

Final Environmental Assessment (FEA) High C-Gates Reconstruction Project

Dallas Fort Worth International Airport

February 3, 2021

U.S. Department of Transportation Federal Aviation Administration Southwest Region

Finding of No Significant Impact (FONSI)

High C-Gates Reconstruction Project Dallas/Fort Worth International Airport Tarrant and Dallas County, Texas

February 2021

1. INTRODUCTION

This document serves as a Finding of No Significant Impact (FONSI) for the proposed Federal Aviation Administration (FAA) actions necessary for the implementation of the High C-Gates Reconstruction Project at Dallas/Fort Worth International Airport (DFW), in DFW, Texas. The Cities of Dallas and Fort Worth, as owners of the airport, are the airport sponsors and proponent of the proposed airport improvements. The Proposed Action is the demolition of up to five gates at Terminal C, commonly known as the High-C gates and the construction of the replacement of High-C gates (C33, C35, C36, C37 and C39). The Proposed Action would abate and demolish the existing 72,000 square feet (SF) facility and construct a 2-level building with up to five gates and measuring between 80,000 SF and 110,000 SF.

The FAA is the federal agency responsible for the approval of the Proposed Action analyzed in the Environmental Assessment (EA). The FAA has determined that the Proposed Action will have no significant impact to the human environment.

2. BACKGROUND

DFW is a commercial service airport that currently encompasses 17,207 acres in Dallas and Tarrant Counties. DFW has seven air-carrier-capable runways, including five north-south parallel runways (17L-35R; 17C-35C; 17R-35L; 18L-36R; 18R-36L) and two northwest-southeast diagonal/crosswind runways (13L-31R; 13R-31L). A system of taxiways facilitates movement of aircraft on the airfield. DFW has full-length parallel taxiways for each runway, four cross-field taxiways, and a system of high-speed and connector taxiways that provide aircraft access between all runways and the central terminal area.

3. REQUSTED FEDERAL ACTION

The Federal action necessary for implementation of the proposed airport improvements are:

• Unconditional approval of the portion of the Airport Layout Plan (ALP) depicting the proposed project as described within Section 3 of the EA document

4. PURPOSE AND NEED

Pursuant to the National Environmental Policy Act (NEPA) and FAA Orders 1050.1F, *Environmental Impacts: Policies and Procedures* and 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, an EA must include a description of the purpose of a proposed action and the reasons it is needed. The purpose of and the need for the Proposed Action are discussed below.

The purpose of the proposed High-C gates reconstruction project is to enhance the customer experience for passengers at Terminal C and ensure continued safe and efficient airport operations. The proposed project would include the demolition and reconstruction of up to five aircraft gates (C33, C35, C36, C37, and C39) at Terminal C (see **Figure 2** of the EA: High C Gates Project Map). These gates are commonly known as the High-C gates and were originally constructed in 1988 as a temporary fix to airport growth needs. The existing High-C gates are outdated and insufficiently sized to meet current and future needs of the airport. Furthermore, the existing High-C gates are in a state of disrepair.

The proposed demolition and reconstruction of the High-C gates is needed to remove old, outdated terminal and aircraft gate facilities, enhance customer experience and safety, as well as eliminate costly maintenance and repair costs associated with retaining the temporary High-C gates. The reconstructed High-C gates are needed to meet existing building code compliance standards as well as meet existing operational needs.

5. ALTERNATIVES

The FAA orders require a thorough objective assessment of the Proposed Action, No Action alternative, and all "reasonable" alternatives that would achieve the stated purpose and need of the Proposed Action. The Alternatives analysis is consistent with the requirements of FAA Orders 1050.1F and 5050.4B.

5.1 No Action Alternative

Under the NAA, DFW Airport would not complete the Proposed Action. The airport would not be able to remove the old, outdated infrastructure, and would incur significant maintenance and repair costs. Furthermore, not demolishing and rebuilding the High-C gates would result in some aircraft operations experiencing delays due to lack of an adequate supply of contact gates. The No Action Alternative does not meet the stated purpose and need for this project.

To satisfy the intent of NEPA, *FAA Order 1050.1F: Environmental Impacts Policies and Procedures* and *FAA Order 5050.4B: Implementing Instructions for Airport Actions*; and other special purpose environmental laws, a No Action Alternative is carried forward in the analysis of environmental consequences.

5.2 **Proposed Action Alternative**

The Proposed Action is the High C Gates Demolition and Reconstruction project which would involve the demolition of up to five gates at Terminal C, commonly known as the High-C gates and the construction of the replacement of the High-C gates (C33, C35, C36, C37 and C39). The Proposed Action also includes relocation and modification of the existing aircraft ramp fuel system including reconstructing the hydrant fuel pits to align with the new aircraft layout.

The construction of the Proposed Action is expected to begin late February 2021 and end in June 2022. The Proposed Action is anticipated to cost approximately \$96 million. The proposed project area is approximately 12-acres. The Proposed Action would abate and demolish the existing 72,000 square feet (SF) facility and construct a 2-level building with up to five gates and measuring between 80,000 SF and 110,000 SF (**Figure 3** of the EA: Proposed Action Site Plan).

The Proposed Action would be designed to improve customer experience; the existing High-C gates were designed and constructed in the 1980's, under very different requirements for security and customer service. The renovated High-C gates will reflect the latest technology and provide the highest level of customer service to airlines and the traveling public. The Proposed Action would remove and replace the same facilities in kind. Similar to the existing temporary gates, the proposed project will support narrow-body aircraft operations. No additional aircraft operations would be induced by the Proposed Action.

The Proposed Action is located within the Airport's Air Operations Area (AOA) boundary fence; during construction, the contractor would relocate the AOA boundary fence such that the project area is on the landside. Having the project work area outside of the AOA boundary will help maintain a safe and efficient construction work environment. Although the project area and staging yard would be strategically designed as non-AOA, the contractor would traverse the east airfield, across runways 17C/35C and 17R/35L in order to move materials and equipment between the staging yard and the project area. Limited, short-term runway closures to facilitate the crossing of Runways 17C/35C and 17R/35L will be needed. Runway closures will have minor, temporary impacts to east airfield operations.

6. ENVIRONMENTAL CONSEQUENCES

The environmental impacts, if any, of the proposed alternatives were examined in the EA according to the FAA Orders 5050.4B and 1050.1F. The environmental impacts of the No Action and the Proposed Action alternatives are presented in this section.

A number of resources will not be impacted by implementation of the Proposed Action and will not be further discussed in detail in this FONSI.

6.1 Air Quality

No Action Alternative

The NAA would not involve any construction activities; therefore, no construction emissions or increases in operational emissions would be associated with the NAA.

Proposed Action Alternative

Construction equipment used to complete the Proposed Action would cause a short-term increase in air emissions; these emissions include nitrogen oxides (NO_x) and volatile organic compounds (VOCs), the two primary precursors to ozone (O₃) formation. The estimated construction emissions from diesel-powered on-road vehicles and non-road construction equipment that would be used for the Proposed Action were modeled the using the USEPA Motor Vehicles Emissions Simulator (MOVES) (2014b) (**Appendix E** of the EA: Air Quality Analysis Report).

Table 5-2 of the EA shows the estimated construction emissions associated with the Proposed Action. As depicted in **Table 5-2** of the EA, the project-related emissions are 1.27 tons per year (tpy) of NO_x and 6.96 tpy of VOCs for 2021 and 0.09 tpy of NO_x and 0.29 tpy of VOCs for 2022, which are well below the *de minimis* levels of 50 tpy for either NO_x or VOCs. Construction activities are proposed to begin in February 2021 and would be completed by in 2022.

The Proposed Action would not substantially change airport operations or runway utilization. Therefore, no additional operational emissions would be associated with the implementation of the Proposed Action Alternative.

6.2 Hazardous Materials, Solid Waste, and Pollution Prevention

No Action Alternative

No impacts from hazardous materials and solid waste are expected as a result of the NAA, as no construction activities would occur. DFW will maintain the existing monitoring wells as required by the 2020 Agreed Order Closure Agreement with the Texas Commission on Environmental Quality (TCEQ). Therefore, there would be no hazardous materials or solid waste impacts not already occurring or expected to occur.

Proposed Action Alternative

The Proposed Action will include modifications to the hydrant fuel pit system associated with the High-C gates. The fuel distribution system will be constructed and managed in accordance with any applicable local, State, and Federal regulation.

As previously discussed in **Section 4** of the EA, there is potential for jet fuel contaminated soil and shallow-groundwater within the proposed High-C gates project area. The hydrocarbon contaminated media would likely be disturbed during the removal, reconstruction and reconfiguration of the hydrant fuel put system on the terminal ramp area. Due to the contaminated media resulted from historic releases of jet fuel into the environment; between 1998 and 2002, DFW and TCEQ signed an Agreed Order under the TCEQ's Voluntary Cleanup Program (VCP). The purposed of the Agreed Order was to have DFW identify and map areas affected by the jetfuel releases and then install monitoring wells, and report on progress made in remediating the contaminated media. The Agreed Order also required the annual reporting on areas of concern, submittal of monitoring and remediation data for areas of concern on the airport. After years of consistent monitoring and remediation efforts, in August 2020, DFW received TCEQ's regulatory closure of the Agreed Order; this closure means that while there is remnant subsurface hydrocarbon contamination, however, there is no need for continued physical extraction/pumping efforts to remove contaminated media. The closure concurs that the contamination is contained, and the hydrocarbon plume is not migrating or causing further environmental degradation. As such, the closure allows DFW to continue to monitor the area of concern and leverage natural degradation and decomposition processes as the remediation. DFW has approximately 28 active monitoring wells near the High-C gates project area; these wells will be maintained and monitored in compliance with the Agreed Order Closure requirements.

Any contaminated materials (e.g. soil, concrete, water) unearthed during the construction of the Proposed Action will be handled in accordance with the DFW Contaminated Media Management Plan (CMMP) as well as in compliance with any applicable local, state, and Federal regulations.

7. AGENCY COORDINATION AND PUBLIC INVOLVEMENT

Agency coordination was conducted with the affected agencies based on an analysis of the project's potential effects. DFW consulted with the Texas Historic Commission (THC) during the development of this EA, see **Appendix C** of the EA.

Because there are no environmental impacts associated with the proposed action that would exceed applicable thresholds of significance, the action is not one normally requiring preparation of an Environmental Impact Statement (EIS). In addition, because the project does not involve special purpose laws or requirements that necessitate public input, is not controversial, and does not involve any special circumstances, circulation and review of the Draft EA was not warranted in accordance with FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*.

8. CONDITIONS AND MITIGATION

As prescribed by 40 CFR §1505.3, the FAA shall take steps as appropriate to the action, such as through special conditions in grant agreements, property conveyance deeds, releases, airport layout plan approvals, and contract plans and specifications and shall monitor these as necessary to assure that representations made in the EA and FONSI will be carried out. Specific conditions of approval associated with this project are listed below:

- Mitigation measures shall be incorporated into the project to include use of best management practices (BMPs) during construction to minimize erosion and sedimentation; controlling runoff; and controlling waste and spoils disposal to prevent ground contamination.
- Mitigation measures shall be incorporated into the project to include use of BMPs during construction to minimize fugitive dust and to minimize mobile and stationary emissions sources.
- DFW Airport will comply with all local, State, and Federal rules and regulations that govern the generation, handling, and disposing of any waste produced during the

construction of the proposed project.

• A Spill Prevention, Control, and Countermeasures (SPCC) Plan will be prepared that documents procedures that will be implemented to prevent accidental release to the environment in the event of a release. The SPCC would also include the corrective actions that would be deployed to minimize the environmental impact. Furthermore, appropriate materials management measures would be followed to prevent pollution and manage disposal of hazardous and non-hazardous substances.

9. FINDINGS

Throughout the development of the airport, including the proposed improvements described above, the FAA has made every effort to adhere to the policies and purposes of NEPA, as stated in Council of Environmental Quality (CEQ) Regulations for Implementing NEPA, 40 CFR §1500-1508. The FAA has concentrated on the truly significant issues related to the action in question. In its determination whether to prepare an EIS or process the EA as a FONSI, the FAA weighed its decision based on an independent examination of the EA, comments from Federal and state agencies, and all other evidence available to the FAA.

After careful and thorough consideration of the facts contained herein, the undersigned finds that the proposed Federal action is consistent with existing national environmental policies and objectives of Section 101 of NEPA and other applicable environmental requirements and, with the required mitigation referenced above, will not significantly affect the quality of the human environment or include any condition requiring any consultation pursuant to section 102(2)(C) of NEPA. As a result, the FAA has determined that preparation of an EIS is not necessary for this Proposed Action and is therefore issuing this FONSI.

RECOMMENDED FOR APPROVAL:	JOHN J MACFARLANE Digitally signed by JOHN J MACFARLANE Date: 2021.02.01 08:16:53 -06'00'	_ Date:
	Environmental Protection Specialist	
	Texas Airports District Office	
APPROVED:	JESSE B CARRIGER Digitally signed by JESSE B CARRIGER Date: 2021.02.02 07:03:12 -06'00'	Date:
	Jesse Carriger	
	Manager	
	Texas Airports District Office	

FINAL ENVIRONMENTAL ASSESSMENT (FEA)

High C-Gates Reconstruction Project Dallas Fort Worth International Airport Dallas County, Texas

Prepared by:

Dallas Fort Worth International Airport



Number of Pages: 54 (excluding Appendices and Figures)

This Environmental Assessment becomes a Federal document when evaluated, signed, and dated by the Responsible FAA official.

> JOHN J MACFARLANE MACFARLANE Digitally signed by JOHN J MACFARLANE -06'00'

Responsible FAA Official

February 3, 2021

Date

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Acronyms and Abbreviations

AC	Advisory Circular
ACCRI	Aviation Climate Change Research Initiative
ACT	Antiquities Code of Texas
ALP	Airport Layout Plan
APE	Area of Potential Effects
BMP	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
CGP	Construction General Permit
CMMP	Contaminated Media Management Plan
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CWA	Clean Water Act
CZM	Coastal Zone Management
dB	Decibel
DFW	Dallas/Fort Worth
DNL	Day-Night Average Sound Level
DOT	Department of Transportation
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Environmental Site Assessment
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
GHG	Greenhouse Gas
GWP	Global Warming Potential
HFC	Hydrofluorocarbon

IPCC	Intergovernmental Panel on Climate Change
m	Meter
µm/m³	Micrometers per cubic meter
MSW	Municipal Solid Waste
NAA	No Action Alternative
NAAQs	National Ambient Air Quality Standards
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO ₂	Nitrogen Dioxide
NOx	Nitrogen Oxides
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority List
NRHP	National Register of Historic Places
NRI	Natural Resources Inventory
O ₃	Ozone
PALM	Potential Archeological Liability Map
Pb	Lead
PFCs	Perfluorocarbons
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
RCRA	Resource Conservation and Recovery Act
SAL	State Antiquities Landmark
sf	Square Feet
SF ₆	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO ₂	Sulfur Dioxide

SOx	Sulfur Oxides
SOP	Standard Operating Procedure
SPCC	Spill Prevention, Control, and Countermeasures
SWPPP	Stormwater Pollution Prevention Plan
TASA	Texas Archeological Site Atlas
TCEQ	Texas Commission on Environmental Quality
THC	Texas Historical Commission
THSA	Texas Historic Site Atlas
TPDES	Texas Pollutant Discharge Elimination System
TPWD	Texas Parks and Wildlife Department
tpy	Tons Per Year
TSCA	Toxic Substances Control Act
TSD	Treatment, Storage, and Disposal
TXDOT	Texas Department of Transportation
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	Volatile Organic Compounds
WOUS	Waters of The United States

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SECTION 1 INTRODUCTION

1.1. BACKGROUND

Dallas Fort Worth International Airport (DFW Airport) is a commercial service airport that currently encompasses 17,207 acres (approximately 27 square miles) in Dallas and Tarrant Counties; **Figure 1: Airport Location and Context Map** shows the general airport location and surroundings. The DFW Airport airfield system consists of seven runways (13L/31R, 13R/31L, 17C/35C, 17L/35R, 17R/35L, 18L/36R, and 18R/36L). DFW Airport has five passenger terminals named Terminal A, B, C, D, and E. These terminals support safe and efficient airport operations.

The High-C Gates at Terminal C were constructed as temporary aircraft gates that would support changes in aircraft operations. Since their construction in 1988, the High-C gates have undergone temporary fixes to continue supporting airport operations. There is no certificate of occupancy and the gates were taken out of public use in May of 2020. DFW Airport is requesting a modification to the Airport Layout Plan (ALP) to reflect the demolition and reconstruction of the High-C Gates, also referred to as "The Project" in this Environmental Assessment (EA).

Federal Aviation Administration (FAA) action is necessary in connection with the demolition and reconstruction of the High-C Gates, pursuant to 49 U.S. Code [USC] §47107(a) (16), which requires that the FAA Administrator (under authority delegated from the Secretary of Transportation) approve any revision or modification to the ALP before the revision or modification takes effect. The Administrator's approval includes a determination that the proposed alteration to the airport reflected in the ALP revision or modification, does not adversely affect the safety, utility, or efficiency of the airport.

This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, and the President's Council on Environmental Quality (CEQ) regulations to implement NEPA (40 Code of Federal Regulations [CFR] §1500 to 1508). NEPA requires Federal agencies to analyze and consider alternatives to the environmental impacts of their proposed actions, to disclose and consider mitigation for those impacts, and to provide interested parties with an opportunity to participate in the environmental review process. The EA has also been prepared in accordance with FAA's environmental guidance documents, *FAA Order 1050.1F, Environmental Impacts: Policies and Procedures* (FAA, 2015), *FAA Order 1050.1F Desk Reference* (FAA, 2020), and *FAA Order 5050.4B, NEPA Implementing Instructions for Airport Actions* (FAA, 2006).

The purpose of this EA is to analyze the potential environmental impacts of the proposed demolition and reconstruction of the High-C gates project. This EA also includes any public and agency coordination documents used to communicate the proposed project and results of the environmental analyses of the project, as well as to gather input from the public and regulatory agencies consulted. FAA will use the findings in the EA to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

Figure 1: Airport Location and Context Map



SECTION 2 PURPOSE AND NEED

2.1 PURPOSE

The purpose of the proposed High-C gates reconstruction project is to enhance the customer experience for passengers at Terminal C and ensure continued safe and efficient airport operations. The proposed project would include the demolition and reconstruction of up to five aircraft gates (C33, C35, C36, C37, and C39) at Terminal C (see **Figure 2: High C Gates Project Map**). These gates are commonly known as the High-C gates and were originally constructed in 1988 as a temporary fix to airport growth needs. The existing High-C gates are outdated and insufficiently sized to meet current and future needs of the airport. Furthermore, the existing High-C gates are in a state of disrepair.

The proposed reconstruction project would upgrade High-C gates to the current applicable codes and standards to meet operational requirements and provide the airport with enhanced infrastructure with a longer structural life. The proposed project will provide safe and operationally reliable facilities that reduce operating and maintenance costs and enhance business performance.

2.2 NEED

The proposed demolition and reconstruction of the High-C gates is needed to remove old, outdated Terminal and aircraft gate facilities, enhance customer experience and safety, as well as eliminate costly maintenance and repair costs associated with retaining the temporary High-C gates. The reconstructed High-C gates are needed to meet existing building code compliance standards as well as meet existing operational needs.

Figure 2: High C Gates Project Location Map







SECTION 3 ALTERNATIVES (including PROPOSED ACTION)

FAA Orders 1050.1F and 5050.4B set forth policies and procedures to be followed when assessing the environmental impacts of aviation-related projects in compliance with NEPA. The FAA orders require a thorough objective assessment of the Proposed Action, No Action alternative, and all "reasonable" alternatives that would achieve the stated purpose and need of the Proposed Action. The Alternatives analysis presented in this section of the FEA is consistent with the requirements of FAA Orders 1050.1F and 5050.4B.

The process followed in identifying the range of initial alternatives to be considered are described in this section. Only those alternatives that would satisfy the purpose and need were carried forward in the environmental impact analysis.

3.1 NO ACTION ALTERNATIVE

Inclusion of a No Action Alternative (NAA) in the environmental analysis and documentation is required under NEPA. The NAA is used to evaluate the effects of not constructing the project, thus providing a benchmark against which action alternatives may be evaluated.

Under the NAA, DFW Airport would not complete the Proposed Action. The airport would not be able to remove the old, outdated infrastructure, and would incur significant maintenance and repair costs. Furthermore, not demolishing and rebuilding the High-C gates would result in some aircraft operations experiencing delays due to lack of an adequate supply of contact gates. The No Action Alternative does not meet the stated purpose and need for this project.

To satisfy the intent of NEPA, FAA Order 1050.1F: Environmental Impacts Policies and Procedures and FAA Order 5050.4B: Implementing Instructions for Airport Actions; and other special purpose environmental laws, a No Action Alternative is carried forward in the analysis of environmental consequences.

3.2 PROPOSED ACTION ALTERNATIVE

The Proposed Action is the High C Gates Demolition and Reconstruction project which would involve the demolition of up to five gates at Terminal C, commonly known as the High-C gates and the construction of the replacement High-C gates (C33, C35, C36, C37 and C39). The construction of the Proposed Action is expected to begin late February 2021 and end in June 2022. The Proposed Action is anticipated to cost approximately \$96 Million. The proposed project area is approximately 12-acres. The Proposed Action would abate and demolish the existing 72,000 square feet (SF) facility and construct a 2-level building with up to five gates and measuring between 80,000 SF and 110,000 SF (**Figure 3: Proposed Action Site Plan**).

The Proposed Action would be designed to improve customer experience; the existing High-C gates were designed and constructed in the 1980's, under very different requirements for security and customer service. The renovated High-C gates will reflect the latest technology and provide the highest level of customer service to airlines and the traveling public. The Proposed Action would remove and replace the same facilities in kind. Similar to the existing temporary gates, the proposed project will support narrow-body aircraft operations. No additional aircraft operations would be induced by the Proposed Action.

The Proposed Action is located within the Airport's Air Operations Area (AOA) boundary fence; during construction, the contractor would relocate the AOA boundary fence such that the project area is on the landside. Having the project work area outside of the AOA boundary will help maintain a safe and efficient construction work environment. Although the project area and staging yard would be strategically designed as non-AOA, the contractor would traverse the east airfield, across runways 17C/35C and 17R/35L in order to move materials and equipment between the staging yard and the project area. Limited, short-term runway closures to facilitate the crossing of Runways 17C/35C and 17R/35L will be needed. Runway closures will have minor, temporary impacts to east airfield operations.

Specific components that make up the scope of the Proposed Action are summarized below (Appendix A: Design Schematic Exhibits):

- Demolition and removal of existing structures and all associated equipment
- Construction of a Prefabricated Modular fully airtight and watertight building envelope
- Installation of all mechanical, electrical and plumbing (MEP) utilities for the High C gates
- Installation of dual-feed communication and electric-power systems, to maintain full facility functionality during power outage events
- Relocation and modification of the existing ramp fuel system including reconstructing the hydrant fuel pits to align with the new aircraft layout
- Construction of conduit utility lines or ductbanks that will allow for the design, construction, and implementation for Intelligent Transportation Systems (ITS), access control, flight information display system (FIDS) and security systems
- Installation of the upgraded Baggage Handling System (BHS), Passenger Boarding Bridges (PBBs) with associated ground support equipment (GSE), preconditioned air



- units (PCA), 400 Hz ground power units (GPUs), aircraft auto-docking equipment, new Potable Water Cabinets and eye wash stations
- Modifications to the surrounding pavement and above and below grade utility lines, conduit or ductbank, including, drainage infrastructure, fire hydrants, chilled water/steam/condensate infrastructure, control air lines, potable water supply, sanitary sewer, reclaimed water, natural gas, communications, and electric-power lines
- Reconfiguration of the airside ramp area as well as the lavatory-service truck staging parking lot; and
- Installation of AOA security fence, upon completion of the construction work effort

3.3 CONNECTED ACTIONS

Project Support Locations (Contractor Staging and Materials Laydown Yard): A contractor staging, and materials laydown yard will be used to support the Proposed Action. The yard will be located within an existing established contractor staging area on the east side of the airport (**Figure 4: Connected Actions/Contractor Staging**). In addition to mobilization within the staging yard, the contractor will reconstruct and widen the staging yard access road as well as construct an asphalt drive to move the prefabricated units from the staging yard to the airfield. Upon completion of the proposed project, the staging yard will be cleaned, restored, and stabilized in compliance with all applicable local, State, and Federal rules and regulations.



SECTION 4 AFFECTED ENVIRONMENT

This section describes the environmental conditions potentially affected within the project area and related regulations. Where potential impacts exist, conditions or mitigation measures to offset these impacts are detailed in **SECTION 5**.

The CEQ regulations (§1501.7) state that the lead agency shall identify and eliminate from detailed study the issues which are not important, or which have been covered by prior environmental review, narrowing the discussion of these issues in the document to a brief presentation of why they would not have a substantial effect on the human environment. **Table 4.1** illustrates the rationale behind the elimination of the resources/impact areas that were not included in the detailed study, in accordance with CEQ §1501.7.

4.1 RESOURCE CATEGORIES NOT AFFECTED

Based on the results of a project site visit and database review, the Proposed Action would have no direct or indirect impact to the following categories because these resources do not occur within the Project Area or at DFW. **Table 4-1** provides the environmental resource categories that have been eliminated from further consideration and evaluation in this EA.

Area	Significance Threshold	Rationale for Elimination
Biological Resources (Federally listed species, State-listed, and critical habitats)	 The USFWS or the National Marine Fisheries Service determines that the action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species or would result in the destruction or adverse modification of federally designated critical habitat. If the action would have the potential for: A long-term or permanent loss of unlisted plant or wildlife species, i.e., extirpation of the species from a large project area (e.g., a new commercial service airport); Adverse impacts to special status species (e.g., state species of concern, species proposed for listing, migratory birds, bald and golden eagles) or their habitats. Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations; or Adverse impacts on a species' reproductive success rates, natural 	No Effect. The Proposed Action would be constructed on existing, paved surfaces and within previously developed areas of the airport. The Information for Planning and Consultation (IPaC) Environmental Conservation Online System (ECOS) database provided a list of Federally listed species that could potentially occur in Tarrant County (Appendix B). Of these species, no Federally listed species or their critical habitat would be potentially impacted by the Proposed Action. With regard to other listed species, and species protected under the MBTA, the area affected by the Proposed Action is already developed and does not contain habitat that would support nesting activities. Therefore, the Proposed Action would not meet or exceed significance thresholds for biotic resources. Construction of the Proposed Action would not impact Biological Resources or result in Secondary Impacts. As such, no mitigation is required or proposed.

Table 4-1 Resources/Impact Areas Not Carried Forward for Detailed Analysis

Area	Significance Threshold	Rationale for Elimination	
	mortality rates, non-natural mortality (e.g., road kills and hunting), or ability to sustain the minimum population levels required for population maintenance.		
Coastal Resources	• A determination by a State having an approved Coastal Zone Management (CZM) program that the proposed action would not be consistent with the applicable CZM plan, which cannot be avoided, minimized, or mitigated.	No Impact. There are no coastal resources located within or adjacent to the proposed project area.	
Department of Transportation Act Section 4(f)	 The action involves more than a minimal physical use of a Section 4(f) resource or constitutes a "constructive use" based on an FAA determination that the aviation project would substantially impair the Section 4(f) resource. 	No Impact. There are no Section 4(f) properties within the proposed project area. A review of potential Section 4(f) resources in the vicinity of the Proposed Action was completed by reviewing the Parks and Recreation Master Plans for the cities adjacent to DFW Airport— Fort Worth, Euless, Coppell, Irving, and Grapevine. No Section 4(f) resources were found within the DFW property boundary (approximately 27 square miles). The review was also included in the cultural resources evaluation report and during coordination with the Texas Historic Commission (THC), Appendix C . Therefore, the Proposed Action would not result in the physical use or constructive use of any Section 4(f) resource. As such, the Proposed Action would not meet or exceed significance thresholds for Section 4(f) resources.	
Farmlands	• The action would have the potential to convert important farmlands to non-agricultural uses. According to the Farmland Protection Policy Act (FPPA) important farmlands include pastureland, cropland, and forest considered to be prime, unique, or statewide or locally important land.	No Impact. The Proposed Action Alternative would be located on DFW airport property. It would not require the acquisition of prime, unique, or state or locally significant farmland or the conversion/use of these types of farmlands that are protected by the Federal Farmland Protection Policy Act (FPPA). There are no farmlands within or adjacent to the project area; as such, the Proposed Action would not impact farmlands.	
Floodplains	 The proposed action would have a notable adverse impact on natural and beneficial floodplain values. 	No Impact. There are no floodplains within or immediately adjacent to the proposed project area as determined by review of National Flood Insurance Rate Maps (FIRM) published by the Federal Emergency Management Agency (FEMA). The FEMA FIRM illustrated the entire	

Area	Significance Threshold	Rationale for Elimination
		site to be located above the 100-year floodplain [Map Number 48439C0120K; effective 9/25/2009] (Figure 5)
Groundwater	 Exceed groundwater quality standards established by Federal, state, local, and tribal regulatory agencies. Contaminate an aquifer used for public water supply such that public health may be adversely affected. 	No Impact. According to the Interactive USEPA Sole Source Aquifer Map, the closest sole source aquifer, the Edward's Aquifer, is located over 100 miles south of the proposed project area (USEPA 2017).
Land Use	 Existence of noise sensitive receptors adjacent to the project area. Potential for impacts that have land use ramifications, for example, disruption of communities or induced socioeconomic impacts. 	No Impact. All surrounding land uses adjacent to the proposed site are currently compatible with the proposed activities and are planned to be compatible with all reasonably foreseeable future developments in the area. Projects would be developed entirely on airport property and is compatible with DFW Airport's on-airport land use plans.
Natural Resources and Energy Supply	• The proposed action would result in an increase in demand of natural resources or energy supply that exceeds the available supply.	No Impact. The Proposed Action would increase energy demand and consumption of natural resources during construction; however, this increased demand would not exceed the regional supply of energy or convertible natural resources. The Proposed Action will comply with the DFW Board Sustainability requirements and the applicable Green Building Standards.
Noise	• The action would cause noise sensitive areas to experience an increase in noise of day-night sound level (DNL) 1.5 decibels (dB) or more at or above DNL 65 dB noise exposure when compared to the no action alternative for the same timeframe.	No Impact. The activities associated with the proposed project would not change the number of aircraft operations or aircraft operational patterns; thus, there would be no change to aircraft noise exposure. There would be temporary, short term noise impacts associated with construction activities. The temporary noise impact would be on-airport and would not exceed any noise exposure thresholds.

Area	Significance Threshold	Rationale for Elimination
Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks	 Extensive relocation of residents is required, but sufficient replacement housing is unavailable. Extensive relocation of community businesses that would create severe economic hardship for the affected communities. A substantial loss in the community tax base. Disproportionately high and adverse human health or environmental effects on minority and low-income populations. Disproportionate health and safety risks to children. 	No Impact. Implementation of the Proposed Action would not substantially change the prevailing socioeconomic conditions, because there would not be any relocation of residents, relocation of businesses located within or adjacent to the project area due to the Proposed Action, or a substantial loss in the tax base of any community, which would not create a disproportionately high and adverse human health or environmental effect on minority or low-income populations. As such, both an analysis of the socioeconomic conditions and environmental justice are excluded from further detailed analysis. Additionally, implementation of the Proposed Action would not pollute drinking water sources adjacent to the proposed site, would not increase the level of pesticides in food crops or animals, and would not increase the level of Pb contamination adjacent to areas where children are likely to be located. Also, due to restricted access, the Proposed Action would not pose an attractive nuisance hazard that could endanger the health and safety of local children. As a result, this issue is being excluded from detailed study.
Visual Effects including light emissions	 The FAA has not established a significance threshold for Visual Resources, Visual Character, or Light Emissions. 	No Impact. Implementation of the Proposed Action would not result in a material change the visual character and light emissions at DFW Airport.
Wild and Scenic Rivers	• A determination that the effects on a Natural Resources Inventory (NRI) river segment are significant or would preclude inclusion in the Wild and Scenic River System or downgrade its classification.	No Impact. According to the National Wild and Scenic Rivers System (2017), there are no wild or scenic rivers or eligible rivers located within or adjacent to the proposed project area.

Figure 5: FEMA Flood Insurance Rate Map Panel 48439C0120K



Legend



4.2 AIR QUALITY

4.2.1 Regulatory Background

The Clean Air Act (CAA) requires that states adopt Ambient Air Quality Standards. The standards have been established to protect the public from potentially harmful amounts of pollutants. Under the CAA, the United States Environmental Protection Agency (USEPA) established the National Ambient Air Quality Standards (NAAQS), which include standards for several criteria pollutants. NAAQS have been set for the following six pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM), and sulfur dioxide (SO₂) (**Table 4-2**).

Based on air monitoring data and in accordance with the CAA, areas within the United States are designated with respect to their attainment status with the NAAQS. Areas that meet the NAAQS are designated as attainment, those that do not meet the standards are designated as nonattainment¹, and those that are in transition from nonattainment to attainment are designated as maintenance². Ozone nonattainment areas are further classified as extreme, severe, serious, moderate, and marginal by the degree of non-compliance with the NAAQS.

¹ 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. Some regulatory provisions, for instance the CAA General Conformity regulations, apply only to areas designated as nonattainment or maintenance.

² A maintenance area describes the air quality designation of an area previously designated nonattainment by the EPA and subsequently redesignated attainment after emissions are reduced. Such an area remains designated as maintenance for a period up to 20 years at which time the state can apply for redesignation to attainment, provided that the NAAQS were sufficiently maintained throughout the maintenance period.

	Averaging	Standard		Type of	
Pollutant	Time	ppm/ppb	µg/m³	Standard	Form
	1 hour	35 ppm		Primary	Not to be exceeded
CO	8 hours	9 ppm		Primary	more than once annually
	Rolling			Primary	
Pb	quarter		0.15 µg/m³	Secondary	Not to be exceeded
					98th percentile of 1-hour daily maximum
					concentrations,
	1 hour	100 ppb		Primary	averaged over 3 years
				Primary	
NO ₂	1 year	53 ppb		Secondary	Annual Mean
					Annual 4 th highest daily maximum 8-hour
				Primary	concentration,
O ₃	8 hour	0.070 ppm		Secondary	averaged over 3 years
				Primary	Not to be exceeded more than once annually
PM ₁₀	24 hours		150 µg/m³	Secondary	on average over 3 years
	1 year		12.0 µg/m ³	Primary	Annual mean, averaged over 3 years
	1 year		15.0 µg/m³	Secondary	Annual mean, averaged over 3 years
				Primary	
PM _{2.5}	24 hours		35 µg/m³	Secondary	98 th percentile, averaged over 3 years
					99th percentile of 1-hour daily maximum
					concentrations,
	1 hour	75 ppb		Primary	averaged over 3 years
					Not to be exceeded
SO ₂	3 hours	0.5 ppm		Secondary	more than once annually
Notes:					

Table 4-2 National Ambient Air Quality Standards

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

4.2.1 Existing Conditions

Based on air quality monitoring data collected by the Texas Commission on Environmental Quality (TCEQ), the DFW metropolitan area has been designated as an attainment area for all USEPA criteria pollutants except for O₃. The DFW metropolitan area is currently designated as a "serious³" nonattainment area under the 2008 8-hour, 0.075 ppm O₃ standard, and has not yet been designated for the 2015 8-hour, 0.070 ppm standard (USEPA, 2017). Under the reclassification of "serious", the DFW metropolitan area is required to meet the 2008 ozone NAAQS as expeditiously as practicable, but no later than July 20, 2021. The DFW metropolitan area remains in attainment for all other criteria pollutants.

³ The DFW metropolitan area was previously designated as a "moderate" nonattainment area under the 2008 8-hour, 0.075 ppm O₃ standard, and is designated as "marginal" nonattainment for the 2015 8-hour, 0.070 ppm standard (USEPA, 2017). On September 23, 2019 the USEPA issued a rule to reclassify the DFW metropolitan area to "serious".

Because of the nonattainment status for the 2008 8-hour O_3 standard, TCEQ prepared a State Implementation Plan (SIP) to help guide the area into meeting the 8-hour NAAQS by 2017. 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 nonattainment areas into compliance with the NAAQS by a designated deadline. The SIP focuses on reducing the two primary pollutants that lead to O_3 formation: volatile organic compounds (VOCs) and nitrogen oxides (NOx).

4.2.2 General Conformity

The *General Conformity Rule* established a process based on emissions analysis to determine whether a Federal action conforms to the SIP. General Conformity refers to the requirements under Section 176(c) of the CAA for Federal agencies to show that their actions conform to the purpose of the applicable SIP. As described in 40 CFR 51 and 93, issued by the USEPA, General Conformity analysis evaluates both direct emissions and indirect emissions, as defined by the 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 nonattainment or maintenance area but occur at a different time or place from the action
- That are reasonably foreseeable
- That the agency can practically control; and
- For which the agency has continuing program responsibility.

When developing the *General Conformity Rule*, the USEPA recognized that many actions conducted by Federal agencies do not result in substantial increases in air pollutant emissions in nonattainment and maintenance areas. Therefore, the USEPA established threshold levels (also referred to as *de minimis* levels) for emissions of each of the criteria pollutants. If the sum of the increases in direct and indirect emissions caused by a project is calculated to be below the *de minimis* levels, no further air quality analysis is needed, and the project would not require a General Conformity Determination. The DFW metroplex is currently classified as a serious nonattainment area under the 2008 ozone standard, and the resulting *de minimis* level is 50 tons per year (tpy) for VOC or NOx.

4.2.3 Sources of Airport Air Emissions

DFW Airport, like most metropolitan airports, experiences air emissions from aircraft; ground service equipment; motor vehicles; fuel storage and transfer facilities; stationary sources—steam boilers, back-up generators, refuse incinerators, etc., an assortment of aircraft maintenance activities (e.g., minor painting, cleaning and repair); routine airfield, roadway, and building maintenance activities (i.e., cleaning, painting and repair); and periodic construction activities for new projects or improvements to existing facilities. Construction-related emissions include on-road and off-road construction equipment. Even though these emissions are temporary, they are potentially subject to the CAA General Conformity requirements and make up part of the SIP

emissions budget for the DFW nonattainment area. For this reason, a construction emissions inventory analysis was completed for the proposed project.

To determine whether a General Conformity Determination is required, the USEPA has established *de minimis* levels for the non-attainment air pollutants. For the pollutant O_3 , its precursors (i.e., VOCs and NOx) are used as surrogates. The applicable *de minimis* values are 50 tpy for VOCs and 50 tpy for NOx. Notably, because the area around DFW is designated as an attainment area for CO, particulate matter (PM₁₀), and sulfur oxides (SOx), General Conformity regulations do not apply to these criteria pollutants.
4.3 CLIMATE

4.3.1 Regulatory Background

The impact of proposed projects on climate change is a growing concern. Greenhouse gases (GHGs) are those that trap heat in the earth's atmosphere; these include water (H₂O) vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and O₃. Research has shown that there is a direct link between fuel combustion and GHG emissions. Therefore, sources that require fuel or power at an airport are the primary sources that would generate GHGs. Aircraft are probably the most often cited air pollutant source, but they produce the same types of emissions as cars. Aircraft jet engines, like many other vehicle engines, produce CO₂, H₂O vapor, N₂O, CO, oxides of sulfur, unburned or partially combusted hydrocarbons or VOCs, particulates, and other trace compounds.

According to the 1050.1F Desk Reference, "The Intergovernmental Panel on Climate Change (IPCC) estimates that aviation accounted for 4.1% of global transportation greenhouse gas (GHG) emissions. In the United States, EPA data indicate that commercial aviation contributed 6.6% of total CO_2 emissions in 2013, compared to other sources, including the remainder of the transportation sector which accounted for 20.7%, industry (28.8%), commercial (16.9%), residential (16.9%), agricultural (9.7%), and U.S. territories (0.05%)⁴ (EPA 2015).

Scientific research is ongoing to better understand climate change, including any incremental atmospheric impacts that may be caused by aviation. The most comprehensive is a multi-year program geared towards quantifying climate change effects of aviation. This program is called the Aviation Climate Change Research Initiative (ACCRI) and is funded by the FAA and the National Aeronautics and Space Administration (NASA).

Increasing concentrations of GHGs in the atmosphere affect global climate (IPCC 2014). GHG emissions result from anthropogenic sources, including the combustion of fossil fuels. GHGs are defined as including CO_2 , CH_4 , N_2O , hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). 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."

Researchers developed the Global Warming Potential (GWP) as a way to compare the global warming impacts of different gases, by converting each gas amount to a carbon dioxide equivalent (CO_2E). GWPs provide a common unit of measure, which allows for consistency when estimating emissions of these different gases. CO_2 has a GWP of one because it is the gas used as the reference point. CH_4 does not last as long in the atmosphere as CO_2 ; however, it absorbs much more energy. Therefore, one ton of CH_4 has 28 times more heat capturing potential than one ton of CO_2 . The amount of CH_4 emissions would be multiplied by 28 to determine its CO_2E value. NO_X lasts in the atmosphere far longer than CO_2 . The amount of nitrous oxides emissions would be multiplied by 298 to determine its CO_2E value.

⁴ GHG allocation by economic sector. Environmental Protection Agency (2015). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013.

Climate change is a global phenomenon that can have local impacts. 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. Research has shown there is a direct correlation between fuel combustion and GHG emissions. The characteristics of GHGs and their rapid dispersion into the global atmosphere makes GHGs different from other air pollutants evaluated in federal environmental reviews, because the impacts are not localized or regional. The Resource Study Area for CO₂ and other GHG emissions is the entire planet. In addition, from a quantitative perspective, and in terms of both absolute numbers and types, global climate change is the cumulative result of numerous and varied natural and anthropogenic emissions sources. Each source makes a relatively small addition to global atmospheric GHG concentrations.

Although uncertainties are too large to accurately predict the timing, magnitude, and location of aviation's climate impacts, minimizing GHG emissions and identifying potential future impacts of climate change are important for a sustainable national airspace system. The FAA has not identified significant thresholds for climate (FAA Order 1050.1F, Exhibit 4-1).

4.3.2 Existing Conditions

Airport development has the potential to both affect climate change and to be affected by it. Changes in resource categories such as air quality, natural resources, and energy supply can potentially contribute to climate change by increasing the amount of GHGs emitted. However, the contribution of GHGs from the aviation industry in the U.S. is a small component of U.S. GHG emissions. The GHG contributions become much smaller as the scale of analysis is reduced to an individual transportation project and it is difficult to isolate and understand the GHG emissions impacts for any particular transportation project. Presently, there is no scientific methodology for attributing specific climatological changes to a particular transportation project's emission.

4.4 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

4.4.1 Regulatory Background

The handling and disposal of hazardous materials, chemicals, substances, and wastes, is governed by four primary laws; these include the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended (more commonly known as "Superfund"); the Pollution Prevention Act (PPA); the Toxic Substances Control Act (TSCA), as amended; and the Resource Conservation and Recovery Act (RCRA), as amended. RCRA governs the generation, treatment, storage, and disposal of solid and hazardous wastes. CERCLA provides for consultation with natural resources trustees and cleanup of any release of a hazardous substance (excluding petroleum) into the environment.

In addition to these laws, three Executive Orders have been designated to ensure Federal compliance with pollution control standards, Federal right-to-know laws, and Superfund implementation. FAA Orders 1050.1F and 5050.4B do not provide a specific threshold of significance for hazardous material and solid waste impacts. However, they offer that actions involving property listed (or potentially listed) on the National Priorities List (NPL) would be considered significant.

Solid waste is generally defined in RCRA as any discarded material that is abandoned, recycled, considered inherently waste-like, or a military munition (refer to 40 CFR 261.2 for further details).

The definition of a hazardous material, hazardous waste, and a hazardous substance follow:

- Hazardous Material any substance or material that has been determined to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce (49 CFR §172, Table 172.101). This includes hazardous substances and hazardous wastes.
- *Hazardous Waste* a waste is considered hazardous if it is listed in RCRA regulations, or meets the characteristics described in 40 CFR §261, including ignitability, corrosivity, reactivity, or toxicity.
- *Hazardous Substance* any element, compound mixture, solution, or substance defined as a hazardous substance under the CERCLA and listed in 40 CFR §302. If released into the environment, hazardous substances may pose substantial harm to human health or the environment.

4.4.2 Existing Conditions

Since the disruption of sites and facilities containing hazardous materials (including hazardous wastes, hazardous substances, environmental contamination, and other regulated substances such as asbestos, fuel and waste oil) can potentially impact soils, surface/groundwater, and air quality, this section provides an overview of what is known about these areas located in the vicinity of the proposed project area. This information is presented to help determine what effect, if any, the proposed project will have on these sites and vice versa.

4.4.2.1 Hazardous Waste

Per the EPA's NPL database, there are no properties listed (or proposed) on the NPL in the Project Study Area. According to the DFW, there were no known hazardous substance investigation and cleanup sites and there are no known ongoing corrective actions being conducted within the project area.

The potential for asbestos containing materials (ACM) has been confirmed in the High-C gates project area. The ACMs may potentially be found to be in different parts of the building, including the mastic and caulking. A comprehensive asbestos assessment will inform the process of abating of any ACMs within the project area; abatement actions would be handled in compliance with all applicable federal and State regulations. In areas were ACMs are uncovered, no work would be permitted until the materials in question have been abated or are found to be non-asbestos containing.

In addition to the ACM hazardous materials, the proposed project is located immediately adjacent to an area where jet fuel has been released into the environment and has resulted in subsurface contamination. The historic jet fuel releases were managed under an Agreed Order with the TCEQ's Voluntary Cleanup Program (VCP). The Agreed Order required identification of areas of concern, active monitoring and remediation of any jet fuel plumes within the areas of concern on the airport. In August 2020, DFW received TCEQ's regulatory closure of the Agreed Order; this closure means that there is still subsurface hydrocarbon contamination however, there is no need for continued physical extraction and pumping in efforts to remove contaminated media. Additionally, the closure concurs that the contamination is contained, and the hydrocarbon plume is not migrating or causing further environmental degradation. As such, the closure allows DFW to continue to monitor the area of concern and leverage natural degradation and decomposition processes as the remediation. DFW has approximately 28 active monitoring wells near the High-C gates project area; these wells will be maintained and monitored in compliance with the Agreed Order Closure requirements.

The reconstruction and reconfiguring of the hydrant fuel system at the High-C gates will likely result in the disturbance of fuel contaminated media. Should any contaminated soil or water be unearthed during the construction of the Proposed Action, the materials would be handled in accordance with the DFW Contaminated Media Management Plan (CMMP) as well as in compliance with any applicable local, state, and Federal regulations.

4.4.2.2 Solid Waste

Solid waste in the project area is generated by various activities associated with the demolition and reconstruction of the High-C gates. The Airport collects this solid waste and evaluates it to determine where it is to be disposed. Waste Management of Texas collects and transports DFW's municipal solid waste (MSW) to the DFW Landfill in Lewisville. The DFW Landfill is appropriately permitted and located approximately nine miles north-northeast of the airport. The DFW Landfill is consistent with guidance provided in FAA Advisory Circular (AC) 150/5200-33B, *Hazardous Wildlife Attractants on or Near Airports* and FAA Order 5200.5A, *Waste Disposal Sites on or Near Airport.*

DFW Airport also has a consolidated materials recycling and reuse program that provides recycling containers⁵ and a materials management site for construction projects. DFW Airport recycles a variety of materials including but not limited to construction and demolition waste, paper, cardboard, wood, metal, concrete, soil, and tires. DFW Airport proposes through the Sustainability Management Plan (SMP) to decrease the generation of municipal solid waste (MSW) and hazardous materials by establishing targets while increasing recycling efforts in the terminals and airport offices.

4.5 HISTORICAL, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES

4.5.1 Regulatory Background

Section 106 of the National Historic Preservation Action (NHPA):

The National Historic Preservation Act (NHPA) requires Federal agencies to identify significant cultural resources that may be affected by their actions and mitigate adverse effects to those resources. The NHPA (54 USC 300101), specifically Section 106 of the NHPA (54 USC 306108) requires the State Historic Preservation Office (SHPO), represented by the Texas Historical Commission (THC), to administer and coordinate historic preservation activities, and to review and comment on all actions licensed by the Federal government that will have an effect on properties listed in the National Register of Historic Places (NRHP), or eligible for such listing. Section 106 of NHPA is the principal statute concerning such resources. It requires consideration of direct and indirect impacts from federal actions on historic, architectural, archaeological, and other cultural resources. The assessment of significance of a cultural resource is based on federal guidelines and regulations.

The criteria for evaluating properties for inclusion in the NRHP are codified under the authority of the NHPA, as amended (36 CFR Part 60.4 [a–d]), and the Advisory Council on Historic Preservation has set forth guidelines to use in determining site eligibility. Federal regulations indicate that "[t]he term 'eligible for inclusion in the National Register' includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet National Register listing criteria" (36 CFR §800.2[e]). Based on Advisory Council guidelines, any cultural resource that is included in or eligible for inclusion in the NRHP is a historic property.

Subsequent to the identification of relevant historical themes and related research questions, four criteria for eligibility are applied:

- *Criterion A:* that are associated with events that have made a significant contribution to the broad patterns of our history; or
- *Criterion B:* that are association with the lives of persons significant in our past; or

Criterion C: that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or Criterion D: that have yielded, or may be likely to yield, information important in prehistory or history [36 CFR Part 60.4(a-d)]. *Criteria for NRHP Criteria for Evaluation exclude properties that are 50 years Consideration G or less unless they are of exceptional importance, Criteria Consideration G allows for NRHP eligibility if the cultural resource has achieved exceptional importance on the local, state, or national level within the last 50 years.

Antiquities Code of Texas (ACT):

Since DFW Airport is a political subdivision of the State of Texas, it is required to comply with the Antiquities Code of Texas (ACT). The ACT was passed in 1969 and requires state agencies and political subdivisions of the state (i.e. cities, counties, river authorities, municipal utility districts, school districts, etc.) to notify the THC of ground-disturbing activities on public land that have the potential to impact archeological sites. Advance project review and coordination by the THC is required only for undertakings with more than five acres or 5,000 cubic yards of ground disturbance. However, if the activity occurs inside a designated historic district, affects a recorded archeological site, or requires onsite investigations the project will need to be reviewed by the THC regardless of project size.

4.5.2 Existing Conditions

The Area of Potential Effects (APE) is "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties" (36 C.F.R. § 800.16(d)). For purposes of Section 106, the term "historic properties" can include architectural, archeological, or cultural resources.

For this analysis, a Direct APE and an Indirect APE was established; the Direct APE is defined as the area where direct impacts may result from the Proposed Action and its alternatives. The Direct APE boundary was developed using the area of physical disturbance. The Direct APE encompasses approximately 12-acres. This area is broken down as approximately 2.5-acres of building footprint, ~7.5-acres of ramp and terminal-apron areas that will be repaired and restriped, and ~2-acres of contractor staging yards. The Indirect APE boundary was established within 300 feet of the proposed Building. (See **Appendix C: Cultural Report and SHPO Concurrence**).

4.5.2.1 Architectural and Historic-Period Resources

A review of the THC's Texas Historic Site Atlas (THSA) illustrated that there were no NRHP listed properties, State Antiquities Landmarks (SALs), historical markers, or cemeteries located within the APE (THC THSA 2017). Historical aerial photographs showed that all buildings existing within the direct APE prior to the construction of the DFW Airport were removed in the 1960s.

The existing High-C Gates were constructed in 1988; presently, the indirect APE is occupied by a terminal building, terminal apron, aircraft ramps, and aircraft maintenance and storage rooms, and a truck staging court. Through the reconnaissance survey of the indirect APE, it was determined that no historic-age resources were present. One resource, Terminal C, ~45 years in age was identified during the site survey; this resource was evaluated for NRHP eligibility under the four Criteria for Eligibility as well as under Criteria Consideration (**Appendix C**). The evaluation for historic significance concluded that Terminal C was not individually eligible for listing on the NRHP. The SHPO concurred with the recommendations and determined that the proposed High-C gates project would not impact the existing Terminal C building and the project could proceed as planned (see **Appendix C** for the THC Concurrence Letter).

4.5.2.2 Archeological Resources

A file search within the Texas Archeological Sites Atlas (TASA) maintained by the THC identified no previously recorded archeological sites, National Register Properties, historical markers, or cemeteries located within or within 1-mile of the APE (TASA 2018).

Data presented within the PALM for Tarrant County indicates that the entire APE featured a negligible potential for both shallow and deeply buried cultural deposits with reasonable contextual integrity. In 2007 and 2008 AR Consultants, Inc. (ARC) conducted intensive pedestrian surveys of 1,210 acres of the airport and found that there was a low probability for containing prehistoric sites (Shelton et al. 2008:17). THC concurred with ARC's findings. Therefore, based on previous research and THC coordination, as well as current observations, the APE has a negligible potential to contain prehistoric archeological sites.

4.6 LAND USE (PERMITS AND CONSTRUCTION EFFECTS)

4.6.1 Regulatory Background

Construction impacts are generally short-term and can include construction noise, dust and traffic, disposal of construction debris, and short-term impacts to air and water quality. FAA ensures that, at a minimum, an Airport Sponsor will incorporate the construction guidance and impact minimization measures prescribed in *FAA Advisory Circular (AC)* 150/5370-10G, *Standards for Specifying Construction at Airports*. An Airport Sponsor must also comply with 40 Code of Federal Regulation (CFR) Part 122, EPA Administered Permit Programs: The National Pollution Discharge Elimination System (NPDES) for construction activities. The EPA has delegated the authority to implement the NPDES program at the state level. In Texas, this permit program is known as the Texas Pollution Discharge Elimination System (TPDES); it is administered by the Texas Commission on Environmental Quality (TCEQ).

4.6.2 Existing Conditions

DFW currently operates as a large-hub airport, serving approximately 73Million passengers in 2019. The airport property is characterized by terminal buildings and airport administrative building, operations support facilities, airfield infrastructure, roadways, and commercial development industrial buildings. Airport construction activities have the temporary changes to environmental resource categories. The changes to resource categories such as air quality, water quality, surface traffic/congestion, and noise caused by construction equipment can result in temporary impacts to the resources. To reduce the effects of the on-airport construction activities, DFW implements mitigation measures such as dust control plans, traffic management plans, and storm water pollution prevention structural controls.

4.7 WATER RESOURCES

4.7.1 Surface Water and Stormwater Treatment

4.7.1.1 Regulatory Background

In 1972, the Federal Water Pollution Control Act Amendments, commonly known as the Clean Water Act (CWA), was passed. This legislation has received numerous amendments over the years with the latest being 2002 under the Great Lakes Legacy Act.

Section 101 (a) describes the overall objective of the CWA, which is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. To this end, a Federal permitting system was established to regulate discharges into waters of the United States (WOUS).

Section 401 of the CWA relies on the States to issue a water quality certification concurrently with other Federal discharge permits, thereby certifying that the proposed discharges into State waters will not detrimentally affect overall water quality. Section 402 of the CWA is the basis for the National Pollutant Discharge Elimination System (NPDES) program which permits discharges of known pollutants into waters. Section 403 specifically concerns discharges of pollutants into oceans, while Section 404 concerns permits for dredged or fill material into waters of the United States.

Sections 303(d) and 305(b) of the CWA require all states to identify and characterize waters that do not meet, or are not expected to meet, water quality standards. The TCEQ's 2014 Integrated Report for CWA Sections 303(d) and 305(b) characterizes the quality of Texas surface waters and identifies those waters that do not meet water quality standards on the Section 303(d) list, an inventory of impaired waters.

4.7.1.2 Existing Conditions

Drainage within the Proposed Project area is conveyed to the Landside and Airside through separate stormwater conveyance systems. Landside drainage, including some roof drainage from the existing terminal facility, is conveyed to the stormwater drain system under the Lower Roadway. The drainage is then conveyed to the airport's Stormwater System Trunk Line T1A, an 84-Inch Reinforced Concrete Pipe. On the AOA side, stormwater is collected in a series of storm drain inlets containing vapor barrier baffles. This stormwater is then conveyed to a fuel separators structural controls that capture first flush stormwater and conveys it to the First Flush Stormwater System (FF) with the excess stormwater conveyed to the airport's Stormwater System Trunk Line A2A, a 48" Reinforced Concrete Pipe. No tributaries or water bodies located on DFW Airport were listed on the TCEQ Section 303(d) list (TCEQ 2014).

4.7.2 Waters of the United States including Wetlands

4.7.2.1 Regulatory Background

Executive Order (EO) 11990, Department of Transportation (DOT) Order 5660.1A, the Rivers and Harbors Act of 1899, and the CWA address activities in wetlands. EO 11990 requires Federal agencies to ensure their actions minimize the destruction, loss, or degradation of wetlands. It

also assures the protection, preservation, and enhancement of the Nation's wetlands to the fullest extent practicable during the planning, construction, funding, and operation of transportation facilities and projects. Section 404 of the CWA of 1977 authorizes the Secretary of the Army, acting through the United States Army Corps of Engineers (USACE), to issue permits for the discharge of dredged or fill material into waters of the United States, including wetlands. WOUS, as defined in 33 CFR Section 328.3(a) of the CWA, are those waters used in interstate or foreign commerce, subject to ebb and flow of tide, and all interstate waters including interstate wetlands.

4.7.2.2 Existing Conditions

Field surveys of the proposed project site showed that the project area is characterized by impervious surfaces and therefore no water resources—wetlands and WOUS—are within the project area. A jurisdictional tributary is located near the existing contractor staging area, within approximately 0.1 miles. The Proposed Action and the contractor staging area will not affect the nearby tributary environmental resources either directly or indirectly.

Surface Transportation

SECTION 5 ENVIRONMENTAL CONSEQUENCES

The potential environmental impacts resulting from the construction and operation of the reasonable alternatives are presented in this section. Mitigation measures are also included in this section. The following alternative scenarios are examined:

<u>Alternative</u>

Description

No Action	The NAA assumes the Proposed Project would not be implemented at DFW Airport.
Proposed Action	The Proposed Action Alternative, the sponsor's preferred alternative, includes the project as identified in Section 2, <i>Purpose and Need and Section 3.2: Proposed Action.</i> This project consists of the demolition and reconstruction of the High-C gates located at Terminal C.

A summary of significant thresholds according to FAA standards and evaluated environmental effects on each applicable resource category are summarized below in **Table 5-1**

	Significant Impacts		
Environmental Impact Category & Significance Threshold Criteria	No Action Alternative	Proposed Action Alternative	
Air Quality			
• The action would cause pollutant concentrations to exceed one or more of the National Ambient Air Quality Standards (NAAQS), as established by the Environmental Protection Agency under the Clean Air Act, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations.	No	No	
Climate	No	No	
 The FAA has not identified significant thresholds for climate (FAA Order 1050.1F, Exhibit 4-1). 			
Hazardous Materials, Solid Waste, and Pollution Prevention			
 The action would have the potential to violate applicable Federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management; 	No	No	

Table 5-1 Summary of Environmental Consequences

	Significant Impacts		
Environmental Impact Category & Significance Threshold Criteria	No Action Alternative	Proposed Action Alternative	
 Involve a contaminated site (including but not limited to a site listed on the National Priorities List); 	No	Yes (Potential presence of ACM and hydrocarbon contaminated soil)	
• Produce an appreciably different quantity or type of hazardous waste;	No	No	
Generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity; or	No	No	
Adversely affect human health and the environment.	No	No	
Historical, Architectural, Archeological, and Cultural Resources			
The action would result in a finding of <i>Adverse Effect</i> through the Section 106 process	No	No	
Land Use (Permits and Construction Effects)			
• The FAA has not established a significance threshold for land use, and the FAA has not provided specific factors to consider in making a significance determination for land use in Exhibit 4-1 of FAA Order 1050.1F. The Proposed Action is consistent with airport land use plans	No	No	
Water Resources			
Surface Water and Stormwater Treatment			
• The action would exceed water quality standards established by Federal, state, local, or tribal regulatory agencies; or	No	No	
Contaminate public drinking water supply such that public health may be adversely affected.	No	No	
Waters of the United States Including Wetlands			
• The action would adversely affect a wetland's function to protect the quality or quantity of municipal water supplies; including surface waters and sole source and other aquifers;	No	No	
 Substantially alter the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected; 	No	No	

	Significant Impacts		
Environmental Impact Category & Significance Threshold Criteria	No Action Alternative	Proposed Action Alternative	
• Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare;	No	No	
 Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands 	No	No	
 Promote development of secondary activities or services that would cause the circumstances listed above to occur; or 	No	No	
Be inconsistent with applicable state wetland strategies.	No	No	
The action would impact a WOUS	No	No	

5.1 AIR QUALITY

The impacts to air quality due to the Proposed Action were determined in accordance with the guidelines provided in FAA, *Aviation Emissions and Air Quality Handbook Version 3*,⁶ and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, which together with the guidelines of FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, constitute compliance with all the relevant provisions of NEPA and the CAA.

5.1.1 No Action Alternative Construction Emissions

The No Action Alternative (NAA) would not involve any construction activities; therefore, no construction emissions would be associated with the NAA.

5.1.2 Proposed Action Alternative Construction Emissions

Air quality and greenhouse gas emissions from construction of the Proposed Project were analyzed for anticipated construction years 2021 and 2022. The Proposed Action would result in temporary air quality effects during the demolition and reconstruction of the High-C gates. An air quality analysis was completed to determine the potential impact of the Proposed Action. The methodology used to prepare the DFW emissions inventories is consistent with the requirements outlined in the latest *FAA Air Quality Handbook and Guidance Document*. The *FAA Air Quality Handbook and Guidance Document* provides both regulatory context and technical direction for completing airport-related air quality impact assessments.

Mobile sources of air emissions include motor vehicles and other engines and equipment that can be moved from one location to another. These are typically classified as "on-road sources" and "non-road sources." On-road sources include automobiles, light-duty and heavy-duty trucks; nonroad sources include the different types of construction equipment.

Construction equipment used to complete the Proposed Action would cause a short-term increase in air emissions; these emissions include NOx and VOCs, the two primary precursors to O_3 formation. The estimated construction emissions from diesel-powered on-road vehicles and nonroad construction equipment that would be used for the Proposed Action were modeled the using the USEPA Motor Vehicles Emissions Simulator (MOVES) (2014b) (**Appendix E: Air Quality Analysis Report**).

Table 5-2 shows the estimated construction emissions associated with the Proposed Action. As depicted in **Table 5-2**, the project-related emissions are well below the *de minimis* levels of 50 tons per year for either NOx or VOCs. If the FAA approves the Proposed Action, construction activities are proposed to begin in February 2021, after FAA approval, and would be completed by in 2022.

⁶

FAA, Aviation Emissions and Air Quality Handbook Version 3 Update 1, January 2015.

Year	Project Emissions (tons/year)		General Conformity <i>De Minimis</i> Threshold (tons/year)	
	NO _x / tpy	VOCs / tpy	NOx	VOC
2021	1.27	6.96	50	50
2022	0.09	0.29	50	50

Table 5-2Proposed Project construction emissions

5.1.3 No Action Alternative Operational Emissions

The No Action Alternative (NAA) would not involve any changes airport operations and runway utilization. Therefore, no changes in operations emissions would be associated with the NAA.

5.1.4 Proposed Action Alternative

The Proposed Action would not substantially change airport operations or runway utilization. Therefore, no additional operational emissions would be associated with the implementation of the Proposed Action Alternative.

5.1.5 Mitigation

Construction and operational emissions from the Proposed Action do not exceed the General Conformity Rule applicability *de minimis* levels of 50 tpy for either NOx or VOCs. Thus, the Proposed Action does not meet the significance threshold for air quality and mitigation measures for the pollutants VOCs and NOx (as precursors to O_3 formation) would not be necessary.

To reduce any potential, temporary impacts to air quality, standard operational measures for dust control developed would be implemented during construction phases (**Appendix F: Dust Control Plan**). No local exceedances of the NAAQS for particulate matter would be expected. Precautions would be taken to limit the exposure of open soils to the atmosphere and reduce the particulate emission in and around the site. These precautions would include, but not be limited to:

- Use of water or chemicals for control of dust during construction operations, the grading of roads, or the clearing of land
- Application of water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust
- Maintaining clean roadways
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material
- The implementation of adequate containment methods during sandblasting or other similar operations
- Covering open equipment for conveying or transporting material likely to create objectionable air pollution when airborne

- Promptly removing spilled or tracked dirt and other materials from paved streets and of dried sediments resulting from soil erosion
- Reduce emissions associated with construction vehicles, including limiting unnecessary idling time and promoting the use of low-emission construction vehicles.

5.2 CLIMATE

Climate change is a global phenomenon that can have local impacts. 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. Research has shown there is a direct correlation between fuel combustion and GHG emissions.

5.2.1 No Action Alternative

With the No Action Alternative, the existing conditions at DFW would remain in place. Therefore, there would be no climate impacts not already occurring or expected to occur.

5.2.2 Proposed Action

A GHG emission inventory was prepared for the Proposed Action; since CO_2 is one of the most potent GHGs, EPA MOVES (2014b) was used to determine CO_2 and other GHG emissions from the construction equipment required to support the Proposed Action. **Table 5-3** shows the annual GHG emissions summary in metric tons per year (refer to **Appendix E** for detailed Air Quality Analysis report).

Year	Project Type	CH4 (tpy)	N2O (tpy)	CO2 (tpy)	CO2e (tpy)
	Building	0.027	0.090	3,218	3,244
	Demolition – Building & Concrete	0.021	0.037	1,081	1,093
	Drainage System	0.001	0.003	116	116
	Fencing	0.002	0.006	202	204
2021	Fuel Tanks	0.008	0.052	1,247	1,261
	NAVAIDS	0.001	0.001	119	120
	Parking Lot	0.001	0.008	176	178
	Site Work	0.009	0.018	823	829
	Terminal Apron	0.016	0.072	1,776	1,797
	Fugitive Dust Control	0.003	0.0001	39	39
	Module Transport	0.00001	0.00002	0.4	0.4
	2021 Emission Totals	0.088	0.288	8,799	8,882
	Landscaping	0.001	0.008	221	223
	Site Work	0.003	0.006	265	267
2022	Fugitive Dust Control	0.001	0.00005	13	13
	2022 Emission Totals	0.005	0.014	499	503

 Table 5-3
 Proposed Project Greenhouse Gas (GHG) Emissions

5.2.3 Mitigation

The estimated GHG emissions in **Table 5-3** are provided for informational purposes only; FAA has not identified specific factors to consider in making a significance determination for GHG emissions. There are currently no accepted methods for determining significance applicable to aviation or commercial space launch projects given the small amount of emissions they contribute. Therefore, no mitigation measures are required to mitigate the GHGs attributed to the Proposed Action.

5.3 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

5.3.1 No Action Alternative

No impacts from hazardous materials and solid waste are expected as a result of the NAA, as no construction activities would occur. DFW will maintain the existing monitoring wells as required by the 2020 Agreed Order Closure Agreement with the TCEQ. Therefore, there would be no hazardous materials or solid waste impacts not already occurring or expected to occur.

5.3.2 Proposed Action Alternative

Construction activities associated with the Proposed Action are expected to include the use of hazardous and non-hazardous materials and generation waste common to construction, including petroleum hydrocarbon-based fuels, lubricants, oils, paints, and cleaning solvents for the construction equipment. These materials would be handled and stored in accordance with all applicable Federal, state, or local regulations.

Hazardous Materials:

The Proposed Action will include modifications to the hydrant fuel pit system associated with the High-C gates. The fuel distribution system will be constructed and managed in accordance with any applicable local, State, and Federal regulation.

As previously discussed in **Section 4**, there is potential for jet fuel contaminated soil and shallowgroundwater within the proposed High-C gates project area. The hydrocarbon contaminated media would likely be disturbed during the removal, reconstruction and reconfiguration of the hydrant fuel put system on the terminal ramp area. The contaminated media resulted from historic releases of jet fuel into the environment; between 1998 and 2002, DFW and TCEQ signed an Agreed Order under the TCEQ's Voluntary Cleanup Program (VCP). The purposed of the Agreed Order was to have DFW identify and map areas affected by the jet-fuel releases and then install monitoring wells, and report on progress made in remediating the contaminated media. The Agreed Order also required the annual reporting on areas of concern, submittal of monitoring and remediation data for areas of concern on the airport. After years of consistent monitoring and remediation efforts, in August 2020, DFW received TCEQ's regulatory closure of the Agreed Order: this closure means that while there is remnant subsurface hydrocarbon contamination however, there is no need for continued physical extraction/ pumping efforts to remove contaminated media. The closure concurs that the contamination is contained, and the hydrocarbon plume is not migrating or causing further environmental degradation. As such, the closure allows DFW to continue to monitor the area of concern and leverage natural degradation and decomposition processes as the remediation. DFW has approximately 28 active monitoring wells near the High-C gates project area; these wells will be maintained and monitored in compliance with the Agreed Order Closure requirements.

Any contaminated materials (e.g. soil, concrete, water) unearthed during the construction of the Proposed Action will be handled in accordance with the DFW Contaminated Media Management Plan (CMMP) as well as in compliance with any applicable local, state, and Federal regulations.

DFW will require all contractors to submit detailed soil management and waste management plans and abide by those plans along with all applicable regulatory requirements. DFW maintains a Contaminated Media Management Plan (CMMP) that provides information and guidance on potential environmental concerns that may be encountered during the disturbance, excavation, and relocation of soils. All activities that involve disturbing or excavating soils will be performed in accordance with the CMMP and other applicable regulatory requirements. The soil samples would be analyzed for hydrocarbons in accordance with the guidelines documented in the CMMP. If deemed necessary by DFW Environmental Affairs, groundwater samples would also be collected and analyzed for hydrocarbons. Any contaminated media within the project site would be disposed of according to the CMMP and all applicable rules and regulations.

A Spill Prevention, Control, and Countermeasures (SPCC) Plan will be prepared that documents procedures that will be implemented to prevent accidental release to the environment in the event of a release. The SPCC would also include the corrective actions that would be deployed to minimize the environmental impact. Furthermore, appropriate materials management measures would be followed to prevent pollution and manage disposal of hazardous and non-hazardous substances.

There is low potential for ACM in the High-C gates project area; however, any confirmed ACM would be abated and removed from the facility and would be properly disposed of in accordance with all applicable Federal, State, and Local regulations. If any ACMs are managed in place, such abatement would be conducted in accordance with all applicable federal, State, and local regulations, and good industrial hygiene and safety practices.

Prior to conducting the proposed demolition, building modifications, and reconstruction, requisite permits, abatement specifications, and final inspections would be completed. Any adjacent areas that would be affected by the actions associated with the proposed demolition would be inspected and decontaminated to levels required by all applicable regulations.

Abatement activities during the proposed demolition and building modification project would be monitored by an Asbestos Inspector licensed by the Texas Department of State Health Services (DSHS). Adequate sampling would be conducted by a DSHS licensed inspector; samples would be analyzed in a timely manner. No work shall be permitted where suspect ACMs were uncovered, until the materials in question have been abated or are found to be non-asbestos containing. With the measures discussed above, no significant impacts related to hazardous materials would occur as a result of the Proposed Action.

Solid Waste:

Additional solid waste would be generated from construction and demolition debris associated with the Proposed Action. The solid waste would neither generate an unmanageable volume of solid waste nor affect DFW's existing solid waste management program. This solid waste would be disposed of per applicable regulations. Waste management and disposal facilities are available in the Dallas Fort Worth area to accommodate the proper disposal of solid waste. There are several active, permitted landfills near DFW. Any recyclable demolished materials would be reused to the extent possible.

No significant impacts related to hazardous materials or solid waste would occur as a result of the Proposed Action. The Proposed Action would not have the potential to violate applicable laws and regulations; does not involve a site listed on the National Priorities List; does not produce an appreciably different quantity or type of hazardous waste; does not generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would not exceed local capacity; or adversely affect human health and the environment.

5.3.3 Mitigation

DFW Airport will comply with all local, State, and Federal rules and regulations that govern the generation, handling, and disposing of any waste produced during the construction of the proposed project.

As part of the DFW Airport construction permitting process, DFW Airport will require all contractors to submit detailed soil management and waste management plans and abide by those plans along, with all applicable regulatory requirements. The contractor will develop a waste management plan and any contaminated media encountered during the construction of Proposed Action will be handled in accordance with the CMMP. All activities that involve disturbing or excavating soils will be performed in accordance with all federal, state, and local regulations.

The construction contractor would take appropriate measures to prevent, minimize, and control spills and release of hazardous materials in the construction staging yards and throughout the project area. Special provisions and contingency language would be included in the project's construction plans, to manage any hazardous materials and/or petroleum contaminated media according to applicable Federal, state, and local regulations. Any ACM abatement activities would be monitored by an Asbestos Inspector licensed by the DSHS.

Based on the hazardous materials and solid waste management strategies detailed above, the Proposed Action would not have a significant impact on waste collection, landfill capacity, and waste disposal operations; therefore, mitigation is not required.

5.4 HISTORICAL, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES

5.4.1 No Action Alternative

Under the NAA, no impacts would occur to cultural resources because no construction or other activities would occur that could disturb any cultural resources.

5.4.2 Proposed Action Alternative

A Cultural Resources Survey of the project area was conducted between February and June 2019. As part of the cultural resource's evaluation, a background review, including a literature and online search was conducted to determine if potential cultural resources were located within the in the Direct and Indirect APE.

