft Cost as a % of Construction Cost									
	Construction				Design/Study /Planning	Staff /Consultant	CM /Inspection	Testing /Surveying	Commissioning	Miscellaneous	Total SoftCost	CIP Budget		
Description	Qty	Unit	Unit Cost	Total	9.00%	5.00%	4.00%	2.00%	1.00%	5.00%	26.00%	Subtotal	Contingency	Total
19th St. Redevelopment Ph 1 rev11/18/21	1.00	LS		43,554,410	3,919,897	2,177,721	1,742,176	871,088	435,544	2,177,721	11,324,147	54,878,557	5,487,856	60,366,413
Civil Contract- Site/Utilities/Paving	1.00	LS		16,695,891	1,502,630	834,795	667,836	333,918	166,959	834,795	4,340,932	21,036,823	2,103,682	23,140,505
Sitework	1.00	LS		2,067,740	186,097	103,387	82,710	41,355	20,677	103,387	537,612	2,605,352	260,535	2,865,887
Preliminary Ramp	301,680.00	SF	35.23	10,628,967	956,607	531,448	425,159	212,579	106,290	531,448	2,763,531	13,392,498	1,339,250	14,731,748
Pushback Pavement Area	29,320.00	SF	34.05	998,237	89,841	49,912	39,929	19,965	9,982	49,912	259,542	1,257,779	125,778	1,383,557
Access Taxiway ADG-III	27,200.00	SF	32.05	871,626	78,446	43,581	34,865	17,433	8,716	43,581	226,623	1,098,249	109,825	1,208,074
Taxiway Z Entrance	66,915.00	SF	31.82	2,129,321	191,639	106,466	85,173	42,586	21,293	106,466	553,623	2,682,944	268,294	2,951,239
DB Building Contract-Cargo Facility w/Paving	1.00	LS		21,258,520	1,913,267	1,062,926	850,341	425,170	212,585	1,062,926	5,527,215	26,785,735	2,678,573	29,464,308
Personnel Parking/ Truck Court	176,150.00	SF	12.59	2,217,143	199,543	110,857	88,686	44,343	22,171	110,857	576,457	2,793,600	279,360	3,072,960
Cargo Facility- Ph 1	207,600.00	GSF	91.72	19,041,376	1,713,724	952,069	761,655	380,828	190,414	952,069	4,950,758	23,992,134	2,399,213	26,391,348
Other Costs	1.00	LS		5,600,000	504,000	280,000	224,000	112,000	56,000	280,000	1,456,000	7,056,000	705,600	7,761,600
Direct Cost Development Allowance	1.00	LS		3,500,000	315,000	175,000	140,000	70,000	35,000	175,000	910,000	4,410,000	441,000	4,851,000
Escalation	1.00	LS		2,100,000	189,000	105,000	84,000	42,000	21,000	105,000	546,000	2,646,000	264,600	2,910,600
Add Alternate-Cold Storage	20,000.00	SF	29.92	598,454	53,861	29,923	23,938	11,969	5,985	29,923	155,598	754,052	75,405	829,457
19th St. Redevelopment Ph 3 rev11/19/21	1.00	LS		37,061,668	3,335,550	1,853,083	1,482,467	741,233	370,617	1,853,083	9,636,034	46,697,702	4,669,770	51,367,472
Civil Contract- Demo/Utilities/Paving	1.00	LS		20,223,014	1,820,071	1,011,151	808,921	404,460	202,230	1,011,151	5,257,984	25,480,998	2,548,100	28,029,098
Sitework	1.00	LS		4,921,291	442,916	246,065	196,852	98,426	49,213	246,065	1,279,536	6,200,827	620,083	6,820,910
Airside Pavement/Ramp /Twy	431,370.00	SF	35.47	15,301,723	1,377,155	765,086	612,069	306,034	153,017	765,086	3,978,448	19,280,171	1,928,017	21,208,188
DB Building Contract-Cargo Facility w/Paving	1.00	LS		12,038,653	1,083,479	601,933	481,546	240,773	120,387	601,933	3,130,050	15,168,703	1,516,870	16,685,574
Landside Pavement/Parking/Truck Court	130,950.00	SF	14.89	1,949,334	175,440	97,467	77,973	38,987	19,493	97,467	506,827	2,456,161	245,616	2,701,777
Cargo Facility-Ph 3	102,300.00	SF	98.62	10,089,319	908,039	504,466	403,573	201,786	100,893	504,466	2,623,223	12,712,542	1,271,254	13,983,796
Other Costs	1.00	LS		4,800,000	432,000	240,000	192,000	96,000	48,000	240,000	1,248,000	6,048,000	604,800	6,652,800
Direct Cost Development Allowance	1.00	LS		3,000,000	270,000	150,000	120,000	60,000	30,000	150,000	780,000	3,780,000	378,000	4,158,000
Escalation	1.00	LS		1,800,000	162,000	90,000	72,000	36,000	18,000	90,000	468,000	2,268,000	226,800	2,494,800
Add Alternate-Cold Storage	15,000.00	SF	29.92	448,841	40,396	22,442	17,954	8,977	4,488	22,442	116,699	565,540	56,554	622,094
Construction Subtotal			$0.00	$81,663,373	$7,349,704	$4,083,169	$3,266,535	$1,633,267	$816,634	$4,083,169	$21,232,478	$102,895,851	$10,289,585	$113,185,436
Add Alternates	1.00	LS		5,000,000								5,000,000	500,000	5,500,000
Add Alternate-Tenant Improvements-Ph 1	15,000.00	SF	200.00	3,000,000								3,000,000	300,000	3,300,000
Add Alternate-Tenant Improvements-Ph 3	10,000.00	SF	200.00	2,000,000								2,000,000	200,000	2,200,000
TOTAL: NW 19th St. Redevelopment				**$86,663,373**	**7,349,704**	**4,083,169**	**3,266,535**	**1,633,267**	**816,634**	**4,083,169**	**21,232,478**	**107,895,851**	**10,789,585**	**$118,685,436**

Appendix B: 2018 Evergreen Cargo Ramp Pavement Assessment

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MEMORANDUM:

Date:	September 28, 2018
To:	Dallas Fort Worth International Airport (Design, Code and Construction)
From:	RS&H
Subject:	DO No. 17 OFA Analysis and Demolition of Evergreen Cargo - Pavement Condition Index Survey Technical Memorandum **(DRAFT)**

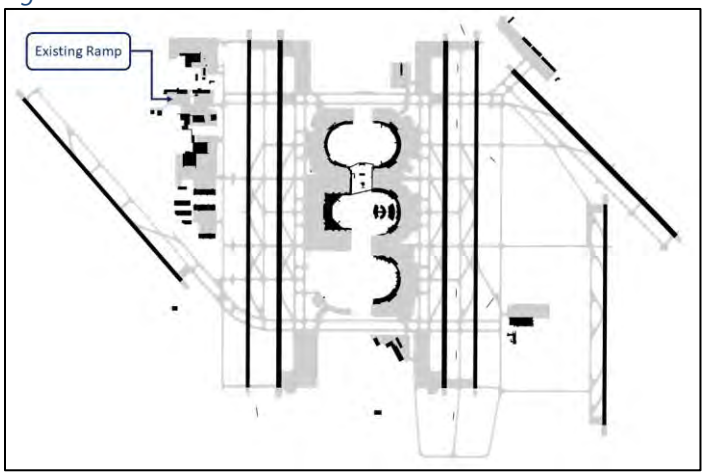
This technical memorandum is part of deliverable for Dallas Fort Worth International Airport (DFW) Contract Number 8500346, Delivery Order (DO) number 17 - OFA Analysis and Demolition of Evergreen Cargo. This technical memorandum presents the results of the Pavement Condition Index (PCI) Survey for the Existing Ramp at the Evergreen cargo building.

1.0 Background

RS&H was requested by DFW Design, Code and Construction as part of DO 17 to perform a PCI survey and determine a PCI value for the Existing Ramp (**Figure 1**) at the air cargo facility currently known as the Evergreen building located at 1530 W 19th Street, within the Northwest (NW) Cargo area of DFW Airport.

The NW Cargo area is under-utilized and redevelopment of the area for cargo operations is the established highest and best use for that Airport real estate. DFW's total air cargo tonnage is predicted to grow over 4% through 2020, moderating to 2.5% 2020 onwards. Existing cargo facilities are not geared to support this growth without significant redevelopment and optimization of existing assets. This PCI survey is part of the due-diligence analysis required as a first step to determine and document the conditions of the Existing Ramp at the Evergreen cargo building.

Figure 1: Site Location



Source: Federal Aviation Administration, 2018; RS&H, 2018

2.0 Pavement Condition Index Survey

Overview

A PCI survey, as defined in American Society for Testing and Materials (ASTM) D5340 *Standard Test Method for Airport Pavement Condition Index Surveys,* provides a measure of the present condition of the pavement based on the distresses visually observed on the surface of the pavement and indicates the structural integrity and surface operational condition (localized roughness and safety). Additionally, a PCI survey provides an objective and rational basis for determining maintenance and repair needs and priorities. It is important to note that a PCI survey cannot measure the structural capacity[1], nor can it provide direct measurement of skid resistance or roughness.

Pavement distresses are external indicators of pavement deterioration caused by loading, environmental factors, construction deficiencies, or a combination thereof. The Existing Ramp, which is approximately 310,000 square feet, is constructed of rigid pavement (portland concrete cement (PCC)[2]). Typical rigid pavement distresses include cracks, joint seal damage, and spalling. A complete list of airfield rigid pavement distresses is listed in **Table 1**.

Table 1: Rigid Pavement Distresses

Rigid Pavement Distresses	
Alkali Silica Reaction (ASR)	Popouts
Blow up	Pumping
Corner Break	Scaling
Cracks (Longitudinal, Transverse, and Diagonal)	Settlement or Faulting
Durability ("D") Cracking	Shattered Slab/Intersecting Cracks
Joint Seal Damage	Shrinkage Cracking
Patching (Small)	Spalling (Corner)
Patching (Large and Utility Cut)	Spalling (Longitudinal and Transverse Joint)

Source: ASTM D5340, 2012

The result of a PCI survey is a PCI which is a numerical rating of the pavement condition that ranges from 0 to 100 with 0 being the worst possible condition and 100 being the best possible condition. The PCI is based on visually observed distresses in the pavement and the PCI is reduced based on the distress type, severity, and quantity.

To conduct a PCI survey, the pavement areas are classified using a hierarchical-based pavement network model. A pavement network contains pavement branches which in turn contain one or many pavement sections. A pavement branch is an identifiable part of the pavement network that is a single entity and has a distinct function such as a runway, taxiway, or ramp. A pavement section is a contiguous pavement area having uniform construction, maintenance, usage history (traffic volume/load intensity), and condition. A PCI is calculated for each pavement section.

The Existing Ramp is defined as a single pavement branch. Information relating to the construction and history of any previous maintenance efforts were unknown at the time of the PCI survey. This PCI survey assumes that the Existing Ramp has uniform construction, maintenance, and usage history and therefore defined as a single pavement section.

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[1] Concurrent to the PCI survey, a structural capacity analysis was performed and the results are contained in a separate technical memorandum.

[2] Concurrent to the PCI survey, a geotechnical investigation was conducted and the results are contained in a separate technical memorandum.

PCI Survey and Observed Distresses

A PCI survey of the Existing Ramp was performed on September 25, 2018. To facilitate the PCI survey, the pavement section was subdivided into pavement sample units that, for rigid pavement, have a standard size range of 20 contiguous slabs (± 8 slabs). All sample units (**Figure 2**) were visually inspected for airfield pavement distresses.

During the PCI survey, observed pavement distresses were documented based on the distress type, quantity, and severity as defined in ASTM D5430 *Standard Test Method for Airport Pavement Condition Index Surveys*. The observed distresses were then recorded in PAVER™, a windows-based pavement management software, and verified for accuracy.

Various types of pavement distresses were observed and documented. Below is a description and distress analysis of the distresses observed during the PCI survey. **Appendix A** contains a summary of distresses for each inspected sample unit.

Cracks (Longitudinal, Transverse, and Diagonal)

Cracks can include longitudinal, transverse, and diagonal cracks that divide the slab into two or three pieces. Cracks are usually caused by a combination of load repetition, curling stresses, and shrinkage stresses.

Longitudinal and transverse cracks were observed in 17 out of the 497 inspected slabs and located primarily in the inspected sample units located in the northern portion of the ramp (sample units 19, 20, 22, 24, and 25). These distresses had a minimal impact on the overall PCI of the section.

Joint Seal Damage

Joint seal damage is any condition that enables soil or rocks to accumulate in the joints or allows significant infiltration of water. Typical types of joint seal damage are: stripping of joint sealant, extrusion of joint sealant, weed growth, hardening of the filler (oxidation), loss of bond to the slab edges, and lack or absence of sealant in the joint. Joint seal damage is not counted on a slab-by-slab basis but is rated based on the overall condition of the sealant in the sample unit. Note that

Joint seal damage was observed in all inspected sample units. The primary cause of the joint seal damage observed appeared to be from a previous spall repair project were the saw-cutting was performed but the areas were either not patched or not filled in with joint sealant. The observed unfilled, previously saw-cut areas were less than 1 to 2 inches wide and per ASTM D5340 *Standard Test Method for Airport Pavement Condition Index Surveys*, if a joint spall is small enough, less than 3 inches wide, to be filled during a joint seal repair, it should not be recorded as a joint spall. These distresses had a significant impact on the overall PCI of the section.

Patching (Small)

A patch is an area where the original pavement has been removed and replaced by a filler material. A small patch less than 5 square feet.

Small patching was observed in 37 out of the 497 inspected slabs and located in multiple sample units throughout the Existing Ramp. All patches except for one patch in the northern portion of the ramp were in good condition. These distresses had a minimal impact on the overall PCI of the section.

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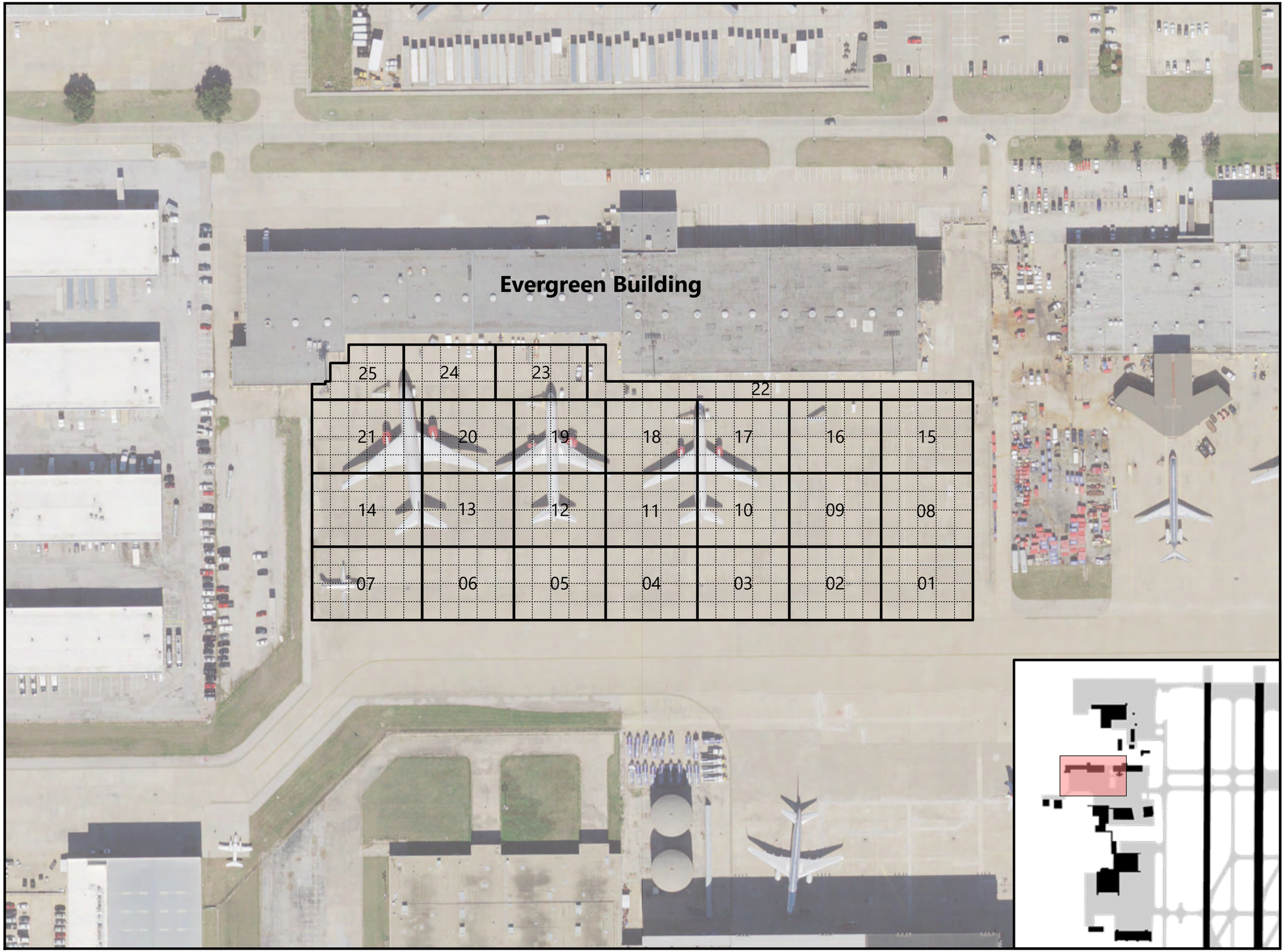
Dallas Fort Worth International Airport

Evergreen Building Existing Ramp PCI Survey

Figure 2
Pavement Sample Units



Legend

- Pavement Slabs
- Pavement Samples

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Patching (Large and Utility Cut)

A patch is an area where the original pavement has been removed and replaced by a filler material. A large patch is more than 5 square feet.

A single large patch, located in sample unit 13, was observed and was in good condition. This distress had a minor impact on the overall PCI of the section

Popouts

A popout is a small piece of pavement that breaks loose from the surface due to freeze-thaw action in combination with expansive aggregates. Popouts usually range from approximately 1 to 4 inches in diameter and from 1⁄2 to 2 inches deep.

Popouts were observed on 2 out of the 497 inspected slabs and located in sample units 03 and 16. These distresses had a minimal impact on the overall PCI of the section.

Shrinkage Cracking

Shrinkage cracking occurs due to both drying shrinkage and plastic shrinkage. Drying shrinkage occurs over time as moisture leaves the pavement or when a hardened pavement continues to shrink as excess water evaporates. The shrinkage cracks form when subsurface resistance to the shrinkage is present and may extend through the entire depth of the slab. Plastic shrinkage occurs shortly after the pavement is placed and rapid drying of the surface occurs while the pavement is still plastic.

Shrinkage cracking was observed on four slabs out of the 497 inspected slabs and located in sample units 01 and 08. These distresses had a minimal impact on the overall PCI of the section.

Spalling (Longitudinal and Transverse Joint)

Spalling located at longitudinal and transverse joints is known as joint spalling and is the breakdown of the slab edges within 2 feet of the side of the joint. A joint spall usually does not extend vertically through the slab but intersects the joint at an angle. Joint spalling results from excessive stresses at the joint or crack caused by infiltration of incompressible materials or traffic load.

Joint spalling was observed in 18 out of the 497 inspected slabs located in multiple inspected sample units throughout the Existing Ramp. These distresses had a minor impact on the overall PCI of the section

Spalling (Corner)

Corner spalling is the raveling or breakdown of the slab within approximately 2 feet of the corner. A corner spall differs from a corner break in that the spall usually angles downward to intersect the joint, while a break extends vertically through the slab.

Corner spalling was observed in 4 out of the 497 inspected slabs located in sample units 03, 10 and 22. These distresses had a minimal impact on the overall PCI of the section.

Alkali Silica Reaction (ASR)

Alkali Silica Reaction (ASR) is caused by chemical reaction between alkalis and certain reactive silica minerals. This reaction forms a gel that absorbs water, causing expansion which may damage the concrete and adjacent structures. Alkalis are most often introduced by portland cement within the pavement. ASR cracking may be accelerated by chemical pavement deicers. Symptoms of ASR include: (1) cracking of the concrete, often in a map pattern, (2) white, brown, gray, or other colored gel or staining may be present at the crack surface, (3) aggregate popouts, and (4) increase in concrete volume (expansion) that may result in distortion of the adjacent or integral structures

ASR was observed in 88 out of the 497 inspected slabs and located in multiple inspected sample units throughout the Existing Ramp. These distresses had a significant impact on the overall PCI of the section.

PCI Results

With the pavement distresses recorded and verified in PAVER™, a distress deduct value was automatically calculated for each distress based on the severity and density of the distress related to the overall area of the sample unit. The deduct values are calculated based on the pavement deduct curves defined in ASTM D5430 *Standard Test Method for Airport Pavement Condition Index Surveys*.

Once all pavement distresses were recorded for a single inspected sample unit, an individual sample unit PCI was calculated. Once the pavement distresses for all inspected sample units were recorded and individual sample unit PCIs calculated, the section PCI was determined by calculating the inspected sample unit PCIs. The section PCI is based on each individual sample unit's PCI combined with the total area (i.e. number of slabs) per sample unit in relation to the overall section area. Although a PCI is calculated for each inspected sample unit, the PCI value for the section is the only reported PCI.

The PCI has a corresponding pavement condition rating which a verbal description of pavement condition as a function of the PCI value. For airfield pavements, the standard pavement condition rating (**Figure 3**) is defined in Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5380-7B *Airport Pavement Management Program*.

Figure 3: Pavement Condition Rating Scale

Pavement Condition		PCI Value
Good		100-86
Satisfactory		85-71
Fair		70-56
Poor		55-41
Very Poor		40-26
Serious		11-25
Failed		10-0

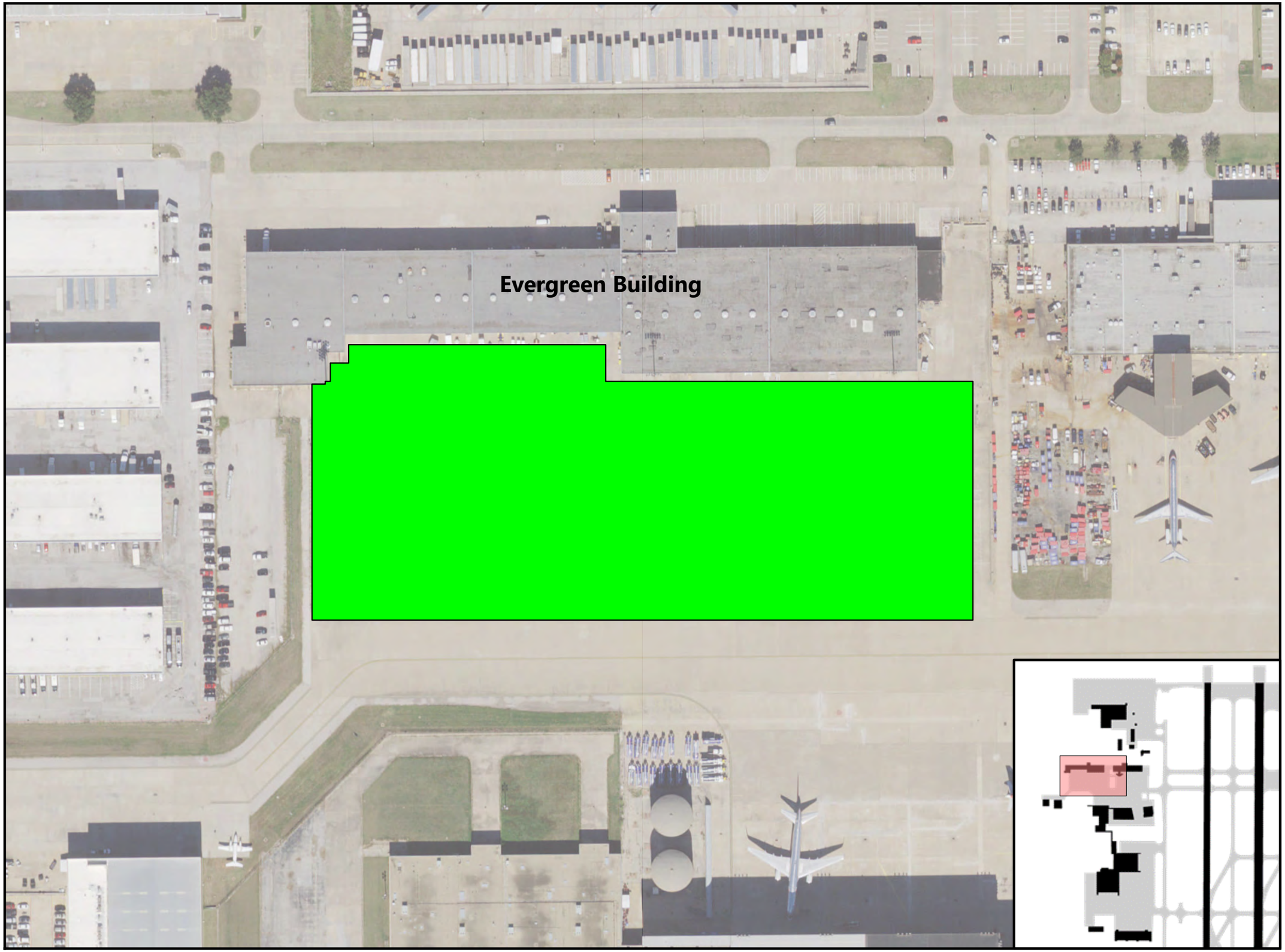
Source: FAA AC 150/5380-7B, 2014

The Existing Ramp has calculated PCI of eight-three (**83**) based on the distresses observed on the surface of the pavement indicative of the structural integrity and surface operational condition (localized roughness and safety). The Existing Ramp PCI of 83 has a corresponding pavement condition rating of "Satisfactory" (**Figure 4**).

Dallas Fort Worth International Airport

Evergreen Building Existing Ramp PCI Survey

Figure 4
Pavement Condition Rating



Legend

Pavement Condition Rating

- Failing (0-10)
- Serious (11-25)
- Very Poor (26-40)
- Poor (41-55)
- Fair (56-70)
- Satisfactory (71-85)
- Good (86-100)

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PCI Analysis

With the calculated PCI of 83 and corresponding "Satisfactory" pavement condition rating, this indicates that the Existing Ramp has scattered low-severity distresses and very few, if any, medium- or high-severity distresses that should only require routine maintenance.

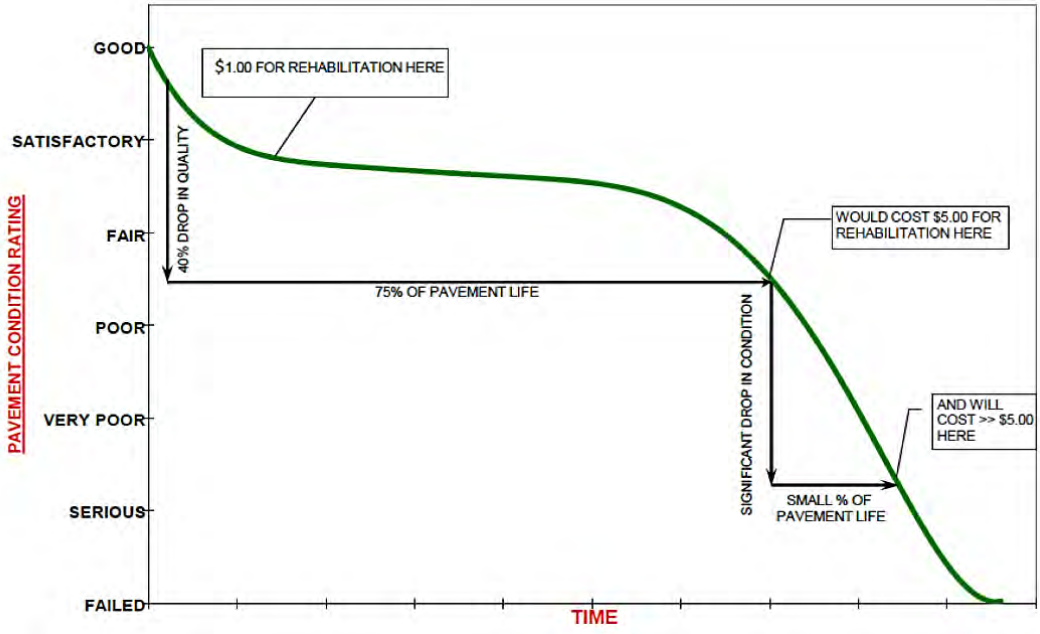
In the typical pavement condition life cycle (**Figure 5**), pavement deteriorates slowly at first, while in "Good" to "Satisfactory" condition. This is the most opportune time perform routine maintenance such as spall repairs and crack sealing to preserve pavement life. When the pavement is in this condition, the relative cost for maintenance or rehabilitation is $1.00.

Once a pavement falls into "Fair" condition, maintenance and rehabilitation efforts should be routine to major in the near term. Then, when the pavement is in "Poor" condition, maintenance and repair needs should range from routine to reconstruction in the near term. With the pavement condition degraded, the relative cost of rehabilitation is increased to $5.00.

Without any maintenance or rehabilitation efforts, the pavement condition will continue to deteriorate and become rated as "Very Poor" condition. When the pavement is in this condition, near-term maintenance and rehabilitation needs will be intensive. If maintenance and rehabilitation is not conducted, the pavement will fall into "Serious" condition where operational restrictions typically exist and repair needs are immediate. With the pavement condition severely degraded, the relative cost of rehabilitation exceeds $5.00.

Lastly, when the pavement is rated as "Failed", the pavement has deteriorated and progressed to the point that safe aircraft operations are no longer possible. Maintenance and rehabilitation efforts are no longer possible and complete reconstruction is required.

Figure 5: Typical Pavement Condition Life Cycle



Source: FAA AC 150/5380-7B, 2014

3.0 Recommendations

The PCI of 83 and corresponding pavement condition rating of "Satisfactory" for the Existing Ramp is primarily due to the observation of the following two pavement distresses: alkali silica reaction (ASR) and joint seal damage. The following maintenance and periodic observation actions are recommended.

A*lkali Silica Reaction (ASR).*

For ASR, there are no maintenance efforts to reduce or eliminate ASR. It is recommended that periodic observations are conducted to monitor the severity level on the PCC slabs exhibiting signs of ASR. As the severity of the distress increases (i.e. the ASR get worse), it will eventually require a complete slab replacement.

Joint Seal Damage

The primary cause of the joint seal damage appeared to be from a previous spall repair project were the saw-cutting was performed but the areas were neither patched or not filled in with joint sealant. The observed unfilled, previously saw-cut areas were less than 1 to 2 inches wide and per ASTM D5340 *Standard Test Method for Airport Pavement Condition Index Surveys*, if a joint spall is small enough, less than 3 inches wide, to be filled during a joint seal repair, it should not be recorded as a joint spall.

By filling in the unfilled, previously saw-cut areas with joint sealant material, it will eliminate the joint seal damage distresses documented and recorded as part of this PCI Survey. This maintenance effort will improve the PCI and potentially increase the pavement condition rating to "Good".

*** End ***

Existing Ramp Pavement Condition Index (PCI) Survey
Appendix A - Summary of Distresses by Sample

Branch ID	Section ID	Sample Number	Rigid Pavement (PCC) Distresses															
			61- Blowup *	**62- Corner Break ***	**63- Cracks (Longitudinal, Transverse, and Diagonal***	64- Durability "D" Cracking *	65- Joint Seal Damage *	66- Patch, Small (< 5 sf) *	**67- Patch, Large/Utility Cut (> 5 sf) ***	68- Popouts *	**69- Pumping ***	70- Scaling *	**71- Settlement / Faulting**	**72- Shattered Slab / Intersecting Cracks ***	73- Shrinkage Cracking	74- Spalling, Joints *	75- Spalling, Corner *	76- Alkali Silica Reaction (ASR)
Existing Apron	01	01					L									L		L, M
		02					L											L
		03					L	L		N							L	L
		04			L		L	L										L
		05					L	L										L
		06					L	L										L
		07					L	L										L
		08					L								N			L
		09					L											L
		10					L									L	L	L

1. The **bold** distresses indicate those that are usually related to problems in the pavement structure and their identification is important in assessing the pavement load-carrying capability.
2. The distresses followed by an asterisk are those that may produce FOD. Although they all may not significantly impact the computed allowable passes, they may limit the operational capability of the pavement.
3. Distress Severity Levels: L = Low M = Medium H = High N = No specific degree of severity

Existing Ramp Pavement Condition Index (PCI) Survey
Appendix A - Summary of Distresses by Sample

Branch ID	Section ID	Sample Number	Rigid Pavement (PCC) Distresses															
			61- Blowup *	**62- Corner Break ***	**63- Cracks (Longitudinal, Transverse, and Diagonal***	64- Durability "D" Cracking *	65- Joint Seal Damage *	66- Patch, Small (< 5 sf) *	**67- Patch, Large/Utility Cut (> 5 sf) ***	68- Popouts *	**69- Pumping ***	70- Scaling *	**71- Settlement / Faulting**	**72- Shattered Slab / Intersecting Cracks ***	73- Shrinkage Cracking	74- Spalling, Joints *	75- Spalling, Corner *	76- Alkali Silica Reaction (ASR)
Existing Apron	01	11					L											L
		12					L											
		13					L	L	L									
		14					L									M		
		15					L											L
		16					L			N								L
		17			L		L											L
		18					L											L
		19			L		L											L
		20			L		L	L										L

1. The **bold** distresses indicate those that are usually related to problems in the pavement structure and their identification is important in assessing the pavement load-carrying capability.
2. The distresses followed by an asterisk are those that may produce FOD. Although they all may not significantly impact the computed allowable passes, they may limit the operational capability of the pavement.
3. Distress Severity Levels: L = Low M = Medium H = High N = No specific degree of severity

Existing Ramp Pavement Condition Index (PCI) Survey
Appendix A - Summary of Distresses by Sample

Branch ID	Section ID	Sample Number	Rigid Pavement (PCC) Distresses															
			61- Blowup *	**62- Corner Break ***	**63- Cracks (Longitudinal, Transverse, and Diagonal***	64- Durability "D" Cracking *	65- Joint Seal Damage *	66- Patch, Small (< 5 sf) *	**67- Patch, Large/Utility Cut (> 5 sf) ***	68- Popouts *	**69- Pumping ***	70- Scaling *	**71- Settlement / Faulting**	**72- Shattered Slab / Intersecting Cracks ***	73- Shrinkage Cracking	74- Spalling, Joints *	75- Spalling, Corner *	76- Alkali Silica Reaction (ASR)
Existing Apron	01	21					L									L		L
		22			L, M		L		H							M	L	L
		23					L		L							L		L
		24			L		L		L							L		L
		25			L		L		L							L		L

1. The **bold** distresses indicate those that are usually related to problems in the pavement structure and their identification is important in assessing the pavement load-carrying capability.
2. The distresses followed by an asterisk are those that may produce FOD. Although they all may not significantly impact the computed allowable passes, they may limit the operational capability of the pavement.
3. Distress Severity Levels: L = Low M = Medium H = High N = No specific degree of severity

ALLIANCE GEOTECHNICAL GROUP

- Geotechnical Engineering
- Environmental Consulting
- Construction Materials Engineering and Testing
- Construction Inspection

September 28, 2018

Mr. Steve Creamer, P.E.
RS&H
4832 LBJ Freeway, Suite 800
Dallas, Texas 75244

Phone: (469) 857-7727
Cell: (972) 369-9152
Email: Steve.Creamer@rsandh.com

Re: Pavement Coring & Laboratory Testing
Evergreen Cargo Ramp
DFW International Airport, Texas
AGG Project No. DE18-143

Dear Mr. Creamer:

As requested, pavement coring and laboratory testing services were performed in order to determine the thickness of the existing concrete pavement and subbase materials and strength of the existing concrete pavement at the Evergreen Cargo Ramp located at Dallas Fort Worth International Airport in Texas. The field investigation consisted of coring the existing concrete pavement at eight (8) locations that were selected by the client.

The pavement was cored using a coring machine and a 4 inch diameter core bit. The location of the pavement cores are shown on the Plan of Corings (Figure 1). The pavement cores were measured for thickness and the results were reported in Appendix A. Photographs of the pavement cores are attached to this letter report. The pavement cores were also tested for compressive strength. The results of the compressive strength testing are provided in Table 1 below.

Table 1: Compressive Strengths of Pavement Cores

Corings	Compressive Strength (psi)
C-1	6,619
C-2	4,961
C-3	5,259
C-4	7,671

C-5	9,664
C-6	6,813
C-7	7,441
C-8	5,504

The base beneath the pavement consists of Cement Treated Base. The Cement Treated Base ranged in thickness from 7.5 to 13 inches. In addition, Dynamic Cone Penetration (DCP Test) were performed on the sub-base upon coring completion to evaluate the in-situ conditions of the sub-base below the existing cargo ramp. The DCP test consists of dropping a 17.6 pound sliding hammer from a height of 575 millimeter. The hammer drop is then recorded at every 30 millimeter penetration increment. The DCP test data with CBR and bearing capacity are attached in Appendix B.

We thank you for the opportunity to provide you with our subsurface exploration services. If we can be of further assistance, please do not hesitate to contact us.

Sincerely,
ALLIANCE GEOTECHNICAL GROUP

Kai Wong, P.E.
Project Engineer

Attachments: Plan of Corings – Figure 1
Pavement Thickness – Appendix A
DCP Test Data –Appendix B
Photographs of Pavement Cores – Appendix C

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ALLIANCE GEOTECHNICAL GROUP

Project No: DE18-143

PLAN OF CORING

EVERGREEN CARGO RAMP
DFW INTERNATIONAL AIRPORT, TEXAS

FIGURE NO: 1

APPENDIX A

DE18-143 Evergreen Cargo Ramp

Coring	Concrete (in)	Cement Treated Base (in)
C1	12.3	13*
C2	13.0	8.0
C3	12.3	10.0
C4	16.4	8.1
C5	15.9	7.5
C6	16.5	9.0
C7	15.8	10.6
C8	17.4	8.8

Note: *At C1, about 4 inches of CTB can't be retrieved. Thickness of CTB at C1 was estimated to be approximately 13.0"

APPENDIX B

DCP TEST DATA

Project: *Evergreen Cargo Ramp*
Location: C-1
Date: 24-Sep-18
Soil Type(s): Type in the soil type

Hammer
- ○ 10.1 lbs.
- ● 17.6 lbs.
- ○ Both hammers used

Soil Type
- ○ CH
- ○ CL
- ● All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
0	0	1
3	30	1
8	60	1
26	90	1
40	120	1
*Refusal		1
		1
		1
		1
		1
		1
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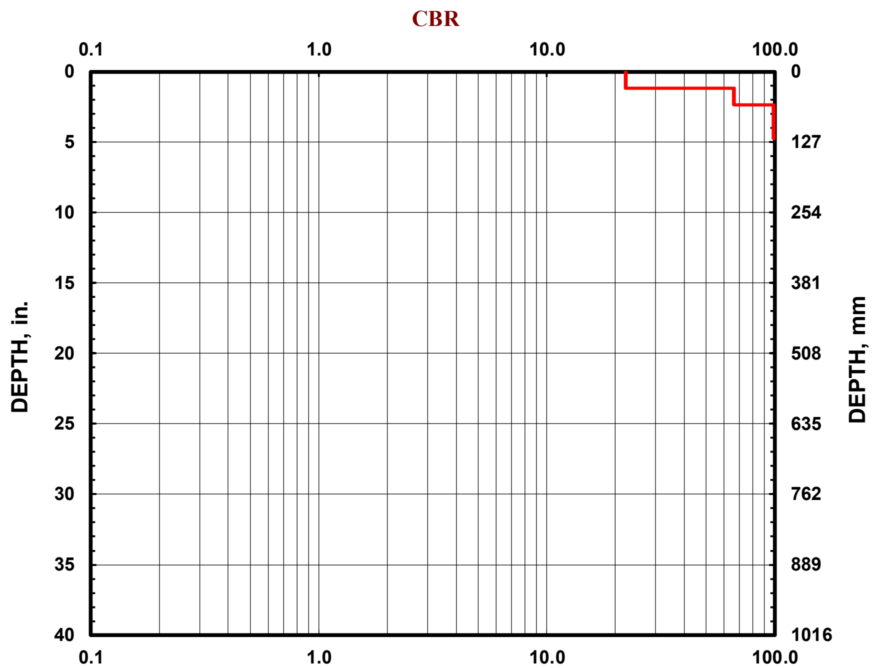

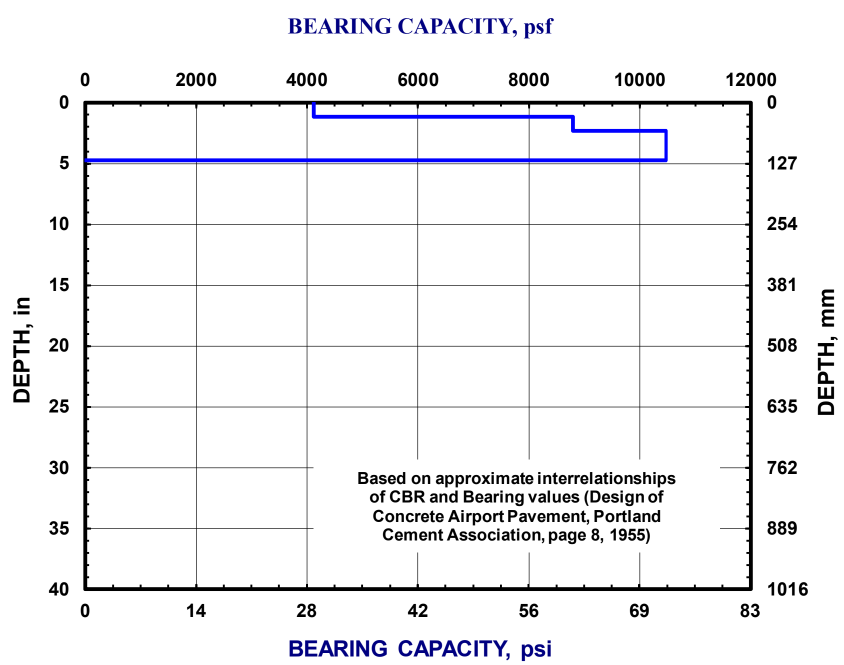

DCP TEST DATA

Project: *Evergreen Cargo Ramp* **Date:** 24-Sep-18

Location: C-2 **Soil Type(s):** Type in the soil type

Hammer
- ○ 10.1 lbs.
- ◉ 17.6 lbs.
- ○ Both hammers used

Soil Type
- ○ CH
- ○ CL
- ◉ All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
0	0	1
2	35	1
3	65	1
4	100	1
4	135	1
4	165	1
4	195	1
4	230	1
4	265	1
3	295	1
3	335	1
1	365	1
1	435	1
1	485	1
1	515	1
2	560	1
2	595	1
1	605	1
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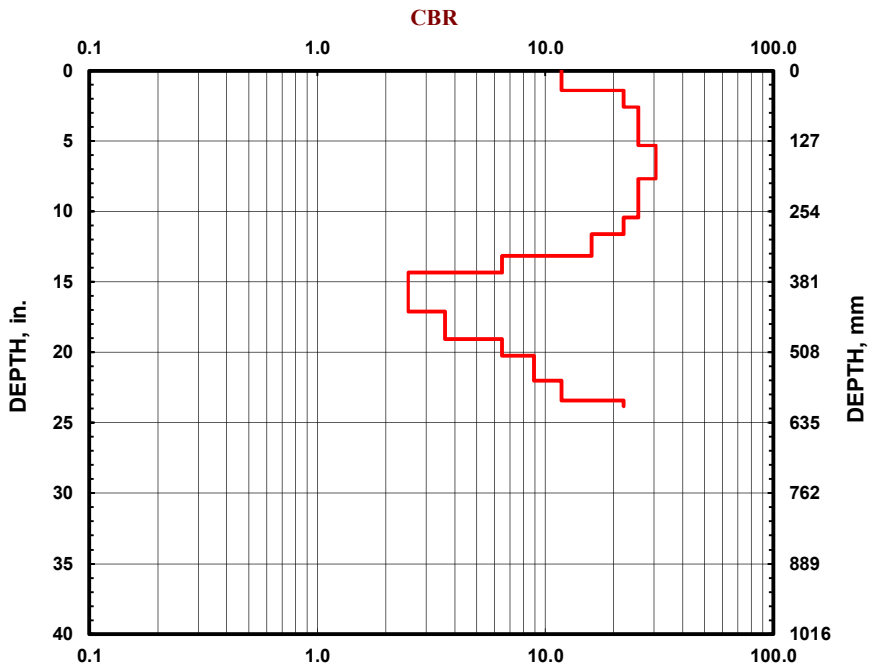

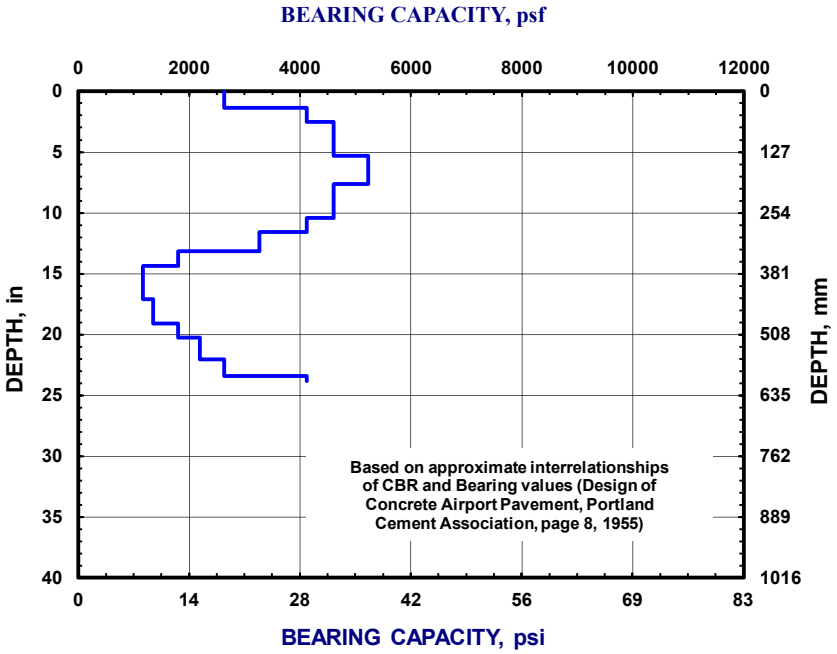

DCP TEST DATA

Project: *Evergreen Cargo Ramp* **Date:** 24-Sep-18

Location: C-3 **Soil Type(s):** Type in the soil type

Hammer
- ○ 10.1 lbs.
- ◉ 17.6 lbs.
- ○ Both hammers used

Soil Type
- ○ CH
- ○ CL
- ◉ All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
0	0	1
2	30	1
8	60	1
9	90	1
17	120	1
16	150	1
24	180	1
18	210	1
24	240	1
17	270	1
17	300	1
15	330	1
15	360	1
13	390	1
10	420	1
8	455	1
4	485	1
4	520	1
3	550	1
4	595	1
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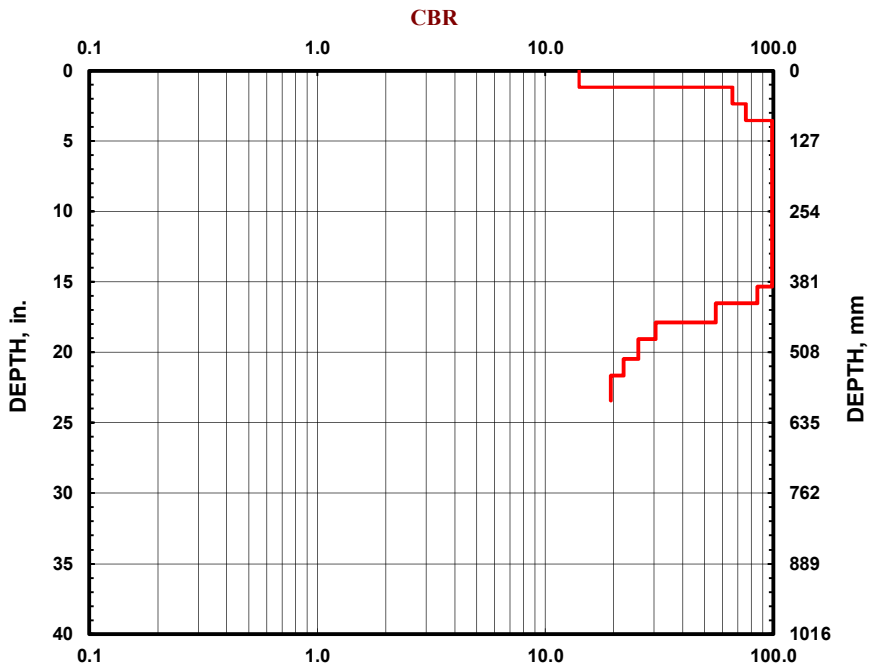

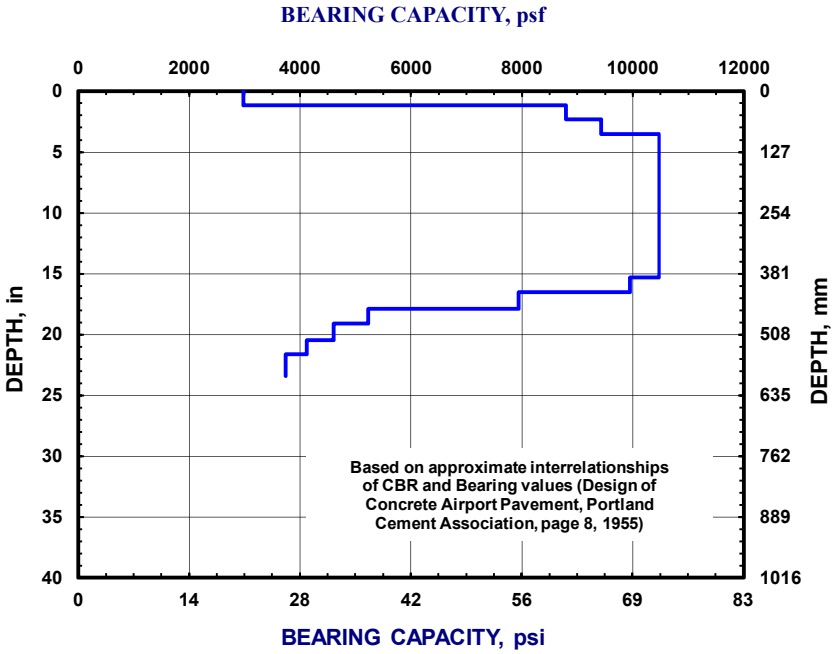

DCP TEST DATA

Project: *Evergreen Cargo Ramp* **Date:** 24-Sep-18

Location: C-4 **Soil Type(s):** Type in the soil type

Hammer
- ○ 10.1 lbs.
- ◉ 17.6 lbs.
- ○ Both hammers used

Soil Type
- ○ CH
- ○ CL
- ◉ All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
0	0	1
2	35	1
3	75	1
3	115	1
3	160	1
3	200	1
3	235	1
3	265	1
5	300	1
10	335	1
8	365	1
6	395	1
4	425	1
4	460	1
2	490	1
2	535	1
1	565	1
1	600	1
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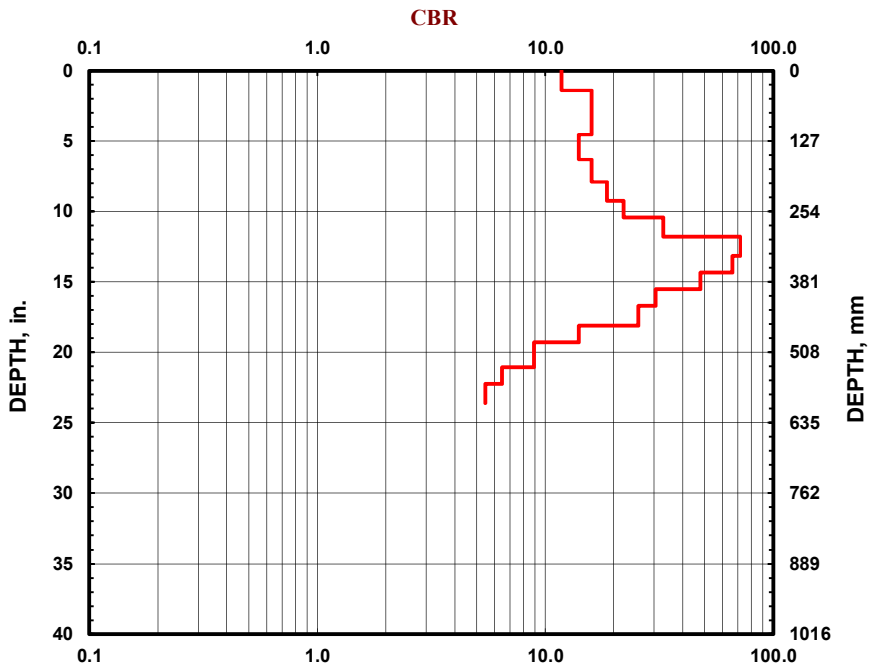

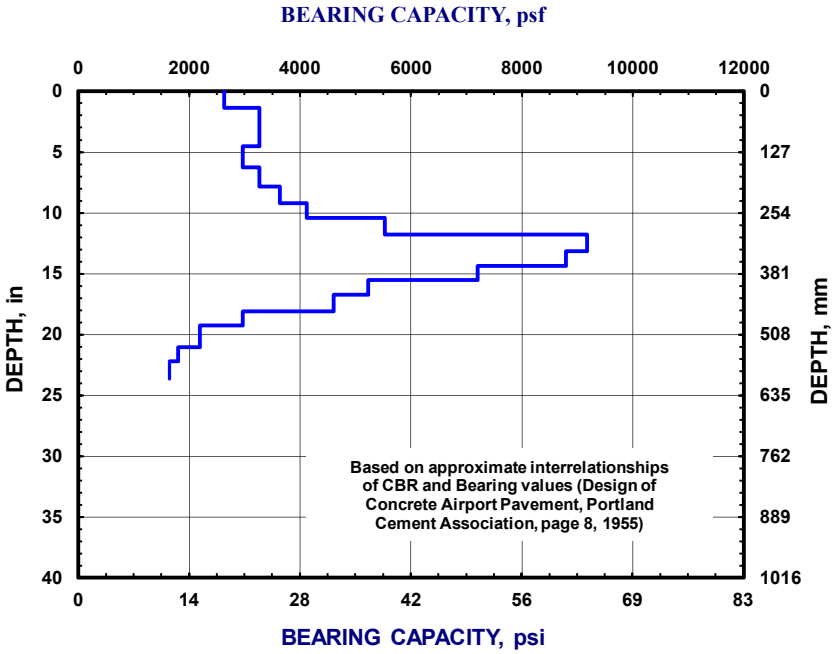

DCP TEST DATA

Project: *Evergreen Cargo Ramp*
Location: C-5

Date: 24-Sep-18
Soil Type(s): Type in the soil type

Hammer
- ○ 10.1 lbs.
- ● 17.6 lbs.
- ○ Both hammers used

Soil Type
- ○ CH
- ○ CL
- ● All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
0	0	1
2	40	1
3	75	1
3	115	1
3	160	1
2	200	1
2	240	1
2	285	1
2	345	1
1	375	1
1	405	1
2	455	1
1	520	1
1	570	1
1	620	1
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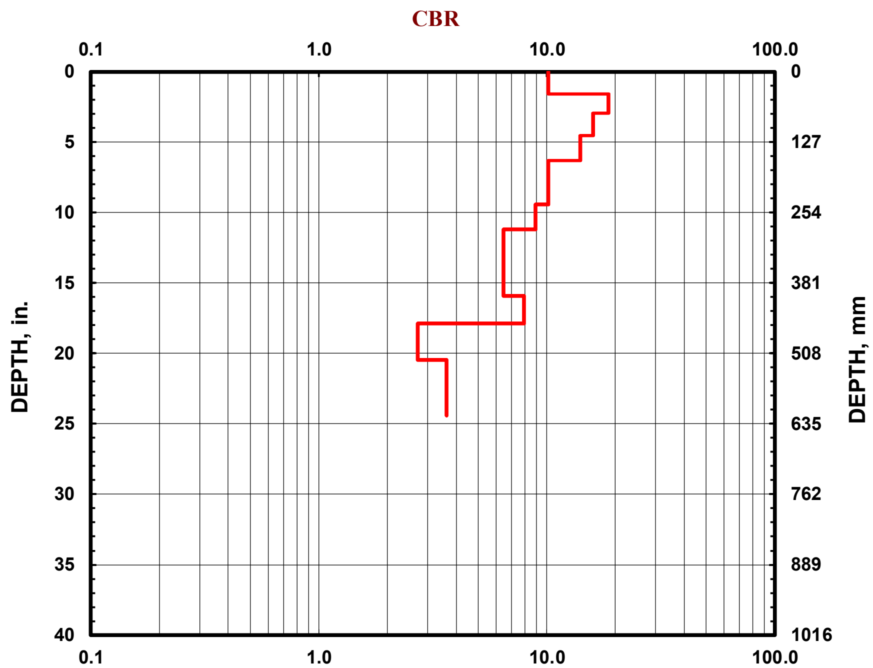

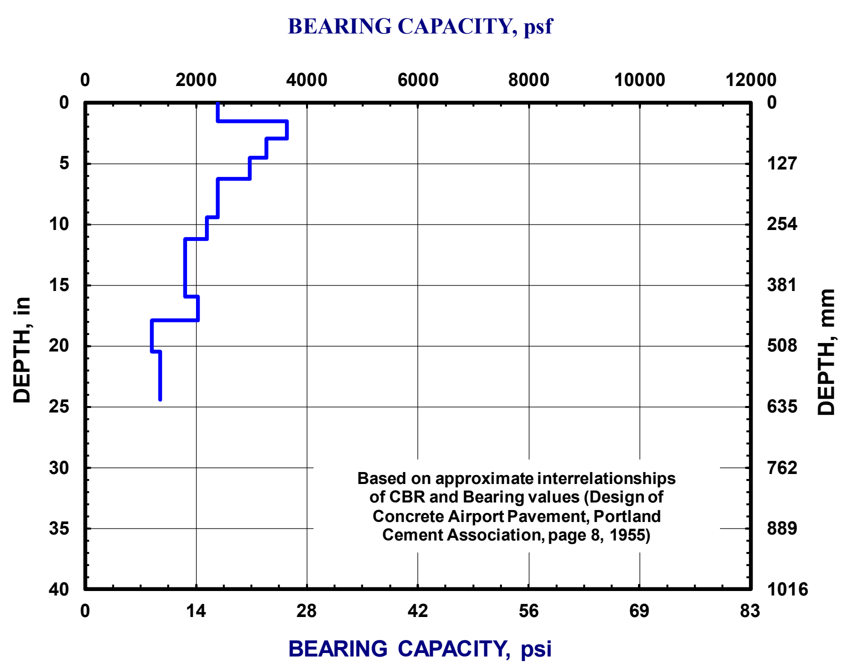

DCP TEST DATA

Project: *Evergreen Cargo Ramp* **Date:** 24-Sep-18

Location: C-6 **Soil Type(s):** Type in the soil type

Hammer
- ○ 10.1 lbs.
- ◉ 17.6 lbs.
- ○ Both hammers used

Soil Type
- ○ CH
- ○ CL
- ◉ All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
0	0	1
3	40	1
3	80	1
4	110	1
8	140	1
9	170	1
10	200	1
11	230	1
9	265	1
7	295	1
5	325	1
4	365	1
2	400	1
1	435	1
1	485	1
1	525	1
1	560	1
1	595	1
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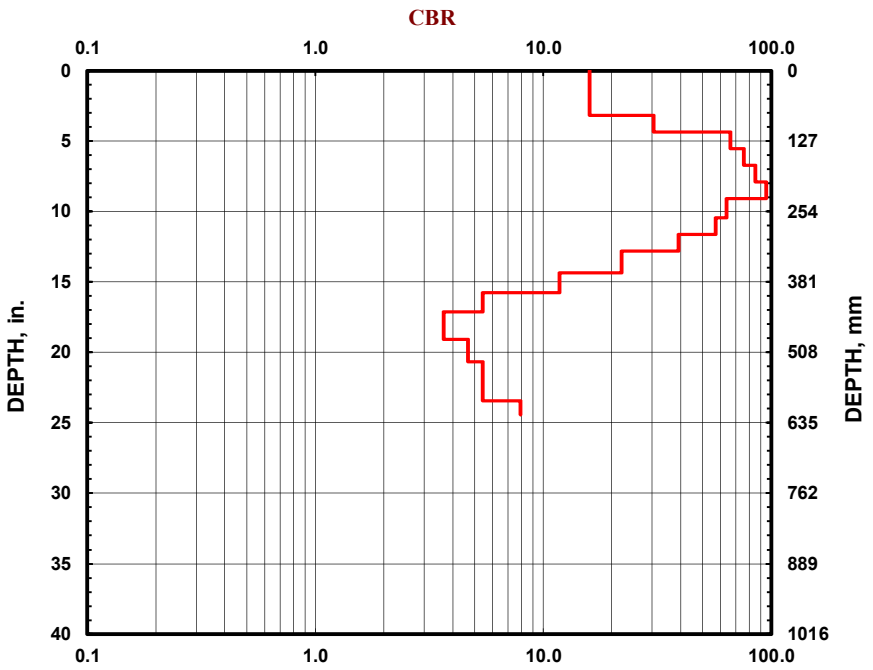

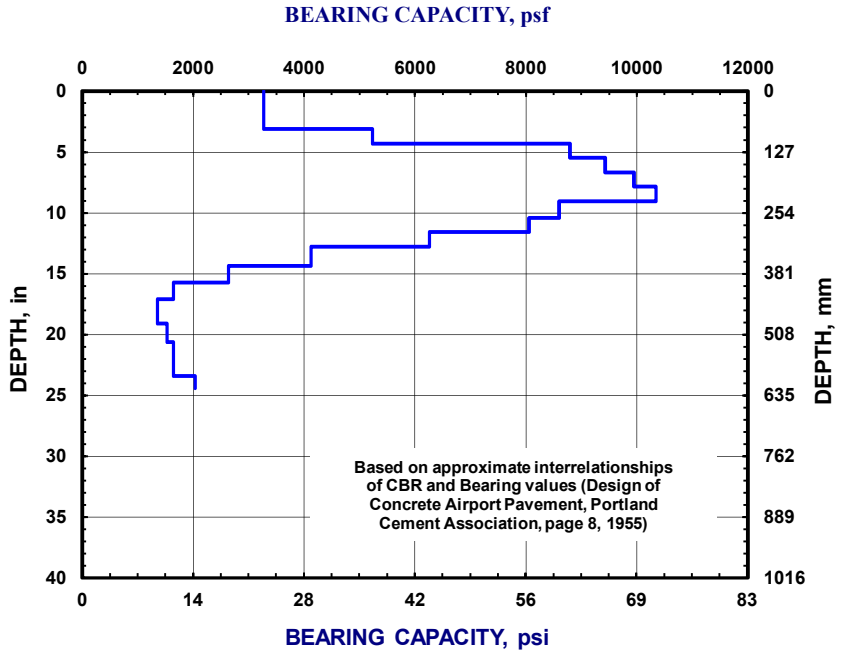

DCP TEST DATA

Project: *Evergreen Cargo Ramp* **Date:** 24-Sep-18

Location: C-7 **Soil Type(s):** Type in the soil type

Hammer
- ○ 10.1 lbs.
- ◉ 17.6 lbs.
- ○ Both hammers used

Soil Type
- ○ CH
- ○ CL
- ◉ All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
0	0	1
1	45	1
1	75	1
3	105	1
5	135	1
4	170	1
4	205	1
3	235	1
4	280	1
2	310	1
2	340	1
2	370	1
2	400	1
2	440	1
2	515	1
1	575	1
1	625	1
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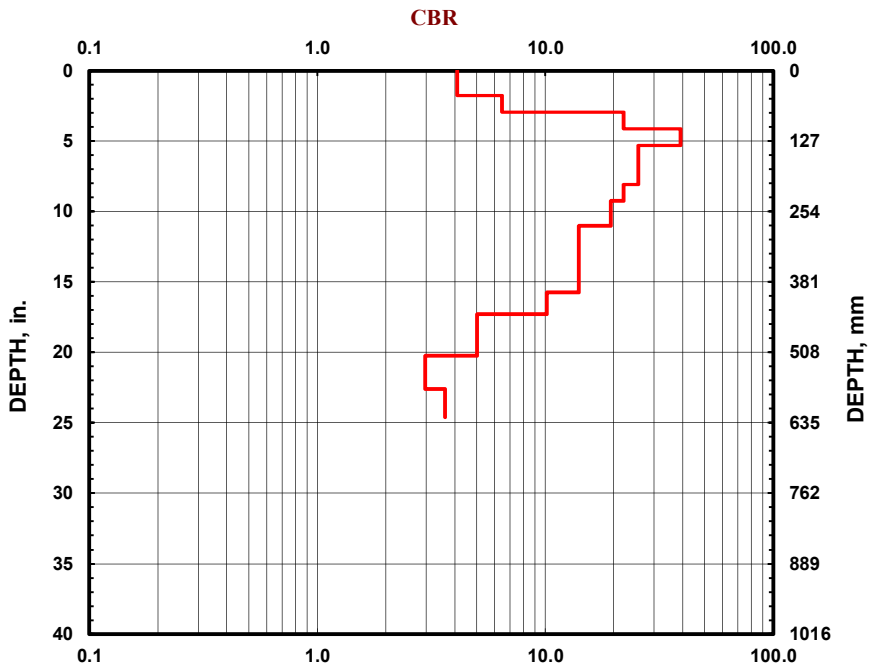

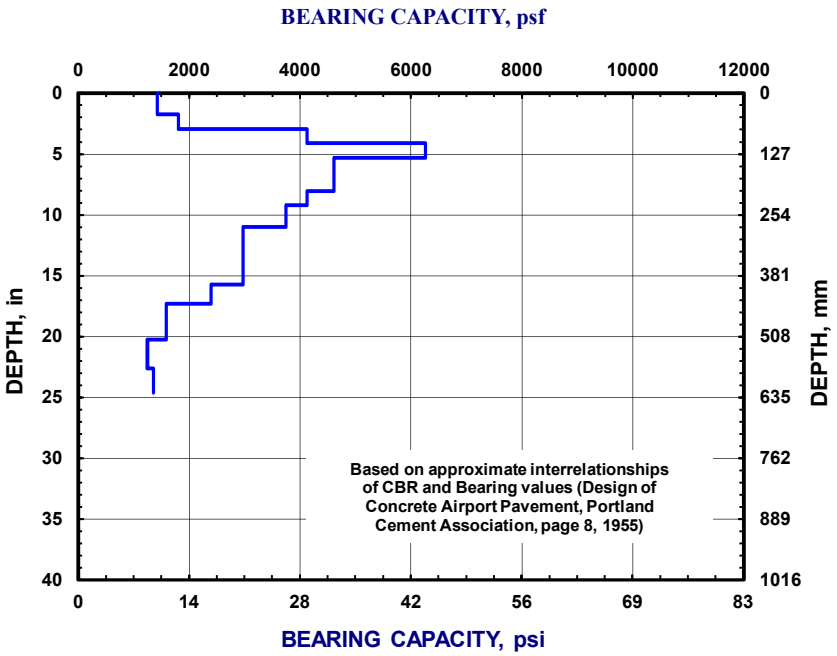

DCP TEST DATA

Project: *Evergreen Cargo Ramp*
Location: C-8

Date: 24-Sep-18
Soil Type(s): Type in the soil type

Hammer
- ○ 10.1 lbs.
- ● 17.6 lbs.
- ○ Both hammers used

Soil Type
- ○ CH
- ○ CL
- ● All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
0	0	1
2	45	1
3	80	1
3	115	1
3	145	1
3	180	1
3	210	1
3	245	1
3	285	1
3	325	1
2	365	1
2	425	1
2	495	1
1	540	1
2	585	1
1	605	1
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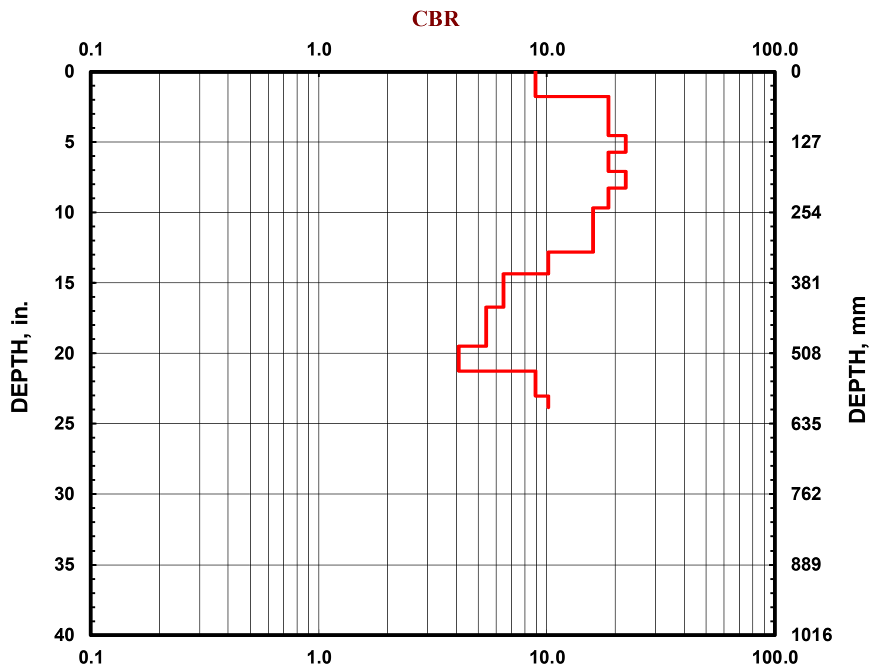

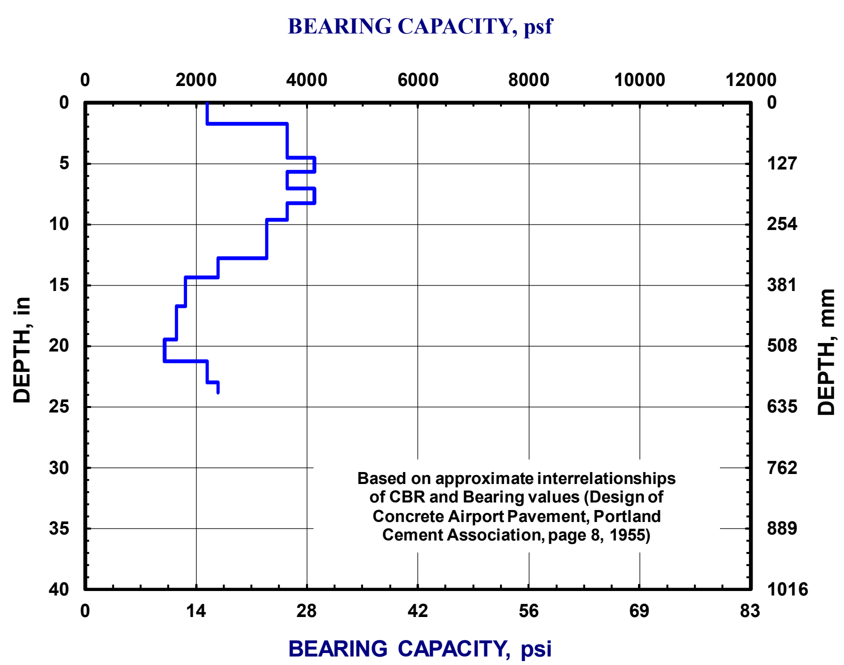

APPENDIX C

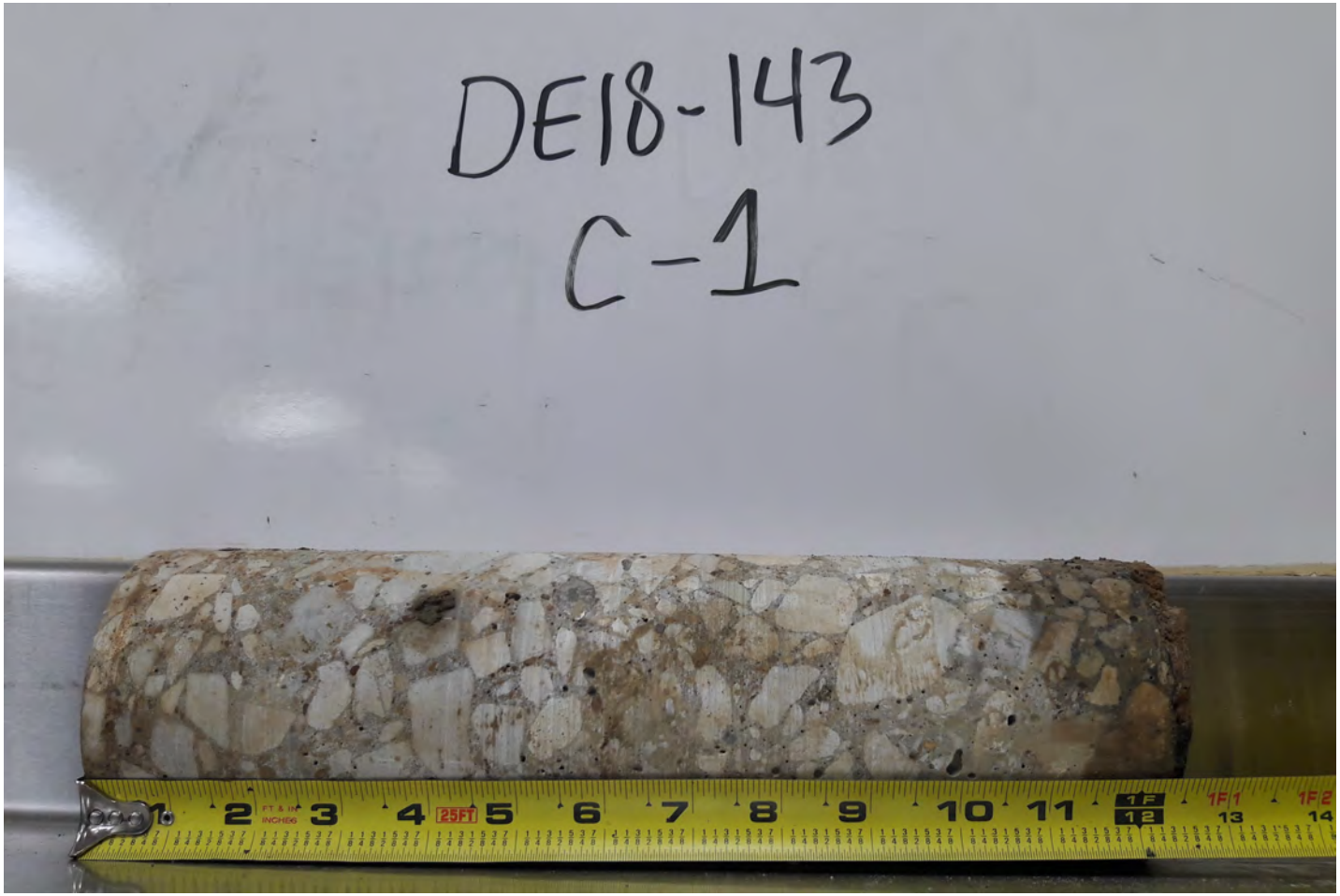

Photo 1: Photo of Pavement Core at Boring C-1.

Photo 2: Photo of Pavement Core at Boring C-1.

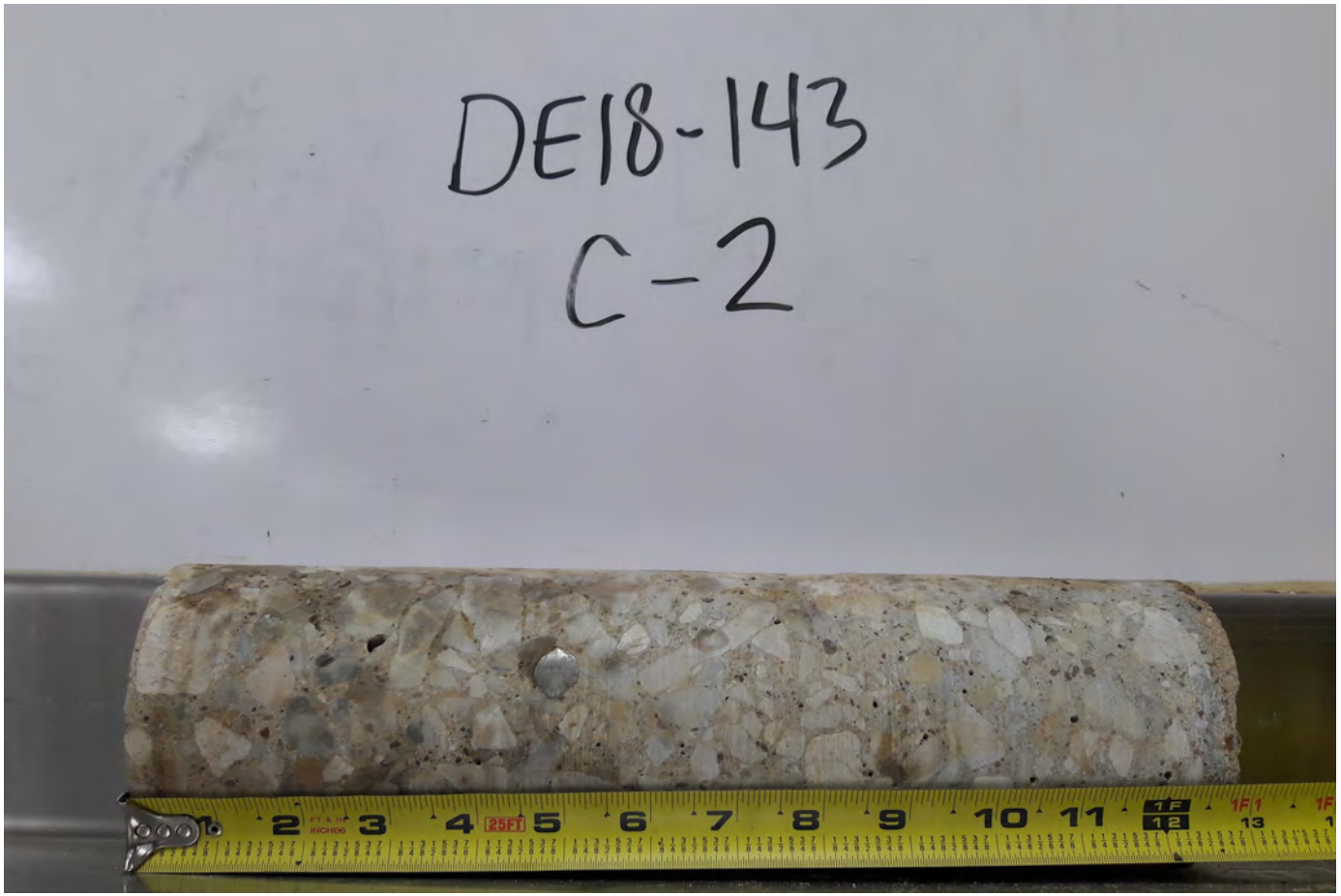

Photo 3: Photo of Pavement Core at Boring C-2.

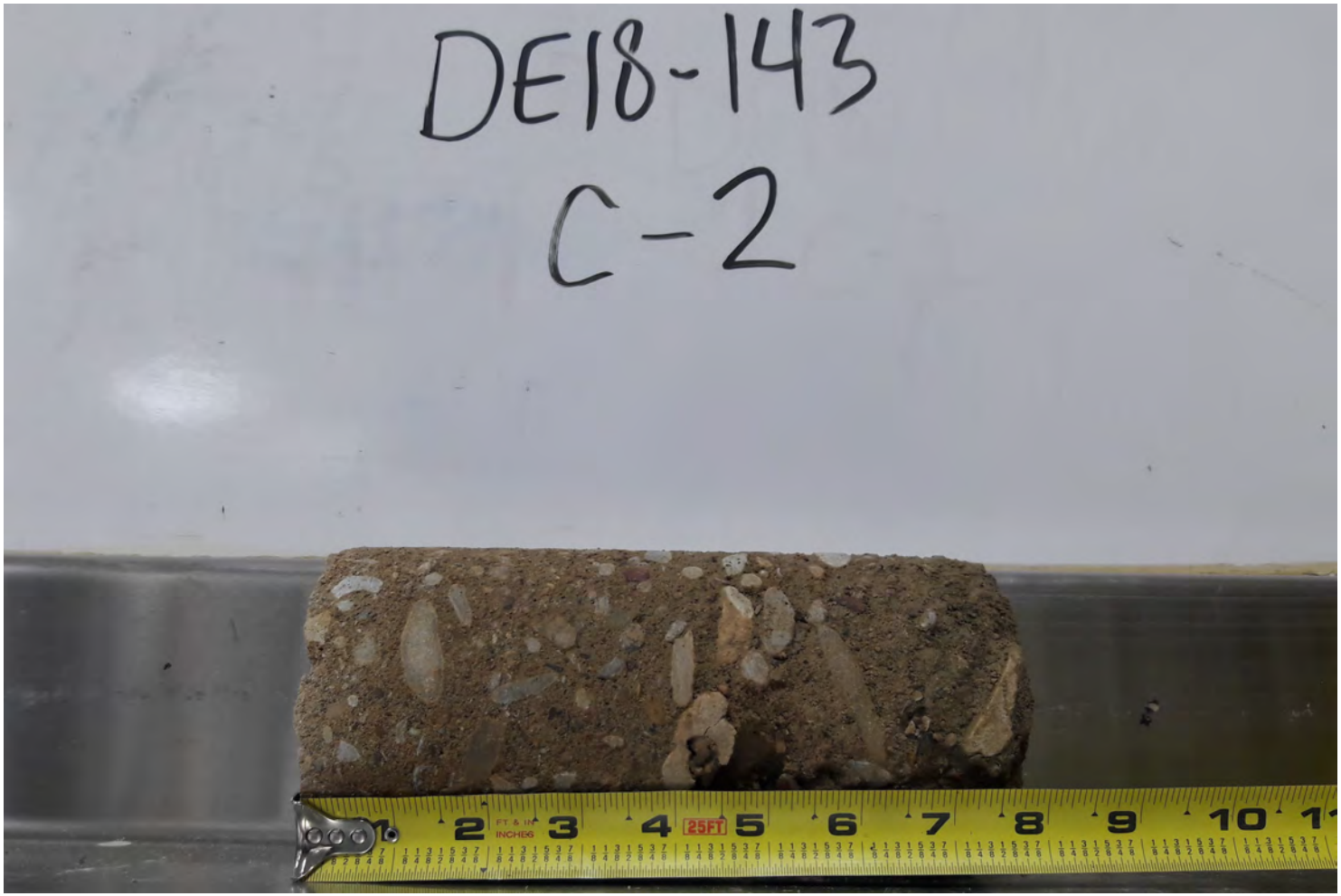

Photo 4: Photo of Pavement Core at Boring C-2.

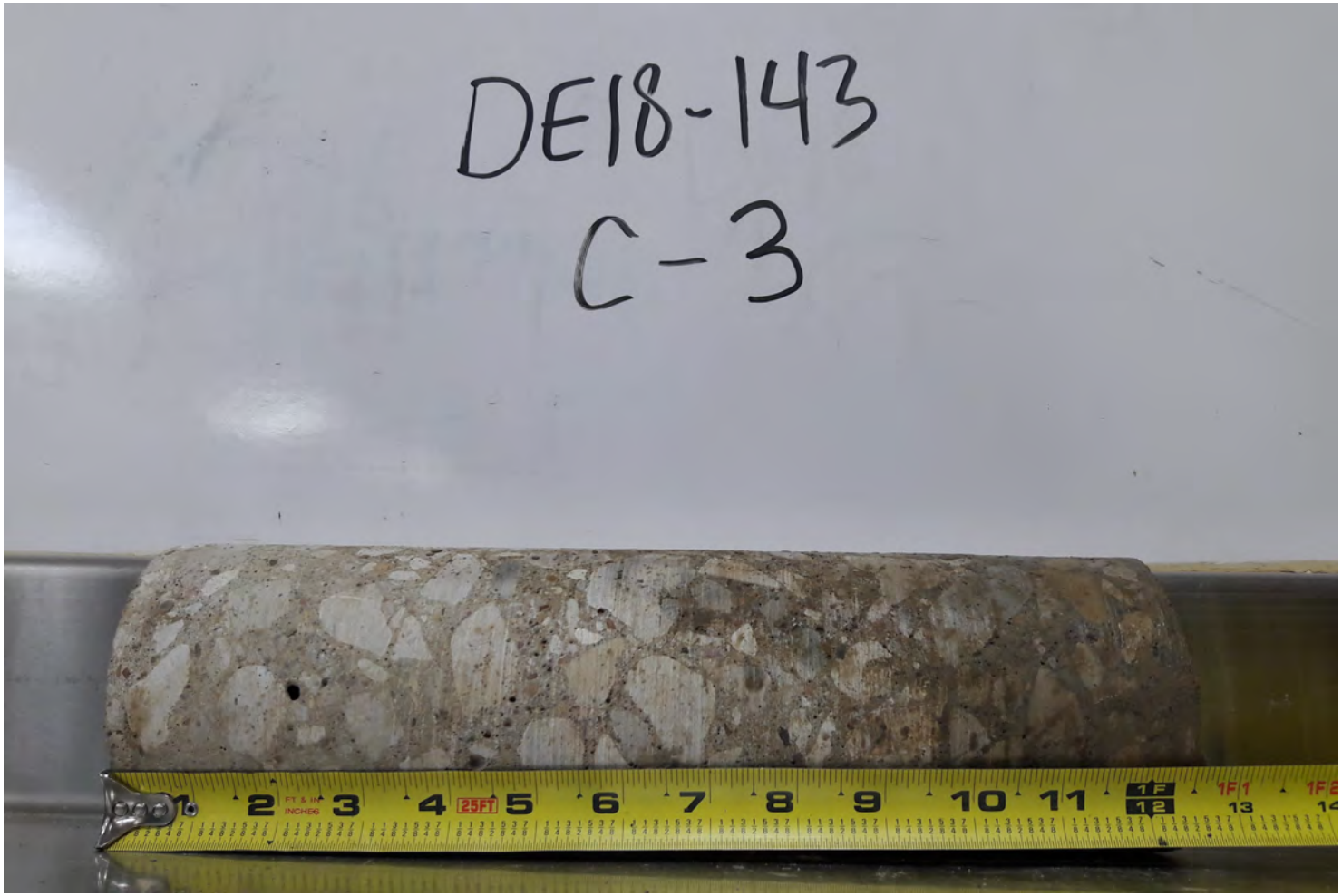

Photo 5: Photo of Pavement Core at Boring C-3.

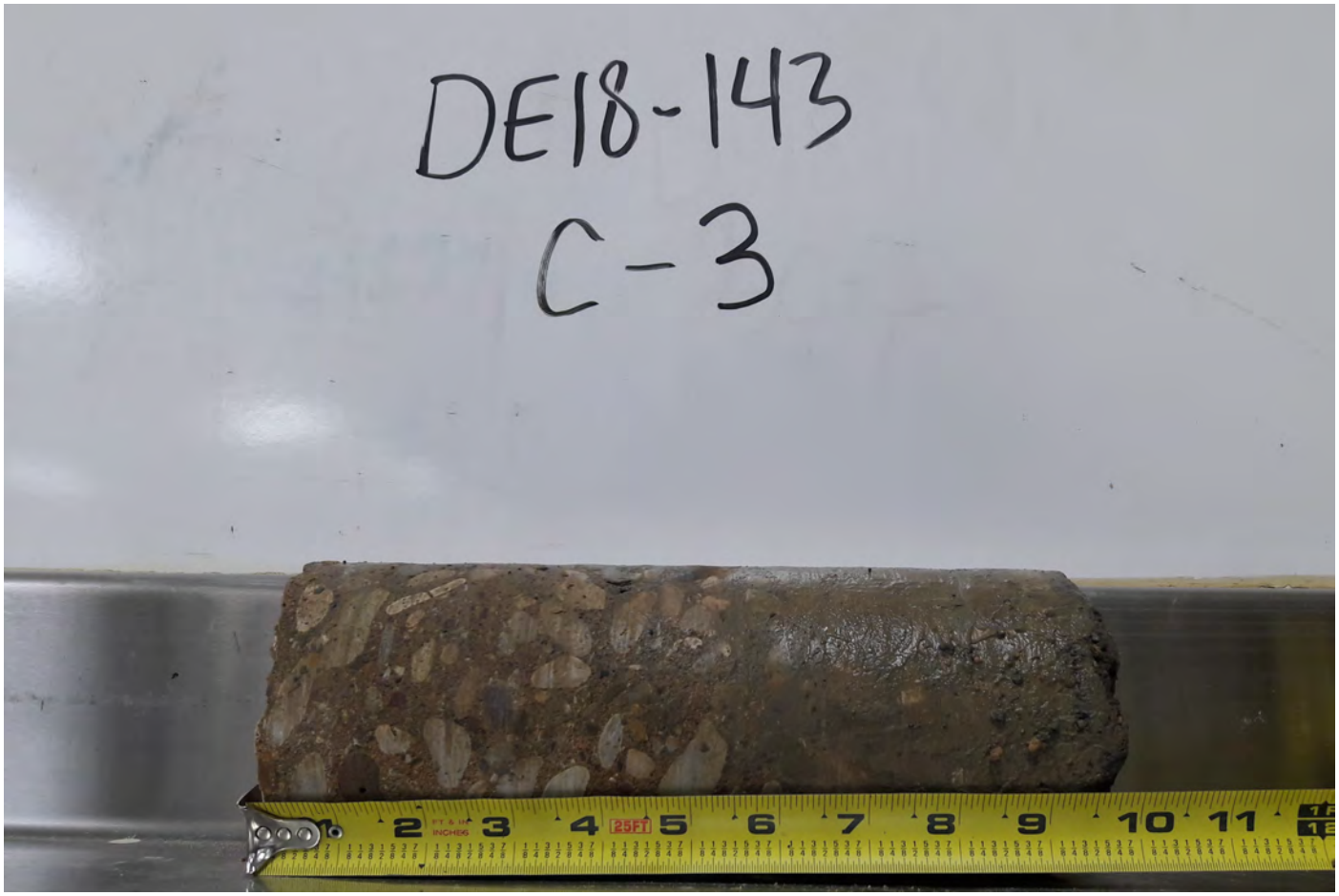

Photo 6: Photo of Pavement Core at Boring C-3.

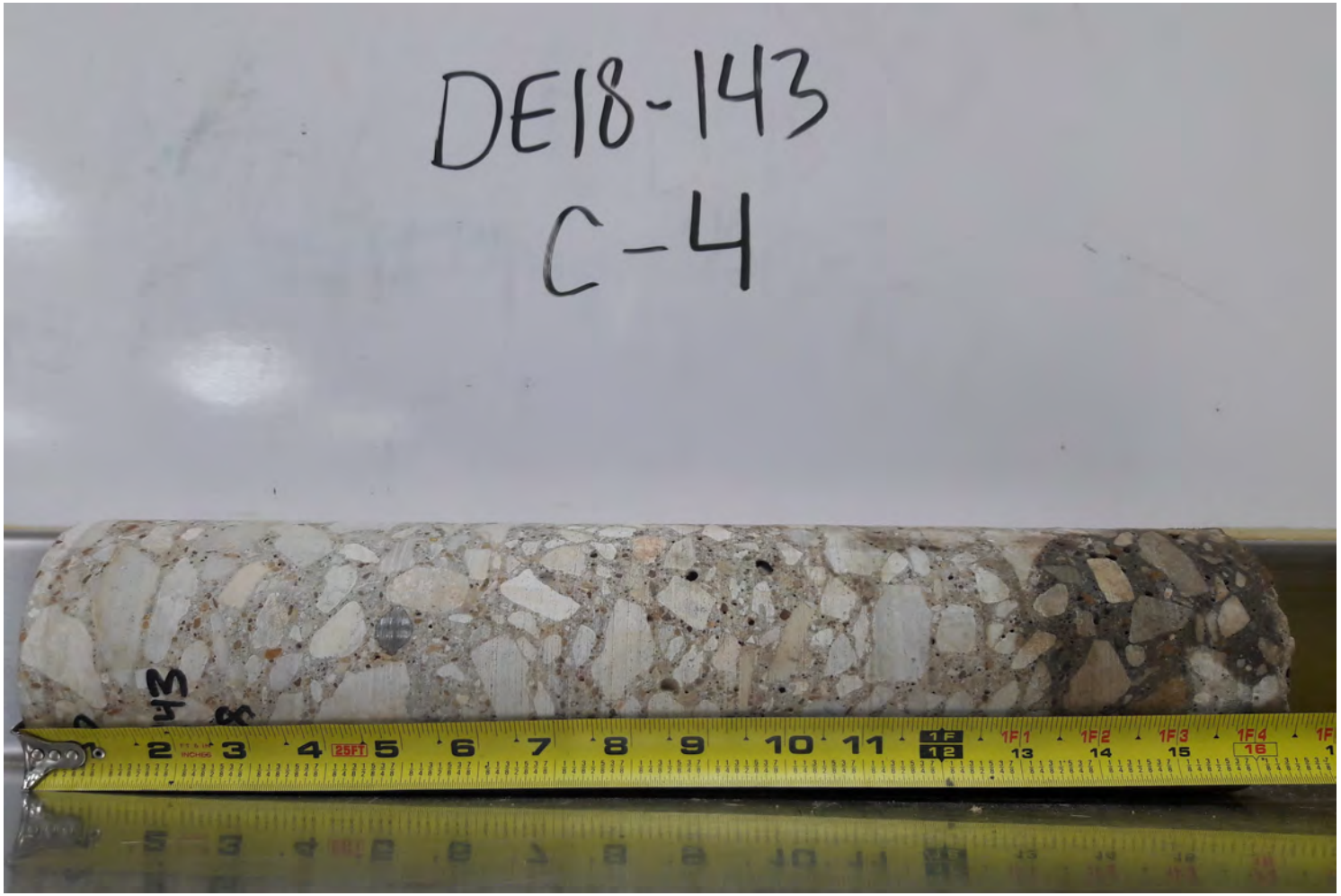

Photo 7: Photo of Pavement Core at Boring C-4.

Photo 8: Photo of Pavement Core at Boring C-4.

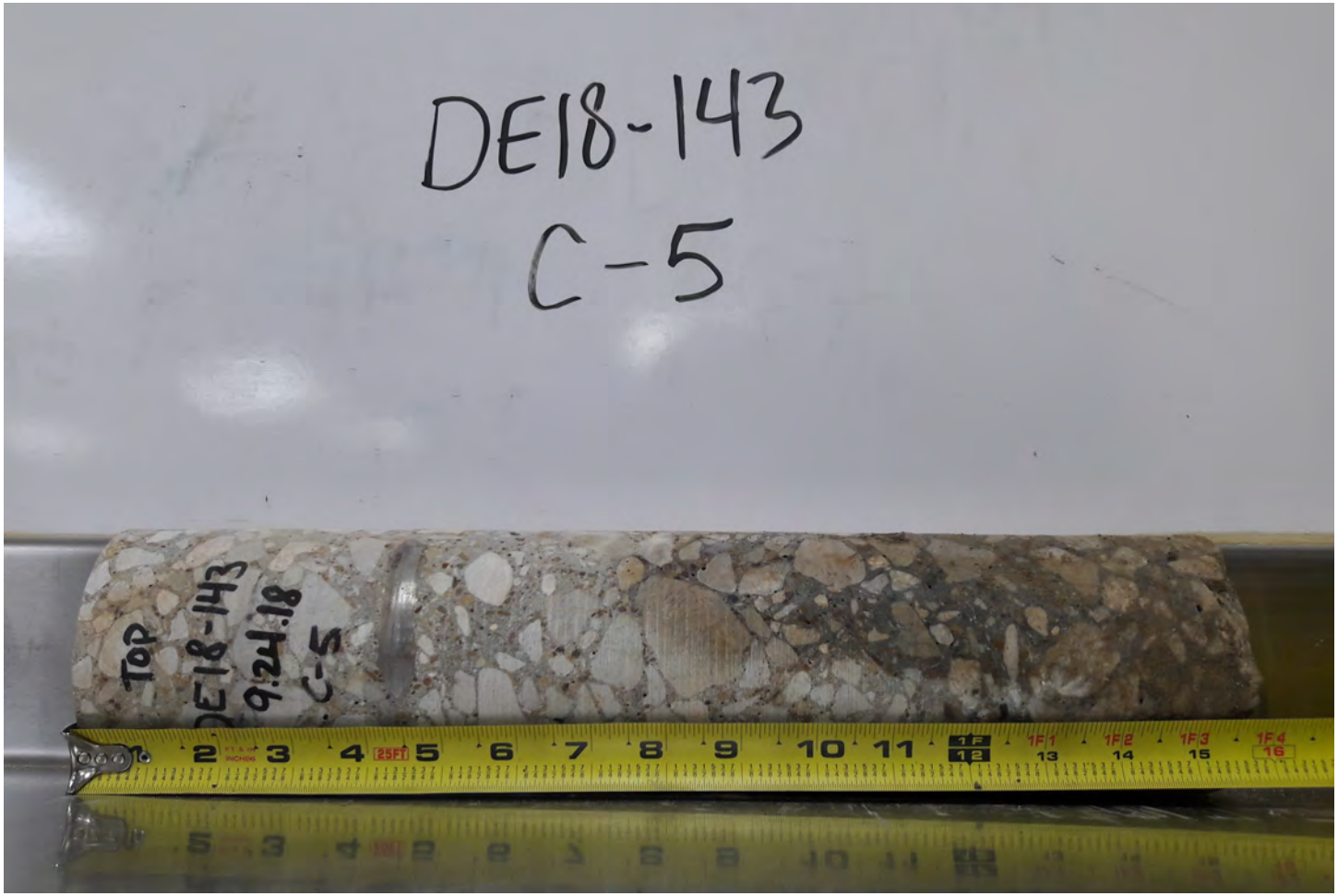

Photo 9: Photo of Pavement Core at Boring C-5.

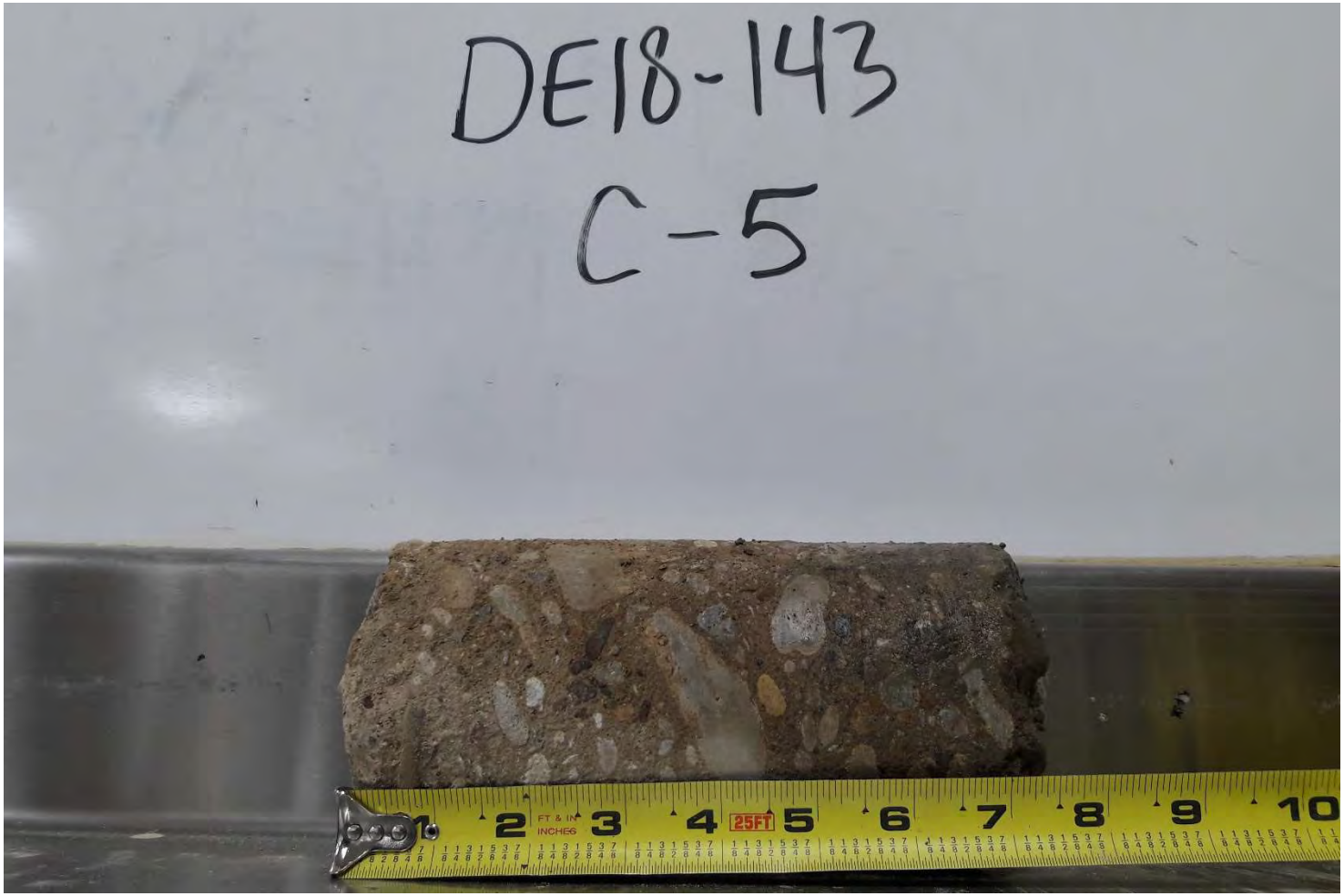

Photo 10: Photo of Pavement Core at Boring C-5.

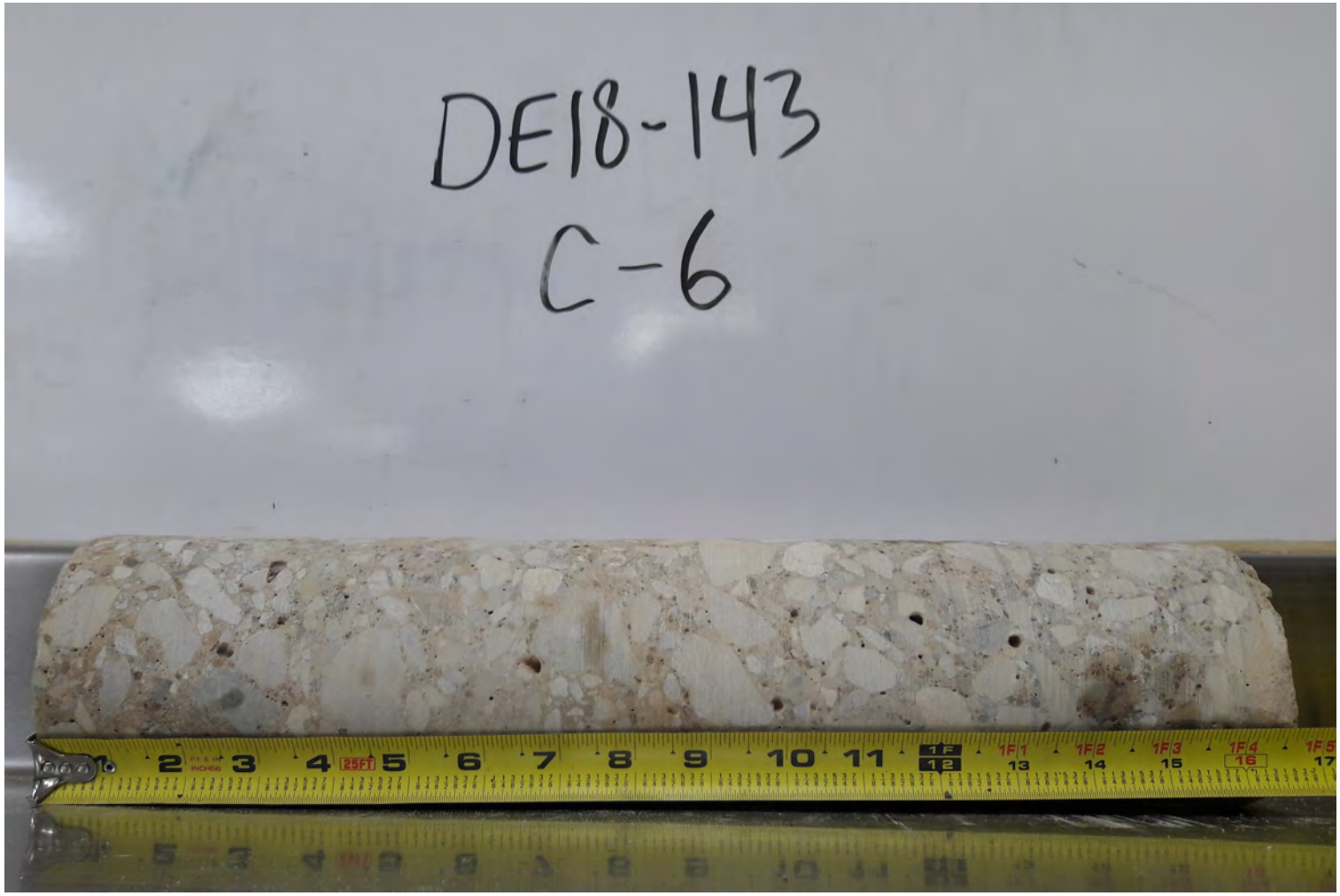

Photo 11: Photo of Pavement Core at Boring C-6.

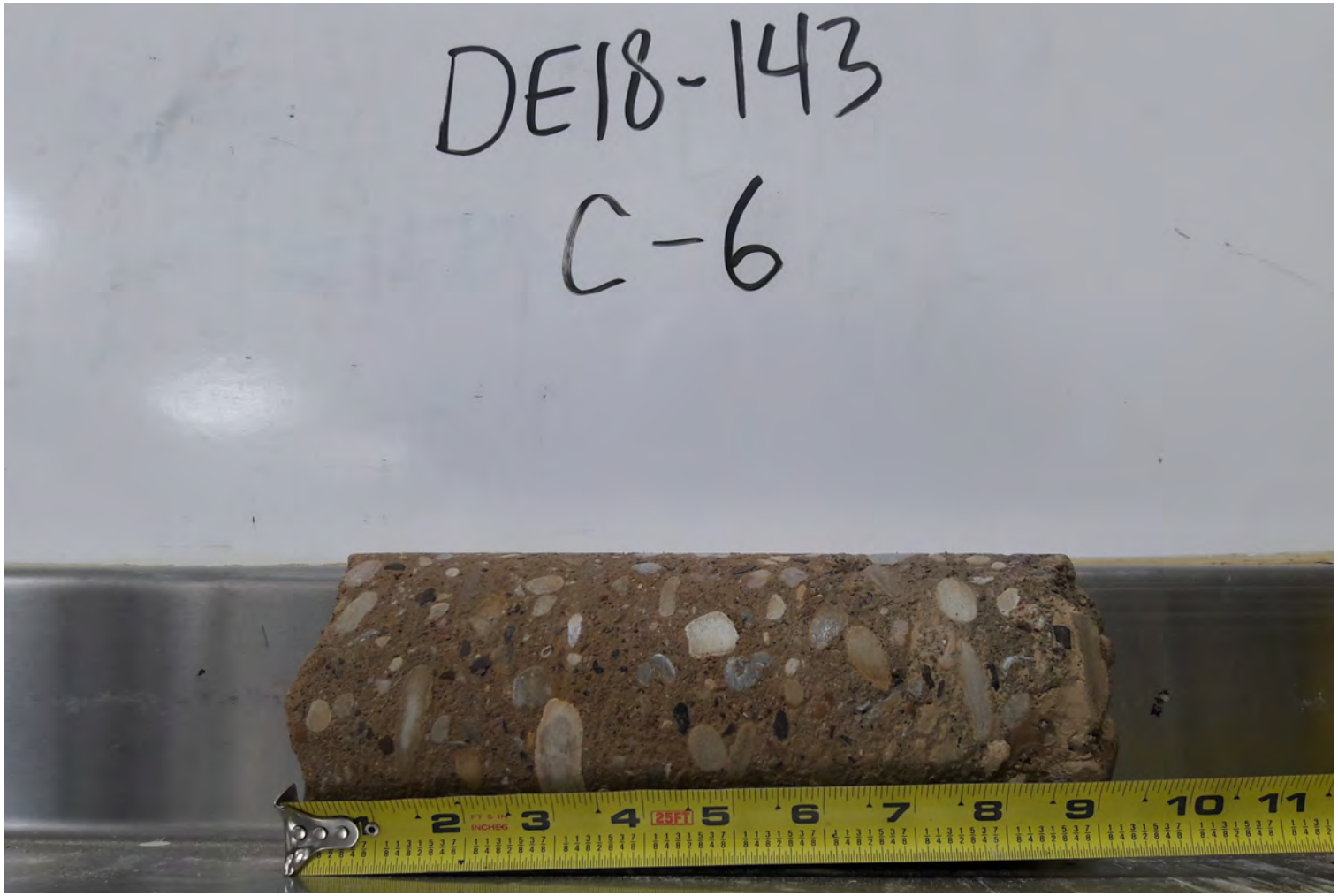

Photo 12: Photo of Pavement Core at Boring C-6.

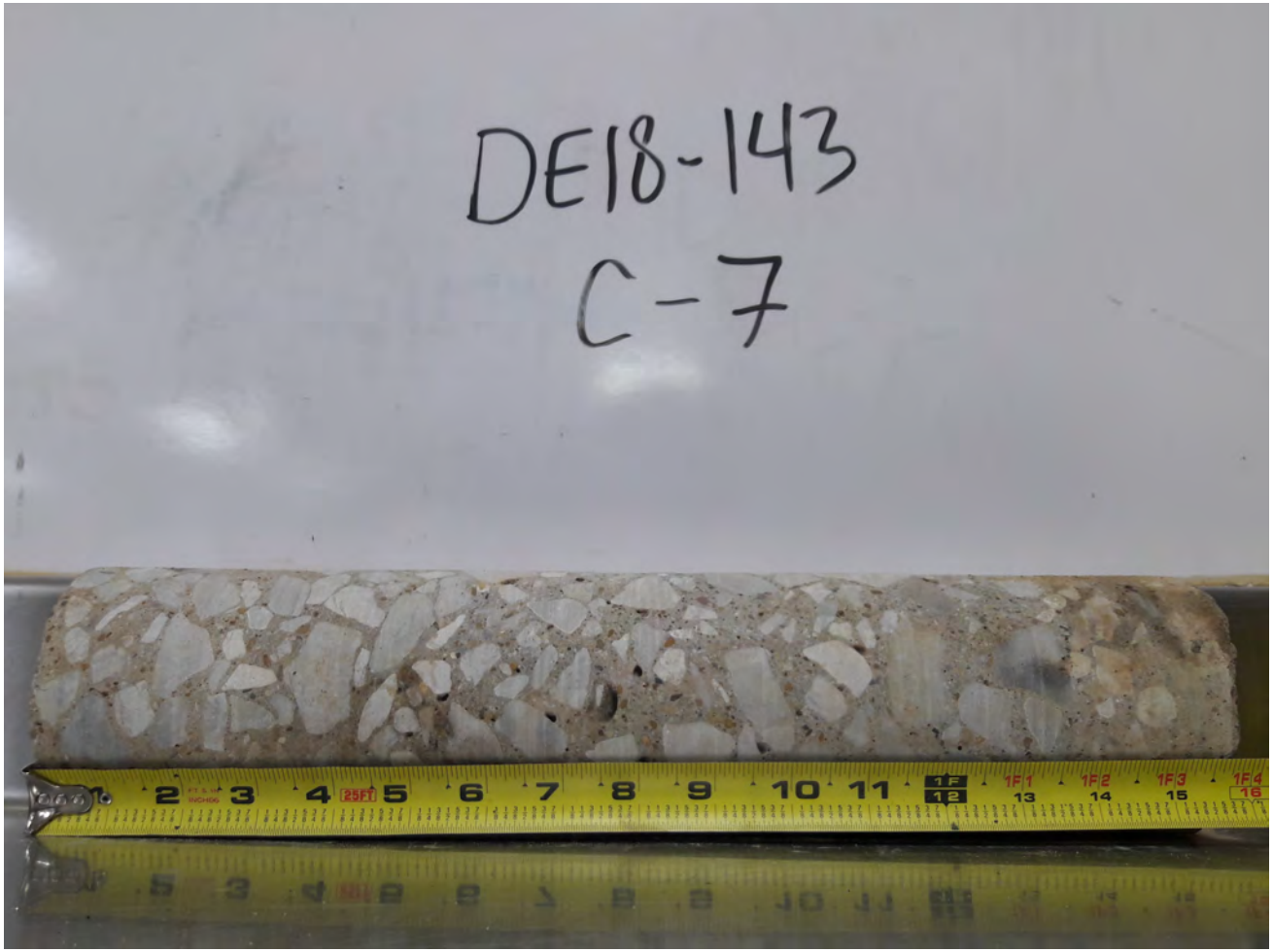

Photo 13: Photo of Pavement Core at Boring C-7.

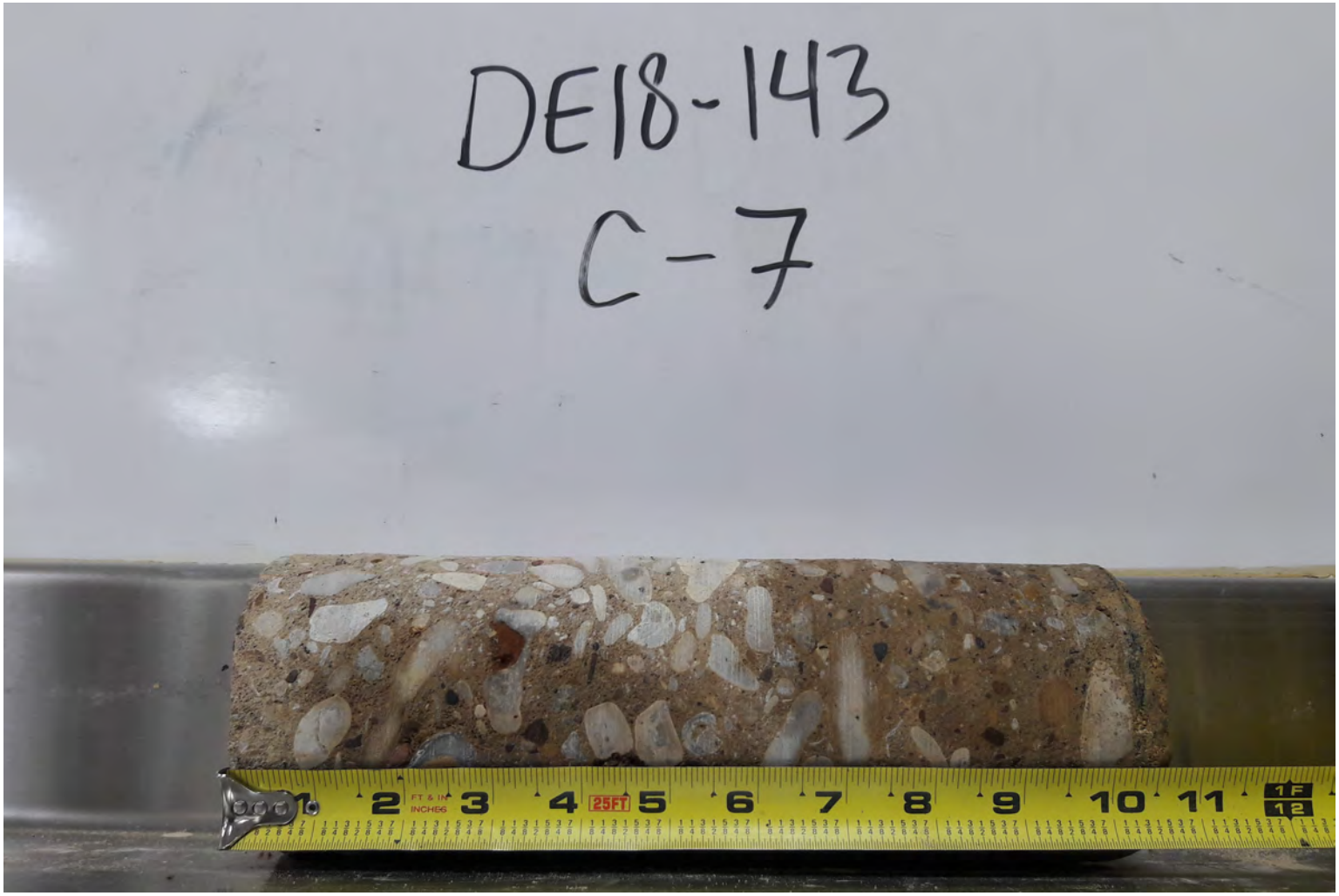

Photo 14: Photo of Pavement Core at Boring C-7.

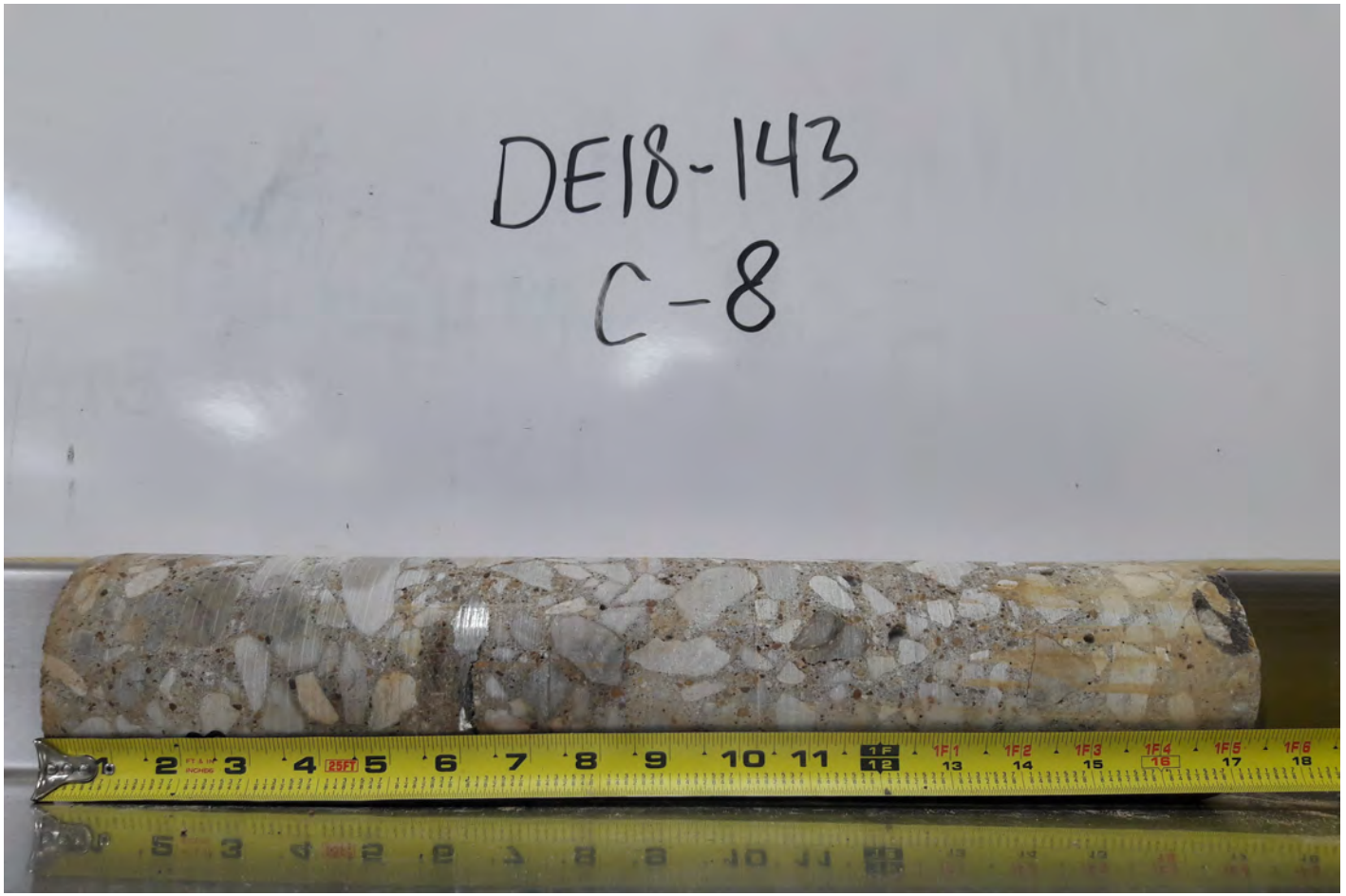

Photo 15: Photo of Pavement Core at Boring C-8.

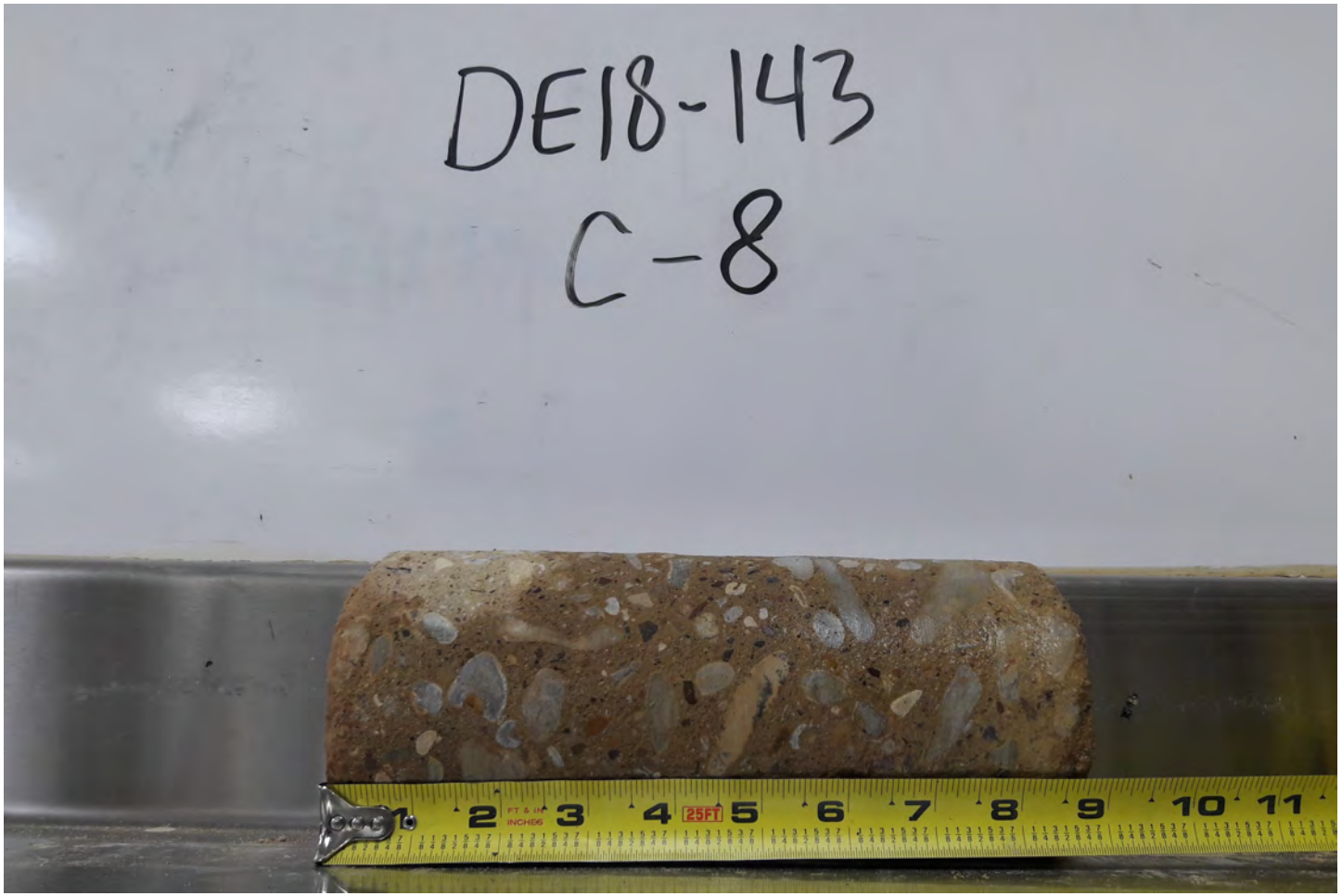

Photo 16: Photo of Pavement Core at Boring C-8.

To: RS&H
Mr. Steve Creamer, P.E.
From: Mauricio Ruiz, P.E.
Todd B. Hanke, P.E.
Re: DFW International Airport Cargo Ramp Evaluation

Memo No. 218051-001
Date: 30 September 2018

Overview

This technical memorandum presents a summary of findings from the analysis performed of the falling (heavy) weight deflectometer (HWD) testing. The work was conducted at the Evergreen cargo ramp, located on the west side of Dallas Fort Worth International Airport (DFW). The approximate project location and limits are shown in Figure 1.

We understand that the project consists of modifications of the existing Evergreen building and ramp on the west side of DFW. The new facility will be used to support frequent, fully loaded, Boeing 747-8 freighter planes. As a result, there is a desire to conduct a pavement structural strength assessment of the existing ramp pavement. The goal of the evaluation is to verify if the existing pavement can support the anticipated loading conditions. At this time, the actual number of operations is unknown, therefore the analysis includes multiple scenarios.

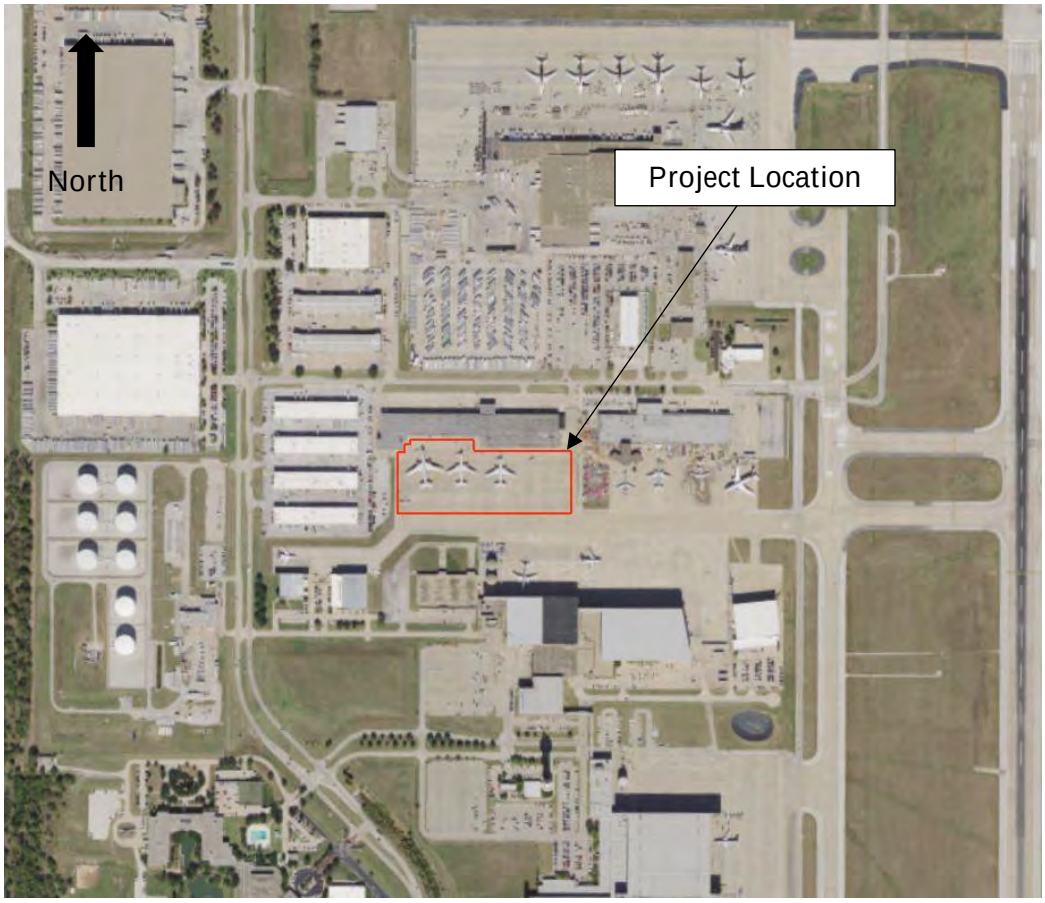

Figure 1 Overview of Evergreen Cargo Ramp

Pavement Evaluation

To provide inputs and aid in the evaluation of the structural capacity of the pavement, a limited pavement evaluation was conducted. The pavement evaluation consisted of a geotechnical investigation, a pavement condition survey, and non-destructive testing. The geotechnical investigation was conducted by Alliance Geotechnical Group (Alliance) with the goal of determining the pavement layer thicknesses and general subbase/subgrade information, at a limited number of locations. The pavement condition survey was conducted by RS&H with the purpose of assessing any visual pavement distress. To supplement the geotechnical information and conduct back-calculation analysis, non-destructive testing using an HWD was carried out by HVJ Associates, using a Dynatest HWD. Field work was done under the supervision of a Transtec project manager.

Geotechnical Investigation and Borings

A limited geotechnical investigation was conducted by Alliance. The investigation consisted of coring the pavement in a total of 8 locations, spread throughout the limits of the ramp. At each location the existing concrete pavement was cored, along with any underlying cement treated base (CTB). Upon removal of the PCC and CTB, a dynamic cone penetrometer (DCP) was used to evaluate the relative stiffness of the subbase and subgrade. The approximate core locations are shown in Figure 2.

