

# Final Environmental Assessment (FEA)

Northwest Cargo Demolition - Evergreen Building and Support Facilities

**SUBMITTED BY:**

Dallas Fort Worth International Airport

July 20, 2021



**FINAL ENVIRONMENTAL ASSESSMENT (FEA)**

**Demolition of Evergreen Building and Support Facilities**

**Dallas Fort Worth International Airport**

**Dallas County, Texas**

**Prepared by:**

**Dallas Fort Worth International Airport**



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

A handwritten signature in black ink, appearing to read 'John M. ...', positioned above a horizontal line.

Responsible FAA Official

07/21/2021

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 <sub>2</sub>	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
EPA	Environmental Protection Agency
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
IAC	International Air Cargo
IPCC	Intergovernmental Panel on Climate Change
m	Meter

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$\mu\text{m}/\text{m}^3$	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
$\text{NO}_2$	Nitrogen Dioxide
$\text{NO}_x$	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
$\text{O}_3$	Ozone
PALM	Potential Archeological Liability Map
Pb	Lead
PFCs	Perfluorocarbons
PM	Particulate Matter
$\text{PM}_{10}$	Particulate Matter with a diameter less than 10 micrometers
$\text{PM}_{2.5}$	Particulate Matter with a diameter less than 2.5 micrometers
ppb	Parts Per Billion
ppm	Parts Per Million
RCRA	Resource Conservation and Recovery Act
ROW	Right of Way
SAL	State Antiquities Landmark
sf	Square Feet
$\text{SF}_6$	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
$\text{SO}_2$	Sulfur Dioxide
$\text{SO}_x$	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

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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 Map**). DFW Airport has five passenger terminals named Terminal A, B, C, D, and E. The DFW Airport airfield system consists of seven runways (13L/31R, 13R/31L, 17C/35C, 17L/35R, 17R/35L, 18L/36R, and 18R/36L) separated by a spine road, International Parkway, into the east and west airfield complexes. DFW has six cargo complexes being the Northeast Cargo and 5E Complex on the east side and UPS Regional Hub, American Cargo, Northwest Cargo and International Air Cargo (IAC) on the west side (listed by location north to south). The Northwest Cargo area is made up of multiple buildings including: the former Evergreen building, Former Kitty Hawk facility, Ameriflight facility, Halbert & Associates, LLC facility, four off-ramp freight forwarder buildings on the west developed by AeroTerm and known as Freight Forwarder A, B, C and D buildings and four hangars operated by American Airlines.

### 1.2 FAA REQUESTED FEDERAL ACTION

#### 1.2.1 *Unconditional Approval of the Airport Layout Plan*

Unconditional approval of the Airport Layout Plan to depict the Proposed Action as described in Section 3.2 of this document pursuant to 49 USC §§ 40103(b) and 47107(a)(16)

#### 1.2.2 *FAA Reauthorization Act of 2018*

The following determinations are prescribed by the statutory provisions set forth in the FAA Reauthorization Act of 2018, H. R. 302, (P.L. 115-254):

- a. The project area is designated as aeronautical on the airport layout document and was acquired by the City of Fort Worth in 1967 and 1968 using funds from ADAP Grants #6-48-0064-20 and #6-48-0064-12.

Under section 163(b) of the FAA Reauthorization Act of 2018, the FAA has the legal authority to regulate land acquired with federal funding. However, the land area is designated for aeronautical use, consistent with the intended land use when acquired, therefore the FAA will not require a release of obligations of the subject parcel as depicted on the currently approved ALP.

- b. The FAA's ALP approval authority for the proposed project, and any other Federal approvals associated with the project, such as funding under the AIP or PFC programs, is a federal action subject to the National Environmental Policy Act (NEPA). Therefore, the sponsor will be required to perform an appropriate environmental review consistent with NEPA.

**Figure 1: Location Map - Evergreen Building at NW Cargo Demolition Project Area**



**Legend**

-  Proposed Project Area
-  Proposed Staging Area

\*Not to scale

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## **SECTION 2      PURPOSE AND NEED**

### **2.1    PURPOSE**

The purpose of the proposed demolition of the Evergreen building within the NW Cargo area is to remove old, dilapidated and outdated facilities that do not support the existing cargo operations and have reached the end of their useful services life. Furthermore, the existing building is in a state of disrepair and in need of major maintenance and repairs. A high-level Cost/Benefit Analysis comparing the cost of the requisite renovations to the cost of demolition showed that demolishing the building would be the most prudent and financial responsible decision for the airport.