From the background review and site visit, it was determined the Direct APE has been exposed to significant previous ground disturbances and contains negligible potential for containing prehistoric or historic-age archeological sites. Results of the survey were compiled into a report titled *Initiation of Section 106 Consultation for DFW Airport Terminal C – High C Gates Demolition and Rebuild Project at Dallas Fort Worth International Airport, Dallas County, Texas* (Komatsu 2020) (Appendix C: Cultural Resources Evaluation and THC Concurrence Letter).

The cultural resources evaluation report was submitted to the SHPO with a recommendation that there are no adverse effects on historic properties and that further cultural resource investigations were not necessary. On September 30, 2020, the SHPO concurred with the report recommendations and determined that "No historic properties are present or affected and no identified historic properties, archeological sites, or other cultural resources are present or affected" under 36 CFR Part 800.4(d)(1) (see **Appendix C: Cultural Resources Evaluation and THC Concurrence Letter**).

Therefore, implementation of the Proposed Action Alternative will not affect/impact any historic properties, archeological sites, NRHP properties, or SALs.

5.4.3 Mitigation

Specific mitigation measures are not proposed for historic or archeological resources. If previously undocumented buried cultural resources including any prehistoric or historic features or deposits are identified by DFW's contractors during ground-disturbing activities, all work in the immediate vicinity of the discovery would stop until the find could be confirmed by a professional archaeologist and evaluated for its significance. DFW, through its designated consultant would notify the FAA, THC, and if necessary, tribal officers, prior to resuming construction activities.

5.5 LAND USE (PERMITS AND CONSTRUCTION EFFECTS)

5.5.1 No-Action Alternative

The No-Action Alternative would not include construction activities on the project site. Construction not related to the Proposed Action would occur at other areas on DFW in accordance with applicable regulations.

5.5.2 Proposed Action

The Proposed Action will include construction activities; these activities would include abatement, demolition, and construction of the High-C Gates project. The Proposed Action has the potential to impact (disturb) approximately 12 acres of land, when considering the inclusion of temporary disturbance activities such as staging and utilities. The Proposed Action will not result in changes in on-airport land uses.

Air Quality - Construction activities could temporarily degrade local air quality due to dust, equipment exhausts, and burning debris, but these impacts would be minor and temporary in nature.

Noise Impacts - Temporary construction noise impacts would occur, as discussed in Section 4.1.

Surface Transportation - The Proposed Action will result in temporary increases in construction vehicle traffic accessing the project area and the contractor staging yard. The project will implement a Traffic Management and Control Plan, **Appendix D**. No roadway closures are anticipated; additionally, the project will not cause a degradation in the level of service of surrounding roadways. To facilitate the delivery of prefabricated modular construction units to the High-C Gates project area, the project team will coordinate temporary closures of Runways 17C/35C and 17R/35L. The runway closures will be strategically implemented to minimize and avoid impacts to east airfield operations.

Water Quality - Short-term and temporary water quality impacts may result from demolition and construction activities, including temporary increases in sedimentation and turbidity in adjacent drainage ways and outfalls. 40 CFR Part 122.26 requires a permit for stormwater discharges due to construction activities. DFW will obtain required water quality and construction permits, prior to construction activities. Implementation of a Stormwater Pollution Prevention Plan (SWPPP) structural controls, best management practices (BMPs), and FAA guidance will decrease potential water quality impacts related to construction. These measures may include, but not necessarily be limited to, installation of silt fencing and berms; soil stabilization through mulching and seeding; construction phasing; and implementation of pollution prevention plans for construction activities.

5.5.3 Mitigation

Although, no specific significance thresholds have been established by the FAA for this impact category, DFW would ensure that all on-site construction activities are conducted in accordance with FAA AC 150/5370-10G, *Standards for Specifying Construction of*

Airports. DFW will develop and implement a SWPPP, Dust Control Plan, Traffic Management Plan, and any other requisite best management practices and structural controls that protect the environment. Additionally, DFW will coordinate with FAA and all applicable stakeholders, prior to closing Runways 17C/35C and 17R/35L and prior to traversing the east airfield with equipment and materials. The Proposed Action is consistent with state and local land-use plans and would not result in direct and indirect construction-related impacts. Therefore, no additional mitigation is required or proposed.

5.6 WATER RESOURCES

5.6.1 Surface Water and Stormwater Treatment

Surface waters include streams, rivers, lakes, ponds, estuaries, and oceans. There are no streams, rivers, lakes, ponds, estuaries, or oceans in the Project Study Area. Consistent with FAA guidelines from the FAA Order 1050.1F Desk Reference (2020), this assessment was conducted with the primary aim of identifying the principal sources of water pollution and/or consumption connected with the construction and operation of the proposed project.

5.6.1.1 No Action Alternative

Under the NAA, there would be no impacts on water quality, as no construction or other activities would occur. As a result, the quantity and quality of stormwater runoff, impacts to groundwater, and production of wastewater would remain largely unaffected. Therefore, there would be no impacts to stormwater treatment, as no construction or other activities would occur.

5.6.1.2 Proposed Action

The greatest potential impacts to surface water quality connected to the Proposed Action is associated with soil erosion and sediment discharge during the construction phase. Short-term impacts to surface waters can result from construction activities creating increases in sedimentation and turbidity levels downstream of the disturbed project areas. These construction activities may include pavement demolition, grading, excavation of subsurface structures and construction of subsurface infrastructure such as the hydrant fuel pit system.

The High-C gates project site is characterized by impervious surfaces; therefore, the Proposed Action will not result in a material change in the extent of the impervious area. The total existing discharge to the Landside and Airside (Terminal Ramp) Stormwater System (SWS) will remain the same. The proposed Action will not result in changes to stormwater runoff rates and quantities.

Roof drains will be reconstructed to direct stormwater flows into the Landside SWS instead of the Terminal Ramp SWS, which will result in improved performance of the existing First Flush System (FFS) (see **Appendix G: Drainage and Stormwater Management Technical Memorandum**). This is because the first flush will only be comprised of ramp drainage which would consequently reduce the quantity of stormwater drainage to be managed by the FFS. These changes would help mitigate the existing surcharge conditions in the FFS during rain events. The changes to the stormwater drainage system resulting from the Proposed Action will be designed in compliance with the DFW Design Criteria Manual. Therefore, implementing the Proposed Action would not adversely impact Surface and Stormwater runoff rates, quality, and quantities.

The contractor staging yard is characterized by gravel and maintained mixed-grass buffer strips around the staging yard. The construction of the Proposed Action is not expected to result in a material change in the stormwater runoff rates, discharge volumes, and pollutant characteristics of the stormwater runoff.

5.6.1.3 Mitigation

Temporary impacts to surface water quality would be minimized to the fullest extent possible through the development and implementation of a Storm Water Pollution Prevention Plan (SWP3) and best management practices (BMPs), in compliance with the Clean Water Act (CWA) Texas Pollutant Discharge Elimination System (TPDES) permit requirements as well as any other federal state, and local requirements. Therefore, no significant adverse impacts would occur relative to surface waters.

5.6.1 Waters of the United States including Wetlands

5.6.1.1 No Action Alternative

Under the No Action Alternative, the existing conditions at DFW would remain in place. Therefore, there would be no impacts to wetlands or waters of the U.S. not already occurring or expected to occur.

5.6.1.2 Proposed Action

The FAA follows the "avoid, minimize, mitigate" policy regarding wetland impacts. According to the National Wetland Inventory Map and based on field surveys, there are no wetlands or waters of the U.S. in the project area. Since there are no wetlands or waters of the U.S. in the Project Study Area, there would be no loss of wetland areas or waters of the U.S. due to the Proposed Action. Therefore, the Proposed Action will not impact wetlands or waters of the U.S. and mitigation would not be required.

However, there is a jurisdictional Tributary located in close proximity to the project's contractor staging yard, within 0.1-miles. The Proposed Action will not directly or indirectly affect the nearby tributary. Best management practices to protect water quality will be implemented during the Proposed Action.

5.6.2 Mitigation

At DFW, construction-related surface water quality impacts from stormwater runoff are minimized through the use of BMPs as required by DFW's Design Criteria Manual (DFW, 2015 Revision-2). These BMPs are designed to minimize soil erosion and the transport of debris and sediments in stormwater runoff. Implemented BMPs include hay bales, silts fences, settling ponds, and good general housekeeping practices.

In addition, all stormwater discharges from construction activities at DFW that result in the disturbance of one or more acres must comply with the TPDES permit conditions already established for the airport. A Construction General Permit and a SWP3 and all associated requirements will be implemented for the proposed project.

Because of these water resource management policies and programs that are already in place at DFW, impacts to surface waters associated with the Proposed Project would not be expected to be significant; therefore, no mitigation would be required.

SECTION 6 AGENCY COORDINATION AND PUBLIC INVOLVEMENT

The development of this EA included coordination with affected Federal and State agencies. This coordination process informs the Public and Regulatory Agencies and allows an opportunity to identify any possible environmental concerns during the process of developing the EA process.

6.1 AGENCY COORDINATION

Agency coordination was conducted with the affected agencies based on an analysis of the project's potential effects. DFW consulted with the Texas Historic Commission (THC) during the development of this EA, see **Appendix C**.

6.2 PUBLIC INVOLVEMENT

Because there are no environmental impacts associated with the Proposed Action that would exceed applicable thresholds of significance as listed in the 1050.1F Desk Reference, the action is not one normally requiring preparation of an Environmental Impact Statement (EIS). There are no special purpose laws requiring public input and because the Proposed Action is not controversial and no special circumstances apply, circulation and review of the EA is not warranted in accordance with FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*.

SECTION 7 PREPARERS

As required by FAA Order 5050.4B, paragraph 77, the names and qualifications of the principal persons contributing information to this EA are identified. It should be noted, in accordance with Section 1502.6 of the CEQ regulations, the efforts of an interdisciplinary team, consisting of technicians and experts in various fields were required to accomplish this study.

It should also be noted, while an interdisciplinary approach has been used, all decisions made regarding the content and scope of this EA are those of DFW Airport.

DFW AIRPORT – AIRPORT SPONSOR

Sandra Lancaster, Environmental Program Manager Esther Chitsinde, Environmental Project Manager Zoe Bolack, Environmental Analyst (Air Quality, Climate, and Sustainability) Eduardo Tovar, P.E., Systems Performance Manager, Energy Transportation, & Asset Management

CONSULTANTS – RAMBOLL (Air Quality Analysis Consultants)

Megan Neiderhiser, Principal John Grant, Managing Consultant Shaena Ulissi, Managing Consultant Anthony Gerigk, Air Quality Consultant

SECTION 8 REFERENCES

- Dallas Fort Worth International Airport. Dallas Fort Worth International Airport Design Criteria Manual. April 2015.
- Federal Aviation Administration. 1050.1F Desk Reference. Effective date March 2020.
- Federal Aviation Administration. Order Waste Disposal Sites on or Near Airport. Order 5200.5A. January 1990.
- Federal Aviation Administration. *Environmental Due Diligence Audits in the Conduct of FAA Real Property Transactions.* Order 1050.19B. Effective date October 3, 2007.
- Federal Aviation Administration. *Environmental Impacts: Policies and Procedures* Order 1050.1F. Effective March 2020.
- Federal Aviation Administration. *Hazardous Wildlife Attractants on or Near Airports*. Advisory Circular 150/5200-33B. August 2007.
- Federal Aviation Administration. *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions.* Order 5050.4B. April 2006.
- Federal Aviation Administration. *Standards for Specifying Construction of Airports*. Advisory Circular 150/5370-10G. July 2014.
- Shelton, R., C.S. Davis, S. A. Skinner, and J. Todd *An Archeological Survey for Chesapeake Energy Corporation at DFW International Airport Dallas and Tarrant Counties, Texas.* Prepared by AR Consultants, Inc. Cultural Resources Report 2008-25. December 2008.
- Texas Commission on Environmental Quality. *Texas Integrated Report of Surface Water Quality*. 2014 Texas 303(d). https://www.tceq.texas.gov/assets/public/waterquality/swqm/assess/14txir/2014_303d.pdf. Website accessed October 2020.
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- U.S. Army Corps of Engineers. 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0).
- U.S. Environmental Protection Agency. *SIP Status Reports. Status of Texas Designated Areas as of 09/26/2017.* https://www3.epa.gov/airquality/urbanair/sipstatus/reports/tx_areabypoll.html. Website accessed: October 2020.
- U.S. Environmental Protection Agency. Interactive map of Sole Source Aquifer. https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada187715 5fe31356b. Website accessed October 2020.
- U.S. Fish and Wildlife Service. National Wetlands Inventory Mapper. https://www.fws.gov/wetlands/data/mapper.html. Website accessed October 2020.

Appendix A: Schematic Design Exhibits









CLIENT

GENERAL EXT. ELEV. NOTES

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Dallas/Fort Worth Airport Authority 2330 N International Parkway, DFW Airport, TX 75261 T Phone F Fax DESIGN-BUILDER ≫<u>~</u>,/;→ E Diwesman

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PROJECT NAME DFW Terminal C High Gates Rebuild

PROJECT LOCATION Terminal C 2330 N International Parkway Dallas, TX 75261

Bidg. ID No. 165 PROJECT NUMBER

DFW Contract #9500728

SHEET TITLE EXTERIOR BUILDING ELEVATIONS

SHEET NUMBER

NOTE: KEYNOTE NUMBERING IS FOR ORGANIZATIONAL PURPOSES ONLY AND NOT INTENDED TO REFERENCE A SPECIFIC CSI DIVISION NUMBER

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Appendix B: U.S. Fish and Wildlife Service Protected Species database report



United States Department of the Interior

FISH AND WILDLIFE SERVICE Arlington Ecological Services Field Office 2005 Ne Green Oaks Blvd Suite 140 Arlington, TX 76006-6247



Phone: (817) 277-1100 Fax: (817) 277-1129 http://www.fws.gov/southwest/es/arlingtontexas/ http://www.fws.gov/southwest/es/EndangeredSpecies/lists/

January 07, 2021

In Reply Refer To: Consultation Code: 02ETAR00-2021-SLI-0804 Event Code: 02ETAR00-2021-E-01895 Project Name: DFW High C Rebuild Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, which may occur within the boundary of your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under section 7(a)(1) of the Act, Federal agencies are directed to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Under and 7(a)(2) and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether their actions may affect threatened and endangered species and/or designated critical habitat. A Federal action is an activity or program authorized, funded, or carried out, in whole or in part, by a Federal agency (50 CFR 402.02).

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For Federal actions other than major construction activities, the Service suggests that a biological evaluation (similar to a Biological Assessment) be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

After evaluating the potential effects of a proposed action on federally listed species, one of the following determinations should be made by the Federal agency:

- 1. *No effect* the appropriate determination when a project, as proposed, is anticipated to have no effects to listed species or critical habitat. A "no effect" determination does not require section 7 consultation and no coordination or contact with the Service is necessary. However, the action agency should maintain a complete record of their evaluation, including the steps leading to the determination of affect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related information.
- 2. *May affect, but is not likely to adversely affect* the appropriate determination when a proposed action's anticipated effects are insignificant, discountable, or completely beneficial. Insignificant effects relate to the size of the impact and should never reach the scale where "take" of a listed species occurs. Discountable effects are those extremely unlikely to occur. Based on best judgment, a person would not be able to meaningfully measure, detect, or evaluate insignificant effects, or expect discountable effects to occur. This determination requires written concurrence from the Service. A biological evaluation or other supporting information justifying this determination should be submitted with a request for written concurrence.
- 3. *May affect, is likely to adversely affect* the appropriate determination if any adverse effect to listed species or critical habitat may occur as a direct or indirect result of the proposed action, and the effect is not discountable or insignificant. This determination requires formal section 7 consultation.

The Service recommends that candidate species, proposed species, and proposed critical habitat be addressed should consultation be necessary. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (<u>http://www.fws.gov/windenergy/</u> <u>eagle_guidance.html</u>). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/ towers/comtow.html.

For additional information concerning migratory birds and eagle conservation plans, please contact the Service's Migratory Bird Office at 505-248-7882.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arlington Ecological Services Field Office

2005 Ne Green Oaks Blvd Suite 140 Arlington, TX 76006-6247 (817) 277-1100

Project Summary

Consultation Code:02ETAR00-2021-SLI-0804Event Code:02ETAR00-2021-E-01895Project Name:DFW High C Rebuild ProjectProject Type:TRANSPORTATIONProject Description:Reconstruction of terminal buildingProject Location:Version of terminal building

Approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/@32.88663765,-97.02738630697965,14z</u>



Counties: Dallas and Tarrant counties, Texas

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Golden-cheeked Warbler (=wood) <i>Dendroica chrysoparia</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/33</u>	Endangered
Least Tern Sterna antillarum Population: interior pop. No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/8505</u>	Endangered
 Piping Plover Charadrius melodus Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. The location of the critical habitat is not available. This species only needs to be considered under the following conditions: Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/6039 	Threatened
 Red Knot Calidris canutus rufa No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/1864 	Threatened
Whooping Crane <i>Grus americana</i> Population: Wherever found, except where listed as an experimental population There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/758</u>	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Appendix C: Cultural Resources Report and THC Concurrence



Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas THC Tracking #202017632

High C Gates Demolition and Reconstruction Terminal C at DFW Airport, 45 Access Road Grapevine,TX 76051

Dear John MacFarlane:

Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act.

The review staff, led by Arlo McKee and Justin Kockritz, has completed its review and has made the following determinations based on the information submitted for review:

Above-Ground Resources

- THC/SHPO concurs with information provided.
 - No adverse effects on historic properties.

Archeology Comments

• No identified historic properties, archeological sites, or other cultural resources are present or affected. However, if cultural materials are encountered during project activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.

We have the following comments: THC concurs with FAA's finding that the proposed demolition of the High C Gates Addition and subsequent reconstruction will have no adverse effect on historic properties and may proceed as planned. We look forward to future consultation with your office regarding the ongoing Cultural Resources Evaluation study of DFW International Airport overall, but concur that no further evaluation is necessary for this High C Gates reconstruction project.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: Arlo.McKee@thc.texas.gov, justin.kockritz@thc.texas.gov.

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit <u>http://thc.texas.gov/etrac-system</u>.

Sincerely,

for Mark Wolfe, State Historic Preservation Officer Executive Director, Texas Historical Commission



August 20, 2020

Mark Wolfe State Historic Preservation Officer Texas Historical Commission P.O. Box 12276 Austin, TX 78711-2276

RE: Initiation of Section 106 Consultation for DFW Airport Terminal C – High C Gates Demolition and Rebuild

Dear Mr. Wolfe:

On behalf of the Dallas Fort Worth International Airport and the Federal Aviation Administration (FAA), Komatsu Architecture is initiating consultation with the State Historic Preservation Office (SHPO) for the proposed Terminal C High C Gates Demolition and Rebuild project at DFW International Airport property. The DFW International Airport is seeking approval from the FAA to modify their Airport Layout Plan (ALP) to reflect the permanent alterations. Since the ALP modification is considered a federal action, the FAA will review the undertaking in accordance with the National Environmental Policy Act of 1969 (NEPA). In addition, coordination with the SHPO, represented by the Texas Historical Commission (THC) is necessary in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 and its implementing regulations, 36 CFR Part 800, which requires that federal agencies take into account the effects of their undertakings on historic properties. In addition, to direct action of the federal government, federal undertakings are project involving permits, funding, or other assistance. Therefore, we are requesting a review of the project to determine THC/SHPO recommendation to proceed.

The High C Gates are located at the southern portion of Terminal C in a temporary addition that was completed in 1988, fourteen years after the completion of the main portion of the Terminal in 1974. The purpose of the



High C Gates Demolition and Rebuild project is to improve the functionality of Terminal C for the modern traveler and aircraft. Currently, the floorplate of the existing High C Gates Addition is narrow and is not the full width of the rest of the Terminal. This causes issues with pedestrian traffic, efficiency of the waiting areas, and the overall flow of the concourse of the Terminal. The size of the Addition does not provide adequate space for retail services and hold room accommodations.

<u>Undertaking</u>

The undertaking includes the complete replacement of the existing High C Gates addition of Terminal C, which include gates C33 (hold room portion), Gates C35-37, C39 and associated facilities. The project will abate and demolish the existing facility, approximately 72,000 square feet. The replacement building will be two story, up to 80,000 square feet in the same location as the existing. The replacement High C Gates building will continue to be an extension of Terminal C and is expected to accommodate four hard contact gates and a portion of a hold room for the fifth (C33), serving domestic flights, with four to five narrow body aircraft or four to five regional jets. The physical connection to Terminal C will involve partial demolition and tie-in to the existing Terminal building, and coordination of existing and airfield facilities. The associated "apron" that supports the High C Gates on the Airside of the facility will also be demolished and rebuilt. The rebuild will include installation of hydrant fuel pits and requisite systems. Attachment A and B provide further illustration of the existing conditions. Attachment C provides additional information on the future design plans for the replacement building.

Area of Potential Effect

The Area of Potential Effect (APE) is defined as the current site on which the High C Gates Addition sits, the connection between the High C Gates and original Terminal C Buildings, the Airside "apron" to the south of the High C Gates building, and 100 feet beyond the perimeter of the building as illustrated in the map on the page 5. Indirect effects will also be evaluated surrounding the replacement building at 300 feet around the existing building.



Identification of Historic Properties

Terminal C is not listed on the National Register of Historic Places at this time. DFW has consulted with Komatsu Architecture over the last year to develop an evaluation of Terminal C's potential eligibility for listing on the National Register. Research into the Airport's history was conducted, and a historic context developed. The original Airport structures, including Terminal C, were constructed between 1973 and 1974.

Terminal C as a whole has been heavily modified and its integrity does not support its significance under Criteria C for Architecture as an individual landmark. The Air Side view of the terminal from arriving flights has been compromised due to the 1984 – 2000 expansions and the addition of the SkyLink structures, service modules for catering, apron functions, track and column bridging, and other additions that have obscured the original architectural setting and structure itself to such an extent that there is substantial loss of architectural integrity. These modifications are not only visible from the Air Side, but also from the north and south approach from International Parkway and the original arrival sequence for the public on the interior of the Landside, which leaves the Terminal largely unrecognizable from the original transparency and "drive to your gate" concept as constructed. Furthermore, the historic context does not support Terminal C's significance under Criteria B or D.

Terminal C is not eligible under Criterion A as an individual landmark as significant events did not take place solely within or around the Terminal. However, Terminal C, as one of the four original terminal nodes, has the potential to contribute to the overall historic context of the Airport as a whole within the perimeters of the Airport if the Airport as a whole is determined eligible for the National Register. The overall historic context of the Airport is being addressed in an ongoing Cultural Resources Evaluation study under Komatsu's scope of work for DFW. Komatsu can conclude at this point that even if the Airport is found to qualify under Criterion A, the High C Gates project will have no adverse effect on Terminal C in its role as a component of DFW's planning concept under Criterion A.



Determination of Findings

The High C Gates Addition was constructed as a temporary structure in 1988 to serve a busy summer airlines schedule. The temporary Addition building does not fall within the Period of Significance for the Terminal and does not contribute to the integrity of Terminal C as a whole. The Addition is not historic in its own right as it is only thirty-two years old and does not meet the Criteria Consideration G for properties younger than fifty years old. The Addition touches only a small portion of the main Terminal building and its removal and reconstruction will have little to no impact on Terminal C, as the end condition of the original design provided for modular expansion.

Therefore, pursuant to 36 CFR 800.4(d)(1), Komatsu Architecture as DFW Airport's consultant and representative, and on behalf of the FAA, has determined that there are No Adverse Effects on historic properties within the APE, and requests the SHPO's concurrence on the consultant and agency's finding per 36 CFR Part 800.

Thank you in advance for your consideration.

Sincerely,

Karl A. Komatai

Karl Komatsu, President Komatsu Architecture

Attachments

- A. High C Gates Architecture History and Findings
- B. Terminal C Photo Index
- C. Proposed Architectural Design Development Drawings





MAP OF AREA OF POTENTIAL EFFECT (APE)





Attachment A. High C Gates History and Findings

The term "High C Gates" refers to the 1988 South Addition at Terminal C. This Addition was completed fourteen years after the main terminal was built as a temporary solution to add additional gates to during a particularly busy summer travel season. The original intent of the High C Gates Addition was to serve the Airport for seven years; however, the structure has remained for over thirty years. Today, DFW Airport is seeking to demolish and rebuild the High C Gates to improve its functionality for the current needs of the Airport. The High C Gates include Gate C33 (hold room only), and Gates C35-37, C39 and associated Air Side facilities.

This document is a review of DFW's Terminal C and the temporary High C Gates Addition's history and the current condition of the buildings. The evaluation is based on review of documents, drawings, and photographs provided by DFW, secondary sources gathered by the sub-consultants, and observations collected during site visits to the Airport on March 12th through May 20th, 2019. The Evaluation conclusions and opinions are from a prescribed cultural resource perspective using National Register of Historic Places guidelines.

HISTORY

Dallas Fort Worth International Airport (DFW) was planned, designed, and constructed during a period of time in which jet aircraft became the primary mode of air transportation in the United States. The idea for a regional airport to serve the independent cities of Dallas and Fort Worth dates to 1927,

7



however, it took until the mid-1960s for this idea to take shape.¹ Development of the Airport's design happened in two phases, the first by Tippetts-Abbett-McCarthy-Stratton (TAMS), the second by Hellmuth Obata and Kassabaum (HOK), and Brodsky Hopf and Adler.² Site selection was completed in 1965 and subsequent design phases took place over the next three years. The 1968 groundbreaking of the future Dallas Fort Worth International Airport took place at the junction of the Dallas and Tarrant county lines where the cities of Grapevine, Irving, and Euless met. Dedication ceremonies for the airport took place on September 20-23, 1973 (Image 1). Although the airport was ready to greet commercial passengers on October 1, 1973, the airport did not officially open for business until January 13, 1974, because airlines were concerned about the effects of breaking in a new airport during the holiday travel season.³

The final design included construction of four half-circle terminals along a central spine road with an integrated people mover system, hangars, maintenance buildings, an administrative building, service roads, emergency services buildings, fuel storage, blast barriers, and other structures (Image 2-3). Beyond the airport facilities, the airport board contracted with AMFAC of Honolulu, Hawaii, to build a 450-room hotel within one of the future terminal loops (now the site of Terminal D). Plans for later phases over several decades included expansion to as many as thirteen terminals The airport authority planned four terminals for the project's initial phase, but that number could be expanded to as many as thirteen by repeating the half-circle module design.⁴

 ¹ Stanley H. Scott and Levi H. Davis, A Giant in Texas: A History of the Dallas-Fort Worth Regional Airport Controversy, 1911-1974 (Quanah, Texas: Nortex Press, 1974), 1-3, 17-20.
 ² Ivins, "Biggest Public-Works Project Since the Pyramids."

³ Payne and Fitzpatrick, 132-146, 160-173.

⁴ "Airport Master Plan," 50-52; Payne and Fitzpatrick, 132-146, 160-173.





Image 1: The first landing in the United States of the supersonic Concorde aircraft took place at DFW during the dedication ceremonies in September 1973.



Image 2: DFW was the largest airport in the world in terms of area when it opened on January 13, 1974.





Image 3: Map of Central Terminal Area Resources thru 1974 (1970s)



THE EVOLUTION OF TERMINAL C

Terminal C (originally designated Terminal 3E) is the middle of three original terminals constructed on the east side of International Parkway and was in operation – shared by American and Eastern airlines – when DFW opened in January 1974.⁵ Like the other original terminals (A, B, and E), it was conceived as a three-story, half-circle building, constructed with a precast concrete frame of columns and beams with infill of concrete panels and glass and aluminum window walls. The southernmost section of the half circle was not constructed by the time the airport opened, presumably because it was not yet needed.

As built, Terminal C adhered to the HOK-Brodsky, Hopf, Adler design. On the landside, Terminal C featured a regular rhythm of entrances interspersed with walls of precast concrete panels and glazing (Image 4). The entrances consisted of concrete pylons flanking a cantilevered concrete canopy. Outboard of the pylons, the designers located a vertically oriented section featuring glass doors on the lower level to provide entrance and exit from AirTrans, windows and precast concrete beams on the second level, and windows and precast concrete fascia on the third level. Between the entrance sequences, four precast concrete columns created bays filled as the vertical sections were, with the exception of the lower level, which held a continuous band of windows that marked the AirTrans stations. The airside elevation followed a different pattern, in which vertically oriented light standards set the rhythm (Image 5). The light standards (stanchions) consisted of two precast concrete columns that extended above the roofline. Light fixtures at each gate were attached to narrow concrete panels between the columns above the roof, with larger concrete panels between the columns

⁵ Payne and Fitzpatrick, 181.



below the roof. Three bays of columns and windows spanned the space between the light standards.





Image 5: Detail of the airside elevation of Terminal C.

SUBSEQUENT MODIFICATIONS

Changes to Terminal C itself and its surroundings occurred quickly. Drawings were issued in 1978 for construction of the Airport Marina East Hotel (now the Hyatt Regency Hotel), designed by Bauer-Mori Architects of Honolulu, in the infield of Terminal C's half loop. The hotel stood across International Parkway from Airport Marina West Hotel, which opened in 1974 in an unused half loop.



The hotel plans included six levels of structured parking between the hotel and the elevated road along the land side of the terminal. The parking apparently remained unbuilt for a few years because in 1984, Datum Structures and Carter Burgess, both engineering firms, provided plans for an eight-level parking structure. The design incorporated the three levels of structured parking located against the elevated roadway when Terminal C opened. In addition to removing potential green space next to the terminal, the hotel and parking facility altered the spatial and visual relationship between International Parkway and the terminal park space.

The work associated with the new parking structure also included T-shaped canopies over the sidewalk in the southern section of the Terminal C loop. ⁶ Canopies had been built over the sidewalks along the sections of Terminal C that had been completed in 1974. Presumably, the southern section of the loop did not receive the canopies because the terminal itself had not been completed in that area.

1984 OUTER RING

Around 1983, the airport took advantage of the HOK-BHA's "kit of parts" approach to DFW's design to expand Terminal C (along with two other terminals) on the air side, adding another linear bay ring to the existing Air Side perimeter of the structure. The purpose appears to have been to widen the concourses and may have followed the original master plan, which called for expanded facilities by 1985. In general, the work included moving the window wall system of the original construction to the new exterior wall

⁶ Bauer-Mori Architects, "Airport Marina East Hotel," drawings A-1 ff., August 29, 1978; Bleakley, Bruce A. Dallas/Fort Worth International Airport (Charleston, South Carolina: Arcadia Publishing, 2013), 81; Datum Structures-Carter Burgess, "Terminal 3EC Parking and Roadways," sheet no. 9-1-1 ff., 9-18-1 ff., August 15, 1984, Dallas Fort Worth Airport Archives.



location, although some segments of airside elevations were changed, and the window walls salvaged. A connection linking Terminal C to Terminal A (originally 2E) was also built in 1983, although the nature of its construction is uncertain.⁷ The connection of Terminal C to Terminal A may have been part of the airport's adaptation to the effects of deregulation. American Airlines, which occupied part of Terminal C, had already developed its hub-andspoke approach by 1981.⁸ The connection between the Terminals A and C may have been an attempt to move passengers more efficiently between gates to catch connecting flights, because the original AirTrans and subsequent rail people movers have to loop around the terminals due to the terminal node pattern on either side of the central spine (International Parkway).

HIGH C GATES SOUTH ADDITION

Other alterations soon followed. In 1985, Datum Structures and Carter Burgess, JRJ Architects of Dallas, developed plans to expand Terminal C on its south end. The work expanded an existing finger to the landside (over the AirTrans right of way), and the enlarged space was used to create two additional gates. It followed the HOK-BHA design for the terminal, using precast concrete columns and beams and window wall or concrete panel infill, which suggests that it may also have been part of the original master plan. The work was completed in January 1988.⁹ Terminal C was extended farther south to complete its half loop at about the same time. The

⁷ Omniplan Architects and Geren Architects/CRS, "Terminal 3E Airside Expansion," drawings A-2 ff., July 29, 1983, Dallas Fort Worth Airport Archives; Turner Collie & Braden, et al, 1/7.

⁸ Peat Marwick Main & Company, "Economic Impacts of the Airport Development Plan, Dallas/Fort Worth International Airport," prepared for North Texas Commission, July 1989, 6-7.

⁹ Datum Structures, Carter Burgess, and JRJ Architects, "Terminal 3EC Expansion," sheet no. 0.02, 4.101 ff., October 1, 1985, Dallas Fort Worth Airport Archives.



construction consisted of a one-story concourse area raised on concrete columns; some of the ground-level spaces below the concourse were also fitted out for airline offices, employee locker rooms, and toilet facilities.¹⁰ The temporary construction did not follow the HOK-BHA design of the original terminal (Image 6-11).



Image 6: The airport added temporary construction around 1988 to provide extra gates in the southern part of Terminal C. The temporary buildings still function as initially planned.



Image 7: The red box highlights the temporary High C Gate Addition. The green box illustrates the 1988 Air Side addition that matches the original terminal architectural style.

¹⁰ Gary McKibben & Associates, MSQ Engineering, "DFW International Airport Passenger Terminal Facilities," sheet no. A2 ff., March 2, 1990, Dallas Fort Worth Airport Archives.





Image 8: Terminal C Airside as it looked after the 1980s expansion, before the 1988 High C Gate Addition.





Image 9: 1988 Terminal C Temporary High Gate Addition and ABM Modifications.



Image 10: 1985-86 Terminal C Addition with replicated window wall and infill wall panels; different wedge divider.



ARCHITECTURE

Dallas / Fort Worth	
International Airport	t
Oris W. Dunham, Jr.	
Executive Director	
	July 27, 1988
	2
Mr. Ted L. Blackerby American Airlines, Inc. P.O. Box 619616, MD 3H57	19 3
DFW Airport, Texas 75261	
Dear Mr. Blackerby:	
Re: Temporary Certificate Lease No. 23001-ABD Tenant Application No. Construction of Modula Terminal 3E, Gate 39 DFW Airport, Texas 75	of Occupancy 88-113 Ir Building Units 5261
A final inspection of constru- completed on June 24, 1988, inspectors, the work was for Airport Building and Fire Coo	ction, associated with the above referenced work was , and, other than the discrepancies noted by the DFW ound to be satisfactory and in compliance with the des and the Design Criteria Manual.
Therefore, you are hereby a Occupancy for a period of 60 complete set of as-built my project, and correction to th of Occupancy will be issued.	advised that this space is acceptable for Temporary 0 days from the date of this letter. Upon receipt of a lar drawings and any manufacturer's manuals of the he aforementioned discrepancies, a Final Certificate
This Temporary Certificate shall not be removed except I Final Certificate of Occupant	of Occupancy shall be posted on the premises and by the Airport Building Official or upon receipt of the cy.
Thank you for your cooperation	on.
8 () () () () () () () () () (Sincerely,
	EPell)
1 8 (1*)	Richard G. Petit Senior Director Planning and Engineering
AWM/tlh	*
cc: J. Ellingsworth, F. Rer B. Swan, C. Inglis, C. W	nfro, R. Williams, L. Limmer, C. Fauroat, P. King, /illiams, R. McDonald, A. Magazzine
THA-0671	

Image 11: Temporary Certificate of Occupancy for the High C Gates Addition.



CLOSURE OF AIRTRANS AND CONSTRUCTION OF SKYLINK MODIFICATIONS

The development of a new people-mover system for DFW, called Skylink, which opened in 2005, resulted in changes on both the air and land sides of Terminal C and on the interior. The significant landside change was the closure of the AirTrans system. Since that time, a major portion of the AirTrans concrete guiderail infrastructure (3,900 linear feet) has been removed, by DFW actions approved by the THC in 2013. Some stations, escalators, rights of way, and landscaping of the system remained in place, they became inactive and therefore have not been maintained (Image 12). On the air side, Skylink consists of tracks elevated to the airport's roof level by concrete supports. A physical impact of the track construction has been the removal of the precast concrete light standards (stanchions) that were the vertical elements setting the rhythm of the HOK-BHA airside elevation. The Skylink stations, of which Terminal C has two, also hide its airside elevations and are visible from the landside (Image 13). Alterations on the interior caused by Skylink have generally been limited to the station areas, where portions of the airside window walls of the HOK-BHA design have been removed and replaced, space has been rearranged, and materials altered to move passengers back and forth from concourse areas to Skylink. The Skylink stations are elevated above the original terminal, making them visible from both the Land Side and Air Side views, sheathed in white metal panels. Their size and color dramatically change the appearance and focus of the original terminal architectural design.





Image 12: The AirTrans stations were closed when the Skylink people mover system opened.



Image 13: The Skylink stations block views of portions of the original airside elevations of the terminals.

TRIP PROGRAM & RECENT CHANGES

Original Terminals A, B, and E underwent extensive renovation between 2007and 2017 in what was known as the Terminal Renewal and Improvement Program (TRIP). Terminal C was not renovated at that time and has avoided most of the exterior alterations that have affected the other terminals (Image14). Two recent changes, however, are visible on the exterior of Terminal C. One is the construction, at an unknown date, of a rooftop



addition on the land side that is part of the American Airlines' Admirals Club (Image 15). A second alteration is a fabric and metal tent-like structure spanning the gap between two T-shaped concrete canopies over the sidewalks, erected in 2006 (Image 16).



Image 14: Entrance sequences at Terminal C remain in their original form.



Image 15: This rooftop addition to Terminal C contains American Airlines Admirals Club.





Image 16: A tent-like structure was erected in 2006 to span a gap in the concrete sidewalk canopies.

INTERIOR ALTERATIONS

On the interior, alterations to Terminal C have also been, for the most part, superficial, but they have obscured key concepts and the visual experience of transparency from Landside to Airside as the original HOK-BHA design intended in several places. Recent upgrades to systems included a dropped ceiling in some locations in the concourse that hides the original concrete framing (Image 17). Painting the concrete structural members in some places has also taken place, again hiding the architects' original intent.

One of the spurs to alterations in the twenty-first century has been the increased emphasis on airline security. Security alterations including the location of check points, rope lines, screening equipment, offices, and other features interrupts the open flow of space that was part of the original design. Baggage claim areas have also been separated from the airside waiting areas by a clear glass partition supported by a low concrete wall (Image 18). Numerous changes have also taken place in recent years as a result of the increased number and type of vendors located at the airport.



Decoration of the terminals was not included in the original HOK-BHA design and was expected to change as airlines were added and moved over the course of time. Decorative features mainly obscure the original structural system.



Image 17: Alterations to Terminal C have included dropped ceilings and painted structural elements, which sometimes occur directly adjacent to original features, such as the bronze-colored aluminum-framed window wall seen here.



Image 18: A glass wall was erected between the baggage claim area in Terminal C during the twenty-first century. Some of the terminal's original raw concrete framing elements can be seen in the claims area through the glass wall.



NATIONAL REGISTER ELIGIBILITY OF TERMINAL C

DFW has and must continue to adapt to changes in aircraft, airline operations, security needs, safety requirements, passenger expectations, and other factors. Because of this, the DFW Airport facilities, Terminal C included, have undergone many changes since their initial construction. Major changes include replacement of surface parking areas with structured parking, alterations to the original terminal entrances on the Landside, the addition of the Skylink tracks and stations on the Airside, the construction of Terminal D in early 2005, and alterations to the interiors to accommodate security requirements, airport functions, and the expansion of retail opportunities.

TERMINAL C SIGNIFICANCE

The history and development of air travel and DFW Airport was reviewed in order to determine Terminal C's historical significance. The Terminal is reviewed under each National Register Criteria below.

Criterion A – Association with Significant Events – Terminal C is not eligible under Criterion A as an individual landmark as significant events did not take place solely within or around the Terminal. However, Terminal C, as one of the four original terminal nodes, has the potential to contribute to any significance the Airport may have as a whole within its if the Airport is determined eligible for the National Register. This finding is fully addressed in the ongoing Cultural Resources Evaluation study under Komatsu's scope of work for DFW. The Task 3 report, which evaluates DFW Airport as a whole, is ongoing.


Criterion B – Association with Significant People - DFW's design team included Gyo Obata (1923-) who represented Hellmuth Obata and Kassabaum (HOK), while Richard Adler (1928-2012) was responsible for Brodsky, Hopf, and Adler's input. Obata acted as the dominant designer and visionary for the project, while Adler was the primary technical planner. Although the Airport's design team included notable designers and firms, these significant people are better memorialized by their other projects and seminal work. Therefore, Terminal C is not eligible under Criterion B, because it is not associated with any significant person's life or career.

Criteria C – Significant Architectural Design or Construction – The original design of DFW Airport and Terminal C had potential to be eligible for the National Register under Criteria C for its architectural style and planning concepts. However, in its function as a working airport, DFW has had to adapt to changes in aircraft, airline operations, security needs, safety requirements, passenger expectations, and other factors over its lifetime. Because of this, the original facilities have undergone many changes since their initial construction. Major changes at each Terminal include:

- replacement of surface parking areas on the Land Side with structured parking,
- alterations to the original terminal entrances on the Landside,
- exterior cladding on the Landside,
- the removal of the AirTrans system
- the addition of the Skylink tracks and stations on the Airside, which extremely altered the roof line of the terminals and major views the terminal from all approaches
- removal of the character defining light stanchions at the roof



- alterations to the interiors to accommodate security requirements, airport functions, the expansion of retail, and associated cladding that obscures the original precast concrete features
- Growth of metropolitan area around Airport has resulted in a change of the original flat setting into numerous industrial, office, and residential developments

The original design of Terminal C, inside and out, has been out of necessity, re-set, re-made, and re-envisioned. The original "drive to your gate" functional and design intent of a transparent terminal with visually direct connection of vehicle to plane access was the defining design feature that no longer exists (Image17 -19). Terminal C does not retain enough architectural integrity to be eligible for the National Register under Criterion C, individually and potentially not eligible as a contributing resource in the overall Airport historic district. For more detailed information, see the review of the seven aspects of integrity in the following section.

Criterion D – Information Potential - A property may be eligible for listing on the NRHP under Criterion D if it has yielded or is likely to yield information important to the prehistory or history.¹¹ This criterion is mostly applied to archaeological sites; however, when applied to a building, structure, or object, the property "must be, or must have been, the principal source of the important information".¹²Terminal C does not appear to have any potential to yield important construction information or any other significant historical information that would qualify it for individual listing under Criterion D. A cultural resources database search was completed by HDR and is included in Attachment D. This search reviewed the existing documented

¹¹ NPS 1997.

¹² NPS 1997: 21.



archaeological surveys and sites of the area and the conclusions proposed no action should be taken at this time. Therefore, Terminal C is not significant under Criteria D.

INTEGRITY OF TERMINAL C

To determine Terminal C's eligibility for the National Register, the seven aspects of integrity were evaluated based on the National Register criteria. These aspects include location, design, setting, materials, workmanship, feeling, and association. The steps involved in assessing the integrity of a property include:

- Defining the essential physical features that represent a property's significance.
- Determining whether the essential physical features are visible enough to convey their significance.
- Determining whether a property needs to be compared with similar properties. And,
- Determining which aspects of integrity are vital to the property being nominated and if those aspects are present.

As the National Register states, "Ultimately, the question of integrity is answered by whether or not the property retains the identity for which it is significant."¹³ These aspects and the ability of Terminal C to satisfy these standards are discussed below.

Location is the place where a historic property was constructed or the place where the historic event associated with the property occurred. The location of the elements of DFW that stood when the Airport opened in 1974 –

¹³ How to Apply the National Register Criteria for Evaluation, 44-45.



runways, terminals, air traffic control tower, International Parkway, etc. – remain in their original locations. Although alterations have been made to these buildings and structures, their locations have remained constant. Both DFW and Terminal C therefore retain a high degree of integrity to the period of significance (1965-1974) in this category.

Setting is the physical environment of a historic property. DFW's setting as a whole was altered in several ways since it originally opened. The metropolitan area of Dallas and Fort Worth has expanded closer to the airport, covering the flat ground with highways, residential developments, offices, and industrial buildings. Development related to the airport was expected, however, as the project was planned for aviation related technical requirements as well as anticipated environmental conditions. The 18,000-acre expanse of DFW property remains divided into open space devoted to runways and future construction and developed areas holding terminals, hangars, and support buildings. Within this basic arrangement, later construction, particularly structured parking on the Landside and the Skylink tracks/stations on the Airside, have encroached on the original setting of Terminal C, diminishing the integrity of its setting. An understanding of the original Landside facades can still be gained from the original upper and lower approach roads, including the façade of Terminal C, and, from the partial view of the parking area and approach roads near Terminal B. On the Airside, the Skylink tracks and stations obscure the rhythm of the original design's concrete and glass bays. The integrity of the setting of Terminal C is therefore judged to be low.

Feeling is a property's expression of the aesthetic or historic sense of a particular period of time, while **Association** is the direct link between an



important historic event or person and a historic property. DFW continues to function as an international airport, and its important construction, including the terminals (such as Terminal C), runways, hangars, and original air traffic control tower, convey the feeling of this original purpose. The built landscape continues to be associated with this function. The airport's design aesthetic, manifested in the precast concrete elements associated with its Structuralist design, is also apparent, especially on the exterior, despite additions and new cladding that obscure these features in some locations. Alterations have had a greater effect on the feeling and association of the interior spaces of the airport, hiding many of the concrete elements and replacing original window walls that convey the design's circa 1970 character. Even where these elements are obscured, such as in the painting of the concrete columns and beams in the renovated terminals, they remain in place. Very little demolition of original material has taken place.

Terminal C was not renovated when the other original terminals were and therefore continues to display the concrete structure and bronze-colored aluminum window frames associated with the airport's original construction. The "feeling" is evaluated to be of low integrity when derived from a sense of arrival views and terminal approaches; and "association" of Terminal C is low, and that of the Airport as a whole is modest, at best, from International Parkway.

Design is the combination of elements that create the form, plan, space, structure, and style of a property and **Materials** are the physical elements combined or deposited during a particular period of time in a particular pattern or configuration to form a historic property. **Workmanship**, is the physical evidence of the crafts of a particular culture or people during any



given period in history or prehistory. As stated above, alterations have taken place at Terminal C that have affected the original appearance of the airport's characteristic elements. These include some exterior cladding on the landside, the Skylink construction on the airside, and the renovations and added functions (such as security and retail) on the interior. DFW's basic overall design, which employs a central spine road to link individual, half loop terminals, however, remains apparent. The design's use of precast concrete elements and window walls to create repeating rhythms along the facades also remains evident, despite the addition of finishes such as other cladding materials and paint. These alterations affect the perception of the original materials and machine-made finishes in some locations in some locations at Terminal C.

TERMINAL C DESIGN AND EXISTING CONDITIONS

When the original 1973 Phase 1 program for the Airport construction was completed, only 65% of the proposed Final Design configuration for Terminal C was finished (Image 19). Subsequent additions to Terminal C only partially followed the standards of the precast components. Justifiable modifications to these buildings' "kit of parts" were necessary to accommodate new requirements.¹⁴

¹⁴ Terminal C Phase 1 was completed to Column Line 96. The 1985 addition overlapped Column Line 95 to 109 due to construction technique and sequencing. In 1990-1993, unknown plans appear to have expanded the Terminal from about Column 108 to 124. Finally in the 1995-2001 addition, gates 42 and 43 expanded the Terminal from Column Lines 124 to 132.







Image 19: Terminal C Landside Expansion Plan 1985.



One of the most significant site context changes that substantially diminish the integrity of Terminal C are the parking garage infill structures. The overall terminal design intent was, the "drive to gate" concept that integrated both the passenger terminal and the parking areas as a single unit, not as typical separate functions, and structures. This concept was executed by low lying parking areas that allowed transparency from the parking lot through the terminal buildings out to the airfields. This concept has been completely altered due to the addition of large parking structures, which reduce transparency and pedestrian traffic flows.

The 1980 infill addition of the AMFAC Hotel East, now the Hyatt Regency at Terminal C, and the Tensile Fabric Arrival Canopies block the original views and add stark, contrasting visual focal points (Image 20). Perhaps most dramatically, the two sleek white Skylink stations have altered the scale, visual identity, and architectural design concept of the original terminal's presence. There is, by intent, no relation to the modular definition of the terminal massing, structure, or façade pattern of these additions. The size and color contrast of the stations make them the dominant visual feature, obscuring the original design intent. A defining design feature of DFW's precast component imagery, the vertical high light stanchions, were removed in preparation for the Skylink system.¹⁵ The sense of arrival has been changed in scale and by visual view blockage both from a distance. Originally the terminals could be seen in their entirety from the International Parkway (Image 21), and within close proximity at the Arrival level – originally the view from the terminals and the vehicle arrival concourse level captured

¹⁵ The remnants of the main Terminal C AirTrans Station near Gates 28-32 are interesting, but the determination of non-eligibility and removal of most of the systems guideways and other stations, make it somewhat irrelevant in the determination of significant or eligible features.



views of the Parkway and opposing terminals (Image 22). Several third level additions for the Admirals Club, and Operations support blocks introduce different massing, fenestrations, and roof configurations along the terminal arrival elevation (Image 23).

On the Air Side, Terminal C, received an outer 30' wide addition along the perimeter circumference along the entire terminal (Image 24). The entire length has partial re-located original window walls with new wedge infill units and at each bay and some insulated panels at service blocks that creates a different façade fenestration from the original. The interior design feature of a ceremonial main lobby (denoted by the interior large cylindrical pylons that now form the Admirals Club entry lobby), expressed by the exterior taller clerestory bay on the Air Side for viewing was removed; and the adjacent three story areas that are visible from the Arrival Ramp level were also reconfigured. The prominent light stanchions were initially left wedged between the new outer perimeter; the former exterior wall, 30' in from the Ramp area (Image 25). Having been compromised in functionality and as above, with the Skylink rail system structure, these were removed. (Image 26-27)

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Image 20: Current View of Terminal 3E (C) from International Parkway.



Image 21: Original setting view of Terminal 3E (C) and original parking context from the 3W Marina West Hotel (demolished). Central Utilities Plant in foreground.





Image 22: Terminal 3E (C) from International Parkway. Note unobstructed view of the terminal, its depressed parking, and view of the prominent iconic architectural feature, the light stanchions.



Image 23: Terminal C Changes, Admirals Club addition and Office block (not in view) with Skylink visible from the Arrival concourse; Arrival canopies referenced in Figure 7 not in this view.





Image 24: Terminal 3E (C) 1984 prior to Air Side expansion; note façade position of Light Stanchions.



Image 25: Terminal 3E (C) Plan of Air Side entire perimeter addition 1986. Construction completed in 1985. Note removal of bay expressing original ceremonial Central Lobby from Land Side Entry to Air Side, removal of 3 story blocks at façade with window wall proportion changes, and slightly wider bay spacing due to new expansion wedge dimension increases.





Image 26: Terminal C Airside as it looks today with the addition of Skylink. This image illustrates the extent of additive massing on the Air Side, operational structures, and architectural changes to theses facades and implied internal changes, which are visible to the deplaning (arriving) passengers.



Image 27: Terminal C Airside as it looked after the 1980s expansion.



TERMINAL C CONSTRUCTION MATERIALS AND DESIGN INTENT

Terminal C has undergone multiple renovations diluting its resemblance to the original intent of HOK/Obata. Additions in 1985, 1988, 1990, and 1995 reflect changes in architectural detail technology and aesthetic. In addition, some twenty other minor project alterations ranging from the replacement at the upper gate section additions of the original "stick" window wall aluminum frames with neoprene "zipper" gasket window frames¹⁶, to window glazing,¹⁷ to color variations in additional concrete structural components,¹⁸ to the use of stucco infill panels and fascia strips,¹⁹ all affect the appearance of the otherwise original substantial monolithic quality of the design.

EXISTING EXTERIOR TECHNICAL CONDITIONS AND MATERIALS OF TERMINAL C²⁰

The status of DFW's investigations and technical assessments of the physical condition of the concrete components are not available as a factor to consider during this team's determination of integrity. Komatsu Architecture recommends further analysis for both short and long-term stewardship of the myriad of concrete elements comprising each terminal, roadway, and support facility. If internal issues are detected, then long-term "sustainability"

¹⁶ These "zipper" gasket window frames were easier to install and had inherent thermal gap characteristics. However, this alteration changed Terminal C's landside facades, which no longer maintains the original appearance of the first completed section.

¹⁷ New window glazing de-emphasized the vertical modular proportions and transparent look to a horizontal large pane format often called "ribbon" windows. This 1980s stylistic change was a popular method of glass façade design but is inconsistent with the original 1975 plan.

¹⁸ Additional precast concrete structural components are similar, but have slight color variations from the original palette.

¹⁹ The use of lighter-weight stucco infill panels and fascia strips were results of economy in materials, construction, and cost. However these affect the original Brutalist style. The infill panels do not appear as substantial as the original concrete panels, and possibly are EFIS synthetic stucco-like systems with foam backing rather than solid concrete. These panels also do not have the exposed aggregate finish. Instead they have a textured trowel finish, a popular design from the 70's, 80's, and 90's. Finally, the field and edge control joint patterns and edge bead components establish a different proportion and scale from the original precast exposed aggregate concrete panels.

²⁰ Roofing for DFW facilities is not considered an historically significant component and no access or observations were made.



of the resources in their present form and condition may become questionable. This possible future deterioration of Terminal C's precast elements could call into question the terminal's extant condition for eligibility due to the sustainability of future retention costs compared to replacement costs.

The Cultural Resource Team Historical Architect has been tasked with preservation observations only on support for historical integrity purposes, and not structural or material integrity. However, the team has observed some concrete component issues at several locations. The evolution of precast concrete panels up to the 1970s had largely assumed that exposure to an exterior moisture penetration source would be from one side (exterior), with a dry side (interior). Lack of scientific knowledge about moisture penetration, retention, and the chemical processes was exceeded by the ever-increasing sculptural and three-dimensional exterior use of precast panels at this time. Later, the industry introduced water vapor and water repellant coatings once the accompanying issues began to be encountered.

DFW's concrete stanchions were most likely subject to internal corrosion due to the exposure on all sides of their thinner components. This exposure has likely permitted moisture penetration to the ferrous steel reinforcing and attachment plates. This material and chemical action would create a safety and potential failure hazard. The two remaining stanchion sets mounted on the Connector Crosswalk Bridge between Terminals C and A have early indications exhibiting this deterioration.²¹ Overall, the team has been surprised that more corrosion and cracking were not observed. We do believe that causes of distress, including minor "hairline cracks, extensive

²¹ The Connector Crosswalk Bridge was added at an unknown date (drawings and documents are unavailable).



surface spalling, water stained panel or surface and observed compressive distress may be only partially observable evidence of potential internal chemical or physical deterioration in the panel reinforcing and surrounding aggregate composition. It is our historical architectural suggestion that if these internal factors could be pre-emptively analyzed and addressed, as the future cosmetic "repair" work could become cumulative. Further, it is likely to occur or reoccur as the potential for internal degradation continues.²²

Window wall systems also exhibit signs of aging including chalking and fading of anodized coatings, ghost etching, and clouding on some of the glazing panes. The film is in poor condition and presents an unsightly peeling appearance visible from both the interior and exterior, although this is typically thought of as a "reversible" condition. Integrity is evaluated in its current existing state and does not account for what the condition or integrity could be if restored, repaired, or otherwise enhanced in the future.

EXISTING INTERIOR CONDITIONS AND MATERIALS OF TERMINAL C

The interior of Terminal C has undergone extensive changes including the accommodations required by various security requirements,²³ re-allocation of floor space away from waiting lounge areas to comprehensive shopping

²² Please see Appendix I for the team's supplemental technical approach recommendation.
²³ Security requirements have significantly changed from those first required by the Civil Aviation Administration in the 1950s, to those of the Federal Aviation Administration, the Airline Deregulation Act of 1978, and more recently the Transportation Safety Administration.



and dining options,²⁴ and the reorientation of spaces from horizontal to vertical.²⁵

These programs, in addition to the Terminal C expansions of 1985 and 1991, have had a detrimental impact on Terminal C's integrity.²⁶ It is readily observed that the already compromised state in the architectural design and style are to a point where TRIP modifications made to Terminals A, B, and E, would actually be beneficial in unifying a multi-terminal design, which has not been cohesive since 1985 for Terminal C. The original interiors of all terminals were organized to permit transparency with internal placement of ticketing kiosks, operational storage, and other small "back-of-house" kiosk blocks clustered at strategic points, allowing views from the entrance and landside walkways through to the boarding and passenger lounges and on to the planes themselves (Image 28). Only 10 years later, all terminals starting with Terminal C, were modified with an Air Side perimeter addition along the entire circumference with a 30' bay, increasing the depth of the terminal(s) from the Land-Side to the Air Side further, to a typical 147'-6" depth from the original 85' and intermediate passenger lounge sections of only 42.5' depth,

²⁴ To develop revenue potential, DFW replaced the original convenience coffee shops and newsstands with stores, restaurants and rent-by-the-hour sleep venues. Less emphasis is placed on expansive passenger terminal seating areas and instead space has been dedicated to revenue-producing theirparty vendor leases. Each vendor complies with the airport's guidelines, but storefronts and sales spaces are now encroaching on what was one a passive lounge area. Space on both sides of the primary Air/Secure side circulation corridor has been allocated in specific zones for these high energy, grab-and-go shops.

²⁵ The experiential and orientation aspects of DFW's terminals have been dramatically changed from the original design and concepts. The transparency of service islands and distance from terminal entry to boarding gate is no longer direct and perpendicular to the concourse. Now entirely segmented and with increased depth of operational and security functions, the visual connection and distance of the "Drive to your Gate" concept now is accommodated by lengthy dual corridors for the Land Side and the Air Side concourses, or more like corridors. While materials are generally similar to the original interior palates – ceiling acoustic tiles, natural and painted exposed concrete structural elements, the finishes of the vendor and the current patterned or themes terrazzo floors – all have changed the nature and feel of the terminal interior public spaces.

²⁶ To accommodate regional routes, American Airlines made renovations to land-side interior passenger areas. In 1986 American Airlines initiated a separate commuter terminal (2E or the American Eagle Terminal) which is currently under extensive renovations.



to the original maximum of 117'-6" (Image 29), and without the transparent and open interiors, except at some baggage claim bays. This displaced the original passenger waiting lounges to the outer ring in smaller compartmented areas, allowing a new passenger concourse to be fitted on both sides with the emerging trend of creating a shopping mall merchandising concourse. Expanded operations spaces were also inserted in this gain of additional internal useable space. The Plan figures illustrate the original openness and transparency of the terminals versus the expansion and infill tenant (American for C and Braniff for B) changes that totally changed the character, setting, and feeling of all the terminals. This is evident even as Terminal C has yet to receive the remainder of the 2007-2017 TRIP interior modifications and exterior entrance enhancements. As previously mentioned in the exterior descriptions, the original ramp light stanchions that were visible on the exterior Air Side façade, were temporarily left in place behind the new Air Side 30' depth ring addition; and were eventually removed with the 2005 Skylink project. The extraordinary design conceived as being able to virtually see your plane from the vehicle arrival drop-off or from the main public entrances, the "drive to your gate" concept borrowed from the Kansas City design, has been completely lost.







Image 28: Terminal C American lobby entrance at Air Side; note cylindrical pylons; upstairs dining area overlooking concourse; and Gate entrances immediately along Air Side window wall.



Image 29: Terminal C Air Side Expansion Drawing Sheet 4-2-9 showing openness and dimensions of depth for passenger and gate expansion



Terminal C Seven Aspects of Integrity Overview

- Location Intact, High
- Setting Low
- Feeling Low
- Association Low
- Design Low
- Materials Low
- Workmanship Low

Integrity factors including setting, feeling, design, materials, and context have diminished for Terminal C, such that it is not eligible under Criterion C for architectural significance.





Image 30: Original 1974 Terminal C Site Plan







Image 31: Terminal C Landside Expansion Plan 1985







Image 32: 1985 Land Side Addition





Image 33: 1990 "High C Gates" Addition



HIGH C GATES ADDITION FINDINGS

Addressing the High C Gates specifically, the Addition was constructed in 1988, fourteen years outside of the Period of Significance of the Airport and Terminal C. It was noted as a "temporary" addition at the time of construction. The Addition is stylistically different from the main portion of Terminal C. It is single story, whereas the majority of Terminal C is two levels. The exterior finish material is a stucco wall infill system, instead of the standard precast concrete found throughout all original airport facilities. Based on its age and difference in architectural style, the High C Gates Addition does not contribute to the significance or integrity of Terminal C.

As a stand-alone facility, the Addition is not historic in its own right. Its architectural style is a plain industrial vernacular. Its ubiquitous appearance and minor purpose in the Airport's function result in low significance or contributing status. The building is not of historic age and was not designed by a notable architect or firm.

The proposed replacement of the four gates at Terminal C attaches to the existing terminal end bays. It does not remove the original precast structure, but instead engages into the structural system. Since the same structural system makes sense in engineering terms, there are no "style" differences that can be included to otherwise distinguish old from new. The anticipated physical difference will be a large expansion joint as is typically required when joining even like systems. The continuity of the Concourse will likely require continuation of finishes established in the other terminals under the TRIP standards.



As discussed on page 41, Terminal C is not architecturally significant under Criterion C. Therefore, the removal and reconstruction of the High C Gates Addition does not adversely affect a historic property. If Terminal C is considered contributing to Airport's historic significance, the determination of no adverse effects would still be maintained as the planning aspect of Terminal C is not affected, because the new Addition does not change the location or planning concepts that are contributing elements of Terminal C as one of the original terminal nodes. Furthermore, the diagram on page 42 of the proposed Addition reinforces the original planning and modular expansion concept of the original Airport design under Criterion A.

The nature of an Airport and its Terminals is always technologically and operationally evolving. Ramp operations, aircraft sizes and heights, impacts of people movers, etc. have all resulted in modifications to Terminal C over the past forty-six years and will continue to do so in the future. Any airport, including DFW, in full operation today cannot and should not be expected to be frozen in time. Otherwise, like the La Guardia TWA terminal, it can become obsolete and mothballed instead of regularly utilized and integrated into the primary airport operations.

Therefore, Komatsu Architecture finds that the demolition of the High C Gates Addition and subsequent rebuild has No Adverse Effect on historic properties within the APE. Also, because the entirety of Terminal C has been modified to include the surrounding context and approach from either direction, Komatsu Architecture also concludes there is no "Indirect Adverse Effect" at 300 feet surrounding the High C Gate facility.







Image 34: Map of Terminal C Resources thru 1974



Image 35: Map of Terminal C Current Structures



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Attachment B. Terminal C Photo Index



Existing High C Gates Addition (1988) Terminal C highlighted in red.





Terminal C and the East Marina Hotel, aka Hyatt Regency, in the foreground and West Marina Hotel, aka Hyatt West, in the background. The Hyatt East Regency opened in 1981. Notice the size of the Terminal Parking Garage, it looks flat. The garage expansion would come later in the 1980s. Source: DFW Airport Archive



Terminal C Pre-High C Gates Addition. Source: Alamy Stock Photos





Parking and Skylink Additions Construction Aerial, 2004. The High C Gates Addition is obscured by the Skylink track.



Terminal C Aerial View, 2018.





High C Gates Addition view from Air Side at Gate C33. Skylink track in foreground and white station addition to right.



High C Gates Addition view from Air Side at Gate C35.





High C Gates Addition view from Air Side at Gate C36.



High C Gates Addition view from Air Side at Gate C37.





High C Gates Addition view from Air Side at Gate C37 and C39.



High C Gates Addition view from Air Side at Gate C39.





High C Gates Addition view from Land Side.



High C Gates Addition interior public view at second level.



High C Gates Addition interior staff view at ground floor.


Attachment C. Proposed Architectural Design Development Drawings

The design drawings for the proposed new High C Gates facility are not yet available. The Design-Build RFQ was opened to the public in July of 2020. A design team has not yet been selected. The diagram below illustrates the footprint of the new facility overlaid on the existing High C Gates aerial. Additional information will be provided as it becomes available.



KOMATSU





Terminal C High C Gates Demolition and Rebuild Project Site Plan

Appendix D: Traffic Management Plan

Traffic Control Plan and Site Plan

Revised 01/04/2021



ARCHER WESTERN - H. J. RUSSELL - PHILUPS/MAY JOINT VEN



FAA Final Determination received 12.30.2020 ASN Number: 2020-ASW-7571-NRA

SFASY SITE FABRICATION, ASSEMBLY & STAGING YARD



Path of Travel



Reference prior exhibit for site fence layout

Path of Travel/Deliveries



Path of Travel to Proposed Jet Bridge Storage Area at Old Post Office Parking Lot

Legend

Jet Bridge Path



Knox, Stephen

From: Sent: To: Subject: Sayed, Abdullah Tuesday, November 24, 2020 12:25 PM Knox, Stephen; Ludeman, Julie FW: Traffic Impact Assessment - High Cs Demo Rebuild

From: Rodriguez, Robert <rrodriguez@dfwairport.com>
Sent: Monday, August 10, 2020 11:28 AM
To: Sayed, Abdullah <absayed@dfwairport.com>
Cc: Arman, Christopher <carman@dfwairport.com>; Rodriguez, Iskra <irodriguez@dfwairport.com>; Rodriguez, Robert
<rrodriguez@dfwairport.com>
Subject: RE: Traffic Impact Assessment - High Cs Demo Rebuild

Based on the project description provided below and the traffic operational conditions with respect to the traffic flows and routes for the demolishing and then the reconstruction of the Terminal C "High-Gates," a Traffic Impact Analysis (TIA) for this project will not be required by the Code Department. A TIA follows the recommended practices and methodologies adopted by the Institute of Transportation Engineers, with respect to the *ITE Trip Generation Manual*.

In summary, a TIA study will assess critical key elements for compatibility with the jurisdictional, and local transportation plan, and will help identify the contribution a particular development and/or a site will make on a roadway system. That is, a TIA is specifically designed to determine the impacts associated with an individual project and identify occasions where the project-related impacts will result in undue degradation of traffic operations for both the existing and future traffic operations within a local area. Such critical elements include the following:

- Level of Service ranking at existing conditions for roadway segments and signalized and unsignalized intersections for both the AM and PM peak hour movements
- Background traffic only at the site build-out year without the site generated traffic
- Site buildout year (and possible future horizon year) with site-generated traffic

Therefore, it appears that the distribution and the assignment of site-generated trips onto the surrounding roadway network and the estimated incremental impacts on both the background traffic operational conditions caused by this project will have negligible impact to the public corridors and its respective intersections during the critical AM and PM peak periods. That is, the LOS ranking will remain adequate due to negligible impacts. A trip is defined by the Institute of Transportation Engineers as a single, or one-directional travel movement with either the origin or the destination of the trip within the TIA study.

Obviously, an MOT plan will be required to be submitted for review, for all construction phases, along the Terminal C roadways. This may cause a temporary level of service disruption. But just the same, it will be temporary and only during the construction phases of this project. The construction

mobilization and the number of traffic counts should not generate a critical number of peak-hour trips and thus, will not impact the LOS ranking.

Robert Rodriguez, III, P.E.

Assistant Vice President, Code, Construction & Survey Design, Code & Construction Department

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From: Sayed, Abdullah <<u>absayed@dfwairport.com</u>>
Sent: Friday, August 7, 2020 12:55 PM
To: Rodriguez, Robert <<u>rrodriguez@dfwairport.com</u>>
Cc: Arman, Christopher <<u>carman@dfwairport.com</u>>; Rodriguez, Iskra <<u>irodriguez@dfwairport.com</u>>
Subject: RE: Traffic Impact Assessment - High Cs Demo Rebuild

We are doing well, hope you are too sir!

Please see my answers in red below.

From: Rodriguez, Robert <<u>rrodriguez@dfwairport.com</u>>
Sent: Thursday, August 6, 2020 3:46 PM
To: Sayed, Abdullah <<u>absayed@dfwairport.com</u>>
Cc: Arman, Christopher <<u>carman@dfwairport.com</u>>; Rodriguez, Iskra <<u>irodriguez@dfwairport.com</u>>
Subject: RE: Traffic Impact Assessment - High Cs Demo Rebuild

Great to hear from you. I hope you and the rest are doing well.

Regarding the TIA, I have two questions:

1. What is the size of the new building? ~78,000 Sq Ft

2. And will a traffic control work zone plan be necessary, landside that is, for material deliveries and construction staging along the upper and lower level roadways? We don't know the details yet, they are still being developed, we will share as it becomes available.

Bobby

From: Sayed, Abdullah <<u>absayed@dfwairport.com</u>> Sent: Thursday, August 6, 2020 11:08 AM To: Rodriguez, Robert <<u>rrodriguez@dfwairport.com</u>>
 Cc: Arman, Christopher <<u>carman@dfwairport.com</u>>; Rodriguez, Iskra <<u>irodriguez@dfwairport.com</u>>;
 Subject: Traffic Impact Assessment - High Cs Demo Rebuild

Hello Bobby,

Wanted to inquire from you If we needed a Traffic Impact Assessment (TIA) for the High Cs Demo and Rebuild project. This project will not add any additional gates and will just replace the existing ones within a new building, and there won't be any changes to operations; Since a TIA was not needed for F phase 1, we are assuming it will not be need for this project as well.

Thank you for your guidance!

Abdullah Sayed

Project Manager Design, Code and Construction

Dallas Fort Worth International Airport P.O. Box 612008 DFW Airport, TX 75261-9428 O (972) 973-1860 C (347) 797-8150 www.dfwairport.com Appendix E: Air Quality Analysis Report



AIR QUALITY AND CLIMATE CHANGE ASSESSMENT: FINAL TECHNICAL REPORT

Project no.	1690015627-011
Recipient	Esther Chitsinde, Sandra Lancaster
Date	October 27, 2020
Prepared by	John Grant, Anthony Gerigk; Ramboll
Checked by	Megan Neiderhiser, Ramboll
Approved by	Megan Neiderhiser, Ramboll

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APPENDICES

Appendix A: Proposed Project ACEIT Inputs

Appendix B: Detailed On-road Emission Inventory Data for Proposed Project

Appendix C: Detailed Non-road Emission Inventory Data for Proposed Project

Appendix D: Detailed Fugitives Emission Inventory Data for Proposed Project



Acronyms and Abbreviations

ACEIT	Airport Construction Emissions Inventory Tool
ACRP	Airport Cooperative Research Program
APU	Auxiliary Power Unit
BHS	Baggage Handling System
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 Airpor
EF	Exposure Frequency
EIS	Environmental Impact Statement
EV	Electric Vehicles
FAA	Federal Aviation Administration
FIDS	Flight Information Display System
GHG	Greenhouse Gases
GPUs	Ground Power Units
GSE	Ground Support Equipment
GWP	Global Warming Potential
HAP	Hazardous Air Pollutants
ITS	Intelligent Transportation Systems
MEP	Mechanical, Electrical And Plumbing
MOVES	MOtor Vehicle Emission Simulator
N ₂ O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAVAIDS	Navigational Aids
NEPA	National Environmental Policy Act
NO ₂	Nitrogen Dioxide
NOx	Nitrogen Oxides
O ₃	Ozone
PA/VE	Public Address and Voice Evacuation



Pb	Lead
PCA	Preconditioned Air Units
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
TRB	Transportation Research Board
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 Demolition and Rebuild of the High C Gates at Dallas Fort Worth International Airport (the Airport or DFW) (the "Proposed Project"). The Proposed Project will replace the existing extension of Terminal C and construct a new envelope (shell and core) for gates 33, 35-37 and 39. The project will include demolition of the existing High C Gates facility, construction of a new building, and other related activities. Key drivers of this project are maintaining safe and operationally reliable facilities, meeting changing regulatory and renewal requirements, and making long-term substantial investments to reduce costs per square foot and increase revenues.

Ramboll evaluated impacts to air quality due to the Proposed Project for National Environmental Policy Act (NEPA) 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.

Ramboll estimated criteria air pollutant (CAP) and greenhouse gas (GHG) emissions associated with construction of the Proposed Project. Proposed project construction emission estimates were developed based on 1) activity estimates for vehicle, non-road equipment, and fugitive dust from the Airport Construction Emissions Inventory Tool (ACEIT) and 2) emission factors from the United States Environmental Protection Agency (USEPA) MOtor Vehicle Emission Simulator (MOVES2014b) and USEPA AP-42 guidance. The Proposed Project is expected to result in no net increases in operational emissions; therefore, Ramboll did not perform a quantitative evaluation of operational emissions.

Ramboll evaluated the Proposed Project's significance with respect to air quality impacts under National Environmental Policy Act (NEPA) by comparing project emissions to applicable USEPA de minimis levels. DFW is in a Serious Ozone Non-Attainment Area; therefore, the project is subject to 50 tons per year (tpy) volatile organic compounds (VOC) and nitrogen oxides (NOx) de minimis thresholds under the General Conformity Rule, 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. As noted above, the Proposed Project is expected to result in no net increases in operational emissions.

 Table 1. Proposed Project construction emissions compared to applicable general conformity *de minimis*

 thresholds.