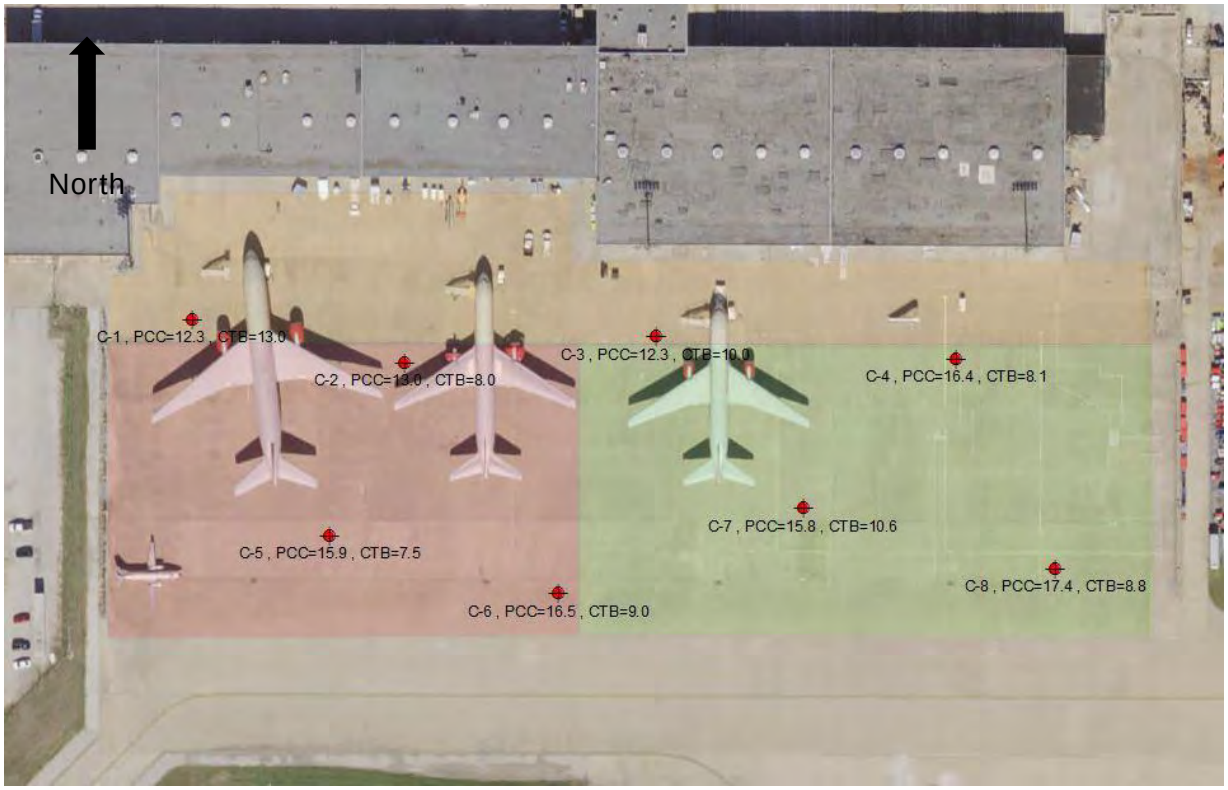

Figure 2 Geotechnical Core Locations

Findings from pavement cores are summarized in Table 1 below. Figure 2 also includes this information plotted at each core location, to assist in understanding how the pavement changes within the project limits.

Table 1 Summary of Core Data

Core Location	Concrete (in)	Cement Treated Base (in)
C-1	12.3	13*
C-2	13.0	8.0
C-3	12.3	10.0
C-4	16.4	8.1
C-5	15.9	7.5
C-6	16.5	9.0
C-7	15.8	10.6
C-8	17.4	8.8

**Estimated thickness based on coring.*

Based on the findings from the 8 core locations it appears that the pavement section is generally broken up into two areas. The northern area (shaded yellow in Figure 2) contains a slightly thinner section consisting of approximately 12-13 inches of concrete on 8 to 13 inches of cement treated base. The southern half (shaded red and green in Figure 2) contains a thicker pavement section consisting of approximately 16 to 17 inches of concrete on 8 to 10 inches of cement treated base. Based on this data and average conditions, a section of 13 inches of concrete on 8 inches of cement treated base was assumed for the northern portion, and 16 inches of concrete on 8 inches of cement treated base was assumed for the southern portion, for the back-calculation analysis.

In addition to the cores, Alliance conducted dynamic cone penetration tests (DCP) at each location to assist in evaluation of the stiffness of the subbase and subgrade. DCP testing generally indicates a variable subbase layer, likely consisting of lime stabilized subgrade. The thickness of this subbase layer was variable and ranged from 6 to 8 inches, when present. This stiffer subbase layer was not observed in all locations, indicating that the layer either was not present, or that it was possibly impacted by moisture. The results from the DCP testing are attached to this Technical Memorandum and have been taken into consideration when developing the estimated CBR and resilient modulus values of the subgrade. The data obtained from the geotechnical investigation is the basis of the back-calculation analysis.

Non-Destructive Testing and HWD data analysis

Non-destructive deflection testing was conducted on the ramp with an HWD to determine the structural capacity of the existing pavement. The deflection testing consisted of both mid-slab testing for determination of the modulus values and joint testing for load transfer efficiency (LTE). Testing was generally spaced on a grid pattern throughout the ramp. Field adjustments were made to the testing locations to account for parked aircraft and other vehicles. The testing plan was developed based on the guidance of FAA Advisory Circular AC 150/5370-11B. Mid-slab test locations are shown in Figure 3.

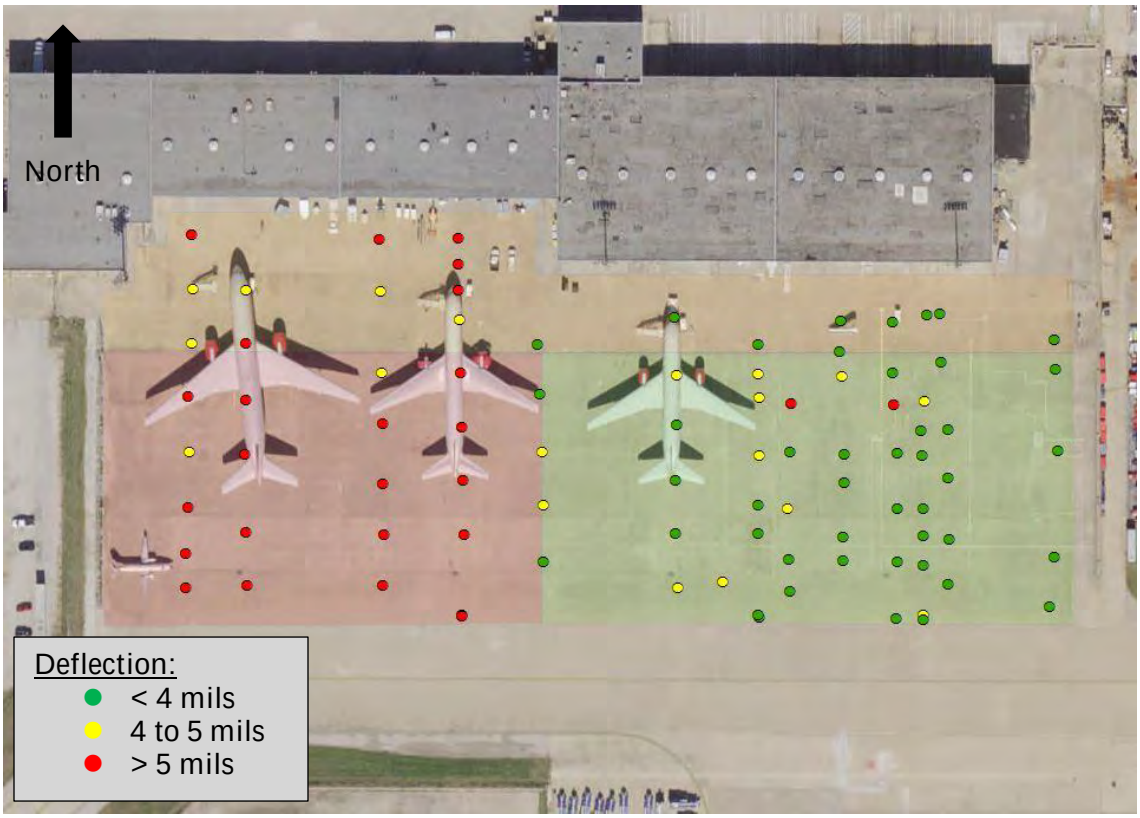

Figure 3 Mid-slab HWD Test Locations

Figure 3 shows the results of the mid-slab HWD testing. Each of the markers represent one mid-slab test. The test locations are color coded based on the amount of deflection from sensor 1, which is located at the loading plate. Based on this data it is possible to see that there is a distinct difference between the east and west sides of the ramp (color coded red and green). Higher deflections were observed along the western half compared to the eastern half. Based on the geotechnical information and this deflection data, the pavement was sub-divided into three areas for the evaluation of the structural capacity. This was done to account for the change in condition, including pavement thickness and pavement variability.

Figure 4 shows how the three pavement areas are defined for the analysis of the pavement structural support. Pavement Area 1 represents the thicker pavement section with higher deflections, Pavement Area 2 represents the thicker pavement section with lower deflections, and Pavement Area 3 represents the thinner pavement section with variable deflection results.

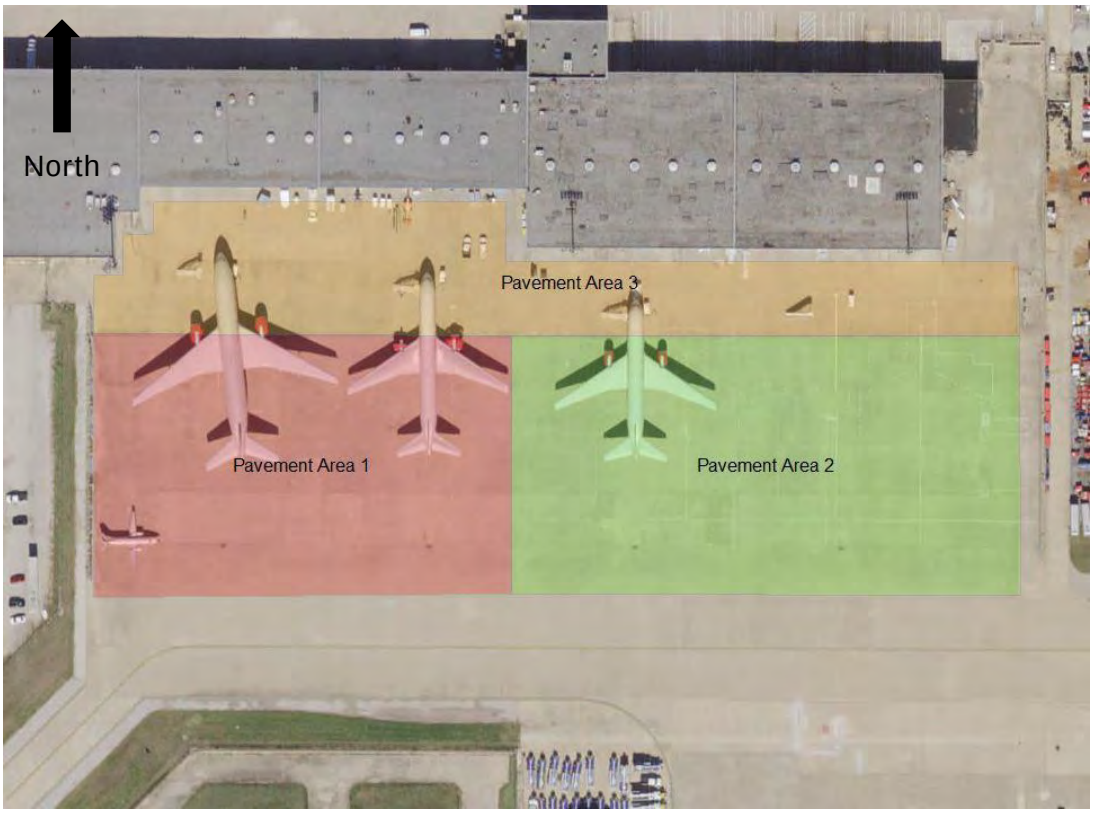

Figure 4 Pavement Areas

Analysis of HWD deflection data was performed using Texas Transportation Institute's Modulus 7.0, as well as Federal Aviation Administration's BAKFAA. Average layer thicknesses based on the geotechnical investigation, as shown in Table 1, were used to analyze deflections. For Pavement Areas 1 and 2, a section of 16 inches of concrete on 8 inches of CTB was used. For Pavement Area 3 a section of 13 inches of concrete on 8 inches of CTB was used. Due to the variability in the lime treated subbase, a separate layer was not included in the back-calculation analysis.

Table 2 provides a summary of back-calculated layer moduli (dynamic) with further details shown in Appendix B. Note, average pavement sections, as discussed, were used for this analysis. Variability in the pavement section can result in changes to the back-calculated modulus values. In addition, the variability of the lime treated subbase layer will affect the results of the analysis. The values presented in Table 2 represent dynamic layer moduli. A correction factor from dynamic to static modulus should be applied prior to using in the analysis of the structural capacity.

Table 2 Summary of back-calculated layer moduli

Pavement Area	Assumed Average Pavement Section		Average Calculated Modulus (psi)		
	PCC	CTB	PCC	CTB	Subgrade*
Pavement Area 1	16.0	8.0	6,000,000	640,000	21,515
Pavement Area 2	16.0	8.0	7,000,000	745,000	33,030
Pavement Area 3	13.0	8.0	6,000,000	640,000	21,515

*Represents the dynamic value

The above dynamic layer moduli were converted to design resilient moduli by using a factor of 0.33, and corresponding California Bearing Ratio (CBR) were calculated using the relationship Mr = 1500*CBR. In addition, the PCC surface modulus was converted to a modulus of rupture following the guidelines presented in FAA Advisory Circular AC 150/5370-11B. These values are summarized in Table 3 and were used in the analysis of the pavement structural capacity.

Table 3 Evaluation Design Values

Pavement Area	Assumed Average Pavement Section		Estimated Design Value (psi)		
	PCCP	CTB	PCC Modulus of Rupture	CTB	Subgrade
Pavement Area 1	16.0	8.0	720	640,000	7,100
Pavement Area 2	16.0	8.0	740	745,000	10,900
Pavement Area 3	13.0	8.0	720	640,000	7,100

The data from Table 3 was used as the basis of the analysis for the structural capacity of the ramp pavement. It is understood that the design aircraft consists of a 747-8 freighter, with frequent operations. The exact number of operations is unknown currently. Therefore, the analysis was done with variable number of annual operations, resulting in a chart for estimating the performance of the pavement given a certain number of annual operations. This analysis was done for each of the three pavement areas that were previously defined. Analysis was done using the FAA computer program FAARFIELD v 1.41 with the default configuration for a 747-8 freighter.

Figure 5 presents a chart plotting the estimated number of annual operations for each pavement area as a function of estimated life. The analysis is based on limited geotechnical information and HWD testing. It should be noted that this analysis is highly sensitive to the various inputs. Variations to pavement thickness, subgrade moisture, and existing pavement distress can affect the results significantly. Based on the DCP testing, it appears that there is a variable subbase layer that may be a lime treated subgrade. As a result, an 8-inch area of a weak lime treated soil was included as part of the analysis.

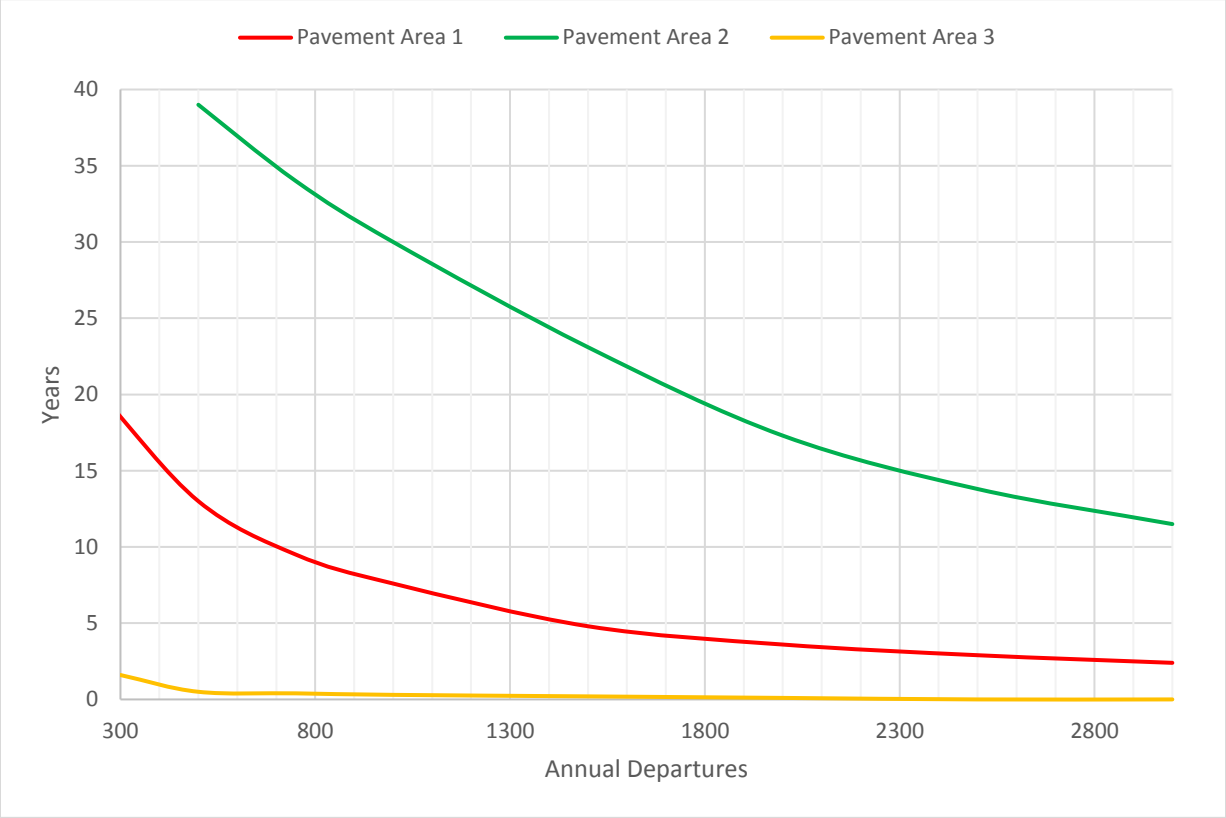

Figure 5 Pavement Structural Capacity

In general, the results of this analysis indicate that the northern portion of the ramp is inadequate for structural support of the proposed aircraft. The western portion of the ramp is marginal for support of the aircraft loading, depending on the number of operations. The eastern portion of the ramp generally performs better and would support a low to moderate number of operations.

The difference between the north (Pavement Area 3) and the south (Pavement Area 1 and 2) is a result of the thinner pavement section. The difference between the east and west sides is likely due to the variable subbase and subgrade conditions. Lower modulus values were observed for the subgrade along the western portion. This may be a result of several factors, including increased moisture and/or variations in the cement treated base and lime treated subbase.

For comparison, an analysis was done to evaluate what type of pavement section would be required for a new design construction. Based on an assumed 2,500 annual departures, 8 inches of CTB, 8-inches of lime treated subgrade, and a subgrade modulus value of 8,000 psi, a PCC section of 17.5 inches would be required. This is approximately 1.5 inches more of concrete than what was observed in the core locations.

In addition to evaluation of the deflection data and back-calculation, additional analysis of load transfer efficiency (LTE) was conducted to determine how the pavement joints would handle the increased loading. This is done by taking the deflection from the unloaded slab and dividing it by the deflection of the loaded slab. This process is outlined in more detail in FAA AC 150/5370-11B. The LTE data was calculated and then tabulated and plotted based on the percent LTE and the location. Figure 6 provides the results of the LTE calculation at each station/location. Based on Figure 36 of FAA AC 150/5370-11B, the LTE is considered acceptable when greater than 70 percent, fair when between 50 and 70 percent, and poor when less than 50 percent.

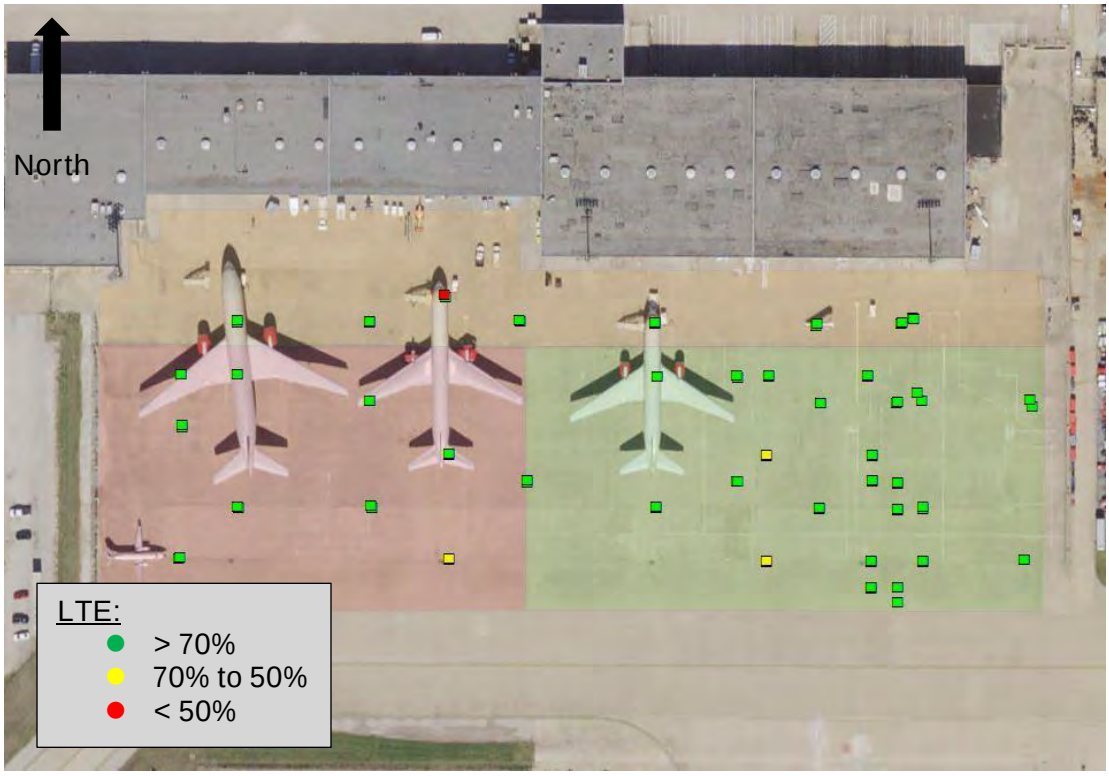

Figure 6 LTE Analysis

Figure 6 shows that the majority of the pavement has satisfactory LTE, at the tested locations. Only 4 test locations showed fair or poor LTE. Based on this testing, it appears that the LTE is generally satisfactory and should not result in poor performance of the pavement.

In addition to the LTE analysis, a comparison between measured deflections and the load level applied during HWD testing was evaluated. This process can be used to assist in the detection of potential voids beneath the concrete slabs. This analysis method is demonstrated in Fig. 37 of FAA Advisory Circular 150/5370-11B. The AC states that when the data for at least two load levels is plotted from the same location, and the x-intercept of the generated line is greater than 3 mils, voids may be present.

The individual intercept was calculated for each of the LTE test locations, resulting in 82 data points. Of those 82 points, no locations showed an intercept of greater than 3 mils. Therefore, the potential for voids and loss of support is minimal, based on this test data.

Analysis and Conclusion

The analysis and results, summarized in Figure 5, indicate that the eastern portion of the ramp may be suitable for support of a 747-8 freighter, depending on the number of operations and desired life. The western half of the ramp would provide limited to marginal support for the anticipated aircraft loading conditions. The northern portion of the ramp, closer to the existing building would not be suitable for heavy aircraft loading due to the thinner pavement section.

It appears that there are variable subgrade conditions, resulting in the lower capacity on the west side of the ramp. The cause of these conditions is not known but could be a result of higher moisture levels in the subbase and subgrade.

The analysis also determined that there was generally good load transfer along the transverse joints (east/west direction). There was also not evidence of major loss of support or voids based on the HWD testing.

The analysis was performed using limited geotechnical pavement investigation data to verify the current pavement structural section. As noted above, variable pavement sections were observed and may contribute to the variability observed for the various modulus values of the PCC, base, and subbase layers. If there is a desire to refine these values additional borings or ground penetration radar (GPR) could be carried out to confirm the consistency of pavement structure.

The findings obtained, and the recommendations prepared in this report constitute professional services, the essence of which entails professional judgment, opinion and/or skill. These are based on a limited number of observations and data. It is possible that conditions could vary between or beyond the data evaluated. The findings, results, conclusions, opinions and recommendations provided in this report are not a representation, warranty, or guarantee regarding the current or future performance of pavement for this Project; and the report is directed at, and intended to be utilized within, the scope of work contained in the proposal and agreement executed by Transtec and the client.

This report has been prepared for the exclusive use of the client, and no other party may rely on it. The report shall not be transmitted to third parties, in whole or in part, except with the express written approval from Transtec. All information contained in or disclosed in this report is considered by Transtec to be confidential and proprietary information.

Client shall provide all criteria and full information as to client's requirements for the Project, all of which Transtec may rely upon in performing its professional services. The various pavement analyses and construction recommendations cited herein are based on numerous assumptions, both explicitly stated and implicit to the analysis methodology. If it is found that any condition deviates from these assumptions or from the information provided to Transtec by the client, Transtec should be contacted immediately since this may materially alter the report.

Appendix A

Dynamic Cone Penetrometer Results

DCP TEST DATA

Project: *Evergreen Cargo Ramp*
Location: C-1
Date: 24-Sep-18
Soil Type(s): Type in the soil type

Hammer
- 10.1 lbs.
- 17.6 lbs. (selected)
- Both hammers used

Soil Type
- CH
- CL
- All other soils (selected)

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
0	0	1
3	30	1
8	60	1
26	90	1
40	120	1
*Refusal		1
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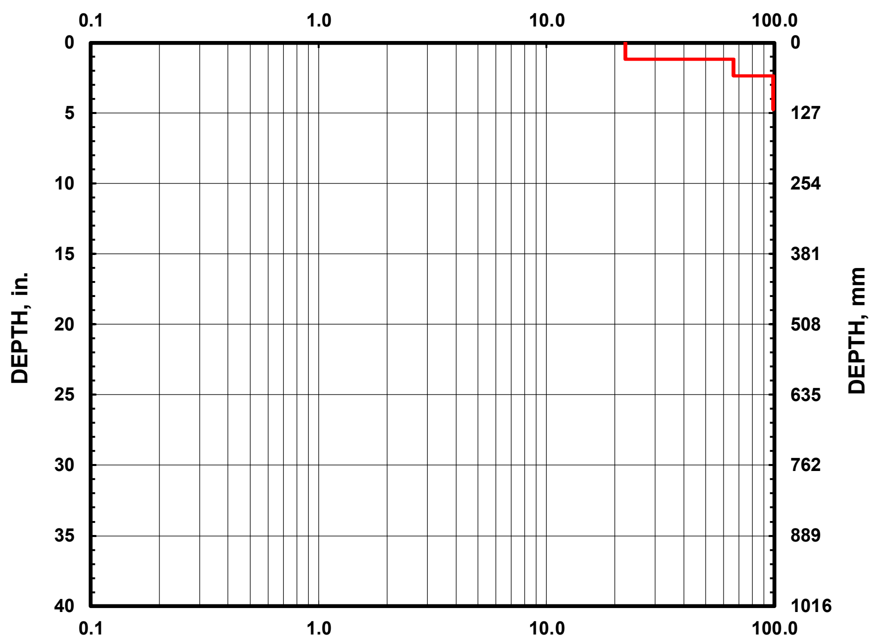

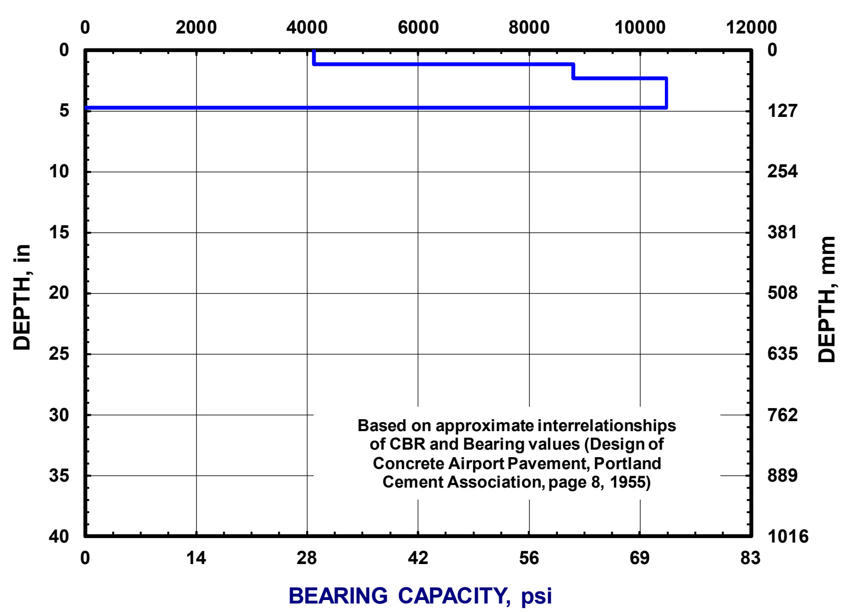

DCP TEST DATA

Project: *Evergreen Cargo Ramp* **Date:** 24-Sep-18

Location: C-2 **Soil Type(s):** Type in the soil type

Hammer
- ○ 10.1 lbs.
- ◉ 17.6 lbs.
- ○ Both hammers used

Soil Type
- ○ CH
- ○ CL
- ◉ All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
0	0	1
2	35	1
3	65	1
4	100	1
4	135	1
4	165	1
4	195	1
4	230	1
4	265	1
3	295	1
3	335	1
1	365	1
1	435	1
1	485	1
1	515	1
2	560	1
2	595	1
1	605	1
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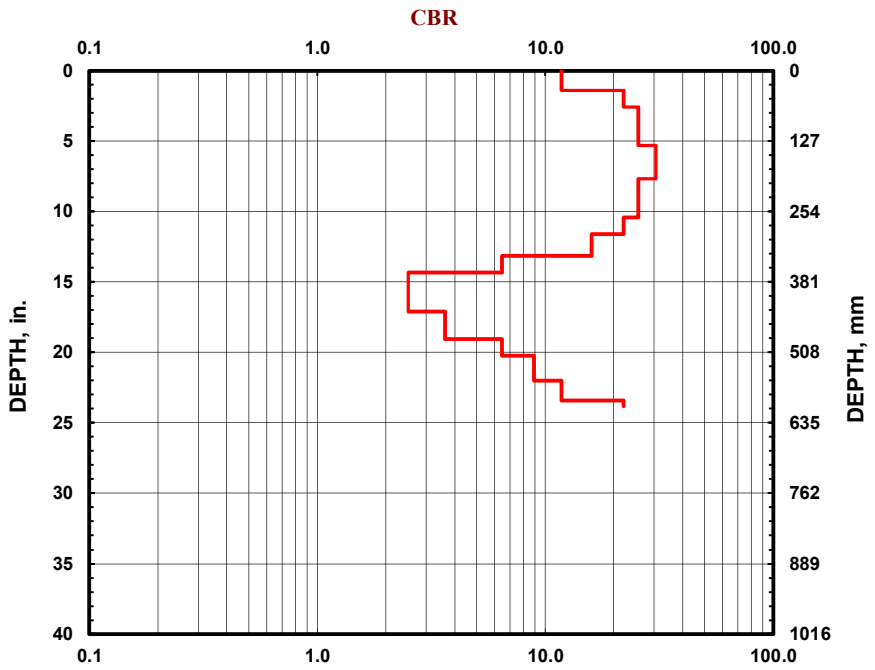

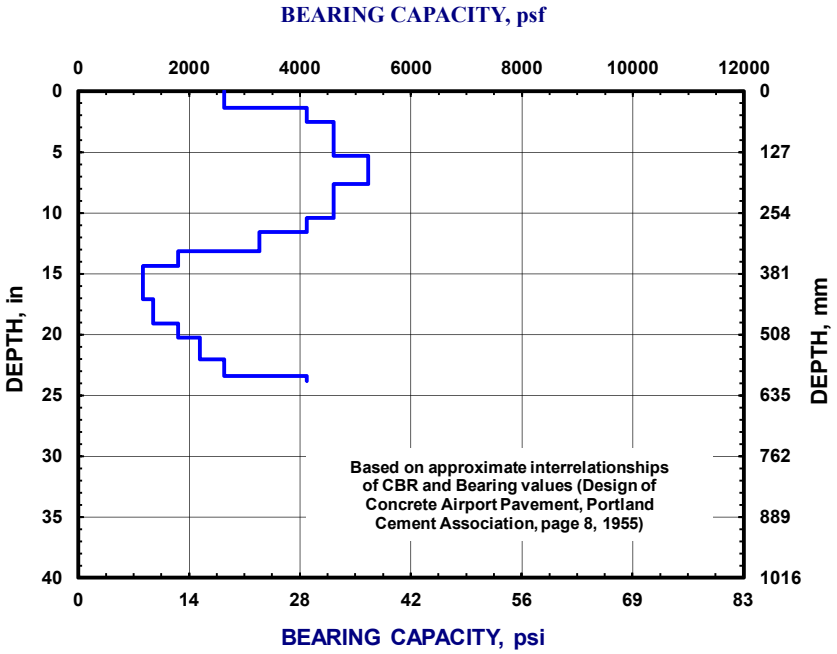

DCP TEST DATA

Project: *Evergreen Cargo Ramp* **Date:** 24-Sep-18

Location: C-3 **Soil Type(s):** Type in the soil type

Hammer
- ○ 10.1 lbs.
- ◉ 17.6 lbs.
- ○ Both hammers used

Soil Type
- ○ CH
- ○ CL
- ◉ All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
0	0	1
2	30	1
8	60	1
9	90	1
17	120	1
16	150	1
24	180	1
18	210	1
24	240	1
17	270	1
17	300	1
15	330	1
15	360	1
13	390	1
10	420	1
8	455	1
4	485	1
4	520	1
3	550	1
4	595	1
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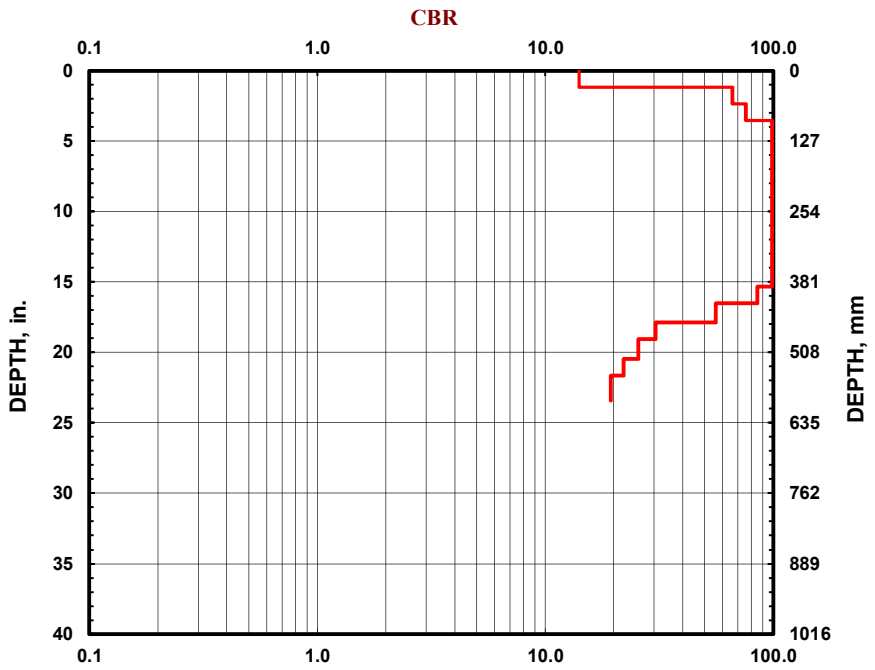

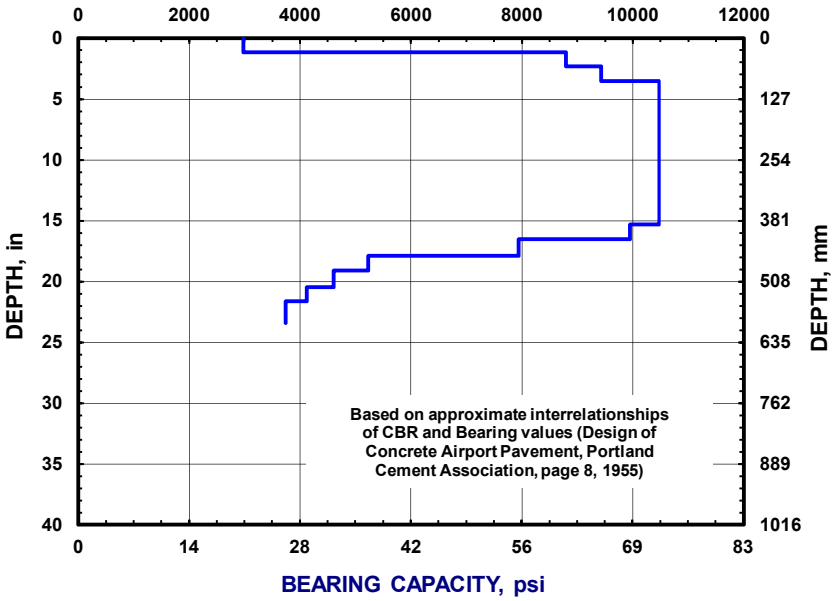

DCP TEST DATA

Project: *Evergreen Cargo Ramp* **Date:** 24-Sep-18

Location: C-4 **Soil Type(s):** Type in the soil type

Hammer
- ○ 10.1 lbs.
- ◉ 17.6 lbs.
- ○ Both hammers used

Soil Type
- ○ CH
- ○ CL
- ◉ All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
0	0	1
2	35	1
3	75	1
3	115	1
3	160	1
3	200	1
3	235	1
3	265	1
5	300	1
10	335	1
8	365	1
6	395	1
4	425	1
4	460	1
2	490	1
2	535	1
1	565	1
1	600	1
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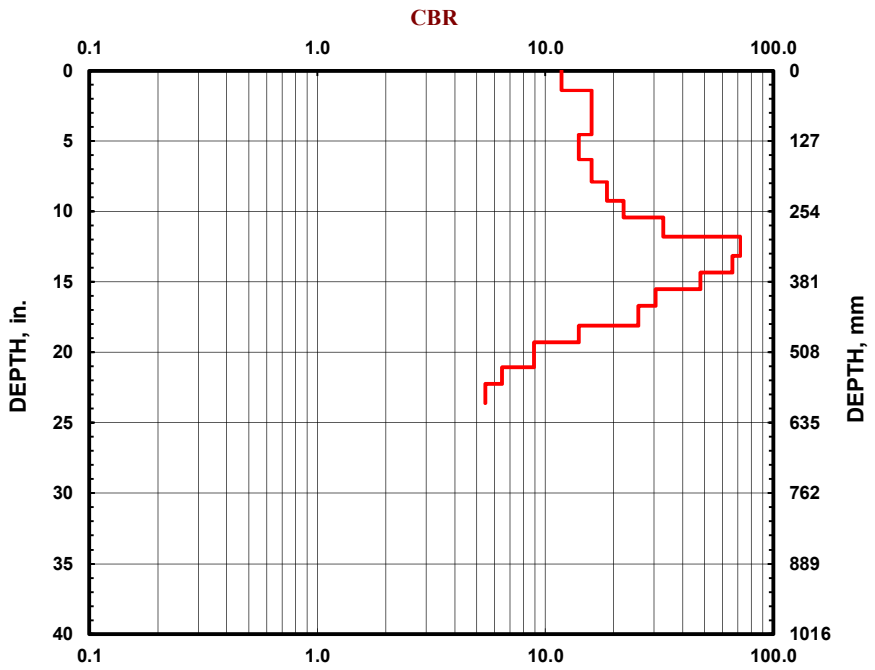

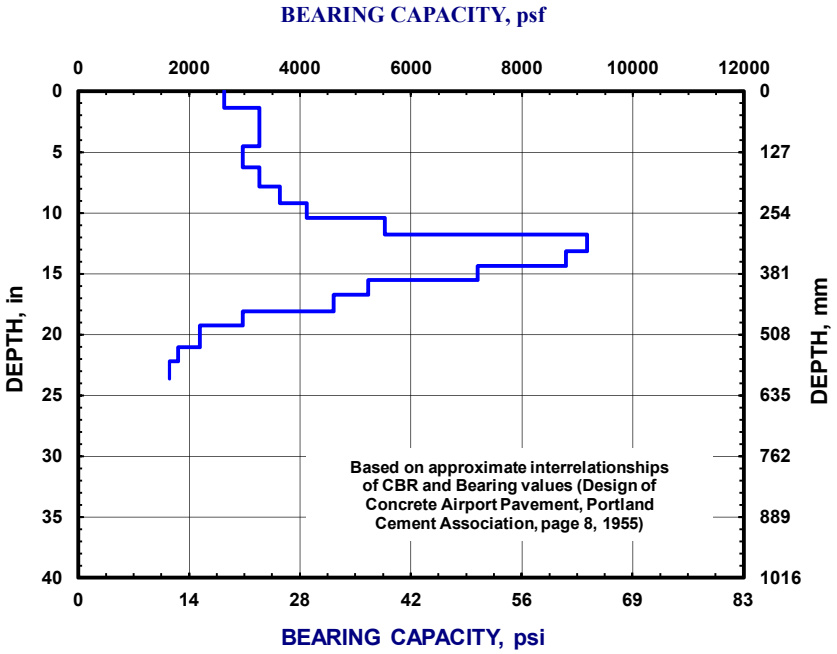

DCP TEST DATA

Project: *Evergreen Cargo Ramp*
Location: C-5

Date: 24-Sep-18
Soil Type(s): Type in the soil type

Hammer
- ○ 10.1 lbs.
- ● 17.6 lbs.
- ○ Both hammers used

Soil Type
- ○ CH
- ○ CL
- ● All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
0	0	1
2	40	1
3	75	1
3	115	1
3	160	1
2	200	1
2	240	1
2	285	1
2	345	1
1	375	1
1	405	1
2	455	1
1	520	1
1	570	1
1	620	1
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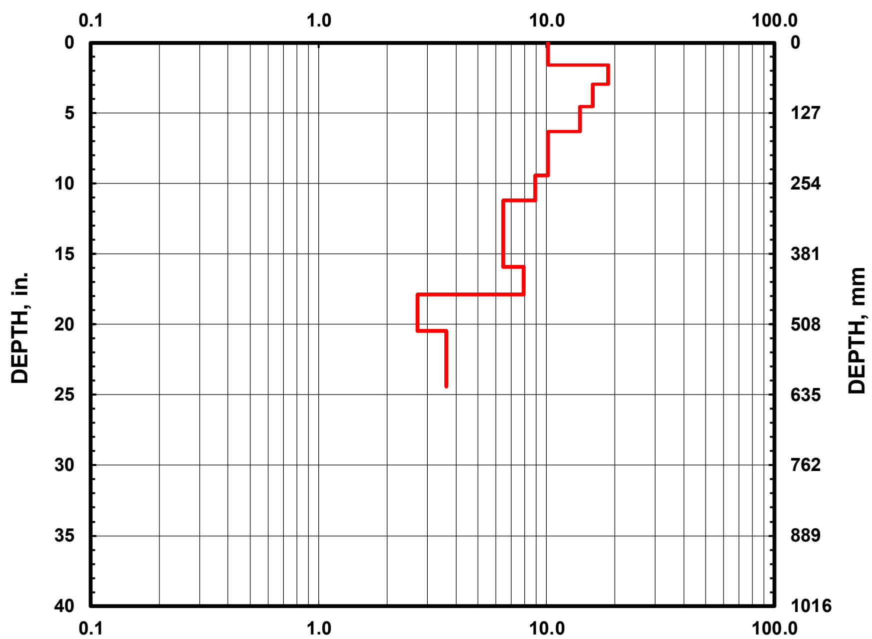

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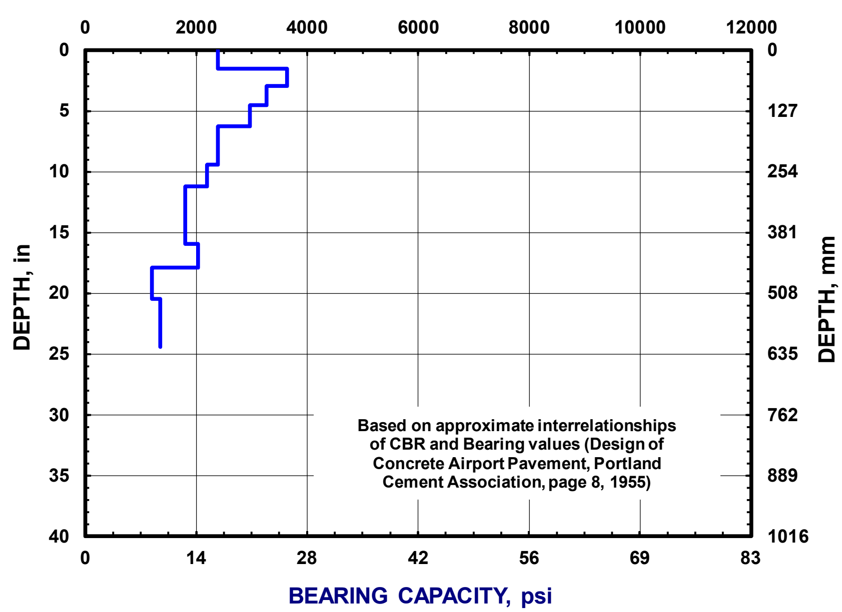

DCP TEST DATA

Project: *Evergreen Cargo Ramp* **Date:** 24-Sep-18

Location: C-6 **Soil Type(s):** Type in the soil type

Hammer
- ○ 10.1 lbs.
- ◉ 17.6 lbs.
- ○ Both hammers used

Soil Type
- ○ CH
- ○ CL
- ◉ All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
0	0	1
3	40	1
3	80	1
4	110	1
8	140	1
9	170	1
10	200	1
11	230	1
9	265	1
7	295	1
5	325	1
4	365	1
2	400	1
1	435	1
1	485	1
1	525	1
1	560	1
1	595	1
1	620	1
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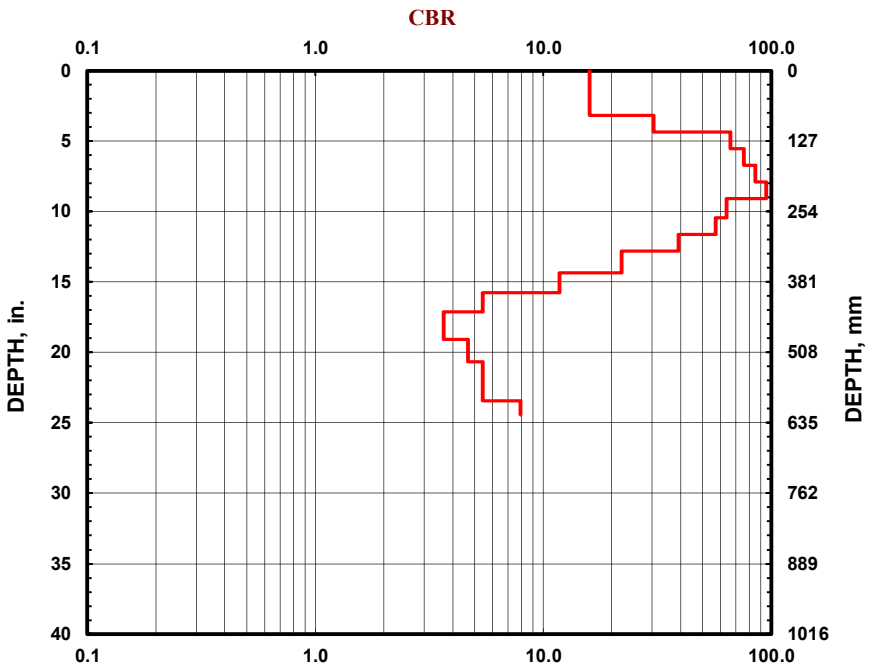

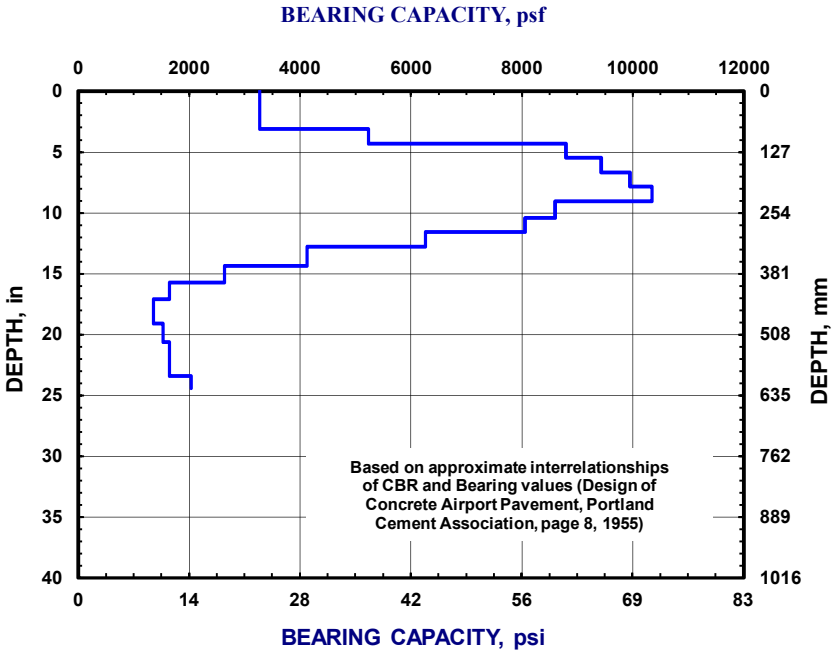

DCP TEST DATA

Project: *Evergreen Cargo Ramp* **Date:** 24-Sep-18

Location: C-7 **Soil Type(s):** Type in the soil type

Hammer
- ○ 10.1 lbs.
- ◉ 17.6 lbs.
- ○ Both hammers used

Soil Type
- ○ CH
- ○ CL
- ◉ All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
0	0	1
1	45	1
1	75	1
3	105	1
5	135	1
4	170	1
4	205	1
3	235	1
4	280	1
2	310	1
2	340	1
2	370	1
2	400	1
2	440	1
2	515	1
1	575	1
1	625	1
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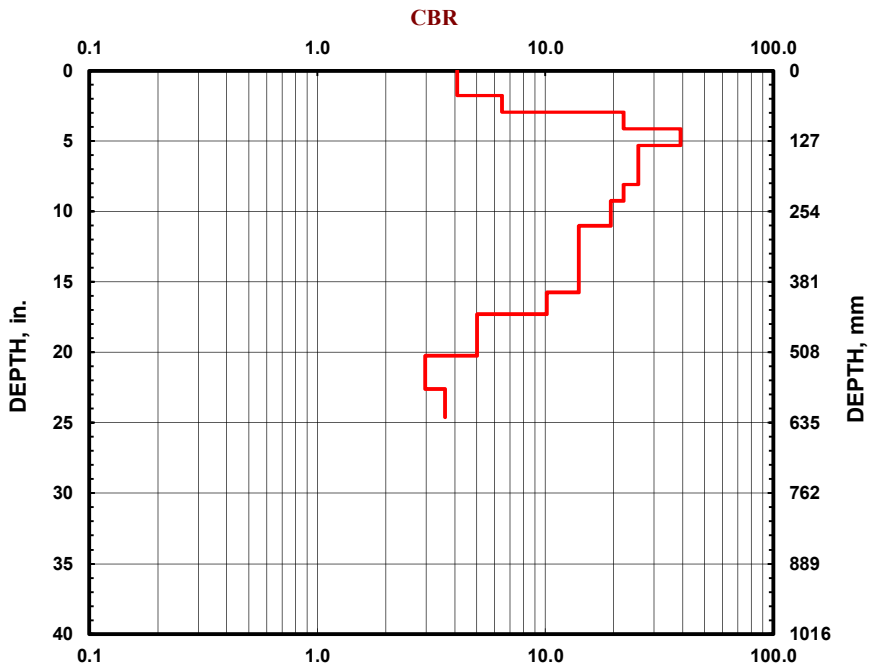

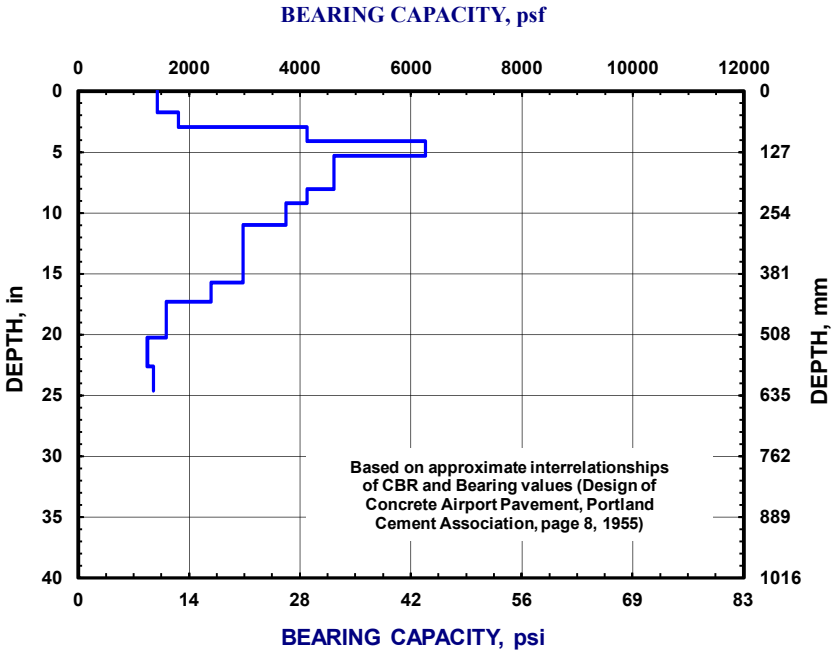

DCP TEST DATA

Project: *Evergreen Cargo Ramp*
Location: C-8
Date: 24-Sep-18
Soil Type(s): Type in the soil type

Hammer
- ○ 10.1 lbs.
- ● 17.6 lbs.
- ○ Both hammers used

Soil Type
- ○ CH
- ○ CL
- ● All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
0	0	1
2	45	1
3	80	1
3	115	1
3	145	1
3	180	1
3	210	1
3	245	1
3	285	1
3	325	1
2	365	1
2	425	1
2	495	1
1	540	1
2	585	1
1	605	1
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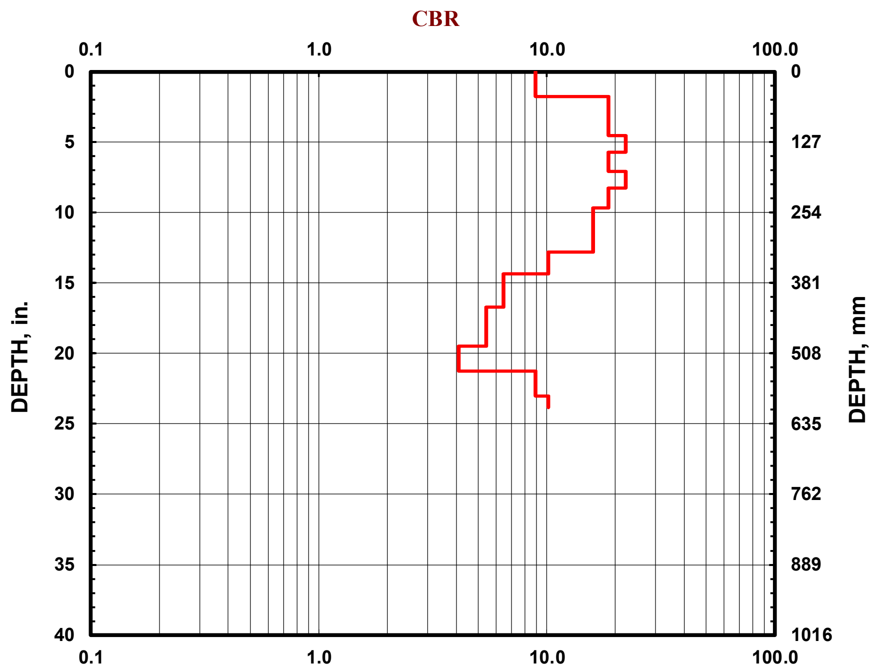
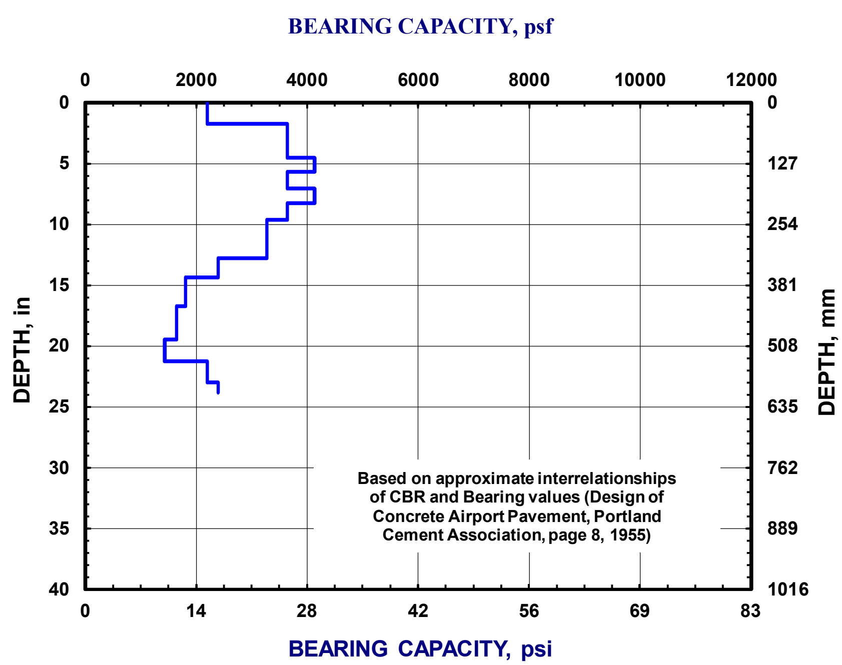




Appendix B

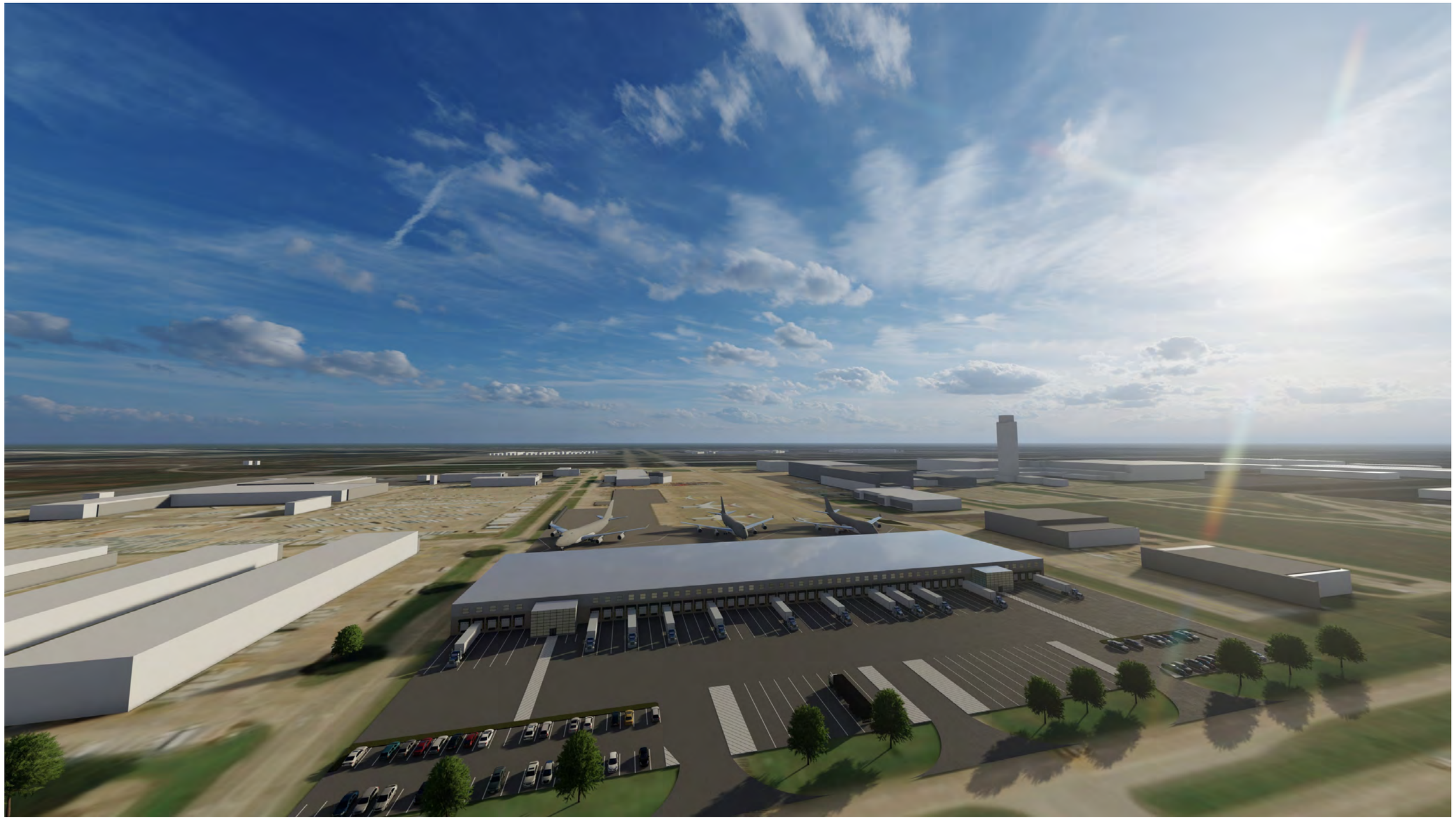
Non-Destructive Testing Analysis

StationID	Station (ft)	Test Type	RunID	Latitude	Longitude	Surface Modulus (ksi)	Base Modulus (ksi)	Subgrade Modulus (ksi)
1	0	Center	12A	32.90927	-97.062579	7,000	575	48.10
4	40.6	Center	12A	32.90938	-97.062577	7,000	1,169	48.30
7	97.1	Center	12A	32.90953	-97.06258	7,000	1,002	55.20
8	143.9	Center	12A	32.90966	-97.062581	7,000	1,410	35.40
11	194.7	Center	12A	32.90983	-97.062602	7,000	701	43.80
14	244.9	Center	12A	32.90995	-97.062607	7,000	1,760	53.00
2	4.3	Center	9A	32.90919	-97.063155	7,000	952	52.20
3	77.8	Center	9A	32.90939	-97.063153	7,000	1,002	52.50
4	103.9	Center	9A	32.90947	-97.063154	7,000	1,002	45.10
7	150.7	Center	9A	32.90959	-97.063151	7,000	776	51.00
8	203.4	Center	9A	32.90974	-97.063151	7,000	860	41.00
11	224.1	Center	9A	32.9098	-97.063153	7,000	543	34.00
12	250.7	Center	9A	32.90987	-97.063156	7,000	1,230	35.20
1	595.6	Center	9A	32.90918	-97.06315	7,000	860	42.00
1	0	Center	Row1	32.90926	-97.064882	6,091	895	20.30
4	31.4	Center	Row1	32.90935	-97.064882	6,366	1,008	21.20
5	74.4	Center	Row1	32.90946	-97.064877	5,875	1,738	19.60
6	125.1	Center	Row1	32.9096	-97.064875	7,000	875	27.50
9	176.3	Center	Row1	32.90974	-97.064875	6,888	874	23.00
12	225.1	Center	Row1	32.90988	-97.064864	7,000	890	25.60
13	274.8	Center	Row1	32.91002	-97.064862	7,000	1,950	29.40
14	325.1	Center	Row1	32.91015	-97.064864	7,000	737	27.50
1	3.4	Center	Row10	32.90933	-97.062896	7,000	2,000	46.30
2	25.1	Center	Row10	32.90939	-97.062896	7,000	1,363	45.80
5	74.9	Center	Row10	32.90952	-97.062895	7,000	1,363	49.90
6	101	Center	Row10	32.9096	-97.062892	7,000	776	52.00
9	172.4	Center	Row10	32.90979	-97.062902	7,000	860	46.60
10	196.6	Center	Row10	32.90986	-97.062907	7,000	737	53.00
13	222.7	Center	Row10	32.90993	-97.062906	7,000	1,002	58.10
1	-1	Center	Row11	32.90918	-97.062736	7,000	1,285	43.60
6	51.7	Center	Row11	32.90933	-97.062735	7,000	2,000	46.50
7	99	Center	Row11	32.90946	-97.062735	7,000	776	52.60
12	150.2	Center	Row11	32.9096	-97.062734	7,000	1,055	43.30
13	194.7	Center	Row11	32.90972	-97.062746	7,000	1,933	28.40
16	224.1	Center	Row11	32.9098	-97.062748	7,000	860	44.10
17	270.5	Center	Row11	32.90993	-97.062749	7,000	1,760	53.00
4	-3.9	Center	Row12	32.90918	-97.062657	7,000	1,038	42.40
1	0	Center	Row12	32.90919	-97.062657	7,000	1,100	40.60
5	47.3	Center	Row12	32.90932	-97.062655	7,000	1,760	48.80
6	74.4	Center	Row12	32.90939	-97.062655	7,000	969	46.20
9	99.5	Center	Row12	32.90946	-97.062656	7,000	1,002	51.70
12	147.3	Center	Row12	32.90959	-97.06266	7,000	633	41.90
13	170	Center	Row12	32.90966	-97.062661	7,000	1,055	49.00

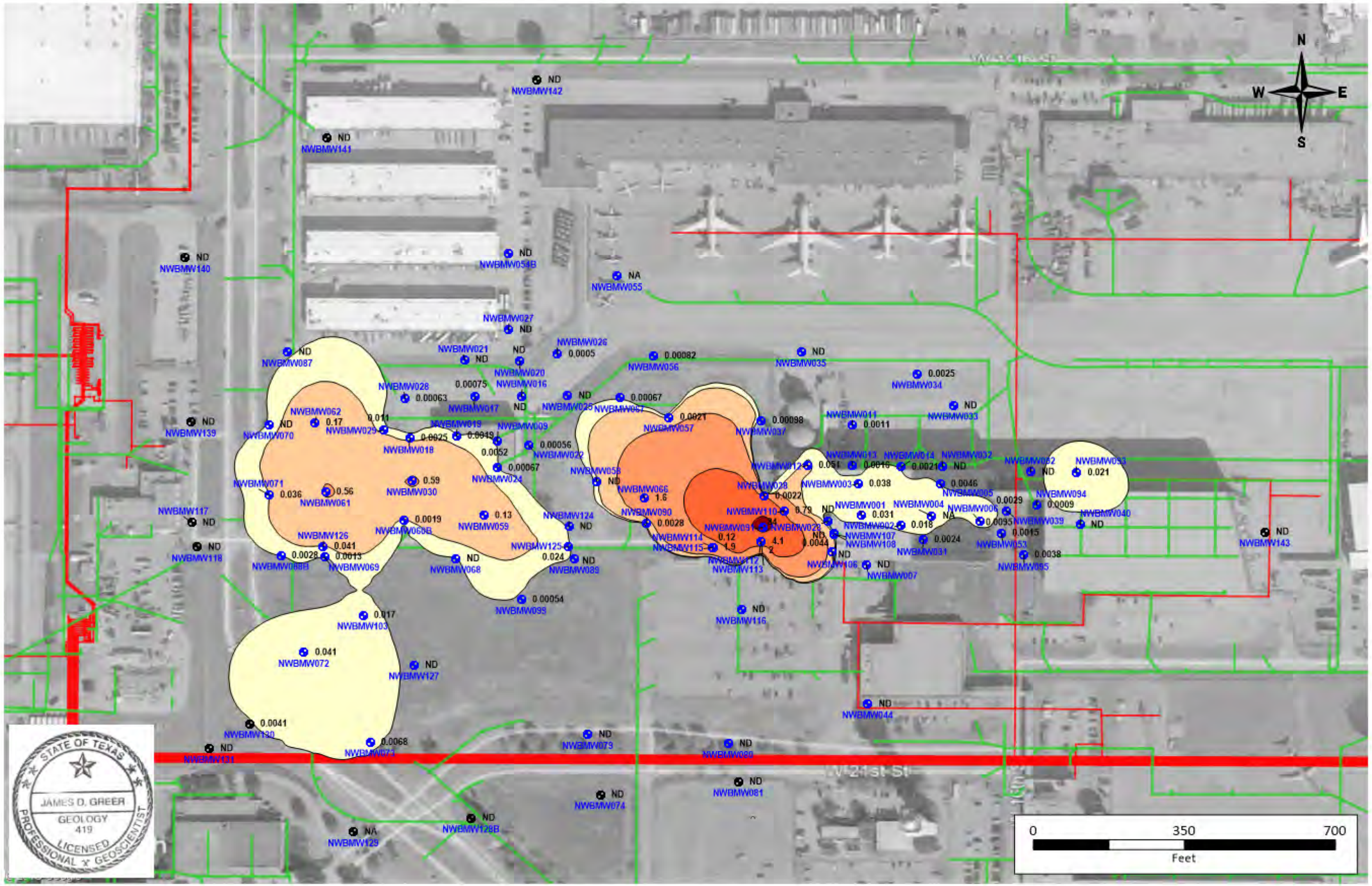
StationID	Station (ft)	Test Type	RunID	Latitude	Longitude	Surface Modulus (ksi)	Base Modulus (ksi)	Subgrade Modulus (ksi)
16	195.1	Center	Row12	32.90973	-97.062652	7,000	2,000	28.70
19	274.8	Center	Row12	32.90995	-97.062644	7,000	1,672	55.60
1	2.9	Center	Row13	32.90921	-97.062274	7,000	776	69.10
4	52.2	Center	Row13	32.90934	-97.062259	7,000	1,169	70.40
5	148.3	Center	Row13	32.9096	-97.062249	7,000	571	44.00
8	219.8	Center	Row13	32.90981	-97.062256	7,000	817	39.80
9	247.8	Center	Row13	32.90989	-97.06226	7,000	1,110	43.30
1	0	Center	Row2	32.90926	-97.0647	7,000	515	31.40
2	49.3	Center	Row2	32.9094	-97.0647	7,000	969	23.70
5	121.2	Center	Row2	32.9096	-97.064705	7,000	875	26.60
6	169.5	Center	Row2	32.90973	-97.064701	7,000	1,002	24.90
9	222.7	Center	Row2	32.90988	-97.064704	7,000	947	26.40
12	270.5	Center	Row2	32.91001	-97.064701	7,000	1,950	29.50
1	0	Center	Row4	32.90926	-97.06429	7,000	1,230	26.30
2	46.9	Center	Row4	32.90939	-97.064286	7,000	1,459	23.60
5	92.7	Center	Row4	32.90952	-97.064289	6,627	1,918	27.10
6	148.3	Center	Row4	32.90967	-97.064289	7,000	1,309	25.50
9	195.1	Center	Row4	32.9098	-97.064291	7,000	1,672	30.70
12	269.5	Center	Row4	32.91001	-97.064297	7,000	1,672	38.80
13	316.4	Center	Row4	32.91014	-97.0643	5,943	550	22.80
2	0	Center	Row5	32.90919	-97.06405	7,000	1,399	27.10
5	74.9	Center	Row5	32.90939	-97.064043	7,000	1,329	27.40
6	124.1	Center	Row5	32.90953	-97.064045	7,000	725	25.00
9	173.4	Center	Row5	32.90966	-97.06405	7,000	860	38.80
10	223.2	Center	Row5	32.9098	-97.064052	7,000	543	34.30
11	271.5	Center	Row5	32.90994	-97.064055	7,000	1,020	25.80
14	298	Center	Row5	32.91001	-97.064059	7,000	860	39.10
15	321.2	Center	Row5	32.91008	-97.064059	5,686	362	19.10
16	344.9	Center	Row5	32.91014	-97.064059	4,486	1,579	22.20
1	794.1	Center	Row5	32.90919	-97.064049	4,773	470	23.20
1	0	Center	Row6	32.90932	-97.063803	7,000	1,509	37.40
2	52.2	Center	Row6	32.90947	-97.063803	7,000	701	44.10
5	98.5	Center	Row6	32.9096	-97.063806	7,000	1,589	32.90
6	152.2	Center	Row6	32.90975	-97.063813	7,000	571	43.40
7	197.1	Center	Row6	32.90987	-97.063823	7,000	1,169	43.80
1	0	Center	Row8	32.90927	-97.063261	7,000	1,509	32.80
2	0	Center	Row8	32.90926	-97.063395	7,000	845	41.30
3	49.3	Center	Row8	32.90939	-97.063403	7,000	860	39.80
6	99	Center	Row8	32.90953	-97.063403	7,000	1,852	45.70
7	149.7	Center	Row8	32.90967	-97.063401	7,000	1,760	31.00
10	195.6	Center	Row8	32.9098	-97.063402	7,000	1,852	30.60
13	249.2	Center	Row8	32.90994	-97.063408	7,000	1,760	49.30
1	20.8	Center	Row9	32.90925	-97.063057	7,000	1,760	54.10

StationID	Station (ft)	Test Type	RunID	Latitude	Longitude	Surface Modulus (ksi)	Base Modulus (ksi)	Subgrade Modulus (ksi)
4	48.8	Center	Row9	32.90933	-97.063063	7,000	776	52.30
5	95.6	Center	Row9	32.90946	-97.063065	7,000	1,950	33.60
8	148.3	Center	Row9	32.9096	-97.063059	7,000	1,055	42.80
9	191.8	Center	Row9	32.90972	-97.063055	7,000	1,295	28.80

Appendix C: Representative Landside Renderings



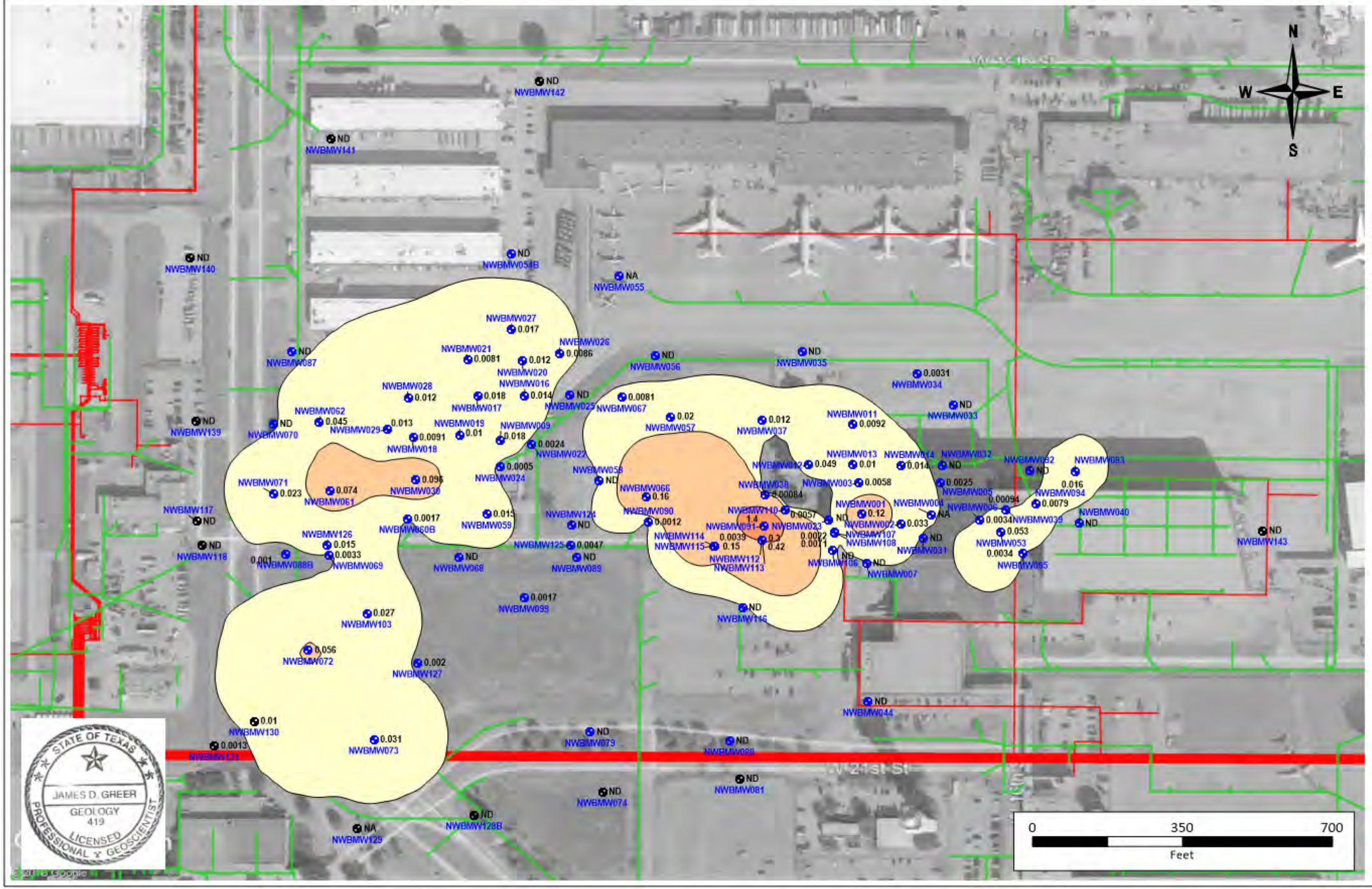
Appendix D: Concentration Maps at West Cargo



DFW DALLAS FORT WORTH INTERNATIONAL AIRPORT

AOC B1
PCE Groundwater Concentration Map
December 2019

Attachment 1A2-6



LEGEND

- Monitoring Well
- APOE Monitoring Well
- Jet Fuel Supply Line
- Stormwater Drain Line
- **ND** Not Detected above SDL
- **NA** Not Available
- **DRY** No water in well

Samples Collected December 2019

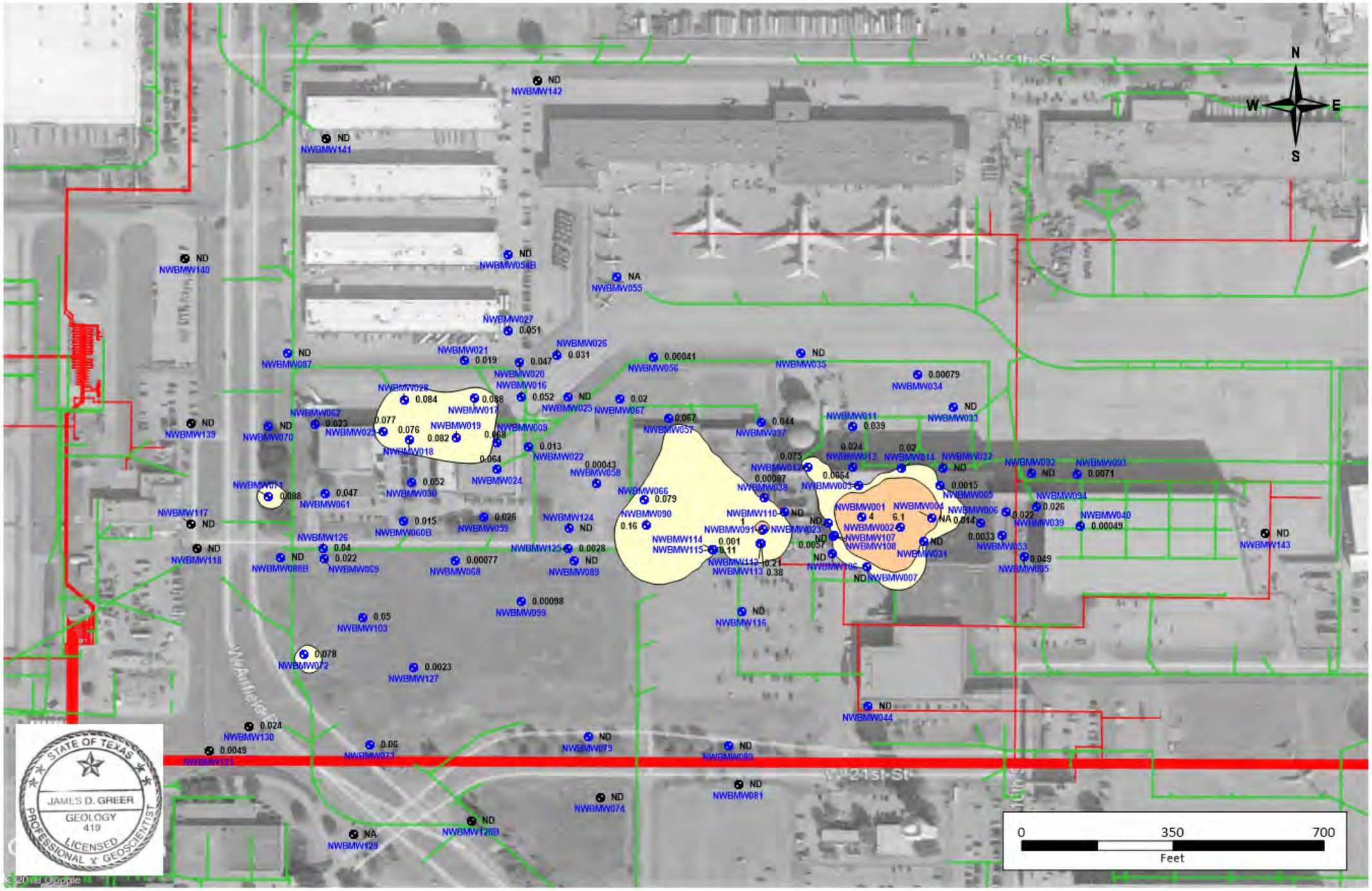
TCE CPCL = 0.005 mg/L
(milligrams per liter)

STATE OF TEXAS
JAMES D. GREER
GEOLOGY
419
LICENSED
PROFESSIONAL GEOSCIENTIST

DFW DALLAS FORT WORTH INTERNATIONAL AIRPORT

AOC B1
TCE Groundwater Concentration Map
December 2019

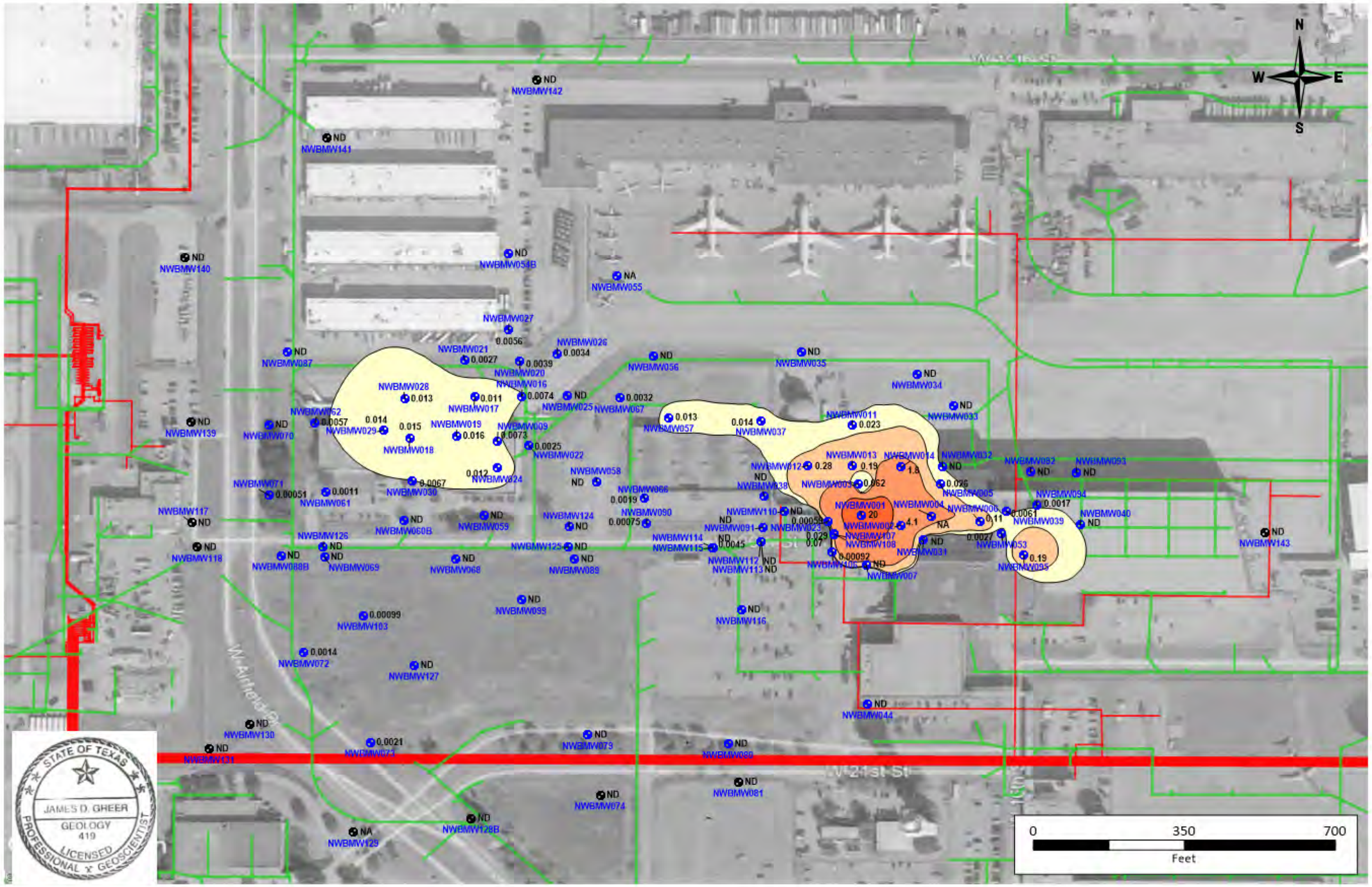
Attachment 1A3-6



DFW DALLAS FORT WORTH INTERNATIONAL AIRPORT

AOC B1
CIS-1,2-DCE Groundwater Concentration Map
December 2019

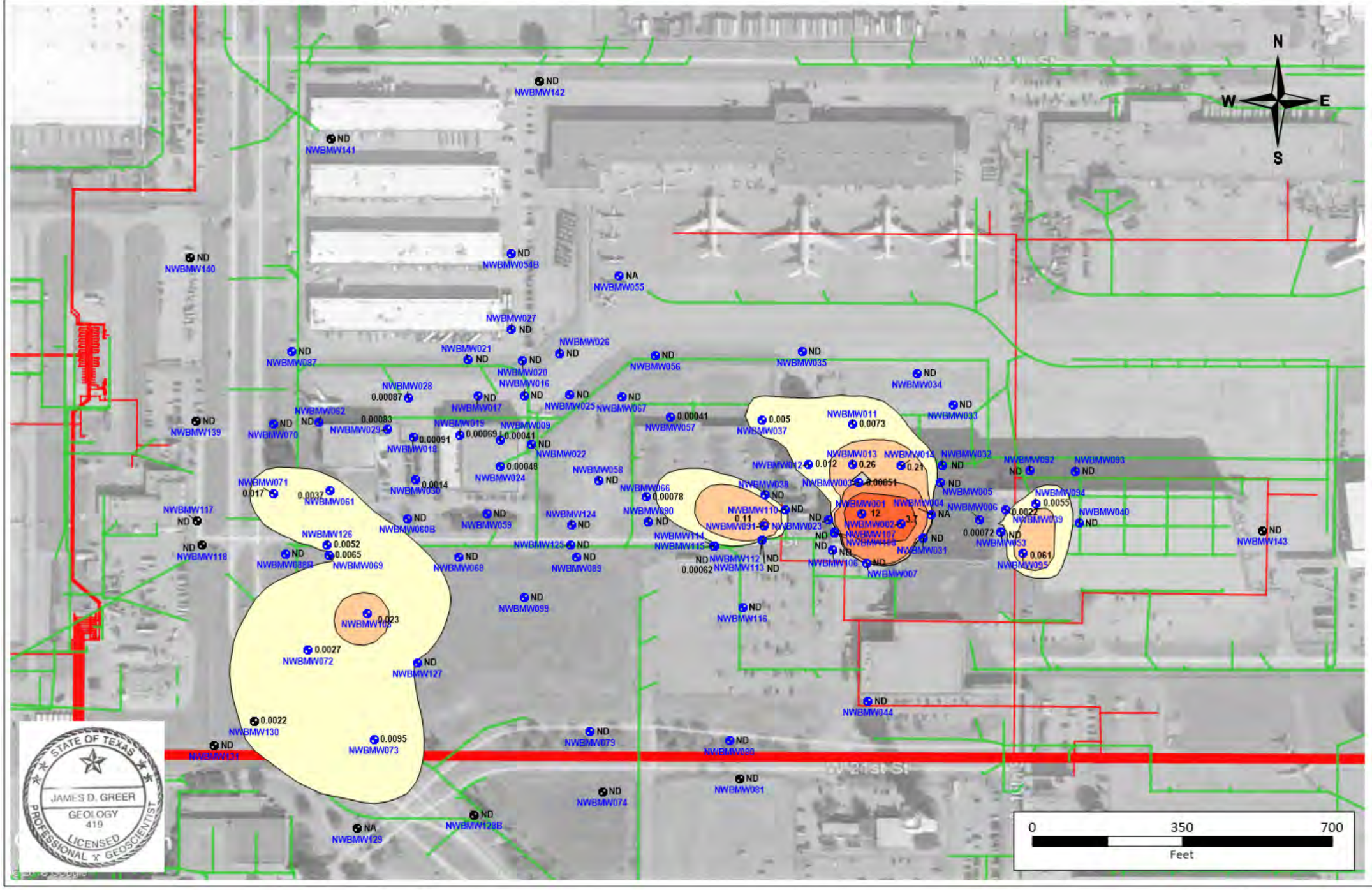
Attachment 1A4-6



DFW DALLAS FORT WORTH INTERNATIONAL AIRPORT

AOC B1
1,1-DCE Groundwater Concentration Map
December 2019

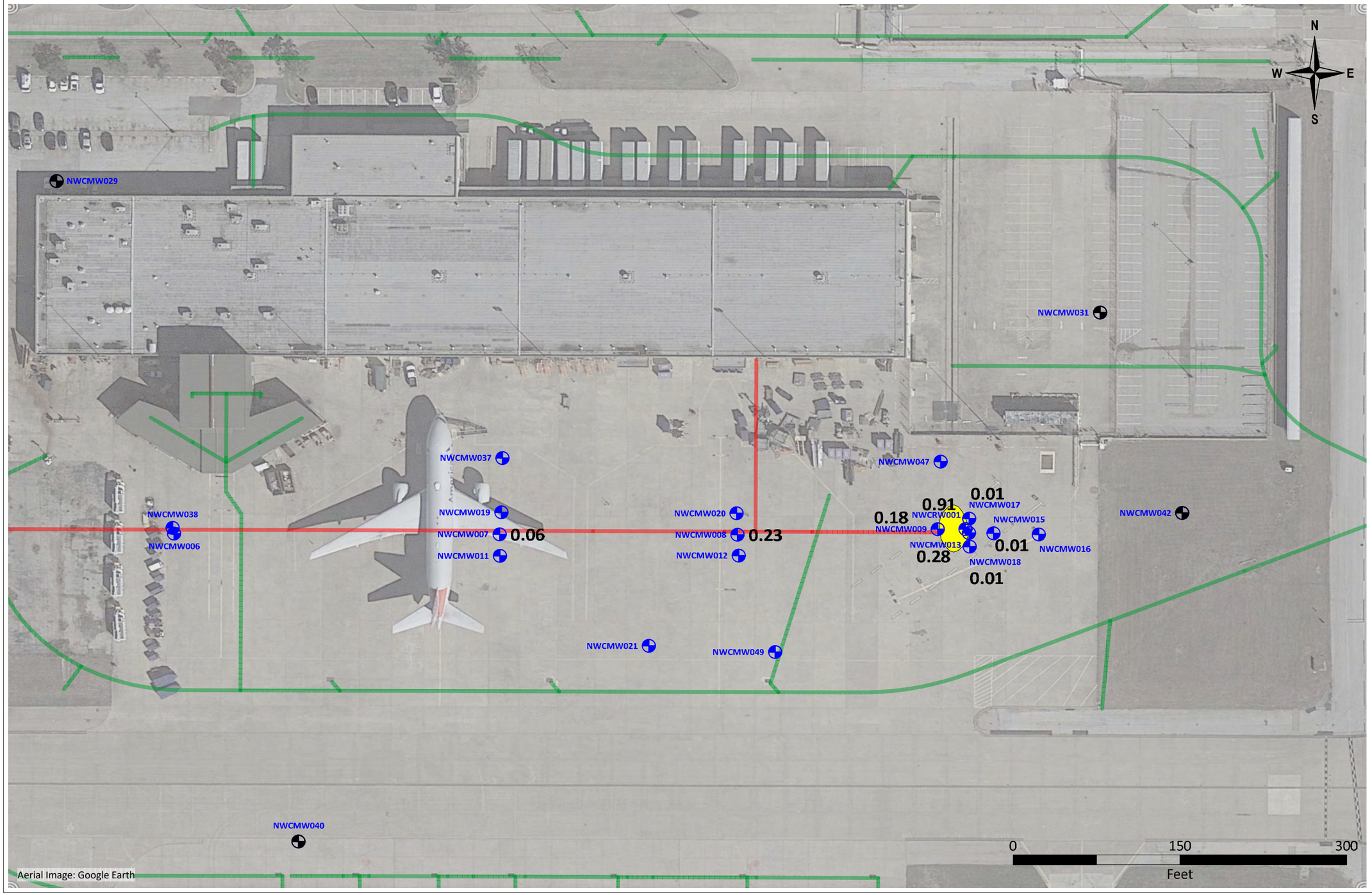
Attachment 1A5-6



DFW DALLAS FORT WORTH INTERNATIONAL AIRPORT

AOC B1
Vinyl Chloride Groundwater Concentration Map
December 2019

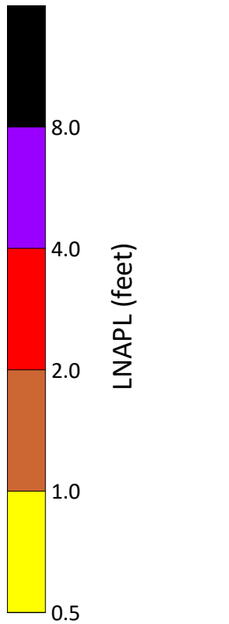
Attachment
1A6-6



LEGEND

- Monitoring Well
- APOE Monitoring Well
- Jet Fuel Supply Line
- Stormwater Drain Line

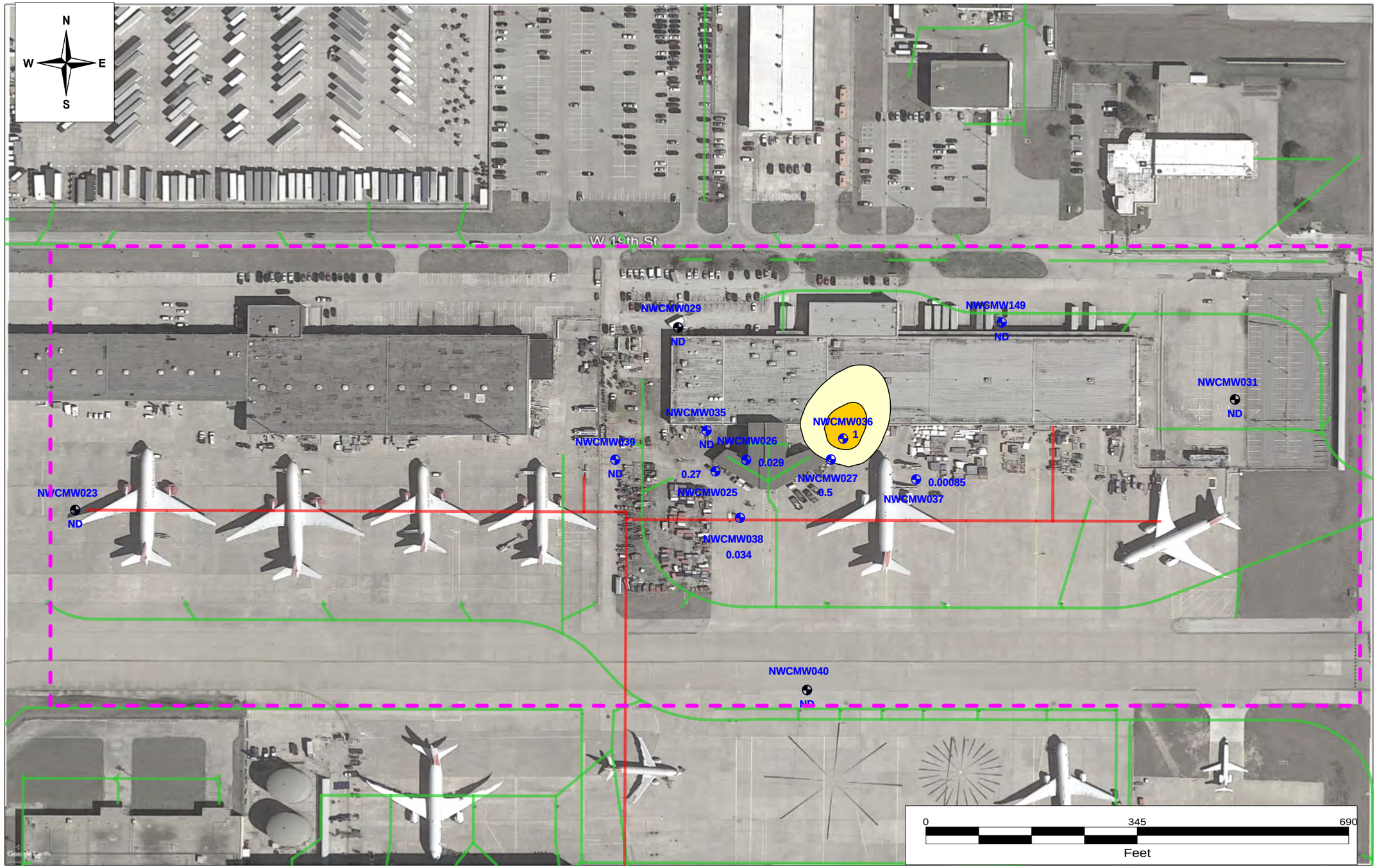
LNAPL RAO ≤ 0.50 ft.
Wells Gauged Aug. 2020



DFW DALLAS FORT WORTH INTERNATIONAL AIRPORT

AOC C2 LNAPL Thickness
3rd Quarter 2020

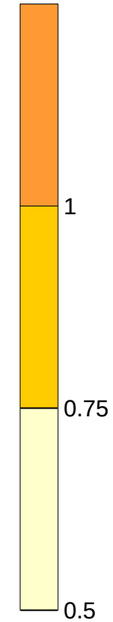
Attachment
1A-15



LEGEND

- Plume Management Zone
- Monitoring Well
- APOE Monitoring Well
- Jet Fuel Supply Line
- Stormwater Drain Line
- *ND* Not Detected above SDL

Groundwater Classification = Class 3
Tectrachloroethene CPCL = 0.5 mg/L
Samples Collected: August 2020



DFW DALLAS FORT WORTH INTERNATIONAL AIRPORT

AOC C5 - PCE GROUNDWATER CONCENTRATION MAP September 2020

Attachment 3C

Appendix E: Abbreviations

AC	–	Advisory Circular
ADG	–	Airplane Design Group
AOA	–	Airport Operations Area
CTB	–	Cement Treated Base
DCC	–	Design, Code, and Construction
DCM	–	Design Criteria Manual
EA	–	Environmental Assessment
EAD	–	Environmental Affairs Department
EIS	–	Environmental Impact Statement
EMMS	–	East Materials Management Site
ETAM	–	Energy, Transportation, and Asset Management
FAA	–	Federal Aviation Administration
FONSI	–	Finding of No Significant Impact
GSE	–	Ground Service Equipment
HWD	–	Heavy weight deflectometer
IATA	–	International Air Transport Association
MOS	–	Modification of Standards
NW	–	Northwest
OFA	–	Object Free Area
PCC	–	Portland Cement Concrete
PCI	–	Pavement Condition Index
PDD	–	Project Definition Document
RCB	–	Reinforced Concrete Base
ROM	–	Rough Order of Magnitude
TxDOT	–	Texas Department of Transportation

APPENDIX C

Air Quality Analysis – Construction and Operational Emissions—Reports

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FINAL

Air Quality: Construction Emissions Assessment Technical Report

DFW Airport – 19th Street Development

December 2022

HDR Project No.	10345433
Recipient	Madison Peppers, DFW Airport
Date	December 2022
Prepared by	Victoria Hsu, HDR, Inc.
Checked by	Ronald Ying, HDR, Inc. Kristine Lloyd, HDR, Inc.
Approved by	Esther Chitsinde, HDR, Inc.

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TABLES

FIGURES

APPENDICES

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Acronyms and Abbreviations

ACM	Asbestos-Containing Materials
ACRP	Airport Cooperative Research Program
APU	Auxiliary Power Unit
CAA	Federal Clean Air Act
CAP	Criteria Air Pollutant
CATEX	Categorical Exclusion
CH_4	Methane
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalents
DFW	Dallas Fort Worth International Airport
EIS	Environmental Impact Statement
EV	Electric Vehicles
FAA	Federal Aviation Administration
GHG	Greenhouse Gases
GSE	Ground Support Equipment
GWP	Global Warming Potential
HAP	Hazardous Air Pollutants
MOVES3	Motor Vehicle Emission Simulator (version 3, Jan. 2021)
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO_2	Nitrogen Dioxide
NOx	Nitrogen Oxides
O_3	Ozone
Pb	Lead

PM_{10}	Particulate Matter Less Than 10 Microns in Diameter
$PM_{2.5}$	Particulate Matter Less Than 2.5 Microns
RTC	Regional Transportation Council
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SOP	Standard Operating Procedure
tpy	Tons Per Year
TCEQ	Texas Commission on Environmental Quality
TRB	Transportation Research Board
TexN2.2	Texas-specific emissions model for nonroad mobile sources
USEPA	United States Environmental Protection Agency
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds

Executive Summary

This technical report provides an assessment of the air quality impacts associated with the 19th Street Redevelopment Project at Dallas Fort Worth International Airport (the Airport or DFW) (the "Proposed Action"). The Proposed Action consists of airside and landside improvements that would create an operationally functional cargo area and to provide unimpeded access to the southeast apron, by B737-800.The Proposed Action would provide aircraft parking positions and cargo buildings to support operations by aircraft such as the B747-400 and the B777-200. The Proposed Action would include the construction of two warehouse buildings with office space ("Building 1" and "Building 2"), landside single-sided truck docking and storage and employee and customer parking stalls, five new widebody aircraft positions for Building 1 and 2, improvements for the two existing hardstand positions, new airside pavement, and alterations to Taxiways C and Z, and Taxilane Z, along with all necessary supporting infrastructure (see **Figure 1**).

HDR evaluated impacts to air quality due to the Proposed Action for National Environmental Policy Act (NEPA) purposes in accordance with the guidelines provided in the Federal Aviation Administration (FAA) Aviation Emissions and Air Quality Handbook Version 3 Update 1 (FAA Handbook); FAA Order 5050.4B, NEPA Implementing Instructions for Airport Actions; and FAA Order 1050.1F, Environmental Impacts: Policies and Procedures.

HDR estimated criteria air pollutant (CAP) and greenhouse gas (GHG) emissions associated with construction of the Proposed Action. Proposed Action construction emission estimates were developed based on 1) activity estimates for vehicle, non-road equipment, and fugitive dust provided by the DFW and 2) emission factors from the United States Environmental Protection Agency (USEPA) Motor Vehicle Emission Simulator (MOVES3, January 2021 release), Texas Commission on Environmental Quality (TCEQ) TexN2.2, and USEPA AP-42 guidance.

HDR evaluated the Proposed Action's significance with respect to air pollutant emissions by comparing the estimated emissions to applicable USEPA *de minimis* levels under General Conformity Rules (40 CFR 93, Subpart B). As of November 7, 2022, DFW is in a Severe Ozone Non-Attainment Area for the 2008 8-hour ozone standard.[1] Therefore, the Proposed Action is subject to 25 tons per year (tpy) volatile organic compounds (VOC) and nitrogen oxides (NOx) *de minimis* thresholds under the General Conformity Rules. This analysis was initiated to determine compliance with the Clean Air Act (CAA) and the Texas Commission on Environmental Quality (TCEQ) Dallas-Fort Worth Eight-Hour Ozone State Implementation Plan (SIP). **Table 1** shows that maximum annual construction emissions are well below applicable *de minimis* thresholds.

[1] Texas Commission on Environmental Quality. *Dallas-Fort Worth: Current Attainment Status.* Effective November 7, 2022. Available at: www.tceq.texas.gov/airquality/sip/dfw/dfw-status

Table 1. Proposed Action Construction Emissions and Comparison to General Conformity *de minimis* Thresholds.

Project Year	Project Emissions (tons/yr)		General Conformity De Minimis Threshold[1] (tons/yr)	
	NOx	VOC	NOx	VOC
2023	3.69	0.26	25	25
2024	8.14	0.84	25	25

[1] Source: 40 CFR 93 § 153 *de minimis* thresholds applied to Dallas-Fort Worth Non-Attainment Area "severe" classification.

1 Introduction

This technical report has been prepared to address the potential air quality impacts associated with the Proposed Action. In conformance with the NEPA, this analysis identifies and assesses the impacts that would result from the Proposed Action's emission of CAPs and discloses emissions of GHGs.

This analysis evaluates the potential air quality-related impacts of the Proposed Action, which would construct two warehouse buildings with office space and build out airside and landside improvements in the Northwest Cargo area. This technical report describes the scope and methodology for evaluation of air quality from construction sources. Operational emissions will be determined at a future time. The results of these evaluations are compared to the standards of significance identified by the Federal CAA, as outlined below.

1.1 Overall Approach and Regulatory Setting

NEPA provides for an environmental review process to disclose the potential impacts, including on air quality, from a proposed federal action on the human environment. Per the USEPA, NEPA's policy is to assure that all branches of government properly consider the environment prior to undertaking any major federal action that significantly affects the environment.

The impacts to air quality due to the Proposed Action for NEPA purposes are determined in accordance with the guidelines provided in the FAA Aviation Emissions and Air Quality Handbook Version 3 Update 1 (FAA Handbook); FAA Order 5050.4B, NEPA Implementing Instructions for Airport Actions; and FAA Order 1050.1F, Environmental Impacts: Policies and Procedures. Potential air quality and climate impacts are categories that are required to be analyzed per these orders and guidance.

FAA 1050.1F, Exhibit 4-1 defines the significance threshold for air quality as when "[t]he action would cause pollutant concentrations to exceed one or more of the National Ambient Air Quality Standards (NAAQS), as established by the USEPA under the CAA, for any of the time period analyzed, or to increase the frequency or severity of any such existing violations." FAA guidance requests that an Air Quality analysis focus on NAAQS criteria air pollutants and that a separate section of the assessment should address Climate, which requires a qualitative analysis of greenhouse gas (GHG) emissions.

The CAA requires adoption of NAAQS, which are periodically updated, to protect public health and welfare from the effects of air pollution. Current federal standards are set for sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter less than 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), and Lead (Pb).[2] Specific geographic areas are classified as either "attainment" or "non-attainment" areas for each pollutant based upon comparison of ambient monitoring data with NAAQS. Those areas designated as "non-

[2] USEPA. NAAQS Table. Available at: https://www.epa.gov/criteria-air-pollutants/naaqs-table. Accessed: September 2022.

attainment" for purposes of NAAQS compliance are required to prepare regional air quality plans, which set forth a strategy for bringing an area into compliance with the standards. These regional air quality plans are developed to meet federal requirements and are included in an overall program referred to as the SIP.

The Project site is in Dallas and Tarrant Counties which have been designated by the USEPA as being in attainment and non-attainment with the following NAAQS, respectively.[3]

- *Attainment or Unclassified:* CO (1-hr, 8-hr), NO_2 (1-hr, Annual), Sulfur Dioxide (SO_2) (1-hr, 3- hr), PM_{10} (24-hr), $PM_{2.5}$ (24-hr, Annual), and Pb (Rolling 3-month average);
- *Non-Attainment:* O_3 (2008 8-hr, Severe), O_3 (2015 8-hr, Moderate)[4].

As indicated above, EPA NAAQS non-attainment classifications for the project area are limited to ozone. Ozone (O_3) is not directly emitted but is formed in the atmosphere when NO_x and VOC react under exposure to solar radiation. Ozone is considered a regional pollutant because NO_x and VOC emissions throughout the airshed are involved in the formation of ozone. A regional photochemical model that considers emissions throughout the airshed is used to model ozone concentrations. The potential impacts to ozone concentrations are typically based on estimates of the annual or daily emissions of NO_x and VOC. Air pollutant emissions from construction and any net increases in NOx or VOC emissions associated with operation of the Proposed Action would be relevant to ozone formation and concentration, especially if the emissions increases exceed the General Conformity *de minimis* thresholds.

1.2 Existing Conditions

DFW is jointly owned by the cities of Dallas and Fort Worth, Texas, and included portions in both Dallas and Tarrant counties. In 2021, DFW was ranked 2nd for passenger movements with over 62 million passengers and was the 10th busiest cargo airport in North America.[5] DFW covers over 17,000 acres of land area and has five passenger terminals (A, B, C, D, and E). Its airfield system consists of seven runways separated by a spine road, International Parkway, into the east and west airfield complexes.

DFW currently has six cargo complexes: the Northeast Cargo, American Airlines Cargo, and the 5E Cargo areas on the east side and the Northwest Cargo, UPS, and International Air Cargo (IAC) on the west side (see **Figure 1**). In Fiscal Year 2018 (FY18), DFW supported an average of 75,957

[3] USEPA. Greenbook. 2022. Texas Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. Dallas-Fort Worth. Available at: https://www3.epa.gov/airquality/greenbook/anayo_tx.html. Accessed: September 2022.

[4] Texas Commission on Environmental Quality. *Dallas-Fort Worth: Current Attainment Status.* Effective November 7, 2022. Available at: www.tceq.texas.gov/airquality/sip/dfw/dfw-status

[5] 2021 North American Airport Traffic Summary (Cargo), Airports Council International (ACI) North America. Available at: https://airportscouncil.org/wp-content/uploads/2022/08/NAM2021-Top-50.xlsx. Accessed: September 2022.

cargo tons per month across all carrier types. In FY22, DFW supported an average 85,500 cargo tons per month, which accounts for approximately 12.5% growth over a period of three years.

The Northwest Cargo Campus is comprised of multiple buildings, an airside ramp area, and landside pavement for building access. To complete the proposed development, Building 221, the adjacent parking, and apron will need to be demolished. The existing project area has multiple roadway access points towards West Airfield Drive and 19th Street. Buildings that are located to the south of the proposed project will remain unchanged. Towards the east, the project site has airside access through Taxiway C and Taxilane Z. South of buildings 220 and 221, there are apron areas adjacent to the cargo buildings and Taxilane Z (see **Figure 2)**.[6]

[6] Dallas Fort Worth International Airport. *Basis of Design Narrative: 19th Street Cargo Redevelopment*. August 23, 2022.

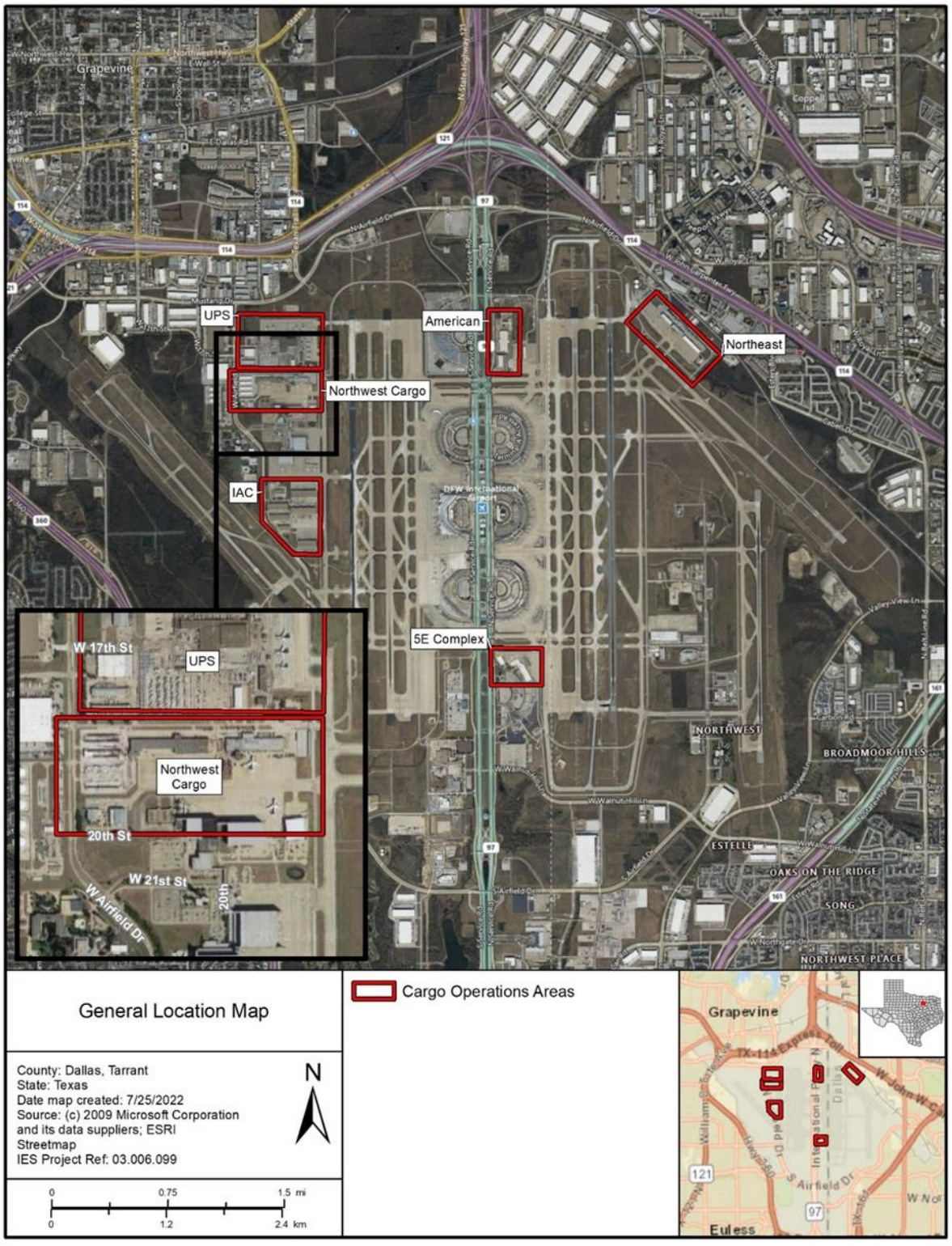

Figure 1. DFW General Location and DFW Cargo Operations Areas.

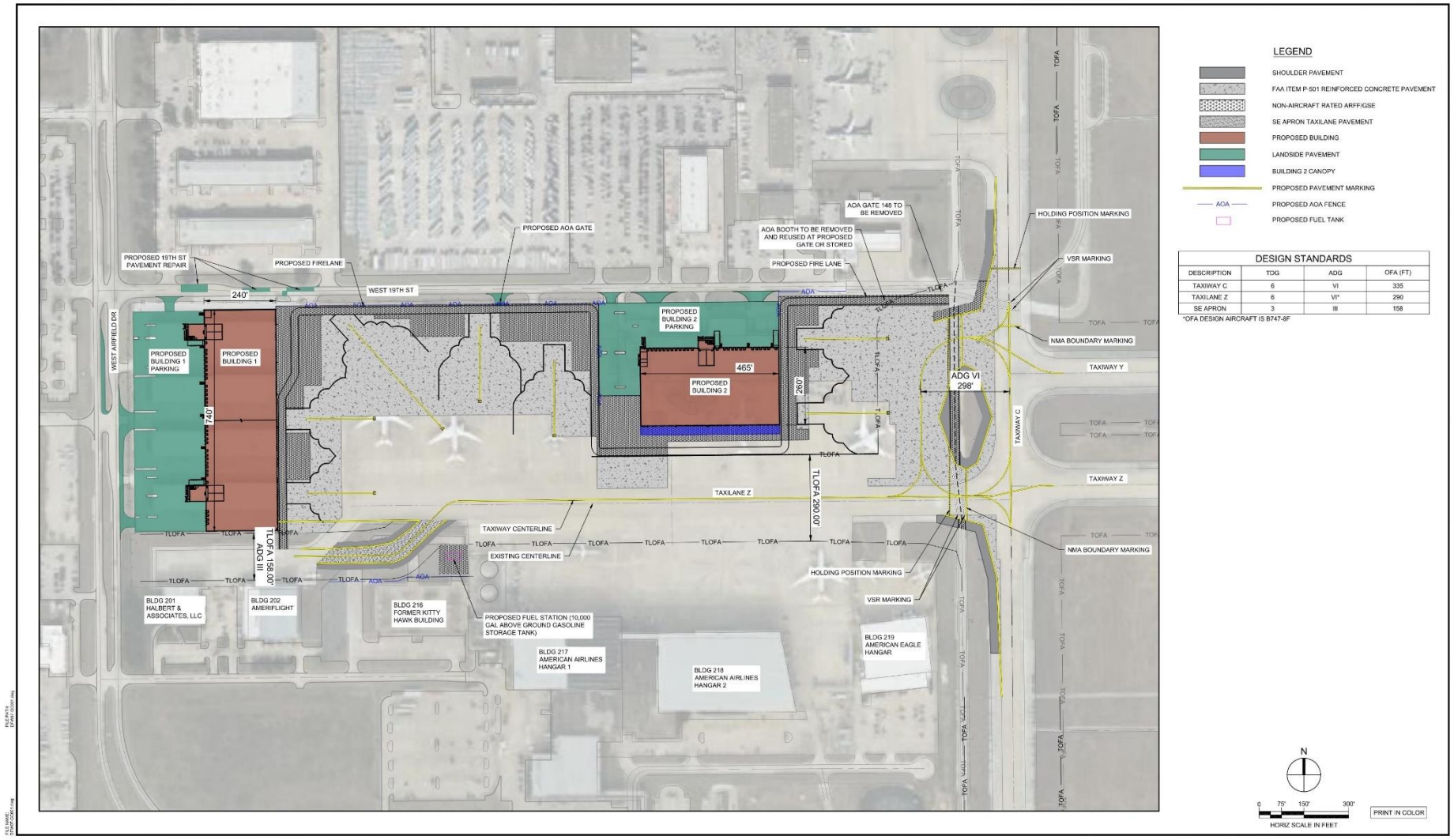

Figure 2. Proposed Action Site Plan

1.3 Proposed Action

DFW is proposing to construct the 19th Street Cargo Development Project (*Proposed Action*). The Proposed Action would include airside and landside improvements that would create an operationally functional cargo area and to provide unimpeded access to the southeast apron, by B737-800 and other smaller aircraft. The Proposed Action would provide aircraft parking positions and cargo buildings to support operations by aircraft such as the B747-400 and the B777-200. The *Proposed Action* (**Figure 2**) would include the following elements:

- Demolition of one cargo building, the associated ramp, adjacent driveways, and obsolete utilities;
- Abatement of asbestos-containing materials (ACM) located within the project area prior to demolition and construction
- Construction of two new cargo buildings, five aircraft parking positions, associated landside surface parking, and new aircraft ramp pavement;
- Reconstruction of two aircraft hardstand positions;
- Roadway improvements including construction of deceleration lanes and access driveways
- Reconfiguration of Taxiways C and Z, and modifications to Taxilane Z for optimized aircraft movement
- Construction of hydrant fuel pits, requisite distribution infrastructure, and a new vehicle fuel station;
- Construction of new Air Operations Area (AOA) access gates and AOA fence;
- Installation of lighting systems and construction of requisite utilities, including communications, electrical, stormwater, potable water, sanitary sewer, jet fuel, glycol, and natural gas;
- Construction of an oil/water separator and requisite underground stormwater collection/ management infrastructure

Air quality and GHG emissions from construction of the Proposed Action are analyzed for the anticipated construction years of 2023 and 2024. Proposed Action construction emissions are described in Section 2.4.1 and evaluated for significance in Section 4.1.1 of this technical report.

2 Methodology and Inventory

The steps conducted in performing this air quality analysis are consistent with the FAA Handbook as follows: (1) determine the need for the assessment; (2) select the assessment methodology; and (3) conduct the assessment and assess the Proposed Action's impact relative to the numeric thresholds.

2.1 Need for Assessment

The FAA Handbook lays out the following steps to determine when an air quality assessment is required and the type of assessment that may be needed.

1. Determine the Project definition, described in Section 1.3.
2. Determine whether FAA involvement is associated with the Proposed Action; DFW has already been in discussions with the FAA regarding this Proposed Action. In this step, the Proposed Action has been confirmed not to fall under a categorical exclusion (CATEX), so an environmental assessment or environmental impact statement (EIS) will be developed.
3. Determine if the Proposed Action will cause or create a reasonably foreseeable increase in air emissions. As described further below, construction of this Proposed Action may cause an increase in air emissions.
4. Establish the attainment/nonattainment status for the Project area and identify pollutants for which the area is designated nonattainment or maintenance, described in Section 1.1.
5. Evaluate agency/public scoping comments concerning air quality; this is only a requirement when preparing an EIS and is not addressed explicitly in this report.

Based on the results of Steps 1 through 4 above, an air quality assessment has been conducted as described below.

2.2 Assessment Methodology

The FAA Handbook describes several different potential assessment methodologies that could be pursued when an air quality assessment is needed. Figure 4-5 of the FAA Handbook provides examples that show which methodologies are appropriate, potentially appropriate, or unnecessary for various project action categories (see **Figure 3**).

The potential methodologies are summarized in Section 2.2, and methodologies that were used for the Proposed Action are described below. The type of project for this proposed action fits within the category "New or Expanded Cargo Facility" for determining the assessment methodology. This category lists the construction emissions inventory as "appropriate" and all other methodologies as "potentially appropriate." The decision to evaluate the "potentially appropriate" methodologies were assessed using Project-specific information.

Figure 4-5. Air Quality Assessment Examples[1,2]

Project/Action Category	Operational Emissions Inventory	HAPs Emissions Inventory	GHG Emissions Inventory	Construction Emissions Inventory	Dispersion Modeling
Project Type					
New Airport	■	■	■	■	◪
New Runway	■	■	■	■	◪
Major Runway Extension	◪	◪	◪	■	◪
New or Expanded Terminal	◪	◪	◪	■	◪
Relocated Terminal	◪	◪	◪	■	◪
Roadway Modifications	◪	◪	◪	■	◪
New or Expanded Cargo Facility	◪	◪	◪	■	◪
New or Expanded Parking	◪	◪	◪	■	◪
New or Expanded Utility Plant	◪	◪	◪	■	◪
New Fuel Storage System	□	◪	□	■	□
New or Modified Taxiway	□	◪	□	■	◪
Runway Safety Area	□	□	□	◪	□
Runway Rehabilitation	□	□	□	□	□
Obstruction Removal	□	□	□	□	□
Air Traffic Control Tower	□	□	□	◪	□
Action Type					
Increase in Aircraft Operations	◪	◪	◪	□	◪
Change in Runway Utilization	◪	◪	◪	□	◪
Change in Fleet Mix	◪	◪	◪	□	◪
Increase in Taxi Time/Delay	◪	◪	◪	□	◪
Increase in Motor Vehicle Trips	◪	◪	◪	□	◪
Air Traffic Procedures < 3,000 ft	◪	◪	◪	□	□
Air Traffic Procedures > 3,000 ft	□	□	□	□	□
Land Acquisition	□	□	□	□	□
Navigational System	□	□	□	□	□

[1]The symbols indicate the relative level of appropriateness of an analysis to a project/action: ■ = High, ◪ = Medium, □ = Low

[2]Importantly, the information provided in this figure is not meant to be definitive or all-inclusive in terms of dictating the type(s) of air quality assessments that are required for FAA projects or actions. Rather, the information is provided as a guide in determining which analyses are the most appropriate.

Figure 3. Air Quality Assessment Examples (FAA AQ Handbook v3, update 1 (2015))

- Construction Emissions Inventory: A construction emissions inventory is designed to quantify the mass of CAP emissions and precursors associated with construction activity in a proposed action. This is described in Sections 2.3 and 2.4.1 below.
- Greenhouse Gas Emissions Inventory: A GHG emissions inventory is designed to quantify the mass of GHG emissions associated with construction activity in a proposed action.
- Atmospheric Dispersion Modeling: Dispersion modeling is used to predict the air quality effects of the operational and construction emissions inventory by distributing and dispersing the emissions across a project area both spatially and temporally based on the operational and physical characteristics of the emission source(s) combined with meteorological and local terrain data. This is not necessary for this Proposed Action given

the nonattainment pollutant of interest (O_3) and the results of the construction emissions assessment below.

- Roadway "Hot-Spot" Analysis: Hot-spot modeling is designed to assess the effects of motor vehicle traffic emissions on local air quality conditions. This is not applicable to the Proposed Action given that it will not result in significant increases in vehicle traffic. In addition, the Proposed Action is not subject to Transportation Conformity, which is when a formal hot-spot analysis can be required.

2.3 Construction Scenarios Evaluated

HDR evaluated CAP and GHG emissions associated with construction of the Proposed Action. The Proposed Action, which is the only scenario evaluated, would include the construction of two warehouse buildings with office space, landside single-sided truck docking and storage and employee and customer parking stalls, five new widebody aircraft positions for the two cargo buildings, improvements for the two existing hardstand positions, new airside pavement, and alterations to Taxiways C and Z, and Taxilane Z, along with all necessary supporting infrastructure.

Construction emissions depend on activity levels for heavy-duty construction equipment, truck haul trips (bulk deliveries and demo debris to local landfill), and vehicle trips made by construction workers and vendors/material deliveries (cement mixer) traveling to and from the Proposed Action site. Construction activities would take place in 2023 and 2024 and include the following phases: demolition, staging, airfield, airside, Building 1, and Building 2. The Proposed Action construction is anticipated to take 13 months starting in August 2023. Building 1 construction is anticipated to begin in August 2023 and take 13 months to complete. An additional 3 months is anticipated for commissioning and closeout with no active construction. Operational activities would begin from Building 1 in September 2024. Construction of Building 2 is anticipated to start in November 2023, this is contingent upon the ACM abatement and demolition of Building 221, which is anticipated to start in August 2023 and last 3 months. Construction of Building 2 is scheduled to last 11 months with the end of construction being in September 2024. Commissioning and closeout are anticipated to last 3 months with no additional active construction. Building 2 is scheduled to be operational by January 2025. The construction equipment hours would be split so that approximately 24 percent would occur in 2023 and 76 percent would occur in 2024.

2.4 Construction Emissions Inventory Development

This section describes the methodology that HDR used to develop the construction emissions inventory for the Proposed Action. This analysis evaluates CAPs and GHGs. Disclosure of HAPs is recommended for operational emissions but not for construction. For this analysis, the following pollutants were considered:

- O_3 precursors: VOCs and NOx
- Other CAPs: CO, SO_2, PM_{10}, and $PM_{2.5}$
- GHGs: CO_2 (carbon dioxide), CH_4 (methane), N_2O (nitrous oxide); total GHG emissions are reported as CO_2e (carbon dioxide equivalents)

Because O_3 is a secondary pollutant (i.e., it is not directly emitted but is formed in the atmosphere), emissions of VOCs and NO_x, which react in the presence of sunlight to form ozone, were used to assess the potential for impacts on ozone levels.

CO_2e emissions were estimated based on 20-year global warming potential (GWP) estimates for CH_4 (84) and N_2O (264),[7] conservatively, as 20-year GWPs will result in higher CO_2e estimates compared to 100-year GWP estimates.

To estimate CAP and GHG emissions from the Proposed Action, HDR directly or indirectly relied primarily on emissions estimation guidance from government-sponsored organizations, Project specific studies (e.g., design documents), DFW-provided project activity data, USEPA MOVES3, and TexN2.2 were used to generate mobile emission factors.

2.4.1 Construction Emissions Inventory

Proposed Action construction would generate CAP and GHG emissions from heavy-duty construction equipment activity, truck haul trips (bulk deliveries and demo debris to local landfill), and construction workers and vendor/material truck trips (cement mixer) to and from the site. Mobile source emissions would be generated from on-road vehicles and construction equipment, including but not limited to backhoes, dump trucks, excavators, graders, rollers, loaders, pavers, trenchers, forklifts, compressors, cranes, concrete saws, passenger vehicles/trucks, water trucks, and tractor trailers. A full list of construction equipment and vehicles is included in Appendix A. Emissions of NO_x, CO, SO_2, VOC, PM_{10}, and $PM_{2.5}$ are included in the construction emissions inventory. Diesel-powered off-road construction equipment and traffic to and from the construction site would also generate GHGs. The assessment of construction air quality impacts considers each of the above sources. As DFW purchases 100% renewable electricity, there would be no indirect GHG emissions associated with electricity generation for construction of the Proposed Action.

To calculate Proposed Action construction emissions, HDR utilized DFW-provided activity estimates combined with the most recent emission factors from the USEPA MOVES3 emissions model and TexN2.2, and USEPA AP-42 guidance. Inventory activity and emission factors are described in Sections 2.4.1.1. and 2.4.1.2.

2.4.1.1 Emissions Inventory Activities

2.4.1.1.1 Project Schedule

The Proposed Action consists of several supporting project types as defined in Section 2.3 Construction Scenarios Evaluated. Each project type is further broken down into relevant construction activities. The overall project construction is anticipated to take place between August 2023 and September 2024. Anticipated project types and construction activities are shown in Table 2.

[7] Intergovernmental Panel on Climate Change (IPCC), 2014. AR5 Synthesis Report: Climate Change 2014. Available at: https://www.ipcc.ch/report/ar5/syr/. Accessed: September 2022.

Table 2. Project Types and Construction Activities for the Proposed Action.

Project Types	Construction Activities
Demolition	Building demolition
Staging	SW Controls, Clearing & Grubbing, Stabilization, Fence, Utilities, Batch Plant, Trailer
Airside	SW Controls, Barricades, Demolition, Existing Tank Demolition, Pavement, Lights, Markings, Proposed Tank Install, Stabilization, Fence, APGS, Clean
Building 1	SW Controls, Barricades, Demolition, Lights, Pavement, Curb, Markings, Gate, Stabilization, Clean, Drainage, Sidewalk, Foundation, Utilities, Mezzanine, Structural, Enclosure, Interior, Finishes, Landscaping, Commissioning
Airfield	SW Controls, Barricades, Demolition, Pavement, Shoulders, Lights, Markings, Stabilization, Clean
Building 2	SW Controls, Barricades, Demolition, Pavement, Curb, Lights, Markings, Gate, Stabilization, Clean, Sidewalk, Drainage, Utilities, Foundation, Structural, Mezzanine, Enclosure, Interior, Finishes, Landscaping, Commissioning

2.4.1.2 Emission Factors

For this technical analysis, HDR used MOVES3 (2021 release) and TexN2.2 (2021 release) to develop emission factors for on-road vehicles and non-road equipment specific to Dallas County. The assumptions used for generating the emission factors are:

- Average speed of 32 mph for vehicles travelling On-road
- For grams/equipment-day calculations, a work-day was assumed to be 8 hours
- On-road emission rates/factors assumed to be from 8AM on a July 2023/2024 weekday
- Non-road emission rates/factors assumed to be from July 2023/2024 weekday

2.4.1.2.1 On-road

HDR used MOVES3 to estimate off-road equipment emission factors for calendar year 2023 and 2024. MOVES3 was run at a national scale for Dallas County, Texas. The DFW airport is located in both Tarrant and Dallas Counties. HDR has followed ACRP Report 102 guidance on county choice: “If the project spans multiple counties, the county with the greatest populace should be used, as the county is used to select the appropriate emission factors.”[8] Emissions and activity were output from MOVES by vehicle type, fuel type, and process type for each calendar year. Emissions were aggregated over nine emission process types to facilitate application to activity for development of Proposed Action emissions.