### **2.2    NEED**

The proposed demolition of the Evergreen building is needed to remove old, outdated facilities and eliminate unnecessary maintenance and repair costs resultant from retention of the facilities. Further, the retention of the existing building poses potential safety and security risks because they contain asbestos that is partially exposed but cannot be fully abated without demolishing the facilities. Additionally, the building does not meet current fire and electrical building codes and are not compliant with the American Disabilities Act (ADA) requirements. Finally, the sprinkler system in the Evergreen building suffered significant damage during the extreme cold temperatures in February 2021 resulting in further safety concerns for Evergreen and costs to repair unless the building can be demolished given the other factors.

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## SECTION 3      ALTERNATIVES ANALYSIS

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 EA 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 impacts 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. The No Action Alternative does not meet the stated purpose and need for this project.

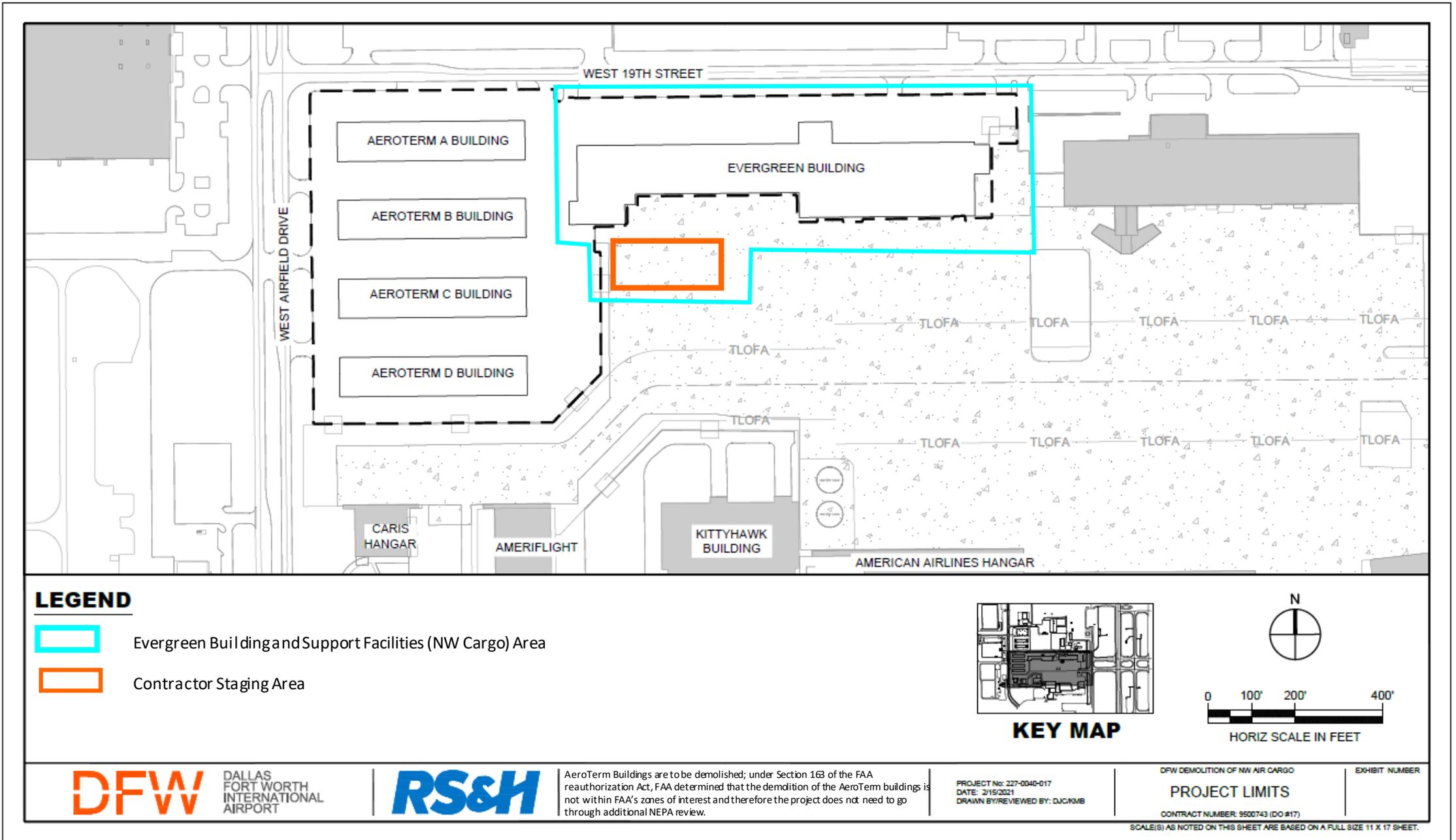
To satisfy the intent of NEPA, *FAA Order 1050.1F: Environmental Impacts Policies and Procedures* and *FAA Order 5050.4B: Implementing Instructions for Airport Actions*; and other special purpose environmental laws, a No Action Alternative is carried forward in the analysis of environmental consequences.