Project Year	Project E (ton	missions s/yr)	General Conformity De Minimis Threshold ¹		
	NOx	voc	NOx	voc	
2021	6.86	1.27	50	50	
2022	0.29	0.09	50	50	

¹ Source: 40 CFR 93 § 153 *de minimis* thresholds applied to Dallas-Fort Worth Non-attainment Area "serious" classification



1. Introduction

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

This analysis evaluates the potential air quality-related impacts of the Proposed Project, which would demolish, construct, and operate the High C Gates at DFW. This technical report describes the scope and methodology for evaluation of air quality from construction and operational sources. 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 air quality, from a proposed federal action on the human environment. Per the USEPA, NEPA's basic policy is to assure that all branches of government give proper consideration to the environment prior to undertaking any major federal action that significantly affects the environment.

The impacts to air quality due to the Proposed Project for NEPA 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 air quality analysis focus on NAAQS criteria air pollutants and that a separate section should address Climate.

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 (SO₂), carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter less than 10 microns in diameter (PM₁₀), particulate matter less than 2.5 microns (PM_{2.5}), and Lead (Pb).¹ Specific geographic areas are classified as either "attainment" or "non-attainment" areas for each pollutant based upon comparison of measured data with NAAQS. Those areas designated as "non-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 developed to meet federal requirements are included in an overall program referred to as the SIP.

¹ USEPA. NAAQS Table. Available at: <u>https://www.epa.gov/criteria-air-pollutants/naags-table</u>. Accessed: October 2020.



Dallas and Tarrant counties, where the Project site is located, have been designated by the USEPA as being in attainment and non-attainment with the following NAAQS, respectively²:

- Attainment or Unclassified: CO (1-hr, 8-hr), NO₂ (1-hr, Annual), Sulfur dioxide (SO₂) (1-hr, 3-hr), PM₁₀ (24-hr), PM_{2.5} (24-hr, Annual), and Pb (Rolling 3-month average);
- Non-Attainment: O₃ (2008 8-hr, Serious), O₃ (2015 8-hr, Marginal).

Per above, EPA NAAQS non-attainment classifications are limited to ozone. O₃ is not directly emitted but is formed in the atmosphere when NO_x and VOC react in sunlight. O₃ is considered a regional pollutant because NO_x and VOC emissions throughout the air basin are involved in the formation of ozone. A regional photochemical model that considers emissions throughout the air basin is required 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 emissions associated with operation of the Proposed Project and Alternatives would be calculated as relevant to ozone formation and concentration.

1.2 Existing Conditions

DFW is located between owner cities Dallas and Fort Worth, Texas, with portions included in both Dallas and Tarrant counties. In 2019, it serviced over 73 million passengers to 258 nonstop destinations. DFW covers over 17,000 acres of land area and currently contains five terminals and 182 gates.

DFW is currently served by Terminals A, B, C, D, and E. Terminal C includes 28 gates. There are 5 existing gates that will be affected by the Proposed Project, gates 33, 35-37 and 39. These gates are referred to as "High C" gates because of their high gate number within the terminal. The High C gates include buildings, terminal apron, lavatory vehicle parking lot, and ancillary infrastructure.

DFW growth and targets are described in its 2016 through 2020 Strategic Plan. This plan is currently undergoing an update for future years. Construction and operations are also governed by DFW's Green Building Standards, Sustainability Management Plan, and Clean Air policy.

1.3 Proposed Project

The Proposed Project is to replace the existing extension of Terminal C, and construct a new envelope (shell and core) for High C Gates 33, 35-37 and 39. The Proposed Project will abate and demolish the existing facility (approximately 72,000 square foot building) and construct a 2 level, up to 110,000 square foot terminal building. The Proposed Project is designed to improve the quality of customer services and to create a more sustainable infrastructure. The existing terminals were largely designed in the 1960's, under very different requirements for security and customers services. The renovated terminal will reflect the latest technology and provide the highest level of customer service to airlines and the traveling public.

² USEPA. Greenbook. 2020. 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: October 2020.



This Project is expected to accommodate 4 to 5 gates, serving domestic flights with 4 to 5 narrow body aircraft or regional jets. The project will provide capacity to meet current and future throughput demand. No additional flights will be generated from the project.

Key drivers of this project are maintaining safe and operationally reliable facilities, meeting changing regulatory and renewal requirements, and making long-term substantial investments to reduce costs per square foot and increase revenues.

The Proposed Project includes the following components:

- Demolition and removal of existing structure and all associated equipment;
- Construction of a full airtight and watertight envelope;
- Installation of all mechanical, electrical and plumbing (MEP) utility mains and sub-mains from the point of connection to the point where fit-out contractors can make final branching and point of use;
- A complete fire and life safety system;
- A complete Public Address and Voice Evacuation (PA/VE) system;
- Passenger Boarding Bridges (including preconditioned air units (PCA) and all associated ramp equipment) for narrow body and regional jets will be provided by others and installed by the design-builder, including coordination of openings for installation of passenger boarding bridges;
- Potential relocation or modification of the existing fuel network and potential new fuel pits per new aircraft layout;
- Providing for all conduit, routes, and spaces to allow the fit-out contractors design solution/implementation for Intelligent Transportation Systems (ITS), access control, flight information display system (FIDS) and security systems to be constructed;
- Providing right of way for the fit-out contractor to install the Baggage Handling System (BHS);
- Re-installation of the existing Passenger Boarding Bridges with associated ground support equipment, PCA 500 Hz ground power units (GPUs), aircraft auto-docking equipment, new Potable Water Cabinets and eye wash stations and new jet fuel pits; and
- Transport of building modules from the assembly yard to the project site.

Air quality and greenhouse gas emissions from construction of the Proposed Project are analyzed for anticipated construction years 2021 and 2022. Proposed Project construction emissions are described in **Section 2.4.1** and evaluated for significance in **Section 4.1.1** of this technical report.

The Project is expected to result in no net increase in operational CAP or GHG emissions compared to existing conditions, future no project conditions, or alternative project options. Therefore, operational emissions are not quantified but are discussed qualitatively in **Section 2.4.2**.

1.4 Project Design Features

The DFW Airport has on-going commitments to reduce its air emissions. The following are measures that are already implemented or will be implemented at the Airport:



Clean Air policy³ (effective 8/1/2020), which requires measures including:

- 3.2.1 Ensure compliance by meeting or exceeding all applicable air quality laws, regulations, and Texas SIP requirements.
- 3.2.2 Achieve and maintain carbon neutrality certification on a pathway to net zero carbon emissions by 2030 in accordance with Level 4+ Airport Carbon Accreditation Program requirements.
- 3.2.3 Identify future air quality requirements and initiate procedures to meet or exceed them.
- 3.2.4 Incorporate energy efficiency and carbon emissions reduction priorities into the strategic plan.
- 3.2.5 Require use of 100 percent renewable energy in electricity supplied to the Board.
- 3.2.6 Develop and utilize innovative strategies in expanding the Board's current commitments to improve air quality.
- 3.2.7 Establish, track and analyze metrics to monitor air quality performance, and to set goals for continuous improvement.
- 3.2.8 Actively engage with tenants and other business partners to improve energy performance, optimize operational efficiency, and reduce emissions through their own reduction plans or through measures initiated by the airport.
- 3.2.9 Maintain a Clean Fleet Standard Operating Procedure (SOP) that prioritizes zero emission vehicle and equipment purchases for fleet operations in accordance with the Regional Transportation Council's (RTC) Clean Fleet Policy.
- 3.2.10 Actively promote the transition to electric vehicles (EVs) through the provision of required infrastructure, incentives, and partnerships.
- 3.2.11 Discourage vehicle idling in order to support regional efforts to improve air quality.
- 3.2.12 Continue to integrate energy efficiency into its facilities, systems, processes, and operations and ensure the best available technologies are utilized.
- 3.2.13 Partner with agencies, academia, nongovernmental organizations, business associations, and other interested stakeholders to develop effective and sustainable solutions to local air quality challenges

In addition, the Proposed Project would integrate DFW's Net Zero Energy building strategy, which supports the Airport's carbon neutrality accreditation and commitment to achieve net zero carbon by 2030 on an enterprise-wide scale.

³ DFW. 2020. Clean Air policy. Available at: https://www.dfwairport.com/cs/groups/webcontent/documents/webasset/p3_315435.pdf. Accessed: October 2020.



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 Project'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 Project; DFW has already been in discussions with the FAA regarding this Project. In this step, the Proposed Project 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 Project will cause or create a reasonably foreseeable increase in air emissions; as described further below, construction but not operations of this Project 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/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.

The potential methodologies are summarized here, and methodologies that were used for the Project are described below. The category "New or Expanded Terminal" 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.

• Qualitative Assessment: When it has been determined that the Project will not cause or create a reasonably foreseeable increase in air emissions, a qualitative assessment of air quality impacts is likely all that is necessary. This assessment should contain an explanation of the



conditions and rationale upon which this finding is based. This is the methodology used to evaluate Project operations in **Section 2.4.2** below.

- 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 2.3.1** and **2.4.1** below.
- Operational Emissions Inventory: An operational emissions inventory is designed to quantify the mass of CAP emissions and precursors associated with operational activity in a proposed action. This is not performed as part of this Project, as described in **Section 2.3.2** and **2.4.2** below.
- Hazardous Air Pollutants (HAP) Emissions Inventory: A HAPs inventory is designed to quantify the mass of HAP emissions associated with operational activity in a proposed action. This is not performed as part of this Project because operational emissions are not expected to increase.
- Greenhouse Gas Emissions Inventory: A GHG emissions inventory is designed to quantify the mass of GHG emissions associated with operational activity in a proposed action. GHG emissions are quantified for construction but not for operations as part of this Project.
- Atmospheric Dispersion Modeling: Dispersion modeling is used to further refine the results of the operational and construction emissions inventory by distributing 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 Project given the nonattainment pollutant of interest (O₃) and the results of the construction 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 Project given that it will not result in significant increases in vehicle traffic.

2.3 Scenarios Evaluated

2.3.1 Construction Scenarios Evaluated

Ramboll evaluated CAP and GHG emissions associated with construction of the Proposed Project. The Proposed Project would demolish and rebuild the High C Gates and includes several phases. Construction emissions depend on activity levels for heavy-duty construction equipment, truck haul trips, and vehicle trips made by construction workers and vendors traveling to and from the Proposed Project site. Construction activities would take place from 2021 through 2022. A list of associated project types, schedule, and the proportion of activity in each year by project type is provided in Table 2.

Project Type	Start Date	End Date	Percentage of Project Type in 2021	Percentage of Project Type in 2022
Drainage System	4/1/2021	9/1/2021	100%	0%
Fencing	1/1/2021	2/1/2021	100%	0%
Fuel Tanks/Storage (Hydrant Fuel System)	4/1/2021	7/1/2021	100%	0%

Table 2. Proposed Project schedule by project type.



Project Type	Start Date	End Date	Percentage of Project Type in 2021	Percentage of Project Type in 2022
Landscaping (Site Stabilization)	2/1/2022	5/1/2022	0%	100%
Navigational Aids (NAVAIDS) - AVDGS at terminal	1/18/2021	1/1/2022	100%	0%
Parking Lot (LAV Trucks)	8/1/2021	1/1/2022	100%	0%
Terminal Apron	8/1/2021	1/1/2022	100%	0%
Building	5/1/2021	12/1/2021	100%	0%
Site Work	1/1/2021	5/1/2022	75%	25%
Demolition - Concrete	1/1/2021	5/1/2021	100%	0%
Demolition - Building	1/1/2021	5/1/2021	100%	0%
Module Transport	1	1	100%	0%
Fugitive Dust Control	1/1/2021	5/1/2022	75%	25%

¹ exact dates not available for module transport; this activity will occur in July 2021

2.3.2 Operational Scenarios Evaluated

While the FAA Handbook recommends evaluation of several operational scenarios including the Existing/Baseline emissions, Proposed Project, No Project, and any other Alternatives, in this case the Project is expected to result in not net increases in operational emissions. Therefore, Ramboll did not perform a quantitative evaluation of operational emissions. **Section 2.4.2** below provides a qualitative discussion of the no net increase in emissions by source group expected from the Proposed Project.

2.4 Emission Inventory Development

This section describes the methodology that Ramboll used to develop construction and operational emissions inventories for the Proposed Project. This analysis evaluates CAPs and GHGs. Disclosure of HAPs is recommended for operational emissions but not for construction. This analysis only evaluates construction emissions; therefore, HAPs are not considered. For this analysis, the following pollutants were considered:

- O₃ precursors: VOCs and NOx
- CAPs: CO, SO₂, PM₁₀, and PM_{2.5}
- GHGs: CO₂ (carbon dioxide),CH₄ (methane), N₂O (nitrous oxide); total GHG emissions are reported as CO₂e (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 impacts on ozone levels.



 CO_2e emissions were estimated based on 20-year global warming potential (GWP) estimates for CH₄ (84) and N₂O (264)⁴, conservatively, as 20-year GWPs will result in higher CO₂e estimates compared to 100-year GWP estimates.

To estimate CAP and GHG emissions from the Proposed Project, Ramboll directly or indirectly relied primarily on emissions estimation guidance from government-sponsored organizations, Project specific studies (e.g., design documents), and emission estimation software.

2.4.1 Construction Emissions Inventory

Proposed Project construction would generate CAP and GHG emissions from heavy-duty construction equipment activity, truck haul trips, and construction workers and vendor truck trips to and from the Proposed Project site. Mobile source 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. CAP and ozone precursor emissions include emissions of NO_x, CO, SO₂, VOC, PM₁₀, and PM_{2.5}. 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 no indirect GHG emissions associated with electricity generation for construction of the Proposed Project.

To calculate Proposed Project construction, Ramboll utilized activity estimates from the ACEIT developed by the Airport Cooperative Research Program (ACRP) of the Transportation Research Board (TRB)⁵ combined with the most recent emission factors from the USEPA MOVES2014b⁶ and USEPA AP-42 guidance⁷. Inventory activity and emission factors are described below.

2.4.1.1 Emissions Inventory Activities

2.4.1.1.1 Project Schedule

The Project consists of several supporting project phases or project types: demolition, site work, building construction, drainage system construction, fencing, hydrant fuel system construction, landscaping, navigational aids (NAVAIDS) construction, parking lot construction, terminal apron construction, module transport, and fugitive dust control. Each project type is further broken down into relevant construction activities or subphases. The overall project construction is anticipated to take place between January 2021 and May 2022. Anticipated project types and construction activities are shown in Table 3.

⁴ Intergovernmental Panel on Climate Change (IPCC), 2014. AR5 Synthesis Report: Climate Change 2014. Available at: <u>https://www.ipcc.ch/report/ar5/syr/</u>. Accessed: October 2020.

⁵ Transportation Research Board. Transportation Research Board. Guidance for Estimating Airport Construction Emissions. Available at: <u>http://www.trb.org/main/blurbs/170234.aspx</u>. Accessed: October 2020.

⁶ US Environmental Protection Agency. MOtor Vehicle Emission Simulator (MOVES2014b). Available at: <u>https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves</u>, Accessed: October 2020.

⁷ US Environmental Protection Agency. AP-42, Fifth Edition Compilation of Air Pollutant Emissions Factors, Volume 1: Stationary Point and Area Sources. Available at https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors#5thed. Accessed: October 2020.



Table 5. Floject types and constituction activities for the Floposed Floject.	Table 3.	Project types a	nd construction	activities for	r the Pro	posed Proj	ect.
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Project Type	Construction Activities
Building	Concrete Foundations, Concrete Mixing/Batching, Construction Mob & Layout, Employee Commute, Exterior Wall Framing, Interior Build-Out/ Finishes, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Roofing, Security & Safety Systems, Structural Steel Erection & Decks
Demolition - Building	Building Demolition, Employee Commute, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Soil Handling, Unstabilized Land and Wind Erosion
Demolition - Concrete	Concrete Demolition, Employee Commute, Material Delivery
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe, Drainage - 24 inch SICPP, Drainage Structures, Employee Commute, Hydroseeding, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Soil Erosion/Sediment Control, Soil Handling, Topsoil Placement, Unstabilized Land and Wind Erosion
Fencing	Clearing and Grubbing, Employee Commute, Excavation (Cut to Fill), Fencing, Grading, Hydroseeding, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Soil Erosion/Sediment Control, Soil Handling, Topsoil Placement, Unstabilized Land and Wind Erosion
Fuel Tanks	Clearing and Grubbing, Concrete Placement, Construction/Erect Tanks, Drainage, Drainage - 24 inch SICPP, Dust Control, Employee Commute, Excavation (Borrow), Excavation (Cut to Fill), Excavation (Topsoil Stripping), Fencing, Grading, Hydroseeding, Markings, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Soil Erosion/Sediment Control, Soil Handling, Street Lighting, Subbase Placement, Topsoil Placement, Unstabilized Land and Wind Erosion
Landscaping	Employee Commute, Hydroseeding, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Mulching, Sodding, Soil Handling, Topsoil Placement, Tree Planting, Tree Pruning
NAVAIDS	Approach Lighting, Employee Commute, Instrument Landing System (ILS) Glide Slope, Instrument Landing System (ILS) Localizer, Material Movement (Paved Roads), Precision Approach Path Indicator (PAPI), Rotating Beacon, Windcone
Parking Lot	Clearing and Grubbing, Concrete Placement, Curbing, Drainage - 24 inch SICPP, Drainage - 6 inch Perforated Underdrain, Employee Commute, Excavation (Borrow), Excavation (Cut to Fill), Excavation (Topsoil Stripping), Fencing, Grading, Hydroseeding, Markings, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Sidewalks, Soil Erosion/Sediment Control, Soil Handling, Street Lighting, Subbase Placement, Topsoil Placement, Tree Planting, Unstabilized Land and Wind Erosion
Site Work	Construction Mob & Layout, Employee Commute, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Site Clearing- Remove Trees & Shrubs, Site Restoration- Landscaping (Curbing), Site Restoration- Landscaping (Rough Grading), Site Restoration- Landscaping (Top Soil Seed and Plantings), Soil Handling, Underground Services to 5 ft. of Building, Unstabilized Land and Wind Erosion
Terminal Apron	Clearing and Grubbing, Concrete Placement, Drainage - 24 inch SICPP, Drainage - 6 inch Perforated Underdrain, Dust Control, Employee Commute, Excavation (Borrow), Excavation (Cut to Fill), Excavation (Topsoil Stripping), Fencing, Grading, Hydroseeding, Lighting, Markings, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Sealing/Fuel Resistant, Soil Erosion/Sediment Control, Soil Handling, Subbase Placement, Topsoil Placement, Unstabilized Land and Wind Erosion

2.4.1.1.2 Airport Construction Emissions Inventory Tool

The TRB developed ACEIT to provide a consistent approach and default values for construction emissions for airport projects. It includes default construction information based on surveys of airports. While ACEIT generates both construction activity and emission estimates, for this project, ACEIT was used exclusively to generate activity estimates (e.g., vehicle miles traveled) and ancillary information (e.g., vehicle types) for on-road vehicles, construction equipment, and fugitive emission sources. ACEIT was not used to estimate emissions because emission factors included in ACEIT for on-road vehicles and construction equipment are not based on the most recent version of MOVES released by USEPA (MOVES2014b), which is required to be used in this analysis.

ACEIT provides activity assumptions from demolition, site preparation, building, material delivery, construction employee work commute, painting/striping, and other construction activities. Activity data



for off-road construction equipment and on-road vehicles (i.e., equipment type, equipment counts, average rated horsepower, load factor, hours of activity, vehicle trips and Vehicle miles traveled [VMT]) were obtained from ACEIT and scaled where appropriate based on project specific activity (i.e., buildings and site work). ACEIT was run for representative calendar year 2021 using project size inputs. ACEIT output activity was split between 2021 and 2022 based on schedule by project type (see Table 2).

Project-specific activity inputs applied in ACEIT are provided for reference in Appendix A to this report.

2.4.1.1.3 Additional Applications

The Project also includes additional emission sources that are not part of ACEIT. These emission sources include module transport equipment and daily water truck activity for fugitive dust control. Total construction activity for module transport equipment was provided by DFW. During the module transport phase, building modules will be transported approximately one-half mile from the assembly yard to the High C Gates by a module transport vehicle. The module transport vehicle will require 60 minutes per round trip to travel from the assembly yard to the High C Gates and will be powered by a 350 horsepower engine certified to Tier 3 emission standards. Six module transport trips are anticipated to occur from the assembly yard to the High C Gates in July 2021. Daily water truck operation is conservatively assumed for the duration of the project for eight hours, forty miles, and eight starts per day. Per DFW, two water trucks will be in operation during the Proposed Project. Data for module transport equipment and water trucks are included in detailed activity, emission factor, and emissions tables in **Appendix C** and **Appendix B**, respectively.

2.4.1.2 Emission Factors

ACEIT default on-road vehicle emission factors for non-road (off-road) equipment and on-road vehicles are from dated versions of the NONROAD and MOVES models, respectively.⁸ For the Air Quality Technical Report analysis, Ramboll has not relied upon ACEIT emission factors for on-road vehicles or non-road equipment. Ramboll developed emission factors for on-road vehicles and non-road equipment for Dallas County using the latest MOVES model available at the time this work was conducted, MOVES2014b. Ramboll also refined specific AP-42 fugitive dust emission inventory input factors for which input factors more relevant to the project were available than output by ACEIT, as described in **Section 2.4.1.2.3**.

2.4.1.2.1 On-road

Ramboll used MOVES 2014b to estimate off-road equipment emission factors for calendar years 2021 and 2022. MOVES2014b was run at a national scale for Dallas County, Texas. The DFW airport is located in both Tarrant and Dallas County. We have 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 (based on fuel characteristics that are representative of each county)."⁸ Emissions and activity were output from MOVES by vehicle type, fuel type, road type, and process type for each calendar year. Emissions were aggregated over six

⁸ Transportation Research Board. ACRP Report 102: Guidance for Estimating Airport Construction Emissions. Available at: <u>http://www.trb.org/main/blurbs/170234.aspx</u>. Accessed: October 2020.



emission process types to facilitate application to activity for development of Proposed Project emissions.

Table 4 lists MOVES emission process types, aggregate groupings, road type and activity surrogates. Emission factors were estimated by aggregate grouping by dividing MOVES output emissions by MOVES output activity.

	Aggregate		Activity Surrogate		
MOVES Emission Process	Grouping	Road Type	Description	Metric	
Crankcase Running Exhaust	RPD ²	Urban Unrestricted Access	Distance	Miles	
Running Exhaust	RPD ²	Urban Unrestricted Access	Distance	Miles	
Brake Wear	RPD_WEAR ³	Urban Unrestricted Access	Distance	Miles	
Tire Wear	RPD_WEAR ³	Urban Unrestricted Access	Distance	Miles	
Evaporation Fuel Leaks	RPD_EVAP ⁴	Urban Unrestricted Access	Distance	Miles	
Evaporation Fuel Vapor Venting	RPD_EVAP 4	Urban Unrestricted Access	Distance	Miles	
Evaporation Permeation	RPD_EVAP ⁴	Urban Unrestricted Access	Distance	Miles	
Crankcase Start Exhaust	RPV_START ⁵	Off-Network	Starts	One-Way Trips ¹	
Start Exhaust	RPV_START ⁵	Off-Network	Starts	One-Way Trips ¹	
Evaporation Fuel Vapor Venting	DIURNAL ⁶	Off-Network	Vehicle Population	Vehicle-days	
Evaporation Fuel Leaks	RPV_EVAP ⁷	Off-Network	Vehicle Population	Vehicle-days	
Evaporation Permeation	RPV_EVAP ⁷	Off-Network	Vehicle Population	Vehicle-days	

Table 4. MOVES	process	grouping	and activity	y surrog	ates.
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¹ Number of starts is assumed to be equivalent to number of one-way trips

² RPD: rate per distance for exhaust processes

³ RPD_WEAR: rate per distance for brake wear and tire wear processes

⁴ RPD_EVAP: rate per distance for evaporative processes

⁵ RPV_START: rate per vehicle for start processes

⁶ DIURNAL: (rate per vehicle for) diurnal processes

⁷ RPV_EVAP: rate per vehicle for evaporative processes

Detailed tables describing Proposed Project on-road vehicle data used (i.e., vehicle activity, vehicle emission factors, and vehicle emissions) to estimate emissions are provided in **Appendix B** to this report.

2.4.1.2.2 Non-road

Ramboll used MOVES2014b to estimate emission factors for calendar years 2021 and 2022. MOVES2014b was run at a national scale for Dallas County, Texas. The DFW airport is located in both Tarrant and Dallas County. We have 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 (based on fuel characteristics that are representative of each county)."⁸ Emission and activity were output from MOVES by equipment type, fuel type, and horsepower bin for construction, industrial, recreational, and lawn/garden sectors for each calendar year. ACEIT equipment activity was cross referenced to MOVES equipment types based on the



Guidance for Estimating Airport Construction Emissions Final Report (MOVES and ACEIT equipment types are shown in **Appendix C**). Emission factors were estimated for each equipment type and fuel type by dividing output emissions by output energy consumption. MOVES2014b does not estimate N₂O emissions; therefore, the non-road N₂O emission factor was taken from the USEPA Inventory of U.S. Greenhouse Gas Emissions and Sinks⁹. A complete list of project non-road emission factors can be found in **Appendix C**.

2.4.1.2.3 Fugitives

Fugitive emissions and inputs from all fugitive source types are obtained from ACEIT. Emission factors and calculational methodologies applied in ACEIT are based on the most recent applicable USEPA AP-42 guidance documents. Ramboll reviewed ACEIT emission estimation methodology, emission factors and ancillary factors and made project-specific adjustments for the development of fugitive emissions as described in Table 5 below.

Fugitive Source	Methodology	Project-specific Input Adjustments
Soil Handling	AP-42 13.2.4	Applied average annual wind speed of 10.5 mph at DFW ¹
Unstabilized Land and Wind Erosion	AP-42 11.9	Emission inputs unchanged from ACEIT output
Concrete Mixing/Batching	AP-42 11.12	Emission inputs unchanged from ACEIT output
Material Movement (Paved Roads)	AP-42 13.2.1	ACEIT default VMT scaled to Proposed Project square footage for building and site work project types.
Material Movement (Unpaved Roads)	AP-42 13.2.2	ACEIT default VMT scaled to Proposed Project square footage for building and site work project types.

Table 5. Fugitives emission estimation methodology and project-specific adjustments.

¹ Dallas/Fort Worth - Normals (1981-2010), Means, and Extremes, NWS) <u>https://www.weather.gov/fwd/dfwann</u>, Accessed October 2020.

The ratio of PM_{2.5} to PM₁₀ emissions for fugitives is provided in Table 6 by construction activity.

Construction Activity	PM _{2.5} /PM ₁₀	Source
Concrete Mixing/Batching	0.15	AP-42 11.12
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

Table 6. Fugitives PM_{2.5} to PM₁₀ emission ratios.

A complete list of fugitive inputs and emissions by project type and construction activity is provided in **Appendix D**.

2.4.2 Operational Emissions

Operation of the Proposed Project would result in no net increase in emissions. The Proposed Project is exempt from general conformity requirements because it is presumed to conform. However, for informational purposes, this section describes each potential emissions source and the reasoning for which the Project would not result in an increase in emissions above the *de minimis* thresholds.

• Aircraft: The rebuilt High C Gates would not increase aircraft operations at DFW. Therefore, the Proposed Project would not increase operational emissions from this source category.

⁹ US Environmental Protection Agency. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2018, Annex A. Available at: <u>https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2018</u>, Accessed: October 2020.



- Auxiliary Power Units (APU): The rebuilt High C Gates would not increase aircraft operations at DFW and thus would not increase the use of APUs. Therefore, the Proposed Project would not increase operational emissions from this source category.
- Ground Support Equipment (GSE): GSE includes air conditioners, air starts, aircraft tractors, baggage tractors, belt loaders, cabin service trucks, cargo loaders, catering trucks, forklifts, fuel trucks, hydrant trucks, lavatory trucks, service trucks and water service equipment. The rebuilt High C Gates would not increase aircraft operations at DFW and thus would not increase the use of GSE. Therefore, the Proposed Project would not increase operational emissions from this source category.
- Mobile Sources: Mobile sources associated with the Airport's day-to-day operations include landside and airside vehicles owned and operated by the Airport and by third parties, such as on-site maintenance trucks, shuttle services, employee and passenger transportation, and other off-road equipment not included in GSE above. The new rebuilt High C Gates would not increase passenger throughput or the number of workers at DFW and thus would not increase mobile source emissions. Therefore, the Proposed Project would not increase operational emissions from this source category.
- DFW-Owned Airside Equipment: Rebuilt High C Gates would not increase aircraft operations or landscaping needs at DFW and thus would not increase the use of non-GSE off-road equipment. Therefore, the Proposed Project would not increase operational emissions from this source category.
- Stationary Sources: Stationary sources include heaters/boilers, emergency generators, and gasoline and diesel dispensing facilities. The rebuilt High C Gates would not increase stationary source activity and thus would not increase mobile source emissions. Therefore, the Proposed Project would not increase operational emissions from this source category.
- Indirect Electricity Emissions: Purchased electricity generates indirect GHG emissions. The rebuilt High C Gates and supporting projects is not expected to result in an increase in total electricity consumption, and therefore this change would not increase GHG emissions.



3. Significance Thresholds

This section discusses the criteria and general methods used to evaluate the Proposed Project'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 Project. The General Conformity Rule ensures 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 Serious Ozone Non-Attainment Area¹⁰ (2008 standards)²; therefore, the 50 tpy VOC and NO_x *de minimis* thresholds apply to this Project¹¹. 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 DFW Airport is located in both Dallas and Tarrant Counties. Both Counties in their entirety are within 2008 Serious Ozone Non-Attainment Areas.

¹¹ FAA. 2015. Aviation Emissions & Air Quality Handbook, Version 3, Update 1. Section 8.1.1.4. January.



4. Results

4.1 Emission Inventories Results

The following analysis addresses whether the Project would exceed the *de minimis* thresholds described above; and if so, if 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.

4.1.1 Construction Emissions Inventory

Table 7 presents unmitigated CAP emissions associated with construction of the Proposed Project.

	Emissions (tons/yr)									
Project Type	NOx	со	voc	SO ₂	PM 10	PM _{2.5}				
2021										
Building	2.29	10.69	0.51	0.022	0.51	0.192				
Demolition - Building	1.16	0.85	0.13	0.007	0.32	0.112				
Demolition - Concrete	0.06	0.07	0.01	0.0005	0.01	0.004				
Drainage System	0.06	0.48	0.02	0.001	0.05	0.011				
Fencing	0.16	0.53	0.03	0.001	0.14	0.031				
Fuel Tanks	0.92	1.47	0.11	0.009	0.27	0.095				
Landscaping	-	-	-	-	-	-				
NAVAIDS	0.04	0.70	0.03	0.001	0.02	0.003				
Parking Lot	0.17	0.12	0.02	0.001	0.27	0.051				
Site Work	0.49	3.73	0.23	0.006	0.24	0.069				
Terminal Apron	1.45	1.89	0.19	0.012	1.10	0.249				
Fugitive Dust Control	0.07	0.04	0.01	0.000	0.01	0.004				
Module Transport	0.002	0.001	0.0001	0.000003	0.0002	0.0002				
2021 Emission Totals	6.86	20.57	1.27	0.061	2.94	0.821				
		20	22							
Building	-	-	-	-	-	-				
Demolition - Building	-	-	-	-	-	-				
Demolition - Concrete	-	-	-	-	-	-				
Drainage System	-	-	-	-	-	-				
Fencing	-	-	-	-	-	-				
Fuel Tanks	-	-	-	-	-	-				
Landscaping	0.13	0.42	0.02	0.001	0.29	0.051				
NAVAIDS	-	-	-	-	-	-				
Parking Lot	-	-	-	-	-	-				
Site Work	0.14	1.16	0.07	0.002	0.08	0.021				
Terminal Apron	-	-	-	-	-	-				
Fugitive Dust Control	0.02	0.01	0.002	0.0001	0.003	0.001				
	-	-	-	-	-	-				
2022 Emission Totals	0.29	1.59	0.09	0.003	0.37	0.073				

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i abie	7. Pro	posea	Project	criteria	air p	pollutant	constr	uction	emissions	5.



Table 8 presents unmitigated GHG emissions associated with construction of the Proposed Project by construction project type and year.

	Emissions (tons/yr)					
Project Type	CH₄	N ₂ O	CO ₂	CO ₂ e		
	2021					
Building	0.027	0.090	3,218	3,244		
Demolition - Building	0.020	0.034	1,012	1,023		
Demolition - Concrete	0.001	0.003	69	70		
Drainage System	0.001	0.003	116	116		
Fencing	0.002	0.006	202	204		
Fuel Tanks	0.008	0.052	1,247	1,261		
Landscaping	-	-	-	-		
NAVAIDS	0.001	0.001	119	120		
Parking Lot	0.001	0.008	176	178		
Site Work	0.009	0.018	823	829		
Terminal Apron	0.016	0.072	1,776	1,797		
Fugitive Dust Control	0.003	0.0001	39	39		
Module Transport	0.00001	0.00002	0.4	0.4		
2021 Emission Totals	0.088	0.288	8,799	8,882		
	2022					
Building	-	-	-	-		
Demolition - Building	-	-	-	-		
Demolition - Concrete	-	-	-	-		
Drainage System	-	-	-	-		
Fencing	-	-	-	-		
Fuel Tanks	-	-	-	-		
Landscaping	0.001	0.008	221	223		
NAVAIDS	-	-	-	-		
Parking Lot	-	-	-	-		
Site Work	0.003	0.006	265	267		
Terminal Apron	-	-	-	-		
Fugitive Dust Control	0.001	0.00005	13	13		
Module Transport	-	-	-	-		
2022 Emission Lotais	0.005	0.014	499	503		

Table 8	B. Pro	posed	Project	areenhouse	das	construction emissions.
1 4010 (pooou	1 10,000	groomioaoo	guo	

As shown in Table 9, Proposed Project construction emissions are below *de minimis* thresholds for both years (2021 and 2022).

Table 9. Proposed Project construction emission	s compared to	applicable	general	conformity	de mi	nimis
thresholds.						

Project Year	Project E (ton	missions s/yr)	General Conformity De Minimis Threshold ¹		
	NOx	voc	NOx	voc	
2021	6.86	1.27	50	50	
2022	0.29	0.09	50	50	

¹ Source: 40 CFR 93 § 153 de minimis thresholds applied to Dallas-Fort Worth Non-attainment Area "serious" classification

4.1.2 Operational Emissions

As described in **Section 2.4.2**, there is expected to be no net increase in operational emissions from the Proposed Project; therefore, operational emissions were not quantified.



4.2 **Project Alternatives**

Alternatives for the Project include alternative configurations of the High C Gates. Construction and operational related emissions are expected to be similar among all alternatives.



APPENDIX A: PROPOSED PROJECT ACEIT INPUTS

 Table A1.
 ACEIT Inputs: DFW Terminal C - High C Gates Demolition and Rebuild.



Project Type	Parameter	Project Estimate	Units
Drainage System	Maximum length of the drainage system in feet	500	ft
Drainage System	Maximum width of the drainage system	28	ft
Drainage System	Maximum depth of the drainage system	12	ft
Drainage System	Estimated cost of the 'Drainage System'	\$0.3	million
Fencing	Maximum length of the fence	4000	ft
Fencing	Estimated cost of the 'Fencing'	\$1	million
Hydrant Fuel System	Maximum length of the fuel Pit	300	ft
Hydrant Fuel System	Maximum width of the fuel Pit	150	ft
Hydrant Fuel System	Maximum depth of excavation for the fuel pit	10	ft
Hydrant Fuel System	Number of pits to be installed	6	installed
Hydrant Fuel System	Estimated cost of the 'Hydrant Fuel System'	\$0.6	million
Landscaping	Maximum length of the 'Landscaping' project area	600	ft
Landscaping	Maximum width of 'Landscaping' project area	600	ft
Landscaping	Number of trees planted	0	trees
Landscaping	Number of trees pruned	0	trees
Landscaping	Estimated cost of the 'Landscaping'	\$0.4	million
Navigational Aids (NAVAIDS)	Number of precision approach path indicators (PAPIs) to be installed	0	installed
Navigational Aids (NAVAIDS)	Number of instrument landing system glide slopes (ILSGS) to be installed	0	installed
Navigational Aids (NAVAIDS)	Number of instrument landing system localizers (ILS-L) to be installed	0	installed
Navigational Aids (NAVAIDS)	Number of approach lighting (AL) lights indicated to be installed	0	installed
Navigational Aids (NAVAIDS)	Number of rotating beacons (RB) to be installed	0	installed
Navigational Aids (NAVAIDS)	Number of windcones (WC) to be installed	0	installed
Navigational Aids (NAVAIDS)	Maximum length of the project area	125	ft
Navigational Aids (NAVAIDS)	Maximum width of the project area	125	ft
Navigational Aids (NAVAIDS)	Estimated cost of the 'Navigational Aids (NAVAIDS)'	\$0.05	million
Parking Lot	Maximum length of the parking lot	300	ft
Parking Lot	Maximum width of the parking lot	200	ft
Parking Lot	Estimated cost of the 'Parking Lot'	\$0.03	million
Terminal Apron	Maximum length of the terminal apron	600	ft
Terminal Apron	Maximum width of the terminal apron	400	ft
Terminal Apron	Estimated cost of the 'Terminal Apron'	\$0.4	million
Building - 100000 sqft- up to		\$ 05.0	
10 stories	Estimated cost of the Building - 100000 sqft- up to 10 stories	\$65.8	million
Building - 100000 sqit- up to	Estimated equare factors of the 'Duilding 100000 off up to 10 starias'	80000	aaft
Ruilding 100000 oaft up to	Estimated square lootage of the Building - 100000 squ- up to 10 stories	80000	squ
10 stories	Estimated number of stories of the 'Building - 100000 saft- up to 10 stories'	2	stories
Site Work	Estimated number of stolles of the Duliding - 100000 sqlt- up to 10 stolles	5 74	million
Site Work	Estimated square footage of the 'Site Work'	40.625	saft
Demolition - Concrete	Maximum length of demolition area	600	ft
Demolition - Concrete	Maximum width of demolition area	125	ft
Demolition - Building	Square feet of building to be demolished	75000	saft
Demolition - Building	Height of building	30	ft
Demolition - Building	Open space height	15	ft
Demolition - Building		10	···
Concrete	Estimated cost of the 'Demolition - Concrete' and 'Demolition - Building'	\$1.59	million
	· · · · · · · · · · · · · · · · · · ·	, , , , , , , , , , , , , , , , , , , ,	

Table A1. ACEIT Inputs: DFW Terminal C - High C Gates Demolition and Rebuild.
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APPENDIX B: DETAILED ON-ROAD EMISSION INVENTORY DATA FOR PROPOSED PROJECT

- Table B1. Proposed Project, construction-phase on-road vehicle activity.
- Table B2.2021 Proposed Project, construction-phase on-road vehicle criteriaair pollutant emission factors.
- TableB3.2021 Proposed Project, construction-phase on-road vehicle
greenhouse gas emission factors.
- Table B4.2022 Proposed Project, construction-phase on-road vehicle criteriaair pollutant emission factors.
- Table B5.2022 Proposed Project, construction-phase on-road vehicle
greenhouse gas emission factors.
- Table B6.2021 Proposed Project, construction-phase on-road vehicle criteriaair pollutant emissions.
- Table B7.2021 Proposed Project, construction-phase on-road vehicle
greenhouse gas emissions.
- Table B8.2022 Proposed Project, construction-phase on-road vehicle criteriaair pollutant emissions.
- Table B9.2022 Proposed Project, construction-phase on-road vehicle
greenhouse gas emissions.



Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2021	Activity - 2022
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPD	Miles	18500	18500	0
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPD	Miles	9866	9866	0
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	4479045	4479045	0
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	Combination Short-haul Truck	Diesel	RPD	Miles	1920	1920	0
Demolition - Building	Material Delivery	Dump Truck	Single Unit Short- haul Truck	Diesel	RPD	Miles	208333	208333	0
Demolition - Building	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	135708	135708	0
Demolition - Concrete	Material Delivery	Dump Truck	Single Unit Short- haul Truck	Diesel	RPD	Miles	4630	4630	0
Demolition - Concrete	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	23220	23220	0
Drainage System	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	208980	208980	0
Fencing	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPD	Miles	9250	9250	0
Fencing	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	201240	201240	0
Fuel Tanks	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPD	Miles	10406	10406	0
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPD	Miles	5550	5550	0
Fuel Tanks	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	495360	495360	0
Landscaping	Material Delivery	Flatbed Truck	Combination Short-haul Truck	Diesel	RPD	Miles	0	0	0
Landscaping	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	178020	0	178020
NAVAIDS	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	317340	317340	0
Parking Lot	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPD	Miles	871	871	0

Table B1. Proposed Project, construction-phase on-road vehicle activity.

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Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2021	Activity - 2022
Parking Lot	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPD	Miles	1233	1233	0
Parking Lot	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	7400	7400	0
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPD	Miles	5009	3767	1242
Site Work - 10000 sqft	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	1985360	1493122	492238
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	Combination Short-haul Truck	Diesel	RPD	Miles	3250	2444	806
Terminal Apron	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPD	Miles	55500	55500	0
Terminal Apron	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPD	Miles	29600	29600	0
Terminal Apron	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD	Miles	534060	534060	0
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPD_WEAR	Miles	18500	18500	0
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPD_WEAR	Miles	9866	9866	0
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	4479045	4479045	0
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	Combination Short-haul Truck	Diesel	RPD_WEAR	Miles	1920	1920	0
Demolition - Building	Material Delivery	Dump Truck	Single Unit Short- haul Truck	Diesel	RPD_WEAR	Miles	208333	208333	0
Demolition - Building	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	135708	135708	0
Demolition - Concrete	Material Delivery	Dump Truck	Single Unit Short- haul Truck	Diesel	RPD_WEAR	Miles	4630	4630	0
Demolition - Concrete	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	23220	23220	0
Drainage System	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	208980	208980	0
Fencing	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPD_WEAR	Miles	9250	9250	0
Fencing	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	201240	201240	0



Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2021	Activity - 2022
Fuel Tanks	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPD_WEAR	Miles	10406	10406	0
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPD_WEAR	Miles	5550	5550	0
Fuel Tanks	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	495360	495360	0
Landscaping	Material Delivery	Flatbed Truck	Combination Short-haul Truck	Diesel	RPD_WEAR	Miles	0	0	0
Landscaping	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	178020	0	178020
NAVAIDS	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	317340	317340	0
Parking Lot	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPD_WEAR	Miles	871	871	0
Parking Lot	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPD_WEAR	Miles	1233	1233	0
Parking Lot	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	7400	7400	0
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPD_WEAR	Miles	5009	3767	1242
Site Work - 10000 sqft	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	1985360	1493122	492238
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	Combination Short-haul Truck	Diesel	RPD_WEAR	Miles	3250	2444	806
Terminal Apron	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPD_WEAR	Miles	55500	55500	0
Terminal Apron	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPD_WEAR	Miles	29600	29600	0
Terminal Apron	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_WEAR	Miles	534060	534060	0
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPD_EVAP	Miles	18500	18500	0
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPD_EVAP	Miles	9866	9866	0
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	4479045	4479045	0
Building - 100000 saft- 10 stories	Material Delivery	Tractor Trailer	Combination Short-haul Truck	Diesel	RPD_EVAP	Miles	1920	1920	0



Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2021	Activity - 2022
Demolition - Building	Material Delivery	Dump Truck	Single Unit Short- haul Truck	Diesel	RPD_EVAP	Miles	208333	208333	0
Demolition - Building	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	135708	135708	0
Demolition - Concrete	Material Delivery	Dump Truck	Single Unit Short- haul Truck	Diesel	RPD_EVAP	Miles	4630	4630	0
Demolition - Concrete	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	23220	23220	0
Drainage System	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	208980	208980	0
Fencing	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPD_EVAP	Miles	9250	9250	0
Fencing	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	201240	201240	0
Fuel Tanks	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPD_EVAP	Miles	10406	10406	0
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPD_EVAP	Miles	5550	5550	0
Fuel Tanks	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	495360	495360	0
Landscaping	Material Delivery	Flatbed Truck	Combination Short-haul Truck	Diesel	RPD_EVAP	Miles	0	0	0
Landscaping	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	178020	0	178020
NAVAIDS	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	317340	317340	0
Parking Lot	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPD_EVAP	Miles	871	871	0
Parking Lot	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPD_EVAP	Miles	1233	1233	0
Parking Lot	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	7400	7400	0
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPD_EVAP	Miles	5009	3767	1242
Site Work - 10000 sqft	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	1985360	1493122	492238
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	Combination Short-haul Truck	Diesel	RPD_EVAP	Miles	3250	2444	806



Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2021	Activity - 2022
Terminal Apron	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPD_EVAP	Miles	55500	55500	0
Terminal Apron	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPD_EVAP	Miles	29600	29600	0
Terminal Apron	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPD_EVAP	Miles	534060	534060	0
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPV_START	One-Way Trips	925	925	0
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPV_START	One-Way Trips	493	493	0
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	298603	298603	0
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	Combination Short-haul Truck	Diesel	RPV_START	One-Way Trips	96	96	0
Demolition - Building	Material Delivery	Dump Truck	Single Unit Short- haul Truck	Diesel	RPV_START	One-Way Trips	10417	10417	0
Demolition - Building	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	9047	9047	0
Demolition - Concrete	Material Delivery	Dump Truck	Single Unit Short- haul Truck	Diesel	RPV_START	One-Way Trips	232	232	0
Demolition - Concrete	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	1548	1548	0
Drainage System	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	13932	13932	0
Fencing	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPV_START	One-Way Trips	463	463	0
Fencing	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	13416	13416	0
Fuel Tanks	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPV_START	One-Way Trips	520	520	0
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPV_START	One-Way Trips	278	278	0
Fuel Tanks	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	33024	33024	0
Landscaping	Material Delivery	Flatbed Truck	Combination Short-haul Truck	Diesel	RPV_START	One-Way Trips	0	0	0
Landscaping	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	11868	0	11868



Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2021	Activity - 2022
NAVAIDS	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	21156	21156	0
Parking Lot	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPV_START	One-Way Trips	44	44	0
Parking Lot	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPV_START	One-Way Trips	62	62	0
Parking Lot	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	370	370	0
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPV_START	One-Way Trips	250	188	62
Site Work - 10000 sqft	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	132357	99541	32816
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	Combination Short-haul Truck	Diesel	RPV_START	One-Way Trips	163	122	40
Terminal Apron	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPV_START	One-Way Trips	2775	2775	0
Terminal Apron	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPV_START	One-Way Trips	1480	1480	0
Terminal Apron	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_START	One-Way Trips	35604	35604	0
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	DIURNAL	Vehicle- days	342	342	0
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	DIURNAL	Vehicle- days	171	171	0
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle- days	123839	123839	0
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	Combination Short-haul Truck	Diesel	DIURNAL	Vehicle- days	171	171	0
Demolition - Building	Material Delivery	Dump Truck	Single Unit Short- haul Truck	Diesel	DIURNAL	Vehicle- days	1320	1320	0
Demolition - Building	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle- days	2104	2104	0
Demolition - Concrete	Material Delivery	Dump Truck	Single Unit Short- haul Truck	Diesel	DIURNAL	Vehicle- days	120	120	0
Demolition - Concrete	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle- days	360	360	0
Drainage System	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle- davs	4131	4131	0



Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2021	Activity - 2022
Fencing	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	DIURNAL	Vehicle- days	31	31	0
Fencing	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle- days	806	806	0
Fuel Tanks	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	DIURNAL	Vehicle- days	91	91	0
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	DIURNAL	Vehicle- days	91	91	0
Fuel Tanks	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle- days	5824	5824	0
Landscaping	Material Delivery	Flatbed Truck	Combination Short-haul Truck	Diesel	DIURNAL	Vehicle- days	89	0	89
Landscaping	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle- days	2047	0	2047
NAVAIDS	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle- days	14227	14227	0
Parking Lot	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	DIURNAL	Vehicle- days	152	152	0
Parking Lot	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	DIURNAL	Vehicle- days	152	152	0
Parking Lot	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle- days	152	152	0
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	DIURNAL	Vehicle- days	1966	1479	488
Site Work - 10000 sqft	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle- days	124149	93368	30781
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	Combination Short-haul Truck	Diesel	DIURNAL	Vehicle- days	1966	1479	488
Terminal Apron	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	DIURNAL	Vehicle- days	456	456	0
Terminal Apron	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	DIURNAL	Vehicle- days	304	304	0
Terminal Apron	Employee Commute	Passenger Car	Passenger Car	Gasoline	DIURNAL	Vehicle- days	10488	10488	0
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPV_EVAP	Vehicle- days	342	342	0
Building - 100000 saft- 10 stories	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPV_EVAP	Vehicle- davs	171	171	0



Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2021	Activity - 2022
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle- days	123839	123839	0
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	Combination Short-haul Truck	Diesel	RPV_EVAP	Vehicle- days	171	171	0
Demolition - Building	Material Delivery	Dump Truck	Single Unit Short- haul Truck	Diesel	RPV_EVAP	Vehicle- days	1320	1320	0
Demolition - Building	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle- days	2104	2104	0
Demolition - Concrete	Material Delivery	Dump Truck	Single Unit Short- haul Truck	Diesel	RPV_EVAP	Vehicle- days	120	120	0
Demolition - Concrete	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle- days	360	360	0
Drainage System	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle- days	4131	4131	0
Fencing	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPV_EVAP	Vehicle- days	31	31	0
Fencing	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle- days	806	806	0
Fuel Tanks	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPV_EVAP	Vehicle- days	91	91	0
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPV_EVAP	Vehicle- days	91	91	0
Fuel Tanks	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle- days	5824	5824	0
Landscaping	Material Delivery	Flatbed Truck	Combination Short-haul Truck	Diesel	RPV_EVAP	Vehicle- days	89	0	89
Landscaping	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle- days	2047	0	2047
NAVAIDS	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle- days	14227	14227	0
Parking Lot	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPV_EVAP	Vehicle- days	152	152	0
Parking Lot	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPV_EVAP	Vehicle- days	152	152	0
Parking Lot	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle- days	152	152	0
Site Work - 10000 saft	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPV_EVAP	Vehicle- davs	1966	1479	488



Project Type	Construction Activity	Vehicle	MOVES Source Type	Fuel	Emission Process	Activity Surrogate	Total Activity	Activity - 2021	Activity - 2022
Site Work - 10000 sqft	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle- days	124149	93368	30781
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	Combination Short-haul Truck	Diesel	RPV_EVAP	Vehicle- days	1966	1479	488
Terminal Apron	Material Delivery	Cement Mixer	Single Unit Short- haul Truck	Diesel	RPV_EVAP	Vehicle- days	456	456	0
Terminal Apron	Material Delivery	Dump Truck Subbase Material	Single Unit Short- haul Truck	Diesel	RPV_EVAP	Vehicle- days	304	304	0
Terminal Apron	Employee Commute	Passenger Car	Passenger Car	Gasoline	RPV_EVAP	Vehicle- days	10488	10488	0
Fugitive Dust Control	Fugitive Dust Control	Water Truck	Single Unit Short- haul Truck	Diesel	DIURNAL	Vehicle- days	968	728	240
Fugitive Dust Control	Fugitive Dust Control	Water Truck	Single Unit Short- haul Truck	Diesel	RPD	Miles	38720	29120	9600
Fugitive Dust Control	Fugitive Dust Control	Water Truck	Single Unit Short- haul Truck	Diesel	RPD_EVAP	Miles	38720	29120	9600
Fugitive Dust Control	Fugitive Dust Control	Water Truck	Single Unit Short- haul Truck	Diesel	RPD_WEAR	Miles	38720	29120	9600
Fugitive Dust Control	Fugitive Dust Control	Water Truck	Single Unit Short- haul Truck	Diesel	RPV_EVAP	Vehicle- days	968	728	240
Fugitive Dust Control	Fugitive Dust Control	Water Truck	Single Unit Short- haul Truck	Diesel	RPV_START	One-Way Trips	7744	5824	1920



Project Type	Construction Activity	Vahielo	Emission	Emission			Emissior	n Factors		
Fioject Type	Construction Activity	venicie	Process	Units	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD	g/mi	1.98E+00	8.50E-01	2.29E-01	1.01E-02	9.91E-02	9.12E-02
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.98E+00	8.50E-01	2.29E-01	1.01E-02	9.91E-02	9.12E-02
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD	g/mi	7.42E-02	1.64E+00	1.38E-02	2.23E-03	3.73E-03	3.30E-03
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD	g/mi	3.50E+00	1.00E+00	1.92E-01	1.63E-02	1.52E-01	1.40E-01
Demolition - Building	Material Delivery	Dump Truck	RPD	g/mi	1.98E+00	8.50E-01	2.29E-01	1.01E-02	9.91E-02	9.12E-02
Demolition - Building	Employee Commute	Passenger Car	RPD	g/mi	7.42E-02	1.64E+00	1.38E-02	2.23E-03	3.73E-03	3.30E-03
Demolition - Concrete	Material Delivery	Dump Truck	RPD	g/mi	1.98E+00	8.50E-01	2.29E-01	1.01E-02	9.91E-02	9.12E-02
Demolition - Concrete	Employee Commute	Passenger Car	RPD	g/mi	7.42E-02	1.64E+00	1.38E-02	2.23E-03	3.73E-03	3.30E-03
Drainage System	Employee Commute	Passenger Car	RPD	g/mi	7.42E-02	1.64E+00	1.38E-02	2.23E-03	3.73E-03	3.30E-03
Fencing	Material Delivery	Cement Mixer	RPD	g/mi	1.98E+00	8.50E-01	2.29E-01	1.01E-02	9.91E-02	9.12E-02
Fencing	Employee Commute	Passenger Car	RPD	g/mi	7.42E-02	1.64E+00	1.38E-02	2.23E-03	3.73E-03	3.30E-03
Fuel Tanks	Material Delivery	Cement Mixer	RPD	g/mi	1.98E+00	8.50E-01	2.29E-01	1.01E-02	9.91E-02	9.12E-02
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.98E+00	8.50E-01	2.29E-01	1.01E-02	9.91E-02	9.12E-02
Fuel Tanks	Employee Commute	Passenger Car	RPD	g/mi	7.42E-02	1.64E+00	1.38E-02	2.23E-03	3.73E-03	3.30E-03
Landscaping	Material Delivery	Flatbed Truck	RPD	g/mi	3.50E+00	1.00E+00	1.92E-01	1.63E-02	1.52E-01	1.40E-01
Landscaping	Employee Commute	Passenger Car	RPD	g/mi	7.42E-02	1.64E+00	1.38E-02	2.23E-03	3.73E-03	3.30E-03
NAVAIDS	Employee Commute	Passenger Car	RPD	g/mi	7.42E-02	1.64E+00	1.38E-02	2.23E-03	3.73E-03	3.30E-03
Parking Lot	Material Delivery	Cement Mixer	RPD	g/mi	1.98E+00	8.50E-01	2.29E-01	1.01E-02	9.91E-02	9.12E-02

Table B2. 2021 Proposed Project, construction-phase on-road vehicle criteria air pollutant emission factors.



Broject Tune	Construction Activity	Vahiala	Emission	Emission	Emission Factors						
Рюјест туре	Construction Activity	venicie	Process	Units	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.98E+00	8.50E-01	2.29E-01	1.01E-02	9.91E-02	9.12E-02	
Parking Lot	Employee Commute	Passenger Car	RPD	g/mi	7.42E-02	1.64E+00	1.38E-02	2.23E-03	3.73E-03	3.30E-03	
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.98E+00	8.50E-01	2.29E-01	1.01E-02	9.91E-02	9.12E-02	
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD	g/mi	7.42E-02	1.64E+00	1.38E-02	2.23E-03	3.73E-03	3.30E-03	
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD	g/mi	3.50E+00	1.00E+00	1.92E-01	1.63E-02	1.52E-01	1.40E-01	
Terminal Apron	Material Delivery	Cement Mixer	RPD	g/mi	1.98E+00	8.50E-01	2.29E-01	1.01E-02	9.91E-02	9.12E-02	
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.98E+00	8.50E-01	2.29E-01	1.01E-02	9.91E-02	9.12E-02	
Terminal Apron	Employee Commute	Passenger Car	RPD	g/mi	7.42E-02	1.64E+00	1.38E-02	2.23E-03	3.73E-03	3.30E-03	
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02	
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02	
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03	
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.93E-01	3.74E-02	
Demolition - Building	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02	
Demolition - Building	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03	
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02	
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03	
Drainage System	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03	
Fencing	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02	
Fencing	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03	



Broject Type	Construction Activity	Vehicle	Emission	Emission	Emission Factors						
Project Type	Construction Activity	venicie	Process	Units	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Fuel Tanks	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02	
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02	
Fuel Tanks	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03	
Landscaping	Material Delivery	Flatbed Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.93E-01	3.74E-02	
Landscaping	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03	
NAVAIDS	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03	
Parking Lot	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02	
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02	
Parking Lot	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03	
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02	
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03	
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.93E-01	3.74E-02	
Terminal Apron	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02	
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02	
Terminal Apron	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03	
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.57E-02	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	



Broject Type	Construction Activity	Vahiela	Emission	Emission	Emission Emission Factors					
Рюјест туре	Construction Activity	venicie	Process	Units	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}
Demolition - Building	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.57E-02	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.57E-02	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.57E-02	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.57E-02	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.57E-02	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.57E-02	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.57E-02	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.57E-02	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.57E-02	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Broject Type	Construction Activity	Vahiala	Emission	Emission	Emission Emission Factors					
Рюјесттуре	Construction Activity	venicie	Process	Units	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}
Terminal Apron	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.57E-02	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	5.49E-01	2.38E+00	1.81E-01	6.02E-04	6.67E-03	6.14E-03
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	5.49E-01	2.38E+00	1.81E-01	6.02E-04	6.67E-03	6.14E-03
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPV_START	g/one-way trip	4.06E-01	5.44E+00	5.20E-01	5.24E-04	7.33E-03	6.48E-03
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPV_START	g/one-way trip	0.00E+00	4.50E+00	1.89E-01	6.04E-04	7.71E-03	7.09E-03
Demolition - Building	Material Delivery	Dump Truck	RPV_START	g/one-way trip	5.49E-01	2.38E+00	1.81E-01	6.02E-04	6.67E-03	6.14E-03
Demolition - Building	Employee Commute	Passenger Car	RPV_START	g/one-way trip	4.06E-01	5.44E+00	5.20E-01	5.24E-04	7.33E-03	6.48E-03
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	g/one-way trip	5.49E-01	2.38E+00	1.81E-01	6.02E-04	6.67E-03	6.14E-03
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	g/one-way trip	4.06E-01	5.44E+00	5.20E-01	5.24E-04	7.33E-03	6.48E-03
Drainage System	Employee Commute	Passenger Car	RPV_START	g/one-way trip	4.06E-01	5.44E+00	5.20E-01	5.24E-04	7.33E-03	6.48E-03
Fencing	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	5.49E-01	2.38E+00	1.81E-01	6.02E-04	6.67E-03	6.14E-03
Fencing	Employee Commute	Passenger Car	RPV_START	g/one-way trip	4.06E-01	5.44E+00	5.20E-01	5.24E-04	7.33E-03	6.48E-03
Fuel Tanks	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	5.49E-01	2.38E+00	1.81E-01	6.02E-04	6.67E-03	6.14E-03
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	5.49E-01	2.38E+00	1.81E-01	6.02E-04	6.67E-03	6.14E-03
Fuel Tanks	Employee Commute	Passenger Car	RPV_START	g/one-way trip	4.06E-01	5.44E+00	5.20E-01	5.24E-04	7.33E-03	6.48E-03
Landscaping	Material Delivery	Flatbed Truck	RPV_START	g/one-way trip	0.00E+00	4.50E+00	1.89E-01	6.04E-04	7.71E-03	7.09E-03
Landscaping	Employee Commute	Passenger Car	RPV_START	g/one-way trip	4.06E-01	5.44E+00	5.20E-01	5.24E-04	7.33E-03	6.48E-03



Broject Type	Construction Activity	Vahiala	Emission	Emission	mission Emission Factors					
Project Type	Construction Activity	venicie	Process	Units	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
NAVAIDS	Employee Commute	Passenger Car	RPV_START	g/one-way trip	4.06E-01	5.44E+00	5.20E-01	5.24E-04	7.33E-03	6.48E-03
Parking Lot	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	5.49E-01	2.38E+00	1.81E-01	6.02E-04	6.67E-03	6.14E-03
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	5.49E-01	2.38E+00	1.81E-01	6.02E-04	6.67E-03	6.14E-03
Parking Lot	Employee Commute	Passenger Car	RPV_START	g/one-way trip	4.06E-01	5.44E+00	5.20E-01	5.24E-04	7.33E-03	6.48E-03
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	5.49E-01	2.38E+00	1.81E-01	6.02E-04	6.67E-03	6.14E-03
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_START	g/one-way trip	4.06E-01	5.44E+00	5.20E-01	5.24E-04	7.33E-03	6.48E-03
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_START	g/one-way trip	0.00E+00	4.50E+00	1.89E-01	6.04E-04	7.71E-03	7.09E-03
Terminal Apron	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	5.49E-01	2.38E+00	1.81E-01	6.02E-04	6.67E-03	6.14E-03
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	5.49E-01	2.38E+00	1.81E-01	6.02E-04	6.67E-03	6.14E-03
Terminal Apron	Employee Commute	Passenger Car	RPV_START	g/one-way trip	4.06E-01	5.44E+00	5.20E-01	5.24E-04	7.33E-03	6.48E-03
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.24E-03	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Material Delivery	Dump Truck	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.24E-03	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.24E-03	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.24E-03	0.00E+00	0.00E+00	0.00E+00



Droject Turne	Construction Activity	Vahiala	Emission	Emission	Emission Factors					
Project Type	Construction Activity	venicie	Process	Units	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}
Fencing	Material Delivery	Cement Mixer	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.24E-03	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Cement Mixer	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.24E-03	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.24E-03	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.24E-03	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.24E-03	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.24E-03	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Cement Mixer	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.24E-03	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Droject Tyre	Construction Activity	Vahiala	Emission	Emission	Emission Emission Factors					
Project Type	Construction Activity	venicie	Process	Units	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction Activity	Vehicle	Emission Factor		Emission Factors						
Појесстуре	Construction Activity	Venicie	Process	Units	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	0.00E+00	
General Use	Fugitive Dust Control	Water Truck	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
General Use	Fugitive Dust Control	Water Truck	RPD	g/mi	1.98E+00	8.50E-01	2.29E-01	1.01E-02	9.91E-02	9.12E-02	
General Use	Fugitive Dust Control	Water Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
General Use	Fugitive Dust Control	Water Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02	
General Use	Fugitive Dust Control	Water Truck	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
General Use	Fugitive Dust Control	Water Truck	RPV_START	g/one-way trip	5.49E-01	2.38E+00	1.81E-01	6.02E-04	6.67E-03	6.14E-03	



Project Type	Construction	Vehicle	Emission	Emission		Emission	Factors	
Project Type	Activity	Venicle	Process	Factor Units	CH₄	N ₂ O	CO ₂	CO ₂ e
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD	g/mi	6.44E-02	3.26E-03	1.21E+03	1.21E+03
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	6.44E-02	3.26E-03	1.21E+03	1.21E+03
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD	g/mi	2.00E-03	1.72E-03	3.35E+02	3.36E+02
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD	g/mi	6.36E-02	3.26E-03	1.94E+03	1.95E+03
Demolition - Building	Material Delivery	Dump Truck	RPD	g/mi	6.44E-02	3.26E-03	1.21E+03	1.21E+03
Demolition - Building	Employee Commute	Passenger Car	RPD	g/mi	2.00E-03	1.72E-03	3.35E+02	3.36E+02
Demolition - Concrete	Material Delivery	Dump Truck	RPD	g/mi	6.44E-02	3.26E-03	1.21E+03	1.21E+03
Demolition - Concrete	Employee Commute	Passenger Car	RPD	g/mi	2.00E-03	1.72E-03	3.35E+02	3.36E+02
Drainage System	Employee Commute	Passenger Car	RPD	g/mi	2.00E-03	1.72E-03	3.35E+02	3.36E+02
Fencing	Material Delivery	Cement Mixer	RPD	g/mi	6.44E-02	3.26E-03	1.21E+03	1.21E+03
Fencing	Employee Commute	Passenger Car	RPD	g/mi	2.00E-03	1.72E-03	3.35E+02	3.36E+02
Fuel Tanks	Material Delivery	Cement Mixer	RPD	g/mi	6.44E-02	3.26E-03	1.21E+03	1.21E+03
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	6.44E-02	3.26E-03	1.21E+03	1.21E+03
Fuel Tanks	Employee Commute	Passenger Car	RPD	g/mi	2.00E-03	1.72E-03	3.35E+02	3.36E+02
Landscaping	Material Delivery	Flatbed Truck	RPD	g/mi	6.36E-02	3.26E-03	1.94E+03	1.95E+03
Landscaping	Employee Commute	Passenger Car	RPD	g/mi	2.00E-03	1.72E-03	3.35E+02	3.36E+02
NAVAIDS	Employee Commute	Passenger Car	RPD	g/mi	2.00E-03	1.72E-03	3.35E+02	3.36E+02
Parking Lot	Material Delivery	Cement Mixer	RPD	g/mi	6.44E-02	3.26E-03	1.21E+03	1.21E+03

TableB3. 2021 Proposed Project, construction-phase on-road vehicle greenhouse gas emission factors.



Broject Type	Construction	Vahiela	Emission	Emission		Emissior	n Factors	
Project Type	Activity	Venicie	Process	Factor Units	CH₄	N ₂ O	CO ₂	CO ₂ e
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	6.44E-02	3.26E-03	1.21E+03	1.21E+03
Parking Lot	Employee Commute	Passenger Car	RPD	g/mi	2.00E-03	1.72E-03	3.35E+02	3.36E+02
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	6.44E-02	3.26E-03	1.21E+03	1.21E+03
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD	g/mi	2.00E-03	1.72E-03	3.35E+02	3.36E+02
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD	g/mi	6.36E-02	3.26E-03	1.94E+03	1.95E+03
Terminal Apron	Material Delivery	Cement Mixer	RPD	g/mi	6.44E-02	3.26E-03	1.21E+03	1.21E+03
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	6.44E-02	3.26E-03	1.21E+03	1.21E+03
Terminal Apron	Employee Commute	Passenger Car	RPD	g/mi	2.00E-03	1.72E-03	3.35E+02	3.36E+02
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Broject Type	Construction	Vahiala	Emission	Emission		Emissior	n Factors	
Project Type	Activity	venicie	Process	Factor Units	CH₄	N ₂ O	CO ₂	CO ₂ e
Fuel Tanks	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Broject Type	Construction	Vahiela	Emission	Emission		Emissior	n Factors	
Project Type	Activity	Venicie	Process	Factor Units	CH₄	N ₂ O	CO ₂	CO ₂ e
Demolition - Building	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Broject Type	Construction	Vahiela	Emission	Emission		Emissior	n Factors	
	Activity	venicie	Process	Factor Units	CH₄	N₂O	CO2	CO ₂ e
Terminal Apron	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	1.02E-01	5.06E-03	7.04E+01	8.03E+01
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	1.02E-01	5.06E-03	7.04E+01	8.03E+01
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.88E-02	3.10E-02	7.88E+01	8.85E+01
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPV_START	g/one-way trip	7.89E-02	5.04E-03	7.01E+01	7.81E+01
Demolition - Building	Material Delivery	Dump Truck	RPV_START	g/one-way trip	1.02E-01	5.06E-03	7.04E+01	8.03E+01
Demolition - Building	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.88E-02	3.10E-02	7.88E+01	8.85E+01
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	g/one-way trip	1.02E-01	5.06E-03	7.04E+01	8.03E+01
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.88E-02	3.10E-02	7.88E+01	8.85E+01
Drainage System	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.88E-02	3.10E-02	7.88E+01	8.85E+01
Fencing	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	1.02E-01	5.06E-03	7.04E+01	8.03E+01
Fencing	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.88E-02	3.10E-02	7.88E+01	8.85E+01
Fuel Tanks	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	1.02E-01	5.06E-03	7.04E+01	8.03E+01
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	1.02E-01	5.06E-03	7.04E+01	8.03E+01
Fuel Tanks	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.88E-02	3.10E-02	7.88E+01	8.85E+01
Landscaping	Material Delivery	Flatbed Truck	RPV_START	g/one-way trip	7.89E-02	5.04E-03	7.01E+01	7.81E+01
Landscaping	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.88E-02	3.10E-02	7.88E+01	8.85E+01



Project Type	Construction	Vahiela	Emission	Emission		Emissio	n Factors	
Project Type	Activity	venicie	Process	Factor Units	CH₄	N ₂ O		CO ₂ e
NAVAIDS	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.88E-02	3.10E-02	7.88E+01	8.85E+01
Parking Lot	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	1.02E-01	5.06E-03	7.04E+01	8.03E+01
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	1.02E-01	5.06E-03	7.04E+01	8.03E+01
Parking Lot	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.88E-02	3.10E-02	7.88E+01	8.85E+01
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	1.02E-01	5.06E-03	7.04E+01	8.03E+01
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.88E-02	3.10E-02	7.88E+01	8.85E+01
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_START	g/one-way trip	7.89E-02	5.04E-03	7.01E+01	7.81E+01
Terminal Apron	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	1.02E-01	5.06E-03	7.04E+01	8.03E+01
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	1.02E-01	5.06E-03	7.04E+01	8.03E+01
Terminal Apron	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.88E-02	3.10E-02	7.88E+01	8.85E+01
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Broject Type	Construction	Vahiala	Emission	Emission		Emissior	n Factors	
Project Type	Activity	Venicie	Process	Factor Units	CH₄	N ₂ O		CO ₂ e
Fencing	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Broject Type	Construction	Vahielo	Emission	Emission		Emissior	n Factors	
Project Type	Activity	Venicle	Process	Factor Units	CH₄	N ₂ O	CO ₂	CO ₂ e
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction	Vehicle	Emission	Emission		Emissior	n Factors	
Project Type	Activity	Venicie	Process	Factor Units	CH₄	N ₂ O	CO2	CO ₂ e
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD	g/mi	6.44E-02	3.26E-03	1.21E+03	1.21E+03
General Use	Fugitive Dust Control	Water Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPV_START	g/one-way trip	1.02E-01	5.06E-03	7.04E+01	8.03E+01



Project Type	Construction Activity	Vahiela	Emission	Emission			Emission	n Factors	Factors			
Fioject Type	Construction Activity	Venicie	Factor	Units	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}		
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD	g/mi	1.76E+00	7.61E-01	1.96E-01	1.00E-02	8.28E-02	7.62E-02		
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.76E+00	7.61E-01	1.96E-01	1.00E-02	8.28E-02	7.62E-02		
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD	g/mi	6.27E-02	1.55E+00	1.17E-02	2.16E-03	3.54E-03	3.13E-03		
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD	g/mi	3.09E+00	8.93E-01	1.67E-01	1.62E-02	1.29E-01	1.18E-01		
Demolition - Building	Material Delivery	Dump Truck	RPD	g/mi	1.76E+00	7.61E-01	1.96E-01	1.00E-02	8.28E-02	7.62E-02		
Demolition - Building	Employee Commute	Passenger Car	RPD	g/mi	6.27E-02	1.55E+00	1.17E-02	2.16E-03	3.54E-03	3.13E-03		
Demolition - Concrete	Material Delivery	Dump Truck	RPD	g/mi	1.76E+00	7.61E-01	1.96E-01	1.00E-02	8.28E-02	7.62E-02		
Demolition - Concrete	Employee Commute	Passenger Car	RPD	g/mi	6.27E-02	1.55E+00	1.17E-02	2.16E-03	3.54E-03	3.13E-03		
Drainage System	Employee Commute	Passenger Car	RPD	g/mi	6.27E-02	1.55E+00	1.17E-02	2.16E-03	3.54E-03	3.13E-03		
Fencing	Material Delivery	Cement Mixer	RPD	g/mi	1.76E+00	7.61E-01	1.96E-01	1.00E-02	8.28E-02	7.62E-02		
Fencing	Employee Commute	Passenger Car	RPD	g/mi	6.27E-02	1.55E+00	1.17E-02	2.16E-03	3.54E-03	3.13E-03		
Fuel Tanks	Material Delivery	Cement Mixer	RPD	g/mi	1.76E+00	7.61E-01	1.96E-01	1.00E-02	8.28E-02	7.62E-02		
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.76E+00	7.61E-01	1.96E-01	1.00E-02	8.28E-02	7.62E-02		
Fuel Tanks	Employee Commute	Passenger Car	RPD	g/mi	6.27E-02	1.55E+00	1.17E-02	2.16E-03	3.54E-03	3.13E-03		
Landscaping	Material Delivery	Flatbed Truck	RPD	g/mi	3.09E+00	8.93E-01	1.67E-01	1.62E-02	1.29E-01	1.18E-01		
Landscaping	Employee Commute	Passenger Car	RPD	g/mi	6.27E-02	1.55E+00	1.17E-02	2.16E-03	3.54E-03	3.13E-03		
NAVAIDS	Employee Commute	Passenger Car	RPD	g/mi	6.27E-02	1.55E+00	1.17E-02	2.16E-03	3.54E-03	3.13E-03		
Parking Lot	Material Delivery	Cement Mixer	RPD	g/mi	1.76E+00	7.61E-01	1.96E-01	1.00E-02	8.28E-02	7.62E-02		

Table B4. 2022 Proposed Project, construction-phase on-road vehicle criteria air pollutant emission factors.