[8] Transportation Research Board. ACRP Report 102: Guidance for Estimating Airport Construction Emissions. Available at: http://www.trb.org/main/blurbs/170234.aspx. Accessed: September 2022.

Table 3 lists MOVES emission process types, aggregate groupings, and activity surrogates. Emission factors were estimated by aggregate grouping by dividing MOVES output emissions by MOVES output activity.

Table 3. MOVES Process Grouping and Activity Surrogates.

MOVES Emission Process	Activity Surrogate	
	Description	Metric
Crankcase Running Exhaust[2]	Distance	Miles
Running Exhaust[2]	Distance	Miles
Brake Wear[3]	Distance	Miles
Tire Wear[3]	Distance	Miles
Evaporation Fuel Leaks[4]	Distance	Miles
Evaporation Fuel Vapor Venting[4]	Distance	Miles
Evaporation Permeation[4]	Distance	Miles
Crankcase Start Exhaust[5]	Starts	One-Way Trips
Start Exhaust[5]	Starts	One-Way Trips
Crankcase Extended Idle Exhaust	Vehicle Population	Vehicle-days
Extended Idle Exhaust	Vehicle Population	Vehicle-days
Evaporation Fuel Vapor Venting[6]	Vehicle Population	Vehicle-days
Evaporation Fuel Leaks[7]	Vehicle Population	Vehicle-days
Evaporation Permeation[7]	Vehicle Population	Vehicle-days
Refueling Spillage Loss[8]	Vehicle Population	Vehicle-days
Refueling Displacement Vapor Loss[8]	Vehicle Population	Vehicle-days

2.4.1.2.2 Non-road

HDR used TexN2.2 with MOVES3 to estimate emission factors for calendar year 2023 and 2024. TexN2.2 was run at a project scale for Dallas County, Texas. The DFW airport is located in both Tarrant and Dallas County. As stated above, HDR followed ACRP Report 102 guidance on county choice and used Dallas County as it has the largest population of the two. Emission and activity were output from TexN2.2 by equipment type, fuel type, and horsepower bin for construction, industrial, and airport/aviation sectors for 2023 and 2024. DFW-provided equipment activity was cross referenced to TexN2.2 equipment types based on name matching and experience in assigning appropriate types. Dallas County-specific emission factors were estimated for each equipment type and fuel type by dividing output emissions (tons per day) by output energy consumption (horsepower hours). MOVES3/TexN2.2 does not estimate N_2O emissions; therefore, N_2O was computed from the ratios of N_2O to CO_2 emissions from diesel combustion in Tables 13.1

and 13.7 of The Climate Registry Default Emission Factors, multiplied by CO_2 emissions from TexN2.2 output.[9]

2.4.1.2.3 Fugitives

Fugitive emissions and inputs from all fugitive source types are based on the most recent applicable USEPA AP-42 guidance documents and Western Governors' Association Western Regional Air Partnership (WRAP) Fugitive Dust Handbook.

Table 4. Fugitives Emission Estimation Methodology and Project-Specific Adjustments.

Fugitive Source	Methodology
Soil Handling	AP-42 13.2.4; WRAP Fugitive Dust Handbook[1]
Unstabilized Land and Wind Erosion	AP-42 11.9; WRAP Fugitive Dust Handbook[2]
Material Movement (Paved Roads)	AP-42 13.2.1
Material Movement (Unpaved Roads)	AP-42 13.2.2
1 WRAP. WRAP Fugitive Dust Handbook Table 3-2 Recommended PM10 Emission Factors for Construction Operations. https://www.env.nm.gov/wp-content/uploads/sites/2/2017/02/WRAP_FDHandbook_Rev_06.pdf. Accessed September 2022. 2 WRAP. WRAP Fugitive Dust Handbook. Table 11-6 Uncontrolled TSP Emission Factors for Western Surface Coal Mines. https://www.env.nm.gov/wp-content/uploads/sites/2/2017/02/WRAP_FDHandbook_Rev_06.pdf. Accessed September 2022.	

The ratio of $PM_{2.5}$ to PM_{10} emissions for fugitives is provided in Table 5 by construction activity.

Table 5. Fugitives $PM_{2.5}$ to PM_{10} Emission Ratios.

Construction Activity	$PM_{2.5}/PM_{10}$	Source
Material Movement (Paved Roads)	0.25	AP-42 13.2.1-1
Material Movement (Unpaved Roads)	0.1	AP-42 13.2.2-2
Soil Handling	0.15	AP-42 13.2.4
Unstabilized Land and Wind Erosion	0.15	AP-42 13.2.5

On-road, non-road, and fugitive dust emission calculations are found in Appendix B.

[9] The Climate Registry. Default Emission Factors, April 19, 2016. Available at: https://www.theclimateregistry.org/wp-content/uploads/2014/11/2016-Climate-Registry-Default-Emission-Factors.pdf. Accessed: March 2021.

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3 Significance Thresholds

This section discusses the criteria and general methods used to evaluate the Proposed Action's significance with respect to air quality impacts under NEPA.

The emissions inventories are used to determine the projected net annual increase in emissions, and the potential impact to air quality in the vicinity of DFW due to the Proposed Action. The General Conformity Rule helps ensure that federal activities do not cause or contribute to a violation of NAAQS. The General Conformity process begins with an Applicability Analysis. If General Conformity applies, the Agency must prepare a General Conformity Determination. Then federal, state and local air quality governance are engaged in a public review process of the agency's determination.

When performing a General Conformity applicability analysis, the FAA considers a range of factors, including:

- If action will occur in a Non-attainment or Maintenance Area
- If specific exemptions in the General Conformity Rule apply
- If the action is on the federal agency's list of "presumed to conform" activities
- If total emissions exceed General Conformity *de minimis* levels, and
- If an EPA-approved SIP has an emissions budget for which emissions with the action could be compared

If an action is not exempt or presumed to conform or found to cause emissions above applicable *de minimis* levels in any nonattainment or maintenance area, the agency must prepare a General Conformity Determination prior to taking the action.

DFW is in a Severe Ozone Non-Attainment Area (based on 2008 ozone standards); therefore, the 25 tpy VOC and 25 tpy NO_x *de minimis* thresholds apply to this Project.[10] The maximum annual emissions are compared to applicable *de minimis* thresholds below to determine compliance under the General Conformity Rule and compliance with the CAA and the Texas SIP.

[10] Texas Commission on Environmental Quality. *Dallas-Fort Worth: Current Attainment Status.* Effective November 7, 2022. Available at: www.tceq.texas.gov/airquality/sip/dfw/dfw-status

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4 Results

4.1 Construction Emissions Inventory Results

The following analysis addresses whether the Proposed Action would exceed the *de minimis* thresholds described above; and if so, a General Conformity analysis would be needed. If a project's emissions do not exceed the *de minimis* thresholds, then the project is presumed to conform.

Criteria air pollutant and ozone precursor mass emissions were calculated based on methodology described in Section 2.4 above.

Table 6 presents CAP emissions associated with construction of the Proposed Action.

Table 6. Proposed Action Criteria Air Pollutant Construction/Demolition Emissions

Project Type	Emissions (tons/yr)					
	CO	NOx	SO_2	PM_{10}	$PM_{2.5}$	VOC
2023						
Airfield	0.16	0.32	<0.001	0.02	0.02	0.02
Airside	0.21	0.42	<0.001	0.03	0.03	0.3
Building 1	0.30	0.59	0.001	0.05	0.05	0.05
Building 2	0.20	0.38	<0.001	0.03	0.03	0.03
Demolition	0.19	0.47	0.001	0.03	0.03	0.03
Staging	0.07	0.15	<0.001	0.01	0.01	0.01
Fugitive Dust (all project types)	--	--	--	49.02	5.45	--
Onroad	1.13	1.38	0.003	0.78	0.22	0.09
2023 Emission Totals	**2.29**	**3.69**	**0.01**	**49.98**	**5.84**	**0.26**
2024						
Airfield	0.72	1.44	0.002	0.11	0.11	0.10
Airside	0.95	1.89	0.002	0.15	0.15	0.14
Building 1	1.35	2.65	0.003	0.21	0.20	0.21
Building 2	0.87	1.71	0.002	0.13	0.13	0.14
Fugitive Dust (all project types)	--	--	--	88.23	9.81	--
Onroad	5.12	0.45	0.005	0.47	0.12	0.25
2024 Emission Totals	**9.01**	**8.14**	**0.01**	**89.31**	**10.52**	**0.84**

Table 7 presents GHG emissions associated with construction of the Proposed Action by construction project type.

Table 7. Proposed Action Greenhouse Gas Construction/Demolition Emissions

Project Type	Emissions (metric tons/yr)			
	CO_2	CH4	N_2O	CO_2e
2023				
Airfield	139.98	0.001	0.006	141.74
Airside	177.17	0.002	0.008	179.39
Building 1	257.57	0.003	0.011	260.83
Building 2	166.86	0.002	0.007	168.97
Demolition	253.16	0.003	0.011	256.32
Staging	80.63	0.001	0.004	81.64
Onroad	738.42	0.012	0.003	740.15
2023 Emission Totals	**1,813.80**	**0.024**	**0.050**	**1,829.02**
2024				
Airfield	672.08	0.007	0.030	680.46
Airside	850.60	0.009	0.037	861.21
Building 1	1,236.54	0.014	0.054	1,252.06
Building 2	801.04	0.009	0.035	811.10
Onroad	872.31	0.019	0.005	875.15
2024 Emission Totals	**4,432.58**	**0.056**	**0.162**	**4,479.98**

As shown in Table 8, Proposed Action construction emissions are below *de minimis* thresholds for 2023 and 2024.

Table 8. Proposed Action Construction/Demolition Emissions Compared to Applicable General Conformity *de minimis* thresholds.

Project Year	Project Emissions (tons/yr)		General Conformity De Minimis Threshold[1]	
	NOx	VOC	NOx	VOC
2023	**3.69**	**0.26**	**25**	**25**
2024	**8.14**	**0.84**	**25**	**25**

[1] Source: 40 CFR 93 § 153 de minimis thresholds applied to Dallas-Fort Worth Non-Attainment Area "severe" classification

Appendix A. Proposed Action Engineer's Estimate and ACEIT Inputs

DALLAS FORT WORTH INTERNATIONAL AIRPORT

19th Street Cargo Redevelopment

Construction Equipment Hours Estimate Methodology Memo

Permit No. A22-068B

Date: 12/19/2022

Prepared by RS&H

Contents

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1 Project Summary

The project includes the demolition of a building and construction of two cargo facilities (Building 1 is 740' X 240' and Building 2 is 465' x 260'). Also included are the associated airside apron, taxilane pavement, landside parking facilities, and a staging area. A layout of the proposed project can be seen in **Figure 1-1.** A layout of the staging area can be shown in **Figure 1-2**. The staging area is approximately 1.5 miles travel distance away from the project site.

The purpose of this memo is to detail the process utilized to estimate the amount of construction engine hours that will be required to construct the proposed improvements.

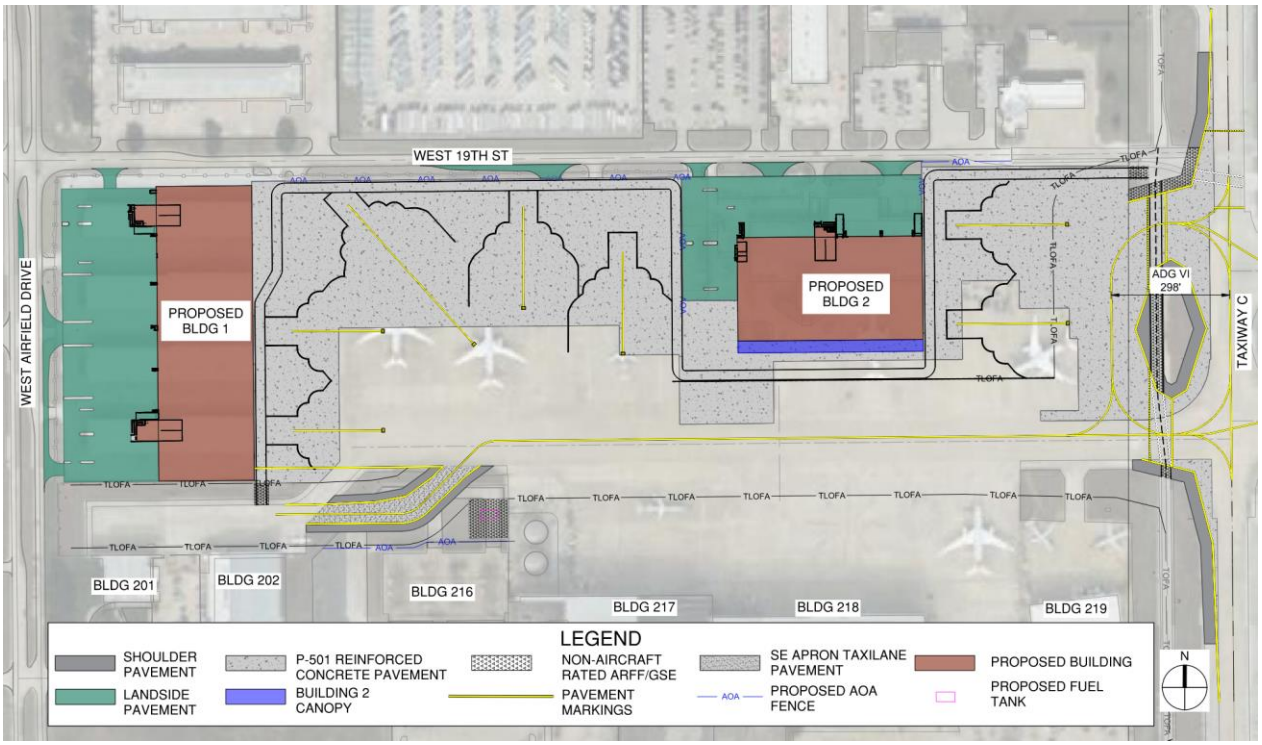

Figure 1-1: Project Layout

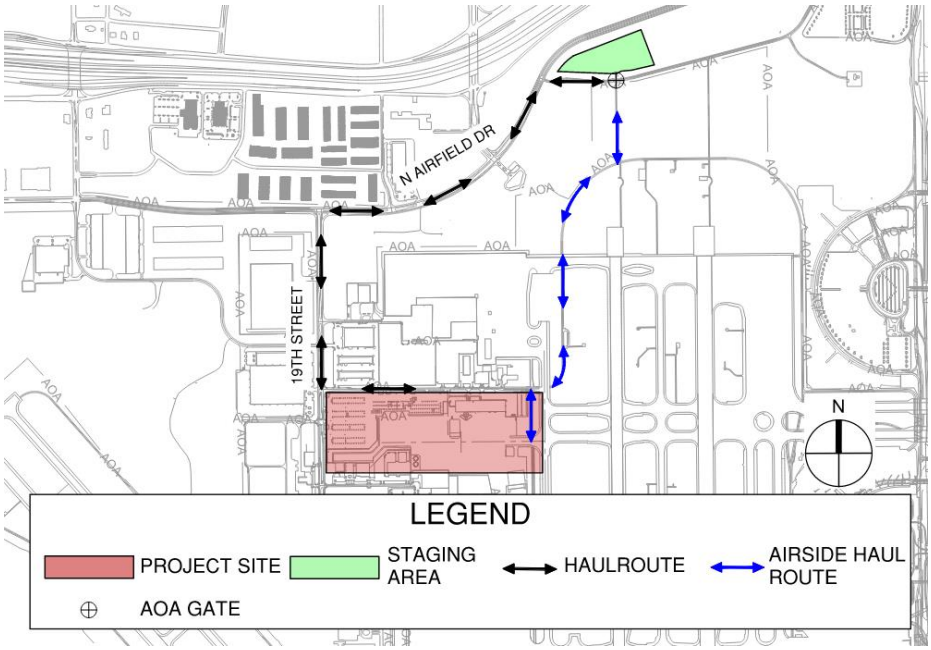

Figure 1-2: Staging Area Location

2 Construction Hour Estimate Methods

Two methods were utilized to estimate the number of total engine hours for construction. The initial results were then compared and merged to create an estimate that considers the unique aspects of the project and industry standard methods of construction. Below is a description of the two methods.

2.1 Engineer's Estimate of Equipment Hours

The first method utilized was an engineer's estimation based on the quantities of materials and assumed methods of construction based on the engineer's expertise. The project was broken down into major components: Building 1, Building 2, Apron (pavement adjacent to Building 1), Airfield (pavement adjacent to Building 2 including the construction), parking lot pavement, staging, and demolition. These components can be seen in **Figure 2-1**. Contaminated soil anticipated to be removed, demolition of the existing American Airlines facility, and staging were calculated separately and then incorporated into the overall hours estimate. Each construction activity was assigned an estimated number of crew and equipment to perform the work at a specified work rate (i.e., 1,000 square yards per day for concrete pavement construction). Each construction activity was chronologically sequenced based on normal construction practices and separated by year based on the phasing and then aligned to the overall project construction schedule provided by DFW.

This methodology produced a simplified list of construction equipment that provides an overall view of the effort required while considering the phasing and construction time that spans multiple years.

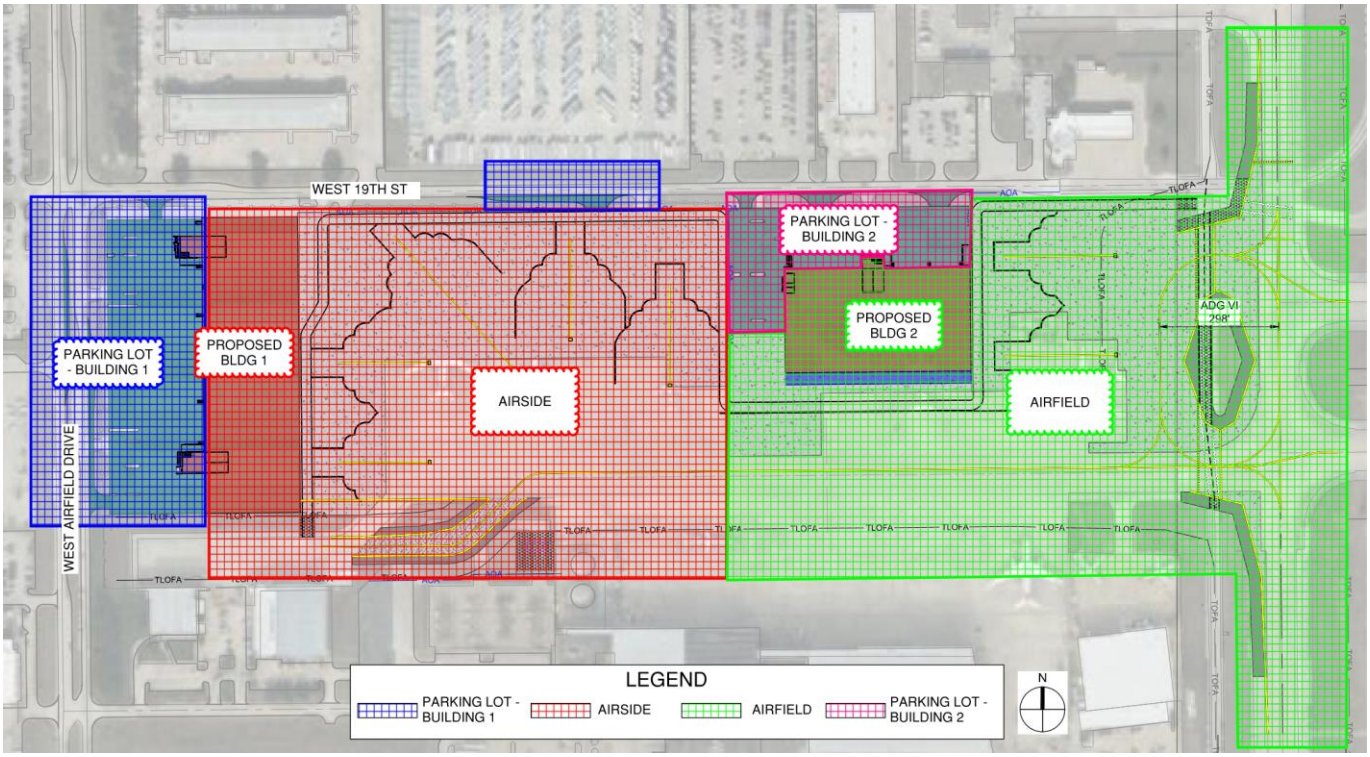

Figure 2-1: Project Components

2.2 Airport Construction Emissions Inventory Tool (ACEIT)

The second method utilized to estimate the total construction engine hours was an ACEIT Model using the NONROAD2008a and MOVES 2010b Model datasets. The model was run utilizing project specific inputs including the dimensions of the major construction items and project costs developed by DFW Design, Code, and Construction.

This methodology produces a more robust list of equipment to cover various construction activities and mirror common equipment used during the types of construction included in this project.

2.3 Merging the Two Methodologies

The results of the ACEIT Model were reviewed and compared to the Engineer's Estimate of Equipment Hours. The number of hours for several equipment types were adjusted in the ACEIT Model output based on this comparison to reflect equipment type ratios. The Engineer's Estimate took into account the phasing of the project that will split the paving work up and cause the effort to be less efficient than if the entire paving scope could be completed at one time and therefore contingency buffer was added. The total equipment hours were then split into the appropriate construction year using the distribution derived in the engineers' estimate.

2.4 On-Road Equipment Hours

On-road emission sources associated with construction of the Proposed Project often include material delivery vehicles (e.g., dump trucks, 18-wheelers carrying asphalt) and passenger vehicles transporting construction personnel to and from the job site. Material delivery vehicles are assumed to use diesel fuel, and passenger vehicles are assumed to use gasoline fuel. ACEIT provides an estimate of vehicle miles traveled based on the project's dimensions and costs for the number of trips that would have to take place over the construction of the project. The average speed used in calculations is 25 miles per hour. The vehicle miles traveled were converted to hours to stay consistent with the non-road calculations which is also in hours. The contaminated soils on-road equipment hours were derived by calculating the volume of soils that may be contaminated associated with the alignment of abandoned fuel lines. This volume was converted into a number of truck loads and associated truck trips to the appropriate land fill and finally converted to total vehicle hours.

2.5 Estimated Construction Schedule

-The proposed project schedule developed by DFW Design, Code and Construction on October 19, 2022 is shown in **Figure 2-2**. It was used to assign the specific sequence of construction activities developed in the Engineer's Estimate into construction years. The sequence of construction activities from the Engineer's Estimate of Equipment Hours was then used to create ratios per specific year and major project components over the total number of hours estimated. These ratios were used to split the total amount of equipment hours from the ACEIT model between the two years the project is expected to occur (2023 and 2024).

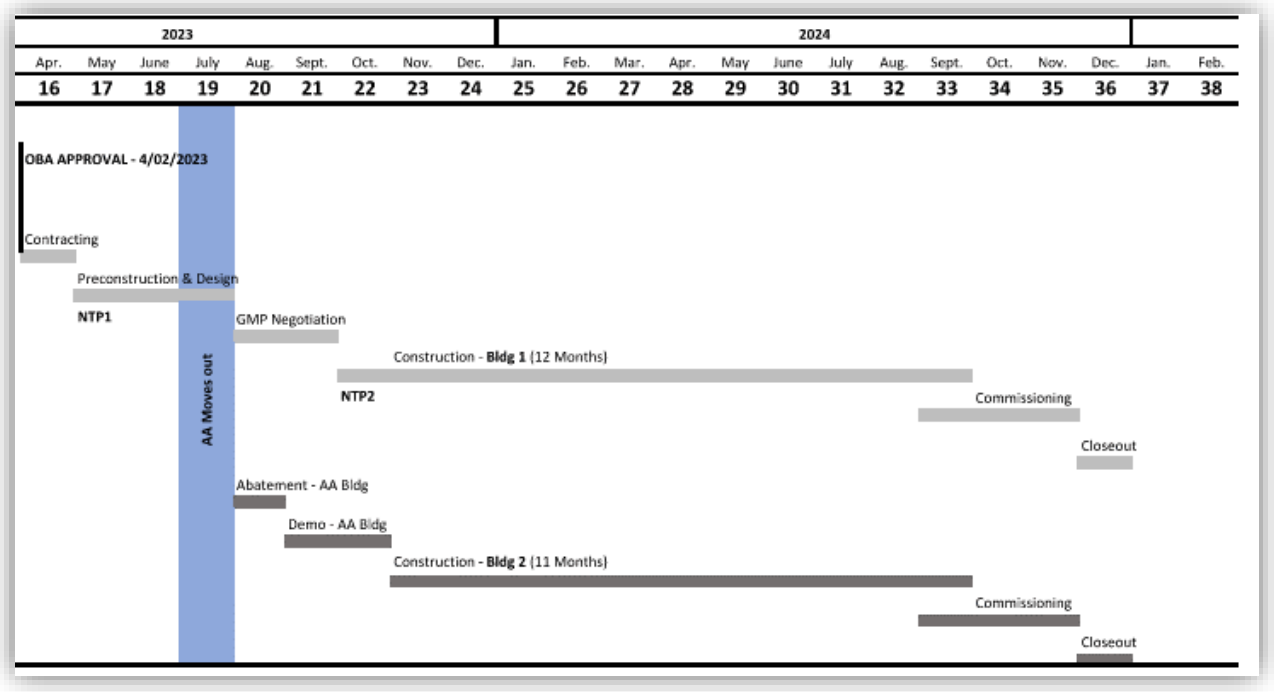

Figure 2-2: DFW Construction Schedule

3 Summary of Results

3.1 Non-Road Equipment Hours

The following tables list the types of non-road equipment used during each phase of construction, their average horsepower, and the number of hours modeled in year 1 and year 2 of construction. All of the equipment is presumed to use diesel fuels.

Table 3-1 through **Table 3-6** provide the non-road equipment hours for each major project component from the engineers estimate and ACEIT.

Table 3-1: Airfield Non-Road Equipment Hours

Airfield			
Equipment	**Horsepower**	**Year 1 Hours**	**Year 2 Hours**
Air Compressor	100	35	166
Asphalt Paver	175	64	308
Concrete Saws	40	35	166
Concrete Truck	600	146	700
Distributing Tanker	600	23	112
Dozer	175	179	857
Dump Truck	600	416	1,996
Excavator	175	39	189
Flatbed Truck	600	214	1,027
Grader	300	11	52
Hydroseeder	600	10	47
Loader	175	12	56
Off-Road Truck	600	10	47
Other General Equipment	175	413	1,982
Paving Machine	175	35	166
Pickup Truck	600	564	2,707
Pumps	11	9	43
Roller	100	111	533
Rubber Tired Loader	175	35	166
Scraper	600	43	208
Skid Steer Loader	75	24	115
Tractors/Loader/Backhoe	100	22	108
Water Truck	600	581	2,788
	Total Airfield Hours	**3,031**	**14,538**

Table 3-2: Airside Non-Road Equipment Hours

Airside			
Equipment	**Horsepower**	**Year 1 Hours**	**Year 2 Hours**
Air Compressor	100	49	235
Asphalt Paver	175	91	436
Concrete Saws	40	49	235
Concrete Truck	600	206	990
Distributing Tanker	600	38	182
Dozer	175	252	1,210
Dump Truck	600	587	2,815
Excavator	175	56	268
Flatbed Truck	600	302	1,451
Grader	300	15	72
Hydroseeder	600	14	65
Loader	175	15	73
Off-Road Truck	600	14	65
Other General Equipment	175	587	2,817
Paving Machine	175	49	235
Pickup Truck	600	800	3,839
Pumps	11	12	60
Roller	100	157	754
Rubber Tired Loader	175	49	235
Scraper	600	61	294
Skid Steer Loader	75	32	155
Tractors/Loader/Backhoe	100	30	145
Water Truck	600	412	1,978
	Total Airside Hours	**3,879**	**18,609**

Table 3-3: Building 1 Non-Road Equipment Hours

Building 1			
Equipment	**Horsepower**	**Year 1 Hours**	**Year 2 Hours**
40 Ton Rough Terrain Crane	300	70	335
90 Ton Crane	300	89	425
Auger Drill	175	105	502
Backhoe	100	701	3,363
Bob Cat	75	105	502
Compacting Equipment	6	70	335
Concrete Pump	11	89	425
Concrete Ready Mix Trucks	600	238	1,140
Concrete Truck	600	22	106
Excavator	175	59	284
Fork Truck	100	1525	7,315
Front Loader	100	244	1,172
Generator	40	30	142
Grout Mixer	600	155	744
Grout Wheel Truck	600	59	284
High Lift	100	425	2,037
Line Painting Truck and Sprayer	600	35	167
Man Lift	75	1,818	8,721
Material Deliveries	600	1,614	7,743
Other General Equipment	175	314	,1507
Paving Machine	175	140	670
Roller	100	70	335
Small Dozer	175	70	335
Survey Crew Trucks	600	21	101
Tool Truck	600	1,145	5,495
Tractor Trailers Temp Fac.	600	193	928
Trowel Machine	600	15	71
Truck Tower (Mantiwoc type)	300	340	1,631
	Total Building 1 Hours	**9,759**	**46,816**

Table 3-4: Building 2 Non-Road Equipment Hours

Building 2			
Equipment	**Horsepower**	**Year 1 Hours**	**Year 2 Hours**
40 Ton Rough Terrain Crane	300	43	205
90 Ton Crane	300	59	284
Auger Drill	175	64	308
Backhoe	100	439	2,107
Bob Cat	75	64	308
Compacting Equipment	6	43	205
Concrete Pump	11	59	284
Concrete Ready Mix Trucks	600	153	733
Concrete Truck	600	15	71
Excavator	175	39	189
Fork Truck	100	1,005	4,823
Front Loader	100	150	718
Generator	40	20	95
Grout Mixer	600	103	496
Grout Wheel Truck	600	39	189
High Lift	100	279	1,340
Line Painting Truck and Sprayer	600	21	103
Man Lift	75	1,212	5,814
Material Deliveries	600	1,052	5,045
Other General Equipment	175	193	924
Paving Machine	175	86	411
Roller	100	43	205
Small Dozer	175	43	205
Survey Crew Trucks	600	13	63
Tool Truck	600	764	3,663
Tractor Trailers Temp Fac.	600	119	569
Trowel Machine	600	10	47
Truck Tower (Mantiwoc type)	300	227	1,087
	Total Building 2 Hours	**6,356**	**30,490**

Table 3-5: Demolition Non-Road Equipment Hours

Demolition			
Equipment	**Horsepower**	**Year 1 Hours**	**Year 2 Hours**
Bob Cat	75	2,568	0
Dump Truck	600	2,568	0
Excavator	175	1,284	0
Generator Sets	40	1,284	0
Pickup Truck	600	1,498	0
	Total Demolition Hours	**9,202**	**0**

Table 3-6: Staging Non-Road Equipment Hours

Staging			
Equipment	**Horsepower**	**Year 1 Hours**	**Year 2 Hours**
Backhoe	100	35	0
Bulldozer	175	998	0
Compacting Equipment	6	495	0
Grader	300	260	0
Paving Machine	175	61	0
Pickup Truck	600	986	0
Roller	100	58	0
	Total Staging Hours	**2,893**	**0**

3.2 On-Road Equipment Hours

Tables 3-7 through **Tables 3-13** lists the types of on-road equipment used during each phase of construction, their fuel type, and the number of hours modeled in year 1 and year 2 of construction.

Table 3-7: Airfield On-Road Equipment Hours

Airfield			
Equipment	**Fuel Type**	**Year 1**	**Year 2**
Asphalt 18 Wheeler	Diesel	1	51
Cement Mixer	Diesel	50	1,800
Dump Truck Subbase Material	Diesel	27	960
Passenger Car	Gasoline	1,716	61,855
Tractor Trailer	Diesel	3	93
	Total Airfield Hours	**1797**	**64759**

Table 3-8: Airside On-Road Equipment Hours

Airside			
Equipment	**Fuel Type**	**Year 1**	**Year 2**
Asphalt 18 Wheeler	Diesel	0	5
Cement Mixer	Diesel	22	810
Dump Truck - Asphalt	Diesel	2	72
Dump Truck Subbase Material	Diesel	12	432
Passenger Car	Gasoline	424	15,263
	Total Airside Hours	**460**	**16582**

Table 3-9: Building 1 On-Road Equipment Hours

Building 1			
Equipment	**Fuel Type**	**Year 1**	**Year 2**
Cement Mixer	Diesel	2	83
Dump Truck - Asphalt	Diesel	0	7
Dump Truck Subbase Material	Diesel	1	44
Passenger Car	Gasoline	362	13,054
	Total Building 1 Hours	**366**	**13,188**

Table 3-10: Building 2 On-Road Equipment Hours

Building 2			
Equipment	**Fuel Type**	**Year 1**	**Year 2**
Cement Mixer	Diesel	2	90
Dump Truck - Asphalt	Diesel	0	8
Dump Truck Subbase Material	Diesel	1	48
Passenger Car	Gasoline	15	552
Tractor Trailer	Diesel	0	5
	Total Building 2 Hours	**20**	**703**

Table 3-11: Demolition On-Road Equipment Hours

Demolition			
Equipment	**Fuel Type**	**Year 1**	**Year 2**
Dump Truck	Diesel	20,607	0
Passenger Car	Gasoline	2,384	0
	Total Demolition Hours	**22991**	**0**

Table 3-12: Staging On-Road Equipment Hours

Staging			
Equipment	**Fuel Type**	**Year 1**	**Year 2**
Passenger Car	Gasoline	974	0
Dump Truck	Diesel	532	0
	Total Staging Hours	**1,507**	**0**

Table 3-13: Contaminated Soil On-Road Equipment Hours

Contaminated Soil Removal			
Equipment	**Fuel Type**	**Year 1**	**Year 2**
Dump Truck	Diesel	3,152	0

Table 3-14 summarizes the total non-road equipment hours and on-road hours for each project component necessary to complete the entire project.

Table 3-14: Summary of Total Equipment Hours

Total Equipment Hours			
Non-Road Equipment Hours	**Total Hours**	**Year 1**	**Year 2**
Airfield	17,569	3,031	14,538
Airside	22,488	3,879	18,609
Building 1	57,789	9,969	47,820
Building 2	37,590	6,484	31,106
Demo	9,202	9,202	0
Staging	2,893	2,893	0
TOTALS	**147,531**	**35,457**	**112,073**
On-Road Hours	**Total Hours**	**Year 1**	**Year 2**
Airfield / Airside / Building 1 / Building 1 / Building 2 (non Demo)	97,875	2,643	95,232
Demo	26,143	26,143	
Staging	1,507	1,507	
TOTALS	**125,525**	**30,292**	**95,232**
Total Equipment Hours (Non-Road + On-Road)	**273,056**	**65,750**	**207,306**

Appendix B. Proposed Action Criteria Air Pollutant and GHG Emission Calculations

						Emission Factors (g/hp-hr)									
Equipment	**MOVES/TxN2 Lookup ID**	**HP**	**Count**	**Total Hour Used**	**Load Factor**	**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Airfield															
Air Compressor	*Air Compressors*	100		35	0.31	0.320524	0.61702	0.000478	0.046572	0.053455	0.051852	184.8705	0.00279	0.008148063	187.2559
Asphalt Paver	*Pavers*	175		64	0.42	0.424139	0.96891	0.00062	0.088847	0.072297	0.070128	228.3462	0.003669	0.010064229	231.3113
Concrete Saws	*Concrete/Industrial Saws*	40		35	0.59	0.219018	1.446642	0.000822	0.064578	0.0229	0.022213	355.3636	0.008121	0.015662452	360.1807
Concrete Truck	*Off-highway Trucks*	600		146	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Distributing Tanker	*Off-highway Trucks*	600		23	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Dozer	*Crawler Tractor/Dozers*	175		179	0.43	0.148064	0.372739	0.000567	0.026365	0.035118	0.034064	233.6893	0.001802	0.010299726	236.5599
Dump Truck	*Off-highway Trucks*	600		416	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Excavator	*Excavators*	175		39	0.38	0.11603	0.293071	0.000497	0.019808	0.02803	0.027189	205.9416	0.001496	0.009076758	208.4635
Flatbed Truck	*Off-highway Trucks*	600		214	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Grader	*Graders*	300		11	0.41	0.279678	0.732443	0.000613	0.068663	0.045071	0.043719	232.8372	0.003026	0.01026217	235.8006
Hydroseeder	*Off-highway Trucks*	600		10	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Loader	*Tractors/Loaders/Backhoes*	175		12	0.37	0.621198	0.981824	0.000633	0.174452	0.109256	0.105979	232.6321	0.007108	0.010253129	235.936
Off-Road Truck	*Off-highway Trucks*	600		10	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Other General Equipment	*Other Construction Equipment*	600		413	0.42	0.534089	0.990809	0.000626	0.075307	0.077074	0.074762	227.7014	0.003171	0.010035809	230.6172
Paving Machine	*Paving Equipment*	175		35	0.36	0.439594	0.916708	0.000538	0.085933	0.085217	0.082661	195.1117	0.003471	0.00859944	197.6736
Pickup Truck	*Off-highway Trucks*	600		564	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Pumps	*Pumps*	11		9	0.43	1.12074	1.722217	0.000809	0.353606	0.117671	0.11414	255.6039	0.02989	0.011265596	261.0887
Roller	*Rollers*	100		111	0.38	0.674663	0.8488	0.000601	0.077442	0.105092	0.10194	228.8844	0.003489	0.010087952	231.8407
Rubber Tired Loader	*Rubber Tire Loaders*	175		35	0.36	0.136722	0.335623	0.000479	0.02457	0.032119	0.031155	195.8017	0.001655	0.008629849	198.219
Scraper	*Scrapers*	600		43	0.48	0.373252	0.758816	0.000686	0.052501	0.056406	0.054714	260.386	0.003274	0.011476368	263.6908
Skid Steer Loader	*Skid Steer Loaders*	75		24	0.37	0.08963	0.847245	0.000592	0.021495	0.008143	0.007899	260.2522	0.003578	0.011470469	263.581
Tractors/Loader/Backhoe	*Tractors/Loaders/Backhoes*	100		22	0.37	0.565853	0.609227	0.000637	0.081066	0.082256	0.079789	259.9317	0.003656	0.011456345	263.2633
Water Truck	*Off-highway Trucks*	600		581	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445

													Emissions (ton / year)									
Equipment	**MOVES/TxN2 Lookup ID**												**CO**	**NO_x**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Airfield																						
Air Compressor	*Air Compressors*												3.80E-04	7.31E-04	5.66E-07	5.51E-05	6.33E-05	6.14E-05	2.19E-01	3.30E-06	9.65E-06	2.22E-01
Asphalt Paver	*Pavers*												2.21E-03	5.05E-03	3.23E-06	4.63E-04	3.76E-04	3.65E-04	1.19E+00	1.91E-05	5.24E-05	1.20E+00
Concrete Saws	*Concrete/Industrial Saws*												1.97E-04	1.30E-03	7.41E-07	5.82E-05	2.06E-05	2.00E-05	3.20E-01	7.32E-06	1.41E-05	3.25E-01
Concrete Truck	*Off-highway Trucks*												6.03E-03	1.27E-02	1.88E-05	8.46E-04	9.82E-04	9.53E-04	7.54E+00	7.21E-05	3.32E-04	7.64E+00
Distributing Tanker	*Off-highway Trucks*												9.61E-04	2.02E-03	3.00E-06	1.35E-04	1.57E-04	1.52E-04	1.20E+00	1.15E-05	5.30E-05	1.22E+00
Dozer	*Crawler Tractor/Dozers*												2.19E-03	5.52E-03	8.41E-06	3.91E-04	5.20E-04	5.05E-04	3.46E+00	2.67E-05	1.53E-04	3.51E+00
Dump Truck	*Off-highway Trucks*												1.72E-02	3.61E-02	5.37E-05	2.41E-03	2.80E-03	2.72E-03	2.15E+01	2.05E-04	9.48E-04	2.18E+01
Excavator	*Excavators*												3.35E-04	8.45E-04	1.43E-06	5.71E-05	8.08E-05	7.84E-05	5.94E-01	4.31E-06	2.62E-05	6.01E-01
Flatbed Truck	*Off-highway Trucks*												8.84E-03	1.86E-02	2.76E-05	1.24E-03	1.44E-03	1.40E-03	1.11E+01	1.06E-04	4.87E-04	1.12E+01
Grader	*Graders*												4.09E-04	1.07E-03	8.95E-07	1.00E-04	6.58E-05	6.39E-05	3.40E-01	4.42E-06	1.50E-05	3.44E-01
Hydroseeder	*Off-highway Trucks*												4.00E-04	8.42E-04	1.25E-06	5.62E-05	6.52E-05	6.33E-05	5.01E-01	4.79E-06	2.21E-05	5.07E-01
Loader	*Tractors/Loaders/Backhoes*												5.21E-04	8.24E-04	5.31E-07	1.46E-04	9.17E-05	8.90E-05	1.95E-01	5.97E-06	8.61E-06	1.98E-01
Off-Road Truck	*Off-highway Trucks*												4.00E-04	8.42E-04	1.25E-06	5.62E-05	6.52E-05	6.33E-05	5.01E-01	4.79E-06	2.21E-05	5.07E-01
Other General Equipment	*Other Construction Equipment*												6.13E-02	1.14E-01	7.19E-05	8.64E-03	8.85E-03	8.58E-03	2.61E+01	3.64E-04	1.15E-03	2.65E+01
Paving Machine	*Paving Equipment*												1.06E-03	2.21E-03	1.29E-06	2.07E-04	2.05E-04	1.99E-04	4.70E-01	8.35E-06	2.07E-05	4.76E-01
Pickup Truck	*Off-highway Trucks*												2.33E-02	4.90E-02	7.28E-05	3.27E-03	3.80E-03	3.68E-03	2.92E+01	2.78E-04	1.28E-03	2.95E+01
Pumps	*Pumps*												5.21E-05	8.01E-05	3.76E-08	1.64E-05	5.47E-06	5.31E-06	1.19E-02	1.39E-06	5.24E-07	1.21E-02
Roller	*Rollers*												3.14E-03	3.95E-03	2.80E-06	3.60E-04	4.89E-04	4.74E-04	1.06E+00	1.62E-05	4.69E-05	1.08E+00
Rubber Tired Loader	*Rubber Tire Loaders*												3.29E-04	8.08E-04	1.15E-06	5.91E-05	7.73E-05	7.50E-05	4.71E-01	3.98E-06	2.08E-05	4.77E-01
Scraper	*Scrapers*												5.13E-03	1.04E-02	9.44E-06	7.22E-04	7.76E-04	7.52E-04	3.58E+00	4.50E-05	1.58E-04	3.63E+00
Skid Steer Loader	*Skid Steer Loaders*												6.55E-05	6.19E-04	4.32E-07	1.57E-05	5.95E-06	5.77E-06	1.90E-01	2.61E-06	8.38E-06	1.93E-01
Tractors/Loader/Backhoe	*Tractors/Loaders/Backhoes*												5.17E-04	5.57E-04	5.83E-07	7.41E-05	7.52E-05	7.29E-05	2.38E-01	3.34E-06	1.05E-05	2.41E-01
Water Truck	*Off-highway Trucks*												2.40E-02	5.05E-02	7.50E-05	3.37E-03	3.91E-03	3.79E-03	3.00E+01	2.87E-04	1.32E-03	3.04E+01

Construction Emissions 2023

Airside	MOVES Lookup ID	HP	Count	Total Hour Used	Load Factor	CO	NO_X	SO_2	VOC	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
Air Compressor	*Air Compressors*	100		49	0.31	0.320524	0.61702	0.000478	0.046572	0.053455	0.051852	184.8705	0.00279	0.008148063	187.2559
Asphalt Paver	*Pavers*	175		91	0.42	0.424139	0.96891	0.00062	0.088847	0.072297	0.070128	228.3462	0.003669	0.010064229	231.3113
Concrete Saws	*Concrete/Industrial Saws*	40		49	0.59	0.219018	1.446642	0.000822	0.064578	0.0229	0.022213	355.3636	0.008121	0.015662452	360.1807
Concrete Truck	*Off-highway Trucks*	600		206	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Distributing Tanker	*Off-highway Trucks*	600		38	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Dozer	*Crawler Tractor/Dozers*	175		252	0.43	0.148064	0.372739	0.000567	0.026365	0.035118	0.034064	233.6893	0.001802	0.010299726	236.5599
Dump Truck	*Off-highway Trucks*	600		587	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Excavator	*Excavators*	175		56	0.38	0.11603	0.293071	0.000497	0.019808	0.02803	0.027189	205.9416	0.001496	0.009076758	208.4635
Flatbed Truck	*Off-highway Trucks*	600		302	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Grader	*Graders*	300		15	0.41	0.279678	0.732443	0.000613	0.068663	0.045071	0.043719	232.8372	0.003026	0.01026217	235.8006
Hydroseeder	*Off-highway Trucks*	600		14	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Loader	*Tractors/Loaders/Backhoes*	175		15	0.37	0.621198	0.981824	0.000633	0.174452	0.109256	0.105979	232.6321	0.007108	0.010253129	235.936
Off-Road Truck	*Off-highway Trucks*	600		14	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Other General Equipment	*Other Construction Equipment*	600		587	0.42	0.534089	0.990809	0.000626	0.075307	0.077074	0.074762	227.7014	0.003171	0.010035809	230.6172
Paving Machine	*Paving Equipment*	175		49	0.36	0.439594	0.916708	0.000538	0.085933	0.085217	0.082661	195.1117	0.003471	0.00859944	197.6736
Pickup Truck	*Off-highway Trucks*	600		800	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Pumps	*Pumps*	11		12	0.43	1.12074	1.722217	0.000809	0.353606	0.117671	0.11414	255.6039	0.02989	0.011265596	261.0887
Roller	*Rollers*	100		157	0.38	0.674663	0.8488	0.000601	0.077442	0.105092	0.10194	228.8844	0.003489	0.010087952	231.8407
Rubber Tired Loader	*Rubber Tire Loaders*	175		49	0.36	0.136722	0.335623	0.000479	0.02457	0.032119	0.031155	195.8017	0.001655	0.008629849	198.219
Scraper	*Scrapers*	600		61	0.48	0.373252	0.758816	0.000686	0.052501	0.056406	0.054714	260.386	0.003274	0.011476368	263.6908
Skid Steer Loader	*Skid Steer Loaders*	75		32	0.37	0.08963	0.847245	0.000592	0.021495	0.008143	0.007899	260.2522	0.003578	0.011470469	263.581
Tractors/Loader/Backhoe	*Tractors/Loaders/Backhoes*	100		30	0.37	0.565853	0.609227	0.000637	0.081066	0.082256	0.079789	259.9317	0.003656	0.011456345	263.2633
Water Truck	*Off-highway Trucks*	600		412	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445

													Emissions (ton / year)									
Airside	**MOVES Lookup ID**												**CO**	**NO_x**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Air Compressor	*Air Compressors*												5.36E-04	1.03E-03	8.00E-07	7.79E-05	8.94E-05	8.68E-05	3.09E-01	4.67E-06	1.36E-05	3.13E-01
Asphalt Paver	*Pavers*												3.12E-03	7.13E-03	4.56E-06	6.54E-04	5.32E-04	5.16E-04	1.68E+00	2.70E-05	7.41E-05	1.70E+00
Concrete Saws	*Concrete/Industrial Saws*												2.79E-04	1.84E-03	1.05E-06	8.23E-05	2.92E-05	2.83E-05	4.53E-01	1.03E-05	1.99E-05	4.59E-01
Concrete Truck	*Off-highway Trucks*												8.52E-03	1.79E-02	2.66E-05	1.20E-03	1.39E-03	1.35E-03	1.07E+01	1.02E-04	4.70E-04	1.08E+01
Distributing Tanker	*Off-highway Trucks*												1.57E-03	3.30E-03	4.90E-06	2.20E-04	2.56E-04	2.48E-04	1.96E+00	1.88E-05	8.65E-05	1.99E+00
Dozer	*Crawler Tractor/Dozers*												3.10E-03	7.80E-03	1.19E-05	5.52E-04	7.35E-04	7.13E-04	4.89E+00	3.77E-05	2.16E-04	4.95E+00
Dump Truck	*Off-highway Trucks*												2.42E-02	5.10E-02	7.57E-05	3.40E-03	3.95E-03	3.83E-03	3.03E+01	2.90E-04	1.34E-03	3.07E+01
Excavator	*Excavators*												4.76E-04	1.20E-03	2.04E-06	8.13E-05	1.15E-04	1.12E-04	8.45E-01	6.14E-06	3.72E-05	8.55E-01
Flatbed Truck	*Off-highway Trucks*												1.25E-02	2.63E-02	3.90E-05	1.75E-03	2.03E-03	1.97E-03	1.56E+01	1.49E-04	6.89E-04	1.58E+01
Grader	*Graders*												5.71E-04	1.49E-03	1.25E-06	1.40E-04	9.20E-05	8.92E-05	4.75E-01	6.17E-06	2.09E-05	4.81E-01
Hydroseeder	*Off-highway Trucks*												5.60E-04	1.18E-03	1.75E-06	7.86E-05	9.12E-05	8.84E-05	7.00E-01	6.69E-06	3.09E-05	7.09E-01
Loader	*Tractors/Loaders/Backhoes*												6.73E-04	1.06E-03	6.86E-07	1.89E-04	1.18E-04	1.15E-04	2.52E-01	7.70E-06	1.11E-05	2.56E-01
Off-Road Truck	*Off-highway Trucks*												5.60E-04	1.18E-03	1.75E-06	7.86E-05	9.12E-05	8.84E-05	7.00E-01	6.69E-06	3.09E-05	7.09E-01
Other General Equipment	*Other Construction Equipment*												8.71E-02	1.62E-01	1.02E-04	1.23E-02	1.26E-02	1.22E-02	3.71E+01	5.17E-04	1.64E-03	3.76E+01
Paving Machine	*Paving Equipment*												1.49E-03	3.12E-03	1.83E-06	2.92E-04	2.90E-04	2.81E-04	6.63E-01	1.18E-05	2.92E-05	6.72E-01
Pickup Truck	*Off-highway Trucks*												3.30E-02	6.95E-02	1.03E-04	4.64E-03	5.38E-03	5.22E-03	4.13E+01	3.95E-04	1.82E-03	4.19E+01
Pumps	*Pumps*												7.29E-05	1.12E-04	5.26E-08	2.30E-05	7.65E-06	7.42E-06	1.66E-02	1.94E-06	7.32E-07	1.70E-02
Roller	*Rollers*												4.44E-03	5.59E-03	3.96E-06	5.10E-04	6.92E-04	6.71E-04	1.51E+00	2.30E-05	6.64E-05	1.53E+00
Rubber Tired Loader	*Rubber Tire Loaders*												4.65E-04	1.14E-03	1.63E-06	8.35E-05	1.09E-04	1.06E-04	6.66E-01	5.63E-06	2.93E-05	6.74E-01
Scraper	*Scrapers*												7.25E-03	1.47E-02	1.33E-05	1.02E-03	1.10E-03	1.06E-03	5.06E+00	6.36E-05	2.23E-04	5.12E+00
Skid Steer Loader	*Skid Steer Loaders*												8.86E-05	8.38E-04	5.85E-07	2.13E-05	8.05E-06	7.81E-06	2.57E-01	3.54E-06	1.13E-05	2.61E-01
Tractors/Loader/Backhoe	*Tractors/Loaders/Backhoes*												7.00E-04	7.53E-04	7.88E-07	1.00E-04	1.02E-04	9.87E-05	3.21E-01	4.52E-06	1.42E-05	3.26E-01
Water Truck	*Off-highway Trucks*												1.70E-02	3.58E-02	5.32E-05	2.39E-03	2.77E-03	2.69E-03	2.13E+01	2.04E-04	9.39E-04	2.16E+01

Building 1	**MOVES Lookup ID**	**HP**	**Count**	**Total Hour Used**	**Load Factor**	**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
40 Ton Rough Terrain Crane	*Cranes*	300		70	0.29	0.097436	0.34663	0.0004	0.027979	0.019731	0.019139	155.5961	0.001974	0.006857811	157.5724
90 Ton Crane	*Cranes*	300		89	0.29	0.097436	0.34663	0.0004	0.027979	0.019731	0.019139	155.5961	0.001974	0.006857811	157.5724
Auger Drill	*Bore/Drill Rigs*	175		105	0.5	0.290047	0.986791	0.000718	0.082278	0.067573	0.065546	268.1719	0.00464	0.011819524	271.682
Backhoe	*Tractors/Loaders/Backhoes*	100		701	0.37	0.565853	0.609227	0.000637	0.081066	0.082256	0.079789	259.9317	0.003656	0.011456345	263.2633
Bob Cat	*Skid Steer Loaders*	75		105	0.37	0.08963	0.847245	0.000592	0.021495	0.008143	0.007899	260.2522	0.003578	0.011470469	263.581
Compacting Equipment	*Plate Compactors*	6		70	0.43	1.112166	1.702698	0.000809	0.355618	0.114038	0.110617	255.5987	0.03072	0.011265368	261.1532
Concrete Pump	*Pumps*	11		89	0.43	1.12074	1.722217	0.000809	0.353606	0.117671	0.11414	255.6039	0.02989	0.011265596	261.0887
Concrete Ready Mix Trucks	*Off-highway Trucks*	600		238	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Concrete Truck	*Off-highway Trucks*	600		22	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Excavator	*Excavators*	175		59	0.38	0.11603	0.293071	0.000497	0.019808	0.02803	0.027189	205.9416	0.001496	0.009076758	208.4635
Fork Truck	*Forklifts*	100		1525	0.2	0.175917	0.286733	0.000294	0.014243	0.027604	0.026776	120.4869	0.001123	0.00531039	121.9831
Front Loader	*Tractors/Loaders/Backhoes*	100		244	0.37	0.565853	0.609227	0.000637	0.081066	0.082256	0.079789	259.9317	0.003656	0.011456345	263.2633
Generator	*Generator Sets*	40		30	0.31	0.393954	1.071339	0.000503	0.114064	0.069761	0.067668	184.6709	0.006121	0.008139265	187.3338
Grout Mixer	*Cement & Mortar Mixers*	600		155	0.43	0.342507	1.040094	0.000634	0.074085	0.048919	0.047451	230.6158	0.003195	0.01016426	233.5675
Grout Wheel Truck	*Off-highway Trucks*	600		59	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
High Lift	*Aerial Lifts*	100		425	0.31	0.879397	0.767736	0.000574	0.133109	0.119191	0.115615	217.7233	0.006248	0.009596032	220.7814
Line Painting Truck and Sprayer	*Other Construction Equipment*	600		35	0.42	0.534089	0.990809	0.000626	0.075307	0.077074	0.074762	227.7014	0.003171	0.010035809	230.6172
Man Lift	*Aerial Lifts*	75		1818	0.31	0.708164	0.993334	0.000585	0.137526	0.090967	0.088238	217.7078	0.00737	0.00959535	220.8601
Material Deliveries	*Off-highway Trucks*	600		1823	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Other General Equipment	*Other Construction Equipment*	600		314	0.42	0.534089	0.990809	0.000626	0.075307	0.077074	0.074762	227.7014	0.003171	0.010035809	230.6172
Paving Machine	*Paving Equipment*	175		140	0.36	0.439594	0.916708	0.000538	0.085933	0.085217	0.082661	195.1117	0.003471	0.00859944	197.6736
Roller	*Rollers*	100		70	0.38	0.674663	0.8488	0.000601	0.077442	0.105092	0.10194	228.8844	0.003489	0.010087952	231.8407
Small Dozer	*Crawler Tractor/Dozers*	175		70	0.43	0.148064	0.372739	0.000567	0.026365	0.035118	0.034064	233.6893	0.001802	0.010299726	236.5599
Survey Crew Trucks	*Off-highway Trucks*	600		21	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Tool Truck	*Off-highway Trucks*	600		1145	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Tractor Trailers Temp Fac.	*Off-highway Trucks*	600		193	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Trowel Machine	*Other Construction Equipment*	600		15	0.42	0.534089	0.990809	0.000626	0.075307	0.077074	0.074762	227.7014	0.003171	0.010035809	230.6172
Truck Tower (Mantiwoc type)	*Cranes*	300		340	0.29	0.097436	0.34663	0.0004	0.027979	0.019731	0.019139	155.5961	0.001974	0.006857811	157.5724

													Emissions (ton / year)									
Building 1	**MOVES Lookup ID**												**CO**	**NO_x**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
40 Ton Rough Terrain Crane	*Cranes*												6.52E-04	2.32E-03	2.68E-06	1.87E-04	1.32E-04	1.28E-04	1.04E+00	1.32E-05	4.59E-05	1.06E+00
90 Ton Crane	*Cranes*												8.29E-04	2.95E-03	3.40E-06	2.38E-04	1.68E-04	1.63E-04	1.32E+00	1.68E-05	5.83E-05	1.34E+00
Auger Drill	*Bore/Drill Rigs*												2.93E-03	9.97E-03	7.25E-06	8.31E-04	6.83E-04	6.62E-04	2.71E+00	4.69E-05	1.19E-04	2.74E+00
Backhoe	*Tractors/Loaders/Backhoes*												1.62E-02	1.74E-02	1.82E-05	2.32E-03	2.35E-03	2.28E-03	7.43E+00	1.05E-04	3.28E-04	7.53E+00
Bob Cat	*Skid Steer Loaders*												2.87E-04	2.71E-03	1.89E-06	6.89E-05	2.61E-05	2.53E-05	8.34E-01	1.15E-05	3.67E-05	8.44E-01
Compacting Equipment	*Plate Compactors*												2.21E-04	3.38E-04	1.61E-07	7.06E-05	2.26E-05	2.20E-05	5.08E-02	6.10E-06	2.24E-06	5.19E-02
Concrete Pump	*Pumps*												5.18E-04	7.96E-04	3.74E-07	1.63E-04	5.44E-05	5.28E-05	1.18E-01	1.38E-05	5.21E-06	1.21E-01
Concrete Ready Mix Trucks	*Off-highway Trucks*												9.82E-03	2.06E-02	3.07E-05	1.38E-03	1.60E-03	1.55E-03	1.23E+01	1.17E-04	5.41E-04	1.24E+01
Concrete Truck	*Off-highway Trucks*												9.15E-04	1.92E-03	2.86E-06	1.29E-04	1.49E-04	1.45E-04	1.15E+00	1.09E-05	5.05E-05	1.16E+00
Excavator	*Excavators*												5.03E-04	1.27E-03	2.15E-06	8.58E-05	1.21E-04	1.18E-04	8.92E-01	6.48E-06	3.93E-05	9.03E-01
Fork Truck	*Forklifts*												5.91E-03	9.64E-03	9.89E-06	4.79E-04	9.28E-04	9.00E-04	4.05E+00	3.77E-05	1.79E-04	4.10E+00
Front Loader	*Tractors/Loaders/Backhoes*												5.64E-03	6.07E-03	6.35E-06	8.08E-04	8.20E-04	7.95E-04	2.59E+00	3.64E-05	1.14E-04	2.62E+00
Generator	*Generator Sets*												1.59E-04	4.33E-04	2.03E-07	4.61E-05	2.82E-05	2.73E-05	7.46E-02	2.47E-06	3.29E-06	7.57E-02
Grout Mixer	*Cement & Mortar Mixers*												1.51E-02	4.59E-02	2.80E-05	3.27E-03	2.16E-03	2.09E-03	1.02E+01	1.41E-04	4.49E-04	1.03E+01
Grout Wheel Truck	*Off-highway Trucks*												2.44E-03	5.13E-03	7.62E-06	3.43E-04	3.98E-04	3.86E-04	3.05E+00	2.92E-05	1.35E-04	3.09E+00
High Lift	*Aerial Lifts*												1.28E-02	1.11E-02	8.33E-06	1.93E-03	1.73E-03	1.68E-03	3.16E+00	9.06E-05	1.39E-04	3.20E+00
Line Painting Truck and Sprayer	*Other Construction Equipment*												5.18E-03	9.61E-03	6.07E-06	7.30E-04	7.47E-04	7.25E-04	2.21E+00	3.08E-05	9.73E-05	2.24E+00
Man Lift	*Aerial Lifts*												3.30E-02	4.63E-02	2.73E-05	6.41E-03	4.24E-03	4.11E-03	1.01E+01	3.43E-04	4.47E-04	1.03E+01
Material Deliveries	*Off-highway Trucks*												7.53E-02	1.58E-01	2.35E-04	1.06E-02	1.23E-02	1.19E-02	9.42E+01	9.00E-04	4.15E-03	9.54E+01
Other General Equipment	*Other Construction Equipment*												4.66E-02	8.65E-02	5.47E-05	6.57E-03	6.73E-03	6.52E-03	1.99E+01	2.77E-04	8.76E-04	2.01E+01
Paving Machine	*Paving Equipment*												4.26E-03	8.89E-03	5.21E-06	8.33E-04	8.26E-04	8.02E-04	1.89E+00	3.37E-05	8.34E-05	1.92E+00
Roller	*Rollers*												1.97E-03	2.48E-03	1.76E-06	2.26E-04	3.07E-04	2.98E-04	6.69E-01	1.02E-05	2.95E-05	6.78E-01
Small Dozer	*Crawler Tractor/Dozers*												8.57E-04	2.16E-03	3.29E-06	1.53E-04	2.03E-04	1.97E-04	1.35E+00	1.04E-05	5.96E-05	1.37E+00
Survey Crew Trucks	*Off-highway Trucks*												8.73E-04	1.84E-03	2.73E-06	1.23E-04	1.42E-04	1.38E-04	1.09E+00	1.04E-05	4.82E-05	1.11E+00
Tool Truck	*Off-highway Trucks*												4.73E-02	9.95E-02	1.48E-04	6.64E-03	7.71E-03	7.47E-03	5.92E+01	5.65E-04	2.61E-03	5.99E+01
Tractor Trailers Temp Fac.	*Off-highway Trucks*												7.99E-03	1.68E-02	2.50E-05	1.12E-03	1.30E-03	1.26E-03	1.00E+01	9.55E-05	4.41E-04	1.01E+01
Trowel Machine	*Other Construction Equipment*												2.19E-03	4.07E-03	2.57E-06	3.09E-04	3.16E-04	3.07E-04	9.35E-01	1.30E-05	4.12E-05	9.47E-01
Truck Tower (Mantiwoc type)	*Cranes*												3.18E-03	1.13E-02	1.30E-05	9.12E-04	6.43E-04	6.24E-04	5.07E+00	6.44E-05	2.24E-04	5.14E+00

Building 2	**MOVES Lookup ID**	**HP**	**Count**	**Total Hour Used**	**Load Factor**	**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
40 Ton Rough Terrain Crane	*Cranes*	300		43	0.29	0.097436	0.34663	0.0004	0.027979	0.019731	0.019139	155.5961	0.001974	0.006857811	157.5724
90 Ton Crane	*Cranes*	300		59	0.29	0.097436	0.34663	0.0004	0.027979	0.019731	0.019139	155.5961	0.001974	0.006857811	157.5724
Auger Drill	*Bore/Drill Rigs*	175		64	0.5	0.290047	0.986791	0.000718	0.082278	0.067573	0.065546	268.1719	0.00464	0.011819524	271.682
Backhoe	*Tractors/Loaders/Backhoes*	100		439	0.37	0.565853	0.609227	0.000637	0.081066	0.082256	0.079789	259.9317	0.003656	0.011456345	263.2633
Bob Cat	*Skid Steer Loaders*	75		64	0.37	0.08963	0.847245	0.000592	0.021495	0.008143	0.007899	260.2522	0.003578	0.011470469	263.581
Compacting Equipment	*Plate Compactors*	6		43	0.43	1.112166	1.702698	0.000809	0.355618	0.114038	0.110617	255.5987	0.03072	0.011265368	261.1532
Concrete Pump	*Pumps*	11		59	0.43	1.12074	1.722217	0.000809	0.353606	0.117671	0.11414	255.6039	0.02989	0.011265596	261.0887
Concrete Ready Mix Trucks	*Off-highway Trucks*	600		153	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Concrete Truck	*Off-highway Trucks*	600		15	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Excavator	*Excavators*	175		39	0.38	0.11603	0.293071	0.000497	0.019808	0.02803	0.027189	205.9416	0.001496	0.009076758	208.4635
Fork Truck	*Forklifts*	100		1005	0.2	0.175917	0.286733	0.000294	0.014243	0.027604	0.026776	120.4869	0.001123	0.00531039	121.9831
Front Loader	*Tractors/Loaders/Backhoes*	100		150	0.37	0.565853	0.609227	0.000637	0.081066	0.082256	0.079789	259.9317	0.003656	0.011456345	263.2633
Generator	*Generator Sets*	40		20	0.31	0.393954	1.071339	0.000503	0.114064	0.069761	0.067668	184.6709	0.006121	0.008139265	187.3338
Grout Mixer	*Cement & Mortar Mixers*	600		103	0.43	0.342507	1.040094	0.000634	0.074085	0.048919	0.047451	230.6158	0.003195	0.01016426	233.5675
Grout Wheel Truck	*Off-highway Trucks*	600		39	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
High Lift	*Aerial Lifts*	100		279	0.31	0.879397	0.767736	0.000574	0.133109	0.119191	0.115615	217.7233	0.006248	0.009596032	220.7814
Line Painting Truck and Sprayer	*Other Construction Equipment*	600		21	0.42	0.534089	0.990809	0.000626	0.075307	0.077074	0.074762	227.7014	0.003171	0.010035809	230.6172
Man Lift	*Aerial Lifts*	75		1212	0.31	0.708164	0.993334	0.000585	0.137526	0.090967	0.088238	217.7078	0.00737	0.00959535	220.8601
Material Deliveries	*Off-highway Trucks*	600		1180	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Other General Equipment	*Other Construction Equipment*	600		193	0.42	0.534089	0.990809	0.000626	0.075307	0.077074	0.074762	227.7014	0.003171	0.010035809	230.6172
Paving Machine	*Paving Equipment*	175		86	0.36	0.439594	0.916708	0.000538	0.085933	0.085217	0.082661	195.1117	0.003471	0.00859944	197.6736
Roller	*Rollers*	100		43	0.38	0.674663	0.8488	0.000601	0.077442	0.105092	0.10194	228.8844	0.003489	0.010087952	231.8407
Small Dozer	*Crawler Tractor/Dozers*	175		43	0.43	0.148064	0.372739	0.000567	0.026365	0.035118	0.034064	233.6893	0.001802	0.010299726	236.5599
Survey Crew Trucks	*Off-highway Trucks*	600		13	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Tool Truck	*Off-highway Trucks*	600		764	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Tractor Trailers Temp Fac.	*Off-highway Trucks*	600		119	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Trowel Machine	*Other Construction Equipment*	600		10	0.42	0.534089	0.990809	0.000626	0.075307	0.077074	0.074762	227.7014	0.003171	0.010035809	230.6172
Truck Tower (Mantiwoc type)	*Cranes*	300		227	0.29	0.097436	0.34663	0.0004	0.027979	0.019731	0.019139	155.5961	0.001974	0.006857811	157.5724

													Emissions (ton / year)									
Building 2	**MOVES Lookup ID**												**CO**	**NO_x**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
40 Ton Rough Terrain Crane	*Cranes*												4.00E-04	1.42E-03	1.64E-06	1.15E-04	8.10E-05	7.85E-05	6.39E-01	8.10E-06	2.81E-05	6.47E-01
90 Ton Crane	*Cranes*												5.52E-04	1.97E-03	2.27E-06	1.59E-04	1.12E-04	1.09E-04	8.82E-01	1.12E-05	3.89E-05	8.93E-01
Auger Drill	*Bore/Drill Rigs*												1.80E-03	6.11E-03	4.44E-06	5.09E-04	4.18E-04	4.06E-04	1.66E+00	2.87E-05	7.32E-05	1.68E+00
Backhoe	*Tractors/Loaders/Backhoes*												1.01E-02	1.09E-02	1.14E-05	1.45E-03	1.47E-03	1.43E-03	4.66E+00	6.55E-05	2.05E-04	4.72E+00
Bob Cat	*Skid Steer Loaders*												1.76E-04	1.66E-03	1.16E-06	4.22E-05	1.60E-05	1.55E-05	5.11E-01	7.03E-06	2.25E-05	5.18E-01
Compacting Equipment	*Plate Compactors*												1.35E-04	2.07E-04	9.84E-08	4.33E-05	1.39E-05	1.35E-05	3.11E-02	3.74E-06	1.37E-06	3.18E-02
Concrete Pump	*Pumps*												3.45E-04	5.31E-04	2.49E-07	1.09E-04	3.63E-05	3.52E-05	7.88E-02	9.21E-06	3.47E-06	8.05E-02
Concrete Ready Mix Trucks	*Off-highway Trucks*												6.31E-03	1.33E-02	1.97E-05	8.86E-04	1.03E-03	9.97E-04	7.90E+00	7.55E-05	3.48E-04	8.00E+00
Concrete Truck	*Off-highway Trucks*												6.10E-04	1.28E-03	1.91E-06	8.57E-05	9.94E-05	9.64E-05	7.64E-01	7.30E-06	3.37E-05	7.73E-01
Excavator	*Excavators*												3.35E-04	8.47E-04	1.43E-06	5.72E-05	8.10E-05	7.86E-05	5.95E-01	4.32E-06	2.62E-05	6.02E-01
Fork Truck	*Forklifts*												3.90E-03	6.35E-03	6.52E-06	3.16E-04	6.12E-04	5.93E-04	2.67E+00	2.49E-05	1.18E-04	2.70E+00
Front Loader	*Tractors/Loaders/Backhoes*												3.46E-03	3.72E-03	3.89E-06	4.95E-04	5.02E-04	4.87E-04	1.59E+00	2.23E-05	7.00E-05	1.61E+00
Generator	*Generator Sets*												1.06E-04	2.89E-04	1.35E-07	3.07E-05	1.88E-05	1.82E-05	4.97E-02	1.65E-06	2.19E-06	5.05E-02
Grout Mixer	*Cement & Mortar Mixers*												1.01E-02	3.06E-02	1.87E-05	2.18E-03	1.44E-03	1.40E-03	6.79E+00	9.40E-05	2.99E-04	6.87E+00
Grout Wheel Truck	*Off-highway Trucks*												1.63E-03	3.42E-03	5.08E-06	2.29E-04	2.65E-04	2.57E-04	2.04E+00	1.95E-05	8.98E-05	2.06E+00
High Lift	*Aerial Lifts*												8.39E-03	7.33E-03	5.48E-06	1.27E-03	1.14E-03	1.10E-03	2.08E+00	5.96E-05	9.16E-05	2.11E+00
Line Painting Truck and Sprayer	*Other Construction Equipment*												3.17E-03	5.89E-03	3.72E-06	4.48E-04	4.58E-04	4.44E-04	1.35E+00	1.88E-05	5.96E-05	1.37E+00
Man Lift	*Aerial Lifts*												2.20E-02	3.09E-02	1.82E-05	4.27E-03	2.83E-03	2.74E-03	6.76E+00	2.29E-04	2.98E-04	6.86E+00
Material Deliveries	*Off-highway Trucks*												4.87E-02	1.02E-01	1.52E-04	6.84E-03	7.94E-03	7.70E-03	6.10E+01	5.82E-04	2.69E-03	6.17E+01
Other General Equipment	*Other Construction Equipment*												2.86E-02	5.30E-02	3.35E-05	4.03E-03	4.12E-03	4.00E-03	1.22E+01	1.70E-04	5.37E-04	1.23E+01
Paving Machine	*Paving Equipment*												2.61E-03	5.45E-03	3.20E-06	5.11E-04	5.06E-04	4.91E-04	1.16E+00	2.06E-05	5.11E-05	1.17E+00
Roller	*Rollers*												1.21E-03	1.52E-03	1.08E-06	1.39E-04	1.88E-04	1.83E-04	4.10E-01	6.25E-06	1.81E-05	4.16E-01
Small Dozer	*Crawler Tractor/Dozers*												5.26E-04	1.32E-03	2.01E-06	9.36E-05	1.25E-04	1.21E-04	8.29E-01	6.40E-06	3.66E-05	8.40E-01
Survey Crew Trucks	*Off-highway Trucks*												5.43E-04	1.14E-03	1.70E-06	7.63E-05	8.85E-05	8.59E-05	6.80E-01	6.50E-06	3.00E-05	6.88E-01
Tool Truck	*Off-highway Trucks*												3.15E-02	6.63E-02	9.85E-05	4.43E-03	5.14E-03	4.98E-03	3.95E+01	3.77E-04	1.74E-03	3.99E+01
Tractor Trailers Temp Fac.	*Off-highway Trucks*												4.90E-03	1.03E-02	1.53E-05	6.88E-04	7.98E-04	7.74E-04	6.13E+00	5.86E-05	2.70E-04	6.21E+00
Trowel Machine	*Other Construction Equipment*												1.46E-03	2.71E-03	1.71E-06	2.06E-04	2.11E-04	2.05E-04	6.23E-01	8.68E-06	2.75E-05	6.31E-01
Truck Tower (Mantiwoc type)	*Cranes*												2.12E-03	7.53E-03	8.69E-06	6.08E-04	4.29E-04	4.16E-04	3.38E+00	4.29E-05	1.49E-04	3.42E+00

Demo	**MOVES Lookup ID**	**HP**	**Count**	**Total Hour Used**	**Load Factor**	**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Bob Cat	*Skid Steer Loaders*	75		2568	0.37	0.08963	0.847245	0.000592	0.021495	0.008143	0.007899	260.2522	0.003578	0.011470469	263.581
Dump Truck	*Off-highway Trucks*	600		2568	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Excavator	*Excavators*	175		1284	0.38	0.11603	0.293071	0.000497	0.019808	0.02803	0.027189	205.9416	0.001496	0.009076758	208.4635
Generator Sets	*Generator Sets*	40		1284	0.31	0.393954	1.071339	0.000503	0.114064	0.069761	0.067668	184.6709	0.006121	0.008139265	187.3338
Pickup Truck	*Off-highway Trucks*	600		1498	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Staging	**MOVES Lookup ID**	**HP**	**Count**	**Total Hour Used**	**Load Factor**	**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Backhoe	*Tractors/Loaders/Backhoes*	100		35	0.37	0.565853	0.609227	0.000637	0.081066	0.082256	0.079789	259.9317	0.003656	0.011456345	263.2633
Bulldozer	*Crawler Tractor/Dozers*	175		998	0.43	0.148064	0.372739	0.000567	0.026365	0.035118	0.034064	233.6893	0.001802	0.010299726	236.5599
Compacting Equipment	*Plate Compactors*	6		495	0.43	1.112166	1.702698	0.000809	0.355618	0.114038	0.110617	255.5987	0.03072	0.011265368	261.1532
Grader	*Graders*	300		260	0.41	0.279678	0.732443	0.000613	0.068663	0.045071	0.043719	232.8372	0.003026	0.01026217	235.8006
Paving Machine	*Paving Equipment*	175		61	0.36	0.439594	0.916708	0.000538	0.085933	0.085217	0.082661	195.1117	0.003471	0.00859944	197.6736
Pickup Truck	*Off-highway Trucks*	600		986	0.38	0.164288	0.345468	0.000513	0.023072	0.026766	0.025963	205.5874	0.001964	0.009061147	208.1445
Roller	*Rollers*	100		58	0.38	0.674663	0.8488	0.000601	0.077442	0.105092	0.10194	228.8844	0.003489	0.010087952	231.8407
Fugitive Dust															
Dust from On Site Activities															

													Emissions (ton / year)									
Demo	**MOVES Lookup ID**												**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Bob Cat	*Skid Steer Loaders*												7.04E-03	6.66E-02	4.65E-05	1.69E-03	6.40E-04	6.20E-04	2.04E+01	2.81E-04	9.01E-04	2.07E+01
Dump Truck	*Off-highway Trucks*												1.06E-01	2.23E-01	3.31E-04	1.49E-02	1.73E-02	1.68E-02	1.33E+02	1.27E-03	5.85E-03	1.34E+02
Excavator	*Excavators*												1.09E-02	2.76E-02	4.67E-05	1.86E-03	2.64E-03	2.56E-03	1.94E+01	1.41E-04	8.54E-04	1.96E+01
Generator Sets	*Generator Sets*												6.91E-03	1.88E-02	8.82E-06	2.00E-03	1.22E-03	1.19E-03	3.24E+00	1.07E-04	1.43E-04	3.29E+00
Pickup Truck	*Off-highway Trucks*												6.19E-02	1.30E-01	1.93E-04	8.69E-03	1.01E-02	9.77E-03	7.74E+01	7.39E-04	3.41E-03	7.84E+01
													Emissions (ton / year)									
Staging	**MOVES Lookup ID**												**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Backhoe	*Tractors/Loaders/Backhoes*												8.01E-04	8.63E-04	9.02E-07	1.15E-04	1.16E-04	1.13E-04	3.68E-01	5.18E-06	1.62E-05	3.73E-01
Bulldozer	*Crawler Tractor/Dozers*												1.23E-02	3.08E-02	4.70E-05	2.18E-03	2.91E-03	2.82E-03	1.93E+01	1.49E-04	8.52E-04	1.96E+01
Compacting Equipment	*Plate Compactors*												1.57E-03	2.40E-03	1.14E-06	5.01E-04	1.61E-04	1.56E-04	3.60E-01	4.32E-05	1.59E-05	3.68E-01
Grader	*Graders*												9.87E-03	2.59E-02	2.16E-05	2.42E-03	1.59E-03	1.54E-03	8.22E+00	1.07E-04	3.62E-04	8.32E+00
Paving Machine	*Paving Equipment*												1.85E-03	3.87E-03	2.27E-06	3.63E-04	3.60E-04	3.49E-04	8.23E-01	1.46E-05	3.63E-05	8.34E-01
Pickup Truck	*Off-highway Trucks*												4.07E-02	8.56E-02	1.27E-04	5.72E-03	6.64E-03	6.44E-03	5.10E+01	4.87E-04	2.25E-03	5.16E+01
Roller	*Rollers*												1.64E-03	2.06E-03	1.46E-06	1.88E-04	2.55E-04	2.47E-04	5.55E-01	8.46E-06	2.44E-05	5.62E-01
													Emissions (ton / year)									
Fugitive Dust													**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Dust from On Site Activities													0	0	0	0	4.90E+01	5.45E+00	0	0	0	0

						Emission Factors (g/mi)									
Onroad	**Equipment ID**	**VMT**	**Count**	**Fuel ID**	**Days/Year**	**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Resuspended Road Dust															
Cement Mixer	*52*	624.375	1	2	210	1.22714	2.016364	0.003432	0.103734	0.046369	0.04266	1023.425	0.015529	0.003353224	1025.615
Dump Truck Subbase Material	*52*	332.991	1	2	210	1.22714	2.016364	0.003432	0.103734	0.046369	0.04266	1023.425	0.015529	0.003353224	1025.615
Passenger Car	*21*	29117.88	1	1	210	2.048493	0.103162	0.002026	0.100383	0.002033	0.001798	305.0271	0.007313	0.001826278	306.1235
Cement Mixer	*52*	624.375	1	2	210	1.22714	2.016364	0.003432	0.103734	0.046369	0.04266	1023.425	0.015529	0.003353224	1025.615
Dump Truck Subbase Material	*52*	332.991	1	2	210	1.22714	2.016364	0.003432	0.103734	0.046369	0.04266	1023.425	0.015529	0.003353224	1025.615
Passenger Car	*21*	13792.68	1	1	210	2.048493	0.103162	0.002026	0.100383	0.002033	0.001798	305.0271	0.007313	0.001826278	306.1235
Tractor Trailer	*61*	64.8	1	2	210	2.062306	4.435392	0.005656	0.140632	0.07672	0.070582	1689.658	0.020182	0.002987743	1692.142
Asphalt 18 Wheeler	*61*	35.262	1	2	210	2.062306	4.435392	0.005656	0.140632	0.07672	0.070582	1689.658	0.020182	0.002987743	1692.142
Cement Mixer	*52*	561.951	1	2	210	1.22714	2.016364	0.003432	0.103734	0.046369	0.04266	1023.425	0.015529	0.003353224	1025.615
Dump Truck - Asphalt	*52*	49.95	1	2	210	1.22714	2.016364	0.003432	0.103734	0.046369	0.04266	1023.425	0.015529	0.003353224	1025.615
Dump Truck Subbase Material	*52*	299.7	1	2	210	1.22714	2.016364	0.003432	0.103734	0.046369	0.04266	1023.425	0.015529	0.003353224	1025.615
Passenger Car	*21*	10588.32	1	1	210	2.048493	0.103162	0.002026	0.100383	0.002033	0.001798	305.0271	0.007313	0.001826278	306.1235
Asphalt 18 Wheeler	*61*	3.618	1	2	210	2.062306	4.435392	0.005656	0.140632	0.07672	0.070582	1689.658	0.020182	0.002987743	1692.142
Cement Mixer	*52*	57.537	1	2	210	1.22714	2.016364	0.003432	0.103734	0.046369	0.04266	1023.425	0.015529	0.003353224	1025.615
Dump Truck - Asphalt	*52*	5.103	1	2	210	1.22714	2.016364	0.003432	0.103734	0.046369	0.04266	1023.425	0.015529	0.003353224	1025.615
Dump Truck Subbase Material	*52*	30.699	1	2	210	1.22714	2.016364	0.003432	0.103734	0.046369	0.04266	1023.425	0.015529	0.003353224	1025.615
Passenger Car	*21*	9055.8	1	1	210	2.048493	0.103162	0.002026	0.100383	0.002033	0.001798	305.0271	0.007313	0.001826278	306.1235
Cement Mixer	*52*	62.451	1	2	210	1.22714	2.016364	0.003432	0.103734	0.046369	0.04266	1023.425	0.015529	0.003353224	1025.615
Dump Truck - Asphalt	*52*	5.562	1	2	210	1.22714	2.016364	0.003432	0.103734	0.046369	0.04266	1023.425	0.015529	0.003353224	1025.615
Dump Truck Subbase Material	*52*	33.291	1	2	210	1.22714	2.016364	0.003432	0.103734	0.046369	0.04266	1023.425	0.015529	0.003353224	1025.615
Passenger Car	*21*	383.13	1	1	210	2.048493	0.103162	0.002026	0.100383	0.002033	0.001798	305.0271	0.007313	0.001826278	306.1235
Tractor Trailer	*61*	3.24	1	2	210	2.062306	4.435392	0.005656	0.140632	0.07672	0.070582	1689.658	0.020182	0.002987743	1692.142
Dump Truck	*52*	515,185	13	2	210	1.22714	2.016364	0.003432	0.103734	0.046369	0.04266	1023.425	0.015529	0.003353224	1025.615
Passenger Car	*21*	59,598	2	1	210	2.048493	0.103162	0.002026	0.100383	0.002033	0.001798	305.0271	0.007313	0.001826278	306.1235
Dump Truck	*52*	78,792	2	2	210	1.22714	2.016364	0.003432	0.103734	0.046369	0.04266	1023.425	0.015529	0.003353224	1025.615
Passenger Car	*21*	24,360	1	1	210	2.048493	0.103162	0.002026	0.100383	0.002033	0.001798	305.0271	0.007313	0.001826278	306.1235
Dump Truck	*52*	13,306	1	2	210	1.22714	2.016364	0.003432	0.103734	0.046369	0.04266	1023.425	0.015529	0.003353224	1025.615

		Emission Factors (g/veh-day)											Emissions (ton / year)									
Onroad	**Equipment ID**	**CO**	**NO_x**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**	**Total HAPs**	**CO**	**NO_x**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Resuspended Road Dust													0	0	0	0	7.51E-01	1.88E-01	0	0	0	0
Cement Mixer	*52*	0.2860	0.4178	0.0001	0.1728	0.0010	0.0009	32.8536	0.0998	0.0017	41.6998	0.0000	9.11E-04	1.48E-03	2.39E-06	1.11E-04	3.21E-05	2.96E-05	7.12E-01	3.38E-05	2.71E-06	7.16E-01
Dump Truck Subbase Material	*52*	0.2860	0.4178	0.0001	0.1728	0.0010	0.0009	32.8536	0.0998	0.0017	41.6998	0.0000	5.17E-04	8.37E-04	1.29E-06	7.81E-05	1.73E-05	1.59E-05	3.83E-01	2.88E-05	1.63E-06	3.86E-01
Passenger Car	*21*	2.5928	0.0657	0.0003	0.2660	0.0078	0.0069	48.9047	0.0244	0.0050	52.2880	0.0000	6.64E-02	3.33E-03	6.51E-05	3.28E-03	6.71E-05	5.93E-05	9.80E+00	2.40E-04	5.98E-05	9.84E+00
Cement Mixer	*52*	0.2860	0.4178	0.0001	0.1728	0.0010	0.0009	32.8536	0.0998	0.0017	41.6998	0.0000	9.11E-04	1.48E-03	2.39E-06	1.11E-04	3.21E-05	2.96E-05	7.12E-01	3.38E-05	2.71E-06	7.16E-01
Dump Truck Subbase Material	*52*	0.2860	0.4178	0.0001	0.1728	0.0010	0.0009	32.8536	0.0998	0.0017	41.6998	0.0000	5.17E-04	8.37E-04	1.29E-06	7.81E-05	1.73E-05	1.59E-05	3.83E-01	2.88E-05	1.63E-06	3.86E-01
Passenger Car	*21*	2.5928	0.0657	0.0003	0.2660	0.0078	0.0069	48.9047	0.0244	0.0050	52.2880	0.0000	3.17E-02	1.58E-03	3.09E-05	1.59E-03	3.27E-05	2.89E-05	4.65E+00	1.17E-04	2.89E-05	4.67E+00
Tractor Trailer	*61*	0.3564	0.2430	0.0001	0.1220	0.0007	0.0006	19.3216	0.0675	0.0013	25.3365	0.0000	2.30E-04	3.73E-04	4.19E-07	3.83E-05	5.64E-06	5.19E-06	1.25E-01	1.71E-05	5.17E-07	1.27E-01
Asphalt 18 Wheeler	*61*	0.3564	0.2430	0.0001	0.1220	0.0007	0.0006	19.3216	0.0675	0.0013	25.3365	0.0000	1.63E-04	2.29E-04	2.35E-07	3.37E-05	3.14E-06	2.89E-06	7.01E-02	1.64E-05	4.20E-07	7.16E-02
Cement Mixer	*52*	0.2860	0.4178	0.0001	0.1728	0.0010	0.0009	32.8536	0.0998	0.0017	41.6998	0.0000	8.26E-04	1.35E-03	2.15E-06	1.04E-04	2.90E-05	2.66E-05	6.42E-01	3.27E-05	2.48E-06	6.45E-01
Dump Truck - Asphalt	*52*	0.2860	0.4178	0.0001	0.1728	0.0010	0.0009	32.8536	0.0998	0.0017	41.6998	0.0000	1.34E-04	2.08E-04	2.14E-07	4.57E-05	2.79E-06	2.57E-06	6.40E-02	2.40E-05	5.88E-07	6.61E-02
Dump Truck Subbase Material	*52*	0.2860	0.4178	0.0001	0.1728	0.0010	0.0009	32.8536	0.0998	0.0017	41.6998	0.0000	4.72E-04	7.63E-04	1.16E-06	7.43E-05	1.56E-05	1.43E-05	3.46E-01	2.82E-05	1.51E-06	3.48E-01
Passenger Car	*21*	2.5928	0.0657	0.0003	0.2660	0.0078	0.0069	48.9047	0.0244	0.0050	52.2880	0.0000	2.45E-02	1.22E-03	2.37E-05	1.23E-03	2.55E-05	2.26E-05	3.57E+00	9.10E-05	2.25E-05	3.59E+00
Asphalt 18 Wheeler	*61*	0.3564	0.2430	0.0001	0.1220	0.0007	0.0006	19.3216	0.0675	0.0013	25.3365	0.0000	9.07E-05	7.40E-05	3.75E-08	2.88E-05	4.65E-07	4.27E-07	1.12E-02	1.57E-05	3.15E-07	1.26E-02
Cement Mixer	*52*	0.2860	0.4178	0.0001	0.1728	0.0010	0.0009	32.8536	0.0998	0.0017	41.6998	0.0000	1.44E-04	2.25E-04	2.43E-07	4.66E-05	3.18E-06	2.92E-06	7.25E-02	2.41E-05	6.16E-07	7.47E-02
Dump Truck - Asphalt	*52*	0.2860	0.4178	0.0001	0.1728	0.0010	0.0009	32.8536	0.0998	0.0017	41.6998	0.0000	7.31E-05	1.08E-04	4.48E-08	4.06E-05	4.96E-07	4.57E-07	1.34E-02	2.32E-05	4.22E-07	1.54E-02
Dump Truck Subbase Material	*52*	0.2860	0.4178	0.0001	0.1728	0.0010	0.0009	32.8536	0.0998	0.0017	41.6998	0.0000	1.08E-04	1.65E-04	1.42E-07	4.35E-05	1.80E-06	1.66E-06	4.22E-02	2.36E-05	5.17E-07	4.44E-02
Passenger Car	*21*	2.5928	0.0657	0.0003	0.2660	0.0078	0.0069	48.9047	0.0244	0.0050	52.2880	0.0000	2.10E-02	1.05E-03	2.03E-05	1.06E-03	2.21E-05	1.96E-05	3.06E+00	7.87E-05	1.94E-05	3.07E+00
Cement Mixer	*52*	0.2860	0.4178	0.0001	0.1728	0.0010	0.0009	32.8536	0.0998	0.0017	41.6998	0.0000	1.51E-04	2.36E-04	2.62E-07	4.72E-05	3.43E-06	3.15E-06	7.81E-02	2.42E-05	6.34E-07	8.03E-02
Dump Truck - Asphalt	*52*	0.2860	0.4178	0.0001	0.1728	0.0010	0.0009	32.8536	0.0998	0.0017	41.6998	0.0000	7.37E-05	1.09E-04	4.65E-08	4.06E-05	5.20E-07	4.78E-07	1.39E-02	2.32E-05	4.24E-07	1.59E-02
Dump Truck Subbase Material	*52*	0.2860	0.4178	0.0001	0.1728	0.0010	0.0009	32.8536	0.0998	0.0017	41.6998	0.0000	1.11E-04	1.71E-04	1.51E-07	4.38E-05	1.94E-06	1.78E-06	4.52E-02	2.37E-05	5.26E-07	4.73E-02
Passenger Car	*21*	2.5928	0.0657	0.0003	0.2660	0.0078	0.0069	48.9047	0.0244	0.0050	52.2880	0.0000	1.47E-03	5.88E-05	9.31E-07	1.04E-04	2.67E-06	2.37E-06	1.40E-01	8.75E-06	1.94E-06	1.41E-01
Tractor Trailer	*61*	0.3564	0.2430	0.0001	0.1220	0.0007	0.0006	19.3216	0.0675	0.0013	25.3365	0.0000	8.99E-05	7.21E-05	3.52E-08	2.87E-05	4.33E-07	3.98E-07	1.05E-02	1.57E-05	3.14E-07	1.19E-02
Dump Truck	*52*	0.2860	0.4178	0.0001	0.1728	0.0010	0.0009	32.8536	0.0998	0.0017	41.6998	0.0000	6.98E-01	1.15E+00	1.95E-03	5.94E-02	2.63E-02	2.42E-02	5.81E+02	9.12E-03	1.91E-03	5.83E+02
Passenger Car	*21*	2.5928	0.0657	0.0003	0.2660	0.0078	0.0069	48.9047	0.0244	0.0050	52.2880	0.0000	1.36E-01	6.81E-03	1.33E-04	6.72E-03	1.37E-04	1.21E-04	2.01E+01	4.92E-04	1.22E-04	2.01E+01
Dump Truck	*52*	0.2860	0.4178	0.0001	0.1728	0.0010	0.0009	32.8536	0.0998	0.0017	41.6998	0.0000	1.07E-01	1.75E-01	2.98E-04	9.09E-03	4.03E-03	3.71E-03	8.89E+01	1.40E-03	2.92E-04	8.91E+01
Passenger Car	*21*	2.5928	0.0657	0.0003	0.2660	0.0078	0.0069	48.9047	0.0244	0.0050	52.2880	0.0000	5.56E-02	2.79E-03	5.45E-05	2.76E-03	5.64E-05	4.99E-05	8.20E+00	2.02E-04	5.02E-05	8.23E+00
Dump Truck	*52*	0.2860	0.4178	0.0001	0.1728	0.0010	0.0009	32.8536	0.0998	0.0017	41.6998	0.0000	1.81E-02	2.97E-02	5.04E-05	1.56E-03	6.80E-04	6.26E-04	1.50E+01	2.51E-04	4.96E-05	1.51E+01

Construction Emissions 2023

	CO	NO_X	SO_2	VOC	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
Airfield	0.16	0.32	0.000	0.02	0.02	0.02	139.98	0.001	0.006	141.74
Airside	0.21	0.42	0.000	0.03	0.03	0.03	177.17	0.002	0.008	179.39
Building 1	0.30	0.59	0.001	0.05	0.05	0.05	257.57	0.003	0.011	260.83
Building 2	0.20	0.38	0.000	0.03	0.03	0.03	166.86	0.002	0.007	168.97
Demo	0.19	0.47	0.001	0.03	0.03	0.03	253.16	0.003	0.011	256.32
Staging	0.07	0.15	0.000	0.01	0.01	0.01	80.63	0.001	0.004	81.64
Fugitive Dust	0.00	0.00	0.000	0.00	49.02	5.45	0.00	0.000	0.000	0.00
Onroad	1.16	1.38	0.003	0.09	0.78	0.22	738.42	0.012	0.003	740.15
Total	**2.29**	**3.69**	**0.01**	**0.26**	**49.98**	**5.84**	**1813.80**	**0.024**	**0.050**	**1829.02**

countyID	countyName	classification	equip	HP bin	Ammonia (NH3)	Atmospheric CO2	Brake Specific Fuel Consumption (BSFC)	Carbon Monoxide (CO)	Methane (CH4)	Non-Methane Hydrocarbons
48113	Dallas County	Industrial Equipment	Aerial Lifts	6 < hp <= 11	4.71915E-08	0.005794847	0.001824494	3.57722E-05	6.02652E-07	7.41906E-06
48113	Dallas County	Industrial Equipment	Aerial Lifts	11 < hp <= 16	5.04572E-07	0.062060695	0.019507493	0.000247418	3.49907E-06	5.01441E-05
48113	Dallas County	Industrial Equipment	Aerial Lifts	16 < hp <= 25	1.15797E-05	1.42426104	0.44768691	0.00567811	8.03018E-05	0.00115078
48113	Dallas County	Industrial Equipment	Aerial Lifts	25 < hp <= 40	2.19816E-05	2.706186872	0.849840113	0.006821224	0.000103308	0.001437506
48113	Dallas County	Industrial Equipment	Aerial Lifts	40 < hp <= 50	7.1717E-06	0.88291909	0.27726845	0.002225488	3.37051E-05	0.000469
48113	Dallas County	Industrial Equipment	Aerial Lifts	50 < hp <= 75	6.79768E-05	8.368467588	2.628085112	0.027221107	0.000283281	0.004585493
48113	Dallas County	Industrial Equipment	Aerial Lifts	75 < hp <= 100	3.35027E-05	4.124737918	1.295265842	0.016660054	0.00011836	0.002193304
48113	Dallas County	Industrial Equipment	Aerial Lifts	100 < hp <= 175	5.05942E-07	0.062310625	0.019560498	0.000111055	1.76837E-06	2.65073E-05
48113	Dallas County	Industrial Equipment	Forklifts	11 < hp <= 16	3.46128E-08	0.004261626	0.001338185	1.06879E-05	2.22996E-07	2.05248E-06
48113	Dallas County	Industrial Equipment	Forklifts	16 < hp <= 25	1.4422E-08	0.001775677	0.000557577	4.45328E-06	9.29153E-08	8.552E-07
48113	Dallas County	Industrial Equipment	Forklifts	25 < hp <= 40	1.60142E-07	0.019740395	0.006191336	1.14631E-05	4.40655E-07	2.79776E-06
48113	Dallas County	Industrial Equipment	Forklifts	40 < hp <= 50	2.63E-06	0.324194569	0.101679769	0.000188258	7.23684E-06	4.59473E-05
48113	Dallas County	Industrial Equipment	Forklifts	50 < hp <= 75	0.000127496	15.71536532	4.929189766	0.018683857	0.000340023	0.002513145
48113	Dallas County	Industrial Equipment	Forklifts	75 < hp <= 100	0.000177959	21.94063973	6.880143549	0.032034419	0.000204466	0.002153375
48113	Dallas County	Industrial Equipment	Forklifts	100 < hp <= 175	9.12909E-05	11.25579463	3.529444432	0.006939752	9.6372E-05	0.000965088
48113	Dallas County	Industrial Equipment	Forklifts	175 < hp <= 300	2.41468E-05	2.9772699	0.933551867	0.001424616	2.39337E-05	0.000235188
48113	Dallas County	Industrial Equipment	Forklifts	300 < hp <= 600	4.94792E-05	6.09980995	1.912943443	0.006381955	6.9999E-05	0.000754204
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	3 < hp <= 6	9.26927E-07	0.113857864	0.035836389	0.000474528	1.42009E-05	0.000130707
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	6 < hp <= 11	3.80401E-07	0.046726091	0.014706887	0.000194741	5.82792E-06	5.36407E-05
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	11 < hp <= 16	3.50457E-07	0.043147931	0.013549182	0.000109444	2.29582E-06	2.11309E-05
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	16 < hp <= 25	1.00889E-06	0.124213219	0.039005037	0.000315065	6.60914E-06	6.08311E-05
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	25 < hp <= 40	4.59702E-06	0.566641504	0.177727605	0.000344929	1.33344E-05	8.68899E-05
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	40 < hp <= 50	2.28868E-06	0.282109153	0.088483696	0.000171727	6.63868E-06	4.32592E-05
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	50 < hp <= 75	2.44439E-05	3.012743883	0.945039469	0.00335564	6.81508E-05	0.000559311
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	75 < hp <= 100	0.000106886	13.17688394	4.132383808	0.016520966	0.000143717	0.001658568
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	100 < hp <= 175	0.000207154	25.53931979	8.008882217	0.013737293	0.000259944	0.002757005
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	175 < hp <= 300	0.000116127	14.31736015	4.48965334	0.006129215	0.000137295	0.001421586
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	300 < hp <= 600	1.97296E-05	2.432120161	0.762775875	0.001967496	2.96232E-05	0.000346204
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	600 < hp <= 750	5.58691E-06	0.688726225	0.215998109	0.000773854	7.9432E-06	9.40923E-05
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	25 < hp <= 40	8.31409E-07	0.102431813	0.032143539	0.000146487	3.32926E-06	3.0748E-05
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	50 < hp <= 75	7.3054E-06	0.899339623	0.28243771	0.002987654	3.05973E-05	0.000496363
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	75 < hp <= 100	2.95273E-06	0.363524993	0.114157009	0.001500742	1.04911E-05	0.00019474
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	100 < hp <= 175	1.81561E-05	2.236037885	0.701941866	0.004077249	6.38132E-05	0.000957797
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	175 < hp <= 300	1.31642E-05	1.621502384	0.508946135	0.002459425	4.13949E-05	0.000618245
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	300 < hp <= 600	3.22954E-06	0.397930209	0.124858863	0.00070949	8.6209E-06	0.000111661
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	1000 < hp <= 1200	3.2303E-07	0.039779508	0.012488804	7.87981E-05	8.58531E-07	1.84499E-05
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	3 < hp <= 6	2.82885E-07	0.034746686	0.010936744	0.000145888	4.36567E-06	4.01819E-05
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	6 < hp <= 11	3.11173E-08	0.003831209	0.00120304	9.70992E-06	2.01551E-07	1.85509E-06
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	11 < hp <= 16	1.28241E-08	0.001578921	0.000495799	4.00166E-06	8.30635E-08	7.64523E-07
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	16 < hp <= 25	7.53002E-06	0.927105287	0.291121312	0.002349678	4.87729E-05	0.00044891
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	25 < hp <= 40	2.90081E-05	3.575947755	1.121497487	0.001698387	7.51183E-05	0.000454495
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	40 < hp <= 50	2.45442E-05	3.02566187	0.948915455	0.00143703	6.35587E-05	0.000384555
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	50 < hp <= 75	3.30801E-05	4.078462198	1.278927649	0.001965654	6.97504E-05	0.000366509
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	75 < hp <= 100	0.000164263	20.25651529	6.350647004	0.008623401	7.33333E-05	0.000689208
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	100 < hp <= 175	0.000272022	33.54509715	10.51678375	0.007277655	0.00011852	0.001159154
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	175 < hp <= 300	0.000118002	14.55181698	4.562115624	0.001805179	3.97826E-05	0.000464118
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	300 < hp <= 600	3.39429E-06	0.418544954	0.131228449	0.000127977	2.58672E-06	2.3176E-05
48113	Dallas County	Commercial Equipment	Air Compressors	3 < hp <= 6	2.28217E-07	0.028033691	0.008823227	0.000117984	3.46506E-06	3.19397E-05
48113	Dallas County	Commercial Equipment	Air Compressors	6 < hp <= 11	8.87229E-07	0.108985083	0.034301611	0.000458679	1.34709E-05	0.00012417
48113	Dallas County	Commercial Equipment	Air Compressors	11 < hp <= 16	1.52442E-07	0.018767889	0.005893639	4.84413E-05	1.01629E-06	9.38056E-06
48113	Dallas County	Commercial Equipment	Air Compressors	16 < hp <= 25	3.95093E-07	0.048641822	0.015274883	0.000125548	2.63397E-06	2.43121E-05
48113	Dallas County	Commercial Equipment	Air Compressors	25 < hp <= 40	2.4631E-05	3.03582614	0.952271669	0.002251897	7.85218E-05	0.000541553
48113	Dallas County	Commercial Equipment	Air Compressors	40 < hp <= 50	2.24918E-05	2.772166741	0.869566956	0.002056321	7.17022E-05	0.00049452
48113	Dallas County	Commercial Equipment	Air Compressors	50 < hp <= 75	0.000197939	24.38977748	7.652627007	0.038083116	0.000615326	0.006536586
48113	Dallas County	Commercial Equipment	Air Compressors	75 < hp <= 100	0.00035588	43.85991558	13.75886164	0.0760433	0.000661828	0.009436075
48113	Dallas County	Commercial Equipment	Air Compressors	100 < hp <= 175	5.62916E-05	6.938435473	2.176317354	0.005330487	9.7786E-05	0.001223545
48113	Dallas County	Commercial Equipment	Air Compressors	175 < hp <= 300	9.57847E-05	11.80704379	3.703181045	0.007481358	0.000151719	0.001862628
48113	Dallas County	Commercial Equipment	Air Compressors	300 < hp <= 600	4.71658E-05	5.813091334	1.82350303	0.006563267	7.55036E-05	0.001197877
48113	Dallas County	Commercial Equipment	Generator Sets	3 < hp <= 6	1.46841E-05	1.803341477	0.567708223	0.009453655	0.000177101	0.002247108
48113	Dallas County	Commercial Equipment	Generator Sets	6 < hp <= 11	2.32314E-05	2.853040661	0.898162846	0.014956496	0.000280189	0.003555119
48113	Dallas County	Commercial Equipment	Generator Sets	11 < hp <= 16	2.89908E-05	3.565858403	1.120827093	0.012732428	0.000185185	0.002868029
48113	Dallas County	Commercial Equipment	Generator Sets	16 < hp <= 25	7.14857E-05	8.792727735	2.763746131	0.031395729	0.000456631	0.007072011
48113	Dallas County	Commercial Equipment	Generator Sets	25 < hp <= 40	0.000185557	22.84399188	7.17390603	0.048732553	0.000757149	0.01231488
48113	Dallas County	Commercial Equipment	Generator Sets	40 < hp <= 50	3.43454E-05	4.228278476	1.327844226	0.009020084	0.000140144	0.002279406
48113	Dallas County	Commercial Equipment	Generator Sets	50 < hp <= 75	0.000167978	20.68943459	6.494269558	0.043002462	0.000516958	0.008285414
48113	Dallas County	Commercial Equipment	Generator Sets	75 < hp <= 100	0.000294366	36.26253064	11.3806453	0.080684842	0.000603101	0.012930035
48113	Dallas County	Commercial Equipment	Generator Sets	100 < hp <= 175	0.00014207	17.50530456	5.492627559	0.019168055	0.000278652	0.004988983
48113	Dallas County	Commercial Equipment	Generator Sets	175 < hp <= 300	0.000138324	17.04525634	5.347813186	0.015973941	0.000247592	0.004406978
48113	Dallas County	Commercial Equipment	Generator Sets	300 < hp <= 600	0.000126827	15.63134481	4.903334438	0.016737424	0.00020085	0.003172816
48113	Dallas County	Commercial Equipment	Pumps	3 < hp <= 6	4.10011E-06	0.50367738	0.158516484	0.002208462	5.88996E-05	0.000568757
48113	Dallas County	Commercial Equipment	Pumps	6 < hp <= 11	1.61242E-05	1.980768764	0.623384175	0.008685025	0.000231629	0.002236701
48113	Dallas County	Commercial Equipment	Pumps	11 < hp <= 16	6.52601E-06	0.803280875	0.252305254	0.002261889	4.52308E-05	0.000453619
48113	Dallas County	Commercial Equipment	Pumps	16 < hp <= 25	8.25176E-06	1.015702296	0.319025373	0.00286003	5.71917E-05	0.000573575
48113	Dallas County	Commercial Equipment	Pumps	25 < hp <= 40	2.25108E-05	2.773489381	0.870302868	0.003372166	9.15604E-05	0.000798629
48113	Dallas County	Commercial Equipment	Pumps	40 < hp <= 50	8.42663E-06	1.038219141	0.325786358	0.001262326	3.42744E-05	0.000298956
48113	Dallas County	Commercial Equipment	Pumps	50 < hp <= 75	7.89075E-05	9.718730021	3.050681465	0.020804688	0.000244366	0.003929539
48113	Dallas County	Commercial Equipment	Pumps	75 < hp <= 100	0.000121217	14.93229782	4.686411804	0.034263807	0.000250325	0.005379576
48113	Dallas County	Commercial Equipment	Pumps	100 < hp <= 175	7.38613E-05	9.100841146	2.855590193	0.010282928	0.000146006	0.00261872
48113	Dallas County	Commercial Equipment	Pumps	175 < hp <= 300	3.41411E-05	4.207077942	1.319947556	0.004068662	6.15776E-05	0.001097893
48113	Dallas County	Commercial Equipment	Pumps	300 < hp <= 600	2.86371E-05	3.529472729	1.107152082	0.003892174	4.55844E-05	0.000722567
48113	Dallas County	Commercial Equipment	Welders	6 < hp <= 11	2.36085E-06	0.289922325	0.091274126	0.001742684	3.05649E-05	0.000363276
48113	Dallas County	Commercial Equipment	Welders	11 < hp <= 16	2.17788E-05	2.678764406	0.842001224	0.010549525	0.000154504	0.002146789

countyID	countyName	classification	equip	HP bin	Non-Methane Organic Gases	Oxides of Nitrogen (NOx)	Primary Exhaust PM10 - Total	Primary Exhaust PM2.5 - Total	Sulfur Dioxide (SO2)	Total Gaseous Hydrocarbons	Total Organic Gases	Volatile Organic Compounds	Min HP	Max Hp	Activity hours	avg hp	avg hp *activity hr
48113	Dallas County	Industrial Equipment	Aerial Lifts	6 < hp <= 11	8.84281E-06	3.56714E-05	3.99498E-06	3.87513E-06	1.83345E-08	8.02171E-06	9.44546E-06	8.83115E-06	6	11	3.026082	8	24.2086547
48113	Dallas County	Industrial Equipment	Aerial Lifts	11 < hp <= 16	5.88335E-05	0.000348426	2.97344E-05	2.88424E-05	1.96363E-07	5.36431E-05	6.23326E-05	5.87282E-05	11	16	19.60902	13.2	258.839105
48113	Dallas County	Industrial Equipment	Aerial Lifts	16 < hp <= 25	0.001350199	0.007996207	0.00068239	0.000661918	4.50644E-06	0.001231082	0.001430501	0.001347783	16	25	275.0102	21.6	5940.219987
48113	Dallas County	Industrial Equipment	Aerial Lifts	25 < hp <= 40	0.001675399	0.012653852	0.001109063	0.00107579	7.15934E-06	0.001540814	0.001778707	0.001671699	25	40	341.7054	33	11276.27783
48113	Dallas County	Industrial Equipment	Aerial Lifts	40 < hp <= 50	0.000546615	0.004128438	0.000361842	0.000350987	2.3358E-06	0.000502705	0.00058032	0.000545407	40	50	80.85694	45.5	3678.990866
48113	Dallas County	Industrial Equipment	Aerial Lifts	50 < hp <= 75	0.005303039	0.038182764	0.003496665	0.003391766	2.24932E-05	0.004868771	0.005586319	0.005286354	50	75	576.3846	60.5	34871.26849
48113	Dallas County	Industrial Equipment	Aerial Lifts	75 < hp <= 100	0.00252977	0.014544661	0.002258048	0.002190306	1.08757E-05	0.002311664	0.002648129	0.002521727	75	100	204.845	83.9	17186.49496
48113	Dallas County	Industrial Equipment	Aerial Lifts	100 < hp <= 175	3.10636E-05	0.000192952	2.29562E-05	2.22675E-05	1.64138E-07	2.82757E-05	3.28319E-05	3.09812E-05	100	175	2.55145	113	288.3138105
48113	Dallas County	Industrial Equipment	Forklifts	11 < hp <= 16	2.53071E-06	2.50275E-05	1.21388E-06	1.17746E-06	1.34843E-08	2.27547E-06	2.7537E-06	2.53071E-06	11	16	2.142069	15	32.13102899
48113	Dallas County	Industrial Equipment	Forklifts	16 < hp <= 25	1.05446E-06	1.04281E-05	5.05782E-07	4.90609E-07	5.61848E-09	9.48115E-07	1.14738E-06	1.05446E-06	16	25	0.535517	25	13.38791566
48113	Dallas County	Industrial Equipment	Forklifts	25 < hp <= 40	3.46099E-06	7.97481E-05	1.13184E-06	1.09789E-06	4.54377E-08	3.23841E-06	3.90164E-06	3.455E-06	25	40	4.284132	34.7	148.6593776
48113	Dallas County	Industrial Equipment	Forklifts	40 < hp <= 50	5.68395E-05	0.001309695	1.85882E-05	1.80305E-05	7.46219E-07	5.31842E-05	6.40763E-05	5.67412E-05	40	50	51.94506	47	2441.417782
48113	Dallas County	Industrial Equipment	Forklifts	50 < hp <= 75	0.00306986	0.065696685	0.002275049	0.002206797	3.92699E-05	0.002853168	0.003409883	0.003063924	50	75	1918.22	61.7	118354.1975
48113	Dallas County	Industrial Equipment	Forklifts	75 < hp <= 100	0.002600349	0.052213974	0.005026744	0.004875941	5.35639E-05	0.002357841	0.002804815	0.002593604	75	100	1932.143	85.5	165198.2661
48113	Dallas County	Industrial Equipment	Forklifts	100 < hp <= 175	0.001172668	0.018257767	0.0017246	0.001672863	2.7444E-05	0.001061461	0.001269041	0.001168328	100	175	694.0293	135.6	94110.37803
48113	Dallas County	Industrial Equipment	Forklifts	175 < hp <= 300	0.000283944	0.003586615	0.00028355	0.000275044	7.21504E-06	0.000259122	0.000307877	0.000281125	175	300	112.994	220.3	24892.58004
48113	Dallas County	Industrial Equipment	Forklifts	300 < hp <= 600	0.000904426	0.01344596	0.000963373	0.000934472	1.56757E-05	0.000824203	0.000974425	0.000899267	300	600	144.1295	353.9	51007.43823
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	3 < hp <= 6	0.000161161	0.000751617	4.58873E-05	4.45107E-05	3.60242E-07	0.000144908	0.000175362	0.000161161	3	6	116.1629	4.4	511.1166698
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	6 < hp <= 11	6.61389E-05	0.000308456	1.88317E-05	1.82667E-05	1.4784E-07	5.94686E-05	7.19669E-05	6.61389E-05	6	11	21.84971	9.6	209.7571746
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	11 < hp <= 16	2.60544E-05	0.000256189	1.24157E-05	1.20433E-05	1.36526E-07	2.34267E-05	2.83502E-05	2.60544E-05	11	16	14.10552	13.7	193.2455887
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	16 < hp <= 25	7.50047E-05	0.000737509	3.57421E-05	3.46698E-05	3.93027E-07	6.74402E-05	8.16138E-05	7.50047E-05	16	25	24.61551	22.6	556.3104932
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	25 < hp <= 40	0.000107459	0.002351961	3.70391E-05	3.59279E-05	1.31696E-06	0.000100224	0.000120793	0.000107288	25	40	77.99517	32.5	2534.842967
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	40 < hp <= 50	5.34995E-05	0.00117095	1.84403E-05	1.78871E-05	6.55663E-07	4.98978E-05	6.01382E-05	5.34147E-05	40	50	28.48758	44.3	1261.99986
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	50 < hp <= 75	0.000677864	0.013225529	0.000479267	0.000464889	7.67928E-06	0.000627462	0.000746015	0.000676508	50	75	219.8799	61.3	13478.63726
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	75 < hp <= 100	0.001985467	0.035009528	0.002777199	0.002693884	3.28312E-05	0.001802286	0.002129184	0.001980407	75	100	684.532	86.1	58938.20822
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	100 < hp <= 175	0.003331489	0.049117333	0.003439707	0.003336515	6.35552E-05	0.00301695	0.003591434	0.003320895	100	175	973.8332	130.4	126987.847
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	175 < hp <= 300	0.001710864	0.021557844	0.001199647	0.001163658	3.54291E-05	0.001558881	0.001848159	0.001697499	175	300	303.9599	234.2	71187.4147
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	300 < hp <= 600	0.00041202	0.006387595	0.000294586	0.000285748	6.33805E-06	0.000375827	0.000441643	0.000409866	300	600	31.05927	389.4	12094.47845
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	600 < hp <= 750	0.000111788	0.001815295	8.78952E-05	8.52583E-05	1.79481E-06	0.000102035	0.000119731	0.000111177	600	750	5.268982	650	3424.83823
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	25 < hp <= 40	3.72224E-05	0.000422067	2.24683E-05	2.17942E-05	2.58833E-07	3.40773E-05	4.05517E-05	3.7177E-05	25	40	8.885479	37.2	330.5398049
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	50 < hp <= 75	0.000573961	0.004112461	0.000407884	0.000395647	2.41728E-06	0.000526961	0.000604558	0.000572153	50	75	44.8899	64.7	2904.376841
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	75 < hp <= 100	0.000224588	0.001285355	0.000214646	0.000208207	9.58507E-07	0.000205231	0.000235079	0.000223873	75	100	13.58685	86.4	1173.903752
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	100 < hp <= 175	0.001122311	0.00694525	0.000890869	0.000864143	5.89013E-06	0.001021611	0.001186124	0.001119332	100	175	62.20643	128.9	8018.40883
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	175 < hp <= 300	0.000724008	0.004429154	0.00048412	0.000469596	4.2531E-06	0.00065964	0.000765403	0.000721458	175	300	23.71039	245.2	5813.787976
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	300 < hp <= 600	0.000132078	0.00107506	9.53658E-05	9.25048E-05	1.04382E-06	0.000120282	0.000140699	0.000131645	300	600	3.330111	428.3	1426.286415
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	1000 < hp <= 1200	2.10526E-05	0.000213611	1.10051E-05	1.06749E-05	1.05521E-07	1.93085E-05	2.19111E-05	2.09849E-05	1000	1200	0.133204	1071	142.6619747
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	3 < hp <= 6	4.95443E-05	0.000229581	1.42409E-05	1.38137E-05	1.09937E-07	4.45476E-05	5.391E-05	4.95443E-05	3	6	23.05871	5	115.29355
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	6 < hp <= 11	2.28733E-06	2.27121E-05	1.11762E-06	1.08409E-06	1.21224E-08	2.05665E-06	2.48888E-06	2.28733E-06	6	11	1.152936	11	12.68229633
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	11 < hp <= 16	9.42657E-07	9.36015E-06	4.60595E-07	4.46777E-07	4.99592E-09	8.47587E-07	1.02572E-06	9.42657E-07	11	16	0.384312	13.6	5.226640072
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	16 < hp <= 25	0.000553506	0.005496059	0.000270451	0.000262337	2.93348E-06	0.000497683	0.000602279	0.000553506	16	25	141.4268	21.7	3068.960822
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	25 < hp <= 40	0.000562531	0.014242574	0.000124422	0.000120689	8.10508E-06	0.000529614	0.000637649	0.000561403	25	40	339.7315	34.8	11822.65752
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	40 < hp <= 50	0.000475965	0.012050839	0.000105275	0.000102117	6.85783E-06	0.000448114	0.000539524	0.000475012	40	50	229.434	43.6	10003.32192
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	50 < hp <= 75	0.000454089	0.015963359	0.000212088	0.000205726	9.47396E-06	0.00043626	0.000523839	0.000452751	50	75	221.7478	60.8	13482.26714
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	75 < hp <= 100	0.000842658	0.033100384	0.001540515	0.0014943	4.71629E-05	0.000762541	0.000915991	0.000837653	75	100	817.4313	81.9	66947.62498
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	100 < hp <= 175	0.001411384	0.023740361	0.001783109	0.001729615	7.80779E-05	0.001277674	0.001529904	0.001396901	100	175	917.7369	134.3	123252.0604
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	175 < hp <= 300	0.000552014	0.006544641	0.000386838	0.000375233	3.36283E-05	0.000503901	0.000591796	0.000535364	175	300	246.7282	216.7	53466.00772
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	300 < hp <= 600	2.80804E-05	0.000413931	2.12389E-05	2.06018E-05	9.99358E-07	2.57627E-05	3.06671E-05	2.76764E-05	300	600	4.227429	363.8	1537.938799
48113	Dallas County	Commercial Equipment	Air Compressors	3 < hp <= 6	3.93741E-05	0.000185164	1.15923E-05	1.12445E-05	8.86975E-08	3.54047E-05	4.28392E-05	3.93738E-05	3	6	24.64636	5.6	138.0196243
48113	Dallas County	Commercial Equipment	Air Compressors	6 < hp <= 11	0.000153072	0.000719853	4.50666E-05	4.37146E-05	3.44825E-07	0.000137641	0.000166544	0.000153071	6	11	56.48126	9.5	536.5719901
48113	Dallas County	Commercial Equipment	Air Compressors	11 < hp <= 16	1.15619E-05	0.000111928	5.52486E-06	5.35912E-06	5.9384E-08	1.03968E-05	1.25781E-05	1.15617E-05	11	16	6.93179	13.3	92.19280144
48113	Dallas County	Commercial Equipment	Air Compressors	16 < hp <= 25	2.99655E-05	0.00029009	1.43191E-05	1.38895E-05	1.53909E-07	2.69461E-05	3.25995E-05	2.99651E-05	16	25	10.52605	22.7	238.9413699
48113	Dallas County	Commercial Equipment	Air Compressors	25 < hp <= 40	0.000669229	0.013108265	0.000291853	0.000283098	7.21898E-06	0.000620075	0.000747751	0.000668358	25	40	444.6615	33.5	14896.1586
48113	Dallas County	Commercial Equipment	Air Compressors	40 < hp <= 50	0.000611107	0.011969813	0.000266506	0.000258511	6.59201E-06	0.000566222	0.000682809	0.000610312	40	50	307.0525	44.3	13602.42611
48113	Dallas County	Commercial Equipment	Air Compressors	50 < hp <= 75	0.007763081	0.117411963	0.005801807	0.005627753	6.44623E-05	0.007151911	0.008378407	0.007745135	50	75	1968.885	60.8	119708.2324
48113	Dallas County	Commercial Equipment	Air Compressors	75 < hp <= 100	0.011078922	0.146385875	0.012682084	0.012301617	0.00011342	0.010097906	0.01174075	0.011049168	75	100	2565.276	83.9	215226.6458
48113	Dallas County	Commercial Equipment	Air Compressors	100 < hp <= 175	0.001454211	0.018801311	0.00128888	0.001250213	1.7922E-05	0.00132133	0.001551997	0.001450229	100	175	292.9324	129.2	37846.86415
48113	Dallas County	Commercial Equipment	Air Compressors	175 < hp <= 300	0.002208888	0.026669074	0.001481862	0.001437405	3.035E-05	0.002014348	0.002360606	0.002197152	175	300	264.6916	243.3	64399.45703
48113	Dallas County	Commercial Equipment	Air Compressors	300 < hp <= 600	0.001386565	0.019962666	0.001007274	0.000977056	1.55402E-05	0.001273381	0.001462069	0.001380062	300	600	74.1958	427.4	31711.28411
48113	Dallas County	Commercial Equipment	Generator Sets	3 < hp <= 6	0.002668543	0.013788921	0.001207259	0.001171041	5.70568E-06	0.002424209	0.002845644	0.002664847	3	6	1675.57	5.3	8880.520575
48113	Dallas County	Commercial Equipment	Generator Sets	6 < hp <= 11	0.004221864	0.021815257	0.001909988	0.001852688	9.02687E-06	0.003835308	0.004502054	0.004216017	6	11	1672.589	8.4	14049.74725
48113	Dallas County	Commercial Equipment	Generator Sets	11 < hp <= 16	0.003339768	0.024640727	0.001742066	0.001689804	1.12826E-05	0.003053214	0.003524951	0.003333141	11	16	1289.179	13.6	17532.83359
48113	Dallas County	Commercial Equipment	Generator Sets	16 < hp <= 25	0.008235231	0.060759321	0.004295601	0.004166735	2.78207E-05	0.007528642	0.008691862	0.008218891	16	25	2029.699	21.3	43232.5948
48113	Dallas County	Commercial Equipment	Generator Sets	25 < hp <= 40	0.014147502	0.132525823	0.008629513	0.008370626	6.21998E-05	0.013072029	0.014904652	0.014109859	25	40	3359.874	33.4	112219.7861
48113	Dallas County	Commercial Equipment	Generator Sets	40 < hp <= 50	0.002618612	0.024529684	0.001597268	0.00154935	1.15128E-05	0.002419549	0.002758756	0.002611644	40	50	459.539	45.2	20771.16242
48113	Dallas County	Commercial Equipment	Generator Sets	50 < hp <= 75	0.00953899	0.112732967	0.006721309	0.006519671	5.66091E-05	0.008802373	0.010055948	0.009507923	50	75	1693.138	60	101588.2864
48113	Dallas County	Commercial Equipment	Generator Sets	75 < hp <= 100	0.01474123	0.153558888	0.013198332	0.012802383	9.74095E-05	0.013533136	0.015344332	0.014688497	75	100	2060.471	86.4	178024.7043
48113	Dallas County	Commercial Equipment	Generator Sets	100 < hp <= 175	0.005754021	0.067683652	0.004055881	0.003934203	4.69793E-05	0.005267634	0.006032673	0.00573476	100	175	703.8949	135.7	95518.54334
48113	Dallas County	Commercial Equipment	Generator Sets	175 < hp <= 300	0.005074261	0.058636562	0.002990126	0.002900422	4.55656E-05	0.00465457	0.005321851	0.005050391	175	300	390.7569	238	93000.14708
48113	Dallas County	Commercial Equipment	Generator Sets	300 < hp <= 600	0.003673791	0.053312305	0.002203386	0.002137284	4.17874E-05	0.003373666	0.00387464	0.003656501	300	600	203.364	419.3	85270.50601
48113	Dallas County	Commercial Equipment	Pumps	3 < hp <= 6	0.000696963	0.003393696	0.000231874	0.000224918	1.59362E-06	0.000627656	0.000755863	0.000696795	3	6	343.7776	5.2	1787.643291
48113	Dallas County	Commercial Equipment	Pumps	6 < hp <= 11	0.002740886	0.0133461	0.000911873	0.000884516	6.26709E-06	0.00246833	0.002972516	0.002740226	6	11	827.072	8.5	7030.111873
48113	Dallas County	Commercial Equipment	Pumps	11 < hp <= 16	0.000553116	0.004928528	0.000267257	0.00025924	2.54167E-06	0.00049885	0.000598346	0.000552894	11	16	207.6885	13.7	2845.332588
48113	Dallas County	Commercial Equipment	Pumps	16 < hp <= 25	0.000699383	0.00623184	0.000337932	0.000327794	3.2138E-06	0.000630767	0.000756575	0.000699103	16	25	165.7952	21.7	3597.756758
48113	Dallas County	Commercial Equipment	Pumps	25 < hp <= 40	0.000971272	0.013457426	0.000516794	0.00050129	7.06892E-06	0.000890189	0.001062833	0.000970145	25	40	286.1429	34.3	9814.700818
48113	Dallas County	Commercial Equipment	Pumps	40 < hp <= 50	0.000363583	0.00503761	0.000193455	0.000187651	2.64616E-06	0.000333231	0.000397857	0.000363161	40	50	82.00902	44.8	3674.003997
48113	Dallas County	Commercial Equipment	Pumps	50 < hp <= 75	0.004523252	0.053134366	0.003539092	0.003432916	2.65917E-05	0.004173905	0.00476762	0.004508498	50	75	551.3393	62.4	34403.57373
48113	Dallas County	Commercial Equipment	Pumps	75 < hp <= 100	0.006132275	0.063494733	0.006064941	0.005882993	4.01115E-05	0.0056299	0.0063826	0.006110319	75	100	612.4018	86.3	52850.27273
48113	Dallas County	Commercial Equipment	Pumps	100 < hp <= 175	0.003019934	0.035349837	0.002368438	0.002297386	2.4424E-05	0.002764726	0.003165941	0.003009822	100	175	270.4011	132.4	35801.11163
48113	Dallas County	Commercial Equipment	Pumps	175 < hp <= 300	0.001264004	0.014543157	0.000835468	0.000810404	1.12464E-05	0.00115947	0.001325581	0.001258068	175	300	68.0446	243.2	16548.44755
48113	Dallas County	Commercial Equipment	Pumps	300 < hp <= 600	0.000836429	0.012080459	0.000558448	0.000541694	9.43536E-06	0.000768151	0.000882014	0.000832499	300	600	34.91096	397.6	13880.5961
48113	Dallas County	Commercial Equipment	Welders	6 < hp <= 11	0.000434331	0.001775062	0.000199147	0.000193173	9.17298E-07	0.000393841	0.000464896	0.000433842	6	11	203.1589	8.8	1787.798053
48113	Dallas County	Commercial Equipment	Welders	11 < hp <= 16	0.002524418	0.015009936	0.001291976	0.001253217	8.47577E-06	0.002301292	0.002678922	0.002520306	11	16	1121.932	14.7	16492.39607