### 3.2    PROPOSED ACTION ALTERNATIVES

The Proposed Action as shown on **Figures 1 (Location Map) and 2 (Site Plan)**, would include the demolition of the Evergreen Building and associated concrete paved parking/vehicle access areas within the Northwest Cargo Facility. The project area is located near the corner of W 19<sup>th</sup> Street and W Airfield Drive, DFW Airport, TX. The existing Evergreen building was constructed in approximately 1972, using tilt wall frames with steel columns and reinforced concrete slabs. Due to the lack of structural integrity and overall dilapidated condition of the Evergreen building, cargo were temporarily terminated and relocated to an existing facility at the airport. Therefore, there are no operations ongoing in the building or associated paved parking and egress areas and all operational equipment has been removed or will be removed prior to demolition.

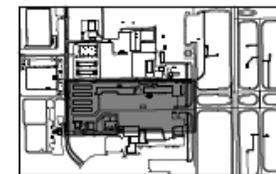
The Evergreen building encompasses 141,000 square feet and features offices, warehouse storage and loading docks used by various air freight companies for cargo transportation. The building is comprised of a flat roof, reinforced concrete slab exterior walls supported by steel beam

**Figure 2: Site Plan with Limits of Disturbance**



**LEGEND**

- Evergreen Building and Support Facilities (NW Cargo) Area
- Contractor Staging Area



**KEY MAP**



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framing and a concrete foundation. The building is a single floor construction with a portion of the building as two-story mezzanine typically used for forwarding air freight. The building is divided into three separate lease spaces. The north and west side of the building is paved parking to the back of the street curb or property boundary. The Proposed Action will also include the following components:

- Demolition of concrete slab, vehicle parking areas, foundation piers, utilities and soil excavation down to five feet below grade of the building footprint
- Relocation of the AOA fence and installation of fencing to separate an aircraft apron from the project area
- Removal and proper disposal of other potential hazardous materials including lead fixtures, lead-based paint, universal wastes containing mercury, and refrigerants.
- Demolition and proper disposal of approximately eight electrical transformers (potentially PCB-containing).
- Adjustment and tie-in to the existing stormwater drainage system.
- The proposed demolition project would relocate and reconstruct the Airport Operations Area (AOA) fence and maintain a safe and secure airfield environment.
- The concrete, steel, and metal from the demolished buildings will be recycled and reused at the airport. All concrete slabs and walls would be hauled to the Airport's East Material Management Sites (MMS) for crushing and reuse or disposal. All other debris would be disposed as appropriate.
- Utilities within the project area will be capped and de-energized in accordance with all applicable local, state, and federal guidelines.
- Installation of requisite power supply conduits and circuitry for high mast ramp lighting systems.
- After demolition, the site will be stabilized using clean backfill material and then sodded over the entire project area, which covers 740,520 square feet (17 acres) in compliance with the state and federal water quality and construction permit requirements. It is estimated that 40,000 cubic yards (cy) fill would be required to properly contour the site estimated to come from on-airport stockpiles.

Demolition is anticipated to begin early summer of 2021 and be complete by the end of October 2021.

### **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 on an existing concrete ramp area within the project area. The staging yard would be temporary; upon project completion, and staging yard will be removed, and the area will be restored and stabilized in compliance with all applicable rules and regulations. The location of the staging yard is shown on **Figure 1**.