Broject Type	Construction Activity	Vehicle	Emission	n Emission Factor	Emission Factors						
Рюјесттуре	Construction Activity	venicie	Factor	Units	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.76E+00	7.61E-01	1.96E-01	1.00E-02	8.28E-02	7.62E-02	
Parking Lot	Employee Commute	Passenger Car	RPD	g/mi	6.27E-02	1.55E+00	1.17E-02	2.16E-03	3.54E-03	3.13E-03	
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.76E+00	7.61E-01	1.96E-01	1.00E-02	8.28E-02	7.62E-02	
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD	g/mi	6.27E-02	1.55E+00	1.17E-02	2.16E-03	3.54E-03	3.13E-03	
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD	g/mi	3.09E+00	8.93E-01	1.67E-01	1.62E-02	1.29E-01	1.18E-01	
Terminal Apron	Material Delivery	Cement Mixer	RPD	g/mi	1.76E+00	7.61E-01	1.96E-01	1.00E-02	8.28E-02	7.62E-02	
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	1.76E+00	7.61E-01	1.96E-01	1.00E-02	8.28E-02	7.62E-02	
Terminal Apron	Employee Commute	Passenger Car	RPD	g/mi	6.27E-02	1.55E+00	1.17E-02	2.16E-03	3.54E-03	3.13E-03	
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02	
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02	
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03	
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.92E-01	3.74E-02	
Demolition - Building	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02	
Demolition - Building	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03	
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02	
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03	
Drainage System	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03	
Fencing	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02	
Fencing	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03	



Broject Type	est Type Construction Activity Vehicle Emission Emission Emission Emission Factor				n Factors					
Project Type	Construction Activity	venicie	Factor	Units	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}
Fuel Tanks	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02
Fuel Tanks	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03
Landscaping	Material Delivery	Flatbed Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.92E-01	3.74E-02
Landscaping	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03
NAVAIDS	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03
Parking Lot	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02
Parking Lot	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.92E-01	3.74E-02
Terminal Apron	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02
Terminal Apron	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	6.03E-03
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.38E-02	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Broject Type	Construction Activity	Vahiela	Emission	Emission	n Emission Factors									
Рюјест туре	Construction Activity	venicie	Factor	Units	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}				
Demolition - Building	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
Demolition - Building	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.38E-02	0.00E+00	0.00E+00	0.00E+00				
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.38E-02	0.00E+00	0.00E+00	0.00E+00				
Drainage System	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.38E-02	0.00E+00	0.00E+00	0.00E+00				
Fencing	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
Fencing	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.38E-02	0.00E+00	0.00E+00	0.00E+00				
Fuel Tanks	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
Fuel Tanks	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.38E-02	0.00E+00	0.00E+00	0.00E+00				
Landscaping	Material Delivery	Flatbed Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
Landscaping	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.38E-02	0.00E+00	0.00E+00	0.00E+00				
NAVAIDS	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.38E-02	0.00E+00	0.00E+00	0.00E+00				
Parking Lot	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
Parking Lot	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.38E-02	0.00E+00	0.00E+00	0.00E+00				
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.38E-02	0.00E+00	0.00E+00	0.00E+00				
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				



Broject Type	Construction Activity	Vehicle	Emission	n Emission Factor	Emission Factors						
Рюјесттуре	Construction Activity	venicie	Factor	Units	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Terminal Apron	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	2.38E-02	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	5.51E-01	2.35E+00	1.76E-01	5.97E-04	6.09E-03	5.60E-03	
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	5.51E-01	2.35E+00	1.76E-01	5.97E-04	6.09E-03	5.60E-03	
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.64E-01	5.16E+00	4.81E-01	5.16E-04	6.75E-03	5.97E-03	
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPV_START	g/one-way trip	0.00E+00	4.50E+00	1.83E-01	6.01E-04	7.14E-03	6.57E-03	
Demolition - Building	Material Delivery	Dump Truck	RPV_START	g/one-way trip	5.51E-01	2.35E+00	1.76E-01	5.97E-04	6.09E-03	5.60E-03	
Demolition - Building	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.64E-01	5.16E+00	4.81E-01	5.16E-04	6.75E-03	5.97E-03	
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	g/one-way trip	5.51E-01	2.35E+00	1.76E-01	5.97E-04	6.09E-03	5.60E-03	
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.64E-01	5.16E+00	4.81E-01	5.16E-04	6.75E-03	5.97E-03	
Drainage System	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.64E-01	5.16E+00	4.81E-01	5.16E-04	6.75E-03	5.97E-03	
Fencing	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	5.51E-01	2.35E+00	1.76E-01	5.97E-04	6.09E-03	5.60E-03	
Fencing	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.64E-01	5.16E+00	4.81E-01	5.16E-04	6.75E-03	5.97E-03	
Fuel Tanks	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	5.51E-01	2.35E+00	1.76E-01	5.97E-04	6.09E-03	5.60E-03	
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	5.51E-01	2.35E+00	1.76E-01	5.97E-04	6.09E-03	5.60E-03	
Fuel Tanks	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.64E-01	5.16E+00	4.81E-01	5.16E-04	6.75E-03	5.97E-03	
Landscaping	Material Delivery	Flatbed Truck	RPV_START	g/one-way trip	0.00E+00	4.50E+00	1.83E-01	6.01E-04	7.14E-03	6.57E-03	
Landscaping	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.64E-01	5.16E+00	4.81E-01	5.16E-04	6.75E-03	5.97E-03	



Broject Type	Construction Activity	Vahiala	Emission	Emission	on Emission Factors								
Project Type	Construction Activity	venicie	Factor	Units	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}			
NAVAIDS	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.64E-01	5.16E+00	4.81E-01	5.16E-04	6.75E-03	5.97E-03			
Parking Lot	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	5.51E-01	2.35E+00	1.76E-01	5.97E-04	6.09E-03	5.60E-03			
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	5.51E-01	2.35E+00	1.76E-01	5.97E-04	6.09E-03	5.60E-03			
Parking Lot	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.64E-01	5.16E+00	4.81E-01	5.16E-04	6.75E-03	5.97E-03			
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	5.51E-01	2.35E+00	1.76E-01	5.97E-04	6.09E-03	5.60E-03			
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.64E-01	5.16E+00	4.81E-01	5.16E-04	6.75E-03	5.97E-03			
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_START	g/one-way trip	0.00E+00	4.50E+00	1.83E-01	6.01E-04	7.14E-03	6.57E-03			
Terminal Apron	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	5.51E-01	2.35E+00	1.76E-01	5.97E-04	6.09E-03	5.60E-03			
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	5.51E-01	2.35E+00	1.76E-01	5.97E-04	6.09E-03	5.60E-03			
Terminal Apron	Employee Commute	Passenger Car	RPV_START	g/one-way trip	3.64E-01	5.16E+00	4.81E-01	5.16E-04	6.75E-03	5.97E-03			
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.06E-03	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Demolition - Building	Material Delivery	Dump Truck	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Demolition - Building	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.06E-03	0.00E+00	0.00E+00	0.00E+00			
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.06E-03	0.00E+00	0.00E+00	0.00E+00			
Drainage System	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.06E-03	0.00E+00	0.00E+00	0.00E+00			



Droject Turne	Construction Activity	Vahiala	Emission	Emission	Emission Factors					
Project Type	Construction Activity	venicie	Factor	Units	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
Fencing	Material Delivery	Cement Mixer	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.06E-03	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Cement Mixer	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.06E-03	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.06E-03	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.06E-03	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.06E-03	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.06E-03	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Cement Mixer	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	2.06E-03	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Droject Ture	Construction Activity	Vahiala	Emission	Emission Emission Factors							
Project Type	Construction Activity	venicie	Factor	Units	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.61E-03	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Building	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Building	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.61E-03	0.00E+00	0.00E+00	0.00E+00	
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.61E-03	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.61E-03	0.00E+00	0.00E+00	0.00E+00	
Fencing	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.61E-03	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.61E-03	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Material Delivery	Flatbed Truck	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.61E-03	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.61E-03	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.61E-03	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	


Project Type	Construction Activity	Vehicle	Emission	Emission Factor			Emission	n Factors		
Појесстуре	Construction Activity	Venicie	Factor	Units	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.61E-03	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	3.61E-03	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	DIURNAL	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD	g/mi	1.76E+00	7.61E-01	1.96E-01	1.00E-02	8.28E-02	7.62E-02
General Use	Fugitive Dust Control	Water Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	2.45E-02
General Use	Fugitive Dust Control	Water Truck	RPV_EVAP	g/vehicle- day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
General Use	Fugitive Dust Control	Water Truck	RPV_START	g/one-way trip	5.51E-01	2.35E+00	1.76E-01	5.97E-04	6.09E-03	5.60E-03



Project Type	Construction	Vehicle Er	Emission	Emission	Emission Emission Factors					
rioject Type	Activity	Venicie	Process	Factor Units	CH₄	N ₂ O	CO ₂	CO ₂ e		
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD	g/mi	6.52E-02	3.26E-03	1.20E+03	1.20E+03		
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	6.52E-02	3.26E-03	1.20E+03	1.20E+03		
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD	g/mi	1.88E-03	1.67E-03	3.24E+02	3.25E+02		
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD	g/mi	6.44E-02	3.26E-03	1.93E+03	1.94E+03		
Demolition - Building	Material Delivery	Dump Truck	RPD	g/mi	6.52E-02	3.26E-03	1.20E+03	1.20E+03		
Demolition - Building	Employee Commute	Passenger Car	RPD	g/mi	1.88E-03	1.67E-03	3.24E+02	3.25E+02		
Demolition - Concrete	Material Delivery	Dump Truck	RPD	g/mi	6.52E-02	3.26E-03	1.20E+03	1.20E+03		
Demolition - Concrete	Employee Commute	Passenger Car	RPD	g/mi	1.88E-03	1.67E-03	3.24E+02	3.25E+02		
Drainage System	Employee Commute	Passenger Car	RPD	g/mi	1.88E-03	1.67E-03	3.24E+02	3.25E+02		
Fencing	Material Delivery	Cement Mixer	RPD	g/mi	6.52E-02	3.26E-03	1.20E+03	1.20E+03		
Fencing	Employee Commute	Passenger Car	RPD	g/mi	1.88E-03	1.67E-03	3.24E+02	3.25E+02		
Fuel Tanks	Material Delivery	Cement Mixer	RPD	g/mi	6.52E-02	3.26E-03	1.20E+03	1.20E+03		
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	6.52E-02	3.26E-03	1.20E+03	1.20E+03		
Fuel Tanks	Employee Commute	Passenger Car	RPD	g/mi	1.88E-03	1.67E-03	3.24E+02	3.25E+02		
Landscaping	Material Delivery	Flatbed Truck	RPD	g/mi	6.44E-02	3.26E-03	1.93E+03	1.94E+03		
Landscaping	Employee Commute	Passenger Car	RPD	g/mi	1.88E-03	1.67E-03	3.24E+02	3.25E+02		
NAVAIDS	Employee Commute	Passenger Car	RPD	g/mi	1.88E-03	1.67E-03	3.24E+02	3.25E+02		
Parking Lot	Material Delivery	Cement Mixer	RPD	g/mi	6.52E-02	3.26E-03	1.20E+03	1.20E+03		

Table B5. 2022 Proposed Project, construction-phase on-road vehicle greenhouse gas emission factors.



Project Type	Construction	Vahiela	Emission Process	Emission	Emission Factors					
Project Type	Activity	venicie	Process	Factor Units	CH₄	N₂O		CO₂e		
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	6.52E-02	3.26E-03	1.20E+03	1.20E+03		
Parking Lot	Employee Commute	Passenger Car	RPD	g/mi	1.88E-03	1.67E-03	3.24E+02	3.25E+02		
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	6.52E-02	3.26E-03	1.20E+03	1.20E+03		
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD	g/mi	1.88E-03	1.67E-03	3.24E+02	3.25E+02		
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD	g/mi	6.44E-02	3.26E-03	1.93E+03	1.94E+03		
Terminal Apron	Material Delivery	Cement Mixer	RPD	g/mi	6.52E-02	3.26E-03	1.20E+03	1.20E+03		
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD	g/mi	6.52E-02	3.26E-03	1.20E+03	1.20E+03		
Terminal Apron	Employee Commute	Passenger Car	RPD	g/mi	1.88E-03	1.67E-03	3.24E+02	3.25E+02		
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Building	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Building	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Drainage System	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fencing	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fencing	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00		



Broject Type	Construction	Vehicle	Emission	Emission	Emission Factors				
Project Type	Activity	venicie	Process	Factor Units	CH₄	N₂O		CO ₂ e	
Fuel Tanks	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Material Delivery	Flatbed Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Material Delivery	Cement Mixer	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Employee Commute	Passenger Car	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	



Project Type	Construction	Vehicle	Emission	Emission	Emission Factors				
	Activity	venicie	Process	Factor Units	CH₄	N ₂ O	CO ₂	CO ₂ e	
Demolition - Building	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Building	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Material Delivery	Flatbed Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	



Project Type	Construction	Vehicle	Emission	Emission	Emission Factors				
Project Type	Activity	Venicie	Process	Factor Units	CH₄	N₂O	CO ₂	CO ₂ e	
Terminal Apron	Material Delivery	Cement Mixer	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Employee Commute	Passenger Car	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	1.07E-01	5.06E-03	7.00E+01	8.04E+01	
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPV_START	PV_START g/one-way trip		5.06E-03	7.00E+01	8.04E+01	
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.78E-02	2.91E-02	7.76E+01	8.68E+01	
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPV_START	g/one-way trip	8.44E-02	5.05E-03	6.99E+01	7.84E+01	
Demolition - Building	Material Delivery	Dump Truck	RPV_START	g/one-way trip	1.07E-01	5.06E-03	7.00E+01	8.04E+01	
Demolition - Building	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.78E-02	2.91E-02	7.76E+01	8.68E+01	
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	g/one-way trip	1.07E-01	5.06E-03	7.00E+01	8.04E+01	
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.78E-02	2.91E-02	7.76E+01	8.68E+01	
Drainage System	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.78E-02	2.91E-02	7.76E+01	8.68E+01	
Fencing	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	1.07E-01	5.06E-03	7.00E+01	8.04E+01	
Fencing	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.78E-02	2.91E-02	7.76E+01	8.68E+01	
Fuel Tanks	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	1.07E-01	5.06E-03	7.00E+01	8.04E+01	
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	1.07E-01	5.06E-03	7.00E+01	8.04E+01	
Fuel Tanks	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.78E-02	2.91E-02	7.76E+01	8.68E+01	
Landscaping	Material Delivery	Flatbed Truck	RPV_START	g/one-way trip	8.44E-02	5.05E-03	6.99E+01	7.84E+01	
Landscaping	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.78E-02	2.91E-02	7.76E+01	8.68E+01	



Project Type	Construction	Vahiela	Emission	Emission	Emission Factors					
Project Type	Activity	Venicle	Process	Factor Units	CH₄	N₂O	CO ₂	CO ₂ e		
NAVAIDS	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.78E-02	2.91E-02	7.76E+01	8.68E+01		
Parking Lot	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	1.07E-01	5.06E-03	7.00E+01	8.04E+01		
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	1.07E-01	5.06E-03	7.00E+01	8.04E+01		
Parking Lot	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.78E-02	2.91E-02	7.76E+01	8.68E+01		
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_START	/_START g/one-way trip		5.06E-03	7.00E+01	8.04E+01		
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.78E-02	2.91E-02	7.76E+01	8.68E+01		
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_START	g/one-way trip	8.44E-02	5.05E-03	6.99E+01	7.84E+01		
Terminal Apron	Material Delivery	Cement Mixer	RPV_START	g/one-way trip	1.07E-01	5.06E-03	7.00E+01	8.04E+01		
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPV_START	g/one-way trip	1.07E-01	5.06E-03	7.00E+01	8.04E+01		
Terminal Apron	Employee Commute	Passenger Car	RPV_START	g/one-way trip	1.78E-02	2.91E-02	7.76E+01	8.68E+01		
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Building	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Building	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Drainage System	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		



Project Type	Construction	Vehicle	Emission	Emission	Emission Factors				
Project Type	Activity	venicie	Process	Factor Units	CH₄	N₂O	CO2	CO ₂ e	
Fencing	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Material Delivery	Flatbed Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Material Delivery	Cement Mixer	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Material Delivery	Dump Truck Subbase Material	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Employee Commute	Passenger Car	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00	



Project Type	Construction	Vahicla	Emission	Emission	Emission Factors					
Floject Type	Activity	Venicie	Process	Factor Units	CH₄	N₂O	CO2	CO ₂ e		
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Building	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Building	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Drainage System	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fencing	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fencing	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fuel Tanks	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fuel Tanks	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Landscaping	Material Delivery	Flatbed Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Landscaping	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
NAVAIDS	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Parking Lot	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Parking Lot	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		



Project Type	Construction	Vehicle	Emission	Emission	Emission Factors					
Project Type	Activity	Venicie	Process	Factor Units	CH₄	N₂O	CO2	CO ₂ e		
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Terminal Apron	Material Delivery	Cement Mixer	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Terminal Apron	Employee Commute	Passenger Car	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
General Use	Fugitive Dust Control	Water Truck	DIURNAL	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
General Use	Fugitive Dust Control	Water Truck	RPD	g/mi	6.52E-02	3.26E-03	1.20E+03	1.20E+03		
General Use	Fugitive Dust Control	Water Truck	RPD_EVAP	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
General Use	Fugitive Dust Control	Water Truck	RPD_WEAR	g/mi	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
General Use	Fugitive Dust Control	Water Truck	RPV_EVAP	g/vehicle-day	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
General Use	Fugitive Dust Control	Water Truck	RPV_START	g/one-way trip	1.07E-01	5.06E-03	7.00E+01	8.04E+01		



Project Type	Construction Activity	Vahiala	Emission	Emissions (tons/yr)						
Project Type	Construction Activity	venicie	Process	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD	4.04E-02	1.73E-02	4.67E-03	2.07E-04	2.02E-03	1.86E-03	
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD	2.16E-02	9.24E-03	2.49E-03	1.10E-04	1.08E-03	9.92E-04	
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD	3.66E-01	8.11E+00	6.83E-02	1.10E-02	1.84E-02	1.63E-02	
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD	7.41E-03	2.12E-03	4.05E-04	3.46E-05	3.21E-04	2.96E-04	
Demolition - Building	Material Delivery	Dump Truck	RPD	4.55E-01	1.95E-01	5.26E-02	2.33E-03	2.28E-02	2.09E-02	
Demolition - Building	Employee Commute	Passenger Car	RPD	1.11E-02	2.46E-01	2.07E-03	3.34E-04	5.58E-04	4.94E-04	
Demolition - Concrete	Material Delivery	Dump Truck	RPD	1.01E-02	4.34E-03	1.17E-03	5.17E-05	5.06E-04	4.65E-04	
Demolition - Concrete	Employee Commute	Passenger Car	RPD	1.90E-03	4.20E-02	3.54E-04	5.71E-05	9.55E-05	8.45E-05	
Drainage System	Employee Commute	Passenger Car	RPD	1.71E-02	3.78E-01	3.19E-03	5.14E-04	8.60E-04	7.60E-04	
Fencing	Material Delivery	Cement Mixer	RPD	2.02E-02	8.66E-03	2.34E-03	1.03E-04	1.01E-03	9.30E-04	
Fencing	Employee Commute	Passenger Car	RPD	1.65E-02	3.64E-01	3.07E-03	4.95E-04	8.28E-04	7.32E-04	
Fuel Tanks	Material Delivery	Cement Mixer	RPD	2.27E-02	9.75E-03	2.63E-03	1.16E-04	1.14E-03	1.05E-03	
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD	1.21E-02	5.20E-03	1.40E-03	6.20E-05	6.06E-04	5.58E-04	
Fuel Tanks	Employee Commute	Passenger Car	RPD	4.05E-02	8.97E-01	7.56E-03	1.22E-03	2.04E-03	1.80E-03	
Landscaping	Material Delivery	Flatbed Truck	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Employee Commute	Passenger Car	RPD	2.59E-02	5.74E-01	4.84E-03	7.80E-04	1.31E-03	1.15E-03	
Parking Lot	Material Delivery	Cement Mixer	RPD	1.90E-03	8.16E-04	2.20E-04	9.73E-06	9.51E-05	8.75E-05	

Table B6. 2021 Proposed Project, construction-phase on-road vehicle criteria air pollutant emissions.



Project Type	Construction Activity	Vahiela	Emission	Emissions (tons/yr)						
Рюјест туре	Construction Activity	venicie	Process	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD	2.69E-03	1.15E-03	3.11E-04	1.38E-05	1.35E-04	1.24E-04	
Parking Lot	Employee Commute	Passenger Car	RPD	6.05E-04	1.34E-02	1.13E-04	1.82E-05	3.04E-05	2.69E-05	
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD	8.23E-03	3.53E-03	9.51E-04	4.21E-05	4.11E-04	3.79E-04	
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD	1.22E-01	2.70E+00	2.28E-02	3.67E-03	6.14E-03	5.43E-03	
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD	9.43E-03	2.70E-03	5.16E-04	4.40E-05	4.09E-04	3.76E-04	
Terminal Apron	Material Delivery	Cement Mixer	RPD	1.21E-01	5.20E-02	1.40E-02	6.20E-04	6.06E-03	5.58E-03	
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD	6.47E-02	2.77E-02	7.47E-03	3.31E-04	3.23E-03	2.97E-03	
Terminal Apron	Employee Commute	Passenger Car	RPD	4.37E-02	9.67E-01	8.15E-03	1.31E-03	2.20E-03	1.94E-03	
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.92E-03	5.00E-04	
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.09E-03	2.67E-04	
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.28E-01	2.98E-02	
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.19E-04	7.91E-05	
Demolition - Building	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.41E-02	5.63E-03	
Demolition - Building	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.91E-03	9.02E-04	
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.81E-04	1.25E-04	
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.18E-03	1.54E-04	
Drainage System	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-02	1.39E-03	
Fencing	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.96E-03	2.50E-04	
Fencing	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-02	1.34E-03	



Project Type	Construction Activity	Vehicle	Emission	Emissions (tons/yr)						
Рюјесттуре	Construction Activity	venicie	Process	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Fuel Tanks	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.20E-03	2.81E-04	
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.18E-03	1.50E-04	
Fuel Tanks	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.52E-02	3.29E-03	
Landscaping	Material Delivery	Flatbed Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.62E-02	2.11E-03	
Parking Lot	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.84E-04	2.35E-05	
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.61E-04	3.33E-05	
Parking Lot	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.77E-04	4.92E-05	
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.98E-04	1.02E-04	
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.60E-02	9.92E-03	
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.88E-04	1.01E-04	
Terminal Apron	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.18E-02	1.50E-03	
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.27E-03	8.00E-04	
Terminal Apron	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.72E-02	3.55E-03	
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	1.27E-01	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	



Project Type	Construction Activity	tion Activity Vehicle Emission			Emissions (tons/yr)							
гојесттуре	Construction Activity	Venicie	Process	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}			
Demolition - Building	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Demolition - Building	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	3.84E-03	0.00E+00	0.00E+00	0.00E+00			
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	6.57E-04	0.00E+00	0.00E+00	0.00E+00			
Drainage System	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	0.00E+00			
Fencing	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Fencing	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	5.70E-03	0.00E+00	0.00E+00	0.00E+00			
Fuel Tanks	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Fuel Tanks	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	1.40E-02	0.00E+00	0.00E+00	0.00E+00			
Landscaping	Material Delivery	Flatbed Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Landscaping	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
NAVAIDS	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	8.98E-03	0.00E+00	0.00E+00	0.00E+00			
Parking Lot	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Parking Lot	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	2.09E-04	0.00E+00	0.00E+00	0.00E+00			
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	4.23E-02	0.00E+00	0.00E+00	0.00E+00			
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			



Project Type	Construction Activity	Vehicle	Emission	Emissions (tons/yr)						
Project Type	Construction Activity	venicie	Process	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Terminal Apron	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	1.51E-02	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPV_START	5.60E-04	2.43E-03	1.85E-04	6.14E-07	6.80E-06	6.26E-06	
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPV_START	2.99E-04	1.29E-03	9.85E-05	3.27E-07	3.63E-06	3.34E-06	
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPV_START	1.34E-01	1.79E+00	1.71E-01	1.72E-04	2.41E-03	2.13E-03	
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPV_START	0.00E+00	4.76E-04	2.00E-05	6.39E-08	8.15E-07	7.50E-07	
Demolition - Building	Material Delivery	Dump Truck	RPV_START	6.31E-03	2.73E-02	2.08E-03	6.91E-06	7.66E-05	7.04E-05	
Demolition - Building	Employee Commute	Passenger Car	RPV_START	4.05E-03	5.42E-02	5.18E-03	5.23E-06	7.31E-05	6.46E-05	
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	1.40E-04	6.07E-04	4.62E-05	1.54E-07	1.70E-06	1.57E-06	
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	6.92E-04	9.28E-03	8.87E-04	8.94E-07	1.25E-05	1.11E-05	
Drainage System	Employee Commute	Passenger Car	RPV_START	6.23E-03	8.35E-02	7.98E-03	8.05E-06	1.13E-04	9.95E-05	
Fencing	Material Delivery	Cement Mixer	RPV_START	2.80E-04	1.21E-03	9.23E-05	3.07E-07	3.40E-06	3.13E-06	
Fencing	Employee Commute	Passenger Car	RPV_START	6.00E-03	8.04E-02	7.69E-03	7.75E-06	1.08E-04	9.58E-05	
Fuel Tanks	Material Delivery	Cement Mixer	RPV_START	3.15E-04	1.36E-03	1.04E-04	3.45E-07	3.82E-06	3.52E-06	
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPV_START	1.68E-04	7.28E-04	5.54E-05	1.84E-07	2.04E-06	1.88E-06	
Fuel Tanks	Employee Commute	Passenger Car	RPV_START	1.48E-02	1.98E-01	1.89E-02	1.91E-05	2.67E-04	2.36E-04	
Landscaping	Material Delivery	Flatbed Truck	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	



Broject Type	Construction Activity	Vehicle	Emission	Emissions (tons/yr)						
Рюјесттуре	Construction Activity	venicie	Process	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}	
NAVAIDS	Employee Commute	Passenger Car	RPV_START	9.46E-03	1.27E-01	1.21E-02	1.22E-05	1.71E-04	1.51E-04	
Parking Lot	Material Delivery	Cement Mixer	RPV_START	2.64E-05	1.14E-04	8.69E-06	2.89E-08	3.20E-07	2.95E-07	
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_START	3.73E-05	1.62E-04	1.23E-05	4.09E-08	4.53E-07	4.17E-07	
Parking Lot	Employee Commute	Passenger Car	RPV_START	1.66E-04	2.22E-03	2.12E-04	2.14E-07	2.99E-06	2.64E-06	
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_START	1.14E-04	4.94E-04	3.76E-05	1.25E-07	1.38E-06	1.27E-06	
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_START	4.45E-02	5.97E-01	5.70E-02	5.75E-05	8.04E-04	7.11E-04	
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_START	0.00E+00	6.06E-04	2.54E-05	8.14E-08	1.04E-06	9.55E-07	
Terminal Apron	Material Delivery	Cement Mixer	RPV_START	1.68E-03	7.28E-03	5.54E-04	1.84E-06	2.04E-05	1.88E-05	
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPV_START	8.96E-04	3.88E-03	2.95E-04	9.82E-07	1.09E-05	1.00E-05	
Terminal Apron	Employee Commute	Passenger Car	RPV_START	1.59E-02	2.13E-01	2.04E-02	2.06E-05	2.88E-04	2.54E-04	
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	3.06E-04	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Building	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Building	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	5.21E-06	0.00E+00	0.00E+00	0.00E+00	
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	8.91E-07	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	1.02E-05	0.00E+00	0.00E+00	0.00E+00	



Project Type	Construction Activity	Vahiala	Emission	Emissions (tons/yr)						
Project Type	Construction Activity	venicie	Process	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Fencing	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	1.99E-06	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	1.44E-05	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Material Delivery	Flatbed Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	3.52E-05	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	3.76E-07	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	2.31E-04	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	2.59E-05	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	



Project Type	Construction Activity	Vahiela	Emission	Emissions (tons/yr)						
Project Type	Construction Activity	venicie	Process	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	5.32E-04	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Building	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Building	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	9.04E-06	0.00E+00	0.00E+00	0.00E+00	
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	1.55E-06	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	1.77E-05	0.00E+00	0.00E+00	0.00E+00	
Fencing	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	3.46E-06	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	2.50E-05	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Material Delivery	Flatbed Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	6.11E-05	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	6.53E-07	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	



Project Type	Construction Activity	Vehicle	Emission	Emissions (tons/yr)						
	Construction Activity	Venicie	Process	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	4.01E-04	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	4.51E-05	0.00E+00	0.00E+00	0.00E+00	
Fugitive Dust Control	Fugitive Dust Control	Water Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPD	6.36E-02	2.73E-02	7.35E-03	3.25E-04	3.18E-03	2.93E-03	
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.17E-03	7.87E-04	
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPV_START	3.53E-03	1.53E-02	1.16E-03	3.86E-06	4.28E-05	3.94E-05	



Project Type	Construction	Construction		Emissions (tons/yr)					
Project Type	Activity	Venicle	Process	CH₄	N ₂ O	CO ₂	CO ₂ e		
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD	1.31E-03	6.65E-05	2.46E+01	2.47E+01		
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD	7.01E-04	3.55E-05	1.31E+01	1.32E+01		
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD	9.86E-03	8.51E-03	1.66E+03	1.66E+03		
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD	1.35E-04	6.90E-06	4.11E+00	4.12E+00		
Demolition - Building	Material Delivery	Dump Truck	RPD	1.48E-02	7.49E-04	2.77E+02	2.78E+02		
Demolition - Building	Employee Commute	Passenger Car	RPD	2.99E-04	2.58E-04	5.02E+01	5.02E+01		
Demolition - Concrete	Material Delivery	Dump Truck	RPD	3.29E-04	1.67E-05	6.15E+00	6.19E+00		
Demolition - Concrete	Employee Commute	Passenger Car	RPD	5.11E-05	4.41E-05	8.58E+00	8.60E+00		
Drainage System	Employee Commute	Passenger Car	RPD	4.60E-04	3.97E-04	7.72E+01	7.74E+01		
Fencing	Material Delivery	Cement Mixer	RPD	6.57E-04	3.33E-05	1.23E+01	1.24E+01		
Fencing	Employee Commute	Passenger Car	RPD	4.43E-04	3.82E-04	7.44E+01	7.45E+01		
Fuel Tanks	Material Delivery	Cement Mixer	RPD	7.39E-04	3.74E-05	1.38E+01	1.39E+01		
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD	3.94E-04	2.00E-05	7.38E+00	7.42E+00		
Fuel Tanks	Employee Commute	Passenger Car	RPD	1.09E-03	9.42E-04	1.83E+02	1.83E+02		
Landscaping	Material Delivery	Flatbed Truck	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Landscaping	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
NAVAIDS	Employee Commute	Passenger Car	RPD	6.99E-04	6.03E-04	1.17E+02	1.17E+02		
Parking Lot	Material Delivery	Cement Mixer	RPD	6.19E-05	3.13E-06	1.16E+00	1.16E+00		

Table B7. 2021 Proposed Project, construction-phase on-road vehicle greenhouse gas emissions.



Project Type	ne Construction Vehicle		Emission	Emissions (tons/yr)					
	Activity	venicie	Process	CH₄	N ₂ O	CO ₂	CO ₂ e		
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD	8.76E-05	4.44E-06	1.64E+00	1.65E+00		
Parking Lot	Employee Commute	Passenger Car	RPD	1.63E-05	1.41E-05	2.73E+00	2.74E+00		
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD	2.68E-04	1.36E-05	5.01E+00	5.03E+00		
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD	3.29E-03	2.84E-03	5.52E+02	5.53E+02		
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD	1.71E-04	8.79E-06	5.23E+00	5.25E+00		
Terminal Apron	Material Delivery	Cement Mixer	RPD	3.94E-03	2.00E-04	7.38E+01	7.42E+01		
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD	2.10E-03	1.06E-04	3.93E+01	3.95E+01		
Terminal Apron	Employee Commute	Passenger Car	RPD	1.18E-03	1.02E-03	1.97E+02	1.98E+02		
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Building	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Building	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Drainage System	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fencing	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fencing	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		



Project Type	Construction	Vahielo	Emission	on Emissions (tons/yr)					
	Activity	Venicie	Process	CH₄	N ₂ O	CO ₂	CO ₂ e		
Fuel Tanks	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fuel Tanks	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Landscaping	Material Delivery	Flatbed Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Landscaping	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
NAVAIDS	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Parking Lot	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Parking Lot	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Terminal Apron	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Terminal Apron	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		



Project Type	Construction	Vehicle	Emission		ion Emissions (tons/yr)					
	Activity	Venicle	Process	CH₄	N ₂ O	CO ₂	CO ₂ e			
Demolition - Building	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Demolition - Building	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Drainage System	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Fencing	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Fencing	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Fuel Tanks	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Fuel Tanks	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Landscaping	Material Delivery	Flatbed Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Landscaping	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
NAVAIDS	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Parking Lot	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Parking Lot	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00			



Project Type	Construction	Vahiela	Emission	Emissions (tons/yr)					
	Activity	venicie	Process	CH₄	N ₂ O	CO ₂	CO ₂ e		
Terminal Apron	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Terminal Apron	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPV_START	1.04E-04	5.16E-06	7.18E-02	8.19E-02		
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPV_START	5.53E-05	2.75E-06	3.83E-02	4.37E-02		
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPV_START	6.19E-03	1.02E-02	2.59E+01	2.91E+01		
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPV_START	8.35E-06	5.34E-07	7.42E-03	8.26E-03		
Demolition - Building	Material Delivery	Dump Truck	RPV_START	1.17E-03	5.81E-05	8.09E-01	9.22E-01		
Demolition - Building	Employee Commute	Passenger Car	RPV_START	1.88E-04	3.09E-04	7.85E-01	8.83E-01		
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	2.60E-05	1.29E-06	1.80E-02	2.05E-02		
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	3.21E-05	5.30E-05	1.34E-01	1.51E-01		
Drainage System	Employee Commute	Passenger Car	RPV_START	2.89E-04	4.77E-04	1.21E+00	1.36E+00		
Fencing	Material Delivery	Cement Mixer	RPV_START	5.19E-05	2.58E-06	3.59E-02	4.09E-02		
Fencing	Employee Commute	Passenger Car	RPV_START	2.78E-04	4.59E-04	1.16E+00	1.31E+00		
Fuel Tanks	Material Delivery	Cement Mixer	RPV_START	5.83E-05	2.90E-06	4.04E-02	4.61E-02		
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPV_START	3.11E-05	1.55E-06	2.15E-02	2.46E-02		
Fuel Tanks	Employee Commute	Passenger Car	RPV_START	6.85E-04	1.13E-03	2.87E+00	3.22E+00		
Landscaping	Material Delivery	Flatbed Truck	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Landscaping	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00		



Project Type	Construction	Vehicle	Emission		Emission	s (tons/yr)	
	Activity	Venicie	Process	CH₄	N ₂ O	CO ₂	CO ₂ e
NAVAIDS	Employee Commute	Passenger Car	RPV_START	4.39E-04	7.24E-04	1.84E+00	2.06E+00
Parking Lot	Material Delivery	Cement Mixer	RPV_START	4.88E-06	2.43E-07	3.38E-03	3.86E-03
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_START	6.91E-06	3.44E-07	4.79E-03	5.46E-03
Parking Lot	Employee Commute	Passenger Car	RPV_START	7.67E-06	1.27E-05	3.21E-02	3.61E-02
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_START	2.11E-05	1.05E-06	1.46E-02	1.67E-02
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_START	2.06E-03	3.40E-03	8.64E+00	9.71E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_START	1.06E-05	6.79E-07	9.45E-03	1.05E-02
Terminal Apron	Material Delivery	Cement Mixer	RPV_START	3.11E-04	1.55E-05	2.15E-01	2.46E-01
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPV_START	1.66E-04	8.25E-06	1.15E-01	1.31E-01
Terminal Apron	Employee Commute	Passenger Car	RPV_START	7.38E-04	1.22E-03	3.09E+00	3.47E+00
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction	Vahiela	Emission		Emission	s (tons/yr)	
	Activity	Venicie	Process	CH₄	N ₂ O	CO ₂	CO ₂ e
Fencing	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Broject Type	Construction	Vahiela	Emission		Emission	s (tons/yr)	
Project Type	Activity	venicie	Process	CH₄	N ₂ O	CO ₂	CO ₂ e
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction	Vehicle	Emission	Emissions (tons/yr)					
	Activity	Venicle	Process	CH₄	N ₂ O	CO ₂	CO ₂ e		
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Terminal Apron	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Terminal Apron	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fugitive Dust Control	Fugitive Dust Control	Water Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPD	2.07E-03	1.05E-04	3.87E+01	3.89E+01		
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPV_START	6.53E-04	3.25E-05	4.52E-01	5.16E-01		



Broject Type	Construction Activity	Vehicle	Emission	Emissions (tons/yr)						
Project Type	Construction Activity	venicie	Process	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Building	Material Delivery	Dump Truck	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Building	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Concrete	Material Delivery	Dump Truck	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Concrete	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Material Delivery	Cement Mixer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Material Delivery	Cement Mixer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Material Delivery	Flatbed Truck	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Employee Commute	Passenger Car	RPD	1.23E-02	3.05E-01	2.29E-03	4.24E-04	6.95E-04	6.14E-04	
NAVAIDS	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Material Delivery	Cement Mixer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	

 Table B8. 2022 Proposed Project, construction-phase on-road vehicle criteria air pollutant emissions.



Project Type	Emission Emissions (tons/yr)								
Project Type	Construction Activity	venicie	Process	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD	2.40E-03	1.04E-03	2.69E-04	1.38E-05	1.13E-04	1.04E-04
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD	3.40E-02	8.42E-01	6.34E-03	1.17E-03	1.92E-03	1.70E-03
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD	2.74E-03	7.93E-04	1.48E-04	1.44E-05	1.14E-04	1.05E-04
Terminal Apron	Material Delivery	Cement Mixer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction Activity	Vahiala	Emission			Emission	s (tons/yr)		
Рюјесттуре	Construction Activity	venicie	Process	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}
Fuel Tanks	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.06E-03	1.18E-03
NAVAIDS	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.62E-04	3.35E-05
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-02	3.27E-03
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.60E-04	3.32E-05
Terminal Apron	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction Activity	Vehicle	Emission	Emissions (tons/yr)					
	Construction Activity	Venicie	Process	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
Demolition - Building	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	4.67E-03	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	1.29E-02	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Broject Type	Construction Activity Vohicle Emission Emissions (tons/yr)								
Рюјест туре	Construction Activity	venicie	Process	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
Terminal Apron	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Material Delivery	Dump Truck	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Cement Mixer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPV_START	4.76E-03	6.76E-02	6.29E-03	6.76E-06	8.83E-05	7.81E-05



Project Type	Construction Activity	Vahiela	Emission	n Emissions (tons/yr)					
Рюјест туре	Construction Activity	venicie	Process	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
NAVAIDS	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_START	3.77E-05	1.61E-04	1.20E-05	4.08E-08	4.17E-07	3.83E-07
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_START	1.32E-02	1.87E-01	1.74E-02	1.87E-05	2.44E-04	2.16E-04
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_START	0.00E+00	2.00E-04	8.13E-06	2.67E-08	3.17E-07	2.92E-07
Terminal Apron	Material Delivery	Cement Mixer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Broject Tupo	Construction Activity	Vahiala	Emission			Emission	s (tons/yr)		
Рюјесттуре	Construction Activity	venicie	Process	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}
Fencing	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	4.65E-06	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	6.99E-05	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction Activity	Vahiela	Emission	n Emissions (tons/yr)					
Project Type	Construction Activity	venicie	Process	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	8.14E-06	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00


Project Type	Construction Activity	Vehicle	Emissions (tons/yr)						
Појесттуре	Construction Activity	Venicie	Process	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	1.22E-04	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fugitive Dust Control	Fugitive Dust Control	Water Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPD	1.86E-02	8.05E-03	2.08E-03	1.06E-04	8.76E-04	8.06E-04
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.03E-03	2.59E-04
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPV_START	1.17E-03	4.98E-03	3.72E-04	1.26E-06	1.29E-05	1.19E-05



Project Type	Construction	Vahicla	Emission	Emissions (tons/yr)			
Project Type	Activity	Venicie	Process	CH₄	N ₂ O	CO ₂	CO ₂ e
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Material Delivery	Dump Truck	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Cement Mixer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD	3.68E-04	3.27E-04	6.36E+01	6.37E+01
NAVAIDS	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table B9. 2022 Proposed Project, construction-phase on-road vehicle greenhouse gas emissions.



Project Type	Construction	Vahicla	Emission	Emissions (tons/yr)			
	Activity	venicie	Process	CH₄	N ₂ O	CO ₂	CO ₂ e
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD	8.93E-05	4.47E-06	1.64E+00	1.65E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD	1.02E-03	9.04E-04	1.76E+02	1.76E+02
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD	5.72E-05	2.90E-06	1.72E+00	1.72E+00
Terminal Apron	Material Delivery	Cement Mixer	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	RPD	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction	Vahielo	Emission	Emissions (tons/yr)			
	Activity	Venicie	Process	CH₄	N ₂ O	CO ₂	CO ₂ e
Fuel Tanks	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Cement Mixer	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction	Vehicle	Emission		Emissions (tons/yr)		
	Activity	Venicle	Process	CH₄	N ₂ O	CO ₂	CO ₂ e
Demolition - Building	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction	Vehicle	Emission	Emissions (tons/yr)			
	Activity	Venicie	Process	CH₄	N ₂ O	CO ₂	CO ₂ e
Terminal Apron	Material Delivery	Cement Mixer	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Material Delivery	Dump Truck	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Delivery	Cement Mixer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Cement Mixer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	RPV_START	2.33E-04	3.80E-04	1.01E+00	1.13E+00



Project Type	Construction	Vehicle	Emission		Emissions (tons/yr)		
	Activity	Venicle	Process	CH₄	N ₂ O	CO ₂	CO ₂ e
NAVAIDS	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_START	7.34E-06	3.46E-07	4.79E-03	5.50E-03
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_START	6.45E-04	1.05E-03	2.81E+00	3.14E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_START	3.75E-06	2.24E-07	3.11E-03	3.48E-03
Terminal Apron	Material Delivery	Cement Mixer	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	RPV_START	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Material Delivery	Dump Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project Type	Construction	Vahielo	Emission	Emissions (tons/yr)			
	Activity	Venicie	Process	CH₄	N ₂ O	CO ₂	CO ₂ e
Fencing	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Delivery	Flatbed Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Cement Mixer	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Delivery	Dump Truck Subbase Material	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Employee Commute	Passenger Car	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Broject Type	Construction	Vahiela	Emission	Emissions (tons/yr)				
Project Type	Activity	venicie	Process	CH₄	N ₂ O	CO ₂	CO ₂ e	
Building - 100000 sqft- 10 stories	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Material Delivery	Tractor Trailer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Building	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Building	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Concrete	Material Delivery	Dump Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Concrete	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Material Delivery	Flatbed Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	



Project Type	Construction	Vehicle	Emission	Emissions (tons/yr)					
	Activity	Venicle	Process	CH₄	N ₂ O	CO ₂	CO ₂ e		
Site Work - 10000 sqft	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Site Work - 10000 sqft	Material Delivery	Tractor Trailer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Terminal Apron	Material Delivery	Cement Mixer	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Terminal Apron	Material Delivery	Dump Truck Subbase Material	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Terminal Apron	Employee Commute	Passenger Car	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fugitive Dust Control	Fugitive Dust Control	Water Truck	DIURNAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPD	6.90E-04	3.45E-05	1.27E+01	1.27E+01		
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPD_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPD_WEAR	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPV_EVAP	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fugitive Dust Control	Fugitive Dust Control	Water Truck	RPV_START	2.27E-04	1.07E-05	1.48E-01	1.70E-01		

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APPENDIX C: DETAILED NON-ROAD EMISSION INVENTORY DATA FOR PROPOSED PROJECT

- Table C1.
 Proposed Project, construction-phase non-road equipment activity.
- Table C2.2021 Proposed Project, construction-phase non-road equipment
criteria air pollutant emission factors.
- Table C3.2021 Proposed Project, construction-phase non-road equipment
greenhouse gas emission factors.
- Table C4.2022 Proposed Project, construction-phase non-road equipment
criteria air pollutant emission factors.
- Table C5.2022 Proposed Project, construction-phase non-road equipment
greenhouse gas emission factors.
- Table C6.2021 Proposed Project, construction-phase non-road equipment
criteria air pollutant emissions.
- Table C7.2021 Proposed Project, construction-phase non-road equipment
greenhouse gas emissions.
- Table C8.2022 Proposed Project, construction-phase non-road equipment
criteria air pollutant emissions.
- Table C9.2022 Proposed Project, construction-phase non-road equipment
greenhouse gas emissions.



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Hours of Activity	Hours of Activity - 2021	Hours of Activity - 2022
Building - 100000 sqft- 10 stories	Concrete Foundations	Backhoe	Diesel	100	0.21	384	384	0
Building - 100000 sqft- 10 stories	Concrete Foundations	Concrete Pump	Diesel	11	0.43	144	144	0
Building - 100000 sqft- 10 stories	Concrete Foundations	Concrete Ready Mix Trucks	Diesel	600	0.59	288	288	0
Building - 100000 sqft- 10 stories	Concrete Foundations	Excavator	Diesel	175	0.59	128	128	0
Building - 100000 sqft- 10 stories	Concrete Foundations	Fork Truck	Diesel	100	0.59	384	384	0
Building - 100000 sqft- 10 stories	Concrete Foundations	Tool Truck	Diesel	600	0.59	96	96	0
Building - 100000 sqft- 10 stories	Concrete Foundations	Tractor Trailer- Material Delivery	Diesel	600	0.59	192	192	0
Building - 100000 sqft- 10 stories	Construction Mob & Layout	Survey Crew Trucks	Diesel	600	0.59	8	8	0
Building - 100000 sqft- 10 stories	Construction Mob & Layout	Tractor Trailers Temp Fac.	Diesel	600	0.59	3	3	0
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Fork Truck	Diesel	100	0.59	672	672	0
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Generator	Diesel	40	0.43	64	64	0
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Grout Mixer	Diesel	600	0.59	336	336	0
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Grout Wheel Truck	Diesel	600	0.59	128	128	0
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Man Lift	Diesel	75	0.21	1344	1344	0
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Tool Truck	Diesel	600	0.59	336	336	0
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Tractor Trailer- Material Delivery	Diesel	600	0.59	672	672	0
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Truck Tower (Mantiwoc type)	Diesel	300	0.43	64	64	0

Table C1. Proposed Project, construction-phase non-road equipment activity.



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Hours of Activity	Hours of Activity - 2021	Hours of Activity - 2022
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Fork Truck	Diesel	100	0.59	1280	1280	0
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Man Lift	Diesel	75	0.21	2560	2560	0
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Tool Truck	Diesel	600	0.59	1280	1280	0
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Tractor Trailer- Material Delivery	Diesel	600	0.59	1280	1280	0
Building - 100000 sqft- 10 stories	Roofing	High Lift	Diesel	100	0.59	128	128	0
Building - 100000 sqft- 10 stories	Roofing	Man Lift	Diesel	75	0.21	32	32	0
Building - 100000 sqft- 10 stories	Roofing	Material Deliveries	Diesel	600	0.59	48	48	0
Building - 100000 sqft- 10 stories	Roofing	Tractor Trailer- Material Delivery	Diesel	600	0.59	32	32	0
Building - 100000 sqft- 10 stories	Roofing	Truck Tower (Mantiwoc type)	Diesel	300	0.43	96	96	0
Building - 100000 sqft- 10 stories	Security & Safety Systems	High Lift	Diesel	100	0.59	640	640	0
Building - 100000 sqft- 10 stories	Security & Safety Systems	Tool Truck	Diesel	600	0.59	640	640	0
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	90 Ton Crane	Diesel	300	0.43	192	192	0
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Concrete Pump	Diesel	11	0.43	48	48	0
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Concrete Truck	Diesel	600	0.59	48	48	0
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Fork Truck	Diesel	100	0.59	512	512	0
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Tool Truck	Diesel	600	0.59	128	128	0
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Tractor Trailer- Steel Deliveries	Diesel	600	0.59	288	288	0
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Trowel Machine	Diesel	600	0.59	32	32	0



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Hours of Activity	Hours of Activity - 2021	Hours of Activity - 2022
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Truck Tower (Mantiwoc type)	Diesel	300	0.43	576	576	0
Demolition - Building	Building Demolition	Bob Cat	Diesel	75	0.21	1800	1800	0
Demolition - Building	Building Demolition	Dump Truck	Diesel	600	0.59	1800	1800	0
Demolition - Building	Building Demolition	Excavator with Bucket	Diesel	175	0.59	900	900	0
Demolition - Building	Building Demolition	Generator Sets	Diesel	40	0.43	900	900	0
Demolition - Building	Building Demolition	Pickup Truck	Diesel	600	0.59	1050	1050	0
Demolition - Concrete	Concrete Demolition	Excavator with Bucket	Diesel	175	0.59	100	100	0
Demolition - Concrete	Concrete Demolition	Excavator with Hoe Ram	Diesel	175	0.59	100	100	0
Demolition - Concrete	Concrete Demolition	Pickup Truck	Diesel	600	0.59	200	200	0
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Dozer	Diesel	175	0.59	29	29	0
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Dump Truck	Diesel	600	0.59	29	29	0
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Excavator	Diesel	175	0.59	29	29	0
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Loader	Diesel	175	0.59	29	29	0
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Other General Equipment	Diesel	175	0.43	29	29	0
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Pickup Truck	Diesel	600	0.59	29	29	0
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Roller	Diesel	100	0.59	29	29	0
Drainage System	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	16	16	0
Drainage System	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	16	16	0
Drainage System	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	16	16	0
Drainage System	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	16	16	0



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Hours of Activity	Hours of Activity - 2021	Hours of Activity - 2022
Drainage System	Drainage - 24 inch SICPP	Other General Equipment	Diesel	175	0.43	16	16	0
Drainage System	Drainage - 24 inch SICPP	Pickup Truck	Diesel	600	0.59	16	16	0
Drainage System	Drainage - 24 inch SICPP	Roller	Diesel	100	0.59	16	16	0
Drainage System	Drainage Structures	Dump Truck	Diesel	600	0.59	4	4	0
Drainage System	Drainage Structures	Excavator	Diesel	175	0.59	4	4	0
Drainage System	Drainage Structures	Other General Equipment	Diesel	175	0.43	8	8	0
Drainage System	Drainage Structures	Pickup Truck	Diesel	600	0.59	8	8	0
Drainage System	Hydroseeding	Hydroseeder	Diesel	600	0.59	1	1	0
Drainage System	Hydroseeding	Off-Road Truck	Diesel	600	0.59	1	1	0
Drainage System	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	1	1	0
Drainage System	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	2	2	0
Drainage System	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	1	1	0
Drainage System	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	1	1	0
Drainage System	Topsoil Placement	Dozer	Diesel	175	0.59	4	4	0
Drainage System	Topsoil Placement	Dump Truck	Diesel	600	0.59	4	4	0
Drainage System	Topsoil Placement	Pickup Truck	Diesel	600	0.59	4	4	0
Fencing	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	6	6	0
Fencing	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	6	6	0
Fencing	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	8	8	0
Fencing	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	7	7	0
Fencing	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	25	25	0
Fencing	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	7	7	0
Fencing	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	7	7	0
Fencing	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	7	7	0
Fencing	Fencing	Concrete Truck	Diesel	600	0.59	44	44	0
Fencing	Fencing	Dump Truck	Diesel	600	0.59	178	178	0
Fencing	Fencing	Other General Equipment	Diesel	175	0.43	178	178	0
Fencing	Fencing	Pickup Truck	Diesel	600	0.59	178	178	0
Fencing	Fencing	Skid Steer Loader	Diesel	75	0.21	178	178	0
Fencing	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	178	178	0



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Hours of Activity	Hours of Activity - 2021	Hours of Activity - 2022
Fencing	Grading	Dozer	Diesel	175	0.59	2	2	0
Fencing	Grading	Grader	Diesel	300	0.59	2	2	0
Fencing	Grading	Roller	Diesel	100	0.59	2	2	0
Fencing	Hydroseeding	Hydroseeder	Diesel	600	0.59	2	2	0
Fencing	Hydroseeding	Off-Road Truck	Diesel	600	0.59	2	2	0
Fencing	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	2	2	0
Fencing	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	4	4	0
Fencing	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	2	2	0
Fencing	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	2	2	0
Fencing	Topsoil Placement	Dozer	Diesel	175	0.59	12	12	0
Fencing	Topsoil Placement	Dump Truck	Diesel	600	0.59	12	12	0
Fencing	Topsoil Placement	Pickup Truck	Diesel	600	0.59	12	12	0
Fuel Tanks	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	13	13	0
Fuel Tanks	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	13	13	0
Fuel Tanks	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	18	18	0
Fuel Tanks	Concrete Placement	Air Compressor	Diesel	100	0.43	17	17	0
Fuel Tanks	Concrete Placement	Concrete Saws	Diesel	40	0.59	17	17	0
Fuel Tanks	Concrete Placement	Concrete Truck	Diesel	600	0.59	69	69	0
Fuel Tanks	Concrete Placement	Other General Equipment	Diesel	175	0.43	33	33	0
Fuel Tanks	Concrete Placement	Pickup Truck	Diesel	600	0.59	50	50	0
Fuel Tanks	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	17	17	0
Fuel Tanks	Concrete Placement	Slip Form Paver	Diesel	175	0.59	17	17	0
Fuel Tanks	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	17	17	0
Fuel Tanks	Construction/Erect Tanks	Crane	Diesel	300	0.43	18	18	0
Fuel Tanks	Construction/Erect Tanks	Other General Equipment	Diesel	175	0.43	48	48	0
Fuel Tanks	Construction/Erect Tanks	Pickup Truck	Diesel	600	0.59	48	48	0
Fuel Tanks	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	10	10	0
Fuel Tanks	Drainage	Dozer	Diesel	175	0.59	10	10	0



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Hours of Activity	Hours of Activity - 2021	Hours of Activity - 2022
Fuel Tanks	Drainage	Dump Truck	Diesel	600	0.59	10	10	0
Fuel Tanks	Drainage	Loader	Diesel	175	0.59	10	10	0
Fuel Tanks	Drainage	Other General Equipment	Diesel	175	0.43	10	10	0
Fuel Tanks	Drainage	Pickup Truck	Diesel	600	0.59	10	10	0
Fuel Tanks	Drainage	Roller	Diesel	100	0.59	10	10	0
Fuel Tanks	Dust Control	Water Truck	Diesel	600	0.59	2880	2880	0
Fuel Tanks	Excavation (Borrow)	Dozer	Diesel	175	0.59	222	222	0
Fuel Tanks	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	222	222	0
Fuel Tanks	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	222	222	0
Fuel Tanks	Excavation (Borrow)	Roller	Diesel	100	0.59	102	102	0
Fuel Tanks	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	167	167	0
Fuel Tanks	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	444	444	0
Fuel Tanks	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	133	133	0
Fuel Tanks	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	133	133	0
Fuel Tanks	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	133	133	0
Fuel Tanks	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	167	167	0
Fuel Tanks	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	8	8	0
Fuel Tanks	Fencing	Concrete Truck	Diesel	600	0.59	3	3	0
Fuel Tanks	Fencing	Dump Truck	Diesel	600	0.59	13	13	0
Fuel Tanks	Fencing	Other General Equipment	Diesel	175	0.43	13	13	0
Fuel Tanks	Fencing	Pickup Truck	Diesel	600	0.59	13	13	0
Fuel Tanks	Fencing	Skid Steer Loader	Diesel	75	0.21	13	13	0
Fuel Tanks	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	13	13	0
Fuel Tanks	Grading	Dozer	Diesel	175	0.59	6	6	0
Fuel Tanks	Grading	Grader	Diesel	300	0.59	6	6	0
Fuel Tanks	Grading	Roller	Diesel	100	0.59	6	6	0
Fuel Tanks	Hydroseeding	Hydroseeder	Diesel	600	0.59	5	5	0
Fuel Tanks	Hydroseeding	Off-Road Truck	Diesel	600	0.59	5	5	0
Fuel Tanks	Markings	Flatbed Truck	Diesel	600	0.59	103	103	0
Fuel Tanks	Markings	Other General Equipment	Diesel	175	0.43	103	103	0
Fuel Tanks	Markings	Pickup Truck	Diesel	600	0.59	103	103	0
Fuel Tanks	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	4	4	0
Fuel Tanks	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	9	9	0



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Hours of Activity	Hours of Activity - 2021	Hours of Activity - 2022
Fuel Tanks	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	4	4	0
Fuel Tanks	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	4	4	0
Fuel Tanks	Street Lighting	Dump Truck	Diesel	600	0.59	3	3	0
Fuel Tanks	Street Lighting	Loader	Diesel	175	0.59	3	3	0
Fuel Tanks	Street Lighting	Other General Equipment	Diesel	175	0.43	3	3	0
Fuel Tanks	Street Lighting	Pickup Truck	Diesel	600	0.59	3	3	0
Fuel Tanks	Street Lighting	Skid Steer Loader	Diesel	75	0.21	3	3	0
Fuel Tanks	Street Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	3	3	0
Fuel Tanks	Subbase Placement	Dozer	Diesel	175	0.59	11	11	0
Fuel Tanks	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	74	74	0
Fuel Tanks	Subbase Placement	Pickup Truck	Diesel	600	0.59	11	11	0
Fuel Tanks	Subbase Placement	Roller	Diesel	100	0.59	10	10	0
Fuel Tanks	Topsoil Placement	Dozer	Diesel	175	0.59	24	24	0
Fuel Tanks	Topsoil Placement	Dump Truck	Diesel	600	0.59	24	24	0
Fuel Tanks	Topsoil Placement	Pickup Truck	Diesel	600	0.59	24	24	0
Landscaping	Hydroseeding	Hydroseeder	Diesel	600	0.59	37	0	37
Landscaping	Hydroseeding	Off-Road Truck	Diesel	600	0.59	37	0	37
Landscaping	Mulching	Dump Truck	Diesel	600	0.59	33	0	33
Landscaping	Mulching	Other General Equipment	Diesel	175	0.43	33	0	33
Landscaping	Mulching	Pickup Truck	Diesel	600	0.59	33	0	33
Landscaping	Mulching	Tractors/Loader/Backhoe	Diesel	100	0.21	33	0	33
Landscaping	Sodding	Flatbed Truck	Diesel	600	0.59	169	0	169
Landscaping	Sodding	Other General Equipment	Diesel	175	0.43	169	0	169
Landscaping	Sodding	Pickup Truck	Diesel	600	0.59	169	0	169
Landscaping	Sodding	Skid Steer Loader	Diesel	75	0.21	169	0	169
Landscaping	Topsoil Placement	Dozer	Diesel	175	0.59	92	0	92
Landscaping	Topsoil Placement	Dump Truck	Diesel	600	0.59	92	0	92
Landscaping	Topsoil Placement	Pickup Truck	Diesel	600	0.59	92	0	92
Landscaping	Tree Planting	Flatbed Truck	Diesel	600	0.59	0	0	0
Landscaping	Tree Planting	Other General Equipment	Diesel	175	0.43	0	0	0
Landscaping	Tree Planting	Pickup Truck	Diesel	600	0.59	0	0	0
Landscaping	Tree Planting	Tractors/Loader/Backhoe	Diesel	100	0.21	0	0	0
Landscaping	Tree Pruning	Aerial Lift	Diesel	75	0.21	0	0	0
Landscaping	Tree Pruning	Chipper/Stump Grinder	Diesel	100	0.43	0	0	0



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Hours of Activity	Hours of Activity - 2021	Hours of Activity - 2022
Landscaping	Tree Pruning	Dump Truck	Diesel	600	0.59	0	0	0
Landscaping	Tree Pruning	Other General Equipment	Diesel	175	0.43	0	0	0
Landscaping	Tree Pruning	Pickup Truck	Diesel	600	0.59	0	0	0
Landscaping	Tree Pruning	Pruning Saw/Chain Saw	Diesel	11	0.7	0	0	0
NAVAIDS	Approach Lighting	Air Compressor	Diesel	100	0.43	0	0	0
NAVAIDS	Approach Lighting	Crane	Diesel	300	0.43	0	0	0
NAVAIDS	Approach Lighting	Dozer	Diesel	175	0.59	0	0	0
NAVAIDS	Approach Lighting	Dump Truck	Diesel	600	0.59	0	0	0
NAVAIDS	Approach Lighting	Excavator	Diesel	175	0.59	0	0	0
NAVAIDS	Approach Lighting	Other General Equipment	Diesel	175	0.43	0	0	0
NAVAIDS	Approach Lighting	Skid Steer Loader	Diesel	75	0.21	0	0	0
NAVAIDS	Approach Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	0	0	0
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Air Compressor	Diesel	100	0.43	0	0	0
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Crane	Diesel	300	0.43	0	0	0
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Dozer	Diesel	175	0.59	0	0	0
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Dump Truck	Diesel	600	0.59	0	0	0
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Excavator	Diesel	175	0.59	0	0	0
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Other General Equipment	Diesel	175	0.43	0	0	0
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Pickup Truck	Diesel	600	0.59	0	0	0
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Skid Steer Loader	Diesel	75	0.21	0	0	0
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Tractors/Loader/Backhoe	Diesel	100	0.21	0	0	0



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Hours of Activity	Hours of Activity - 2021	Hours of Activity - 2022
NAVAIDS	Instrument Landing System (ILS) Localizer	Air Compressor	Diesel	100	0.43	0	0	0
NAVAIDS	Instrument Landing System (ILS) Localizer	Crane	Diesel	300	0.43	0	0	0
NAVAIDS	Instrument Landing System (ILS) Localizer	Dozer	Diesel	175	0.59	0	0	0
NAVAIDS	Instrument Landing System (ILS) Localizer	Dump Truck	Diesel	600	0.59	0	0	0
NAVAIDS	Instrument Landing System (ILS) Localizer	Excavator	Diesel	175	0.59	0	0	0
NAVAIDS	Instrument Landing System (ILS) Localizer	Other General Equipment	Diesel	175	0.43	0	0	0
NAVAIDS	Instrument Landing System (ILS) Localizer	Pickup Truck	Diesel	600	0.59	0	0	0
NAVAIDS	Instrument Landing System (ILS) Localizer	Skid Steer Loader	Diesel	75	0.21	0	0	0
NAVAIDS	Instrument Landing System (ILS) Localizer	Tractors/Loader/Backhoe	Diesel	100	0.21	0	0	0
NAVAIDS	Precision Approach Path Indicator (PAPI)	Air Compressor	Diesel	100	0.43	0	0	0
NAVAIDS	Precision Approach Path Indicator (PAPI)	Dump Truck	Diesel	600	0.59	0	0	0
NAVAIDS	Precision Approach Path Indicator (PAPI)	Other General Equipment	Diesel	175	0.43	0	0	0
NAVAIDS	Precision Approach Path Indicator (PAPI)	Pickup Truck	Diesel	600	0.59	0	0	0
NAVAIDS	Precision Approach Path Indicator (PAPI)	Skid Steer Loader	Diesel	75	0.21	0	0	0
NAVAIDS	Precision Approach Path Indicator (PAPI)	Tractors/Loader/Backhoe	Diesel	100	0.21	0	0	0
NAVAIDS	Rotating Beacon	Crane	Diesel	300	0.43	0	0	0
NAVAIDS	Rotating Beacon	Dump Truck	Diesel	600	0.59	0	0	0
NAVAIDS	Rotating Beacon	Excavator	Diesel	175	0.59	0	0	0
NAVAIDS	Rotating Beacon	Other General Equipment	Diesel	175	0.43	0	0	0
NAVAIDS	Rotating Beacon	Pickup Truck	Diesel	600	0.59	0	0	0
NAVAIDS	Windcone	Dump Truck	Diesel	600	0.59	0	0	0
NAVAIDS	Windcone	Excavator	Diesel	175	0.59	0	0	0



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Hours of Activity	Hours of Activity - 2021	Hours of Activity - 2022
NAVAIDS	Windcone	Other General Equipment	Diesel	175	0.43	0	0	0
NAVAIDS	Windcone	Pickup Truck	Diesel	600	0.59	0	0	0
Parking Lot	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	18	18	0
Parking Lot	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	18	18	0
Parking Lot	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	24	24	0
Parking Lot	Concrete Placement	Air Compressor	Diesel	100	0.43	22	22	0
Parking Lot	Concrete Placement	Concrete Saws	Diesel	40	0.59	22	22	0
Parking Lot	Concrete Placement	Concrete Truck	Diesel	600	0.59	93	93	0
Parking Lot	Concrete Placement	Other General Equipment	Diesel	175	0.43	44	44	0
Parking Lot	Concrete Placement	Pickup Truck	Diesel	600	0.59	67	67	0
Parking Lot	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	22	22	0
Parking Lot	Concrete Placement	Slip Form Paver	Diesel	175	0.59	22	22	0
Parking Lot	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	22	22	0
Parking Lot	Curbing	Concrete Truck	Diesel	600	0.59	6	6	0
Parking Lot	Curbing	Curb/Gutter Paver	Diesel	175	0.59	6	6	0
Parking Lot	Curbing	Other General Equipment	Diesel	175	0.43	6	6	0
Parking Lot	Curbing	Pickup Truck	Diesel	600	0.59	6	6	0
Parking Lot	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	10	10	0
Parking Lot	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	10	10	0
Parking Lot	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	10	10	0
Parking Lot	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	10	10	0
Parking Lot	Drainage - 24 inch SICPP	Other General Equipment	Diesel	175	0.43	10	10	0
Parking Lot	Drainage - 24 inch SICPP	Pickup Truck	Diesel	600	0.59	10	10	0
Parking Lot	Drainage - 24 inch SICPP	Roller	Diesel	100	0.59	10	10	0
Parking Lot	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	17	17	0
Parking Lot	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	17	17	0
Parking Lot	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	17	17	0



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Hours of Activity	Hours of Activity - 2021	Hours of Activity - 2022
Parking Lot	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	17	17	0
Parking Lot	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	17	17	0
Parking Lot	Excavation (Borrow)	Dozer	Diesel	175	0.59	37	37	0
Parking Lot	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	37	37	0
Parking Lot	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	37	37	0
Parking Lot	Excavation (Borrow)	Roller	Diesel	100	0.59	17	17	0
Parking Lot	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	28	28	0
Parking Lot	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	74	74	0
Parking Lot	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	22	22	0
Parking Lot	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	22	22	0
Parking Lot	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	22	22	0
Parking Lot	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	28	28	0
Parking Lot	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	10	10	0
Parking Lot	Fencing	Concrete Truck	Diesel	600	0.59	3	3	0
Parking Lot	Fencing	Dump Truck	Diesel	600	0.59	13	13	0
Parking Lot	Fencing	Other General Equipment	Diesel	175	0.43	13	13	0
Parking Lot	Fencing	Pickup Truck	Diesel	600	0.59	13	13	0
Parking Lot	Fencing	Skid Steer Loader	Diesel	75	0.21	13	13	0
Parking Lot	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	13	13	0
Parking Lot	Grading	Dozer	Diesel	175	0.59	7	7	0
Parking Lot	Grading	Grader	Diesel	300	0.59	7	7	0
Parking Lot	Grading	Roller	Diesel	100	0.59	7	7	0
Parking Lot	Hydroseeding	Hydroseeder	Diesel	600	0.59	7	7	0
Parking Lot	Hydroseeding	Off-Road Truck	Diesel	600	0.59	7	7	0
Parking Lot	Markings	Flatbed Truck	Diesel	600	0.59	2	2	0
Parking Lot	Markings	Other General Equipment	Diesel	175	0.43	2	2	0
Parking Lot	Markings	Pickup Truck	Diesel	600	0.59	2	2	0
Parking Lot	Sidewalks	Concrete Truck	Diesel	600	0.59	12	12	0
Parking Lot	Sidewalks	Dump Truck	Diesel	600	0.59	12	12	0
Parking Lot	Sidewalks	Pickup Truck	Diesel	600	0.59	12	12	0
Parking Lot	Sidewalks	Tractors/Loader/Backhoe	Diesel	100	0.21	12	12	0
Parking Lot	Sidewalks	Vibratory Compactor	Diesel	6	0.43	12	12	0



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Hours of Activity	Hours of Activity - 2021	Hours of Activity - 2022
Parking Lot	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	6	6	0
Parking Lot	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	12	12	0
Parking Lot	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	6	6	0
Parking Lot	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	6	6	0
Parking Lot	Street Lighting	Dump Truck	Diesel	600	0.59	4	4	0
Parking Lot	Street Lighting	Loader	Diesel	175	0.59	4	4	0
Parking Lot	Street Lighting	Other General Equipment	Diesel	175	0.43	4	4	0
Parking Lot	Street Lighting	Pickup Truck	Diesel	600	0.59	4	4	0
Parking Lot	Street Lighting	Skid Steer Loader	Diesel	75	0.21	4	4	0
Parking Lot	Street Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	4	4	0
Parking Lot	Subbase Placement	Dozer	Diesel	175	0.59	14	14	0
Parking Lot	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	99	99	0
Parking Lot	Subbase Placement	Pickup Truck	Diesel	600	0.59	14	14	0
Parking Lot	Subbase Placement	Roller	Diesel	100	0.59	14	14	0
Parking Lot	Topsoil Placement	Dozer	Diesel	175	0.59	16	16	0
Parking Lot	Topsoil Placement	Dump Truck	Diesel	600	0.59	16	16	0
Parking Lot	Topsoil Placement	Pickup Truck	Diesel	600	0.59	16	16	0
Parking Lot	Tree Planting	Flatbed Truck	Diesel	600	0.59	0	0	0
Parking Lot	Tree Planting	Other General Equipment	Diesel	175	0.43	0	0	0
Parking Lot	Tree Planting	Pickup Truck	Diesel	600	0.59	0	0	0
Parking Lot	Tree Planting	Tractors/Loader/Backhoe	Diesel	100	0.21	0	0	0
Site Work - 10000 sqft	Construction Mob & Layout	Survey Crew Trucks	Diesel	600	0.59	41	31	10
Site Work - 10000 sqft	Construction Mob & Layout	Tractor Trailers Temp Fac.	Diesel	600	0.59	16	12	4
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Bulldozer	Diesel	175	0.59	163	122	40
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Chain Saws	Diesel	11	0.7	163	122	40
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Flat Bed or Dump Trucks	Diesel	600	0.59	325	244	81
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Front Loader	Diesel	100	0.21	163	122	40



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Hours of Activity	Hours of Activity - 2021	Hours of Activity - 2022
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Grub the site down 2'-0	Diesel	40	0.59	163	122	40
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Log Chipper	Diesel	100	0.43	163	122	40
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Mulcher	Diesel	100	0.43	163	122	40
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Ten Wheelers	Diesel	600	0.59	163	122	40
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Tractor	Diesel	100	0.21	325	244	81
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Bob Cat	Diesel	75	0.21	98	73	24
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Concrete Ready Mix Trucks	Diesel	600	0.59	98	73	24
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Tractor Trailer with Boom Hoist- Delivery	Diesel	600	0.59	98	73	24
Site Work - 10000 sqft	Site Restoration- Landscaping (Rough Grading)	Compacting Equipment	Diesel	6	0.43	98	73	24
Site Work - 10000 sqft	Site Restoration- Landscaping (Rough Grading)	Small Dozer	Diesel	175	0.59	98	73	24
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Forktruck (Hoist)	Diesel	100	0.59	325	244	81
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Roller	Diesel	100	0.59	163	122	40
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Seed Truck Spreader	Diesel	600	0.59	65	49	16
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Tractor Trailer- Material Delivery	Diesel	600	0.59	325	244	81
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Backhoe	Diesel	100	0.21	488	367	121



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Hours of Activity	Hours of Activity - 2021	Hours of Activity - 2022
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Fork Truck	Diesel	100	0.59	244	183	60
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Tractor Trailer- Material Delivery	Diesel	600	0.59	122	92	30
Terminal Apron	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	70	70	0
Terminal Apron	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	70	70	0
Terminal Apron	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	93	93	0
Terminal Apron	Concrete Placement	Air Compressor	Diesel	100	0.43	89	89	0
Terminal Apron	Concrete Placement	Concrete Saws	Diesel	40	0.59	89	89	0
Terminal Apron	Concrete Placement	Concrete Truck	Diesel	600	0.59	370	370	0
Terminal Apron	Concrete Placement	Other General Equipment	Diesel	175	0.43	178	178	0
Terminal Apron	Concrete Placement	Pickup Truck	Diesel	600	0.59	266	266	0
Terminal Apron	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	89	89	0
Terminal Apron	Concrete Placement	Slip Form Paver	Diesel	175	0.59	89	89	0
Terminal Apron	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	89	89	0
Terminal Apron	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	20	20	0
Terminal Apron	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	20	20	0
Terminal Apron	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	20	20	0
Terminal Apron	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	20	20	0
Terminal Apron	Drainage - 24 inch SICPP	Other General Equipment	Diesel	175	0.43	20	20	0
Terminal Apron	Drainage - 24 inch SICPP	Pickup Truck	Diesel	600	0.59	20	20	0
Terminal Apron	Drainage - 24 inch SICPP	Roller	Diesel	100	0.59	20	20	0
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	11	11	0
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	11	11	0
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	11	11	0
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	11	11	0



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Hours of Activity	Hours of Activity - 2021	Hours of Activity - 2022
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	11	11	0
Terminal Apron	Dust Control	Water Truck	Diesel	600	0.59	2880	2880	0
Terminal Apron	Excavation (Borrow)	Dozer	Diesel	175	0.59	148	148	0
Terminal Apron	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	148	148	0
Terminal Apron	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	148	148	0
Terminal Apron	Excavation (Borrow)	Roller	Diesel	100	0.59	68	68	0
Terminal Apron	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	111	111	0
Terminal Apron	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	296	296	0
Terminal Apron	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	89	89	0
Terminal Apron	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	89	89	0
Terminal Apron	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	89	89	0
Terminal Apron	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	111	111	0
Terminal Apron	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	42	42	0
Terminal Apron	Fencing	Concrete Truck	Diesel	600	0.59	7	7	0
Terminal Apron	Fencing	Dump Truck	Diesel	600	0.59	27	27	0
Terminal Apron	Fencing	Other General Equipment	Diesel	175	0.43	27	27	0
Terminal Apron	Fencing	Pickup Truck	Diesel	600	0.59	27	27	0
Terminal Apron	Fencing	Skid Steer Loader	Diesel	75	0.21	27	27	0
Terminal Apron	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	27	27	0
Terminal Apron	Grading	Dozer	Diesel	175	0.59	28	28	0
Terminal Apron	Grading	Grader	Diesel	300	0.59	28	28	0
Terminal Apron	Grading	Roller	Diesel	100	0.59	28	28	0
Terminal Apron	Hydroseeding	Hydroseeder	Diesel	600	0.59	25	25	0
Terminal Apron	Hydroseeding	Off-Road Truck	Diesel	600	0.59	25	25	0
Terminal Apron	Lighting	Dump Truck	Diesel	600	0.59	13	13	0
Terminal Apron	Lighting	Loader	Diesel	175	0.59	13	13	0
Terminal Apron	Lighting	Other General Equipment	Diesel	175	0.43	13	13	0
Terminal Apron	Lighting	Pickup Truck	Diesel	600	0.59	13	13	0
Terminal Apron	Lighting	Skid Steer Loader	Diesel	75	0.21	13	13	0
Terminal Apron	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	13	13	0
Terminal Apron	Markings	Flatbed Truck	Diesel	600	0.59	549	549	0
Terminal Apron	Markings	Other General Equipment	Diesel	175	0.43	549	549	0
Terminal Apron	Markings	Pickup Truck	Diesel	600	0.59	549	549	0
Terminal Apron	Sealing/Fuel Resistant	Distributing Tanker	Diesel	600	0.59	71	71	0



Project	Construction Activity	Equipment Type	Fuel	Average Horsepower	Load Factor	Hours of Activity	Hours of Activity - 2021	Hours of Activity - 2022
Terminal Apron	Sealing/Fuel Resistant	Other General Equipment	Diesel	175	0.43	71	71	0
Terminal Apron	Sealing/Fuel Resistant	Pickup Truck	Diesel	600	0.59	71	71	0
Terminal Apron	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	23	23	0
Terminal Apron	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	46	46	0
Terminal Apron	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	23	23	0
Terminal Apron	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	23	23	0
Terminal Apron	Subbase Placement	Dozer	Diesel	175	0.59	56	56	0
Terminal Apron	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	395	395	0
Terminal Apron	Subbase Placement	Pickup Truck	Diesel	600	0.59	56	56	0
Terminal Apron	Subbase Placement	Roller	Diesel	100	0.59	55	55	0
Terminal Apron	Topsoil Placement	Dozer	Diesel	175	0.59	62	62	0
Terminal Apron	Topsoil Placement	Dump Truck	Diesel	600	0.59	62	62	0
Terminal Apron	Topsoil Placement	Pickup Truck	Diesel	600	0.59	62	62	0
Module Transport	Module Transport	Mammoet PPU Z350 DA	Diesel	350	0.59	6	6	0



Droiget	Construction Activity				Emission Fac	tors (g/hp-hr)		
Project	Construction Activity	Equipment Type	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}
Building - 100000 sqft- 10 stories	Concrete Foundations	Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Building - 100000 sqft- 10 stories	Concrete Foundations	Concrete Pump	4.37E+00	2.73E+00	8.17E-01	5.41E-03	3.06E-01	2.97E-01
Building - 100000 sqft- 10 stories	Concrete Foundations	Concrete Ready Mix Trucks	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Building - 100000 sqft- 10 stories	Concrete Foundations	Excavator	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02
Building - 100000 sqft- 10 stories	Concrete Foundations	Fork Truck	9.52E-01	1.61E-01	1.38E-02	3.96E-03	2.99E-02	2.90E-02
Building - 100000 sqft- 10 stories	Concrete Foundations	Tool Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Building - 100000 sqft- 10 stories	Concrete Foundations	Tractor Trailer- Material Delivery	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Building - 100000 sqft- 10 stories	Construction Mob & Layout	Survey Crew Trucks	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Building - 100000 sqft- 10 stories	Construction Mob & Layout	Tractor Trailers Temp Fac.	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Fork Truck	9.52E-01	1.61E-01	1.38E-02	3.96E-03	2.99E-02	2.90E-02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Generator	3.56E+00	1.12E+00	3.18E-01	4.64E-03	1.97E-01	1.91E-01
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Grout Mixer	1.83E+00	8.58E-01	1.20E-01	4.16E-03	1.30E-01	1.26E-01
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Grout Wheel Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Man Lift	4.33E+00	3.30E+00	6.87E-01	5.63E-03	4.36E-01	4.23E-01
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Tool Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Tractor Trailer- Material Delivery	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Truck Tower (Mantiwoc type)	7.15E-01	1.79E-01	4.84E-02	3.74E-03	3.48E-02	3.38E-02
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Fork Truck	9.52E-01	1.61E-01	1.38E-02	3.96E-03	2.99E-02	2.90E-02
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Man Lift	4.33E+00	3.30E+00	6.87E-01	5.63E-03	4.36E-01	4.23E-01

Table C2. 2021 Proposed Project, construction-phase non-road equipment criteria air pollutant emission factors.