countyID	countyName	classification	equip	HP bin	Ammonia (NH3)	Atmospheric CO2	Brake Specific Fuel Consumption (BSFC)	Carbon Monoxide (CO)	Methane (CH4)	Non-Methane Hydrocarbons
48113	Dallas County	Commercial Equipment	Welders	16 < hp <= 25	4.59654E-05	5.653680315	1.777091074	0.022265365	0.000326089	0.004530918
48113	Dallas County	Commercial Equipment	Welders	25 < hp <= 40	4.41601E-05	5.436563174	1.707294863	0.013587942	0.000210608	0.002902498
48113	Dallas County	Commercial Equipment	Welders	40 < hp <= 50	0.000171373	21.09773653	6.62552122	0.052730873	0.000817309	0.011263758
48113	Dallas County	Commercial Equipment	Welders	50 < hp <= 75	0.00017326	21.31957532	6.698491206	0.085564848	0.000748132	0.014882134
48113	Dallas County	Commercial Equipment	Welders	75 < hp <= 100	0.000100154	12.32457974	3.872094319	0.059272299	0.000378051	0.00844787
48113	Dallas County	Commercial Equipment	Welders	100 < hp <= 175	8.55295E-06	1.052938607	0.330669738	0.002478533	3.19138E-05	0.000580696
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	6 < hp <= 11	2.2118E-08	0.002716987	0.000855115	1.16508E-05	3.31748E-07	3.07927E-06
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	11 < hp <= 16	6.68147E-08	0.008225545	0.002583158	2.17529E-05	4.51675E-07	4.21671E-06
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	16 < hp <= 25	2.27401E-07	0.027995206	0.008791644	7.40348E-05	1.53725E-06	1.43514E-05
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	25 < hp <= 40	8.66001E-07	0.106726132	0.033480905	9.55879E-05	3.01531E-06	2.20958E-05
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	40 < hp <= 50	1.23439E-06	0.152127086	0.047723562	0.000136251	4.29802E-06	3.14953E-05
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	50 < hp <= 75	2.77013E-06	0.341216552	0.107097269	0.000706341	9.05147E-06	0.000127678
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	75 < hp <= 100	3.86539E-06	0.476211411	0.149441698	0.001080086	8.54194E-06	0.000156273
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	100 < hp <= 175	7.93577E-06	0.977877897	0.306808892	0.001057646	1.69191E-05	0.0002578
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	175 < hp <= 300	1.26021E-05	1.553017068	0.487216128	0.001428682	2.4462E-05	0.000368488
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	300 < hp <= 600	1.34601E-05	1.658500477	0.520388068	0.002578174	2.3184E-05	0.00047725
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	600 < hp <= 750	4.82573E-06	0.594630769	0.186569914	0.001127004	7.70754E-06	0.000164132
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	750 < hp <= 1000	3.27019E-06	0.402759617	0.126430653	0.000700039	5.59014E-06	0.00017358
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	3 < hp <= 6	9.1625E-07	0.112521271	0.035423593	0.000605006	1.08856E-05	0.000141352
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	6 < hp <= 11	7.36859E-07	0.090490885	0.028488052	0.000486553	8.7543E-06	0.000113677
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	11 < hp <= 16	2.20574E-07	0.027127623	0.008527703	0.000100458	1.42438E-06	2.27237E-05
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	16 < hp <= 25	3.25669E-07	0.040052931	0.012590841	0.000148322	2.10304E-06	3.35507E-05
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	25 < hp <= 40	3.68184E-07	0.045320478	0.014234538	0.00010464	1.5632E-06	2.65449E-05
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	50 < hp <= 75	1.1429E-06	0.140719704	0.044186378	0.000365774	3.52424E-06	7.21143E-05
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	75 < hp <= 100	2.6752E-06	0.329431473	0.103427309	0.000909185	5.91265E-06	0.000156248
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	100 < hp <= 175	1.16594E-06	0.143618437	0.045077057	0.000217358	2.4746E-06	5.50139E-05
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	175 < hp <= 300	7.98618E-07	0.0983824 16	0.030875756	0.000131495	1.54902E-06	3.45603E-05
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	300 < hp <= 600	1.6079E-06	0.198121485	0.062163837	0.000294247	2.7449E-06	5.62534E-05
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	600 < hp <= 750	5.92953E-07	0.073065007	0.022924429	0.000132588	9.3889E-07	1.98995E-05
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	6 < hp <= 11	2.25517E-07	0.02770178	0.008718829	0.00011546	3.4339E-06	3.16059E-05
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	16 < hp <= 25	7.69218E-07	0.094707681	0.029739124	0.000239169	4.96998E-06	4.57441E-05
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	25 < hp <= 40	7.21716E-06	0.889627619	0.279026193	0.000548296	2.03298E-05	0.000130922
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	40 < hp <= 50	3.24745E-07	0.040029813	0.012555113	2.46712E-05	9.14764E-07	5.891E-06
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	50 < hp <= 75	4.06846E-06	0.501425499	0.157292928	0.000753178	1.16747E-05	9.83644E-05
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	75 < hp <= 100	8.24299E-06	1.016157627	0.318686417	0.001912428	1.18936E-05	0.000137849
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	100 < hp <= 175	1.33919E-06	0.165099919	0.051774944	0.000129124	1.78927E-06	1.89658E-05
48113	Dallas County	Construction and Mining Equipment	Cranes	75 < hp <= 100	2.71117E-05	3.341425236	1.04817894	0.005845232	4.89781E-05	0.000693017
48113	Dallas County	Construction and Mining Equipment	Cranes	100 < hp <= 175	0.000152023	18.73867333	5.8774187	0.014312118	0.000252466	0.003139674
48113	Dallas County	Construction and Mining Equipment	Cranes	175 < hp <= 300	0.000254575	31.38108043	9.842236198	0.019651249	0.000398136	0.004775668
48113	Dallas County	Construction and Mining Equipment	Cranes	300 < hp <= 600	0.00027123	33.42168165	10.48615833	0.045419324	0.000469391	0.009031207
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	50 < hp <= 75	5.24043E-05	6.460160524	2.026030498	0.005782666	0.00012586	0.000818219
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	75 < hp <= 100	7.62181E-05	9.397230849	2.946707226	0.012442902	7.75194E-05	0.000856054
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	100 < hp <= 175	0.000307566	37.92057694	11.89096433	0.024026215	0.000292482	0.003619511
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	175 < hp <= 300	0.000511594	63.04631199	19.77899536	0.074380584	0.000731051	0.015174491
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	300 < hp <= 600	0.000843019	103.8911259	32.59239895	0.173117409	0.001276625	0.024421442
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	600 < hp <= 750	2.25842E-05	2.784713343	0.873140227	0.002316257	2.06092E-05	0.000187104
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	16 < hp <= 25	1.15971E-07	0.014278476	0.004483603	3.62E-05	7.51974E-07	6.92123E-06
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	25 < hp <= 40	2.6069E-07	0.032135654	0.010078687	1.65541E-05	6.95387E-07	4.29311E-06
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	40 < hp <= 50	1.33318E-06	0.164342365	0.051542597	8.46578E-05	3.55622E-06	2.1955E-05
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	50 < hp <= 75	2.03591E-05	2.509557543	0.787114083	0.0023419	5.45882E-05	0.000381947
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	75 < hp <= 100	7.22787E-06	0.891164564	0.279440218	0.0008304	7.70793E-06	7.67338E-05
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	100 < hp <= 175	1.51735E-05	1.870893023	0.58663017	0.000759355	1.46793E-05	0.000141769
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	175 < hp <= 300	1.04001E-05	1.282361459	0.402081564	0.000387558	9.12909E-06	8.68473E-05
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	300 < hp <= 600	4.76094E-05	5.869018173	1.840650146	0.004657744	7.20276E-05	0.000809201
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	600 < hp <= 750	5.84086E-06	0.72003955	0.225816616	0.000803511	8.53582E-06	9.6231E-05
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	750 < hp <= 1000	6.72069E-07	0.082825123	0.025983203	7.47392E-05	1.22006E-06	1.87608E-05
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	6 < hp <= 11	2.63265E-07	0.032294868	0.010178208	0.000259172	3.19877E-06	5.20379E-05
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	11 < hp <= 16	3.56654E-07	0.04381297	0.013788795	0.00024422	2.52186E-06	5.28199E-05
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	16 < hp <= 25	4.26905E-07	0.052442799	0.016504768	0.000292324	3.0186E-06	6.32238E-05
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	25 < hp <= 40	6.69247E-07	0.082290012	0.025874077	0.000334104	3.40872E-06	7.61507E-05
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	40 < hp <= 50	2.15046E-07	0.026441845	0.008313992	0.000107356	1.09531E-06	2.44691E-05
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	50 < hp <= 75	1.28141E-07	0.015758747	0.004954109	7.43352E-05	5.73309E-07	1.38379E-05
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	75 < hp <= 100	1.20697E-06	0.148438859	0.046663335	0.000817282	4.91313E-06	0.000129286
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	100 < hp <= 175	4.92596E-07	0.06061524	0.019044505	0.000168485	1.97894E-06	4.20752E-05
48113	Dallas County	Construction and Mining Equipment	Excavators	3 < hp <= 6	3.4805E-08	0.004275274	0.001345612	1.78239E-05	5.31545E-07	4.89239E-06
48113	Dallas County	Construction and Mining Equipment	Excavators	6 < hp <= 11	2.58551E-07	0.031759172	0.009995972	0.000132406	3.94862E-06	3.63435E-05
48113	Dallas County	Construction and Mining Equipment	Excavators	11 < hp <= 16	8.79322E-07	0.108265071	0.033995927	0.00027232	5.64698E-06	5.19753E-05
48113	Dallas County	Construction and Mining Equipment	Excavators	16 < hp <= 25	6.41405E-06	0.789720056	0.247976978	0.001986385	4.11908E-05	0.000379124
48113	Dallas County	Construction and Mining Equipment	Excavators	25 < hp <= 40	5.61928E-06	0.692577306	0.217249855	0.000607213	1.8114E-05	0.000127162
48113	Dallas County	Construction and Mining Equipment	Excavators	40 < hp <= 50	1.26866E-05	1.563530529	0.490481941	0.001552942	4.33336E-05	0.000313585
48113	Dallas County	Construction and Mining Equipment	Excavators	50 < hp <= 75	1.03693E-05	1.277811955	0.400893178	0.002295505	2.95197E-05	0.000306763
48113	Dallas County	Construction and Mining Equipment	Excavators	75 < hp <= 100	2.6053E-05	3.212226873	1.007247499	0.004007739	2.53292E-05	0.000277022
48113	Dallas County	Construction and Mining Equipment	Excavators	100 < hp <= 175	0.000161941	19.96704295	6.260874274	0.011249648	0.000145061	0.001606273
48113	Dallas County	Construction and Mining Equipment	Excavators	175 < hp <= 300	0.000711185	87.65214283	27.49547974	0.099772869	0.001033383	0.018124489
48113	Dallas County	Construction and Mining Equipment	Excavators	300 < hp <= 600	0.000432437	53.30755411	16.71865739	0.064185624	0.000616878	0.007651361
48113	Dallas County	Construction and Mining Equipment	Excavators	600 < hp <= 750	5.47982E-05	6.755902595	2.118581341	0.009251931	7.06755E-05	0.000723715
48113	Dallas County	Construction and Mining Equipment	Graders	50 < hp <= 75	4.52212E-06	0.557397385	0.17483205	0.000696366	1.23123E-05	9.0966E-05
48113	Dallas County	Construction and Mining Equipment	Graders	75 < hp <= 100	2.01153E-06	0.247800629	0.077768661	0.000789155	4.01849E-06	8.72572E-05
48113	Dallas County	Construction and Mining Equipment	Graders	100 < hp <= 175	0.000205549	25.33954429	7.946814974	0.020730907	0.000249864	0.003336465
48113	Dallas County	Construction and Mining Equipment	Graders	175 < hp <= 300	9.41422E-05	11.60086957	3.639677818	0.013934643	0.000150769	0.003013845
48113	Dallas County	Construction and Mining Equipment	Graders	300 < hp <= 600	1.76407E-06	0.217464593	0.068201624	0.000256423	2.64922E-06	3.00445E-05
48113	Dallas County	Construction and Mining Equipment	Off-highway Trucks	175 < hp <= 300	3.20286E-05	3.949406113	1.238273256	0.001307435	2.23963E-05	0.000217362

countyID	countyName	classification	equip	HP bin	Non-Methane Organic Gases	Oxides of Nitrogen (NOx)	Primary Exhaust PM10 - Total	Primary Exhaust PM2.5 - Total	Sulfur Dioxide (SO2)	Total Gaseous Hydrocarbons	Total Organic Gases	Volatile Organic Compounds	Min HP	Max Hp	Activity hours	avg hp	avg hp *activity hr
48113	Dallas County	Commercial Equipment	Welders	16 < hp <= 25	0.005327923	0.031679312	0.002726787	0.002644983	1.78886E-05	0.004857005	0.005654011	0.005319245	16	25	1634.184	21.3	34808.11334
48113	Dallas County	Commercial Equipment	Welders	25 < hp <= 40	0.003384439	0.025305441	0.002211186	0.00214485	1.43786E-05	0.003113105	0.003595046	0.003377212	25	40	1013.364	33	33441.01917
48113	Dallas County	Commercial Equipment	Welders	40 < hp <= 50	0.013134032	0.098203142	0.008580971	0.008323542	5.57993E-05	0.012081066	0.013951341	0.013105984	40	50	2808.981	46.2	129774.9007
48113	Dallas County	Commercial Equipment	Welders	50 < hp <= 75	0.016970885	0.104192433	0.011933576	0.011575571	5.8323E-05	0.015630267	0.017719012	0.016911973	50	75	2040.502	64.3	131204.2471
48113	Dallas County	Commercial Equipment	Welders	75 < hp <= 100	0.009614802	0.048813388	0.008503228	0.00824813	3.30994E-05	0.008825919	0.009992854	0.009581245	75	100	896.492	84.6	75843.22003
48113	Dallas County	Commercial Equipment	Welders	100 < hp <= 175	0.000669432	0.003849369	0.000498482	0.000483527	2.82528E-06	0.00061261	0.000701345	0.000667406	100	175	47.39699	151.8	7194.863606
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	6 < hp <= 11	3.7927E-06	1.79988E-05	1.17406E-06	1.13883E-06	8.59646E-09	3.41102E-06	4.12445E-06	3.79253E-06	6	11	1.036667	8	8.293339551
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	11 < hp <= 16	5.18966E-06	4.93705E-05	2.51397E-06	2.43855E-06	2.60266E-08	4.66838E-06	5.64133E-06	5.18927E-06	11	16	1.72778	14.5	25.05280569
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	16 < hp <= 25	1.76627E-05	0.00016803	8.55617E-06	8.29948E-06	8.85803E-08	1.58886E-05	1.92E-05	1.76614E-05	16	25	3.628335	23.5	85.26587814
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	25 < hp <= 40	2.72437E-05	0.000481575	1.41197E-05	1.36961E-05	2.60121E-07	2.51111E-05	3.0259E-05	2.72133E-05	25	40	10.3084	31.5	324.7146371
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	40 < hp <= 50	3.88331E-05	0.000686436	2.01262E-05	1.95224E-05	3.70776E-07	3.57933E-05	4.31311E-05	3.87897E-05	40	50	10.3084	44.9	462.8472129
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	50 < hp <= 75	0.000148394	0.001823888	0.000117588	0.00011406	9.33497E-07	0.000136729	0.000157446	0.000147975	50	75	16.80719	61.8	1038.6841
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	75 < hp <= 100	0.000179882	0.001963035	0.000188242	0.000182594	1.27604E-06	0.000164815	0.000188424	0.00017932	75	100	17.03128	85.1	1449.36193
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	100 < hp <= 175	0.000300877	0.003598293	0.000246403	0.000239011	2.61751E-06	0.000274719	0.000317796	0.000300023	100	175	25.09874	131.8	3308.013655
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	175 < hp <= 300	0.000429361	0.005003476	0.000285489	0.000276925	4.13959E-06	0.00039295	0.000453823	0.00042751	175	300	21.96139	239.2	5253.163689
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	300 < hp <= 600	0.000542177	0.007526604	0.000412436	0.000400063	4.56225E-06	0.000500434	0.000565361	0.000539824	300	600	12.54937	447.1	5610.822913
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	600 < hp <= 750	0.000185993	0.002700274	0.000154252	0.000149624	1.63574E-06	0.000171839	0.0001937	0.000185159	600	750	2.913245	690.5	2011.595585
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	750 < hp <= 1000	0.000193728	0.002970908	0.000123066	0.000119374	1.11768E-06	0.00017917	0.000199318	0.000193003	750	1000	1.56867	869	1363.174577
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	3 < hp <= 6	0.000167444	0.00087132	8.0099E-05	7.76961E-05	3.56011E-07	0.000152238	0.00017833	0.0001672	3	6	66.58062	6	399.4837194
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	6 < hp <= 11	0.00013466	0.000700725	6.44165E-05	6.2484E-05	2.86308E-07	0.000122431	0.000143415	0.000134464	6	11	39.66289	8.1	321.2693908
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	11 < hp <= 16	2.63898E-05	0.000190185	1.41393E-05	1.37151E-05	8.58332E-08	2.41481E-05	2.78142E-05	2.63355E-05	11	16	7.341205	13.1	96.16978576
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	16 < hp <= 25	3.89636E-05	0.000280801	2.08761E-05	2.02498E-05	1.2673E-07	3.56538E-05	4.10666E-05	3.88834E-05	16	25	6.729438	21.1	141.9911437
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	25 < hp <= 40	3.04163E-05	0.000269808	1.89317E-05	1.83638E-05	1.24852E-07	2.81081E-05	3.19795E-05	3.03348E-05	25	40	4.894135	32.8	160.5276432
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	50 < hp <= 75	8.18095E-05	0.000860234	6.26146E-05	6.07361E-05	3.95459E-07	7.56385E-05	8.53337E-05	8.15166E-05	50	75	8.360814	59.6	498.3045394
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	75 < hp <= 100	0.000175904	0.001680847	0.00015927	0.000154492	9.10013E-07	0.000162161	0.000181817	0.000175232	75	100	13.96868	83.5	1166.3851
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	100 < hp <= 175	6.24921E-05	0.000713196	4.63169E-05	4.49274E-05	3.96388E-07	5.74885E-05	6.49667E-05	6.22689E-05	100	175	4.384332	128.9	565.1403523
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	175 < hp <= 300	3.91924E-05	0.000446963	2.57616E-05	2.49887E-05	2.70624E-07	3.61093E-05	4.07414E-05	3.90183E-05	175	300	1.529418	253.1	387.0957925
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	300 < hp <= 600	6.39239E-05	0.000893542	4.20261E-05	4.07653E-05	5.45E-07	5.89983E-05	6.66689E-05	6.36461E-05	300	600	1.937262	402.3	779.3605786
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	600 < hp <= 750	2.25564E-05	0.000329648	1.61608E-05	1.5676E-05	2.00991E-07	2.08384E-05	2.34952E-05	2.24552E-05	600	750	0.407845	704.7	287.4081404
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	6 < hp <= 11	3.89701E-05	0.000181149	1.12467E-05	1.09093E-05	8.76473E-08	3.50398E-05	4.2404E-05	3.89701E-05	6	11	7.096498	10	70.96497697
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	16 < hp <= 25	5.64025E-05	0.000556496	2.73738E-05	2.65526E-05	2.99668E-07	5.07141E-05	6.13725E-05	5.64025E-05	16	25	12.04253	20.1	242.054807
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	25 < hp <= 40	0.000161934	0.003621566	5.73286E-05	5.56087E-05	2.0575E-06	0.000151252	0.000182264	0.000161667	25	40	69.02958	32.9	2271.073248
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	40 < hp <= 50	7.28642E-06	0.000162957	2.57957E-06	2.50218E-06	9.25798E-08	6.80577E-06	8.20119E-06	7.27439E-06	40	50	2.365501	43.2	102.1896359
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	50 < hp <= 75	0.000119114	0.002180134	9.69801E-05	9.40707E-05	1.28657E-06	0.000110039	0.000130789	0.000118878	50	75	22.14966	57.8	1280.250628
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	75 < hp <= 100	0.000164979	0.002767078	0.000298818	0.000289854	2.5363E-06	0.000149742	0.000176873	0.000164567	75	100	31.82671	81.5	2593.877069
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	100 < hp <= 175	2.2923E-05	0.000334478	3.22464E-05	3.1279E-05	4.11482E-07	2.07551E-05	2.47123E-05	2.28544E-05	100	175	3.870817	120.9	467.9817655
48113	Dallas County	Construction and Mining Equipment	Cranes	75 < hp <= 100	0.000814159	0.011057108	0.000998293	0.000968344	8.64138E-06	0.000741995	0.000863137	0.000811957	75	100	198.9467	88.1	17527.20524
48113	Dallas County	Construction and Mining Equipment	Cranes	100 < hp <= 175	0.003733809	0.050095277	0.003576654	0.003469354	4.83988E-05	0.003392141	0.003986274	0.003723386	100	175	752.4737	145.2	109259.1864
48113	Dallas County	Construction and Mining Equipment	Cranes	175 < hp <= 300	0.005673315	0.069909347	0.003979426	0.003860044	8.06364E-05	0.005173804	0.006071451	0.005642858	175	300	769.7254	237.7	182963.7284
48113	Dallas County	Construction and Mining Equipment	Cranes	300 < hp <= 600	0.010305788	0.145551887	0.00817409	0.007928866	9.16474E-05	0.009500597	0.010775179	0.010261337	300	600	473.141	412	194934.1113
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	50 < hp <= 75	0.001003447	0.026062611	0.00066351	0.000643605	1.55584E-05	0.000944079	0.001129306	0.001001117	50	75	388.6864	58.35021	22679.93321
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	75 < hp <= 100	0.001028593	0.021141634	0.001976231	0.001916944	2.27682E-05	0.000933573	0.001106113	0.001025528	75	100	381.6634	87.17837	33272.79685
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	100 < hp <= 175	0.004297296	0.060484054	0.005698505	0.00552755	9.20657E-05	0.003911993	0.004589778	0.004278266	100	175	1084.745	135.7076	147208.1691
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	175 < hp <= 300	0.017281739	0.187313006	0.012825449	0.012440688	0.000163914	0.015905541	0.018012792	0.017185458	175	300	1043.951	233.882	244161.3744
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	300 < hp <= 600	0.027864648	0.377090172	0.021725641	0.021073872	0.000278612	0.025698066	0.029141274	0.027730382	300	600	950.4161	425.3	404211.9765
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	600 < hp <= 750	0.000226726	0.003509278	0.00026554	0.000257574	6.75918E-06	0.000207714	0.000247335	0.000224205	600	750	15.31642	707	10828.71059
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	16 < hp <= 25	8.53388E-06	8.46781E-05	4.16222E-06	4.03735E-06	4.51789E-08	7.67321E-06	9.28585E-06	8.53388E-06	16	25	2.478583	20.4	50.56310178
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	25 < hp <= 40	5.31242E-06	0.000129759	1.46827E-06	1.42422E-06	7.33799E-08	4.9885E-06	6.00781E-06	5.30239E-06	25	40	3.540831	32.1	113.6606767
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	40 < hp <= 50	2.71678E-05	0.000663592	7.50877E-06	7.28351E-06	3.75266E-07	2.55113E-05	3.07241E-05	2.71165E-05	40	50	12.747	45.6	581.2632032
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	50 < hp <= 75	0.000468471	0.010634632	0.000305851	0.000296675	6.20619E-06	0.000436535	0.000523059	0.000467582	50	75	146.2365	60.7	8876.553486
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	75 < hp <= 100	9.31201E-05	0.002063971	0.000142633	0.000138354	2.1608E-06	8.44417E-05	0.000100828	9.28756E-05	75	100	35.40834	89	3151.342509
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	100 < hp <= 175	0.000172816	0.002875453	0.000189845	0.000184149	4.53171E-06	0.000156448	0.000187495	0.000172119	100	175	55.59108	132.3	7354.699951
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	175 < hp <= 300	0.000104974	0.001381591	7.41104E-05	7.18871E-05	3.07957E-06	9.59764E-05	0.000114103	0.000103742	175	300	20.89092	241.3	5040.978764
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	300 < hp <= 600	0.000965191	0.014039696	0.000739247	0.00071707	1.52188E-05	0.000881228	0.001037219	0.000960154	300	600	54.52881	423.2	23076.59372
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	600 < hp <= 750	0.0001147	0.001730429	9.386E-05	9.10442E-05	1.86712E-06	0.000104767	0.000123236	0.000114084	600	750	4.249	666.3	2831.109013
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	750 < hp <= 1000	2.19178E-05	0.000459297	1.34077E-05	1.30054E-05	2.17518E-07	1.99809E-05	2.31379E-05	2.18697E-05	750	1000	0.354083	920	325.7567106
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	6 < hp <= 11	6.04071E-05	0.000220761	3.21947E-05	3.12289E-05	1.02177E-07	5.52366E-05	6.36059E-05	6.02731E-05	6	11	19.93619	10	199.3619498
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	11 < hp <= 16	6.01108E-05	0.000271191	3.19225E-05	3.09648E-05	1.38623E-07	5.53417E-05	6.26327E-05	5.99436E-05	11	16	18.88692	14.3	270.08297
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	16 < hp <= 25	7.19509E-05	0.000324607	3.82102E-05	3.70639E-05	1.65927E-07	6.62424E-05	7.49694E-05	7.17506E-05	16	25	13.64055	23.7	323.2810568
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	25 < hp <= 40	8.58674E-05	0.000435869	5.41154E-05	5.24919E-05	2.26491E-07	7.95594E-05	8.92761E-05	8.55988E-05	25	40	15.7391	32.2	506.7989846
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	40 < hp <= 50	2.75913E-05	0.000140056	1.73886E-05	1.6867E-05	7.27772E-08	2.55644E-05	2.86866E-05	2.7505E-05	40	50	3.357676	48.5	162.8472829
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	50 < hp <= 75	1.56138E-05	8.62431E-05	1.17074E-05	1.13562E-05	4.42783E-08	1.44112E-05	1.61871E-05	1.55555E-05	50	75	1.678838	57.8	97.03680935
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	75 < hp <= 100	0.000145725	0.000700125	0.000128735	0.000124873	4.09953E-07	0.000134199	0.000150638	0.000145181	75	100	10.70258	85.4	914.0006172
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	100 < hp <= 175	4.79742E-05	0.00027975	3.7102E-05	3.59889E-05	1.67269E-07	4.40542E-05	4.99532E-05	4.78165E-05	100	175	3.777382	109.7	414.3788547
48113	Dallas County	Construction and Mining Equipment	Excavators	3 < hp <= 6	6.03232E-06	2.79693E-05	1.73952E-06	1.68733E-06	1.35268E-08	5.42393E-06	6.56386E-06	6.03232E-06	3	6	2.834151	6	17.00490446
48113	Dallas County	Construction and Mining Equipment	Excavators	6 < hp <= 11	4.48115E-05	0.000207772	1.29221E-05	1.25345E-05	1.00485E-07	4.02921E-05	4.87601E-05	4.48115E-05	6	11	15.79025	8	126.322
48113	Dallas County	Construction and Mining Equipment	Excavators	11 < hp <= 16	6.40855E-05	0.000635728	3.12942E-05	3.03554E-05	3.42565E-07	5.76223E-05	6.97325E-05	6.40855E-05	11	16	32.79516	13.1	429.6166574
48113	Dallas County	Construction and Mining Equipment	Excavators	16 < hp <= 25	0.00046746	0.004637202	0.00022827	0.000221422	2.49878E-06	0.000420315	0.000508651	0.00046746	16	25	145.7563	21.5	3133.759886
48113	Dallas County	Construction and Mining Equipment	Excavators	25 < hp <= 40	0.000156997	0.002975387	8.20165E-05	7.9556E-05	1.65557E-06	0.000145276	0.000175111	0.000156799	25	40	85.55095	32.62314	2790.940595
48113	Dallas County	Construction and Mining Equipment	Excavators	40 < hp <= 50	0.000386968	0.00687641	0.000222524	0.000215848	3.79357E-06	0.000356918	0.000430302	0.000386533	40	50	143.8137	43.1	6198.368699
48113	Dallas County	Construction and Mining Equipment	Excavators	50 < hp <= 75	0.000362912	0.005796386	0.000308291	0.000299042	3.2732E-06	0.000336282	0.000392431	0.000361974	50	75	84.71488	60.38901	5115.847483
48113	Dallas County	Construction and Mining Equipment	Excavators	75 < hp <= 100	0.000332748	0.007076435	0.000636293	0.000617204	7.74878E-06	0.000302351	0.000358077	0.000331734	75	100	139.6089	90.38781	12618.9408
48113	Dallas County	Construction and Mining Equipment	Excavators	100 < hp <= 175	0.001929398	0.028414671	0.002717672	0.002636142	4.81565E-05	0.001751333	0.002074458	0.001920509	100	175	644.0532	136.5664	87956.02721
48113	Dallas County	Construction and Mining Equipment	Excavators	175 < hp <= 300	0.020870489	0.24313502	0.019404944	0.018822796	0.000226714	0.019157872	0.021903873	0.020753875	175	300	1646.877	232.1387	382304.0023
48113	Dallas County	Construction and Mining Equipment	Excavators	300 < hp <= 600	0.009031311	0.131337487	0.010049098	0.009747628	0.000137813	0.00826824	0.00964819	0.0089818	300	600	569.3006	420.6217	239460.1516
48113	Dallas County	Construction and Mining Equipment	Excavators	600 < hp <= 750	0.00087008	0.01331409	0.001052989	0.001021399	1.71453E-05	0.00079439	0.000940755	0.00086443	600	750	41.32875	719.4	29731.90555
48113	Dallas County	Construction and Mining Equipment	Graders	50 < hp <= 75	0.000111138	0.002342478	8.33494E-05	8.08489E-05	1.39085E-06	0.000103278	0.00012345	0.000110924	50	75	34.35387	59.63462	2048.679941
48113	Dallas County	Construction and Mining Equipment	Graders	75 < hp <= 100	9.92895E-05	0.000993697	0.000125002	0.000121252	6.59401E-07	9.12757E-05	0.000103308	9.89371E-05	75	100	10.78297	84.36209	909.6741608
48113	Dallas County	Construction and Mining Equipment	Graders	100 < hp <= 175	0.003933371	0.052137649	0.004820281	0.004675671	6.2891E-05	0.003586328	0.004183235	0.003918915	100	175	734.9302	140.7111	103412.8513
48113	Dallas County	Construction and Mining Equipment	Graders	175 < hp <= 300	0.003438596	0.036493219	0.002245611	0.002178242	3.05266E-05	0.003164614	0.003589367	0.003421077	175	300	209.7054	215.5382	45199.53755
48113	Dallas County	Construction and Mining Equipment	Graders	300 < hp <= 600	3.58036E-05	0.000514022	4.01361E-05	3.89321E-05	5.64036E-07	3.26938E-05	3.84528E-05	3.56172E-05	300	600	2.595375	341.8	887.0991518
48113	Dallas County	Construction and Mining Equipment	Off-highway Trucks	175 < hp <= 300	0.000262645	0.003292897	0.000263839	0.000255923	9.35609E-06	0.000239759	0.000285041	0.000258674	175	300	71.13288	244.3	17377.76293

countyID	countyName	classification	equip	HP bin	Ammonia (NH3)	Atmospheric CO2	Brake Specific Fuel Consumption (BSFC)	Carbon Monoxide (CO)	Methane (CH4)	Non-Methane Hydrocarbons
48113	Dallas County	Construction and Mining Equipment	Off-highway Trucks	300 < hp <= 600	0.000152665	18.82246995	5.902267587	0.015041287	0.000179811	0.001763401
48113	Dallas County	Construction and Mining Equipment	Off-highway Trucks	600 < hp <= 750	2.80719E-05	3.460893358	1.085301321	0.004794838	3.68317E-05	0.000370757
48113	Dallas County	Construction and Mining Equipment	Off-highway Trucks	750 < hp <= 1000	9.58532E-07	0.118169008	0.03705831	7.42767E-05	1.38018E-06	1.41633E-05
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	6 < hp <= 11	1.20464E-08	0.001479809	0.00046573	6.35374E-06	1.80836E-07	1.66807E-06
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	11 < hp <= 16	7.62428E-09	0.000938662	0.000294766	2.47281E-06	5.07682E-08	4.69177E-07
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	16 < hp <= 25	1.50147E-07	0.018485401	0.005804926	4.86979E-05	9.99796E-07	9.23965E-06
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	25 < hp <= 40	6.75968E-07	0.08331232	0.026133958	7.31377E-05	2.21139E-06	1.55324E-05
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	40 < hp <= 50	9.02714E-08	0.011125848	0.003490028	9.76709E-06	2.95317E-07	2.07426E-06
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	50 < hp <= 75	1.15503E-06	0.142293465	0.044655088	0.000355994	3.74284E-06	4.67111E-05
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	75 < hp <= 100	1.62824E-06	0.200627042	0.062950229	0.000610358	3.48412E-06	5.64641E-05
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	100 < hp <= 175	1.64497E-05	2.02724127	0.635970834	0.002799714	3.31113E-05	0.000459318
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	175 < hp <= 300	2.50299E-05	3.084889523	0.967692148	0.003553056	4.60131E-05	0.000625871
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	300 < hp <= 600	0.000114255	14.07780655	4.417264029	0.033020449	0.000196074	0.004121425
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	600 < hp <= 750	3.34813E-05	4.125558208	1.29443609	0.011789894	5.30908E-05	0.001150471
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	1000 < hp <= 1200	3.84471E-06	0.473503135	0.148642197	0.001233657	6.57457E-06	0.000208542
48113	Dallas County	Construction and Mining Equipment	Pavers	16 < hp <= 25	1.65888E-07	0.020424458	0.006413475	5.15818E-05	1.0718E-06	9.86494E-06
48113	Dallas County	Construction and Mining Equipment	Pavers	25 < hp <= 40	8.09119E-07	0.09973914	0.031281784	5.68412E-05	2.19553E-06	1.3948E-05
48113	Dallas County	Construction and Mining Equipment	Pavers	40 < hp <= 50	6.15927E-07	0.075904435	0.023812682	7.49018E-05	1.7174E-06	1.70296E-05
48113	Dallas County	Construction and Mining Equipment	Pavers	50 < hp <= 75	5.69128E-07	0.070144455	0.02200336	6.15559E-05	1.86152E-06	1.30738E-05
48113	Dallas County	Construction and Mining Equipment	Pavers	75 < hp <= 100	1.25078E-07	0.015402205	0.004835718	6.09763E-05	2.81497E-07	7.39075E-06
48113	Dallas County	Construction and Mining Equipment	Pavers	100 < hp <= 175	7.89868E-05	9.730707228	3.053750113	0.018074207	0.000156331	0.003336757
48113	Dallas County	Construction and Mining Equipment	Pavers	175 < hp <= 300	2.2762E-05	2.80636064	0.880012006	0.001601403	2.58867E-05	0.00026964
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	3 < hp <= 6	2.34499E-07	0.02880702	0.009066085	0.000128623	3.47082E-06	3.23893E-05
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	6 < hp <= 11	4.17841E-07	0.051329667	0.016154369	0.000229187	6.18446E-06	5.77128E-05
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	11 < hp <= 16	6.57349E-08	0.008092575	0.002541407	2.22206E-05	4.41877E-07	4.16029E-06
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	16 < hp <= 25	5.81418E-07	0.071577989	0.022478494	0.000196539	3.90836E-06	3.67973E-05
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	25 < hp <= 40	2.20257E-07	0.027095342	0.008515459	0.000106776	8.72543E-07	2.12359E-05
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	75 < hp <= 100	1.90122E-07	0.02341146	0.007350421	9.43589E-05	4.28534E-07	1.13288E-05
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	100 < hp <= 175	3.37188E-06	0.415333467	0.130361876	0.000935762	7.38947E-06	0.000161434
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	175 < hp <= 300	5.94435E-06	0.732263112	0.229817658	0.001469429	1.19106E-05	0.000265497
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	300 < hp <= 600	3.40759E-06	0.419870554	0.13174252	0.000916006	5.76812E-06	0.000120594
48113	Dallas County	Construction and Mining Equipment	Plate Compactors	3 < hp <= 6	2.66416E-06	0.327272192	0.103000637	0.001424033	3.9334E-05	0.0003704
48113	Dallas County	Construction and Mining Equipment	Plate Compactors	6 < hp <= 11	2.0884E-06	0.256543449	0.080740501	0.001116276	3.08333E-05	0.000290351
48113	Dallas County	Construction and Mining Equipment	Plate Compactors	11 < hp <= 16	2.09819E-06	0.258295717	0.081119201	0.000698033	1.42535E-05	0.000136227
48113	Dallas County	Construction and Mining Equipment	Plate Compactors	16 < hp <= 25	2.77081E-07	0.034109737	0.010712357	9.21801E-05	1.88228E-06	1.79897E-05
48113	Dallas County	Construction and Mining Equipment	Rollers	3 < hp <= 6	4.42247E-07	0.05432562	0.017097936	0.000227897	6.68975E-06	6.1573E-05
48113	Dallas County	Construction and Mining Equipment	Rollers	6 < hp <= 11	1.33972E-06	0.164571015	0.051795467	0.000690379	2.02655E-05	0.000186526
48113	Dallas County	Construction and Mining Equipment	Rollers	11 < hp <= 16	2.50999E-06	0.309026452	0.097039877	0.000792792	1.64768E-05	0.000151654
48113	Dallas County	Construction and Mining Equipment	Rollers	16 < hp <= 25	6.5217E-06	0.802943332	0.252138674	0.002059912	4.28116E-05	0.000394042
48113	Dallas County	Construction and Mining Equipment	Rollers	25 < hp <= 40	3.08856E-06	0.38043052	0.119408357	0.000703402	1.07376E-05	0.000144165
48113	Dallas County	Construction and Mining Equipment	Rollers	40 < hp <= 50	8.54267E-07	0.105194206	0.033027228	0.000249169	3.71767E-06	4.83837E-05
48113	Dallas County	Construction and Mining Equipment	Rollers	50 < hp <= 75	1.26446E-05	1.557239698	0.488858048	0.004699618	3.81358E-05	0.00067689
48113	Dallas County	Construction and Mining Equipment	Rollers	75 < hp <= 100	1.57136E-05	1.936103453	0.607510241	0.005706888	2.95129E-05	0.000573535
48113	Dallas County	Construction and Mining Equipment	Rollers	100 < hp <= 175	0.00014564	17.94573546	5.630657321	0.028030421	0.000279965	0.004952503
48113	Dallas County	Construction and Mining Equipment	Rollers	175 < hp <= 300	1.20558E-05	1.48604663	0.466095196	0.001302952	1.15884E-05	0.00025126
48113	Dallas County	Construction and Mining Equipment	Rollers	300 < hp <= 600	0.000163631	20.17937774	6.326242526	0.002337053	3.28888E-05	0.000500987
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	11 < hp <= 16	1.4278E-08	0.001757853	0.000552009	4.58977E-06	9.47304E-08	8.72909E-07
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	16 < hp <= 25	2.49865E-07	0.030762445	0.009660151	8.03209E-05	1.65778E-06	1.52759E-05
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	25 < hp <= 40	4.12264E-05	5.081832986	1.593876306	0.003082208	0.000115295	0.000739122
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	40 < hp <= 50	7.25886E-05	8.947723696	2.806386261	0.00544475	0.000203055	0.001304973
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	50 < hp <= 75	0.000199036	24.5311025	7.695046077	0.035711756	0.000567337	0.004660303
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	75 < hp <= 100	0.001594644	196.5847005	61.65132365	0.356824364	0.002239567	0.02530984
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	100 < hp <= 175	0.000909048	112.0727173	35.14515277	0.084566476	0.001178161	0.012305153
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	175 < hp <= 300	9.93515E-05	12.2490165	3.841079333	0.00736373	0.000121432	0.001230427
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	300 < hp <= 600	0.00019736	24.3252638	7.630248216	0.0383884	0.000328449	0.00467199
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	16 < hp <= 25	6.23702E-08	0.007678863	0.002411327	1.98994E-05	4.11942E-07	3.79267E-06
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	25 < hp <= 40	4.86118E-08	0.005979988	0.001879405	2.40642E-05	1.93267E-07	4.71525E-06
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	40 < hp <= 50	3.07807E-06	0.379429429	0.119002981	0.000216789	8.05876E-06	5.37215E-05
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	50 < hp <= 75	1.01194E-05	1.247397882	0.391232298	0.001229706	2.28894E-05	0.000184318
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	75 < hp <= 100	5.41481E-05	6.677063953	2.093446888	0.005206642	3.39826E-05	0.000330771
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	100 < hp <= 175	0.000309561	38.16512218	11.9680779	0.026649409	0.000322578	0.004052987
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	175 < hp <= 300	0.000293718	36.21884903	11.35558459	0.009746786	0.000157106	0.001781511
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	300 < hp <= 600	0.000156802	19.33199627	6.062192129	0.016742838	0.000194722	0.001954034
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	600 < hp <= 750	2.70137E-05	3.330513682	1.044389737	0.004287999	3.35961E-05	0.00033257
48113	Dallas County	Construction and Mining Equipment	Scrapers	100 < hp <= 175	6.75459E-05	8.328078943	2.611427466	0.00518633	7.3609E-05	0.000729671
48113	Dallas County	Construction and Mining Equipment	Scrapers	175 < hp <= 300	2.16436E-05	2.668628186	0.836774322	0.001271483	2.1529E-05	0.000210642
48113	Dallas County	Construction and Mining Equipment	Scrapers	300 < hp <= 600	3.35632E-05	4.13701922	1.297603024	0.005930239	5.20129E-05	0.000716432
48113	Dallas County	Construction and Mining Equipment	Scrapers	600 < hp <= 750	8.13723E-06	1.003190551	0.314597602	0.001465098	1.0969E-05	0.000114492
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	3 < hp <= 6	5.25749E-07	0.064583425	0.020326231	0.000277394	7.87318E-06	7.31774E-05
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	6 < hp <= 11	1.78498E-06	0.219268547	0.069009983	0.000941787	2.67304E-05	0.000248446
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	11 < hp <= 16	1.67666E-06	0.206411477	0.064821976	0.000546945	1.13391E-05	0.000106085
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	16 < hp <= 25	4.29959E-05	5.293194703	1.662286956	0.014025794	0.000290779	0.002720428
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	25 < hp <= 40	1.80035E-05	2.218729878	0.696041507	0.002020729	6.32009E-05	0.000466462
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	40 < hp <= 50	3.83984E-08	0.004732176	0.00148454	4.30987E-06	1.34797E-07	9.94885E-07
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	50 < hp <= 75	2.50904E-06	0.309048137	0.097003414	0.000650725	8.18681E-06	0.000118499
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	75 < hp <= 100	2.18652E-06	0.269369209	0.084534348	0.00061996	4.84465E-06	9.10005E-05
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	100 < hp <= 175	2.77157E-06	0.341514914	0.10715301	0.000378364	5.95635E-06	9.27846E-05
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	175 < hp <= 300	9.72351E-07	0.119824467	0.037592541	0.000113271	1.90308E-06	2.93594E-05
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	6 < hp <= 11	9.38512E-08	0.011534981	0.00362843	4.17663E-05	1.22624E-06	1.12864E-05
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	11 < hp <= 16	2.43579E-05	2.999634979	0.941713741	0.006620192	0.000137852	0.001268803
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	16 < hp <= 25	7.07352E-05	8.710910458	2.734728417	0.019224975	0.000400322	0.003684595
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	25 < hp <= 40	1.62885E-05	2.008060397	0.629738919	0.000897572	3.69695E-05	0.00022732

countyID	countyName	classification	equip	HP bin	Non-Methane Organic Gases	Oxides of Nitrogen (NOx)	Primary Exhaust PM10 - Total	Primary Exhaust PM2.5 - Total	Sulfur Dioxide (SO2)	Total Gaseous Hydrocarbons	Total Organic Gases	Volatile Organic Compounds	Min HP	Max Hp	Activity hours	avg hp	avg hp *activity hr
48113	Dallas County	Construction and Mining Equipment	Off-highway Trucks	300 < hp <= 600	0.002128483	0.03162919	0.002450564	0.002377047	4.69808E-05	0.001943212	0.002308294	0.002112304	300	600	204.8477	405.4571	83056.96441
48113	Dallas County	Construction and Mining Equipment	Off-highway Trucks	600 < hp <= 750	0.000446768	0.006854764	0.000545717	0.000529346	8.79899E-06	0.000407589	0.0004836	0.000443924	600	750	22.13484	688.1	15230.9826
48113	Dallas County	Construction and Mining Equipment	Off-highway Trucks	750 < hp <= 1000	1.72454E-05	0.000506271	1.28183E-05	1.24338E-05	2.89209E-07	1.55435E-05	1.86255E-05	1.72341E-05	750	1000	0.599161	868	520.0718487
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	6 < hp <= 11	2.05615E-06	9.66927E-06	6.26619E-07	6.07821E-07	4.68207E-09	1.84891E-06	2.23699E-06	2.05613E-06	6	11	0.674056	7.9	5.325043752
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	11 < hp <= 16	5.78183E-07	5.54464E-06	2.82026E-07	2.73565E-07	2.97005E-09	5.19945E-07	6.28951E-07	5.78172E-07	11	16	0.224685	15	3.370281107
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	16 < hp <= 25	1.13864E-05	0.000109192	5.55402E-06	5.3874E-06	5.84901E-08	1.02394E-05	1.23861E-05	1.13861E-05	16	25	3.145595	21.1	66.37205129
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	25 < hp <= 40	1.9189E-05	0.000358401	9.79535E-06	9.50149E-06	1.9956E-07	1.77438E-05	2.14003E-05	1.91657E-05	25	40	8.762733	34.1	298.8091813
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	40 < hp <= 50	2.56257E-06	4.78623E-05	1.30811E-06	1.26887E-06	2.665E-08	2.36958E-06	2.85788E-06	2.55946E-06	40	50	0.898741	44.4	39.90411905
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	50 < hp <= 75	5.47948E-05	0.00069918	4.95597E-05	4.80729E-05	3.84331E-07	5.04539E-05	5.85376E-05	5.46541E-05	50	75	8.538042	59.8	510.5748943
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	75 < hp <= 100	6.55829E-05	0.000734272	9.18736E-05	8.91174E-05	5.29881E-07	5.99483E-05	6.90671E-05	6.53951E-05	75	100	8.538048	84.3	719.757422
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	100 < hp <= 175	0.000540576	0.006382475	0.000619961	0.000601362	5.34802E-06	0.000492429	0.000573687	0.00053911	100	175	58.64291	137.7	8075.128662
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	175 < hp <= 300	0.000735582	0.008328609	0.000682544	0.000662068	8.10114E-06	0.000671884	0.000781595	0.000732263	175	300	52.57638	233.7	12287.10094
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	300 < hp <= 600	0.004676256	0.061257502	0.004765172	0.004622219	3.87255E-05	0.004317498	0.004872331	0.004655898	300	600	126.7225	442.6	56087.39051
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	600 < hp <= 750	0.001302236	0.017965533	0.001446207	0.001402821	1.13488E-05	0.001203563	0.001355327	0.001296399	600	750	23.1426	710.2	16435.8731
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	1000 < hp <= 1200	0.000232526	0.003315165	0.000186136	0.000180552	1.31399E-06	0.000215117	0.000239101	0.000231648	1000	1200	1.572797	1200	1887.35675
48113	Dallas County	Construction and Mining Equipment	Pavers	16 < hp <= 25	1.21635E-05	0.000120012	5.90571E-06	5.72854E-06	6.46257E-08	1.09367E-05	1.32353E-05	1.21635E-05	16	25	3.348408	21.9	73.33013371
48113	Dallas County	Construction and Mining Equipment	Pavers	25 < hp <= 40	1.72357E-05	0.000401716	5.45342E-06	5.28982E-06	2.28972E-07	1.61435E-05	1.94312E-05	1.72046E-05	25	40	11.14996	32.51111	362.4975829
48113	Dallas County	Construction and Mining Equipment	Pavers	40 < hp <= 50	2.00505E-05	0.000325192	8.51329E-06	8.2579E-06	1.78553E-07	1.8747E-05	2.17679E-05	1.99974E-05	40	50	5.932586	45.48763	269.8592615
48113	Dallas County	Construction and Mining Equipment	Pavers	50 < hp <= 75	1.61516E-05	0.000286881	8.24272E-06	7.99544E-06	1.68011E-07	1.49353E-05	1.80131E-05	1.61319E-05	50	75	5.031618	50	251.5809089
48113	Dallas County	Construction and Mining Equipment	Pavers	75 < hp <= 100	8.32408E-06	7.45366E-05	8.66971E-06	8.40962E-06	4.25465E-08	7.67224E-06	8.60557E-06	8.29237E-06	75	100	0.637721	86.7	55.29039275
48113	Dallas County	Construction and Mining Equipment	Pavers	100 < hp <= 175	0.003799706	0.041288979	0.00308085	0.002988424	2.64001E-05	0.003493088	0.003956037	0.003786098	100	175	288.9239	133.8021	38658.63433
48113	Dallas County	Construction and Mining Equipment	Pavers	175 < hp <= 300	0.000324032	0.004007714	0.000323653	0.000313943	6.89053E-06	0.000295527	0.000349919	0.000321375	175	300	50.35975	222.1803	11188.94265
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	3 < hp <= 6	3.98669E-05	0.000188771	1.28555E-05	1.24699E-05	9.11445E-08	3.58601E-05	4.33377E-05	3.98639E-05	3	6	26.29044	4.6	120.9360127
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	6 < hp <= 11	7.10367E-05	0.000336361	2.29066E-05	2.22194E-05	1.62405E-07	6.38972E-05	7.72211E-05	7.10313E-05	6	11	29.51907	7.3	215.4891826
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	11 < hp <= 16	5.11472E-06	4.80676E-05	2.53756E-06	2.46143E-06	2.56059E-08	4.60217E-06	5.55659E-06	5.11411E-06	11	16	2.306177	14.7	33.90079846
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	16 < hp <= 25	4.52391E-05	0.000425153	2.24444E-05	2.17711E-05	2.26482E-07	4.07057E-05	4.91475E-05	4.52338E-05	16	25	15.22077	19.7	299.8492484
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	25 < hp <= 40	2.3799E-05	0.000166551	1.58629E-05	1.5387E-05	7.61346E-08	2.21084E-05	2.46716E-05	2.37195E-05	25	40	3.360677	33.8	113.5908806
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	75 < hp <= 100	1.27542E-05	0.000114157	1.32979E-05	1.28989E-05	6.46709E-08	1.17573E-05	1.31827E-05	1.27055E-05	75	100	1.178486	83.2	98.05001032
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	100 < hp <= 175	0.000183571	0.001951392	0.000181402	0.00017596	1.1445E-06	0.000168824	0.00019096	0.000182925	100	175	14.7077	131.3	1931.120505
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	175 < hp <= 300	0.00030112	0.003189397	0.000262896	0.000255009	2.01425E-06	0.000277407	0.000313031	0.000299799	175	300	14.78893	230.2	3404.412102
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	300 < hp <= 600	0.000136872	0.0018097	0.000111653	0.000108303	1.15499E-06	0.000126362	0.00014264	0.000136274	300	600	4.242552	460	1951.573757
48113	Dallas County	Construction and Mining Equipment	Plate Compactors	3 < hp <= 6	0.000455395	0.002180159	0.000146016	0.000141636	1.03548E-06	0.000409734	0.000494729	0.000455338	3	6	237.0556	4.9	1161.572593
48113	Dallas County	Construction and Mining Equipment	Plate Compactors	6 < hp <= 11	0.000356977	0.00170899	0.00011446	0.000111026	8.11694E-07	0.000321184	0.00038781	0.000356932	6	11	105.8765	8.6	910.5379989
48113	Dallas County	Construction and Mining Equipment	Plate Compactors	11 < hp <= 16	0.000167159	0.001561483	8.13663E-05	7.89253E-05	8.17279E-07	0.000150481	0.000181412	0.000167126	11	16	64.42313	14.2	914.80849
48113	Dallas County	Construction and Mining Equipment	Plate Compactors	16 < hp <= 25	2.20744E-05	0.000206205	1.0745E-05	1.04226E-05	1.07927E-07	1.9872E-05	2.39567E-05	2.20702E-05	16	25	5.921907	20.4	120.8068983
48113	Dallas County	Construction and Mining Equipment	Rollers	3 < hp <= 6	7.59195E-05	0.000354954	2.22719E-05	2.16037E-05	1.71884E-07	6.82627E-05	8.26093E-05	7.59195E-05	3	6	40.01326	5.4	216.0716296
48113	Dallas County	Construction and Mining Equipment	Rollers	6 < hp <= 11	0.000229986	0.001075276	6.74692E-05	6.54452E-05	5.20696E-07	0.000206791	0.000250252	0.000229986	6	11	75.23624	8.7	654.555295
48113	Dallas County	Construction and Mining Equipment	Rollers	11 < hp <= 16	0.000186989	0.001819545	9.04931E-05	8.77783E-05	9.778E-07	0.000168131	0.000203466	0.000186989	11	16	90.17076	13.6	1226.322339
48113	Dallas County	Construction and Mining Equipment	Rollers	16 < hp <= 25	0.000485854	0.004727723	0.000235128	0.000228074	2.54062E-06	0.000436853	0.000528665	0.000485854	16	25	161.7437	19.7	3186.350553
48113	Dallas County	Construction and Mining Equipment	Rollers	25 < hp <= 40	0.000167019	0.001859495	0.000100073	9.70705E-05	9.60905E-07	0.000154902	0.000177757	0.000166585	25	40	46.57891	32.44239	1511.130944
48113	Dallas County	Construction and Mining Equipment	Rollers	40 < hp <= 50	5.6608E-05	0.000561336	3.92816E-05	3.81031E-05	2.82287E-07	5.21014E-05	6.03256E-05	5.64903E-05	40	50	9.112995	45.8	417.3751779
48113	Dallas County	Construction and Mining Equipment	Rollers	50 < hp <= 75	0.000773382	0.008452615	0.000643178	0.000623883	4.27382E-06	0.000715026	0.000811518	0.000770736	50	75	99.08769	61.84037	6127.619272
48113	Dallas County	Construction and Mining Equipment	Rollers	75 < hp <= 100	0.000657295	0.007179886	0.000888964	0.000862295	5.08611E-06	0.000603048	0.000686808	0.000655068	75	100	88.79663	86.4195	7673.759874
48113	Dallas County	Construction and Mining Equipment	Rollers	100 < hp <= 175	0.005712764	0.065568085	0.005413089	0.005250697	4.79348E-05	0.005232468	0.005992729	0.005693974	100	175	598.7332	131.7708	78895.55317
48113	Dallas County	Construction and Mining Equipment	Rollers	175 < hp <= 300	0.000285666	0.003053304	0.000249481	0.000241996	3.69724E-06	0.000262849	0.000297255	0.00028347	175	300	30.14346	217	6541.130299
48113	Dallas County	Construction and Mining Equipment	Rollers	300 < hp <= 600	0.00058312	0.006821407	0.000484532	0.000469996	4.6186E-05	0.000533876	0.000616009	0.000558786	300	600	211.1334	420.5	88781.60023
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	11 < hp <= 16	1.07612E-06	1.03714E-05	5.23872E-07	5.08156E-07	5.56207E-09	9.67639E-07	1.17085E-06	1.07612E-06	11	16	0.490897	13.5	6.627105604
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	16 < hp <= 25	1.88321E-05	0.0001815	9.16776E-06	8.89272E-06	9.73363E-08	1.69337E-05	2.04899E-05	1.8832E-05	16	25	5.154418	22.5	115.9743972
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	25 < hp <= 40	0.000914244	0.020641441	0.000317874	0.000308337	1.17355E-05	0.000854417	0.001029539	0.000912712	25	40	664.4164	28.8	19135.19281
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	40 < hp <= 50	0.001613652	0.036355711	0.000562163	0.000545298	2.06659E-05	0.001508028	0.001816707	0.001610939	40	50	740.481	45.5	33691.88555
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	50 < hp <= 75	0.005655877	0.10599822	0.004556864	0.004420159	6.27262E-05	0.005227641	0.006223213	0.005644855	50	75	1466.388	63	92382.41741
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	75 < hp <= 100	0.030366703	0.525431459	0.055849187	0.054173709	0.000488965	0.027594905	0.032606293	0.030291792	75	100	8391.741	88.2	740151.566
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	100 < hp <= 175	0.01489415	0.220566595	0.021159639	0.020524849	0.000278349	0.013483315	0.016072315	0.014848745	100	175	4310.595	108.7	468561.6708
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	175 < hp <= 300	0.001482358	0.01855416	0.001484713	0.001440171	3.02323E-05	0.00135186	0.001603791	0.001471137	175	300	223.5268	229.1	51209.99655
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	300 < hp <= 600	0.005452894	0.074984594	0.005701288	0.005530248	6.47921E-05	0.005000438	0.005781341	0.005428464	300	600	293.9264	346.1	101727.9164
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	16 < hp <= 25	4.67617E-06	4.52633E-05	2.27241E-06	2.20424E-06	2.42969E-08	4.20461E-06	5.08811E-06	4.67616E-06	16	25	1.410771	22.8	32.16558704
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	25 < hp <= 40	5.28374E-06	3.68356E-05	3.72269E-06	3.61101E-06	1.6803E-08	4.90852E-06	5.47701E-06	5.26607E-06	25	40	0.728781	34.4	25.0700814
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	40 < hp <= 50	6.57584E-05	0.001521306	2.01391E-05	1.9535E-05	8.66665E-07	6.17802E-05	7.38172E-05	6.56193E-05	40	50	35.01593	45.32727	1587.176445
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	50 < hp <= 75	0.000219834	0.005167584	0.000161057	0.000156225	2.98695E-06	0.000207208	0.000242723	0.000219149	50	75	83.75958	61.37924	5141.099244
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	75 < hp <= 100	0.000402241	0.012170027	0.000855159	0.000829504	1.57081E-05	0.000364754	0.000436224	0.000400522	75	100	329.1518	85.43451	28120.92111
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	100 < hp <= 175	0.004809062	0.065418744	0.006260474	0.00607266	9.33971E-05	0.004375565	0.005131638	0.004789084	100	175	1296.458	136.3916	176825.9933
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	175 < hp <= 300	0.002121827	0.025653919	0.001986409	0.001926817	8.49646E-05	0.001938617	0.002278933	0.00208205	175	300	721.9147	231.8236	167356.8369
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	300 < hp <= 600	0.002355373	0.034808492	0.002714224	0.002632798	4.86289E-05	0.002148756	0.002550094	0.002338888	300	600	213.7023	423.343	90469.38505
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	600 < hp <= 750	0.000401217	0.006161877	0.000488532	0.000473876	8.40021E-06	0.000366166	0.000434813	0.00039844	600	750	22.35063	692.2	15471.10764
48113	Dallas County	Construction and Mining Equipment	Scrapers	100 < hp <= 175	0.000887261	0.014136742	0.001290313	0.001251604	2.03151E-05	0.00080328	0.000960869	0.000884125	100	175	180.4313	160.8	29013.35988
48113	Dallas County	Construction and Mining Equipment	Scrapers	175 < hp <= 300	0.000254243	0.003230017	0.000253177	0.000245582	6.46065E-06	0.000232171	0.000275772	0.000251725	175	300	37.65367	246.9	9296.691404
48113	Dallas County	Construction and Mining Equipment	Scrapers	300 < hp <= 600	0.000838201	0.012056091	0.000896175	0.00086929	1.09057E-05	0.000768444	0.000890214	0.000834134	300	600	34.97154	412.1458	14413.37526
48113	Dallas County	Construction and Mining Equipment	Scrapers	600 < hp <= 750	0.000137461	0.002098991	0.000166715	0.000161713	2.56467E-06	0.000125461	0.00014843	0.000136629	600	750	5.083228	687.6	3495.227458
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	3 < hp <= 6	9.01167E-05	0.000428054	2.80017E-05	2.71617E-05	2.0434E-07	8.10506E-05	9.79899E-05	9.01118E-05	3	6	42.44922	5.4	229.2258007
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	6 < hp <= 11	0.000305957	0.001453294	9.50693E-05	9.22172E-05	6.93758E-07	0.000275177	0.000332687	0.00030594	6	11	99.77552	7.8	778.2490209
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	11 < hp <= 16	0.000130527	0.00123977	6.32505E-05	6.1353E-05	6.53112E-07	0.000117424	0.000141866	0.000130516	11	16	53.35905	13.7	731.0190253
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	16 < hp <= 25	0.003347224	0.031792502	0.00162199	0.001573329	1.67483E-05	0.003011207	0.003638003	0.00334694	16	25	844.4222	22.2	18746.17388
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	25 < hp <= 40	0.000574899	0.010051346	0.000300471	0.000291457	5.42039E-06	0.000529663	0.000638101	0.000574262	25	40	259.0592	30.3	7849.49226
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	40 < hp <= 50	1.22616E-06	2.14378E-05	6.40854E-07	6.21628E-07	1.15608E-08	1.12968E-06	1.36096E-06	1.2248E-06	40	50	0.396722	42.2	16.74165893
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	50 < hp <= 75	0.000137458	0.001656702	0.000109228	0.000105951	8.46868E-07	0.000126686	0.000145645	0.000137062	50	75	18.44756	59.3	1093.940163
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	75 < hp <= 100	0.000104553	0.001117936	0.000108693	0.000105433	7.23068E-07	9.58452E-05	0.000109398	0.000104221	75	100	10.71149	89	953.3226109
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	100 < hp <= 175	0.00010808	0.001269265	8.80102E-05	8.53699E-05	9.15765E-07	9.87409E-05	0.000114036	0.000107769	100	175	8.529516	157.5	1343.398767
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	175 < hp <= 300	3.41411E-05	0.000390648	2.27101E-05	2.20288E-05	3.19981E-07	3.12625E-05	3.60442E-05	3.39946E-05	175	300	2.181969	216	471.3053574
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	6 < hp <= 11	1.39161E-05	6.46061E-05	4.08571E-06	3.96314E-06	3.64967E-08	1.25126E-05	1.51423E-05	1.39161E-05	6	11	4.246034	9.5	40.33732648
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	11 < hp <= 16	0.001564434	0.015131944	0.000756535	0.000733839	9.49128E-06	0.001406655	0.001702286	0.001564434	11	16	675.4227	15.5	10469.05252
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	16 < hp <= 25	0.004543105	0.04394301	0.002196972	0.002131064	2.75626E-05	0.004084916	0.004943427	0.004543105	16	25	1497.638	20.3	30402.0553
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	25 < hp <= 40	0.000281304	0.00683203	7.85026E-05	7.61476E-05	4.56376E-06	0.000264289	0.000318274	0.000280767	25	40	204.1055	34.3	7000.819953

countyID	countyName	classification	equip	HP bin	Ammonia (NH3)	Atmospheric CO2	Brake Specific Fuel Consumption (BSFC)	Carbon Monoxide (CO)	Methane (CH4)	Non-Methane Hydrocarbons
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	40 < hp <= 50	5.67634E-05	6.997830212	2.194559329	0.003127922	0.000128834	0.000792179
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	50 < hp <= 75	0.001492141	183.981963	57.68837952	0.063362614	0.002529676	0.01228594
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	75 < hp <= 100	0.001510374	186.2641436	58.39332232	0.052868895	0.00040141	0.003952314
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	6 < hp <= 11	4.50375E-09	0.000553261	0.000174122	2.75266E-06	6.24397E-08	6.28228E-07
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	11 < hp <= 16	3.1291E-08	0.003851087	0.001209756	1.25041E-05	2.16836E-07	2.33383E-06
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	16 < hp <= 25	7.14752E-07	0.087966979	0.027633381	0.000285619	4.95298E-06	5.33095E-05
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	100 < hp <= 175	1.57169E-05	1.935889741	0.607637596	0.004477078	3.4462E-05	0.000767388
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	175 < hp <= 300	6.67473E-07	0.082223901	0.025805515	0.000163196	1.33251E-06	2.97075E-05
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	300 < hp <= 600	0.00151969	18.72470997	5.875345068	0.043575008	0.00026026	0.005480611
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	600 < hp <= 750	6.35629E-06	0.783222331	0.245743555	0.002203327	1.00424E-05	0.000217901
48113	Dallas County	Construction and Mining Equipment	Tampers/Rammers	3 < hp <= 6	4.33738E-07	0.053281492	0.016768975	0.000233721	6.34263E-06	6.03578E-05
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	16 < hp <= 25	5.64789E-06	0.695552804	0.218355864	0.001502094	3.11815E-05	0.000286997
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	25 < hp <= 40	2.34057E-05	2.884282698	0.904898477	0.003089442	7.4125E-05	0.000682711
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	40 < hp <= 50	8.70921E-05	10.73548993	3.367110614	0.006786762	0.000224409	0.001593804
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	50 < hp <= 75	0.000890159	109.6514947	34.41488069	0.23693536	0.002864159	0.039759778
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	75 < hp <= 100	0.000645285	79.51312045	24.94770844	0.173094519	0.001118468	0.02170306
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	100 < hp <= 175	9.3751E-05	11.5375786	3.624554513	0.030808822	0.000352505	0.007625411
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	175 < hp <= 300	1.04495E-05	1.287854008	0.40399447	0.001127411	1.45616E-05	0.000276368
48113	Dallas County	Construction and Mining Equipment	Trenchers	6 < hp <= 11	5.68436E-09	0.000698263	0.000219766	2.91903E-06	8.61042E-08	7.9251E-07
48113	Dallas County	Construction and Mining Equipment	Trenchers	11 < hp <= 16	7.34229E-08	0.00903979	0.002838642	2.30895E-05	4.8042E-07	4.42183E-06
48113	Dallas County	Construction and Mining Equipment	Trenchers	16 < hp <= 25	1.40688E-07	0.017321397	0.005439205	4.42424E-05	9.20547E-07	8.47279E-06
48113	Dallas County	Construction and Mining Equipment	Trenchers	25 < hp <= 40	8.57387E-05	10.56933398	3.314789157	0.00530342	0.0002223	0.001354325
48113	Dallas County	Construction and Mining Equipment	Trenchers	40 < hp <= 50	0.000292138	36.01293216	11.29449254	0.01807036	0.000757445	0.004614598
48113	Dallas County	Construction and Mining Equipment	Trenchers	50 < hp <= 75	0.000708951	87.39463956	27.40909846	0.08607609	0.001793273	0.011457759
48113	Dallas County	Construction and Mining Equipment	Trenchers	75 < hp <= 100	0.000380594	46.92852141	14.71432967	0.05069717	0.000338452	0.003164629
48113	Dallas County	Construction and Mining Equipment	Trenchers	100 < hp <= 175	0.000142108	17.52280085	5.494120365	0.008239363	0.00011473	0.0010771
48113	Dallas County	Construction and Mining Equipment	Trenchers	175 < hp <= 300	0.000208596	25.72156315	8.064634137	0.008876136	0.00015157	0.001460291
48113	Dallas County	Construction and Mining Equipment	Trenchers	300 < hp <= 600	0.000186071	22.9399467	7.193801156	0.021787593	0.000250162	0.002517721
48113	Dallas County	Construction and Mining Equipment	Trenchers	600 < hp <= 750	2.74406E-05	3.383072447	1.060893922	0.00465069	3.58438E-05	0.000359177
48113	Dallas County	Construction and Mining Equipment	Trenchers	1200 < hp <= 2000	6.39551E-06	0.788266821	0.247260018	0.000851314	1.11306E-05	0.000150037

countyID	countyName	classification	equip	HP bin	Non-Methane Organic Gases	Oxides of Nitrogen (NOx)	Primary Exhaust PM10 - Total	Primary Exhaust PM2.5 - Total	Sulfur Dioxide (SO2)	Total Gaseous Hydrocarbons	Total Organic Gases	Volatile Organic Compounds	Min HP	Max Hp	Activity hours	avg hp	avg hp *activity hr
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	40 < hp <= 50	0.000980309	0.023808733	0.000273572	0.000265364	1.59041E-05	0.000921013	0.001109142	0.000978436	40	50	538.5643	45.3	24396.96053
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	50 < hp <= 75	0.015247806	0.598949114	0.00575645	0.005583758	0.000418169	0.014815616	0.017777472	0.015195481	50	75	10496.28	61.1	641322.818
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	75 < hp <= 100	0.004821414	0.221833567	0.0090079	0.008737661	0.000425493	0.004353722	0.005222819	0.004778237	75	100	8084.182	80.3	649159.7785
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	6 < hp <= 11	7.65859E-07	3.72942E-06	2.94092E-07	2.85269E-07	1.7505E-09	6.90668E-07	8.28299E-07	7.65529E-07	6	11	0.416002	6.7	2.787211986
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	11 < hp <= 16	2.82105E-06	2.36757E-05	1.47886E-06	1.4345E-06	1.21852E-08	2.55067E-06	3.03789E-06	2.81908E-06	11	16	1.456006	13.3	19.36487784
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	16 < hp <= 25	6.44388E-05	0.000540803	3.37803E-05	3.27669E-05	2.78336E-07	5.82625E-05	6.93917E-05	6.43937E-05	16	25	20.38408	21.7	442.3346423
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	100 < hp <= 175	0.000871609	0.009231024	0.000877939	0.000851601	5.34303E-06	0.00080185	0.000906071	0.000868512	100	175	85.38752	126.5	10801.52178
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	175 < hp <= 300	3.36928E-05	0.000357431	2.82547E-05	2.74071E-05	2.26175E-07	3.104E-05	3.50253E-05	3.35449E-05	175	300	1.968778	233	458.7252438
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	300 < hp <= 600	0.006217618	0.08137977	0.006169352	0.005984273	5.15083E-05	0.005740871	0.006477875	0.006190533	300	600	212.021	492.6	104441.5637
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	600 < hp <= 750	0.000246622	0.003402368	0.000260407	0.000252595	2.15452E-06	0.000227944	0.000256664	0.000245516	600	750	6.122491	713.5	4368.397538
48113	Dallas County	Construction and Mining Equipment	Tampers/Rammers	3 < hp <= 6	7.41083E-05	0.00035659	2.42329E-05	2.3506E-05	1.68581E-07	6.67004E-05	8.0451E-05	7.40952E-05	3	6	45.02605	4.2	189.1094281
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	16 < hp <= 25	0.000353868	0.003498733	0.000172327	0.000167157	2.20083E-06	0.000318179	0.000385049	0.000353868	16	25	106.4679	22.8	2427.466993
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	25 < hp <= 40	0.000818971	0.010989873	0.000437423	0.0004243	6.928E-06	0.000756836	0.000893096	0.000817514	25	40	313.2903	32.38148	10144.80387
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	40 < hp <= 50	0.001952413	0.037901696	0.000789317	0.000765637	2.48614E-05	0.001818213	0.002176822	0.001949078	40	50	817.5246	45.7625	37411.97091
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	50 < hp <= 75	0.046120257	0.444318993	0.032234009	0.031266992	0.000276982	0.042623935	0.048984417	0.045980444	50	75	5917.761	63.64426	376631.5194
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	75 < hp <= 100	0.024883699	0.18636261	0.025162231	0.024407372	0.000194965	0.022821525	0.026002162	0.024798126	75	100	3197.949	86.77683	277507.8914
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	100 < hp <= 175	0.008680938	0.048694364	0.005418662	0.005256101	3.13799E-05	0.007977915	0.009033443	0.008652077	100	175	367.9683	122.273	44992.57856
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	175 < hp <= 300	0.000316987	0.0018753	0.000211012	0.000204682	3.12884E-06	0.00029093	0.000331549	0.000315073	175	300	25.20424	194.6326	4905.567159
48113	Dallas County	Construction and Mining Equipment	Trenchers	6 < hp <= 11	9.77165E-07	4.56312E-06	2.84933E-07	2.76385E-07	2.20928E-09	8.78614E-07	1.06327E-06	9.77165E-07	6	11	0.219865	9.6	2.110708324
48113	Dallas County	Construction and Mining Equipment	Trenchers	11 < hp <= 16	5.45211E-06	5.31992E-05	2.63734E-06	2.55822E-06	2.86031E-08	4.90225E-06	5.93254E-06	5.45211E-06	11	16	1.758922	15.5	27.26329337
48113	Dallas County	Construction and Mining Equipment	Trenchers	16 < hp <= 25	1.04469E-05	0.000101937	5.05348E-06	4.90188E-06	5.48072E-08	9.39334E-06	1.13675E-05	1.04469E-05	16	25	2.418521	21.6	52.24006135
48113	Dallas County	Construction and Mining Equipment	Trenchers	25 < hp <= 40	0.001676124	0.041926229	0.000442934	0.000429646	2.40341E-05	0.001576625	0.001898426	0.001672833	25	40	1023.678	31.1	31836.39258
48113	Dallas County	Construction and Mining Equipment	Trenchers	40 < hp <= 50	0.005711068	0.142855433	0.001509209	0.001463933	8.18915E-05	0.005372044	0.006468516	0.005699854	40	50	2552.382	42.5	108476.2384
48113	Dallas County	Construction and Mining Equipment	Trenchers	50 < hp <= 75	0.014121279	0.35483994	0.009332477	0.009052509	0.000211377	0.013251032	0.015914546	0.014092663	50	75	4245.915	62	263246.7083
48113	Dallas County	Construction and Mining Equipment	Trenchers	75 < hp <= 100	0.003863667	0.09785938	0.008116338	0.007872848	0.000112182	0.003503079	0.00420212	0.003852346	75	100	1715.068	82.4	141321.6192
48113	Dallas County	Construction and Mining Equipment	Trenchers	100 < hp <= 175	0.001316539	0.02238815	0.002074255	0.002012026	4.18614E-05	0.00119183	0.00143127	0.001310008	100	175	532.7173	110	58598.89948
48113	Dallas County	Construction and Mining Equipment	Trenchers	175 < hp <= 300	0.001765823	0.022193566	0.001789025	0.001735353	6.10608E-05	0.001611861	0.001917391	0.001740252	175	300	356.0238	241.6	86015.35784
48113	Dallas County	Construction and Mining Equipment	Trenchers	300 < hp <= 600	0.00303496	0.045014221	0.003511716	0.003406365	5.82734E-05	0.002767883	0.00328512	0.003015988	300	600	181.0886	423.7	76727.24423
48113	Dallas County	Construction and Mining Equipment	Trenchers	600 < hp <= 750	0.000432997	0.006649776	0.00052949	0.000513605	8.59391E-06	0.000395021	0.00046884	0.000430217	600	750	15.82327	715.1	11315.2231
48113	Dallas County	Construction and Mining Equipment	Trenchers	1200 < hp <= 2000	0.000177417	0.003915336	0.000134935	0.000130887	2.03085E-06	0.000161167	0.000188548	0.000177103	1200	2000	1.758143	1500	2637.21393

						Emission Factors (g/hp-hr)									
Equipment	**MOVES Lookup ID**	**HP**	**Count**	**Total Hour Used**	**Load Factor**	**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Airfield															
Air Compressor	*Air Compressors*	100		166	0.31	0.287349	0.571038	0.000471	0.040521	0.048401	0.046949	184.8878	0.002476	0.008149	187.2471
Asphalt Paver	*Pavers*	175		308	0.42	0.431079	0.966389	0.000619	0.089801	0.073042	0.070851	228.3451	0.003639	0.010064	231.3077
Concrete Saws	*Concrete/Industrial Saws*	40		166	0.59	0.201039	1.430514	0.000816	0.061031	0.019308	0.018729	355.3737	0.007844	0.015663	360.1677
Concrete Truck	*Off-highway Trucks*	600		700	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Distributing Tanker	*Off-highway Trucks*	600		112	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Dozer	*Crawler Tractor/Dozers*	175		857	0.43	0.135917	0.341689	0.000563	0.02451	0.031863	0.030907	233.6883	0.001615	0.0103	236.5431
Dump Truck	*Off-highway Trucks*	600		1,996	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Excavator	*Excavators*	175		189	0.38	0.105431	0.259002	0.000493	0.018036	0.025371	0.02461	205.8193	0.001325	0.009071	208.3254
Flatbed Truck	*Off-highway Trucks*	600		1,027	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Grader	*Graders*	300		52	0.41	0.280631	0.729294	0.000611	0.069294	0.044897	0.04355	232.8463	0.002956	0.010263	235.8039
Hydroseeder	*Off-highway Trucks*	600		47	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Loader	*Tractors/Loaders/Backhoes*	175		56	0.37	0.632125	0.983741	0.000632	0.176713	0.110176	0.106871	232.6442	0.007088	0.010254	235.9465
Off-Road Truck	*Off-highway Trucks*	600		47	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Other General Equipment	*Other Construction Equipment*	600		1,982	0.42	0.544846	0.995979	0.000626	0.077151	0.079503	0.077118	227.6959	0.003173	0.010036	230.6118
Paving Machine	*Paving Equipment*	175		166	0.36	0.451714	0.923063	0.000537	0.087475	0.087135	0.084521	195.1071	0.003465	0.008599	197.6684
Pickup Truck	*Off-highway Trucks*	600		2,707	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Pumps	*Pumps*	11		43	0.43	1.110393	1.714148	0.000809	0.355846	0.114408	0.110976	255.5975	0.030373	0.011265	261.1229
Roller	*Rollers*	100		533	0.38	0.655802	0.834344	0.000599	0.076211	0.10359	0.100482	229.0314	0.003308	0.010094	231.9742
Rubber Tired Loader	*Rubber Tire Loaders*	175		166	0.36	0.127896	0.309629	0.000476	0.022903	0.030163	0.029258	195.8285	0.001501	0.008631	198.2331
Scraper	*Scrapers*	600		208	0.48	0.366543	0.743377	0.000685	0.051713	0.0557	0.054029	261.0978	0.003156	0.011508	264.4009
Skid Steer Loader	*Skid Steer Loaders*	75		115	0.37	0.077324	0.843642	0.00059	0.01979	0.007026	0.006815	260.257	0.003419	0.011471	263.5725
Tractors/Loader/Backhoe	*Tractors/Loaders/Backhoes*	100		108	0.37	0.533073	0.598647	0.000634	0.0813	0.077339	0.075019	259.816	0.003407	0.011451	263.1253
Water Truck	*Off-highway Trucks*	600		2,788	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524

													Emissions (ton / year)									
Equipment	**MOVES Lookup ID**												**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Airfield																						
Air Compressor	*Air Compressors*												1.63E-03	3.24E-03	2.68E-06	2.30E-04	2.75E-04	2.67E-04	1.05E+00	1.41E-05	4.63E-05	1.06E+00
Asphalt Paver	*Pavers*												1.08E-02	2.41E-02	1.55E-05	2.24E-03	1.82E-03	1.77E-03	5.70E+00	9.09E-05	2.51E-04	5.78E+00
Concrete Saws	*Concrete/Industrial Saws*												8.69E-04	6.19E-03	3.53E-06	2.64E-04	8.35E-05	8.10E-05	1.54E+00	3.39E-05	6.77E-05	1.56E+00
Concrete Truck	*Off-highway Trucks*												2.57E-02	5.48E-02	8.95E-05	3.64E-03	4.23E-03	4.10E-03	3.62E+01	3.11E-04	1.60E-03	3.67E+01
Distributing Tanker	*Off-highway Trucks*												4.10E-03	8.74E-03	1.43E-05	5.81E-04	6.75E-04	6.55E-04	5.78E+00	4.96E-05	2.55E-04	5.85E+00
Dozer	*Crawler Tractor/Dozers*												9.66E-03	2.43E-02	4.00E-05	1.74E-03	2.26E-03	2.20E-03	1.66E+01	1.15E-04	7.32E-04	1.68E+01
Dump Truck	*Off-highway Trucks*												7.33E-02	1.56E-01	2.55E-04	1.04E-02	1.21E-02	1.17E-02	1.03E+02	8.86E-04	4.55E-03	1.05E+02
Excavator	*Excavators*												1.46E-03	3.58E-03	6.82E-06	2.50E-04	3.51E-04	3.40E-04	2.85E+00	1.83E-05	1.25E-04	2.88E+00
Flatbed Truck	*Off-highway Trucks*												3.77E-02	8.03E-02	1.31E-04	5.34E-03	6.20E-03	6.02E-03	5.31E+01	4.56E-04	2.34E-03	5.38E+01
Grader	*Graders*												1.97E-03	5.11E-03	4.28E-06	4.86E-04	3.15E-04	3.05E-04	1.63E+00	2.07E-05	7.19E-05	1.65E+00
Hydroseeder	*Off-highway Trucks*												1.71E-03	3.64E-03	5.94E-06	2.42E-04	2.81E-04	2.73E-04	2.41E+00	2.06E-05	1.06E-04	2.44E+00
Loader	*Tractors/Loaders/Backhoes*												2.55E-03	3.96E-03	2.55E-06	7.12E-04	4.44E-04	4.30E-04	9.37E-01	2.85E-05	4.13E-05	9.50E-01
Off-Road Truck	*Off-highway Trucks*												1.71E-03	3.64E-03	5.94E-06	2.42E-04	2.81E-04	2.73E-04	2.41E+00	2.06E-05	1.06E-04	2.44E+00
Other General Equipment	*Other Construction Equipment*												3.00E-01	5.48E-01	3.45E-04	4.25E-02	4.38E-02	4.25E-02	1.25E+02	1.75E-03	5.53E-03	1.27E+02
Paving Machine	*Paving Equipment*												5.21E-03	1.07E-02	6.20E-06	1.01E-03	1.01E-03	9.76E-04	2.25E+00	4.00E-05	9.93E-05	2.28E+00
Pickup Truck	*Off-highway Trucks*												9.93E-02	2.12E-01	3.46E-04	1.41E-02	1.64E-02	1.59E-02	1.40E+02	1.20E-03	6.17E-03	1.42E+02
Pumps	*Pumps*												2.48E-04	3.82E-04	1.80E-07	7.94E-05	2.55E-05	2.48E-05	5.70E-02	6.78E-06	2.51E-06	5.83E-02
Roller	*Rollers*												1.46E-02	1.86E-02	1.34E-05	1.70E-03	2.31E-03	2.24E-03	5.11E+00	7.38E-05	2.25E-04	5.18E+00
Rubber Tired Loader	*Rubber Tire Loaders*												1.48E-03	3.57E-03	5.50E-06	2.64E-04	3.48E-04	3.38E-04	2.26E+00	1.73E-05	9.96E-05	2.29E+00
Scraper	*Scrapers*												2.42E-02	4.90E-02	4.52E-05	3.41E-03	3.67E-03	3.56E-03	1.72E+01	2.08E-04	7.59E-04	1.74E+01
Skid Steer Loader	*Skid Steer Loaders*												2.71E-04	2.96E-03	2.07E-06	6.94E-05	2.46E-05	2.39E-05	9.12E-01	1.20E-05	4.02E-05	9.24E-01
Tractors/Loader/Backhoe	*Tractors/Loaders/Backhoes*												2.34E-03	2.63E-03	2.78E-06	3.57E-04	3.39E-04	3.29E-04	1.14E+00	1.49E-05	5.02E-05	1.15E+00
Water Truck	*Off-highway Trucks*												1.02E-01	2.18E-01	3.56E-04	1.45E-02	1.68E-02	1.63E-02	1.44E+02	1.24E-03	6.36E-03	1.46E+02

Airside	MOVES Lookup ID	HP	Count	Total Hour Used	Load Factor	CO	NO_X	SO_2	VOC	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
Air Compressor	*Air Compressors*	100		235	0.31	0.287349	0.571038	0.000471	0.040521	0.048401	0.046949	184.8878	0.002476	0.008149	187.2471
Asphalt Paver	*Pavers*	175		436	0.42	0.431079	0.966389	0.000619	0.089801	0.073042	0.070851	228.3451	0.003639	0.010064	231.3077
Concrete Saws	*Concrete/Industrial Saws*	40		235	0.59	0.201039	1.430514	0.000816	0.061031	0.019308	0.018729	355.3737	0.007844	0.015663	360.1677
Concrete Truck	*Off-highway Trucks*	600		990	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Distributing Tanker	*Off-highway Trucks*	600		182	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Dozer	*Crawler Tractor/Dozers*	175		1210	0.43	0.135917	0.341689	0.000563	0.02451	0.031863	0.030907	233.6883	0.001615	0.0103	236.5431
Dump Truck	*Off-highway Trucks*	600		2815	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Excavator	*Excavators*	175		268	0.38	0.105431	0.259002	0.000493	0.018036	0.025371	0.02461	205.8193	0.001325	0.009071	208.3254
Flatbed Truck	*Off-highway Trucks*	600		1451	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Grader	*Graders*	300		72	0.41	0.280631	0.729294	0.000611	0.069294	0.044897	0.04355	232.8463	0.002956	0.010263	235.8039
Hydroseeder	*Off-highway Trucks*	600		65	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Loader	*Tractors/Loaders/Backhoes*	175		73	0.37	0.632125	0.983741	0.000632	0.176713	0.110176	0.106871	232.6442	0.007088	0.010254	235.9465
Off-Road Truck	*Off-highway Trucks*	600		65	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Other General Equipment	*Other Construction Equipment*	600		2817	0.42	0.544846	0.995979	0.000626	0.077151	0.079503	0.077118	227.6959	0.003173	0.010036	230.6118
Paving Machine	*Paving Equipment*	175		235	0.36	0.451714	0.923063	0.000537	0.087475	0.087135	0.084521	195.1071	0.003465	0.008599	197.6684
Pickup Truck	*Off-highway Trucks*	600		3839	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Pumps	*Pumps*	11		60	0.43	1.110393	1.714148	0.000809	0.355846	0.114408	0.110976	255.5975	0.030373	0.011265	261.1229
Roller	*Rollers*	100		754	0.38	0.655802	0.834344	0.000599	0.076211	0.10359	0.100482	229.0314	0.003308	0.010094	231.9742
Rubber Tired Loader	*Rubber Tire Loaders*	175		235	0.36	0.127896	0.309629	0.000476	0.022903	0.030163	0.029258	195.8285	0.001501	0.008631	198.2331
Scraper	*Scrapers*	600		294	0.48	0.366543	0.743377	0.000685	0.051713	0.0557	0.054029	261.0978	0.003156	0.011508	264.4009
Skid Steer Loader	*Skid Steer Loaders*	75		155	0.37	0.077324	0.843642	0.00059	0.01979	0.007026	0.006815	260.257	0.003419	0.011471	263.5725
Tractors/Loader/Backhoe	*Tractors/Loaders/Backhoes*	100		145	0.37	0.533073	0.598647	0.000634	0.0813	0.077339	0.075019	259.816	0.003407	0.011451	263.1253
Water Truck	*Off-highway Trucks*	600		1978	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524

													Emissions (ton / year)									
Airside	**MOVES Lookup ID**												**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Air Compressor	*Air Compressors*												2.31E-03	4.58E-03	3.78E-06	3.25E-04	3.88E-04	3.77E-04	1.48E+00	1.99E-05	6.54E-05	1.50E+00
Asphalt Paver	*Pavers*												1.52E-02	3.41E-02	2.18E-05	3.17E-03	2.58E-03	2.50E-03	8.06E+00	1.28E-04	3.55E-04	8.16E+00
Concrete Saws	*Concrete/Industrial Saws*												1.23E-03	8.74E-03	4.99E-06	3.73E-04	1.18E-04	1.14E-04	2.17E+00	4.79E-05	9.57E-05	2.20E+00
Concrete Truck	*Off-highway Trucks*												3.63E-02	7.75E-02	1.26E-04	5.15E-03	5.98E-03	5.80E-03	5.12E+01	4.39E-04	2.26E-03	5.19E+01
Distributing Tanker	*Off-highway Trucks*												6.69E-03	1.43E-02	2.33E-05	9.48E-04	1.10E-03	1.07E-03	9.43E+00	8.09E-05	4.15E-04	9.54E+00
Dozer	*Crawler Tractor/Dozers*												1.36E-02	3.43E-02	5.65E-05	2.46E-03	3.20E-03	3.10E-03	2.35E+01	1.62E-04	1.03E-03	2.37E+01
Dump Truck	*Off-highway Trucks*												1.03E-01	2.20E-01	3.60E-04	1.46E-02	1.70E-02	1.65E-02	1.46E+02	1.25E-03	6.42E-03	1.47E+02
Excavator	*Excavators*												2.07E-03	5.10E-03	9.70E-06	3.55E-04	4.99E-04	4.84E-04	4.05E+00	2.61E-05	1.79E-04	4.10E+00
Flatbed Truck	*Off-highway Trucks*												5.33E-02	1.13E-01	1.85E-04	7.55E-03	8.77E-03	8.50E-03	7.51E+01	6.44E-04	3.31E-03	7.60E+01
Grader	*Graders*												2.75E-03	7.14E-03	5.98E-06	6.78E-04	4.39E-04	4.26E-04	2.28E+00	2.89E-05	1.00E-04	2.31E+00
Hydroseeder	*Off-highway Trucks*												2.39E-03	5.09E-03	8.31E-06	3.38E-04	3.93E-04	3.81E-04	3.36E+00	2.89E-05	1.48E-04	3.40E+00
Loader	*Tractors/Loaders/Backhoes*												3.29E-03	5.11E-03	3.29E-06	9.19E-04	5.73E-04	5.56E-04	1.21E+00	3.69E-05	5.33E-05	1.23E+00
Off-Road Truck	*Off-highway Trucks*												2.39E-03	5.09E-03	8.31E-06	3.38E-04	3.93E-04	3.81E-04	3.36E+00	2.89E-05	1.48E-04	3.40E+00
Other General Equipment	*Other Construction Equipment*												4.26E-01	7.79E-01	4.90E-04	6.04E-02	6.22E-02	6.03E-02	1.78E+02	2.48E-03	7.85E-03	1.80E+02
Paving Machine	*Paving Equipment*												7.37E-03	1.51E-02	8.77E-06	1.43E-03	1.42E-03	1.38E-03	3.18E+00	5.65E-05	1.40E-04	3.22E+00
Pickup Truck	*Off-highway Trucks*												1.41E-01	3.00E-01	4.90E-04	2.00E-02	2.32E-02	2.25E-02	1.99E+02	1.70E-03	8.75E-03	2.01E+02
Pumps	*Pumps*												3.46E-04	5.35E-04	2.52E-07	1.11E-04	3.57E-05	3.46E-05	7.97E-02	9.47E-06	3.51E-06	8.14E-02
Roller	*Rollers*												2.07E-02	2.63E-02	1.89E-05	2.41E-03	3.27E-03	3.17E-03	7.23E+00	1.04E-04	3.19E-04	7.33E+00
Rubber Tired Loader	*Rubber Tire Loaders*												2.09E-03	5.05E-03	7.77E-06	3.74E-04	4.92E-04	4.77E-04	3.19E+00	2.45E-05	1.41E-04	3.23E+00
Scraper	*Scrapers*												3.42E-02	6.93E-02	6.38E-05	4.82E-03	5.19E-03	5.04E-03	2.43E+01	2.94E-04	1.07E-03	2.46E+01
Skid Steer Loader	*Skid Steer Loaders*												3.67E-04	4.00E-03	2.80E-06	9.39E-05	3.33E-05	3.23E-05	1.23E+00	1.62E-05	5.44E-05	1.25E+00
Tractors/Loader/Backhoe	*Tractors/Loaders/Backhoes*												3.16E-03	3.55E-03	3.76E-06	4.82E-04	4.59E-04	4.45E-04	1.54E+00	2.02E-05	6.79E-05	1.56E+00
Water Truck	*Off-highway Trucks*												7.26E-02	1.55E-01	2.53E-04	1.03E-02	1.20E-02	1.16E-02	1.02E+02	8.78E-04	4.51E-03	1.04E+02

Building 1	**MOVES Lookup ID**	**HP**	**Count**	**Total Hour Used**	**Load Factor**	**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
40 Ton Rough Terrain Crane	*Cranes*	300		335	0.29	0.089692	0.322803	0.000396	0.025832	0.018352	0.017801	155.6022	0.001839	0.006858	157.5672
90 Ton Crane	*Cranes*	300		425	0.29	0.089692	0.322803	0.000396	0.025832	0.018352	0.017801	155.6022	0.001839	0.006858	157.5672
Auger Drill	*Bore/Drill Rigs*	175		502	0.5	0.283739	0.957061	0.000714	0.079434	0.066361	0.06437	268.1801	0.004435	0.01182	271.6731
Backhoe	*Tractors/Loaders/Backhoes*	100		3363	0.37	0.533073	0.598647	0.000634	0.0813	0.077339	0.075019	259.816	0.003407	0.011451	263.1253
Bob Cat	*Skid Steer Loaders*	75		502	0.37	0.077324	0.843642	0.00059	0.01979	0.007026	0.006815	260.257	0.003419	0.011471	263.5725
Compacting Equipment	*Plate Compactors*	6		335	0.43	1.107243	1.698863	0.000809	0.3565	0.112892	0.109505	255.5962	0.030956	0.011265	261.1706
Concrete Pump	*Pumps*	11		425	0.43	1.110393	1.714148	0.000809	0.355846	0.114408	0.110976	255.5975	0.030373	0.011265	261.1229
Concrete Ready Mix Trucks	*Off-highway Trucks*	600		1140	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Concrete Truck	*Off-highway Trucks*	600		106	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Excavator	*Excavators*	175		284	0.38	0.105431	0.259002	0.000493	0.018036	0.025371	0.02461	205.8193	0.001325	0.009071	208.3254
Fork Truck	*Forklifts*	100		7315	0.2	0.140033	0.261689	0.000289	0.011502	0.022342	0.021672	120.4946	0.000925	0.005311	121.9743
Front Loader	*Tractors/Loaders/Backhoes*	100		1172	0.37	0.533073	0.598647	0.000634	0.0813	0.077339	0.075019	259.816	0.003407	0.011451	263.1253
Generator	*Generator Sets*	40		142	0.31	0.366613	1.042729	0.000497	0.106051	0.064479	0.062544	184.6944	0.006055	0.00814	187.3521
Grout Mixer	*Cement & Mortar Mixers*	600		744	0.43	0.349175	1.04594	0.000634	0.075882	0.050741	0.049219	230.6104	0.003195	0.010164	233.5621
Grout Wheel Truck	*Off-highway Trucks*	600		284	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
High Lift	*Aerial Lifts*	100		2037	0.31	0.798769	0.714221	0.000567	0.117943	0.107854	0.104619	217.7671	0.005795	0.009598	220.7877
Line Painting Truck and Sprayer	*Other Construction Equipment*	600		167	0.42	0.544846	0.995979	0.000626	0.077151	0.079503	0.077118	227.6959	0.003173	0.010036	230.6118
Man Lift	*Aerial Lifts*	75		8721	0.31	0.638565	0.959941	0.000577	0.123079	0.080906	0.078478	217.7492	0.007039	0.009597	220.8742
Material Deliveries	*Off-highway Trucks*	600		8747	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Other General Equipment	*Other Construction Equipment*	600		1507	0.42	0.544846	0.995979	0.000626	0.077151	0.079503	0.077118	227.6959	0.003173	0.010036	230.6118
Paving Machine	*Paving Equipment*	175		670	0.36	0.451714	0.923063	0.000537	0.087475	0.087135	0.084521	195.1071	0.003465	0.008599	197.6684
Roller	*Rollers*	100		335	0.38	0.655802	0.834344	0.000599	0.076211	0.10359	0.100482	229.0314	0.003308	0.010094	231.9742
Small Dozer	*Crawler Tractor/Dozers*	175		335	0.43	0.135917	0.341689	0.000563	0.02451	0.031863	0.030907	233.6883	0.001615	0.0103	236.5431
Survey Crew Trucks	*Off-highway Trucks*	600		101	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Tool Truck	*Off-highway Trucks*	600		5495	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Tractor Trailers Temp Fac.	*Off-highway Trucks*	600		928	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Trowel Machine	*Other Construction Equipment*	600		71	0.42	0.544846	0.995979	0.000626	0.077151	0.079503	0.077118	227.6959	0.003173	0.010036	230.6118
Truck Tower (Mantiwoc type)	*Cranes*	300		1631	0.29	0.089692	0.322803	0.000396	0.025832	0.018352	0.017801	155.6022	0.001839	0.006858	157.5672

													Emissions (ton / year)									
Building 1	**MOVES Lookup ID**												**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
40 Ton Rough Terrain Crane	*Cranes*												2.88E-03	1.04E-02	1.27E-05	8.30E-04	5.89E-04	5.72E-04	5.00E+00	5.91E-05	2.20E-04	5.06E+00
90 Ton Crane	*Cranes*												3.66E-03	1.32E-02	1.62E-05	1.05E-03	7.49E-04	7.26E-04	6.35E+00	7.50E-05	2.80E-04	6.43E+00
Auger Drill	*Bore/Drill Rigs*												1.37E-02	4.64E-02	3.46E-05	3.85E-03	3.22E-03	3.12E-03	1.30E+01	2.15E-04	5.73E-04	1.32E+01
Backhoe	*Tractors/Loaders/Backhoes*												7.31E-02	8.21E-02	8.70E-05	1.12E-02	1.06E-02	1.03E-02	3.56E+01	4.67E-04	1.57E-03	3.61E+01
Bob Cat	*Skid Steer Loaders*												1.19E-03	1.30E-02	9.07E-06	3.04E-04	1.08E-04	1.05E-04	4.00E+00	5.25E-05	1.76E-04	4.05E+00
Compacting Equipment	*Plate Compactors*												1.05E-03	1.62E-03	7.70E-07	3.40E-04	1.08E-04	1.04E-04	2.43E-01	2.95E-05	1.07E-05	2.49E-01
Concrete Pump	*Pumps*												2.46E-03	3.80E-03	1.79E-06	7.89E-04	2.54E-04	2.46E-04	5.67E-01	6.74E-05	2.50E-05	5.79E-01
Concrete Ready Mix Trucks	*Off-highway Trucks*												4.19E-02	8.92E-02	1.46E-04	5.93E-03	6.89E-03	6.68E-03	5.90E+01	5.06E-04	2.60E-03	5.97E+01
Concrete Truck	*Off-highway Trucks*												3.90E-03	8.32E-03	1.36E-05	5.53E-04	6.43E-04	6.23E-04	5.50E+00	4.72E-05	2.42E-04	5.57E+00
Excavator	*Excavators*												2.19E-03	5.38E-03	1.02E-05	3.75E-04	5.27E-04	5.12E-04	4.28E+00	2.75E-05	1.89E-04	4.33E+00
Fork Truck	*Forklifts*												2.26E-02	4.22E-02	4.67E-05	1.85E-03	3.60E-03	3.49E-03	1.94E+01	1.49E-04	8.56E-04	1.97E+01
Front Loader	*Tractors/Loaders/Backhoes*												2.55E-02	2.86E-02	3.03E-05	3.89E-03	3.70E-03	3.59E-03	1.24E+01	1.63E-04	5.47E-04	1.26E+01
Generator	*Generator Sets*												7.11E-04	2.02E-03	9.63E-07	2.06E-04	1.25E-04	1.21E-04	3.58E-01	1.17E-05	1.58E-05	3.63E-01
Grout Mixer	*Cement & Mortar Mixers*												7.39E-02	2.21E-01	1.34E-04	1.61E-02	1.07E-02	1.04E-02	4.88E+01	6.76E-04	2.15E-03	4.94E+01
Grout Wheel Truck	*Off-highway Trucks*												1.04E-02	2.22E-02	3.62E-05	1.48E-03	1.71E-03	1.66E-03	1.47E+01	1.26E-04	6.47E-04	1.49E+01
High Lift	*Aerial Lifts*												5.56E-02	4.97E-02	3.94E-05	8.21E-03	7.51E-03	7.28E-03	1.52E+01	4.03E-04	6.68E-04	1.54E+01
Line Painting Truck and Sprayer	*Other Construction Equipment*												2.53E-02	4.63E-02	2.91E-05	3.59E-03	3.70E-03	3.59E-03	1.06E+01	1.48E-04	4.67E-04	1.07E+01
Man Lift	*Aerial Lifts*												1.43E-01	2.15E-01	1.29E-04	2.75E-02	1.81E-02	1.75E-02	4.87E+01	1.57E-03	2.14E-03	4.94E+01
Material Deliveries	*Off-highway Trucks*												3.21E-01	6.84E-01	1.12E-03	4.55E-02	5.28E-02	5.13E-02	4.52E+02	3.88E-03	1.99E-02	4.58E+02
Other General Equipment	*Other Construction Equipment*												2.28E-01	4.17E-01	2.62E-04	3.23E-02	3.33E-02	3.23E-02	9.53E+01	1.33E-03	4.20E-03	9.65E+01
Paving Machine	*Paving Equipment*												2.10E-02	4.29E-02	2.50E-05	4.07E-03	4.05E-03	3.93E-03	9.08E+00	1.61E-04	4.00E-04	9.20E+00
Roller	*Rollers*												9.20E-03	1.17E-02	8.40E-06	1.07E-03	1.45E-03	1.41E-03	3.21E+00	4.64E-05	1.42E-04	3.25E+00
Small Dozer	*Crawler Tractor/Dozers*												3.78E-03	9.49E-03	1.56E-05	6.81E-04	8.85E-04	8.59E-04	6.49E+00	4.49E-05	2.86E-04	6.57E+00
Survey Crew Trucks	*Off-highway Trucks*												3.72E-03	7.94E-03	1.30E-05	5.28E-04	6.13E-04	5.95E-04	5.25E+00	4.50E-05	2.31E-04	5.31E+00
Tool Truck	*Off-highway Trucks*												2.02E-01	4.30E-01	7.02E-04	2.86E-02	3.32E-02	3.22E-02	2.84E+02	2.44E-03	1.25E-02	2.88E+02
Tractor Trailers Temp Fac.	*Off-highway Trucks*												3.41E-02	7.26E-02	1.19E-04	4.83E-03	5.61E-03	5.44E-03	4.80E+01	4.12E-04	2.12E-03	4.86E+01
Trowel Machine	*Other Construction Equipment*												1.07E-02	1.96E-02	1.23E-05	1.52E-03	1.57E-03	1.52E-03	4.48E+00	6.25E-05	1.98E-04	4.54E+00
Truck Tower (Mantiwoc type)	*Cranes*												1.40E-02	5.05E-02	6.19E-05	4.04E-03	2.87E-03	2.78E-03	2.43E+01	2.88E-04	1.07E-03	2.46E+01

Building 2	**MOVES Lookup ID**	**HP**	**Count**	**Total Hour Used**	**Load Factor**	**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
40 Ton Rough Terrain Crane	*Cranes*	300		205	0.29	0.089692	0.322803	0.000396	0.025832	0.018352	0.017801	155.6022	0.001839	0.006858	157.5672
90 Ton Crane	*Cranes*	300		284	0.29	0.089692	0.322803	0.000396	0.025832	0.018352	0.017801	155.6022	0.001839	0.006858	157.5672
Auger Drill	*Bore/Drill Rigs*	175		308	0.5	0.283739	0.957061	0.000714	0.079434	0.066361	0.06437	268.1801	0.004435	0.01182	271.6731
Backhoe	*Tractors/Loaders/Backhoes*	100		2107	0.37	0.533073	0.598647	0.000634	0.0813	0.077339	0.075019	259.816	0.003407	0.011451	263.1253
Bob Cat	*Skid Steer Loaders*	75		308	0.37	0.077324	0.843642	0.00059	0.01979	0.007026	0.006815	260.257	0.003419	0.011471	263.5725
Compacting Equipment	*Plate Compactors*	6		205	0.43	1.107243	1.698863	0.000809	0.3565	0.112892	0.109505	255.5962	0.030956	0.011265	261.1706
Concrete Pump	*Pumps*	11		284	0.43	1.110393	1.714148	0.000809	0.355846	0.114408	0.110976	255.5975	0.030373	0.011265	261.1229
Concrete Ready Mix Trucks	*Off-highway Trucks*	600		733	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Concrete Truck	*Off-highway Trucks*	600		71	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Excavator	*Excavators*	175		189	0.38	0.105431	0.259002	0.000493	0.018036	0.025371	0.02461	205.8193	0.001325	0.009071	208.3254
Fork Truck	*Forklifts*	100		4823	0.2	0.140033	0.261689	0.000289	0.011502	0.022342	0.021672	120.4946	0.000925	0.005311	121.9743
Front Loader	*Tractors/Loaders/Backhoes*	100		718	0.37	0.533073	0.598647	0.000634	0.0813	0.077339	0.075019	259.816	0.003407	0.011451	263.1253
Generator	*Generator Sets*	40		95	0.31	0.366613	1.042729	0.000497	0.106051	0.064479	0.062544	184.6944	0.006055	0.00814	187.3521
Grout Mixer	*Cement & Mortar Mixers*	600		496	0.43	0.349175	1.04594	0.000634	0.075882	0.050741	0.049219	230.6104	0.003195	0.010164	233.5621
Grout Wheel Truck	*Off-highway Trucks*	600		189	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
High Lift	*Aerial Lifts*	100		1340	0.31	0.798769	0.714221	0.000567	0.117943	0.107854	0.104619	217.7671	0.005795	0.009598	220.7877
Line Painting Truck and Sprayer	*Other Construction Equipment*	600		103	0.42	0.544846	0.995979	0.000626	0.077151	0.079503	0.077118	227.6959	0.003173	0.010036	230.6118
Man Lift	*Aerial Lifts*	75		5814	0.31	0.638565	0.959941	0.000577	0.123079	0.080906	0.078478	217.7492	0.007039	0.009597	220.8742
Material Deliveries	*Off-highway Trucks*	600		5661	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Other General Equipment	*Other Construction Equipment*	600		924	0.42	0.544846	0.995979	0.000626	0.077151	0.079503	0.077118	227.6959	0.003173	0.010036	230.6118
Paving Machine	*Paving Equipment*	175		411	0.36	0.451714	0.923063	0.000537	0.087475	0.087135	0.084521	195.1071	0.003465	0.008599	197.6684
Roller	*Rollers*	100		205	0.38	0.655802	0.834344	0.000599	0.076211	0.10359	0.100482	229.0314	0.003308	0.010094	231.9742
Small Dozer	*Crawler Tractor/Dozers*	175		205	0.43	0.135917	0.341689	0.000563	0.02451	0.031863	0.030907	233.6883	0.001615	0.0103	236.5431
Survey Crew Trucks	*Off-highway Trucks*	600		63	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Tool Truck	*Off-highway Trucks*	600		3663	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Tractor Trailers Temp Fac.	*Off-highway Trucks*	600		569	0.38	0.146047	0.311219	0.000508	0.020699	0.024039	0.023318	205.8094	0.001766	0.009071	208.3524
Trowel Machine	*Other Construction Equipment*	600		47	0.42	0.544846	0.995979	0.000626	0.077151	0.079503	0.077118	227.6959	0.003173	0.010036	230.6118
Truck Tower (Mantiwoc type)	*Cranes*	300		1087	0.29	0.089692	0.322803	0.000396	0.025832	0.018352	0.017801	155.6022	0.001839	0.006858	157.5672
Fugitive Dust															
Dust from On Site Activities															

													Emissions (ton / year)									
Building 2	**MOVES Lookup ID**												**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
40 Ton Rough Terrain Crane	*Cranes*												1.77E-03	6.35E-03	7.79E-06	5.09E-04	3.61E-04	3.50E-04	3.06E+00	3.62E-05	1.35E-04	3.10E+00
90 Ton Crane	*Cranes*												2.44E-03	8.78E-03	1.08E-05	7.03E-04	4.99E-04	4.84E-04	4.23E+00	5.00E-05	1.87E-04	4.29E+00
Auger Drill	*Bore/Drill Rigs*												8.43E-03	2.84E-02	2.12E-05	2.36E-03	1.97E-03	1.91E-03	7.96E+00	1.32E-04	3.51E-04	8.07E+00
Backhoe	*Tractors/Loaders/Backhoes*												4.58E-02	5.14E-02	5.45E-05	6.99E-03	6.65E-03	6.45E-03	2.23E+01	2.93E-04	9.84E-04	2.26E+01
Bob Cat	*Skid Steer Loaders*												7.28E-04	7.95E-03	5.56E-06	1.86E-04	6.62E-05	6.42E-05	2.45E+00	3.22E-05	1.08E-04	2.48E+00
Compacting Equipment	*Plate Compactors*												6.46E-04	9.92E-04	4.72E-07	2.08E-04	6.59E-05	6.39E-05	1.49E-01	1.81E-05	6.58E-06	1.52E-01
Concrete Pump	*Pumps*												1.64E-03	2.53E-03	1.20E-06	5.26E-04	1.69E-04	1.64E-04	3.78E-01	4.49E-05	1.67E-05	3.86E-01
Concrete Ready Mix Trucks	*Off-highway Trucks*												2.69E-02	5.74E-02	9.37E-05	3.81E-03	4.43E-03	4.30E-03	3.79E+01	3.25E-04	1.67E-03	3.84E+01
Concrete Truck	*Off-highway Trucks*												2.60E-03	5.55E-03	9.06E-06	3.69E-04	4.28E-04	4.16E-04	3.67E+00	3.15E-05	1.62E-04	3.71E+00
Excavator	*Excavators*												1.46E-03	3.59E-03	6.83E-06	2.50E-04	3.52E-04	3.41E-04	2.85E+00	1.84E-05	1.26E-04	2.89E+00
Fork Truck	*Forklifts*												1.49E-02	2.78E-02	3.08E-05	1.22E-03	2.38E-03	2.30E-03	1.28E+01	9.83E-05	5.65E-04	1.30E+01
Front Loader	*Tractors/Loaders/Backhoes*												1.56E-02	1.75E-02	1.86E-05	2.38E-03	2.27E-03	2.20E-03	7.61E+00	9.98E-05	3.36E-04	7.71E+00
Generator	*Generator Sets*												4.74E-04	1.35E-03	6.42E-07	1.37E-04	8.33E-05	8.08E-05	2.39E-01	7.82E-06	1.05E-05	2.42E-01
Grout Mixer	*Cement & Mortar Mixers*												4.93E-02	1.48E-01	8.95E-05	1.07E-02	7.16E-03	6.95E-03	3.25E+01	4.51E-04	1.43E-03	3.30E+01
Grout Wheel Truck	*Off-highway Trucks*												6.94E-03	1.48E-02	2.42E-05	9.84E-04	1.14E-03	1.11E-03	9.78E+00	8.39E-05	4.31E-04	9.90E+00
High Lift	*Aerial Lifts*												3.66E-02	3.27E-02	2.59E-05	5.40E-03	4.94E-03	4.79E-03	9.97E+00	2.65E-04	4.39E-04	1.01E+01
Line Painting Truck and Sprayer	*Other Construction Equipment*												1.55E-02	2.84E-02	1.79E-05	2.20E-03	2.27E-03	2.20E-03	6.49E+00	9.05E-05	2.86E-04	6.57E+00
Man Lift	*Aerial Lifts*												9.51E-02	1.43E-01	8.60E-05	1.83E-02	1.21E-02	1.17E-02	3.24E+01	1.05E-03	1.43E-03	3.29E+01
Material Deliveries	*Off-highway Trucks*												2.08E-01	4.43E-01	7.23E-04	2.94E-02	3.42E-02	3.32E-02	2.93E+02	2.51E-03	1.29E-02	2.96E+02
Other General Equipment	*Other Construction Equipment*												1.40E-01	2.56E-01	1.61E-04	1.98E-02	2.04E-02	1.98E-02	5.84E+01	8.14E-04	2.58E-03	5.92E+01
Paving Machine	*Paving Equipment*												1.29E-02	2.63E-02	1.53E-05	2.49E-03	2.48E-03	2.41E-03	5.56E+00	9.88E-05	2.45E-04	5.64E+00
Roller	*Rollers*												5.64E-03	7.17E-03	5.15E-06	6.55E-04	8.91E-04	8.64E-04	1.97E+00	2.84E-05	8.68E-05	1.99E+00
Small Dozer	*Crawler Tractor/Dozers*												2.31E-03	5.82E-03	9.59E-06	4.17E-04	5.43E-04	5.26E-04	3.98E+00	2.75E-05	1.75E-04	4.03E+00
Survey Crew Trucks	*Off-highway Trucks*												2.32E-03	4.94E-03	8.06E-06	3.28E-04	3.81E-04	3.70E-04	3.27E+00	2.80E-05	1.44E-04	3.31E+00
Tool Truck	*Off-highway Trucks*												1.34E-01	2.87E-01	4.68E-04	1.91E-02	2.21E-02	2.15E-02	1.89E+02	1.63E-03	8.35E-03	1.92E+02
Tractor Trailers Temp Fac.	*Off-highway Trucks*												2.09E-02	4.45E-02	7.27E-05	2.96E-03	3.44E-03	3.34E-03	2.94E+01	2.53E-04	1.30E-03	2.98E+01
Trowel Machine	*Other Construction Equipment*												7.15E-03	1.31E-02	8.22E-06	1.01E-03	1.04E-03	1.01E-03	2.99E+00	4.17E-05	1.32E-04	3.03E+00
Truck Tower (Mantiwoc type)	*Cranes*												9.35E-03	3.37E-02	4.13E-05	2.69E-03	1.91E-03	1.86E-03	1.62E+01	1.92E-04	7.15E-04	1.64E+01
Fugitive Dust													**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Dust from On Site Activities													0	0	0	0	8.82E+01	9.81E+00	0	0	0	0

						Emission Factors (g/mi)									
Onroad	**Equipment ID**	**VMT**	**Count**	**Fuel ID**	**Days/Year**	**CO**	**NO_x**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Resuspended Road Dust															
Cement Mixer	*52*	22500.625	1	2	270	1.191129	1.883526	0.003366	0.08844	0.039452	0.036296	1004.695	0.01464	0.003353	1006.81
Dump Truck Subbase Material	*52*	12000.009	1	2	270	1.191129	1.883526	0.003366	0.08844	0.039452	0.036296	1004.695	0.01464	0.003353	1006.81
Passenger Car	*21*	1049322.12	20	1	270	1.971314	0.080242	0.001977	0.094028	0.001939	0.001715	297.542	0.006472	0.001706	298.5361
Cement Mixer	*52*	22500.625	1	2	270	1.191129	1.883526	0.003366	0.08844	0.039452	0.036296	1004.695	0.01464	0.003353	1006.81
Dump Truck Subbase Material	*52*	12000.009	1	2	270	1.191129	1.883526	0.003366	0.08844	0.039452	0.036296	1004.695	0.01464	0.003353	1006.81
Passenger Car	*21*	497047.32	10	1	270	1.971314	0.080242	0.001977	0.094028	0.001939	0.001715	297.542	0.006472	0.001706	298.5361
Tractor Trailer	*61*	2335.2	1	2	270	2.010232	4.222559	0.005539	0.128532	0.068024	0.062582	1655.816	0.019156	0.002988	1658.214
Asphalt 18 Wheeler	*61*	1270.738	1	2	270	2.010232	4.222559	0.005539	0.128532	0.068024	0.062582	1655.816	0.019156	0.002988	1658.214
Cement Mixer	*52*	20251.049	1	2	270	1.191129	1.883526	0.003366	0.08844	0.039452	0.036296	1004.695	0.01464	0.003353	1006.81
Dump Truck - Asphalt	*52*	1800.05	1	2	270	1.191129	1.883526	0.003366	0.08844	0.039452	0.036296	1004.695	0.01464	0.003353	1006.81
Dump Truck Subbase Material	*52*	10800.3	1	2	270	1.191129	1.883526	0.003366	0.08844	0.039452	0.036296	1004.695	0.01464	0.003353	1006.81
Passenger Car	*21*	381571.68	8	1	270	1.971314	0.080242	0.001977	0.094028	0.001939	0.001715	297.542	0.006472	0.001706	298.5361
Asphalt 18 Wheeler	*61*	130.382	1	2	270	2.010232	4.222559	0.005539	0.128532	0.068024	0.062582	1655.816	0.019156	0.002988	1658.214
Cement Mixer	*52*	2073.463	1	2	270	1.191129	1.883526	0.003366	0.08844	0.039452	0.036296	1004.695	0.01464	0.003353	1006.81
Dump Truck - Asphalt	*52*	183.897	1	2	270	1.191129	1.883526	0.003366	0.08844	0.039452	0.036296	1004.695	0.01464	0.003353	1006.81
Dump Truck Subbase Material	*52*	1106.301	1	2	270	1.191129	1.883526	0.003366	0.08844	0.039452	0.036296	1004.695	0.01464	0.003353	1006.81
Passenger Car	*21*	326344.2	7	1	270	1.971314	0.080242	0.001977	0.094028	0.001939	0.001715	297.542	0.006472	0.001706	298.5361
Cement Mixer	*52*	2250.549	1	2	270	1.191129	1.883526	0.003366	0.08844	0.039452	0.036296	1004.695	0.01464	0.003353	1006.81
Dump Truck - Asphalt	*52*	200.438	1	2	270	1.191129	1.883526	0.003366	0.08844	0.039452	0.036296	1004.695	0.01464	0.003353	1006.81
Dump Truck Subbase Material	*52*	1199.709	1	2	270	1.191129	1.883526	0.003366	0.08844	0.039452	0.036296	1004.695	0.01464	0.003353	1006.81
Passenger Car	*21*	13806.87	1	1	270	1.971314	0.080242	0.001977	0.094028	0.001939	0.001715	297.542	0.006472	0.001706	298.5361
Tractor Trailer	*61*	116.76	1	2	270	2.010232	4.222559	0.005539	0.128532	0.068024	0.062582	1655.816	0.019156	0.002988	1658.214
Dump Truck	*52*	0	0	2	270	1.191129	1.883526	0.003366	0.08844	0.039452	0.036296	1004.695	0.01464	0.003353	1006.81
Passenger Car	*21*	0	0	1	270	1.971314	0.080242	0.001977	0.094028	0.001939	0.001715	297.542	0.006472	0.001706	298.5361
Dump Truck	*52*	0	0	2	270	1.191129	1.883526	0.003366	0.08844	0.039452	0.036296	1004.695	0.01464	0.003353	1006.81
Passenger Car	*21*	0	0	1	270	1.971314	0.080242	0.001977	0.094028	0.001939	0.001715	297.542	0.006472	0.001706	298.5361
Dump Truck	*52*	0	0	2	270	1.191129	1.883526	0.003366	0.08844	0.039452	0.036296	1004.695	0.01464	0.003353	1006.81

		Emission Factors (g/veh-day)											Emissions (ton / year)									
Onroad	**Equipment ID**	**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**	**Total HAPs**	**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Resuspended Road Dust												0	0	0	0	0	4.60E-01	1.15E-01	0	0	0	0
Cement Mixer	*52*	0.276168	0.419297	0.000109113	0.170748	0.000948	0.000872	32.5855	0.100192	0.001736	41.45993	0	2.96E-02	4.68E-02	8.35E-05	2.24E-03	9.79E-04	9.00E-04	2.49E+01	3.93E-04	8.37E-05	2.50E+01
Dump Truck Subbase Material	*52*	0.276168	0.419297	0.000109113	0.170748	0.000948	0.000872	32.5855	0.100192	0.001736	41.45993	0	1.58E-02	2.50E-02	4.46E-05	1.22E-03	5.22E-04	4.80E-04	1.33E+01	2.23E-04	4.49E-05	1.33E+01
Passenger Car	*21*	2.479929	0.062992	0.00032269	0.256079	0.007863	0.006956	48.5754	0.023199	0.004844	51.80279	0	2.29E+00	9.32E-02	2.29E-03	1.10E-01	2.29E-03	2.03E-03	3.44E+02	7.62E-03	2.00E-03	3.46E+02
Cement Mixer	*52*	0.276168	0.419297	0.000109113	0.170748	0.000948	0.000872	32.5855	0.100192	0.001736	41.45993	0	2.96E-02	4.68E-02	8.35E-05	2.24E-03	9.79E-04	9.00E-04	2.49E+01	3.93E-04	8.37E-05	2.50E+01
Dump Truck Subbase Material	*52*	0.276168	0.419297	0.000109113	0.170748	0.000948	0.000872	32.5855	0.100192	0.001736	41.45993	0	1.58E-02	2.50E-02	4.46E-05	1.22E-03	5.22E-04	4.80E-04	1.33E+01	2.23E-04	4.49E-05	1.33E+01
Passenger Car	*21*	2.479929	0.062992	0.00032269	0.256079	0.007863	0.006956	48.5754	0.023199	0.004844	51.80279	0	1.09E+00	4.42E-02	1.08E-03	5.23E-02	1.09E-03	9.60E-04	1.63E+02	3.62E-03	9.49E-04	1.64E+02
Tractor Trailer	*61*	0.345745	0.247488	0.000064468	0.121282	0.000662	0.000609	19.2761	0.067891	0.001312	25.3253	0	5.28E-03	1.09E-02	1.43E-05	3.67E-04	1.75E-04	1.61E-04	4.27E+00	6.95E-05	8.08E-06	4.28E+00
Asphalt 18 Wheeler	*61*	0.345745	0.247488	0.000064468	0.121282	0.000662	0.000609	19.2761	0.067891	0.001312	25.3253	0	2.92E-03	5.99E-03	7.78E-06	2.16E-04	9.55E-05	8.78E-05	2.33E+00	4.70E-05	4.58E-06	2.33E+00
Cement Mixer	*52*	0.276168	0.419297	0.000109113	0.170748	0.000948	0.000872	32.5855	0.100192	0.001736	41.45993	0	2.67E-02	4.22E-02	7.52E-05	2.03E-03	8.81E-04	8.10E-04	2.24E+01	3.57E-04	7.54E-05	2.25E+01
Dump Truck - Asphalt	*52*	0.276168	0.419297	0.000109113	0.170748	0.000948	0.000872	32.5855	0.100192	0.001736	41.45993	0	2.45E-03	3.86E-03	6.71E-06	2.26E-04	7.86E-05	7.23E-05	2.00E+00	5.89E-05	7.17E-06	2.01E+00
Dump Truck Subbase Material	*52*	0.276168	0.419297	0.000109113	0.170748	0.000948	0.000872	32.5855	0.100192	0.001736	41.45993	0	1.43E-02	2.25E-02	4.01E-05	1.10E-03	4.70E-04	4.32E-04	1.20E+01	2.04E-04	4.04E-05	1.20E+01
Passenger Car	*21*	2.479929	0.062992	0.00032269	0.256079	0.007863	0.006956	48.5754	0.023199	0.004844	51.80279	0	8.35E-01	3.39E-02	8.32E-04	4.02E-02	8.34E-04	7.38E-04	1.25E+02	2.78E-03	7.29E-04	1.26E+02
Asphalt 18 Wheeler	*61*	0.345745	0.247488	0.000064468	0.121282	0.000662	0.000609	19.2761	0.067891	0.001312	25.3253	0	3.92E-04	6.81E-04	8.15E-07	5.46E-05	9.97E-06	9.18E-06	2.44E-01	2.30E-05	8.20E-07	2.46E-01
Cement Mixer	*52*	0.276168	0.419297	0.000109113	0.170748	0.000948	0.000872	32.5855	0.100192	0.001736	41.45993	0	2.80E-03	4.43E-03	7.73E-06	2.53E-04	9.05E-05	8.32E-05	2.31E+00	6.33E-05	8.18E-06	2.31E+00
Dump Truck - Asphalt	*52*	0.276168	0.419297	0.000109113	0.170748	0.000948	0.000872	32.5855	0.100192	0.001736	41.45993	0	3.24E-04	5.07E-04	7.15E-07	6.87E-05	8.28E-06	7.62E-06	2.13E-01	3.28E-05	1.20E-06	2.16E-01
Dump Truck Subbase Material	*52*	0.276168	0.419297	0.000109113	0.170748	0.000948	0.000872	32.5855	0.100192	0.001736	41.45993	0	1.53E-03	2.42E-03	4.14E-06	1.59E-04	4.84E-05	4.45E-05	1.23E+00	4.77E-05	4.61E-06	1.24E+00
Passenger Car	*21*	2.479929	0.062992	0.00032269	0.256079	0.007863	0.006956	48.5754	0.023199	0.004844	51.80279	0	7.14E-01	2.90E-02	7.12E-04	3.44E-02	7.14E-04	6.31E-04	1.07E+02	2.38E-03	6.24E-04	1.08E+02
Cement Mixer	*52*	0.276168	0.419297	0.000109113	0.170748	0.000948	0.000872	32.5855	0.100192	0.001736	41.45993	0	3.04E-03	4.80E-03	8.38E-06	2.70E-04	9.82E-05	9.03E-05	2.50E+00	6.61E-05	8.84E-06	2.51E+00
Dump Truck - Asphalt	*52*	0.276168	0.419297	0.000109113	0.170748	0.000948	0.000872	32.5855	0.100192	0.001736	41.45993	0	3.45E-04	5.41E-04	7.76E-07	7.04E-05	9.00E-06	8.28E-06	2.32E-01	3.31E-05	1.26E-06	2.35E-01
Dump Truck Subbase Material	*52*	0.276168	0.419297	0.000109113	0.170748	0.000948	0.000872	32.5855	0.100192	0.001736	41.45993	0	1.66E-03	2.62E-03	4.48E-06	1.68E-04	5.25E-05	4.83E-05	1.34E+00	4.92E-05	4.95E-06	1.34E+00
Passenger Car	*21*	2.479929	0.062992	0.00032269	0.256079	0.007863	0.006956	48.5754	0.023199	0.004844	51.80279	0	3.07E-02	1.24E-03	3.02E-05	1.51E-03	3.18E-05	2.82E-05	4.54E+00	1.05E-04	2.74E-05	4.56E+00
Tractor Trailer	*61*	0.345745	0.247488	0.000064468	0.121282	0.000662	0.000609	19.2761	0.067891	0.001312	25.3253	0	3.62E-04	6.17E-04	7.32E-07	5.26E-05	8.95E-06	8.24E-06	2.19E-01	2.27E-05	7.75E-07	2.21E-01
Dump Truck	*52*	0.276168	0.419297	0.000109113	0.170748	0.000948	0.000872	32.5855	0.100192	0.001736	41.45993	0	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
Passenger Car	*21*	2.479929	0.062992	0.00032269	0.256079	0.007863	0.006956	48.5754	0.023199	0.004844	51.80279	0	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
Dump Truck	*52*	0.276168	0.419297	0.000109113	0.170748	0.000948	0.000872	32.5855	0.100192	0.001736	41.45993	0	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
Passenger Car	*21*	2.479929	0.062992	0.00032269	0.256079	0.007863	0.006956	48.5754	0.023199	0.004844	51.80279	0	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
Dump Truck	*52*	0.276168	0.419297	0.000109113	0.170748	0.000948	0.000872	32.5855	0.100192	0.001736	41.45993	0	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