## 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.

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

Area	Significance Threshold	Rationale for Elimination
<i>Biological Resources (Federally listed species, State-listed, and critical habitats)</i>	<ul style="list-style-type: none"> <li>• 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.</li> </ul> <p>If the action would have the potential for:</p> <ul style="list-style-type: none"> <li>• 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);</li> <li>• 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;</li> <li>• Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations; or</li> </ul>	<p>No Effect. No suitable habitat and no Federally listed species have been observed in the Project Study Area. No loss of critical habitat.</p>

Area	Significance Threshold	Rationale for Elimination
	<ul style="list-style-type: none"> <li>Adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural mortality (e.g., road kills and hunting), or ability to sustain the minimum population levels required for population maintenance.</li> </ul>	
<i>Coastal Resources</i>	<ul style="list-style-type: none"> <li>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.</li> </ul>	No Impact. There are no coastal resources located within or adjacent to the proposed project area.
<i>Department of Transportation Act Section 4(f)</i>	<ul style="list-style-type: none"> <li>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.</li> </ul>	No Impact. There are no Section 4(f) properties within the proposed project area.
<i>Farmlands</i>	<ul style="list-style-type: none"> <li>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.</li> </ul>	No Impact. There are no farmlands within or adjacent to the Project Study Area.
<i>Floodplains</i>	<ul style="list-style-type: none"> <li>The proposed action would have a notable adverse impact on natural and beneficial floodplain values.</li> </ul>	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 site to be located above the 100-year floodplain [Map Number 48439C0115K; effective Sep. 25, 2009] ( <b>Figure 3</b> )
<i>Groundwater</i>	<ul style="list-style-type: none"> <li>Exceed groundwater quality standards established by Federal, state, local, and tribal regulatory agencies.</li> <li>Contaminate an aquifer used for public water supply such that public health may be adversely affected.</li> </ul>	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).