Project		E			Emission Factors (g/hp-hr)				
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Tool Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Tractor Trailer- Material Delivery	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Building - 100000 sqft- 10 stories	Roofing	High Lift	9.52E-01	1.61E-01	1.38E-02	3.96E-03	2.99E-02	2.90E-02	
Building - 100000 sqft- 10 stories	Roofing	Man Lift	4.33E+00	3.30E+00	6.87E-01	5.63E-03	4.36E-01	4.23E-01	
Building - 100000 sqft- 10 stories	Roofing	Material Deliveries	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Building - 100000 sqft- 10 stories	Roofing	Tractor Trailer- Material Delivery	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Building - 100000 sqft- 10 stories	Roofing	Truck Tower (Mantiwoc type)	7.15E-01	1.79E-01	4.84E-02	3.74E-03	3.48E-02	3.38E-02	
Building - 100000 sqft- 10 stories	Security & Safety Systems	High Lift	9.52E-01	1.61E-01	1.38E-02	3.96E-03	2.99E-02	2.90E-02	
Building - 100000 sqft- 10 stories	Security & Safety Systems	Tool Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	90 Ton Crane	7.15E-01	1.79E-01	4.84E-02	3.74E-03	3.48E-02	3.38E-02	
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Concrete Pump	4.37E+00	2.73E+00	8.17E-01	5.41E-03	3.06E-01	2.97E-01	
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Concrete Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Fork Truck	9.52E-01	1.61E-01	1.38E-02	3.96E-03	2.99E-02	2.90E-02	
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Tool Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Tractor Trailer- Steel Deliveries	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Trowel Machine	1.83E+00	8.58E-01	1.20E-01	4.16E-03	1.30E-01	1.26E-01	
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Truck Tower (Mantiwoc type)	7.15E-01	1.79E-01	4.84E-02	3.74E-03	3.48E-02	3.38E-02	
Demolition - Building	Building Demolition	Bob Cat	4.52E+00	4.03E+00	8.22E-01	5.63E-03	5.79E-01	5.62E-01	
Demolition - Building	Building Demolition	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Demolition - Building	Building Demolition	Excavator with Bucket	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02	
Demolition - Building	Building Demolition	Generator Sets	3.56E+00	1.12E+00	3.18E-01	4.64E-03	1.97E-01	1.91E-01	
Demolition - Building	Building Demolition	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	



Project			Emission Factors (g/hp-hr)						
Project	Construction Activity	Equipment Type	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Demolition - Concrete	Concrete Demolition	Excavator with Bucket	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02	
Demolition - Concrete	Concrete Demolition	Excavator with Hoe Ram	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02	
Demolition - Concrete	Concrete Demolition	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Excavator	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Loader	8.61E-01	2.92E-01	5.10E-02	3.76E-03	7.10E-02	6.89E-02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01	
Drainage System	Drainage - 24 inch SICPP	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02	
Drainage System	Drainage - 24 inch SICPP	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Drainage System	Drainage - 24 inch SICPP	Excavator	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02	
Drainage System	Drainage - 24 inch SICPP	Loader	8.61E-01	2.92E-01	5.10E-02	3.76E-03	7.10E-02	6.89E-02	
Drainage System	Drainage - 24 inch SICPP	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02	
Drainage System	Drainage - 24 inch SICPP	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Drainage System	Drainage - 24 inch SICPP	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01	
Drainage System	Drainage Structures	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Drainage System	Drainage Structures	Excavator	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02	
Drainage System	Drainage Structures	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02	
Drainage System	Drainage Structures	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Drainage System	Hydroseeding	Hydroseeder	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Drainage System	Hydroseeding	Off-Road Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Drainage System	Soil Erosion/Sediment Control	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02	
Drainage System	Soil Erosion/Sediment Control	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Drainage System	Soil Erosion/Sediment Control	Pumps	4.37E+00	2.73E+00	8.17E-01	5.41E-03	3.06E-01	2.97E-01	
Drainage System	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01	



			Emission Factors (g/hp-hr)					
Project	Construction Activity	Equipment Type	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}
Drainage System	Topsoil Placement	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Drainage System	Topsoil Placement	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Drainage System	Topsoil Placement	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fencing	Clearing and Grubbing	Chain Saw	1.53E+00	2.66E+02	7.31E+01	4.14E-03	9.75E+00	8.97E+00
Fencing	Clearing and Grubbing	Chipper/Stump Grinder	3.55E+00	1.68E+00	3.48E-01	4.76E-03	3.23E-01	3.14E-01
Fencing	Clearing and Grubbing	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fencing	Excavation (Cut to Fill)	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Fencing	Excavation (Cut to Fill)	Dump Truck (12 cy)	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fencing	Excavation (Cut to Fill)	Excavator	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02
Fencing	Excavation (Cut to Fill)	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fencing	Excavation (Cut to Fill)	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01
Fencing	Fencing	Concrete Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fencing	Fencing	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fencing	Fencing	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Fencing	Fencing	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fencing	Fencing	Skid Steer Loader	4.52E+00	4.03E+00	8.22E-01	5.63E-03	5.79E-01	5.62E-01
Fencing	Fencing	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Fencing	Grading	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Fencing	Grading	Grader	4.70E-01	1.73E-01	3.42E-02	3.69E-03	3.63E-02	3.52E-02
Fencing	Grading	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01
Fencing	Hydroseeding	Hydroseeder	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fencing	Hydroseeding	Off-Road Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fencing	Soil Erosion/Sediment Control	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Fencing	Soil Erosion/Sediment Control	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fencing	Soil Erosion/Sediment Control	Pumps	4.37E+00	2.73E+00	8.17E-01	5.41E-03	3.06E-01	2.97E-01
Fencing	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Fencing	Topsoil Placement	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Fencing	Topsoil Placement	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fencing	Topsoil Placement	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Clearing and Grubbing	Chain Saw	1.53E+00	2.66E+02	7.31E+01	4.14E-03	9.75E+00	8.97E+00
Fuel Tanks	Clearing and Grubbing	Chipper/Stump Grinder	3.55E+00	1.68E+00	3.48E-01	4.76E-03	3.23E-01	3.14E-01
Fuel Tanks	Clearing and Grubbing	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Concrete Placement	Air Compressor	2.04E+00	8.88E-01	1.08E-01	4.35E-03	1.50E-01	1.45E-01
Fuel Tanks	Concrete Placement	Concrete Saws	2.69E+00	4.54E-01	1.19E-01	4.07E-03	5.89E-02	5.72E-02



				v-hr)				
Project	Construction Activity	Equipment Type	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}
Fuel Tanks	Concrete Placement	Concrete Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Concrete Placement	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Fuel Tanks	Concrete Placement	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Concrete Placement	Rubber Tired Loader	8.61E-01	2.92E-01	5.10E-02	3.76E-03	7.10E-02	6.89E-02
Fuel Tanks	Concrete Placement	Slip Form Paver	7.73E-01	2.89E-01	4.89E-02	3.76E-03	7.12E-02	6.91E-02
Fuel Tanks	Concrete Placement	Surfacing Equipment (Grooving)	3.77E+00	1.53E+00	3.59E-01	5.47E-03	1.75E-01	1.70E-01
Fuel Tanks	Construction/Erect Tanks	Crane	7.15E-01	1.79E-01	4.84E-02	3.74E-03	3.48E-02	3.38E-02
Fuel Tanks	Construction/Erect Tanks	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Fuel Tanks	Construction/Erect Tanks	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Drainage - 24 inch SICPP	Excavator	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02
Fuel Tanks	Drainage	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Fuel Tanks	Drainage	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Drainage	Loader	8.61E-01	2.92E-01	5.10E-02	3.76E-03	7.10E-02	6.89E-02
Fuel Tanks	Drainage	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Fuel Tanks	Drainage	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Drainage	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01
Fuel Tanks	Dust Control	Water Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Excavation (Borrow)	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Fuel Tanks	Excavation (Borrow)	Dump Truck (12 cy)	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Excavation (Borrow)	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Excavation (Borrow)	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01
Fuel Tanks	Excavation (Cut to Fill)	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Fuel Tanks	Excavation (Cut to Fill)	Dump Truck (12 cy)	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Excavation (Cut to Fill)	Excavator	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02
Fuel Tanks	Excavation (Cut to Fill)	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Excavation (Cut to Fill)	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01
Fuel Tanks	Excavation (Cut to Fill)	Scraper	9.71E-01	4.10E-01	5.72E-02	3.88E-03	6.81E-02	6.61E-02
Fuel Tanks	Excavation (Topsoil Stripping)	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Fuel Tanks	Fencing	Concrete Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Fencing	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Fencing	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Fuel Tanks	Fencing	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Fencing	Skid Steer Loader	4.52E+00	4.03E+00	8.22E-01	5.63E-03	5.79E-01	5.62E-01
Fuel Tanks	Fencing	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Fuel Tanks	Grading	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Fuel Tanks	Grading	Grader	4 70F-01	1 73E-01	3 42E-02	3.69E-03	3 63E-02	3 52E-02



Project	Construction Activity	Equipment Type	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}
Fuel Tanks	Grading	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01
Fuel Tanks	Hydroseeding	Hydroseeder	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Hydroseeding	Off-Road Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Markings	Flatbed Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Markings	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Fuel Tanks	Markings	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Soil Erosion/Sediment Control	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Fuel Tanks	Soil Erosion/Sediment Control	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Soil Erosion/Sediment Control	Pumps	4.37E+00	2.73E+00	8.17E-01	5.41E-03	3.06E-01	2.97E-01
Fuel Tanks	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Fuel Tanks	Street Lighting	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Street Lighting	Loader	8.61E-01	2.92E-01	5.10E-02	3.76E-03	7.10E-02	6.89E-02
Fuel Tanks	Street Lighting	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Fuel Tanks	Street Lighting	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Street Lighting	Skid Steer Loader	4.52E+00	4.03E+00	8.22E-01	5.63E-03	5.79E-01	5.62E-01
Fuel Tanks	Street Lighting	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Fuel Tanks	Subbase Placement	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Fuel Tanks	Subbase Placement	Dump Truck (12 cy)	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Subbase Placement	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Subbase Placement	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01
Fuel Tanks	Topsoil Placement	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Fuel Tanks	Topsoil Placement	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Fuel Tanks	Topsoil Placement	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Landscaping	Hydroseeding	Hydroseeder	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Landscaping	Hydroseeding	Off-Road Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Landscaping	Mulching	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Landscaping	Mulching	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Landscaping	Mulching	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Landscaping	Mulching	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Landscaping	Sodding	Flatbed Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Landscaping	Sodding	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Landscaping	Sodding	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Landscaping	Sodding	Skid Steer Loader	4.52E+00	4.03E+00	8.22E-01	5.63E-03	5.79E-01	5.62E-01
Landscaping	Topsoil Placement	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02



Duciest	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)					
Project	Construction Activity	Equipment Type	NOx	со	voc	SO ₂	PM ₁₀	PM _{2.5}
Landscaping	Topsoil Placement	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Landscaping	Topsoil Placement	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Landscaping	Tree Planting	Flatbed Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Landscaping	Tree Planting	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Landscaping	Tree Planting	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Landscaping	Tree Planting	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Landscaping	Tree Pruning	Aerial Lift	4.33E+00	3.30E+00	6.87E-01	5.63E-03	4.36E-01	4.23E-01
Landscaping	Tree Pruning	Chipper/Stump Grinder	3.55E+00	1.68E+00	3.48E-01	4.76E-03	3.23E-01	3.14E-01
Landscaping	Tree Pruning	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Landscaping	Tree Pruning	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Landscaping	Tree Pruning	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Landscaping	Tree Pruning	Pruning Saw/Chain Saw	1.53E+00	2.66E+02	7.31E+01	4.14E-03	9.75E+00	8.97E+00
NAVAIDS	Approach Lighting	Air Compressor	2.04E+00	8.88E-01	1.08E-01	4.35E-03	1.50E-01	1.45E-01
NAVAIDS	Approach Lighting	Crane	7.15E-01	1.79E-01	4.84E-02	3.74E-03	3.48E-02	3.38E-02
NAVAIDS	Approach Lighting	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
NAVAIDS	Approach Lighting	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
NAVAIDS	Approach Lighting	Excavator	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02
NAVAIDS	Approach Lighting	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
NAVAIDS	Approach Lighting	Skid Steer Loader	4.52E+00	4.03E+00	8.22E-01	5.63E-03	5.79E-01	5.62E-01
NAVAIDS	Approach Lighting	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Air Compressor	2.04E+00	8.88E-01	1.08E-01	4.35E-03	1.50E-01	1.45E-01
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Crane	7.15E-01	1.79E-01	4.84E-02	3.74E-03	3.48E-02	3.38E-02
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Excavator	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Skid Steer Loader	4.52E+00	4.03E+00	8.22E-01	5.63E-03	5.79E-01	5.62E-01
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01



D i i i					Emission Fac	tors (g/hp-hr)	r)				
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}			
NAVAIDS	Instrument Landing System (ILS) Localizer	Air Compressor	2.04E+00	8.88E-01	1.08E-01	4.35E-03	1.50E-01	1.45E-01			
NAVAIDS	Instrument Landing System (ILS) Localizer	Crane	7.15E-01	1.79E-01	4.84E-02	3.74E-03	3.48E-02	3.38E-02			
NAVAIDS	Instrument Landing System (ILS) Localizer	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02			
NAVAIDS	Instrument Landing System (ILS) Localizer	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02			
NAVAIDS	Instrument Landing System (ILS) Localizer	Excavator	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02			
NAVAIDS	Instrument Landing System (ILS) Localizer	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02			
NAVAIDS	Instrument Landing System (ILS) Localizer	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02			
NAVAIDS	Instrument Landing System (ILS) Localizer	Skid Steer Loader	4.52E+00	4.03E+00	8.22E-01	5.63E-03	5.79E-01	5.62E-01			
NAVAIDS	Instrument Landing System (ILS) Localizer	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01			
NAVAIDS	Precision Approach Path Indicator (PAPI)	Air Compressor	2.04E+00	8.88E-01	1.08E-01	4.35E-03	1.50E-01	1.45E-01			
NAVAIDS	Precision Approach Path Indicator (PAPI)	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02			
NAVAIDS	Precision Approach Path Indicator (PAPI)	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02			
NAVAIDS	Precision Approach Path Indicator (PAPI)	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02			
NAVAIDS	Precision Approach Path Indicator (PAPI)	Skid Steer Loader	4.52E+00	4.03E+00	8.22E-01	5.63E-03	5.79E-01	5.62E-01			
NAVAIDS	Precision Approach Path Indicator (PAPI)	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01			
NAVAIDS	Rotating Beacon	Crane	7.15E-01	1.79E-01	4.84E-02	3.74E-03	3.48E-02	3.38E-02			
NAVAIDS	Rotating Beacon	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02			
NAVAIDS	Rotating Beacon	Excavator	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02			
NAVAIDS	Rotating Beacon	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02			
NAVAIDS	Rotating Beacon	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02			
NAVAIDS	Windcone	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02			
NAVAIDS	Windcone	Excavator	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02			
NAVAIDS	Windcone	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02			
NAVAIDS	Windcone	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02			

Duciest	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)						
Project	Construction Activity	Equipment Type	NOx	со	voc	SO ₂	PM ₁₀	PM _{2.5}	
Parking Lot	Clearing and Grubbing	Chain Saw	1.53E+00	2.66E+02	7.31E+01	4.14E-03	9.75E+00	8.97E+00	
Parking Lot	Clearing and Grubbing	Chipper/Stump Grinder	3.55E+00	1.68E+00	3.48E-01	4.76E-03	3.23E-01	3.14E-01	
Parking Lot	Clearing and Grubbing	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Parking Lot	Concrete Placement	Air Compressor	2.04E+00	8.88E-01	1.08E-01	4.35E-03	1.50E-01	1.45E-01	
Parking Lot	Concrete Placement	Concrete Saws	2.69E+00	4.54E-01	1.19E-01	4.07E-03	5.89E-02	5.72E-02	
Parking Lot	Concrete Placement	Concrete Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Parking Lot	Concrete Placement	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02	
Parking Lot	Concrete Placement	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Parking Lot	Concrete Placement	Rubber Tired Loader	8.61E-01	2.92E-01	5.10E-02	3.76E-03	7.10E-02	6.89E-02	
Parking Lot	Concrete Placement	Slip Form Paver	7.73E-01	2.89E-01	4.89E-02	3.76E-03	7.12E-02	6.91E-02	
Parking Lot	Concrete Placement	Surfacing Equipment (Grooving)	3.77E+00	1.53E+00	3.59E-01	5.47E-03	1.75E-01	1.70E-01	
Parking Lot	Curbing	Concrete Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Parking Lot	Curbing	Curb/Gutter Paver	7.73E-01	2.89E-01	4.89E-02	3.76E-03	7.12E-02	6.91E-02	
Parking Lot	Curbing	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02	
Parking Lot	Curbing	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Parking Lot	Drainage - 24 inch SICPP	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02	
Parking Lot	Drainage - 24 inch SICPP	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Parking Lot	Drainage - 24 inch SICPP	Excavator	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02	
Parking Lot	Drainage - 24 inch SICPP	Loader	8.61E-01	2.92E-01	5.10E-02	3.76E-03	7.10E-02	6.89E-02	
Parking Lot	Drainage - 24 inch SICPP	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02	
Parking Lot	Drainage - 24 inch SICPP	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Parking Lot	Drainage - 24 inch SICPP	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01	
Parking Lot	Drainage - 6 inch Perforated Underdrain	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Parking Lot	Drainage - 6 inch Perforated Underdrain	Loader	8.61E-01	2.92E-01	5.10E-02	3.76E-03	7.10E-02	6.89E-02	
Parking Lot	Drainage - 6 inch Perforated Underdrain	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02	
Parking Lot	Drainage - 6 inch Perforated Underdrain	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Parking Lot	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01	
Parking Lot	Excavation (Borrow)	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02	
Parking Lot	Excavation (Borrow)	Dump Truck (12 cy)	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Parking Lot	Excavation (Borrow)	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02	
Parking Lot	Excavation (Borrow)	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01	
Parking Lot	Excavation (Cut to Fill)	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02	


					Emission Fac	tors (g/hp-hr)		
Project	Construction Activity	Equipment Type	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}
Parking Lot	Excavation (Cut to Fill)	Dump Truck (12 cy)	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Excavation (Cut to Fill)	Excavator	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02
Parking Lot	Excavation (Cut to Fill)	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Excavation (Cut to Fill)	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01
Parking Lot	Excavation (Cut to Fill)	Scraper	9.71E-01	4.10E-01	5.72E-02	3.88E-03	6.81E-02	6.61E-02
Parking Lot	Excavation (Topsoil Stripping)	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Parking Lot	Fencing	Concrete Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Fencing	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Fencing	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Parking Lot	Fencing	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Fencing	Skid Steer Loader	4.52E+00	4.03E+00	8.22E-01	5.63E-03	5.79E-01	5.62E-01
Parking Lot	Fencing	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Parking Lot	Grading	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Parking Lot	Grading	Grader	4.70E-01	1.73E-01	3.42E-02	3.69E-03	3.63E-02	3.52E-02
Parking Lot	Grading	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01
Parking Lot	Hydroseeding	Hydroseeder	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Hydroseeding	Off-Road Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Markings	Flatbed Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Markings	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Parking Lot	Markings	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Sidewalks	Concrete Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Sidewalks	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Sidewalks	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Sidewalks	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Parking Lot	Sidewalks	Vibratory Compactor	4.24E+00	2.63E+00	8.07E-01	5.41E-03	2.78E-01	2.70E-01
Parking Lot	Soil Erosion/Sediment Control	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Parking Lot	Soil Erosion/Sediment Control	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Soil Erosion/Sediment Control	Pumps	4.37E+00	2.73E+00	8.17E-01	5.41E-03	3.06E-01	2.97E-01
Parking Lot	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Parking Lot	Street Lighting	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Street Lighting	Loader	8.61E-01	2.92E-01	5.10E-02	3.76E-03	7.10E-02	6.89E-02
Parking Lot	Street Lighting	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Parking Lot	Street Lighting	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02



Project Construction Activity Equipment Type	E wike weat Town			Emission Fac	tors (g/hp-hr)			
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
Parking Lot	Street Lighting	Skid Steer Loader	4.52E+00	4.03E+00	8.22E-01	5.63E-03	5.79E-01	5.62E-01
Parking Lot	Street Lighting	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Parking Lot	Subbase Placement	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Parking Lot	Subbase Placement	Dump Truck (12 cy)	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Subbase Placement	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Subbase Placement	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01
Parking Lot	Topsoil Placement	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Parking Lot	Topsoil Placement	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Topsoil Placement	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Tree Planting	Flatbed Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Tree Planting	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Parking Lot	Tree Planting	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Parking Lot	Tree Planting	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Site Work - 10000 sqft	Construction Mob & Layout	Survey Crew Trucks	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Site Work - 10000 sqft	Construction Mob & Layout	Tractor Trailers Temp Fac.	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Bulldozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Chain Saws	1.53E+00	2.66E+02	7.31E+01	4.14E-03	9.75E+00	8.97E+00
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Flat Bed or Dump Trucks	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Front Loader	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Grub the site down 2'-0	2.69E+00	4.54E-01	1.19E-01	4.07E-03	5.89E-02	5.72E-02
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Log Chipper	3.55E+00	1.68E+00	3.48E-01	4.76E-03	3.23E-01	3.14E-01
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Mulcher	3.55E+00	1.68E+00	3.48E-01	4.76E-03	3.23E-01	3.14E-01
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Ten Wheelers	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Tractor	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Bob Cat	4.52E+00	4.03E+00	8.22E-01	5.63E-03	5.79E-01	5.62E-01



Ducket		E a la constante e a consta			Emission Fac	tors (g/hp-hr)	1	
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Concrete Ready Mix Trucks	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Tractor Trailer with Boom Hoist- Delivery	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Site Work - 10000 sqft	Site Restoration- Landscaping (Rough Grading)	Compacting Equipment	4.24E+00	2.63E+00	8.07E-01	5.41E-03	2.78E-01	2.70E-01
Site Work - 10000 sqft	Site Restoration- Landscaping (Rough Grading)	Small Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Forktruck (Hoist)	9.52E-01	1.61E-01	1.38E-02	3.96E-03	2.99E-02	2.90E-02
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Seed Truck Spreader	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Tractor Trailer- Material Delivery	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Fork Truck	9.52E-01	1.61E-01	1.38E-02	3.96E-03	2.99E-02	2.90E-02
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Tractor Trailer- Material Delivery	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Clearing and Grubbing	Chain Saw	1.53E+00	2.66E+02	7.31E+01	4.14E-03	9.75E+00	8.97E+00
Terminal Apron	Clearing and Grubbing	Chipper/Stump Grinder	3.55E+00	1.68E+00	3.48E-01	4.76E-03	3.23E-01	3.14E-01
Terminal Apron	Clearing and Grubbing	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Concrete Placement	Air Compressor	2.04E+00	8.88E-01	1.08E-01	4.35E-03	1.50E-01	1.45E-01
Terminal Apron	Concrete Placement	Concrete Saws	2.69E+00	4.54E-01	1.19E-01	4.07E-03	5.89E-02	5.72E-02
Terminal Apron	Concrete Placement	Concrete Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Concrete Placement	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Terminal Apron	Concrete Placement	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Concrete Placement	Rubber Tired Loader	8.61E-01	2.92E-01	5.10E-02	3.76E-03	7.10E-02	6.89E-02
Terminal Apron	Concrete Placement	Slip Form Paver	7.73E-01	2.89E-01	4.89E-02	3.76E-03	7.12E-02	6.91E-02



D i i i					Emission Fac	tors (g/hp-hr)		
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
Terminal Apron	Concrete Placement	Surfacing Equipment (Grooving)	3.77E+00	1.53E+00	3.59E-01	5.47E-03	1.75E-01	1.70E-01
Terminal Apron	Drainage - 24 inch SICPP	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Terminal Apron	Drainage - 24 inch SICPP	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Drainage - 24 inch SICPP	Excavator	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02
Terminal Apron	Drainage - 24 inch SICPP	Loader	8.61E-01	2.92E-01	5.10E-02	3.76E-03	7.10E-02	6.89E-02
Terminal Apron	Drainage - 24 inch SICPP	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Terminal Apron	Drainage - 24 inch SICPP	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Drainage - 24 inch SICPP	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Loader	8.61E-01	2.92E-01	5.10E-02	3.76E-03	7.10E-02	6.89E-02
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Terminal Apron	Dust Control	Water Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Excavation (Borrow)	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Terminal Apron	Excavation (Borrow)	Dump Truck (12 cy)	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Excavation (Borrow)	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Excavation (Borrow)	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01
Terminal Apron	Excavation (Cut to Fill)	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Terminal Apron	Excavation (Cut to Fill)	Dump Truck (12 cy)	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Excavation (Cut to Fill)	Excavator	6.23E-01	1.97E-01	2.95E-02	3.67E-03	5.07E-02	4.92E-02
Terminal Apron	Excavation (Cut to Fill)	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Excavation (Cut to Fill)	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01
Terminal Apron	Excavation (Cut to Fill)	Scraper	9.71E-01	4.10E-01	5.72E-02	3.88E-03	6.81E-02	6.61E-02
Terminal Apron	Excavation (Topsoil Stripping)	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Terminal Apron	Fencing	Concrete Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Fencing	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Fencing	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Terminal Apron	Fencing	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Fencing	Skid Steer Loader	4.52E+00	4.03E+00	8.22E-01	5.63E-03	5.79E-01	5.62E-01
Terminal Apron	Fencing	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01



Designed					Emission Factors (g/hp-hr)			
Project	Construction Activity	Equipment Type	NOx	со	voc	SO ₂	PM ₁₀	PM _{2.5}
Terminal Apron	Grading	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Terminal Apron	Grading	Grader	4.70E-01	1.73E-01	3.42E-02	3.69E-03	3.63E-02	3.52E-02
Terminal Apron	Grading	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01
Terminal Apron	Hydroseeding	Hydroseeder	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Hydroseeding	Off-Road Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Lighting	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Lighting	Loader	8.61E-01	2.92E-01	5.10E-02	3.76E-03	7.10E-02	6.89E-02
Terminal Apron	Lighting	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Terminal Apron	Lighting	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Lighting	Skid Steer Loader	4.52E+00	4.03E+00	8.22E-01	5.63E-03	5.79E-01	5.62E-01
Terminal Apron	Lighting	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Terminal Apron	Markings	Flatbed Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Markings	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Terminal Apron	Markings	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Sealing/Fuel Resistant	Distributing Tanker	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Sealing/Fuel Resistant	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Terminal Apron	Sealing/Fuel Resistant	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Soil Erosion/Sediment Control	Other General Equipment	1.26E+00	2.85E-01	6.94E-02	3.84E-03	7.19E-02	6.98E-02
Terminal Apron	Soil Erosion/Sediment Control	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Soil Erosion/Sediment Control	Pumps	4.37E+00	2.73E+00	8.17E-01	5.41E-03	3.06E-01	2.97E-01
Terminal Apron	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	3.07E+00	3.21E+00	5.22E-01	5.39E-03	4.28E-01	4.15E-01
Terminal Apron	Subbase Placement	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Terminal Apron	Subbase Placement	Dump Truck (12 cy)	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Subbase Placement	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Subbase Placement	Roller	1.54E+00	7.60E-01	6.59E-02	4.19E-03	1.13E-01	1.10E-01
Terminal Apron	Topsoil Placement	Dozer	7.49E-01	2.55E-01	4.07E-02	3.73E-03	6.44E-02	6.24E-02
Terminal Apron	Topsoil Placement	Dump Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Terminal Apron	Topsoil Placement	Pickup Truck	3.74E-01	1.47E-01	2.50E-02	3.65E-03	2.83E-02	2.74E-02
Module Transport	Module Transport	Mammoet PPU Z350 DA	1.32E+00	7.11E-01	9.89E-02	2.49E-03	1.17E-01	1.13E-01



Duciant	Construction Activity	Environment Tures		Emission Fac	tors (g/hp-hr))
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e
Building - 100000 sqft- 10 stories	Concrete Foundations	Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02
Building - 100000 sqft- 10 stories	Concrete Foundations	Concrete Pump	6.67E-02	2.81E-02	5.88E+02	6.01E+02
Building - 100000 sqft- 10 stories	Concrete Foundations	Concrete Ready Mix Trucks	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Concrete Foundations	Excavator	2.61E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Concrete Foundations	Fork Truck	1.16E-03	2.84E-02	5.96E+02	6.04E+02
Building - 100000 sqft- 10 stories	Concrete Foundations	Tool Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Concrete Foundations	Tractor Trailer- Material Delivery	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Construction Mob & Layout	Survey Crew Trucks	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Construction Mob & Layout	Tractor Trailers Temp Fac.	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Fork Truck	1.16E-03	2.84E-02	5.96E+02	6.04E+02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Generator	2.15E-02	2.81E-02	5.89E+02	5.99E+02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Grout Mixer	6.84E-03	2.56E-02	5.36E+02	5.44E+02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Grout Wheel Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Man Lift	2.82E-02	3.32E-02	6.94E+02	7.05E+02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Tool Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Tractor Trailer- Material Delivery	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Truck Tower (Mantiwoc type)	4.18E-03	2.53E-02	5.31E+02	5.38E+02
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Fork Truck	1.16E-03	2.84E-02	5.96E+02	6.04E+02
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Man Lift	2.82E-02	3.32E-02	6.94E+02	7.05E+02

Table C3. 2021 Proposed Project, construction-phase non-road equipment greenhouse gas emission factors.

Ducient		Equipment Ture		Emission Fac	tors (g/hp-hr)	
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Tool Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Tractor Trailer- Material Delivery	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Roofing	High Lift	1.16E-03	2.84E-02	5.96E+02	6.04E+02
Building - 100000 sqft- 10 stories	Roofing	Man Lift	2.82E-02	3.32E-02	6.94E+02	7.05E+02
Building - 100000 sqft- 10 stories	Roofing	Material Deliveries	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Roofing	Tractor Trailer- Material Delivery	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Roofing	Truck Tower (Mantiwoc type)	4.18E-03	2.53E-02	5.31E+02	5.38E+02
Building - 100000 sqft- 10 stories	Security & Safety Systems	High Lift	1.16E-03	2.84E-02	5.96E+02	6.04E+02
Building - 100000 sqft- 10 stories	Security & Safety Systems	Tool Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	90 Ton Crane	4.18E-03	2.53E-02	5.31E+02	5.38E+02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Concrete Pump	6.67E-02	2.81E-02	5.88E+02	6.01E+02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Concrete Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Fork Truck	1.16E-03	2.84E-02	5.96E+02	6.04E+02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Tool Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Tractor Trailer- Steel Deliveries	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Trowel Machine	6.84E-03	2.56E-02	5.36E+02	5.44E+02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Truck Tower (Mantiwoc type)	4.18E-03	2.53E-02	5.31E+02	5.38E+02
Demolition - Building	Building Demolition	Bob Cat	3.04E-02	3.32E-02	6.94E+02	7.05E+02
Demolition - Building	Building Demolition	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Demolition - Building	Building Demolition	Excavator with Bucket	2.61E-03	2.56E-02	5.37E+02	5.44E+02
Demolition - Building	Building Demolition	Generator Sets	2.15E-02	2.81E-02	5.89E+02	5.99E+02
Demolition - Building	Building Demolition	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02

Duringt	Construction Activity	Environment Trune	Emission Factors (g/hp-hr)				
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e	
Demolition - Concrete	Concrete Demolition	Excavator with Bucket	2.61E-03	2.56E-02	5.37E+02	5.44E+02	
Demolition - Concrete	Concrete Demolition	Excavator with Hoe Ram	2.61E-03	2.56E-02	5.37E+02	5.44E+02	
Demolition - Concrete	Concrete Demolition	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Excavator	2.61E-03	2.56E-02	5.37E+02	5.44E+02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Loader	4.33E-03	2.56E-02	5.37E+02	5.44E+02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02	
Drainage System	Drainage - 24 inch SICPP	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02	
Drainage System	Drainage - 24 inch SICPP	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Drainage System	Drainage - 24 inch SICPP	Excavator	2.61E-03	2.56E-02	5.37E+02	5.44E+02	
Drainage System	Drainage - 24 inch SICPP	Loader	4.33E-03	2.56E-02	5.37E+02	5.44E+02	
Drainage System	Drainage - 24 inch SICPP	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02	
Drainage System	Drainage - 24 inch SICPP	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Drainage System	Drainage - 24 inch SICPP	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02	
Drainage System	Drainage Structures	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Drainage System	Drainage Structures	Excavator	2.61E-03	2.56E-02	5.37E+02	5.44E+02	
Drainage System	Drainage Structures	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02	
Drainage System	Drainage Structures	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Drainage System	Hydroseeding	Hydroseeder	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Drainage System	Hydroseeding	Off-Road Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Drainage System	Soil Erosion/Sediment Control	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02	
Drainage System	Soil Erosion/Sediment Control	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Drainage System	Soil Erosion/Sediment Control	Pumps	6.67E-02	2.81E-02	5.88E+02	6.01E+02	
Drainage System	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02	

Duciest			I	Emission Fac	tors (g/hp-hr)	1
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e
Drainage System	Topsoil Placement	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Topsoil Placement	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Topsoil Placement	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Clearing and Grubbing	Chain Saw	1.19E+00	4.19E-02	6.86E+02	7.97E+02
Fencing	Clearing and Grubbing	Chipper/Stump Grinder	1.07E-02	2.81E-02	5.89E+02	5.98E+02
Fencing	Clearing and Grubbing	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Excavation (Cut to Fill)	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Excavation (Cut to Fill)	Dump Truck (12 cy)	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Excavation (Cut to Fill)	Excavator	2.61E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Excavation (Cut to Fill)	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Excavation (Cut to Fill)	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02
Fencing	Fencing	Concrete Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Fencing	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Fencing	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Fencing	Fencing	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Fencing	Skid Steer Loader	3.04E-02	3.32E-02	6.94E+02	7.05E+02
Fencing	Fencing	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02
Fencing	Grading	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Grading	Grader	2.85E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Grading	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02
Fencing	Hydroseeding	Hydroseeder	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Hydroseeding	Off-Road Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Soil Erosion/Sediment Control	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Fencing	Soil Erosion/Sediment Control	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Soil Erosion/Sediment Control	Pumps	6.67E-02	2.81E-02	5.88E+02	6.01E+02
Fencing	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02
Fencing	Topsoil Placement	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Topsoil Placement	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Topsoil Placement	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Clearing and Grubbing	Chain Saw	1.19E+00	4.19E-02	6.86E+02	7.97E+02
Fuel Tanks	Clearing and Grubbing	Chipper/Stump Grinder	1.07E-02	2.81E-02	5.89E+02	5.98E+02
Fuel Tanks	Clearing and Grubbing	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Concrete Placement	Air Compressor	8.18E-03	2.81E-02	5.90E+02	5.98E+02
Fuel Tanks	Concrete Placement	Concrete Saws	1.45E-02	2.84E-02	5.96E+02	6.05E+02

Busiest		E i		Emission Fac	tors (g/hp-hr)	
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO2	CO ₂ e
Fuel Tanks	Concrete Placement	Concrete Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Concrete Placement	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Fuel Tanks	Concrete Placement	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Concrete Placement	Rubber Tired Loader	4.33E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Concrete Placement	Slip Form Paver	4.15E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Concrete Placement	Surfacing Equipment (Grooving)	3.17E-02	2.84E-02	5.95E+02	6.05E+02
Fuel Tanks	Construction/Erect Tanks	Crane	4.18E-03	2.53E-02	5.31E+02	5.38E+02
Fuel Tanks	Construction/Erect Tanks	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Fuel Tanks	Construction/Erect Tanks	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Drainage - 24 inch SICPP	Excavator	2.61E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Drainage	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Drainage	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Drainage	Loader	4.33E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Drainage	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Fuel Tanks	Drainage	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Drainage	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02
Fuel Tanks	Dust Control	Water Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Excavation (Borrow)	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Excavation (Borrow)	Dump Truck (12 cy)	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Excavation (Borrow)	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Excavation (Borrow)	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02
Fuel Tanks	Excavation (Cut to Fill)	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Excavation (Cut to Fill)	Dump Truck (12 cy)	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Excavation (Cut to Fill)	Excavator	2.61E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Excavation (Cut to Fill)	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Excavation (Cut to Fill)	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02
Fuel Tanks	Excavation (Cut to Fill)	Scraper	4.92E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Excavation (Topsoil Stripping)	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Fencing	Concrete Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Fencing	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Fencing	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Fuel Tanks	Fencing	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Fencing	Skid Steer Loader	3.04E-02	3.32E-02	6.94E+02	7.05E+02
Fuel Tanks	Fencing	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02
Fuel Tanks	Grading	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Grading	Grader	2.85E-03	2.56E-02	5.37E+02	5.44E+02

Duringt		F	Emission Factors (g/hp-hr)				
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e	
Fuel Tanks	Grading	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02	
Fuel Tanks	Hydroseeding	Hydroseeder	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Hydroseeding	Off-Road Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Markings	Flatbed Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Markings	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02	
Fuel Tanks	Markings	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Soil Erosion/Sediment Control	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02	
Fuel Tanks	Soil Erosion/Sediment Control	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Soil Erosion/Sediment Control	Pumps	6.67E-02	2.81E-02	5.88E+02	6.01E+02	
Fuel Tanks	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02	
Fuel Tanks	Street Lighting	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Street Lighting	Loader	4.33E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Street Lighting	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02	
Fuel Tanks	Street Lighting	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Street Lighting	Skid Steer Loader	3.04E-02	3.32E-02	6.94E+02	7.05E+02	
Fuel Tanks	Street Lighting	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02	
Fuel Tanks	Subbase Placement	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Subbase Placement	Dump Truck (12 cy)	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Subbase Placement	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Subbase Placement	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02	
Fuel Tanks	Topsoil Placement	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Topsoil Placement	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Topsoil Placement	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Landscaping	Hydroseeding	Hydroseeder	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Landscaping	Hydroseeding	Off-Road Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Landscaping	Mulching	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Landscaping	Mulching	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02	
Landscaping	Mulching	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Landscaping	Mulching	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02	
Landscaping	Sodding	Flatbed Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Landscaping	Sodding	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02	
Landscaping	Sodding	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Landscaping	Sodding	Skid Steer Loader	3.04E-02	3.32E-02	6.94E+02	7.05E+02	
Landscaping	Topsoil Placement	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02	

Durchast			I	Emission Fac	tors (g/hp-hr)	
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO2	CO ₂ e
Landscaping	Topsoil Placement	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Landscaping	Topsoil Placement	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Landscaping	Tree Planting	Flatbed Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Landscaping	Tree Planting	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Landscaping	Tree Planting	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Landscaping	Tree Planting	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02
Landscaping	Tree Pruning	Aerial Lift	2.82E-02	3.32E-02	6.94E+02	7.05E+02
Landscaping	Tree Pruning	Chipper/Stump Grinder	1.07E-02	2.81E-02	5.89E+02	5.98E+02
Landscaping	Tree Pruning	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Landscaping	Tree Pruning	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Landscaping	Tree Pruning	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Landscaping	Tree Pruning	Pruning Saw/Chain Saw	1.19E+00	4.19E-02	6.86E+02	7.97E+02
NAVAIDS	Approach Lighting	Air Compressor	8.18E-03	2.81E-02	5.90E+02	5.98E+02
NAVAIDS	Approach Lighting	Crane	4.18E-03	2.53E-02	5.31E+02	5.38E+02
NAVAIDS	Approach Lighting	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Approach Lighting	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Approach Lighting	Excavator	2.61E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Approach Lighting	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
NAVAIDS	Approach Lighting	Skid Steer Loader	3.04E-02	3.32E-02	6.94E+02	7.05E+02
NAVAIDS	Approach Lighting	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Air Compressor	8.18E-03	2.81E-02	5.90E+02	5.98E+02
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Crane	4.18E-03	2.53E-02	5.31E+02	5.38E+02
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Excavator	2.61E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Skid Steer Loader	3.04E-02	3.32E-02	6.94E+02	7.05E+02
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02

Businet		E		Emission Fac	tors (g/hp-hr)	l.
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO2	CO ₂ e
NAVAIDS	Instrument Landing System (ILS) Localizer	Air Compressor	8.18E-03	2.81E-02	5.90E+02	5.98E+02
NAVAIDS	Instrument Landing System (ILS) Localizer	Crane	4.18E-03	2.53E-02	5.31E+02	5.38E+02
NAVAIDS	Instrument Landing System (ILS) Localizer	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Instrument Landing System (ILS) Localizer	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Instrument Landing System (ILS) Localizer	Excavator	2.61E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Instrument Landing System (ILS) Localizer	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
NAVAIDS	Instrument Landing System (ILS) Localizer	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Instrument Landing System (ILS) Localizer	Skid Steer Loader	3.04E-02	3.32E-02	6.94E+02	7.05E+02
NAVAIDS	Instrument Landing System (ILS) Localizer	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02
NAVAIDS	Precision Approach Path Indicator (PAPI)	Air Compressor	8.18E-03	2.81E-02	5.90E+02	5.98E+02
NAVAIDS	Precision Approach Path Indicator (PAPI)	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Precision Approach Path Indicator (PAPI)	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
NAVAIDS	Precision Approach Path Indicator (PAPI)	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Precision Approach Path Indicator (PAPI)	Skid Steer Loader	3.04E-02	3.32E-02	6.94E+02	7.05E+02
NAVAIDS	Precision Approach Path Indicator (PAPI)	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02
NAVAIDS	Rotating Beacon	Crane	4.18E-03	2.53E-02	5.31E+02	5.38E+02
NAVAIDS	Rotating Beacon	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Rotating Beacon	Excavator	2.61E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Rotating Beacon	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
NAVAIDS	Rotating Beacon	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Windcone	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Windcone	Excavator	2.61E-03	2.56E-02	5.37E+02	5.44E+02
NAVAIDS	Windcone	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
NAVAIDS	Windcone	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02

Dursiant	Construction Astivity	Equipment Turns		Emission Fac	tors (g/hp-hr)	
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO ₂	CO ₂ e
Parking Lot	Clearing and Grubbing	Chain Saw	1.19E+00	4.19E-02	6.86E+02	7.97E+02
Parking Lot	Clearing and Grubbing	Chipper/Stump Grinder	1.07E-02	2.81E-02	5.89E+02	5.98E+02
Parking Lot	Clearing and Grubbing	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Concrete Placement	Air Compressor	8.18E-03	2.81E-02	5.90E+02	5.98E+02
Parking Lot	Concrete Placement	Concrete Saws 1		2.84E-02	5.96E+02	6.05E+02
Parking Lot	Concrete Placement	Concrete Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Concrete Placement	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Parking Lot	Concrete Placement	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Concrete Placement	Rubber Tired Loader	4.33E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Concrete Placement	Slip Form Paver	4.15E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Concrete Placement	Surfacing Equipment (Grooving)	3.17E-02	2.84E-02	5.95E+02	6.05E+02
Parking Lot	Curbing	Concrete Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Curbing	Curb/Gutter Paver	4.15E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Curbing	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Parking Lot	Curbing	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Drainage - 24 inch SICPP	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Drainage - 24 inch SICPP	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Drainage - 24 inch SICPP	Excavator	2.61E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Drainage - 24 inch SICPP	Loader	4.33E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Drainage - 24 inch SICPP	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Parking Lot	Drainage - 24 inch SICPP	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Drainage - 24 inch SICPP	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02
Parking Lot	Drainage - 6 inch Perforated Underdrain	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Drainage - 6 inch Perforated Underdrain	Loader	4.33E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Drainage - 6 inch Perforated Underdrain	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Parking Lot	Drainage - 6 inch Perforated Underdrain	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02
Parking Lot	Excavation (Borrow)	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Excavation (Borrow)	Dump Truck (12 cy)	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Excavation (Borrow)	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Excavation (Borrow)	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02
Parking Lot	Excavation (Cut to Fill)	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02

Duciest		Equipment Trues	I	Emission Fac	tors (g/hp-hr)	
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO2	CO ₂ e
Parking Lot	Excavation (Cut to Fill)	Dump Truck (12 cy)	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Excavation (Cut to Fill)	Excavator	2.61E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Excavation (Cut to Fill)	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Excavation (Cut to Fill)	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02
Parking Lot	Excavation (Cut to Fill)	Scraper	4.92E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Excavation (Topsoil Stripping)	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Fencing	Concrete Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Fencing	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Fencing	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Parking Lot	Fencing	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Fencing	Skid Steer Loader	3.04E-02	3.32E-02	6.94E+02	7.05E+02
Parking Lot	Fencing	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02
Parking Lot	Grading	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Grading	Grader	2.85E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Grading	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02
Parking Lot	Hydroseeding	Hydroseeder	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Hydroseeding	Off-Road Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Markings	Flatbed Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Markings	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Parking Lot	Markings	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Sidewalks	Concrete Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Sidewalks	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Sidewalks	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Sidewalks	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02
Parking Lot	Sidewalks	Vibratory Compactor	6.97E-02	2.81E-02	5.88E+02	6.01E+02
Parking Lot	Soil Erosion/Sediment Control	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Parking Lot	Soil Erosion/Sediment Control	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Soil Erosion/Sediment Control	Pumps	6.67E-02	2.81E-02	5.88E+02	6.01E+02
Parking Lot	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02
Parking Lot	Street Lighting	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Street Lighting	Loader	4.33E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Street Lighting	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Parking Lot	Street Lighting	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02

Ducient				Emission Fac	tors (g/hp-hr)	
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e
Parking Lot	Street Lighting	Skid Steer Loader	3.04E-02	3.32E-02	6.94E+02	7.05E+02
Parking Lot	Street Lighting	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02
Parking Lot	Subbase Placement	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Subbase Placement	Dump Truck (12 cy)	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Subbase Placement	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Subbase Placement	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02
Parking Lot	Topsoil Placement	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Topsoil Placement	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Topsoil Placement	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Tree Planting	Flatbed Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Tree Planting	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Parking Lot	Tree Planting	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Tree Planting	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02
Site Work - 10000 sqft	Construction Mob & Layout	Survey Crew Trucks	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Site Work - 10000 sqft	Construction Mob & Layout	Tractor Trailers Temp Fac.	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Bulldozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Chain Saws	1.19E+00	4.19E-02	6.86E+02	7.97E+02
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Flat Bed or Dump Trucks	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Front Loader	2.68E-02	3.32E-02	6.95E+02	7.06E+02
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Grub the site down 2'-0	1.45E-02	2.84E-02	5.96E+02	6.05E+02
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Log Chipper	1.07E-02	2.81E-02	5.89E+02	5.98E+02
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Mulcher	1.07E-02	2.81E-02	5.89E+02	5.98E+02
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Ten Wheelers	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Tractor	2.68E-02	3.32E-02	6.95E+02	7.06E+02
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Bob Cat	3.04E-02	3.32E-02	6.94E+02	7.05E+02



Busicet		E		Emission Fac	tors (g/hp-hr)	
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO2	CO ₂ e
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Concrete Ready Mix Trucks	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Tractor Trailer with Boom Hoist- Delivery	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Site Work - 10000 sqft	Site Restoration- Landscaping (Rough Grading)	Compacting Equipment	6.97E-02	2.81E-02	5.88E+02	6.01E+02
Site Work - 10000 sqft	Site Restoration- Landscaping (Rough Grading)	Small Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Forktruck (Hoist)	1.16E-03	2.84E-02	5.96E+02	6.04E+02
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Seed Truck Spreader	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Tractor Trailer- Material Delivery	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Fork Truck	1.16E-03	2.84E-02	5.96E+02	6.04E+02
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Tractor Trailer- Material Delivery	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Clearing and Grubbing	Chain Saw	1.19E+00	4.19E-02	6.86E+02	7.97E+02
Terminal Apron	Clearing and Grubbing	Chipper/Stump Grinder	1.07E-02	2.81E-02	5.89E+02	5.98E+02
Terminal Apron	Clearing and Grubbing	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Concrete Placement	Air Compressor	8.18E-03	2.81E-02	5.90E+02	5.98E+02
Terminal Apron	Concrete Placement	Concrete Saws	1.45E-02	2.84E-02	5.96E+02	6.05E+02
Terminal Apron	Concrete Placement	Concrete Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Concrete Placement	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Terminal Apron	Concrete Placement	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Concrete Placement	Rubber Tired Loader	4.33E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Concrete Placement	Slip Form Paver	4.15E-03	2.56E-02	5.37E+02	5.44E+02



-				Emission Fac	tors (g/hp-hr)	,
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO2	CO ₂ e
Terminal Apron	Concrete Placement	Surfacing Equipment (Grooving)	3.17E-02	2.84E-02	5.95E+02	6.05E+02
Terminal Apron	Drainage - 24 inch SICPP	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Drainage - 24 inch SICPP	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Drainage - 24 inch SICPP	Excavator	2.61E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Drainage - 24 inch SICPP	Loader	4.33E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Drainage - 24 inch SICPP	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Terminal Apron	Drainage - 24 inch SICPP	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Drainage - 24 inch SICPP	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Dump Truck 2		2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Loader	4.33E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02
Terminal Apron	Dust Control	Water Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Excavation (Borrow)	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Excavation (Borrow)	Dump Truck (12 cy)	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Excavation (Borrow)	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Excavation (Borrow)	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02
Terminal Apron	Excavation (Cut to Fill)	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Excavation (Cut to Fill)	Dump Truck (12 cy)	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Excavation (Cut to Fill)	Excavator	2.61E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Excavation (Cut to Fill)	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Excavation (Cut to Fill)	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02
Terminal Apron	Excavation (Cut to Fill)	Scraper	4.92E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Excavation (Topsoil Stripping)	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Fencing	Concrete Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Fencing	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Fencing	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Terminal Apron	Fencing	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Fencing	Skid Steer Loader	3.04E-02	3.32E-02	6.94E+02	7.05E+02
Terminal Apron	Fencing	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02

Ducient			E	Emission Fac	tors (g/hp-hr)	
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e
Terminal Apron	Grading	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Grading	Grader	2.85E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Grading	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02
Terminal Apron	Hydroseeding	Hydroseeder	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Hydroseeding	Off-Road Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Lighting	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Lighting	Loader	4.33E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Lighting	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Terminal Apron	Lighting	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Lighting	Skid Steer Loader	3.04E-02	3.32E-02	6.94E+02	7.05E+02
Terminal Apron	Lighting	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02
Terminal Apron	Markings	Flatbed Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Markings	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Terminal Apron	Markings	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Sealing/Fuel Resistant	Distributing Tanker	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Sealing/Fuel Resistant	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Terminal Apron	Sealing/Fuel Resistant	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Soil Erosion/Sediment Control	Other General Equipment	5.69E-03	2.53E-02	5.31E+02	5.38E+02
Terminal Apron	Soil Erosion/Sediment Control	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Soil Erosion/Sediment Control	Pumps	6.67E-02	2.81E-02	5.88E+02	6.01E+02
Terminal Apron	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	2.68E-02	3.32E-02	6.95E+02	7.06E+02
Terminal Apron	Subbase Placement	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Subbase Placement	Dump Truck (12 cy)	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Subbase Placement	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Subbase Placement	Roller	5.48E-03	2.84E-02	5.96E+02	6.04E+02
Terminal Apron	Topsoil Placement	Dozer	3.55E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Topsoil Placement	Dump Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Topsoil Placement	Pickup Truck	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Module Transport	Module Transport	Mammoet PPU Z350 DA	8.71E-03	1.29E-02	2.70E+02	2.75E+02



Ducient		Equipment Turns		l	Emission Fac	tors (g/hp-hr)		
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
Building - 100000 sqft- 10 stories	Concrete Foundations	Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01
Building - 100000 sqft- 10 stories	Concrete Foundations	Concrete Pump	4.32E+00	2.64E+00	8.19E-01	5.41E-03	2.86E-01	2.77E-01
Building - 100000 sqft- 10 stories	Concrete Foundations	Concrete Ready Mix Trucks	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Building - 100000 sqft- 10 stories	Concrete Foundations	Excavator	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02
Building - 100000 sqft- 10 stories	Concrete Foundations	Fork Truck	9.02E-01	1.08E-01	1.07E-02	3.95E-03	2.12E-02	2.06E-02
Building - 100000 sqft- 10 stories	Concrete Foundations	Tool Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Building - 100000 sqft- 10 stories	Concrete Foundations	Tractor Trailer- Material Delivery	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Building - 100000 sqft- 10 stories	Construction Mob & Layout	Survey Crew Trucks	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Building - 100000 sqft- 10 stories	Construction Mob & Layout	Tractor Trailers Temp Fac.	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Fork Truck	9.02E-01	1.08E-01	1.07E-02	3.95E-03	2.12E-02	2.06E-02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Generator	3.44E+00	1.02E+00	2.90E-01	4.57E-03	1.76E-01	1.71E-01
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Grout Mixer	1.70E+00	7.93E-01	1.11E-01	4.12E-03	1.22E-01	1.19E-01
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Grout Wheel Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Man Lift	4.13E+00	2.98E+00	6.12E-01	5.54E-03	3.88E-01	3.76E-01
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Tool Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Tractor Trailer- Material Delivery	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Truck Tower (Mantiwoc type)	5.77E-01	1.44E-01	3.97E-02	3.68E-03	2.85E-02	2.76E-02
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Fork Truck	9.02E-01	1.08E-01	1.07E-02	3.95E-03	2.12E-02	2.06E-02
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Man Lift	4.13E+00	2.98E+00	6.12E-01	5.54E-03	3.88E-01	3.76E-01

Table C4. 2022 Proposed Project, construction-phase non-road equipment criteria air pollutant emission factors.



Project	O	E an instant E an	Emission Factors (g/hp-hr)					
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO2	PM ₁₀	PM _{2.5}
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Tool Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Tractor Trailer- Material Delivery	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Building - 100000 sqft- 10 stories	Roofing	High Lift	9.02E-01	1.08E-01	1.07E-02	3.95E-03	2.12E-02	2.06E-02
Building - 100000 sqft- 10 stories	Roofing	Man Lift	4.13E+00	2.98E+00	6.12E-01	5.54E-03	3.88E-01	3.76E-01
Building - 100000 sqft- 10 stories	Roofing	Material Deliveries	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Building - 100000 sqft- 10 stories	Roofing	Tractor Trailer- Material Delivery	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Building - 100000 sqft- 10 stories	Roofing	Truck Tower (Mantiwoc type)	5.77E-01	1.44E-01	3.97E-02	3.68E-03	2.85E-02	2.76E-02
Building - 100000 sqft- 10 stories	Security & Safety Systems	High Lift	9.02E-01	1.08E-01	1.07E-02	3.95E-03	2.12E-02	2.06E-02
Building - 100000 sqft- 10 stories	Security & Safety Systems	Tool Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	90 Ton Crane	5.77E-01	1.44E-01	3.97E-02	3.68E-03	2.85E-02	2.76E-02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Concrete Pump	4.32E+00	2.64E+00	8.19E-01	5.41E-03	2.86E-01	2.77E-01
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Concrete Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Fork Truck	9.02E-01	1.08E-01	1.07E-02	3.95E-03	2.12E-02	2.06E-02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Tool Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Tractor Trailer- Steel Deliveries	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Trowel Machine	1.70E+00	7.93E-01	1.11E-01	4.12E-03	1.22E-01	1.19E-01
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Truck Tower (Mantiwoc type)	5.77E-01	1.44E-01	3.97E-02	3.68E-03	2.85E-02	2.76E-02
Demolition - Building	Building Demolition	Bob Cat	4.38E+00	3.77E+00	7.59E-01	5.57E-03	5.37E-01	5.21E-01
Demolition - Building	Building Demolition	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Demolition - Building	Building Demolition	Excavator with Bucket	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02
Demolition - Building	Building Demolition	Generator Sets	3.44E+00	1.02E+00	2.90E-01	4.57E-03	1.76E-01	1.71E-01
Demolition - Building	Building Demolition	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02



-			Emission Factors (g/hp-hr)						
Project	Construction Activity	Equipment Type	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Demolition - Concrete	Concrete Demolition	Excavator with Bucket	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02	
Demolition - Concrete	Concrete Demolition	Excavator with Hoe Ram	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02	
Demolition - Concrete	Concrete Demolition	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Excavator	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Loader	7.04E-01	2.49E-01	4.31E-02	3.72E-03	6.10E-02	5.92E-02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02	
Drainage System	Drainage - 24 inch SICPP	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02	
Drainage System	Drainage - 24 inch SICPP	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Drainage System	Drainage - 24 inch SICPP	Excavator	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02	
Drainage System	Drainage - 24 inch SICPP	Loader	7.04E-01	2.49E-01	4.31E-02	3.72E-03	6.10E-02	5.92E-02	
Drainage System	Drainage - 24 inch SICPP	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02	
Drainage System	Drainage - 24 inch SICPP	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Drainage System	Drainage - 24 inch SICPP	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02	
Drainage System	Drainage Structures	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Drainage System	Drainage Structures	Excavator	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02	
Drainage System	Drainage Structures	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02	
Drainage System	Drainage Structures	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Drainage System	Hydroseeding	Hydroseeder	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Drainage System	Hydroseeding	Off-Road Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Drainage System	Soil Erosion/Sediment Control	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02	
Drainage System	Soil Erosion/Sediment Control	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Drainage System	Soil Erosion/Sediment Control	Pumps	4.32E+00	2.64E+00	8.19E-01	5.41E-03	2.86E-01	2.77E-01	
Drainage System	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01	



Breiset		E	Emission Factors (g/hp-hr)					
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
Drainage System	Topsoil Placement	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Drainage System	Topsoil Placement	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Drainage System	Topsoil Placement	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fencing	Clearing and Grubbing	Chain Saw	1.53E+00	2.66E+02	7.31E+01	4.14E-03	9.75E+00	8.97E+00
Fencing	Clearing and Grubbing	Chipper/Stump Grinder	3.28E+00	1.52E+00	3.11E-01	4.68E-03	2.92E-01	2.83E-01
Fencing	Clearing and Grubbing	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fencing	Excavation (Cut to Fill)	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Fencing	Excavation (Cut to Fill)	Dump Truck (12 cy)	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fencing	Excavation (Cut to Fill)	Excavator	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02
Fencing	Excavation (Cut to Fill)	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fencing	Excavation (Cut to Fill)	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02
Fencing	Fencing	Concrete Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fencing	Fencing	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fencing	Fencing	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Fencing	Fencing	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fencing	Fencing	Skid Steer Loader	4.38E+00	3.77E+00	7.59E-01	5.57E-03	5.37E-01	5.21E-01
Fencing	Fencing	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01
Fencing	Grading	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Fencing	Grading	Grader	3.67E-01	1.35E-01	2.79E-02	3.65E-03	2.95E-02	2.86E-02
Fencing	Grading	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02
Fencing	Hydroseeding	Hydroseeder	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fencing	Hydroseeding	Off-Road Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fencing	Soil Erosion/Sediment Control	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Fencing	Soil Erosion/Sediment Control	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fencing	Soil Erosion/Sediment Control	Pumps	4.32E+00	2.64E+00	8.19E-01	5.41E-03	2.86E-01	2.77E-01
Fencing	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01
Fencing	Topsoil Placement	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Fencing	Topsoil Placement	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fencing	Topsoil Placement	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Clearing and Grubbing	Chain Saw	1.53E+00	2.66E+02	7.31E+01	4.14E-03	9.75E+00	8.97E+00
Fuel Tanks	Clearing and Grubbing	Chipper/Stump Grinder	3.28E+00	1.52E+00	3.11E-01	4.68E-03	2.92E-01	2.83E-01
Fuel Tanks	Clearing and Grubbing	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Concrete Placement	Air Compressor	1.88E+00	7.72E-01	9.15E-02	4.28E-03	1.32E-01	1.28E-01
Fuel Tanks	Concrete Placement	Concrete Saws	2.63E+00	3.88E-01	1.09E-01	4.02E-03	4.46E-02	4.33E-02



			Emission Factors (g/hp-hr)					
Project	Construction Activity	Equipment Type	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}
Fuel Tanks	Concrete Placement	Concrete Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Concrete Placement	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Fuel Tanks	Concrete Placement	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Concrete Placement	Rubber Tired Loader	7.04E-01	2.49E-01	4.31E-02	3.72E-03	6.10E-02	5.92E-02
Fuel Tanks	Concrete Placement	Slip Form Paver	6.54E-01	2.46E-01	4.09E-02	3.72E-03	6.13E-02	5.95E-02
Fuel Tanks	Concrete Placement	Surfacing Equipment (Grooving)	3.77E+00	1.51E+00	3.56E-01	5.47E-03	1.73E-01	1.68E-01
Fuel Tanks	Construction/Erect Tanks	Crane	5.77E-01	1.44E-01	3.97E-02	3.68E-03	2.85E-02	2.76E-02
Fuel Tanks	Construction/Erect Tanks	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Fuel Tanks	Construction/Erect Tanks	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Drainage - 24 inch SICPP	Excavator	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02
Fuel Tanks	Drainage	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Fuel Tanks	Drainage	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Drainage	Loader	7.04E-01	2.49E-01	4.31E-02	3.72E-03	6.10E-02	5.92E-02
Fuel Tanks	Drainage	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Fuel Tanks	Drainage	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Drainage	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02
Fuel Tanks	Dust Control	Water Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Excavation (Borrow)	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Fuel Tanks	Excavation (Borrow)	Dump Truck (12 cy)	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Excavation (Borrow)	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Excavation (Borrow)	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02
Fuel Tanks	Excavation (Cut to Fill)	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Fuel Tanks	Excavation (Cut to Fill)	Dump Truck (12 cy)	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Excavation (Cut to Fill)	Excavator	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02
Fuel Tanks	Excavation (Cut to Fill)	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Excavation (Cut to Fill)	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02
Fuel Tanks	Excavation (Cut to Fill)	Scraper	8.29E-01	3.42E-01	4.87E-02	3.82E-03	5.75E-02	5.58E-02
Fuel Tanks	Excavation (Topsoil Stripping)	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Fuel Tanks	Fencing	Concrete Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Fencing	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Fencing	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Fuel Tanks	Fencing	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Fencing	Skid Steer Loader	4.38E+00	3.77E+00	7.59E-01	5.57E-03	5.37E-01	5.21E-01
Fuel Tanks	Fencing	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01
Fuel Tanks	Grading	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Fuel Tanks	Grading	Grader	3 67E-01	1 35E-01	2.79E-02	3 65E-03	2 95E-02	2 86F-02



Project		E i			Emission Fac	tors (g/hp-hr)		
Project	Construction Activity	Equipment Type	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}
Fuel Tanks	Grading	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02
Fuel Tanks	Hydroseeding	Hydroseeder	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Hydroseeding	Off-Road Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Markings	Flatbed Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Markings	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Fuel Tanks	Markings	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Soil Erosion/Sediment Control	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Fuel Tanks	Soil Erosion/Sediment Control	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Soil Erosion/Sediment Control	Pumps	4.32E+00	2.64E+00	8.19E-01	5.41E-03	2.86E-01	2.77E-01
Fuel Tanks	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01
Fuel Tanks	Street Lighting	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Street Lighting	Loader	7.04E-01	2.49E-01	4.31E-02	3.72E-03	6.10E-02	5.92E-02
Fuel Tanks	Street Lighting	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Fuel Tanks	Street Lighting	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Street Lighting	Skid Steer Loader	4.38E+00	3.77E+00	7.59E-01	5.57E-03	5.37E-01	5.21E-01
Fuel Tanks	Street Lighting	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01
Fuel Tanks	Subbase Placement	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Fuel Tanks	Subbase Placement	Dump Truck (12 cy)	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Subbase Placement	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Subbase Placement	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02
Fuel Tanks	Topsoil Placement	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Fuel Tanks	Topsoil Placement	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Fuel Tanks	Topsoil Placement	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Landscaping	Hydroseeding	Hydroseeder	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Landscaping	Hydroseeding	Off-Road Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Landscaping	Mulching	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Landscaping	Mulching	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Landscaping	Mulching	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Landscaping	Mulching	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01
Landscaping	Sodding	Flatbed Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Landscaping	Sodding	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Landscaping	Sodding	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Landscaping	Sodding	Skid Steer Loader	4.38E+00	3.77E+00	7.59E-01	5.57E-03	5.37E-01	5.21E-01
Landscaping	Topsoil Placement	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02



-	Construction Activity			Emission Factors (g/hp-hr)						
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}		
Landscaping	Topsoil Placement	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02		
Landscaping	Topsoil Placement	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02		
Landscaping	Tree Planting	Flatbed Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02		
Landscaping	Tree Planting	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02		
Landscaping	Tree Planting	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02		
Landscaping	Tree Planting	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01		
Landscaping	Tree Pruning	Aerial Lift	4.13E+00	2.98E+00	6.12E-01	5.54E-03	3.88E-01	3.76E-01		
Landscaping	Tree Pruning	Chipper/Stump Grinder	3.28E+00	1.52E+00	3.11E-01	4.68E-03	2.92E-01	2.83E-01		
Landscaping	Tree Pruning	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02		
Landscaping	Tree Pruning	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02		
Landscaping	Tree Pruning	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02		
Landscaping	Tree Pruning	Pruning Saw/Chain Saw	1.53E+00	2.66E+02	7.31E+01	4.14E-03	9.75E+00	8.97E+00		
NAVAIDS	Approach Lighting	Air Compressor	1.88E+00	7.72E-01	9.15E-02	4.28E-03	1.32E-01	1.28E-01		
NAVAIDS	Approach Lighting	Crane	5.77E-01	1.44E-01	3.97E-02	3.68E-03	2.85E-02	2.76E-02		
NAVAIDS	Approach Lighting	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02		
NAVAIDS	Approach Lighting	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02		
NAVAIDS	Approach Lighting	Excavator	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02		
NAVAIDS	Approach Lighting	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02		
NAVAIDS	Approach Lighting	Skid Steer Loader	4.38E+00	3.77E+00	7.59E-01	5.57E-03	5.37E-01	5.21E-01		
NAVAIDS	Approach Lighting	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01		
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Air Compressor	1.88E+00	7.72E-01	9.15E-02	4.28E-03	1.32E-01	1.28E-01		
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Crane	5.77E-01	1.44E-01	3.97E-02	3.68E-03	2.85E-02	2.76E-02		
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02		
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02		
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Excavator	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02		
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02		
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02		
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Skid Steer Loader	4.38E+00	3.77E+00	7.59E-01	5.57E-03	5.37E-01	5.21E-01		
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01		