Construction Emissions 2024

	Emissions (ton / year)									
	CO	**NO_x**	**SO_2**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Airfield	0.72	1.44	0.002	0.10	0.11	0.11	672.08	0.007	0.030	680.46
Airside	0.95	1.89	0.002	0.14	0.15	0.15	850.60	0.009	0.037	861.21
Building 1	1.35	2.65	0.003	0.21	0.21	0.20	1236.54	0.014	0.054	1252.06
Building 2	0.87	1.71	0.002	0.14	0.13	0.13	801.04	0.009	0.035	811.10
Fugitive Dust	0.00	0.00	0.000	0.00	88.23	9.81	0.00	0.000	0.000	0.00
Onroad	5.12	0.45	0.005	0.25	0.47	0.12	872.31	0.019	0.005	875.15
Total	**9.01**	**8.14**	**0.01**	**0.84**	**89.31**	**10.52**	**4432.58**	**0.056**	**0.162**	**4479.98**

countyID	countyName	classification	equip	HP bin	Ammonia (NH3)	Atmospheric CO2	Brake Specific Fuel Consumption (BSFC)	Carbon Monoxide (CO)	Methane (CH4)	Non-Methane Hydrocarbons	Non-Methane Organic Gases	Oxides of Nitrogen (NOx)	Primary Exhaust PM10 Total	Primary Exhaust PM2.5 - Total
48113	Dallas County	Industrial Equipment	Aerial Lifts	6 < hp <= 11	4.9076E-08	0.006027367	0.001897353	3.46339E-05	6.32872E-07	7.35061E-06	8.81437E-06	3.64271E-05	3.81917E-06	3.70459E-06
48113	Dallas County	Industrial Equipment	Aerial Lifts	11 < hp <= 16	5.2634E-07	0.064751823	0.020349115	0.000238684	3.60715E-06	4.79744E-05	5.66828E-05	0.000357118	2.84597E-05	2.76059E-05
48113	Dallas County	Industrial Equipment	Aerial Lifts	16 < hp <= 25	1.20733E-05	1.485286194	0.466770672	0.005474965	8.27413E-05	0.001100444	0.001300198	0.008191618	0.000652812	0.000633228
48113	Dallas County	Industrial Equipment	Aerial Lifts	25 < hp <= 40	2.29145E-05	2.821625319	0.885908758	0.006267161	0.000103478	0.001316229	0.001544806	0.0127366	0.001014398	0.000983965
48113	Dallas County	Industrial Equipment	Aerial Lifts	40 < hp <= 50	7.47183E-06	0.920059583	0.288872047	0.002043559	3.37416E-05	0.000429188	0.000503721	0.004153076	0.000330769	0.000320846
48113	Dallas County	Industrial Equipment	Aerial Lifts	50 < hp <= 75	7.08673E-05	8.725973602	2.739834359	0.025589536	0.000282091	0.004259979	0.004947192	0.038468198	0.003242167	0.0031449
48113	Dallas County	Industrial Equipment	Aerial Lifts	75 < hp <= 100	3.49244E-05	4.300635987	1.350230605	0.015774713	0.000114445	0.00201848	0.002336431	0.01410501	0.002129996	0.002066096
48113	Dallas County	Industrial Equipment	Aerial Lifts	100 < hp <= 175	5.29898E-07	0.065270842	0.020486649	0.000104858	1.72331E-06	2.47152E-05	2.90727E-05	0.000182513	2.19044E-05	2.12472E-05
48113	Dallas County	Industrial Equipment	Forklifts	11 < hp <= 16	3.46129E-08	0.004261651	0.001338185	1.06512E-05	2.22249E-07	2.04566E-06	2.52223E-06	2.50169E-05	1.20953E-06	1.17325E-06
48113	Dallas County	Industrial Equipment	Forklifts	16 < hp <= 25	1.4422E-08	0.001775687	0.000557577	4.43801E-06	9.26038E-08	8.52333E-07	1.05093E-06	1.04237E-05	5.03973E-07	4.88853E-07
48113	Dallas County	Industrial Equipment	Forklifts	25 < hp <= 40	1.60142E-07	0.019740873	0.006191336	1.05425E-05	4.27473E-07	2.66126E-06	3.29282E-06	7.89395E-05	9.42661E-07	9.14382E-07
48113	Dallas County	Industrial Equipment	Forklifts	40 < hp <= 50	2.73845E-06	0.337571615	0.105872736	0.000180279	7.30985E-06	4.55079E-05	5.63077E-05	0.001349878	1.61196E-05	1.56361E-05
48113	Dallas County	Industrial Equipment	Forklifts	50 < hp <= 75	0.000132942	16.38757626	5.139732834	0.017025272	0.000337135	0.002334904	0.002860168	0.067264514	0.00200776	0.001947528
48113	Dallas County	Industrial Equipment	Forklifts	75 < hp <= 100	0.000185604	22.88468779	7.175716175	0.026595536	0.000175598	0.001811691	0.002191238	0.04970074	0.004243246	0.004115947
48113	Dallas County	Industrial Equipment	Forklifts	100 < hp <= 175	9.52356E-05	11.74281808	3.68195059	0.005862337	8.17796E-05	0.000812585	0.000987551	0.016158732	0.001449474	0.00140599
48113	Dallas County	Industrial Equipment	Forklifts	175 < hp <= 300	2.51768E-05	3.104425813	0.973371712	0.001168071	2.00146E-05	0.000197998	0.000238469	0.003058846	0.000232836	0.000225851
48113	Dallas County	Industrial Equipment	Forklifts	300 < hp <= 600	5.1683E-05	6.371789216	1.998142478	0.005878449	6.6022E-05	0.000698533	0.000839058	0.012344775	0.000908572	0.000881315
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	3 < hp <= 6	9.66652E-07	0.118736411	0.037372239	0.000494217	1.48412E-05	0.000136599	0.000168427	0.000783906	4.76419E-05	4.62126E-05
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	6 < hp <= 11	3.99662E-07	0.049091545	0.015451528	0.000204334	6.13608E-06	5.64769E-05	6.96361E-05	0.000324105	1.96975E-05	1.91066E-05
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	11 < hp <= 16	3.642E-07	0.044840389	0.014080516	0.000113241	2.37341E-06	2.18451E-05	2.6935E-05	0.000266003	1.28336E-05	1.24486E-05
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	16 < hp <= 25	1.05423E-06	0.129796988	0.040758075	0.000327791	6.87019E-06	6.32337E-05	7.79672E-05	0.000769983	3.71487E-05	3.60342E-05
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	25 < hp <= 40	4.79263E-06	0.59077235	0.185290442	0.000331244	1.33808E-05	8.52917E-05	0.000105506	0.002416898	3.19988E-05	3.10388E-05
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	40 < hp <= 50	2.37756E-06	0.29307408	0.091919977	0.000164326	6.63805E-06	4.2312E-05	5.23402E-05	0.001198989	1.58741E-05	1.53979E-05
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	50 < hp <= 75	2.54893E-05	3.141800247	0.985456126	0.00309768	6.77678E-05	0.000519741	0.00063222	0.013475769	0.000431465	0.000418521
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	75 < hp <= 100	0.000111464	13.74222977	4.309365934	0.01452931	0.000127737	0.001431022	0.001717591	0.033449928	0.002473522	0.002399315
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	100 < hp <= 175	0.000215979	26.62896758	8.350070947	0.012227415	0.000230363	0.002395255	0.002899467	0.044303446	0.003057813	0.002966079
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	175 < hp <= 300	0.000120988	14.91744851	4.677572603	0.005349983	0.000121095	0.001240403	0.00149301	0.018961491	0.001049148	0.001017673
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	300 < hp <= 600	2.06064E-05	2.540338194	0.796676052	0.001829041	2.87446E-05	0.000323194	0.000386087	0.005912013	0.000277636	0.000269307
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	600 < hp <= 750	5.87983E-06	0.724869579	0.227322957	0.000734809	7.80338E-06	8.90446E-05	0.000106178	0.001693904	8.30932E-05	8.06004E-05
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	25 < hp <= 40	8.68637E-07	0.107031486	0.033582796	0.000133984	3.22832E-06	2.81942E-05	3.42719E-05	0.000427337	2.02196E-05	1.9613E-05
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	50 < hp <= 75	7.60692E-06	0.936638727	0.294094966	0.002805295	3.04355E-05	0.00046055	0.000534782	0.004137753	0.000378034	0.000366693
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	75 < hp <= 100	3.06773E-06	0.377759736	0.118603038	0.001416874	1.01124E-05	0.000178616	0.00020673	0.001242227	0.000202013	0.000195953
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	100 < hp <= 175	1.89288E-05	2.33155316	0.73181437	0.003832567	6.19165E-05	0.000888956	0.001045592	0.006538922	0.000847345	0.000821924
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	175 < hp <= 300	1.37522E-05	1.694172728	0.531682559	0.002307475	4.01914E-05	0.000574795	0.000675562	0.004146813	0.000455944	0.000442266
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	300 < hp <= 600	3.35785E-06	0.413782255	0.129819648	0.000657643	8.34721E-06	0.000103353	0.000122777	0.000999301	8.96571E-05	8.69674E-05
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	1000 < hp <= 1200	3.22946E-07	0.039776351	0.012485572	6.87741E-05	8.16738E-07	1.6202E-05	1.85938E-05	0.000203042	9.79147E-06	9.49772E-06
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	3 < hp <= 6	2.97029E-07	0.036484033	0.011483572	0.000153187	4.58397E-06	4.21912E-05	5.20218E-05	0.00024106	1.4954E-05	1.45054E-05
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	6 < hp <= 11	3.11173E-08	0.003831207	0.001203041	9.71015E-06	2.01552E-07	1.8551E-06	2.28734E-06	2.27122E-05	1.1177E-06	1.08417E-06
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	11 < hp <= 16	1.28241E-08	0.001578922	0.000495799	4.00176E-06	8.30639E-08	7.64527E-07	9.42663E-07	9.36016E-06	4.60627E-07	4.46808E-07
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	16 < hp <= 25	7.83694E-06	0.964894979	0.30298768	0.002445516	5.07612E-05	0.00046721	0.00057607	0.005720091	0.000281494	0.000273049
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	25 < hp <= 40	3.02551E-05	3.729668811	1.169705541	0.001764546	7.82587E-05	0.00047331	0.00058582	0.014844251	0.000127386	0.000123565
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	40 < hp <= 50	2.5572E-05	3.15236682	0.988651354	0.00149142	6.61454E-05	0.000400049	0.000495144	0.012546568	0.000107669	0.000104439
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	50 < hp <= 75	3.45134E-05	4.255280606	1.334340276	0.001803606	6.97137E-05	0.000351273	0.000435595	0.016500566	0.000185776	0.000180203
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	75 < hp <= 100	0.000171291	21.12385765	6.622348661	0.006009786	5.35726E-05	0.000516455	0.000629621	0.031899112	0.001122429	0.001088757
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	100 < hp <= 175	0.000283641	34.97899859	10.96598962	0.005799717	8.8818E-05	0.000902253	0.001093447	0.019179397	0.001377931	0.001336593
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	175 < hp <= 300	0.000122964	15.16410065	4.753981792	0.001405908	3.0548E-05	0.000399821	0.000471099	0.005421666	0.000317776	0.000308243
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	300 < hp <= 600	3.39429E-06	0.418557388	0.131228394	0.000103591	2.09483E-06	1.96743E-05	2.37423E-05	0.000338366	1.77691E-05	1.7236E-05
48113	Dallas County	Commercial Equipment	Air Compressors	3 < hp <= 6	2.35349E-07	0.028909288	0.009098952	0.00012098	3.59028E-06	3.30522E-05	4.07521E-05	0.000190847	1.17854E-05	1.14318E-05
48113	Dallas County	Commercial Equipment	Air Compressors	6 < hp <= 11	9.11426E-07	0.111955738	0.035237118	0.000468514	1.39039E-05	0.000127999	0.000157819	0.000739086	4.56408E-05	4.42715E-05
48113	Dallas County	Commercial Equipment	Air Compressors	11 < hp <= 16	1.58088E-07	0.019463333	0.006111923	4.97913E-05	1.04555E-06	9.6286E-06	1.18711E-05	0.000115799	5.66136E-06	5.49152E-06
48113	Dallas County	Commercial Equipment	Air Compressors	16 < hp <= 25	4.04729E-07	0.049829065	0.015647442	0.000127473	2.67675E-06	2.46506E-05	3.03919E-05	0.000296464	1.44939E-05	1.40591E-05
48113	Dallas County	Commercial Equipment	Air Compressors	25 < hp <= 40	2.52994E-05	3.11836148	0.978112741	0.00206327	7.64974E-05	0.000511533	0.000632457	0.01314167	0.000238911	0.000231743
48113	Dallas County	Commercial Equipment	Air Compressors	40 < hp <= 50	2.30936E-05	2.846476805	0.892832985	0.001883378	6.98277E-05	0.000466933	0.000577315	0.011995874	0.000218081	0.000211538
48113	Dallas County	Commercial Equipment	Air Compressors	50 < hp <= 75	0.000203359	25.05981619	7.862176915	0.035198953	0.000602772	0.00604872	0.007205505	0.117125922	0.005330803	0.00517088
48113	Dallas County	Commercial Equipment	Air Compressors	75 < hp <= 100	0.000365604	45.06246827	14.13478303	0.070035268	0.000603402	0.008420804	0.009903516	0.139178227	0.011796712	0.011442817
48113	Dallas County	Commercial Equipment	Air Compressors	100 < hp <= 175	5.78211E-05	7.12750184	2.235446332	0.004914259	8.82873E-05	0.001091269	0.001298342	0.017224948	0.00120177	0.001165717
48113	Dallas County	Commercial Equipment	Air Compressors	175 < hp <= 300	9.83861E-05	12.128531	3.8037515	0.006832442	0.000137196	0.001666346	0.001977214	0.024116539	0.001365217	0.001324261
48113	Dallas County	Commercial Equipment	Air Compressors	300 < hp <= 600	4.84715E-05	5.974314453	1.873980793	0.006204295	7.38879E-05	0.001136043	0.001318045	0.018825771	0.0009612	0.000932364
48113	Dallas County	Commercial Equipment	Generator Sets	3 < hp <= 6	1.50853E-05	1.85269963	0.583220244	0.009494657	0.000187116	0.00227529	0.002713964	0.013913101	0.001187021	0.001151411
48113	Dallas County	Commercial Equipment	Generator Sets	6 < hp <= 11	2.38674E-05	2.931268646	0.922748063	0.015022074	0.000296048	0.003599876	0.004293926	0.022012768	0.001878059	0.001821717
48113	Dallas County	Commercial Equipment	Generator Sets	11 < hp <= 16	2.97833E-05	3.663750495	1.151467526	0.012660341	0.000192524	0.002811691	0.003291332	0.02489494	0.001704929	0.001653781
48113	Dallas County	Commercial Equipment	Generator Sets	16 < hp <= 25	7.34395E-05	9.034049863	2.839280662	0.031217779	0.000474724	0.00693305	0.008115742	0.061385793	0.004204002	0.004077882
48113	Dallas County	Commercial Equipment	Generator Sets	25 < hp <= 40	0.000190632	23.47170045	7.370101005	0.046590603	0.000769533	0.011710197	0.013511754	0.132514142	0.008194191	0.007948364
48113	Dallas County	Commercial Equipment	Generator Sets	40 < hp <= 50	3.52844E-05	4.344429175	1.364147592	0.008623556	0.000142435	0.002167466	0.002500921	0.024527327	0.00151668	0.00147118
48113	Dallas County	Commercial Equipment	Generator Sets	50 < hp <= 75	0.000172573	21.25734955	6.671917481	0.041272517	0.000521938	0.007895861	0.009117803	0.112806124	0.006390912	0.006199185
48113	Dallas County	Commercial Equipment	Generator Sets	75 < hp <= 100	0.000302413	37.25744232	11.69174324	0.077182406	0.000587265	0.012150078	0.013881415	0.149142119	0.012599748	0.012221755
48113	Dallas County	Commercial Equipment	Generator Sets	100 < hp <= 175	0.000145959	17.98590562	5.643006597	0.018306315	0.000272234	0.004714078	0.005449473	0.064318162	0.00388702	0.003770406
48113	Dallas County	Commercial Equipment	Generator Sets	175 < hp <= 300	0.000142093	17.51086197	5.49352979	0.015202946	0.000241483	0.004167117	0.004807892	0.055422972	0.002841576	0.002756329
48113	Dallas County	Commercial Equipment	Generator Sets	300 < hp <= 600	0.000130347	16.06591153	5.039394808	0.015813162	0.000196479	0.003009528	0.003492692	0.050286407	0.002100048	0.002037047
48113	Dallas County	Commercial Equipment	Pumps	3 < hp <= 6	4.21215E-06	0.517428442	0.162848123	0.002247865	6.14858E-05	0.000587121	0.000720506	0.003470098	0.000231607	0.000224659
48113	Dallas County	Commercial Equipment	Pumps	6 < hp <= 11	1.65647E-05	2.034836724	0.640415984	0.008839946	0.000241799	0.002308911	0.002833458	0.013646496	0.000910816	0.000883491
48113	Dallas County	Commercial Equipment	Pumps	11 < hp <= 16	6.70152E-06	0.824940425	0.259090943	0.002260626	4.56217E-05	0.00044898	0.000548785	0.005021222	0.000264379	0.000256448

countyID	countyName	classification	equip	Sulfur Dioxide (SO2)	Total Gaseous Hydrocarbons	Total Organic Gases	Volatile Organic Compounds	Min HP	Max Hp	Activity hours	avg hp	avg hp *activity hr
48113	Dallas County	Industrial Equipment	Aerial Lifts	1.90703E-08	7.98348E-06	9.44724E-06	8.80491E-06	6	11	3.146926	8	25.17540814
48113	Dallas County	Industrial Equipment	Aerial Lifts	2.04879E-07	5.15816E-05	6.02899E-05	5.65964E-05	11	16	20.45502	13.2	270.0063185
48113	Dallas County	Industrial Equipment	Aerial Lifts	4.69955E-06	0.001183186	0.001382939	0.001298216	16	25	286.7335	21.6	6193.44454
48113	Dallas County	Industrial Equipment	Aerial Lifts	7.35378E-06	0.001419707	0.001648284	0.001541705	25	40	356.208	33	11754.86421
48113	Dallas County	Industrial Equipment	Aerial Lifts	2.39788E-06	0.00046293	0.000537463	0.00050271	40	50	84.24078	45.5	3832.955574
48113	Dallas County	Industrial Equipment	Aerial Lifts	2.31336E-05	0.004542071	0.005229285	0.004932189	50	75	600.8938	60.5	36354.07621
48113	Dallas County	Industrial Equipment	Aerial Lifts	1.1193E-05	0.002132925	0.002450876	0.002329227	75	100	213.5376	83.9	17915.80584
48113	Dallas County	Industrial Equipment	Aerial Lifts	1.69719E-07	2.64385E-05	3.07959E-05	2.89977E-05	100	175	2.672258	113	301.9651195
48113	Dallas County	Industrial Equipment	Forklifts	1.34844E-08	2.26785E-06	2.74447E-06	2.52223E-06	11	16	2.142065	15	32.13096935
48113	Dallas County	Industrial Equipment	Forklifts	5.61851E-09	9.44937E-07	1.14353E-06	1.05093E-06	16	25	0.535517	25	13.38792105
48113	Dallas County	Industrial Equipment	Forklifts	4.51447E-08	3.08873E-06	3.72029E-06	3.28676E-06	25	40	4.284135	34.7	148.6594925
48113	Dallas County	Industrial Equipment	Forklifts	7.71981E-07	5.28177E-05	6.36175E-05	5.62041E-05	40	50	54.08718	47	2542.097328
48113	Dallas County	Industrial Equipment	Forklifts	4.01927E-05	0.00267204	0.003197303	0.002854246	50	75	2000.155	61.7	123409.5371
48113	Dallas County	Industrial Equipment	Forklifts	5.49727E-05	0.00198729	0.002366836	0.002184574	75	100	2015.149	85.5	172295.2241
48113	Dallas County	Industrial Equipment	Forklifts	2.8176E-05	0.000894365	0.00106933	0.000982907	100	175	724.0184	135.6	98176.90166
48113	Dallas County	Industrial Equipment	Forklifts	7.40513E-06	0.000218013	0.000258484	0.000235372	175	300	117.8136	220.3	25954.34404
48113	Dallas County	Industrial Equipment	Forklifts	1.61468E-05	0.000764555	0.00090508	0.000833499	300	600	150.5488	353.9	53279.21124
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	3.75677E-07	0.00015144	0.000183268	0.000168427	3	6	121.1413	4.4	533.0217653
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	1.55324E-07	6.2613E-05	7.57721E-05	6.96361E-05	6	11	22.95603	9.6	220.3779091
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	1.41881E-07	2.42185E-05	2.93084E-05	2.6935E-05	11	16	14.65866	13.7	200.8236196
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	4.10694E-07	7.01039E-05	8.48374E-05	7.79672E-05	16	25	25.7218	22.6	581.3126312
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	1.36109E-06	9.86726E-05	0.000118887	0.000105326	25	40	81.3141	32.5	2642.708205
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	6.75218E-07	4.89501E-05	5.89783E-05	5.22509E-05	40	50	29.5939	44.3	1311.009934
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	7.86899E-06	0.000587509	0.000699988	0.000630919	50	75	229.2836	61.3	14055.08733
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	3.36963E-05	0.001558759	0.001845327	0.001712812	75	100	713.8492	86.1	61462.41852
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	6.52199E-05	0.002625617	0.003129831	0.002888542	100	175	1015.32	130.4	132397.7016
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	3.63396E-05	0.001361499	0.001614105	0.001478534	175	300	316.6823	234.2	74167.00081
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	6.53312E-06	0.000351939	0.000414832	0.000383832	300	600	32.43963	389.4	12631.99069
48113	Dallas County	Industrial Equipment	Other General Industrial Equipment	1.86419E-06	9.6848E-05	0.000113981	0.000105531	600	750	5.545237	650	3604.403767
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	2.6564E-07	3.14226E-05	3.75002E-05	3.42306E-05	25	40	9.283336	37.2	345.3400965
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	2.48314E-06	0.000490986	0.000565218	0.000533159	50	75	46.74269	64.7	3024.251924
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	9.83169E-07	0.000188728	0.000216843	0.000206092	75	100	14.11602	86.4	1219.623923
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	6.06257E-06	0.000950872	0.001107508	0.001042893	100	175	64.85378	128.9	8359.652782
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	4.38697E-06	0.000614987	0.000715753	0.000673119	175	300	24.76961	245.2	6073.509083
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	1.07154E-06	0.000111701	0.000131124	0.000122355	300	600	3.462419	428.3	1482.954268
48113	Dallas County	Industrial Equipment	Other Material Handling Equipment	1.04128E-07	1.70187E-05	1.94106E-05	1.85369E-05	1000	1200	0.13317	1071	142.6250158
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	1.15434E-07	4.67752E-05	5.66058E-05	5.20218E-05	3	6	24.21165	5	121.058255
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	1.21224E-08	2.05666E-06	2.48889E-06	2.28734E-06	6	11	1.152935	11	12.68228148
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	4.99592E-09	8.47591E-07	1.02573E-06	9.42663E-07	11	16	0.384312	13.6	5.226640888
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	3.05306E-06	0.000517972	0.000626832	0.00057607	16	25	147.1914	21.7	3194.054443
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	8.4503E-06	0.000551569	0.000664079	0.000584645	25	40	354.3356	34.8	12330.87958
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	7.14231E-06	0.000466194	0.000561289	0.00049415	40	50	239.042	43.6	10422.22953
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	9.79985E-06	0.000420987	0.000505309	0.000434201	50	75	231.3559	60.8	14066.44035
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	4.86407E-05	0.000570028	0.000683194	0.000624069	75	100	852.4037	81.9	69811.8606
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	8.05259E-05	0.00099107	0.001182264	0.001077634	100	175	956.9366	134.3	128516.5848
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	3.47954E-05	0.000430369	0.000501647	0.000453055	175	300	257.1046	216.7	55714.56181
48113	Dallas County	Industrial Equipment	Sweepers/Scrubbers	9.88418E-07	2.17691E-05	2.58371E-05	2.33134E-05	300	600	4.227432	363.8	1537.939761
48113	Dallas County	Commercial Equipment	Air Compressors	9.14679E-08	3.66424E-05	4.43424E-05	4.07521E-05	3	6	25.41655	5.6	142.3326665
48113	Dallas County	Commercial Equipment	Air Compressors	3.54224E-07	0.000141903	0.000171723	0.000157819	6	11	58.02164	9.5	551.2055977
48113	Dallas County	Commercial Equipment	Air Compressors	6.15845E-08	1.06741E-05	1.29167E-05	1.18711E-05	11	16	7.188521	13.3	95.60733253
48113	Dallas County	Commercial Equipment	Air Compressors	1.57666E-07	2.73274E-05	3.30686E-05	3.03918E-05	16	25	10.78279	22.7	244.7694336
48113	Dallas County	Commercial Equipment	Air Compressors	7.31416E-06	0.00058803	0.000708955	0.000631541	25	40	456.728	33.5	15300.38696
48113	Dallas County	Commercial Equipment	Air Compressors	6.67645E-06	0.000536761	0.000647143	0.000576479	40	50	315.2679	44.3	13966.36713
48113	Dallas County	Commercial Equipment	Air Compressors	6.52536E-05	0.006651493	0.007808279	0.00718886	50	75	2022.798	60.8	122986.1467
48113	Dallas County	Commercial Equipment	Air Compressors	0.000114895	0.009024206	0.01050692	0.009876195	75	100	2635.364	83.9	221107.0104
48113	Dallas County	Commercial Equipment	Air Compressors	1.81527E-05	0.001179557	0.001386629	0.001294454	100	175	300.891	129.2	38875.12183
48113	Dallas County	Commercial Equipment	Air Compressors	3.07435E-05	0.001803543	0.002114412	0.001965038	175	300	271.8803	243.3	66148.46901
48113	Dallas County	Commercial Equipment	Air Compressors	1.5794E-05	0.00120993	0.001391933	0.001311493	300	600	76.2497	427.4	32589.12044
48113	Dallas County	Commercial Equipment	Generator Sets	5.86185E-06	0.002462407	0.002901081	0.002710645	3	6	1721.354	5.3	9123.173852
48113	Dallas County	Commercial Equipment	Generator Sets	9.27438E-06	0.003895922	0.004589973	0.004288674	6	11	1718.372	8.4	14434.32796
48113	Dallas County	Commercial Equipment	Generator Sets	1.15923E-05	0.003004215	0.003483856	0.003285401	11	16	1324.422	13.6	18012.13334
48113	Dallas County	Commercial Equipment	Generator Sets	2.85843E-05	0.007407772	0.008590466	0.008101121	16	25	2085.171	21.3	44414.13913
48113	Dallas County	Commercial Equipment	Generator Sets	6.31309E-05	0.012479732	0.014281288	0.013477332	25	40	3451.756	33.4	115288.6614
48113	Dallas County	Commercial Equipment	Generator Sets	1.1685E-05	0.002309901	0.002643353	0.002494549	40	50	472.1026	45.2	21339.03685
48113	Dallas County	Commercial Equipment	Generator Sets	5.74814E-05	0.0084178	0.009639739	0.009088757	50	75	1739.454	60	104367.2126
48113	Dallas County	Commercial Equipment	Generator Sets	9.89606E-05	0.012737344	0.014468679	0.013832298	75	100	2116.795	86.4	182891.0768
48113	Dallas County	Commercial Equipment	Generator Sets	4.77294E-05	0.004986311	0.005721705	0.005431217	100	175	723.1666	135.7	98133.70107
48113	Dallas County	Commercial Equipment	Generator Sets	4.62911E-05	0.0044086	0.005049376	0.004784235	175	300	401.4045	238	95534.2701
48113	Dallas County	Commercial Equipment	Generator Sets	4.24728E-05	0.003206007	0.00368917	0.003475256	300	600	209.007	419.3	87636.64744
48113	Dallas County	Commercial Equipment	Pumps	1.63713E-06	0.000648607	0.000781991	0.00072037	3	6	353.1719	5.2	1836.494041
48113	Dallas County	Commercial Equipment	Pumps	6.43815E-06	0.002550711	0.003075258	0.002832926	6	11	849.6691	8.5	7222.187503
48113	Dallas County	Commercial Equipment	Pumps	2.61021E-06	0.000494602	0.000594407	0.00054861	11	16	213.2741	13.7	2921.855067

countyID	countyName	classification	equip	HP bin	Ammonia (NH3)	Atmospheric CO2	Brake Specific Fuel Consumption (BSFC)	Carbon Monoxide (CO)	Methane (CH4)	Non-Methane Hydrocarbons	Non-Methane Organic Gases	Oxides of Nitrogen (NOx)	Primary Exhaust PM10 Total	Primary Exhaust PM2.5 - Total
48113	Dallas County	Commercial Equipment	Pumps	16 < hp <= 25	8.4729E-06	1.042992611	0.327575045	0.002858164	5.76806E-05	0.000567656	0.000693843	0.006348455	0.000334261	0.000324234
48113	Dallas County	Commercial Equipment	Pumps	25 < hp <= 40	2.313E-05	2.850063318	0.894242099	0.003107317	8.85017E-05	0.000735907	0.000897749	0.013429984	0.000465292	0.000451333
48113	Dallas County	Commercial Equipment	Pumps	40 < hp <= 50	8.66143E-06	1.067254877	0.33486401	0.001163587	3.31409E-05	0.000275573	0.000336177	0.005029084	0.000174236	0.000169009
48113	Dallas County	Commercial Equipment	Pumps	50 < hp <= 75	8.10696E-05	9.985960988	3.134271511	0.019967609	0.000246764	0.003744383	0.004323157	0.053163391	0.003365017	0.003264066
48113	Dallas County	Commercial Equipment	Pumps	75 < hp <= 100	0.000124533	15.34240944	4.814647224	0.032788019	0.00024383	0.005054676	0.005774283	0.061663537	0.005791912	0.005618154
48113	Dallas County	Commercial Equipment	Pumps	100 < hp <= 175	7.59073E-05	9.35362739	2.934689133	0.009821306	0.00014273	0.00247498	0.00286082	0.03359916	0.002271546	0.0022034
48113	Dallas County	Commercial Equipment	Pumps	175 < hp <= 300	3.50966E-05	4.325102742	1.356886478	0.003874705	6.01189E-05	0.001038776	0.001198421	0.013754593	0.00079453	0.000770694
48113	Dallas County	Commercial Equipment	Pumps	300 < hp <= 600	2.9366E-05	3.619498643	1.135334458	0.003671826	4.45023E-05	0.000683924	0.000793509	0.011369292	0.000532049	0.000516087
48113	Dallas County	Commercial Equipment	Welders	6 < hp <= 11	2.42676E-06	0.298064196	0.093822154	0.001659056	3.13197E-05	0.000357817	0.000429666	0.001796364	0.000186521	0.000180925
48113	Dallas County	Commercial Equipment	Welders	11 < hp <= 16	2.23725E-05	2.75236465	0.864955336	0.010003139	0.000153598	0.002026738	0.00239534	0.01515479	0.001215419	0.001178957
48113	Dallas County	Commercial Equipment	Welders	16 < hp <= 25	4.72188E-05	5.80905532	1.825548498	0.021112323	0.000324179	0.004277573	0.005055531	0.031985242	0.002565227	0.00248827
48113	Dallas County	Commercial Equipment	Welders	25 < hp <= 40	4.53694E-05	5.586476882	1.75404659	0.012369394	0.000203464	0.002661788	0.003114622	0.025118023	0.00198764	0.00192801
48113	Dallas County	Commercial Equipment	Welders	40 < hp <= 50	0.000176056	21.67836035	6.806587934	0.047999505	0.000789544	0.010329087	0.012086301	0.097470595	0.007713047	0.007481654
48113	Dallas County	Commercial Equipment	Welders	50 < hp <= 75	0.000178007	21.90770488	6.882012439	0.081277852	0.000742243	0.014027329	0.01603584	0.103924534	0.011268085	0.010930044
48113	Dallas County	Commercial Equipment	Welders	75 < hp <= 100	0.000102869	12.66116532	3.977076053	0.056582711	0.000367054	0.007919889	0.009032242	0.047318131	0.00811071	0.007867389
48113	Dallas County	Commercial Equipment	Welders	100 < hp <= 175	8.77225E-06	1.080095343	0.339148623	0.002353845	3.1053E-05	0.000546664	0.000631632	0.003651264	0.000476787	0.000462483
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	6 < hp <= 11	2.2118E-08	0.002716952	0.000855115	1.1569E-05	3.34002E-07	3.08808E-06	3.80541E-06	1.7972E-05	1.1567E-06	1.122E-06
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	11 < hp <= 16	6.68148E-08	0.0082257	0.002583158	2.15634E-05	4.49325E-07	4.16882E-06	5.13478E-06	4.92197E-05	2.48792E-06	2.41329E-06
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	16 < hp <= 25	2.274E-07	0.027995736	0.008791646	7.339E-05	1.52926E-06	1.41884E-05	1.74759E-05	0.000167517	8.46752E-06	8.2135E-06
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	25 < hp <= 40	8.66001E-07	0.106732571	0.033480883	8.50574E-05	2.85807E-06	2.0208E-05	2.49485E-05	0.000467739	1.15282E-05	1.11823E-05
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	40 < hp <= 50	1.26123E-06	0.155443551	0.04876102	0.000123876	4.16245E-06	2.94306E-05	3.63346E-05	0.000681207	1.67894E-05	1.62858E-05
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	50 < hp <= 75	2.80706E-06	0.345777562	0.108525221	0.000696817	9.0945E-06	0.000125759	0.000146282	0.001825277	0.000115833	0.000112358
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	75 < hp <= 100	3.91625E-06	0.482494919	0.151408077	0.001066829	8.45313E-06	0.000152946	0.000176124	0.001937521	0.000186215	0.000180628
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	100 < hp <= 175	8.07749E-06	0.995370139	0.312287643	0.001053117	1.64611E-05	0.00025362	0.000295687	0.003552201	0.000246304	0.000238915
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	175 < hp <= 300	1.27307E-05	1.568907685	0.492187841	0.001409089	2.36108E-05	0.000359496	0.000418442	0.00488834	0.000282678	0.000274198
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	300 < hp <= 600	1.37005E-05	1.688076641	0.529680569	0.002676977	2.361E-05	0.000498513	0.000565323	0.007704402	0.00043505	0.000421998
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	600 < hp <= 750	4.82573E-06	0.594615171	0.186569898	0.00114709	7.70801E-06	0.000169109	0.000191262	0.002718113	0.000159522	0.000154736
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	750 < hp <= 1000	3.2702E-06	0.40276133	0.126430647	0.000698425	5.5579E-06	0.000173068	0.00019316	0.002970124	0.000124912	0.000121164
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	3 < hp <= 6	9.20459E-07	0.113038011	0.035586355	0.000605854	1.10597E-05	0.000141917	0.000168285	0.000873799	8.06539E-05	7.82342E-05
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	6 < hp <= 11	7.40647E-07	0.090955956	0.028634527	0.0004875	8.89917E-06	0.000114194	0.00013541	0.000703102	6.48981E-05	6.29511E-05
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	11 < hp <= 16	2.23637E-07	0.027504403	0.008646144	0.000101869	1.45777E-06	2.30208E-05	2.67531E-05	0.000192662	1.44232E-05	1.39905E-05
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	16 < hp <= 25	3.25669E-07	0.040052946	0.012590839	0.000148346	2.12286E-06	3.35237E-05	3.89589E-05	0.000280562	2.10036E-05	2.03735E-05
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	25 < hp <= 40	3.68184E-07	0.045320756	0.014234534	0.0001039	1.56913E-06	2.64475E-05	3.03113E-05	0.000268091	1.88105E-05	1.82461E-05
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	50 < hp <= 75	1.15684E-06	0.14243353	0.044725212	0.000373806	3.55284E-06	7.37431E-05	8.35607E-05	0.000874951	6.46695E-05	6.27294E-05
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	75 < hp <= 100	2.69473E-06	0.331830476	0.10418227	0.000922898	5.92549E-06	0.00015924	0.000179073	0.001699953	0.000163225	0.000158328
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	100 < hp <= 175	1.19306E-06	0.146955445	0.046125362	0.000228238	2.53162E-06	5.72523E-05	6.49484E-05	0.000733749	4.86521E-05	4.71925E-05
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	175 < hp <= 300	8.51859E-07	0.104938989	0.032934143	0.000144542	1.65039E-06	3.75765E-05	4.25516E-05	0.000480478	2.84001E-05	2.75481E-05
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	300 < hp <= 600	1.6079E-06	0.19811687	0.062163831	0.000299975	2.74499E-06	5.77235E-05	6.54756E-05	0.000898565	4.35919E-05	4.22842E-05
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	600 < hp <= 750	5.92952E-07	0.073063108	0.022924426	0.000134831	9.38505E-07	2.05013E-05	2.31928E-05	0.000331803	1.67236E-05	1.62219E-05
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	6 < hp <= 11	2.25517E-07	0.027701576	0.008718826	0.000115446	3.44006E-06	3.16626E-05	3.904E-05	0.000181192	1.12477E-05	1.09103E-05
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	16 < hp <= 25	7.69218E-07	0.094708393	0.029739145	0.000238443	4.94982E-06	4.55586E-05	5.61737E-05	0.000556242	2.73307E-05	2.65108E-05
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	25 < hp <= 40	7.23965E-06	0.892424105	0.27989531	0.000504855	1.96989E-05	0.000124103	0.000153535	0.003592346	4.84862E-05	4.70316E-05
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	40 < hp <= 50	3.24745E-07	0.040030957	0.012555115	2.2646E-05	8.83622E-07	5.56679E-06	6.88701E-06	0.00016114	2.17492E-06	2.10967E-06
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	50 < hp <= 75	4.06846E-06	0.501448832	0.157292937	0.000698812	1.13437E-05	9.12599E-05	0.000110792	0.002150976	8.80506E-05	8.54091E-05
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	75 < hp <= 100	8.29869E-06	1.023080731	0.320839614	0.001662199	1.06919E-05	0.000121687	0.00014587	0.002619586	0.000262149	0.000254284
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	100 < hp <= 175	1.33919E-06	0.165108062	0.051774946	0.000112226	1.57427E-06	1.65767E-05	2.00408E-05	0.000303016	2.79538E-05	2.71152E-05
48113	Dallas County	Construction and Mining Equipment	Cranes	75 < hp <= 100	2.74118E-05	3.37862784	1.059782916	0.005500018	4.48716E-05	0.000637462	0.00074857	0.010621171	0.000956834	0.000928129
48113	Dallas County	Construction and Mining Equipment	Cranes	100 < hp <= 175	0.000153876	18.96800652	5.949094433	0.013450855	0.000237674	0.002936164	0.00349386	0.047662035	0.003388234	0.003286587
48113	Dallas County	Construction and Mining Equipment	Cranes	175 < hp <= 300	0.000257852	31.78637904	9.968960306	0.018322297	0.000375668	0.004465909	0.005308159	0.065942031	0.003748854	0.003636388
48113	Dallas County	Construction and Mining Equipment	Cranes	300 < hp <= 600	0.000274597	33.8359909	10.61631863	0.046320163	0.000475328	0.009320332	0.010620112	0.147403679	0.00850188	0.008246821
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	50 < hp <= 75	4.9321E-05	6.080247164	1.906825184	0.00491935	0.000114183	0.000716075	0.00087898	0.024298598	0.000554715	0.000538074
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	75 < hp <= 100	7.36388E-05	9.07955679	2.846986316	0.010375332	6.59178E-05	0.000726499	0.000873067	0.019279157	0.001658929	0.001609161
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	100 < hp <= 175	0.000298233	36.77072808	11.5301462	0.021386458	0.000254179	0.003278149	0.003875788	0.053764614	0.005013581	0.004863174
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	175 < hp <= 300	0.0005016	61.81310787	19.39260539	0.075355503	0.00071714	0.015380493	0.017479068	0.187313716	0.012974523	0.012585288
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	300 < hp <= 600	0.000837269	103.1802668	32.37006886	0.174049161	0.001258405	0.024953493	0.02840334	0.377129609	0.02203435	0.021373317
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	600 < hp <= 750	2.04423E-05	2.520660117	0.790328266	0.001830396	1.63788E-05	0.000152462	0.000184432	0.002782665	0.000212927	0.00020654
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	16 < hp <= 25	1.15971E-07	0.014278484	0.004483603	3.62064E-05	7.51594E-07	6.91774E-06	8.52958E-06	8.46651E-05	4.16764E-06	4.04261E-06
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	25 < hp <= 40	2.60691E-07	0.032136121	0.010078688	1.58397E-05	6.82774E-07	4.16191E-06	5.15079E-06	0.000128842	1.29531E-06	1.25645E-06
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	40 < hp <= 50	1.33318E-06	0.164344779	0.051542578	8.10042E-05	3.49172E-06	2.12841E-05	2.63413E-05	0.000658902	6.62425E-06	6.42552E-06
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	50 < hp <= 75	2.04577E-05	2.521838139	0.790925941	0.002088564	5.24194E-05	0.000345829	0.000425072	0.010509849	0.000260544	0.000252727
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	75 < hp <= 100	7.22787E-06	0.891205825	0.279440256	0.000707344	6.611E-06	6.46849E-05	7.86204E-05	0.001909593	0.000121749	0.000118096
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	100 < hp <= 175	1.51735E-05	1.870961073	0.586630158	0.000664606	1.26947E-05	0.000121831	0.000148601	0.00248263	0.000165873	0.000160897
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	175 < hp <= 300	1.04001E-05	1.282396082	0.402081519	0.000337039	7.84292E-06	7.70337E-05	9.30118E-05	0.001178066	6.59704E-05	6.39913E-05
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	300 < hp <= 600	4.76094E-05	5.869189784	1.840650323	0.0043675	6.7919E-05	0.000757341	0.000903709	0.013242041	0.000698522	0.000677566
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	600 < hp <= 750	5.84086E-06	0.72006049	0.225816629	0.000753094	8.04611E-06	9.0007E-05	0.000107327	0.001631658	8.87275E-05	8.60657E-05
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	750 < hp <= 1000	6.72069E-07	0.082827977	0.025983204	7.12333E-05	1.18193E-06	1.78931E-05	2.0929E-05	0.000449133	1.29312E-05	1.25433E-05
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	6 < hp <= 11	2.63265E-07	0.03229639	0.010178208	0.000255441	3.22222E-06	5.15211E-05	5.98758E-05	0.000220082	3.20241E-05	3.10634E-05
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	11 < hp <= 16	3.60617E-07	0.044300901	0.013942005	0.000244743	2.56468E-06	5.30349E-05	6.03917E-05	0.000273628	3.22266E-05	3.12598E-05
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	16 < hp <= 25	4.26905E-07	0.052444125	0.01650477	0.000289731	3.03611E-06	6.27836E-05	7.14926E-05	0.000323925	3.81504E-05	3.70059E-05
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	25 < hp <= 40	6.69247E-07	0.08229175	0.025874078	0.000329889	3.40999E-06	7.55955E-05	8.52519E-05	0.000432448	5.34681E-05	5.18641E-05
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	40 < hp <= 50	2.15046E-07	0.026442402	0.008313988	0.000106002	1.09572E-06	2.42907E-05	2.73936E-05	0.000138956	1.71806E-05	1.66652E-05
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	50 < hp <= 75	1.28141E-07	0.015758418	0.004954109	7.46486E-05	5.70655E-07	1.39452E-05	1.57197E-05	8.65969E-05	1.19491E-05	1.15906E-05

countyID	countyName	classification	equip	Sulfur Dioxide (SO2)	Total Gaseous Hydrocarbons	Total Organic Gases	Volatile Organic Compounds	Min HP	Max Hp	Activity hours	avg hp	avg hp *activity hr
48113	Dallas County	Commercial Equipment	Pumps	3.30015E-06	0.000625337	0.000751524	0.000693622	16	25	170.2384	21.7	3694.172807
48113	Dallas County	Commercial Equipment	Pumps	7.13518E-06	0.000824409	0.000986251	0.000896683	25	40	294.0135	34.3	10084.66426
48113	Dallas County	Commercial Equipment	Pumps	2.67189E-06	0.000308714	0.000369318	0.000335778	40	50	84.29411	44.8	3776.376159
48113	Dallas County	Commercial Equipment	Pumps	2.70027E-05	0.003991147	0.004569923	0.004309368	50	75	566.4462	62.4	35346.24339
48113	Dallas County	Commercial Equipment	Pumps	4.07514E-05	0.005298505	0.006018111	0.005753837	75	100	629.1587	86.3	54296.39282
48113	Dallas County	Commercial Equipment	Pumps	2.48218E-05	0.002617712	0.003003552	0.002851239	100	175	277.8911	132.4	36792.78509
48113	Dallas County	Commercial Equipment	Pumps	1.14337E-05	0.001098895	0.00125854	0.001192537	175	300	69.94886	243.2	17011.56207
48113	Dallas County	Commercial Equipment	Pumps	9.56871E-06	0.000728426	0.000838011	0.000789556	300	600	35.79962	397.6	14233.92702
48113	Dallas County	Commercial Equipment	Welders	9.43062E-07	0.000389137	0.000460986	0.00042925	6	11	208.8303	8.8	1837.707077
48113	Dallas County	Commercial Equipment	Welders	8.70868E-06	0.002180335	0.002548937	0.002391857	11	16	1152.517	14.7	16941.99742
48113	Dallas County	Commercial Equipment	Welders	1.83803E-05	0.004601751	0.005379712	0.005048182	16	25	1678.745	21.3	35757.26699
48113	Dallas County	Commercial Equipment	Welders	1.45559E-05	0.002865253	0.003318085	0.003108166	25	40	1041.113	33	34356.73775
48113	Dallas County	Commercial Equipment	Welders	5.64844E-05	0.01111863	0.012875842	0.012061249	40	50	2885.746	46.2	133321.4859
48113	Dallas County	Commercial Equipment	Welders	5.92298E-05	0.014769573	0.016778085	0.015981409	50	75	2096.405	64.3	134798.8625
48113	Dallas County	Commercial Equipment	Welders	3.36225E-05	0.008286943	0.009399296	0.009001305	75	100	920.7984	84.6	77899.54294
48113	Dallas County	Commercial Equipment	Welders	2.86575E-06	0.000577717	0.000662685	0.000629756	100	175	48.61228	151.8	7379.344169
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	8.59634E-09	3.42208E-06	4.13942E-06	3.80532E-06	6	11	1.036667	8	8.293337068
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	2.60271E-08	4.61815E-06	5.5841E-06	5.13457E-06	11	16	1.727778	14.5	25.05278273
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	8.8582E-08	1.57176E-05	1.90052E-05	1.74752E-05	16	25	3.628335	23.5	85.26586409
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	2.55973E-07	2.30661E-05	2.78066E-05	2.4918E-05	25	40	10.30841	31.5	324.7148444
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	3.72795E-07	3.35931E-05	4.04971E-05	3.62901E-05	40	50	10.5325	44.9	472.9092015
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	9.41315E-07	0.000134853	0.000155376	0.000145875	50	75	17.03128	61.8	1052.533019
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	1.2865E-06	0.000161399	0.000184577	0.00017558	75	100	17.25537	85.1	1468.432195
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	2.6512E-06	0.000270081	0.000312148	0.000294824	100	175	25.54692	131.8	3367.084065
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	4.16199E-06	0.000383106	0.000442052	0.000416562	175	300	22.18548	239.2	5306.767773
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	4.64203E-06	0.000522123	0.000588933	0.000562865	300	600	12.77345	447.1	5711.009969
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	1.63514E-06	0.000176817	0.00019897	0.000190403	600	750	2.913245	690.5	2011.595994
48113	Dallas County	Construction and Mining Equipment	Bore/Drill Rigs	1.11674E-06	0.000178625	0.000198718	0.000192433	750	1000	1.568671	869	1363.174804
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	3.57646E-07	0.000152977	0.000179345	0.00016805	3	6	66.88654	6	401.3192586
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	2.87779E-07	0.000123093	0.000144309	0.000135221	6	11	39.86684	8.1	322.9214024
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	8.70253E-08	2.44785E-05	2.82109E-05	2.66993E-05	11	16	7.443165	13.1	97.50546333
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	1.2673E-07	3.56465E-05	4.10817E-05	3.88805E-05	16	25	6.729442	21.1	141.9912222
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	1.2437E-07	2.80166E-05	3.18805E-05	3.02309E-05	25	40	4.894138	32.8	160.527732
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	3.99894E-07	7.7296E-05	8.71135E-05	8.32609E-05	50	75	8.462779	59.6	504.3816212
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	9.16142E-07	0.000165166	0.00018499	0.000178387	75	100	14.07064	83.5	1174.898523
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	4.05388E-07	5.9784E-05	6.748E-05	6.47159E-05	100	175	4.486291	128.9	578.2829714
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	2.88561E-07	3.92269E-05	4.4202E-05	4.23624E-05	175	300	1.631379	253.1	412.9019659
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	5.44801E-07	6.04685E-05	6.82206E-05	6.51905E-05	300	600	1.937262	402.3	779.3606338
48113	Dallas County	Construction and Mining Equipment	Cement & Mortar Mixers	2.00917E-07	2.14398E-05	2.41313E-05	2.30884E-05	600	750	0.407845	704.7	287.4082712
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	8.76467E-08	3.51027E-05	4.24801E-05	3.904E-05	6	11	7.096498	10	70.96497813
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	2.9967E-07	5.05084E-05	6.11235E-05	5.61737E-05	16	25	12.04253	20.1	242.0549304
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	2.04892E-06	0.000143801	0.000173233	0.000153262	25	40	69.2446	32.9	2278.147491
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	9.19074E-08	6.45041E-06	7.77063E-06	6.8748E-06	40	50	2.3655	43.2	102.1895888
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	1.2686E-06	0.000102604	0.000122136	0.000110567	50	75	22.14968	57.8	1280.251497
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	2.51899E-06	0.000132379	0.000156562	0.00014548	75	100	32.04176	81.5	2611.403163
48113	Dallas County	Construction and Mining Equipment	Concrete/Industrial Saws	4.0594E-07	1.8151E-05	2.16151E-05	1.99721E-05	100	175	3.870816	120.9	467.9816643
48113	Dallas County	Construction and Mining Equipment	Cranes	8.65225E-06	0.000682334	0.000793441	0.000746444	75	100	201.149	88.1	17721.22505
48113	Dallas County	Construction and Mining Equipment	Cranes	4.8512E-05	0.003173839	0.003731534	0.003483528	100	175	761.6498	145.2	110591.5494
48113	Dallas County	Construction and Mining Equipment	Cranes	8.0884E-05	0.004841576	0.005683825	0.005276921	175	300	779.6361	237.7	185319.5028
48113	Dallas County	Construction and Mining Equipment	Cranes	9.27117E-05	0.009795659	0.011095439	0.010574231	300	600	479.0135	412	197353.5801
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	1.44942E-05	0.000830258	0.000993163	0.000876806	50	75	365.7182	58.35105	21340.0418
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	2.17893E-05	0.000792417	0.000938985	0.000870145	75	100	369.069	87.1759	32173.9199
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	8.85766E-05	0.003532327	0.004129967	0.003856653	100	175	1051.876	135.7053	142745.0535
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	0.000160871	0.016097633	0.018196206	0.017382024	175	300	1023.341	233.8989	239358.4182
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	0.000276643	0.026211898	0.029661743	0.028265848	300	600	943.9329	425.3	401454.6445
48113	Dallas County	Construction and Mining Equipment	Crawler Tractor/Dozers	6.06374E-06	0.000168841	0.00020081	0.000182037	600	750	13.86375	707	9801.674425
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	4.5179E-08	7.66933E-06	9.28116E-06	8.52958E-06	16	25	2.478583	20.4	50.56309931
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	7.30802E-08	4.84469E-06	5.83357E-06	5.14069E-06	25	40	3.540833	32.1	113.6607351
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	3.73734E-07	2.47758E-05	2.9833E-05	2.62896E-05	40	50	12.74701	45.6	581.2635219
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	6.12472E-06	0.000398248	0.000477492	0.000424194	50	75	146.9446	60.7	8919.540012
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	2.13749E-06	7.12959E-05	8.52314E-05	7.83834E-05	75	100	35.40833	89	3151.340943
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	4.48444E-06	0.000134526	0.000161296	0.000147881	100	175	55.59109	132.3	7354.701165
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	3.05559E-06	8.48767E-05	0.000100855	9.17219E-05	175	300	20.89092	241.3	5040.979558
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	1.50899E-05	0.000825259	0.000971628	0.000898569	300	600	54.52883	423.2	23076.60077
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	1.85131E-06	9.80531E-05	0.000115373	0.000106698	600	750	4.248999	666.3	2831.108057
48113	Dallas County	Construction and Mining Equipment	Crushing/Processing Equipment	2.15623E-07	1.9075E-05	2.2111E-05	2.08843E-05	750	1000	0.354083	920	325.7567822
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	1.02181E-07	5.47433E-05	6.3098E-05	5.97475E-05	6	11	19.93619	10	199.3618895
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	1.40167E-07	5.55996E-05	6.29563E-05	6.02267E-05	11	16	19.09677	14.3	273.0838363
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	1.65931E-07	6.58197E-05	7.45287E-05	7.12974E-05	16	25	13.64056	23.7	323.2811578
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	2.25588E-07	7.90054E-05	8.86619E-05	8.49876E-05	25	40	15.7391	32.2	506.798888
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	7.24872E-08	2.53864E-05	2.84893E-05	2.73086E-05	40	50	3.357674	48.5	162.8471968
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	4.42351E-08	1.45158E-05	1.62903E-05	1.5661E-05	50	75	1.678837	57.8	97.03680218

countyID	countyName	classification	equip	HP bin	Ammonia (NH3)	Atmospheric CO2	Brake Specific Fuel Consumption (BSFC)	Carbon Monoxide (CO)	Methane (CH4)	Non-Methane Hydrocarbons	Non-Methane Organic Gases	Oxides of Nitrogen (NOx)	Primary Exhaust PM10 Total	Primary Exhaust PM2.5 - Total
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	75 < hp <= 100	1.20697E-06	0.148435634	0.04666334	0.00081871	4.88946E-06	0.000130338	0.000146773	0.000702058	0.000130815	0.000126891
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	100 < hp <= 175	5.19963E-07	0.063981102	0.020102532	0.000180632	2.0875E-06	4.49437E-05	5.11886E-05	0.000296506	4.00605E-05	3.88587E-05
48113	Dallas County	Construction and Mining Equipment	Excavators	3 < hp <= 6	3.48049E-08	0.004275266	0.00134561	1.78127E-05	5.31772E-07	4.89448E-06	6.03489E-06	2.79715E-05	1.73989E-06	1.68769E-06
48113	Dallas County	Construction and Mining Equipment	Excavators	6 < hp <= 11	2.58551E-07	0.03175912	0.009995973	0.000132323	3.95031E-06	3.63589E-05	4.48306E-05	0.000207788	1.29249E-05	1.25371E-05
48113	Dallas County	Construction and Mining Equipment	Excavators	11 < hp <= 16	8.79322E-07	0.108265273	0.033995923	0.00027218	5.64402E-06	5.1948E-05	6.40519E-05	0.000635675	3.13229E-05	3.03832E-05
48113	Dallas County	Construction and Mining Equipment	Excavators	16 < hp <= 25	6.44969E-06	0.794108249	0.249354519	0.001996395	4.1398E-05	0.00038103	0.00046981	0.004662572	0.000229748	0.000222856
48113	Dallas County	Construction and Mining Equipment	Excavators	25 < hp <= 40	5.56818E-06	0.686308724	0.215274069	0.000529979	1.71888E-05	0.000117146	0.000144771	0.002888287	6.5904E-05	6.39269E-05
48113	Dallas County	Construction and Mining Equipment	Excavators	40 < hp <= 50	1.2831E-05	1.581419649	0.496064542	0.001351481	4.14965E-05	0.000289954	0.000358222	0.006771062	0.000178188	0.000172842
48113	Dallas County	Construction and Mining Equipment	Excavators	50 < hp <= 75	9.88597E-06	1.21826475	0.382206385	0.002120708	2.7397E-05	0.000288315	0.000340333	0.005496608	0.000289675	0.000280985
48113	Dallas County	Construction and Mining Equipment	Excavators	75 < hp <= 100	2.4117E-05	2.973615253	0.932400434	0.003329702	2.05477E-05	0.0002321	0.000278153	0.006150895	0.000532567	0.00051659
48113	Dallas County	Construction and Mining Equipment	Excavators	100 < hp <= 175	0.000153192	18.88880287	5.92263773	0.009675757	0.000121566	0.001389424	0.001664026	0.023769556	0.002328373	0.002258521
48113	Dallas County	Construction and Mining Equipment	Excavators	175 < hp <= 300	0.000708195	87.28355804	27.37988896	0.100002043	0.000997547	0.018105674	0.020796197	0.241195623	0.019531029	0.018945101
48113	Dallas County	Construction and Mining Equipment	Excavators	300 < hp <= 600	0.000416173	51.30331397	16.089861	0.059763076	0.000562743	0.007176824	0.008446334	0.122146118	0.009383329	0.009101829
48113	Dallas County	Construction and Mining Equipment	Excavators	600 < hp <= 750	5.09991E-05	6.28770888	1.971701658	0.007852776	6.05524E-05	0.000618762	0.000743482	0.01149906	0.000899729	0.000872737
48113	Dallas County	Construction and Mining Equipment	Graders	50 < hp <= 75	4.1811E-06	0.515386944	0.161647606	0.000583645	1.09445E-05	7.69076E-05	9.41386E-05	0.002135576	6.75653E-05	6.55383E-05
48113	Dallas County	Construction and Mining Equipment	Graders	75 < hp <= 100	2.03753E-06	0.251006275	0.078774054	0.000779276	3.95278E-06	8.78405E-05	9.97842E-05	0.000993676	0.000124446	0.000120712
48113	Dallas County	Construction and Mining Equipment	Graders	100 < hp <= 175	0.000196909	24.27497252	7.612801016	0.018720049	0.000219254	0.003064486	0.003597335	0.046568545	0.004313499	0.004184093
48113	Dallas County	Construction and Mining Equipment	Graders	175 < hp <= 300	9.37541E-05	11.55295971	3.624676448	0.013923874	0.000146656	0.003036241	0.003456031	0.036184812	0.002227623	0.002160794
48113	Dallas County	Construction and Mining Equipment	Graders	300 < hp <= 600	1.51206E-06	0.186403849	0.058458554	0.000205654	2.14126E-06	2.40901E-05	2.87207E-05	0.000415333	3.24401E-05	3.14669E-05
48113	Dallas County	Construction and Mining Equipment	Off-highway Trucks	175 < hp <= 300	2.88393E-05	3.556235786	1.114970625	0.000976552	1.63084E-05	0.000169297	0.000203778	0.00243092	0.000204102	0.000197979
48113	Dallas County	Construction and Mining Equipment	Off-highway Trucks	300 < hp <= 600	0.000137621	16.9682254	5.320646887	0.012041056	0.00014556	0.001426132	0.001721718	0.025658867	0.001981916	0.001922459
48113	Dallas County	Construction and Mining Equipment	Off-highway Trucks	600 < hp <= 750	2.47033E-05	3.045694389	0.955065236	0.003804289	2.96811E-05	0.000294397	0.000355057	0.005548338	0.000435795	0.000422721
48113	Dallas County	Construction and Mining Equipment	Off-highway Trucks	750 < hp <= 1000	9.58532E-07	0.118172936	0.03705832	6.67246E-05	1.28991E-06	1.3002E-05	1.58619E-05	0.000495719	1.18397E-05	1.14845E-05
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	6 < hp <= 11	1.20464E-08	0.001479791	0.00046573	6.26821E-06	1.81673E-07	1.67275E-06	2.06239E-06	9.66758E-06	6.15756E-07	5.97283E-07
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	11 < hp <= 16	7.62428E-09	0.000938678	0.000294766	2.43703E-06	5.04226E-08	4.64534E-07	5.72694E-07	5.53472E-06	2.78417E-07	2.70065E-07
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	16 < hp <= 25	1.50148E-07	0.018485704	0.005804924	4.79933E-05	9.9299E-07	9.14822E-06	1.12782E-05	0.000108997	5.48297E-06	5.31848E-06
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	25 < hp <= 40	6.93301E-07	0.08545238	0.026804047	6.61546E-05	2.1658E-06	1.48129E-05	1.83105E-05	0.000360114	8.14756E-06	7.90314E-06
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	40 < hp <= 50	9.02714E-08	0.011126353	0.003490028	8.61367E-06	2.81999E-07	1.92871E-06	2.38412E-06	4.68888E-05	1.06086E-06	1.02903E-06
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	50 < hp <= 75	1.15503E-06	0.14229973	0.044655068	0.000337809	3.63379E-06	4.48216E-05	5.25756E-05	0.00068966	4.76568E-05	4.62271E-05
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	75 < hp <= 100	1.62824E-06	0.200636673	0.062950214	0.000584633	3.27472E-06	5.35792E-05	6.21775E-05	0.000710004	8.94521E-05	8.67686E-05
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	100 < hp <= 175	1.65758E-05	2.042867227	0.640844028	0.002701784	3.10602E-05	0.000435908	0.000512459	0.006143197	0.0006078	0.000589566
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	175 < hp <= 300	2.51368E-05	3.098195172	0.971827686	0.003404136	4.31275E-05	0.000592141	0.000695203	0.00795244	0.000664371	0.00064444
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	300 < hp <= 600	0.00011466	14.12738627	4.432925937	0.033804979	0.000196858	0.004244861	0.004807783	0.061795472	0.004932756	0.004784772
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	600 < hp <= 750	3.34813E-05	4.12544595	1.29443642	0.012001194	5.31061E-05	0.001186307	0.001340192	0.018075323	0.001489744	0.001445051
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	1000 < hp <= 1200	3.84471E-06	0.473505332	0.148642157	0.00123004	6.53813E-06	0.00020788	0.000231806	0.003314465	0.000188615	0.000182957
48113	Dallas County	Construction and Mining Equipment	Pavers	16 < hp <= 25	1.65888E-07	0.020424599	0.006413475	5.14252E-05	1.06746E-06	9.825E-06	1.21142E-05	0.000119958	5.89637E-06	5.71947E-06
48113	Dallas County	Construction and Mining Equipment	Pavers	25 < hp <= 40	8.09119E-07	0.099740348	0.031281783	5.42018E-05	2.16508E-06	1.35966E-05	1.68081E-05	0.000399475	4.90379E-06	4.75668E-06
48113	Dallas County	Construction and Mining Equipment	Pavers	40 < hp <= 50	6.19347E-07	0.076325344	0.023944884	7.55695E-05	1.72142E-06	1.72815E-05	2.03209E-05	0.000326919	8.52758E-06	8.27176E-06
48113	Dallas County	Construction and Mining Equipment	Pavers	50 < hp <= 75	5.69128E-07	0.070147588	0.022003357	5.4285E-05	1.77759E-06	1.21566E-05	1.5027E-05	0.00028118	6.68405E-06	6.48353E-06
48113	Dallas County	Construction and Mining Equipment	Pavers	75 < hp <= 100	1.25078E-07	0.015401955	0.004835717	6.129E-05	2.79922E-07	7.47056E-06	8.40473E-06	7.47426E-05	8.78001E-06	8.51661E-06
48113	Dallas County	Construction and Mining Equipment	Pavers	100 < hp <= 175	7.99101E-05	9.844311663	3.089443297	0.018584488	0.00015687	0.003417277	0.003885476	0.041662547	0.003148953	0.003054484
48113	Dallas County	Construction and Mining Equipment	Pavers	175 < hp <= 300	2.30362E-05	2.840286598	0.890613122	0.001389229	2.27134E-05	0.000238194	0.000285704	0.003570135	0.000280889	0.000272462
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	3 < hp <= 6	2.34499E-07	0.028806744	0.009066084	0.000127023	3.49405E-06	3.24473E-05	3.99625E-05	0.000188568	1.26595E-05	1.22797E-05
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	6 < hp <= 11	4.17841E-07	0.05132919	0.016154372	0.000226336	6.22585E-06	5.7816E-05	7.12071E-05	0.000335999	2.25572E-05	2.18805E-05
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	11 < hp <= 16	6.57349E-08	0.008092741	0.002541408	2.18817E-05	4.39757E-07	4.10864E-06	5.05615E-06	4.79599E-05	2.50307E-06	2.42798E-06
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	16 < hp <= 25	5.81418E-07	0.071579473	0.022478499	0.000193541	3.8896E-06	3.63405E-05	4.47211E-05	0.000424201	2.21394E-05	2.14752E-05
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	25 < hp <= 40	2.24028E-07	0.027559229	0.008661265	0.000108981	8.8429E-07	2.16187E-05	2.4221E-05	0.000169341	1.63009E-05	1.58118E-05
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	75 < hp <= 100	2.02797E-07	0.024971801	0.007840449	0.00010132	4.54604E-07	1.22226E-05	1.37449E-05	0.000122185	1.43705E-05	1.39394E-05
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	100 < hp <= 175	3.33702E-06	0.411029905	0.129014157	0.00095162	7.29875E-06	0.000162896	0.000184938	0.001944605	0.000183566	0.000178059
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	175 < hp <= 300	5.96748E-06	0.735096256	0.230711835	0.001518694	1.19439E-05	0.000271619	0.000307625	0.003224742	0.000270757	0.000262634
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	300 < hp <= 600	3.47069E-06	0.427635883	0.134182192	0.000950169	5.87332E-06	0.000126032	0.000142786	0.001852615	0.000117083	0.000113571
48113	Dallas County	Construction and Mining Equipment	Plate Compactors	3 < hp <= 6	2.67627E-06	0.328755325	0.103468459	0.001424168	3.98168E-05	0.000372712	0.000458583	0.002185127	0.000145205	0.000140849
48113	Dallas County	Construction and Mining Equipment	Plate Compactors	6 < hp <= 11	2.09901E-06	0.257845232	0.081151052	0.001116985	3.12286E-05	0.000292321	0.00035967	0.00171381	0.000113886	0.000110469
48113	Dallas County	Construction and Mining Equipment	Plate Compactors	11 < hp <= 16	2.10988E-06	0.259740773	0.081571116	0.000695313	1.42716E-05	0.000135047	0.000165922	0.001565012	8.09211E-05	7.84934E-05
48113	Dallas County	Construction and Mining Equipment	Plate Compactors	16 < hp <= 25	2.77081E-07	0.034110554	0.010712359	9.13122E-05	1.87422E-06	1.77351E-05	2.17898E-05	0.000205526	1.0627E-05	1.03082E-05
48113	Dallas County	Construction and Mining Equipment	Rollers	3 < hp <= 6	4.45361E-07	0.054707543	0.01721834	0.00022825	6.75674E-06	6.21896E-05	7.66798E-05	0.000357585	2.22683E-05	2.16002E-05
48113	Dallas County	Construction and Mining Equipment	Rollers	6 < hp <= 11	1.34473E-06	0.165185242	0.051989471	0.000689183	2.04015E-05	0.000187777	0.000231529	0.0010797	6.72373E-05	6.52202E-05
48113	Dallas County	Construction and Mining Equipment	Rollers	11 < hp <= 16	2.51783E-06	0.30999574	0.097343115	0.000788814	1.64155E-05	0.00015109	0.000186294	0.001823442	9.01964E-05	8.74905E-05
48113	Dallas County	Construction and Mining Equipment	Rollers	16 < hp <= 25	6.54442E-06	0.80575034	0.253017233	0.00205031	4.26678E-05	0.000392718	0.000484221	0.004739543	0.000234441	0.000227408
48113	Dallas County	Construction and Mining Equipment	Rollers	25 < hp <= 40	2.98781E-06	0.36801819	0.115513379	0.000682213	1.02451E-05	0.000140608	0.000162552	0.001795355	9.66353E-05	9.37362E-05
48113	Dallas County	Construction and Mining Equipment	Rollers	40 < hp <= 50	8.67637E-07	0.106845385	0.033544162	0.000242117	3.71443E-06	4.76959E-05	5.58379E-05	0.00056195	3.77846E-05	3.6651E-05
48113	Dallas County	Construction and Mining Equipment	Rollers	50 < hp <= 75	1.27004E-05	1.564117875	0.491017869	0.004706792	3.7835E-05	0.000681028	0.000776951	0.008497978	0.000648951	0.000629483
48113	Dallas County	Construction and Mining Equipment	Rollers	75 < hp <= 100	1.51273E-05	1.863894018	0.584843411	0.005337021	2.69221E-05	0.000544623	0.000622393	0.006790027	0.000843028	0.000817738
48113	Dallas County	Construction and Mining Equipment	Rollers	100 < hp <= 175	0.000147273	18.14716431	5.693783346	0.027956021	0.000274299	0.00494085	0.005690458	0.065007161	0.005366098	0.005205114
48113	Dallas County	Construction and Mining Equipment	Rollers	175 < hp <= 300	1.21128E-05	1.49306357	0.468300833	0.001345246	1.16307E-05	0.000257249	0.000292053	0.003093686	0.00025769	0.000249959
48113	Dallas County	Construction and Mining Equipment	Rollers	300 < hp <= 600	0.000165438	20.40233133	6.396087813	0.001889733	2.61194E-05	0.000464134	0.000535953	0.005931574	0.000411964	0.000399605
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	11 < hp <= 16	1.4278E-08	0.00175788	0.000552009	4.53056E-06	9.39952E-08	8.65139E-07	1.06672E-06	1.03552E-05	5.17907E-07	5.0237E-07
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	16 < hp <= 25	2.49865E-07	0.030762906	0.009660152	7.92848E-05	1.64492E-06	1.514E-05	1.86676E-05	0.000181217	9.06337E-06	8.79147E-06
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	25 < hp <= 40	4.17498E-05	5.146482591	1.614110706	0.002877599	0.000112995	0.000709301	0.000877552	0.02068046	0.000271606	0.000263458
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	40 < hp <= 50	7.34791E-05	9.057725451	2.840813155	0.005072102	0.000198925	0.001251982	0.001548447	0.036409244	0.000480568	0.000466151
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	50 < hp <= 75	0.000201546	24.84159642	7.792085212	0.033505622	0.000557472	0.004378102	0.005325125	0.10591624	0.004177618	0.004052291
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	75 < hp <= 100	0.001614679	199.0654198	62.42592852	0.310937839	0.002015507	0.022431914	0.026946248	0.49957105	0.049134833	0.047660798

countyID	countyName	classification	equip	Sulfur Dioxide (SO2)	Total Gaseous Hydrocarbons	Total Organic Gases	Volatile Organic Compounds	Min HP	Max Hp	Activity hours	avg hp	avg hp *activity hr
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	4.09721E-07	0.000135228	0.000151662	0.000146224	75	100	10.70259	85.4	914.0009059
48113	Dallas County	Construction and Mining Equipment	Dumpers/Tenders	1.76465E-07	4.70312E-05	5.32761E-05	5.10201E-05	100	175	3.987237	109.7	437.3999212
48113	Dallas County	Construction and Mining Equipment	Excavators	1.35268E-08	5.42625E-06	6.56666E-06	6.03489E-06	3	6	2.834148	6	17.00489085
48113	Dallas County	Construction and Mining Equipment	Excavators	1.00485E-07	4.03093E-05	4.87809E-05	4.48306E-05	6	11	15.79027	8	126.3221526
48113	Dallas County	Construction and Mining Equipment	Excavators	3.42565E-07	5.7592E-05	6.96959E-05	6.40519E-05	11	16	32.79516	13.1	429.6165675
48113	Dallas County	Construction and Mining Equipment	Excavators	2.51266E-06	0.000422428	0.000511208	0.00046981	16	25	146.566	21.5	3151.169177
48113	Dallas County	Construction and Mining Equipment	Excavators	1.62076E-06	0.000134335	0.00016196	0.000144573	25	40	84.81986	32.62623	2767.352297
48113	Dallas County	Construction and Mining Equipment	Excavators	3.77638E-06	0.000331451	0.000399719	0.000357777	40	50	145.4505	43.1	6268.918171
48113	Dallas County	Construction and Mining Equipment	Excavators	3.10676E-06	0.000315712	0.00036773	0.000339423	50	75	80.88465	60.38814	4884.474031
48113	Dallas County	Construction and Mining Equipment	Excavators	7.12445E-06	0.000252647	0.000298701	0.0002772	75	100	129.294	90.39238	11687.19361
48113	Dallas County	Construction and Mining Equipment	Excavators	4.52261E-05	0.001510989	0.001785592	0.001655239	100	175	609.6378	136.5659	83255.76162
48113	Dallas County	Construction and Mining Equipment	Excavators	0.000225121	0.01910322	0.021793747	0.020677165	175	300	1640.592	232.1252	380822.7393
48113	Dallas County	Construction and Mining Equipment	Excavators	0.000131803	0.007739565	0.009009077	0.008396958	300	600	547.7525	420.6014	230385.4891
48113	Dallas County	Construction and Mining Equipment	Excavators	1.57975E-05	0.000679314	0.000804035	0.000738041	600	750	38.46347	719.4	27670.62137
48113	Dallas County	Construction and Mining Equipment	Graders	1.26513E-06	8.78522E-05	0.000105083	9.39456E-05	50	75	31.7585	59.63441	1893.899098
48113	Dallas County	Construction and Mining Equipment	Graders	6.6478E-07	9.17932E-05	0.000103737	9.94259E-05	75	100	10.92282	84.36306	921.4828514
48113	Dallas County	Construction and Mining Equipment	Graders	5.97987E-05	0.003283741	0.003816589	0.003582891	100	175	704.085	140.7108	99072.38159
48113	Dallas County	Construction and Mining Equipment	Graders	3.03304E-05	0.003182896	0.003602686	0.003438125	175	300	208.8504	215.5184	45011.10867
48113	Dallas County	Construction and Mining Equipment	Graders	4.79345E-07	2.62313E-05	3.0862E-05	2.85579E-05	300	600	2.224607	341.8	760.3708093
48113	Dallas County	Construction and Mining Equipment	Off-highway Trucks	8.35856E-06	0.000185606	0.000220086	0.00020001	175	300	64.04978	244.3	15647.36025
48113	Dallas County	Construction and Mining Equipment	Off-highway Trucks	4.19034E-05	0.001571692	0.001867279	0.001706529	300	600	184.5216	405.3404	74794.05382
48113	Dallas County	Construction and Mining Equipment	Off-highway Trucks	7.6582E-06	0.000324079	0.000384738	0.000352473	600	750	19.47866	688.1	13403.26899
48113	Dallas County	Construction and Mining Equipment	Off-highway Trucks	2.86577E-07	1.42919E-05	1.71518E-05	1.58531E-05	750	1000	0.599161	868	520.0718574
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	4.68201E-09	1.85442E-06	2.24407E-06	2.06239E-06	6	11	0.674056	7.9	5.32504428
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	2.9701E-09	5.14957E-07	6.23116E-07	5.72692E-07	11	16	0.224685	15	3.370280903
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	5.84911E-08	1.01412E-05	1.22712E-05	1.12782E-05	16	25	3.145595	21.1	66.37204849
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	2.02153E-07	1.69787E-05	2.04763E-05	1.82861E-05	25	40	8.987414	34.1	306.470814
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	2.63214E-08	2.21071E-06	2.66612E-06	2.38095E-06	40	50	0.898741	44.4	39.90411772
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	3.8175E-07	4.84554E-05	5.62094E-05	5.24388E-05	50	75	8.538043	59.8	510.5749684
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	5.26237E-07	5.68539E-05	6.54522E-05	6.1995E-05	75	100	8.53804	84.3	719.7567425
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	5.35192E-06	0.000466968	0.000543519	0.000510996	100	175	59.09222	137.7	8136.998494
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	8.08052E-06	0.000635269	0.000738331	0.00069184	175	300	52.80106	233.7	12339.60699
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	3.88487E-05	0.004441718	0.005004643	0.004786826	300	600	127.1719	442.6	56286.27698
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	1.13446E-05	0.001239413	0.001393298	0.001334169	600	750	23.14259	710.2	16435.87084
48113	Dallas County	Construction and Mining Equipment	Other Construction Equipment	1.31289E-06	0.000214425	0.000238344	0.000230926	1000	1200	1.572797	1200	1887.356706
48113	Dallas County	Construction and Mining Equipment	Pavers	6.46261E-08	1.08925E-05	1.31817E-05	1.21142E-05	16	25	3.348406	21.9	73.33009946
48113	Dallas County	Construction and Mining Equipment	Pavers	2.28195E-07	1.57617E-05	1.89732E-05	1.6777E-05	25	40	11.14996	32.51831	362.5778023
48113	Dallas County	Construction and Mining Equipment	Pavers	1.79441E-07	1.90029E-05	2.20423E-05	2.02665E-05	40	50	5.965952	45.48041	271.3339411
48113	Dallas County	Construction and Mining Equipment	Pavers	1.6594E-07	1.39342E-05	1.68046E-05	1.5007E-05	50	75	5.031614	50	251.5806955
48113	Dallas County	Construction and Mining Equipment	Pavers	4.25227E-08	7.75048E-06	8.68465E-06	8.37267E-06	75	100	0.637721	86.7	55.29039839
48113	Dallas County	Construction and Mining Equipment	Pavers	2.66723E-05	0.003574147	0.004042346	0.003871462	100	175	292.2909	133.8056	39110.15476
48113	Dallas County	Construction and Mining Equipment	Pavers	6.88637E-06	0.000260907	0.000308418	0.000282908	175	300	50.96861	222.1734	11323.8683
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	9.11435E-08	3.59413E-05	4.34566E-05	3.99606E-05	3	6	26.29043	4.6	120.9359567
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	1.62404E-07	6.40419E-05	7.74329E-05	7.12036E-05	6	11	29.51904	7.3	215.489009
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	2.56064E-08	4.5484E-06	5.49591E-06	5.05576E-06	11	16	2.306175	14.7	33.90077765
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	2.26486E-07	4.02301E-05	4.86107E-05	4.47177E-05	16	25	15.22077	19.7	299.8492464
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	7.73645E-08	2.2503E-05	2.51053E-05	2.41398E-05	25	40	3.418221	33.8	115.5358599
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	6.89436E-08	1.26772E-05	1.41995E-05	1.36924E-05	75	100	1.257051	83.2	104.5866836
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	1.1323E-06	0.000170195	0.000192237	0.000184283	100	175	14.55564	131.3	1911.155923
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	2.02135E-06	0.000283563	0.000319569	0.000306274	175	300	14.84647	230.2	3417.657872
48113	Dallas County	Construction and Mining Equipment	Paving Equipment	1.17595E-06	0.000131906	0.000148659	0.000142162	300	600	4.321116	460	1987.713287
48113	Dallas County	Construction and Mining Equipment	Plate Compactors	1.04017E-06	0.000412529	0.0004984	0.00045854	3	6	238.1322	4.9	1166.847832
48113	Dallas County	Construction and Mining Equipment	Plate Compactors	8.15813E-07	0.00032355	0.000390899	0.000359637	6	11	106.4149	8.6	915.167776
48113	Dallas County	Construction and Mining Equipment	Plate Compactors	8.21852E-07	0.000149318	0.000180194	0.000165898	11	16	64.78205	14.2	919.9051448
48113	Dallas County	Construction and Mining Equipment	Plate Compactors	1.0793E-07	1.96093E-05	2.3664E-05	2.17867E-05	16	25	5.921909	20.4	120.8069418
48113	Dallas County	Construction and Mining Equipment	Rollers	1.73092E-07	6.89464E-05	8.34365E-05	7.66798E-05	3	6	40.29503	5.4	217.5931577
48113	Dallas County	Construction and Mining Equipment	Rollers	5.2264E-07	0.000208178	0.00025193	0.000231529	6	11	75.51804	8.7	657.0069196
48113	Dallas County	Construction and Mining Equipment	Rollers	9.80867E-07	0.000167505	0.000202709	0.000186294	11	16	90.45255	13.6	1230.154646
48113	Dallas County	Construction and Mining Equipment	Rollers	2.5495E-06	0.000435386	0.000526889	0.000484221	16	25	162.3074	19.7	3197.45588
48113	Dallas County	Construction and Mining Equipment	Rollers	9.27229E-07	0.000150853	0.000172797	0.000162117	25	40	45.06439	32.44153	1461.957934
48113	Dallas County	Construction and Mining Equipment	Rollers	2.84488E-07	5.14103E-05	5.95524E-05	5.57215E-05	40	50	9.255627	45.8	423.9077321
48113	Dallas County	Construction and Mining Equipment	Rollers	4.27685E-06	0.000718863	0.000814786	0.000774267	50	75	99.53733	61.84786	6156.170357
48113	Dallas County	Construction and Mining Equipment	Rollers	4.87149E-06	0.000571545	0.000649315	0.000620217	75	100	85.41872	86.43089	7382.816183
48113	Dallas County	Construction and Mining Equipment	Rollers	4.82399E-05	0.005215149	0.005964757	0.00567136	100	175	605.4516	131.7677	79778.96034
48113	Dallas County	Construction and Mining Equipment	Rollers	3.71451E-06	0.00026888	0.000303684	0.000289822	175	300	30.28606	217	6572.076049
48113	Dallas County	Construction and Mining Equipment	Rollers	4.65508E-05	0.000490253	0.000562073	0.000510881	300	600	213.4648	420.5	89761.93011
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	5.56216E-09	9.59135E-07	1.16071E-06	1.06672E-06	11	16	0.490897	13.5	6.627104143
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	9.73378E-08	1.67849E-05	2.03125E-05	1.86676E-05	16	25	5.154417	22.5	115.9743781
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	1.18025E-05	0.000822295	0.000990547	0.000875978	25	40	672.8513	28.8	19378.11874
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	2.07751E-05	0.001450907	0.001747372	0.001545662	40	50	749.5648	45.5	34105.19878
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	6.26036E-05	0.004935573	0.005882597	0.005314437	50	75	1484.88	63	93547.42866
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	0.000488474	0.024447414	0.028961781	0.02687444	75	100	8497.175	88.2	749450.806

countyID	countyName	classification	equip	HP bin	Ammonia (NH3)	Atmospheric CO2	Brake Specific Fuel Consumption (BSFC)	Carbon Monoxide (CO)	Methane (CH4)	Non-Methane Hydrocarbons	Non-Methane Organic Gases	Oxides of Nitrogen (NOx)	Primary Exhaust PM10 Total	Primary Exhaust PM2.5 - Total
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	100 < hp <= 175	0.000920473	113.4867619	35.58688341	0.074377974	0.00104604	0.010869238	0.013156614	0.201600814	0.018530186	0.017974285
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	175 < hp <= 300	0.000100505	12.3918064	3.885677707	0.006357319	0.000106671	0.001078959	0.001298274	0.016482536	0.001280181	0.001241776
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	300 < hp <= 600	0.000199974	24.64787158	7.731309935	0.037888803	0.000321646	0.004611462	0.005378033	0.07355786	0.005677471	0.005507146
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	16 < hp <= 25	6.23702E-08	0.007678966	0.002411326	1.96705E-05	4.08829E-07	3.7629E-06	4.63965E-06	4.52036E-05	2.25042E-06	2.18291E-06
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	25 < hp <= 40	4.86118E-08	0.005979981	0.001879404	2.41338E-05	1.9261E-07	4.71845E-06	5.28592E-06	3.68223E-05	3.75828E-06	3.64553E-06
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	40 < hp <= 50	2.87152E-06	0.353968232	0.111017246	0.000197583	7.47222E-06	4.99547E-05	6.1097E-05	0.001415152	1.75304E-05	1.70045E-05
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	50 < hp <= 75	1.02039E-05	1.257837643	0.394497757	0.00115506	2.23542E-05	0.00017772	0.000211685	0.005176112	0.000153094	0.000148501
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	75 < hp <= 100	5.26325E-05	6.490389866	2.034849947	0.003944828	2.5983E-05	0.000258091	0.000313262	0.010928934	0.00065934	0.00063956
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	100 < hp <= 175	0.00030148	37.16980124	11.65568102	0.024275657	0.000284888	0.00369075	0.004367165	0.058770076	0.005725137	0.005553384
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	175 < hp <= 300	0.000275779	34.00733854	10.6620106	0.007722693	0.000121331	0.001492628	0.001767909	0.020631979	0.001611426	0.001563083
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	300 < hp <= 600	0.000143141	17.64844672	5.534050401	0.013526045	0.000159859	0.001589555	0.001916828	0.02869831	0.002207608	0.00214138
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	600 < hp <= 750	2.47408E-05	3.050401097	0.956517288	0.00349742	2.78454E-05	0.000272407	0.000328885	0.005119315	0.000401492	0.000389447
48113	Dallas County	Construction and Mining Equipment	Scrapers	100 < hp <= 175	5.99857E-05	7.39617637	2.319138698	0.004169678	5.90837E-05	0.000580367	0.000706509	0.011133698	0.001042285	0.001011018
48113	Dallas County	Construction and Mining Equipment	Scrapers	175 < hp <= 300	2.01072E-05	2.479272039	0.777375314	0.001026808	1.73294E-05	0.000173326	0.000208993	0.002598779	0.000207578	0.000201351
48113	Dallas County	Construction and Mining Equipment	Scrapers	300 < hp <= 600	3.32051E-05	4.092926533	1.283760667	0.005745871	4.94667E-05	0.000698074	0.000814786	0.011653065	0.00087315	0.000846956
48113	Dallas County	Construction and Mining Equipment	Scrapers	600 < hp <= 750	8.13723E-06	1.003224912	0.314597596	0.001336279	1.01318E-05	0.000104387	0.000125428	0.001945476	0.000153139	0.000148545
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	3 < hp <= 6	5.28205E-07	0.064884389	0.020421215	0.000276772	7.96471E-06	7.3718E-05	9.08298E-05	0.000429377	2.7728E-05	2.68961E-05
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	6 < hp <= 11	1.79563E-06	0.220573443	0.069421565	0.000940881	2.70759E-05	0.000250603	0.000308774	0.001459659	9.42608E-05	9.1433E-05
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	11 < hp <= 16	1.68288E-06	0.207182979	0.06506294	0.000544232	1.13262E-05	0.000105267	0.000129629	0.001240579	6.28378E-05	6.09527E-05
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	16 < hp <= 25	4.31979E-05	5.318162647	1.670096437	0.013969858	0.00029073	0.002702086	0.003327442	0.031844339	0.001612979	0.00156459
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	25 < hp <= 40	1.80862E-05	2.229061946	0.699239339	0.001806587	6.00968E-05	0.000427532	0.000527648	0.009808052	0.00024827	0.000240822
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	40 < hp <= 50	3.83984E-08	0.004732473	0.00148454	3.83553E-06	1.2759E-07	9.07685E-07	1.12024E-06	2.08233E-05	5.27096E-07	5.11283E-07
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	50 < hp <= 75	2.53602E-06	0.312381787	0.098046458	0.000641634	8.2372E-06	0.000116461	0.000135241	0.001655485	0.000107254	0.000104036
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	75 < hp <= 100	2.18652E-06	0.269378966	0.084534331	0.000605444	4.76241E-06	8.79679E-05	0.000101144	0.001091083	0.000106041	0.000102859
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	100 < hp <= 175	2.77157E-06	0.341524979	0.107153004	0.000370807	5.71183E-06	8.98643E-05	0.00010458	0.001235108	8.64817E-05	8.38873E-05
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	175 < hp <= 300	9.72351E-07	0.119827692	0.037592545	0.000110794	1.82331E-06	2.84029E-05	3.29974E-05	0.0003792	2.22678E-05	2.15997E-05
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	6 < hp <= 11	9.38512E-08	0.011534977	0.00362843	4.14397E-05	1.22639E-06	1.12878E-05	1.39178E-05	6.46002E-05	4.04645E-06	3.92506E-06
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	11 < hp <= 16	2.44673E-05	3.01315116	0.945942458	0.00658081	0.000136989	0.001260857	0.001554637	0.015180317	0.000753295	0.000730696
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	16 < hp <= 25	7.10503E-05	8.749855673	2.746912282	0.019109949	0.0003978	0.003661386	0.004514491	0.044081925	0.002187484	0.00212186
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	25 < hp <= 40	1.64939E-05	2.03339678	0.637676692	0.000849829	3.66328E-05	0.000222734	0.000275664	0.006882737	6.60722E-05	6.40901E-05
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	40 < hp <= 50	5.74564E-05	7.083350737	2.221351436	0.002960384	0.000127611	0.000775894	0.000960275	0.023976051	0.000230163	0.000223258
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	50 < hp <= 75	0.001510874	186.2952826	58.41266309	0.055349275	0.002447704	0.011450778	0.014218761	0.603889401	0.005029361	0.004878478
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	75 < hp <= 100	0.001529334	188.6057421	59.12632048	0.036911527	0.000288843	0.003031324	0.003682449	0.214344256	0.00659646	0.006398569
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	6 < hp <= 11	4.50375E-09	0.000553251	0.000174122	2.72153E-06	6.3251E-08	6.30218E-07	7.69239E-07	3.7172E-06	2.88154E-07	2.79509E-07
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	11 < hp <= 16	3.1291E-08	0.003851317	0.001209756	1.21757E-05	2.13533E-07	2.26416E-06	2.74188E-06	2.35378E-05	1.43599E-06	1.39291E-06
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	16 < hp <= 25	7.22045E-07	0.088869894	0.027915363	0.000280956	4.92731E-06	5.22459E-05	6.32693E-05	0.000543139	3.31357E-05	3.21417E-05
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	100 < hp <= 175	1.59083E-05	1.959426804	0.61503864	0.004646906	3.48806E-05	0.000789963	0.000896072	0.009388364	0.000908534	0.000881278
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	175 < hp <= 300	6.67473E-07	0.082222141	0.025805518	0.000168121	1.33094E-06	3.02807E-05	3.42933E-05	0.000360033	2.90566E-05	2.81849E-05
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	300 < hp <= 600	0.000139451	17.18186717	5.391370485	0.040779095	0.000238877	0.005161861	0.005845548	0.075064316	0.005835394	0.005660332
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	600 < hp <= 750	5.73809E-06	0.707029578	0.221843323	0.002022115	9.06379E-06	0.000202811	0.000229092	0.003089766	0.000241396	0.000234154
48113	Dallas County	Construction and Mining Equipment	Tampers/Rammers	3 < hp <= 6	4.35381E-07	0.053482865	0.016832499	0.000233521	6.42191E-06	6.06537E-05	7.45441E-05	0.000356774	2.40228E-05	2.33022E-05
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	16 < hp <= 25	5.67021E-06	0.698304236	0.21921901	0.001504512	3.1231E-05	0.000287453	0.00035443	0.003511567	0.000172845	0.00016766
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	25 < hp <= 40	2.33383E-05	2.876114936	0.902293236	0.002883843	7.0642E-05	0.000604962	0.000768518	0.010795033	0.000402918	0.000390831
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	40 < hp <= 50	8.63064E-05	10.63893733	3.336737401	0.006269625	0.000214701	0.001496696	0.00183365	0.037204425	0.000696136	0.000675252
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	50 < hp <= 75	0.000878623	108.2328283	33.96886669	0.228213279	0.002763874	0.038551468	0.044660212	0.436092385	0.031133194	0.0301992
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	75 < hp <= 100	0.000604498	74.48684746	23.37078383	0.152827242	0.000976693	0.020511993	0.023393134	0.171626622	0.022172433	0.021507259
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	100 < hp <= 175	9.40958E-05	11.57967663	3.63788648	0.031463509	0.000352785	0.007762806	0.008825177	0.04896492	0.005483941	0.005319423
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	175 < hp <= 300	1.07209E-05	1.321336535	0.414484497	0.00110007	1.36256E-05	0.000271434	0.000310289	0.001814878	0.000204001	0.000197881
48113	Dallas County	Construction and Mining Equipment	Trenchers	6 < hp <= 11	5.68436E-09	0.000698255	0.000219766	2.90798E-06	8.63499E-08	7.94772E-07	9.79953E-07	4.56474E-06	2.83494E-07	2.74989E-07
48113	Dallas County	Construction and Mining Equipment	Trenchers	11 < hp <= 16	7.34229E-08	0.009039893	0.002838643	2.29262E-05	4.77234E-07	4.3925E-06	5.41595E-06	5.31518E-05	2.62302E-06	2.54433E-06
48113	Dallas County	Construction and Mining Equipment	Trenchers	16 < hp <= 25	1.40688E-07	0.017321588	0.005439203	4.39295E-05	9.14441E-07	8.4166E-06	1.03777E-05	0.000101846	5.02604E-06	4.87526E-06
48113	Dallas County	Construction and Mining Equipment	Trenchers	25 < hp <= 40	8.68431E-05	10.70553858	3.357488397	0.005141637	0.000223396	0.001353754	0.001675517	0.042285205	0.00039268	0.0003809
48113	Dallas County	Construction and Mining Equipment	Trenchers	40 < hp <= 50	0.00029581	36.46585439	11.43647661	0.01751377	0.000760944	0.004611247	0.005707257	0.144034445	0.001337571	0.001297442
48113	Dallas County	Construction and Mining Equipment	Trenchers	50 < hp <= 75	0.000717904	88.5038421	27.75526138	0.069444235	0.001675045	0.009987444	0.012329535	0.351565098	0.007543437	0.007317132
48113	Dallas County	Construction and Mining Equipment	Trenchers	75 < hp <= 100	0.000385373	47.51972517	14.89910666	0.043554852	0.000284463	0.002660084	0.003250029	0.091035507	0.007027575	0.006816748
48113	Dallas County	Construction and Mining Equipment	Trenchers	100 < hp <= 175	0.000143984	17.75466515	5.566648137	0.007261664	9.84338E-05	0.000936338	0.00114345	0.018911723	0.001841757	0.001786503
48113	Dallas County	Construction and Mining Equipment	Trenchers	175 < hp <= 300	0.000211171	26.03980963	8.164198848	0.007508262	0.000125009	0.001284489	0.001547666	0.01851202	0.001565534	0.001518568
48113	Dallas County	Construction and Mining Equipment	Trenchers	300 < hp <= 600	0.00018833	23.21919939	7.28110138	0.019836902	0.000231714	0.002296584	0.002770994	0.041836894	0.003213649	0.00311724
48113	Dallas County	Construction and Mining Equipment	Trenchers	600 < hp <= 750	2.82028E-05	3.4771717	1.09036299	0.004298777	3.36868E-05	0.000332148	0.00040081	0.006274178	0.000492553	0.000477777
48113	Dallas County	Construction and Mining Equipment	Trenchers	1200 < hp <= 2000	7.99439E-06	0.985375257	0.309075061	0.000976269	1.32681E-05	0.000174723	0.000207072	0.004766027	0.000157699	0.000152968

countyID	countyName	classification	equip	Sulfur Dioxide (SO2)	Total Gaseous Hydrocarbons	Total Organic Gases	Volatile Organic Compounds	Min HP	Max Hp	Activity hours	avg hp	avg hp *activity hr
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	0.000278086	0.011915281	0.014202651	0.013110321	100	175	4364.773	108.7	474450.8155
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	3.01715E-05	0.00118563	0.001404945	0.001286478	175	300	226.1221	229.1	51804.57694
48113	Dallas County	Construction and Mining Equipment	Rough Terrain Forklifts	6.53321E-05	0.004933108	0.005699678	0.005352927	300	600	297.8194	346.1	103075.2955
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	2.42972E-08	4.17173E-06	5.04848E-06	4.63965E-06	16	25	1.410771	22.8	32.16557593
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	1.6787E-08	4.91106E-06	5.47853E-06	5.26819E-06	25	40	0.728781	34.4	25.07008353
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	8.07109E-07	5.74269E-05	6.85692E-05	6.09656E-05	40	50	32.67376	45.32908	1481.071508
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	2.99043E-06	0.000200075	0.000234039	0.000210995	50	75	84.47172	61.38008	5184.881087
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	1.51296E-05	0.000284074	0.000339245	0.000311537	75	100	320.0244	85.43145	27340.14888
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	9.03781E-05	0.003975638	0.004652054	0.004347174	100	175	1262.452	136.3941	172190.9297
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	7.92873E-05	0.001613959	0.00188924	0.001729173	175	300	679.2741	231.8456	157486.7018
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	4.3869E-05	0.001749414	0.002076687	0.00190119	300	600	195.013	423.3466	82558.11837
48113	Dallas County	Construction and Mining Equipment	Rubber Tire Loaders	7.60574E-06	0.000300252	0.000356731	0.000326247	600	750	20.47009	692.2	14169.39936
48113	Dallas County	Construction and Mining Equipment	Scrapers	1.78983E-05	0.000639451	0.000765592	0.000703675	100	175	160.2363	160.8	25765.99158
48113	Dallas County	Construction and Mining Equipment	Scrapers	5.94919E-06	0.000190656	0.000226322	0.000206549	175	300	34.98081	246.9	8636.761562
48113	Dallas County	Construction and Mining Equipment	Scrapers	1.07342E-05	0.00074754	0.000864253	0.000810646	300	600	34.5076	412.1089	14220.88587
48113	Dallas County	Construction and Mining Equipment	Scrapers	2.53832E-06	0.000114519	0.000135559	0.000124572	600	750	5.083234	687.6	3495.231797
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	2.05292E-07	8.16827E-05	9.87945E-05	9.08271E-05	3	6	42.64758	5.4	230.2969318
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	6.97886E-07	0.000277679	0.00033585	0.000308765	6	11	100.3706	7.8	782.8905451
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	6.55552E-07	0.000116593	0.000140955	0.000129623	11	16	53.55743	13.7	733.736834
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	1.68273E-05	0.002992815	0.003618172	0.003327276	16	25	848.3894	22.2	18834.24506
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	5.35733E-06	0.000487629	0.000587745	0.000527008	25	40	260.2493	30.3	7885.553084
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	1.1374E-08	1.03527E-06	1.24783E-06	1.11888E-06	40	50	0.396721	42.2	16.74164355
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	8.51974E-07	0.000124698	0.000143478	0.000134859	50	75	18.64591	59.3	1105.702718
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	7.19706E-07	9.27303E-05	0.000105907	0.000100829	75	100	10.71149	89	953.3223038
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	9.11507E-07	9.55762E-05	0.000110291	0.000104272	100	175	8.529516	157.5	1343.398844
48113	Dallas County	Construction and Mining Equipment	Signal Boards/Light Plants	3.1853E-07	3.02262E-05	3.48207E-05	3.28503E-05	175	300	2.181969	216	471.3053269
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	3.64967E-08	1.25142E-05	1.51442E-05	1.39178E-05	6	11	4.246034	9.5	40.33732343
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	9.53406E-06	0.001397845	0.001691626	0.001554637	11	16	678.4556	15.5	10516.06166
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	2.76858E-05	0.004059187	0.004912291	0.004514491	16	25	1504.307	20.3	30537.43275
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	4.61175E-06	0.000259367	0.000312297	0.000275119	25	40	206.6782	34.3	7089.063941
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	1.60651E-05	0.000903505	0.001087886	0.000958379	40	50	545.1392	45.3	24694.80671
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	0.000422549	0.01389847	0.016666467	0.014166051	50	75	10628.06	61.1	649374.6004
48113	Dallas County	Construction and Mining Equipment	Skid Steer Loaders	0.000429405	0.003320167	0.003971292	0.003637714	75	100	8185.662	80.3	657308.649
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	1.75047E-09	6.93469E-07	8.3249E-07	7.6894E-07	6	11	0.416001	6.7	2.787209816
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	1.2186E-08	2.47769E-06	2.95541E-06	2.74012E-06	11	16	1.456006	13.3	19.36487409
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	2.81194E-07	5.71732E-05	6.81966E-05	6.32288E-05	16	25	20.59206	21.7	446.8477953
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	5.40518E-06	0.000824844	0.000930953	0.000892879	100	175	86.42747	126.5	10933.07453
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	2.26093E-07	3.16116E-05	3.56242E-05	3.41426E-05	175	300	1.968778	233	458.725275
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	4.72481E-05	0.005400739	0.006084426	0.00582005	300	600	194.5561	492.6	95838.32149
48113	Dallas County	Construction and Mining Equipment	Surfacing Equipment	1.94426E-06	0.000211875	0.000238156	0.000228062	600	750	5.527038	713.5	3943.541452
48113	Dallas County	Construction and Mining Equipment	Tampers/Rammers	1.69218E-07	6.70756E-05	8.0966E-05	7.45336E-05	3	6	45.19663	4.2	189.8258305
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	2.20954E-06	0.000318684	0.000385661	0.00035443	16	25	106.8887	22.8	2437.061694
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	6.84331E-06	0.000711604	0.00083916	0.000767084	25	40	312.4417	32.38267	10117.69439
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	2.45022E-05	0.001711397	0.002048352	0.001830345	40	50	810.298	45.76983	37087.20594
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	0.00027184	0.041315345	0.047424079	0.044523763	50	75	5836.046	63.63845	371396.8933
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	0.00018176 2	0.021488689	0.024369827	0.023307996	75	100	2997.121	86.77714	260081.5567
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	3.1464E-05	0.008115591	0.009177958	0.008795733	100	175	369.2977	122.271	45154.39844
48113	Dallas County	Construction and Mining Equipment	Tractors/Loaders/Backhoes	3.19202E-06	0.00028506	0.000323915	0.000308303	175	300	25.85199	194.6417	5031.876224
48113	Dallas County	Construction and Mining Equipment	Trenchers	2.20925E-09	8.81122E-07	1.0663E-06	9.79953E-07	6	11	0.219865	9.6	2.110704594
48113	Dallas County	Construction and Mining Equipment	Trenchers	2.86034E-08	4.86973E-06	5.89318E-06	5.41595E-06	11	16	1.758924	15.5	27.26331628
48113	Dallas County	Construction and Mining Equipment	Trenchers	5.48078E-08	9.33104E-06	1.12921E-05	1.03777E-05	16	25	2.418521	21.6	52.24004885
48113	Dallas County	Construction and Mining Equipment	Trenchers	2.42863E-05	0.00157715	0.001898912	0.001672175	25	40	1036.864	31.1	32246.47774
48113	Dallas County	Construction and Mining Equipment	Trenchers	8.27254E-05	0.005372192	0.006468201	0.005695873	40	50	2584.469	42.5	109839.9219
48113	Dallas County	Construction and Mining Equipment	Trenchers	0.000210742	0.01166249	0.01400458	0.012300677	50	75	4299.533	62	266571.0709
48113	Dallas County	Construction and Mining Equipment	Trenchers	0.000112616	0.002944549	0.00353449	0.003238517	75	100	1736.605	82.4	143096.2291
48113	Dallas County	Construction and Mining Equipment	Trenchers	4.20535E-05	0.001034771	0.001241884	0.001136448	100	175	539.7496	110	59372.45471
48113	Dallas County	Construction and Mining Equipment	Trenchers	6.13312E-05	0.001409498	0.001672676	0.001520366	175	300	360.419	241.6	87077.23869
48113	Dallas County	Construction and Mining Equipment	Trenchers	5.83255E-05	0.002528299	0.003002709	0.002751186	300	600	183.2863	423.7	77658.42395
48113	Dallas County	Construction and Mining Equipment	Trenchers	8.73452E-06	0.000365834	0.000434497	0.000397862	600	750	16.26282	715.1	11629.53941
48113	Dallas County	Construction and Mining Equipment	Trenchers	2.50998E-06	0.000187991	0.00022034	0.000206723	1200	2000	2.197677	1500	3296.515757

# SCC	Project Equipment Name	Equipment	Load_Factor_Txn2	Load_Factor_moves	HP
2270002003	Curb/Gutter Paver	Pavers	0.42	0.59	175
2270002003	Asphalt Paver	Pavers	0.42	0.59	175
2270002009	Compacting Equipment	Plate Compactors	0.43	0.43	6
2270002009	Vibratory Compactor	Plate Compactors	0.43	0.43	6
2270002015	Roller	Rollers	0.38	0.59	100
2270002018	Scraper	Scrapers	0.48	0.59	600
2270002021	Paving Machine	Paving Equipment	0.36	0.59	175
2270002021	Cold Planer	Paving Equipment	0.36	0.59	175
2270002024	Surfacing Equipment (Grooving)	Surfacing Equipment	0.3	0.59	25
2270002027	Light plant	Signal Boards/Light Plants	0.43	0.43	11
2270002030	Trenchers	Trenchers	0.5	0.59	75
2270002030	Trencher	Trenchers	0.5	0.59	75
2270002033	Auger Drill	Bore/Drill Rigs	0.5	0.43	175
2270002033	Pile Driver	Bore/Drill Rigs	0.5	0.43	175
2270002033	Bore/Drill Rig	Bore/Drill Rigs	0.5	0.43	175
2270002033	Caisson Drilling Rig	Bore/Drill Rigs	0.5	0.43	175
2270002033	Hoist Equipment with 40 Ton Rig	Bore/Drill Rigs	0.5	0.43	600
2270002036	Excavator	Excavators	0.38	0.59	175
2270002036	Hydralic Hammer	Excavators	0.38	0.59	175
2270002039	Concrete Saw	Concrete/Industrial Saws	0.59	0.59	40
2270002039	Concrete Saws	Concrete/Industrial Saws	0.59	0.59	40
2270002039	Masonry Saw	Concrete/Industrial Saws	0.59	0.59	40
2270002039	Pruning Saw/Chain Saw	Concrete/Industrial Saws	0.59	0.59	11
2270002039	Chain Saw	Concrete/Industrial Saws	0.59	0.59	11
2270002042	Grout Mixer	Cement & Mortar Mixers	0.43	0.43	600
2270002045	Crane	Cranes	0.29	0.43	300
2270002045	Truck Tower (Mantiwoc type)	Cranes	0.29	0.43	300
2270002045	40 Ton Rough Terrain Crane	Cranes	0.29	0.43	300
2270002045	90 Ton Crane	Cranes	0.29	0.43	300
2270002045	Tower Crane	Cranes	0.29	0.43	300
2270002048	Grader	Graders	0.41	0.59	300
2270002051	Survey Crew Trucks	Off-highway Trucks	0.38	0.59	600
2270002051	Truck for Topsoil & Seed Del&Spread	Off-highway Trucks	0.38	0.59	600
2270002051	Hydroseeder	Off-highway Trucks	0.38	0.59	600
2270002051	Seed Truck Spreader	Off-highway Trucks	0.38	0.59	600
2270002051	Pickup Truck	Off-highway Trucks	0.38	0.59	600
2270002051	Crew Truck	Off-highway Trucks	0.38	0.59	600
2270002051	Dump Truck	Off-highway Trucks	0.38	0.59	600
2270002051	Pump Truck	Off-highway Trucks	0.38	0.59	611
2270002051	Concrete Ready Mix Trucks	Off-highway Trucks	0.38	0.59	600
2270002051	Delivery of Tanks (3)	Off-highway Trucks	0.38	0.59	600
2270002051	Distributing Tanker	Off-highway Trucks	0.38	0.59	600
2270002051	Flatbed Truck	Off-highway Trucks	0.38	0.59	600
2270002051	Concrete Truck	Off-highway Trucks	0.38	0.59	600
2270002051	Grout Wheel Truck	Off-highway Trucks	0.38	0.59	600
2270002051	Off-Road Truck	Off-highway Trucks	0.38	0.59	600
2270002051	Stripping Machine & Truck	Off-highway Trucks	0.38	0.59	600
2270002051	Tool Truck	Off-highway Trucks	0.38	0.59	600
2270002051	Water Truck	Off-highway Trucks	0.38	0.59	600
2270002060	Rubber Tired Loader	Rubber Tire Loaders	0.36	0.59	175
2270002066	Tractors/Loader/Backhoe	Tractors/Loaders/Backhoes	0.37	0.21	100
2270002066	Tractor	Tractors/Loaders/Backhoes	0.37	0.21	100
2270002066	Loader	Tractors/Loaders/Backhoes	0.37	0.21	175
2270002066	Rubber Tiered Loader	Tractors/Loaders/Backhoes	0.37	0.21	175
2270002066	Front Loader	Tractors/Loaders/Backhoes	0.37	0.21	100
2270002066	Front Loader for Sugrade Materials	Tractors/Loaders/Backhoes	0.37	0.21	100
2270002066	Front Loader/Scraper (to clear lot)	Tractors/Loaders/Backhoes	0.37	0.21	100
2270002066	Backhoe	Tractors/Loaders/Backhoes	0.37	0.21	100
2270002066	Backfill with Backhoe	Tractors/Loaders/Backhoes	0.37	0.21	600
2270002066	Backhoe175	Tractors/Loaders/Backhoes	0.37	0.21	175
2270002069	Small Dozer	Crawler Tractor/Dozers	0.43	0.59	175
2270002069	Dozer	Crawler Tractor/Dozers	0.43	0.59	175
2270002069	Bulldozer	Crawler Tractor/Dozers	0.43	0.59	175
2270002072	Skid Steer Loader	Skid Steer Loaders	0.37	0.21	75
2270002072	Bob Cat	Skid Steer Loaders	0.37	0.21	75
2270002051	Tractor Trailers Temp Fac.	Off-highway Trucks	0.38	0.59	600
2270002051	Material Deliveries	Off-highway Trucks	0.38	0.59	600
2270002051	Ten Wheelers	Off-highway Trucks	0.38	0.59	600
2270002051	Asphalt Deliveries/Ten Wheelers	Off-highway Trucks	0.38	0.59	600
2270002081	Concrete Vibrator	Other Construction Equipment	0.42	0.59	600
2270002081	Line Painting Truck and Sprayer	Other Construction Equipment	0.42	0.59	600

2270002081	Trowel Machine	Other Construction Equipment	0.42	0.59	600
2270002081	Other General Equipment	Other Construction Equipment	0.42	0.59	600
2270003010	Aerial Lift	Aerial Lifts	0.31	0.21	75
2270003010	High Lift	Aerial Lifts	0.31	0.21	100
2270003010	Man Lift	Aerial Lifts	0.31	0.21	75
2270003010	Man Lift (Fascia Construction)	Aerial Lifts	0.31	0.21	75
2270003010	Boom Manlift	Aerial Lifts	0.31	0.21	75
2270003020	Fork Truck	Forklifts	0.2	0.59	100
2270003020	Set with Fork-Truck	Forklifts	0.2	0.59	100
2270003020	Forktruck (Hoist)	Forklifts	0.2	0.59	100
2270003020	High Lift Fork Truck	Forklifts	0.2	0.59	100
2270003020	Forklift	Forklifts	0.2	0.59	100
2270003020	Forklift/Skytrack	Forklifts	0.2	0.59	100
2270003030	Sweepers	Sweepers/Scrubbers	0.46	0.43	175
2270003050	Crack Filler (Trailer Mounted)	Other Material Handling Equipment	0.4	0.21	100
2270004066	Log Chipper	Chippers/Stump Grinders (Commercial)	#N/A	0.43	100
2270004066	Chipper/Stump Grinder	Chippers/Stump Grinders (Commercial)	#N/A	0.43	100
2270005055	Mulcher	Other Agricultural Equipment	#N/A	0.59	100
2270006005	Generator Sets	Generator Sets	0.31	0.43	40
2270006005	Generator	Generator Sets	0.31	0.43	40
2270006010	Concrete Boom Pump	Pumps	0.43	0.43	11
2270006010	Concrete Truck Pump	Pumps	0.43	0.43	11
2270006010	Pumps	Pumps	0.43	0.43	11
2270006010	Concrete Pump	Pumps	0.43	0.43	11
2270006015	Air Compressor	Air Compressors	0.31	0.43	100
2270006015	Compressor11	Air Compressors	0.31	0.43	11
2270006025	Welder	Welders	0.21	0.21	25
2270006030	Pressure Washer	Pressure Washers	#N/A	0.43	25

							mph	Year 1/2 Splits				
							25	2.7%			97%	

ON ROAD (Associated with Construction)

Equipment	Equipment ID	Fuel Type	Fuel Type ID	VMT	YEAR 1 VMT	YEAR 2 VMT	Tot HRs	Year 1 HRs	Year 1 # vehicles	Year 2 Hrs	Year 2 # vehicles
Cement Mixer	52	Diesel	2	23,125	624	22,501	925	25	1	900	1
Dump Truck Subbase Material	52	Diesel	2	12,333	333	12,000	493	13	1	480	1
Passenger Car	21	Gasoline	1	1,078,440	29,118	1,049,322	43,138	1,165	1	41,973	20
Cement Mixer	52	Diesel	2	23,125	624	22,501	925	25	1	900	1
Dump Truck Subbase Material	52	Diesel	2	12,333	333	12,000	493	13	1	480	1
Passenger Car	21	Gasoline	1	510,840	13,793	497,047	20,434	552	1	19,882	10
Tractor Trailer	61	Diesel	2	2,400	65	2,335	96	3	1	93	1
Asphalt 18 Wheeler	61	Diesel	2	1,306	35	1,271	52	1	1	51	1
Cement Mixer	52	Diesel	2	20,813	562	20,251	833	22	1	810	1
Dump Truck - Asphalt	52	Diesel	2	1,850	50	1,800	74	2	1	72	1
Dump Truck Subbase Material	52	Diesel	2	11,100	300	10,800	444	12	1	432	1
Passenger Car	21	Gasoline	1	392,160	10,588	381,572	15,686	424	1	15,263	8
Asphalt 18 Wheeler	61	Diesel	2	134	4	130	5	0	1	5	1
Cement Mixer	52	Diesel	2	2,131	58	2,073	85	2	1	83	1
Dump Truck - Asphalt	52	Diesel	2	189	5	184	8	0	1	7	1
Dump Truck Subbase Material	52	Diesel	2	1,137	31	1,106	45	1	1	44	1
Passenger Car	21	Gasoline	1	335,400	9,056	326,344	13,416	362	1	13,054	7
Cement Mixer	52	Diesel	2	2,313	62	2,251	93	2	1	90	1
Dump Truck - Asphalt	52	Diesel	2	206	6	200	8	0	1	8	1
Dump Truck Subbase Material	52	Diesel	2	1,233	33	1,200	49	1	1	48	1
Passenger Car	21	Gasoline	1	14,190	383	13,807	568	15	1	552	1
Tractor Trailer	61	Diesel	2	120	3	117	5	0	1	5	1
Total On Road / Construction							**97,875**	**2,643**		**95,232**	
ON ROAD (DEMO of Building 2)											
Dump Truck	52	Diesel	2	515,185	515,185	-	20,607	20,607	13		-
Passenger Car	21	Gasoline	1	59,598	59,598	-	2,384	2,384	2		-
Total On Road Demo of Building 2							**22,991**	**22,991**			
ON ROAD (Contaminated Soil Removal)											
Dump Truck	52	Diesel	2	78792.4	78,792	-	**3,152**	**3,152**	2		-
ON ROAD (Staging)											
Passenger Car	21	Gasoline	1	24360	24,360	-	974	974	1		
Dump Truck	52	Diesel	2	13306	13,306	-	532	532	1		
Total On Road Staging							**1507**	**1507**			
							125,525	**30,292**		**95,232**	

Resuspended Road Dust 2023

			Total Vehicle Miles Traveled (VMT) per Speed Bin					
SpeedBin	**Equipment ID**	**Weight**	**5**	**6**	**7**	**12**	**13**	**16**
Cement Mixer	52	40	0	1931	0	0	0	0
Dump Truck Subbase Material	52	40	0	1030	0	0	0	0
Passenger Car	21	5	0	146896	0	0	0	0
Asphalt 18 Wheeler	61	40	0	39	0	0	0	0
Dump Truck - Asphalt	52	40	0	61	0	0	0	0
Tractor Trailer	61	40	0	68	0	0	0	0
Dump Truck	52	40	0	607283	0	0	0	0

Silt Loading	**AP-42 Roadway Category**	**sL (Winter)**
High ADT Road	5000-10000 ADT	0.12
Assume 25mph, speed bin 6		

Vehicle Type	**Pollutant**	**Road Type**	**k (g/VMT)**	**sL**	**W**	**VMT**	**Emissions (tons)**
Cement Mixer	$PM_{2.5}$	High ADT Road	0.25	0.12	40	1931	0.0006
Cement Mixer	PM_{10}	High ADT Road	1	0.12	40	1931	0.0023
Dump Truck Subbase Material	$PM_{2.5}$	High ADT Road	0.25	0.12	40	1030	0.0003
Dump Truck Subbase Material	PM_{10}	High ADT Road	1	0.12	40	1030	0.0012
Passenger Car	$PM_{2.5}$	High ADT Road	0.25	0.12	5	146896	0.0053
Passenger Car	PM_{10}	High ADT Road	1	0.12	5	146896	0.0211
Asphalt 18 Wheeler	$PM_{2.5}$	High ADT Road	0.25	0.12	40	39	0.0000
Asphalt 18 Wheeler	PM_{10}	High ADT Road	1	0.12	40	39	0.0000
Dump Truck - Asphalt	$PM_{2.5}$	High ADT Road	0.25	0.12	40	61	0.0000
Dump Truck - Asphalt	PM_{10}	High ADT Road	1	0.12	40	61	0.0001
Tractor Trailer	$PM_{2.5}$	High ADT Road	0.25	0.12	40	68	0.0000
Tractor Trailer	PM_{10}	High ADT Road	1	0.12	40	68	0.0001
Dump Truck	$PM_{2.5}$	High ADT Road	0.25	0.12	40	607283	0.1816
Dump Truck	PM_{10}	High ADT Road	1	0.12	40	607283	0.7265

Total Emissions	
$PM_{2.5}$	**0.1878 tons in 2023**
PM_{10}	**0.7513 tons in 2023**

Formula used from AP-42

$E=k\ (sL/2)^{0.91}\ (W/3\ )^{1.02}$

E = particulate emission factor (having units matching the units of k)

k = particle size multiplier for particle size range and units of interest, From AP-42 Table 13.2-1.1

sL = road surface silt loading (grams per square meter) (g/m2), Assume winter time condition

W = average weight (tons) of the vehicles traveling the road

Conservatively assumed passenger cars weight is GVWR of 10,000 pounds or 5 tons.

Conservatively assumed Tractor Trailer, cement mixer, asphalt 18 wheeler, and dump truck weight is based on maximum GVWR of 40 tons.

Mileage provided by the client

Resuspended Road Dust 2024

				Total Vehicle Miles Traveled (VMT) per Speed Bin					Silt Loading	AP-42 Roadway Category	sL (Winter)
SpeedBin	**Equipment ID**	**Weight**	**5**	**6**	**7**	**12**	**13**	**16**	High ADT Road	5000-10000 ADT	0.12
Cement Mixer	52	40	0	69576	0	0	0	0			
Dump Truck Subbase Material	52	40	0	37106	0	0	0	0	Assume 25mph, speed bin 6		
Passenger Car	21	5	0	2268092	0	0	0	0			
Asphalt 18 Wheeler	61	40	0	1401	0	0	0	0			
Dump Truck - Asphalt	52	40	0	2184	0	0	0	0			
Tractor Trailer	61	40	0	2452	0	0	0	0			
Dump Truck	52	40	0	0	0	0	0	0			

Vehicle Type	**Pollutant**	**Road Type**	**k (g/VMT)**	**sL**	**W**	**VMT**	**Emissions (tons)**	**Total Emissions**	
Cement Mixer	$PM_{2.5}$	High ADT Road	0.25	0.12	40	69576	0.0208	$PM_{2.5}$	**0.1151 tons in 2024**
Cement Mixer	PM_{10}	High ADT Road	1	0.12	40	69576	0.0832	PM_{10}	**0.4602 tons in 2024**
Dump Truck Subbase Material	$PM_{2.5}$	High ADT Road	0.25	0.12	40	37106	0.0111		
Dump Truck Subbase Material	PM_{10}	High ADT Road	1	0.12	40	37106	0.0444		
Passenger Car	$PM_{2.5}$	High ADT Road	0.25	0.12	5	2268092	0.0813		
Passenger Car	PM_{10}	High ADT Road	1	0.12	5	2268092	0.3254		
Asphalt 18 Wheeler	$PM_{2.5}$	High ADT Road	0.25	0.12	40	1401	0.0004		
Asphalt 18 Wheeler	PM_{10}	High ADT Road	1	0.12	40	1401	0.0017		
Dump Truck - Asphalt	$PM_{2.5}$	High ADT Road	0.25	0.12	40	2184	0.0007		
Dump Truck - Asphalt	PM_{10}	High ADT Road	1	0.12	40	2184	0.0026		
Tractor Trailer	$PM_{2.5}$	High ADT Road	0.25	0.12	40	2452	0.0007		
Tractor Trailer	PM_{10}	High ADT Road	1	0.12	40	2452	0.0029		
Dump Truck	$PM_{2.5}$	High ADT Road	0.25	0.12	40	0	0.0000		
Dump Truck	PM_{10}	High ADT Road	1	0.12	40	0	0.0000		

Formula used from AP-42

$E=k\ (sL/2)^{0.91}\ (W/3\ )^{1.02}$

E = particulate emission factor (having units matching the units of k)

k = particle size multiplier for particle size range and units of interest, From AP-42 Table 13.2-1.1

sL = road surface silt loading (grams per square meter) (g/m2), Assume winter time condition

W = average weight (tons) of the vehicles traveling the road

Conservatively assumed passenger cars weight is GVWR of 10,000 pounds or 5 tons.

Conservatively assumed Tractor Trailer, cement mixer, asphalt 18 wheeler, and dump truck weight is based on maximum GVWR of 40 tons.

Mileage provided by the client

Fugitive Dust

Activities	Construction Duration (Days)	Area Affected (ac) *or* *Mileage*	WRAP Level[1]	Duration or *Tonnage*[5]	Emission Factor[2,3]			Emission (tons/year)	
					Emission Factor Unit	PM_{10}	$PM_{2.5}$	Control Efficiency[4]	PM_{10}	$PM_{2.5}$
2023										
Construction Area (Soil Disturbance)		82.7	1	5	ton/ac-month	0.11	0.011	50%	22.743	2.274
Staging Area (Soil Disturbance)		55.7	1	5	ton/ac-month	0.11	0.011	50%	15.318	1.532
Wind Erosion		138.4		0.42	ton/ac-year	0.38	0.057	50%	10.957	1.644
Fugutive Dust Total (2023)									**49.017**	**5.450**
2024										
Construction Area (Soil Disturbance)		82.7	1	9	ton/ac-month	0.11	0.011	50%	40.937	4.094
Staging Area (Soil Disturbance)		55.7	1	9	ton/ac-month	0.11	0.011	50%	27.572	2.757
Wind Erosion		138.4		0.75	ton/ac-year	0.38	0.057	50%	19.722	2.958
Fugutive Dust Total (2024)									**88.230**	**9.809**

[1] WRAP level from Table 3-2 Ch 3 of WRAP Fugitive Dust Handbook Sep/2006: https://www.wrapair.org/forums/dejf/fdh/content/FDHandbook_Rev_06.pdf

[2] PM2.5/PM10 is set at 0.1 per guideline listed on section 3.31 of WRAP handbook, 0.15 for Wind Erosion per Section 9.2 of WRAP handbook

[3] Wind Erosion Emission Factor extracted from WRAP handbook Table 11-6, assumed 100% of TSP is PM10. To estimate wind erosion on a shorter time scale (e.g. worst case day) - see Chapter 8 of the WRAP handbook.

[4] Asssumed 50% control efficiency.