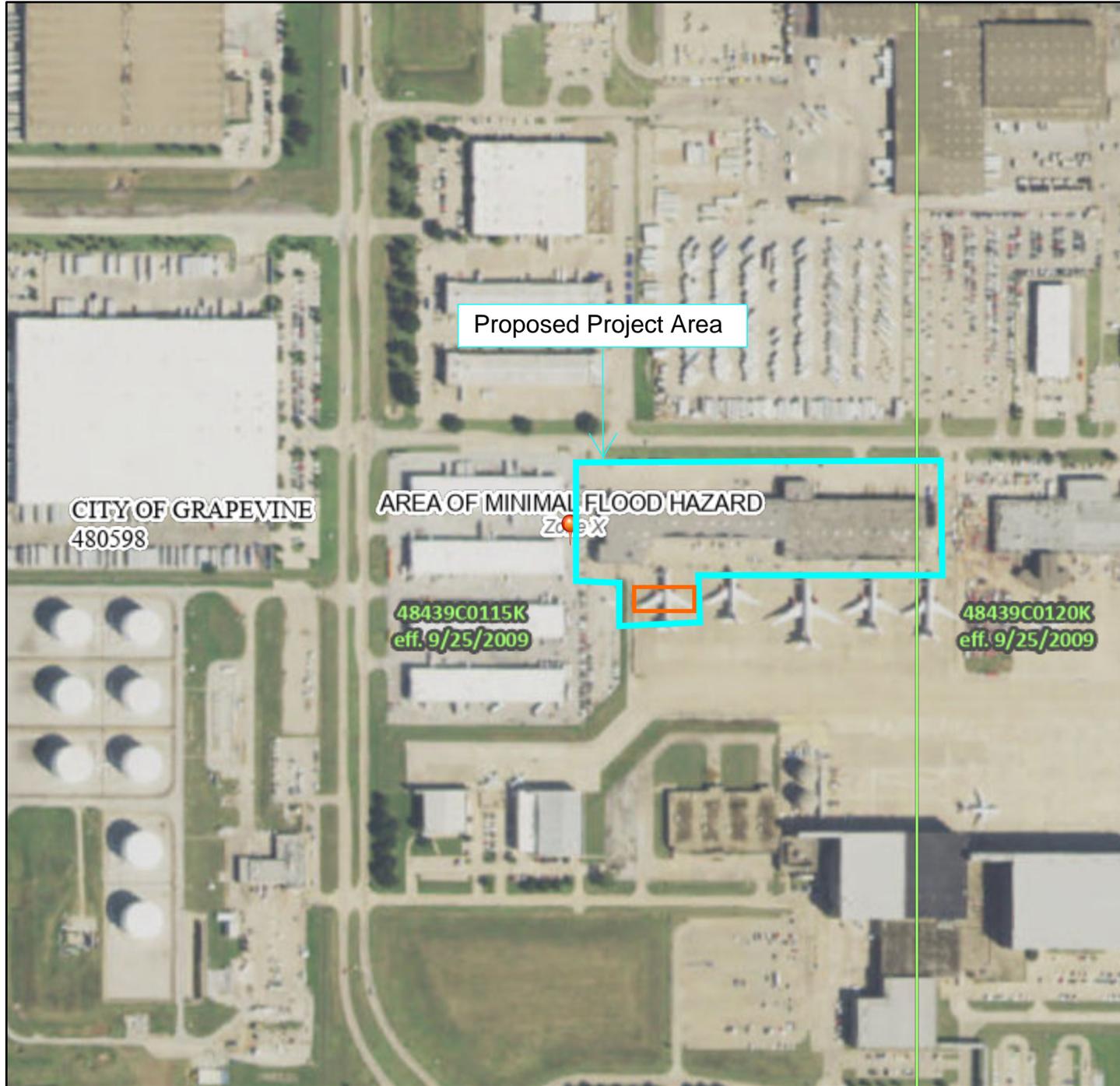
Area	Significance Threshold	Rationale for Elimination
<i>Land Use</i>	<ul style="list-style-type: none"> <li>• Existence of noise sensitive receptors adjacent to the project area.</li> <li>• Potential for impacts that have land use ramifications, for example, disruption of communities or induced socioeconomic impacts.</li> </ul>	<p>No Impact. All surrounding land uses adjacent to the proposed site are currently compatible to 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.</p>
<i>Natural Resources and Energy Supply</i>	<ul style="list-style-type: none"> <li>• The proposed action would result in an increase in demand of natural resources or energy supply that exceeds the available supply.</li> </ul>	<p>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.</p>
<i>Noise</i>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<p>No Impact. The activities associated with the proposed project would not change 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.</p>
<i>Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks</i>	<ul style="list-style-type: none"> <li>• Extensive relocation of residents is required, but sufficient replacement housing is unavailable.</li> <li>• Extensive relocation of community businesses that would create severe economic hardship for the affected communities.</li> <li>• A substantial loss in the community tax base.</li> <li>• Disproportionately high and adverse human health or environmental effects on minority and low-income populations.</li> <li>• Disproportionate health and safety risks to children.</li> </ul>	<p>No Impact. Implementation of the Proposed Action would be unlikely to 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.</p> <p>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.</p>

Area	Significance Threshold	Rationale for Elimination
<i>Visual Effects including light emissions</i>	<ul style="list-style-type: none"> <li>The FAA has not established a significance threshold for Visual Resources, Visual Character, or Light Emissions.</li> </ul>	<p>No Impact. Implementation of the Proposed Action would not result in a material change the visual character and light emissions at DFW Airport. The proposed demolition project would remove existing structures and would not obstruct views of any remaining resources.</p>
<i>Wild and Scenic Rivers</i>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<p>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.</p>

Figure 3: FEMA Flood Insurance Rate Map Panel #48439C0115K



97°4'15"W 32°54'52"N



**Legend**

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>

OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
		Area of Undetermined Flood Hazard <i>Zone D</i>

GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall

OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available

Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/21/2021 at 6:51 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

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## 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 (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM), and sulfur dioxide (SO<sub>2</sub>) (**Table 4-2**).

Regulation and management of ambient air quality conditions in the DFW metropolitan area is shared by a variety of Federal, state, regional, and local agencies. The USEPA sets guidance, policies, and standards under the Federal CAA for protecting air quality conditions across the country. On the state level, the Texas Commission on Environmental Quality (TCEQ) Air Division serves to ensure that these guiding principles are met and carried out in Texas. Local agencies can manage air quality conditions throughout the metropolitan area with the development of regional air quality and surface transportation plans.