Project Construction Activity	O	E main man d'Enna			Emission Fac	tors (g/hp-hr)	1	
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
NAVAIDS	Instrument Landing System (ILS) Localizer	Air Compressor	1.88E+00	7.72E-01	9.15E-02	4.28E-03	1.32E-01	1.28E-01
NAVAIDS	Instrument Landing System (ILS) Localizer	Crane	5.77E-01	1.44E-01	3.97E-02	3.68E-03	2.85E-02	2.76E-02
NAVAIDS	Instrument Landing System (ILS) Localizer	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
NAVAIDS	Instrument Landing System (ILS) Localizer	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
NAVAIDS	Instrument Landing System (ILS) Localizer	Excavator	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02
NAVAIDS	Instrument Landing System (ILS) Localizer	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
NAVAIDS	Instrument Landing System (ILS) Localizer	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
NAVAIDS	Instrument Landing System (ILS) Localizer	Skid Steer Loader	4.38E+00	3.77E+00	7.59E-01	5.57E-03	5.37E-01	5.21E-01
NAVAIDS	Instrument Landing System (ILS) Localizer	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01
NAVAIDS	Precision Approach Path Indicator (PAPI)	Air Compressor	1.88E+00	7.72E-01	9.15E-02	4.28E-03	1.32E-01	1.28E-01
NAVAIDS	Precision Approach Path Indicator (PAPI)	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
NAVAIDS	Precision Approach Path Indicator (PAPI)	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
NAVAIDS	Precision Approach Path Indicator (PAPI)	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
NAVAIDS	Precision Approach Path Indicator (PAPI)	Skid Steer Loader	4.38E+00	3.77E+00	7.59E-01	5.57E-03	5.37E-01	5.21E-01
NAVAIDS	Precision Approach Path Indicator (PAPI)	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01
NAVAIDS	Rotating Beacon	Crane	5.77E-01	1.44E-01	3.97E-02	3.68E-03	2.85E-02	2.76E-02
NAVAIDS	Rotating Beacon	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
NAVAIDS	Rotating Beacon	Excavator	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02
NAVAIDS	Rotating Beacon	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
NAVAIDS	Rotating Beacon	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
NAVAIDS	Windcone	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
NAVAIDS	Windcone	Excavator	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02
NAVAIDS	Windcone	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
NAVAIDS	Windcone	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02



Project		Construction Activity			Emission Fac	tors (g/hp-hr)		
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
Parking Lot	Clearing and Grubbing	Chain Saw	1.53E+00	2.66E+02	7.31E+01	4.14E-03	9.75E+00	8.97E+00
Parking Lot	Clearing and Grubbing	Chipper/Stump Grinder	3.28E+00	1.52E+00	3.11E-01	4.68E-03	2.92E-01	2.83E-01
Parking Lot	Clearing and Grubbing	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Concrete Placement	Air Compressor	1.88E+00	7.72E-01	9.15E-02	4.28E-03	1.32E-01	1.28E-01
Parking Lot	Concrete Placement	Concrete Saws	2.63E+00	3.88E-01	1.09E-01	4.02E-03	4.46E-02	4.33E-02
Parking Lot	Concrete Placement	Concrete Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Concrete Placement	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Parking Lot	Concrete Placement	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Concrete Placement	Rubber Tired Loader	7.04E-01	2.49E-01	4.31E-02	3.72E-03	6.10E-02	5.92E-02
Parking Lot	Concrete Placement	Slip Form Paver	6.54E-01	2.46E-01	4.09E-02	3.72E-03	6.13E-02	5.95E-02
Parking Lot	Concrete Placement	Surfacing Equipment (Grooving)	3.77E+00	1.51E+00	3.56E-01	5.47E-03	1.73E-01	1.68E-01
Parking Lot	Curbing	Concrete Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Curbing	Curb/Gutter Paver	6.54E-01	2.46E-01	4.09E-02	3.72E-03	6.13E-02	5.95E-02
Parking Lot	Curbing	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Parking Lot	Curbing	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Drainage - 24 inch SICPP	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Parking Lot	Drainage - 24 inch SICPP	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Drainage - 24 inch SICPP	Excavator	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02
Parking Lot	Drainage - 24 inch SICPP	Loader	7.04E-01	2.49E-01	4.31E-02	3.72E-03	6.10E-02	5.92E-02
Parking Lot	Drainage - 24 inch SICPP	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Parking Lot	Drainage - 24 inch SICPP	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Drainage - 24 inch SICPP	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02
Parking Lot	Drainage - 6 inch Perforated Underdrain	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Drainage - 6 inch Perforated Underdrain	Loader	7.04E-01	2.49E-01	4.31E-02	3.72E-03	6.10E-02	5.92E-02
Parking Lot	Drainage - 6 inch Perforated Underdrain	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Parking Lot	Drainage - 6 inch Perforated Underdrain	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01
Parking Lot	Excavation (Borrow)	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Parking Lot	Excavation (Borrow)	Dump Truck (12 cy)	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Excavation (Borrow)	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Excavation (Borrow)	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02
Parking Lot	Excavation (Cut to Fill)	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02



Project	Construction Activity				Emission Fac	tors (g/hp-hr)	1	
Project	Construction Activity	Equipment Type	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}
Parking Lot	Excavation (Cut to Fill)	Dump Truck (12 cy)	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Excavation (Cut to Fill)	Excavator	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02
Parking Lot	Excavation (Cut to Fill)	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Excavation (Cut to Fill)	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02
Parking Lot	Excavation (Cut to Fill)	Scraper	8.29E-01	3.42E-01	4.87E-02	3.82E-03	5.75E-02	5.58E-02
Parking Lot	Excavation (Topsoil Stripping)	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Parking Lot	Fencing	Concrete Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Fencing	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Fencing	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Parking Lot	Fencing	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Fencing	Skid Steer Loader	4.38E+00	3.77E+00	7.59E-01	5.57E-03	5.37E-01	5.21E-01
Parking Lot	Fencing	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01
Parking Lot	Grading	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Parking Lot	Grading	Grader	3.67E-01	1.35E-01	2.79E-02	3.65E-03	2.95E-02	2.86E-02
Parking Lot	Grading	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02
Parking Lot	Hydroseeding	Hydroseeder	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Hydroseeding	Off-Road Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Markings	Flatbed Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Markings	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Parking Lot	Markings	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Sidewalks	Concrete Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Sidewalks	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Sidewalks	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Sidewalks	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01
Parking Lot	Sidewalks	Vibratory Compactor	4.22E+00	2.59E+00	8.13E-01	5.41E-03	2.69E-01	2.61E-01
Parking Lot	Soil Erosion/Sediment Control	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Parking Lot	Soil Erosion/Sediment Control	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Soil Erosion/Sediment Control	Pumps	4.32E+00	2.64E+00	8.19E-01	5.41E-03	2.86E-01	2.77E-01
Parking Lot	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01
Parking Lot	Street Lighting	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Parking Lot	Street Lighting	Loader	7.04E-01	2.49E-01	4.31E-02	3.72E-03	6.10E-02	5.92E-02
Parking Lot	Street Lighting	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Parking Lot	Street Lighting	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02



		Equipment Type	Emission Factors (g/hp-hr)						
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Parking Lot	Street Lighting	Skid Steer Loader	4.38E+00	3.77E+00	7.59E-01	5.57E-03	5.37E-01	5.21E-01	
Parking Lot	Street Lighting	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01	
Parking Lot	Subbase Placement	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02	
Parking Lot	Subbase Placement	Dump Truck (12 cy)	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Parking Lot	Subbase Placement	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Parking Lot	Subbase Placement	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02	
Parking Lot	Topsoil Placement	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02	
Parking Lot	Topsoil Placement	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Parking Lot	Topsoil Placement	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Parking Lot	Tree Planting	Flatbed Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Parking Lot	Tree Planting	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02	
Parking Lot	Tree Planting	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Parking Lot	Tree Planting	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01	
Site Work - 10000 sqft	Construction Mob & Layout	Survey Crew Trucks	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Site Work - 10000 sqft	Construction Mob & Layout	Tractor Trailers Temp Fac.	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Bulldozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Chain Saws	1.53E+00	2.66E+02	7.31E+01	4.14E-03	9.75E+00	8.97E+00	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Flat Bed or Dump Trucks	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Front Loader	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Grub the site down 2'-0	2.63E+00	3.88E-01	1.09E-01	4.02E-03	4.46E-02	4.33E-02	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Log Chipper	3.28E+00	1.52E+00	3.11E-01	4.68E-03	2.92E-01	2.83E-01	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Mulcher	3.28E+00	1.52E+00	3.11E-01	4.68E-03	2.92E-01	2.83E-01	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Ten Wheelers	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Tractor	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01	
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Bob Cat	4.38E+00	3.77E+00	7.59E-01	5.57E-03	5.37E-01	5.21E-01	



	Project Construction Activity		Emission Factors (g/hp-hr)						
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Concrete Ready Mix Trucks	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Tractor Trailer with Boom Hoist- Delivery	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Site Work - 10000 sqft	Site Restoration- Landscaping (Rough Grading)	Compacting Equipment	4.22E+00	2.59E+00	8.13E-01	5.41E-03	2.69E-01	2.61E-01	
Site Work - 10000 sqft	Site Restoration- Landscaping (Rough Grading)	Small Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02	
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Forktruck (Hoist)	9.02E-01	1.08E-01	1.07E-02	3.95E-03	2.12E-02	2.06E-02	
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02	
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Seed Truck Spreader	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Tractor Trailer- Material Delivery	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01	
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Fork Truck	9.02E-01	1.08E-01	1.07E-02	3.95E-03	2.12E-02	2.06E-02	
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Tractor Trailer- Material Delivery	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Terminal Apron	Clearing and Grubbing	Chain Saw	1.53E+00	2.66E+02	7.31E+01	4.14E-03	9.75E+00	8.97E+00	
Terminal Apron	Clearing and Grubbing	Chipper/Stump Grinder	3.28E+00	1.52E+00	3.11E-01	4.68E-03	2.92E-01	2.83E-01	
Terminal Apron	Clearing and Grubbing	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Terminal Apron	Concrete Placement	Air Compressor	1.88E+00	7.72E-01	9.15E-02	4.28E-03	1.32E-01	1.28E-01	
Terminal Apron	Concrete Placement	Concrete Saws	2.63E+00	3.88E-01	1.09E-01	4.02E-03	4.46E-02	4.33E-02	
Terminal Apron	Concrete Placement	Concrete Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Terminal Apron	Concrete Placement	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02	
Terminal Apron	Concrete Placement	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02	
Terminal Apron	Concrete Placement	Rubber Tired Loader	7.04E-01	2.49E-01	4.31E-02	3.72E-03	6.10E-02	5.92E-02	
Terminal Apron	Concrete Placement	Slip Form Paver	6.54E-01	2.46E-01	4.09E-02	3.72E-03	6.13E-02	5.95E-02	



					Emission Fac	tors (g/hp-hr)		
Project	Construction Activity	Equipment Type	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}
Terminal Apron	Concrete Placement	Surfacing Equipment (Grooving)	3.77E+00	1.51E+00	3.56E-01	5.47E-03	1.73E-01	1.68E-01
Terminal Apron	Drainage - 24 inch SICPP	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Terminal Apron	Drainage - 24 inch SICPP	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Drainage - 24 inch SICPP	Excavator	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02
Terminal Apron	Drainage - 24 inch SICPP	Loader	7.04E-01	2.49E-01	4.31E-02	3.72E-03	6.10E-02	5.92E-02
Terminal Apron	Drainage - 24 inch SICPP	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Terminal Apron	Drainage - 24 inch SICPP	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Drainage - 24 inch SICPP	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Loader	7.04E-01	2.49E-01	4.31E-02	3.72E-03	6.10E-02	5.92E-02
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01
Terminal Apron	Dust Control	Water Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Excavation (Borrow)	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Terminal Apron	Excavation (Borrow)	Dump Truck (12 cy)	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Excavation (Borrow)	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Excavation (Borrow)	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02
Terminal Apron	Excavation (Cut to Fill)	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Terminal Apron	Excavation (Cut to Fill)	Dump Truck (12 cy)	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Excavation (Cut to Fill)	Excavator	4.59E-01	1.60E-01	2.41E-02	3.64E-03	4.13E-02	4.01E-02
Terminal Apron	Excavation (Cut to Fill)	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Excavation (Cut to Fill)	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02
Terminal Apron	Excavation (Cut to Fill)	Scraper	8.29E-01	3.42E-01	4.87E-02	3.82E-03	5.75E-02	5.58E-02
Terminal Apron	Excavation (Topsoil Stripping)	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Terminal Apron	Fencing	Concrete Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Fencing	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Fencing	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Terminal Apron	Fencing	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Fencing	Skid Steer Loader	4.38E+00	3.77E+00	7.59E-01	5.57E-03	5.37E-01	5.21E-01
Terminal Apron	Fencing	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01



Project		F F			Emission Fac	tors (g/hp-hr)		
Project	Construction Activity	Equipment Type	NOx	со	voc	SO ₂	PM ₁₀	PM _{2.5}
Terminal Apron	Grading	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Terminal Apron	Grading	Grader	3.67E-01	1.35E-01	2.79E-02	3.65E-03	2.95E-02	2.86E-02
Terminal Apron	Grading	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02
Terminal Apron	Hydroseeding	Hydroseeder	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Hydroseeding	Off-Road Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Lighting	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Lighting	Loader	7.04E-01	2.49E-01	4.31E-02	3.72E-03	6.10E-02	5.92E-02
Terminal Apron	Lighting	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Terminal Apron	Lighting	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Lighting	Skid Steer Loader	4.38E+00	3.77E+00	7.59E-01	5.57E-03	5.37E-01	5.21E-01
Terminal Apron	Lighting	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01
Terminal Apron	Markings	Flatbed Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Markings	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Terminal Apron	Markings	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Sealing/Fuel Resistant	Distributing Tanker	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Sealing/Fuel Resistant	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Terminal Apron	Sealing/Fuel Resistant	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Soil Erosion/Sediment Control	Other General Equipment	1.09E+00	2.45E-01	5.81E-02	3.78E-03	6.17E-02	5.99E-02
Terminal Apron	Soil Erosion/Sediment Control	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Soil Erosion/Sediment Control	Pumps	4.32E+00	2.64E+00	8.19E-01	5.41E-03	2.86E-01	2.77E-01
Terminal Apron	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	2.93E+00	3.02E+00	4.82E-01	5.34E-03	4.01E-01	3.89E-01
Terminal Apron	Subbase Placement	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Terminal Apron	Subbase Placement	Dump Truck (12 cy)	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Subbase Placement	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Subbase Placement	Roller	1.39E+00	6.28E-01	5.34E-02	4.14E-03	9.39E-02	9.11E-02
Terminal Apron	Topsoil Placement	Dozer	6.06E-01	2.13E-01	3.26E-02	3.69E-03	5.46E-02	5.30E-02
Terminal Apron	Topsoil Placement	Dump Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Terminal Apron	Topsoil Placement	Pickup Truck	2.83E-01	1.01E-01	1.94E-02	3.61E-03	2.06E-02	2.00E-02
Module Transport	Module Transport	Mammoet PPU Z350 DA	1.30E+00	7.04E-01	9.73E-02	2.44E-03	1.17E-01	1.14E-01



Duraita at	Construction Activity		Emission Factors (g/hp-hr))	
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e
Building - 100000 sqft- 10 stories	Concrete Foundations	Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02
Building - 100000 sqft- 10 stories	Concrete Foundations	Concrete Pump	6.81E-02	2.81E-02	5.88E+02	6.01E+02
Building - 100000 sqft- 10 stories	Concrete Foundations	Concrete Ready Mix Trucks	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Concrete Foundations	Excavator	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Concrete Foundations	Fork Truck	8.47E-04	2.84E-02	5.96E+02	6.04E+02
Building - 100000 sqft- 10 stories	Concrete Foundations	Tool Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Concrete Foundations	Tractor Trailer- Material Delivery	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Construction Mob & Layout	Survey Crew Trucks	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Construction Mob & Layout	Tractor Trailers Temp Fac.	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Fork Truck	8.47E-04	2.84E-02	5.96E+02	6.04E+02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Generator	2.09E-02	2.81E-02	5.90E+02	5.99E+02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Grout Mixer	6.58E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Grout Wheel Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Man Lift	2.70E-02	3.32E-02	6.94E+02	7.05E+02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Tool Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Tractor Trailer- Material Delivery	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Truck Tower (Mantiwoc type)	3.38E-03	2.53E-02	5.31E+02	5.38E+02
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Fork Truck	8.47E-04	2.84E-02	5.96E+02	6.04E+02
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Man Lift	2.70E-02	3.32E-02	6.94E+02	7.05E+02

Table C5. 2022 Proposed Project, construction-phase non-road equipment greenhouse gas emission factors.



Durchast		E au la marte E au a	Emission Factors (g/hp-hr)			
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Tool Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Tractor Trailer- Material Delivery	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Roofing	High Lift	8.47E-04	2.84E-02	5.96E+02	6.04E+02
Building - 100000 sqft- 10 stories	Roofing	Man Lift	2.70E-02	3.32E-02	6.94E+02	7.05E+02
Building - 100000 sqft- 10 stories	Roofing	Material Deliveries	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Roofing	Tractor Trailer- Material Delivery	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Roofing	Truck Tower (Mantiwoc type)	3.38E-03	2.53E-02	5.31E+02	5.38E+02
Building - 100000 sqft- 10 stories	Security & Safety Systems	High Lift	8.47E-04	2.84E-02	5.96E+02	6.04E+02
Building - 100000 sqft- 10 stories	Security & Safety Systems	Tool Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	90 Ton Crane	3.38E-03	2.53E-02	5.31E+02	5.38E+02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Concrete Pump	6.81E-02	2.81E-02	5.88E+02	6.01E+02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Concrete Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Fork Truck	8.47E-04	2.84E-02	5.96E+02	6.04E+02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Tool Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Tractor Trailer- Steel Deliveries	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Trowel Machine	6.58E-03	2.56E-02	5.37E+02	5.44E+02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Truck Tower (Mantiwoc type)	3.38E-03	2.53E-02	5.31E+02	5.38E+02
Demolition - Building	Building Demolition	Bob Cat	3.00E-02	3.32E-02	6.94E+02	7.05E+02
Demolition - Building	Building Demolition	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Demolition - Building	Building Demolition	Excavator with Bucket	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Demolition - Building	Building Demolition	Generator Sets	2.09E-02	2.81E-02	5.90E+02	5.99E+02
Demolition - Building	Building Demolition	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02

Durchast	O			Emission Fac	tors (g/hp-hr)	
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO ₂	CO ₂ e
Demolition - Concrete	Concrete Demolition	Excavator with Bucket	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Demolition - Concrete	Concrete Demolition	Excavator with Hoe Ram	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Demolition - Concrete	Concrete Demolition	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Excavator	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Loader	3.64E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02
Drainage System	Drainage - 24 inch SICPP	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Drainage - 24 inch SICPP	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Drainage - 24 inch SICPP	Excavator	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Drainage - 24 inch SICPP	Loader	3.64E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Drainage - 24 inch SICPP	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02
Drainage System	Drainage - 24 inch SICPP	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Drainage - 24 inch SICPP	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02
Drainage System	Drainage Structures	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Drainage Structures	Excavator	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Drainage Structures	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02
Drainage System	Drainage Structures	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Hydroseeding	Hydroseeder	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Hydroseeding	Off-Road Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Soil Erosion/Sediment Control	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02
Drainage System	Soil Erosion/Sediment Control	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Soil Erosion/Sediment Control	Pumps	6.81E-02	2.81E-02	5.88E+02	6.01E+02
Drainage System	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02
Businet	O an a firm of the state of the	E i	Emission Factors (g/hp-hr			
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Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e
Drainage System	Topsoil Placement	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Topsoil Placement	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Drainage System	Topsoil Placement	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Clearing and Grubbing	Chain Saw	1.19E+00	4.19E-02	6.86E+02	7.97E+02
Fencing	Clearing and Grubbing	Chipper/Stump Grinder	1.01E-02	2.81E-02	5.89E+02	5.98E+02
Fencing	Clearing and Grubbing	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Excavation (Cut to Fill)	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Excavation (Cut to Fill)	Dump Truck (12 cy)	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Excavation (Cut to Fill)	Excavator	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Excavation (Cut to Fill)	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Excavation (Cut to Fill)	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02
Fencing	Fencing	Concrete Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Fencing	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Fencing	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02
Fencing	Fencing	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Fencing	Skid Steer Loader	3.00E-02	3.32E-02	6.94E+02	7.05E+02
Fencing	Fencing	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02
Fencing	Grading	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Grading	Grader	2.18E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Grading	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02
Fencing	Hydroseeding	Hydroseeder	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Hydroseeding	Off-Road Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Soil Erosion/Sediment Control	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02
Fencing	Soil Erosion/Sediment Control	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Soil Erosion/Sediment Control	Pumps	6.81E-02	2.81E-02	5.88E+02	6.01E+02
Fencing	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02
Fencing	Topsoil Placement	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Topsoil Placement	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fencing	Topsoil Placement	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Clearing and Grubbing	Chain Saw	1.19E+00	4.19E-02	6.86E+02	7.97E+02
Fuel Tanks	Clearing and Grubbing	Chipper/Stump Grinder	1.01E-02	2.81E-02	5.89E+02	5.98E+02
Fuel Tanks	Clearing and Grubbing	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Concrete Placement	Air Compressor	7.17E-03	2.81E-02	5.90E+02	5.98E+02
Fuel Tanks	Concrete Placement	Concrete Saws	1.37E-02	2.84E-02	5.96E+02	6.04E+02

Duciest	O and the still and the life	F	Emission Factors (g/hp-hr)		p-hr)	
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e
Fuel Tanks	Concrete Placement	Concrete Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Concrete Placement	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02
Fuel Tanks	Concrete Placement	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Concrete Placement	Rubber Tired Loader	3.64E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Concrete Placement	Slip Form Paver	3.46E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Concrete Placement	Surfacing Equipment (Grooving)	3.14E-02	2.84E-02	5.95E+02	6.05E+02
Fuel Tanks	Construction/Erect Tanks	Crane	3.38E-03	2.53E-02	5.31E+02	5.38E+02
Fuel Tanks	Construction/Erect Tanks	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02
Fuel Tanks	Construction/Erect Tanks	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Drainage - 24 inch SICPP	Excavator	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Drainage	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Drainage	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Drainage	Loader	3.64E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Drainage	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02
Fuel Tanks	Drainage	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Drainage	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02
Fuel Tanks	Dust Control	Water Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Excavation (Borrow)	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Excavation (Borrow)	Dump Truck (12 cy)	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Excavation (Borrow)	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Excavation (Borrow)	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02
Fuel Tanks	Excavation (Cut to Fill)	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Excavation (Cut to Fill)	Dump Truck (12 cy)	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Excavation (Cut to Fill)	Excavator	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Excavation (Cut to Fill)	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Excavation (Cut to Fill)	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02
Fuel Tanks	Excavation (Cut to Fill)	Scraper	4.23E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Excavation (Topsoil Stripping)	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Fencing	Concrete Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Fencing	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Fencing	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02
Fuel Tanks	Fencing	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Fencing	Skid Steer Loader	3.00E-02	3.32E-02	6.94E+02	7.05E+02
Fuel Tanks	Fencing	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02
Fuel Tanks	Grading	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02
Fuel Tanks	Grading	Grader	2.18E-03	2.56E-02	5.37E+02	5.44E+02

Duciest	O	E main and E ma	Emission Factors (g/hp-hr)		-hr)		
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e	
Fuel Tanks	Grading	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02	
Fuel Tanks	Hydroseeding	Hydroseeder	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Hydroseeding	Off-Road Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Markings	Flatbed Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Markings	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02	
Fuel Tanks	Markings	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Soil Erosion/Sediment Control	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02	
Fuel Tanks	Soil Erosion/Sediment Control	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Soil Erosion/Sediment Control	Pumps	6.81E-02 2.81E-02 5.88		5.88E+02	6.01E+02	
Fuel Tanks	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02	
Fuel Tanks	Street Lighting	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Street Lighting	Loader	3.64E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Street Lighting	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02	
Fuel Tanks	Street Lighting	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Street Lighting	Skid Steer Loader	3.00E-02	3.32E-02	6.94E+02	7.05E+02	
Fuel Tanks	Street Lighting	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02	
Fuel Tanks	Subbase Placement	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Subbase Placement	Dump Truck (12 cy)	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Subbase Placement	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Subbase Placement	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02	
Fuel Tanks	Topsoil Placement	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Topsoil Placement	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Fuel Tanks	Topsoil Placement	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Landscaping	Hydroseeding	Hydroseeder	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Landscaping	Hydroseeding	Off-Road Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Landscaping	Mulching	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Landscaping	Mulching	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02	
Landscaping	Mulching	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Landscaping	Mulching	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02	
Landscaping	Sodding	Flatbed Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Landscaping	Sodding	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02	
Landscaping	Sodding	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Landscaping	Sodding	Skid Steer Loader	3.00E-02	3.32E-02	6.94E+02	7.05E+02	
Landscaping	Topsoil Placement	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02	

Duciest	O and the still and the still still a	E an in an a E an a	Emission Factors (g/hp		tors (g/hp-hr)	p-hr)		
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO ₂	CO ₂ e		
Landscaping	Topsoil Placement	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Landscaping	Topsoil Placement	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Landscaping	Tree Planting	Flatbed Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Landscaping	Tree Planting	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02		
Landscaping	Tree Planting	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Landscaping	Tree Planting	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02		
Landscaping	Tree Pruning	Aerial Lift	2.70E-02	3.32E-02	6.94E+02	7.05E+02		
Landscaping	Tree Pruning	Chipper/Stump Grinder	1.01E-02	2.81E-02	5.89E+02	5.98E+02		
Landscaping	Tree Pruning	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Landscaping	Tree Pruning	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02		
Landscaping	Tree Pruning	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Landscaping	Tree Pruning	Pruning Saw/Chain Saw	1.19E+00	4.19E-02	6.86E+02	7.97E+02		
NAVAIDS	Approach Lighting	Air Compressor	7.17E-03	2.81E-02	5.90E+02	5.98E+02		
NAVAIDS	Approach Lighting	Crane	3.38E-03	2.53E-02	5.31E+02	5.38E+02		
NAVAIDS	Approach Lighting	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02		
NAVAIDS	Approach Lighting	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
NAVAIDS	Approach Lighting	Excavator	2.07E-03	2.56E-02	5.37E+02	5.44E+02		
NAVAIDS	Approach Lighting	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02		
NAVAIDS	Approach Lighting	Skid Steer Loader	3.00E-02	3.32E-02	6.94E+02	7.05E+02		
NAVAIDS	Approach Lighting	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02		
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Air Compressor	7.17E-03	2.81E-02	5.90E+02	5.98E+02		
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Crane	3.38E-03	2.53E-02	5.31E+02	5.38E+02		
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02		
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Excavator	2.07E-03	2.56E-02	5.37E+02	5.44E+02		
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02		
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Skid Steer Loader	3.00E-02	3.32E-02	6.94E+02	7.05E+02		
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02		

Businet		E i	Emission Factors (g/hp-hr				
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO ₂	CO ₂ e	
NAVAIDS	Instrument Landing System (ILS) Localizer	Air Compressor	7.17E-03	2.81E-02	5.90E+02	5.98E+02	
NAVAIDS	Instrument Landing System (ILS) Localizer	Crane	3.38E-03	2.53E-02	5.31E+02	5.38E+02	
NAVAIDS	Instrument Landing System (ILS) Localizer	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02	
NAVAIDS	Instrument Landing System (ILS) Localizer	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
NAVAIDS	Instrument Landing System (ILS) Localizer	Excavator	2.07E-03	2.56E-02 5.37E+02		5.44E+02	
NAVAIDS	Instrument Landing System (ILS) Localizer	Other General Equipment	Other General Equipment 4.84E-03 2.53E-02		5.31E+02	5.31E+02 5.38E+02	
NAVAIDS	Instrument Landing System (ILS) Localizer	System Pickup Truck 1.48E-03 2.56E-02		5.37E+02	5.44E+02		
NAVAIDS	Instrument Landing System (ILS) Localizer	Skid Steer Loader	3.00E-02	E-02 3.32E-02 6.94E+		7.05E+02	
NAVAIDS	Instrument Landing System (ILS) Localizer	Tractors/Loader/Backhoe	2.58E-02)2 3.32E-02 6.95E+		7.06E+02	
NAVAIDS	Precision Approach Path Indicator (PAPI)	Air Compressor	7.17E-03	2.81E-02	5.90E+02	5.98E+02	
NAVAIDS	Precision Approach Path Indicator (PAPI)	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
NAVAIDS	Precision Approach Path Indicator (PAPI)	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02	
NAVAIDS	Precision Approach Path Indicator (PAPI)	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
NAVAIDS	Precision Approach Path Indicator (PAPI)	Skid Steer Loader	3.00E-02	3.32E-02	6.94E+02	7.05E+02	
NAVAIDS	Precision Approach Path Indicator (PAPI)	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02	
NAVAIDS	Rotating Beacon	Crane	3.38E-03	2.53E-02	5.31E+02	5.38E+02	
NAVAIDS	Rotating Beacon	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
NAVAIDS	Rotating Beacon	Excavator	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
NAVAIDS	Rotating Beacon	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02	
NAVAIDS	Rotating Beacon	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
NAVAIDS	Windcone	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
NAVAIDS	Windcone	Excavator	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
NAVAIDS	Windcone	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02	
NAVAIDS	Windcone	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	

Deviced	O	E i	Emission Factors (g/hp-h	tors (g/hp-hr):	hr)		
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e	
Parking Lot	Clearing and Grubbing	Chain Saw	1.19E+00	4.19E-02	6.86E+02	7.97E+02	
Parking Lot	Clearing and Grubbing	Chipper/Stump Grinder	1.01E-02	2.81E-02	5.89E+02	5.98E+02	
Parking Lot	Clearing and Grubbing	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Concrete Placement	Air Compressor	7.17E-03	2.81E-02	5.90E+02	5.98E+02	
Parking Lot	Concrete Placement	Concrete Saws	1.37E-02	2.84E-02	5.96E+02	6.04E+02	
Parking Lot	Concrete Placement	Concrete Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Concrete Placement	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02	
Parking Lot	Concrete Placement	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Concrete Placement	Rubber Tired Loader	3.64E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Concrete Placement	Slip Form Paver	3.46E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Concrete Placement	Surfacing Equipment (Grooving)	3.14E-02	2.84E-02	5.95E+02	6.05E+02	
Parking Lot	Curbing	Concrete Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Curbing	Curb/Gutter Paver	3.46E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Curbing	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02	
Parking Lot	Curbing	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Drainage - 24 inch SICPP	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Drainage - 24 inch SICPP	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Drainage - 24 inch SICPP	Excavator	2.07E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Drainage - 24 inch SICPP	Loader	3.64E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Drainage - 24 inch SICPP	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02	
Parking Lot	Drainage - 24 inch SICPP	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Drainage - 24 inch SICPP	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02	
Parking Lot	Drainage - 6 inch Perforated Underdrain	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Drainage - 6 inch Perforated Underdrain	Loader	3.64E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Drainage - 6 inch Perforated Underdrain	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02	
Parking Lot	Drainage - 6 inch Perforated Underdrain	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02	
Parking Lot	Excavation (Borrow)	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Excavation (Borrow)	Dump Truck (12 cy)	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Excavation (Borrow)	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Excavation (Borrow)	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02	
Parking Lot	Excavation (Cut to Fill)	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02	

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Project	Construction Activity	Equipment Type	CH₄	N₂O	CO ₂	CO ₂ e
Parking Lot	Excavation (Cut to Fill)	Dump Truck (12 cy)	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Excavation (Cut to Fill)	Excavator	2.07E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Excavation (Cut to Fill)	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Excavation (Cut to Fill)	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02
Parking Lot	Excavation (Cut to Fill)	Scraper	4.23E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Excavation (Topsoil Stripping)	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Fencing	Concrete Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Fencing	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Fencing	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02
Parking Lot	Fencing	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Fencing	Skid Steer Loader	3.00E-02	3.32E-02	6.94E+02	7.05E+02
Parking Lot	Fencing	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02
Parking Lot	Grading	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Grading	Grader	2.18E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Grading	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02
Parking Lot	Hydroseeding	Hydroseeder	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Hydroseeding	Off-Road Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Markings	Flatbed Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Markings	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02
Parking Lot	Markings	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Sidewalks	Concrete Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Sidewalks	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Sidewalks	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Sidewalks	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02
Parking Lot	Sidewalks	Vibratory Compactor	7.07E-02	2.81E-02	5.88E+02	6.01E+02
Parking Lot	Soil Erosion/Sediment Control	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02
Parking Lot	Soil Erosion/Sediment Control	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Soil Erosion/Sediment Control	Pumps	6.81E-02	2.81E-02	5.88E+02	6.01E+02
Parking Lot	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02
Parking Lot	Street Lighting	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Street Lighting	Loader	3.64E-03	2.56E-02	5.37E+02	5.44E+02
Parking Lot	Street Lighting	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02
Parking Lot	Street Lighting	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02

Dusiant	Construction Activity	Equipment Type	Emission Factors (g/hp-hr)				
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO2	CO ₂ e	
Parking Lot	Street Lighting	Skid Steer Loader	3.00E-02	3.32E-02	6.94E+02	7.05E+02	
Parking Lot	Street Lighting	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02	
Parking Lot	Subbase Placement	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Subbase Placement	Dump Truck (12 cy)	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Subbase Placement	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Subbase Placement	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02	
Parking Lot	Topsoil Placement	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Topsoil Placement	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Topsoil Placement	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Tree Planting	Flatbed Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Tree Planting	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02	
Parking Lot	Tree Planting	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Parking Lot	Tree Planting	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02	
Site Work - 10000 sqft	Construction Mob & Layout	Survey Crew Trucks	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Site Work - 10000 sqft	Construction Mob & Layout	Tractor Trailers Temp Fac.	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Bulldozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Chain Saws	1.19E+00	4.19E-02	6.86E+02	7.97E+02	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Flat Bed or Dump Trucks	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Front Loader	2.58E-02	3.32E-02	6.95E+02	7.06E+02	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Grub the site down 2'-0	1.37E-02	2.84E-02	5.96E+02	6.04E+02	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Log Chipper	1.01E-02	2.81E-02	5.89E+02	5.98E+02	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Mulcher	1.01E-02	2.81E-02	5.89E+02	5.98E+02	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Ten Wheelers	1.48E-03	2.56E-02	5.37E+02	5.44E+02	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Tractor	2.58E-02	3.32E-02	6.95E+02	7.06E+02	
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Bob Cat	3.00E-02	3.32E-02	6.94E+02	7.05E+02	



Deviced		E an instant E an	Emission Factor		tors (g/hp-hr)	ors (g/hp-hr)		
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO2	CO ₂ e		
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Concrete Ready Mix Trucks	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Tractor Trailer with Boom Hoist- Delivery	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Site Work - 10000 sqft	Site Restoration- Landscaping (Rough Grading)	Compacting Equipment	7.07E-02	2.81E-02	5.88E+02	6.01E+02		
Site Work - 10000 sqft	Site Restoration- Landscaping (Rough Grading)	Small Dozer	2.83E-03 2.56E-02 5.37E+02		5.37E+02	5.44E+02		
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Forktruck (Hoist)	8.47E-04 2.84E-02 5.96E+		5.96E+02	6.04E+02		
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Roller	4.45E-03 2.84E-02 5		5.96E+02	6.04E+02		
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Seed Truck Spreader	1.48E-03	1.48E-03 2.56E-02 5.37		5.44E+02		
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Tractor Trailer- Material Delivery	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02		
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Fork Truck	8.47E-04	2.84E-02	5.96E+02	6.04E+02		
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Tractor Trailer- Material Delivery	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Clearing and Grubbing	Chain Saw	1.19E+00	4.19E-02	6.86E+02	7.97E+02		
Terminal Apron	Clearing and Grubbing	Chipper/Stump Grinder	1.01E-02	2.81E-02	5.89E+02	5.98E+02		
Terminal Apron	Clearing and Grubbing	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Concrete Placement	Air Compressor	7.17E-03	2.81E-02	5.90E+02	5.98E+02		
Terminal Apron	Concrete Placement	Concrete Saws	1.37E-02	2.84E-02	5.96E+02	6.04E+02		
Terminal Apron	Concrete Placement	Concrete Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Concrete Placement	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02		
Terminal Apron	Concrete Placement	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Concrete Placement	Rubber Tired Loader	3.64E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Concrete Placement	Slip Form Paver	3.46E-03	2.56E-02	5.37E+02	5.44E+02		

Businet	O	E un la marte E un a	Emission Factors (g/hp-hr		tors (g/hp-hr)	ır)		
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO2	CO ₂ e		
Terminal Apron	Concrete Placement	Surfacing Equipment (Grooving)	3.14E-02	2.84E-02	5.95E+02	6.05E+02		
Terminal Apron	Drainage - 24 inch SICPP	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Drainage - 24 inch SICPP	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Drainage - 24 inch SICPP	Excavator	2.07E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Drainage - 24 inch SICPP	Loader	3.64E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Drainage - 24 inch SICPP	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02		
Terminal Apron	Drainage - 24 inch SICPP	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Drainage - 24 inch SICPP	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02		
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Loader	3.64E-03 2.56E-02 5.37E		5.37E+02	5.44E+02		
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02		
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02		
Terminal Apron	Dust Control	Water Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Excavation (Borrow)	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Excavation (Borrow)	Dump Truck (12 cy)	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Excavation (Borrow)	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Excavation (Borrow)	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02		
Terminal Apron	Excavation (Cut to Fill)	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Excavation (Cut to Fill)	Dump Truck (12 cy)	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Excavation (Cut to Fill)	Excavator	2.07E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Excavation (Cut to Fill)	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Excavation (Cut to Fill)	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02		
Terminal Apron	Excavation (Cut to Fill)	Scraper	4.23E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Excavation (Topsoil Stripping)	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Fencing	Concrete Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Fencing	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Fencing	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02		
Terminal Apron	Fencing	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02		
Terminal Apron	Fencing	Skid Steer Loader	3.00E-02	3.32E-02	6.94E+02	7.05E+02		
Terminal Apron	Fencing	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02		

Project			Emission Factors (g/hp-h	tors (g/hp-hr)		
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO ₂	CO ₂ e
Terminal Apron	Grading	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Grading	Grader	2.18E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Grading	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02
Terminal Apron	Hydroseeding	Hydroseeder	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Hydroseeding	Off-Road Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Lighting	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Lighting	Loader 3.64E-03 2.56E-02 5.378		5.37E+02	5.44E+02	
Terminal Apron	Lighting	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02
Terminal Apron	Lighting	Pickup Truck	D Truck 1.48E-03 2.56E-02 5.37E		5.37E+02	5.44E+02
Terminal Apron	Lighting	Skid Steer Loader	d Steer Loader 3.00E-02 3.32E-02 6.94E		6.94E+02	7.05E+02
Terminal Apron	Lighting	ractors/Loader/Backhoe 2.58E-		3.32E-02	6.95E+02	7.06E+02
Terminal Apron	Markings	Flatbed Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Markings	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02
Terminal Apron	Markings	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Sealing/Fuel Resistant	Distributing Tanker	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Sealing/Fuel Resistant	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02
Terminal Apron	Sealing/Fuel Resistant	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Soil Erosion/Sediment Control	Other General Equipment	4.84E-03	2.53E-02	5.31E+02	5.38E+02
Terminal Apron	Soil Erosion/Sediment Control	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Soil Erosion/Sediment Control	Pumps	6.81E-02	2.81E-02	5.88E+02	6.01E+02
Terminal Apron	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	2.58E-02	3.32E-02	6.95E+02	7.06E+02
Terminal Apron	Subbase Placement	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Subbase Placement	Dump Truck (12 cy)	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Subbase Placement	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Subbase Placement	Roller	4.45E-03	2.84E-02	5.96E+02	6.04E+02
Terminal Apron	Topsoil Placement	Dozer	2.83E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Topsoil Placement	Dump Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Terminal Apron	Topsoil Placement	Pickup Truck	1.48E-03	2.56E-02	5.37E+02	5.44E+02
Module Transport	Module Transport	Mammoet PPU Z350 DA	8.57E-03	1.27E-02	2.66E+02	2.70E+02



Dreiget	Construction Activity Equipment Type	Equipment Type			Emissions	s (tons/yr)		
Project	Construction Activity	Equipment Type	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}
Building - 100000 sqft- 10 stories	Concrete Foundations	Backhoe	2.73E-02	2.85E-02	4.64E-03	4.79E-05	3.80E-03	3.69E-03
Building - 100000 sqft- 10 stories	Concrete Foundations	Concrete Pump	3.28E-03	2.05E-03	6.13E-04	4.06E-06	2.30E-04	2.23E-04
Building - 100000 sqft- 10 stories	Concrete Foundations	Concrete Ready Mix Trucks	4.20E-02	1.65E-02	2.81E-03	4.10E-04	3.18E-03	3.08E-03
Building - 100000 sqft- 10 stories	Concrete Foundations	Excavator	9.08E-03	2.87E-03	4.29E-04	5.35E-05	7.39E-04	7.17E-04
Building - 100000 sqft- 10 stories	Concrete Foundations	Fork Truck	2.38E-02	4.02E-03	3.44E-04	9.90E-05	7.47E-04	7.25E-04
Building - 100000 sqft- 10 stories	Concrete Foundations	Tool Truck	1.40E-02	5.49E-03	9.38E-04	1.37E-04	1.06E-03	1.03E-03
Building - 100000 sqft- 10 stories	Concrete Foundations	Tractor Trailer- Material Delivery	2.80E-02	1.10E-02	1.88E-03	2.73E-04	2.12E-03	2.05E-03
Building - 100000 sqft- 10 stories	Construction Mob & Layout	Survey Crew Trucks	1.17E-03	4.57E-04	7.82E-05	1.14E-05	8.83E-05	8.56E-05
Building - 100000 sqft- 10 stories	Construction Mob & Layout	Tractor Trailers Temp Fac.	4.67E-04	1.83E-04	3.13E-05	4.56E-06	3.53E-05	3.42E-05
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Fork Truck	4.16E-02	7.04E-03	6.03E-04	1.73E-04	1.31E-03	1.27E-03
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Generator	4.32E-03	1.36E-03	3.85E-04	5.63E-06	2.39E-04	2.32E-04
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Grout Mixer	2.40E-01	1.12E-01	1.57E-02	5.45E-04	1.71E-02	1.66E-02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Grout Wheel Truck	1.87E-02	7.32E-03	1.25E-03	1.82E-04	1.41E-03	1.37E-03
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Man Lift	1.01E-01	7.71E-02	1.60E-02	1.31E-04	1.02E-02	9.88E-03
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Tool Truck	4.90E-02	1.92E-02	3.28E-03	4.78E-04	3.71E-03	3.60E-03
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Tractor Trailer- Material Delivery	9.80E-02	3.84E-02	6.57E-03	9.57E-04	7.41E-03	7.19E-03
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Truck Tower (Mantiwoc type)	6.51E-03	1.63E-03	4.40E-04	3.40E-05	3.17E-04	3.07E-04
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Fork Truck	7.93E-02	1.34E-02	1.15E-03	3.30E-04	2.49E-03	2.42E-03
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Man Lift	1.92E-01	1.47E-01	3.05E-02	2.50E-04	1.94E-02	1.88E-02

Table C6. 2021 Proposed Project, construction-phase non-road equipment criteria air pollutant emissions.



Project		E i		Emissions (tons/yr)						
Project	Construction Activity	Equipment Type	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}		
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Tool Truck	1.87E-01	7.32E-02	1.25E-02	1.82E-03	1.41E-02	1.37E-02		
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Tractor Trailer- Material Delivery	1.87E-01	7.32E-02	1.25E-02	1.82E-03	1.41E-02	1.37E-02		
Building - 100000 sqft- 10 stories	Roofing	High Lift	7.93E-03	1.34E-03	1.15E-04	3.30E-05	2.49E-04	2.42E-04		
Building - 100000 sqft- 10 stories	Roofing	Man Lift	2.41E-03	1.84E-03	3.81E-04	3.13E-06	2.43E-04	2.35E-04		
Building - 100000 sqft- 10 stories	Roofing	Material Deliveries	7.00E-03	2.74E-03	4.69E-04	6.84E-05	5.30E-04	5.14E-04		
Building - 100000 sqft- 10 stories	Roofing	Tractor Trailer- Material Delivery	4.67E-03	1.83E-03	3.13E-04	4.56E-05	3.53E-04	3.42E-04		
Building - 100000 sqft- 10 stories	Roofing	Truck Tower (Mantiwoc type)	9.76E-03	2.44E-03	6.60E-04	5.10E-05	4.75E-04	4.61E-04		
Building - 100000 sqft- 10 stories	Security & Safety Systems	High Lift	3.96E-02	6.71E-03	5.74E-04	1.65E-04	1.25E-03	1.21E-03		
Building - 100000 sqft- 10 stories	Security & Safety Systems	Tool Truck	9.34E-02	3.66E-02	6.25E-03	9.11E-04	7.06E-03	6.85E-03		
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	90 Ton Crane	1.95E-02	4.89E-03	1.32E-03	1.02E-04	9.50E-04	9.22E-04		
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Concrete Pump	1.09E-03	6.82E-04	2.04E-04	1.35E-06	7.66E-05	7.43E-05		
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Concrete Truck	7.00E-03	2.74E-03	4.69E-04	6.84E-05	5.30E-04	5.14E-04		
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Fork Truck	3.17E-02	5.37E-03	4.59E-04	1.32E-04	9.96E-04	9.67E-04		
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Tool Truck	1.87E-02	7.32E-03	1.25E-03	1.82E-04	1.41E-03	1.37E-03		
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Tractor Trailer- Steel Deliveries	4.20E-02	1.65E-02	2.81E-03	4.10E-04	3.18E-03	3.08E-03		
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Trowel Machine	2.29E-02	1.07E-02	1.49E-03	5.19E-05	1.63E-03	1.58E-03		
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Truck Tower (Mantiwoc type)	5.86E-02	1.47E-02	3.96E-03	3.06E-04	2.85E-03	2.77E-03		
Demolition - Building	Building Demolition	Bob Cat	1.41E-01	1.26E-01	2.57E-02	1.76E-04	1.81E-02	1.76E-02		
Demolition - Building	Building Demolition	Dump Truck	2.63E-01	1.03E-01	1.76E-02	2.56E-03	1.99E-02	1.93E-02		
Demolition - Building	Building Demolition	Excavator with Bucket	6.38E-02	2.02E-02	3.02E-03	3.76E-04	5.20E-03	5.04E-03		
Demolition - Building	Building Demolition	Generator Sets	6.07E-02	1.91E-02	5.42E-03	7.92E-05	3.37E-03	3.26E-03		
Demolition - Building	Building Demolition	Pickup Truck	1.53E-01	6.00E-02	1.03E-02	1.50E-03	1.16E-02	1.12E-02		



Project			Emissions (tons/yr)					PM2.5 5.60E-04 5.60E-04 2.14E-03 2.09E-04 3.15E-04 1.65E-04 2.31E-04 1.70E-04 3.15E-04 2.11E-04 1.14E-04 1.71E-04 8.96E-05 1.25E-04
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
Demolition - Concrete	Concrete Demolition	Excavator with Bucket	7.09E-03	2.24E-03	3.35E-04	4.18E-05	5.77E-04	5.60E-04
Demolition - Concrete	Concrete Demolition	Excavator with Hoe Ram	7.09E-03	2.24E-03	3.35E-04	4.18E-05	5.77E-04	5.60E-04
Demolition - Concrete	Concrete Demolition	Pickup Truck	2.92E-02	1.14E-02	1.95E-03	2.85E-04	2.21E-03	2.14E-03
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Dozer	2.51E-03	8.55E-04	1.36E-04	1.25E-05	2.15E-04	2.09E-04
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Dump Truck	4.29E-03	1.68E-03	2.87E-04	4.19E-05	3.25E-04	3.15E-04
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Excavator	2.09E-03	6.60E-04	9.86E-05	1.23E-05	1.70E-04	1.65E-04
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Loader	2.88E-03	9.78E-04	1.71E-04	1.26E-05	2.38E-04	2.31E-04
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Other General Equipment	3.06E-03	6.96E-04	1.69E-04	9.37E-06	1.75E-04	1.70E-04
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Pickup Truck	4.29E-03	1.68E-03	2.87E-04	4.19E-05	3.25E-04	3.15E-04
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Roller	2.95E-03	1.45E-03	1.26E-04	8.01E-06	2.17E-04	2.11E-04
Drainage System	Drainage - 24 inch SICPP	Dozer	1.36E-03	4.65E-04	7.41E-05	6.79E-06	1.17E-04	1.14E-04
Drainage System	Drainage - 24 inch SICPP	Dump Truck	2.33E-03	9.15E-04	1.56E-04	2.28E-05	1.77E-04	1.71E-04
Drainage System	Drainage - 24 inch SICPP	Excavator	1.13E-03	3.59E-04	5.37E-05	6.69E-06	9.24E-05	8.96E-05
Drainage System	Drainage - 24 inch SICPP	Loader	1.57E-03	5.32E-04	9.29E-05	6.86E-06	1.29E-04	1.25E-04
Drainage System	Drainage - 24 inch SICPP	Other General Equipment	1.67E-03	3.79E-04	9.22E-05	5.10E-06	9.54E-05	9.26E-05
Drainage System	Drainage - 24 inch SICPP	Pickup Truck	2.33E-03	9.15E-04	1.56E-04	2.28E-05	1.77E-04	1.71E-04
Drainage System	Drainage - 24 inch SICPP	Roller	1.61E-03	7.91E-04	6.85E-05	4.36E-06	1.18E-04	1.15E-04
Drainage System	Drainage Structures	Dump Truck	5.84E-04	2.29E-04	3.91E-05	5.70E-06	4.41E-05	4.28E-05
Drainage System	Drainage Structures	Excavator	2.84E-04	8.97E-05	1.34E-05	1.67E-06	2.31E-05	2.24E-05
Drainage System	Drainage Structures	Other General Equipment	8.33E-04	1.89E-04	4.61E-05	2.55E-06	4.77E-05	4.63E-05
Drainage System	Drainage Structures	Pickup Truck	1.17E-03	4.57E-04	7.82E-05	1.14E-05	8.83E-05	8.56E-05
Drainage System	Hydroseeding	Hydroseeder	2.08E-04	8.16E-05	1.40E-05	2.03E-06	1.58E-05	1.53E-05
Drainage System	Hydroseeding	Off-Road Truck	2.08E-04	8.16E-05	1.40E-05	2.03E-06	1.58E-05	1.53E-05
Drainage System	Soil Erosion/Sediment Control	Other General Equipment	1.25E-04	2.84E-05	6.91E-06	3.82E-07	7.16E-06	6.94E-06
Drainage System	Soil Erosion/Sediment Control	Pickup Truck	3.50E-04	1.37E-04	2.35E-05	3.42E-06	2.65E-05	2.57E-05
Drainage System	Soil Erosion/Sediment Control	Pumps	2.73E-05	1.70E-05	5.11E-06	3.38E-08	1.92E-06	1.86E-06
Drainage System	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	8.54E-05	8.91E-05	1.45E-05	1.50E-07	1.19E-05	1.15E-05



			Emissions (tons/yr)					
Project	Construction Activity	Equipment Type	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}
Drainage System	Topsoil Placement	Dozer	3.00E-04	1.02E-04	1.63E-05	1.50E-06	2.58E-05	2.50E-05
Drainage System	Topsoil Placement	Dump Truck	5.14E-04	2.01E-04	3.44E-05	5.02E-06	3.89E-05	3.77E-05
Drainage System	Topsoil Placement	Pickup Truck	5.14E-04	2.01E-04	3.44E-05	5.02E-06	3.89E-05	3.77E-05
Fencing	Clearing and Grubbing	Chain Saw	7.78E-05	1.35E-02	3.72E-03	2.11E-07	4.96E-04	4.57E-04
Fencing	Clearing and Grubbing	Chipper/Stump Grinder	1.01E-03	4.77E-04	9.89E-05	1.35E-06	9.20E-05	8.92E-05
Fencing	Clearing and Grubbing	Pickup Truck	1.17E-03	4.57E-04	7.82E-05	1.14E-05	8.83E-05	8.56E-05
Fencing	Excavation (Cut to Fill)	Dozer	6.31E-04	2.15E-04	3.42E-05	3.14E-06	5.42E-05	5.26E-05
Fencing	Excavation (Cut to Fill)	Dump Truck (12 cy)	3.60E-03	1.41E-03	2.41E-04	3.51E-05	2.72E-04	2.64E-04
Fencing	Excavation (Cut to Fill)	Excavator	5.25E-04	1.66E-04	2.48E-05	3.09E-06	4.27E-05	4.15E-05
Fencing	Excavation (Cut to Fill)	Pickup Truck	1.08E-03	4.23E-04	7.23E-05	1.05E-05	8.17E-05	7.92E-05
Fencing	Excavation (Cut to Fill)	Roller	7.43E-04	3.66E-04	3.17E-05	2.02E-06	5.46E-05	5.30E-05
Fencing	Fencing	Concrete Truck	6.48E-03	2.54E-03	4.34E-04	6.33E-05	4.90E-04	4.76E-04
Fencing	Fencing	Dump Truck	2.59E-02	1.02E-02	1.74E-03	2.53E-04	1.96E-03	1.90E-03
Fencing	Fencing	Other General Equipment	1.85E-02	4.21E-03	1.02E-03	5.66E-05	1.06E-03	1.03E-03
Fencing	Fencing	Pickup Truck	2.59E-02	1.02E-02	1.74E-03	2.53E-04	1.96E-03	1.90E-03
Fencing	Fencing	Skid Steer Loader	1.39E-02	1.24E-02	2.54E-03	1.74E-05	1.79E-03	1.73E-03
Fencing	Fencing	Tractors/Loader/Backhoe	1.26E-02	1.32E-02	2.15E-03	2.22E-05	1.76E-03	1.71E-03
Fencing	Grading	Dozer	1.90E-04	6.47E-05	1.03E-05	9.45E-07	1.63E-05	1.58E-05
Fencing	Grading	Grader	2.04E-04	7.52E-05	1.49E-05	1.60E-06	1.57E-05	1.53E-05
Fencing	Grading	Roller	2.23E-04	1.10E-04	9.53E-06	6.06E-07	1.64E-05	1.59E-05
Fencing	Hydroseeding	Hydroseeder	2.92E-04	1.15E-04	1.96E-05	2.86E-06	2.21E-05	2.15E-05
Fencing	Hydroseeding	Off-Road Truck	2.92E-04	1.15E-04	1.96E-05	2.86E-06	2.21E-05	2.15E-05
Fencing	Soil Erosion/Sediment Control	Other General Equipment	2.08E-04	4.74E-05	1.15E-05	6.37E-07	1.19E-05	1.16E-05
Fencing	Soil Erosion/Sediment Control	Pickup Truck	5.84E-04	2.29E-04	3.91E-05	5.70E-06	4.41E-05	4.28E-05
Fencing	Soil Erosion/Sediment Control	Pumps	4.55E-05	2.84E-05	8.52E-06	5.64E-08	3.19E-06	3.10E-06
Fencing	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	1.42E-04	1.49E-04	2.41E-05	2.49E-07	1.98E-05	1.92E-05
Fencing	Topsoil Placement	Dozer	1.05E-03	3.59E-04	5.72E-05	5.25E-06	9.06E-05	8.78E-05
Fencing	Topsoil Placement	Dump Truck	1.80E-03	7.07E-04	1.21E-04	1.76E-05	1.36E-04	1.32E-04
Fencing	Topsoil Placement	Pickup Truck	1.80E-03	7.07E-04	1.21E-04	1.76E-05	1.36E-04	1.32E-04
Fuel Tanks	Clearing and Grubbing	Chain Saw	1.71E-04	2.98E-02	8.18E-03	4.63E-07	1.09E-03	1.00E-03
Fuel Tanks	Clearing and Grubbing	Chipper/Stump Grinder	2.22E-03	1.05E-03	2.18E-04	2.98E-06	2.02E-04	1.96E-04
Fuel Tanks	Clearing and Grubbing	Pickup Truck	2.57E-03	1.01E-03	1.72E-04	2.51E-05	1.94E-04	1.88E-04
Fuel Tanks	Concrete Placement	Air Compressor	1.61E-03	7.01E-04	8.55E-05	3.43E-06	1.18E-04	1.14E-04
Fuel Tanks	Concrete Placement	Concrete Saws	1.16E-03	1.97E-04	5.16E-05	1.76E-06	2.55E-05	2.48E-05



Project			Emissions (tons/yr)					
Project	Construction Activity	Equipment Type	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}
Fuel Tanks	Concrete Placement	Concrete Truck	1.01E-02	3.97E-03	6.78E-04	9.88E-05	7.65E-04	7.43E-04
Fuel Tanks	Concrete Placement	Other General Equipment	3.47E-03	7.88E-04	1.92E-04	1.06E-05	1.99E-04	1.93E-04
Fuel Tanks	Concrete Placement	Pickup Truck	7.29E-03	2.86E-03	4.88E-04	7.11E-05	5.51E-04	5.35E-04
Fuel Tanks	Concrete Placement	Rubber Tired Loader	1.63E-03	5.54E-04	9.67E-05	7.13E-06	1.35E-04	1.31E-04
Fuel Tanks	Concrete Placement	Slip Form Paver	1.47E-03	5.48E-04	9.26E-05	7.13E-06	1.35E-04	1.31E-04
Fuel Tanks	Concrete Placement	Surfacing Equipment (Grooving)	1.02E-03	4.15E-04	9.72E-05	1.48E-06	4.74E-05	4.60E-05
Fuel Tanks	Construction/Erect Tanks	Crane	1.83E-03	4.58E-04	1.24E-04	9.56E-06	8.91E-05	8.64E-05
Fuel Tanks	Construction/Erect Tanks	Other General Equipment	5.00E-03	1.14E-03	2.76E-04	1.53E-05	2.86E-04	2.78E-04
Fuel Tanks	Construction/Erect Tanks	Pickup Truck	7.00E-03	2.74E-03	4.69E-04	6.84E-05	5.30E-04	5.14E-04
Fuel Tanks	Drainage - 24 inch SICPP	Excavator	7.04E-04	2.23E-04	3.33E-05	4.15E-06	5.73E-05	5.56E-05
Fuel Tanks	Drainage	Dozer	8.46E-04	2.88E-04	4.59E-05	4.21E-06	7.27E-05	7.05E-05
Fuel Tanks	Drainage	Dump Truck	1.45E-03	5.67E-04	9.69E-05	1.41E-05	1.09E-04	1.06E-04
Fuel Tanks	Drainage	Loader	9.73E-04	3.30E-04	5.76E-05	4.25E-06	8.02E-05	7.78E-05
Fuel Tanks	Drainage	Other General Equipment	1.03E-03	2.35E-04	5.71E-05	3.16E-06	5.92E-05	5.74E-05
Fuel Tanks	Drainage	Pickup Truck	1.45E-03	5.67E-04	9.69E-05	1.41E-05	1.09E-04	1.06E-04
Fuel Tanks	Drainage	Roller	9.96E-04	4.90E-04	4.25E-05	2.70E-06	7.32E-05	7.10E-05
Fuel Tanks	Dust Control	Water Truck	4.20E-01	1.65E-01	2.81E-02	4.10E-03	3.18E-02	3.08E-02
Fuel Tanks	Excavation (Borrow)	Dozer	1.89E-02	6.45E-03	1.03E-03	9.42E-05	1.63E-03	1.58E-03
Fuel Tanks	Excavation (Borrow)	Dump Truck (12 cy)	3.24E-02	1.27E-02	2.17E-03	3.16E-04	2.45E-03	2.38E-03
Fuel Tanks	Excavation (Borrow)	Pickup Truck	3.24E-02	1.27E-02	2.17E-03	3.16E-04	2.45E-03	2.38E-03
Fuel Tanks	Excavation (Borrow)	Roller	1.03E-02	5.06E-03	4.39E-04	2.79E-05	7.56E-04	7.33E-04
Fuel Tanks	Excavation (Cut to Fill)	Dozer	1.42E-02	4.84E-03	7.71E-04	7.07E-05	1.22E-03	1.18E-03
Fuel Tanks	Excavation (Cut to Fill)	Dump Truck (12 cy)	6.48E-02	2.54E-02	4.34E-03	6.32E-04	4.90E-03	4.75E-03
Fuel Tanks	Excavation (Cut to Fill)	Excavator	9.45E-03	2.99E-03	4.47E-04	5.57E-05	7.69E-04	7.46E-04
Fuel Tanks	Excavation (Cut to Fill)	Pickup Truck	1.94E-02	7.62E-03	1.30E-03	1.90E-04	1.47E-03	1.43E-03
Fuel Tanks	Excavation (Cut to Fill)	Roller	1.34E-02	6.58E-03	5.70E-04	3.63E-05	9.83E-04	9.53E-04
Fuel Tanks	Excavation (Cut to Fill)	Scraper	6.31E-02	2.66E-02	3.72E-03	2.52E-04	4.43E-03	4.29E-03
Fuel Tanks	Excavation (Topsoil Stripping)	Dozer	6.68E-04	2.28E-04	3.63E-05	3.33E-06	5.74E-05	5.57E-05
Fuel Tanks	Fencing	Concrete Truck	4.86E-04	1.91E-04	3.26E-05	4.75E-06	3.68E-05	3.57E-05
Fuel Tanks	Fencing	Dump Truck	1.95E-03	7.62E-04	1.30E-04	1.90E-05	1.47E-04	1.43E-04
Fuel Tanks	Fencing	Other General Equipment	1.39E-03	3.16E-04	7.68E-05	4.25E-06	7.95E-05	7.71E-05
Fuel Tanks	Fencing	Pickup Truck	1.95E-03	7.62E-04	1.30E-04	1.90E-05	1.47E-04	1.43E-04
Fuel Tanks	Fencing	Skid Steer Loader	1.05E-03	9.33E-04	1.90E-04	1.30E-06	1.34E-04	1.30E-04
Fuel Tanks	Fencing	Tractors/Loader/Backhoe	9.48E-04	9.90E-04	1.61E-04	1.66E-06	1.32E-04	1.28E-04
Fuel Tanks	Grading	Dozer	4.69E-04	1.60E-04	2.55E-05	2.34E-06	4.03E-05	3.91E-05
Fuel Tanks	Grading	Grader	5.04E-04	1.86E-04	3.68E-05	3.97E-06	3.89E-05	3.78E-05



Project			Emissions (tons/yr)					
Project	Construction Activity	Equipment Type	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}
Fuel Tanks	Grading	Roller	5.53E-04	2.72E-04	2.36E-05	1.50E-06	4.06E-05	3.94E-05
Fuel Tanks	Hydroseeding	Hydroseeder	7.24E-04	2.84E-04	4.85E-05	7.06E-06	5.47E-05	5.31E-05
Fuel Tanks	Hydroseeding	Off-Road Truck	7.24E-04	2.84E-04	4.85E-05	7.06E-06	5.47E-05	5.31E-05
Fuel Tanks	Markings	Flatbed Truck	1.50E-02	5.88E-03	1.01E-03	1.46E-04	1.13E-03	1.10E-03
Fuel Tanks	Markings	Other General Equipment	1.07E-02	2.44E-03	5.92E-04	3.28E-05	6.14E-04	5.95E-04
Fuel Tanks	Markings	Pickup Truck	1.50E-02	5.88E-03	1.01E-03	1.46E-04	1.13E-03	1.10E-03
Fuel Tanks	Soil Erosion/Sediment Control	Other General Equipment	4.58E-04	1.04E-04	2.53E-05	1.40E-06	2.62E-05	2.55E-05
Fuel Tanks	Soil Erosion/Sediment Control	Pickup Truck	1.28E-03	5.03E-04	8.60E-05	1.25E-05	9.71E-05	9.42E-05
Fuel Tanks	Soil Erosion/Sediment Control	Pumps	1.00E-04	6.25E-05	1.87E-05	1.24E-07	7.03E-06	6.81E-06
Fuel Tanks	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	3.13E-04	3.27E-04	5.31E-05	5.49E-07	4.36E-05	4.23E-05
Fuel Tanks	Street Lighting	Dump Truck	4.28E-04	1.68E-04	2.87E-05	4.18E-06	3.24E-05	3.14E-05
Fuel Tanks	Street Lighting	Loader	2.88E-04	9.76E-05	1.70E-05	1.26E-06	2.37E-05	2.30E-05
Fuel Tanks	Street Lighting	Other General Equipment	3.05E-04	6.95E-05	1.69E-05	9.35E-07	1.75E-05	1.70E-05
Fuel Tanks	Street Lighting	Pickup Truck	4.28E-04	1.68E-04	2.87E-05	4.18E-06	3.24E-05	3.14E-05
Fuel Tanks	Street Lighting	Skid Steer Loader	2.30E-04	2.05E-04	4.18E-05	2.87E-07	2.95E-05	2.86E-05
Fuel Tanks	Street Lighting	Tractors/Loader/Backhoe	2.09E-04	2.18E-04	3.54E-05	3.66E-07	2.90E-05	2.82E-05
Fuel Tanks	Subbase Placement	Dozer	8.96E-04	3.06E-04	4.87E-05	4.46E-06	7.70E-05	7.47E-05
Fuel Tanks	Subbase Placement	Dump Truck (12 cy)	1.08E-02	4.23E-03	7.23E-04	1.05E-04	8.17E-04	7.92E-04
Fuel Tanks	Subbase Placement	Pickup Truck	1.53E-03	6.01E-04	1.03E-04	1.50E-05	1.16E-04	1.13E-04
Fuel Tanks	Subbase Placement	Roller	1.03E-03	5.06E-04	4.39E-05	2.79E-06	7.56E-05	7.33E-05
Fuel Tanks	Topsoil Placement	Dozer	2.09E-03	7.11E-04	1.13E-04	1.04E-05	1.79E-04	1.74E-04
Fuel Tanks	Topsoil Placement	Dump Truck	3.57E-03	1.40E-03	2.39E-04	3.48E-05	2.70E-04	2.62E-04
Fuel Tanks	Topsoil Placement	Pickup Truck	3.57E-03	1.40E-03	2.39E-04	3.48E-05	2.70E-04	2.62E-04
Landscaping	Hydroseeding	Hydroseeder	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Hydroseeding	Off-Road Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Mulching	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Mulching	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Mulching	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Mulching	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Sodding	Flatbed Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Sodding	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Sodding	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Sodding	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Topsoil Placement	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project		Equipment Type	Emissions (tons/yr)					
Project	Construction Activity	Equipment Type	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}
Landscaping	Topsoil Placement	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Topsoil Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Planting	Flatbed Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Planting	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Planting	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Planting	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Pruning	Aerial Lift	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Pruning	Chipper/Stump Grinder	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Pruning	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Pruning	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Pruning	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Pruning	Pruning Saw/Chain Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Busicat		Emissions (tons/yr)						
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
NAVAIDS	Instrument Landing System (ILS) Localizer	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Windcone	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Windcone	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Windcone	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Windcone	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



		ty Equipment Type			Emission	s (tons/yr)		
Project	Construction Activity	Equipment Type	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}
Parking Lot	Clearing and Grubbing	Chain Saw	2.33E-04	4.06E-02	1.12E-02	6.32E-07	1.49E-03	1.37E-03
Parking Lot	Clearing and Grubbing	Chipper/Stump Grinder	3.02E-03	1.43E-03	2.97E-04	4.06E-06	2.76E-04	2.68E-04
Parking Lot	Clearing and Grubbing	Pickup Truck	3.50E-03	1.37E-03	2.35E-04	3.42E-05	2.65E-04	2.57E-04
Parking Lot	Concrete Placement	Air Compressor	2.15E-03	9.34E-04	1.14E-04	4.58E-06	1.57E-04	1.53E-04
Parking Lot	Concrete Placement	Concrete Saws	1.55E-03	2.62E-04	6.88E-05	2.35E-06	3.40E-05	3.30E-05
Parking Lot	Concrete Placement	Concrete Truck	1.35E-02	5.29E-03	9.04E-04	1.32E-04	1.02E-03	9.90E-04
Parking Lot	Concrete Placement	Other General Equipment	4.62E-03	1.05E-03	2.56E-04	1.41E-05	2.65E-04	2.57E-04
Parking Lot	Concrete Placement	Pickup Truck	9.72E-03	3.81E-03	6.51E-04	9.48E-05	7.35E-04	7.13E-04
Parking Lot	Concrete Placement	Rubber Tired Loader	2.18E-03	7.38E-04	1.29E-04	9.51E-06	1.79E-04	1.74E-04
Parking Lot	Concrete Placement	Slip Form Paver	1.95E-03	7.30E-04	1.24E-04	9.51E-06	1.80E-04	1.75E-04
Parking Lot	Concrete Placement	Surfacing Equipment (Grooving)	1.36E-03	5.54E-04	1.30E-04	1.97E-06	6.32E-05	6.13E-05
Parking Lot	Curbing	Concrete Truck	8.75E-04	3.43E-04	5.86E-05	8.54E-06	6.62E-05	6.42E-05
Parking Lot	Curbing	Curb/Gutter Paver	5.28E-04	1.97E-04	3.34E-05	2.57E-06	4.86E-05	4.72E-05
Parking Lot	Curbing	Other General Equipment	6.25E-04	1.42E-04	3.46E-05	1.91E-06	3.58E-05	3.47E-05
Parking Lot	Curbing	Pickup Truck	8.75E-04	3.43E-04	5.86E-05	8.54E-06	6.62E-05	6.42E-05
Parking Lot	Drainage - 24 inch SICPP	Dozer	8.46E-04	2.88E-04	4.59E-05	4.21E-06	7.27E-05	7.05E-05
Parking Lot	Drainage - 24 inch SICPP	Dump Truck	1.45E-03	5.67E-04	9.69E-05	1.41E-05	1.09E-04	1.06E-04
Parking Lot	Drainage - 24 inch SICPP	Excavator	7.04E-04	2.23E-04	3.33E-05	4.15E-06	5.73E-05	5.56E-05
Parking Lot	Drainage - 24 inch SICPP	Loader	9.73E-04	3.30E-04	5.76E-05	4.25E-06	8.02E-05	7.78E-05
Parking Lot	Drainage - 24 inch SICPP	Other General Equipment	1.03E-03	2.35E-04	5.71E-05	3.16E-06	5.92E-05	5.74E-05
Parking Lot	Drainage - 24 inch SICPP	Pickup Truck	1.45E-03	5.67E-04	9.69E-05	1.41E-05	1.09E-04	1.06E-04
Parking Lot	Drainage - 24 inch SICPP	Roller	9.96E-04	4.90E-04	4.25E-05	2.70E-06	7.32E-05	7.10E-05
Parking Lot	Drainage - 6 inch Perforated Underdrain	Dump Truck	2.41E-03	9.45E-04	1.62E-04	2.35E-05	1.82E-04	1.77E-04
Parking Lot	Drainage - 6 inch Perforated Underdrain	Loader	1.62E-03	5.50E-04	9.60E-05	7.08E-06	1.34E-04	1.30E-04
Parking Lot	Drainage - 6 inch Perforated Underdrain	Other General Equipment	1.72E-03	3.91E-04	9.52E-05	5.27E-06	9.86E-05	9.57E-05
Parking Lot	Drainage - 6 inch Perforated Underdrain	Pickup Truck	2.41E-03	9.45E-04	1.62E-04	2.35E-05	1.82E-04	1.77E-04
Parking Lot	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	1.18E-03	1.23E-03	2.00E-04	2.06E-06	1.64E-04	1.59E-04
Parking Lot	Excavation (Borrow)	Dozer	3.15E-03	1.08E-03	1.71E-04	1.57E-05	2.71E-04	2.63E-04
Parking Lot	Excavation (Borrow)	Dump Truck (12 cy)	5.40E-03	2.12E-03	3.62E-04	5.27E-05	4.08E-04	3.96E-04
Parking Lot	Excavation (Borrow)	Pickup Truck	5.40E-03	2.12E-03	3.62E-04	5.27E-05	4.08E-04	3.96E-04
Parking Lot	Excavation (Borrow)	Roller	1.71E-03	8.44E-04	7.31E-05	4.65E-06	1.26E-04	1.22E-04
Parking Lot	Excavation (Cut to Fill)	Dozer	2.37E-03	8.06E-04	1.28E-04	1.18E-05	2.03E-04	1.97E-04