[5] Duration in either month or year. Assumed August 2023 through September 2024 for ground disturbance based on schedule provided by client. (5 months in 2023 and 9 months in 2024, which is equal to 1.5 total years or 18 total months)

MOVESRunID	yearID	monthID	dayID	hourID	zoneID	pollutantID	processID	sourceTypeID	regClassID	SCC	fuelTypeID	modelYearID	temperature	relHumidity	ratePerVehicle
1	2023	1	5	8	481130	185	91	62	0		2	0	35.6	75.8	5E-05
1	2023	1	5	8	481130	185	90	62	0		2	0	35.6	75.8	0.000619
1	2023	1	5	8	481130	185	19	62	0		2	0	35.6	75.8	1.61E-06
1	2023	1	5	8	481130	185	19	61	0		2	0	35.6	75.8	2.98E-07
1	2023	1	5	8	481130	185	19	53	0		2	0	35.6	75.8	3.57E-08
1	2023	1	5	8	481130	185	19	52	0		2	0	35.6	75.8	1.86E-07
1	2023	1	5	8	481130	185	19	31	0		2	0	35.6	75.8	2.51E-07
1	2023	1	5	8	481130	185	19	21	0		2	0	35.6	75.8	1.45E-07
1	2023	1	5	8	481130	185	17	62	0		2	0	35.6	75.8	5.12E-05
1	2023	1	5	8	481130	185	16	62	0		2	0	35.6	75.8	8.27E-07
1	2023	1	5	8	481130	185	16	61	0		2	0	35.6	75.8	3.13E-06
1	2023	1	5	8	481130	185	16	53	0		2	0	35.6	75.8	3.57E-07
1	2023	1	5	8	481130	185	16	52	0		2	0	35.6	75.8	6.29E-06
1	2023	1	5	8	481130	185	16	31	0		2	0	35.6	75.8	9.36E-06
1	2023	1	5	8	481130	185	16	21	0		2	0	35.6	75.8	1.93E-06
1	2023	1	5	8	481130	185	16	61	0		1	0	35.6	75.8	2.29E-06
1	2023	1	5	8	481130	185	16	53	0		1	0	35.6	75.8	7.04E-07
1	2023	1	5	8	481130	185	16	52	0		1	0	35.6	75.8	1.04E-05
1	2023	1	5	8	481130	185	16	31	0		1	0	35.6	75.8	7.78E-06
1	2023	1	5	8	481130	185	16	21	0		1	0	35.6	75.8	5.36E-06
1	2023	1	5	8	481130	185	2	62	0		2	0	35.6	75.8	4.62E-05
1	2023	1	5	8	481130	185	2	61	0		2	0	35.6	75.8	0.000196
1	2023	1	5	8	481130	185	2	53	0		2	0	35.6	75.8	1.96E-05
1	2023	1	5	8	481130	185	2	52	0		2	0	35.6	75.8	0.000347
1	2023	1	5	8	481130	185	2	31	0		2	0	35.6	75.8	0.00071
1	2023	1	5	8	481130	185	2	21	0		2	0	35.6	75.8	0.000427
1	2023	1	5	8	481130	185	2	61	0		1	0	35.6	75.8	0.000174
1	2023	1	5	8	481130	185	2	53	0		1	0	35.6	75.8	5.33E-05
1	2023	1	5	8	481130	185	2	52	0		1	0	35.6	75.8	0.000786
1	2023	1	5	8	481130	185	2	31	0		1	0	35.6	75.8	0.00059
1	2023	1	5	8	481130	185	2	21	0		1	0	35.6	75.8	0.000406
1	2023	1	5	8	481130	184	91	62	0		2	0	35.6	75.8	2.36E-06
1	2023	1	5	8	481130	184	90	62	0		2	0	35.6	75.8	2.39E-05
1	2023	1	5	8	481130	184	17	62	0		2	0	35.6	75.8	9.89E-07
1	2023	1	5	8	481130	184	16	62	0		2	0	35.6	75.8	3.91E-08
1	2023	1	5	8	481130	184	16	61	0		2	0	35.6	75.8	1.48E-07
1	2023	1	5	8	481130	184	16	53	0		2	0	35.6	75.8	1.69E-08
1	2023	1	5	8	481130	184	16	52	0		2	0	35.6	75.8	2.97E-07
1	2023	1	5	8	481130	184	16	31	0		2	0	35.6	75.8	4.3E-07
1	2023	1	5	8	481130	184	16	21	0		2	0	35.6	75.8	7.9E-08
1	2023	1	5	8	481130	184	16	61	0		1	0	35.6	75.8	7.09E-08
1	2023	1	5	8	481130	184	16	53	0		1	0	35.6	75.8	2.18E-08
1	2023	1	5	8	481130	184	16	52	0		1	0	35.6	75.8	3.21E-07
1	2023	1	5	8	481130	184	16	31	0		1	0	35.6	75.8	2.41E-07
1	2023	1	5	8	481130	184	16	21	0		1	0	35.6	75.8	1.66E-07
1	2023	1	5	8	481130	184	2	62	0		2	0	35.6	75.8	1.18E-06
1	2023	1	5	8	481130	184	2	61	0		2	0	35.6	75.8	4.61E-06
1	2023	1	5	8	481130	184	2	53	0		2	0	35.6	75.8	5.12E-07
1	2023	1	5	8	481130	184	2	52	0		2	0	35.6	75.8	8.94E-06
1	2023	1	5	8	481130	184	2	31	0		2	0	35.6	75.8	2.52E-05
1	2023	1	5	8	481130	184	2	21	0		2	0	35.6	75.8	1.19E-05
1	2023	1	5	8	481130	184	2	61	0		1	0	35.6	75.8	5.37E-06
1	2023	1	5	8	481130	184	2	53	0		1	0	35.6	75.8	1.65E-06
1	2023	1	5	8	481130	184	2	52	0		1	0	35.6	75.8	2.43E-05
1	2023	1	5	8	481130	184	2	31	0		1	0	35.6	75.8	1.82E-05
1	2023	1	5	8	481130	184	2	21	0		1	0	35.6	75.8	1.26E-05
1	2023	1	5	8	481130	183	91	62	0		2	0	35.6	75.8	3.92E-06
1	2023	1	5	8	481130	183	90	62	0		2	0	35.6	75.8	4.83E-05
1	2023	1	5	8	481130	183	17	62	0		2	0	35.6	75.8	4E-06
1	2023	1	5	8	481130	183	16	62	0		2	0	35.6	75.8	6.48E-08
1	2023	1	5	8	481130	183	16	61	0		2	0	35.6	75.8	2.45E-07
1	2023	1	5	8	481130	183	16	53	0		2	0	35.6	75.8	2.79E-08
1	2023	1	5	8	481130	183	16	52	0		2	0	35.6	75.8	4.93E-07
1	2023	1	5	8	481130	183	16	31	0		2	0	35.6	75.8	7.42E-07
1	2023	1	5	8	481130	183	16	21	0		2	0	35.6	75.8	1.61E-07
1	2023	1	5	8	481130	183	16	61	0		1	0	35.6	75.8	2.38E-07
1	2023	1	5	8	481130	183	16	53	0		1	0	35.6	75.8	7.3E-08
1	2023	1	5	8	481130	183	16	52	0		1	0	35.6	75.8	1.08E-06
1	2023	1	5	8	481130	183	16	31	0		1	0	35.6	75.8	8.07E-07
1	2023	1	5	8	481130	183	16	21	0		1	0	35.6	75.8	5.56E-07
1	2023	1	5	8	481130	183	2	62	0		2	0	35.6	75.8	4.24E-06
1	2023	1	5	8	481130	183	2	61	0		2	0	35.6	75.8	1.96E-05
1	2023	1	5	8	481130	183	2	53	0		2	0	35.6	75.8	1.93E-06
1	2023	1	5	8	481130	183	2	52	0		2	0	35.6	75.8	3.23E-05
1	2023	1	5	8	481130	183	2	31	0		2	0	35.6	75.8	6.16E-05
1	2023	1	5	8	481130	183	2	21	0		2	0	35.6	75.8	4.02E-05
1	2023	1	5	8	481130	183	2	61	0		1	0	35.6	75.8	1.8E-05
1	2023	1	5	8	481130	183	2	53	0		1	0	35.6	75.8	5.53E-06
1	2023	1	5	8	481130	183	2	52	0		1	0	35.6	75.8	8.15E-05
1	2023	1	5	8	481130	183	2	31	0		1	0	35.6	75.8	6.11E-05
1	2023	1	5	8	481130	183	2	21	0		1	0	35.6	75.8	4.21E-05
1	2023	1	5	8	481130	181	91	62	0		2	0	35.6	75.8	2.68E-06
1	2023	1	5	8	481130	181	90	62	0		2	0	35.6	75.8	2.93E-05
1	2023	1	5	8	481130	181	17	62	0		2	0	35.6	75.8	1.72E-06

1	2023	1	5	8	481130	181	16	62	0	2	0	35.6	75.8	4.44E-08
1	2023	1	5	8	481130	181	16	61	0	2	0	35.6	75.8	1.68E-07
1	2023	1	5	8	481130	181	16	53	0	2	0	35.6	75.8	1.91E-08
1	2023	1	5	8	481130	181	16	52	0	2	0	35.6	75.8	3.37E-07
1	2023	1	5	8	481130	181	16	31	0	2	0	35.6	75.8	4.96E-07
1	2023	1	5	8	481130	181	16	21	0	2	0	35.6	75.8	9.85E-08
1	2023	1	5	8	481130	181	16	61	0	1	0	35.6	75.8	8.95E-08
1	2023	1	5	8	481130	181	16	53	0	1	0	35.6	75.8	2.75E-08
1	2023	1	5	8	481130	181	16	52	0	1	0	35.6	75.8	4.05E-07
1	2023	1	5	8	481130	181	16	31	0	1	0	35.6	75.8	3.04E-07
1	2023	1	5	8	481130	181	16	21	0	1	0	35.6	75.8	2.09E-07
1	2023	1	5	8	481130	181	2	62	0	2	0	35.6	75.8	1.99E-06
1	2023	1	5	8	481130	181	2	61	0	2	0	35.6	75.8	8.74E-06
1	2023	1	5	8	481130	181	2	53	0	2	0	35.6	75.8	9.02E-07
1	2023	1	5	8	481130	181	2	52	0	2	0	35.6	75.8	1.51E-05
1	2023	1	5	8	481130	181	2	31	0	2	0	35.6	75.8	3.43E-05
1	2023	1	5	8	481130	181	2	21	0	2	0	35.6	75.8	1.94E-05
1	2023	1	5	8	481130	181	2	61	0	1	0	35.6	75.8	6.78E-06
1	2023	1	5	8	481130	181	2	53	0	1	0	35.6	75.8	2.08E-06
1	2023	1	5	8	481130	181	2	52	0	1	0	35.6	75.8	3.07E-05
1	2023	1	5	8	481130	181	2	31	0	1	0	35.6	75.8	2.3E-05
1	2023	1	5	8	481130	181	2	21	0	1	0	35.6	75.8	1.59E-05
1	2023	1	5	8	481130	172	91	62	0	2	0	35.6	75.8	1.3E-06
1	2023	1	5	8	481130	172	90	62	0	2	0	35.6	75.8	1.34E-05
1	2023	1	5	8	481130	172	17	62	0	2	0	35.6	75.8	6.09E-07
1	2023	1	5	8	481130	172	16	62	0	2	0	35.6	75.8	2.15E-08
1	2023	1	5	8	481130	172	16	61	0	2	0	35.6	75.8	8.12E-08
1	2023	1	5	8	481130	172	16	53	0	2	0	35.6	75.8	9.27E-09
1	2023	1	5	8	481130	172	16	52	0	2	0	35.6	75.8	1.63E-07
1	2023	1	5	8	481130	172	16	31	0	2	0	35.6	75.8	2.37E-07
1	2023	1	5	8	481130	172	16	21	0	2	0	35.6	75.8	4.46E-08
1	2023	1	5	8	481130	172	16	61	0	1	0	35.6	75.8	3.71E-08
1	2023	1	5	8	481130	172	16	53	0	1	0	35.6	75.8	1.14E-08
1	2023	1	5	8	481130	172	16	52	0	1	0	35.6	75.8	1.68E-07
1	2023	1	5	8	481130	172	16	31	0	1	0	35.6	75.8	1.26E-07
1	2023	1	5	8	481130	172	16	21	0	1	0	35.6	75.8	8.67E-08
1	2023	1	5	8	481130	172	2	62	0	2	0	35.6	75.8	7.27E-07
1	2023	1	5	8	481130	172	2	61	0	2	0	35.6	75.8	2.99E-06
1	2023	1	5	8	481130	172	2	53	0	2	0	35.6	75.8	3.23E-07
1	2023	1	5	8	481130	172	2	52	0	2	0	35.6	75.8	5.54E-06
1	2023	1	5	8	481130	172	2	31	0	2	0	35.6	75.8	1.46E-05
1	2023	1	5	8	481130	172	2	21	0	2	0	35.6	75.8	7.29E-06
1	2023	1	5	8	481130	172	2	61	0	1	0	35.6	75.8	2.81E-06
1	2023	1	5	8	481130	172	2	53	0	1	0	35.6	75.8	8.63E-07
1	2023	1	5	8	481130	172	2	52	0	1	0	35.6	75.8	1.27E-05
1	2023	1	5	8	481130	172	2	31	0	1	0	35.6	75.8	9.54E-06
1	2023	1	5	8	481130	172	2	21	0	1	0	35.6	75.8	6.57E-06
1	2023	1	5	8	481130	171	91	62	0	2	0	35.6	75.8	2.77E-06
1	2023	1	5	8	481130	171	90	62	0	2	0	35.6	75.8	2.87E-05
1	2023	1	5	8	481130	171	17	62	0	2	0	35.6	75.8	1.34E-06
1	2023	1	5	8	481130	171	16	62	0	2	0	35.6	75.8	4.58E-08
1	2023	1	5	8	481130	171	16	61	0	2	0	35.6	75.8	1.73E-07
1	2023	1	5	8	481130	171	16	53	0	2	0	35.6	75.8	1.98E-08
1	2023	1	5	8	481130	171	16	52	0	2	0	35.6	75.8	3.48E-07
1	2023	1	5	8	481130	171	16	31	0	2	0	35.6	75.8	5.06E-07
1	2023	1	5	8	481130	171	16	21	0	2	0	35.6	75.8	9.55E-08
1	2023	1	5	8	481130	171	16	61	0	1	0	35.6	75.8	2.01E-07
1	2023	1	5	8	481130	171	16	53	0	1	0	35.6	75.8	6.16E-08
1	2023	1	5	8	481130	171	16	52	0	1	0	35.6	75.8	9.08E-07
1	2023	1	5	8	481130	171	16	31	0	1	0	35.6	75.8	6.81E-07
1	2023	1	5	8	481130	171	16	21	0	1	0	35.6	75.8	4.69E-07
1	2023	1	5	8	481130	171	2	62	0	2	0	35.6	75.8	1.59E-06
1	2023	1	5	8	481130	171	2	61	0	2	0	35.6	75.8	6.55E-06
1	2023	1	5	8	481130	171	2	53	0	2	0	35.6	75.8	7.05E-07
1	2023	1	5	8	481130	171	2	52	0	2	0	35.6	75.8	1.21E-05
1	2023	1	5	8	481130	171	2	31	0	2	0	35.6	75.8	3.14E-05
1	2023	1	5	8	481130	171	2	21	0	2	0	35.6	75.8	1.59E-05
1	2023	1	5	8	481130	171	2	61	0	1	0	35.6	75.8	1.52E-05
1	2023	1	5	8	481130	171	2	53	0	1	0	35.6	75.8	4.67E-06
1	2023	1	5	8	481130	171	2	52	0	1	0	35.6	75.8	6.88E-05
1	2023	1	5	8	481130	171	2	31	0	1	0	35.6	75.8	5.16E-05
1	2023	1	5	8	481130	171	2	21	0	1	0	35.6	75.8	3.55E-05
1	2023	1	5	8	481130	170	91	62	0	2	0	35.6	75.8	1.65E-06
1	2023	1	5	8	481130	170	90	62	0	2	0	35.6	75.8	1.74E-05
1	2023	1	5	8	481130	170	17	62	0	2	0	35.6	75.8	8.89E-07
1	2023	1	5	8	481130	170	16	62	0	2	0	35.6	75.8	2.72E-08
1	2023	1	5	8	481130	170	16	61	0	2	0	35.6	75.8	1.03E-07
1	2023	1	5	8	481130	170	16	53	0	2	0	35.6	75.8	1.17E-08
1	2023	1	5	8	481130	170	16	52	0	2	0	35.6	75.8	2.07E-07
1	2023	1	5	8	481130	170	16	31	0	2	0	35.6	75.8	3.03E-07
1	2023	1	5	8	481130	170	16	21	0	2	0	35.6	75.8	5.86E-08
1	2023	1	5	8	481130	170	16	61	0	1	0	35.6	75.8	4.42E-08
1	2023	1	5	8	481130	170	16	53	0	1	0	35.6	75.8	1.36E-08
1	2023	1	5	8	481130	170	16	52	0	1	0	35.6	75.8	2E-07
1	2023	1	5	8	481130	170	16	31	0	1	0	35.6	75.8	1.5E-07
1	2023	1	5	8	481130	170	16	21	0	1	0	35.6	75.8	1.03E-07
1	2023	1	5	8	481130	170	2	62	0	2	0	35.6	75.8	1.07E-06

1	2023	1	5	8	481130	170	2	61	0	2	0	35.6	75.8	4.63E-06
1	2023	1	5	8	481130	170	2	53	0	2	0	35.6	75.8	4.87E-07
1	2023	1	5	8	481130	170	2	52	0	2	0	35.6	75.8	8.19E-06
1	2023	1	5	8	481130	170	2	31	0	2	0	35.6	75.8	1.98E-05
1	2023	1	5	8	481130	170	2	21	0	2	0	35.6	75.8	1.07E-05
1	2023	1	5	8	481130	170	2	61	0	1	0	35.6	75.8	3.35E-06
1	2023	1	5	8	481130	170	2	53	0	1	0	35.6	75.8	1.03E-06
1	2023	1	5	8	481130	170	2	52	0	1	0	35.6	75.8	1.52E-05
1	2023	1	5	8	481130	170	2	31	0	1	0	35.6	75.8	1.14E-05
1	2023	1	5	8	481130	170	2	21	0	1	0	35.6	75.8	7.83E-06
1	2023	1	5	8	481130	169	91	62	0	2	0	35.6	75.8	1.97E-06
1	2023	1	5	8	481130	169	90	62	0	2	0	35.6	75.8	2.01E-05
1	2023	1	5	8	481130	169	17	62	0	2	0	35.6	75.8	8.77E-07
1	2023	1	5	8	481130	169	16	62	0	2	0	35.6	75.8	3.25E-08
1	2023	1	5	8	481130	169	16	61	0	2	0	35.6	75.8	1.23E-07
1	2023	1	5	8	481130	169	16	53	0	2	0	35.6	75.8	1.4E-08
1	2023	1	5	8	481130	169	16	52	0	2	0	35.6	75.8	2.47E-07
1	2023	1	5	8	481130	169	16	31	0	2	0	35.6	75.8	3.58E-07
1	2023	1	5	8	481130	169	16	21	0	2	0	35.6	75.8	6.65E-08
1	2023	1	5	8	481130	169	16	61	0	1	0	35.6	75.8	6.2E-08
1	2023	1	5	8	481130	169	16	53	0	1	0	35.6	75.8	1.9E-08
1	2023	1	5	8	481130	169	16	52	0	1	0	35.6	75.8	2.81E-07
1	2023	1	5	8	481130	169	16	31	0	1	0	35.6	75.8	2.11E-07
1	2023	1	5	8	481130	169	16	21	0	1	0	35.6	75.8	1.45E-07
1	2023	1	5	8	481130	169	2	62	0	2	0	35.6	75.8	1.04E-06
1	2023	1	5	8	481130	169	2	61	0	2	0	35.6	75.8	4.15E-06
1	2023	1	5	8	481130	169	2	53	0	2	0	35.6	75.8	4.55E-07
1	2023	1	5	8	481130	169	2	52	0	2	0	35.6	75.8	7.88E-06
1	2023	1	5	8	481130	169	2	31	0	2	0	35.6	75.8	2.15E-05
1	2023	1	5	8	481130	169	2	21	0	2	0	35.6	75.8	1.04E-05
1	2023	1	5	8	481130	169	2	61	0	1	0	35.6	75.8	4.7E-06
1	2023	1	5	8	481130	169	2	53	0	1	0	35.6	75.8	1.44E-06
1	2023	1	5	8	481130	169	2	52	0	1	0	35.6	75.8	2.13E-05
1	2023	1	5	8	481130	169	2	31	0	1	0	35.6	75.8	1.59E-05
1	2023	1	5	8	481130	169	2	21	0	1	0	35.6	75.8	1.1E-05
1	2023	1	5	8	481130	110	91	62	0	2	0	35.6	75.8	0.002126
1	2023	1	5	8	481130	110	90	62	0	2	0	35.6	75.8	0.015298
1	2023	1	5	8	481130	110	17	62	0	2	0	35.6	75.8	0.00862
1	2023	1	5	8	481130	110	16	62	0	2	0	35.6	75.8	2E-05
1	2023	1	5	8	481130	110	16	61	0	2	0	35.6	75.8	2.26E-05
1	2023	1	5	8	481130	110	16	53	0	2	0	35.6	75.8	3.54E-06
1	2023	1	5	8	481130	110	16	52	0	2	0	35.6	75.8	6.24E-05
1	2023	1	5	8	481130	110	16	31	0	2	0	35.6	75.8	0.000138
1	2023	1	5	8	481130	110	16	21	0	2	0	35.6	75.8	2.46E-05
1	2023	1	5	8	481130	110	16	61	0	1	0	35.6	75.8	2.46E-05
1	2023	1	5	8	481130	110	16	53	0	1	0	35.6	75.8	1.13E-05
1	2023	1	5	8	481130	110	16	52	0	1	0	35.6	75.8	0.000167
1	2023	1	5	8	481130	110	16	31	0	1	0	35.6	75.8	0.00011
1	2023	1	5	8	481130	110	16	21	0	1	0	35.6	75.8	5.51E-05
1	2023	1	5	8	481130	110	2	62	0	2	0	35.6	75.8	0.000331
1	2023	1	5	8	481130	110	2	61	0	2	0	35.6	75.8	0.000608
1	2023	1	5	8	481130	110	2	53	0	2	0	35.6	75.8	5.53E-05
1	2023	1	5	8	481130	110	2	52	0	2	0	35.6	75.8	0.000874
1	2023	1	5	8	481130	110	2	31	0	2	0	35.6	75.8	0.003778
1	2023	1	5	8	481130	110	2	21	0	2	0	35.6	75.8	0.002128
1	2023	1	5	8	481130	110	2	61	0	1	0	35.6	75.8	0.00308
1	2023	1	5	8	481130	110	2	53	0	1	0	35.6	75.8	0.001413
1	2023	1	5	8	481130	110	2	52	0	1	0	35.6	75.8	0.020889
1	2023	1	5	8	481130	110	2	31	0	1	0	35.6	75.8	0.013788
1	2023	1	5	8	481130	110	2	21	0	1	0	35.6	75.8	0.006886
1	2023	1	5	8	481130	100	91	62	0	2	0	35.6	75.8	0.002311
1	2023	1	5	8	481130	100	90	62	0	2	0	35.6	75.8	0.016629
1	2023	1	5	8	481130	100	17	62	0	2	0	35.6	75.8	0.00937
1	2023	1	5	8	481130	100	16	62	0	2	0	35.6	75.8	2.17E-05
1	2023	1	5	8	481130	100	16	61	0	2	0	35.6	75.8	2.46E-05
1	2023	1	5	8	481130	100	16	53	0	2	0	35.6	75.8	3.85E-06
1	2023	1	5	8	481130	100	16	52	0	2	0	35.6	75.8	6.79E-05
1	2023	1	5	8	481130	100	16	31	0	2	0	35.6	75.8	0.00015
1	2023	1	5	8	481130	100	16	21	0	2	0	35.6	75.8	2.67E-05
1	2023	1	5	8	481130	100	16	61	0	1	0	35.6	75.8	2.79E-05
1	2023	1	5	8	481130	100	16	53	0	1	0	35.6	75.8	1.28E-05
1	2023	1	5	8	481130	100	16	52	0	1	0	35.6	75.8	0.000189
1	2023	1	5	8	481130	100	16	31	0	1	0	35.6	75.8	0.000125
1	2023	1	5	8	481130	100	16	21	0	1	0	35.6	75.8	6.23E-05
1	2023	1	5	8	481130	100	2	62	0	2	0	35.6	75.8	0.00036
1	2023	1	5	8	481130	100	2	61	0	2	0	35.6	75.8	0.00066
1	2023	1	5	8	481130	100	2	53	0	2	0	35.6	75.8	6.01E-05
1	2023	1	5	8	481130	100	2	52	0	2	0	35.6	75.8	0.000949
1	2023	1	5	8	481130	100	2	31	0	2	0	35.6	75.8	0.004106
1	2023	1	5	8	481130	100	2	21	0	2	0	35.6	75.8	0.002313
1	2023	1	5	8	481130	100	2	61	0	1	0	35.6	75.8	0.003481
1	2023	1	5	8	481130	100	2	53	0	1	0	35.6	75.8	0.001597
1	2023	1	5	8	481130	100	2	52	0	1	0	35.6	75.8	0.023614
1	2023	1	5	8	481130	100	2	31	0	1	0	35.6	75.8	0.015586
1	2023	1	5	8	481130	100	2	21	0	1	0	35.6	75.8	0.007784
1	2023	1	5	8	481130	90	91	62	0	2	0	35.6	75.8	13.015
1	2023	1	5	8	481130	90	90	62	0	2	0	35.6	75.8	180.079

1	2023	1	5	8	481130	90	2	62	0	2	0	35.6	75.8	9.05067
1	2023	1	5	8	481130	90	2	61	0	2	0	35.6	75.8	19.3216
1	2023	1	5	8	481130	90	2	53	0	2	0	35.6	75.8	2.17186
1	2023	1	5	8	481130	90	2	52	0	2	0	35.6	75.8	32.8536
1	2023	1	5	8	481130	90	2	31	0	2	0	35.6	75.8	64.2469
1	2023	1	5	8	481130	90	2	21	0	2	0	35.6	75.8	35.9762
1	2023	1	5	8	481130	90	2	61	0	1	0	35.6	75.8	3.07781
1	2023	1	5	8	481130	90	2	53	0	1	0	35.6	75.8	2.7857
1	2023	1	5	8	481130	90	2	52	0	1	0	35.6	75.8	41.8557
1	2023	1	5	8	481130	90	2	31	0	1	0	35.6	75.8	77.8836
1	2023	1	5	8	481130	90	2	21	0	1	0	35.6	75.8	48.9047
1	2023	1	5	8	481130	87	91	62	0	2	0	35.6	75.8	0.005531
1	2023	1	5	8	481130	87	90	62	0	2	0	35.6	75.8	0.10643
1	2023	1	5	8	481130	87	19	62	0	2	0	35.6	75.8	0.00336
1	2023	1	5	8	481130	87	19	61	0	2	0	35.6	75.8	0.00062
1	2023	1	5	8	481130	87	19	53	0	2	0	35.6	75.8	7.44E-05
1	2023	1	5	8	481130	87	19	52	0	2	0	35.6	75.8	0.000387
1	2023	1	5	8	481130	87	19	31	0	2	0	35.6	75.8	0.000522
1	2023	1	5	8	481130	87	19	21	0	2	0	35.6	75.8	0.000301
1	2023	1	5	8	481130	87	19	61	0	1	0	35.6	75.8	0.000265
1	2023	1	5	8	481130	87	19	53	0	1	0	35.6	75.8	0.000154
1	2023	1	5	8	481130	87	19	52	0	1	0	35.6	75.8	0.000644
1	2023	1	5	8	481130	87	19	31	0	1	0	35.6	75.8	0.000798
1	2023	1	5	8	481130	87	19	21	0	1	0	35.6	75.8	0.000501
1	2023	1	5	8	481130	87	18	62	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	87	18	61	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	87	18	53	0	2	0	35.6	75.8	0
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1	2023	1	5	8	481130	87	18	31	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	87	18	21	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	87	18	61	0	1	0	35.6	75.8	0.000239
1	2023	1	5	8	481130	87	18	53	0	1	0	35.6	75.8	9.39E-05
1	2023	1	5	8	481130	87	18	52	0	1	0	35.6	75.8	0.000444
1	2023	1	5	8	481130	87	18	31	0	1	0	35.6	75.8	0.000132
1	2023	1	5	8	481130	87	18	21	0	1	0	35.6	75.8	4.06E-05
1	2023	1	5	8	481130	87	17	62	0	2	0	35.6	75.8	0.01654
1	2023	1	5	8	481130	87	16	62	0	2	0	35.6	75.8	9.15E-05
1	2023	1	5	8	481130	87	16	61	0	2	0	35.6	75.8	0.000346
1	2023	1	5	8	481130	87	16	53	0	2	0	35.6	75.8	3.95E-05
1	2023	1	5	8	481130	87	16	52	0	2	0	35.6	75.8	0.000695
1	2023	1	5	8	481130	87	16	31	0	2	0	35.6	75.8	0.001264
1	2023	1	5	8	481130	87	16	21	0	2	0	35.6	75.8	0.000457
1	2023	1	5	8	481130	87	16	61	0	1	0	35.6	75.8	0.001108
1	2023	1	5	8	481130	87	16	53	0	1	0	35.6	75.8	0.00034
1	2023	1	5	8	481130	87	16	52	0	1	0	35.6	75.8	0.005015
1	2023	1	5	8	481130	87	16	31	0	1	0	35.6	75.8	0.003762
1	2023	1	5	8	481130	87	16	21	0	1	0	35.6	75.8	0.002592
1	2023	1	5	8	481130	87	13	61	0	1	0	35.6	75.8	0.696302
1	2023	1	5	8	481130	87	13	53	0	1	0	35.6	75.8	0.177667
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1	2023	1	5	8	481130	87	13	31	0	1	0	35.6	75.8	0.0799
1	2023	1	5	8	481130	87	13	21	0	1	0	35.6	75.8	0.058232
1	2023	1	5	8	481130	87	11	61	0	1	0	35.6	75.8	0.134471
1	2023	1	5	8	481130	87	11	53	0	1	0	35.6	75.8	0.027469
1	2023	1	5	8	481130	87	11	52	0	1	0	35.6	75.8	0.0219
1	2023	1	5	8	481130	87	11	31	0	1	0	35.6	75.8	0.009825
1	2023	1	5	8	481130	87	11	21	0	1	0	35.6	75.8	0.008343
1	2023	1	5	8	481130	87	2	62	0	2	0	35.6	75.8	0.022192
1	2023	1	5	8	481130	87	2	61	0	2	0	35.6	75.8	0.12103
1	2023	1	5	8	481130	87	2	53	0	2	0	35.6	75.8	0.011321
1	2023	1	5	8	481130	87	2	52	0	2	0	35.6	75.8	0.171755
1	2023	1	5	8	481130	87	2	31	0	2	0	35.6	75.8	0.233145
1	2023	1	5	8	481130	87	2	21	0	2	0	35.6	75.8	0.211731
1	2023	1	5	8	481130	87	2	61	0	1	0	35.6	75.8	0.083952
1	2023	1	5	8	481130	87	2	53	0	1	0	35.6	75.8	0.025778
1	2023	1	5	8	481130	87	2	52	0	1	0	35.6	75.8	0.379905
1	2023	1	5	8	481130	87	2	31	0	1	0	35.6	75.8	0.285007
1	2023	1	5	8	481130	87	2	21	0	1	0	35.6	75.8	0.196342
1	2023	1	5	8	481130	46	91	62	0	2	0	35.6	75.8	2.09E-05
1	2023	1	5	8	481130	46	90	62	0	2	0	35.6	75.8	0.004297
1	2023	1	5	8	481130	46	19	62	0	2	0	35.6	75.8	2.37E-05
1	2023	1	5	8	481130	46	19	61	0	2	0	35.6	75.8	4.38E-06
1	2023	1	5	8	481130	46	19	53	0	2	0	35.6	75.8	5.25E-07
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1	2023	1	5	8	481130	46	19	31	0	2	0	35.6	75.8	3.69E-06
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1	2023	1	5	8	481130	46	19	52	0	1	0	35.6	75.8	4.14E-05
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1	2023	1	5	8	481130	46	18	52	0	1	0	35.6	75.8	2.85E-05
1	2023	1	5	8	481130	46	18	31	0	1	0	35.6	75.8	8.45E-06
1	2023	1	5	8	481130	46	18	21	0	1	0	35.6	75.8	2.61E-06
1	2023	1	5	8	481130	46	17	62	0	2	0	35.6	75.8	0.001165

1	2023	1	5	8	481130	46	16	62	0	2	0	35.6	75.8	3.46E-07
1	2023	1	5	8	481130	46	16	61	0	2	0	35.6	75.8	1.31E-06
1	2023	1	5	8	481130	46	16	53	0	2	0	35.6	75.8	1.49E-07
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1	2023	1	5	8	481130	46	16	31	0	2	0	35.6	75.8	2.55E-05
1	2023	1	5	8	481130	46	16	21	0	2	0	35.6	75.8	2.37E-05
1	2023	1	5	8	481130	46	16	61	0	1	0	35.6	75.8	7.74E-05
1	2023	1	5	8	481130	46	16	53	0	1	0	35.6	75.8	2.12E-05
1	2023	1	5	8	481130	46	16	52	0	1	0	35.6	75.8	0.00031
1	2023	1	5	8	481130	46	16	31	0	1	0	35.6	75.8	0.000238
1	2023	1	5	8	481130	46	16	21	0	1	0	35.6	75.8	0.000162
1	2023	1	5	8	481130	46	13	61	0	1	0	35.6	75.8	0.044724
1	2023	1	5	8	481130	46	13	53	0	1	0	35.6	75.8	0.011412
1	2023	1	5	8	481130	46	13	52	0	1	0	35.6	75.8	0.009564
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1	2023	1	5	8	481130	46	13	21	0	1	0	35.6	75.8	0.00374
1	2023	1	5	8	481130	46	11	61	0	1	0	35.6	75.8	0.001479
1	2023	1	5	8	481130	46	11	53	0	1	0	35.6	75.8	0.000302
1	2023	1	5	8	481130	46	11	52	0	1	0	35.6	75.8	0.000241
1	2023	1	5	8	481130	46	11	31	0	1	0	35.6	75.8	0.000108
1	2023	1	5	8	481130	46	11	21	0	1	0	35.6	75.8	9.18E-05
1	2023	1	5	8	481130	46	2	62	0	2	0	35.6	75.8	0.001645
1	2023	1	5	8	481130	46	2	61	0	2	0	35.6	75.8	0.00937
1	2023	1	5	8	481130	46	2	53	0	2	0	35.6	75.8	0.000862
1	2023	1	5	8	481130	46	2	52	0	2	0	35.6	75.8	0.01278
1	2023	1	5	8	481130	46	2	31	0	2	0	35.6	75.8	0.014907
1	2023	1	5	8	481130	46	2	21	0	2	0	35.6	75.8	0.015637
1	2023	1	5	8	481130	46	2	61	0	1	0	35.6	75.8	0.005864
1	2023	1	5	8	481130	46	2	53	0	1	0	35.6	75.8	0.001606
1	2023	1	5	8	481130	46	2	52	0	1	0	35.6	75.8	0.023506
1	2023	1	5	8	481130	46	2	31	0	1	0	35.6	75.8	0.018056
1	2023	1	5	8	481130	46	2	21	0	1	0	35.6	75.8	0.012244
1	2023	1	5	8	481130	45	91	62	0	2	0	35.6	75.8	2.39E-05
1	2023	1	5	8	481130	45	90	62	0	2	0	35.6	75.8	0.001248
1	2023	1	5	8	481130	45	19	62	0	2	0	35.6	75.8	7.9E-06
1	2023	1	5	8	481130	45	19	61	0	2	0	35.6	75.8	1.46E-06
1	2023	1	5	8	481130	45	19	53	0	2	0	35.6	75.8	1.75E-07
1	2023	1	5	8	481130	45	19	52	0	2	0	35.6	75.8	9.1E-07
1	2023	1	5	8	481130	45	19	31	0	2	0	35.6	75.8	1.23E-06
1	2023	1	5	8	481130	45	19	21	0	2	0	35.6	75.8	7.08E-07
1	2023	1	5	8	481130	45	19	61	0	1	0	35.6	75.8	3.79E-05
1	2023	1	5	8	481130	45	19	53	0	1	0	35.6	75.8	2.2E-05
1	2023	1	5	8	481130	45	19	52	0	1	0	35.6	75.8	9.23E-05
1	2023	1	5	8	481130	45	19	31	0	1	0	35.6	75.8	0.000114
1	2023	1	5	8	481130	45	19	21	0	1	0	35.6	75.8	7.18E-05
1	2023	1	5	8	481130	45	18	61	0	1	0	35.6	75.8	3.43E-05
1	2023	1	5	8	481130	45	18	53	0	1	0	35.6	75.8	1.35E-05
1	2023	1	5	8	481130	45	18	52	0	1	0	35.6	75.8	6.36E-05
1	2023	1	5	8	481130	45	18	31	0	1	0	35.6	75.8	1.89E-05
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1	2023	1	5	8	481130	45	17	62	0	2	0	35.6	75.8	0.000292
1	2023	1	5	8	481130	45	16	62	0	2	0	35.6	75.8	3.96E-07
1	2023	1	5	8	481130	45	16	61	0	2	0	35.6	75.8	1.5E-06
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1	2023	1	5	8	481130	45	16	31	0	2	0	35.6	75.8	9.23E-06
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1	2023	1	5	8	481130	45	16	61	0	1	0	35.6	75.8	9.53E-05
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1	2023	1	5	8	481130	45	16	21	0	1	0	35.6	75.8	0.000199
1	2023	1	5	8	481130	45	13	61	0	1	0	35.6	75.8	0.099822
1	2023	1	5	8	481130	45	13	53	0	1	0	35.6	75.8	0.02547
1	2023	1	5	8	481130	45	13	52	0	1	0	35.6	75.8	0.021346
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1	2023	1	5	8	481130	45	13	21	0	1	0	35.6	75.8	0.008348
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1	2023	1	5	8	481130	45	11	53	0	1	0	35.6	75.8	0.002774
1	2023	1	5	8	481130	45	11	52	0	1	0	35.6	75.8	0.002212
1	2023	1	5	8	481130	45	11	31	0	1	0	35.6	75.8	0.000992
1	2023	1	5	8	481130	45	11	21	0	1	0	35.6	75.8	0.000843
1	2023	1	5	8	481130	45	2	62	0	2	0	35.6	75.8	0.000381
1	2023	1	5	8	481130	45	2	61	0	2	0	35.6	75.8	0.002119
1	2023	1	5	8	481130	45	2	53	0	2	0	35.6	75.8	0.000195
1	2023	1	5	8	481130	45	2	52	0	2	0	35.6	75.8	0.002946
1	2023	1	5	8	481130	45	2	31	0	2	0	35.6	75.8	0.003547
1	2023	1	5	8	481130	45	2	21	0	2	0	35.6	75.8	0.003587
1	2023	1	5	8	481130	45	2	61	0	1	0	35.6	75.8	0.007219
1	2023	1	5	8	481130	45	2	53	0	1	0	35.6	75.8	0.001976
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1	2023	1	5	8	481130	45	2	31	0	1	0	35.6	75.8	0.02222
1	2023	1	5	8	481130	45	2	21	0	1	0	35.6	75.8	0.015066
1	2023	1	5	8	481130	43	91	62	0	2	0	35.6	75.8	2.59E-05
1	2023	1	5	8	481130	43	90	62	0	2	0	35.6	75.8	0.000408
1	2023	1	5	8	481130	43	17	62	0	2	0	35.6	75.8	5.19E-05
1	2023	1	5	8	481130	43	16	62	0	2	0	35.6	75.8	4.28E-07

1	2023	1	5	8	481130	43	16	61	0	2	0	35.6	75.8	1.62E-06
1	2023	1	5	8	481130	43	16	53	0	2	0	35.6	75.8	1.85E-07
1	2023	1	5	8	481130	43	16	52	0	2	0	35.6	75.8	3.25E-06
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1	2023	1	5	8	481130	43	2	61	0	2	0	35.6	75.8	0.000368
1	2023	1	5	8	481130	43	2	53	0	2	0	35.6	75.8	3.48E-05
1	2023	1	5	8	481130	43	2	52	0	2	0	35.6	75.8	0.000533
1	2023	1	5	8	481130	43	2	31	0	2	0	35.6	75.8	0.000778
1	2023	1	5	8	481130	43	2	21	0	2	0	35.6	75.8	0.00066
1	2023	1	5	8	481130	43	2	61	0	1	0	35.6	75.8	7.09E-05
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1	2023	1	5	8	481130	43	2	52	0	1	0	35.6	75.8	0.000222
1	2023	1	5	8	481130	43	2	31	0	1	0	35.6	75.8	0.000181
1	2023	1	5	8	481130	43	2	21	0	1	0	35.6	75.8	0.000118
1	2023	1	5	8	481130	42	91	62	0	2	0	35.6	75.8	1.09E-05
1	2023	1	5	8	481130	42	90	62	0	2	0	35.6	75.8	0.000181
1	2023	1	5	8	481130	42	19	62	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	42	19	61	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	42	19	53	0	2	0	35.6	75.8	0
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1	2023	1	5	8	481130	42	19	52	0	1	0	35.6	75.8	1.63E-05
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1	2023	1	5	8	481130	42	19	21	0	1	0	35.6	75.8	1.27E-05
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1	2023	1	5	8	481130	42	18	53	0	1	0	35.6	75.8	2.38E-06
1	2023	1	5	8	481130	42	18	52	0	1	0	35.6	75.8	1.13E-05
1	2023	1	5	8	481130	42	18	31	0	1	0	35.6	75.8	3.34E-06
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1	2023	1	5	8	481130	42	16	52	0	2	0	35.6	75.8	1.37E-06
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1	2023	1	5	8	481130	42	16	52	0	1	0	35.6	75.8	0.000137
1	2023	1	5	8	481130	42	16	31	0	1	0	35.6	75.8	9.5E-05
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1	2023	1	5	8	481130	42	13	61	0	1	0	35.6	75.8	0.017658
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1	2023	1	5	8	481130	42	13	31	0	1	0	35.6	75.8	0.002026
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1	2023	1	5	8	481130	42	11	53	0	1	0	35.6	75.8	0.001785
1	2023	1	5	8	481130	42	11	52	0	1	0	35.6	75.8	0.001424
1	2023	1	5	8	481130	42	11	31	0	1	0	35.6	75.8	0.000639
1	2023	1	5	8	481130	42	11	21	0	1	0	35.6	75.8	0.000542
1	2023	1	5	8	481130	42	2	62	0	2	0	35.6	75.8	2.61E-05
1	2023	1	5	8	481130	42	2	61	0	2	0	35.6	75.8	0.000132
1	2023	1	5	8	481130	42	2	53	0	2	0	35.6	75.8	1.25E-05
1	2023	1	5	8	481130	42	2	52	0	2	0	35.6	75.8	0.0002
1	2023	1	5	8	481130	42	2	31	0	2	0	35.6	75.8	0.000297
1	2023	1	5	8	481130	42	2	21	0	2	0	35.6	75.8	0.000243
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1	2023	1	5	8	481130	42	2	53	0	1	0	35.6	75.8	0.000687
1	2023	1	5	8	481130	42	2	52	0	1	0	35.6	75.8	0.010345
1	2023	1	5	8	481130	42	2	31	0	1	0	35.6	75.8	0.007197
1	2023	1	5	8	481130	42	2	21	0	1	0	35.6	75.8	0.00522
1	2023	1	5	8	481130	41	91	62	0	2	0	35.6	75.8	1.47E-05
1	2023	1	5	8	481130	41	90	62	0	2	0	35.6	75.8	0.000693
1	2023	1	5	8	481130	41	19	62	0	2	0	35.6	75.8	3.46E-06
1	2023	1	5	8	481130	41	19	61	0	2	0	35.6	75.8	6.39E-07
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1	2023	1	5	8	481130	41	19	52	0	2	0	35.6	75.8	3.99E-07
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1	2023	1	5	8	481130	41	19	53	0	1	0	35.6	75.8	2.64E-06
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1	2023	1	5	8	481130	41	19	31	0	1	0	35.6	75.8	1.37E-05
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1	2023	1	5	8	481130	41	18	31	0	1	0	35.6	75.8	2.26E-06
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1	2023	1	5	8	481130	41	17	62	0	2	0	35.6	75.8	0.00016
1	2023	1	5	8	481130	41	16	62	0	2	0	35.6	75.8	2.43E-07
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1	2023	1	5	8	481130	41	16	31	0	1	0	35.6	75.8	6.54E-05
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1	2023	1	5	8	481130	41	13	53	0	1	0	35.6	75.8	0.003058
1	2023	1	5	8	481130	41	13	52	0	1	0	35.6	75.8	0.002563
1	2023	1	5	8	481130	41	13	31	0	1	0	35.6	75.8	0.001375
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1	2023	1	5	8	481130	41	11	61	0	1	0	35.6	75.8	0.000134
1	2023	1	5	8	481130	41	11	53	0	1	0	35.6	75.8	2.75E-05
1	2023	1	5	8	481130	41	11	52	0	1	0	35.6	75.8	2.19E-05
1	2023	1	5	8	481130	41	11	31	0	1	0	35.6	75.8	9.82E-06
1	2023	1	5	8	481130	41	11	21	0	1	0	35.6	75.8	8.34E-06
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1	2023	1	5	8	481130	41	2	31	0	2	0	35.6	75.8	0.002098
1	2023	1	5	8	481130	41	2	21	0	2	0	35.6	75.8	0.002127
1	2023	1	5	8	481130	41	2	61	0	1	0	35.6	75.8	0.001611
1	2023	1	5	8	481130	41	2	53	0	1	0	35.6	75.8	0.000441
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1	2023	1	5	8	481130	40	91	62	0	2	0	35.6	75.8	1E-05
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1	2023	1	5	8	481130	40	19	62	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	40	19	61	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	40	19	53	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	40	19	52	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	40	19	31	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	40	19	21	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	40	19	61	0	1	0	35.6	75.8	8.87E-06
1	2023	1	5	8	481130	40	19	53	0	1	0	35.6	75.8	5.15E-06
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1	2023	1	5	8	481130	40	19	21	0	1	0	35.6	75.8	1.68E-05
1	2023	1	5	8	481130	40	18	61	0	1	0	35.6	75.8	8.03E-06
1	2023	1	5	8	481130	40	18	53	0	1	0	35.6	75.8	3.15E-06
1	2023	1	5	8	481130	40	18	52	0	1	0	35.6	75.8	1.49E-05
1	2023	1	5	8	481130	40	18	31	0	1	0	35.6	75.8	4.41E-06
1	2023	1	5	8	481130	40	18	21	0	1	0	35.6	75.8	1.36E-06
1	2023	1	5	8	481130	40	17	62	0	2	0	35.6	75.8	7.41E-05
1	2023	1	5	8	481130	40	16	62	0	2	0	35.6	75.8	1.65E-07
1	2023	1	5	8	481130	40	16	61	0	2	0	35.6	75.8	6.25E-07
1	2023	1	5	8	481130	40	16	53	0	2	0	35.6	75.8	7.13E-08
1	2023	1	5	8	481130	40	16	52	0	2	0	35.6	75.8	1.26E-06
1	2023	1	5	8	481130	40	16	31	0	2	0	35.6	75.8	3.02E-06
1	2023	1	5	8	481130	40	16	21	0	2	0	35.6	75.8	1.6E-06
1	2023	1	5	8	481130	40	16	61	0	1	0	35.6	75.8	2.02E-05
1	2023	1	5	8	481130	40	16	53	0	1	0	35.6	75.8	4.57E-06
1	2023	1	5	8	481130	40	16	52	0	1	0	35.6	75.8	6.6E-05
1	2023	1	5	8	481130	40	16	31	0	1	0	35.6	75.8	5.3E-05
1	2023	1	5	8	481130	40	16	21	0	1	0	35.6	75.8	3.49E-05
1	2023	1	5	8	481130	40	13	61	0	1	0	35.6	75.8	0.023354
1	2023	1	5	8	481130	40	13	53	0	1	0	35.6	75.8	0.005959
1	2023	1	5	8	481130	40	13	52	0	1	0	35.6	75.8	0.004994
1	2023	1	5	8	481130	40	13	31	0	1	0	35.6	75.8	0.00268
1	2023	1	5	8	481130	40	13	21	0	1	0	35.6	75.8	0.001953
1	2023	1	5	8	481130	40	11	61	0	1	0	35.6	75.8	0.003227
1	2023	1	5	8	481130	40	11	53	0	1	0	35.6	75.8	0.000659
1	2023	1	5	8	481130	40	11	52	0	1	0	35.6	75.8	0.000526
1	2023	1	5	8	481130	40	11	31	0	1	0	35.6	75.8	0.000236
1	2023	1	5	8	481130	40	11	21	0	1	0	35.6	75.8	0.0002
1	2023	1	5	8	481130	40	2	62	0	2	0	35.6	75.8	9.58E-05
1	2023	1	5	8	481130	40	2	61	0	2	0	35.6	75.8	0.000529
1	2023	1	5	8	481130	40	2	53	0	2	0	35.6	75.8	4.89E-05
1	2023	1	5	8	481130	40	2	52	0	2	0	35.6	75.8	0.000741
1	2023	1	5	8	481130	40	2	31	0	2	0	35.6	75.8	0.000917
1	2023	1	5	8	481130	40	2	21	0	2	0	35.6	75.8	0.000903
1	2023	1	5	8	481130	40	2	61	0	1	0	35.6	75.8	0.001528
1	2023	1	5	8	481130	40	2	53	0	1	0	35.6	75.8	0.000346
1	2023	1	5	8	481130	40	2	52	0	1	0	35.6	75.8	0.004998
1	2023	1	5	8	481130	40	2	31	0	1	0	35.6	75.8	0.004016
1	2023	1	5	8	481130	40	2	21	0	1	0	35.6	75.8	0.002643

1	2023	1	5	8	481130	31	91	62	0	2	0	35.6	75.8	4.67E-05
1	2023	1	5	8	481130	31	90	62	0	2	0	35.6	75.8	0.000605
1	2023	1	5	8	481130	31	2	62	0	2	0	35.6	75.8	3.03E-05
1	2023	1	5	8	481130	31	2	61	0	2	0	35.6	75.8	6.47E-05
1	2023	1	5	8	481130	31	2	53	0	2	0	35.6	75.8	7.27E-06
1	2023	1	5	8	481130	31	2	52	0	2	0	35.6	75.8	0.00011
1	2023	1	5	8	481130	31	2	31	0	2	0	35.6	75.8	0.000217
1	2023	1	5	8	481130	31	2	21	0	2	0	35.6	75.8	0.000121
1	2023	1	5	8	481130	31	2	61	0	1	0	35.6	75.8	2.04E-05
1	2023	1	5	8	481130	31	2	53	0	1	0	35.6	75.8	1.85E-05
1	2023	1	5	8	481130	31	2	52	0	1	0	35.6	75.8	0.000278
1	2023	1	5	8	481130	31	2	31	0	1	0	35.6	75.8	0.000517
1	2023	1	5	8	481130	31	2	21	0	1	0	35.6	75.8	0.000325
1	2023	1	5	8	481130	27	91	62	0	2	0	35.6	75.8	3.66E-05
1	2023	1	5	8	481130	27	90	62	0	2	0	35.6	75.8	0.000587
1	2023	1	5	8	481130	27	17	62	0	2	0	35.6	75.8	7.56E-05
1	2023	1	5	8	481130	27	16	62	0	2	0	35.6	75.8	6.06E-07
1	2023	1	5	8	481130	27	16	61	0	2	0	35.6	75.8	2.29E-06
1	2023	1	5	8	481130	27	16	53	0	2	0	35.6	75.8	2.61E-07
1	2023	1	5	8	481130	27	16	52	0	2	0	35.6	75.8	4.6E-06
1	2023	1	5	8	481130	27	16	31	0	2	0	35.6	75.8	7.63E-06
1	2023	1	5	8	481130	27	16	21	0	2	0	35.6	75.8	2.25E-06
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1	2023	1	5	8	481130	27	16	53	0	1	0	35.6	75.8	2.82E-07
1	2023	1	5	8	481130	27	16	52	0	1	0	35.6	75.8	4.23E-06
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1	2023	1	5	8	481130	27	2	62	0	2	0	35.6	75.8	9.24E-05
1	2023	1	5	8	481130	27	2	61	0	2	0	35.6	75.8	0.000483
1	2023	1	5	8	481130	27	2	53	0	2	0	35.6	75.8	4.56E-05
1	2023	1	5	8	481130	27	2	52	0	2	0	35.6	75.8	0.000711
1	2023	1	5	8	481130	27	2	31	0	2	0	35.6	75.8	0.001049
1	2023	1	5	8	481130	27	2	21	0	2	0	35.6	75.8	0.000875
1	2023	1	5	8	481130	27	2	61	0	1	0	35.6	75.8	5.65E-05
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1	2023	1	5	8	481130	27	2	52	0	1	0	35.6	75.8	0.00032
1	2023	1	5	8	481130	27	2	31	0	1	0	35.6	75.8	0.000233
1	2023	1	5	8	481130	27	2	21	0	1	0	35.6	75.8	0.000164
1	2023	1	5	8	481130	26	91	62	0	2	0	35.6	75.8	0.000197
1	2023	1	5	8	481130	26	90	62	0	2	0	35.6	75.8	0.004262
1	2023	1	5	8	481130	26	17	62	0	2	0	35.6	75.8	0.00072
1	2023	1	5	8	481130	26	16	62	0	2	0	35.6	75.8	3.25E-06
1	2023	1	5	8	481130	26	16	61	0	2	0	35.6	75.8	1.23E-05
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1	2023	1	5	8	481130	26	16	21	0	2	0	35.6	75.8	1.82E-05
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1	2023	1	5	8	481130	26	16	52	0	1	0	35.6	75.8	9.6E-05
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1	2023	1	5	8	481130	26	16	21	0	1	0	35.6	75.8	4.9E-05
1	2023	1	5	8	481130	26	2	62	0	2	0	35.6	75.8	0.000932
1	2023	1	5	8	481130	26	2	61	0	2	0	35.6	75.8	0.00507
1	2023	1	5	8	481130	26	2	53	0	2	0	35.6	75.8	0.000473
1	2023	1	5	8	481130	26	2	52	0	2	0	35.6	75.8	0.007201
1	2023	1	5	8	481130	26	2	31	0	2	0	35.6	75.8	0.009541
1	2023	1	5	8	481130	26	2	21	0	2	0	35.6	75.8	0.00883
1	2023	1	5	8	481130	26	2	61	0	1	0	35.6	75.8	0.001231
1	2023	1	5	8	481130	26	2	53	0	1	0	35.6	75.8	0.000485
1	2023	1	5	8	481130	26	2	52	0	1	0	35.6	75.8	0.007276
1	2023	1	5	8	481130	26	2	31	0	1	0	35.6	75.8	0.005272
1	2023	1	5	8	481130	26	2	21	0	1	0	35.6	75.8	0.003716
1	2023	1	5	8	481130	25	91	62	0	2	0	35.6	75.8	0.000433
1	2023	1	5	8	481130	25	90	62	0	2	0	35.6	75.8	0.006785
1	2023	1	5	8	481130	25	17	62	0	2	0	35.6	75.8	0.00084
1	2023	1	5	8	481130	25	16	62	0	2	0	35.6	75.8	7.16E-06
1	2023	1	5	8	481130	25	16	61	0	2	0	35.6	75.8	2.7E-05
1	2023	1	5	8	481130	25	16	53	0	2	0	35.6	75.8	3.09E-06
1	2023	1	5	8	481130	25	16	52	0	2	0	35.6	75.8	5.44E-05
1	2023	1	5	8	481130	25	16	31	0	2	0	35.6	75.8	8.7E-05
1	2023	1	5	8	481130	25	16	21	0	2	0	35.6	75.8	2.31E-05
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1	2023	1	5	8	481130	25	16	53	0	1	0	35.6	75.8	2.86E-06
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1	2023	1	5	8	481130	25	2	62	0	2	0	35.6	75.8	0.000867
1	2023	1	5	8	481130	25	2	61	0	2	0	35.6	75.8	0.004258
1	2023	1	5	8	481130	25	2	53	0	2	0	35.6	75.8	0.000405
1	2023	1	5	8	481130	25	2	52	0	2	0	35.6	75.8	0.006607
1	2023	1	5	8	481130	25	2	31	0	2	0	35.6	75.8	0.01027
1	2023	1	5	8	481130	25	2	21	0	2	0	35.6	75.8	0.008024
1	2023	1	5	8	481130	25	2	61	0	1	0	35.6	75.8	0.001013
1	2023	1	5	8	481130	25	2	53	0	1	0	35.6	75.8	0.000217
1	2023	1	5	8	481130	25	2	52	0	1	0	35.6	75.8	0.003082
1	2023	1	5	8	481130	25	2	31	0	1	0	35.6	75.8	0.002477

1	2023	1	5	8	481130	25	2	21	0	1	0	35.6	75.8	0.001632
1	2023	1	5	8	481130	24	91	62	0	2	0	35.6	75.8	1.61E-05
1	2023	1	5	8	481130	24	90	62	0	2	0	35.6	75.8	0.000165
1	2023	1	5	8	481130	24	17	62	0	2	0	35.6	75.8	7.17E-06
1	2023	1	5	8	481130	24	16	62	0	2	0	35.6	75.8	2.67E-07
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1	2023	1	5	8	481130	24	16	53	0	2	0	35.6	75.8	1.15E-07
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1	2023	1	5	8	481130	24	16	31	0	2	0	35.6	75.8	2.93E-06
1	2023	1	5	8	481130	24	16	21	0	2	0	35.6	75.8	5.36E-07
1	2023	1	5	8	481130	24	16	61	0	1	0	35.6	75.8	6.86E-06
1	2023	1	5	8	481130	24	16	53	0	1	0	35.6	75.8	3.07E-06
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1	2023	1	5	8	481130	24	2	31	0	2	0	35.6	75.8	0.00017
1	2023	1	5	8	481130	24	2	21	0	2	0	35.6	75.8	7.84E-05
1	2023	1	5	8	481130	24	2	61	0	1	0	35.6	75.8	0.000519
1	2023	1	5	8	481130	24	2	53	0	1	0	35.6	75.8	0.000232
1	2023	1	5	8	481130	24	2	52	0	1	0	35.6	75.8	0.003516
1	2023	1	5	8	481130	24	2	31	0	1	0	35.6	75.8	0.00251
1	2023	1	5	8	481130	24	2	21	0	1	0	35.6	75.8	0.001787
1	2023	1	5	8	481130	20	91	62	0	2	0	35.6	75.8	4.33E-05
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1	2023	1	5	8	481130	20	19	21	0	2	0	35.6	75.8	0
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1	2023	1	5	8	481130	20	19	53	0	1	0	35.6	75.8	2.57E-07
1	2023	1	5	8	481130	20	19	52	0	1	0	35.6	75.8	1.08E-06
1	2023	1	5	8	481130	20	19	31	0	1	0	35.6	75.8	1.34E-06
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1	2023	1	5	8	481130	20	18	61	0	1	0	35.6	75.8	4E-07
1	2023	1	5	8	481130	20	18	53	0	1	0	35.6	75.8	1.57E-07
1	2023	1	5	8	481130	20	18	52	0	1	0	35.6	75.8	7.43E-07
1	2023	1	5	8	481130	20	18	31	0	1	0	35.6	75.8	2.2E-07
1	2023	1	5	8	481130	20	18	21	0	1	0	35.6	75.8	6.8E-08
1	2023	1	5	8	481130	20	17	62	0	2	0	35.6	75.8	3.59E-05
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1	2023	1	5	8	481130	20	16	53	0	2	0	35.6	75.8	3.09E-07
1	2023	1	5	8	481130	20	16	52	0	2	0	35.6	75.8	5.45E-06
1	2023	1	5	8	481130	20	16	31	0	2	0	35.6	75.8	7.97E-06
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1	2023	1	5	8	481130	20	16	53	0	1	0	35.6	75.8	1.41E-05
1	2023	1	5	8	481130	20	16	52	0	1	0	35.6	75.8	0.000212
1	2023	1	5	8	481130	20	16	31	0	1	0	35.6	75.8	0.000153
1	2023	1	5	8	481130	20	16	21	0	1	0	35.6	75.8	0.000108
1	2023	1	5	8	481130	20	13	61	0	1	0	35.6	75.8	0.001165
1	2023	1	5	8	481130	20	13	53	0	1	0	35.6	75.8	0.000297
1	2023	1	5	8	481130	20	13	52	0	1	0	35.6	75.8	0.000249
1	2023	1	5	8	481130	20	13	31	0	1	0	35.6	75.8	0.000134
1	2023	1	5	8	481130	20	13	21	0	1	0	35.6	75.8	9.74E-05
1	2023	1	5	8	481130	20	11	61	0	1	0	35.6	75.8	0.000339
1	2023	1	5	8	481130	20	11	53	0	1	0	35.6	75.8	6.92E-05
1	2023	1	5	8	481130	20	11	52	0	1	0	35.6	75.8	5.51E-05
1	2023	1	5	8	481130	20	11	31	0	1	0	35.6	75.8	2.47E-05
1	2023	1	5	8	481130	20	11	21	0	1	0	35.6	75.8	2.1E-05
1	2023	1	5	8	481130	20	2	62	0	2	0	35.6	75.8	2.94E-05
1	2023	1	5	8	481130	20	2	61	0	2	0	35.6	75.8	0.000111
1	2023	1	5	8	481130	20	2	53	0	2	0	35.6	75.8	1.16E-05
1	2023	1	5	8	481130	20	2	52	0	2	0	35.6	75.8	0.000219
1	2023	1	5	8	481130	20	2	31	0	2	0	35.6	75.8	0.000521
1	2023	1	5	8	481130	20	2	21	0	2	0	35.6	75.8	0.000272
1	2023	1	5	8	481130	20	2	61	0	1	0	35.6	75.8	0.00259
1	2023	1	5	8	481130	20	2	53	0	1	0	35.6	75.8	0.001065
1	2023	1	5	8	481130	20	2	52	0	1	0	35.6	75.8	0.01603
1	2023	1	5	8	481130	20	2	31	0	1	0	35.6	75.8	0.011554
1	2023	1	5	8	481130	20	2	21	0	1	0	35.6	75.8	0.008171
1	2023	1	5	8	481130	6	2	62	0	2	0	35.6	75.8	0.000128
1	2023	1	5	8	481130	6	2	61	0	2	0	35.6	75.8	0.001311
1	2023	1	5	8	481130	6	2	53	0	2	0	35.6	75.8	0.000115
1	2023	1	5	8	481130	6	2	52	0	2	0	35.6	75.8	0.001741
1	2023	1	5	8	481130	6	2	31	0	2	0	35.6	75.8	0.000935
1	2023	1	5	8	481130	6	2	21	0	2	0	35.6	75.8	0.000186
1	2023	1	5	8	481130	6	2	61	0	1	0	35.6	75.8	0.005507
1	2023	1	5	8	481130	6	2	53	0	1	0	35.6	75.8	0.00148
1	2023	1	5	8	481130	6	2	52	0	1	0	35.6	75.8	0.022005
1	2023	1	5	8	481130	6	2	31	0	1	0	35.6	75.8	0.010993

1	2023	1	5	8	481130	6	2	21	0	1	0	35.6	75.8	0.005039
1	2023	1	5	8	481130	5	91	62	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	5	90	62	0	2	0	35.6	75.8	0.019829
1	2023	1	5	8	481130	5	17	62	0	2	0	35.6	75.8	0.000408
1	2023	1	5	8	481130	5	16	62	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	5	16	61	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	5	16	53	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	5	16	52	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	5	16	31	0	2	0	35.6	75.8	0.00017
1	2023	1	5	8	481130	5	16	21	0	2	0	35.6	75.8	0.000179
1	2023	1	5	8	481130	5	16	61	0	1	0	35.6	75.8	0.000188
1	2023	1	5	8	481130	5	16	53	0	1	0	35.6	75.8	5.77E-05
1	2023	1	5	8	481130	5	16	52	0	1	0	35.6	75.8	0.000851
1	2023	1	5	8	481130	5	16	31	0	1	0	35.6	75.8	0.000482
1	2023	1	5	8	481130	5	16	21	0	1	0	35.6	75.8	0.000318
1	2023	1	5	8	481130	5	2	62	0	2	0	35.6	75.8	0.012067
1	2023	1	5	8	481130	5	2	61	0	2	0	35.6	75.8	0.067485
1	2023	1	5	8	481130	5	2	53	0	2	0	35.6	75.8	0.006635
1	2023	1	5	8	481130	5	2	52	0	2	0	35.6	75.8	0.099839
1	2023	1	5	8	481130	5	2	31	0	2	0	35.6	75.8	0.115047
1	2023	1	5	8	481130	5	2	21	0	2	0	35.6	75.8	0.12112
1	2023	1	5	8	481130	5	2	61	0	1	0	35.6	75.8	0.014239
1	2023	1	5	8	481130	5	2	53	0	1	0	35.6	75.8	0.004372
1	2023	1	5	8	481130	5	2	52	0	1	0	35.6	75.8	0.064433
1	2023	1	5	8	481130	5	2	31	0	1	0	35.6	75.8	0.036486
1	2023	1	5	8	481130	5	2	21	0	1	0	35.6	75.8	0.024121
1	2023	1	5	8	481130	3	91	62	0	2	0	35.6	75.8	0.07558
1	2023	1	5	8	481130	3	90	62	0	2	0	35.6	75.8	1.55949
1	2023	1	5	8	481130	3	17	62	0	2	0	35.6	75.8	0.013554
1	2023	1	5	8	481130	3	16	62	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	3	16	61	0	2	0	35.6	75.8	0
1	2023	1	5	8	481130	3	16	53	0	2	0	35.6	75.8	6.24E-07
1	2023	1	5	8	481130	3	16	52	0	2	0	35.6	75.8	1.07E-05
1	2023	1	5	8	481130	3	16	31	0	2	0	35.6	75.8	3.96E-05
1	2023	1	5	8	481130	3	16	21	0	2	0	35.6	75.8	3.11E-06
1	2023	1	5	8	481130	3	16	61	0	1	0	35.6	75.8	2.62E-06
1	2023	1	5	8	481130	3	16	53	0	1	0	35.6	75.8	7.89E-07
1	2023	1	5	8	481130	3	16	52	0	1	0	35.6	75.8	1.18E-05
1	2023	1	5	8	481130	3	16	31	0	1	0	35.6	75.8	4.91E-06
1	2023	1	5	8	481130	3	16	21	0	1	0	35.6	75.8	2.63E-06
1	2023	1	5	8	481130	3	2	62	0	2	0	35.6	75.8	0.118281
1	2023	1	5	8	481130	3	2	61	0	2	0	35.6	75.8	0.243045
1	2023	1	5	8	481130	3	2	53	0	2	0	35.6	75.8	0.028071
1	2023	1	5	8	481130	3	2	52	0	2	0	35.6	75.8	0.417823
1	2023	1	5	8	481130	3	2	31	0	2	0	35.6	75.8	0.542897
1	2023	1	5	8	481130	3	2	21	0	2	0	35.6	75.8	0.040574
1	2023	1	5	8	481130	3	2	61	0	1	0	35.6	75.8	0.065422
1	2023	1	5	8	481130	3	2	53	0	1	0	35.6	75.8	0.019728
1	2023	1	5	8	481130	3	2	52	0	1	0	35.6	75.8	0.293946
1	2023	1	5	8	481130	3	2	31	0	1	0	35.6	75.8	0.122848
1	2023	1	5	8	481130	3	2	21	0	1	0	35.6	75.8	0.065711
1	2023	1	5	8	481130	2	91	62	0	2	0	35.6	75.8	0.036232
1	2023	1	5	8	481130	2	90	62	0	2	0	35.6	75.8	1.00099
1	2023	1	5	8	481130	2	17	62	0	2	0	35.6	75.8	0.011926
1	2023	1	5	8	481130	2	16	62	0	2	0	35.6	75.8	0.053277
1	2023	1	5	8	481130	2	16	61	0	2	0	35.6	75.8	0.107701
1	2023	1	5	8	481130	2	16	53	0	2	0	35.6	75.8	0.004113
1	2023	1	5	8	481130	2	16	52	0	2	0	35.6	75.8	0.060572
1	2023	1	5	8	481130	2	16	31	0	2	0	35.6	75.8	0.001978
1	2023	1	5	8	481130	2	16	21	0	2	0	35.6	75.8	0.00079
1	2023	1	5	8	481130	2	16	61	0	1	0	35.6	75.8	0.001348
1	2023	1	5	8	481130	2	16	53	0	1	0	35.6	75.8	0.00023
1	2023	1	5	8	481130	2	16	52	0	1	0	35.6	75.8	0.003564
1	2023	1	5	8	481130	2	16	31	0	1	0	35.6	75.8	0.002012
1	2023	1	5	8	481130	2	16	21	0	1	0	35.6	75.8	0.001348
1	2023	1	5	8	481130	2	2	62	0	2	0	35.6	75.8	0.12338
1	2023	1	5	8	481130	2	2	61	0	2	0	35.6	75.8	0.248692
1	2023	1	5	8	481130	2	2	53	0	2	0	35.6	75.8	0.014107
1	2023	1	5	8	481130	2	2	52	0	2	0	35.6	75.8	0.225454
1	2023	1	5	8	481130	2	2	31	0	2	0	35.6	75.8	0.594235
1	2023	1	5	8	481130	2	2	21	0	2	0	35.6	75.8	1.00439
1	2023	1	5	8	481130	2	2	61	0	1	0	35.6	75.8	2.59144
1	2023	1	5	8	481130	2	2	53	0	1	0	35.6	75.8	0.441708
1	2023	1	5	8	481130	2	2	52	0	1	0	35.6	75.8	6.85438
1	2023	1	5	8	481130	2	2	31	0	1	0	35.6	75.8	3.86849
1	2023	1	5	8	481130	2	2	21	0	1	0	35.6	75.8	2.59144

MOVESRunID	yearID	monthID	dayID	hourID	zoneID	pollutantID	processID	sourceTypeID	regClassID	SCC	fuelTypeID	modelYearID	temperature	relHumidity	ratePerVehicle
1	2024	1	5	8	481130	185	91	62	0		2	0	35.6	75.8	5.41E-05
1	2024	1	5	8	481130	185	90	62	0		2	0	35.6	75.8	0.000513
1	2024	1	5	8	481130	185	19	62	0		2	0	35.6	75.8	1.58E-06
1	2024	1	5	8	481130	185	19	61	0		2	0	35.6	75.8	2.96E-07
1	2024	1	5	8	481130	185	19	53	0		2	0	35.6	75.8	3.44E-08
1	2024	1	5	8	481130	185	19	52	0		2	0	35.6	75.8	1.84E-07
1	2024	1	5	8	481130	185	19	31	0		2	0	35.6	75.8	2.49E-07
1	2024	1	5	8	481130	185	19	21	0		2	0	35.6	75.8	1.42E-07
1	2024	1	5	8	481130	185	17	62	0		2	0	35.6	75.8	4.38E-05
1	2024	1	5	8	481130	185	16	62	0		2	0	35.6	75.8	6.73E-07
1	2024	1	5	8	481130	185	16	61	0		2	0	35.6	75.8	2.53E-06
1	2024	1	5	8	481130	185	16	53	0		2	0	35.6	75.8	3.2E-07
1	2024	1	5	8	481130	185	16	52	0		2	0	35.6	75.8	5.15E-06
1	2024	1	5	8	481130	185	16	31	0		2	0	35.6	75.8	6.25E-06
1	2024	1	5	8	481130	185	16	21	0		2	0	35.6	75.8	1.34E-06
1	2024	1	5	8	481130	185	16	61	0		1	0	35.6	75.8	2.46E-06
1	2024	1	5	8	481130	185	16	53	0		1	0	35.6	75.8	7.02E-07
1	2024	1	5	8	481130	185	16	52	0		1	0	35.6	75.8	1.02E-05
1	2024	1	5	8	481130	185	16	31	0		1	0	35.6	75.8	7.39E-06
1	2024	1	5	8	481130	185	16	21	0		1	0	35.6	75.8	5.12E-06
1	2024	1	5	8	481130	185	2	62	0		2	0	35.6	75.8	4.02E-05
1	2024	1	5	8	481130	185	2	61	0		2	0	35.6	75.8	0.000169
1	2024	1	5	8	481130	185	2	53	0		2	0	35.6	75.8	1.74E-05
1	2024	1	5	8	481130	185	2	52	0		2	0	35.6	75.8	0.000299
1	2024	1	5	8	481130	185	2	31	0		2	0	35.6	75.8	0.000568
1	2024	1	5	8	481130	185	2	21	0		2	0	35.6	75.8	0.000354
1	2024	1	5	8	481130	185	2	61	0		1	0	35.6	75.8	0.000187
1	2024	1	5	8	481130	185	2	53	0		1	0	35.6	75.8	5.32E-05
1	2024	1	5	8	481130	185	2	52	0		1	0	35.6	75.8	0.000775
1	2024	1	5	8	481130	185	2	31	0		1	0	35.6	75.8	0.00056
1	2024	1	5	8	481130	185	2	21	0		1	0	35.6	75.8	0.000388
1	2024	1	5	8	481130	184	91	62	0		2	0	35.6	75.8	2.55E-06
1	2024	1	5	8	481130	184	90	62	0		2	0	35.6	75.8	1.96E-05
1	2024	1	5	8	481130	184	17	62	0		2	0	35.6	75.8	8.21E-07
1	2024	1	5	8	481130	184	16	62	0		2	0	35.6	75.8	3.18E-08
1	2024	1	5	8	481130	184	16	61	0		2	0	35.6	75.8	1.19E-07
1	2024	1	5	8	481130	184	16	53	0		2	0	35.6	75.8	1.51E-08
1	2024	1	5	8	481130	184	16	52	0		2	0	35.6	75.8	2.43E-07
1	2024	1	5	8	481130	184	16	31	0		2	0	35.6	75.8	2.84E-07
1	2024	1	5	8	481130	184	16	21	0		2	0	35.6	75.8	5.22E-08
1	2024	1	5	8	481130	184	16	61	0		1	0	35.6	75.8	7.62E-08
1	2024	1	5	8	481130	184	16	53	0		1	0	35.6	75.8	2.17E-08
1	2024	1	5	8	481130	184	16	52	0		1	0	35.6	75.8	3.16E-07
1	2024	1	5	8	481130	184	16	31	0		1	0	35.6	75.8	2.28E-07
1	2024	1	5	8	481130	184	16	21	0		1	0	35.6	75.8	1.58E-07
1	2024	1	5	8	481130	184	2	62	0		2	0	35.6	75.8	9.75E-07
1	2024	1	5	8	481130	184	2	61	0		2	0	35.6	75.8	3.83E-06
1	2024	1	5	8	481130	184	2	53	0		2	0	35.6	75.8	4.62E-07
1	2024	1	5	8	481130	184	2	52	0		2	0	35.6	75.8	7.45E-06
1	2024	1	5	8	481130	184	2	31	0		2	0	35.6	75.8	1.91E-05
1	2024	1	5	8	481130	184	2	21	0		2	0	35.6	75.8	9.21E-06
1	2024	1	5	8	481130	184	2	61	0		1	0	35.6	75.8	5.77E-06
1	2024	1	5	8	481130	184	2	53	0		1	0	35.6	75.8	1.64E-06
1	2024	1	5	8	481130	184	2	52	0		1	0	35.6	75.8	2.4E-05
1	2024	1	5	8	481130	184	2	31	0		1	0	35.6	75.8	1.73E-05
1	2024	1	5	8	481130	184	2	21	0		1	0	35.6	75.8	1.2E-05
1	2024	1	5	8	481130	183	91	62	0		2	0	35.6	75.8	4.23E-06
1	2024	1	5	8	481130	183	90	62	0		2	0	35.6	75.8	4.03E-05
1	2024	1	5	8	481130	183	17	62	0		2	0	35.6	75.8	3.51E-06
1	2024	1	5	8	481130	183	16	62	0		2	0	35.6	75.8	5.27E-08
1	2024	1	5	8	481130	183	16	61	0		2	0	35.6	75.8	1.98E-07
1	2024	1	5	8	481130	183	16	53	0		2	0	35.6	75.8	2.5E-08
1	2024	1	5	8	481130	183	16	52	0		2	0	35.6	75.8	4.03E-07
1	2024	1	5	8	481130	183	16	31	0		2	0	35.6	75.8	5E-07
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1	2024	1	5	8	481130	183	16	61	0		1	0	35.6	75.8	2.55E-07
1	2024	1	5	8	481130	183	16	53	0		1	0	35.6	75.8	7.27E-08
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1	2024	1	5	8	481130	183	16	31	0		1	0	35.6	75.8	7.66E-07
1	2024	1	5	8	481130	183	16	21	0		1	0	35.6	75.8	5.31E-07
1	2024	1	5	8	481130	183	2	62	0		2	0	35.6	75.8	3.84E-06
1	2024	1	5	8	481130	183	2	61	0		2	0	35.6	75.8	1.79E-05
1	2024	1	5	8	481130	183	2	53	0		2	0	35.6	75.8	1.8E-06
1	2024	1	5	8	481130	183	2	52	0		2	0	35.6	75.8	2.91E-05
1	2024	1	5	8	481130	183	2	31	0		2	0	35.6	75.8	5.13E-05
1	2024	1	5	8	481130	183	2	21	0		2	0	35.6	75.8	3.49E-05
1	2024	1	5	8	481130	183	2	61	0		1	0	35.6	75.8	1.93E-05

1	2024	1	5	8	481130	183	2	53	0	1	0	35.6	75.8	5.51E-06
1	2024	1	5	8	481130	183	2	52	0	1	0	35.6	75.8	8.03E-05
1	2024	1	5	8	481130	183	2	31	0	1	0	35.6	75.8	5.8E-05
1	2024	1	5	8	481130	183	2	21	0	1	0	35.6	75.8	4.02E-05
1	2024	1	5	8	481130	181	91	62	0	2	0	35.6	75.8	2.9E-06
1	2024	1	5	8	481130	181	90	62	0	2	0	35.6	75.8	2.43E-05
1	2024	1	5	8	481130	181	17	62	0	2	0	35.6	75.8	1.49E-06
1	2024	1	5	8	481130	181	16	62	0	2	0	35.6	75.8	3.61E-08
1	2024	1	5	8	481130	181	16	61	0	2	0	35.6	75.8	1.35E-07
1	2024	1	5	8	481130	181	16	53	0	2	0	35.6	75.8	1.71E-08
1	2024	1	5	8	481130	181	16	52	0	2	0	35.6	75.8	2.76E-07
1	2024	1	5	8	481130	181	16	31	0	2	0	35.6	75.8	3.31E-07
1	2024	1	5	8	481130	181	16	21	0	2	0	35.6	75.8	6.78E-08
1	2024	1	5	8	481130	181	16	61	0	1	0	35.6	75.8	9.62E-08
1	2024	1	5	8	481130	181	16	53	0	1	0	35.6	75.8	2.74E-08
1	2024	1	5	8	481130	181	16	52	0	1	0	35.6	75.8	3.99E-07
1	2024	1	5	8	481130	181	16	31	0	1	0	35.6	75.8	2.89E-07
1	2024	1	5	8	481130	181	16	21	0	1	0	35.6	75.8	2E-07
1	2024	1	5	8	481130	181	2	62	0	2	0	35.6	75.8	1.75E-06
1	2024	1	5	8	481130	181	2	61	0	2	0	35.6	75.8	7.8E-06
1	2024	1	5	8	481130	181	2	53	0	2	0	35.6	75.8	8.34E-07
1	2024	1	5	8	481130	181	2	52	0	2	0	35.6	75.8	1.33E-05
1	2024	1	5	8	481130	181	2	31	0	2	0	35.6	75.8	2.74E-05
1	2024	1	5	8	481130	181	2	21	0	2	0	35.6	75.8	1.62E-05
1	2024	1	5	8	481130	181	2	61	0	1	0	35.6	75.8	7.29E-06
1	2024	1	5	8	481130	181	2	53	0	1	0	35.6	75.8	2.08E-06
1	2024	1	5	8	481130	181	2	52	0	1	0	35.6	75.8	3.03E-05
1	2024	1	5	8	481130	181	2	31	0	1	0	35.6	75.8	2.19E-05
1	2024	1	5	8	481130	181	2	21	0	1	0	35.6	75.8	1.51E-05
1	2024	1	5	8	481130	172	91	62	0	2	0	35.6	75.8	1.4E-06
1	2024	1	5	8	481130	172	90	62	0	2	0	35.6	75.8	1.1E-05
1	2024	1	5	8	481130	172	17	62	0	2	0	35.6	75.8	5.13E-07
1	2024	1	5	8	481130	172	16	62	0	2	0	35.6	75.8	1.75E-08
1	2024	1	5	8	481130	172	16	61	0	2	0	35.6	75.8	6.56E-08
1	2024	1	5	8	481130	172	16	53	0	2	0	35.6	75.8	8.3E-09
1	2024	1	5	8	481130	172	16	52	0	2	0	35.6	75.8	1.34E-07
1	2024	1	5	8	481130	172	16	31	0	2	0	35.6	75.8	1.57E-07
1	2024	1	5	8	481130	172	16	21	0	2	0	35.6	75.8	2.98E-08
1	2024	1	5	8	481130	172	16	61	0	1	0	35.6	75.8	3.98E-08
1	2024	1	5	8	481130	172	16	53	0	1	0	35.6	75.8	1.14E-08
1	2024	1	5	8	481130	172	16	52	0	1	0	35.6	75.8	1.65E-07
1	2024	1	5	8	481130	172	16	31	0	1	0	35.6	75.8	1.2E-07
1	2024	1	5	8	481130	172	16	21	0	1	0	35.6	75.8	8.28E-08
1	2024	1	5	8	481130	172	2	62	0	2	0	35.6	75.8	6.17E-07
1	2024	1	5	8	481130	172	2	61	0	2	0	35.6	75.8	2.56E-06
1	2024	1	5	8	481130	172	2	53	0	2	0	35.6	75.8	2.95E-07
1	2024	1	5	8	481130	172	2	52	0	2	0	35.6	75.8	4.72E-06
1	2024	1	5	8	481130	172	2	31	0	2	0	35.6	75.8	1.12E-05
1	2024	1	5	8	481130	172	2	21	0	2	0	35.6	75.8	5.81E-06
1	2024	1	5	8	481130	172	2	61	0	1	0	35.6	75.8	3.02E-06
1	2024	1	5	8	481130	172	2	53	0	1	0	35.6	75.8	8.6E-07
1	2024	1	5	8	481130	172	2	52	0	1	0	35.6	75.8	1.25E-05
1	2024	1	5	8	481130	172	2	31	0	1	0	35.6	75.8	9.05E-06
1	2024	1	5	8	481130	172	2	21	0	1	0	35.6	75.8	6.27E-06
1	2024	1	5	8	481130	171	91	62	0	2	0	35.6	75.8	2.99E-06
1	2024	1	5	8	481130	171	90	62	0	2	0	35.6	75.8	2.36E-05
1	2024	1	5	8	481130	171	17	62	0	2	0	35.6	75.8	1.13E-06
1	2024	1	5	8	481130	171	16	62	0	2	0	35.6	75.8	3.72E-08
1	2024	1	5	8	481130	171	16	61	0	2	0	35.6	75.8	1.4E-07
1	2024	1	5	8	481130	171	16	53	0	2	0	35.6	75.8	1.77E-08
1	2024	1	5	8	481130	171	16	52	0	2	0	35.6	75.8	2.85E-07
1	2024	1	5	8	481130	171	16	31	0	2	0	35.6	75.8	3.36E-07
1	2024	1	5	8	481130	171	16	21	0	2	0	35.6	75.8	6.4E-08
1	2024	1	5	8	481130	171	16	61	0	1	0	35.6	75.8	2.15E-07
1	2024	1	5	8	481130	171	16	53	0	1	0	35.6	75.8	6.14E-08
1	2024	1	5	8	481130	171	16	52	0	1	0	35.6	75.8	8.95E-07
1	2024	1	5	8	481130	171	16	31	0	1	0	35.6	75.8	6.47E-07
1	2024	1	5	8	481130	171	16	21	0	1	0	35.6	75.8	4.48E-07
1	2024	1	5	8	481130	171	2	62	0	2	0	35.6	75.8	1.35E-06
1	2024	1	5	8	481130	171	2	61	0	2	0	35.6	75.8	5.62E-06
1	2024	1	5	8	481130	171	2	53	0	2	0	35.6	75.8	6.43E-07
1	2024	1	5	8	481130	171	2	52	0	2	0	35.6	75.8	1.03E-05
1	2024	1	5	8	481130	171	2	31	0	2	0	35.6	75.8	2.42E-05
1	2024	1	5	8	481130	171	2	21	0	2	0	35.6	75.8	1.27E-05
1	2024	1	5	8	481130	171	2	61	0	1	0	35.6	75.8	1.63E-05
1	2024	1	5	8	481130	171	2	53	0	1	0	35.6	75.8	4.65E-06
1	2024	1	5	8	481130	171	2	52	0	1	0	35.6	75.8	6.78E-05
1	2024	1	5	8	481130	171	2	31	0	1	0	35.6	75.8	4.9E-05
1	2024	1	5	8	481130	171	2	21	0	1	0	35.6	75.8	3.39E-05
1	2024	1	5	8	481130	170	91	62	0	2	0	35.6	75.8	1.78E-06

1	2024	1	5	8	481130	170	90	62	0	2	0	35.6	75.8	1.43E-05
1	2024	1	5	8	481130	170	17	62	0	2	0	35.6	75.8	7.62E-07
1	2024	1	5	8	481130	170	16	62	0	2	0	35.6	75.8	2.21E-08
1	2024	1	5	8	481130	170	16	61	0	2	0	35.6	75.8	8.32E-08
1	2024	1	5	8	481130	170	16	53	0	2	0	35.6	75.8	1.05E-08
1	2024	1	5	8	481130	170	16	52	0	2	0	35.6	75.8	1.69E-07
1	2024	1	5	8	481130	170	16	31	0	2	0	35.6	75.8	2.01E-07
1	2024	1	5	8	481130	170	16	21	0	2	0	35.6	75.8	3.98E-08
1	2024	1	5	8	481130	170	16	61	0	1	0	35.6	75.8	4.75E-08
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1	2024	1	5	8	481130	170	16	52	0	1	0	35.6	75.8	1.97E-07
1	2024	1	5	8	481130	170	16	31	0	1	0	35.6	75.8	1.42E-07
1	2024	1	5	8	481130	170	16	21	0	1	0	35.6	75.8	9.87E-08
1	2024	1	5	8	481130	170	2	62	0	2	0	35.6	75.8	9.35E-07
1	2024	1	5	8	481130	170	2	61	0	2	0	35.6	75.8	4.09E-06
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1	2024	1	5	8	481130	170	2	52	0	2	0	35.6	75.8	7.15E-06
1	2024	1	5	8	481130	170	2	31	0	2	0	35.6	75.8	1.56E-05
1	2024	1	5	8	481130	170	2	21	0	2	0	35.6	75.8	8.76E-06
1	2024	1	5	8	481130	170	2	61	0	1	0	35.6	75.8	3.6E-06
1	2024	1	5	8	481130	170	2	53	0	1	0	35.6	75.8	1.02E-06
1	2024	1	5	8	481130	170	2	52	0	1	0	35.6	75.8	1.49E-05
1	2024	1	5	8	481130	170	2	31	0	1	0	35.6	75.8	1.08E-05
1	2024	1	5	8	481130	170	2	21	0	1	0	35.6	75.8	7.48E-06
1	2024	1	5	8	481130	169	91	62	0	2	0	35.6	75.8	2.12E-06
1	2024	1	5	8	481130	169	90	62	0	2	0	35.6	75.8	1.65E-05
1	2024	1	5	8	481130	169	17	62	0	2	0	35.6	75.8	7.33E-07
1	2024	1	5	8	481130	169	16	62	0	2	0	35.6	75.8	2.64E-08
1	2024	1	5	8	481130	169	16	61	0	2	0	35.6	75.8	9.93E-08
1	2024	1	5	8	481130	169	16	53	0	2	0	35.6	75.8	1.26E-08
1	2024	1	5	8	481130	169	16	52	0	2	0	35.6	75.8	2.02E-07
1	2024	1	5	8	481130	169	16	31	0	2	0	35.6	75.8	2.37E-07
1	2024	1	5	8	481130	169	16	21	0	2	0	35.6	75.8	4.42E-08
1	2024	1	5	8	481130	169	16	61	0	1	0	35.6	75.8	6.66E-08
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1	2024	1	5	8	481130	169	16	31	0	1	0	35.6	75.8	2E-07
1	2024	1	5	8	481130	169	16	21	0	1	0	35.6	75.8	1.38E-07
1	2024	1	5	8	481130	169	2	62	0	2	0	35.6	75.8	8.68E-07
1	2024	1	5	8	481130	169	2	61	0	2	0	35.6	75.8	3.49E-06
1	2024	1	5	8	481130	169	2	53	0	2	0	35.6	75.8	4.12E-07
1	2024	1	5	8	481130	169	2	52	0	2	0	35.6	75.8	6.63E-06
1	2024	1	5	8	481130	169	2	31	0	2	0	35.6	75.8	1.64E-05
1	2024	1	5	8	481130	169	2	21	0	2	0	35.6	75.8	8.17E-06
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1	2024	1	5	8	481130	169	2	52	0	1	0	35.6	75.8	2.1E-05
1	2024	1	5	8	481130	169	2	31	0	1	0	35.6	75.8	1.51E-05
1	2024	1	5	8	481130	169	2	21	0	1	0	35.6	75.8	1.05E-05
1	2024	1	5	8	481130	110	91	62	0	2	0	35.6	75.8	0.002027
1	2024	1	5	8	481130	110	90	62	0	2	0	35.6	75.8	0.013304
1	2024	1	5	8	481130	110	17	62	0	2	0	35.6	75.8	0.007979
1	2024	1	5	8	481130	110	16	62	0	2	0	35.6	75.8	1.62E-05
1	2024	1	5	8	481130	110	16	61	0	2	0	35.6	75.8	1.83E-05
1	2024	1	5	8	481130	110	16	53	0	2	0	35.6	75.8	3.17E-06
1	2024	1	5	8	481130	110	16	52	0	2	0	35.6	75.8	5.11E-05
1	2024	1	5	8	481130	110	16	31	0	2	0	35.6	75.8	0.000111
1	2024	1	5	8	481130	110	16	21	0	2	0	35.6	75.8	2.2E-05
1	2024	1	5	8	481130	110	16	61	0	1	0	35.6	75.8	2.42E-05
1	2024	1	5	8	481130	110	16	53	0	1	0	35.6	75.8	1.16E-05
1	2024	1	5	8	481130	110	16	52	0	1	0	35.6	75.8	0.00017
1	2024	1	5	8	481130	110	16	31	0	1	0	35.6	75.8	0.00011
1	2024	1	5	8	481130	110	16	21	0	1	0	35.6	75.8	5.52E-05
1	2024	1	5	8	481130	110	2	62	0	2	0	35.6	75.8	0.000315
1	2024	1	5	8	481130	110	2	61	0	2	0	35.6	75.8	0.000591
1	2024	1	5	8	481130	110	2	53	0	2	0	35.6	75.8	5.33E-05
1	2024	1	5	8	481130	110	2	52	0	2	0	35.6	75.8	0.000821
1	2024	1	5	8	481130	110	2	31	0	2	0	35.6	75.8	0.003561
1	2024	1	5	8	481130	110	2	21	0	2	0	35.6	75.8	0.002202
1	2024	1	5	8	481130	110	2	61	0	1	0	35.6	75.8	0.003031
1	2024	1	5	8	481130	110	2	53	0	1	0	35.6	75.8	0.001447
1	2024	1	5	8	481130	110	2	52	0	1	0	35.6	75.8	0.021253
1	2024	1	5	8	481130	110	2	31	0	1	0	35.6	75.8	0.01371
1	2024	1	5	8	481130	110	2	21	0	1	0	35.6	75.8	0.006901
1	2024	1	5	8	481130	100	91	62	0	2	0	35.6	75.8	0.002203
1	2024	1	5	8	481130	100	90	62	0	2	0	35.6	75.8	0.014461
1	2024	1	5	8	481130	100	17	62	0	2	0	35.6	75.8	0.008673
1	2024	1	5	8	481130	100	16	62	0	2	0	35.6	75.8	1.76E-05
1	2024	1	5	8	481130	100	16	61	0	2	0	35.6	75.8	1.99E-05
1	2024	1	5	8	481130	100	16	53	0	2	0	35.6	75.8	3.45E-06

1	2024	1	5	8	481130	100	16	52	0	2	0	35.6	75.8	5.55E-05
1	2024	1	5	8	481130	100	16	31	0	2	0	35.6	75.8	0.000121
1	2024	1	5	8	481130	100	16	21	0	2	0	35.6	75.8	2.39E-05
1	2024	1	5	8	481130	100	16	61	0	1	0	35.6	75.8	2.74E-05
1	2024	1	5	8	481130	100	16	53	0	1	0	35.6	75.8	1.31E-05
1	2024	1	5	8	481130	100	16	52	0	1	0	35.6	75.8	0.000192
1	2024	1	5	8	481130	100	16	31	0	1	0	35.6	75.8	0.000124
1	2024	1	5	8	481130	100	16	21	0	1	0	35.6	75.8	6.24E-05
1	2024	1	5	8	481130	100	2	62	0	2	0	35.6	75.8	0.000343
1	2024	1	5	8	481130	100	2	61	0	2	0	35.6	75.8	0.000642
1	2024	1	5	8	481130	100	2	53	0	2	0	35.6	75.8	5.79E-05
1	2024	1	5	8	481130	100	2	52	0	2	0	35.6	75.8	0.000892
1	2024	1	5	8	481130	100	2	31	0	2	0	35.6	75.8	0.003871
1	2024	1	5	8	481130	100	2	21	0	2	0	35.6	75.8	0.002394
1	2024	1	5	8	481130	100	2	61	0	1	0	35.6	75.8	0.003426
1	2024	1	5	8	481130	100	2	53	0	1	0	35.6	75.8	0.001635
1	2024	1	5	8	481130	100	2	52	0	1	0	35.6	75.8	0.024025
1	2024	1	5	8	481130	100	2	31	0	1	0	35.6	75.8	0.015498
1	2024	1	5	8	481130	100	2	21	0	1	0	35.6	75.8	0.007801
1	2024	1	5	8	481130	90	91	62	0	2	0	35.6	75.8	15.7777
1	2024	1	5	8	481130	90	90	62	0	2	0	35.6	75.8	173.287
1	2024	1	5	8	481130	90	2	62	0	2	0	35.6	75.8	9.02609
1	2024	1	5	8	481130	90	2	61	0	2	0	35.6	75.8	19.2761
1	2024	1	5	8	481130	90	2	53	0	2	0	35.6	75.8	2.13942
1	2024	1	5	8	481130	90	2	52	0	2	0	35.6	75.8	32.5855
1	2024	1	5	8	481130	90	2	31	0	2	0	35.6	75.8	64.296
1	2024	1	5	8	481130	90	2	21	0	2	0	35.6	75.8	35.6132
1	2024	1	5	8	481130	90	2	61	0	1	0	35.6	75.8	3.64065
1	2024	1	5	8	481130	90	2	53	0	1	0	35.6	75.8	2.87989
1	2024	1	5	8	481130	90	2	52	0	1	0	35.6	75.8	42.2012
1	2024	1	5	8	481130	90	2	31	0	1	0	35.6	75.8	77.4732
1	2024	1	5	8	481130	90	2	21	0	1	0	35.6	75.8	48.5754
1	2024	1	5	8	481130	87	91	62	0	2	0	35.6	75.8	0.005976
1	2024	1	5	8	481130	87	90	62	0	2	0	35.6	75.8	0.094389
1	2024	1	5	8	481130	87	19	62	0	2	0	35.6	75.8	0.003289
1	2024	1	5	8	481130	87	19	61	0	2	0	35.6	75.8	0.000616
1	2024	1	5	8	481130	87	19	53	0	2	0	35.6	75.8	7.17E-05
1	2024	1	5	8	481130	87	19	52	0	2	0	35.6	75.8	0.000383
1	2024	1	5	8	481130	87	19	31	0	2	0	35.6	75.8	0.000519
1	2024	1	5	8	481130	87	19	21	0	2	0	35.6	75.8	0.000296
1	2024	1	5	8	481130	87	19	61	0	1	0	35.6	75.8	0.000379
1	2024	1	5	8	481130	87	19	53	0	1	0	35.6	75.8	0.000157
1	2024	1	5	8	481130	87	19	52	0	1	0	35.6	75.8	0.000648
1	2024	1	5	8	481130	87	19	31	0	1	0	35.6	75.8	0.000791
1	2024	1	5	8	481130	87	19	21	0	1	0	35.6	75.8	0.000496
1	2024	1	5	8	481130	87	18	62	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	87	18	61	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	87	18	53	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	87	18	52	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	87	18	31	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	87	18	21	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	87	18	61	0	1	0	35.6	75.8	0.000344
1	2024	1	5	8	481130	87	18	53	0	1	0	35.6	75.8	9.59E-05
1	2024	1	5	8	481130	87	18	52	0	1	0	35.6	75.8	0.000444
1	2024	1	5	8	481130	87	18	31	0	1	0	35.6	75.8	0.000117
1	2024	1	5	8	481130	87	18	21	0	1	0	35.6	75.8	3.81E-05
1	2024	1	5	8	481130	87	17	62	0	2	0	35.6	75.8	0.015673
1	2024	1	5	8	481130	87	16	62	0	2	0	35.6	75.8	7.44E-05
1	2024	1	5	8	481130	87	16	61	0	2	0	35.6	75.8	0.000279
1	2024	1	5	8	481130	87	16	53	0	2	0	35.6	75.8	3.53E-05
1	2024	1	5	8	481130	87	16	52	0	2	0	35.6	75.8	0.000569
1	2024	1	5	8	481130	87	16	31	0	2	0	35.6	75.8	0.000931
1	2024	1	5	8	481130	87	16	21	0	2	0	35.6	75.8	0.000393
1	2024	1	5	8	481130	87	16	61	0	1	0	35.6	75.8	0.00119
1	2024	1	5	8	481130	87	16	53	0	1	0	35.6	75.8	0.000339
1	2024	1	5	8	481130	87	16	52	0	1	0	35.6	75.8	0.004944
1	2024	1	5	8	481130	87	16	31	0	1	0	35.6	75.8	0.003571
1	2024	1	5	8	481130	87	16	21	0	1	0	35.6	75.8	0.002475
1	2024	1	5	8	481130	87	13	61	0	1	0	35.6	75.8	0.687936
1	2024	1	5	8	481130	87	13	53	0	1	0	35.6	75.8	0.161808
1	2024	1	5	8	481130	87	13	52	0	1	0	35.6	75.8	0.144389
1	2024	1	5	8	481130	87	13	31	0	1	0	35.6	75.8	0.079844
1	2024	1	5	8	481130	87	13	21	0	1	0	35.6	75.8	0.057852
1	2024	1	5	8	481130	87	11	61	0	1	0	35.6	75.8	0.116125
1	2024	1	5	8	481130	87	11	53	0	1	0	35.6	75.8	0.02081
1	2024	1	5	8	481130	87	11	52	0	1	0	35.6	75.8	0.019754
1	2024	1	5	8	481130	87	11	31	0	1	0	35.6	75.8	0.00886
1	2024	1	5	8	481130	87	11	21	0	1	0	35.6	75.8	0.007752
1	2024	1	5	8	481130	87	2	62	0	2	0	35.6	75.8	0.022009
1	2024	1	5	8	481130	87	2	61	0	2	0	35.6	75.8	0.120387

1	2024	1	5	8	481130	87	2	53	0	2	0	35.6	75.8	0.011165
1	2024	1	5	8	481130	87	2	52	0	2	0	35.6	75.8	0.169796
1	2024	1	5	8	481130	87	2	31	0	2	0	35.6	75.8	0.224884
1	2024	1	5	8	481130	87	2	21	0	2	0	35.6	75.8	0.2047
1	2024	1	5	8	481130	87	2	61	0	1	0	35.6	75.8	0.090171
1	2024	1	5	8	481130	87	2	53	0	1	0	35.6	75.8	0.025693
1	2024	1	5	8	481130	87	2	52	0	1	0	35.6	75.8	0.374522
1	2024	1	5	8	481130	87	2	31	0	1	0	35.6	75.8	0.270551
1	2024	1	5	8	481130	87	2	21	0	1	0	35.6	75.8	0.187466
1	2024	1	5	8	481130	46	91	62	0	2	0	35.6	75.8	2.26E-05
1	2024	1	5	8	481130	46	90	62	0	2	0	35.6	75.8	0.004129
1	2024	1	5	8	481130	46	19	62	0	2	0	35.6	75.8	2.32E-05
1	2024	1	5	8	481130	46	19	61	0	2	0	35.6	75.8	4.35E-06
1	2024	1	5	8	481130	46	19	53	0	2	0	35.6	75.8	5.06E-07
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1	2024	1	5	8	481130	46	19	31	0	2	0	35.6	75.8	3.66E-06
1	2024	1	5	8	481130	46	19	21	0	2	0	35.6	75.8	2.09E-06
1	2024	1	5	8	481130	46	19	61	0	1	0	35.6	75.8	2.44E-05
1	2024	1	5	8	481130	46	19	53	0	1	0	35.6	75.8	1.01E-05
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1	2024	1	5	8	481130	46	19	31	0	1	0	35.6	75.8	5.08E-05
1	2024	1	5	8	481130	46	19	21	0	1	0	35.6	75.8	3.19E-05
1	2024	1	5	8	481130	46	18	61	0	1	0	35.6	75.8	2.21E-05
1	2024	1	5	8	481130	46	18	53	0	1	0	35.6	75.8	6.16E-06
1	2024	1	5	8	481130	46	18	52	0	1	0	35.6	75.8	2.85E-05
1	2024	1	5	8	481130	46	18	31	0	1	0	35.6	75.8	7.53E-06
1	2024	1	5	8	481130	46	18	21	0	1	0	35.6	75.8	2.45E-06
1	2024	1	5	8	481130	46	17	62	0	2	0	35.6	75.8	0.001133
1	2024	1	5	8	481130	46	16	62	0	2	0	35.6	75.8	2.81E-07
1	2024	1	5	8	481130	46	16	61	0	2	0	35.6	75.8	1.06E-06
1	2024	1	5	8	481130	46	16	53	0	2	0	35.6	75.8	1.34E-07
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1	2024	1	5	8	481130	46	16	31	0	2	0	35.6	75.8	2.51E-05
1	2024	1	5	8	481130	46	16	21	0	2	0	35.6	75.8	2.34E-05
1	2024	1	5	8	481130	46	16	61	0	1	0	35.6	75.8	8.29E-05
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1	2024	1	5	8	481130	46	16	52	0	1	0	35.6	75.8	0.000305
1	2024	1	5	8	481130	46	16	31	0	1	0	35.6	75.8	0.000225
1	2024	1	5	8	481130	46	16	21	0	1	0	35.6	75.8	0.000154
1	2024	1	5	8	481130	46	13	61	0	1	0	35.6	75.8	0.044186
1	2024	1	5	8	481130	46	13	53	0	1	0	35.6	75.8	0.010393
1	2024	1	5	8	481130	46	13	52	0	1	0	35.6	75.8	0.009274
1	2024	1	5	8	481130	46	13	31	0	1	0	35.6	75.8	0.005128
1	2024	1	5	8	481130	46	13	21	0	1	0	35.6	75.8	0.003716
1	2024	1	5	8	481130	46	11	61	0	1	0	35.6	75.8	0.001277
1	2024	1	5	8	481130	46	11	53	0	1	0	35.6	75.8	0.000229
1	2024	1	5	8	481130	46	11	52	0	1	0	35.6	75.8	0.000217
1	2024	1	5	8	481130	46	11	31	0	1	0	35.6	75.8	9.75E-05
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1	2024	1	5	8	481130	46	2	62	0	2	0	35.6	75.8	0.001673
1	2024	1	5	8	481130	46	2	61	0	2	0	35.6	75.8	0.009493
1	2024	1	5	8	481130	46	2	53	0	2	0	35.6	75.8	0.000861
1	2024	1	5	8	481130	46	2	52	0	2	0	35.6	75.8	0.012946
1	2024	1	5	8	481130	46	2	31	0	2	0	35.6	75.8	0.015412
1	2024	1	5	8	481130	46	2	21	0	2	0	35.6	75.8	0.015592
1	2024	1	5	8	481130	46	2	61	0	1	0	35.6	75.8	0.006281
1	2024	1	5	8	481130	46	2	53	0	1	0	35.6	75.8	0.00159
1	2024	1	5	8	481130	46	2	52	0	1	0	35.6	75.8	0.023072
1	2024	1	5	8	481130	46	2	31	0	1	0	35.6	75.8	0.017067
1	2024	1	5	8	481130	46	2	21	0	1	0	35.6	75.8	0.011648
1	2024	1	5	8	481130	45	91	62	0	2	0	35.6	75.8	2.59E-05
1	2024	1	5	8	481130	45	90	62	0	2	0	35.6	75.8	0.001157
1	2024	1	5	8	481130	45	19	62	0	2	0	35.6	75.8	7.73E-06
1	2024	1	5	8	481130	45	19	61	0	2	0	35.6	75.8	1.45E-06
1	2024	1	5	8	481130	45	19	53	0	2	0	35.6	75.8	1.68E-07
1	2024	1	5	8	481130	45	19	52	0	2	0	35.6	75.8	9E-07
1	2024	1	5	8	481130	45	19	31	0	2	0	35.6	75.8	1.22E-06
1	2024	1	5	8	481130	45	19	21	0	2	0	35.6	75.8	6.95E-07
1	2024	1	5	8	481130	45	19	61	0	1	0	35.6	75.8	5.44E-05
1	2024	1	5	8	481130	45	19	53	0	1	0	35.6	75.8	2.25E-05
1	2024	1	5	8	481130	45	19	52	0	1	0	35.6	75.8	9.29E-05
1	2024	1	5	8	481130	45	19	31	0	1	0	35.6	75.8	0.000113
1	2024	1	5	8	481130	45	19	21	0	1	0	35.6	75.8	7.11E-05
1	2024	1	5	8	481130	45	18	61	0	1	0	35.6	75.8	4.93E-05
1	2024	1	5	8	481130	45	18	53	0	1	0	35.6	75.8	1.37E-05
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1	2024	1	5	8	481130	45	18	31	0	1	0	35.6	75.8	1.68E-05
1	2024	1	5	8	481130	45	18	21	0	1	0	35.6	75.8	5.47E-06
1	2024	1	5	8	481130	45	17	62	0	2	0	35.6	75.8	0.000279
1	2024	1	5	8	481130	45	16	62	0	2	0	35.6	75.8	3.22E-07

1	2024	1	5	8	481130	45	16	61	0	2	0	35.6	75.8	1.21E-06
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1	2024	1	5	8	481130	45	16	21	0	2	0	35.6	75.8	5.62E-06
1	2024	1	5	8	481130	45	16	61	0	1	0	35.6	75.8	0.000102
1	2024	1	5	8	481130	45	16	53	0	1	0	35.6	75.8	2.58E-05
1	2024	1	5	8	481130	45	16	52	0	1	0	35.6	75.8	0.000375
1	2024	1	5	8	481130	45	16	31	0	1	0	35.6	75.8	0.000277
1	2024	1	5	8	481130	45	16	21	0	1	0	35.6	75.8	0.000189
1	2024	1	5	8	481130	45	13	61	0	1	0	35.6	75.8	0.098623
1	2024	1	5	8	481130	45	13	53	0	1	0	35.6	75.8	0.023197
1	2024	1	5	8	481130	45	13	52	0	1	0	35.6	75.8	0.0207
1	2024	1	5	8	481130	45	13	31	0	1	0	35.6	75.8	0.011446
1	2024	1	5	8	481130	45	13	21	0	1	0	35.6	75.8	0.008294
1	2024	1	5	8	481130	45	11	61	0	1	0	35.6	75.8	0.011729
1	2024	1	5	8	481130	45	11	53	0	1	0	35.6	75.8	0.002102
1	2024	1	5	8	481130	45	11	52	0	1	0	35.6	75.8	0.001995
1	2024	1	5	8	481130	45	11	31	0	1	0	35.6	75.8	0.000895
1	2024	1	5	8	481130	45	11	21	0	1	0	35.6	75.8	0.000783
1	2024	1	5	8	481130	45	2	62	0	2	0	35.6	75.8	0.000382
1	2024	1	5	8	481130	45	2	61	0	2	0	35.6	75.8	0.002124
1	2024	1	5	8	481130	45	2	53	0	2	0	35.6	75.8	0.000193
1	2024	1	5	8	481130	45	2	52	0	2	0	35.6	75.8	0.002944
1	2024	1	5	8	481130	45	2	31	0	2	0	35.6	75.8	0.003584
1	2024	1	5	8	481130	45	2	21	0	2	0	35.6	75.8	0.003533
1	2024	1	5	8	481130	45	2	61	0	1	0	35.6	75.8	0.007732
1	2024	1	5	8	481130	45	2	53	0	1	0	35.6	75.8	0.001957
1	2024	1	5	8	481130	45	2	52	0	1	0	35.6	75.8	0.028389
1	2024	1	5	8	481130	45	2	31	0	1	0	35.6	75.8	0.021003
1	2024	1	5	8	481130	45	2	21	0	1	0	35.6	75.8	0.014333
1	2024	1	5	8	481130	43	91	62	0	2	0	35.6	75.8	2.8E-05
1	2024	1	5	8	481130	43	90	62	0	2	0	35.6	75.8	0.000355
1	2024	1	5	8	481130	43	17	62	0	2	0	35.6	75.8	4.87E-05
1	2024	1	5	8	481130	43	16	62	0	2	0	35.6	75.8	3.48E-07
1	2024	1	5	8	481130	43	16	61	0	2	0	35.6	75.8	1.31E-06
1	2024	1	5	8	481130	43	16	53	0	2	0	35.6	75.8	1.65E-07
1	2024	1	5	8	481130	43	16	52	0	2	0	35.6	75.8	2.66E-06
1	2024	1	5	8	481130	43	16	31	0	2	0	35.6	75.8	3.88E-06
1	2024	1	5	8	481130	43	16	21	0	2	0	35.6	75.8	1.35E-06
1	2024	1	5	8	481130	43	16	61	0	1	0	35.6	75.8	9.98E-07
1	2024	1	5	8	481130	43	16	53	0	1	0	35.6	75.8	1.99E-07
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1	2024	1	5	8	481130	43	2	61	0	2	0	35.6	75.8	0.000363
1	2024	1	5	8	481130	43	2	53	0	2	0	35.6	75.8	3.41E-05
1	2024	1	5	8	481130	43	2	52	0	2	0	35.6	75.8	0.000521
1	2024	1	5	8	481130	43	2	31	0	2	0	35.6	75.8	0.000728
1	2024	1	5	8	481130	43	2	21	0	2	0	35.6	75.8	0.000629
1	2024	1	5	8	481130	43	2	61	0	1	0	35.6	75.8	7.56E-05
1	2024	1	5	8	481130	43	2	53	0	1	0	35.6	75.8	1.51E-05
1	2024	1	5	8	481130	43	2	52	0	1	0	35.6	75.8	0.000216
1	2024	1	5	8	481130	43	2	31	0	1	0	35.6	75.8	0.000169
1	2024	1	5	8	481130	43	2	21	0	1	0	35.6	75.8	0.000111
1	2024	1	5	8	481130	42	91	62	0	2	0	35.6	75.8	1.18E-05
1	2024	1	5	8	481130	42	90	62	0	2	0	35.6	75.8	0.000155
1	2024	1	5	8	481130	42	19	62	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	42	19	61	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	42	19	53	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	42	19	52	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	42	19	31	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	42	19	21	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	42	19	61	0	1	0	35.6	75.8	9.62E-06
1	2024	1	5	8	481130	42	19	53	0	1	0	35.6	75.8	3.99E-06
1	2024	1	5	8	481130	42	19	52	0	1	0	35.6	75.8	1.64E-05
1	2024	1	5	8	481130	42	19	31	0	1	0	35.6	75.8	2.01E-05
1	2024	1	5	8	481130	42	19	21	0	1	0	35.6	75.8	1.26E-05
1	2024	1	5	8	481130	42	18	61	0	1	0	35.6	75.8	8.71E-06
1	2024	1	5	8	481130	42	18	53	0	1	0	35.6	75.8	2.43E-06
1	2024	1	5	8	481130	42	18	52	0	1	0	35.6	75.8	1.13E-05
1	2024	1	5	8	481130	42	18	31	0	1	0	35.6	75.8	2.97E-06
1	2024	1	5	8	481130	42	18	21	0	1	0	35.6	75.8	9.67E-07
1	2024	1	5	8	481130	42	17	62	0	2	0	35.6	75.8	2.18E-05
1	2024	1	5	8	481130	42	16	62	0	2	0	35.6	75.8	1.46E-07
1	2024	1	5	8	481130	42	16	61	0	2	0	35.6	75.8	5.5E-07
1	2024	1	5	8	481130	42	16	53	0	2	0	35.6	75.8	6.96E-08
1	2024	1	5	8	481130	42	16	52	0	2	0	35.6	75.8	1.12E-06
1	2024	1	5	8	481130	42	16	31	0	2	0	35.6	75.8	1.58E-06

1	2024	1	5	8	481130	42	16	21	0	2	0	35.6	75.8	5.11E-07
1	2024	1	5	8	481130	42	16	61	0	1	0	35.6	75.8	2E-05
1	2024	1	5	8	481130	42	16	53	0	1	0	35.6	75.8	9.23E-06
1	2024	1	5	8	481130	42	16	52	0	1	0	35.6	75.8	0.000136
1	2024	1	5	8	481130	42	16	31	0	1	0	35.6	75.8	9.15E-05
1	2024	1	5	8	481130	42	16	21	0	1	0	35.6	75.8	6.65E-05
1	2024	1	5	8	481130	42	13	61	0	1	0	35.6	75.8	0.017446
1	2024	1	5	8	481130	42	13	53	0	1	0	35.6	75.8	0.004103
1	2024	1	5	8	481130	42	13	52	0	1	0	35.6	75.8	0.003662
1	2024	1	5	8	481130	42	13	31	0	1	0	35.6	75.8	0.002025
1	2024	1	5	8	481130	42	13	21	0	1	0	35.6	75.8	0.001467
1	2024	1	5	8	481130	42	11	61	0	1	0	35.6	75.8	0.007548
1	2024	1	5	8	481130	42	11	53	0	1	0	35.6	75.8	0.001353
1	2024	1	5	8	481130	42	11	52	0	1	0	35.6	75.8	0.001284
1	2024	1	5	8	481130	42	11	31	0	1	0	35.6	75.8	0.000576
1	2024	1	5	8	481130	42	11	21	0	1	0	35.6	75.8	0.000504
1	2024	1	5	8	481130	42	2	62	0	2	0	35.6	75.8	2.49E-05
1	2024	1	5	8	481130	42	2	61	0	2	0	35.6	75.8	0.000126
1	2024	1	5	8	481130	42	2	53	0	2	0	35.6	75.8	1.19E-05
1	2024	1	5	8	481130	42	2	52	0	2	0	35.6	75.8	0.000189
1	2024	1	5	8	481130	42	2	31	0	2	0	35.6	75.8	0.00027
1	2024	1	5	8	481130	42	2	21	0	2	0	35.6	75.8	0.000225
1	2024	1	5	8	481130	42	2	61	0	1	0	35.6	75.8	0.001517
1	2024	1	5	8	481130	42	2	53	0	1	0	35.6	75.8	0.000699
1	2024	1	5	8	481130	42	2	52	0	1	0	35.6	75.8	0.010335
1	2024	1	5	8	481130	42	2	31	0	1	0	35.6	75.8	0.00693
1	2024	1	5	8	481130	42	2	21	0	1	0	35.6	75.8	0.005039
1	2024	1	5	8	481130	41	91	62	0	2	0	35.6	75.8	1.59E-05
1	2024	1	5	8	481130	41	90	62	0	2	0	35.6	75.8	0.000649
1	2024	1	5	8	481130	41	19	62	0	2	0	35.6	75.8	3.39E-06
1	2024	1	5	8	481130	41	19	61	0	2	0	35.6	75.8	6.34E-07
1	2024	1	5	8	481130	41	19	53	0	2	0	35.6	75.8	7.38E-08
1	2024	1	5	8	481130	41	19	52	0	2	0	35.6	75.8	3.94E-07
1	2024	1	5	8	481130	41	19	31	0	2	0	35.6	75.8	5.34E-07
1	2024	1	5	8	481130	41	19	21	0	2	0	35.6	75.8	3.05E-07
1	2024	1	5	8	481130	41	19	61	0	1	0	35.6	75.8	6.53E-06
1	2024	1	5	8	481130	41	19	53	0	1	0	35.6	75.8	2.71E-06
1	2024	1	5	8	481130	41	19	52	0	1	0	35.6	75.8	1.11E-05
1	2024	1	5	8	481130	41	19	31	0	1	0	35.6	75.8	1.36E-05
1	2024	1	5	8	481130	41	19	21	0	1	0	35.6	75.8	8.54E-06
1	2024	1	5	8	481130	41	18	61	0	1	0	35.6	75.8	5.91E-06
1	2024	1	5	8	481130	41	18	53	0	1	0	35.6	75.8	1.65E-06
1	2024	1	5	8	481130	41	18	52	0	1	0	35.6	75.8	7.64E-06
1	2024	1	5	8	481130	41	18	31	0	1	0	35.6	75.8	2.02E-06
1	2024	1	5	8	481130	41	18	21	0	1	0	35.6	75.8	6.57E-07
1	2024	1	5	8	481130	41	17	62	0	2	0	35.6	75.8	0.000155
1	2024	1	5	8	481130	41	16	62	0	2	0	35.6	75.8	1.97E-07
1	2024	1	5	8	481130	41	16	61	0	2	0	35.6	75.8	7.42E-07
1	2024	1	5	8	481130	41	16	53	0	2	0	35.6	75.8	9.38E-08
1	2024	1	5	8	481130	41	16	52	0	2	0	35.6	75.8	1.51E-06
1	2024	1	5	8	481130	41	16	31	0	2	0	35.6	75.8	4.75E-06
1	2024	1	5	8	481130	41	16	21	0	2	0	35.6	75.8	3.36E-06
1	2024	1	5	8	481130	41	16	61	0	1	0	35.6	75.8	2.28E-05
1	2024	1	5	8	481130	41	16	53	0	1	0	35.6	75.8	5.76E-06
1	2024	1	5	8	481130	41	16	52	0	1	0	35.6	75.8	8.36E-05
1	2024	1	5	8	481130	41	16	31	0	1	0	35.6	75.8	6.19E-05
1	2024	1	5	8	481130	41	16	21	0	1	0	35.6	75.8	4.22E-05
1	2024	1	5	8	481130	41	13	61	0	1	0	35.6	75.8	0.011839
1	2024	1	5	8	481130	41	13	53	0	1	0	35.6	75.8	0.002785
1	2024	1	5	8	481130	41	13	52	0	1	0	35.6	75.8	0.002485
1	2024	1	5	8	481130	41	13	31	0	1	0	35.6	75.8	0.001374
1	2024	1	5	8	481130	41	13	21	0	1	0	35.6	75.8	0.000996
1	2024	1	5	8	481130	41	11	61	0	1	0	35.6	75.8	0.000116
1	2024	1	5	8	481130	41	11	53	0	1	0	35.6	75.8	2.08E-05
1	2024	1	5	8	481130	41	11	52	0	1	0	35.6	75.8	1.98E-05
1	2024	1	5	8	481130	41	11	31	0	1	0	35.6	75.8	8.86E-06
1	2024	1	5	8	481130	41	11	21	0	1	0	35.6	75.8	7.75E-06
1	2024	1	5	8	481130	41	2	62	0	2	0	35.6	75.8	0.000226
1	2024	1	5	8	481130	41	2	61	0	2	0	35.6	75.8	0.001273
1	2024	1	5	8	481130	41	2	53	0	2	0	35.6	75.8	0.000116
1	2024	1	5	8	481130	41	2	52	0	2	0	35.6	75.8	0.001749
1	2024	1	5	8	481130	41	2	31	0	2	0	35.6	75.8	0.002133
1	2024	1	5	8	481130	41	2	21	0	2	0	35.6	75.8	0.002107
1	2024	1	5	8	481130	41	2	61	0	1	0	35.6	75.8	0.001726
1	2024	1	5	8	481130	41	2	53	0	1	0	35.6	75.8	0.000437
1	2024	1	5	8	481130	41	2	52	0	1	0	35.6	75.8	0.006334
1	2024	1	5	8	481130	41	2	31	0	1	0	35.6	75.8	0.004686
1	2024	1	5	8	481130	41	2	21	0	1	0	35.6	75.8	0.003198
1	2024	1	5	8	481130	40	91	62	0	2	0	35.6	75.8	1.08E-05
1	2024	1	5	8	481130	40	90	62	0	2	0	35.6	75.8	0.00032

1	2024	1	5	8	481130	40	19	62	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	40	19	61	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	40	19	53	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	40	19	52	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	40	19	31	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	40	19	21	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	40	19	61	0	1	0	35.6	75.8	1.27E-05
1	2024	1	5	8	481130	40	19	53	0	1	0	35.6	75.8	5.28E-06
1	2024	1	5	8	481130	40	19	52	0	1	0	35.6	75.8	2.17E-05
1	2024	1	5	8	481130	40	19	31	0	1	0	35.6	75.8	2.65E-05
1	2024	1	5	8	481130	40	19	21	0	1	0	35.6	75.8	1.66E-05
1	2024	1	5	8	481130	40	18	61	0	1	0	35.6	75.8	1.15E-05
1	2024	1	5	8	481130	40	18	53	0	1	0	35.6	75.8	3.22E-06
1	2024	1	5	8	481130	40	18	52	0	1	0	35.6	75.8	1.49E-05
1	2024	1	5	8	481130	40	18	31	0	1	0	35.6	75.8	3.93E-06
1	2024	1	5	8	481130	40	18	21	0	1	0	35.6	75.8	1.28E-06
1	2024	1	5	8	481130	40	17	62	0	2	0	35.6	75.8	7.04E-05
1	2024	1	5	8	481130	40	16	62	0	2	0	35.6	75.8	1.34E-07
1	2024	1	5	8	481130	40	16	61	0	2	0	35.6	75.8	5.05E-07
1	2024	1	5	8	481130	40	16	53	0	2	0	35.6	75.8	6.39E-08
1	2024	1	5	8	481130	40	16	52	0	2	0	35.6	75.8	1.03E-06
1	2024	1	5	8	481130	40	16	31	0	2	0	35.6	75.8	2.44E-06
1	2024	1	5	8	481130	40	16	21	0	2	0	35.6	75.8	1.47E-06
1	2024	1	5	8	481130	40	16	61	0	1	0	35.6	75.8	2.15E-05
1	2024	1	5	8	481130	40	16	53	0	1	0	35.6	75.8	4.47E-06
1	2024	1	5	8	481130	40	16	52	0	1	0	35.6	75.8	6.42E-05
1	2024	1	5	8	481130	40	16	31	0	1	0	35.6	75.8	4.97E-05
1	2024	1	5	8	481130	40	16	21	0	1	0	35.6	75.8	3.3E-05
1	2024	1	5	8	481130	40	13	61	0	1	0	35.6	75.8	0.023074
1	2024	1	5	8	481130	40	13	53	0	1	0	35.6	75.8	0.005427
1	2024	1	5	8	481130	40	13	52	0	1	0	35.6	75.8	0.004843
1	2024	1	5	8	481130	40	13	31	0	1	0	35.6	75.8	0.002678
1	2024	1	5	8	481130	40	13	21	0	1	0	35.6	75.8	0.00194
1	2024	1	5	8	481130	40	11	61	0	1	0	35.6	75.8	0.002787
1	2024	1	5	8	481130	40	11	53	0	1	0	35.6	75.8	0.000499
1	2024	1	5	8	481130	40	11	52	0	1	0	35.6	75.8	0.000474
1	2024	1	5	8	481130	40	11	31	0	1	0	35.6	75.8	0.000213
1	2024	1	5	8	481130	40	11	21	0	1	0	35.6	75.8	0.000186
1	2024	1	5	8	481130	40	2	62	0	2	0	35.6	75.8	9.58E-05
1	2024	1	5	8	481130	40	2	61	0	2	0	35.6	75.8	0.000529
1	2024	1	5	8	481130	40	2	53	0	2	0	35.6	75.8	4.83E-05
1	2024	1	5	8	481130	40	2	52	0	2	0	35.6	75.8	0.000737
1	2024	1	5	8	481130	40	2	31	0	2	0	35.6	75.8	0.000915
1	2024	1	5	8	481130	40	2	21	0	2	0	35.6	75.8	0.000885
1	2024	1	5	8	481130	40	2	61	0	1	0	35.6	75.8	0.001629
1	2024	1	5	8	481130	40	2	53	0	1	0	35.6	75.8	0.000338
1	2024	1	5	8	481130	40	2	52	0	1	0	35.6	75.8	0.004863
1	2024	1	5	8	481130	40	2	31	0	1	0	35.6	75.8	0.003766
1	2024	1	5	8	481130	40	2	21	0	1	0	35.6	75.8	0.002497
1	2024	1	5	8	481130	31	91	62	0	2	0	35.6	75.8	5.66E-05
1	2024	1	5	8	481130	31	90	62	0	2	0	35.6	75.8	0.000582
1	2024	1	5	8	481130	31	2	62	0	2	0	35.6	75.8	3.02E-05
1	2024	1	5	8	481130	31	2	61	0	2	0	35.6	75.8	6.45E-05
1	2024	1	5	8	481130	31	2	53	0	2	0	35.6	75.8	7.16E-06
1	2024	1	5	8	481130	31	2	52	0	2	0	35.6	75.8	0.000109
1	2024	1	5	8	481130	31	2	31	0	2	0	35.6	75.8	0.000216
1	2024	1	5	8	481130	31	2	21	0	2	0	35.6	75.8	0.000119
1	2024	1	5	8	481130	31	2	61	0	1	0	35.6	75.8	2.42E-05
1	2024	1	5	8	481130	31	2	53	0	1	0	35.6	75.8	1.91E-05
1	2024	1	5	8	481130	31	2	52	0	1	0	35.6	75.8	0.00028
1	2024	1	5	8	481130	31	2	31	0	1	0	35.6	75.8	0.000515
1	2024	1	5	8	481130	31	2	21	0	1	0	35.6	75.8	0.000323
1	2024	1	5	8	481130	27	91	62	0	2	0	35.6	75.8	3.96E-05
1	2024	1	5	8	481130	27	90	62	0	2	0	35.6	75.8	0.000507
1	2024	1	5	8	481130	27	17	62	0	2	0	35.6	75.8	6.98E-05
1	2024	1	5	8	481130	27	16	62	0	2	0	35.6	75.8	4.92E-07
1	2024	1	5	8	481130	27	16	61	0	2	0	35.6	75.8	1.85E-06
1	2024	1	5	8	481130	27	16	53	0	2	0	35.6	75.8	2.34E-07
1	2024	1	5	8	481130	27	16	52	0	2	0	35.6	75.8	3.77E-06
1	2024	1	5	8	481130	27	16	31	0	2	0	35.6	75.8	5.4E-06
1	2024	1	5	8	481130	27	16	21	0	2	0	35.6	75.8	1.82E-06
1	2024	1	5	8	481130	27	16	61	0	1	0	35.6	75.8	8.42E-07
1	2024	1	5	8	481130	27	16	53	0	1	0	35.6	75.8	2.85E-07
1	2024	1	5	8	481130	27	16	52	0	1	0	35.6	75.8	4.19E-06
1	2024	1	5	8	481130	27	16	31	0	1	0	35.6	75.8	2.94E-06
1	2024	1	5	8	481130	27	16	21	0	1	0	35.6	75.8	2.07E-06
1	2024	1	5	8	481130	27	2	62	0	2	0	35.6	75.8	8.95E-05
1	2024	1	5	8	481130	27	2	61	0	2	0	35.6	75.8	0.00047
1	2024	1	5	8	481130	27	2	53	0	2	0	35.6	75.8	4.42E-05
1	2024	1	5	8	481130	27	2	52	0	2	0	35.6	75.8	0.000686

1	2024	1	5	8	481130	27	2	31	0	2	0	35.6	75.8	0.000969
1	2024	1	5	8	481130	27	2	21	0	2	0	35.6	75.8	0.000824
1	2024	1	5	8	481130	27	2	61	0	1	0	35.6	75.8	6.38E-05
1	2024	1	5	8	481130	27	2	53	0	1	0	35.6	75.8	2.16E-05
1	2024	1	5	8	481130	27	2	52	0	1	0	35.6	75.8	0.000318
1	2024	1	5	8	481130	27	2	31	0	1	0	35.6	75.8	0.000223
1	2024	1	5	8	481130	27	2	21	0	1	0	35.6	75.8	0.000157
1	2024	1	5	8	481130	26	91	62	0	2	0	35.6	75.8	0.000213
1	2024	1	5	8	481130	26	90	62	0	2	0	35.6	75.8	0.003796
1	2024	1	5	8	481130	26	17	62	0	2	0	35.6	75.8	0.000679
1	2024	1	5	8	481130	26	16	62	0	2	0	35.6	75.8	2.64E-06
1	2024	1	5	8	481130	26	16	61	0	2	0	35.6	75.8	9.93E-06
1	2024	1	5	8	481130	26	16	53	0	2	0	35.6	75.8	1.26E-06
1	2024	1	5	8	481130	26	16	52	0	2	0	35.6	75.8	2.02E-05
1	2024	1	5	8	481130	26	16	31	0	2	0	35.6	75.8	3.5E-05
1	2024	1	5	8	481130	26	16	21	0	2	0	35.6	75.8	1.59E-05
1	2024	1	5	8	481130	26	16	61	0	1	0	35.6	75.8	1.85E-05
1	2024	1	5	8	481130	26	16	53	0	1	0	35.6	75.8	6.46E-06
1	2024	1	5	8	481130	26	16	52	0	1	0	35.6	75.8	9.53E-05
1	2024	1	5	8	481130	26	16	31	0	1	0	35.6	75.8	6.65E-05
1	2024	1	5	8	481130	26	16	21	0	1	0	35.6	75.8	4.7E-05
1	2024	1	5	8	481130	26	2	62	0	2	0	35.6	75.8	0.000924
1	2024	1	5	8	481130	26	2	61	0	2	0	35.6	75.8	0.005035
1	2024	1	5	8	481130	26	2	53	0	2	0	35.6	75.8	0.000465
1	2024	1	5	8	481130	26	2	52	0	2	0	35.6	75.8	0.007108
1	2024	1	5	8	481130	26	2	31	0	2	0	35.6	75.8	0.009257
1	2024	1	5	8	481130	26	2	21	0	2	0	35.6	75.8	0.008546
1	2024	1	5	8	481130	26	2	61	0	1	0	35.6	75.8	0.001404
1	2024	1	5	8	481130	26	2	53	0	1	0	35.6	75.8	0.000489
1	2024	1	5	8	481130	26	2	52	0	1	0	35.6	75.8	0.007219
1	2024	1	5	8	481130	26	2	31	0	1	0	35.6	75.8	0.005036
1	2024	1	5	8	481130	26	2	21	0	1	0	35.6	75.8	0.003563
1	2024	1	5	8	481130	25	91	62	0	2	0	35.6	75.8	0.000468
1	2024	1	5	8	481130	25	90	62	0	2	0	35.6	75.8	0.005775
1	2024	1	5	8	481130	25	17	62	0	2	0	35.6	75.8	0.000752
1	2024	1	5	8	481130	25	16	62	0	2	0	35.6	75.8	5.82E-06
1	2024	1	5	8	481130	25	16	61	0	2	0	35.6	75.8	2.19E-05
1	2024	1	5	8	481130	25	16	53	0	2	0	35.6	75.8	2.76E-06
1	2024	1	5	8	481130	25	16	52	0	2	0	35.6	75.8	4.45E-05
1	2024	1	5	8	481130	25	16	31	0	2	0	35.6	75.8	6.03E-05
1	2024	1	5	8	481130	25	16	21	0	2	0	35.6	75.8	1.79E-05
1	2024	1	5	8	481130	25	16	61	0	1	0	35.6	75.8	1.34E-05
1	2024	1	5	8	481130	25	16	53	0	1	0	35.6	75.8	2.78E-06
1	2024	1	5	8	481130	25	16	52	0	1	0	35.6	75.8	3.95E-05
1	2024	1	5	8	481130	25	16	31	0	1	0	35.6	75.8	3.07E-05
1	2024	1	5	8	481130	25	16	21	0	1	0	35.6	75.8	2.04E-05
1	2024	1	5	8	481130	25	2	62	0	2	0	35.6	75.8	0.000814
1	2024	1	5	8	481130	25	2	61	0	2	0	35.6	75.8	0.004015
1	2024	1	5	8	481130	25	2	53	0	2	0	35.6	75.8	0.000381
1	2024	1	5	8	481130	25	2	52	0	2	0	35.6	75.8	0.006153
1	2024	1	5	8	481130	25	2	31	0	2	0	35.6	75.8	0.009122
1	2024	1	5	8	481130	25	2	21	0	2	0	35.6	75.8	0.007313
1	2024	1	5	8	481130	25	2	61	0	1	0	35.6	75.8	0.001016
1	2024	1	5	8	481130	25	2	53	0	1	0	35.6	75.8	0.000211
1	2024	1	5	8	481130	25	2	52	0	1	0	35.6	75.8	0.002996
1	2024	1	5	8	481130	25	2	31	0	1	0	35.6	75.8	0.002322
1	2024	1	5	8	481130	25	2	21	0	1	0	35.6	75.8	0.001544
1	2024	1	5	8	481130	24	91	62	0	2	0	35.6	75.8	1.74E-05
1	2024	1	5	8	481130	24	90	62	0	2	0	35.6	75.8	0.000135
1	2024	1	5	8	481130	24	17	62	0	2	0	35.6	75.8	5.9E-06
1	2024	1	5	8	481130	24	16	62	0	2	0	35.6	75.8	2.17E-07
1	2024	1	5	8	481130	24	16	61	0	2	0	35.6	75.8	8.15E-07
1	2024	1	5	8	481130	24	16	53	0	2	0	35.6	75.8	1.03E-07
1	2024	1	5	8	481130	24	16	52	0	2	0	35.6	75.8	1.66E-06
1	2024	1	5	8	481130	24	16	31	0	2	0	35.6	75.8	1.93E-06
1	2024	1	5	8	481130	24	16	21	0	2	0	35.6	75.8	3.51E-07
1	2024	1	5	8	481130	24	16	61	0	1	0	35.6	75.8	8.1E-06
1	2024	1	5	8	481130	24	16	53	0	1	0	35.6	75.8	3.11E-06
1	2024	1	5	8	481130	24	16	52	0	1	0	35.6	75.8	4.62E-05
1	2024	1	5	8	481130	24	16	31	0	1	0	35.6	75.8	3.17E-05
1	2024	1	5	8	481130	24	16	21	0	1	0	35.6	75.8	2.27E-05
1	2024	1	5	8	481130	24	2	62	0	2	0	35.6	75.8	6.39E-06
1	2024	1	5	8	481130	24	2	61	0	2	0	35.6	75.8	2.38E-05
1	2024	1	5	8	481130	24	2	53	0	2	0	35.6	75.8	2.93E-06
1	2024	1	5	8	481130	24	2	52	0	2	0	35.6	75.8	4.84E-05
1	2024	1	5	8	481130	24	2	31	0	2	0	35.6	75.8	0.000127
1	2024	1	5	8	481130	24	2	21	0	2	0	35.6	75.8	5.95E-05
1	2024	1	5	8	481130	24	2	61	0	1	0	35.6	75.8	0.000614
1	2024	1	5	8	481130	24	2	53	0	1	0	35.6	75.8	0.000236
1	2024	1	5	8	481130	24	2	52	0	1	0	35.6	75.8	0.003498

1	2024	1	5	8	481130	24	2	31	0	1	0	35.6	75.8	0.002405
1	2024	1	5	8	481130	24	2	21	0	1	0	35.6	75.8	0.001716
1	2024	1	5	8	481130	20	91	62	0	2	0	35.6	75.8	4.68E-05
1	2024	1	5	8	481130	20	90	62	0	2	0	35.6	75.8	0.000416
1	2024	1	5	8	481130	20	19	62	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	20	19	61	0	2	0	35.6	75.8	0
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1	2024	1	5	8	481130	20	19	31	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	20	19	21	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	20	19	61	0	1	0	35.6	75.8	6.35E-07
1	2024	1	5	8	481130	20	19	53	0	1	0	35.6	75.8	2.63E-07
1	2024	1	5	8	481130	20	19	52	0	1	0	35.6	75.8	1.08E-06
1	2024	1	5	8	481130	20	19	31	0	1	0	35.6	75.8	1.32E-06
1	2024	1	5	8	481130	20	19	21	0	1	0	35.6	75.8	8.3E-07
1	2024	1	5	8	481130	20	18	61	0	1	0	35.6	75.8	5.75E-07
1	2024	1	5	8	481130	20	18	53	0	1	0	35.6	75.8	1.6E-07
1	2024	1	5	8	481130	20	18	52	0	1	0	35.6	75.8	7.43E-07
1	2024	1	5	8	481130	20	18	31	0	1	0	35.6	75.8	1.96E-07
1	2024	1	5	8	481130	20	18	21	0	1	0	35.6	75.8	6.38E-08
1	2024	1	5	8	481130	20	17	62	0	2	0	35.6	75.8	2.99E-05
1	2024	1	5	8	481130	20	16	62	0	2	0	35.6	75.8	5.83E-07
1	2024	1	5	8	481130	20	16	61	0	2	0	35.6	75.8	2.19E-06
1	2024	1	5	8	481130	20	16	53	0	2	0	35.6	75.8	2.77E-07
1	2024	1	5	8	481130	20	16	52	0	2	0	35.6	75.8	4.46E-06
1	2024	1	5	8	481130	20	16	31	0	2	0	35.6	75.8	5.27E-06
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1	2024	1	5	8	481130	20	16	61	0	1	0	35.6	75.8	3.95E-05
1	2024	1	5	8	481130	20	16	53	0	1	0	35.6	75.8	1.42E-05
1	2024	1	5	8	481130	20	16	52	0	1	0	35.6	75.8	0.00021
1	2024	1	5	8	481130	20	16	31	0	1	0	35.6	75.8	0.000146
1	2024	1	5	8	481130	20	16	21	0	1	0	35.6	75.8	0.000103
1	2024	1	5	8	481130	20	13	61	0	1	0	35.6	75.8	0.001151
1	2024	1	5	8	481130	20	13	53	0	1	0	35.6	75.8	0.000271
1	2024	1	5	8	481130	20	13	52	0	1	0	35.6	75.8	0.000242
1	2024	1	5	8	481130	20	13	31	0	1	0	35.6	75.8	0.000134
1	2024	1	5	8	481130	20	13	21	0	1	0	35.6	75.8	9.68E-05
1	2024	1	5	8	481130	20	11	61	0	1	0	35.6	75.8	0.000292
1	2024	1	5	8	481130	20	11	53	0	1	0	35.6	75.8	5.24E-05
1	2024	1	5	8	481130	20	11	52	0	1	0	35.6	75.8	4.97E-05
1	2024	1	5	8	481130	20	11	31	0	1	0	35.6	75.8	2.23E-05
1	2024	1	5	8	481130	20	11	21	0	1	0	35.6	75.8	1.95E-05
1	2024	1	5	8	481130	20	2	62	0	2	0	35.6	75.8	2.42E-05
1	2024	1	5	8	481130	20	2	61	0	2	0	35.6	75.8	8.77E-05
1	2024	1	5	8	481130	20	2	53	0	2	0	35.6	75.8	9.82E-06
1	2024	1	5	8	481130	20	2	52	0	2	0	35.6	75.8	0.000177
1	2024	1	5	8	481130	20	2	31	0	2	0	35.6	75.8	0.000396
1	2024	1	5	8	481130	20	2	21	0	2	0	35.6	75.8	0.000209
1	2024	1	5	8	481130	20	2	61	0	1	0	35.6	75.8	0.002989
1	2024	1	5	8	481130	20	2	53	0	1	0	35.6	75.8	0.001077
1	2024	1	5	8	481130	20	2	52	0	1	0	35.6	75.8	0.01592
1	2024	1	5	8	481130	20	2	31	0	1	0	35.6	75.8	0.011048
1	2024	1	5	8	481130	20	2	21	0	1	0	35.6	75.8	0.007841
1	2024	1	5	8	481130	6	2	62	0	2	0	35.6	75.8	0.000128
1	2024	1	5	8	481130	6	2	61	0	2	0	35.6	75.8	0.001312
1	2024	1	5	8	481130	6	2	53	0	2	0	35.6	75.8	0.000114
1	2024	1	5	8	481130	6	2	52	0	2	0	35.6	75.8	0.001736
1	2024	1	5	8	481130	6	2	31	0	2	0	35.6	75.8	0.000937
1	2024	1	5	8	481130	6	2	21	0	2	0	35.6	75.8	0.000186
1	2024	1	5	8	481130	6	2	61	0	1	0	35.6	75.8	0.00586
1	2024	1	5	8	481130	6	2	53	0	1	0	35.6	75.8	0.001428
1	2024	1	5	8	481130	6	2	52	0	1	0	35.6	75.8	0.020739
1	2024	1	5	8	481130	6	2	31	0	1	0	35.6	75.8	0.010354
1	2024	1	5	8	481130	6	2	21	0	1	0	35.6	75.8	0.004844
1	2024	1	5	8	481130	5	91	62	0	2	0	35.6	75.8	0.000693
1	2024	1	5	8	481130	5	90	62	0	2	0	35.6	75.8	0.018562
1	2024	1	5	8	481130	5	17	62	0	2	0	35.6	75.8	0.000356
1	2024	1	5	8	481130	5	16	62	0	2	0	35.6	75.8	0
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1	2024	1	5	8	481130	5	16	53	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	5	16	52	0	2	0	35.6	75.8	0
1	2024	1	5	8	481130	5	16	31	0	2	0	35.6	75.8	0.000175
1	2024	1	5	8	481130	5	16	21	0	2	0	35.6	75.8	0.000178
1	2024	1	5	8	481130	5	16	61	0	1	0	35.6	75.8	0.000202
1	2024	1	5	8	481130	5	16	53	0	1	0	35.6	75.8	5.75E-05
1	2024	1	5	8	481130	5	16	52	0	1	0	35.6	75.8	0.000838
1	2024	1	5	8	481130	5	16	31	0	1	0	35.6	75.8	0.000453
1	2024	1	5	8	481130	5	16	21	0	1	0	35.6	75.8	0.000302
1	2024	1	5	8	481130	5	2	62	0	2	0	35.6	75.8	0.012183
1	2024	1	5	8	481130	5	2	61	0	2	0	35.6	75.8	0.067891

1	2024	1	5	8	481130	5	2	53	0	2	0	35.6	75.8	0.006572
1	2024	1	5	8	481130	5	2	52	0	2	0	35.6	75.8	0.100192
1	2024	1	5	8	481130	5	2	31	0	2	0	35.6	75.8	0.118409
1	2024	1	5	8	481130	5	2	21	0	2	0	35.6	75.8	0.12007
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1	2024	1	5	8	481130	5	2	53	0	1	0	35.6	75.8	0.004358
1	2024	1	5	8	481130	5	2	52	0	1	0	35.6	75.8	0.06352
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1	2024	1	5	8	481130	3	91	62	0	2	0	35.6	75.8	0.089767
1	2024	1	5	8	481130	3	90	62	0	2	0	35.6	75.8	1.46558
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1	2024	1	5	8	481130	3	16	62	0	2	0	35.6	75.8	0
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1	2024	1	5	8	481130	3	16	53	0	2	0	35.6	75.8	5.49E-07
1	2024	1	5	8	481130	3	16	52	0	2	0	35.6	75.8	8.84E-06
1	2024	1	5	8	481130	3	16	31	0	2	0	35.6	75.8	3.42E-05
1	2024	1	5	8	481130	3	16	21	0	2	0	35.6	75.8	2.45E-06
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1	2024	1	5	8	481130	3	16	53	0	1	0	35.6	75.8	7.81E-07
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1	2024	1	5	8	481130	3	2	53	0	2	0	35.6	75.8	0.027814
1	2024	1	5	8	481130	3	2	52	0	2	0	35.6	75.8	0.419288
1	2024	1	5	8	481130	3	2	31	0	2	0	35.6	75.8	0.542253
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1	2024	1	5	8	481130	3	2	61	0	1	0	35.6	75.8	0.071423
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1	2024	1	5	8	481130	3	2	52	0	1	0	35.6	75.8	0.285814
1	2024	1	5	8	481130	3	2	31	0	1	0	35.6	75.8	0.115383
1	2024	1	5	8	481130	3	2	21	0	1	0	35.6	75.8	0.06299
1	2024	1	5	8	481130	2	91	62	0	2	0	35.6	75.8	0.043923
1	2024	1	5	8	481130	2	90	62	0	2	0	35.6	75.8	0.962183
1	2024	1	5	8	481130	2	17	62	0	2	0	35.6	75.8	0.010544
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1	2024	1	5	8	481130	2	16	61	0	2	0	35.6	75.8	0.109155
1	2024	1	5	8	481130	2	16	53	0	2	0	35.6	75.8	0.00414
1	2024	1	5	8	481130	2	16	52	0	2	0	35.6	75.8	0.061797
1	2024	1	5	8	481130	2	16	31	0	2	0	35.6	75.8	0.001087
1	2024	1	5	8	481130	2	16	21	0	2	0	35.6	75.8	0.000651
1	2024	1	5	8	481130	2	16	61	0	1	0	35.6	75.8	0.001502
1	2024	1	5	8	481130	2	16	53	0	1	0	35.6	75.8	0.000216
1	2024	1	5	8	481130	2	16	52	0	1	0	35.6	75.8	0.003335
1	2024	1	5	8	481130	2	16	31	0	1	0	35.6	75.8	0.001899
1	2024	1	5	8	481130	2	16	21	0	1	0	35.6	75.8	0.001289
1	2024	1	5	8	481130	2	2	62	0	2	0	35.6	75.8	0.119041
1	2024	1	5	8	481130	2	2	61	0	2	0	35.6	75.8	0.23659
1	2024	1	5	8	481130	2	2	53	0	2	0	35.6	75.8	0.013623
1	2024	1	5	8	481130	2	2	52	0	2	0	35.6	75.8	0.214371
1	2024	1	5	8	481130	2	2	31	0	2	0	35.6	75.8	0.531997
1	2024	1	5	8	481130	2	2	21	0	2	0	35.6	75.8	0.949259
1	2024	1	5	8	481130	2	2	61	0	1	0	35.6	75.8	2.88804
1	2024	1	5	8	481130	2	2	53	0	1	0	35.6	75.8	0.416326
1	2024	1	5	8	481130	2	2	52	0	1	0	35.6	75.8	6.41323
1	2024	1	5	8	481130	2	2	31	0	1	0	35.6	75.8	3.65158
1	2024	1	5	8	481130	2	2	21	0	1	0	35.6	75.8	2.47864