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 nonattainment<sup>1</sup>, and those that are in transition from nonattainment to attainment are designated as maintenance<sup>2</sup>. Ozone nonattainment areas are further classified as extreme, severe, serious, moderate, and marginal by the degree of non-compliance with the NAAQS.

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<sup>1</sup> 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.

<sup>2</sup> 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.

**Table 4-2 National Ambient Air Quality Standards**

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

**Notes:**

ppm parts per million

ppb parts per billion

µg/m<sup>3</sup> micrograms per cubic meter

PM<sub>10</sub> particulate matter with a diameter less than 10 micrometers (µm)

PM<sub>2.5</sub> 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 TCEQ, the DFW metropolitan area has been designated as an attainment area for all USEPA criteria pollutants except for O<sub>3</sub>. The DFW metropolitan area is currently designated as a “serious<sup>3</sup>” nonattainment area under the 2008 8-hour, 0.075 ppm O<sub>3</sub> 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

<sup>3</sup> The DFW metropolitan area was previously designated as a “moderate” nonattainment area under the 2008 8-hour, 0.075 ppm O<sub>3</sub> 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”.

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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.

Because of the nonattainment status for the 2008 8-hour O<sub>3</sub> 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<sub>3</sub> formation: volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>).

#### **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, which occur at the same time and place as the project (e.g., emissions from construction equipment and connected actions), and indirect emissions, which are reasonably foreseeable emissions that may occur later in time and/or farther removed from the project (e.g., emissions from on-airport and adjacent off-airport projects) to ensure that the project emissions conform with the SIP.

The rule defines emissions as “direct” or “indirect” (see 40 CFR § 93.152). Actions that do not meet the definitions of direct or indirect emissions are exempt from the *General Conformity Rule*. “Direct emissions” are those that occur at the same time and place as the Federal action. The definition of “indirect emissions” contains four criteria, all of which must be met. As stated in 40 CFR § 93.152, indirect emissions mean those emissions of a criteria pollutant or its 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 area 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 NO<sub>x</sub>.

The amounts of emissions associated with DFW Airport operations have been quantified by TCEQ as part of the SIP development and approval process. The basis for this information is in

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the DFW Ozone Attainment Demonstration SIP completed by the TCEQ and adopted by USEPA on May 23, 2007. Ozone precursor emissions (VOCs and NOx) from DFW aircraft operations are factored into the current Attainment Demonstration SIP.

### **4.2.3 Sources of Airport Air Emissions**

DFW Airport, like most metropolitan airports, experiences air emissions from the following general source categories: aircraft; ground service equipment; motor vehicles; fuel storage and transfer facilities; a variety of stationary sources (i.e., steam boilers, back-up generators, refuse incinerators, etc.); an assortment of aircraft maintenance activities (i.e., 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<sub>3</sub>, 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. These values pertain to the one-hour NAAQS O<sub>3</sub> for which the designation “serious” applies. Notably, because the area around DFW is designated as an attainment area for CO, particulate matter (PM<sub>10</sub>), and sulfur oxides (SOx), General Conformity regulations do not apply to these criteria pollutants.

## **4.3 CLIMATE**

### **4.3.1 Regulatory Background**

Climate change is a global phenomenon that can have local impacts. Scientific measurements show that the 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. Scientific research to better understand climate change, including any incremental atmospheric impacts that may be caused by aviation is ongoing. The most comprehensive research available is the Aviation Climate Change Research Initiative (ACCRI) funded by the FAA and the National Aeronautics and Space Administration (NASA).

Research has shown that there is a direct correlation between fuel combustion and Greenhouse gases (GHGs) emissions. GHGs trap heat in the earth's atmosphere (global warming potential (GWP)); these include water vapor (H<sub>2</sub>O), carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), O<sub>3</sub>, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). 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

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are not localized or regional. CO<sub>2</sub> is the most important anthropogenic GHG because it is a long-lived gas that remains in the atmosphere for up to 100 years. The impact of proposed projects on climate change is a growing concern and since there is a direct link between fuel combustion and GHG emissions, airport activities that require fuel for power are the primary sources that would generate GHGs. Aircraft jet engines, like many other vehicle engines, produce CO<sub>2</sub>, H<sub>2</sub>O vapor, N<sub>2</sub>O, CO, oxides of sulfur, unburned or partially combusted hydrocarbons or VOCs, particulates, and other trace compounds.