		Equipment Toma	Emissions (tons/yr)					
Project	Construction Activity	Equipment Type	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}
Parking Lot	Excavation (Cut to Fill)	Dump Truck (12 cy)	1.08E-02	4.23E-03	7.23E-04	1.05E-04	8.17E-04	7.92E-04
Parking Lot	Excavation (Cut to Fill)	Excavator	1.57E-03	4.98E-04	7.44E-05	9.28E-06	1.28E-04	1.24E-04
Parking Lot	Excavation (Cut to Fill)	Pickup Truck	3.24E-03	1.27E-03	2.17E-04	3.16E-05	2.45E-04	2.38E-04
Parking Lot	Excavation (Cut to Fill)	Roller	2.23E-03	1.10E-03	9.51E-05	6.05E-06	1.64E-04	1.59E-04
Parking Lot	Excavation (Cut to Fill)	Scraper	1.05E-02	4.44E-03	6.20E-04	4.20E-05	7.38E-04	7.16E-04
Parking Lot	Excavation (Topsoil Stripping)	Dozer	8.90E-04	3.04E-04	4.84E-05	4.43E-06	7.65E-05	7.42E-05
Parking Lot	Fencing	Concrete Truck	4.86E-04	1.91E-04	3.26E-05	4.75E-06	3.68E-05	3.57E-05
Parking Lot	Fencing	Dump Truck	1.95E-03	7.62E-04	1.30E-04	1.90E-05	1.47E-04	1.43E-04
Parking Lot	Fencing	Other General Equipment	1.39E-03	3.16E-04	7.68E-05	4.25E-06	7.95E-05	7.71E-05
Parking Lot	Fencing	Pickup Truck	1.95E-03	7.62E-04	1.30E-04	1.90E-05	1.47E-04	1.43E-04
Parking Lot	Fencing	Skid Steer Loader	1.05E-03	9.33E-04	1.90E-04	1.30E-06	1.34E-04	1.30E-04
Parking Lot	Fencing	Tractors/Loader/Backhoe	9.48E-04	9.90E-04	1.61E-04	1.66E-06	1.32E-04	1.28E-04
Parking Lot	Grading	Dozer	6.16E-04	2.10E-04	3.34E-05	3.07E-06	5.29E-05	5.13E-05
Parking Lot	Grading	Grader	6.62E-04	2.44E-04	4.83E-05	5.21E-06	5.11E-05	4.96E-05
Parking Lot	Grading	Roller	7.25E-04	3.57E-04	3.09E-05	1.97E-06	5.33E-05	5.17E-05
Parking Lot	Hydroseeding	Hydroseeder	9.50E-04	3.72E-04	6.36E-05	9.27E-06	7.18E-05	6.97E-05
Parking Lot	Hydroseeding	Off-Road Truck	9.50E-04	3.72E-04	6.36E-05	9.27E-06	7.18E-05	6.97E-05
Parking Lot	Markings	Flatbed Truck	3.33E-04	1.31E-04	2.23E-05	3.26E-06	2.52E-05	2.45E-05
Parking Lot	Markings	Other General Equipment	2.38E-04	5.41E-05	1.32E-05	7.28E-07	1.36E-05	1.32E-05
Parking Lot	Markings	Pickup Truck	3.33E-04	1.31E-04	2.23E-05	3.26E-06	2.52E-05	2.45E-05
Parking Lot	Sidewalks	Concrete Truck	1.75E-03	6.86E-04	1.17E-04	1.71E-05	1.32E-04	1.28E-04
Parking Lot	Sidewalks	Dump Truck	1.75E-03	6.86E-04	1.17E-04	1.71E-05	1.32E-04	1.28E-04
Parking Lot	Sidewalks	Pickup Truck	1.75E-03	6.86E-04	1.17E-04	1.71E-05	1.32E-04	1.28E-04
Parking Lot	Sidewalks	Tractors/Loader/Backhoe	8.54E-04	8.91E-04	1.45E-04	1.50E-06	1.19E-04	1.15E-04
Parking Lot	Sidewalks	Vibratory Compactor	1.45E-04	8.96E-05	2.76E-05	1.84E-07	9.48E-06	9.20E-06
Parking Lot	Soil Erosion/Sediment Control	Other General Equipment	6.25E-04	1.42E-04	3.46E-05	1.91E-06	3.58E-05	3.47E-05
Parking Lot	Soil Erosion/Sediment Control	Pickup Truck	1.75E-03	6.86E-04	1.17E-04	1.71E-05	1.32E-04	1.28E-04
Parking Lot	Soil Erosion/Sediment Control	Pumps	1.37E-04	8.52E-05	2.56E-05	1.69E-07	9.58E-06	9.29E-06
Parking Lot	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	4.27E-04	4.46E-04	7.24E-05	7.48E-07	5.94E-05	5.76E-05
Parking Lot	Street Lighting	Dump Truck	5.84E-04	2.29E-04	3.91E-05	5.70E-06	4.41E-05	4.28E-05
Parking Lot	Street Lighting	Loader	3.92E-04	1.33E-04	2.32E-05	1.71E-06	3.23E-05	3.14E-05
Parking Lot	Street Lighting	Other General Equipment	4.16E-04	9.47E-05	2.30E-05	1.27E-06	2.39E-05	2.31E-05
Parking Lot	Street Lighting	Pickup Truck	5.84E-04	2.29E-04	3.91E-05	5.70E-06	4.41E-05	4.28E-05



Project			Emissions (tons/yr)						
Project	Construction Activity	Equipment Type	NOx	со	voc	SO ₂	PM ₁₀	PM _{2.5}	
Parking Lot	Street Lighting	Skid Steer Loader	3.14E-04	2.80E-04	5.71E-05	3.91E-07	4.02E-05	3.90E-05	
Parking Lot	Street Lighting	Tractors/Loader/Backhoe	2.85E-04	2.97E-04	4.83E-05	4.99E-07	3.96E-05	3.84E-05	
Parking Lot	Subbase Placement	Dozer	1.20E-03	4.07E-04	6.49E-05	5.95E-06	1.03E-04	9.96E-05	
Parking Lot	Subbase Placement	Dump Truck (12 cy)	1.44E-02	5.64E-03	9.64E-04	1.41E-04	1.09E-03	1.06E-03	
Parking Lot	Subbase Placement	Pickup Truck	2.05E-03	8.02E-04	1.37E-04	2.00E-05	1.55E-04	1.50E-04	
Parking Lot	Subbase Placement	Roller	1.37E-03	6.75E-04	5.85E-05	3.72E-06	1.01E-04	9.78E-05	
Parking Lot	Topsoil Placement	Dozer	1.37E-03	4.67E-04	7.43E-05	6.82E-06	1.18E-04	1.14E-04	
Parking Lot	Topsoil Placement	Dump Truck	2.34E-03	9.18E-04	1.57E-04	2.29E-05	1.77E-04	1.72E-04	
Parking Lot	Topsoil Placement	Pickup Truck	2.34E-03	9.18E-04	1.57E-04	2.29E-05	1.77E-04	1.72E-04	
Parking Lot	Tree Planting	Flatbed Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Tree Planting	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Tree Planting	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Tree Planting	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Construction Mob & Layout	Survey Crew Trucks	4.46E-03	1.75E-03	2.99E-04	4.35E-05	3.37E-04	3.27E-04	
Site Work - 10000 sqft	Construction Mob & Layout	Tractor Trailers Temp Fac.	1.78E-03	6.99E-04	1.19E-04	1.74E-05	1.35E-04	1.31E-04	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Bulldozer	1.04E-02	3.55E-03	5.66E-04	5.19E-05	8.95E-04	8.68E-04	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Chain Saws	1.59E-03	2.76E-01	7.58E-02	4.29E-06	1.01E-02	9.30E-03	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Flat Bed or Dump Trucks	3.57E-02	1.40E-02	2.39E-03	3.48E-04	2.70E-03	2.62E-03	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Front Loader	8.69E-03	9.08E-03	1.48E-03	1.52E-05	1.21E-03	1.17E-03	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Grub the site down 2'-0	8.55E-03	1.44E-03	3.78E-04	1.29E-05	1.87E-04	1.82E-04	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Log Chipper	2.05E-02	9.72E-03	2.01E-03	2.76E-05	1.87E-03	1.82E-03	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Mulcher	2.05E-02	9.72E-03	2.01E-03	2.76E-05	1.87E-03	1.82E-03	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Ten Wheelers	1.78E-02	6.99E-03	1.19E-03	1.74E-04	1.35E-03	1.31E-03	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Tractor	1.74E-02	1.82E-02	2.95E-03	3.05E-05	2.42E-03	2.35E-03	
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Bob Cat	5.75E-03	5.13E-03	1.05E-03	7.16E-06	7.38E-04	7.16E-04	



Product		E su instant E su	Emissions (tons/yr)						
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Concrete Ready Mix Trucks	1.07E-02	4.19E-03	7.16E-04	1.04E-04	8.09E-04	7.85E-04	
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Tractor Trailer with Boom Hoist- Delivery	1.07E-02	4.19E-03	7.16E-04	1.04E-04	8.09E-04	7.85E-04	
Site Work - 10000 sqft	Site Restoration- Landscaping (Rough Grading)	Compacting Equipment	8.83E-04	5.48E-04	1.68E-04	1.13E-06	5.79E-05	5.62E-05	
Site Work - 10000 sqft	Site Restoration- Landscaping (Rough Grading)	Small Dozer	6.25E-03	2.13E-03	3.39E-04	3.11E-05	5.37E-04	5.21E-04	
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Forktruck (Hoist)	1.51E-02	2.56E-03	2.19E-04	6.30E-05	4.76E-04	4.61E-04	
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Roller	1.23E-02	6.04E-03	5.23E-04	3.33E-05	9.02E-04	8.75E-04	
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Seed Truck Spreader	7.13E-03	2.79E-03	4.78E-04	6.96E-05	5.39E-04	5.23E-04	
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Tractor Trailer- Material Delivery	3.57E-02	1.40E-02	2.39E-03	3.48E-04	2.70E-03	2.62E-03	
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Backhoe	2.61E-02	2.72E-02	4.43E-03	4.57E-05	3.63E-03	3.52E-03	
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Fork Truck	1.14E-02	1.92E-03	1.64E-04	4.73E-05	3.57E-04	3.46E-04	
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Tractor Trailer- Material Delivery	1.34E-02	5.24E-03	8.96E-04	1.31E-04	1.01E-03	9.81E-04	
Terminal Apron	Clearing and Grubbing	Chain Saw	9.03E-04	1.57E-01	4.32E-02	2.44E-06	5.76E-03	5.30E-03	
Terminal Apron	Clearing and Grubbing	Chipper/Stump Grinder	1.17E-02	5.54E-03	1.15E-03	1.57E-05	1.07E-03	1.03E-03	
Terminal Apron	Clearing and Grubbing	Pickup Truck	1.35E-02	5.31E-03	9.07E-04	1.32E-04	1.02E-03	9.93E-04	
Terminal Apron	Concrete Placement	Air Compressor	8.60E-03	3.74E-03	4.56E-04	1.83E-05	6.29E-04	6.10E-04	
Terminal Apron	Concrete Placement	Concrete Saws	6.21E-03	1.05E-03	2.75E-04	9.41E-06	1.36E-04	1.32E-04	
Terminal Apron	Concrete Placement	Concrete Truck	5.40E-02	2.12E-02	3.62E-03	5.27E-04	4.08E-03	3.96E-03	
Terminal Apron	Concrete Placement	Other General Equipment	1.85E-02	4.21E-03	1.02E-03	5.66E-05	1.06E-03	1.03E-03	
Terminal Apron	Concrete Placement	Pickup Truck	3.89E-02	1.52E-02	2.60E-03	3.79E-04	2.94E-03	2.85E-03	
Terminal Apron	Concrete Placement	Rubber Tired Loader	8.71E-03	2.95E-03	5.16E-04	3.80E-05	7.18E-04	6.96E-04	
Terminal Apron	Concrete Placement	Slip Form Paver	7.81E-03	2.92E-03	4.94E-04	3.80E-05	7.20E-04	6.98E-04	



- · · ·		Equipment Type			Emissions	s (tons/yr)		
Project	Construction Activity	Equipment Type	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}
Terminal Apron	Concrete Placement	Surfacing Equipment (Grooving)	5.45E-03	2.21E-03	5.19E-04	7.90E-06	2.53E-04	2.45E-04
Terminal Apron	Drainage - 24 inch SICPP	Dozer	1.66E-03	5.67E-04	9.03E-05	8.29E-06	1.43E-04	1.39E-04
Terminal Apron	Drainage - 24 inch SICPP	Dump Truck	2.85E-03	1.12E-03	1.91E-04	2.78E-05	2.15E-04	2.09E-04
Terminal Apron	Drainage - 24 inch SICPP	Excavator	1.38E-03	4.38E-04	6.55E-05	8.16E-06	1.13E-04	1.09E-04
Terminal Apron	Drainage - 24 inch SICPP	Loader	1.91E-03	6.49E-04	1.13E-04	8.36E-06	1.58E-04	1.53E-04
Terminal Apron	Drainage - 24 inch SICPP	Other General Equipment	2.03E-03	4.62E-04	1.12E-04	6.22E-06	1.16E-04	1.13E-04
Terminal Apron	Drainage - 24 inch SICPP	Pickup Truck	2.85E-03	1.12E-03	1.91E-04	2.78E-05	2.15E-04	2.09E-04
Terminal Apron	Drainage - 24 inch SICPP	Roller	1.96E-03	9.65E-04	8.36E-05	5.32E-06	1.44E-04	1.40E-04
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Dump Truck	1.58E-03	6.20E-04	1.06E-04	1.54E-05	1.20E-04	1.16E-04
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Loader	1.06E-03	3.61E-04	6.30E-05	4.65E-06	8.77E-05	8.50E-05
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Other General Equipment	1.13E-03	2.57E-04	6.25E-05	3.45E-06	6.47E-05	6.27E-05
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Pickup Truck	1.58E-03	6.20E-04	1.06E-04	1.54E-05	1.20E-04	1.16E-04
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	7.71E-04	8.05E-04	1.31E-04	1.35E-06	1.07E-04	1.04E-04
Terminal Apron	Dust Control	Water Truck	4.20E-01	1.65E-01	2.81E-02	4.10E-03	3.18E-02	3.08E-02
Terminal Apron	Excavation (Borrow)	Dozer	1.26E-02	4.30E-03	6.85E-04	6.28E-05	1.08E-03	1.05E-03
Terminal Apron	Excavation (Borrow)	Dump Truck (12 cy)	2.16E-02	8.46E-03	1.45E-03	2.11E-04	1.63E-03	1.58E-03
Terminal Apron	Excavation (Borrow)	Pickup Truck	2.16E-02	8.46E-03	1.45E-03	2.11E-04	1.63E-03	1.58E-03
Terminal Apron	Excavation (Borrow)	Roller	6.86E-03	3.38E-03	2.93E-04	1.86E-05	5.04E-04	4.89E-04
Terminal Apron	Excavation (Cut to Fill)	Dozer	9.46E-03	3.23E-03	5.14E-04	4.71E-05	8.13E-04	7.89E-04
Terminal Apron	Excavation (Cut to Fill)	Dump Truck (12 cy)	4.32E-02	1.69E-02	2.89E-03	4.22E-04	3.27E-03	3.17E-03
Terminal Apron	Excavation (Cut to Fill)	Excavator	6.30E-03	1.99E-03	2.98E-04	3.71E-05	5.13E-04	4.97E-04
Terminal Apron	Excavation (Cut to Fill)	Pickup Truck	1.30E-02	5.08E-03	8.68E-04	1.26E-04	9.80E-04	9.50E-04
Terminal Apron	Excavation (Cut to Fill)	Roller	8.91E-03	4.39E-03	3.80E-04	2.42E-05	6.55E-04	6.36E-04
Terminal Apron	Excavation (Cut to Fill)	Scraper	4.20E-02	1.77E-02	2.48E-03	1.68E-04	2.95E-03	2.86E-03
Terminal Apron	Excavation (Topsoil Stripping)	Dozer	3.56E-03	1.21E-03	1.93E-04	1.77E-05	3.06E-04	2.97E-04
Terminal Apron	Fencing	Concrete Truck	9.73E-04	3.81E-04	6.51E-05	9.49E-06	7.36E-05	7.14E-05
Terminal Apron	Fencing	Dump Truck	3.89E-03	1.52E-03	2.61E-04	3.80E-05	2.94E-04	2.85E-04
Terminal Apron	Fencing	Other General Equipment	2.78E-03	6.31E-04	1.54E-04	8.50E-06	1.59E-04	1.54E-04
Terminal Apron	Fencing	Pickup Truck	3.89E-03	1.52E-03	2.61E-04	3.80E-05	2.94E-04	2.85E-04
Terminal Apron	Fencing	Skid Steer Loader	2.09E-03	1.87E-03	3.80E-04	2.60E-06	2.68E-04	2.60E-04
Terminal Apron	Fencing	Tractors/Loader/Backhoe	1.90E-03	1.98E-03	3.22E-04	3.33E-06	2.64E-04	2.56E-04



Duralizat	Construction Activity	Equipment Type		Emissions (tons/yr)						
Project	Construction Activity	Equipment Type	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}		
Terminal Apron	Grading	Dozer	2.37E-03	8.07E-04	1.28E-04	1.18E-05	2.03E-04	1.97E-04		
Terminal Apron	Grading	Grader	2.54E-03	9.38E-04	1.85E-04	2.00E-05	1.96E-04	1.90E-04		
Terminal Apron	Grading	Roller	2.79E-03	1.37E-03	1.19E-04	7.56E-06	2.05E-04	1.99E-04		
Terminal Apron	Hydroseeding	Hydroseeder	3.65E-03	1.43E-03	2.44E-04	3.56E-05	2.76E-04	2.68E-04		
Terminal Apron	Hydroseeding	Off-Road Truck	3.65E-03	1.43E-03	2.44E-04	3.56E-05	2.76E-04	2.68E-04		
Terminal Apron	Lighting	Dump Truck	1.95E-03	7.62E-04	1.30E-04	1.90E-05	1.47E-04	1.43E-04		
Terminal Apron	Lighting	Loader	1.31E-03	4.43E-04	7.74E-05	5.71E-06	1.08E-04	1.05E-04		
Terminal Apron	Lighting	Other General Equipment	1.39E-03	3.16E-04	7.68E-05	4.25E-06	7.95E-05	7.71E-05		
Terminal Apron	Lighting	Pickup Truck	1.95E-03	7.62E-04	1.30E-04	1.90E-05	1.47E-04	1.43E-04		
Terminal Apron	Lighting	Skid Steer Loader	1.05E-03	9.33E-04	1.90E-04	1.30E-06	1.34E-04	1.30E-04		
Terminal Apron	Lighting	Tractors/Loader/Backhoe	9.48E-04	9.90E-04	1.61E-04	1.66E-06	1.32E-04	1.28E-04		
Terminal Apron	Markings	Flatbed Truck	8.00E-02	3.14E-02	5.36E-03	7.81E-04	6.05E-03	5.87E-03		
Terminal Apron	Markings	Other General Equipment	5.71E-02	1.30E-02	3.16E-03	1.75E-04	3.27E-03	3.17E-03		
Terminal Apron	Markings	Pickup Truck	8.00E-02	3.14E-02	5.36E-03	7.81E-04	6.05E-03	5.87E-03		
Terminal Apron	Sealing/Fuel Resistant	Distributing Tanker	1.04E-02	4.06E-03	6.94E-04	1.01E-04	7.84E-04	7.60E-04		
Terminal Apron	Sealing/Fuel Resistant	Other General Equipment	7.40E-03	1.68E-03	4.09E-04	2.26E-05	4.24E-04	4.11E-04		
Terminal Apron	Sealing/Fuel Resistant	Pickup Truck	1.04E-02	4.06E-03	6.94E-04	1.01E-04	7.84E-04	7.60E-04		
Terminal Apron	Soil Erosion/Sediment Control	Other General Equipment	2.42E-03	5.49E-04	1.34E-04	7.39E-06	1.38E-04	1.34E-04		
Terminal Apron	Soil Erosion/Sediment Control	Pickup Truck	6.77E-03	2.65E-03	4.53E-04	6.61E-05	5.12E-04	4.97E-04		
Terminal Apron	Soil Erosion/Sediment Control	Pumps	5.28E-04	3.30E-04	9.88E-05	6.54E-07	3.70E-05	3.59E-05		
Terminal Apron	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	1.65E-03	1.72E-03	2.80E-04	2.89E-06	2.30E-04	2.23E-04		
Terminal Apron	Subbase Placement	Dozer	4.78E-03	1.63E-03	2.60E-04	2.38E-05	4.11E-04	3.98E-04		
Terminal Apron	Subbase Placement	Dump Truck (12 cy)	5.76E-02	2.26E-02	3.86E-03	5.62E-04	4.35E-03	4.22E-03		
Terminal Apron	Subbase Placement	Pickup Truck	8.18E-03	3.21E-03	5.48E-04	7.99E-05	6.19E-04	6.00E-04		
Terminal Apron	Subbase Placement	Roller	5.49E-03	2.70E-03	2.34E-04	1.49E-05	4.03E-04	3.91E-04		
Terminal Apron	Topsoil Placement	Dozer	5.26E-03	1.79E-03	2.86E-04	2.62E-05	4.52E-04	4.38E-04		
Terminal Apron	Topsoil Placement	Dump Truck	9.00E-03	3.53E-03	6.03E-04	8.79E-05	6.81E-04	6.60E-04		
Terminal Apron	Topsoil Placement	Pickup Truck	9.00E-03	3.53E-03	6.03E-04	8.79E-05	6.81E-04	6.60E-04		
Module Transport	Module Transport	Mammoet PPU Z350 DA	1.81E-03	9.71E-04	1.35E-04	3.40E-06	1.59E-04	1.54E-04		



Project	Construction Activity	Equipment Type		Emission	s (tons/yr)	
Froject	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e
Building - 100000 sqft- 10 stories	Concrete Foundations	Backhoe	2.38E-04	2.95E-04	6.17E+00	6.27E+00
Building - 100000 sqft- 10 stories	Concrete Foundations	Concrete Pump	5.01E-05	2.11E-05	4.41E-01	4.51E-01
Building - 100000 sqft- 10 stories	Concrete Foundations	Concrete Ready Mix Trucks	2.33E-04	2.87E-03	6.03E+01	6.11E+01
Building - 100000 sqft- 10 stories	Concrete Foundations	Excavator	3.81E-05	3.73E-04	7.82E+00	7.92E+00
Building - 100000 sqft- 10 stories	Concrete Foundations	Fork Truck	2.90E-05	7.09E-04	1.49E+01	1.51E+01
Building - 100000 sqft- 10 stories	Concrete Foundations	Tool Truck	7.76E-05	9.58E-04	2.01E+01	2.04E+01
Building - 100000 sqft- 10 stories	Concrete Foundations	Tractor Trailer- Material Delivery	1.55E-04	1.92E-03	4.02E+01	4.07E+01
Building - 100000 sqft- 10 stories	Construction Mob & Layout	Survey Crew Trucks	6.47E-06	7.99E-05	1.68E+00	1.70E+00
Building - 100000 sqft- 10 stories	Construction Mob & Layout	Tractor Trailers Temp Fac.	2.59E-06	3.19E-05	6.70E-01	6.79E-01
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Fork Truck	5.07E-05	1.24E-03	2.61E+01	2.64E+01
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Generator	2.61E-05	3.41E-05	7.15E-01	7.26E-01
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Grout Mixer	8.96E-04	3.35E-03	7.03E+01	7.13E+01
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Grout Wheel Truck	1.03E-04	1.28E-03	2.68E+01	2.72E+01
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Man Lift	6.57E-04	7.74E-04	1.62E+01	1.65E+01
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Tool Truck	2.72E-04	3.35E-03	7.04E+01	7.13E+01
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Tractor Trailer- Material Delivery	5.43E-04	6.71E-03	1.41E+02	1.43E+02
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Truck Tower (Mantiwoc type)	3.80E-05	2.30E-04	4.83E+00	4.90E+00
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Fork Truck	9.66E-05	2.36E-03	4.96E+01	5.03E+01
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Man Lift	1.25E-03	1.47E-03	3.08E+01	3.13E+01

Table C7. 2021 Proposed Project, construction-phase non-road equipment greenhouse gas emissions.



Duciant	Construction Activity			Emissions	s (tons/yr)	
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO2	CO ₂ e
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Tool Truck	1.03E-03	1.28E-02	2.68E+02	2.72E+02
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Tractor Trailer- Material Delivery	1.03E-03	1.28E-02	2.68E+02	2.72E+02
Building - 100000 sqft- 10 stories	Roofing	High Lift	9.66E-06	2.36E-04	4.96E+00	5.03E+00
Building - 100000 sqft- 10 stories	Roofing	Man Lift	1.57E-05	1.84E-05	3.86E-01	3.92E-01
Building - 100000 sqft- 10 stories	Roofing	Material Deliveries	3.88E-05	4.79E-04	1.01E+01	1.02E+01
Building - 100000 sqft- 10 stories	Roofing	Tractor Trailer- Material Delivery	2.59E-05	3.19E-04	6.70E+00	6.79E+00
Building - 100000 sqft- 10 stories	Roofing	Truck Tower (Mantiwoc type)	5.70E-05	3.45E-04	7.25E+00	7.34E+00
Building - 100000 sqft- 10 stories	Security & Safety Systems	High Lift	4.83E-05	1.18E-03	2.48E+01	2.51E+01
Building - 100000 sqft- 10 stories	Security & Safety Systems	Tool Truck	5.17E-04	6.39E-03	1.34E+02	1.36E+02
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	90 Ton Crane	1.14E-04	6.91E-04	1.45E+01	1.47E+01
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Concrete Pump	1.67E-05	7.04E-06	1.47E-01	1.50E-01
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Concrete Truck	3.88E-05	4.79E-04	1.01E+01	1.02E+01
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Fork Truck	3.86E-05	9.46E-04	1.98E+01	2.01E+01
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Tool Truck	1.03E-04	1.28E-03	2.68E+01	2.72E+01
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Tractor Trailer- Steel Deliveries	2.33E-04	2.87E-03	6.03E+01	6.11E+01
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Trowel Machine	8.54E-05	3.19E-04	6.70E+00	6.79E+00
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Truck Tower (Mantiwoc type)	3.42E-04	2.07E-03	4.35E+01	4.41E+01
Demolition - Building	Building Demolition	Bob Cat	9.50E-04	1.04E-03	2.17E+01	2.20E+01
Demolition - Building	Building Demolition	Dump Truck	1.46E-03	1.80E-02	3.77E+02	3.82E+02
Demolition - Building	Building Demolition	Excavator with Bucket	2.68E-04	2.62E-03	5.50E+01	5.57E+01
Demolition - Building	Building Demolition	Generator Sets	3.67E-04	4.80E-04	1.01E+01	1.02E+01
Demolition - Building	Building Demolition	Pickup Truck	8.49E-04	1.05E-02	2.20E+02	2.23E+02

Drainet	Project Construction Activity Equipment Type	Emissions (tons/yr)				
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO₂e
Demolition - Concrete	Concrete Demolition	Excavator with Bucket	2.98E-05	2.91E-04	6.11E+00	6.19E+00
Demolition - Concrete	Concrete Demolition	Excavator with Hoe Ram	2.98E-05	2.91E-04	6.11E+00	6.19E+00
Demolition - Concrete	Concrete Demolition	Pickup Truck	1.62E-04	2.00E-03	4.19E+01	4.24E+01
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Dozer	1.19E-05	8.56E-05	1.80E+00	1.82E+00
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Dump Truck	2.38E-05	2.94E-04	6.16E+00	6.24E+00
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Excavator	8.75E-06	8.56E-05	1.80E+00	1.82E+00
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Loader	1.45E-05	8.56E-05	1.80E+00	1.82E+00
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Other General Equipment	1.39E-05	6.17E-05	1.30E+00	1.31E+00
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Pickup Truck	2.38E-05	2.94E-04	6.16E+00	6.24E+00
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Roller	1.05E-05	5.43E-05	1.14E+00	1.16E+00
Drainage System	Drainage - 24 inch SICPP	Dozer	6.46E-06	4.66E-05	9.77E-01	9.90E-01
Drainage System	Drainage - 24 inch SICPP	Dump Truck	1.29E-05	1.60E-04	3.35E+00	3.39E+00
Drainage System	Drainage - 24 inch SICPP	Excavator	4.76E-06	4.66E-05	9.77E-01	9.90E-01
Drainage System	Drainage - 24 inch SICPP	Loader	7.88E-06	4.66E-05	9.77E-01	9.90E-01
Drainage System	Drainage - 24 inch SICPP	Other General Equipment	7.55E-06	3.36E-05	7.05E-01	7.14E-01
Drainage System	Drainage - 24 inch SICPP	Pickup Truck	1.29E-05	1.60E-04	3.35E+00	3.39E+00
Drainage System	Drainage - 24 inch SICPP	Roller	5.70E-06	2.96E-05	6.20E-01	6.28E-01
Drainage System	Drainage Structures	Dump Truck	3.23E-06	3.99E-05	8.38E-01	8.49E-01
Drainage System	Drainage Structures	Excavator	1.19E-06	1.16E-05	2.44E-01	2.48E-01
Drainage System	Drainage Structures	Other General Equipment	3.78E-06	1.68E-05	3.52E-01	3.57E-01
Drainage System	Drainage Structures	Pickup Truck	6.47E-06	7.99E-05	1.68E+00	1.70E+00
Drainage System	Hydroseeding	Hydroseeder	1.15E-06	1.43E-05	2.99E-01	3.03E-01
Drainage System	Hydroseeding	Off-Road Truck	1.15E-06	1.43E-05	2.99E-01	3.03E-01
Drainage System	Soil Erosion/Sediment Control	Other General Equipment	5.66E-07	2.52E-06	5.28E-02	5.36E-02
Drainage System	Soil Erosion/Sediment Control	Pickup Truck	1.94E-06	2.40E-05	5.03E-01	5.09E-01
Drainage System	Soil Erosion/Sediment Control	Pumps	4.17E-07	1.76E-07	3.68E-03	3.76E-03
Drainage System	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	7.44E-07	9.21E-07	1.93E-02	1.96E-02

Businet	O		Emissions (tons/yr)				
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e	
Drainage System	Topsoil Placement	Dozer	1.42E-06	1.03E-05	2.15E-01	2.18E-01	
Drainage System	Topsoil Placement	Dump Truck	2.85E-06	3.52E-05	7.38E-01	7.47E-01	
Drainage System	Topsoil Placement	Pickup Truck	2.85E-06	3.52E-05	7.38E-01	7.47E-01	
Fencing	Clearing and Grubbing	Chain Saw	6.05E-05	2.13E-06	3.49E-02	4.06E-02	
Fencing	Clearing and Grubbing	Chipper/Stump Grinder	3.05E-06	8.00E-06	1.68E-01	1.70E-01	
Fencing	Clearing and Grubbing	Pickup Truck	6.47E-06	7.99E-05	1.68E+00	1.70E+00	
Fencing	Excavation (Cut to Fill)	Dozer	2.99E-06	2.15E-05	4.52E-01	4.58E-01	
Fencing	Excavation (Cut to Fill)	Dump Truck (12 cy)	1.99E-05	2.46E-04	5.17E+00	5.23E+00	
Fencing	Excavation (Cut to Fill)	Excavator	2.20E-06	2.15E-05	4.52E-01	4.58E-01	
Fencing	Excavation (Cut to Fill)	Pickup Truck	5.98E-06	7.39E-05	1.55E+00	1.57E+00	
Fencing	Excavation (Cut to Fill)	Roller	2.64E-06	1.37E-05	2.87E-01	2.91E-01	
Fencing	Fencing	Concrete Truck	3.59E-05	4.44E-04	9.31E+00	9.43E+00	
Fencing	Fencing	Dump Truck	1.44E-04	1.77E-03	3.72E+01	3.77E+01	
Fencing	Fencing	Other General Equipment	8.39E-05	3.73E-04	7.83E+00	7.93E+00	
Fencing	Fencing	Pickup Truck	1.44E-04	1.77E-03	3.72E+01	3.77E+01	
Fencing	Fencing	Skid Steer Loader	9.38E-05	1.02E-04	2.14E+00	2.18E+00	
Fencing	Fencing	Tractors/Loader/Backhoe	1.10E-04	1.36E-04	2.86E+00	2.90E+00	
Fencing	Grading	Dozer	8.99E-07	6.48E-06	1.36E-01	1.38E-01	
Fencing	Grading	Grader	1.24E-06	1.11E-05	2.33E-01	2.36E-01	
Fencing	Grading	Roller	7.93E-07	4.11E-06	8.63E-02	8.74E-02	
Fencing	Hydroseeding	Hydroseeder	1.62E-06	2.00E-05	4.20E-01	4.25E-01	
Fencing	Hydroseeding	Off-Road Truck	1.62E-06	2.00E-05	4.20E-01	4.25E-01	
Fencing	Soil Erosion/Sediment Control	Other General Equipment	9.44E-07	4.20E-06	8.81E-02	8.93E-02	
Fencing	Soil Erosion/Sediment Control	Pickup Truck	3.23E-06	3.99E-05	8.38E-01	8.49E-01	
Fencing	Soil Erosion/Sediment Control	Pumps	6.96E-07	2.93E-07	6.13E-03	6.27E-03	
Fencing	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	1.24E-06	1.54E-06	3.22E-02	3.27E-02	
Fencing	Topsoil Placement	Dozer	4.99E-06	3.60E-05	7.55E-01	7.65E-01	
Fencing	Topsoil Placement	Dump Truck	1.00E-05	1.23E-04	2.59E+00	2.62E+00	
Fencing	Topsoil Placement	Pickup Truck	1.00E-05	1.23E-04	2.59E+00	2.62E+00	
Fuel Tanks	Clearing and Grubbing	Chain Saw	1.33E-04	4.70E-06	7.69E-02	8.93E-02	
Fuel Tanks	Clearing and Grubbing	Chipper/Stump Grinder	6.70E-06	1.76E-05	3.69E-01	3.74E-01	
Fuel Tanks	Clearing and Grubbing	Pickup Truck	1.42E-05	1.76E-04	3.69E+00	3.73E+00	
Fuel Tanks	Concrete Placement	Air Compressor	6.45E-06	2.22E-05	4.66E-01	4.72E-01	
Fuel Tanks	Concrete Placement	Concrete Saws	6.27E-06	1.23E-05	2.58E-01	2.62E-01	

Businet		E i	Emissions (tons/yr		s (tons/yr)			
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e		
Fuel Tanks	Concrete Placement	Concrete Truck	5.61E-05	6.92E-04	1.45E+01	1.47E+01		
Fuel Tanks	Concrete Placement	Other General Equipment	1.57E-05	6.99E-05	1.47E+00	1.49E+00		
Fuel Tanks	Concrete Placement	Pickup Truck	4.04E-05	4.99E-04	1.05E+01	1.06E+01		
Fuel Tanks	Concrete Placement	Rubber Tired Loader	8.20E-06	4.85E-05	1.02E+00	1.03E+00		
Fuel Tanks	Concrete Placement	Slip Form Paver	7.87E-06	4.85E-05	1.02E+00	1.03E+00		
Fuel Tanks	Concrete Placement	Surfacing Equipment (Grooving)	8.57E-06	7.69E-06	1.61E-01	1.64E-01		
Fuel Tanks	Construction/Erect Tanks	Crane	1.07E-05	6.48E-05	1.36E+00	1.38E+00		
Fuel Tanks	Construction/Erect Tanks	Other General Equipment	2.27E-05	1.01E-04	2.11E+00	2.14E+00		
Fuel Tanks	Construction/Erect Tanks	Pickup Truck	3.88E-05	4.79E-04	1.01E+01	1.02E+01		
Fuel Tanks	Drainage - 24 inch SICPP	Excavator	2.95E-06	2.89E-05	6.06E-01	6.14E-01		
Fuel Tanks	Drainage	Dozer	4.01E-06	2.89E-05	6.06E-01	6.14E-01		
Fuel Tanks	Drainage	Dump Truck	8.02E-06	9.90E-05	2.08E+00	2.10E+00		
Fuel Tanks	Drainage	Loader	4.88E-06	2.89E-05	6.06E-01	6.14E-01		
Fuel Tanks	Drainage	Other General Equipment	4.68E-06	2.08E-05	4.37E-01	4.43E-01		
Fuel Tanks	Drainage	Pickup Truck	8.02E-06	9.90E-05	2.08E+00	2.10E+00		
Fuel Tanks	Drainage	Roller	3.54E-06	1.83E-05	3.84E-01	3.90E-01		
Fuel Tanks	Dust Control	Water Truck	2.33E-03	2.87E-02	6.03E+02	6.11E+02		
Fuel Tanks	Excavation (Borrow)	Dozer	8.97E-05	6.46E-04	1.36E+01	1.37E+01		
Fuel Tanks	Excavation (Borrow)	Dump Truck (12 cy)	1.79E-04	2.22E-03	4.65E+01	4.71E+01		
Fuel Tanks	Excavation (Borrow)	Pickup Truck	1.79E-04	2.22E-03	4.65E+01	4.71E+01		
Fuel Tanks	Excavation (Borrow)	Roller	3.65E-05	1.89E-04	3.97E+00	4.02E+00		
Fuel Tanks	Excavation (Cut to Fill)	Dozer	6.72E-05	4.85E-04	1.02E+01	1.03E+01		
Fuel Tanks	Excavation (Cut to Fill)	Dump Truck (12 cy)	3.59E-04	4.43E-03	9.30E+01	9.42E+01		
Fuel Tanks	Excavation (Cut to Fill)	Excavator	3.96E-05	3.88E-04	8.14E+00	8.24E+00		
Fuel Tanks	Excavation (Cut to Fill)	Pickup Truck	1.08E-04	1.33E-03	2.79E+01	2.83E+01		
Fuel Tanks	Excavation (Cut to Fill)	Roller	4.75E-05	2.46E-04	5.16E+00	5.23E+00		
Fuel Tanks	Excavation (Cut to Fill)	Scraper	3.20E-04	1.66E-03	3.49E+01	3.53E+01		
Fuel Tanks	Excavation (Topsoil Stripping)	Dozer	3.16E-06	2.28E-05	4.79E-01	4.85E-01		
Fuel Tanks	Fencing	Concrete Truck	2.69E-06	3.33E-05	6.98E-01	7.07E-01		
Fuel Tanks	Fencing	Dump Truck	1.08E-05	1.33E-04	2.79E+00	2.83E+00		
Fuel Tanks	Fencing	Other General Equipment	6.29E-06	2.80E-05	5.87E-01	5.95E-01		
Fuel Tanks	Fencing	Pickup Truck	1.08E-05	1.33E-04	2.79E+00	2.83E+00		
Fuel Tanks	Fencing	Skid Steer Loader	7.04E-06	7.68E-06	1.61E-01	1.63E-01		
Fuel Tanks	Fencing	Tractors/Loader/Backhoe	8.27E-06	1.02E-05	2.14E-01	2.18E-01		
Fuel Tanks	Grading	Dozer	2.22E-06	1.60E-05	3.36E-01	3.41E-01		
Fuel Tanks	Grading	Grader	3.06E-06	2.75E-05	5.77E-01	5.84E-01		

Ducient	Construction Astivity	E muin mant Turna	Emissions (tons/yr)			
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO2	CO ₂ e
Fuel Tanks	Grading	Roller	1.96E-06	1.02E-05	2.13E-01	2.16E-01
Fuel Tanks	Hydroseeding	Hydroseeder	4.01E-06	4.95E-05	1.04E+00	1.05E+00
Fuel Tanks	Hydroseeding	Off-Road Truck	4.01E-06	4.95E-05	1.04E+00	1.05E+00
Fuel Tanks	Markings	Flatbed Truck	8.32E-05	1.03E-03	2.15E+01	2.18E+01
Fuel Tanks	Markings	Other General Equipment	4.86E-05	2.16E-04	4.53E+00	4.59E+00
Fuel Tanks	Markings	Pickup Truck	8.32E-05	1.03E-03	2.15E+01	2.18E+01
Fuel Tanks	Soil Erosion/Sediment Control	Other General Equipment	2.08E-06	9.24E-06	1.94E-01	1.96E-01
Fuel Tanks	Soil Erosion/Sediment Control	Pickup Truck	7.11E-06	8.78E-05	1.84E+00	1.87E+00
Fuel Tanks	Soil Erosion/Sediment Control	Pumps	1.53E-06	6.45E-07	1.35E-02	1.38E-02
Fuel Tanks	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	2.73E-06	3.38E-06	7.07E-02	7.19E-02
Fuel Tanks	Street Lighting	Dump Truck	2.37E-06	2.93E-05	6.14E-01	6.22E-01
Fuel Tanks	Street Lighting	Loader	1.44E-06	8.54E-06	1.79E-01	1.82E-01
Fuel Tanks	Street Lighting	Other General Equipment	1.38E-06	6.16E-06	1.29E-01	1.31E-01
Fuel Tanks	Street Lighting	Pickup Truck	2.37E-06	2.93E-05	6.14E-01	6.22E-01
Fuel Tanks	Street Lighting	Skid Steer Loader	1.55E-06	1.69E-06	3.53E-02	3.59E-02
Fuel Tanks	Street Lighting	Tractors/Loader/Backhoe	1.82E-06	2.25E-06	4.72E-02	4.79E-02
Fuel Tanks	Subbase Placement	Dozer	4.25E-06	3.06E-05	6.42E-01	6.51E-01
Fuel Tanks	Subbase Placement	Dump Truck (12 cy)	5.98E-05	7.39E-04	1.55E+01	1.57E+01
Fuel Tanks	Subbase Placement	Pickup Truck	8.50E-06	1.05E-04	2.20E+00	2.23E+00
Fuel Tanks	Subbase Placement	Roller	3.65E-06	1.89E-05	3.97E-01	4.02E-01
Fuel Tanks	Topsoil Placement	Dozer	9.88E-06	7.12E-05	1.49E+00	1.51E+00
Fuel Tanks	Topsoil Placement	Dump Truck	1.98E-05	2.44E-04	5.13E+00	5.19E+00
Fuel Tanks	Topsoil Placement	Pickup Truck	1.98E-05	2.44E-04	5.13E+00	5.19E+00
Landscaping	Hydroseeding	Hydroseeder	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Hydroseeding	Off-Road Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Mulching	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Mulching	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Mulching	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Mulching	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Sodding	Flatbed Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Sodding	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Sodding	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Sodding	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Topsoil Placement	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Ducie of	Construction Activity	Equipment Type	Emissions (tons/yr)				
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e	
Landscaping	Topsoil Placement	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Topsoil Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Tree Planting	Flatbed Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Tree Planting	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Tree Planting	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Tree Planting	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Tree Pruning	Aerial Lift	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Tree Pruning	Chipper/Stump Grinder	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Tree Pruning	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Tree Pruning	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Tree Pruning	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Tree Pruning	Pruning Saw/Chain Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Approach Lighting	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Approach Lighting	Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Approach Lighting	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Approach Lighting	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Approach Lighting	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Approach Lighting	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Approach Lighting	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Approach Lighting	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	

Drainet			Emissions (tons/yr)			
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO2	CO ₂ e
NAVAIDS	Instrument Landing System (ILS) Localizer	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Windcone	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Windcone	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Windcone	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Windcone	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Businet	O	Equipment Type		Emission	s (tons/yr)	
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e
Parking Lot	Clearing and Grubbing	Chain Saw	1.82E-04	6.40E-06	1.05E-01	1.22E-01
Parking Lot	Clearing and Grubbing	Chipper/Stump Grinder	9.14E-06	2.40E-05	5.03E-01	5.10E-01
Parking Lot	Clearing and Grubbing	Pickup Truck	1.94E-05	2.40E-04	5.03E+00	5.09E+00
Parking Lot	Concrete Placement	Air Compressor	8.60E-06	2.96E-05	6.21E-01	6.29E-01
Parking Lot	Concrete Placement	Concrete Saws	8.36E-06	1.64E-05	3.44E-01	3.49E-01
Parking Lot	Concrete Placement	Concrete Truck	7.48E-05	9.23E-04	1.94E+01	1.96E+01
Parking Lot	Concrete Placement	Other General Equipment	2.10E-05	9.32E-05	1.96E+00	1.98E+00
Parking Lot	Concrete Placement	Pickup Truck	5.38E-05	6.65E-04	1.39E+01	1.41E+01
Parking Lot	Concrete Placement	Rubber Tired Loader	1.09E-05	6.46E-05	1.36E+00	1.37E+00
Parking Lot	Concrete Placement	Slip Form Paver	1.05E-05	6.46E-05	1.36E+00	1.37E+00
Parking Lot	Concrete Placement	Surfacing Equipment (Grooving)	1.14E-05	1.03E-05	2.15E-01	2.18E-01
Parking Lot	Curbing	Concrete Truck	4.85E-06	5.99E-05	1.26E+00	1.27E+00
Parking Lot	Curbing	Curb/Gutter Paver	2.84E-06	1.75E-05	3.66E-01	3.71E-01
Parking Lot	Curbing	Other General Equipment	2.83E-06	1.26E-05	2.64E-01	2.68E-01
Parking Lot	Curbing	Pickup Truck	4.85E-06	5.99E-05	1.26E+00	1.27E+00
Parking Lot	Drainage - 24 inch SICPP	Dozer	4.01E-06	2.89E-05	6.06E-01	6.14E-01
Parking Lot	Drainage - 24 inch SICPP	Dump Truck	8.02E-06	9.90E-05	2.08E+00	2.10E+00
Parking Lot	Drainage - 24 inch SICPP	Excavator	2.95E-06	2.89E-05	6.06E-01	6.14E-01
Parking Lot	Drainage - 24 inch SICPP	Loader	4.88E-06	2.89E-05	6.06E-01	6.14E-01
Parking Lot	Drainage - 24 inch SICPP	Other General Equipment	4.68E-06	2.08E-05	4.37E-01	4.43E-01
Parking Lot	Drainage - 24 inch SICPP	Pickup Truck	8.02E-06	9.90E-05	2.08E+00	2.10E+00
Parking Lot	Drainage - 24 inch SICPP	Roller	3.54E-06	1.83E-05	3.84E-01	3.90E-01
Parking Lot	Drainage - 6 inch Perforated Underdrain	Dump Truck	1.34E-05	1.65E-04	3.46E+00	3.51E+00
Parking Lot	Drainage - 6 inch Perforated Underdrain	Loader	8.14E-06	4.81E-05	1.01E+00	1.02E+00
Parking Lot	Drainage - 6 inch Perforated Underdrain	Other General Equipment	7.81E-06	3.47E-05	7.28E-01	7.38E-01
Parking Lot	Drainage - 6 inch Perforated Underdrain	Pickup Truck	1.34E-05	1.65E-04	3.46E+00	3.51E+00
Parking Lot	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	1.03E-05	1.27E-05	2.66E-01	2.70E-01
Parking Lot	Excavation (Borrow)	Dozer	1.49E-05	1.08E-04	2.26E+00	2.29E+00
Parking Lot	Excavation (Borrow)	Dump Truck (12 cy)	2.99E-05	3.69E-04	7.75E+00	7.85E+00
Parking Lot	Excavation (Borrow)	Pickup Truck	2.99E-05	3.69E-04	7.75E+00	7.85E+00
Parking Lot	Excavation (Borrow)	Roller	6.09E-06	3.15E-05	6.62E-01	6.71E-01
Parking Lot	Excavation (Cut to Fill)	Dozer	1.12E-05	8.08E-05	1.70E+00	1.72E+00

D i i i				Emission	s (tons/yr)	
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e
Parking Lot	Excavation (Cut to Fill)	Dump Truck (12 cy)	5.98E-05	7.39E-04	1.55E+01	1.57E+01
Parking Lot	Excavation (Cut to Fill)	Excavator	6.61E-06	6.46E-05	1.36E+00	1.37E+00
Parking Lot	Excavation (Cut to Fill)	Pickup Truck	1.79E-05	2.22E-04	4.65E+00	4.71E+00
Parking Lot	Excavation (Cut to Fill)	Roller	7.91E-06	4.10E-05	8.60E-01	8.72E-01
Parking Lot	Excavation (Cut to Fill)	Scraper	5.33E-05	2.77E-04	5.81E+00	5.89E+00
Parking Lot	Excavation (Topsoil Stripping)	Dozer	4.22E-06	3.04E-05	6.38E-01	6.47E-01
Parking Lot	Fencing	Concrete Truck	2.69E-06	3.33E-05	6.98E-01	7.07E-01
Parking Lot	Fencing	Dump Truck	1.08E-05	1.33E-04	2.79E+00	2.83E+00
Parking Lot	Fencing	Other General Equipment	6.29E-06	2.80E-05	5.87E-01	5.95E-01
Parking Lot	Fencing	Pickup Truck	1.08E-05	1.33E-04	2.79E+00	2.83E+00
Parking Lot	Fencing	Skid Steer Loader	7.04E-06	7.68E-06	1.61E-01	1.63E-01
Parking Lot	Fencing	Tractors/Loader/Backhoe	8.27E-06	1.02E-05	2.14E-01	2.18E-01
Parking Lot	Grading	Dozer	2.92E-06	2.10E-05	4.41E-01	4.47E-01
Parking Lot	Grading	Grader	4.02E-06	3.61E-05	7.57E-01	7.67E-01
Parking Lot	Grading	Roller	2.58E-06	1.33E-05	2.80E-01	2.84E-01
Parking Lot	Hydroseeding	Hydroseeder	5.26E-06	6.50E-05	1.36E+00	1.38E+00
Parking Lot	Hydroseeding	Off-Road Truck	5.26E-06	6.50E-05	1.36E+00	1.38E+00
Parking Lot	Markings	Flatbed Truck	1.85E-06	2.28E-05	4.79E-01	4.85E-01
Parking Lot	Markings	Other General Equipment	1.08E-06	4.80E-06	1.01E-01	1.02E-01
Parking Lot	Markings	Pickup Truck	1.85E-06	2.28E-05	4.79E-01	4.85E-01
Parking Lot	Sidewalks	Concrete Truck	9.70E-06	1.20E-04	2.51E+00	2.55E+00
Parking Lot	Sidewalks	Dump Truck	9.70E-06	1.20E-04	2.51E+00	2.55E+00
Parking Lot	Sidewalks	Pickup Truck	9.70E-06	1.20E-04	2.51E+00	2.55E+00
Parking Lot	Sidewalks	Tractors/Loader/Backhoe	7.44E-06	9.21E-06	1.93E-01	1.96E-01
Parking Lot	Sidewalks	Vibratory Compactor	2.38E-06	9.60E-07	2.01E-02	2.05E-02
Parking Lot	Soil Erosion/Sediment Control	Other General Equipment	2.83E-06	1.26E-05	2.64E-01	2.68E-01
Parking Lot	Soil Erosion/Sediment Control	Pickup Truck	9.70E-06	1.20E-04	2.51E+00	2.55E+00
Parking Lot	Soil Erosion/Sediment Control	Pumps	2.09E-06	8.80E-07	1.84E-02	1.88E-02
Parking Lot	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	3.72E-06	4.61E-06	9.65E-02	9.80E-02
Parking Lot	Street Lighting	Dump Truck	3.23E-06	3.99E-05	8.38E-01	8.49E-01
Parking Lot	Street Lighting	Loader	1.97E-06	1.16E-05	2.44E-01	2.48E-01
Parking Lot	Street Lighting	Other General Equipment	1.89E-06	8.40E-06	1.76E-01	1.79E-01
Parking Lot	Street Lighting	Pickup Truck	3.23E-06	3.99E-05	8.38E-01	8.49E-01

Ducient	Construction Activity	Equipment Type	Emissions (tons/yr)				
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO₂e	
Parking Lot	Street Lighting	Skid Steer Loader	2.11E-06	2.30E-06	4.82E-02	4.90E-02	
Parking Lot	Street Lighting	Tractors/Loader/Backhoe	2.48E-06	3.07E-06	6.43E-02	6.53E-02	
Parking Lot	Subbase Placement	Dozer	5.66E-06	4.08E-05	8.56E-01	8.68E-01	
Parking Lot	Subbase Placement	Dump Truck (12 cy)	7.98E-05	9.85E-04	2.07E+01	2.09E+01	
Parking Lot	Subbase Placement	Pickup Truck	1.13E-05	1.40E-04	2.94E+00	2.97E+00	
Parking Lot	Subbase Placement	Roller	4.87E-06	2.52E-05	5.30E-01	5.37E-01	
Parking Lot	Topsoil Placement	Dozer	6.49E-06	4.68E-05	9.81E-01	9.94E-01	
Parking Lot	Topsoil Placement	Dump Truck	1.30E-05	1.60E-04	3.36E+00	3.41E+00	
Parking Lot	Topsoil Placement	Pickup Truck	1.30E-05	1.60E-04	3.36E+00	3.41E+00	
Parking Lot	Tree Planting	Flatbed Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Tree Planting	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Tree Planting	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Tree Planting	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Construction Mob & Layout	Survey Crew Trucks	2.47E-05	3.05E-04	6.40E+00	6.48E+00	
Site Work - 10000 sqft	Construction Mob & Layout	Tractor Trailers Temp Fac.	9.88E-06	1.22E-04	2.56E+00	2.59E+00	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Bulldozer	4.94E-05	3.56E-04	7.47E+00	7.56E+00	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Chain Saws	1.23E-03	4.35E-05	7.12E-01	8.27E-01	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Flat Bed or Dump Trucks	1.98E-04	2.44E-03	5.12E+01	5.19E+01	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Front Loader	7.58E-05	9.38E-05	1.96E+00	2.00E+00	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Grub the site down 2'-0	4.60E-05	9.03E-05	1.89E+00	1.92E+00	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Log Chipper	6.20E-05	1.63E-04	3.41E+00	3.46E+00	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Mulcher	6.20E-05	1.63E-04	3.41E+00	3.46E+00	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Ten Wheelers	9.88E-05	1.22E-03	2.56E+01	2.59E+01	
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Tractor	1.52E-04	1.88E-04	3.93E+00	3.99E+00	
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Bob Cat	3.87E-05	4.22E-05	8.83E-01	8.97E-01	


Businet	O	E an instant A E an a		Emission	s (tons/yr)	
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Concrete Ready Mix Trucks	5.93E-05	7.32E-04	1.54E+01	1.56E+01
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Tractor Trailer with Boom Hoist- Delivery	5.93E-05	7.32E-04	1.54E+01	1.56E+01
Site Work - 10000 sqft	Site Restoration- Landscaping (Rough Grading)	Compacting Equipment	1.45E-05	5.87E-06	1.23E-01	1.25E-01
Site Work - 10000 sqft	Site Restoration- Landscaping (Rough Grading)	Small Dozer	2.96E-05	2.13E-04	4.48E+00	4.54E+00
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Forktruck (Hoist)	1.84E-05	4.52E-04	9.48E+00	9.60E+00
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Roller	4.36E-05	2.26E-04	4.74E+00	4.80E+00
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Seed Truck Spreader	3.95E-05	4.88E-04	1.02E+01	1.04E+01
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Tractor Trailer- Material Delivery	1.98E-04	2.44E-03	5.12E+01	5.19E+01
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Backhoe	2.27E-04	2.81E-04	5.89E+00	5.99E+00
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Fork Truck	1.38E-05	3.39E-04	7.11E+00	7.20E+00
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Tractor Trailer- Material Delivery	7.41E-05	9.15E-04	1.92E+01	1.94E+01
Terminal Apron	Clearing and Grubbing	Chain Saw	7.02E-04	2.48E-05	4.05E-01	4.71E-01
Terminal Apron	Clearing and Grubbing	Chipper/Stump Grinder	3.53E-05	9.28E-05	1.94E+00	1.97E+00
Terminal Apron	Clearing and Grubbing	Pickup Truck	7.50E-05	9.26E-04	1.94E+01	1.97E+01
Terminal Apron	Concrete Placement	Air Compressor	3.44E-05	1.18E-04	2.48E+00	2.52E+00
Terminal Apron	Concrete Placement	Concrete Saws	3.35E-05	6.56E-05	1.38E+00	1.40E+00
Terminal Apron	Concrete Placement	Concrete Truck	2.99E-04	3.69E-03	7.75E+01	7.85E+01
Terminal Apron	Concrete Placement	Other General Equipment	8.38E-05	3.73E-04	7.82E+00	7.93E+00
Terminal Apron	Concrete Placement	Pickup Truck	2.15E-04	2.66E-03	5.58E+01	5.65E+01
Terminal Apron	Concrete Placement	Rubber Tired Loader	4.37E-05	2.59E-04	5.42E+00	5.50E+00
Terminal Apron	Concrete Placement	Slip Form Paver	4.20E-05	2.59E-04	5.42E+00	5.50E+00

D :				Emissions	s (tons/yr)	
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO2	CO ₂ e
Terminal Apron	Concrete Placement	Surfacing Equipment (Grooving)	4.57E-05	4.10E-05	8.59E-01	8.74E-01
Terminal Apron	Drainage - 24 inch SICPP	Dozer	7.88E-06	5.68E-05	1.19E+00	1.21E+00
Terminal Apron	Drainage - 24 inch SICPP	Dump Truck	1.58E-05	1.95E-04	4.09E+00	4.14E+00
Terminal Apron	Drainage - 24 inch SICPP	Excavator	5.81E-06	5.68E-05	1.19E+00	1.21E+00
Terminal Apron	Drainage - 24 inch SICPP	Loader	9.61E-06	5.68E-05	1.19E+00	1.21E+00
Terminal Apron	Drainage - 24 inch SICPP	Other General Equipment	9.21E-06	4.10E-05	8.60E-01	8.71E-01
Terminal Apron	Drainage - 24 inch SICPP	Pickup Truck	1.58E-05	1.95E-04	4.09E+00	4.14E+00
Terminal Apron	Drainage - 24 inch SICPP	Roller	6.96E-06	3.61E-05	7.57E-01	7.67E-01
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Dump Truck	8.77E-06	1.08E-04	2.27E+00	2.30E+00
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Loader	5.34E-06	3.16E-05	6.62E-01	6.71E-01
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Other General Equipment	5.12E-06	2.28E-05	4.78E-01	4.84E-01
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Pickup Truck	8.77E-06	1.08E-04	2.27E+00	2.30E+00
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	6.72E-06	8.33E-06	1.74E-01	1.77E-01
Terminal Apron	Dust Control	Water Truck	2.33E-03	2.87E-02	6.03E+02	6.11E+02
Terminal Apron	Excavation (Borrow)	Dozer	5.98E-05	4.31E-04	9.04E+00	9.16E+00
Terminal Apron	Excavation (Borrow)	Dump Truck (12 cy)	1.20E-04	1.48E-03	3.10E+01	3.14E+01
Terminal Apron	Excavation (Borrow)	Pickup Truck	1.20E-04	1.48E-03	3.10E+01	3.14E+01
Terminal Apron	Excavation (Borrow)	Roller	2.43E-05	1.26E-04	2.65E+00	2.68E+00
Terminal Apron	Excavation (Cut to Fill)	Dozer	4.48E-05	3.23E-04	6.78E+00	6.87E+00
Terminal Apron	Excavation (Cut to Fill)	Dump Truck (12 cy)	2.39E-04	2.95E-03	6.20E+01	6.28E+01
Terminal Apron	Excavation (Cut to Fill)	Excavator	2.64E-05	2.59E-04	5.42E+00	5.50E+00
Terminal Apron	Excavation (Cut to Fill)	Pickup Truck	7.18E-05	8.86E-04	1.86E+01	1.88E+01
Terminal Apron	Excavation (Cut to Fill)	Roller	3.17E-05	1.64E-04	3.44E+00	3.49E+00
Terminal Apron	Excavation (Cut to Fill)	Scraper	2.13E-04	1.11E-03	2.32E+01	2.36E+01
Terminal Apron	Excavation (Topsoil Stripping)	Dozer	1.69E-05	1.22E-04	2.55E+00	2.59E+00
Terminal Apron	Fencing	Concrete Truck	5.39E-06	6.65E-05	1.40E+00	1.41E+00
Terminal Apron	Fencing	Dump Truck	2.16E-05	2.66E-04	5.59E+00	5.66E+00
Terminal Apron	Fencing	Other General Equipment	1.26E-05	5.60E-05	1.17E+00	1.19E+00
Terminal Apron	Fencing	Pickup Truck	2.16E-05	2.66E-04	5.59E+00	5.66E+00
Terminal Apron	Fencing	Skid Steer Loader	1.41E-05	1.54E-05	3.21E-01	3.26E-01
Terminal Apron	Fencing	Tractors/Loader/Backhoe	1.65E-05	2.05E-05	4.29E-01	4.36E-01

Project	Construction Astivity	Equipment Turns		Emission	s (tons/yr)	
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO ₂	CO ₂ e
Terminal Apron	Grading	Dozer	1.12E-05	8.08E-05	1.70E+00	1.72E+00
Terminal Apron	Grading	Grader	1.54E-05	1.39E-04	2.91E+00	2.95E+00
Terminal Apron	Grading	Roller	9.90E-06	5.13E-05	1.08E+00	1.09E+00
Terminal Apron	Hydroseeding	Hydroseeder	2.02E-05	2.50E-04	5.24E+00	5.31E+00
Terminal Apron	Hydroseeding	Off-Road Truck	2.02E-05	2.50E-04	5.24E+00	5.31E+00
Terminal Apron	Lighting	Dump Truck	1.08E-05	1.33E-04	2.79E+00	2.83E+00
Terminal Apron	Lighting	Loader	6.57E-06	3.88E-05	8.14E-01	8.25E-01
Terminal Apron	Lighting	Other General Equipment	6.29E-06	2.80E-05	5.87E-01	5.95E-01
Terminal Apron	Lighting	Pickup Truck	1.08E-05	1.33E-04	2.79E+00	2.83E+00
Terminal Apron	Lighting	Skid Steer Loader	7.04E-06	7.68E-06	1.61E-01	1.63E-01
Terminal Apron	Lighting	Tractors/Loader/Backhoe	8.27E-06	1.02E-05	2.14E-01	2.18E-01
Terminal Apron	Markings	Flatbed Truck	4.44E-04	5.48E-03	1.15E+02	1.16E+02
Terminal Apron	Markings	Other General Equipment	2.59E-04	1.15E-03	2.42E+01	2.45E+01
Terminal Apron	Markings	Pickup Truck	4.44E-04	5.48E-03	1.15E+02	1.16E+02
Terminal Apron	Sealing/Fuel Resistant	Distributing Tanker	5.74E-05	7.09E-04	1.49E+01	1.51E+01
Terminal Apron	Sealing/Fuel Resistant	Other General Equipment	3.35E-05	1.49E-04	3.13E+00	3.17E+00
Terminal Apron	Sealing/Fuel Resistant	Pickup Truck	5.74E-05	7.09E-04	1.49E+01	1.51E+01
Terminal Apron	Soil Erosion/Sediment Control	Other General Equipment	1.10E-05	4.87E-05	1.02E+00	1.04E+00
Terminal Apron	Soil Erosion/Sediment Control	Pickup Truck	3.75E-05	4.63E-04	9.72E+00	9.84E+00
Terminal Apron	Soil Erosion/Sediment Control	Pumps	8.07E-06	3.40E-06	7.11E-02	7.27E-02
Terminal Apron	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	1.44E-05	1.78E-05	3.73E-01	3.79E-01
Terminal Apron	Subbase Placement	Dozer	2.27E-05	1.63E-04	3.43E+00	3.47E+00
Terminal Apron	Subbase Placement	Dump Truck (12 cy)	3.19E-04	3.94E-03	8.27E+01	8.37E+01
Terminal Apron	Subbase Placement	Pickup Truck	4.53E-05	5.60E-04	1.17E+01	1.19E+01
Terminal Apron	Subbase Placement	Roller	1.95E-05	1.01E-04	2.12E+00	2.15E+00
Terminal Apron	Topsoil Placement	Dozer	2.49E-05	1.80E-04	3.77E+00	3.82E+00
Terminal Apron	Topsoil Placement	Dump Truck	4.99E-05	6.16E-04	1.29E+01	1.31E+01
Terminal Apron	Topsoil Placement	Pickup Truck	4.99E-05	6.16E-04	1.29E+01	1.31E+01
Module Transport	Module Transport	Mammoet PPU Z350 DA	1.19E-05	1.76E-05	3.69E-01	3.75E-01



Droject	Construction Activity	Equipment Type	Emissions (tons/yr)							
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}		
Building - 100000 sqft- 10 stories	Concrete Foundations	Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Concrete Foundations	Concrete Pump	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Concrete Foundations	Concrete Ready Mix Trucks	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Concrete Foundations	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Concrete Foundations	Fork Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Concrete Foundations	Tool Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Concrete Foundations	Tractor Trailer- Material Delivery	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Construction Mob & Layout	Survey Crew Trucks	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Construction Mob & Layout	Tractor Trailers Temp Fac.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Fork Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Generator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Grout Mixer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Grout Wheel Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Man Lift	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Tool Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Tractor Trailer- Material Delivery	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Truck Tower (Mantiwoc type)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Fork Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Man Lift	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		

Table C8. 2022 Proposed Project, construction-phase non-road equipment criteria air pollutant emissions.



Project		Emissions (tons/yr)				Emissions (tons/yr)					
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}			
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Tool Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Tractor Trailer- Material Delivery	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Roofing	High Lift	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Roofing	Man Lift	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Roofing	Material Deliveries	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Roofing	Tractor Trailer- Material Delivery	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Roofing	Truck Tower (Mantiwoc type)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Security & Safety Systems	High Lift	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Security & Safety Systems	Tool Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	90 Ton Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Concrete Pump	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Fork Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Tool Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Tractor Trailer- Steel Deliveries	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Trowel Machine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Truck Tower (Mantiwoc type)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Demolition - Building	Building Demolition	Bob Cat	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Demolition - Building	Building Demolition	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Demolition - Building	Building Demolition	Excavator with Bucket	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Demolition - Building	Building Demolition	Generator Sets	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
Demolition - Building	Building Demolition	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			



- · · ·			Emissions (tons/yr)					
Project	Construction Activity	Equipment Type NC	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}
Demolition - Concrete	Concrete Demolition	Excavator with Bucket	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Concrete Demolition	Excavator with Hoe Ram	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Concrete	Concrete Demolition	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Drainage - 24 inch SICPP	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Drainage - 24 inch SICPP	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Drainage - 24 inch SICPP	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Drainage - 24 inch SICPP	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Drainage - 24 inch SICPP	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Drainage - 24 inch SICPP	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Drainage - 24 inch SICPP	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Drainage Structures	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Drainage Structures	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Drainage Structures	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Drainage Structures	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Hydroseeding	Hydroseeder	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Hydroseeding	Off-Road Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Soil Erosion/Sediment Control	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Soil Erosion/Sediment Control	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Soil Erosion/Sediment Control	Pumps	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



- · · <i>i</i>					Emission	s (tons/yr)		
Project	Construction Activity	Equipment Type	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}
Drainage System	Topsoil Placement	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Topsoil Placement	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Topsoil Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Clearing and Grubbing	Chain Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Clearing and Grubbing	Chipper/Stump Grinder	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Clearing and Grubbing	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Excavation (Cut to Fill)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Excavation (Cut to Fill)	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Excavation (Cut to Fill)	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Excavation (Cut to Fill)	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Excavation (Cut to Fill)	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Fencing	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Fencing	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Fencing	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Fencing	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Fencing	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Fencing	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Grading	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Grading	Grader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Grading	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Hydroseeding	Hydroseeder	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Hydroseeding	Off-Road Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Soil Erosion/Sediment Control	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Soil Erosion/Sediment Control	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Soil Erosion/Sediment Control	Pumps	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Topsoil Placement	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Topsoil Placement	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Topsoil Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Clearing and Grubbing	Chain Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Clearing and Grubbing	Chipper/Stump Grinder	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Clearing and Grubbing	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Concrete Placement	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Concrete Placement	Concrete Saws	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



.					Emission	s (tons/yr)		
Project	Construction Activity	Equipment Type	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}
Fuel Tanks	Concrete Placement	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Concrete Placement	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Concrete Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Concrete Placement	Rubber Tired Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Concrete Placement	Slip Form Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Concrete Placement	Surfacing Equipment (Grooving)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Construction/Erect Tanks	Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Construction/Erect Tanks	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Construction/Erect Tanks	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Drainage - 24 inch SICPP	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Drainage	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Drainage	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Drainage	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Drainage	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Drainage	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Drainage	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Dust Control	Water Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Excavation (Borrow)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Excavation (Borrow)	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Excavation (Borrow)	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Excavation (Borrow)	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Excavation (Cut to Fill)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Excavation (Cut to Fill)	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Excavation (Cut to Fill)	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Excavation (Cut to Fill)	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Excavation (Cut to Fill)	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Excavation (Cut to Fill)	Scraper	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Excavation (Topsoil Stripping)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Fencing	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Fencing	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Fencing	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Fencing	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Fencing	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Fencing	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Grading	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Grading	Grader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



					Emission	s (tons/yr)		
Project	Construction Activity	Equipment Type	NOx	со	voc	SO ₂	PM ₁₀	PM _{2.5}
Fuel Tanks	Grading	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Hydroseeding	Hydroseeder	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Hydroseeding	Off-Road Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Markings	Flatbed Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Markings	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Markings	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Soil Erosion/Sediment Control	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Soil Erosion/Sediment Control	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Soil Erosion/Sediment Control	Pumps	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Street Lighting	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Street Lighting	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Street Lighting	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Street Lighting	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Street Lighting	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Street Lighting	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Subbase Placement	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Subbase Placement	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Subbase Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Subbase Placement	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Topsoil Placement	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Topsoil Placement	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Topsoil Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Hydroseeding	Hydroseeder	4.11E-03	1.47E-03	2.82E-04	5.24E-05	3.00E-04	2.91E-04
Landscaping	Hydroseeding	Off-Road Truck	4.11E-03	1.47E-03	2.82E-04	5.24E-05	3.00E-04	2.91E-04
Landscaping	Mulching	Dump Truck	3.67E-03	1.31E-03	2.52E-04	4.67E-05	2.67E-04	2.59E-04
Landscaping	Mulching	Other General Equipment	3.00E-03	6.76E-04	1.60E-04	1.04E-05	1.70E-04	1.65E-04
Landscaping	Mulching	Pickup Truck	3.67E-03	1.31E-03	2.52E-04	4.67E-05	2.67E-04	2.59E-04
Landscaping	Mulching	Tractors/Loader/Backhoe	2.25E-03	2.32E-03	3.71E-04	4.11E-06	3.08E-04	2.99E-04
Landscaping	Sodding	Flatbed Truck	1.87E-02	6.69E-03	1.28E-03	2.38E-04	1.36E-03	1.32E-03
Landscaping	Sodding	Other General Equipment	1.53E-02	3.45E-03	8.16E-04	5.31E-05	8.67E-04	8.41E-04
Landscaping	Sodding	Pickup Truck	1.87E-02	6.69E-03	1.28E-03	2.38E-04	1.36E-03	1.32E-03
Landscaping	Sodding	Skid Steer Loader	1.29E-02	1.11E-02	2.23E-03	1.64E-05	1.58E-03	1.53E-03
Landscaping	Topsoil Placement	Dozer	6.33E-03	2.22E-03	3.41E-04	3.85E-05	5.70E-04	5.53E-04



					Emission	s (tons/yr)		
Project	Construction Activity	Equipment Type NOx	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}
Landscaping	Topsoil Placement	Dump Truck	1.01E-02	3.63E-03	6.96E-04	1.29E-04	7.39E-04	7.17E-04
Landscaping	Topsoil Placement	Pickup Truck	1.01E-02	3.63E-03	6.96E-04	1.29E-04	7.39E-04	7.17E-04
Landscaping	Tree Planting	Flatbed Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Planting	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Planting	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Planting	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Pruning	Aerial Lift	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Pruning	Chipper/Stump Grinder	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Pruning	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Pruning	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Pruning	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Pruning	Pruning Saw/Chain Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



			Emissions (tons/yr)					
Project	Construction Activity	Equipment Type	NOx	СО	VOC	SO ₂	PM ₁₀	PM _{2.5}
NAVAIDS	Instrument Landing System (ILS) Localizer	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Windcone	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Windcone	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Windcone	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Windcone	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



- · · ·		Equipment Type		Emissions (tons/yr)					
Project	Construction Activity	Equipment Type	NOx	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Parking Lot	Clearing and Grubbing	Chain Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Clearing and Grubbing	Chipper/Stump Grinder	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Clearing and Grubbing	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Concrete Placement	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Concrete Placement	Concrete Saws	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Concrete Placement	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Concrete Placement	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Concrete Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Concrete Placement	Rubber Tired Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Concrete Placement	Slip Form Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Concrete Placement	Surfacing Equipment (Grooving)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Curbing	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Curbing	Curb/Gutter Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Curbing	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Curbing	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Drainage - 24 inch SICPP	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Drainage - 24 inch SICPP	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Drainage - 24 inch SICPP	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Drainage - 24 inch SICPP	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Drainage - 24 inch SICPP	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Drainage - 24 inch SICPP	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Drainage - 24 inch SICPP	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Drainage - 6 inch Perforated Underdrain	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Drainage - 6 inch Perforated Underdrain	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Drainage - 6 inch Perforated Underdrain	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Drainage - 6 inch Perforated Underdrain	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Excavation (Borrow)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Excavation (Borrow)	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Excavation (Borrow)	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Excavation (Borrow)	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Excavation (Cut to Fill)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	



- · · /					Emission	s (tons/yr)		
Project	Construction Activity	Equipment Type	NOx	со	voc	SO ₂	PM ₁₀	PM _{2.5}
Parking Lot	Excavation (Cut to Fill)	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Excavation (Cut to Fill)	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Excavation (Cut to Fill)	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Excavation (Cut to Fill)	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Excavation (Cut to Fill)	Scraper	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Excavation (Topsoil Stripping)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Fencing	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Fencing	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Fencing	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Fencing	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Fencing	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Fencing	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Grading	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Grading	Grader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Grading	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Hydroseeding	Hydroseeder	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Hydroseeding	Off-Road Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Markings	Flatbed Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Markings	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Markings	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Sidewalks	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Sidewalks	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Sidewalks	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Sidewalks	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Sidewalks	Vibratory Compactor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Soil Erosion/Sediment Control	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Soil Erosion/Sediment Control	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Soil Erosion/Sediment Control	Pumps	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Street Lighting	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Street Lighting	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Street Lighting	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Street Lighting	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



					Emission	s (tons/yr)		
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
Parking Lot	Street Lighting	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Street Lighting	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Subbase Placement	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Subbase Placement	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Subbase Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Subbase Placement	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Topsoil Placement	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Topsoil Placement	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Topsoil Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Tree Planting	Flatbed Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Tree Planting	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Tree Planting	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Tree Planting	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction Mob & Layout	Survey Crew Trucks	1.11E-03	3.98E-04	7.64E-05	1.42E-05	8.11E-05	7.87E-05
Site Work - 10000 sqft	Construction Mob & Layout	Tractor Trailers Temp Fac.	4.45E-04	1.59E-04	3.05E-05	5.67E-06	3.25E-05	3.15E-05
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Bulldozer	2.78E-03	9.74E-04	1.50E-04	1.69E-05	2.50E-04	2.43E-04
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Chain Saws	5.23E-04	9.10E-02	2.50E-02	1.41E-06	3.33E-03	3.07E-03
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Flat Bed or Dump Trucks	8.90E-03	3.18E-03	6.11E-04	1.13E-04	6.49E-04	6.30E-04
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Front Loader	2.73E-03	2.82E-03	4.50E-04	4.98E-06	3.74E-04	3.62E-04
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Grub the site down 2'-0	2.75E-03	4.07E-04	1.15E-04	4.21E-06	4.67E-05	4.53E-05
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Log Chipper	6.26E-03	2.91E-03	5.94E-04	8.93E-06	5.57E-04	5.41E-04
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Mulcher	6.26E-03	2.91E-03	5.94E-04	8.93E-06	5.57E-04	5.41E-04
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Ten Wheelers	4.45E-03	1.59E-03	3.05E-04	5.67E-05	3.25E-04	3.15E-04
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Tractor	5.46E-03	5.64E-03	9.00E-04	9.96E-06	7.47E-04	7.25E-04
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Bob Cat	1.84E-03	1.58E-03	3.18E-04	2.34E-06	2.26E-04	2.19E-04



					Emission	s (tons/yr)		
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Concrete Ready Mix Trucks	2.67E-03	9.55E-04	1.83E-04	3.40E-05	1.95E-04	1.89E-04
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Tractor Trailer with Boom Hoist- Delivery	2.67E-03	9.55E-04	1.83E-04	3.40E-05	1.95E-04	1.89E-04
Site Work - 10000 sqft	Site Restoration- Landscaping (Rough Grading)	Compacting Equipment	2.90E-04	1.78E-04	5.59E-05	3.72E-07	1.85E-05	1.80E-05
Site Work - 10000 sqft	Site Restoration- Landscaping (Rough Grading)	Small Dozer	1.67E-03	5.85E-04	8.97E-05	1.01E-05	1.50E-04	1.46E-04
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Forktruck (Hoist)	4.73E-03	5.64E-04	5.58E-05	2.07E-05	1.11E-04	1.08E-04
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Roller	3.65E-03	1.65E-03	1.40E-04	1.08E-05	2.46E-04	2.39E-04
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Seed Truck Spreader	1.78E-03	6.37E-04	1.22E-04	2.27E-05	1.30E-04	1.26E-04
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Tractor Trailer- Material Delivery	8.90E-03	3.18E-03	6.11E-04	1.13E-04	6.49E-04	6.30E-04
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Backhoe	8.19E-03	8.46E-03	1.35E-03	1.49E-05	1.12E-03	1.09E-03
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Fork Truck	3.55E-03	4.23E-04	4.19E-05	1.55E-05	8.35E-05	8.10E-05
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Tractor Trailer- Material Delivery	3.34E-03	1.19E-03	2.29E-04	4.25E-05	2.43E-04	2.36E-04
Terminal Apron	Clearing and Grubbing	Chain Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Clearing and Grubbing	Chipper/Stump Grinder	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Clearing and Grubbing	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Concrete Placement	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Concrete Placement	Concrete Saws	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Concrete Placement	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Concrete Placement	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Concrete Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Concrete Placement	Rubber Tired Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Concrete Placement	Slip Form Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



- · · ·					Emissions	s (tons/yr)		
Project	Construction Activity	Equipment Type	NOx	со	VOC	SO2	PM ₁₀	PM _{2.5}
Terminal Apron	Concrete Placement	Surfacing Equipment (Grooving)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 24 inch SICPP	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 24 inch SICPP	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 24 inch SICPP	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 24 inch SICPP	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 24 inch SICPP	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 24 inch SICPP	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 24 inch SICPP	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Dust Control	Water Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Borrow)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Borrow)	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Borrow)	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Borrow)	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Cut to Fill)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Cut to Fill)	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Cut to Fill)	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Cut to Fill)	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Cut to Fill)	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Cut to Fill)	Scraper	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Topsoil Stripping)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Fencing	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Fencing	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Fencing	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Fencing	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Fencing	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Fencing	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Duringt		E an instant E an a			Emission	s (tons/yr)		
Project	Construction Activity	Equipment Type	NOx	со	voc	SO ₂	PM ₁₀	PM _{2.5}
Terminal Apron	Grading	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Grading	Grader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Grading	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Hydroseeding	Hydroseeder	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Hydroseeding	Off-Road Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Lighting	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Lighting	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Lighting	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Lighting	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Lighting	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Lighting	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Markings	Flatbed Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Markings	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Markings	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Sealing/Fuel Resistant	Distributing Tanker	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Sealing/Fuel Resistant	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Sealing/Fuel Resistant	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Soil Erosion/Sediment Control	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Soil Erosion/Sediment Control	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Soil Erosion/Sediment Control	Pumps	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Subbase Placement	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Subbase Placement	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Subbase Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Subbase Placement	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Topsoil Placement	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Topsoil Placement	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Topsoil Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Module Transport	Module Transport	Mammoet PPU Z350 DA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Project	Construction Activity	v Equipment Type	Construction Activity Equipment Type				
	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e	
Building - 100000 sqft- 10 stories	Concrete Foundations	Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Concrete Foundations	Concrete Pump	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Concrete Foundations	Concrete Ready Mix Trucks	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Concrete Foundations	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Concrete Foundations	Fork Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Concrete Foundations	Tool Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Concrete Foundations	Tractor Trailer- Material Delivery	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Construction Mob & Layout	Survey Crew Trucks	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Construction Mob & Layout	Tractor Trailers Temp Fac.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Fork Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Generator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Grout Mixer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Grout Wheel Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Man Lift	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Tool Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Tractor Trailer- Material Delivery	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Exterior Wall Framing	Truck Tower (Mantiwoc type)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Fork Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Man Lift	0.00E+00	0.00E+00	0.00E+00	0.00E+00	

Table C9. 2022 Proposed Project, construction-phase non-road equipment greenhouse gas emissions.