MOVESRunID	iterationID	yearID	monthID	dayID	hourID	stateID	countyID	zoneID	linkID	pollutantID	processID	sourceTypeID	regClassID	fuelTypeID	modelYearID	roadTypeID	SCC	emissionQuant	activityTypeID	activity	emissionRate	massUnits	distanceUnits
1	1	2023	1	5	8	0	0	0	0	185	15	62	0	2	0	0	0	11.68668	1	163053.3	7.17E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	185	15	61	0	2	0	0	0	2.922588	1	45914.43	6.37E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	185	15	53	0	2	0	0	0	0.314048	1	7762.144	4.05E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	185	15	52	0	2	0	0	0	6.01127	1	115477.9	5.21E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	185	15	31	0	2	0	0	0	1.80799	1	92063.14	1.96E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	185	15	21	0	2	0	0	0	0.015866	1	14658.84	1.08E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	185	15	61	0	1	0	0	0	1.61E-05	1	0.30912	5.22E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	185	15	53	0	1	0	0	0	0.007782	1	2120.993	3.67E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	185	15	52	0	1	0	0	0	0.117296	1	31286.41	3.75E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	185	15	31	0	1	0	0	0	2.112255	1	1992682	1.06E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	185	15	21	0	1	0	0	0	1.254648	1	1941594	6.46E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	185	1	62	0	2	0	0	0	97.7653	1	163053.3	0.0006	g	mi
1	1	2023	1	5	8	0	0	0	0	185	1	61	0	2	0	0	0	24.31868	1	45914.43	0.00053	g	mi
1	1	2023	1	5	8	0	0	0	0	185	1	53	0	2	0	0	0	4.90346	1	7762.144	0.000632	g	mi
1	1	2023	1	5	8	0	0	0	0	185	1	52	0	2	0	0	0	83.9369	1	115477.9	0.000727	g	mi
1	1	2023	1	5	8	0	0	0	0	185	1	31	0	2	0	0	0	114.856	1	92063.14	0.001248	g	mi
1	1	2023	1	5	8	0	0	0	0	185	1	21	0	2	0	0	0	1.162443	1	14658.84	7.93E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	185	1	61	0	1	0	0	0	0.001221	1	0.30912	0.003951	g	mi
1	1	2023	1	5	8	0	0	0	0	185	1	53	0	1	0	0	0	0.589564	1	2120.993	0.000278	g	mi
1	1	2023	1	5	8	0	0	0	0	185	1	52	0	1	0	0	0	8.886051	1	31286.41	0.000284	g	mi
1	1	2023	1	5	8	0	0	0	0	185	1	31	0	1	0	0	0	160.0196	1	1992682	8.03E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	185	1	21	0	1	0	0	0	95.0491	1	1941594	4.9E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	184	15	62	0	2	0	0	0	0.178295	1	163053.3	1.09E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	184	15	61	0	2	0	0	0	0.044848	1	45914.43	9.77E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	184	15	53	0	2	0	0	0	0.008427	1	7762.144	1.09E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	184	15	52	0	2	0	0	0	0.143353	1	115477.9	1.24E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	184	15	31	0	2	0	0	0	0.085162	1	92063.14	9.25E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	184	15	21	0	2	0	0	0	0.000729	1	14658.84	4.98E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	184	15	61	0	1	0	0	0	4.99E-07	1	0.30912	1.61E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	184	15	53	0	1	0	0	0	0.000241	1	2120.993	1.13E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	184	15	52	0	1	0	0	0	0.003627	1	31286.41	1.16E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	184	15	31	0	1	0	0	0	0.065315	1	1992682	3.28E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	184	15	21	0	1	0	0	0	0.038796	1	1941594	2E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	184	1	62	0	2	0	0	0	4.032326	1	163053.3	2.47E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	184	1	61	0	2	0	0	0	0.995867	1	45914.43	2.17E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	184	1	53	0	2	0	0	0	0.216934	1	7762.144	2.79E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	184	1	52	0	2	0	0	0	3.651696	1	115477.9	3.16E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	184	1	31	0	2	0	0	0	5.263482	1	92063.14	5.72E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	184	1	21	0	2	0	0	0	0.041404	1	14658.84	2.82E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	184	1	61	0	1	0	0	0	3.78E-05	1	0.30912	0.000122	g	mi
1	1	2023	1	5	8	0	0	0	0	184	1	53	0	1	0	0	0	0.01823	1	2120.993	8.6E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	184	1	52	0	1	0	0	0	0.274772	1	31286.41	8.78E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	184	1	31	0	1	0	0	0	4.948086	1	1992682	2.48E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	184	1	21	0	1	0	0	0	2.939098	1	1941594	1.51E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	183	15	62	0	2	0	0	0	0.914365	1	163053.3	5.61E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	183	15	61	0	2	0	0	0	0.243741	1	45914.43	5.31E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	183	15	53	0	2	0	0	0	0.022917	1	7762.144	2.95E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	183	15	52	0	2	0	0	0	0.422057	1	115477.9	3.65E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	183	15	31	0	2	0	0	0	0.141532	1	92063.14	1.54E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	183	15	21	0	2	0	0	0	0.001254	1	14658.84	8.55E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	183	15	61	0	1	0	0	0	1.67E-06	1	0.30912	5.4E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	183	15	53	0	1	0	0	0	0.000806	1	2120.993	3.8E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	183	15	52	0	1	0	0	0	0.012154	1	31286.41	3.88E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	183	15	31	0	1	0	0	0	0.218877	1	1992682	1.1E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	183	15	21	0	1	0	0	0	0.13001	1	1941594	6.7E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	183	1	62	0	2	0	0	0	7.871477	1	163053.3	4.83E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	183	1	61	0	2	0	0	0	1.992766	1	45914.43	4.34E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	183	1	53	0	2	0	0	0	0.383736	1	7762.144	4.94E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	183	1	52	0	2	0	0	0	6.52528	1	115477.9	5.65E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	183	1	31	0	2	0	0	0	8.960516	1	92063.14	9.73E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	183	1	21	0	2	0	0	0	0.098719	1	14658.84	6.73E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	183	1	61	0	1	0	0	0	0.000127	1	0.30912	0.000409	g	mi
1	1	2023	1	5	8	0	0	0	0	183	1	53	0	1	0	0	0	0.061092	1	2120.993	2.88E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	183	1	52	0	1	0	0	0	0.920794	1	31286.41	2.94E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	183	1	31	0	1	0	0	0	16.58162	1	1992682	8.32E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	183	1	21	0	1	0	0	0	9.849215	1	1941594	5.07E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	181	15	62	0	2	0	0	0	0.360005	1	163053.3	2.21E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	181	15	61	0	2	0	0	0	0.095736	1	45914.43	2.09E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	181	15	53	0	2	0	0	0	0.011658	1	7762.144	1.5E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	181	15	52	0	2	0	0	0	0.20428	1	115477.9	1.77E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	181	15	31	0	2	0	0	0	0.096726	1	92063.14	1.05E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	181	15	21	0	2	0	0	0	0.00084	1	14658.84	5.73E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	181	15	61	0	1	0	0	0	6.3E-07	1	0.30912	2.04E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	181	15	53	0	1	0	0	0	0.000304	1	2120.993	1.43E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	181	15	52	0	1	0	0	0	0.00458	1	31286.41	1.46E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	181	15	31	0	1	0	0	0	0.082485	1	1992682	4.14E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	181	15	21	0	1	0	0	0	0.048995	1	1941594	2.52E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	181	1	62	0	2	0	0	0	4.902434	1	163053.3	3.01E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	181	1	61	0	2	0	0	0	1.227093	1	45914.43	2.67E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	181	1	53	0	2	0	0	0	0.252295	1	7762.144	3.25E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	181	1	52	0	2	0	0	0	4.258871	1	115477.9	3.69E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	181	1	31	0	2	0	0	0	6.029119	1	92063.14	6.55E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	181	1	21	0	2	0	0	0	0.05551	1	14658.84	3.79E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	181	1	61	0	1	0	0	0	4.77E-05	1	0.30912	0.000154	g	mi
1	1	2023	1	5	8	0	0	0	0	181	1	53	0	1	0	0	0	0.023023	1	2120.993	1.09E-05	g	mi

1	1	2023	1	5	8	0	0	0	0	181	1	52	0	1	0	0	0	0.347007	1	31286.41	1.11E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	181	1	31	0	1	0	0	0	6.248887	1	1992682	3.14E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	181	1	21	0	1	0	0	0	3.71174	1	1941594	1.91E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	172	15	62	0	2	0	0	0	0.115104	1	163053.3	7.06E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	172	15	61	0	2	0	0	0	0.029761	1	45914.43	6.48E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	172	15	53	0	2	0	0	0	0.004834	1	7762.144	6.23E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	172	15	52	0	2	0	0	0	0.082542	1	115477.9	7.15E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	172	15	31	0	2	0	0	0	0.046845	1	92063.14	5.09E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	172	15	21	0	2	0	0	0	0.000403	1	14658.84	2.75E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	172	15	61	0	1	0	0	0	2.61E-07	1	0.30912	8.44E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	172	15	53	0	1	0	0	0	0.000126	1	2120.993	5.93E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	172	15	52	0	1	0	0	0	0.001897	1	31286.41	6.06E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	172	15	31	0	1	0	0	0	0.034164	1	1992682	1.71E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	172	15	21	0	1	0	0	0	0.020293	1	1941594	1.05E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	172	1	62	0	2	0	0	0	2.25654	1	163053.3	1.38E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	172	1	61	0	2	0	0	0	0.559644	1	45914.43	1.22E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	172	1	53	0	2	0	0	0	0.119965	1	7762.144	1.55E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	172	1	52	0	2	0	0	0	2.019976	1	115477.9	1.75E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	172	1	31	0	2	0	0	0	2.900277	1	92063.14	3.15E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	172	1	21	0	2	0	0	0	0.02382	1	14658.84	1.62E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	172	1	61	0	1	0	0	0	1.98E-05	1	0.30912	6.39E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	172	1	53	0	1	0	0	0	0.009536	1	2120.993	4.5E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	172	1	52	0	1	0	0	0	0.143723	1	31286.41	4.59E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	172	1	31	0	1	0	0	0	2.588159	1	1992682	1.3E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	172	1	21	0	1	0	0	0	1.537325	1	1941594	7.92E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	171	15	62	0	2	0	0	0	0.257379	1	163053.3	1.58E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	171	15	61	0	2	0	0	0	0.066548	1	45914.43	1.45E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	171	15	53	0	2	0	0	0	0.010497	1	7762.144	1.35E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	171	15	52	0	2	0	0	0	0.180101	1	115477.9	1.56E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	171	15	31	0	2	0	0	0	0.09985	1	92063.14	1.08E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	171	15	21	0	2	0	0	0	0.000859	1	14658.84	5.86E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	171	15	61	0	1	0	0	0	1.41E-06	1	0.30912	4.56E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	171	15	53	0	1	0	0	0	0.000681	1	2120.993	3.21E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	171	15	52	0	1	0	0	0	0.010263	1	31286.41	3.28E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	171	15	31	0	1	0	0	0	0.184824	1	1992682	9.28E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	171	15	21	0	1	0	0	0	0.109783	1	1941594	5.65E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	171	1	62	0	2	0	0	0	4.829904	1	163053.3	2.96E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	171	1	61	0	2	0	0	0	1.198368	1	45914.43	2.61E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	171	1	53	0	2	0	0	0	0.256157	1	7762.144	3.3E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	171	1	52	0	2	0	0	0	4.314987	1	115477.9	3.74E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	171	1	31	0	2	0	0	0	6.186419	1	92063.14	6.72E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	171	1	21	0	2	0	0	0	0.05126	1	14658.84	3.5E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	171	1	61	0	1	0	0	0	0.000107	1	0.30912	0.000346	g	mi
1	1	2023	1	5	8	0	0	0	0	171	1	53	0	1	0	0	0	0.051587	1	2120.993	2.43E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	171	1	52	0	1	0	0	0	0.777536	1	31286.41	2.49E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	171	1	31	0	1	0	0	0	14.00184	1	1992682	7.03E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	171	1	21	0	1	0	0	0	8.31687	1	1941594	4.28E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	170	15	62	0	2	0	0	0	0.176744	1	163053.3	1.08E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	170	15	61	0	2	0	0	0	0.047061	1	45914.43	1.02E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	170	15	53	0	2	0	0	0	0.006474	1	7762.144	8.34E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	170	15	52	0	2	0	0	0	0.110939	1	115477.9	9.61E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	170	15	31	0	2	0	0	0	0.059379	1	92063.14	6.45E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	170	15	21	0	2	0	0	0	0.000513	1	14658.84	3.5E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	170	15	61	0	1	0	0	0	3.11E-07	1	0.30912	1.01E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	170	15	53	0	1	0	0	0	0.00015	1	2120.993	7.07E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	170	15	52	0	1	0	0	0	0.002261	1	31286.41	7.23E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	170	15	31	0	1	0	0	0	0.040721	1	1992682	2.04E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	170	15	21	0	1	0	0	0	0.024188	1	1941594	1.25E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	170	1	62	0	2	0	0	0	2.931651	1	163053.3	1.8E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	170	1	61	0	2	0	0	0	0.73152	1	45914.43	1.59E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	170	1	53	0	2	0	0	0	0.153216	1	7762.144	1.97E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	170	1	52	0	2	0	0	0	2.580558	1	115477.9	2.23E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	170	1	31	0	2	0	0	0	3.685117	1	92063.14	4E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	170	1	21	0	2	0	0	0	0.032143	1	14658.84	2.19E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	170	1	61	0	1	0	0	0	2.35E-05	1	0.30912	7.62E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	170	1	53	0	1	0	0	0	0.011366	1	2120.993	5.36E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	170	1	52	0	1	0	0	0	0.171311	1	31286.41	5.48E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	170	1	31	0	1	0	0	0	3.08496	1	1992682	1.55E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	170	1	21	0	1	0	0	0	1.832419	1	1941594	9.44E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	169	15	62	0	2	0	0	0	0.162465	1	163053.3	9.96E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	169	15	61	0	2	0	0	0	0.041318	1	45914.43	9E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	169	15	53	0	2	0	0	0	0.007198	1	7762.144	9.27E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	169	15	52	0	2	0	0	0	0.12301	1	115477.9	1.07E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	169	15	31	0	2	0	0	0	0.070835	1	92063.14	7.69E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	169	15	21	0	2	0	0	0	0.000608	1	14658.84	4.15E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	169	15	61	0	1	0	0	0	4.36E-07	1	0.30912	1.41E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	169	15	53	0	1	0	0	0	0.00021	1	2120.993	9.92E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	169	15	52	0	1	0	0	0	0.003172	1	31286.41	1.01E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	169	15	31	0	1	0	0	0	0.057125	1	1992682	2.87E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	169	15	21	0	1	0	0	0	0.033932	1	1941594	1.75E-08	g	mi
1	1	2023	1	5	8	0	0	0	0	169	1	62	0	2	0	0	0	3.382768	1	163053.3	2.07E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	169	1	61	0	2	0	0	0	0.836882	1	45914.43	1.82E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	169	1	53	0	2	0	0	0	0.18097	1	7762.144	2.33E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	169	1	52	0	2	0	0	0	3.047419	1	115477.9	2.64E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	169	1	31	0	2	0	0	0	4.382601	1	92063.14	4.76E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	169	1	21	0	2	0	0	0	0.035194	1	14658.84	2.4E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	169	1	61	0	1	0	0	0	3.3E-05	1	0.30912	0.000107	g	mi

1	1	2023	1	5	8	0	0	0	0	169	1	53	0	1	0	0	0	0.015945	1	2120.993	7.52E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	169	1	52	0	1	0	0	0	0.24032	1	31286.41	7.68E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	169	1	31	0	1	0	0	0	4.327671	1	1992682	2.17E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	169	1	21	0	1	0	0	0	2.570572	1	1941594	1.32E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	110	15	62	0	2	0	0	0	2187.438	1	163053.3	0.013415	g	mi
1	1	2023	1	5	8	0	0	0	0	110	15	61	0	2	0	0	0	575.2333	1	45914.43	0.012528	g	mi
1	1	2023	1	5	8	0	0	0	0	110	15	53	0	2	0	0	0	51.4517	1	7762.144	0.006629	g	mi
1	1	2023	1	5	8	0	0	0	0	110	15	52	0	2	0	0	0	912.6897	1	115477.9	0.007904	g	mi
1	1	2023	1	5	8	0	0	0	0	110	15	31	0	2	0	0	0	273.0204	1	92063.14	0.002966	g	mi
1	1	2023	1	5	8	0	0	0	0	110	15	21	0	2	0	0	0	0.391631	1	14658.84	2.67E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	110	15	61	0	1	0	0	0	0.000135	1	0.30912	0.000438	g	mi
1	1	2023	1	5	8	0	0	0	0	110	15	53	0	1	0	0	0	0.183017	1	2120.993	8.63E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	110	15	52	0	1	0	0	0	2.874007	1	31286.41	9.19E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	110	15	31	0	1	0	0	0	41.19603	1	1992682	2.07E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	110	15	21	0	1	0	0	0	27.70819	1	1941594	1.43E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	110	1	62	0	2	0	0	0	10752.82	1	163053.3	0.065947	g	mi
1	1	2023	1	5	8	0	0	0	0	110	1	61	0	2	0	0	0	2665.496	1	45914.43	0.058054	g	mi
1	1	2023	1	5	8	0	0	0	0	110	1	53	0	2	0	0	0	229.6007	1	7762.144	0.02958	g	mi
1	1	2023	1	5	8	0	0	0	0	110	1	52	0	2	0	0	0	4013.557	1	115477.9	0.034756	g	mi
1	1	2023	1	5	8	0	0	0	0	110	1	31	0	2	0	0	0	3724.307	1	92063.14	0.040454	g	mi
1	1	2023	1	5	8	0	0	0	0	110	1	21	0	2	0	0	0	19.6065	1	14658.84	0.001338	g	mi
1	1	2023	1	5	8	0	0	0	0	110	1	61	0	1	0	0	0	0.016915	1	0.30912	0.054718	g	mi
1	1	2023	1	5	8	0	0	0	0	110	1	53	0	1	0	0	0	22.87714	1	2120.993	0.010786	g	mi
1	1	2023	1	5	8	0	0	0	0	110	1	52	0	1	0	0	0	359.2509	1	31286.41	0.011483	g	mi
1	1	2023	1	5	8	0	0	0	0	110	1	31	0	1	0	0	0	5149.506	1	1992682	0.002584	g	mi
1	1	2023	1	5	8	0	0	0	0	110	1	21	0	1	0	0	0	3463.521	1	1941594	0.001784	g	mi
1	1	2023	1	5	8	0	0	0	0	100	15	62	0	2	0	0	0	2377.655	1	163053.3	0.014582	g	mi
1	1	2023	1	5	8	0	0	0	0	100	15	61	0	2	0	0	0	625.256	1	45914.43	0.013618	g	mi
1	1	2023	1	5	8	0	0	0	0	100	15	53	0	2	0	0	0	55.92595	1	7762.144	0.007205	g	mi
1	1	2023	1	5	8	0	0	0	0	100	15	52	0	2	0	0	0	992.0565	1	115477.9	0.008591	g	mi
1	1	2023	1	5	8	0	0	0	0	100	15	31	0	2	0	0	0	296.7625	1	92063.14	0.003223	g	mi
1	1	2023	1	5	8	0	0	0	0	100	15	21	0	2	0	0	0	0.425688	1	14658.84	2.9E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	100	15	61	0	1	0	0	0	0.000153	1	0.30912	0.000495	g	mi
1	1	2023	1	5	8	0	0	0	0	100	15	53	0	1	0	0	0	0.206888	1	2120.993	9.75E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	100	15	52	0	1	0	0	0	3.248867	1	31286.41	0.000104	g	mi
1	1	2023	1	5	8	0	0	0	0	100	15	31	0	1	0	0	0	46.5693	1	1992682	2.34E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	100	15	21	0	1	0	0	0	31.32214	1	1941594	1.61E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	100	1	62	0	2	0	0	0	11687.89	1	163053.3	0.071681	g	mi
1	1	2023	1	5	8	0	0	0	0	100	1	61	0	2	0	0	0	2897.285	1	45914.43	0.063102	g	mi
1	1	2023	1	5	8	0	0	0	0	100	1	53	0	2	0	0	0	249.5661	1	7762.144	0.032152	g	mi
1	1	2023	1	5	8	0	0	0	0	100	1	52	0	2	0	0	0	4362.573	1	115477.9	0.037778	g	mi
1	1	2023	1	5	8	0	0	0	0	100	1	31	0	2	0	0	0	4048.173	1	92063.14	0.043972	g	mi
1	1	2023	1	5	8	0	0	0	0	100	1	21	0	2	0	0	0	21.31145	1	14658.84	0.001454	g	mi
1	1	2023	1	5	8	0	0	0	0	100	1	61	0	1	0	0	0	0.019121	1	0.30912	0.061855	g	mi
1	1	2023	1	5	8	0	0	0	0	100	1	53	0	1	0	0	0	25.86099	1	2120.993	0.012193	g	mi
1	1	2023	1	5	8	0	0	0	0	100	1	52	0	1	0	0	0	406.108	1	31286.41	0.01298	g	mi
1	1	2023	1	5	8	0	0	0	0	100	1	31	0	1	0	0	0	5821.168	1	1992682	0.002921	g	mi
1	1	2023	1	5	8	0	0	0	0	100	1	21	0	1	0	0	0	3915.263	1	1941594	0.002017	g	mi
1	1	2023	1	5	8	0	0	0	0	90	1	62	0	2	0	0	0	2.72E+08	1	163053.3	1669.055	g	mi
1	1	2023	1	5	8	0	0	0	0	90	1	61	0	2	0	0	0	77579704	1	45914.43	1689.658	g	mi
1	1	2023	1	5	8	0	0	0	0	90	1	53	0	2	0	0	0	7436546	1	7762.144	958.0531	g	mi
1	1	2023	1	5	8	0	0	0	0	90	1	52	0	2	0	0	0	1.18E+08	1	115477.9	1023.425	g	mi
1	1	2023	1	5	8	0	0	0	0	90	1	31	0	2	0	0	0	45862536	1	92063.14	498.1639	g	mi
1	1	2023	1	5	8	0	0	0	0	90	1	21	0	2	0	0	0	4654208	1	14658.84	317.5019	g	mi
1	1	2023	1	5	8	0	0	0	0	90	1	61	0	1	0	0	0	494.4697	1	0.30912	1599.603	g	mi
1	1	2023	1	5	8	0	0	0	0	90	1	53	0	1	0	0	0	2217005	1	2120.993	1045.268	g	mi
1	1	2023	1	5	8	0	0	0	0	90	1	52	0	1	0	0	0	34222096	1	31286.41	1093.833	g	mi
1	1	2023	1	5	8	0	0	0	0	90	1	31	0	1	0	0	0	8.02E+08	1	1992682	402.3001	g	mi
1	1	2023	1	5	8	0	0	0	0	90	1	21	0	1	0	0	0	5.92E+08	1	1941594	305.0271	g	mi
1	1	2023	1	5	8	0	0	0	0	87	15	62	0	2	0	0	0	4152.244	1	163053.3	0.025466	g	mi
1	1	2023	1	5	8	0	0	0	0	87	15	61	0	2	0	0	0	1263.364	1	45914.43	0.027516	g	mi
1	1	2023	1	5	8	0	0	0	0	87	15	53	0	2	0	0	0	58.73255	1	7762.144	0.007567	g	mi
1	1	2023	1	5	8	0	0	0	0	87	15	52	0	2	0	0	0	1012.326	1	115477.9	0.008766	g	mi
1	1	2023	1	5	8	0	0	0	0	87	15	31	0	2	0	0	0	200.9552	1	92063.14	0.002183	g	mi
1	1	2023	1	5	8	0	0	0	0	87	15	21	0	2	0	0	0	2.078851	1	14658.84	0.000142	g	mi
1	1	2023	1	5	8	0	0	0	0	87	15	61	0	1	0	0	0	0.007792	1	0.30912	0.025208	g	mi
1	1	2023	1	5	8	0	0	0	0	87	15	53	0	1	0	0	0	3.761147	1	2120.993	0.001773	g	mi
1	1	2023	1	5	8	0	0	0	0	87	15	52	0	1	0	0	0	56.6889	1	31286.41	0.001812	g	mi
1	1	2023	1	5	8	0	0	0	0	87	15	31	0	1	0	0	0	1020.85	1	1992682	0.000512	g	mi
1	1	2023	1	5	8	0	0	0	0	87	15	21	0	1	0	0	0	606.3692	1	1941594	0.000312	g	mi
1	1	2023	1	5	8	0	0	0	0	87	13	61	0	1	0	0	0	0.436809	1	0.30912	1.41307	g	mi
1	1	2023	1	5	8	0	0	0	0	87	13	53	0	1	0	0	0	145.2016	1	2120.993	0.068459	g	mi
1	1	2023	1	5	8	0	0	0	0	87	13	52	0	1	0	0	0	2623.932	1	31286.41	0.083868	g	mi
1	1	2023	1	5	8	0	0	0	0	87	13	31	0	1	0	0	0	116592.8	1	1992682	0.05851	g	mi
1	1	2023	1	5	8	0	0	0	0	87	13	21	0	1	0	0	0	92605.32	1	1941594	0.047696	g	mi
1	1	2023	1	5	8	0	0	0	0	87	12	61	0	1	0	0	0	0.936265	1	0.30912	3.028804	g	mi
1	1	2023	1	5	8	0	0	0	0	87	12	53	0	1	0	0	0	184.0963	1	2120.993	0.086797	g	mi
1	1	2023	1	5	8	0	0	0	0	87	12	52	0	1	0	0	0	1204.951	1	31286.41	0.038514	g	mi
1	1	2023	1	5	8	0	0	0	0	87	12	31	0	1	0	0	0	45177.45	1	1992682	0.022672	g	mi
1	1	2023	1	5	8	0	0	0	0	87	12	21	0	1	0	0	0	47073.67	1	1941594	0.024245	g	mi
1	1	2023	1	5	8	0	0	0	0	87	11	61	0	1	0	0	0	0.07913	1	0.30912	0.255983	g	mi
1	1	2023	1	5	8	0	0	0	0	87	11	53	0	1	0	0	0	19.36486	1	2120.993	0.00913	g	mi
1	1	2023	1	5	8	0	0	0	0	87	11	52	0	1	0	0	0	330.3554	1	31286.41	0.010559	g	mi
1	1	2023	1	5	8	0	0	0	0	87	11	31	0	1	0	0	0	9605.629	1	1992682	0.00482	g	mi
1	1	2023	1	5	8	0	0	0	0	87	11	21	0	1	0	0	0	8679.732	1	1941594	0.00447	g	mi
1	1	2023	1	5	8	0	0	0	0	87	1	62	0	2	0	0	0	18553.88	1	163053.3	0.11379	g	mi
1	1	2023	1	5	8	0	0	0	0	87	1	61	0	2	0	0	0	5193.667	1	45914.43	0.113116	g	mi

1	1	2023	1	5	8	0	0	0	0	87	1	53	0	2	0	0	0	651.1447	1	7762.144	0.083887	g	mi
1	1	2023	1	5	8	0	0	0	0	87	1	52	0	2	0	0	0	10966.64	1	115477.9	0.094967	g	mi
1	1	2023	1	5	8	0	0	0	0	87	1	31	0	2	0	0	0	13432.42	1	92063.14	0.145904	g	mi
1	1	2023	1	5	8	0	0	0	0	87	1	21	0	2	0	0	0	348.044	1	14658.84	0.023743	g	mi
1	1	2023	1	5	8	0	0	0	0	87	1	61	0	1	0	0	0	0.59033	1	0.30912	1.909709	g	mi
1	1	2023	1	5	8	0	0	0	0	87	1	53	0	1	0	0	0	284.9352	1	2120.993	0.13434	g	mi
1	1	2023	1	5	8	0	0	0	0	87	1	52	0	1	0	0	0	4294.61	1	31286.41	0.137268	g	mi
1	1	2023	1	5	8	0	0	0	0	87	1	31	0	1	0	0	0	77337.17	1	1992682	0.038811	g	mi
1	1	2023	1	5	8	0	0	0	0	87	1	21	0	1	0	0	0	45937.01	1	1941594	0.023659	g	mi
1	1	2023	1	5	8	0	0	0	0	46	15	62	0	2	0	0	0	305.369	1	163053.3	0.001873	g	mi
1	1	2023	1	5	8	0	0	0	0	46	15	61	0	2	0	0	0	95.90769	1	45914.43	0.002089	g	mi
1	1	2023	1	5	8	0	0	0	0	46	15	53	0	2	0	0	0	3.105494	1	7762.144	0.0004	g	mi
1	1	2023	1	5	8	0	0	0	0	46	15	52	0	2	0	0	0	52.18426	1	115477.9	0.000452	g	mi
1	1	2023	1	5	8	0	0	0	0	46	15	31	0	2	0	0	0	0.88414	1	92063.14	9.6E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	46	15	21	0	2	0	0	0	0.03767	1	14658.84	2.57E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	46	15	61	0	1	0	0	0	0.000547	1	0.30912	0.00177	g	mi
1	1	2023	1	5	8	0	0	0	0	46	15	53	0	1	0	0	0	0.240996	1	2120.993	0.000114	g	mi
1	1	2023	1	5	8	0	0	0	0	46	15	52	0	1	0	0	0	3.56432	1	31286.41	0.000114	g	mi
1	1	2023	1	5	8	0	0	0	0	46	15	31	0	1	0	0	0	69.14368	1	1992682	3.47E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	46	15	21	0	1	0	0	0	40.4937	1	1941594	2.09E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	46	13	61	0	1	0	0	0	0.028056	1	0.30912	0.090762	g	mi
1	1	2023	1	5	8	0	0	0	0	46	13	53	0	1	0	0	0	9.326306	1	2120.993	0.004397	g	mi
1	1	2023	1	5	8	0	0	0	0	46	13	52	0	1	0	0	0	168.5353	1	31286.41	0.005387	g	mi
1	1	2023	1	5	8	0	0	0	0	46	13	31	0	1	0	0	0	7488.75	1	1992682	0.003758	g	mi
1	1	2023	1	5	8	0	0	0	0	46	13	21	0	1	0	0	0	5948.036	1	1941594	0.003063	g	mi
1	1	2023	1	5	8	0	0	0	0	46	12	61	0	1	0	0	0	0.060136	1	0.30912	0.19454	g	mi
1	1	2023	1	5	8	0	0	0	0	46	12	53	0	1	0	0	0	11.82447	1	2120.993	0.005575	g	mi
1	1	2023	1	5	8	0	0	0	0	46	12	52	0	1	0	0	0	77.39395	1	31286.41	0.002474	g	mi
1	1	2023	1	5	8	0	0	0	0	46	12	31	0	1	0	0	0	2901.745	1	1992682	0.001456	g	mi
1	1	2023	1	5	8	0	0	0	0	46	12	21	0	1	0	0	0	3023.542	1	1941594	0.001557	g	mi
1	1	2023	1	5	8	0	0	0	0	46	11	61	0	1	0	0	0	0.00087	1	0.30912	0.002816	g	mi
1	1	2023	1	5	8	0	0	0	0	46	11	53	0	1	0	0	0	0.213014	1	2120.993	0.0001	g	mi
1	1	2023	1	5	8	0	0	0	0	46	11	52	0	1	0	0	0	3.633909	1	31286.41	0.000116	g	mi
1	1	2023	1	5	8	0	0	0	0	46	11	31	0	1	0	0	0	105.6621	1	1992682	5.3E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	46	11	21	0	1	0	0	0	95.47705	1	1941594	4.92E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	46	1	62	0	2	0	0	0	795.8026	1	163053.3	0.004881	g	mi
1	1	2023	1	5	8	0	0	0	0	46	1	61	0	2	0	0	0	249.2768	1	45914.43	0.005429	g	mi
1	1	2023	1	5	8	0	0	0	0	46	1	53	0	2	0	0	0	13.57041	1	7762.144	0.001748	g	mi
1	1	2023	1	5	8	0	0	0	0	46	1	52	0	2	0	0	0	225.1943	1	115477.9	0.00195	g	mi
1	1	2023	1	5	8	0	0	0	0	46	1	31	0	2	0	0	0	134.3885	1	92063.14	0.00146	g	mi
1	1	2023	1	5	8	0	0	0	0	46	1	21	0	2	0	0	0	21.45412	1	14658.84	0.001464	g	mi
1	1	2023	1	5	8	0	0	0	0	46	1	61	0	1	0	0	0	0.041446	1	0.30912	0.134076	g	mi
1	1	2023	1	5	8	0	0	0	0	46	1	53	0	1	0	0	0	18.25727	1	2120.993	0.008608	g	mi
1	1	2023	1	5	8	0	0	0	0	46	1	52	0	1	0	0	0	270.0242	1	31286.41	0.008631	g	mi
1	1	2023	1	5	8	0	0	0	0	46	1	31	0	1	0	0	0	5238.165	1	1992682	0.002629	g	mi
1	1	2023	1	5	8	0	0	0	0	46	1	21	0	1	0	0	0	3067.703	1	1941594	0.00158	g	mi
1	1	2023	1	5	8	0	0	0	0	45	15	62	0	2	0	0	0	75.90264	1	163053.3	0.000466	g	mi
1	1	2023	1	5	8	0	0	0	0	45	15	61	0	2	0	0	0	23.02732	1	45914.43	0.000502	g	mi
1	1	2023	1	5	8	0	0	0	0	45	15	53	0	2	0	0	0	0.904291	1	7762.144	0.000117	g	mi
1	1	2023	1	5	8	0	0	0	0	45	15	52	0	2	0	0	0	16.18912	1	115477.9	0.00014	g	mi
1	1	2023	1	5	8	0	0	0	0	45	15	31	0	2	0	0	0	0.897049	1	92063.14	9.74E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	45	15	21	0	2	0	0	0	0.014457	1	14658.84	9.86E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	45	15	61	0	1	0	0	0	0.000674	1	0.30912	0.002179	g	mi
1	1	2023	1	5	8	0	0	0	0	45	15	53	0	1	0	0	0	0.296583	1	2120.993	0.00014	g	mi
1	1	2023	1	5	8	0	0	0	0	45	15	52	0	1	0	0	0	4.38612	1	31286.41	0.00014	g	mi
1	1	2023	1	5	8	0	0	0	0	45	15	31	0	1	0	0	0	85.11005	1	1992682	4.27E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	45	15	21	0	1	0	0	0	49.84158	1	1941594	2.57E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	45	13	61	0	1	0	0	0	0.062621	1	0.30912	0.202578	g	mi
1	1	2023	1	5	8	0	0	0	0	45	13	53	0	1	0	0	0	20.81611	1	2120.993	0.009814	g	mi
1	1	2023	1	5	8	0	0	0	0	45	13	52	0	1	0	0	0	376.1669	1	31286.41	0.012023	g	mi
1	1	2023	1	5	8	0	0	0	0	45	13	31	0	1	0	0	0	16714.71	1	1992682	0.008388	g	mi
1	1	2023	1	5	8	0	0	0	0	45	13	21	0	1	0	0	0	13275.91	1	1941594	0.006838	g	mi
1	1	2023	1	5	8	0	0	0	0	45	12	61	0	1	0	0	0	0.134223	1	0.30912	0.43421	g	mi
1	1	2023	1	5	8	0	0	0	0	45	12	53	0	1	0	0	0	26.39197	1	2120.993	0.012443	g	mi
1	1	2023	1	5	8	0	0	0	0	45	12	52	0	1	0	0	0	172.742	1	31286.41	0.005521	g	mi
1	1	2023	1	5	8	0	0	0	0	45	12	31	0	1	0	0	0	6476.633	1	1992682	0.00325	g	mi
1	1	2023	1	5	8	0	0	0	0	45	12	21	0	1	0	0	0	6748.478	1	1941594	0.003476	g	mi
1	1	2023	1	5	8	0	0	0	0	45	11	61	0	1	0	0	0	0.007992	1	0.30912	0.025854	g	mi
1	1	2023	1	5	8	0	0	0	0	45	11	53	0	1	0	0	0	1.955852	1	2120.993	0.000922	g	mi
1	1	2023	1	5	8	0	0	0	0	45	11	52	0	1	0	0	0	33.36589	1	31286.41	0.001066	g	mi
1	1	2023	1	5	8	0	0	0	0	45	11	31	0	1	0	0	0	970.1686	1	1992682	0.000487	g	mi
1	1	2023	1	5	8	0	0	0	0	45	11	21	0	1	0	0	0	876.6531	1	1941594	0.000452	g	mi
1	1	2023	1	5	8	0	0	0	0	45	1	62	0	2	0	0	0	215.8615	1	163053.3	0.001324	g	mi
1	1	2023	1	5	8	0	0	0	0	45	1	61	0	2	0	0	0	64.48873	1	45914.43	0.001405	g	mi
1	1	2023	1	5	8	0	0	0	0	45	1	53	0	2	0	0	0	5.050088	1	7762.144	0.000651	g	mi
1	1	2023	1	5	8	0	0	0	0	45	1	52	0	2	0	0	0	86.29844	1	115477.9	0.000747	g	mi
1	1	2023	1	5	8	0	0	0	0	45	1	31	0	2	0	0	0	76.34676	1	92063.14	0.000829	g	mi
1	1	2023	1	5	8	0	0	0	0	45	1	21	0	2	0	0	0	5.193023	1	14658.84	0.000354	g	mi
1	1	2023	1	5	8	0	0	0	0	45	1	61	0	1	0	0	0	0.051023	1	0.30912	0.165058	g	mi
1	1	2023	1	5	8	0	0	0	0	45	1	53	0	1	0	0	0	22.46838	1	2120.993	0.010593	g	mi
1	1	2023	1	5	8	0	0	0	0	45	1	52	0	1	0	0	0	332.2816	1	31286.41	0.010621	g	mi
1	1	2023	1	5	8	0	0	0	0	45	1	31	0	1	0	0	0	6447.727	1	1992682	0.003236	g	mi
1	1	2023	1	5	8	0	0	0	0	45	1	21	0	1	0	0	0	3775.887	1	1941594	0.001945	g	mi
1	1	2023	1	5	8	0	0	0	0	43	15	62	0	2	0	0	0	12.73428	1	163053.3	7.81E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	43	15	61	0	2	0	0	0	3.833169	1	45914.43	8.35E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	43	15	53	0	2	0	0	0	0.205119	1	7762.144	2.64E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	43	15	52	0	2	0	0	0	3.530025	1	115477.9	3.06E-05	g	mi

1	1	2023	1	5	8	0	0	0	0	43	15	31	0	2	0	0	0	0.937519	1	92063.14	1.02E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	43	15	21	0	2	0	0	0	0.009061	1	14658.84	6.18E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	43	15	61	0	1	0	0	0	6.67E-06	1	0.30912	2.16E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	43	15	53	0	1	0	0	0	0.002472	1	2120.993	1.17E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	43	15	52	0	1	0	0	0	0.035042	1	31286.41	1.12E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	43	15	31	0	1	0	0	0	0.792084	1	1992682	3.97E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	43	15	21	0	1	0	0	0	0.451754	1	1941594	2.33E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	43	1	62	0	2	0	0	0	70.45438	1	163053.3	0.000432	g	mi
1	1	2023	1	5	8	0	0	0	0	43	1	61	0	2	0	0	0	19.16058	1	45914.43	0.000417	g	mi
1	1	2023	1	5	8	0	0	0	0	43	1	53	0	2	0	0	0	2.790121	1	7762.144	0.000359	g	mi
1	1	2023	1	5	8	0	0	0	0	43	1	52	0	2	0	0	0	46.98888	1	115477.9	0.000407	g	mi
1	1	2023	1	5	8	0	0	0	0	43	1	31	0	2	0	0	0	60.8697	1	92063.14	0.000661	g	mi
1	1	2023	1	5	8	0	0	0	0	43	1	21	0	2	0	0	0	1.177466	1	14658.84	8.03E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	43	1	61	0	1	0	0	0	0.000506	1	0.30912	0.001635	g	mi
1	1	2023	1	5	8	0	0	0	0	43	1	53	0	1	0	0	0	0.187238	1	2120.993	8.83E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	43	1	52	0	1	0	0	0	2.654667	1	31286.41	8.49E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	43	1	31	0	1	0	0	0	60.00626	1	1992682	3.01E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	43	1	21	0	1	0	0	0	34.22372	1	1941594	1.76E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	42	15	62	0	2	0	0	0	5.920505	1	163053.3	3.63E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	42	15	61	0	2	0	0	0	1.647269	1	45914.43	3.59E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	42	15	53	0	2	0	0	0	0.107627	1	7762.144	1.39E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	42	15	52	0	2	0	0	0	2.036596	1	115477.9	1.76E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	42	15	31	0	2	0	0	0	0.395346	1	92063.14	4.29E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	42	15	21	0	2	0	0	0	0.003764	1	14658.84	2.57E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	42	15	61	0	1	0	0	0	0.000125	1	0.30912	0.000405	g	mi
1	1	2023	1	5	8	0	0	0	0	42	15	53	0	1	0	0	0	0.091343	1	2120.993	4.31E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	42	15	52	0	1	0	0	0	1.467766	1	31286.41	4.69E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	42	15	31	0	1	0	0	0	19.79796	1	1992682	9.94E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	42	15	21	0	1	0	0	0	12.53122	1	1941594	6.45E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	42	13	61	0	1	0	0	0	0.011077	1	0.30912	0.035835	g	mi
1	1	2023	1	5	8	0	0	0	0	42	13	53	0	1	0	0	0	3.682315	1	2120.993	0.001736	g	mi
1	1	2023	1	5	8	0	0	0	0	42	13	52	0	1	0	0	0	66.54289	1	31286.41	0.002127	g	mi
1	1	2023	1	5	8	0	0	0	0	42	13	31	0	1	0	0	0	2956.794	1	1992682	0.001484	g	mi
1	1	2023	1	5	8	0	0	0	0	42	13	21	0	1	0	0	0	2348.468	1	1941594	0.00121	g	mi
1	1	2023	1	5	8	0	0	0	0	42	12	61	0	1	0	0	0	0.023744	1	0.30912	0.076811	g	mi
1	1	2023	1	5	8	0	0	0	0	42	12	53	0	1	0	0	0	4.668676	1	2120.993	0.002201	g	mi
1	1	2023	1	5	8	0	0	0	0	42	12	52	0	1	0	0	0	30.55758	1	31286.41	0.000977	g	mi
1	1	2023	1	5	8	0	0	0	0	42	12	31	0	1	0	0	0	1145.7	1	1992682	0.000575	g	mi
1	1	2023	1	5	8	0	0	0	0	42	12	21	0	1	0	0	0	1193.788	1	1941594	0.000615	g	mi
1	1	2023	1	5	8	0	0	0	0	42	11	61	0	1	0	0	0	0.005143	1	0.30912	0.016639	g	mi
1	1	2023	1	5	8	0	0	0	0	42	11	53	0	1	0	0	0	1.258715	1	2120.993	0.000593	g	mi
1	1	2023	1	5	8	0	0	0	0	42	11	52	0	1	0	0	0	21.47309	1	31286.41	0.000686	g	mi
1	1	2023	1	5	8	0	0	0	0	42	11	31	0	1	0	0	0	624.3658	1	1992682	0.000313	g	mi
1	1	2023	1	5	8	0	0	0	0	42	11	21	0	1	0	0	0	564.1825	1	1941594	0.000291	g	mi
1	1	2023	1	5	8	0	0	0	0	42	1	62	0	2	0	0	0	29.01121	1	163053.3	0.000178	g	mi
1	1	2023	1	5	8	0	0	0	0	42	1	61	0	2	0	0	0	7.671043	1	45914.43	0.000167	g	mi
1	1	2023	1	5	8	0	0	0	0	42	1	53	0	2	0	0	0	1.198025	1	7762.144	0.000154	g	mi
1	1	2023	1	5	8	0	0	0	0	42	1	52	0	2	0	0	0	20.57971	1	115477.9	0.000178	g	mi
1	1	2023	1	5	8	0	0	0	0	42	1	31	0	2	0	0	0	26.09983	1	92063.14	0.000283	g	mi
1	1	2023	1	5	8	0	0	0	0	42	1	21	0	2	0	0	0	0.461645	1	14658.84	3.15E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	42	1	61	0	1	0	0	0	0.009493	1	0.30912	0.030709	g	mi
1	1	2023	1	5	8	0	0	0	0	42	1	53	0	1	0	0	0	6.919903	1	2120.993	0.003263	g	mi
1	1	2023	1	5	8	0	0	0	0	42	1	52	0	1	0	0	0	111.1945	1	31286.41	0.003554	g	mi
1	1	2023	1	5	8	0	0	0	0	42	1	31	0	1	0	0	0	1499.849	1	1992682	0.000753	g	mi
1	1	2023	1	5	8	0	0	0	0	42	1	21	0	1	0	0	0	949.3349	1	1941594	0.000489	g	mi
1	1	2023	1	5	8	0	0	0	0	41	15	62	0	2	0	0	0	41.58975	1	163053.3	0.000255	g	mi
1	1	2023	1	5	8	0	0	0	0	41	15	61	0	2	0	0	0	12.96903	1	45914.43	0.000282	g	mi
1	1	2023	1	5	8	0	0	0	0	41	15	53	0	2	0	0	0	0.460315	1	7762.144	5.93E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	41	15	52	0	2	0	0	0	7.794001	1	115477.9	6.75E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	41	15	31	0	2	0	0	0	0.546552	1	92063.14	5.94E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	41	15	21	0	2	0	0	0	0.008663	1	14658.84	5.91E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	41	15	61	0	1	0	0	0	0.00015	1	0.30912	0.000486	g	mi
1	1	2023	1	5	8	0	0	0	0	41	15	53	0	1	0	0	0	0.066179	1	2120.993	3.12E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	41	15	52	0	1	0	0	0	0.978687	1	31286.41	3.13E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	41	15	31	0	1	0	0	0	18.99307	1	1992682	9.53E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	41	15	21	0	1	0	0	0	11.1224	1	1941594	5.73E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	41	13	61	0	1	0	0	0	0.007517	1	0.30912	0.024319	g	mi
1	1	2023	1	5	8	0	0	0	0	41	13	53	0	1	0	0	0	2.49892	1	2120.993	0.001178	g	mi
1	1	2023	1	5	8	0	0	0	0	41	13	52	0	1	0	0	0	45.15788	1	31286.41	0.001443	g	mi
1	1	2023	1	5	8	0	0	0	0	41	13	31	0	1	0	0	0	2006.561	1	1992682	0.001007	g	mi
1	1	2023	1	5	8	0	0	0	0	41	13	21	0	1	0	0	0	1593.739	1	1941594	0.000821	g	mi
1	1	2023	1	5	8	0	0	0	0	41	12	61	0	1	0	0	0	0.016113	1	0.30912	0.052126	g	mi
1	1	2023	1	5	8	0	0	0	0	41	12	53	0	1	0	0	0	3.168291	1	2120.993	0.001494	g	mi
1	1	2023	1	5	8	0	0	0	0	41	12	52	0	1	0	0	0	20.73722	1	31286.41	0.000663	g	mi
1	1	2023	1	5	8	0	0	0	0	41	12	31	0	1	0	0	0	777.5037	1	1992682	0.00039	g	mi
1	1	2023	1	5	8	0	0	0	0	41	12	21	0	1	0	0	0	810.1369	1	1941594	0.000417	g	mi
1	1	2023	1	5	8	0	0	0	0	41	11	61	0	1	0	0	0	7.91E-05	1	0.30912	0.000256	g	mi
1	1	2023	1	5	8	0	0	0	0	41	11	53	0	1	0	0	0	0.019365	1	2120.993	9.13E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	41	11	52	0	1	0	0	0	0.330355	1	31286.41	1.06E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	41	11	31	0	1	0	0	0	9.605628	1	1992682	4.82E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	41	11	21	0	1	0	0	0	8.679732	1	1941594	4.47E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	41	1	62	0	2	0	0	0	125.8082	1	163053.3	0.000772	g	mi
1	1	2023	1	5	8	0	0	0	0	41	1	61	0	2	0	0	0	38.0123	1	45914.43	0.000828	g	mi
1	1	2023	1	5	8	0	0	0	0	41	1	53	0	2	0	0	0	2.900689	1	7762.144	0.000374	g	mi
1	1	2023	1	5	8	0	0	0	0	41	1	52	0	2	0	0	0	48.5027	1	115477.9	0.00042	g	mi
1	1	2023	1	5	8	0	0	0	0	41	1	31	0	2	0	0	0	44.48059	1	92063.14	0.000483	g	mi
1	1	2023	1	5	8	0	0	0	0	41	1	21	0	2	0	0	0	3.048347	1	14658.84	0.000208	g	mi

1	1	2023	1	5	8	0	0	0	0	41	1	61	0	1	0	0	0	0.011387	1	0.30912	0.036836	g	mi
1	1	2023	1	5	8	0	0	0	0	41	1	53	0	1	0	0	0	5.013597	1	2120.993	0.002364	g	mi
1	1	2023	1	5	8	0	0	0	0	41	1	52	0	1	0	0	0	74.14298	1	31286.41	0.00237	g	mi
1	1	2023	1	5	8	0	0	0	0	41	1	31	0	1	0	0	0	1438.873	1	1992682	0.000722	g	mi
1	1	2023	1	5	8	0	0	0	0	41	1	21	0	1	0	0	0	842.6062	1	1941594	0.000434	g	mi
1	1	2023	1	5	8	0	0	0	0	40	15	62	0	2	0	0	0	19.09083	1	163053.3	0.000117	g	mi
1	1	2023	1	5	8	0	0	0	0	40	15	61	0	2	0	0	0	5.764859	1	45914.43	0.000126	g	mi
1	1	2023	1	5	8	0	0	0	0	40	15	53	0	2	0	0	0	0.239519	1	7762.144	3.09E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	40	15	52	0	2	0	0	0	4.288616	1	115477.9	3.71E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	40	15	31	0	2	0	0	0	0.368809	1	92063.14	4.01E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	40	15	21	0	2	0	0	0	0.004827	1	14658.84	3.29E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	40	15	61	0	1	0	0	0	0.000144	1	0.30912	0.000464	g	mi
1	1	2023	1	5	8	0	0	0	0	40	15	53	0	1	0	0	0	0.054712	1	2120.993	2.58E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	40	15	52	0	1	0	0	0	0.781674	1	31286.41	2.5E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	40	15	31	0	1	0	0	0	17.20685	1	1992682	8.64E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	40	15	21	0	1	0	0	0	9.856498	1	1941594	5.08E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	40	13	61	0	1	0	0	0	0.014651	1	0.30912	0.047394	g	mi
1	1	2023	1	5	8	0	0	0	0	40	13	53	0	1	0	0	0	4.870062	1	2120.993	0.002296	g	mi
1	1	2023	1	5	8	0	0	0	0	40	13	52	0	1	0	0	0	88.00661	1	31286.41	0.002813	g	mi
1	1	2023	1	5	8	0	0	0	0	40	13	31	0	1	0	0	0	3910.52	1	1992682	0.001962	g	mi
1	1	2023	1	5	8	0	0	0	0	40	13	21	0	1	0	0	0	3105.987	1	1941594	0.0016	g	mi
1	1	2023	1	5	8	0	0	0	0	40	12	61	0	1	0	0	0	0.031402	1	0.30912	0.101586	g	mi
1	1	2023	1	5	8	0	0	0	0	40	12	53	0	1	0	0	0	6.174581	1	2120.993	0.002911	g	mi
1	1	2023	1	5	8	0	0	0	0	40	12	52	0	1	0	0	0	40.41404	1	31286.41	0.001292	g	mi
1	1	2023	1	5	8	0	0	0	0	40	12	31	0	1	0	0	0	1515.25	1	1992682	0.00076	g	mi
1	1	2023	1	5	8	0	0	0	0	40	12	21	0	1	0	0	0	1578.854	1	1941594	0.000813	g	mi
1	1	2023	1	5	8	0	0	0	0	40	11	61	0	1	0	0	0	0.001899	1	0.30912	0.006144	g	mi
1	1	2023	1	5	8	0	0	0	0	40	11	53	0	1	0	0	0	0.464758	1	2120.993	0.000219	g	mi
1	1	2023	1	5	8	0	0	0	0	40	11	52	0	1	0	0	0	7.928517	1	31286.41	0.000253	g	mi
1	1	2023	1	5	8	0	0	0	0	40	11	31	0	1	0	0	0	230.5349	1	1992682	0.000116	g	mi
1	1	2023	1	5	8	0	0	0	0	40	11	21	0	1	0	0	0	208.3134	1	1941594	0.000107	g	mi
1	1	2023	1	5	8	0	0	0	0	40	1	62	0	2	0	0	0	60.21076	1	163053.3	0.000369	g	mi
1	1	2023	1	5	8	0	0	0	0	40	1	61	0	2	0	0	0	17.61068	1	45914.43	0.000384	g	mi
1	1	2023	1	5	8	0	0	0	0	40	1	53	0	2	0	0	0	1.623795	1	7762.144	0.000209	g	mi
1	1	2023	1	5	8	0	0	0	0	40	1	52	0	2	0	0	0	27.68432	1	115477.9	0.00024	g	mi
1	1	2023	1	5	8	0	0	0	0	40	1	31	0	2	0	0	0	27.98963	1	92063.14	0.000304	g	mi
1	1	2023	1	5	8	0	0	0	0	40	1	21	0	2	0	0	0	1.350848	1	14658.84	9.22E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	40	1	61	0	1	0	0	0	0.010873	1	0.30912	0.035175	g	mi
1	1	2023	1	5	8	0	0	0	0	40	1	53	0	1	0	0	0	4.144836	1	2120.993	0.001954	g	mi
1	1	2023	1	5	8	0	0	0	0	40	1	52	0	1	0	0	0	59.21766	1	31286.41	0.001893	g	mi
1	1	2023	1	5	8	0	0	0	0	40	1	31	0	1	0	0	0	1303.55	1	1992682	0.000654	g	mi
1	1	2023	1	5	8	0	0	0	0	40	1	21	0	1	0	0	0	746.7043	1	1941594	0.000385	g	mi
1	1	2023	1	5	8	0	0	0	0	31	1	62	0	2	0	0	0	912.7353	1	163053.3	0.005598	g	mi
1	1	2023	1	5	8	0	0	0	0	31	1	61	0	2	0	0	0	259.6919	1	45914.43	0.005656	g	mi
1	1	2023	1	5	8	0	0	0	0	31	1	53	0	2	0	0	0	24.91474	1	7762.144	0.00321	g	mi
1	1	2023	1	5	8	0	0	0	0	31	1	52	0	2	0	0	0	396.3216	1	115477.9	0.003432	g	mi
1	1	2023	1	5	8	0	0	0	0	31	1	31	0	2	0	0	0	155.1499	1	92063.14	0.001685	g	mi
1	1	2023	1	5	8	0	0	0	0	31	1	21	0	2	0	0	0	15.60555	1	14658.84	0.001065	g	mi
1	1	2023	1	5	8	0	0	0	0	31	1	61	0	1	0	0	0	0.003285	1	0.30912	0.010626	g	mi
1	1	2023	1	5	8	0	0	0	0	31	1	53	0	1	0	0	0	14.72773	1	2120.993	0.006944	g	mi
1	1	2023	1	5	8	0	0	0	0	31	1	52	0	1	0	0	0	227.3395	1	31286.41	0.007266	g	mi
1	1	2023	1	5	8	0	0	0	0	31	1	31	0	1	0	0	0	5325.452	1	1992682	0.002673	g	mi
1	1	2023	1	5	8	0	0	0	0	31	1	21	0	1	0	0	0	3934.274	1	1941594	0.002026	g	mi
1	1	2023	1	5	8	0	0	0	0	27	15	62	0	2	0	0	0	18.56927	1	163053.3	0.000114	g	mi
1	1	2023	1	5	8	0	0	0	0	27	15	61	0	2	0	0	0	5.400823	1	45914.43	0.000118	g	mi
1	1	2023	1	5	8	0	0	0	0	27	15	53	0	2	0	0	0	0.317346	1	7762.144	4.09E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	27	15	52	0	2	0	0	0	5.716289	1	115477.9	4.95E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	27	15	31	0	2	0	0	0	1.32736	1	92063.14	1.44E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	27	15	21	0	2	0	0	0	0.012728	1	14658.84	8.68E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	27	15	61	0	1	0	0	0	4.97E-06	1	0.30912	1.61E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	27	15	53	0	1	0	0	0	0.00271	1	2120.993	1.28E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	27	15	52	0	1	0	0	0	0.041919	1	31286.41	1.34E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	27	15	31	0	1	0	0	0	0.6845	1	1992682	3.44E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	27	15	21	0	1	0	0	0	0.412979	1	1941594	2.13E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	27	1	62	0	2	0	0	0	98.245	1	163053.3	0.000603	g	mi
1	1	2023	1	5	8	0	0	0	0	27	1	61	0	2	0	0	0	26.39259	1	45914.43	0.000575	g	mi
1	1	2023	1	5	8	0	0	0	0	27	1	53	0	2	0	0	0	3.971704	1	7762.144	0.000512	g	mi
1	1	2023	1	5	8	0	0	0	0	27	1	52	0	2	0	0	0	67.44661	1	115477.9	0.000584	g	mi
1	1	2023	1	5	8	0	0	0	0	27	1	31	0	2	0	0	0	86.71758	1	92063.14	0.000942	g	mi
1	1	2023	1	5	8	0	0	0	0	27	1	21	0	2	0	0	0	1.60388	1	14658.84	0.000109	g	mi
1	1	2023	1	5	8	0	0	0	0	27	1	61	0	1	0	0	0	0.000376	1	0.30912	0.001218	g	mi
1	1	2023	1	5	8	0	0	0	0	27	1	53	0	1	0	0	0	0.205266	1	2120.993	9.68E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	27	1	52	0	1	0	0	0	3.175716	1	31286.41	0.000102	g	mi
1	1	2023	1	5	8	0	0	0	0	27	1	31	0	1	0	0	0	51.8561	1	1992682	2.6E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	27	1	21	0	1	0	0	0	31.28632	1	1941594	1.61E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	26	15	62	0	2	0	0	0	182.1717	1	163053.3	0.001117	g	mi
1	1	2023	1	5	8	0	0	0	0	26	15	61	0	2	0	0	0	54.73584	1	45914.43	0.001192	g	mi
1	1	2023	1	5	8	0	0	0	0	26	15	53	0	2	0	0	0	2.547757	1	7762.144	0.000328	g	mi
1	1	2023	1	5	8	0	0	0	0	26	15	52	0	2	0	0	0	45.12608	1	115477.9	0.000391	g	mi
1	1	2023	1	5	8	0	0	0	0	26	15	31	0	2	0	0	0	7.163906	1	92063.14	7.78E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	26	15	21	0	2	0	0	0	0.076679	1	14658.84	5.23E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	26	15	61	0	1	0	0	0	0.000103	1	0.30912	0.000332	g	mi
1	1	2023	1	5	8	0	0	0	0	26	15	53	0	1	0	0	0	0.038242	1	2120.993	1.8E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	26	15	52	0	1	0	0	0	0.537203	1	31286.41	1.72E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	26	15	31	0	1	0	0	0	12.22897	1	1992682	6.14E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	26	15	21	0	1	0	0	0	7.030537	1	1941594	3.62E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	26	1	62	0	2	0	0	0	731.15	1	163053.3	0.004484	g	mi

1	1	2023	1	5	8	0	0	0	0	26	1	61	0	2	0	0	0	205.8756	1	45914.43	0.004484	g	mi
1	1	2023	1	5	8	0	0	0	0	26	1	53	0	2	0	0	0	24.49293	1	7762.144	0.003155	g	mi
1	1	2023	1	5	8	0	0	0	0	26	1	52	0	2	0	0	0	415.1311	1	115477.9	0.003595	g	mi
1	1	2023	1	5	8	0	0	0	0	26	1	31	0	2	0	0	0	489.9252	1	92063.14	0.005322	g	mi
1	1	2023	1	5	8	0	0	0	0	26	1	21	0	2	0	0	0	14.2391	1	14658.84	0.000971	g	mi
1	1	2023	1	5	8	0	0	0	0	26	1	61	0	1	0	0	0	0.007772	1	0.30912	0.025141	g	mi
1	1	2023	1	5	8	0	0	0	0	26	1	53	0	1	0	0	0	2.89714	1	2120.993	0.001366	g	mi
1	1	2023	1	5	8	0	0	0	0	26	1	52	0	1	0	0	0	40.69729	1	31286.41	0.001301	g	mi
1	1	2023	1	5	8	0	0	0	0	26	1	31	0	1	0	0	0	926.4361	1	1992682	0.000465	g	mi
1	1	2023	1	5	8	0	0	0	0	26	1	21	0	1	0	0	0	532.6163	1	1941594	0.000274	g	mi
1	1	2023	1	5	8	0	0	0	0	25	15	62	0	2	0	0	0	205.1812	1	163053.3	0.001258	g	mi
1	1	2023	1	5	8	0	0	0	0	25	15	61	0	2	0	0	0	55.76972	1	45914.43	0.001215	g	mi
1	1	2023	1	5	8	0	0	0	0	25	15	53	0	2	0	0	0	4.001326	1	7762.144	0.000515	g	mi
1	1	2023	1	5	8	0	0	0	0	25	15	52	0	2	0	0	0	76.61509	1	115477.9	0.000663	g	mi
1	1	2023	1	5	8	0	0	0	0	25	15	31	0	2	0	0	0	15.68648	1	92063.14	0.00017	g	mi
1	1	2023	1	5	8	0	0	0	0	25	15	21	0	2	0	0	0	0.146202	1	14658.84	9.97E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	25	15	61	0	1	0	0	0	0.000105	1	0.30912	0.000338	g	mi
1	1	2023	1	5	8	0	0	0	0	25	15	53	0	1	0	0	0	0.061626	1	2120.993	2.91E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	25	15	52	0	1	0	0	0	0.967571	1	31286.41	3.09E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	25	15	31	0	1	0	0	0	14.90329	1	1992682	7.48E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	25	15	21	0	1	0	0	0	9.080894	1	1941594	4.68E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	25	1	62	0	2	0	0	0	1073.747	1	163053.3	0.006585	g	mi
1	1	2023	1	5	8	0	0	0	0	25	1	61	0	2	0	0	0	279.5364	1	45914.43	0.006088	g	mi
1	1	2023	1	5	8	0	0	0	0	25	1	53	0	2	0	0	0	46.42796	1	7762.144	0.005981	g	mi
1	1	2023	1	5	8	0	0	0	0	25	1	52	0	2	0	0	0	798.9335	1	115477.9	0.006918	g	mi
1	1	2023	1	5	8	0	0	0	0	25	1	31	0	2	0	0	0	1028.26	1	92063.14	0.011169	g	mi
1	1	2023	1	5	8	0	0	0	0	25	1	21	0	2	0	0	0	16.13379	1	14658.84	0.001101	g	mi
1	1	2023	1	5	8	0	0	0	0	25	1	61	0	1	0	0	0	0.007922	1	0.30912	0.025628	g	mi
1	1	2023	1	5	8	0	0	0	0	25	1	53	0	1	0	0	0	4.668621	1	2120.993	0.002201	g	mi
1	1	2023	1	5	8	0	0	0	0	25	1	52	0	1	0	0	0	73.30076	1	31286.41	0.002343	g	mi
1	1	2023	1	5	8	0	0	0	0	25	1	31	0	1	0	0	0	1129.037	1	1992682	0.000567	g	mi
1	1	2023	1	5	8	0	0	0	0	25	1	21	0	1	0	0	0	687.9469	1	1941594	0.000354	g	mi
1	1	2023	1	5	8	0	0	0	0	24	15	62	0	2	0	0	0	1.326092	1	163053.3	8.13E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	24	15	61	0	2	0	0	0	0.321723	1	45914.43	7.01E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	24	15	53	0	2	0	0	0	0.060684	1	7762.144	7.82E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	24	15	52	0	2	0	0	0	1.056964	1	115477.9	9.15E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	24	15	31	0	2	0	0	0	0.581635	1	92063.14	6.32E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	24	15	21	0	2	0	0	0	0.004978	1	14658.84	3.4E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	24	15	61	0	1	0	0	0	3.92E-05	1	0.30912	0.000127	g	mi
1	1	2023	1	5	8	0	0	0	0	24	15	53	0	1	0	0	0	0.00674	1	2120.993	3.18E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	24	15	52	0	1	0	0	0	0.059241	1	31286.41	1.89E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	24	15	31	0	1	0	0	0	3.825686	1	1992682	1.92E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	24	15	21	0	1	0	0	0	2.021285	1	1941594	1.04E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	24	1	62	0	2	0	0	0	27.53794	1	163053.3	0.000169	g	mi
1	1	2023	1	5	8	0	0	0	0	24	1	61	0	2	0	0	0	6.77638	1	45914.43	0.000148	g	mi
1	1	2023	1	5	8	0	0	0	0	24	1	53	0	2	0	0	0	1.485765	1	7762.144	0.000191	g	mi
1	1	2023	1	5	8	0	0	0	0	24	1	52	0	2	0	0	0	25.06274	1	115477.9	0.000217	g	mi
1	1	2023	1	5	8	0	0	0	0	24	1	31	0	2	0	0	0	36.01429	1	92063.14	0.000391	g	mi
1	1	2023	1	5	8	0	0	0	0	24	1	21	0	2	0	0	0	0.280712	1	14658.84	1.91E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	24	1	61	0	1	0	0	0	0.002971	1	0.30912	0.009611	g	mi
1	1	2023	1	5	8	0	0	0	0	24	1	53	0	1	0	0	0	0.51064	1	2120.993	0.000241	g	mi
1	1	2023	1	5	8	0	0	0	0	24	1	52	0	1	0	0	0	4.487974	1	31286.41	0.000143	g	mi
1	1	2023	1	5	8	0	0	0	0	24	1	31	0	1	0	0	0	289.8252	1	1992682	0.000145	g	mi
1	1	2023	1	5	8	0	0	0	0	24	1	21	0	1	0	0	0	153.1276	1	1941594	7.89E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	15	62	0	2	0	0	0	7.898963	1	163053.3	4.84E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	15	61	0	2	0	0	0	1.866532	1	45914.43	4.07E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	15	53	0	2	0	0	0	0.246065	1	7762.144	3.17E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	15	52	0	2	0	0	0	4.724386	1	115477.9	4.09E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	15	31	0	2	0	0	0	1.564978	1	92063.14	1.7E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	15	21	0	2	0	0	0	0.01354	1	14658.84	9.24E-07	g	mi
1	1	2023	1	5	8	0	0	0	0	20	15	61	0	1	0	0	0	0.000226	1	0.30912	0.000732	g	mi
1	1	2023	1	5	8	0	0	0	0	20	15	53	0	1	0	0	0	0.147414	1	2120.993	6.95E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	15	52	0	1	0	0	0	2.354416	1	31286.41	7.53E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	15	31	0	1	0	0	0	33.77057	1	1992682	1.69E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	15	21	0	1	0	0	0	20.84176	1	1941594	1.07E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	13	61	0	1	0	0	0	0.000731	1	0.30912	0.002365	g	mi
1	1	2023	1	5	8	0	0	0	0	20	13	53	0	1	0	0	0	0.242984	1	2120.993	0.000115	g	mi
1	1	2023	1	5	8	0	0	0	0	20	13	52	0	1	0	0	0	4.390964	1	31286.41	0.00014	g	mi
1	1	2023	1	5	8	0	0	0	0	20	13	31	0	1	0	0	0	195.1098	1	1992682	9.79E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	13	21	0	1	0	0	0	154.9686	1	1941594	7.98E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	12	61	0	1	0	0	0	0.001567	1	0.30912	0.005068	g	mi
1	1	2023	1	5	8	0	0	0	0	20	12	53	0	1	0	0	0	0.308072	1	2120.993	0.000145	g	mi
1	1	2023	1	5	8	0	0	0	0	20	12	52	0	1	0	0	0	2.0164	1	31286.41	6.44E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	12	31	0	1	0	0	0	75.60117	1	1992682	3.79E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	12	21	0	1	0	0	0	78.77444	1	1941594	4.06E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	11	61	0	1	0	0	0	0.000199	1	0.30912	0.000645	g	mi
1	1	2023	1	5	8	0	0	0	0	20	11	53	0	1	0	0	0	0.048764	1	2120.993	2.3E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	11	52	0	1	0	0	0	0.831882	1	31286.41	2.66E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	11	31	0	1	0	0	0	24.18834	1	1992682	1.21E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	11	21	0	1	0	0	0	21.85677	1	1941594	1.13E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	1	62	0	2	0	0	0	79.60999	1	163053.3	0.000488	g	mi
1	1	2023	1	5	8	0	0	0	0	20	1	61	0	2	0	0	0	19.50534	1	45914.43	0.000425	g	mi
1	1	2023	1	5	8	0	0	0	0	20	1	53	0	2	0	0	0	4.161507	1	7762.144	0.000536	g	mi
1	1	2023	1	5	8	0	0	0	0	20	1	52	0	2	0	0	0	71.18587	1	115477.9	0.000616	g	mi
1	1	2023	1	5	8	0	0	0	0	20	1	31	0	2	0	0	0	98.76736	1	92063.14	0.001073	g	mi
1	1	2023	1	5	8	0	0	0	0	20	1	21	0	2	0	0	0	0.870027	1	14658.84	5.94E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	20	1	61	0	1	0	0	0	0.017147	1	0.30912	0.05547	g	mi

1	1	2023	1	5	8	0	0	0	0	20	1	53	0	1	0	0	0	11.1677	1	2120.993	0.005265	g	mi
1	1	2023	1	5	8	0	0	0	0	20	1	52	0	1	0	0	0	178.3643	1	31286.41	0.005701	g	mi
1	1	2023	1	5	8	0	0	0	0	20	1	31	0	1	0	0	0	2558.374	1	1992682	0.001284	g	mi
1	1	2023	1	5	8	0	0	0	0	20	1	21	0	1	0	0	0	1578.925	1	1941594	0.000813	g	mi
1	1	2023	1	5	8	0	0	0	0	6	1	62	0	2	0	0	0	357.737	1	163053.3	0.002194	g	mi
1	1	2023	1	5	8	0	0	0	0	6	1	61	0	2	0	0	0	137.1805	1	45914.43	0.002988	g	mi
1	1	2023	1	5	8	0	0	0	0	6	1	53	0	2	0	0	0	24.77065	1	7762.144	0.003191	g	mi
1	1	2023	1	5	8	0	0	0	0	6	1	52	0	2	0	0	0	387.2232	1	115477.9	0.003353	g	mi
1	1	2023	1	5	8	0	0	0	0	6	1	31	0	2	0	0	0	208.9357	1	92063.14	0.002269	g	mi
1	1	2023	1	5	8	0	0	0	0	6	1	21	0	2	0	0	0	8.857747	1	14658.84	0.000604	g	mi
1	1	2023	1	5	8	0	0	0	0	6	1	61	0	1	0	0	0	0.008114	1	0.30912	0.02625	g	mi
1	1	2023	1	5	8	0	0	0	0	6	1	53	0	1	0	0	0	16.31744	1	2120.993	0.007693	g	mi
1	1	2023	1	5	8	0	0	0	0	6	1	52	0	1	0	0	0	250.5651	1	31286.41	0.008009	g	mi
1	1	2023	1	5	8	0	0	0	0	6	1	31	0	1	0	0	0	5968.206	1	1992682	0.002995	g	mi
1	1	2023	1	5	8	0	0	0	0	6	1	21	0	1	0	0	0	3545.891	1	1941594	0.001826	g	mi
1	1	2023	1	5	8	0	0	0	0	5	15	62	0	2	0	0	0	110.3318	1	163053.3	0.000677	g	mi
1	1	2023	1	5	8	0	0	0	0	5	15	61	0	2	0	0	0	27.54418	1	45914.43	0.0006	g	mi
1	1	2023	1	5	8	0	0	0	0	5	15	53	0	2	0	0	0	2.253057	1	7762.144	0.00029	g	mi
1	1	2023	1	5	8	0	0	0	0	5	15	52	0	2	0	0	0	47.41124	1	115477.9	0.000411	g	mi
1	1	2023	1	5	8	0	0	0	0	5	15	31	0	2	0	0	0	1.20892	1	92063.14	1.31E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	5	15	21	0	2	0	0	0	0.24719	1	14658.84	1.69E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	5	15	61	0	1	0	0	0	0.001322	1	0.30912	0.004275	g	mi
1	1	2023	1	5	8	0	0	0	0	5	15	53	0	1	0	0	0	0.637902	1	2120.993	0.000301	g	mi
1	1	2023	1	5	8	0	0	0	0	5	15	52	0	1	0	0	0	9.614625	1	31286.41	0.000307	g	mi
1	1	2023	1	5	8	0	0	0	0	5	15	31	0	1	0	0	0	265.5822	1	1992682	0.000133	g	mi
1	1	2023	1	5	8	0	0	0	0	5	15	21	0	1	0	0	0	184.9951	1	1941594	9.53E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	5	1	62	0	2	0	0	0	3042.418	1	163053.3	0.018659	g	mi
1	1	2023	1	5	8	0	0	0	0	5	1	61	0	2	0	0	0	899.088	1	45914.43	0.019582	g	mi
1	1	2023	1	5	8	0	0	0	0	5	1	53	0	2	0	0	0	100.5869	1	7762.144	0.012959	g	mi
1	1	2023	1	5	8	0	0	0	0	5	1	52	0	2	0	0	0	1745.883	1	115477.9	0.015119	g	mi
1	1	2023	1	5	8	0	0	0	0	5	1	31	0	2	0	0	0	816.838	1	92063.14	0.008873	g	mi
1	1	2023	1	5	8	0	0	0	0	5	1	21	0	2	0	0	0	167.0202	1	14658.84	0.011394	g	mi
1	1	2023	1	5	8	0	0	0	0	5	1	61	0	1	0	0	0	0.100122	1	0.30912	0.323893	g	mi
1	1	2023	1	5	8	0	0	0	0	5	1	53	0	1	0	0	0	48.32586	1	2120.993	0.022785	g	mi
1	1	2023	1	5	8	0	0	0	0	5	1	52	0	1	0	0	0	728.3799	1	31286.41	0.023281	g	mi
1	1	2023	1	5	8	0	0	0	0	5	1	31	0	1	0	0	0	20119.81	1	1992682	0.010097	g	mi
1	1	2023	1	5	8	0	0	0	0	5	1	21	0	1	0	0	0	14014.79	1	1941594	0.007218	g	mi
1	1	2023	1	5	8	0	0	0	0	3	15	62	0	2	0	0	0	8502.505	1	163053.3	0.052146	g	mi
1	1	2023	1	5	8	0	0	0	0	3	15	61	0	2	0	0	0	2568.012	1	45914.43	0.05593	g	mi
1	1	2023	1	5	8	0	0	0	0	3	15	53	0	2	0	0	0	100.5826	1	7762.144	0.012958	g	mi
1	1	2023	1	5	8	0	0	0	0	3	15	52	0	2	0	0	0	1639.411	1	115477.9	0.014197	g	mi
1	1	2023	1	5	8	0	0	0	0	3	15	31	0	2	0	0	0	26.73074	1	92063.14	0.00029	g	mi
1	1	2023	1	5	8	0	0	0	0	3	15	21	0	2	0	0	0	0.18847	1	14658.84	1.29E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	3	15	61	0	1	0	0	0	9.14E-05	1	0.30912	0.000296	g	mi
1	1	2023	1	5	8	0	0	0	0	3	15	53	0	1	0	0	0	0.030243	1	2120.993	1.43E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	3	15	52	0	1	0	0	0	0.41676	1	31286.41	1.33E-05	g	mi
1	1	2023	1	5	8	0	0	0	0	3	15	31	0	1	0	0	0	16.23821	1	1992682	8.15E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	3	15	21	0	1	0	0	0	8.011642	1	1941594	4.13E-06	g	mi
1	1	2023	1	5	8	0	0	0	0	3	1	62	0	2	0	0	0	737032.3	1	163053.3	4.520192	g	mi
1	1	2023	1	5	8	0	0	0	0	3	1	61	0	2	0	0	0	201080.5	1	45914.43	4.379462	g	mi
1	1	2023	1	5	8	0	0	0	0	3	1	53	0	2	0	0	0	13811.98	1	7762.144	1.779403	g	mi
1	1	2023	1	5	8	0	0	0	0	3	1	52	0	2	0	0	0	231206	1	115477.9	2.002167	g	mi
1	1	2023	1	5	8	0	0	0	0	3	1	31	0	2	0	0	0	87108.96	1	92063.14	0.946187	g	mi
1	1	2023	1	5	8	0	0	0	0	3	1	21	0	2	0	0	0	1086.08	1	14658.84	0.07409	g	mi
1	1	2023	1	5	8	0	0	0	0	3	1	61	0	1	0	0	0	2.283841	1	0.30912	7.388194	g	mi
1	1	2023	1	5	8	0	0	0	0	3	1	53	0	1	0	0	0	756.0729	1	2120.993	0.356471	g	mi
1	1	2023	1	5	8	0	0	0	0	3	1	52	0	1	0	0	0	10419.01	1	31286.41	0.33302	g	mi
1	1	2023	1	5	8	0	0	0	0	3	1	31	0	1	0	0	0	405955.7	1	1992682	0.203723	g	mi
1	1	2023	1	5	8	0	0	0	0	3	1	21	0	1	0	0	0	200291.1	1	1941594	0.103158	g	mi
1	1	2023	1	5	8	0	0	0	0	2	15	62	0	2	0	0	0	3793.128	1	163053.3	0.023263	g	mi
1	1	2023	1	5	8	0	0	0	0	2	15	61	0	2	0	0	0	909.941	1	45914.43	0.019818	g	mi
1	1	2023	1	5	8	0	0	0	0	2	15	53	0	2	0	0	0	80.08581	1	7762.144	0.010317	g	mi
1	1	2023	1	5	8	0	0	0	0	2	15	52	0	2	0	0	0	1548.259	1	115477.9	0.013407	g	mi
1	1	2023	1	5	8	0	0	0	0	2	15	31	0	2	0	0	0	492.3363	1	92063.14	0.005348	g	mi
1	1	2023	1	5	8	0	0	0	0	2	15	21	0	2	0	0	0	31.67465	1	14658.84	0.002161	g	mi
1	1	2023	1	5	8	0	0	0	0	2	15	61	0	1	0	0	0	0.021859	1	0.30912	0.070712	g	mi
1	1	2023	1	5	8	0	0	0	0	2	15	53	0	1	0	0	0	7.567363	1	2120.993	0.003568	g	mi
1	1	2023	1	5	8	0	0	0	0	2	15	52	0	1	0	0	0	113.5107	1	31286.41	0.003628	g	mi
1	1	2023	1	5	8	0	0	0	0	2	15	31	0	1	0	0	0	2650.526	1	1992682	0.00133	g	mi
1	1	2023	1	5	8	0	0	0	0	2	15	21	0	1	0	0	0	2067.141	1	1941594	0.001065	g	mi
1	1	2023	1	5	8	0	0	0	0	2	1	62	0	2	0	0	0	345819.8	1	163053.3	2.1209	g	mi
1	1	2023	1	5	8	0	0	0	0	2	1	61	0	2	0	0	0	93779.69	1	45914.43	2.042488	g	mi
1	1	2023	1	5	8	0	0	0	0	2	1	53	0	2	0	0	0	8759.969	1	7762.144	1.12855	g	mi
1	1	2023	1	5	8	0	0	0	0	2	1	52	0	2	0	0	0	140159.3	1	115477.9	1.213733	g	mi
1	1	2023	1	5	8	0	0	0	0	2	1	31	0	2	0	0	0	131385.8	1	92063.14	1.427127	g	mi
1	1	2023	1	5	8	0	0	0	0	2	1	21	0	2	0	0	0	37390.49	1	14658.84	2.550713	g	mi
1	1	2023	1	5	8	0	0	0	0	2	1	61	0	1	0	0	0	42.03572	1	0.30912	135.985	g	mi
1	1	2023	1	5	8	0	0	0	0	2	1	53	0	1	0	0	0	14552.63	1	2120.993	6.861236	g	mi
1	1	2023	1	5	8	0	0	0	0	2	1	52	0	1	0	0	0	218289.3	1	31286.41	6.977129	g	mi
1	1	2023	1	5	8	0	0	0	0	2	1	31	0	1	0	0	0	5097154	1	1992682	2.557936	g	mi
1	1	2023	1	5	8	0	0	0	0	2	1	21	0	1	0	0	0	3975275	1	1941594	2.047428	g	mi

MOVESRunID	iterationID	yearID	monthID	dayID	hourID	stateID	countyID	zoneID	linkID	pollutantID	processID	sourceTypeID	regClassID	fuelTypeID	modelYearID	roadTypeID	SCC	emissionQuant	activityTypeID	activity	emissionRate	massUnits	distanceUnits
1	1	2024	1	5	8	0	0	0	0	185	15	62	0	2	0	0	0	10.06242	1	163936.9	6.14E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	185	15	61	0	2	0	0	0	2.444983	1	46931.15	5.21E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	185	15	53	0	2	0	0	0	0.271995	1	7957.417	3.42E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	185	15	52	0	2	0	0	0	5.009332	1	118022.8	4.24E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	185	15	31	0	2	0	0	0	1.350921	1	96829.71	1.4E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	185	15	21	0	2	0	0	0	0.00748	1	15274.46	4.9E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	185	15	61	0	1	0	0	0	6.43E-06	1	0.144853	4.44E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	185	15	53	0	1	0	0	0	0.007035	1	2147.844	3.28E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	185	15	52	0	1	0	0	0	0.110875	1	31810.32	3.49E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	185	15	31	0	1	0	0	0	1.705453	1	1991965	8.56E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	185	15	21	0	1	0	0	0	1.028559	1	1950907	5.27E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	185	1	62	0	2	0	0	0	80.45129	1	163936.9	0.000491	g	mi
1	1	2024	1	5	8	0	0	0	0	185	1	61	0	2	0	0	0	20.13981	1	46931.15	0.000429	g	mi
1	1	2024	1	5	8	0	0	0	0	185	1	53	0	2	0	0	0	4.533326	1	7957.417	0.00057	g	mi
1	1	2024	1	5	8	0	0	0	0	185	1	52	0	2	0	0	0	69.93075	1	118022.8	0.000593	g	mi
1	1	2024	1	5	8	0	0	0	0	185	1	31	0	2	0	0	0	93.5867	1	96829.71	0.000967	g	mi
1	1	2024	1	5	8	0	0	0	0	185	1	21	0	2	0	0	0	0.838609	1	15274.46	5.49E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	185	1	61	0	1	0	0	0	0.000487	1	0.144853	0.003361	g	mi
1	1	2024	1	5	8	0	0	0	0	185	1	53	0	1	0	0	0	0.532987	1	2147.844	0.000248	g	mi
1	1	2024	1	5	8	0	0	0	0	185	1	52	0	1	0	0	0	8.399635	1	31810.32	0.000264	g	mi
1	1	2024	1	5	8	0	0	0	0	185	1	31	0	1	0	0	0	129.2009	1	1991965	6.49E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	185	1	21	0	1	0	0	0	77.92119	1	1950907	3.99E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	184	15	62	0	2	0	0	0	0.147998	1	163936.9	9.03E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	184	15	61	0	2	0	0	0	0.037564	1	46931.15	8E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	184	15	53	0	2	0	0	0	0.007826	1	7957.417	9.83E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	184	15	52	0	2	0	0	0	0.119622	1	118022.8	1.01E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	184	15	31	0	2	0	0	0	0.063597	1	96829.71	6.57E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	184	15	21	0	2	0	0	0	0.000335	1	15274.46	2.19E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	184	15	61	0	1	0	0	0	1.99E-07	1	0.144853	1.37E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	184	15	53	0	1	0	0	0	0.000218	1	2147.844	1.01E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	184	15	52	0	1	0	0	0	0.003428	1	31810.32	1.08E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	184	15	31	0	1	0	0	0	0.052736	1	1991965	2.65E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	184	15	21	0	1	0	0	0	0.031805	1	1950907	1.63E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	184	1	62	0	2	0	0	0	3.2751	1	163936.9	2E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	184	1	61	0	2	0	0	0	0.817988	1	46931.15	1.74E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	184	1	53	0	2	0	0	0	0.202433	1	7957.417	2.54E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	184	1	52	0	2	0	0	0	3.039771	1	118022.8	2.58E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	184	1	31	0	2	0	0	0	4.275685	1	96829.71	4.42E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	184	1	21	0	2	0	0	0	0.02699	1	15274.46	1.77E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	184	1	61	0	1	0	0	0	1.51E-05	1	0.144853	0.000104	g	mi
1	1	2024	1	5	8	0	0	0	0	184	1	53	0	1	0	0	0	0.016481	1	2147.844	7.67E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	184	1	52	0	1	0	0	0	0.259732	1	31810.32	8.17E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	184	1	31	0	1	0	0	0	3.995125	1	1991965	2.01E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	184	1	21	0	1	0	0	0	2.409461	1	1950907	1.24E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	183	15	62	0	2	0	0	0	0.81433	1	163936.9	4.97E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	183	15	61	0	2	0	0	0	0.216242	1	46931.15	4.61E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	183	15	53	0	2	0	0	0	0.02046	1	7957.417	2.57E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	183	15	52	0	2	0	0	0	0.358065	1	118022.8	3.03E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	183	15	31	0	2	0	0	0	0.105759	1	96829.71	1.09E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	183	15	21	0	2	0	0	0	0.000598	1	15274.46	3.92E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	183	15	61	0	1	0	0	0	6.66E-07	1	0.144853	4.6E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	183	15	53	0	1	0	0	0	0.000729	1	2147.844	3.39E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	183	15	52	0	1	0	0	0	0.011489	1	31810.32	3.61E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	183	15	31	0	1	0	0	0	0.176723	1	1991965	8.87E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	183	15	21	0	1	0	0	0	0.106582	1	1950907	5.46E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	183	1	62	0	2	0	0	0	6.550952	1	163936.9	4E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	183	1	61	0	2	0	0	0	1.679358	1	46931.15	3.58E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	183	1	53	0	2	0	0	0	0.356537	1	7957.417	4.48E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	183	1	52	0	2	0	0	0	5.459249	1	118022.8	4.63E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	183	1	31	0	2	0	0	0	7.308391	1	96829.71	7.55E-05	g	mi

1	1	2024	1	5	8	0	0	0	0	183	1	21	0	2	0	0	0	0.074055	1	15274.46	4.85E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	183	1	61	0	1	0	0	0	5.04E-05	1	0.144853	0.000348	g	mi
1	1	2024	1	5	8	0	0	0	0	183	1	53	0	1	0	0	0	0.055229	1	2147.844	2.57E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	183	1	52	0	1	0	0	0	0.87039	1	31810.32	2.74E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	183	1	31	0	1	0	0	0	13.38811	1	1991965	6.72E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	183	1	21	0	1	0	0	0	8.074375	1	1950907	4.14E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	181	15	62	0	2	0	0	0	0.315945	1	163936.9	1.93E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	181	15	61	0	2	0	0	0	0.084638	1	46931.15	1.8E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	181	15	53	0	2	0	0	0	0.010696	1	7957.417	1.34E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	181	15	52	0	2	0	0	0	0.172675	1	118022.8	1.46E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	181	15	31	0	2	0	0	0	0.072251	1	96829.71	7.46E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	181	15	21	0	2	0	0	0	0.000392	1	15274.46	2.57E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	181	15	61	0	1	0	0	0	2.51E-07	1	0.144853	1.73E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	181	15	53	0	1	0	0	0	0.000275	1	2147.844	1.28E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	181	15	52	0	1	0	0	0	0.00433	1	31810.32	1.36E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	181	15	31	0	1	0	0	0	0.066599	1	1991965	3.34E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	181	15	21	0	1	0	0	0	0.040166	1	1950907	2.06E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	181	1	62	0	2	0	0	0	4.030432	1	163936.9	2.46E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	181	1	61	0	2	0	0	0	1.022052	1	46931.15	2.18E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	181	1	53	0	2	0	0	0	0.235233	1	7957.417	2.96E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	181	1	52	0	2	0	0	0	3.554728	1	118022.8	3.01E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	181	1	31	0	2	0	0	0	4.905953	1	96829.71	5.07E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	181	1	21	0	2	0	0	0	0.039034	1	15274.46	2.56E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	181	1	61	0	1	0	0	0	1.9E-05	1	0.144853	0.000131	g	mi
1	1	2024	1	5	8	0	0	0	0	181	1	53	0	1	0	0	0	0.020814	1	2147.844	9.69E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	181	1	52	0	1	0	0	0	0.328012	1	31810.32	1.03E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	181	1	31	0	1	0	0	0	5.045391	1	1991965	2.53E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	181	1	21	0	1	0	0	0	3.042872	1	1950907	1.56E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	172	15	62	0	2	0	0	0	0.09784	1	163936.9	5.97E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	172	15	61	0	2	0	0	0	0.025612	1	46931.15	5.46E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	172	15	53	0	2	0	0	0	0.004487	1	7957.417	5.64E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	172	15	52	0	2	0	0	0	0.069222	1	118022.8	5.87E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	172	15	31	0	2	0	0	0	0.034985	1	96829.71	3.61E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	172	15	21	0	2	0	0	0	0.000186	1	15274.46	1.22E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	172	15	61	0	1	0	0	0	1.04E-07	1	0.144853	7.18E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	172	15	53	0	1	0	0	0	0.000114	1	2147.844	5.3E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	172	15	52	0	1	0	0	0	0.001793	1	31810.32	5.64E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	172	15	31	0	1	0	0	0	0.027584	1	1991965	1.38E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	172	15	21	0	1	0	0	0	0.016636	1	1950907	8.53E-09	g	mi
1	1	2024	1	5	8	0	0	0	0	172	1	62	0	2	0	0	0	1.839288	1	163936.9	1.12E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	172	1	61	0	2	0	0	0	0.461697	1	46931.15	9.84E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	172	1	53	0	2	0	0	0	0.111954	1	7957.417	1.41E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	172	1	52	0	2	0	0	0	1.68289	1	118022.8	1.43E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	172	1	31	0	2	0	0	0	2.356996	1	96829.71	2.43E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	172	1	21	0	2	0	0	0	0.015891	1	15274.46	1.04E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	172	1	61	0	1	0	0	0	7.87E-06	1	0.144853	5.44E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	172	1	53	0	1	0	0	0	0.008621	1	2147.844	4.01E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	172	1	52	0	1	0	0	0	0.135856	1	31810.32	4.27E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	172	1	31	0	1	0	0	0	2.089698	1	1991965	1.05E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	172	1	21	0	1	0	0	0	1.260297	1	1950907	6.46E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	171	15	62	0	2	0	0	0	0.219287	1	163936.9	1.34E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	171	15	61	0	2	0	0	0	0.057284	1	46931.15	1.22E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	171	15	53	0	2	0	0	0	0.009718	1	7957.417	1.22E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	171	15	52	0	2	0	0	0	0.151058	1	118022.8	1.28E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	171	15	31	0	2	0	0	0	0.074571	1	96829.71	7.7E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	171	15	21	0	2	0	0	0	0.000396	1	15274.46	2.59E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	171	15	61	0	1	0	0	0	5.62E-07	1	0.144853	3.88E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	171	15	53	0	1	0	0	0	0.000616	1	2147.844	2.87E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	171	15	52	0	1	0	0	0	0.009702	1	31810.32	3.05E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	171	15	31	0	1	0	0	0	0.149228	1	1991965	7.49E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	171	15	21	0	1	0	0	0	0.09	1	1950907	4.61E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	171	1	62	0	2	0	0	0	3.938917	1	163936.9	2.4E-05	g	mi

1	1	2024	1	5	8	0	0	0	0	171	1	61	0	2	0	0	0	0.989087	1	46931.15	2.11E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	171	1	53	0	2	0	0	0	0.238999	1	7957.417	3E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	171	1	52	0	2	0	0	0	3.595171	1	118022.8	3.05E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	171	1	31	0	2	0	0	0	5.028066	1	96829.71	5.19E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	171	1	21	0	2	0	0	0	0.034338	1	15274.46	2.25E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	171	1	61	0	1	0	0	0	4.26E-05	1	0.144853	0.000294	g	mi
1	1	2024	1	5	8	0	0	0	0	171	1	53	0	1	0	0	0	0.046637	1	2147.844	2.17E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	171	1	52	0	1	0	0	0	0.734974	1	31810.32	2.31E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	171	1	31	0	1	0	0	0	11.30518	1	1991965	5.68E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	171	1	21	0	1	0	0	0	6.818159	1	1950907	3.49E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	170	15	62	0	2	0	0	0	0.153984	1	163936.9	9.39E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	170	15	61	0	2	0	0	0	0.041616	1	46931.15	8.87E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	170	15	53	0	2	0	0	0	0.00601	1	7957.417	7.55E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	170	15	52	0	2	0	0	0	0.093683	1	118022.8	7.94E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	170	15	31	0	2	0	0	0	0.044349	1	96829.71	4.58E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	170	15	21	0	2	0	0	0	0.000238	1	15274.46	1.56E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	170	15	61	0	1	0	0	0	1.24E-07	1	0.144853	8.55E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	170	15	53	0	1	0	0	0	0.000136	1	2147.844	6.31E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	170	15	52	0	1	0	0	0	0.002138	1	31810.32	6.72E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	170	15	31	0	1	0	0	0	0.032879	1	1991965	1.65E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	170	15	21	0	1	0	0	0	0.019829	1	1950907	1.02E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	170	1	62	0	2	0	0	0	2.401721	1	163936.9	1.47E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	170	1	61	0	2	0	0	0	0.60729	1	46931.15	1.29E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	170	1	53	0	2	0	0	0	0.143011	1	7957.417	1.8E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	170	1	52	0	2	0	0	0	2.152627	1	118022.8	1.82E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	170	1	31	0	2	0	0	0	2.996715	1	96829.71	3.09E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	170	1	21	0	2	0	0	0	0.022098	1	15274.46	1.45E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	170	1	61	0	1	0	0	0	9.39E-06	1	0.144853	6.48E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	170	1	53	0	1	0	0	0	0.010275	1	2147.844	4.78E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	170	1	52	0	1	0	0	0	0.161934	1	31810.32	5.09E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	170	1	31	0	1	0	0	0	2.490817	1	1991965	1.25E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	170	1	21	0	1	0	0	0	1.502216	1	1950907	7.7E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	169	15	62	0	2	0	0	0	0.136372	1	163936.9	8.32E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	169	15	61	0	2	0	0	0	0.034996	1	46931.15	7.46E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	169	15	53	0	2	0	0	0	0.006673	1	7957.417	8.39E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	169	15	52	0	2	0	0	0	0.10284	1	118022.8	8.71E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	169	15	31	0	2	0	0	0	0.0529	1	96829.71	5.46E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	169	15	21	0	2	0	0	0	0.000279	1	15274.46	1.83E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	169	15	61	0	1	0	0	0	1.74E-07	1	0.144853	1.2E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	169	15	53	0	1	0	0	0	0.00019	1	2147.844	8.86E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	169	15	52	0	1	0	0	0	0.002999	1	31810.32	9.43E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	169	15	31	0	1	0	0	0	0.046123	1	1991965	2.32E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	169	15	21	0	1	0	0	0	0.027817	1	1950907	1.43E-08	g	mi
1	1	2024	1	5	8	0	0	0	0	169	1	62	0	2	0	0	0	2.751821	1	163936.9	1.68E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	169	1	61	0	2	0	0	0	0.688645	1	46931.15	1.47E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	169	1	53	0	2	0	0	0	0.168854	1	7957.417	2.12E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	169	1	52	0	2	0	0	0	2.537594	1	118022.8	2.15E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	169	1	31	0	2	0	0	0	3.560852	1	96829.71	3.68E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	169	1	21	0	2	0	0	0	0.023195	1	15274.46	1.52E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	169	1	61	0	1	0	0	0	1.32E-05	1	0.144853	9.09E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	169	1	53	0	1	0	0	0	0.014414	1	2147.844	6.71E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	169	1	52	0	1	0	0	0	0.227165	1	31810.32	7.14E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	169	1	31	0	1	0	0	0	3.494189	1	1991965	1.75E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	169	1	21	0	1	0	0	0	2.107344	1	1950907	1.08E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	110	15	62	0	2	0	0	0	1923.213	1	163936.9	0.011731	g	mi
1	1	2024	1	5	8	0	0	0	0	110	15	61	0	2	0	0	0	522.3073	1	46931.15	0.011129	g	mi
1	1	2024	1	5	8	0	0	0	0	110	15	53	0	2	0	0	0	54.07102	1	7957.417	0.006795	g	mi
1	1	2024	1	5	8	0	0	0	0	110	15	52	0	2	0	0	0	788.8985	1	118022.8	0.006684	g	mi
1	1	2024	1	5	8	0	0	0	0	110	15	31	0	2	0	0	0	281.7218	1	96829.71	0.002909	g	mi
1	1	2024	1	5	8	0	0	0	0	110	15	21	0	2	0	0	0	0.297403	1	15274.46	1.95E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	110	15	61	0	1	0	0	0	5.77E-05	1	0.144853	0.000398	g	mi
1	1	2024	1	5	8	0	0	0	0	110	15	53	0	1	0	0	0	0.166022	1	2147.844	7.73E-05	g	mi

1	1	2024	1	5	8	0	0	0	0	110	15	52	0	1	0	0	0	2.724861	1	31810.32	8.57E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	110	15	31	0	1	0	0	0	39.01231	1	1991965	1.96E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	110	15	21	0	1	0	0	0	26.55629	1	1950907	1.36E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	110	1	62	0	2	0	0	0	9415.259	1	163936.9	0.057432	g	mi
1	1	2024	1	5	8	0	0	0	0	110	1	61	0	2	0	0	0	2414.745	1	46931.15	0.051453	g	mi
1	1	2024	1	5	8	0	0	0	0	110	1	53	0	2	0	0	0	240.7765	1	7957.417	0.030258	g	mi
1	1	2024	1	5	8	0	0	0	0	110	1	52	0	2	0	0	0	3494.808	1	118022.8	0.029611	g	mi
1	1	2024	1	5	8	0	0	0	0	110	1	31	0	2	0	0	0	3467.048	1	96829.71	0.035806	g	mi
1	1	2024	1	5	8	0	0	0	0	110	1	21	0	2	0	0	0	19.68689	1	15274.46	0.001289	g	mi
1	1	2024	1	5	8	0	0	0	0	110	1	61	0	1	0	0	0	0.007209	1	0.144853	0.049769	g	mi
1	1	2024	1	5	8	0	0	0	0	110	1	53	0	1	0	0	0	20.75277	1	2147.844	0.009662	g	mi
1	1	2024	1	5	8	0	0	0	0	110	1	52	0	1	0	0	0	340.607	1	31810.32	0.010707	g	mi
1	1	2024	1	5	8	0	0	0	0	110	1	31	0	1	0	0	0	4876.538	1	1991965	0.002448	g	mi
1	1	2024	1	5	8	0	0	0	0	110	1	21	0	1	0	0	0	3319.527	1	1950907	0.001702	g	mi
1	1	2024	1	5	8	0	0	0	0	100	15	62	0	2	0	0	0	2090.456	1	163936.9	0.012752	g	mi
1	1	2024	1	5	8	0	0	0	0	100	15	61	0	2	0	0	0	567.7269	1	46931.15	0.012097	g	mi
1	1	2024	1	5	8	0	0	0	0	100	15	53	0	2	0	0	0	58.77297	1	7957.417	0.007386	g	mi
1	1	2024	1	5	8	0	0	0	0	100	15	52	0	2	0	0	0	857.4991	1	118022.8	0.007266	g	mi
1	1	2024	1	5	8	0	0	0	0	100	15	31	0	2	0	0	0	306.2205	1	96829.71	0.003162	g	mi
1	1	2024	1	5	8	0	0	0	0	100	15	21	0	2	0	0	0	0.323266	1	15274.46	2.12E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	100	15	61	0	1	0	0	0	6.52E-05	1	0.144853	0.00045	g	mi
1	1	2024	1	5	8	0	0	0	0	100	15	53	0	1	0	0	0	0.187677	1	2147.844	8.74E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	100	15	52	0	1	0	0	0	3.080264	1	31810.32	9.68E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	100	15	31	0	1	0	0	0	44.10058	1	1991965	2.21E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	100	15	21	0	1	0	0	0	30.02005	1	1950907	1.54E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	100	1	62	0	2	0	0	0	10234.01	1	163936.9	0.062426	g	mi
1	1	2024	1	5	8	0	0	0	0	100	1	61	0	2	0	0	0	2624.735	1	46931.15	0.055927	g	mi
1	1	2024	1	5	8	0	0	0	0	100	1	53	0	2	0	0	0	261.7152	1	7957.417	0.032889	g	mi
1	1	2024	1	5	8	0	0	0	0	100	1	52	0	2	0	0	0	3798.721	1	118022.8	0.032186	g	mi
1	1	2024	1	5	8	0	0	0	0	100	1	31	0	2	0	0	0	3768.541	1	96829.71	0.038919	g	mi
1	1	2024	1	5	8	0	0	0	0	100	1	21	0	2	0	0	0	21.39882	1	15274.46	0.001401	g	mi
1	1	2024	1	5	8	0	0	0	0	100	1	61	0	1	0	0	0	0.008149	1	0.144853	0.05626	g	mi
1	1	2024	1	5	8	0	0	0	0	100	1	53	0	1	0	0	0	23.45962	1	2147.844	0.010922	g	mi
1	1	2024	1	5	8	0	0	0	0	100	1	52	0	1	0	0	0	385.0325	1	31810.32	0.012104	g	mi
1	1	2024	1	5	8	0	0	0	0	100	1	31	0	1	0	0	0	5512.577	1	1991965	0.002767	g	mi
1	1	2024	1	5	8	0	0	0	0	100	1	21	0	1	0	0	0	3752.5	1	1950907	0.001923	g	mi
1	1	2024	1	5	8	0	0	0	0	90	1	62	0	2	0	0	0	2.68E+08	1	163936.9	1634.927	g	mi
1	1	2024	1	5	8	0	0	0	0	90	1	61	0	2	0	0	0	77709336	1	46931.15	1655.816	g	mi
1	1	2024	1	5	8	0	0	0	0	90	1	53	0	2	0	0	0	7490747	1	7957.417	941.3541	g	mi
1	1	2024	1	5	8	0	0	0	0	90	1	52	0	2	0	0	0	1.19E+08	1	118022.8	1004.695	g	mi
1	1	2024	1	5	8	0	0	0	0	90	1	31	0	2	0	0	0	46714756	1	96829.71	482.4424	g	mi
1	1	2024	1	5	8	0	0	0	0	90	1	21	0	2	0	0	0	4682175	1	15274.46	306.5361	g	mi
1	1	2024	1	5	8	0	0	0	0	90	1	61	0	1	0	0	0	236.5448	1	0.144853	1632.999	g	mi
1	1	2024	1	5	8	0	0	0	0	90	1	53	0	1	0	0	0	2229752	1	2147.844	1038.135	g	mi
1	1	2024	1	5	8	0	0	0	0	90	1	52	0	1	0	0	0	34574072	1	31810.32	1086.882	g	mi
1	1	2024	1	5	8	0	0	0	0	90	1	31	0	1	0	0	0	7.84E+08	1	1991965	393.5486	g	mi
1	1	2024	1	5	8	0	0	0	0	90	1	21	0	1	0	0	0	5.8E+08	1	1950907	297.542	g	mi
1	1	2024	1	5	8	0	0	0	0	87	15	62	0	2	0	0	0	4024.697	1	163936.9	0.02455	g	mi
1	1	2024	1	5	8	0	0	0	0	87	15	61	0	2	0	0	0	1242.194	1	46931.15	0.026468	g	mi
1	1	2024	1	5	8	0	0	0	0	87	15	53	0	2	0	0	0	56.03072	1	7957.417	0.007041	g	mi
1	1	2024	1	5	8	0	0	0	0	87	15	52	0	2	0	0	0	937.9958	1	118022.8	0.007948	g	mi
1	1	2024	1	5	8	0	0	0	0	87	15	31	0	2	0	0	0	150.5355	1	96829.71	0.001555	g	mi
1	1	2024	1	5	8	0	0	0	0	87	15	21	0	2	0	0	0	1.157233	1	15274.46	7.58E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	87	15	61	0	1	0	0	0	0.003106	1	0.144853	0.021442	g	mi
1	1	2024	1	5	8	0	0	0	0	87	15	53	0	1	0	0	0	3.400202	1	2147.844	0.001583	g	mi
1	1	2024	1	5	8	0	0	0	0	87	15	52	0	1	0	0	0	53.5857	1	31810.32	0.001685	g	mi
1	1	2024	1	5	8	0	0	0	0	87	15	31	0	1	0	0	0	824.2413	1	1991965	0.000414	g	mi
1	1	2024	1	5	8	0	0	0	0	87	15	21	0	1	0	0	0	497.1007	1	1950907	0.000255	g	mi
1	1	2024	1	5	8	0	0	0	0	87	13	61	0	1	0	0	0	0.174321	1	0.144853	1.203431	g	mi
1	1	2024	1	5	8	0	0	0	0	87	13	53	0	1	0	0	0	130.206	1	2147.844	0.060622	g	mi
1	1	2024	1	5	8	0	0	0	0	87	13	52	0	1	0	0	0	2555.646	1	31810.32	0.08034	g	mi
1	1	2024	1	5	8	0	0	0	0	87	13	31	0	1	0	0	0	116555.6	1	1991965	0.058513	g	mi

1	1	2024	1	5	8	0	0	0	0	87	13	21	0	1	0	0	0	92535.02	1	1950907	0.047432	g	mi
1	1	2024	1	5	8	0	0	0	0	87	12	61	0	1	0	0	0	0.333088	1	0.144853	2.299489	g	mi
1	1	2024	1	5	8	0	0	0	0	87	12	53	0	1	0	0	0	143.7521	1	2147.844	0.066929	g	mi
1	1	2024	1	5	8	0	0	0	0	87	12	52	0	1	0	0	0	1112.525	1	31810.32	0.034974	g	mi
1	1	2024	1	5	8	0	0	0	0	87	12	31	0	1	0	0	0	40993.42	1	1991965	0.020579	g	mi
1	1	2024	1	5	8	0	0	0	0	87	12	21	0	1	0	0	0	44624.24	1	1950907	0.022874	g	mi
1	1	2024	1	5	8	0	0	0	0	87	11	61	0	1	0	0	0	0.027305	1	0.144853	0.188502	g	mi
1	1	2024	1	5	8	0	0	0	0	87	11	53	0	1	0	0	0	14.39959	1	2147.844	0.006704	g	mi
1	1	2024	1	5	8	0	0	0	0	87	11	52	0	1	0	0	0	298.9382	1	31810.32	0.009398	g	mi
1	1	2024	1	5	8	0	0	0	0	87	11	31	0	1	0	0	0	8689.312	1	1991965	0.004362	g	mi
1	1	2024	1	5	8	0	0	0	0	87	11	21	0	1	0	0	0	8124.111	1	1950907	0.004164	g	mi
1	1	2024	1	5	8	0	0	0	0	87	1	62	0	2	0	0	0	16705.77	1	163936.9	0.101904	g	mi
1	1	2024	1	5	8	0	0	0	0	87	1	61	0	2	0	0	0	4789.973	1	46931.15	0.102064	g	mi
1	1	2024	1	5	8	0	0	0	0	87	1	53	0	2	0	0	0	614.2033	1	7957.417	0.077186	g	mi
1	1	2024	1	5	8	0	0	0	0	87	1	52	0	2	0	0	0	9499.987	1	118022.8	0.080493	g	mi
1	1	2024	1	5	8	0	0	0	0	87	1	31	0	2	0	0	0	11154.07	1	96829.71	0.115193	g	mi
1	1	2024	1	5	8	0	0	0	0	87	1	21	0	2	0	0	0	315.934	1	15274.46	0.020684	g	mi
1	1	2024	1	5	8	0	0	0	0	87	1	61	0	1	0	0	0	0.235294	1	0.144853	1.624361	g	mi
1	1	2024	1	5	8	0	0	0	0	87	1	53	0	1	0	0	0	257.5915	1	2147.844	0.11993	g	mi
1	1	2024	1	5	8	0	0	0	0	87	1	52	0	1	0	0	0	4059.525	1	31810.32	0.127617	g	mi
1	1	2024	1	5	8	0	0	0	0	87	1	31	0	1	0	0	0	62442.64	1	1991965	0.031347	g	mi
1	1	2024	1	5	8	0	0	0	0	87	1	21	0	1	0	0	0	37659.18	1	1950907	0.019303	g	mi
1	1	2024	1	5	8	0	0	0	0	46	15	62	0	2	0	0	0	302.8076	1	163936.9	0.001847	g	mi
1	1	2024	1	5	8	0	0	0	0	46	15	61	0	2	0	0	0	96.35139	1	46931.15	0.002053	g	mi
1	1	2024	1	5	8	0	0	0	0	46	15	53	0	2	0	0	0	3.066111	1	7957.417	0.000385	g	mi
1	1	2024	1	5	8	0	0	0	0	46	15	52	0	2	0	0	0	51.67845	1	118022.8	0.000438	g	mi
1	1	2024	1	5	8	0	0	0	0	46	15	31	0	2	0	0	0	0.698867	1	96829.71	7.22E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	46	15	21	0	2	0	0	0	0.034456	1	15274.46	2.26E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	46	15	61	0	1	0	0	0	0.000218	1	0.144853	0.001504	g	mi
1	1	2024	1	5	8	0	0	0	0	46	15	53	0	1	0	0	0	0.215601	1	2147.844	0.0001	g	mi
1	1	2024	1	5	8	0	0	0	0	46	15	52	0	1	0	0	0	3.348385	1	31810.32	0.000105	g	mi
1	1	2024	1	5	8	0	0	0	0	46	15	31	0	1	0	0	0	55.37402	1	1991965	2.78E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	46	15	21	0	1	0	0	0	32.83822	1	1950907	1.68E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	46	13	61	0	1	0	0	0	0.011197	1	0.144853	0.077296	g	mi
1	1	2024	1	5	8	0	0	0	0	46	13	53	0	1	0	0	0	8.363129	1	2147.844	0.003894	g	mi
1	1	2024	1	5	8	0	0	0	0	46	13	52	0	1	0	0	0	164.1492	1	31810.32	0.00516	g	mi
1	1	2024	1	5	8	0	0	0	0	46	13	31	0	1	0	0	0	7486.37	1	1991965	0.003758	g	mi
1	1	2024	1	5	8	0	0	0	0	46	13	21	0	1	0	0	0	5943.535	1	1950907	0.003047	g	mi
1	1	2024	1	5	8	0	0	0	0	46	12	61	0	1	0	0	0	0.021394	1	0.144853	0.147696	g	mi
1	1	2024	1	5	8	0	0	0	0	46	12	53	0	1	0	0	0	9.233172	1	2147.844	0.004299	g	mi
1	1	2024	1	5	8	0	0	0	0	46	12	52	0	1	0	0	0	71.45747	1	31810.32	0.002246	g	mi
1	1	2024	1	5	8	0	0	0	0	46	12	31	0	1	0	0	0	2633.006	1	1991965	0.001322	g	mi
1	1	2024	1	5	8	0	0	0	0	46	12	21	0	1	0	0	0	2866.222	1	1950907	0.001469	g	mi
1	1	2024	1	5	8	0	0	0	0	46	11	61	0	1	0	0	0	0.0003	1	0.144853	0.002074	g	mi
1	1	2024	1	5	8	0	0	0	0	46	11	53	0	1	0	0	0	0.158396	1	2147.844	7.37E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	46	11	52	0	1	0	0	0	3.288316	1	31810.32	0.000103	g	mi
1	1	2024	1	5	8	0	0	0	0	46	11	31	0	1	0	0	0	95.58236	1	1991965	4.8E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	46	11	21	0	1	0	0	0	89.36526	1	1950907	4.58E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	46	1	62	0	2	0	0	0	785.9227	1	163936.9	0.004794	g	mi
1	1	2024	1	5	8	0	0	0	0	46	1	61	0	2	0	0	0	249.9049	1	46931.15	0.005325	g	mi
1	1	2024	1	5	8	0	0	0	0	46	1	53	0	2	0	0	0	13.34999	1	7957.417	0.001678	g	mi
1	1	2024	1	5	8	0	0	0	0	46	1	52	0	2	0	0	0	219.5863	1	118022.8	0.001861	g	mi
1	1	2024	1	5	8	0	0	0	0	46	1	31	0	2	0	0	0	129.5031	1	96829.71	0.001337	g	mi
1	1	2024	1	5	8	0	0	0	0	46	1	21	0	2	0	0	0	21.51781	1	15274.46	0.001409	g	mi
1	1	2024	1	5	8	0	0	0	0	46	1	61	0	1	0	0	0	0.016504	1	0.144853	0.113939	g	mi
1	1	2024	1	5	8	0	0	0	0	46	1	53	0	1	0	0	0	16.33341	1	2147.844	0.007605	g	mi
1	1	2024	1	5	8	0	0	0	0	46	1	52	0	1	0	0	0	253.6658	1	31810.32	0.007974	g	mi
1	1	2024	1	5	8	0	0	0	0	46	1	31	0	1	0	0	0	4195.006	1	1991965	0.002106	g	mi
1	1	2024	1	5	8	0	0	0	0	46	1	21	0	1	0	0	0	2487.746	1	1950907	0.001275	g	mi
1	1	2024	1	5	8	0	0	0	0	45	15	62	0	2	0	0	0	73.73969	1	163936.9	0.00045	g	mi
1	1	2024	1	5	8	0	0	0	0	45	15	61	0	2	0	0	0	22.60473	1	46931.15	0.000482	g	mi
1	1	2024	1	5	8	0	0	0	0	45	15	53	0	2	0	0	0	0.84994	1	7957.417	0.000107	g	mi

1	1	2024	1	5	8	0	0	0	0	45	15	52	0	2	0	0	0	15.1857	1	118022.8	0.000129	g	mi
1	1	2024	1	5	8	0	0	0	0	45	15	31	0	2	0	0	0	0.678959	1	96829.71	7.01E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	45	15	21	0	2	0	0	0	0.010476	1	15274.46	6.86E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	45	15	61	0	1	0	0	0	0.000268	1	0.144853	0.001852	g	mi
1	1	2024	1	5	8	0	0	0	0	45	15	53	0	1	0	0	0	0.265319	1	2147.844	0.000124	g	mi
1	1	2024	1	5	8	0	0	0	0	45	15	52	0	1	0	0	0	4.120296	1	31810.32	0.00013	g	mi
1	1	2024	1	5	8	0	0	0	0	45	15	31	0	1	0	0	0	68.15874	1	1991965	3.42E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	45	15	21	0	1	0	0	0	40.41726	1	1950907	2.07E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	45	13	61	0	1	0	0	0	0.024991	1	0.144853	0.172524	g	mi
1	1	2024	1	5	8	0	0	0	0	45	13	53	0	1	0	0	0	18.66632	1	2147.844	0.008691	g	mi
1	1	2024	1	5	8	0	0	0	0	45	13	52	0	1	0	0	0	366.3764	1	31810.32	0.011518	g	mi
1	1	2024	1	5	8	0	0	0	0	45	13	31	0	1	0	0	0	16709.44	1	1991965	0.008388	g	mi
1	1	2024	1	5	8	0	0	0	0	45	13	21	0	1	0	0	0	13265.84	1	1950907	0.0068	g	mi
1	1	2024	1	5	8	0	0	0	0	45	12	61	0	1	0	0	0	0.047752	1	0.144853	0.329655	g	mi
1	1	2024	1	5	8	0	0	0	0	45	12	53	0	1	0	0	0	20.6082	1	2147.844	0.009595	g	mi
1	1	2024	1	5	8	0	0	0	0	45	12	52	0	1	0	0	0	159.4915	1	31810.32	0.005014	g	mi
1	1	2024	1	5	8	0	0	0	0	45	12	31	0	1	0	0	0	5876.82	1	1991965	0.00295	g	mi
1	1	2024	1	5	8	0	0	0	0	45	12	21	0	1	0	0	0	6397.33	1	1950907	0.003279	g	mi
1	1	2024	1	5	8	0	0	0	0	45	11	61	0	1	0	0	0	0.002758	1	0.144853	0.019039	g	mi
1	1	2024	1	5	8	0	0	0	0	45	11	53	0	1	0	0	0	1.454364	1	2147.844	0.000677	g	mi
1	1	2024	1	5	8	0	0	0	0	45	11	52	0	1	0	0	0	30.19272	1	31810.32	0.000949	g	mi
1	1	2024	1	5	8	0	0	0	0	45	11	31	0	1	0	0	0	877.6197	1	1991965	0.000441	g	mi
1	1	2024	1	5	8	0	0	0	0	45	11	21	0	1	0	0	0	820.5358	1	1950907	0.000421	g	mi
1	1	2024	1	5	8	0	0	0	0	45	1	62	0	2	0	0	0	205.727	1	163936.9	0.001255	g	mi
1	1	2024	1	5	8	0	0	0	0	45	1	61	0	2	0	0	0	62.56253	1	46931.15	0.001333	g	mi
1	1	2024	1	5	8	0	0	0	0	45	1	53	0	2	0	0	0	4.795355	1	7957.417	0.000603	g	mi
1	1	2024	1	5	8	0	0	0	0	45	1	52	0	2	0	0	0	78.58125	1	118022.8	0.000666	g	mi
1	1	2024	1	5	8	0	0	0	0	45	1	31	0	2	0	0	0	66.63611	1	96829.71	0.000688	g	mi
1	1	2024	1	5	8	0	0	0	0	45	1	21	0	2	0	0	0	5.060412	1	15274.46	0.000331	g	mi
1	1	2024	1	5	8	0	0	0	0	45	1	61	0	1	0	0	0	0.020318	1	0.144853	0.140268	g	mi
1	1	2024	1	5	8	0	0	0	0	45	1	53	0	1	0	0	0	20.09989	1	2147.844	0.009358	g	mi
1	1	2024	1	5	8	0	0	0	0	45	1	52	0	1	0	0	0	312.1435	1	31810.32	0.009813	g	mi
1	1	2024	1	5	8	0	0	0	0	45	1	31	0	1	0	0	0	5163.546	1	1991965	0.002592	g	mi
1	1	2024	1	5	8	0	0	0	0	45	1	21	0	1	0	0	0	3061.914	1	1950907	0.001569	g	mi
1	1	2024	1	5	8	0	0	0	0	43	15	62	0	2	0	0	0	12.23549	1	163936.9	7.46E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	43	15	61	0	2	0	0	0	3.740233	1	46931.15	7.97E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	43	15	53	0	2	0	0	0	0.194691	1	7957.417	2.45E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	43	15	52	0	2	0	0	0	3.214031	1	118022.8	2.72E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	43	15	31	0	2	0	0	0	0.701463	1	96829.71	7.24E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	43	15	21	0	2	0	0	0	0.004743	1	15274.46	3.11E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	43	15	61	0	1	0	0	0	2.65E-06	1	0.144853	1.83E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	43	15	53	0	1	0	0	0	0.002161	1	2147.844	1.01E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	43	15	52	0	1	0	0	0	0.032447	1	31810.32	1.02E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	43	15	31	0	1	0	0	0	0.624815	1	1991965	3.14E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	43	15	21	0	1	0	0	0	0.358702	1	1950907	1.84E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	43	1	62	0	2	0	0	0	61.9369	1	163936.9	0.000378	g	mi
1	1	2024	1	5	8	0	0	0	0	43	1	61	0	2	0	0	0	17.24693	1	46931.15	0.000367	g	mi
1	1	2024	1	5	8	0	0	0	0	43	1	53	0	2	0	0	0	2.622406	1	7957.417	0.00033	g	mi
1	1	2024	1	5	8	0	0	0	0	43	1	52	0	2	0	0	0	40.18313	1	118022.8	0.00034	g	mi
1	1	2024	1	5	8	0	0	0	0	43	1	31	0	2	0	0	0	50.14541	1	96829.71	0.000518	g	mi
1	1	2024	1	5	8	0	0	0	0	43	1	21	0	2	0	0	0	1.024189	1	15274.46	6.71E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	43	1	61	0	1	0	0	0	0.000201	1	0.144853	0.001388	g	mi
1	1	2024	1	5	8	0	0	0	0	43	1	53	0	1	0	0	0	0.163687	1	2147.844	7.62E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	43	1	52	0	1	0	0	0	2.458106	1	31810.32	7.73E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	43	1	31	0	1	0	0	0	47.33449	1	1991965	2.38E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	43	1	21	0	1	0	0	0	27.17439	1	1950907	1.39E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	42	15	62	0	2	0	0	0	5.450825	1	163936.9	3.32E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	42	15	61	0	2	0	0	0	1.515911	1	46931.15	3.23E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	42	15	53	0	2	0	0	0	0.095302	1	7957.417	1.2E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	42	15	52	0	2	0	0	0	1.766909	1	118022.8	1.5E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	42	15	31	0	2	0	0	0	0.295804	1	96829.71	3.05E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	42	15	21	0	2	0	0	0	0.001937	1	15274.46	1.27E-07	g	mi

1	1	2024	1	5	8	0	0	0	0	42	15	61	0	1	0	0	0	5.02E-05	1	0.144853	0.000347	g	mi
1	1	2024	1	5	8	0	0	0	0	42	15	53	0	1	0	0	0	0.085612	1	2147.844	3.99E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	42	15	52	0	1	0	0	0	1.415281	1	31810.32	4.45E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	42	15	31	0	1	0	0	0	16.59127	1	1991965	8.33E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	42	15	21	0	1	0	0	0	10.75271	1	1950907	5.51E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	42	13	61	0	1	0	0	0	0.004421	1	0.144853	0.030519	g	mi
1	1	2024	1	5	8	0	0	0	0	42	13	53	0	1	0	0	0	3.302022	1	2147.844	0.001537	g	mi
1	1	2024	1	5	8	0	0	0	0	42	13	52	0	1	0	0	0	64.81108	1	31810.32	0.002037	g	mi
1	1	2024	1	5	8	0	0	0	0	42	13	31	0	1	0	0	0	2955.853	1	1991965	0.001484	g	mi
1	1	2024	1	5	8	0	0	0	0	42	13	21	0	1	0	0	0	2346.691	1	1950907	0.001203	g	mi
1	1	2024	1	5	8	0	0	0	0	42	12	61	0	1	0	0	0	0.008447	1	0.144853	0.058315	g	mi
1	1	2024	1	5	8	0	0	0	0	42	12	53	0	1	0	0	0	3.645545	1	2147.844	0.001697	g	mi
1	1	2024	1	5	8	0	0	0	0	42	12	52	0	1	0	0	0	28.21366	1	31810.32	0.000887	g	mi
1	1	2024	1	5	8	0	0	0	0	42	12	31	0	1	0	0	0	1039.594	1	1991965	0.000522	g	mi
1	1	2024	1	5	8	0	0	0	0	42	12	21	0	1	0	0	0	1131.671	1	1950907	0.00058	g	mi
1	1	2024	1	5	8	0	0	0	0	42	11	61	0	1	0	0	0	0.001775	1	0.144853	0.012253	g	mi
1	1	2024	1	5	8	0	0	0	0	42	11	53	0	1	0	0	0	0.935977	1	2147.844	0.000436	g	mi
1	1	2024	1	5	8	0	0	0	0	42	11	52	0	1	0	0	0	19.43102	1	31810.32	0.000611	g	mi
1	1	2024	1	5	8	0	0	0	0	42	11	31	0	1	0	0	0	564.8048	1	1991965	0.000284	g	mi
1	1	2024	1	5	8	0	0	0	0	42	11	21	0	1	0	0	0	528.0676	1	1950907	0.000271	g	mi
1	1	2024	1	5	8	0	0	0	0	42	1	62	0	2	0	0	0	25.08772	1	163936.9	0.000153	g	mi
1	1	2024	1	5	8	0	0	0	0	42	1	61	0	2	0	0	0	6.739357	1	46931.15	0.000144	g	mi
1	1	2024	1	5	8	0	0	0	0	42	1	53	0	2	0	0	0	1.110436	1	7957.417	0.00014	g	mi
1	1	2024	1	5	8	0	0	0	0	42	1	52	0	2	0	0	0	17.42478	1	118022.8	0.000148	g	mi
1	1	2024	1	5	8	0	0	0	0	42	1	31	0	2	0	0	0	21.46592	1	96829.71	0.000222	g	mi
1	1	2024	1	5	8	0	0	0	0	42	1	21	0	2	0	0	0	0.390929	1	15274.46	2.56E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	42	1	61	0	1	0	0	0	0.003804	1	0.144853	0.026259	g	mi
1	1	2024	1	5	8	0	0	0	0	42	1	53	0	1	0	0	0	6.485767	1	2147.844	0.00302	g	mi
1	1	2024	1	5	8	0	0	0	0	42	1	52	0	1	0	0	0	107.2183	1	31810.32	0.003371	g	mi
1	1	2024	1	5	8	0	0	0	0	42	1	31	0	1	0	0	0	1256.915	1	1991965	0.000631	g	mi
1	1	2024	1	5	8	0	0	0	0	42	1	21	0	1	0	0	0	814.598	1	1950907	0.000418	g	mi
1	1	2024	1	5	8	0	0	0	0	41	15	62	0	2	0	0	0	41.0296	1	163936.9	0.00025	g	mi
1	1	2024	1	5	8	0	0	0	0	41	15	61	0	2	0	0	0	12.96733	1	46931.15	0.000276	g	mi
1	1	2024	1	5	8	0	0	0	0	41	15	53	0	2	0	0	0	0.449998	1	7957.417	5.66E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	41	15	52	0	2	0	0	0	7.571807	1	118022.8	6.42E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	41	15	31	0	2	0	0	0	0.413278	1	96829.71	4.27E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	41	15	21	0	2	0	0	0	0.006245	1	15274.46	4.09E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	41	15	61	0	1	0	0	0	5.99E-05	1	0.144853	0.000413	g	mi
1	1	2024	1	5	8	0	0	0	0	41	15	53	0	1	0	0	0	0.059202	1	2147.844	2.76E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	41	15	52	0	1	0	0	0	0.919364	1	31810.32	2.89E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	41	15	31	0	1	0	0	0	15.21007	1	1991965	7.64E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	41	15	21	0	1	0	0	0	9.019146	1	1950907	4.62E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	41	13	61	0	1	0	0	0	0.003	1	0.144853	0.020711	g	mi
1	1	2024	1	5	8	0	0	0	0	41	13	53	0	1	0	0	0	2.240841	1	2147.844	0.001043	g	mi
1	1	2024	1	5	8	0	0	0	0	41	13	52	0	1	0	0	0	43.98262	1	31810.32	0.001383	g	mi
1	1	2024	1	5	8	0	0	0	0	41	13	31	0	1	0	0	0	2005.92	1	1991965	0.001007	g	mi
1	1	2024	1	5	8	0	0	0	0	41	13	21	0	1	0	0	0	1592.53	1	1950907	0.000816	g	mi
1	1	2024	1	5	8	0	0	0	0	41	12	61	0	1	0	0	0	0.005732	1	0.144853	0.039574	g	mi
1	1	2024	1	5	8	0	0	0	0	41	12	53	0	1	0	0	0	2.473967	1	2147.844	0.001152	g	mi
1	1	2024	1	5	8	0	0	0	0	41	12	52	0	1	0	0	0	19.14657	1	31810.32	0.000602	g	mi
1	1	2024	1	5	8	0	0	0	0	41	12	31	0	1	0	0	0	705.4964	1	1991965	0.000354	g	mi
1	1	2024	1	5	8	0	0	0	0	41	12	21	0	1	0	0	0	767.9839	1	1950907	0.000394	g	mi
1	1	2024	1	5	8	0	0	0	0	41	11	61	0	1	0	0	0	2.73E-05	1	0.144853	0.000189	g	mi
1	1	2024	1	5	8	0	0	0	0	41	11	53	0	1	0	0	0	0.0144	1	2147.844	6.7E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	41	11	52	0	1	0	0	0	0.298938	1	31810.32	9.4E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	41	11	31	0	1	0	0	0	8.689311	1	1991965	4.36E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	41	11	21	0	1	0	0	0	8.124111	1	1950907	4.16E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	41	1	62	0	2	0	0	0	120.5943	1	163936.9	0.000736	g	mi
1	1	2024	1	5	8	0	0	0	0	41	1	61	0	2	0	0	0	37.16678	1	46931.15	0.000792	g	mi
1	1	2024	1	5	8	0	0	0	0	41	1	53	0	2	0	0	0	2.793962	1	7957.417	0.000351	g	mi
1	1	2024	1	5	8	0	0	0	0	41	1	52	0	2	0	0	0	44.60032	1	118022.8	0.000378	g	mi
1	1	2024	1	5	8	0	0	0	0	41	1	31	0	2	0	0	0	38.82523	1	96829.71	0.000401	g	mi

1	1	2024	1	5	8	0	0	0	0	41	1	21	0	2	0	0	0	2.982594	1	15274.46	0.000195	g	mi
1	1	2024	1	5	8	0	0	0	0	41	1	61	0	1	0	0	0	0.004534	1	0.144853	0.031304	g	mi
1	1	2024	1	5	8	0	0	0	0	41	1	53	0	1	0	0	0	4.485018	1	2147.844	0.002088	g	mi
1	1	2024	1	5	8	0	0	0	0	41	1	52	0	1	0	0	0	69.64883	1	31810.32	0.00219	g	mi
1	1	2024	1	5	8	0	0	0	0	41	1	31	0	1	0	0	0	1152.278	1	1991965	0.000578	g	mi
1	1	2024	1	5	8	0	0	0	0	41	1	21	0	1	0	0	0	683.2692	1	1950907	0.00035	g	mi
1	1	2024	1	5	8	0	0	0	0	40	15	62	0	2	0	0	0	18.48359	1	163936.9	0.000113	g	mi
1	1	2024	1	5	8	0	0	0	0	40	15	61	0	2	0	0	0	5.640517	1	46931.15	0.00012	g	mi
1	1	2024	1	5	8	0	0	0	0	40	15	53	0	2	0	0	0	0.224426	1	7957.417	2.82E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	40	15	52	0	2	0	0	0	3.988896	1	118022.8	3.38E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	40	15	31	0	2	0	0	0	0.277655	1	96829.71	2.87E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	40	15	21	0	2	0	0	0	0.00316	1	15274.46	2.07E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	40	15	61	0	1	0	0	0	5.71E-05	1	0.144853	0.000394	g	mi
1	1	2024	1	5	8	0	0	0	0	40	15	53	0	1	0	0	0	0.048029	1	2147.844	2.24E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	40	15	52	0	1	0	0	0	0.725737	1	31810.32	2.28E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	40	15	31	0	1	0	0	0	13.60684	1	1991965	6.83E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	40	15	21	0	1	0	0	0	7.854008	1	1950907	4.03E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	40	13	61	0	1	0	0	0	0.005847	1	0.144853	0.040363	g	mi
1	1	2024	1	5	8	0	0	0	0	40	13	53	0	1	0	0	0	4.367103	1	2147.844	0.002033	g	mi
1	1	2024	1	5	8	0	0	0	0	40	13	52	0	1	0	0	0	85.71625	1	31810.32	0.002695	g	mi
1	1	2024	1	5	8	0	0	0	0	40	13	31	0	1	0	0	0	3909.273	1	1991965	0.001963	g	mi
1	1	2024	1	5	8	0	0	0	0	40	13	21	0	1	0	0	0	3103.627	1	1950907	0.001591	g	mi
1	1	2024	1	5	8	0	0	0	0	40	12	61	0	1	0	0	0	0.011172	1	0.144853	0.077125	g	mi
1	1	2024	1	5	8	0	0	0	0	40	12	53	0	1	0	0	0	4.821429	1	2147.844	0.002245	g	mi
1	1	2024	1	5	8	0	0	0	0	40	12	52	0	1	0	0	0	37.31409	1	31810.32	0.001173	g	mi
1	1	2024	1	5	8	0	0	0	0	40	12	31	0	1	0	0	0	1374.92	1	1991965	0.00069	g	mi
1	1	2024	1	5	8	0	0	0	0	40	12	21	0	1	0	0	0	1496.695	1	1950907	0.000767	g	mi
1	1	2024	1	5	8	0	0	0	0	40	11	61	0	1	0	0	0	0.000655	1	0.144853	0.004524	g	mi
1	1	2024	1	5	8	0	0	0	0	40	11	53	0	1	0	0	0	0.345592	1	2147.844	0.000161	g	mi
1	1	2024	1	5	8	0	0	0	0	40	11	52	0	1	0	0	0	7.174512	1	31810.32	0.000226	g	mi
1	1	2024	1	5	8	0	0	0	0	40	11	31	0	1	0	0	0	208.5434	1	1991965	0.000105	g	mi
1	1	2024	1	5	8	0	0	0	0	40	11	21	0	1	0	0	0	194.9784	1	1950907	9.99E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	40	1	62	0	2	0	0	0	56.37221	1	163936.9	0.000344	g	mi
1	1	2024	1	5	8	0	0	0	0	40	1	61	0	2	0	0	0	16.81742	1	46931.15	0.000358	g	mi
1	1	2024	1	5	8	0	0	0	0	40	1	53	0	2	0	0	0	1.534465	1	7957.417	0.000193	g	mi
1	1	2024	1	5	8	0	0	0	0	40	1	52	0	2	0	0	0	24.69752	1	118022.8	0.000209	g	mi
1	1	2024	1	5	8	0	0	0	0	40	1	31	0	2	0	0	0	23.87422	1	96829.71	0.000247	g	mi
1	1	2024	1	5	8	0	0	0	0	40	1	21	0	2	0	0	0	1.292681	1	15274.46	8.46E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	40	1	61	0	1	0	0	0	0.004324	1	0.144853	0.029854	g	mi
1	1	2024	1	5	8	0	0	0	0	40	1	53	0	1	0	0	0	3.638575	1	2147.844	0.001694	g	mi
1	1	2024	1	5	8	0	0	0	0	40	1	52	0	1	0	0	0	54.98006	1	31810.32	0.001728	g	mi
1	1	2024	1	5	8	0	0	0	0	40	1	31	0	1	0	0	0	1030.822	1	1991965	0.000517	g	mi
1	1	2024	1	5	8	0	0	0	0	40	1	21	0	1	0	0	0	595	1	1950907	0.000305	g	mi
1	1	2024	1	5	8	0	0	0	0	31	1	62	0	2	0	0	0	898.053	1	163936.9	0.005478	g	mi
1	1	2024	1	5	8	0	0	0	0	31	1	61	0	2	0	0	0	259.9541	1	46931.15	0.005539	g	mi
1	1	2024	1	5	8	0	0	0	0	31	1	53	0	2	0	0	0	25.08813	1	7957.417	0.003153	g	mi
1	1	2024	1	5	8	0	0	0	0	31	1	52	0	2	0	0	0	397.2785	1	118022.8	0.003366	g	mi
1	1	2024	1	5	8	0	0	0	0	31	1	31	0	2	0	0	0	157.6731	1	96829.71	0.001628	g	mi
1	1	2024	1	5	8	0	0	0	0	31	1	21	0	2	0	0	0	15.68172	1	15274.46	0.001027	g	mi
1	1	2024	1	5	8	0	0	0	0	31	1	61	0	1	0	0	0	0.001571	1	0.144853	0.010848	g	mi
1	1	2024	1	5	8	0	0	0	0	31	1	53	0	1	0	0	0	14.81233	1	2147.844	0.006896	g	mi
1	1	2024	1	5	8	0	0	0	0	31	1	52	0	1	0	0	0	229.6775	1	31810.32	0.00722	g	mi
1	1	2024	1	5	8	0	0	0	0	31	1	31	0	1	0	0	0	5207.729	1	1991965	0.002614	g	mi
1	1	2024	1	5	8	0	0	0	0	31	1	21	0	1	0	0	0	3856.133	1	1950907	0.001977	g	mi
1	1	2024	1	5	8	0	0	0	0	27	15	62	0	2	0	0	0	17.50736	1	163936.9	0.000107	g	mi
1	1	2024	1	5	8	0	0	0	0	27	15	61	0	2	0	0	0	5.141891	1	46931.15	0.00011	g	mi
1	1	2024	1	5	8	0	0	0	0	27	15	53	0	2	0	0	0	0.291684	1	7957.417	3.67E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	27	15	52	0	2	0	0	0	5.081131	1	118022.8	4.31E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	27	15	31	0	2	0	0	0	0.993121	1	96829.71	1.03E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	27	15	21	0	2	0	0	0	0.006607	1	15274.46	4.33E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	27	15	61	0	1	0	0	0	2.01E-06	1	0.144853	1.39E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	27	15	53	0	1	0	0	0	0.002481	1	2147.844	1.16E-06	g	mi

1	1	2024	1	5	8	0	0	0	0	27	15	52	0	1	0	0	0	0.039871	1	31810.32	1.25E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	27	15	31	0	1	0	0	0	0.559333	1	1991965	2.81E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	27	15	21	0	1	0	0	0	0.343542	1	1950907	1.76E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	27	1	62	0	2	0	0	0	85.73022	1	163936.9	0.000523	g	mi
1	1	2024	1	5	8	0	0	0	0	27	1	61	0	2	0	0	0	23.5097	1	46931.15	0.000501	g	mi
1	1	2024	1	5	8	0	0	0	0	27	1	53	0	2	0	0	0	3.711066	1	7957.417	0.000466	g	mi
1	1	2024	1	5	8	0	0	0	0	27	1	52	0	2	0	0	0	57.41765	1	118022.8	0.000486	g	mi
1	1	2024	1	5	8	0	0	0	0	27	1	31	0	2	0	0	0	71.37641	1	96829.71	0.000737	g	mi
1	1	2024	1	5	8	0	0	0	0	27	1	21	0	2	0	0	0	1.378338	1	15274.46	9.02E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	27	1	61	0	1	0	0	0	0.000152	1	0.144853	0.001051	g	mi
1	1	2024	1	5	8	0	0	0	0	27	1	53	0	1	0	0	0	0.187952	1	2147.844	8.75E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	27	1	52	0	1	0	0	0	3.020495	1	31810.32	9.5E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	27	1	31	0	1	0	0	0	42.37372	1	1991965	2.13E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	27	1	21	0	1	0	0	0	26.02584	1	1950907	1.33E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	26	15	62	0	2	0	0	0	175.506	1	163936.9	0.001071	g	mi
1	1	2024	1	5	8	0	0	0	0	26	15	61	0	2	0	0	0	53.3589	1	46931.15	0.001137	g	mi
1	1	2024	1	5	8	0	0	0	0	26	15	53	0	2	0	0	0	2.390199	1	7957.417	0.0003	g	mi
1	1	2024	1	5	8	0	0	0	0	26	15	52	0	2	0	0	0	41.45322	1	118022.8	0.000351	g	mi
1	1	2024	1	5	8	0	0	0	0	26	15	31	0	2	0	0	0	5.370308	1	96829.71	5.55E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	26	15	21	0	2	0	0	0	0.043868	1	15274.46	2.87E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	26	15	61	0	1	0	0	0	3.98E-05	1	0.144853	0.000275	g	mi
1	1	2024	1	5	8	0	0	0	0	26	15	53	0	1	0	0	0	0.03342	1	2147.844	1.56E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	26	15	52	0	1	0	0	0	0.498698	1	31810.32	1.57E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	26	15	31	0	1	0	0	0	9.628909	1	1991965	4.83E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	26	15	21	0	1	0	0	0	5.581549	1	1950907	2.86E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	26	1	62	0	2	0	0	0	662.6393	1	163936.9	0.004042	g	mi
1	1	2024	1	5	8	0	0	0	0	26	1	61	0	2	0	0	0	190.8179	1	46931.15	0.004066	g	mi
1	1	2024	1	5	8	0	0	0	0	26	1	53	0	2	0	0	0	23.0458	1	7957.417	0.002896	g	mi
1	1	2024	1	5	8	0	0	0	0	26	1	52	0	2	0	0	0	360.836	1	118022.8	0.003057	g	mi
1	1	2024	1	5	8	0	0	0	0	26	1	31	0	2	0	0	0	408.4203	1	96829.71	0.004218	g	mi
1	1	2024	1	5	8	0	0	0	0	26	1	21	0	2	0	0	0	13.07112	1	15274.46	0.000856	g	mi
1	1	2024	1	5	8	0	0	0	0	26	1	61	0	1	0	0	0	0.003019	1	0.144853	0.020838	g	mi
1	1	2024	1	5	8	0	0	0	0	26	1	53	0	1	0	0	0	2.531844	1	2147.844	0.001179	g	mi
1	1	2024	1	5	8	0	0	0	0	26	1	52	0	1	0	0	0	37.78018	1	31810.32	0.001188	g	mi
1	1	2024	1	5	8	0	0	0	0	26	1	31	0	1	0	0	0	729.4631	1	1991965	0.000366	g	mi
1	1	2024	1	5	8	0	0	0	0	26	1	21	0	1	0	0	0	422.8442	1	1950907	0.000217	g	mi
1	1	2024	1	5	8	0	0	0	0	25	15	62	0	2	0	0	0	186.3326	1	163936.9	0.001137	g	mi
1	1	2024	1	5	8	0	0	0	0	25	15	61	0	2	0	0	0	50.34897	1	46931.15	0.001073	g	mi
1	1	2024	1	5	8	0	0	0	0	25	15	53	0	2	0	0	0	3.502205	1	7957.417	0.00044	g	mi
1	1	2024	1	5	8	0	0	0	0	25	15	52	0	2	0	0	0	65.70918	1	118022.8	0.000557	g	mi
1	1	2024	1	5	8	0	0	0	0	25	15	31	0	2	0	0	0	11.73295	1	96829.71	0.000121	g	mi
1	1	2024	1	5	8	0	0	0	0	25	15	21	0	2	0	0	0	0.073626	1	15274.46	4.82E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	25	15	61	0	1	0	0	0	4.27E-05	1	0.144853	0.000295	g	mi
1	1	2024	1	5	8	0	0	0	0	25	15	53	0	1	0	0	0	0.056834	1	2147.844	2.65E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	25	15	52	0	1	0	0	0	0.923318	1	31810.32	2.9E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	25	15	31	0	1	0	0	0	12.27027	1	1991965	6.16E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	25	15	21	0	1	0	0	0	7.622373	1	1950907	3.91E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	25	1	62	0	2	0	0	0	917.7122	1	163936.9	0.005598	g	mi
1	1	2024	1	5	8	0	0	0	0	25	1	61	0	2	0	0	0	242.1086	1	46931.15	0.005159	g	mi
1	1	2024	1	5	8	0	0	0	0	25	1	53	0	2	0	0	0	42.93101	1	7957.417	0.005395	g	mi
1	1	2024	1	5	8	0	0	0	0	25	1	52	0	2	0	0	0	673.1942	1	118022.8	0.005704	g	mi
1	1	2024	1	5	8	0	0	0	0	25	1	31	0	2	0	0	0	843.6666	1	96829.71	0.008713	g	mi
1	1	2024	1	5	8	0	0	0	0	25	1	21	0	2	0	0	0	13.29607	1	15274.46	0.00087	g	mi
1	1	2024	1	5	8	0	0	0	0	25	1	61	0	1	0	0	0	0.003236	1	0.144853	0.022338	g	mi
1	1	2024	1	5	8	0	0	0	0	25	1	53	0	1	0	0	0	4.305591	1	2147.844	0.002005	g	mi
1	1	2024	1	5	8	0	0	0	0	25	1	52	0	1	0	0	0	69.94836	1	31810.32	0.002199	g	mi
1	1	2024	1	5	8	0	0	0	0	25	1	31	0	1	0	0	0	929.5665	1	1991965	0.000467	g	mi
1	1	2024	1	5	8	0	0	0	0	25	1	21	0	1	0	0	0	577.4517	1	1950907	0.000296	g	mi
1	1	2024	1	5	8	0	0	0	0	24	15	62	0	2	0	0	0	1.084895	1	163936.9	6.62E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	24	15	61	0	2	0	0	0	0.259953	1	46931.15	5.54E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	24	15	53	0	2	0	0	0	0.055536	1	7957.417	6.98E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	24	15	52	0	2	0	0	0	0.876969	1	118022.8	7.43E-06	g	mi

1	1	2024	1	5	8	0	0	0	0	24	15	31	0	2	0	0	0	0.434356	1	96829.71	4.49E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	24	15	21	0	2	0	0	0	0.002281	1	15274.46	1.49E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	24	15	61	0	1	0	0	0	1.45E-05	1	0.144853	0.0001	g	mi
1	1	2024	1	5	8	0	0	0	0	24	15	53	0	1	0	0	0	0.004857	1	2147.844	2.26E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	24	15	52	0	1	0	0	0	0.046304	1	31810.32	1.46E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	24	15	31	0	1	0	0	0	2.826648	1	1991965	1.42E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	24	15	21	0	1	0	0	0	1.461312	1	1950907	7.49E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	24	1	62	0	2	0	0	0	22.32252	1	163936.9	0.000136	g	mi
1	1	2024	1	5	8	0	0	0	0	24	1	61	0	2	0	0	0	5.545459	1	46931.15	0.000118	g	mi
1	1	2024	1	5	8	0	0	0	0	24	1	53	0	2	0	0	0	1.384507	1	7957.417	0.000174	g	mi
1	1	2024	1	5	8	0	0	0	0	24	1	52	0	2	0	0	0	20.8462	1	118022.8	0.000177	g	mi
1	1	2024	1	5	8	0	0	0	0	24	1	31	0	2	0	0	0	29.2539	1	96829.71	0.000302	g	mi
1	1	2024	1	5	8	0	0	0	0	24	1	21	0	2	0	0	0	0.181493	1	15274.46	1.19E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	24	1	61	0	1	0	0	0	0.001099	1	0.144853	0.007585	g	mi
1	1	2024	1	5	8	0	0	0	0	24	1	53	0	1	0	0	0	0.367948	1	2147.844	0.000171	g	mi
1	1	2024	1	5	8	0	0	0	0	24	1	52	0	1	0	0	0	3.507888	1	31810.32	0.00011	g	mi
1	1	2024	1	5	8	0	0	0	0	24	1	31	0	1	0	0	0	214.1397	1	1991965	0.000108	g	mi
1	1	2024	1	5	8	0	0	0	0	24	1	21	0	1	0	0	0	110.7055	1	1950907	5.67E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	15	62	0	2	0	0	0	6.570224	1	163936.9	4.01E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	15	61	0	2	0	0	0	1.471512	1	46931.15	3.14E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	15	53	0	2	0	0	0	0.211779	1	7957.417	2.66E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	15	52	0	2	0	0	0	3.891402	1	118022.8	3.3E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	15	31	0	2	0	0	0	1.169076	1	96829.71	1.21E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	15	21	0	2	0	0	0	0.006276	1	15274.46	4.11E-07	g	mi
1	1	2024	1	5	8	0	0	0	0	20	15	61	0	1	0	0	0	9.37E-05	1	0.144853	0.000647	g	mi
1	1	2024	1	5	8	0	0	0	0	20	15	53	0	1	0	0	0	0.13711	1	2147.844	6.38E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	15	52	0	1	0	0	0	2.255398	1	31810.32	7.09E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	15	31	0	1	0	0	0	28.07933	1	1991965	1.41E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	15	21	0	1	0	0	0	17.69518	1	1950907	9.07E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	20	13	61	0	1	0	0	0	0.000292	1	0.144853	0.002014	g	mi
1	1	2024	1	5	8	0	0	0	0	20	13	53	0	1	0	0	0	0.21789	1	2147.844	0.000101	g	mi
1	1	2024	1	5	8	0	0	0	0	20	13	52	0	1	0	0	0	4.276688	1	31810.32	0.000134	g	mi
1	1	2024	1	5	8	0	0	0	0	20	13	31	0	1	0	0	0	195.0477	1	1991965	9.79E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	13	21	0	1	0	0	0	154.8509	1	1950907	7.94E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	12	61	0	1	0	0	0	0.000557	1	0.144853	0.003848	g	mi
1	1	2024	1	5	8	0	0	0	0	20	12	53	0	1	0	0	0	0.240558	1	2147.844	0.000112	g	mi
1	1	2024	1	5	8	0	0	0	0	20	12	52	0	1	0	0	0	1.861735	1	31810.32	5.85E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	12	31	0	1	0	0	0	68.59958	1	1991965	3.44E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	12	21	0	1	0	0	0	74.67557	1	1950907	3.83E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	11	61	0	1	0	0	0	6.88E-05	1	0.144853	0.000475	g	mi
1	1	2024	1	5	8	0	0	0	0	20	11	53	0	1	0	0	0	0.03626	1	2147.844	1.69E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	11	52	0	1	0	0	0	0.752769	1	31810.32	2.37E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	11	31	0	1	0	0	0	21.88098	1	1991965	1.1E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	11	21	0	1	0	0	0	20.45766	1	1950907	1.05E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	1	62	0	2	0	0	0	64.71599	1	163936.9	0.000395	g	mi
1	1	2024	1	5	8	0	0	0	0	20	1	61	0	2	0	0	0	15.90088	1	46931.15	0.000339	g	mi
1	1	2024	1	5	8	0	0	0	0	20	1	53	0	2	0	0	0	3.845602	1	7957.417	0.000483	g	mi
1	1	2024	1	5	8	0	0	0	0	20	1	52	0	2	0	0	0	59.12492	1	118022.8	0.000501	g	mi
1	1	2024	1	5	8	0	0	0	0	20	1	31	0	2	0	0	0	80.34655	1	96829.71	0.00083	g	mi
1	1	2024	1	5	8	0	0	0	0	20	1	21	0	2	0	0	0	0.589702	1	15274.46	3.86E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	20	1	61	0	1	0	0	0	0.007102	1	0.144853	0.049027	g	mi
1	1	2024	1	5	8	0	0	0	0	20	1	53	0	1	0	0	0	10.3871	1	2147.844	0.004836	g	mi
1	1	2024	1	5	8	0	0	0	0	20	1	52	0	1	0	0	0	170.8636	1	31810.32	0.005371	g	mi
1	1	2024	1	5	8	0	0	0	0	20	1	31	0	1	0	0	0	2127.225	1	1991965	0.001068	g	mi
1	1	2024	1	5	8	0	0	0	0	20	1	21	0	1	0	0	0	1340.543	1	1950907	0.000687	g	mi
1	1	2024	1	5	8	0	0	0	0	6	1	62	0	2	0	0	0	359.6843	1	163936.9	0.002194	g	mi
1	1	2024	1	5	8	0	0	0	0	6	1	61	0	2	0	0	0	140.2226	1	46931.15	0.002988	g	mi
1	1	2024	1	5	8	0	0	0	0	6	1	53	0	2	0	0	0	25.39356	1	7957.417	0.003191	g	mi
1	1	2024	1	5	8	0	0	0	0	6	1	52	0	2	0	0	0	395.7623	1	118022.8	0.003353	g	mi
1	1	2024	1	5	8	0	0	0	0	6	1	31	0	2	0	0	0	218.3005	1	96829.71	0.002254	g	mi
1	1	2024	1	5	8	0	0	0	0	6	1	21	0	2	0	0	0	9.22975	1	15274.46	0.000604	g	mi
1	1	2024	1	5	8	0	0	0	0	6	1	61	0	1	0	0	0	0.003528	1	0.144853	0.024359	g	mi

1	1	2024	1	5	8	0	0	0	0	6	1	53	0	1	0	0	0	15.39089	1	2147.844	0.007166	g	mi
1	1	2024	1	5	8	0	0	0	0	6	1	52	0	1	0	0	0	237.6237	1	31810.32	0.00747	g	mi
1	1	2024	1	5	8	0	0	0	0	6	1	31	0	1	0	0	0	5466.356	1	1991965	0.002744	g	mi
1	1	2024	1	5	8	0	0	0	0	6	1	21	0	1	0	0	0	3327.98	1	1950907	0.001706	g	mi
1	1	2024	1	5	8	0	0	0	0	5	15	62	0	2	0	0	0	97.22243	1	163936.9	0.000593	g	mi
1	1	2024	1	5	8	0	0	0	0	5	15	61	0	2	0	0	0	23.32515	1	46931.15	0.000497	g	mi
1	1	2024	1	5	8	0	0	0	0	5	15	53	0	2	0	0	0	1.846627	1	7957.417	0.000232	g	mi
1	1	2024	1	5	8	0	0	0	0	5	15	52	0	2	0	0	0	40.5264	1	118022.8	0.000343	g	mi
1	1	2024	1	5	8	0	0	0	0	5	15	31	0	2	0	0	0	1.221228	1	96829.71	1.26E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	5	15	21	0	2	0	0	0	0.247721	1	15274.46	1.62E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	5	15	61	0	1	0	0	0	0.000527	1	0.144853	0.003637	g	mi
1	1	2024	1	5	8	0	0	0	0	5	15	53	0	1	0	0	0	0.576686	1	2147.844	0.000268	g	mi
1	1	2024	1	5	8	0	0	0	0	5	15	52	0	1	0	0	0	9.088325	1	31810.32	0.000286	g	mi
1	1	2024	1	5	8	0	0	0	0	5	15	31	0	1	0	0	0	229.9526	1	1991965	0.000115	g	mi
1	1	2024	1	5	8	0	0	0	0	5	15	21	0	1	0	0	0	164.5002	1	1950907	8.43E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	5	1	62	0	2	0	0	0	2940.697	1	163936.9	0.017938	g	mi
1	1	2024	1	5	8	0	0	0	0	5	1	61	0	2	0	0	0	875.6896	1	46931.15	0.018659	g	mi
1	1	2024	1	5	8	0	0	0	0	5	1	53	0	2	0	0	0	96.48972	1	7957.417	0.012126	g	mi
1	1	2024	1	5	8	0	0	0	0	5	1	52	0	2	0	0	0	1687.312	1	118022.8	0.014296	g	mi
1	1	2024	1	5	8	0	0	0	0	5	1	31	0	2	0	0	0	825.1543	1	96829.71	0.008522	g	mi
1	1	2024	1	5	8	0	0	0	0	5	1	21	0	2	0	0	0	167.379	1	15274.46	0.010958	g	mi
1	1	2024	1	5	8	0	0	0	0	5	1	61	0	1	0	0	0	0.039907	1	0.144853	0.275497	g	mi
1	1	2024	1	5	8	0	0	0	0	5	1	53	0	1	0	0	0	43.68841	1	2147.844	0.020341	g	mi
1	1	2024	1	5	8	0	0	0	0	5	1	52	0	1	0	0	0	688.5093	1	31810.32	0.021644	g	mi
1	1	2024	1	5	8	0	0	0	0	5	1	31	0	1	0	0	0	17420.67	1	1991965	0.008745	g	mi
1	1	2024	1	5	8	0	0	0	0	5	1	21	0	1	0	0	0	12462.13	1	1950907	0.006388	g	mi
1	1	2024	1	5	8	0	0	0	0	3	15	62	0	2	0	0	0	8531.658	1	163936.9	0.052042	g	mi
1	1	2024	1	5	8	0	0	0	0	3	15	61	0	2	0	0	0	2622.884	1	46931.15	0.055888	g	mi
1	1	2024	1	5	8	0	0	0	0	3	15	53	0	2	0	0	0	102.7608	1	7957.417	0.012914	g	mi
1	1	2024	1	5	8	0	0	0	0	3	15	52	0	2	0	0	0	1676.58	1	118022.8	0.014206	g	mi
1	1	2024	1	5	8	0	0	0	0	3	15	31	0	2	0	0	0	22.17039	1	96829.71	0.000229	g	mi
1	1	2024	1	5	8	0	0	0	0	3	15	21	0	2	0	0	0	0.112174	1	15274.46	7.34E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	3	15	61	0	1	0	0	0	3.58E-05	1	0.144853	0.000247	g	mi
1	1	2024	1	5	8	0	0	0	0	3	15	53	0	1	0	0	0	0.024937	1	2147.844	1.16E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	3	15	52	0	1	0	0	0	0.361016	1	31810.32	1.13E-05	g	mi
1	1	2024	1	5	8	0	0	0	0	3	15	31	0	1	0	0	0	13.44413	1	1991965	6.75E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	3	15	21	0	1	0	0	0	6.261529	1	1950907	3.21E-06	g	mi
1	1	2024	1	5	8	0	0	0	0	3	1	62	0	2	0	0	0	697458	1	163936.9	4.254429	g	mi
1	1	2024	1	5	8	0	0	0	0	3	1	61	0	2	0	0	0	195546.7	1	46931.15	4.166671	g	mi
1	1	2024	1	5	8	0	0	0	0	3	1	53	0	2	0	0	0	13631	1	7957.417	1.712993	g	mi
1	1	2024	1	5	8	0	0	0	0	3	1	52	0	2	0	0	0	220622.5	1	118022.8	1.869321	g	mi
1	1	2024	1	5	8	0	0	0	0	3	1	31	0	2	0	0	0	77104.67	1	96829.71	0.796291	g	mi
1	1	2024	1	5	8	0	0	0	0	3	1	21	0	2	0	0	0	957.5466	1	15274.46	0.062689	g	mi
1	1	2024	1	5	8	0	0	0	0	3	1	61	0	1	0	0	0	0.895214	1	0.144853	6.180151	g	mi
1	1	2024	1	5	8	0	0	0	0	3	1	53	0	1	0	0	0	623.4172	1	2147.844	0.290253	g	mi
1	1	2024	1	5	8	0	0	0	0	3	1	52	0	1	0	0	0	9025.379	1	31810.32	0.283725	g	mi
1	1	2024	1	5	8	0	0	0	0	3	1	31	0	1	0	0	0	336102.6	1	1991965	0.168729	g	mi
1	1	2024	1	5	8	0	0	0	0	3	1	21	0	1	0	0	0	156538	1	1950907	0.080239	g	mi
1	1	2024	1	5	8	0	0	0	0	2	15	62	0	2	0	0	0	3388.495	1	163936.9	0.02067	g	mi
1	1	2024	1	5	8	0	0	0	0	2	15	61	0	2	0	0	0	798.5765	1	46931.15	0.017016	g	mi
1	1	2024	1	5	8	0	0	0	0	2	15	53	0	2	0	0	0	70.17368	1	7957.417	0.008819	g	mi
1	1	2024	1	5	8	0	0	0	0	2	15	52	0	2	0	0	0	1339.346	1	118022.8	0.011348	g	mi
1	1	2024	1	5	8	0	0	0	0	2	15	31	0	2	0	0	0	342.3512	1	96829.71	0.003536	g	mi
1	1	2024	1	5	8	0	0	0	0	2	15	21	0	2	0	0	0	27.05405	1	15274.46	0.001771	g	mi
1	1	2024	1	5	8	0	0	0	0	2	15	61	0	1	0	0	0	0.008475	1	0.144853	0.058508	g	mi
1	1	2024	1	5	8	0	0	0	0	2	15	53	0	1	0	0	0	7.128536	1	2147.844	0.003319	g	mi
1	1	2024	1	5	8	0	0	0	0	2	15	52	0	1	0	0	0	110.9963	1	31810.32	0.003489	g	mi
1	1	2024	1	5	8	0	0	0	0	2	15	31	0	1	0	0	0	2489.251	1	1991965	0.00125	g	mi
1	1	2024	1	5	8	0	0	0	0	2	15	21	0	1	0	0	0	1998.811	1	1950907	0.001025	g	mi
1	1	2024	1	5	8	0	0	0	0	2	1	62	0	2	0	0	0	338385.1	1	163936.9	2.064117	g	mi
1	1	2024	1	5	8	0	0	0	0	2	1	61	0	2	0	0	0	93543.92	1	46931.15	1.993216	g	mi
1	1	2024	1	5	8	0	0	0	0	2	1	53	0	2	0	0	0	8871.08	1	7957.417	1.114819	g	mi

1	1	2024	1	5	8	0	0	0	0	2	1	52	0	2	0	0	0	139241.1	1	118022.8	1.179781	g	mi
1	1	2024	1	5	8	0	0	0	0	2	1	31	0	2	0	0	0	121426.3	1	96829.71	1.254019	g	mi
1	1	2024	1	5	8	0	0	0	0	2	1	21	0	2	0	0	0	37372.3	1	15274.46	2.446718	g	mi
1	1	2024	1	5	8	0	0	0	0	2	1	61	0	1	0	0	0	16.29819	1	0.144853	112.5154	g	mi
1	1	2024	1	5	8	0	0	0	0	2	1	53	0	1	0	0	0	13708.73	1	2147.844	6.382554	g	mi
1	1	2024	1	5	8	0	0	0	0	2	1	52	0	1	0	0	0	213454.5	1	31810.32	6.710228	g	mi
1	1	2024	1	5	8	0	0	0	0	2	1	31	0	1	0	0	0	4787029	1	1991965	2.403169	g	mi
1	1	2024	1	5	8	0	0	0	0	2	1	21	0	1	0	0	0	3843853	1	1950907	1.97029	g	mi

DFW 19th Street Cargo Redevelopment Environmental Assessment

Draft Aircraft Emissions Technical Report

HMMH Project 03-13480.000

July 13, 2023

Prepared for:

Dallas-Fort Worth International Airport
DFW Airport, Texas 75261

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Acronyms

AAD ..... Average Annual Day
AEDT ..... Aviation Environmental Design Tool
AOA ..... Air Operations Area
APU ..... Aircraft Auxiliary Power Unit
ASPM ..... Aviation System Performance Metrics
CY ..... Calendar Year
DFW ..... Dallas Fort Worth International Airport
DNL ..... Day-Night Average Sound Level
EA ..... Environmental Assessment
EAD ..... Environmental Affairs Department
FAA ..... Federal Aviation Administration
FY ..... Fiscal Year
GHG ..... Greenhouse Gas
GSE ..... Ground Service Equipment
GWP ..... Global Warming Potential
IPCC ..... Intergovernmental Panel on Climate Change
LTO ..... Landing Takeoff Operation
NAA ..... No Action Alternative
NOMS ..... Noise and Operations Monitoring System
OPSNET ..... Operational Network
SWIM ..... System Wide Information Management
TAF ..... Terminal Area Forecast
TFMSC ..... Traffic Flow Management System

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Tables

1 Introduction

The cities of Dallas and Fort Worth, the owners of Dallas Fort Worth International Airport (DFW or Airport), propose the 19th Street Cargo Redevelopment Project (the project). The Proposed Action consists of the development of two new cargo buildings (Buildings 1 and 2) and associated landside surface parking and roadway modifications, new airside aircraft pavement, pavement and alignment modifications to various taxiways for aircraft ingress/egress, new Air Operations Area (AOA) fencing and access gates, a new fueling station, and all associated necessary utilities infrastructure, which includes demolition, relocation, and creation, as necessary for the project. One existing building would be demolished to enable development of Building 2. Additionally, the Proposed Action would generate five new widebody aircraft positions for Buildings 1 and 2 and improve the two existing hardstand positions. The proposed changes are expected to increase cargo operations at the airport. Since the proposed project would increase aircraft operations, an air quality and climate evaluation of aircraft operational emissions is required per Federal Aviation Administration (FAA) Orders 5050.4B and 1050.1F, which specify the procedures for evaluating aircraft and greenhouse gas emissions.

The purpose of this Aircraft Emissions Technical Report is to provide analyses and documentation to support the Environmental Affairs Department's (EAD) development of an Environmental Assessment (EA). The focus of this document is to present the findings of the Existing Conditions and any potential future impacts associated with the Proposed Action.

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2 Modeling Methodology

The following sections present the modeling methodology for the aircraft emissions analysis for the Existing, Future No Action, and Future Proposed Action Alternatives.

2.1 Aviation Environmental Design Tool

For an action occurring on, or in the vicinity of a single airport, or as part of an air traffic action, the FAA directs the use of the latest version of the Aviation Environmental Design Tool (AEDT) for aircraft emissions inventories and evaluations.

The aircraft emissions analysis for the EA uses AEDT Version 3e (released 9 May 2022). All AEDT modeling conducted for this study adheres to *Guidance on Using the Aviation Environmental Design Tool (AEDT) to Conduct Environmental Modeling for FAA Actions Subject to NEPA.*[1] AEDT is a combined noise and emission model that uses a database of aircraft noise and performance characteristics. AEDT calculates air pollutant emissions from aircraft engines for air quality analyses, enables air quality calculations on a regional basis (as opposed to in the immediate airport environment only), and includes updated databases for newer aircraft models. The model also computes emissions from ground service equipment (GSE) associated with the aircraft movements.

The primary data input categories for the AEDT include the following:

- Airfield layout, which includes the coordinates of each runway centerline endpoint, runway widths, approach threshold crossing heights, and runway end elevations.
- Meteorological data, which refers to weather conditions affecting sound propagation and aircraft performance. AEDT's database of airports was accessed to obtain annual average daily DFW weather conditions. AEDT's airport database contains 10-year average meteorological data (from 2012 to 2021), which AEDT uses to adjust aircraft performance and sound propagation parameters from standard day conditions.
    - Temperature: 66.72° F
    - Station Pressure: 994.68 mbar
    - Sea Level Pressure: 1015.75 mbar
    - Dew point: 52.88° F
    - Relative humidity: 61.15%
    - Wind Speed: 9.31 knots
- Specific aircraft types in DFW's fleet mix, defined by airframe and engine type combinations. All aircraft types evaluated for the DFW modeling are either in the AEDT database or have approved substitutions within the model.
- Aircraft flight operations, which are numbers of Average Annual Day (AAD) aircraft operations by day-night average sound level (DNL) time periods and by aircraft type. Daytime is defined as 7:00 a.m. to 9:59 p.m., and nighttime is defined as 10:00 p.m. to 6:59 a.m. Departures and

[1] https://aedt.faa.gov/Documents/guidance_aedt_nepa.pdf

arrivals were the two types of flight operations modeled for the EA. Touch-and-go or circuit operations are not conducted at DFW.

- Aircraft noise and performance characteristics. The AEDT database contains noise and performance data for more than 300 different aircraft types. AEDT accesses the noise and performance data for takeoff, landing, and pattern operations by those aircraft. The database provides single-event noise levels for slant distances from 200 feet to 25,000 feet for several thrust or power settings for each aircraft type. Performance data includes thrust, speed, and altitude profiles for takeoffs and landings. For those aircraft types operating at DFW which are not directly represented in the AEDT database, the AEDT contains FAA-approved substitutions for noise modeling.
- Stage length, which is a surrogate for an aircraft's weight that varies according to its fuel load. Stage length is assigned according to each departure's trip distance to its destination, using city-pair information provided in the operations forecast. The assigned stage length then determines the appropriate flight performance profile from the AEDT database.
- Flight profiles, which are based on standard flight procedures for each aircraft type contained in the AEDT database. Information in the flight profiles describe the sequence of altitudes, thrust/power settings, and airspeeds for departure and arrival operations.
- Runway use, which is the allocation of flight operations to each runway, on an AAD basis, by DNL time periods, operation type, and aircraft type.
- Taxi Times, which define the average amount of time aircraft travel to or from the gate, travel across the taxiway system to or from the runway. These times also include the average amount of time aircraft wait for a departure or to arrive at a gate.
- Flight tracks and their usage. A flight track is the two-dimensional projection of the aircraft's three-dimensional flight path onto the ground. A modeled flight track represents one or more actual flight tracks. Modeled flight tracks for a given flight corridor typically consist of a backbone track and sub-tracks which represent the average location and dispersion of the actual flights in the corridor. Each backbone flight track typically represents a general heading for departures or originating point for arrivals. As each runway usually has multiple headings and originating points, the distribution of operations, or track use, on an AAD basis, must be specified. Operations are further spread on backbone tracks and sub-tracks via distribution percentages on an AAD basis.
- GSE, which supports each arrival and departure operation. The AEDT contains a database of GSE, fuel types, time in use, etc. AEDT default GSE equipment was used for all of the non-project specific aircraft operations.
- Aircraft Auxiliary Power Units (APUs) are smaller engines that many aircraft have, which are used when the aircraft are parked at the gate. The AEDT contains a database of these engines, and the default operating times (26 minutes) were used for each landing-takeoff operation (LTO).

3 Aircraft Operational Emissions

This section provides the description of aircraft operations at DFW used for the development of existing and future emission inventories. The modeled operational data for the Existing Condition and Future Alternatives is based on the Fiscal year (FY) and then adjusted to reflect the calendar year as required for reporting. The operational emissions data was prepared using existing and forecast operational data for DFW and AEDT Version 3e in compliance with FAA Order 1050.1F and FAA Order 5050.4B. Aircraft operational emissions estimated for this analysis include emissions below the default AEDT 3,000 feet mixing height and include:

- Start up
- Taxi out
- Climb below the mixing height
- Descend below the mixing height
- Taxi In
- GSE for landing and takeoff
- APUs

3.1 Existing Condition Operations

The existing aircraft emission inventory for DFW was evaluated based upon the Existing Condition aircraft operations and the associated airport operational characteristics. FY 2022, a 12-month period spanning October 1, 2021, through September 30, 2022, was identified as the baseline year and source of data to develop the Existing Condition dataset.

Radar data from DFW Noise and Operations Monitoring System (NOMS) and the FAA's Operational Network (OPSNET) operational data for FY 2022 were used to determine the Existing Condition. The radar data provided the aircraft fleet mix and runway use. The fleet mix developed from the DFW NOMS data was grouped into FAA operational categories (Air Carrier, Air Taxi, and General Aviation), and the totals were scaled to match the tower count for that period. During the Existing Condition period, 663,426 annual operations occurred at DFW. Due to the low numbers of military aircraft and the absence of dominant military aircraft types, the military operations were distributed into the Air Carrier and General Aviation categories based on an analysis of the sizes of military aircraft reported by the FAA's Traffic Flow Management System Counts (TFMSC) for the same period. Approximately 40 percent were distributed into Air Carrier operations, and the remaining 60 percent were distributed into General Aviation operations. **Table 1** presents the annual operations modeled in the AEDT for the Existing Condition, as well as the FAA OPSNET operations for comparison. **Table 2** provides the average daily operations, by aircraft type, that were used in AEDT for the Existing Condition. The average daily number of aircraft arrivals and departures for the Existing Condition Noise Contour are calculated by determining the total annual operations and dividing by 365 (days in a year).

Table 1. Existing Condition Operations

Source: FAA OPSNET, HMMH 2023

Category	Air Carrier	Air Taxi	General Aviation	Military	Total
FAA OPSNET (FY 2022)	585,862	71,205	6,189	170	663,426
Existing Condition (FY 2022)	585,963	71,205	6,258	0	663,426

Notes: Military data was split between Air Carrier and General Aviation.
Totals may not match exactly due to rounding.

Table 2. DFW Modeled AAD Aircraft Operations for the Existing Condition (FY2022)

Source: DFW NOMS, HMMH, 2023

Tower Category	Propulsion	ANP Type	Arrivals			Departures			Total
			Day	Night	Total	Day	Night	Total	
Air Carrier	**Jet**	737700	13	<1	14	10	4	14	28
		737800*	161	10	171	162	9	171	342
		7378MAX	3	<1	3	3	<1	3	6
		747400	2	1	3	2	1	3	6
		747400RN	<1	<1	<1	<1	<1	<1	<1
		7478	1	<1	2	1	<1	2	3
		757PW	<1	2	3	<1	2	3	5
		757RR	<1	3	4	<1	3	4	8
		7673ER	5	2	8	5	3	8	15
		777200	5	2	7	7	<1	7	14
		777300	3	1	4	2	2	4	8
		7773ER	4	<1	4	3	<1	4	8
		7878R	3	<1	4	3	<1	3	7
		7879	11	2	13	13	<1	13	26
		A300-622R	2	2	4	1	3	4	8
		A319-131	82	3	84	80	4	84	168
		A320-211	13	2	15	13	2	15	30
		A320-232	23	5	28	23	5	28	55
		A320-271N	11	3	14	12	2	14	27
		A321-232	160	18	178	163	15	178	356
		A350-941	<1	0	<1	<1	<1	<1	2
		A380-841	1	0	1	1	0	1	2
		DC1010	<1	<1	<1	<1	<1	<1	<1
		MD11GE	1	<1	2	1	<1	2	4
		MD11PW	2	<1	2	2	<1	2	5
	Regional Jet	CRJ9-ER	126	5	131	123	8	131	263
		EMB170	90	3	93	85	8	93	186
		EMB175	9	<1	10	9	<1	10	20
	Subtotal		**733**	**70**	**803**	**727**	**76**	**803**	**1,605**
Air Taxi	**Jet**	CNA680	<1	<1	<1	<1	<1	<1	2
		EMB14L	89	3	92	88	4	92	184
	Non-jet	1900D	1	<1	1	<1	<1	1	2
		CNA208	2	<1	2	2	<1	2	5
		DHC6	1	<1	1	<1	<1	1	3
	Subtotal		**93**	**4**	**98**	**92**	**6**	**98**	**195**
General Aviation	**Jet**	CL600	<1	<1	<1	<1	<1	<1	<1
		CNA525C	<1	<1	<1	<1	<1	<1	<1
		CNA55B	<1	<1	<1	<1	<1	<1	<1
		CNA560XL	<1	<1	<1	<1	<1	<1	<1
		G650ER	<1	0	<1	<1	0	<1	<1
		GIV	<1	<1	<1	<1	<1	<1	<1
		GV	<1	0	<1	<1	<1	<1	<1

Tower Category	Propulsion	ANP Type	Arrivals			Departures			Total
			Day	Night	Total	Day	Night	Total	
		LEAR35	<1	<1	<1	<1	<1	<1	<1
	Non-jet	CNA208	6	<1	6	6	<1	6	12
	Subtotal		**8**	**<1**	**9**	**8**	**<1**	**9**	**17**
Grand Total			**835**	**74**	**909**	**827**	**82**	**909**	**1,818**

Notes: Totals may not match exactly due to rounding.
*ANP Type 737800 represents both B738 and B739 operations, which account for 97 percent and 3 percent, respectively.

3.1.1 Runway Utilization

DFW has two main runway complexes, the east side and west side, and are comprised of seven runways, four to the east and three to the west. Aircraft typically arrive on the outermost main north/south runways as well as some of the outboards and depart on the innermost runways main north/south runways (inboards). DFW typically uses its north/south runways for most arrivals and departures. Historic data shows that DFW is operated in one of two main operating configurations: south flow (departing to the south and arriving from the north) approximately 70 percent and north flow (departing to the north and arriving from the south) approximately 30 percent. Aircraft normally take off and land into the wind. However, runway end utilization can also be affected by aircraft type, type of activity, and if applicable any airport runway use plans.

FY 2022 runway utilization data was used to represent the Existing Condition. The 2022 usage was normalized to the historical north flow (30 percent), south flow (70 percent) split. **Table 3** summarizes the percentage developed from the DFW NOMS radar data that each runway was used for departures and arrivals. This data was used to model the Existing Condition and generate the Existing Conditions Noise Contour. For the runway use assignment, the outboard runways (Runways 17L/35R, 13R/31L and 13L/31R) were open until 11.00 p.m. The runway percentage use for day and night includes the assumption that the outboard runways (Runway 17L/35R, 13L/31R and 13R/31L) are not typically used after 10 p.m. or before 6 a.m. Nighttime operations[2] runway utilization includes the predominant use of the main runways for arrivals and departures. **Table 3** provides the breakdown by time of day for arrivals and departures.

Table 3. DFW Runway Utilization Summary – Existing Condition (FY2022)

Source: DFW NOMS, HMMH, 2023

Runway ID	Arrival Percent			Departure Percent		
	Day	Night	Total	Day	Night	Total
13L	<1%	0%	<1%	<1%	<1%	<1%
13R	4%	<1%	3%	<1%	0%	<1%
17C	27%	32%	27%	<1%	1%	<1%
17L	11%	1%	10%	<1%	0%	<1%
17R	<1%	7%	<1%	38%	32%	38%
18L	<1%	4%	<1%	31%	30%	31%
18R	28%	25%	28%	<1%	6%	<1%
31L	<1%	0%	<1%	<1%	<1%	<1%

[2] The FAA defines nighttime operations as 10:00 p.m. to 6:59 a.m.

Runway ID	Arrival Percent			Departure Percent		
	Day	Night	Total	Day	Night	Total
31R	1%	<1%	<1%	<1%	0%	<1%
35C	11%	14%	11%	<1%	<1%	<1%
35L	<1%	3%	<1%	16%	14%	16%
35R	5%	<1%	5%	<1%	0%	<1%
36L	12%	11%	12%	<1%	3%	<1%
36R	<1%	1%	<1%	14%	13%	14%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

3.1.2 Taxi-Time Data

Average taxi-time by runway end was obtained from the FAA Aviation System Performance Metrics (ASPM) database for FY 2022 and was used to represent the Existing Conditions and to supplement the No Action Alternative (NAA) taxi-times. As shown in **Table 4,** the taxi-times are shown in minutes and with an overall taxi-in time of 11.2 minutes and taxi-out time of 17.8 minutes per operation.

Table 4. DFW Taxi Time Summary – Existing Condition (FY2022)

Source: FAA ASPM, May 2023

Runway	Departure	Arrivals
	Average Taxi-Out Minutes	Average Taxi-In Minutes
Overall	**17.8**	**11.2**

3.2 Operational-Related Emissions

Aircraft-related emissions were generated in the model based on the FY year data; however, for reporting, calendar year (CY) data is required. The FY emission results were adjusted to CY by comparing the modeled operations to the total reported operations for CY2022 and applying an adjustment factor as shown in **Table 5**. The CY operations for 2022 were slightly less than the FY; therefore, the emission results are slightly lowered than modeled.

Table 5. Fiscal Year to Calendar Year Adjustment

Source: FAA OPSNET, HMMH, 2023

Year	FY2022	CY2022	Adjustment
2022	663,426	656,676	0.989826

Total operational emissions are from aircraft operations, GSE, and APUs. AEDT default data for APU and GSE equipment and duration was used in the modeling. The Existing Condition emission inventory provides aircraft emissions associated with taxi-in, taxi-out, and in-flight operations below the mixing height (AEDT default 3,000 feet). **Table 6** provides the operational emissions for all operations for the Existing Condition.

Table 6. Total Operational Emissions for Existing Condition (CY2022)

Source: HMMH, 2023

Calendar Year	Operational Category	Pollutant (tpy)								
		CO	NO_x	VOC	NMHC	SO_x	$PM_{2.5}$	PM_{10}	CO_2	H_20
2022	Aircraft	2,939.35	3,494.54	388.17	390.21	324.66	33.13	33.13	874,558.58	342,894.32
	GSE LTO	556.19	55.43	20.56	19.64	0.39	3.09	3.30	0.00	0.00
	APU	112.09	115.01	9.48	9.53	15.99	16.05	16.05	0.00	0.00
	Total	3,607.63	3,664.98	418.21	419.38	341.04	52.27	52.48	874,558.58	342,894.32

Note: These emissions are based on the aircraft operations in **Table 2**.

3.3 Forecast Operations

The proposed project would be complete and operational in 2025, which represents the project implementation year and 2030 is included as the year of implementation plus five years.

The FAA 2021 Terminal Area Forecast (TAF) released in March 2022 for DFW was used for the forecast. The FAA TAF includes the effects of the COVID-19 pandemic on the future forecast for the airport. Using the FAA 2021 TAF data, DFW developed a forecast to cover the two future years of the EA. Since the initial development of the forecast, which used the FAA's 2021 TAF, the FAA released its updated 2022 TAF. The 2022 TAF forecasted fewer operations than the 2021 forecast, with approximately 5 percent fewer operations in the near term (late 2020s) and 2 percent fewer in the out years (2030s). DFW has seen a consistent growth trend in its annual operations and enplaned passengers. It has also recovered from the pandemic more quickly than other large hub airports. Given DFW's recovery, as evidenced by robust operational rankings and a review of the 2022 TAF which reflects lower growth levels, DFW determined that the 2021 TAF is more relevant to the existing and anticipated operating environment. The growth rate within the 2021 TAF more accurately mirrors DFW's recovery from the COVID-19 pandemic and DFW's anticipated future growth. The FAA approved forecast[3] is based on the TAF therefore the future year operational levels are also based on the FY and will be adjusted to CY results for reporting.

Similar to the Existing Condition, approximately 40 percent of the military operations were distributed into Air Carrier operations, and the remaining 60 percent were distributed into General Aviation operations. This is shown in the AAD counts for each alternative in **Table 7**.

The proposed project would add 7,300 additional annual cargo operations in the proposed implementation year of 2025 and in the year of implementation plus five years (2030) as well. This resulted in the totals for each category and each future year listed in **Table 7**.

[3] The approved forecast is provided in EA Appendix K

Table 7. Forecast NAA and Proposed Action Alternative Operations

Source: FAA 2021 TAF, Centurion Planning and Design, HMMH, 2023

Alternative	Modeling Scenario	Air Carrier	Air Taxi	General Aviation	Military	Total
No Action	FY2025	753,559	40,796	6,343	213	800,911
	AAD FY2025	2,064.8	111.8	17.7	0.0	2,194.3
Proposed Action	FY2025	760,859	40,796	6,343	213	808,211
	AAD FY2025	2,084.8	111.8	17.7	0.0	2,214.3
No Action	FY2030	779,846	24,187	6,442	213	810,688
	AAD FY2030	2,136.8	66.3	18.0	0.0	2,221.1
Proposed Action	FY2030	787,146	24,187	6,442	213	817,988
	AAD FY2030	2,156.8	66.3	18.0	0.0	2,241.1

3.3.1 Future (2025) No Action Alternative

Under the 2025 No Action Alternative (NAA), there would be no changes to the use of the 19th facility at DFW. Cargo operations would be constrained due to lack of sufficient facilities, and overall operational levels would grow to almost 801,000 operations.

3.3.1.1 Aircraft Activity Levels and Fleet Mix

The 800,911 annual operations translate to 2,194 AAD operations to be modeled for the FY2025 NAA emission inventory. **Table 8** provides representative aircraft and engine combinations and the number of average daily operations that were modeled in AEDT for the Future (FY2025) NAA. The future fleet mix includes a reduction in Air Taxi fleet operations (reduction in 50 seat and smaller regional jets) and the phase out of DC10 operations compared to the Existing Condition.

Table 8. DFW Modeled AAD Aircraft Operations for FY2025 NAA

Source: FAA TAF, Centurion Planning and Design, HMMH, 2023

Tower Category	Propulsion	ANP Type	Arrivals			Departures			Total
			Day	Night	Total	Day	Night	Total	
Air Carrier	**Jet**	737700	63	3	66	57	9	66	132
		737800*	214	13	227	216	11	227	454
		7378MAX	19	1	21	19	1	21	41
		747400	3	<1	4	3	<1	4	8
		747400RN	<1	<1	<1	<1	<1	<1	<1
		7478	1	<1	2	2	<1	2	5
		757PW	<1	1	2	<1	2	2	4
		757RR	<1	2	3	<1	2	3	6
		7673ER	7	3	10	6	4	10	21
		777200	6	3	9	9	<1	9	19
		777300	4	2	6	4	2	6	12
		7773ER	5	<1	5	5	<1	5	11
		7878R	4	<1	5	4	<1	5	9
		7879	15	3	18	17	<1	18	36
		A300-622R	2	2	4	1	3	4	9
		A319-131	99	3	103	98	5	103	205
		A320-211	17	3	20	17	3	20	40
		A320-232	35	7	41	34	7	41	82
		A320-271N	36	4	41	37	3	41	81
		A321-232	206	24	230	210	20	230	459
		A350-941	1	0	1	1	<1	1	3
		A380-841	<1	0	<1	<1	0	<1	2
		MD11GE	<1	<1	<1	<1	<1	<1	2
		MD11PW	<1	<1	1	<1	<1	1	3
	Regional Jet	CRJ9-ER	100	4	104	98	7	104	208
		EMB170	91	3	94	87	8	94	189
		EMB175	9	<1	10	10	<1	10	20
		EMB190	2	<1	2	2	<1	2	4
	Subtotal		**946**	**86**	**1,032**	**941**	**92**	**1,032**	**2,065**
Air Taxi	**Jet**	CNA680	<1	<1	<1	<1	<1	<1	2
		EMB14L	50	1	51	49	2	51	102
	Non-jet	1900D	<1	<1	<1	<1	<1	<1	2
		CNA208	1	<1	2	2	<1	2	4
		DHC6	<1	<1	1	<1	<1	1	2
	Subtotal		**54**	**2**	**56**	**53**	**3**	**56**	**112**
General Aviation	**Jet**	CL600	<1	<1	<1	<1	<1	<1	<1
		CNA525C	<1	<1	<1	<1	<1	<1	1
		CNA55B	<1	<1	<1	<1	<1	<1	<1
		CNA560XL	<1	<1	<1	<1	<1	<1	1
		G650ER	<1	0	<1	<1	0	<1	<1
		GIV	<1	<1	<1	<1	<1	<1	<1
		GV	<1	0	<1	<1	<1	<1	<1
		LEAR35	<1	<1	<1	<1	<1	<1	<1
	Non-jet	CNA208	6	<1	6	6	<1	6	12
	Subtotal		**8**	**<1**	**9**	**8**	**<1**	**9**	**18**
Grand Total			**1,009**	**89**	**1,097**	**1,002**	**96**	**1,097**	**2,194**

Note: Totals may not match exactly due to rounding.

*ANP Type 737800 represents both B738 and B739 operations, which account for 97 percent and 3 percent, respectively.

3.3.1.2 Runway Utilization

Runway end utilization for all of the future alternatives is similar to the Existing Condition (see **Table 9**). Runway use data from the FAA System Wide Information Management (SWIM) system data was used to develop the future runway use percentages. The runway percentage use for day and night includes the assumption that the outboard runways (Runways 17L/35R, 13L/31R and 13R/31L) are not typically used after 10 p.m. or before 6 a.m.

When compared to the existing runway use, the runway use for future alternatives is as follows:

- Daytime south flow. There are slightly less arrivals (1 percent to 3 percent) to Runway 13R and 17C and slightly more arrivals (1 percent to 3 percent) on Runway 17L and 18R.
- Nighttime south flow. There are less arrivals (7 percent) to Runway 17C and more arrivals (3 percent to 5 percent) on Runway 17R and 18L.
- Daytime north flow. There are slightly less arrivals (3 percent) to Runway 35C and slightly more arrivals (1 percent to 3 percent) on Runway 35R and 36L.
- Nighttime north flow. There are slightly less arrivals (3 percent) to Runway 35L and slightly more arrivals (1 percent to 2 percent) on Runway 35L and 36R.
- South flow departures. There is very little difference (within 1 percent) except for a small reduction (2 percent) on Runway 17R at night.
- North flow departures. There is very little difference (within 1 percent).

Table 9 provides the breakdown by time of day for arrivals and departures.

Table 9. DFW Runway Utilization Summary for All Future Alternatives

Source: FAA SWIM, Centurion Planning and Design, 2023

Runway ID	Arrival Percent			Departure Percent		
	Day	Night	Total	Day	Night	Total
13L	0%	0%	0%	0%	0%	0%
13R	3%	<1%	3%	0%	0%	0%
17C	24%	25%	24%	<1%	2%	<1%
17L	13%	<1%	12%	0%	0%	0%
17R	<1%	12%	1%	39%	30%	38%
18L	<1%	7%	<1%	31%	31%	31%
18R	29%	25%	29%	<1%	6%	<1%
31L	0%	0%	0%	<1%	<1%	<1%
31R	1%	<1%	1%	0%	0%	0%
35C	8%	11%	8%	<1%	2%	<1%
35L	<1%	4%	<1%	15%	13%	15%
35R	8%	<1%	7%	0%	0%	0%
36L	13%	11%	13%	<1%	2%	<1%
36R	<1%	3%	<1%	14%	14%	14%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

3.3.1.3 Taxi-Time data

Average taxi-time by runway for the Existing Condition was used for the Future (2025) NAA (see **Section 3.1.2**). As shown in **Table 4**, the taxi-times are shown in minutes and with an overall taxi-in time of 11.2 minutes and taxi-out time of 17.8 minutes per operation.

3.3.1.4 Operational-Related Emissions

Aircraft-related emissions were generated in the model based on the FY year data; however, for reporting, CY data is required. The FY emission results were adjusted to CY by comparing the modeled operations to the total operations calculated for CY 2025 and applying an adjustment factor as shown in **Table 10**. The CY operations were developed by adding 3/4 of FY2025 operations to 1/4 of FY2026 operations.[4] The CY operations for 2025 were slightly higher than the FY; therefore, the emission results are slightly higher than modeled.

Table 10. Fiscal Year to Calendar Year Adjustment

Source: FAA 2021 TAF, Centurion Planning and Design Analysis, HMMH 2023

Year	FY2025	CY2025	Adjustment
2025	800,911	801,398	1.000607

Total operational emissions are from aircraft operations, GSE, and APUs. AEDT default data for APU and GSE equipment and duration was used in the modeling. The NAA emission inventory provides aircraft emissions associated with taxi-in, taxi-out, and in-flight operations below the mixing height (AEDT default 3,000 feet). **Table 11** provides the operational emissions for all 2025 NAA operations.

Table 11. Total Operational Emissions for the CY2025 NAA

Source: HMMH, 2023

Year	Operational Category	Pollutant (tpy)								
		CO	NO_x	VOC	NMHC	SO_x	$PM_{2.5}$	PM_{10}	CO_2	H_20
2025 (NAA)	Aircraft	3,667.00	4,628.53	462.42	464.84	418.12	43.03	43.03	1,126,340.11	441,607.83
	GSE LTO	622.59	59.37	23.89	22.80	0.49	3.55	3.81	0.00	0.00
	APU	122.40	145.86	10.64	10.69	19.59	19.13	19.13	0.00	0.00
	Total	4,411.99	4,833.75	496.95	498.33	438.20	65.72	65.97	1,126,340.11	441,607.83

Note: These emissions are based on the aircraft operations in **Table 8** adjusted to CY as shown in **Table 10**.

3.3.2 Future (2025) Proposed Action Alternative

The Proposed Action Alternative is comprised of the demolishment of one building and related infrastructure, reconstruction of two aircraft hardstand positions, and the construction of two new cargo buildings and aircraft parking positions. The proposed changes will increase cargo capacity at DFW. Both buildings are expected to open in early 2025 with an additional five aircraft parking spaces. Therefore, 2025 is included in the EA as the year of implementation.

[4] CY 2025 = (FY2025 ops / 12) *9 + (FY2026 ops / 12) *3

3.3.2.1 Aircraft Activity Levels and Fleet Mix

The project would add five new parking positions at two turns per day or 20 additional daily operations (7,300 additional annual operations). Therefore, eight additional 747400 daily operations and 12 additional 777300 daily operations were added to the number of operations and fleet mix for the Future FY2025 Proposed Action Alternative compared to the Future FY2025 NAA.

The 808,211 annual operations translate to 2,214 AAD operations to be modeled for the FY2025 Proposed Action Alternative noise analysis. **Table 12** provides representative aircraft and engine combinations and the number of average daily operations that were modeled in AEDT for the FY2025 Proposed Action Alternative. The FY2025 Proposed Action fleet mix includes the additional cargo operations in the Air Carrier category (an additional eight 747400 operations and an additional twelve 777300 operations) compared to the FY2025 NAA.

Table 12. DFW Modeled AAD Aircraft Operations for FY2025 Proposed Action Alternative

Source: FAA TAF, Centurion Planning and Design, HMMH, 2023

Tower Category	Propulsion	ANP Type	Arrivals			Departures			Total
			Day	Night	Total	Day	Night	Total	
Air Carrier	**Jet**	737700	63	3	66	57	9	66	132
		737800*	214	13	227	216	11	227	454
		7378MAX	19	1	21	19	1	21	41
		747400	7	<1	8	7	<1	8	16
		747400RN	<1	<1	<1	<1	<1	<1	<1
		7478	1	<1	2	2	<1	2	5
		757PW	<1	1	2	<1	2	2	4
		757RR	<1	2	3	<1	2	3	6
		7673ER	7	3	10	6	4	10	21
		777200	6	3	9	9	<1	9	19
		777300	10	2	12	10	3	12	24
		7773ER	5	<1	5	5	<1	5	11
		7878R	4	<1	5	4	<1	5	9
		7879	15	3	18	17	<1	18	36
		A300-622R	2	2	4	1	3	4	9
		A319-131	99	3	103	98	5	103	205
		A320-211	17	3	20	17	3	20	40
		A320-232	35	7	41	34	7	41	82
		A320-271N	36	4	41	37	3	41	81
		A321-232	206	24	230	210	20	230	459
		A350-941	1	0	1	1	<1	1	3
		A380-841	<1	0	<1	<1	0	<1	2
		MD11GE	<1	<1	<1	<1	<1	<1	2
		MD11PW	<1	<1	1	<1	<1	1	3
	Regional Jet	CRJ9-ER	100	4	104	98	7	104	208
		EMB170	91	3	94	87	8	94	189
		EMB175	9	<1	10	10	<1	10	20
		EMB190	2	<1	2	2	<1	2	4
	Subtotal		**956**	**87**	**1,042**	**950**	**93**	**1,042**	**2,085**
Air Taxi	**Jet**	CNA680	<1	<1	<1	<1	<1	<1	2
		EMB14L	50	1	51	49	2	51	102
	Non-jet	1900D	<1	<1	<1	<1	<1	<1	2
		CNA208	1	<1	2	2	<1	2	4

Tower Category	Propulsion	ANP Type	Arrivals			Departures			Total
			Day	Night	Total	Day	Night	Total	
		DHC6	<1	<1	1	<1	<1	1	2
	Subtotal		**54**	**2**	**56**	**53**	**3**	**56**	**112**
General Aviation	**Jet**	CL600	<1	<1	<1	<1	<1	<1	<1
		CNA525C	<1	<1	<1	<1	<1	<1	1
		CNA55B	<1	<1	<1	<1	<1	<1	<1
		CNA560XL	<1	<1	<1	<1	<1	<1	1
		G650ER	<1	0	<1	<1	0	<1	<1
		GIV	<1	<1	<1	<1	<1	<1	<1
		GV	<1	0	<1	<1	<1	<1	<1
		LEAR35	<1	<1	<1	<1	<1	<1	<1
	Non-jet	CNA208	6	<1	6	6	<1	6	12
	Subtotal		**8**	**<1**	**9**	**8**	**<1**	**9**	**18**
Grand Total			**1,018**	**89**	**1,107**	**1,011**	**96**	**1,107**	**2,214**

Notes: Totals may not match exactly due to rounding.
*ANP Type 737800 represents both B738 and B739 operations, which account for 97 percent and 3 percent, respectively.

3.3.2.2 Runway Utilization

The Proposed Action will not alter future runway use. Runway end utilization for the Future (FY2025) Proposed Action Alternative is same as the FY2025 NAA (see **Table 9**).

3.3.2.3 Taxi-Time Data

Average taxi-time for the additional 19th Street Cargo operations was provided by DFW. A taxi-in time of 9.5 minutes, and taxi-out time of 15.3 minutes per operation was applied to the additional 19th Street Cargo Proposed Action operations. All other operations used the Existing Condition taxi times (see **Section 3.1.2**). As shown in **Table 4**, the taxi-times are shown in minutes and with an overall taxi-in time of 11.2 minutes and taxi-out time of 17.8 minutes per operation.

3.3.2.4 Operational-Related Emissions

Aircraft-related emissions were generated in the model based on the FY year data; however, for reporting, CY data is required. The FY emission results were adjusted to CY by comparing the modeled operations to the total operations calculated for CY 2025 and applying an adjustment factor as shown in **Table 13**. The CY operations were developed by adding 3/4 of FY2025 operations to 1/4 of FY2026 operations.[5] The CY operations for 2025 were slightly higher than the FY; therefore, the emission results are slightly higher than modeled.

Table 13. Fiscal Year to Calendar Year Adjustment

Source: FAA 2021 TAF, Centurion Planning and Design Analysis, HMMH 2023

Year	FY2025	CY2025	Adjustment
2025	808,211	808,698	1.000602

[5] CY 2025 = (FY2025 ops / 12) *9 + (FY2026 ops / 12) *3

Total operational emissions are from aircraft operations, GSE, and APUs. AEDT default data for APU and duration was used in the modeling. Due to missing default GSE equipment data for 747400 and 777300 cargo aircraft in AEDT, a list of GSE equipment and duration used for the additional 19th Street Cargo Proposed Action operations was provided by DFW. **Table 14** provides GSE equipment and duration applied to the additional 19th Street Cargo Proposed Action operations for 2025 Proposed Action Alternative. DFW has assumed that half of the new GSE equipment will be electric which is reflected in **Table 14** for types that have an electric alternative. All other operations used the AEDT default data for GSE equipment and duration.

Table 14. GSE and Total Time for 19th Street Cargo Aircraft

Equipment	Fuel Type (Given from DFW)	Fuel Type (Used in AEDT)	Assumed Half of the Usage is Electric?	Approx HP	Units Per Turn	Duration Provided by DFW in Hours	Duration Provided by DFW in Minutes	Total Minutes of Each GSE	Assumptions Made	New Time for GSE in AEDT if Assumptions Were Made		Electric Capability? (If yes, divide time in half)	TOTAL MINS to Input in AEDT if Not Electric	Total MINS To Input into AEDT (If Electric)	Total Minutes for each GSE in AEDT
Airstart	Diesel	Diesel	No	425	1		20	20	NONE	20	NO	20	20		20
Pushback Tractor	Diesel	Diesel	Yes	190	1		15	15	NONE	15	YES	7.5		7.5	7.5
Air Conditioner	Diesel	Diesel	No	325	1	4		240	NONE	240	NO	240	240		240
GPU	Diesel	Diesel	No	275	1	4		240	NONE	240	NO	240	240		240
Baggage Tractror	LPG	Diesel	Yes	107	6	6		2160	Is not continuously running for entire turn.	1080	YES	540		540	540
Belt Loader	LPG	Diesel	Yes	107	2	4		480	Not always continuously running	240	YES	120		120	120
Large Cargo Loader	Diesel	Diesel	No	120	1	4		240	NONE	240	NO	240	240		240
Small Cargo Loader	Diesel	Diesel	Yes	100	1	4		240	NONE	240	YES	120		120	120
Forklift	Diesel	Diesel	Yes	55	8	4		1920	NONE	1920	YES	960		960	960
Fuel Tanker Truck	Diesel	Diesel	No	350	3		32	96	Assumed traveling 15 mph, also assumed just making trips from the fuel farm to the airfield and back.	96	NO	96	96		96
Lavatory Truck	Diesel	Diesel	No	235	1		30	30	Assumed traveling 15 mph, also assumed just making trips to the airfield and back	30	NO	30	30		30
Service Pickup Truck	NA	Diesel	No	235	1	4		240	Is not continuously running for entire turn. Assumed 15 mph	120	NO	120	120		120

Notes: These inputs represent one turn or one LTO.
Assumed to represent either a 777 or 747 Cargo aircraft.

The 2025 Proposed Action Alternative emission inventory provides aircraft emissions associated with taxi-in, taxi-out, and in-flight operations below the mixing height (AEDT default 3,000 feet). **Table 15** provides the operational emissions for all operations for the 2025 Proposed Action Alternative.[6]

Table 15. Total Operational Emissions for CY2025 Proposed Action Alternative (NAA + Proposed Cargo)

Source: HMMH, 2023

Year	Operational Category	Pollutant (tpy)								
		CO	NO_x	VOC	NMHC	SO_x	$PM_{2.5}$	PM_{10}	CO_2	H_20
2025 (Proposed Action)	Aircraft	3,808.08	4,807.20	481.53	484.05	431.03	43.76	43.76	1,161,117.46	455,242.72
	GSE LTO	630.41	73.90	28.21	26.83	0.53	4.57	4.86	0.00	0.00
	APU	123.41	148.18	10.76	10.82	19.83	19.35	19.35	0.00	0.00
	Total	4,561.90	5,029.28	520.49	521.70	451.40	67.69	67.98	1,161,117.46	455,242.72

Note: These emissions are based on the aircraft operations in **Table 12** adjusted to CY as shown in **Table 13.**

3.3.3 Future (2030) No Action Alternative

Under the 2030 NAA, there would be no changes to the use of the 19th facility at DFW. Cargo operations would be constrained due to lack of sufficient facilities, and overall operational levels would grow to almost 811,000 operations.

3.3.3.1 Aircraft Activity Levels and Fleet Mix

The 810,688 annual operations translate to 2,221 AAD operations to be modeled for the FY2030 NAA emission inventory. **Table 16** provides representative aircraft and engine combinations and the number of average daily operations that were modeled in AEDT for the FY2030 NAA. The FY2030 NAA fleet mix includes changes in the Air Carrier fleet mix (the retirement of the older DC1010, DC1030, MD11GE, and MD11PW) and a reduction in Air Taxi fleet operations (reduction in 50 seat and smaller regional jets) compared to the Existing Condition and the FY2025 alternatives.

[6] These results are for all operations (2025 NAA + the proposed project cargo operations = 2025 PAA operations)

Table 16. DFW Modeled AAD Aircraft Operations for FY2030 NAA

Source: FAA TAF, Centurion Planning and Design, HMMH, 2023

Tower Category	Propulsion	ANP Type	Arrivals			Departures			Total
			Day	Night	Total	Day	Night	Total	
Air Carrier	**Jet**	737700	69	3	72	63	9	72	144
		737800*	216	14	230	218	12	230	460
		7378MAX	49	3	52	48	3	52	103
		747400	3	<1	4	3	<1	4	8
		747400RN	<1	<1	<1	<1	<1	<1	<1
		7478	1	<1	2	2	<1	2	5
		757PW	<1	2	2	<1	2	2	4
		757RR	<1	2	3	<1	2	3	6
		7673ER	8	3	11	6	4	11	21
		777200	9	5	13	12	2	13	27
		777300	5	<1	6	5	1	6	12
		7773ER	5	<1	6	5	<1	6	11
		7878R	4	<1	5	5	<1	5	9
		7879	16	3	18	18	<1	18	36
		A300-622R	2	2	4	1	3	4	9
		A319-131	92	3	95	91	4	95	190
		A320-211	17	3	20	17	3	20	40
		A320-232	35	7	42	35	7	42	83
		A320-271N	37	5	41	38	3	41	82
		A321-232	218	25	243	222	21	243	486
		A350-941	1	0	1	1	<1	1	3
		A380-841	1	0	1	1	0	1	2
		CRJ9-ER	96	4	100	94	6	100	200
		EMB170	83	3	86	79	7	86	172
	Regional Jet	EMB175	9	<1	9	9	<1	9	19
		EMB190	2	<1	2	2	<1	2	4
		737700	69	3	72	63	9	72	144
		737800	216	14	230	218	12	230	460
	Subtotal		**980**	**89**	**1,068**	**974**	**95**	**1,068**	**2,137**
Air Taxi	**Jet**	CNA680	<1	<1	<1	<1	<1	<1	2
		EMB14L	28	<1	28	28	<1	28	57
	Non-jet	1900D	<1	<1	<1	<1	<1	<1	2
		CNA208	1	<1	2	2	<1	2	4
		DHC6	<1	<1	1	<1	<1	1	2
	Subtotal		**32**	**1**	**33**	**31**	**2**	**33**	**66**
General Aviation	**Jet**	CL600	<1	<1	<1	<1	<1	<1	<1
		CNA525C	<1	<1	<1	<1	<1	<1	<1
		CNA55B	<1	<1	<1	<1	<1	<1	<1
		CNA560XL	<1	<1	<1	<1	<1	<1	<1
		G650ER	<1	0	<1	<1	0	<1	<1
		GIV	<1	<1	<1	<1	<1	<1	1
		GV	<1	0	<1	<1	<1	<1	<1
		LEAR35	<1	0	<1	<1	0	<1	<1
	Non-jet	CNA208	6	<1	7	6	<1	7	13
	Subtotal		**9**	**<1**	**9**	**9**	**<1**	**9**	**18**
Grand Total			**1,020**	**91**	**1,111**	**1,013**	**97**	**1,111**	**2,221**

Note: Totals may not match exactly due to rounding.

*ANP Type 737800 represents both B738 and B739 operations, which account for 97 percent and 3 percent, respectively.

3.3.3.2 Runway Utilization

The proposed action will not alter future runway use. Runway end utilization for the Future (FY2030) NAA is same as the Future (FY2025) NAA (see **Table 9**).

3.3.3.3 Taxi-Time data

The taxi-times for the Future (FY2030) NAA is same as the Existing Condition (see **Section 3.1.2**). As shown in **Table 4**, the taxi-times are shown in minutes and with an overall taxi-in time of 11.2 minutes and taxi-out time of 17.8 minutes per operation.

3.3.3.4 Operational-Related Emissions

Aircraft-related emissions were generated in the model based on the FY year data; however, for reporting, CY data is required. The FY emission results were adjusted to CY by comparing the modeled operations to the total operations calculated for CY 2030 and applying an adjustment factor as shown in **Table 17**. The CY operations were developed by adding 3/4 of FY2030 operations to 1/4 of FY2031 operations.[7] The CY operations for 2030 were slightly higher than the FY; therefore, the emission results are slightly higher than modeled.

Table 17. Fiscal Year to Calendar Year Adjustment

Source: FAA 2021 TAF, Centurion Planning and Design Analysis, HMMH 2023

Year	FY2030	CY2030	Adjustment
2030	810,688	811,200	1.000631

Total operational emissions are from aircraft operations, GSE, and APUs. AEDT default data for APU and GSE equipment and duration was used in the modeling. The NAA emission inventory provides aircraft emissions associated with taxi-in, taxi-out, and in-flight operations below the mixing height (AEDT default 3,000 feet). **Table 18** provides the operational emissions for all CY2030 NAA operations.

Table 18. Total Operational Emissions for the CY 2030 NAA

Source: HMMH, 2023

Year	Operational Category	Pollutant (tpy)								
		CO	NO_x	VOC	NMHC	SO_x	$PM_{2.5}$	PM_{10}	CO_2	H_20
2030 (NAA)	Aircraft	3,679.21	4,850.22	449.65	452.01	430.67	44.07	44.07	1,160,125.17	454,854.30
	GSE LTO	607.63	53.40	23.79	22.69	0.51	3.46	3.71	0.00	0.00
	APU	122.24	151.60	10.63	10.68	20.13	19.40	19.40	0.00	0.00
	Total	4,409.08	5,055.22	484.07	485.38	451.31	66.92	67.18	1,160,125.17	454,854.30

Note: These emissions are based on the aircraft operations in **Table 16** adjusted to CY as shown in **Table 17.**

[7] CY 2030 = (FY2030 ops / 12) *9 + (FY2031 ops / 12) *3

3.3.4 Future (2030) Proposed Action Alternative

The Future (2030) Proposed Action Alternative is the year of implementation (2025) plus five years. The proposed project will be completed in 2025. Therefore, there would be no additional cargo operations added for the Proposed Action Alternative (FY2030) as compared to the Proposed Action Alternative (FY2025).

3.3.4.1 Aircraft Activity Levels and Fleet Mix

Similar to Proposed Action Alternative (FY2025), eight additional 747400 daily operations and 12 additional 777300 daily operations were added to the number of operations and fleet mix for the Future FY2030 Proposed Action Alternative compared to the Future FY2030 NAA.

The 817,988 annual operations translate to 2,241 AAD operations to be modeled for the FY2030 Proposed Action Alternative emission inventory. **Table 19** provides representative aircraft and engine combinations and the number of average daily operations that were modeled in AEDT for the Future FY2030 Proposed Action Alternative. The Future FY2030 Proposed Action fleet mix includes the additional cargo operations in the Air Carrier category (an additional eight 747400 operations and an additional twelve 777300 operations) compared to the FY2030 NAA.

Table 19. DFW Modeled AAD Aircraft Operations for FY2030 Proposed Action Alternative

Source: FAA TAF, Centurion Planning and Design, HMMH, 2023

Tower Category	Propulsion	ANP Type	Arrivals			Departures			Total
			Day	Night	Total	Day	Night	Total	
Air Carrier	Jet	737700	69	3	72	63	9	72	144
		737800*	216	14	230	218	12	230	460
		7378MAX	49	3	52	48	3	52	103
		747400	7	<1	8	7	<1	8	16
		747400RN	<1	<1	<1	<1	<1	<1	<1
		7478	1	<1	2	2	<1	2	5
		757PW	<1	2	2	<1	2	2	4
		757RR	<1	2	3	<1	2	3	6
		7673ER	8	3	11	6	4	11	21
		777200	9	5	13	12	2	13	27
		777300	10	2	12	9	2	12	24
		7773ER	5	<1	6	5	<1	6	11
		7878R	4	<1	5	5	<1	5	9
		7879	16	3	18	18	<1	18	36
		A300-622R	2	2	4	1	3	4	9
		A319-131	92	3	95	91	4	95	190
		A320-211	17	3	20	17	3	20	40
		A320-232	35	7	42	35	7	42	83
		A320-271N	37	5	41	38	3	41	82
		A321-232	218	25	243	222	21	243	486
		A350-941	1	0	1	1	<1	1	3
		A380-841	1	0	1	1	0	1	2
		MD11GE	96	4	100	94	6	100	200
		MD11PW	83	3	86	79	7	86	172
	Regional Jet	CRJ9-ER	9	<1	9	9	<1	9	19
		EMB170	2	<1	2	2	<1	2	4

Tower Category	Propulsion	ANP Type	Arrivals			Departures			Total
			Day	Night	Total	Day	Night	Total	
		EMB175	69	3	72	63	9	72	144
		EMB190	216	14	230	218	12	230	460
	Subtotal		**988**	**90**	**1,078**	**982**	**96**	**1,078**	**2,157**
Air Taxi	**Jet**	CNA680	<1	<1	<1	<1	<1	<1	2
		EMB14L	28	<1	28	28	<1	28	57
	Non-jet	1900D	<1	<1	<1	<1	<1	<1	2
		CNA208	1	<1	2	2	<1	2	4
		DHC6	<1	<1	1	<1	<1	1	2
	Subtotal		**32**	**1**	**33**	**31**	**2**	**33**	**66**
General Aviation	**Jet**	CL600	<1	<1	<1	<1	<1	<1	<1
		CNA525C	<1	<1	<1	<1	<1	<1	<1
		CNA55B	<1	<1	<1	<1	<1	<1	<1
		CNA560XL	<1	<1	<1	<1	<1	<1	<1
		G650ER	<1	0	<1	<1	0	<1	<1
		GIV	<1	<1	<1	<1	<1	<1	1
		GV	<1	0	<1	<1	<1	<1	<1
		LEAR35	<1	0	<1	<1	0	<1	<1
	Non-jet	CNA208	6	<1	7	6	<1	7	13
	Subtotal		**9**	**<1**	**9**	**9**	**<1**	**9**	**18**
Grand Total			**1,029**	**92**	**1,121**	**1,022**	**99**	**1,121**	**2,241**

Note: Totals may not match exactly due to rounding.
*ANP Type 737800 represents both B738 and B739 operations, which account for 97 percent and 3 percent, respectively.

3.3.4.2 Runway Utilization

The proposed action will not alter future runway use. Runway end utilization for the Future (FY2030) Proposed Action Alternative is same as the Future (FY2025) PAA (see **Table 9**).

3.3.4.3 Taxi-Time Data

Similar to Proposed Action Alternative (FY2025), average taxi-time for the additional 19th Street Cargo operations was provided by DFW. A taxi-in time of 9.5 minutes and taxi-out time of 15.3 minutes per operation was applied to the additional 19th Street Cargo Proposed Action operations. All other operations used the Existing Condition taxi times (see **Section 3.1.2**). As shown in **Table 4**, the taxi-times are shown in minutes and with an overall taxi-in time of 11.2 minutes and taxi-out time of 17.8 minutes per operation.

3.3.4.4 Operational-Related Emissions

Aircraft-related emissions were generated in the model based on the FY year data; however, for reporting, CY data is required. The FY emission results were adjusted to CY by comparing the modeled operations to the total operations calculated for CY 2030 and applying an adjustment factor as shown in **Table 20**. The CY operations were developed by adding 3/4 of FY2030 operations to 1/4 of FY2031

operations.[8] The CY operations for 2030 were slightly higher than the FY; therefore, the emission results are slightly higher than modeled.

Table 20. Fiscal Year to Calendar Year Adjustment

Source: FAA 2021 TAF, Centurion Planning and Design Analysis, HMMH 2023

Year	FY2030	CY2030	Adjustment
2030	817,988	818,500	1.000626

Total operational emissions are from aircraft operations, GSE, and APUs. AEDT default data for APU and duration was used in the modeling. Due to missing default GSE equipment data for 747400 and 777300 cargo aircraft in AEDT, a list of GSE equipment and duration used for the additional 19th Street Cargo Proposed Action Operations was provided by DFW (see **Table 14**). All other operations used the AEDT default data for GSE equipment and duration.

The 2030 Proposed Action Alternative emission inventory provides aircraft emissions associated with taxi-in, taxi-out, and in-flight operations below the mixing height (AEDT default 3,000 feet). **Table 21** provides the operational emissions for all operations for the 2030 Proposed Action Alternative.[9]

Table 21. Total Operational Emissions for the CY2030 Proposed Action Alternative (NAA + Proposed Cargo)

Source: HMMH, 2023

Year	Operational Category	Pollutant (tpy)								
		CO	NO_x	VOC	NMHC	SO_x	$PM_{2.5}$	PM_{10}	CO_2	H_20
2030 (Proposed Action)	Aircraft	3,820.34	5,029.16	468.77	471.23	443.59	44.80	44.80	1,194,954.12	468,511.28
	GSE LTO	615.38	67.91	28.10	26.72	0.55	4.47	4.76	0.00	0.00
	APU	123.25	153.93	10.75	10.81	20.37	19.62	19.62	0.00	0.00
	Total	4,558.97	5,250.99	507.62	508.76	464.51	68.89	69.18	1,194,954.12	468,511.28

Note: These emissions are based on the aircraft operations in **Table 19** adjusted to CY as shown in **Table 20.**

3.4 Change in Operational Emissions

Changes between the CY2025 Proposed Action Alternative emissions in **Table 15** and the CY2025 NAA in **Table 11** and changes between the CY2030 Proposed Action Alternative emissions in **Table 21** and the CY2030 NAA in **Table 18** are a result of the additional cargo operations due to the Proposed Action. While the total new cargo operations are the same, there are slight differences in the number of day and night operations between the two forecast years which results in small differences between the two future years. **Table 22** provides the comparison between the Future CY2025 and CY2030 NAA and the Proposed Action operational emissions.

[8] CY 2030 = (FY2030 ops / 12) *9 + (FY2031 ops / 12) *3

[9] These results are for all operations (2030 NAA + the proposed project cargo operations = 2030 PAA operations)

Table 22. Change in Operational Emissions due to the Proposed Action Alternative

Source: HMMH, 2023

Year	Operational Category	Pollutant (tpy)								
		CO	NO_x	VOC	NMHC	SO_x	$PM_{2.5}$	PM_{10}	CO_2	H_20
CY2025 (Proposed Action – No Action)	Aircraft	141.08	178.68	19.11	19.22	12.91	0.73	0.73	34,777.35	13,634.88
	GSE LTO	7.82	14.53	4.31	4.03	0.04	1.02	1.05	0.00	0.00
	APU	1.01	2.32	0.12	0.12	0.24	0.22	0.22	0.00	0.00
	Total	**149.91**	**195.53**	**23.54**	**23.37**	**13.20**	**1.97**	**2.00**	**34,777.35**	**13,634.88**
CY2030 (Proposed Action- No Action)	Aircraft	141.14	178.93	19.12	19.22	12.92	0.73	0.73	34,828.95	13,656.98
	GSE LTO	7.75	14.51	4.31	4.03	0.04	1.02	1.05	0.00	0.00
	APU	1.01	2.32	0.12	0.12	0.24	0.22	0.22	0.00	0.00
	Total	**149.89**	**195.77**	**23.55**	**23.37**	**13.20**	**1.97**	**2.00**	**34,828.95**	**13,656.98**

4 Climate

Climate change is a global phenomenon that can have local impacts.[10] Scientific measurements show that Earth's climate is warming, with concurrent impacts including warmer air temperatures, increased sea level rise, increased storm activity, and an increased intensity in precipitation events. Increasing concentrations of greenhouse gas (GHG) emissions in the atmosphere affect global climate.[11,12] GHG emissions result from anthropogenic sources, including the combustion of fossil fuels. GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3), and fluorinated gases.[13] CO_2 is the most important anthropogenic GHG because it is a long-lived gas that remains in the atmosphere for up to 100 years. Anthropogenic sources of GHG emissions include the combustion of fossil fuels.

Researchers developed the Global Warming Potential (GWP) indicator as a way to compare the global warming impacts of different gases, by converting each gas amount to a carbon dioxide equivalent (CO2E). GWPs provide a common unit of measure, which allows for consistency when estimating emissions of these different gases. CO2 has a GWP of one because it is the gas used as the reference point. CH4 does not last as long in the atmosphere as CO2; however, it absorbs much more energy. In comparison, one ton of CH4 has 28 times more heat-capturing potential than does one ton of CO2. The amount of CH4 emissions would be multiplied by 28 to determine its CO2E value. NOX lasts in the atmosphere far longer than CO2. The amount of nitrous oxides emissions would be multiplied by 265 to determine its CO2E value. [14]

[10] As explained by the EPA, "greenhouse gases, once emitted, become well mixed in the atmosphere, meaning U.S. emissions can affect not only the U.S. population and environment but other regions of the world as well; likewise, emissions in other countries can affect the United States." U.S. Environmental Protection Agency, Climate Change Division, Office of Atmospheric Programs, Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act 2-3, 2009, https://www.epa.gov/ghgemissions/technical-support-document-endangerment-and-cause-or-contribute-findings-greenhouse (accessed September 28, 2018).

[11] Intergovernmental Panel on Climate Change, Fifth Assessment Report, 2014, https://www.ipcc.ch/report/ar5/syr/ 9 (accessed September 28, 2018).

[12] U.S. Global Change Research Program, Global Climate Change Impacts in the United States, 2009, http://www.globalchange.gov/what-we-do/assessment/previous-assessments/global-climate-change-impacts-in-the-us-2009 (accessed September 28, 2018).

[13] U.S. Environmental Protection Agency, Overview of Greenhouse Gases, http://www3.epa.gov/climatechange/ghgemissions/gases.html (accessed May 11, 2017).

[14] https://www.ipcc.ch/assessment-report/ar5/

4.1 Analysis Methodology

For this analysis, GHG emissions associated with the NAA and Proposed Action (NAA + Proposed Action Cargo) aircraft operations were prepared for carbon dioxide, methane, and nitrous oxide and presented as carbon dioxide equivalent (CO_2e) in metric tons per year relevant to their global warming potential. The carbon dioxide equivalent is estimated by taking the mass equivalent of each pollutant (TPY), multiplying by the global warming potential equivalent (GWP) of each pollutant, and then adding them together. For example, the GWP of CO_2 is 1, CH_4 is 28 GWP, and N_2O is 265 GWP, according to the IPCC Fifth Assessment Report[15].

4.2 Environmental Consequences of Proposed Action Alternative

Table 23 presents the annual greenhouse gas emissions for aircraft related operational emissions associated with the future Proposed Action and No Action for CY2025 and CY2030. The emissions presented in **Table 23** for aircraft emissions and fuel usage represent flight emissions up to 10,000 feet directly from AEDT along with APU and GSE.[16]

In summary, while there are no significance thresholds established for climate impacts, GHGs associated with the Proposed Action have been calculated in accordance with the latest FAA guidelines (1050.1F) for climate impacts in a NEPA document.[17]

Table 23. GHG Emissions Associated with Operations for the Proposed Action

Source: HMMH, 2023

		Yearly GHG Emissions (MTPY)			
AEDT Scenario	**AEDT Fuel Burn (ST)**	**CO_2**	**N_2O**	**CH_4**	**CO_2e**
Baseline	391,038	1,119,229	9,387	0	1,128,616
CY2025 No Action	504,397	1,443,673	12,108	0	1,455,781
CY2025 Proposed Action	520,497	1,489,726	12,495	0	1,502,220
CY2025 Difference	**16,100**	**46,052**	**386**	**0**	**46,439**
CY2030 No Action	519,690	1,487,433	12,475	0	1,499,909
CY2030 Proposed Action	535,805	1,533,556	12,862	0	1,546,418
CY2030 Difference	**16,115**	**46,123**	**387**	**0**	**46,509**

Note: Extent of AEDT flight profiles fuel burn and CO_2 reported by AEDT.
These results differ from the results in Section 3 Aircraft Operational Emissions because this table reports metric tons and emissions from the full AEDT profiles.
N_2O and CH_4 computed based on AEDT fuel use and FAA Aviation Emissions and AQ Handbook (V3), Appendix C Table C-1.
GWP is calculated based on the IPCC Fifth Assessment Report.

[15] https://www.ipcc.ch/assessment-report/ar5/

[16] This represents the extent of the standard flight profiles available in AEDT (Departures to 10,000' and Arrivals from 6,000')

[17] 1050.1F Desk Reference, https://www.faa.gov/about/office_org/headquarters_offices/apl/environ_policy_guidance/policy/faa_nepa_order/desk_ref/media/3-climate.pdf

APPENDIX D

Notification of Availability

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NOTICE

Title: Notice of a Draft Environmental Assessment and Draft Clean Air Act General Conformity Determination for 19th Street Cargo Redevelopment project

Pursuant to Title 40, Code of Federal Regulations § 1506.6(b) notice is hereby given by the Dallas Fort Worth (DFW) Airport, that a Draft Environmental Assessment (EA) and Draft General Conformity Determination has been prepared to evaluate the potential environmental impacts of the proposed 19th Street Cargo Redevelopment Project (Proposed Project) within DFW Airport.

DFW Airport is proposing to construct the 19th Street Cargo Redevelopment Project (Proposed Project) to accommodate cargo growth, based on the current forecasted growth of 2.6 percent per year. The Project would include airside and landside improvements that would create an operationally functional cargo area and to provide unimpeded access to the apron. The Project would provide aircraft parking positions and cargo buildings to support operations by aircraft such as the B747-8F, B747-400, and the B777-200.

The Draft EA evaluates the potential environmental effects of the Proposed Project described above and has been prepared pursuant to the requirements of Section 102(2)(c) of the National Environmental Policy Act of 1969 (NEPA). The FAA is the lead federal agency to ensure compliance with NEPA for airport development actions. The Draft EA has also been prepared in accordance with FAA Order 1050.1F, Environmental Impacts: Policies and Procedures, and FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions. The Draft EA includes an analysis of reasonable alternatives, potential environmental impacts, and mitigation measures, as appropriate.

A draft General Conformity Determination for the proposed project has been prepared as part of this Draft EA and is being made available for public review under Section 176(c) of the federal Clean Air Act Amendments of 1990.

Public Review:

For your reference, the Draft EA and Draft Clean Air Act General Conformity Determination may be found at the following online location: https://www.dfwairport.com/business/about/publications/. A hard copy of the Draft EA can be viewed at DFW offices, during normal business hours. Please call 972-973-5585 to schedule an appointment to review the hard copy.

The address is:

Environmental Affairs Department
3003 S. Service Road, Annex A
DFW Airport, Texas 75261

Public Meeting:

A Public Meeting on the Draft EA and/or Draft General Conformity Determination may be requested by the public at any time prior to October 31st, 2023, at 5 PM Central Time (CT) via email at publiccomment@dfwairport.com. If a public meeting is requested, the meeting will occur within two weeks of October 24th, 2023, with the date and time posted on DFW Airport Publications Website.

Public Comments:

The public may submit comments to the Environmental Affairs Department at the previously listed address or via e-mail at publiccomment@dfwairport.com. All comments must be received by October 31st, 2023, to be considered for this Draft EA and Draft General Conformity Determination.

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NOTICE TO BIDDERS

Sealed bids and request for proposals will be accepted via the IonWave Technologies, Inc., bidding system https://carrolltonbids.ionwave.net/Login.aspx by the City of Carrollton, at the office of the City Purchasing Manager, City Hall Building, 1945 E. Jackson Road, Carrollton, TX 75006-1790, until the hour as specified below, at which time bids duly delivered and submitted will be considered for supplying the items listed below.

Further information may be obtained by calling the Purchasing Manager at (972) 466-3115 or visiting the City's purchasing website at: www.cityofcarrollton.com/purchasing.

Description	Publication Dates	Opening Date	Opening Time
RFP #23-041 Short Term Rental Software	9/24/23 & 10/01/23	October 8, 2023	10:00 AM

NOTICE TO BIDDERS

Sealed bids and request for proposals will be accepted via the IonWave Technologies, Inc., bidding system https://carrolltonbids.ionwave.net/Login.aspx by the City of Carrollton, at the office of the City Purchasing Manager, City Hall Building, 1945 E. Jackson Road, Carrollton, TX 75006-1790, until the hour as specified below, at which time bids duly delivered and submitted will be considered for supplying the items listed below.

Further information may be obtained by calling the Purchasing Manager at (972) 466-3115 or visiting the City's purchasing website at: www.cityofcarrollton.com/purchasing.

Description	Publication Dates	Opening Date	Opening Time
RFP #23-040 Background, Drug & Alcohol Testing	10/1/23 & 10/8/23	October 19, 2023	1:00 PM
RFP #23-042 Sidewalk Program	10/1/23 & 10/8/23	October 26, 2023	1:00 PM

ADVERTISEMENT FOR BIDS

Lee Lewis Construction, Inc. as Construction Manager at Risk will be accepting proposals from Subcontractors and Suppliers for the **Off-Site Road Package – Anna ISD L.D. Hendricks ES .** Bid Documents are available through the Construction Manager by emailing a request to DallasEstimating@Lee Lewis.com. Proposals are due by **Wednesday, October 11th, at 2:00 P.M.** No proposals will be accepted after this time. Proposals must be emailed or hand delivered to Lee Lewis Construction at 17177 Preston Road, Suite 160, Dallas, TX 75248. Emailed proposals should be sent to dallasestimating@leelewis.com.

LEGAL NOTICE

The following Ordinances were passed by the Plano City Council on **September 26, 2023** (Title and Penalty Clause Only).

ORDINANCE NO. 2023-9-18 - An Ordinance of the City of Plano, Texas, repealing Ordinance No. 2023-6-3, codified as Article V, Noise, of Chapter 14, Offenses – Miscellaneous, of the City of Plano Code of Ordinances, and replacing it with a new Article V, Noise, of Chapter 14, Offenses – Miscellaneous, of the City of Plano Code of Ordinances; prohibiting construction on private property from 10:01 PM to 6:59 AM under certain circumstances; and providing a repealer clause, a severability clause, a savings clause, a penalty clause, a publication clause, and an effective date.

"Sec. 14-91.8. - Penalties.

(a) It shall be an offense to fail to comply with any provision of this article, and, upon conviction thereof, a person shall be punished by a fine in an amount not to exceed Five Hundred Dollars ($500.00). Each day a violation occurs shall constitute a separate offense.

(b) Repeat and Habitual Offenders.

(1) If it is shown on the trial of an offense under this article that the defendant has previously been finally convicted of an offense under this article, on conviction the person shall be punished by a fine of not less than $300.00 and not to exceed $500.00.

(2) If it is shown on the trial of an offense under this article that the defendant has previously been finally convicted of two offenses under this article, on conviction the person shall be punished by a fine of not less than $400.00 and not to exceed $500.00.

(3) This subsection applies only to a person finally convicted of a second or subsequent offense within three years of the date on which the most recent preceding offense was committed.

(c) In addition to the penalties prescribed above, the City may pursue other remedies such as abatement of nuisances, injunctive relief, administrative adjudication and revocation of licenses or permits."

ORDINANCE NO. 2023-9-21- An Ordinance of the City of Plano, Texas amending Section 12-101, Prohibited on certain streets at all times, Article V, Stopping, Standing and Parking, Chapter 12, Motor Vehicles and Traffic, of the City of Plano Code of Ordinances to establish no parking zones along sections of the east, west, and south sides of Ridgebee Drive, within the city limits of the City of Plano; and providing a penalty clause, a repealer clause, a severability clause, a savings clause, a publication clause, and an effective date.

Any violation of any provision or term of this Ordinance shall be a Class C Misdemeanor offense. Any person, firm, corporation, or association who is adjudged guilty of a Class C Misdemeanor offense under this Ordinance shall be punished by a fine not to exceed FIVE HUNDRED AND NO/100 DOLLARS ($500.00) for each offense. Each and every violation shall be deemed to constitute a separate offense.

ORDINANCE NO. 2023-9-22 - An Ordinance of the City of Plano, Texas amending Section 12-101, Prohibited on certain streets at all times, Article V, Stopping, Standing and Parking, Chapter 12, Motor Vehicles and Traffic, of the City of Plano Code of Ordinances to establish no parking zones along sections of the east and west sides of Tolbert Drive, within the city limits of the City of Plano; and providing a penalty clause, a repealer clause, a severability clause, a savings clause, a publication clause, and an effective date.

Any violation of any provision or term of this Ordinance shall be a Class C Misdemeanor offense. Any person, firm, corporation, or association who is adjudged guilty of a Class C Misdemeanor offense under this Ordinance shall be punished by a fine not to exceed FIVE HUNDRED AND NO/100 DOLLARS ($500.00) for each offense. Each and every violation shall be deemed to constitute a separate offense.

ORDINANCE NO. 2023-9-23 - An Ordinance of the City of Plano, Texas amending Section 12-101, Prohibited on certain streets at all times, Article V, Stopping, Standing and Parking, Chapter 12, Motor Vehicles and Traffic, of the City of Plano Code of Ordinances to establish no parking zones along the north and south sides of Gratton Lane, within the city limits of the City of Plano; and providing a penalty clause, a repealer clause, a severability clause, a savings clause, a publication clause, and an effective date.

Any violation of any provision or term of this Ordinance shall be a Class C Misdemeanor offense. Any person, firm, corporation, or association who is adjudged guilty of a Class C Misdemeanor offense under this Ordinance shall be punished by a fine not to exceed FIVE HUNDRED AND NO/100 DOLLARS ($500.00) for each offense. Each and every violation shall be deemed to constitute a separate offense.

ORDINANCE NO. 2023-9-24 - An Ordinance of the City of Plano, Texas amending Section 12-101, Prohibited on certain streets at all times, Article V, Stopping, Standing and Parking, Chapter 12, Motor Vehicles and Traffic, of the City of Plano Code of Ordinances to extend the existing no parking zone along the west side of Plano Road north to Felix Drive, within the city limits of the City of Plano; and providing a penalty clause, a repealer clause, a severability clause, a savings clause, a publication clause, and an effective date.

Any violation of any provision or term of this Ordinance shall be a Class C Misdemeanor offense. Any person, firm, corporation, or association who is adjudged guilty of a Class C Misdemeanor offense under this Ordinance shall be punished by a fine not to exceed FIVE HUNDRED AND NO/100 DOLLARS ($500.00) for each offense. Each and every violation shall be deemed to constitute a separate offense.

ORDINANCE NO. 2023-9-25 - An Ordinance of the City of Plano, Texas, amending Section 12-74(b), Maximum Limits on Certain Streets, of Article IV, Speed, Chapter 12, Motor Vehicles and Traffic, of the Code of Ordinances of the City of Plano, Texas to lower the prima facie maximum speed limit from fifty-five (55) miles per hour to forty-five (45) miles per hour on Preston Road (State Highway 289) approximately 1,200 feet north of Legacy Drive to its intersection with State Highway 121, within the city limits of the City of Plano; and providing a penalty clause, a repealer clause, a severability clause, a savings clause, a publication clause, and an effective date.

Any violation of any provision or term of this ordinance shall be a Class C Misdemeanor offense. Any person, firm, corporation, or association who is adjudged guilty of a Class C Misdemeanor offense under this ordinance shall be punished by a fine not to exceed TWO HUNDRED AND NO/100 DOLLARS ($200.00) for each offense. Each and every violation shall be deemed to constitute a separate offense.

A copy of these ordinances may be read or purchased in the Office of the City Secretary.

LEGAL BIDS & NOTICES

- Bankruptcy, Court Sales
- Bids and Proposals
- Legal Notices

Bids & Proposals

DALLAS INDEPENDENT SCHOOL DISTRICT

NOTICE TO PROPOSERS

Sealed proposals for RFP CW-20414 Police Chief Nationwide Search Firm and RFP JKJ-207409 Purchase of Buses for Student Transport and RFP AH-207408 Scoreboards and Related Products/Services will be received by the Dallas Independent School District Procurement Services Department, 9400 North Central Expressway, Suite 1510, Dallas TX 75231 until 2:00 P.M. on October 26, 2023.

The proposal documents can be obtained by downloading them from the Dallas ISD website homepage at http://www.dallasisd.org/ at the "Supplier Opportunities" link.

Any proposals received after the closing time will be held for pickup or destroyed.

*******MWBE POLICY ENDORSEMENT*******

All proposals shall contain the MWBE Compliance Guidelines and Forms at the time of proposal opening. Bidders/proposers who will subcontract out portions of the work will be required to submit a signed Letter of Intent to Subcontract. Failure to complete and sign the MWBE Compliance Guidelines and Forms will result in Offeror receiving zero (0) points for the MWBE Criteria. The MWBE Department reserves the right to contact proposers for additional information/clarification after the proposal opening.

Any questions regarding the MWBE documentation should be directed to the MWBE Office at 972-925-4140.

Proposal # **CW-207414**

Proposal Description
Police Chief Nationwide Search Firm

Closing Date: 10/26/2023

Closing Time 2:00 P.M.

Buyers Initials: CW

Proposal # **JKJ-207409**

Proposal Description
Purchase of Buses for Student Transport

Closing Date: 10/26/2023

Closing Time: 2:00 PM

Buyers Initials: JKJ

Proposal # **AH - 207408**

Proposal Description
Scoreboards and Related Products/Services

Closing Date: 10/26/2023

Closing Time: 2:00 PM

Buyers Initials: AH

The right is reserved to reject any or all proposals and to waive technicalities.

The Dallas Independent School District is committed to the ideals of equal opportunity in all its business endeavors.

It is the goal of the Dallas Independent School District that at least 30% of the work performed under each contract will be provided by minority or woman-owned business enterprises.

Bids & Proposals

DALLAS INDEPENDENT SCHOOL DISTRICT

NOTICE TO PROPOSERS

Sealed proposals for RFP 19-207400 Print Shop Equipment, Parts, and Supplies and RFQ SW-207417 Psychiatry Services for Students will be received by the Dallas Independent School District Procurement Services Department 9400 North Central Expressway, Suite 1510, Dallas TX 75231 until 2:00 P.M. on November 2, 2023.

The proposal documents can be obtained by downloading them from the Dallas ISD website homepage at http://www.dallasisd.org/ at the "Supplier Opportunities" link.

Any proposals received after the closing time will be held for pickup or destroyed.

*******MWBE POLICY ENDORSEMENT*******

All proposals shall contain the MWBE Compliance Guidelines and Forms at the time of proposal opening. Bidders/proposers who will subcontract out portions of the work will be required to submit a signed Letter of Intent to Subcontract. Failure to complete and sign the MWBE Compliance Guidelines and Forms will result in Offeror receiving zero (0) points for the MWBE Criteria. The MWBE Department reserves the right to contact proposers for additional information/clarification after the proposal opening.

Any questions regarding the MWBE documentation should be directed to the MWBE Office at 972-925-4140.

Proposal # **TB-207400**

Proposal Description
Print Shop Equipment, Parts, and Supplies

Closing Date: 11/02/2023

Closing Time 2:00 P.M.

Buyers Initials: TB

Proposal # **SW-207417**

Proposal Description
Psychiatry Services for Students

Closing Date: 11/02/2023

Closing Time: 2:00 PM

Buyers Initials: SW

The right is reserved to reject any or all proposals and to waive technicalities.

The Dallas Independent School District is committed to the ideals of equal opportunity in all its business endeavors.

It is the goal of the Dallas Independent School District that at least 30% of the work performed under each contract will be provided by minority or woman-owned business enterprises.

Bids & Proposals

LEGAL NOTICE: Request for Proposals

Sealed bids will be received by the City of Farmers Branch, at Office of the Purchasing Agent, City Hall, 1st Floor, 13000 William Dodson Parkway, Farmers Branch, Texas 75234, at which time bids duly delivered and submitted by the time and date denoted below will be publicly opened, read aloud and considered for the following:

BID #23-17 – Annual Contract for Brush tipping fee bid
Bids will be accepted until 10:00 a.m., C.D.S.T. October 9, 2023 in the office of the Purchasing Agent.

There will be no Pre-Bid meeting. The plans and specs may be acquired, upon request, electronically free of charge.

Bids submitted for this project will be publicly opened and read aloud shortly after 10:00 a.m., C.D.S.T. on October 9, 2023 in the Office of the Purchasing Agent, Farmers Branch City Hall, 1st Floor.

Until final award by the City of Farmers Branch, said City reserves the right to reject any and/or all bids, to waive technicalities, to re-advertise or to proceed otherwise when the best interests of said City will be realized hereby. Bids should be submitted sealed and plainly marked with the name of the project, the bid number and the date and time of opening. Late bids will not be accepted and will be returned unopened.

Bids & Proposals

NOTICE

THE DALLAS-FORT WORTH INTERNATIONAL AIRPORT is accepting separate sealed bids for the following items at the herein stated bid opening location until the bid due date and time stated below, when they will be publicly opened and read aloud.

SOLICITATION: 7007353 – Food Inspection Services
BID DUE DATE AND TIME: Friday, September 29, 2023 @ 2:00 PM (Central Time)
MINORITY-WOMEN BUSINESS ENTERPRISE (MWBE) GOAL: 0%

BID OPENING LOCATION: Refer to Solicitation for Delivery Location. Specifications may be obtained at the herein stated bid opening location or viewed / downloaded from DFW International Airport website at dfwairport.com or by calling 972-973-5600.

NOTICE

THE DALLAS-FORT WORTH INTERNATIONAL AIRPORT is accepting separate sealed proposals for the following items at the herein stated bid opening location until the proposal due date and time stated below.

SOLICITATION: 8005576 – Passenger Facility Charges Application Services
PROPOSAL DUE DATE AND TIME: Tuesday, October 03, 2023 @ 2:00 PM (Central Time)
MINORITY-WOMEN BUSINESS ENTERPRISE (MWBE) GOAL: 10%

LOCATION TO SUBMIT PROPOSALS: Refer to Solicitation for Delivery Location. Specifications may be obtained at the herein stated proposal submittal location or viewed / downloaded from DFW International Airport website at dfwairport.com or by calling 972-973-5600.

NOTICE

THE DALLAS-FORT WORTH INTERNATIONAL AIRPORT is accepting separate sealed proposals for the following items at the herein stated location until the proposal due date and time stated below.

SOLICITATION: 8005580 – State Legislative Consulting Services
PROPOSAL DUE DATE AND TIME: Wednesday, October 04, 2023 @ 2:00 PM (Central Time)
MINORITY-WOMEN BUSINESS ENTERPRISE (MWBE) GOAL: 0%

LOCATION TO SUBMIT PROPOSALS: Refer to Solicitation for Delivery Location. Specifications may be obtained at the herein stated proposal submittal location or viewed / downloaded from DFW International Airport website at dfwairport.com or by calling 972-973-5600

NOTICE

The Dallas Fort Worth International Airport Board will receive Statement of Qualifications for the following items at the location stated below until the due date and time stated:

SOLICITATION: PA1047 – Structural Inspections and Review Services
QUALIFICATIONS DUE DATE AND TIME: Thursday, November 2, 2023 @ 2:00 PM CST
MINORITY-WOMEN BUSINESS ENTERPRISE (MWBE) GOAL: 35%
CONTACT: Contract Administrator, Kimberly Worley 972-973-1896

STATEMENT OF QUALIFICATIONS (SOQ) SUBMITTAL: SOQs must be submitted via the DFW Airport Bonfire Solicitation system only by the due date and time listed in the Bonfire event schedule, accessible at https://dfwairport.bonfirehub.com/login.

Additional information is available on the DFW International Airport website at www.dfwairport.com/business/solicitations.
The DFW Airport, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

NOTICE

The Dallas Fort Worth International Airport Board will receive Statement of Qualifications for the following items at the location stated below until the due date and time stated:

SOLICITATION: PA1094 – Material Testing Laboratory
QUALIFICATIONS DUE DATE AND TIME: Wednesday, November 8, 2023 @ 2:00 PM CST
MINORITY-WOMEN BUSINESS ENTERPRISE (MWBE) GOAL: Design – 20%, Construction – 17%
CONTACT: Contract Administrator, Jennifer Nguyen 972-973-1733

STATEMENT OF QUALIFICATIONS (SOQ) SUBMITTAL: SOQs must be submitted via the DFW Airport Bonfire Solicitation system only by the due date and time listed in the Bonfire event schedule, accessible at https://dfwairport.bonfirehub.com/login.

Additional information is available on the DFW International Airport website at www.dfwairport.com/business/solicitations.
The DFW Airport, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

Legal Notices | Legal Notices

CITY OF DALLAS

Notice of Public Meeting
COMMUNITY DEVELOPMENT COMMISSION
(CDC) MONTHLY MEETING

The Community Development Committee has scheduled a meeting **Thursday, October 6, 2023, at 6:00 PM** at Dallas City Hall, 1500 Marilla Street, City Hall Conference Room 6ES, and by videoconference. Residents may attend the meeting in-person, access videoconference link: Video Conference Link: https://tinyurl.com/47qzvje7 **Access Code**: 2491 704 3268 **Password**: Qv7aFPeH3r5 **Telephone**: 1-469-210-7159 (**78773734 from phones and video systems**) The meeting will also be broadcast on Spectrum Cable Channel 96 and available on-demand online at: https://dallascityhall.com/government/Pages/Live.aspx.

Individuals and interested parties wishing to speak or submit public comments must register with the Department at https://dallas.office.com/g/ll/jkk7ZfwB or contact Budget & Management Services/Grants Administration Division by phone at (214) 670-4557 or by email at cdcommunitydevelopment@dallascityhall.com no later than 24 hours in advance of the meeting. The City of Dallas will make "Reasonable Accommodations" to programs and/or other related activities to ensure all disabled individuals have access to services and resources to create an equal opportunity to participate in all City related programs, services, and activities.
Anyone who requires an auxiliary aid or service to fully participate in the CDC meeting should notify Budget & Management Services/Grants Administration Division at (214) 670-4557 or TTY 1-800-735-2989, forty- eight (48) hours prior to the scheduled meeting.

La Comision de Desarollo Comunitario programó su junto mensual para el jueves 6 de Octubre de 2023 a los 6:00p.m. en Dallas, 1500 Marilla Street, en cuarto de conferencia 6ES y por video conferencia. Los residentes pueden asistir a la reunión en persona o acceda al enlace de la video conferencia: **Video Conference Link:** https://tinyurl.com/47qzvje7 **Access Code**: 2491 704 3268 **Password**: Qv7aFPeH3r5 **Telephone**: 1-469-210-7159 (78773734 from phones and video systems) La reunión también se transmitirá en Spectrum Cable Channel 96 y estará disponible a pedida en línea en: https://dallascityhall.com/government/Pages/Live.aspx.

Las personas interesadas que en hablar o enviar comentarios públicos deben registrarse en el Departamento en https://forms.office.com/g/ljk3kk7ZfwB o comunicarse con los Servicios de administración y presupuesto/División de administración de subvenciones por teléfono al (214) 670-4557 o por correo electrónico a cdcommunitydevelopment@dallascityhall.com a más tardar 24 horas antes de la reunión. La Ciudad de Dallas hará "Acomodaciones Razonables" a los programas y/o otras actividades relacionadas para asegurar que todas las personas discapacitadas tengan acceso a los servicios y recursos para crear igualdad de oportunidades para participar en todos los programas, servicios y actividades relacionados con la Ciudad.

Toda persona que necesite un servicio o ayuda auxiliar para participar plenamente o asistir a cualquier audiencia pública debe notificar al Oficina de Presupuesto/División de Administración de Subsidios al (214) 670-4557 o TTY 1-800-735-2989, aproximadamente ocho (48) horas antes de la reunión programada.

NOTICE OF PUBLIC MEETING TO DISCUSS RICHARDSON ISD'S

State Financial Accountability Rating

Richardson ISD will hold a public meeting at 6:00 p.m. on Thursday, October 12, 2023, in the auditorium of the Administration Building, located at 400 South Greenville Avenue in Richardson, Texas. The purpose of this meeting is to discuss Richardson ISD's rating on the state financial accountability system.

Legal Notices | Legal Notices | Legal Notices

LEGAL NOTICE OF PUBLIC HEARING BEFORE THE CITY OF CARROLLTON PROPERTY STANDARDS BOARD

On October 26, 2023, the City of Carrollton ("City") Property Standards Board will meet at 6:30pm in the Carrollton City Hall Council Chambers, located at 1945 E. Jackson Road, Carrollton, Texas for a public hearing regarding the following location(s):

2499 VAQUERO LANE
MUSTANGE PARK PHASE NINE
BLOCK A LOT 1X
PROPERTY ID: 655247
DENTON COUNTY

Staff from the City of Carrollton Environmental Services Department have found the structure(s) to be in violation of Title XV, Chapter 158.06 of the Carrollton Code of Ordinances.

The Property Standards Board will review all information concerning the structure(s) and make a final determination regarding the actions to be taken at the property. The actions determined include the property/structure(s) to be vacated, secured, repaired, removed or demolished in order to comply with Title XV, Chapter 158 of the Carrollton Code of Ordinances.

The owner, lienholder, mortgagee, or other person(s) having legal or equitable interest in the properties listed above bears the burden of proof to demonstrate the scope of work that may be required to comply with the standards of the code and the time it will take to reasonably perform the work. If the order issued by the Property Standards Board is not met, the City may perform the stated actions of the order and place a lien on the property to recover all costs associated with the work.

You may contact the City of Carrollton Environmental Services Department for any further details regarding the property and the associated Property Standards Board meeting. The Environmental Services Department is open Monday through Thursday from 7:30am to 5:30pm and Friday from 7:30am to 11:30am and is located at 1945 E. Jackson Road, Carrollton Texas.

City of Carrollton
Brian Passwaters
1945 E. Jackson Road
Carrollton, Texas 75006

PHONE: (972) 466-5727
EMAIL: envservices@cityofcarrollton.com

DFW

NOTICE

Title: Notice of a Draft Environmental Assessment and Draft Clean Air Act General Conformity Determination for 19th Street Cargo Redevelopment project

Pursuant to Title 40, Code of Federal Regulations § 1506.6(b) notice is hereby given by the Dallas Fort Worth (DFW) Airport, that a Draft Environmental Assessment (EA) and Draft General Conformity Determination has been prepared to evaluate the potential environmental impacts of the proposed 19th Street Cargo Redevelopment Project (Proposed Project) within DFW Airport.

DFW Airport is proposing to construct the 19th Street Cargo Redevelopment Project (Proposed Project) to accommodate cargo growth, based on the current forecasted growth of 2.6 percent per year. The Project would include airside and landside improvements that would create an operationally functional cargo area and to provide unimpeded access to the cargo. The Project would provide aircraft parking positions and cargo buildings to support operations by aircraft such as the B747-8F, B747-400, and the B777-200.

The Draft EA evaluates the potential environmental effects of the Proposed Project described above and has been prepared pursuant to the requirements of Section 102(2)(c) of the National Environmental Policy Act of 1969 (NEPA). The FAA is the lead federal agency to ensure compliance with NEPA for airport development actions. The Draft EA has also been prepared in accordance with FAA Order 1050.1F, Environmental Impacts: Policies and Procedures, and FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions. The Draft EA includes an analysis of reasonable alternatives, potential environmental impacts, and mitigation measures, as appropriate.

A draft General Conformity Determination for the proposed project has been prepared as part of this Draft EA and is being made available for public review under Section 176(c) of the federal Clean Air Act Amendments of 1990.

Public Review :
For your reference, the Draft EA and Draft Clean Air Act General Conformity Determination may be found at the following online location: https://www.dfwairport.com/business/about/publications/. A hard copy of the Draft EA can be viewed at DFW offices, during normal business hours. Please call 972-973-5585 to schedule an appointment to review the hard copy.

The address is:

Environmental Affairs Department
3003 S. Service Road, Annex A
DFW Airport, Texas 75261

Public Meeting :
A Public Meeting on the Draft EA and/or Draft General Conformity Determination may be requested by the public at any time prior to October 31st, 2023, at 5 PM Central Time (CT) via email at publiccomment@dfwairport.com. If a public meeting is requested, the meeting will occur within two weeks of October 24th, 2023, with the date and time posted on DFW Airport Publications Website.

Public Comments :
The public may submit comments to the Environmental Affairs Department at the previously listed address or via e-mail at publiccomment@dfwairport.com. All comments must be received by October 31st, 2023, to be considered for this Draft EA and Draft General Conformity Determination.

CITY OF PLANO LEGAL NOTICE

Notice is hereby given that the City of Plano Planning & Zoning Commission will hold a Public Hearing on Monday, October 16, 2023 , at 7:00 p.m. at the Plano Municipal Center, 1520 K Avenue, in the Senator Florence Shapiro Council Chambers or via video conference to consider the following:

Replat: St Elizabeth Ann Seton Catholic Church Addition, Block 1, Lot 1R – Religious facility on one lot on 4.3 acres located on the south side of Spring Creek Parkway, 330 feet east of Independence Parkway, Zoned Single-Family Residence-9 and Planned Development-105-Retail/General Office. The purpose for the replat is to abandon and dedicate easements for the existing religious facility. Project #R2023-026.

The proposed replat may require a variance or exception. If a variance or exception is requested, the Planning & Zoning Commission will hold a public hearing on this case. All parties, both for and against the above-referenced item(s), are invited to attend and voice their opinion. For further information, please contact the Planning Department at (972) 941-7151.

JUMBLE

THAT SCRAMBLED WORD GAME
By David L. Hoyt and Jeff Knurek

Unscramble these Jumbles, one letter to each square, to form six ordinary words.

DRURED

CFEETF

CIANTT

GUTBOH

DULEHP

LHXAEE

Now arrange the circled letters to form the surprise answer, as suggested by the above cartoon.

Get the free JUST JUMBLE app - Follow us on Twitter @PlayJumble

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PRINT YOUR ANSWER IN THE CIRCLES BELOW

TO

(Answers tomorrow)

Saturday's Jumbles: BLURB DRINK GAMING BONNET
Answer: William McReavy received a patent for his jack-hammer because it was — GROUNDBREAKING

DN-1859847-01

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10/01/2023 — 10/02/2023

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Arch, WTC, and Vickery leases (Westridge TRT Pad) , located approximately at 3900 Bryant Irvin Road. To obtain infor mation regarding the proposed site, or general questions concerning Gas Well Drilling in Fort Worth, please visit: ww

TARRANT COUNTY, TEXAS

30 P.M. Central Time TENTATIVE INTERVIEW DATES: Thursday, November 16, 2023 Send Questions to: Chelsea St. Lou is Sr. Capital Projects Officer Transportation and Public Works Department Transportation Management Division EMA

TARRANT COUNTY, TEXAS

receive comments for or against a request t on, being located west of Rufe Snow Drive e

TARRANT COUNTY, TEXAS

FORT WORTH STAR-TELEGRAM

Legal Notice

TABC LEGAL NOTICE Application has been made with the Texas Alcoholic Beverage Commission for a Late Hour Certi ficate and Mixed Beverage License by China Garden LLC dba Bag O Crab, to be located at 1029 Saginaw Blvd #C1 Sa ginaw Tx, 76179 Tarrant County, Texas. Officers of said corporation are Sairong Cheng. IPL0141867 Oct 2-3 2023

TARRANT COUNTY, TEXAS

FORT WORTH STAR-TELEGRAM

Ordinance

Ordinance No. 23-057 An ordinance amending the "Streets and Sidewalks" Chapter of the Code of the City of Arlingt on, Texas, 1987, through the amendment of Article V, Activities Prohibited; by the repeal of Section 5.11, Motor-Assis ted Scooters; and the addition of Section 5.12, MotorAssisted Scooters and Micromobility Devices; relative to the reg ulation of Motor-Assisted Scooters and Micromobility Devices; and through the amendment of Article XVI, Violation s, by the amendment of Section 16.01, Violations, relative to penalties for violations of the Chapter; providing for a fi

TARRANT COUNTY, TEXAS

FORT WORTH STAR-TELEGRAM

Public Notice

CITY OF HURST NOTICE OF ONLINE SURPL r Auctioneers beginning September 22, 202 ng will be allowed on October 4, 2023. Item d on auction items visit https://www.hurstt 7,24,Oct 1 2023

TARRANT COUNTY, TEXAS

FORT WORTH STAR-TELEGRAM

Request for Proposal

NOTICE THE DALLAS-FORT WORTH INTERNATIONAL AIRPORT is accepting separate sealed bids for the following ite ms at the herein stated bid opening location until the bid due date and time stated below, when they will be publicly opened and read aloud. SOLICITATION: PA1139 – Supply of Uninterruptable Power Supply (UPS) Batteries BID DUE D ATE AND TIME: Friday, October 20, 2023 @ 2:00 PM (Central Time) MINORITY-WOMEN BUSINESS ENTERPRISE (MWB E) GOAL: 0% BID OPENING LOCATION: Refer to Solicitation for Delivery Location. Specifications may be obtained at t

TARRANT COUNTY, TEXAS

FORT WORTH STAR-TELEGRAM

Request for Proposal

REQUEST FOR PROPOSALS AUI PARTNERS, LLC, REQUESTS PROPOSALS FROM SUBCONTRACTORS FOR THE KELLER POLICE DEPARTMENT RENOVATION LOCATED IN KELLER, TEXAS 76248 Subcontractor proposals will be received on b ehalf of the City of Keller by AUI Partners at 9800 Hillwood Parkway, Suite 160, Fort Worth, Texas 76177 (817) 926-437 7 by 5pm CST, Wednesday September 7th, 2023. Proposals may be hand delivered, mailed or emailed to auibid@aui partners.com. Proposal documents may be reviewed on SmartBid, at the offices of AUI, or electronically by request. C

TARRANT COUNTY, TEXAS

FORT WORTH STAR-TELEGRAM

Request for Proposal

CROSSLAND CONSTRUCTION BID INVITATI oliciting bids for the Site Earthwork, Site Pa Markings and Site Signage scopes of work g documents are available on BuildingConn rth at dworth@crossland.com or by calling

TARRANT COUNTY, TEXAS

FORT WORTH STAR-TELEGRAM

Notice of Hearing

CITY OF KELLER PUBLIC HEARING A public hearing will be held by the City of Keller City Council at 7:00 P.M. on Tues day, October 17, 2023 at Keller Town Hall, 1100 Bear Creek Parkway, to consider an ordinance for a Planned Develop ment Zoning Change from Retail (R) to Planned Development Single-Family 8,400 square-foot minimum lots (PD-SF-8.4) for Bella Casa, a Planned Development consisting of 31 residential lots and approximately 1.6 acres of open spac e on approximately 10.9 acres of land, legally described as Tract 3D08, Abstract 457 of the John Edmonds Survey, loc

TARRANT COUNTY, TEXAS

FORT WORTH STAR-TELEGRAM

Notice of Hearing

NOTICE OF PUBLIC HEARING AT THE COMMUNITY DEVELOPMENT COUNCIL MEETING REGARDING THE Pathways to Removing Obstacles to Housing Program Grant (PRO-Housing Grant) FOR USE OF FEDERAL FUNDS UNDER THE FOL LOWING PROGRAMS: COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG) PROGRAM Public Hearing Date: Wednes day, October 11, 2023 at 6:30 pm Council Conference Room 2020 200 Texas Street, Fort Worth, TX 76102 The Fort W orth Community Development Council will conduct a public hearing on the proposed PRO-Housing Grant Applicatio

TARRANT COUNTY, TEXAS

FORT WORTH STAR-TELEGRAM

Public Notice

NOTICE The Dallas Fort Worth International ms at the location stated below until the du d Review Services QUALIFICATIONS DUE DA OMEN BUSINESS ENTERPRISE (M/WBE) GO 6 STATEMENT OF QUALIFICATIONS (SOQ) S

TARRANT COUNTY, TEXAS

FORT WORTH STAR-TELEGRAM

Notice of Development

NOTICE Title: Notice of a Draft Environmental Assessment and Draft Clean Air Act General Conformity Determination for 19th Street Cargo Redevelopment project Pursuant to Title 40, Code of Federal Regulations § 1506.6(b) notice is h ereby given by the Dallas Fort Worth (DFW) Airport, that a Draft Environmental Assessment (EA) and Draft General C onformity Determination has been prepared to evaluate the potential environmental impacts of the proposed 19th S treet Cargo Redevelopment Project (Proposed Project) within DFW Airport. DFW Airport is proposing to construct th

TARRANT COUNTY, TEXAS

FORT WORTH STAR-TELEGRAM

Notice of Hearing

NOTICE OF PUBLIC HEARING CITY COUNCIL AND PLANNING & ZONING COMMISSION CITY OF GRAPEVINE, TEXAS Item No. 1 Notice is hereby given to all interested parties that the City Council and the Planning & Zoning Commissi on of the City of Grapevine, Texas, will conduct a Public Hearing on Tuesday, October 17, 2023 at 7:30 p.m., in the Co uncil Chambers of City Hall, located at 200 South Main Street, Grapevine, Texas, to consider a request for a Final Plat of Lots 1-32 & 33X, Block 1, Grapevine Springs and Lot 1R, Block 1R, Grapevine Office Park (Being a replat of Lot 1, Bl

TARRANT COUNTY, TEXAS

FORT WORTH STAR-TELEGRAM

Request for Proposal

NOTICE TO BIDDERS The City of Colleyville til 2:00 p.m. on Tuesday, October 19, 2023 t ion to provide available labor and equipme as classified in the City of Colleyville 2015 T Contract will include City parks, creeks, alon

TARRANT COUNTY, TEXAS

FORT WORTH STAR-TELEGRAM

Request for Proposal

NOTICE TO BIDDERS The City of Colleyville will accept bids submitted electronically via http://www.civcastusa.com un til 2:00 p.m. on Thursday, October 26, 2023 to perform all construction, modifications, and supply all materials and eq uipment for the repairs to the roof system at the Colleyville Recreation Center on 5008 Roberts Road. Bid # BSV-2024 -001 CITY OF COLLEYVILLE – Roof Repairs at Colleyville Recreation Center 5008 Roberts Road City Staff will begin rea ding the bids at 2:01 p.m. Dial-in Number: 1.972.497.2499 Conference Code: 558104 Plans, Specifications, and Contra

FORT WORTH STAR-TELEGRAM

Request for Proposal

CITY OF KELLER REQUEST FOR BID SEALED bids will be received at Keller Town Hall Information Desk, 1100 Bear Cree k Pkwy., Keller, Texas until 1:00 PM (local time), Wednesday, November 8, 2023 for the purpose of furnishing all facilit y, labor, materials and equipment and the performing of all work required in the following: Keller Sports Park Renova tions Bids will be opened at read aloud at 1:30 PM Central Time. All bids received after the 1:00 PM cut off will not be accepted. Bid documents may be obtained in the following way: Physical plans and specifications can be purchased a

FORT WORTH STAR-TELEGRAM

Request for Proposal

NOTICE TO BIDDERS The City of Colleyville til 2:00 p.m. on Tuesday, October 17, 2023 t uipment for the rehabilitation of sanitary se manholes varies throughout the city and req LLEYVILLE – FY2024 MANHOLE REHABILITA

Notice of Development

Published in Fort Worth Star-Telegram on October 1, 2023

Location

Tarrant County, Texas

Notice Text

NOTICE
Title: Notice of a Draft Environmental Assessment and Draft Clean Air Act General Conformity Determination for 19th Street Cargo Redevelopment project
Pursuant to Title 40, Code of Federal Regulations 1506.6(b) notice is hereby given by the Dallas Fort Worth (DFW) Airport, that a Draft Environmental Assessment (EA) and Draft General Conformity Determination has been prepared to evaluate the potential environmental impacts of the proposed 19th Street Cargo Redevelopment Project (Proposed Project) within DFW Airport.
DFW Airport is proposing to construct the 19th Street Cargo Redevelopment Project (Proposed Project) to accommodate cargo growth, based on the current forecasted growth of 2.6 percent per year. The Project would include airside and landside improvements that would create an operationally functional cargo area and to provide unimpeded access to the apron. The Project would provide aircraft parking positions and cargo buildings to support operations by aircraft such as the B747-8F, B747-400, and the B777-200.
The Draft EA evaluates the potential environmental effects of the Proposed Project described above and has been prepared pursuant to the requirements of Section 102(2)(c) of the National Environmental Policy Act of 1969 (NEPA). The FAA is the lead federal agency to ensure compliance with NEPA for airport development actions. The Draft EA has also been prepared in accordance with FAA Order 1050.1F, Environmental Impacts: Policies and Procedures, and FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions. The Draft EA includes an analysis of reasonable alternatives, potential environmental impacts, and mitigation measures, as appropriate.
A draft General Conformity Determination for the proposed project has been prepared as part of this Draft EA and is being made available for public review under Section 176(c) of the federal Clean Air Act Amendments of 1990.
Public Review:
For your reference, the Draft EA and Draft Clean Air Act General Conformity Determination may be found at the following online location: https://www.dfwairport.com/business/about/publications/. A hard copy of the Draft EA can be viewed at DFW offices, during normal business hours. Please call 972-973-5585 to schedule an appointment to review the hard copy.
The address is:
Environmental Affairs Department
3003 S. Service Road, Annex A
DFW Airport, Texas 75261
Public Meeting:
A Public Meeting on the Draft EA and/or Draft General Conformity Determination may be requested by the public at any time prior to October 31st, 2023, at 5 PM Central Time (CT) via email at publiccomment@dfwairport.com. If a public meeting is requested, the meeting will occur within two weeks of October 24th, 2023, with the date and time posted on DFW Airport Publications Website.
Public Comments:
The public may submit comments to the Environmental Affairs Department at the previously listed address or via e-mail at

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