Ducie st	Construction Activity	ty Equipment Type	Emissions (tons/yr			
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO2	CO ₂ e
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Tool Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Interior Build-Out/ Finishes	Tractor Trailer- Material Delivery	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Roofing	High Lift	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Roofing	Man Lift	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Roofing	Material Deliveries	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Roofing	Tractor Trailer- Material Delivery	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Roofing	Truck Tower (Mantiwoc type)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Security & Safety Systems	High Lift	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Security & Safety Systems	Tool Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	90 Ton Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Concrete Pump	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Fork Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Tool Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Tractor Trailer- Steel Deliveries	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Trowel Machine	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Structural Steel Erection & Decks	Truck Tower (Mantiwoc type)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Building Demolition	Bob Cat	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Building Demolition	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Building Demolition	Excavator with Bucket	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Building Demolition	Generator Sets	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Building Demolition	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Businet	Construction Activity		Emissions (tons/yr)				
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO ₂	CO ₂ e	
Demolition - Concrete	Concrete Demolition	Excavator with Bucket	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Concrete	Concrete Demolition	Excavator with Hoe Ram	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Demolition - Concrete	Concrete Demolition	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Drainage - 24 inch Reinforced Concrete Pipe	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Drainage - 24 inch SICPP	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Drainage - 24 inch SICPP	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Drainage - 24 inch SICPP	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Drainage - 24 inch SICPP	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Drainage - 24 inch SICPP	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Drainage - 24 inch SICPP	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Drainage - 24 inch SICPP	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Drainage Structures	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Drainage Structures	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Drainage Structures	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Drainage Structures	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Hydroseeding	Hydroseeder	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Hydroseeding	Off-Road Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Soil Erosion/Sediment Control	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Soil Erosion/Sediment Control	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Soil Erosion/Sediment Control	Pumps	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	

P uele et	Construction Activity		Emissions (tons/yr)				
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO2	CO ₂ e	
Drainage System	Topsoil Placement	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Topsoil Placement	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Topsoil Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Clearing and Grubbing	Chain Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Clearing and Grubbing	Chipper/Stump Grinder	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Clearing and Grubbing	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Excavation (Cut to Fill)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Excavation (Cut to Fill)	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Excavation (Cut to Fill)	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Excavation (Cut to Fill)	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Excavation (Cut to Fill)	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Fencing	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Fencing	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Fencing	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Fencing	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Fencing	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Fencing	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Grading	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Grading	Grader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Grading	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Hydroseeding	Hydroseeder	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Hydroseeding	Off-Road Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Soil Erosion/Sediment Control	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Soil Erosion/Sediment Control	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Soil Erosion/Sediment Control	Pumps	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Topsoil Placement	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Topsoil Placement	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fencing	Topsoil Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Clearing and Grubbing	Chain Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Clearing and Grubbing	Chipper/Stump Grinder	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Clearing and Grubbing	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Concrete Placement	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Concrete Placement	Concrete Saws	0.00E+00	0.00E+00	0.00E+00	0.00E+00	

Burlant.			Emissions (tons/yr)				
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO2	CO ₂ e	
Fuel Tanks	Concrete Placement	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Concrete Placement	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Concrete Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Concrete Placement	Rubber Tired Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Concrete Placement	Slip Form Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Concrete Placement	Surfacing Equipment (Grooving)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Construction/Erect Tanks	Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Construction/Erect Tanks	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Construction/Erect Tanks	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Drainage - 24 inch SICPP	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Drainage	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Drainage	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Drainage	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Drainage	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Drainage	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Drainage	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Dust Control	Water Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Excavation (Borrow)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Excavation (Borrow)	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Excavation (Borrow)	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Excavation (Borrow)	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Excavation (Cut to Fill)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Excavation (Cut to Fill)	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Excavation (Cut to Fill)	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Excavation (Cut to Fill)	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Excavation (Cut to Fill)	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Excavation (Cut to Fill)	Scraper	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Excavation (Topsoil Stripping)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Fencing	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Fencing	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Fencing	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Fencing	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Fencing	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Fencing	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Grading	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Fuel Tanks	Grading	Grader	0.00E+00	0.00E+00	0.00E+00	0.00E+00	

Businet		E		Emission	s (tons/yr)	
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO ₂	CO ₂ e
Fuel Tanks	Grading	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Hydroseeding	Hydroseeder	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Hydroseeding	Off-Road Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Markings	Flatbed Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Markings	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Markings	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Soil Erosion/Sediment Control	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Soil Erosion/Sediment Control	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Soil Erosion/Sediment Control	Pumps	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Street Lighting	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Street Lighting	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Street Lighting	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Street Lighting	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Street Lighting	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Street Lighting	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Subbase Placement	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Subbase Placement	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Subbase Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Subbase Placement	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Topsoil Placement	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Topsoil Placement	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Topsoil Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Hydroseeding	Hydroseeder	2.14E-05	3.71E-04	7.79E+00	7.89E+00
Landscaping	Hydroseeding	Off-Road Truck	2.14E-05	3.71E-04	7.79E+00	7.89E+00
Landscaping	Mulching	Dump Truck	1.91E-05	3.31E-04	6.95E+00	7.04E+00
Landscaping	Mulching	Other General Equipment	1.33E-05	6.97E-05	1.46E+00	1.48E+00
Landscaping	Mulching	Pickup Truck	1.91E-05	3.31E-04	6.95E+00	7.04E+00
Landscaping	Mulching	Tractors/Loader/Backhoe	1.98E-05	2.55E-05	5.34E-01	5.42E-01
Landscaping	Sodding	Flatbed Truck	9.75E-05	1.69E-03	3.55E+01	3.59E+01
Landscaping	Sodding	Other General Equipment	6.80E-05	3.56E-04	7.46E+00	7.56E+00
Landscaping	Sodding	Pickup Truck	9.75E-05	1.69E-03	3.55E+01	3.59E+01
Landscaping	Sodding	Skid Steer Loader	8.81E-05	9.75E-05	2.04E+00	2.07E+00
Landscaping	Topsoil Placement	Dozer	2.95E-05	2.67E-04	5.61E+00	5.68E+00

Durate		E		Emission	s (tons/yr)	
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO ₂	CO ₂ e
Landscaping	Topsoil Placement	Dump Truck	5.28E-05	9.16E-04	1.92E+01	1.95E+01
Landscaping	Topsoil Placement	Pickup Truck	5.28E-05	9.16E-04	1.92E+01	1.95E+01
Landscaping	Tree Planting	Flatbed Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Planting	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Planting	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Planting	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Pruning	Aerial Lift	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Pruning	Chipper/Stump Grinder	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Pruning	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Pruning	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Pruning	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Tree Pruning	Pruning Saw/Chain Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Approach Lighting	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Glide Slope	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Businet			Emissions (tons/yr)			
Project	Construction Activity Equipment Type	CH₄	N₂O	CO2	CO ₂ e	
NAVAIDS	Instrument Landing System (ILS) Localizer	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Instrument Landing System (ILS) Localizer	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Precision Approach Path Indicator (PAPI)	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Crane	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Rotating Beacon	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Windcone	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Windcone	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Windcone	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Windcone	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Duciest	Construction Activity	Equipment Toma	Emissions (tons/yr)			
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO2	CO ₂ e
Parking Lot	Clearing and Grubbing	Chain Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Clearing and Grubbing	Chipper/Stump Grinder	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Clearing and Grubbing	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Concrete Placement	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Concrete Placement	Concrete Saws	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Concrete Placement	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Concrete Placement	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Concrete Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Concrete Placement	Rubber Tired Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Concrete Placement	Slip Form Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Concrete Placement	Surfacing Equipment (Grooving)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Curbing	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Curbing	Curb/Gutter Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Curbing	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Curbing	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Drainage - 24 inch SICPP	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Drainage - 24 inch SICPP	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Drainage - 24 inch SICPP	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Drainage - 24 inch SICPP	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Drainage - 24 inch SICPP	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Drainage - 24 inch SICPP	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Drainage - 24 inch SICPP	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Drainage - 6 inch Perforated Underdrain	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Drainage - 6 inch Perforated Underdrain	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Drainage - 6 inch Perforated Underdrain	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Drainage - 6 inch Perforated Underdrain	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Excavation (Borrow)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Excavation (Borrow)	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Excavation (Borrow)	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Excavation (Borrow)	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Excavation (Cut to Fill)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Durchast	Product Construction Activity Construct Trans		Emissions (tons/yr)			
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO ₂	CO ₂ e
Parking Lot	Excavation (Cut to Fill)	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Excavation (Cut to Fill)	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Excavation (Cut to Fill)	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Excavation (Cut to Fill)	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Excavation (Cut to Fill)	Scraper	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Excavation (Topsoil Stripping)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Fencing	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Fencing	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Fencing	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Fencing	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Fencing	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Fencing	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Grading	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Grading	Grader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Grading	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Hydroseeding	Hydroseeder	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Hydroseeding	Off-Road Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Markings	Flatbed Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Markings	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Markings	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Sidewalks	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Sidewalks	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Sidewalks	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Sidewalks	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Sidewalks	Vibratory Compactor	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Soil Erosion/Sediment Control	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Soil Erosion/Sediment Control	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Soil Erosion/Sediment Control	Pumps	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Street Lighting	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Street Lighting	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Street Lighting	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Street Lighting	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Dursia et	Construction Activity Equipment Type			Emission	s (tons/yr)	
Project	Construction Activity	Equipment Type	CH₄	N₂O	CO ₂	CO ₂ e
Parking Lot	Street Lighting	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Street Lighting	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Subbase Placement	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Subbase Placement	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Subbase Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Subbase Placement	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Topsoil Placement	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Topsoil Placement	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Topsoil Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Tree Planting	Flatbed Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Tree Planting	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Tree Planting	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Tree Planting	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 sqft	Construction Mob & Layout	Survey Crew Trucks	5.80E-06	1.01E-04	2.11E+00	2.14E+00
Site Work - 10000 sqft	Construction Mob & Layout	Tractor Trailers Temp Fac.	2.32E-06	4.02E-05	8.44E-01	8.55E-01
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Bulldozer	1.30E-05	1.17E-04	2.46E+00	2.49E+00
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Chain Saws	4.06E-04	1.43E-05	2.35E-01	2.73E-01
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Flat Bed or Dump Trucks	4.64E-05	8.04E-04	1.69E+01	1.71E+01
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Front Loader	2.41E-05	3.09E-05	6.48E-01	6.58E-01
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Grub the site down 2'-0	1.44E-05	2.98E-05	6.24E-01	6.34E-01
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Log Chipper	1.92E-05	5.37E-05	1.13E+00	1.14E+00
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Mulcher	1.92E-05	5.37E-05	1.13E+00	1.14E+00
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Ten Wheelers	2.32E-05	4.02E-04	8.44E+00	8.55E+00
Site Work - 10000 sqft	Site Clearing- Remove Trees & Shrubs	Tractor	4.81E-05	6.19E-05	1.30E+00	1.32E+00
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Bob Cat	1.26E-05	1.39E-05	2.91E-01	2.96E-01



		Emissions (tons/yr)				
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Concrete Ready Mix Trucks	1.39E-05	2.41E-04	5.06E+00	5.13E+00
Site Work - 10000 sqft	Site Restoration- Landscaping (Curbing)	Tractor Trailer with Boom Hoist- Delivery	1.39E-05	2.41E-04	5.06E+00	5.13E+00
Site Work - 10000 sqft	Site Restoration- Landscaping (Rough Grading)	Compacting Equipment	4.86E-06	1.93E-06	4.04E-02	4.13E-02
Site Work - 10000 sqft	Site Restoration- Landscaping (Rough Grading)	Small Dozer	7.78E-06	7.04E-05	1.48E+00	1.50E+00
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Forktruck (Hoist)	4.44E-06	1.49E-04	3.12E+00	3.16E+00
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Roller	1.17E-05	7.44E-05	1.56E+00	1.58E+00
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Seed Truck Spreader	9.28E-06	1.61E-04	3.38E+00	3.42E+00
Site Work - 10000 sqft	Site Restoration- Landscaping (Top Soil Seed and Plantings)	Tractor Trailer- Material Delivery	4.64E-05	8.04E-04	1.69E+01	1.71E+01
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Backhoe	7.22E-05	9.28E-05	1.94E+00	1.97E+00
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Fork Truck	3.33E-06	1.12E-04	2.34E+00	2.37E+00
Site Work - 10000 sqft	Underground Services to 5 ft. of Building	Tractor Trailer- Material Delivery	1.74E-05	3.02E-04	6.33E+00	6.41E+00
Terminal Apron	Clearing and Grubbing	Chain Saw	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Clearing and Grubbing	Chipper/Stump Grinder	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Clearing and Grubbing	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Concrete Placement	Air Compressor	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Concrete Placement	Concrete Saws	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Concrete Placement	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Concrete Placement	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Concrete Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Concrete Placement	Rubber Tired Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Concrete Placement	Slip Form Paver	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Duringt		Emissions (tons/yr)				
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO2	CO ₂ e
Terminal Apron	Concrete Placement	Surfacing Equipment (Grooving)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 24 inch SICPP	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 24 inch SICPP	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 24 inch SICPP	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 24 inch SICPP	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 24 inch SICPP	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 24 inch SICPP	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 24 inch SICPP	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Dust Control	Water Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Borrow)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Borrow)	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Borrow)	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Borrow)	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Cut to Fill)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Cut to Fill)	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Cut to Fill)	Excavator	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Cut to Fill)	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Cut to Fill)	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Cut to Fill)	Scraper	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Excavation (Topsoil Stripping)	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Fencing	Concrete Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Fencing	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Fencing	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Fencing	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Fencing	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Fencing	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Decidat	Construction Activity Equipment Type Emissions (s (tons/yr)		
Project	Construction Activity	Equipment Type	CH₄	N ₂ O	CO ₂	CO ₂ e
Terminal Apron	Grading	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Grading	Grader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Grading	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Hydroseeding	Hydroseeder	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Hydroseeding	Off-Road Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Lighting	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Lighting	Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Lighting	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Lighting	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Lighting	Skid Steer Loader	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Lighting	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Markings	Flatbed Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Markings	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Markings	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Sealing/Fuel Resistant	Distributing Tanker	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Sealing/Fuel Resistant	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Sealing/Fuel Resistant	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Soil Erosion/Sediment Control	Other General Equipment	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Soil Erosion/Sediment Control	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Soil Erosion/Sediment Control	Pumps	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Subbase Placement	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Subbase Placement	Dump Truck (12 cy)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Subbase Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Subbase Placement	Roller	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Topsoil Placement	Dozer	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Topsoil Placement	Dump Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Topsoil Placement	Pickup Truck	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Module Transport	Module Transport	Mammoet PPU Z350 DA	0.00E+00	0.00E+00	0.00E+00	0.00E+00



APPENDIX D: DETAILED FUGITIVES EMISSION INVENTORY DATA FOR PROPOSED PROJECT

- Table D1.Proposed Project, construction-phase fugitives inputs and PM10
emissions.
- Table D2.2021 Proposed Project, construction-phase fugitives criteria air
pollutant emissions.
- Table D3.2021 Proposed Project, construction-phase fugitives greenhouse gas
emissions.
- Table D4.2022 Proposed Project, construction-phase fugitives criteria air
pollutant emissions.
- Table D5.
 2022 Proposed Project, construction-phase fugitives greenhouse gas emissions.



Project Type	Construction Activity	Calculation	Input	Units
Building - 100000 sqft- 10 stories	Concrete Mixing/Batching	V = Volume of asphalt = 0.111 x L x W x 1.25 / 3	3700	yd ³
Building - 100000 sqft- 10 stories	Concrete Mixing/Batching	PM10 = 0.037 x V	0.068	tons
Building - 100000 sqft- 10 stories	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m ³
Building - 100000 sqft- 10 stories	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
Building - 100000 sqft- 10 stories	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	3096	miles
Building - 100000 sqft- 10 stories	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	0.014	tons
Building - 100000 sqft- 10 stories	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Building - 100000 sqft- 10 stories	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Building - 100000 sqft- 10 stories	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	3176	miles
Building - 100000 sqft- 10 stories	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	0.043	tons
Demolition - Building	Soil Handling	u = Wind speed	10.5	mph
Demolition - Building	Soil Handling	m = Moisture content	0.25	fraction
Demolition - Building	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	2063	tons
Demolition - Building	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	0.056	tons
Demolition - Building	Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	1.722	acres
Demolition - Building	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
Demolition - Building	Unstabilized Land and Wind Erosion	CE = Control efficiency *	0	fraction
Demolition - Building	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.33	years
Demolition - Building	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0.108	tons
Demolition - Building	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Demolition - Building	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Demolition - Building	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	1415	miles
Demolition - Building	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	0.019	tons
Demolition - Building	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m ³
Demolition - Building	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
Demolition - Building	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	1290	miles
Demolition - Building	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	0.006	tons
Drainage System	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Drainage System	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Drainage System	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	118.2	miles
Drainage System	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	0.002	tons
Drainage System	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m ³
Drainage System	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
Drainage System	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	0	miles

Table D1. Proposed Project, construction-phase fugitives inputs and PM₁₀ emissions.

Project Type	Construction Activity	Calculation	Input	Units
Drainage System	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	0.000	tons
Drainage System	Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	0.321	acres
Drainage System	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
Drainage System	Unstabilized Land and Wind Erosion	CE = Control efficiency *	0	fraction
Drainage System	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.42	years
Drainage System	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0.026	tons
Drainage System	Soil Handling	u = Wind speed	10.5	mph
Drainage System	Soil Handling	m = Moisture content	0.25	fraction
Drainage System	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	385	tons
Drainage System	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	0.010	tons
Fencing	Soil Handling	u = Wind speed	10.5	mph
Fencing	Soil Handling	m = Moisture content	0.25	fraction
Fencing	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	2882	tons
Fencing	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	0.078	tons
Fencing	Unstabilized Land and Wind Erosion	A = Area affected = $L \times W / 43560.0$	0.918	acres
Fencing	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
Fencing	Unstabilized Land and Wind Erosion	CE = Control efficiency *	0	fraction
Fencing	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.085	years
Fencing	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0.015	tons
Fencing	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Fencing	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Fencing	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	1316	miles
Fencing	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	0.018	tons
Fencing	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m ³
Fencing	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
Fencing	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	1290	miles
Fencing	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	0.006	tons
Fuel Tanks	Concrete Mixing/Batching	V = Volume of asphalt = 0.111 x L x W x 1.25 / 3	2081	yd ³
Fuel Tanks	Concrete Mixing/Batching	PM10 = 0.037 x V	0.039	tons
Fuel Tanks	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Fuel Tanks	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Fuel Tanks	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	3228	miles
Fuel Tanks	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	0.044	tons
Fuel Tanks	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m ³
Fuel Tanks	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
Fuel Tanks	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	2580	miles

Project Type	Construction Activity	Calculation	Input	Units
Fuel Tanks	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	0.012	tons
Fuel Tanks	Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	1.033	acres
Fuel Tanks	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
Fuel Tanks	Unstabilized Land and Wind Erosion	CE = Control efficiency *	0	fraction
Fuel Tanks	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.25	years
Fuel Tanks	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0.049	tons
Fuel Tanks	Soil Handling	u = Wind speed	10.5	mph
Fuel Tanks	Soil Handling	m = Moisture content	0.25	fraction
Fuel Tanks	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	1238	tons
Fuel Tanks	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	0.033	tons
Landscaping	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Landscaping	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Landscaping	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	57.4	miles
Landscaping	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	0.001	tons
Landscaping	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m ³
Landscaping	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
Landscaping	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	0	miles
Landscaping	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	0.000	tons
Landscaping	Soil Handling	u = Wind speed	10.5	mph
Landscaping	Soil Handling	m = Moisture content	0.25	fraction
Landscaping	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	9900	tons
Landscaping	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	0.27	tons
NAVAIDS	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m ³
NAVAIDS	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
NAVAIDS	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	0	miles
NAVAIDS	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	0	tons
Parking Lot	Concrete Mixing/Batching	V = Volume of asphalt = 0.111 x L x W x 1.25 / 3	2775	yd ³
Parking Lot	Concrete Mixing/Batching	PM10 = 0.037 x V	0.051	tons
Parking Lot	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Parking Lot	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Parking Lot	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	2761	miles
Parking Lot	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	0.04	tons
Parking Lot	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m ³
Parking Lot	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
Parking Lot	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	2580	miles
Parking Lot	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	0.012	tons
Parking Lot	Soil Handling	u = Wind speed	10.5	mph

Project Type	Construction Activity	Calculation	Input	Units
Parking Lot	Soil Handling	m = Moisture content	0.25	fraction
Parking Lot	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	1650	tons
Parking Lot	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	0.045	tons
Parking Lot	Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	1.377	acres
Parking Lot	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
Parking Lot	Unstabilized Land and Wind Erosion	CE = Control efficiency	0	fraction
Parking Lot	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.42	years
Parking Lot	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0.11	tons
Site Work - 10000 sqft	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Site Work - 10000 sqft	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Site Work - 10000 sqft	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	5342	miles
Site Work - 10000 sqft	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	0.073	tons
Site Work - 10000 sqft	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m ³
Site Work - 10000 sqft	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
Site Work - 10000 sqft	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	5241	miles
Site Work - 10000 sqft	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	0.02	tons
Site Work - 10000 sqft	Soil Handling	u = Wind speed	10.5	mph
Site Work - 10000 sqft	Soil Handling	m = Moisture content	0.25	fraction
Site Work - 10000 sqft	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	275	tons
Site Work - 10000 sqft	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	0.01	tons
Site Work - 10000 sqft	Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	0.23	acres
Site Work - 10000 sqft	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
Site Work - 10000 sqft	Unstabilized Land and Wind Erosion	CE = Control efficiency *	0	fraction
Site Work - 10000 sqft	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	1.33	years
Site Work - 10000 sqft	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0.06	tons
Terminal Apron	Concrete Mixing/Batching	V = Volume of asphalt = 0.111 x L x W x 1.25 / 3	11100	yd ³
Terminal Apron	Concrete Mixing/Batching	PM10 = 0.037 x V	0.21	tons
Terminal Apron	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
Terminal Apron	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
Terminal Apron	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	7085	miles
Terminal Apron	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	0.10	tons
Terminal Apron	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m ³
Terminal Apron	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
Terminal Apron	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	6450	miles
Terminal Apron	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	0.03	tons
Terminal Apron	Unstabilized Land and Wind Erosion	A = Area affected = $L \times W / 43560.0$	5.51	acres
Terminal Apron	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction



Project Type	Construction Activity	Calculation	Input	Units
Terminal Apron	Unstabilized Land and Wind Erosion	CE = Control efficiency *	0	fraction
Terminal Apron	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.42	years
Terminal Apron	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0.44	tons
Terminal Apron	Soil Handling	u = Wind speed	10.5	mph
Terminal Apron	Soil Handling	m = Moisture content	0.25	fraction
Terminal Apron	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	6600	tons
Terminal Apron	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	0.18	tons

* Conservatively set control efficiency to zero. Watering will be performed once every 2 hours when winds are greater than 5mph, therefore actual control efficiency will be greater than zero.

Device of Terror		Emissions (tons/yr)						
Project Type	Construction Activity	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}	
Building - 100000 sqft- 10 stories	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.85E-02	1.03E-02	
Building - 100000 sqft- 10 stories	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-02	3.59E-03	
Building - 100000 sqft- 10 stories	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.35E-02	4.35E-03	
Demolition - Building	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.00E-03	1.50E-03	
Demolition - Building	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E-02	1.94E-03	
Demolition - Building	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.57E-02	8.35E-03	
Demolition - Building	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-01	1.61E-02	
Drainage System	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Drainage System	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.62E-03	1.62E-04	
Drainage System	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-02	1.56E-03	
Drainage System	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.56E-02	3.83E-03	
Fencing	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.00E-03	1.50E-03	
Fencing	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.80E-02	1.80E-03	
Fencing	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.78E-02	1.17E-02	
Fencing	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.48E-02	2.22E-03	
Fuel Tanks	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.85E-02	5.78E-03	
Fuel Tanks	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-02	2.99E-03	
Fuel Tanks	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.42E-02	4.42E-03	
Fuel Tanks	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.34E-02	5.01E-03	

Table D2. 2021 Proposed Project, construction-phase fugitives criteria air pollutant emissions.

DFW

		Emissions (tons/yr)					
Project Type	Construction Activity	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
Fuel Tanks	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.89E-02	7.34E-03
Landscaping	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NAVAIDS	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.13E-02	7.70E-03
Parking Lot	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-02	2.99E-03
Parking Lot	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.78E-02	3.78E-03
Parking Lot	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.46E-02	6.68E-03
Parking Lot	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E-01	1.63E-02
Site Work - 10000 sqft	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.83E-02	4.57E-03
Site Work - 10000 sqft	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.50E-02	5.50E-03
Site Work - 10000 sqft	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.58E-03	8.38E-04
Site Work - 10000 sqft	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.36E-02	6.54E-03
Terminal Apron	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.05E-01	3.08E-02
Terminal Apron	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.99E-02	7.48E-03
Terminal Apron	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.70E-02	9.70E-03
Terminal Apron	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.78E-01	2.67E-02
Terminal Apron	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.36E-01	6.54E-02

Table D3. 2021 Proposed Project, construction-phase fugitives greenhouse gas emissions.

Ducie of Trune	Construction Activity		Emission		
Project Type	Construction Activity	CH₄	N ₂ O	CO2	CO ₂ e
Building - 100000 sqft- 10 stories	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Material Movement (Unpaved				
Building - 100000 sqft- 10 stories	Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Material Movement (Unpaved				
Demolition - Building	Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00

DFW

			Emissions (tons/yr)				
Project Type	Construction Activity	CH₄	N ₂ O	CO ₂	CO ₂ e		
	Material Movement (Unpaved						
Drainage System	Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Drainage System	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Drainage System	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fencing	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
	Material Movement (Unpaved						
Fencing	Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fencing	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fencing	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fuel Tanks	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fuel Tanks	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fuel Tanks	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fuel Tanks	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fuel Tanks	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Landscaping	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Landscaping	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Landscaping	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
NAVAIDS	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Parking Lot	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Parking Lot	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Parking Lot	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Parking Lot	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Parking Lot	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Site Work - 10000 saft	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Site Work - 10000 saft	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Site Work - 10000 saft	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Site Work - 10000 saft	Unstabilized Land and Wind Frosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Terminal Apron	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Terminal Apron	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
	Material Movement (Unpaved	0.002.00	0.002.00	0.002.00	0.002.00		
Terminal Apron	Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Terminal Apron	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Terminal Apron	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00		



Durale of Towns	O and the state of a state in the	Emissions (tons/yr)					
Project Type	Construction Activity	NOx	со	VOC	SO ₂	PM ₁₀	PM _{2.5}
Building - 100000 sqft- 10 stories	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Building - 100000 sqft- 10 stories	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Material Movement (Unpaved						
Building - 100000 sqft- 10 stories	Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Material Movement (Unpaved	0.005.00	0.005.00	0.005.00	0.005.00	0.005.00	0.005.00
Demolition - Building	Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Demolition - Building	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Drainage System	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
U	Material Movement (Unpaved						
Fencing	Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fencing	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Material Movement (Unpaved						
Fuel Tanks	Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fuel Tanks	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Landscaping	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Material Movement (Unpaved						
Landscaping	Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.86E-04	7.86E-05
Landscaping	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.67E-01	4.01E-02
NAVAIDS	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking I of	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Parking Lot	Soil Handling	0.00F+00	0.00F+00	0.00F+00	0.00F+00	0.00F+00	0.00F+00
Parking Lot	Unstabilized Land and Wind Frosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Site Work - 10000 saft	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.03E-03	1.51E-03
	Material Movement (Unpaved	0.002.00	0.002.00	0.002.00	0.002.00	5.00L 00	
Site Work - 10000 saft	Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1 81E-02	1 81E-03

Table D4. 2022 Proposed Project, construction-phase fugitives criteria air pollutant emissions.

DFW Air Quality and Climate Change Assessment: Final Technical Report



		Emissions (tons/yr)					
Project Type	Construction Activity	NOx	NOX CO VOC SO ₂ PM				PM _{2.5}
Site Work - 10000 sqft	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.84E-03	2.76E-04
Site Work - 10000 sqft	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-02	2.16E-03
Terminal Apron	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Terminal Apron	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	Table	D5.	2022 Pro	posed P	roiect.	construction-	phase fi	aitives	areenhouse	aas emissions.
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Davis of Tame			Emissions (tons/yr)				
Project Type	Construction Activity	CH₄	N ₂ O	CO ₂	CO ₂ e		
Building - 100000 sqft- 10 stories	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Building - 100000 sqft- 10 stories	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Building	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Building	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Building	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Demolition - Building	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Drainage System	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Drainage System	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Drainage System	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Drainage System	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fencing	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fencing	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fencing	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fencing	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fuel Tanks	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fuel Tanks	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fuel Tanks	Material Movement (Unpaved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fuel Tanks	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Fuel Tanks	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
Landscaping	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00		

DFW

			Emissions (tons/yr)			
Project Type	Construction Activity	CH₄	N ₂ O	CO ₂	CO ₂ e	
	Material Movement (Unpaved					
Landscaping	Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Landscaping	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
NAVAIDS	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
	Material Movement (Unpaved					
Parking Lot	Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Parking Lot	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
	Material Movement (Unpaved					
Site Work - 10000 sqft	Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Site Work - 10000 sqft	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Concrete Mixing/Batching	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Material Movement (Paved Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
	Material Movement (Unpaved					
Terminal Apron	Roads)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Soil Handling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Terminal Apron	Unstabilized Land and Wind Erosion	0.00E+00	0.00E+00	0.00E+00	0.00E+00	

Appendix F: Project Dust Control Plan

SITE-SPECIFIC DUST CONTROL PLAN

Any reference to "Contractor" in this Dust Control Plan or attached documents refers to AHP+P JV H.J. Russell – Phillips/May + PGAL Joint Venture (AHP+P JV).

Project Number:	TBD
Project Name:	Terminal C – High C Gates Demolition and Rebuild
Project Address:	TBD
Contract Number:	9500728
Date Produced:	10/1/2020
Revision Dates:	



ARCHER WESTERN - H. J. RUSSELL - PHILLIPS/MAY JOINT VENTURE

Proprietary Property of Archer Wester – H.J. Russell – Phillips/May Joint Venture

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1.0 INTRODUCTION

The purpose of the dust control plan is to identify the measures that will be taken to minimize dust. This Dust Control Plan will outline the requirements and methods for minimizing dust generation during planned construction activities.

Best management practices (BMPs) will be implemented on the project. BMPs will include wetting active construction areas, minimizing or ceasing activity during periods of high wind (greater than 30 miles per hour), sweeping or wetting paved areas, and wetting unpaved areas. The Dust Control Plan (DCP) provides specific information about the generation and control of dust emissions during excavation, concrete, stockpiling, stabilization, back filling and associated activities. In conjunction with the Accident Prevention Plan (APP), the Environment Protection Plan (EPP), and the Waste Management Plan (WMP), the following sections detail potential dust sources and dust control means and methods.

1.1 Wind Monitoring and Dust Prevention Team

These Contractor points of contact have the authority to implement additional dust control provisions and stop work provisions. These members are also responsible for maintenance and revisions of the plan:

Ellen Wilson: Senior Project Manager - (312)-656-0690

Jeff Charleton: Senior Superintendent - (214)-228-5686

2.0 DUST CONTROL

Proactive controls will be instituted to reduce the amount of dust generation during site activities, including but not limited to:

- The application of water to access/haul roads, parking lots, and other areas of site as required.
- Installing paved access/haul roads and parking lots.
- Enforcement of low speed limits for vehicular traffic on access/haul roads and in parking lots.
- Trash and construction debris placed in appropriate containers and regularly emptied.
- Openings in existing buildings larger than 96 square inches will require the construction of partition walls on the interior side of the opening in order to minimize dust from entering the building. The partition walls will consist of metal stud framing, drywall, and sealing of the joints. Prior to the work, AHP+P JV will notify DFW.

If the sustained wind speed (the wind speed obtained by averaging the measured values over a oneminute period exceeds) 30 miles per hour, it is a "high wind condition." When there is a high wind condition, all construction activities must cease until the sustained wind speed declines to 20 miles per hour or lower for at least 15 consecutive minutes. Non-dust producing activities (equipment maintenance, etc.) may still be conducted during these periods.

2.1 Training of Personnel

AHP+P JV and affiliates will implement a dust control training program for all site personnel. This training program will review the potential dust, individual responsibilities, and actions for

controlling dust as described in this plan. The training will be done during the site-specific safety orientation and done as a job wide safety training. The training will emphasize the importance of dust control to the overall success of the construction activities and familiarize site personnel with the dust control plan. Dust Control is also addressed in the JHA of each contractor of who it pertains.

2.2 Inspecting and Maintenance

A visual inspection of the site will be monitored daily. AHP+P JV and affiliates will log all environmental observations in the daily reports. The daily dust control log (Appendix A) will also be recorded and dept up to date by AHP+P JV. This is a binder kept in the AHP+P JV jobsite trailer.

3.0 POTENTIAL DUST AND GENERATION ACTIVITIES AND PROPOSED CONTROLS

Site construction activities will have the potential to generate emissions in the form of fugitive dust. Dust control methods will vary based on the activities occurring at the site. Dust control methods are summarized by source below. Table 3-1 describes the activities to be conducted during the construction activities which have the potential to generate dust and the respective dust control measures.

Table 3-1				
Potential Dust Generation Activities and Proposed Control				
Activity	Proposed Controls			
General Construction Activities	Use of water truck for all material handling activities and otherwise as needed. Adjust the excavation rate. Suspend work under high wind conditions until sustained wind speed is below 30 mph for at least 15 consecutive minutes or if visible dust is leaving the work area. If work ceases under high wind conditions, watering operations will continue. Every two to three hours.			
General Cleanup	Use of wet ride on sweeper truck for haul/access roads and parking lots as required (only applicable if paved). Utilize sweeping compound when hand sweeping inside construction work areas.			
Truck Traffic	Wetting unpaved haul roads during the start of activities each day.			
Demolition	Water spray/mist to wet work areas prior to beginning work each day and adjust the demolition rate. Suspend work under high wind conditions.			
Excavation	Water spray/mist to wet work areas prior to beginning work and adjust the excavation rate.			

	Suspend work under high wind conditions.
	Drillers will control excessive dust from spoils
	with water.
Concrete Drilling/Coring Saw cutting	Wet cutting or OSHA approved vacuum system.
Abrasive Blasting	Tarpaulin drop cloths and windscreens will be
	used to enclose abrasive blasting operations. Will
	comply with TCEQ Air permitting as required by
	the State of Texas for all abrasive blasting
	operations.

3.1 Dust Suppression Measures

If visible dust is present in the active work zone, increased wetting of the area using water trucks will be implemented. The water trucks will be supplied by the on-site metered hydrant. If visible dust is observed leaving the active work zone, work will stop until additional dust control measures are implemented. These additional dust control measures may include:

- Increased wetting of work area
- Adjusting the rate/speed and/or quantity of equipment in the work area

Stockpiles will be sprayed with the approved soil binder as needed for dust suppression. AHP+P JV proposes to review forecast conditions and if they indicate excessive winds will be present over weekends and holidays, a plan will be in place for what dust control measures will be implemented.

3.2 On-Site Transportation

All employee vehicles will enter the fabrication yard from Airfield Drive. Employees will park in the designated parking area on the west side of the yard. Vehicle travel on unpaved roads will be limited to 10 miles per hour. Project personnel are required to obey posted speed limits to prevent wind turbulence and associated dust generated at higher vehicle and equipment velocities. Off road travel on unimproved roads will be limited to construction equipment, support vehicles and material delivery trucks. All delivery trucks exiting and entering the facility will be required to have a cover over materials that could possibly generate dust.

All on-site construction vehicles will enter through the landside entrance created by the Change of Condition and monitored by DFW. No private vehicles will be allowed into the site.

3.3 Off-Site Tracking

All temporary roads used for access will be aggregate base and watered daily to reduce the amount of dust generated. The track out of the fabrication yard will be 6 inches of gravel overlaid on two layers of 0.015 mm 6-mil thick geotextile fabric or a single layer of 10-mil thick geotextile fabric. The use of a cattle guard may also be used as an alternative. For water conservation, water will be applied with an approved soil binder.

Appendix A – Dust Log Template

		DUST C	ONTROL RE	ECORD KEE	PING FORMS					
	SELE	INSPECTION A		FASURE APPLIC		ounty Dust PERM	Т #•			
DATE	Temps		Trackout Control			STABILI				
	Hi/Low		Device	Trackout	Parking/staging	Unpaved Roads	Open Areas	Storage Piles	Water Application	Water Supply
		Self								
	Precip.	Question	P / C	P / C	P / C	P / C	P / C	P / C	P / C	P / C
		Control	Maintenance	Cleaning	Moisture / Crust	Moisture / Crust	Moisture / Crust	Moisture / Crust	App. Equipment	Source
	0.00 in	Application - Method, Frequency, Intensity								
DATE	Temps		Trackout Control			STABILI	ZATION			
	Hi/Low		Device	Trackout	Parking/staging	Unpaved Roads	Open Areas	Storage Piles	Water Application	Water Supply
	Precip. 0.00 in	Self Inspection Control Measure	P / C Maintenance	P / C Cleaning	P / C Moisture / Crust	P / C App. Equipment	P / C Source			
		Method, Frequency, Intensity								
DATE	Temps		Trackout Control Device			STABILI			_	
	Hi/Low	Self Inspection		Trackout	Parking/staging	Unpaved Roads	Open Areas	Storage Piles	Water Application	Water Supply
	Precip.	Control	P/C	P / C	P / C	P / C	P/C	P/C	P / C	P / C
	0.00in	Measure Application - Method, Frequency, Intensity	Maintenance	Cleaning	Moisture / Crust	Moisture / Crust	Moisture / Crust	Moisture / Crust	App. Equipment	Source

Appendix B – MSDS for Sweeping Compound

SAFETY DATA SHEET WAX BASE SWEEPING COMPOUND

SECTION 1 – PRODUCT AND COMPANY INFORMATION

MANUFACTURER: SORB-ALL COMPANY - 2300 NANCE - HOUSTON, TEXAS 77020 713 223-4575 - FAX: 713 223-4579 **PRODUCT FAMILY:** WAX BASE SWEEPING COMPOUND EMERGENCY PHONE: 713 223-4575 "GREEN WAX BASE" FLOOR SWEEPING COMPOUND **PRODUCT NAME:** MODEL NUMBERS 3002, and 3003 PRODUCT CODES: **VERSION DATE:** MAY 29, 2015

SECTION 2 – HAZARD IDENTIFICATION

CLASSIFICATION: NOT CLASSIFIED AS HAZARDOUS ACCORDING TO 29 CFR 19010.1200 (2012)

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

MATERIAL WOODFIBRE SAWDUST **BLUE/GREEN**

CAS NO. NA

WT %

CAS#147-14-8

SECTION 4 – FIRST AID MEASURES DESCRIPTION OF FIRST AID MEASURES

GENERAL ADVICE: CONSULT A PHYSICIAN. MOVE OUT OF DANGEROUS AREA.

IF INHALED: IF BREATHED IN, MOVE PERSON INTO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT A PHYSICIAN.

IN CASE OF SKIN CONTACT: WASH OFF WITH SOAP AND PLENTY OF WATER. CONSULT A PHYSICIAN IN CASE OF EYE CONTACT: RINSE THOROUGHLY WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND CONSULT PHYSICIAN.

IF SWALLOWED: DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSICIOUS PERSON. RINSE MOUTH WITH WATER.

MOST IMPORTANT SYMPTOMS AND EFFECTS BOTH ACUTE AND DELAYED: SEE SECTION 11. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION

SECTION 5 – FIREFIGHTING MEASURES

EXTINGUISHING MEDIA: WATER FOG, CO2, HALON, OR FOAM. SPECIAL FIREFIGHTING PROCEDURES AND HAZARDS: NONE KNOWN. **SPILLS AND LEAKS**: RECOVER FREE MATERIALS-NO SPECIAL METHOD **STORAGE AND HANDLING**: KEEP AWAY FROM HIGH HEAT SOURCE **WASTE DISPOSAL**: MAY BE DISPOSABLE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS OR INCINERATE BY STATE OR LOCAL LAWS. EMPTY CONTAINERS: RECYCLABLE PAPERBOARD AND POLY BAG OTHER PRECAUTIONS: N/A

> SECTION 7 – HANDLING AND STORAGE PRECAUTIONS FOR SAFE HANDLING AND STORAGE: PRODUCT DOES NOT PRESENT HAZARDS. CONDITONS OF SAFE STORAGE: KEEP AWAY FROM INCOMPATIBILE MATERIALS

SECTION 8 – EXPOSURE CONTROL AND PERSONAL PROTECTION

COMPONENT EXPOSURE LIMITS: OSHA PEL TWO 15 MG/M3 (TOTAL DUST) 5.0 MG/M3 RESPIRABLE DUST. EXPOSURE CONTROLS: AIRBORNE DUSTING CONDITIONS OF THIS MATERIAL DO NOT EXIST BECAUSE OF A UNIFORM COAGULATED COMPOUND MIX.

APPROPRIATE ENGINEERING CONTROLS: HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE PRACTICES. **PERSONAL PROTECTIVE EQUIPMENT**: NOT NORMALLY REQUIRED.

EYE/FACE PROTECTION: NOT NORMALLY REQUIRED.

SKIN PROTECTION; NOT NORMALLY REQUIRED.

BODY PROTECTION: NOT NORMALLY REQUIRED.

RESPIRATORY PROTECTION: NOT NORMALLY REQUIRED.

CONTROL OF ENVIRONMENTAL EXPOSURE: PRODUCT DOES NOT LEND ITSELF TO SPILLS OR LEAKAGE.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

GENERAL INFORMATION:	VAPOR DENISTY: N/A
APPEARANCE: SOLID HOMOGENEOUS MIXTURE	FREEZING POINT/MELTING
COLOR: RED OR GREEN	POINT: N/A
ODOR: PINE OIL	SPEC. GRAVITY: N/A
IMPORTANT HEALTH, SAFETY AND	WATER SOLUBILITY: NO
ENVIRONMENTAL INFORMATION BOILING POINT/RANGE: NA	VAPOR PRESSURE: N/A
FLASH POINT:	BOILING POINT: N/A
AUTO IGNITION TEMP:	VOC CONTENT: NONE
LOWER FLAMMABILITY LIMIT: NA	FLASH POINT (METHOD):
UPPER FLAMMABILITY POINT: NA	N/A
VAPOR PRESSURE: NA	EXPLOSION LIMITS: UPPER:
	N/A LOWER: N/A
	OTHER INFORMATION
	VOL
	ATIL
	ITY:
	N/A
	WEI

GHT/ GAL:

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: STABLE **HAZARD REACTION POTENTIAL:** NONE KNOWN **CONDITIONS TO AVOID**; NONE KNOWN **INCOMPATIBLE PRODUCTS**: AVOID CONTACTS WITH OXIDIZING AGENTS.

HAZARD DECOMPOSITION PRODUCTS: THERMAL OXIDATIVE DEGRADATION OF WOOD PRODUCES IRRITATING AND TOXIC FUMES AND GASES INCLUDING CO2, ALDEHYDES AND ORGANIC ACIDS. **HAZARDOUS POLYMERIZATION**: DOES NOT OCCUR.

SECTION 11 – TOXICOLOGICAL INFORMATION

INHALATION: N/A SKIN: EXTENDED CONTACT COULD CAUSE IRRITATION. SOME PERSONNEL ARE MORE SENSITIVE THAN OTHERS, WEAR GLOVES IF NECESSARY. EYES: CAN CAUSE IRRITATION. WEAR GLASSES OR GOGGLES AS NEEDED. IF MATERIAL GETS INTO EYES, FLUSH WITH WATER IMMEDIATELY FOR 15 MINUTES. IF IRRITATION PERSISTS, CONSULT A PHYSICIAN. INGESTION: NO EFFECTS REPORTED.

MOST LIKELY ROUTES OF ENTRY: SKIN, EYES

SECTION 12 – ECOLOGICAL INFORMATION

TOXICITY: PRODUCT DOES NOT LEND ITSELF TO SPILLS: **PERSISTENCE AND DEGRADABILITY**: NO INFORMATION **BIOACCUMULATIVE POTENTIAL**: NO INFORMATION **MOBILITY IN SOIL**: PRODUCT DOES NOT LEND ITSELF TO SPILLS. **OTHER ADVERSE EFFECTS**: NONE KNOWN.

SECTION 13 – DISPOSAL CONSIDERATION

PRODUCT: CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE. **CONTAMINATED PACKAGING:** DISPOSE OF AS UNUSED PRODUCT.

SECTION 14 – TRANSPORT INFORMATION

NOT REGULATED

SECTION 16 – OTHER INFORMATION

PLEASE NOTE: THIS SDS IS BEING PROVIDED TO YOUR COMPANY FOR THE PURPOSE OF PROVIDING CURRENT HEALTH AND SAFETY INFORMATION TO YOUR MANAGEMENT AND FOR YOUR EMPLOYEES WHO WORK WITH THIS MATERIAL. PLEASE READ THE INFORMATION ON THESE SHEETS, AND THEN PROVIDE THIS INFORMATION TO THOSE PEOPLE AT YOUR COMPANY WHOSE RESPONSIBILITY IT IS TO COMPLY WITH FEDERAL AND STATE RIGHT-TO-KNOW REGULATIONS. ALSO MAKE THIS INFORMATION AVAILABLE TO ANY EMPLOYEE WHO REQUESTS IT. IT IS YOUR OBLIGATION TO COMPLY WITH THESE REGULATIONS

SORB-ALL COMPANY - 2300 NANCE - HOUSTON, TEXAS 77020- SAFETY DATA SHEET - PAGE 2 oF 2

Appendix C – Product Data for Soil Binder

Archer Western to use or similar product



800.545.5420 usa 001.480.545.5454 International www.soilworks.com 7580 N Dobson Rd, Suite 320 Scottsdale, AZ 85256 USA info@soilworks.com

DURASOIL[®] SAFETY DATA SHEET

SEC	TION 1 -IDENTIFICATION
PRODUCT NAME	DURASOIL Ultra-Pure Synthetic Dust Control Fluid
RELATED PATENTS	U.S. Patent No. 8,968,592 Additional patents may be pending in the U.S. and elsewhere
CHEMICAL FAMILY	Non-Petroleum Synthetic Alkane Fluid
COMMON NAMES	Dust Binder, Dust Control Agent, Dust Control Material, Dust Inhibitor, Dust Palliative, Dust Retardant, Dust Stabilizer and Dust Suppressant
MANUFACTURER	Soilworks, LLC – Soil Stabilization & Dust Control 7580 N Dobson Rd, Ste 320 Scottsdale, Arizona 85256 USA (800) 545-5420 USA +1 (480) 545-5454 International info@soilworks.com www.soilworks.com
EMERGENCY PHONE NUMBERS	(800) 545-5420 USA +1 (480) 545-5454 International
U.S. DATA UNIVERSAL NUMBERING S Soilworks, LLC	YSTEM (DUNS NUMBER) 131946159
U.S. DEPARTMENT OF DEFENSE COMM Soilworks, LLC	IERCIAL AND GOVERNMENT ENTITY CODE (CAGE CODE) 3FTH5
U.S. DEPARTMENT OF DEFENSE NATIO 275-gallon (1,041 Liter) 55-gallon (208 Liter)	DNAL STOCK NUMBERS (NSN)ntermediate Bulk Container (IBC) Tote6850-01542-5354Drum6850-01-542-3715
U.S. GENERAL SERVICES ADMINISTRA Soilworks, LLC	TION (GSA) CONTRACT GS-07F-5364P October 31, 2018
SYNONYMS/OTHER MEANS OF IDENT	IFICATION

Durasoil is a synthetic fluid based dust binder, dust control agent, dust control fluid, dust control liquid, dust control material, dust control product, dust inhibitor, dust palliative, dust retardant, dust stabilizer and dust suppressant.

INTENDED USES

Durasoil is an environmentally safe, 100% non-petroleum, genuine synthetic fluid binder used for a wide variety of applications to abate dust, control dust, eliminate dust, inhibit dust, mitigate dust, reduce dust, retard dust, stabilize dust, stop dust and suppress dust for dust abatement, dust control, dust elimination, dust mitigation, dust reduction, dust stabilization and dust suppression.



800.545.5420 USA 001.480.545.5454 International www.soilworks.com 7580 N Dobson Rd, Suite 320 Scottsdale, AZ 85256 USA info@soilworks.com

SECTION 2 – HAZARDS IDENTIFICATION

This material is NOT considered hazardous according to OSHA criteria.

	Emergency Overview
Appearance:	Bright clear (colorless) viscous liquid (fluid).
Odor:	None. Odorless.
Health Hazards:	Harmful: may cause lung damage if swallowed.
Safety Hazards:	Nonflammable, but will burn on prolonged exposure to flame for high temperature.
Environmental Hazards:	NOT classified as dangerous for the environment.

HEALTH HAZARDS

INHALATION	Under normal conditions of use, this material is NOT expected to be a primary route of		
	exposure.		
SKIN CONTACT	Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as acne/folliculitis.		
EYE CONTACT	May cause slight irritation to eyes.		
INGESTION	Harmful: may cause lung damage if swallowed.		

SIGNS AND SYMPTOMS

If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. The onset of respiratory symptoms may be delayed for several hours after exposure. Ingestion may result in nausea, vomiting and/or diarrhea.

U.S. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 704 HAZARD CLASS

Health	0	No unusual hazard
Flammability	1	Nonflammable, but will burn on prolonged exposure to flame for high temperature.
Reactivity	0	Stable, non-reactive and non-explosive

U.S. HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS) RATING

Health	0	No significant risk to health
Flammability	1	Nonflammable, but will burn on prolonged exposure to flame for high temperature.
Physical Hazard	0	Stable, non-reactive and non-explosive
Personal Protection	-	No special hazard under normal use

SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

#	COMPONENT	%	CASRN
1.	A complex mixture of synthetic linear, branched and cyclic alkanes	Trade secret	Non-Hazardous
2.	Proprietary	Trade secret	Non-Hazardous

SECTION 4 – FIRST-AID MEASURES

EYE CONTACT

If irritation or redness develops from exposure, flush eyes with clean water. If irritation persists, seek medical attention.

SKIN CONTACT

No treatment necessary under normal conditions of use. Remove contaminated clothing. Wash affected area with mild soap and water. If irritation or redness develops and persists, seek medical attention.



Soil Stabilization & Dust Control

800.545.5420 USA 001.480.545.5454 International www.soilworks.com 7580 N Dobson Rd, Suite 320 Scottsdale, AZ 85256 USA info@soilworks.com

INHALATION

No treatment necessary under normal conditions of use. If breathing difficulties develop move victim away from source of exposure and into fresh air in a position comfortable for breathing. If symptoms persist, seek medical attention.

INGESTION

No treatment necessary under normal conditions of use. If swallowed do not induce vomiting. If symptoms persist, seek medical attention.

SECTION 5 – FIRE-FIGHTING MEASURES

FLAMMABILITY

Nonflammable, but will burn on prolonged exposure to flame or high temperature.

FLASH POINT	420° F (216° C)	ASTM D-93 (PMCC)
	474° F (246° C)	ASTM D-92 (COC)

AUTOIGNITION TEMPERATURE >605° F (>318° C)

EXTINGUISHING MEDIA

Use foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

SPECIAL FIRE FIGHTING PROCEDURES & PROTECTIVE EQUIPMENT

Do NOT use water in a jet. Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

SPECIFIC HAZARDS

Hazardous combustion products may include: a complex mixture of airborne solid and liquid particulates and gasses (smoke). Carbon monoxide. Unidentified compounds.

U.S. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 704 HAZARD CLASS

Health	0	No unusual hazard
Flammability	1	Nonflammable, but will burn on prolonged exposure to flame or high temperature.
Reactivity	0	Stable, non-reactive and non-explosive

(0 – Minimal, 1 – Slight, 2 – Moderate, 3 – Serious, 4 – Severe)

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet. See Chapter 13 for information on disposal. Observe the relevant local and international regulations.

PROTECTIVE MEASURES

Stop the leak, if possible. Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches, sewers, rivers or open bodies of water by using sand, earth or other appropriate barriers.

CLEAN-UP METHODS

Avoid accidents, clean up immediately. Slippery when spilled. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.



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ADDITIONAL ADVICE

Local authorities should be advised if significant spillages cannot be contained.

SECTION 7 - HANDLING AND STORAGE

GENERAL PRECAUTIONS

Use local exhaust ventilation if there is risk of inhalation of vapors, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

STORAGE

Keep container tightly closed in a cool, well-ventilated place. Use properly labelled and closeable containers.

HANDLING

Avoid breathing vapors or mist. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. When handling product in drums, safety footwear should be worn and proper handling equipment should be used.

RECOMMENDED MATERIALS

For containers or container linings, use mild steel or high density polyethylene.

ADDITIONAL INFORMATION

Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS

ACGIH (mist) :	TWA (inhalable fraction)	5 mg/m ³
OSHA Z1 (Mist):	PEL	5 mg/m ³
OSHA Z1A (Mist):	TWA	5 mg/m ³

EXPOSURE CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

RESPIRATORY PROTECTION

Respiratory protection is NOT required under normal conditions of use in a well-ventilated workplace. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapors.

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HAND PROTECTION

PROTECTION Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed with soap and water and dried thoroughly.

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EYE PROTECTION

Eye protection is NOT required under normal conditions of use. If material is handled such that it could be splashed into eyes, wear splash-proof safety goggles or full face shield.

PROTECTIVE CLOTHING

Skin protection is NOT required under normal conditions of use or for single, short duration exposures. For prolonged or repeated exposures, use impervious chemical resistant boots, gloves and/or aprons over parts of the body subject to exposure.

MONITORING METHODS

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

ANILINE POINT ASH CONTENT **AUTO IGNITION TEMPERATURE BOILING POINT CLOUD POINT** COLOR CONDUCTIVITY DENSITY DIELECTRIC STRENGTH FLASH POINT (ASTM D92 COC) FLASH POINT (ASTM D93 PMCC) **KINEMATIC VISCOSITY** ODOR **OIL SHEEN** PH PHYSICAL FORM **POUR POINT** SPECIFIC GRAVITY **VAPOR DENSITY** (Air = 1) VAPOR PRESSURE VISCOSITY INDEX WATER CONTENT WATER SOLUBILITY

235 °F (113 °C) <0.01% (None detected) >605° F (>318° C) 464 °F (240 °C) -22 °F (-30 °C) None. Colorless, clear and bright 5,886 pS/m <6.8 lb/gal (816 kg/m³) @ 59 °F (15 °C) 46 MV/m 474 °F (246 °C) 420 °F (216 °C) 4 cSt @ 212 °F (100 °C) None, Odorless None. Oil sheen free Not applicable. Not an aqueous solution Liquid, Synthetic Fluid -40 °F (-40 °C) 0.8155 @ 59 °F (15 °C) >1 <0.5 Pa @ 68 °F (20 °C) 130 (minimal change with temperature) <0.01% (None detected) Insoluble

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SECTION 10 - STABILITY AND REACTIVITY

CHEMICAL STABILITY

Stable.

CONDITIONS TO AVOID

Extreme heat.

MATERIALS TO AVOID

Strong oxidizing agents.

HAZARDOUS DECOMPOSITION

Hazardous decomposition products are NOT expected to form during normal storage.

CORROSIVITY

Non-corrosive.

AIRCRAFT SURFACE REACTIVITY

Non-injurious to aircraft surfaces (Boeing Specification D6-17487 revision R)

Sandwich Corrosion
Acrylic Crazing
Paint Softening
Hydrogen Embrittlement

Ing Specification D6-17 Pass / Conforms Pass / Conforms Pass / Conforms Pass / Conforms

No corrosion No crazing, cracking or etching No hardness change, discoloration or staining No failure

SECTION 11 - TOXICOLOGICAL INFORMATION

SKIN IRRITATION

Expected to be slightly irritating. Prolonged or repeated contact may cause defatting of the skin which can lead to dermatitis.

EYE IRRITATION

Expected to be slightly irritating.

RESPIRATORY IRRITATION

Inhalation of vapors or mists may cause irritation.

SENSITIZATION

NOT expected to be a skin sensitizer.

REPEATED DOSE TOXICITY

NOT expected to be a hazard.

CARCINOGENICITY

Components are NOT known to be associated with carcinogenic effects.

OSHA U.S. Occupational Safety and Health Administration

NTP U.S. National Toxicology Program

IARC World Health Organization International Agency for Research on Cancer

Prop 65 California Office of Environmental Health Hazard Assessment Proposition 65

Hazard Assessment Proposition 65 No

Not listed as carcinogenic Not listed as carcinogenic Not listed as carcinogenic Not listed as carcinogenic

REPRODUCTIVE AND DEVELOPMENTAL TOXICITY

NOT expected to be a hazard.



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BENZENE & NAPHTHALENE DIOXINS & FURANS (PCDDs / PCDFs) HALOGENATED VOLATILE ORGANICS METALS (TCLP) **METALS METALS MUTAGENICITY** PESTICIDES, HERBICIDES AND PCBS PESTICIDES, HERBICIDES AND PCBS (TCLP) PHENOLIC COMPOUNDS POLYCHLORINATED BIPHENYL (PCBs) POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) SEMI-VOLATILE ORGANIC COMPOUNDS SEMI-VOLATILE ORGANIC COMPOUNDS (SVOC) SEMI-VOLATILE ORGANIC COMPOUNDS (TCLP) VOLATILE ORGANIC COMPOUNDS (TCLP) VOLATILE ORGANIC COMPOUNDS (VOC)

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None Detected - EPA 5030B & 8260B None Detected - QC066-97, GC-MS None Detected - EPA 5030B & 8260B None Detected - EPA 6010B & 7470A None Detected - EPA 200.7 & 245.1 None Detected - EPA 6020 & 3050B, ICP None Detected – APHA 8030B None Detected - EPA 8151A None Detected - EPA 8081A & 8151A None Detected - QC066-97, GC-MS None Detected – GC-MS None Detected - EPA 3510, QC058-97, GC-MS None Detected - EPA 3510 & 8270, GC-MS None Detected - EPA 8270C None Detected - EPA 8270 & 1311 None Detected - EPA 8260 None Detected - EPA 8260B

SECTION 12 - ECOLOGICAL INFORMATION

Based on EPA guidelines, Durasoil is classified as practically non-toxic to all species. When used and applied properly, Durasoil is not known to pose any ecological problems.

AQUATIC TOXICITY

Bacterium	Aliivibrio fischeri		15 minute	IC ₅₀	>500,000 mg/L
Fathead Minnow	Pimephales promelas		7 day	IC ₂₅	>2,000 mg/L
Fathead Minnow	Pimephales promelas		7 day	IC ₅₀	>39,000 mg/L
Fathead Minnow	Pimephales promelas		7 day	LC ₅₀	>28,000 mg/L
Microalga	Pseudokirchneriella sub	ocapita	96 hour	IC ₅₀	>500,000 mg/L
Mysid Shrimp	Americamysis bahia		7 day	IC ₂₅	>1,000 mg/L
Mysid Shrimp	Americamysis bahia		7 day	LC ₅₀	>2,000 mg/L
Rainbow Trout	Oncorhynchus mykiss		96 hour	LC ₅₀	>2,000 mg/L
Water Flea	Daphnia magna		48 hour	LC ₅₀	18,000 mg/L
TERRESTRIAL TOXICITY					
	Seed germination		120 hour	I Cro	>680 000 mg/l
	Root elongation		120 hour	EC ₅₀	>13 000 mg/l
Earthworm	Eisenia andrei		14 day	LC ₅₀	>670.000 mg/L
			,	- 50	

DEGRADABILITY

Major constituents are expected to be readily biodegradable

MOBILITY

Liquid under most environmental conditions. Floats on water. If it enters soil, it will adsorb to the soil particles and will NOT be mobile.



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OTHER ADVERSE EFFECTS

The synthetic fluid contains non-volatile components, which are NOT expected to be released to air in any significant quantities. Synthetic fluid is NOT expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

SECTION 13 - DISPOSAL CONSIDERATIONS

MATERIAL DISPOSAL

Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do NOT dispose into the environment, in drains or in water courses.

CONTAINER DISPOSAL

Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.

LOCAL LEGISLATION

Dispose in accordance with applicable regional, national and local laws and regulations.

SECTION 14 - TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT)

NOT regulated.

ted. This material is NOT subject to DOT regulations under 49 CFR Parts 171-180.

INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG)

NOT regulated. This material is NOT classified as dangerous under IMDG regulations.

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)

NOT regulated.

ed. This material is either NOT classified as dangerous under IATA regulations or needs to follow country specific requirements.

SECTION 15 - REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

U.S. FEDERAL REGULATIONS

EPA COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA)

This material does NOT contain any chemicals with U.S. EPA CERCLA reportable quantities.

EPA SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA)

This material does NOT contain any chemicals with SARA reportable quantities.

EPA TOXIC SUBSTANCES CONTROL ACT (TSCA)

All components listed.

EPA CERCLA/SARA SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES AND TPQS

This material does NOT contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.



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EPA CERCLA/SARA SECTION 311/312 (TITLE III HAZARD CATEGORIES)

Acute Health:NoChronic Health:NoFire Hazard:NoPressure Hazard:NoReactive Hazard:No

EPA CERCLA/SARA SECTION 313 AND 40 CFR 372

This material does NOT contain any chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372.

U.S. STATE REGULATIONS

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65)

This material does NOT contain any chemicals known to the State of California to cause cancer, birth defects or reproductive harm.

CANADIAN REGULATIONS

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the regulations.

CANADIAN DOMESTIC SUBSTANCES LIST (DSL)

All components listed.

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHIMIS)

None. This synthetic fluid is NOT a controlled product under the Canadian WHIMIS.

BUREAU DE NORMALIZATION DU QUÉBEC (BNQ)

Durasoil conforms as a dust control agent for non-asphalted roads and other similar surfaces. Certificate of Conformity: August 6, 2014, Certificate #: 1743, Standard #: BNQ 2410-300/2009-10-01, Certification Protocol #: BNQ 2410-900/2010-01-12

EUROPEAN REGULATIONS

EUROPEAN INVENTORY OF EXISTING COMMERCIAL SUBSTANCES (EINECS)

All components listed.

SECTION 16 – OTHER INFORMATION

SDS VERSION NUMBER 1.1

SDS EFFECTIVE DATE 2/27/2015

SDS REGULATIONS

The content and format of this SDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SDS DISTRIBUTION

The information in this document should be made available to all who may handle the product.



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Appendix G: Drainage and Stormwater Management Technical Memorandum



ENVIRONMENTAL TECHNICAL MEMO

2020-08-26

NEPA Checklist # 19 – Drainage & Stormwater Management						
Project	DRAFT v	/1	Contract	MPMA 8500376	Deliver Order	#1
	Date	08.26.20		Author	MC/BR	
	Status	DRAFT		Approval	JC	

ltem	Description	Comment	Date
00	Drainage and Stormwater Management Plan		
	Contents 1.0 Background 2.0 Drainage 3.0 Stormwater Management Plan		

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1.0 Background

Existing stormwater drainage system, depicted on Exhibit 1 – Terminal C Section C Stormwater System, affected by the Project will be managed through appropriate stormwater drainage design in compliance with the DFW Design Criteria Manual.

Currently, drainage is conveyed to the Landside and the Airside through separate systems. Landside drainage, including some roof drainage from the existing terminal facility, is conveyed to the stormwater drain system under the Lower Roadway. The drainage is then conveyed to the airport's Stormwater System Trunk Line T1A, an 84-Inch Reinforced Concrete Pipe (see Exhibit 1).

On the AOA side, stormwater is collected in a series of storm drain inlets containing vapor barrier baffles. This stormwater is then conveyed to a fuel separators ,which is essentially a structural control that captures first flush stormwater and conveys it to the First Flush Stormwater System (FF) with the excess stormwater conveyed to the airport's Stormwater System Trunk Line A2A, a 48" Reinforced Concrete Pipe (see Exhibit 1).

2.0 Drainage

The planned drainage system will be consistent with the current design. The Project Team has met with Eduardo N. Tovar, P.E., DFW's Systems Performance Manager and Floodplain Manager, and it was confirmed that no major changes in the drainage system would occur as a result of the Project. It was recommended that, to the extent possible, stormwater that is collected on the roof of the High C Project be directed to the Landside versus the Terminal Ramp or Airside as long as the Landside Stormwater System

F	A PORT WORTH AIRPORT AIRPORT AIRINAL AIRINAL AIRINAL	
	does not surcharge or breach the original design hydraulic grade line (HG) as shown on the as-built drawing 3-19 SD Profiles for Lateral T1K.	
	3.0 Stormwater Management Plan	
	The Design Builder is required to follow all the requirements of Texas - Construction General Permit (CGP) TXR150000. The Design Builder must provide DFW with a copy of its stormwater management plan ("Plan"). The Plan must address Texas Commission on Environmental Quality and DFW Sustainable Design Standards and Stormwater Drainage Master Plan, including provisions for stormwater management and stormwater quality.	
	 These requirements include: Filing necessary Notice of Intent documents and all permit fees. Compliance with all storm water management requirements and Design Criteria Manual Section 334 – Storm Drainage Utilities. Filing necessary termination documents. 	
	In addition to meeting the requirements of the CGP, the Design Builder commits to capturing any stormwater within construction areas or water used for dust control and other construction activities and direct away from the Landside or Terminal Ramp stormwater systems with the implementation of an approved SWPPP. This capture of stormwater will temporarily reduce the amount of water that enters the Stormwater System mainly in the Landside.	
	Sources: TCEQ Construction General Permit TXR150000 DFW Stormwater Drainage Master Plan, DFW Design Criteria Manual	

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Exhibit 1 – Terminal C Section C Stormwater System

END OF DOCUMENT
Chitsinde, Esther N

From:	Tovar, Eduardo
Sent:	Thursday, October 1, 2020 8:15 PM
То:	Knox, Stephen
Cc:	Rodriguez, Iskra; Lancaster, Sandra; Chitsinde, Esther N; Inda, Ada G
Subject:	RE: High C Drainage - Tech Memo 19 - Determination
Attachments:	Tech Memo 19 Drainage and Stormwater Management-final_etovar.pdf

Stephen,

Based on the attached Tech Memo 19 – Drainage and Stormwater Management and since the extent of the impervious area will not change, the total existing discharge to the Landside and Airside (Terminal Ramp) Stormwater System (SWS) will remain the same. However, since the intent is to divert roof drain stormwater into the Landside SWS instead of the Terminal Ramp SWS, the water quality performance of the existing First Flush System (FFS) is expected to improve as the first flush will only be comprised of ramp drainage and, as such, the quantity to be managed by the FFS will be reduced, thereby, mitigating existing surcharge conditions in the FFS during rain events.

Therefore, it has been determined that the conceptual approach described in Tech Memo 19 for the Terminal C High C Gate project stormwater drainage design to be acceptable.

Thanks,

eddie

Eduardo N. Tovar, P.E. TX 86717

Manager | Systems Performance DFW Floodplain Manager Energy, Transportation & Asset Management Department

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From: Knox, Stephen <sknox@dfwairport.com>
Sent: Tuesday, September 29, 2020 5:17 PM
To: Tovar, Eduardo <etovar@dfwairport.com>
Cc: Rodriguez, Iskra <irodriguez@dfwairport.com>
Subject: High C Drainage - Tech Memo 19

Eddie,

Please see the attached document that will be attached to the NEPA documents for the High C gates discussing the approach to the High C Stormwater Management system.

I will coordinate further with my team, but wanted your feedback on this document if there are any other stipulations that have not already been captured.

Please let me know your thoughts.

Thank you,

Stephen Knox, P.E.

Project Manager Design, Code and Construction

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