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 down 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, are 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:

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- 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. The project area is located within the footprint of DFW's Voluntary Clean Up Program (VCP).

The presence of asbestos containing materials (ACM) was confirmed in the Evergreen building. The asbestos was found in the interior offices and warehouse and exterior perimeter of the building. DFW abated the majority of the asbestos in the facility with the exception of asbestos in the pipe riser insulation and exterior caulking located in the perimeter of the building. The pipe riser insulation was left in place because the fire sprinkler was still active. The caulking was too costly to abate in advance and will be more cost effective to abate during demolition.

The abatement of any ACMs within the project area is handled in compliance with all applicable federal and State regulations. Abatement activities during any demolition and building modification activities are 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, and samples would be analyzed in a timely manner. In areas where ACMs are uncovered, no work is to be permitted until the materials in question have been abated or are found to be non-asbestos containing.

##### **4.4.2.2 Solid Waste**

Solid waste in the project area is generated by various activities associated with the air freight forwarding and other tenant operations of the Evergreen and AertoTerm buildings and their support functions. The Airport collects this solid waste and evaluates it to determine where it is to

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be disposed. Waste Management of Texas collects and transports municipal solid waste (MSW) from DFW Airport and its tenants to the DFW Landfill in Lewisville. The DFW Landfill is appropriately permitted and located approximately nine miles north-northeast of the airport; it is compatible with airport operations. 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 recycling program and provides recycling containers<sup>4</sup> 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.

Hazardous wastes generated at DFW Airport are handled in compliance with all applicable federal and State regulations. Wastes are profiled and packaged prior to being transported to an adequately permitted hazardous waste disposal facility. Asbestos containing hazardous waste generated during the demolition of DPS Station 1 will be handled in accordance with all applicable rules and regulations. In compliance with DSHS requirements, an asbestos abatement specification will be developed and implemented by the designated contractor.

## **4.5 HISTORICAL, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES**

### **4.5.1 Regulatory Background**

*Section 106 of the National Historic Preservation Act (NHPA):*

The National Historic Preservation Act (NHPA) requires Federal agencies to identify significant cultural resources that may be affected by their actions and mitigating adverse effects to those resources. The NHPA (54 USC 300101), specifically Section 106 of the NHPA (54 USC 306108) requires the State Historic Preservation Officer (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. Per 36 CFR Part 800, the Federal agency responsible for overseeing the action must make a reasonable and good faith effort to identify cultural resources. The independent federal agency overseeing federal historic preservation and tribal programs, the Advisory Council on Historic Preservation (ACHP), is afforded a reasonable opportunity to comment on such undertakings subject to Section 106. The ACHP typically reserves its comments either for complex consultations in which it has had previous involvement or for consultations wherein a federal agency seeks ACHP comment on unresolved consultation issues. Section 106 of NHPA is the principal statute concerning such resources. It requires consideration of direct and indirect

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<sup>4</sup> DFW Airport provides recycling containers and hauling services to all operational terminals and provides concrete washout recycling containers for construction projects.

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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. The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, material, workmanship, feeling, and association and:

*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 Consideration G* NRHP Criteria for Evaluation exclude properties that are 50 years 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):*

Because 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.

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§ 800.16(d)). For purposes of Section 106, the term “historic properties” can include architectural, archeological, or cultural resources. The determination of the APE considers the character of a project area and the potential for resources to be found. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking (36 C.F.R. § 800.16(d)). The APE must include all direct and reasonably foreseeable indirect effects. Although the NHPA regulations do not define the term “indirect effect,” the criteria of adverse effects cover reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative (36 C.F.R. § 800.5(a)(1)).

The Grapevine 7.5-minute USGS topographic quadrangle map illustrates that the APE is located within a gently sloping upland setting. The APE is situated approximately 0.6-mile northeast of the watershed of Big Bear Creek. The project area occupies an elevation range of 610 to 620 feet above mean sea level (MSL).

The buildings described in the Proposed Action are located within the Northern Blackland Prairie of the Texas Blackland Prairie ecoregion. This area is distinguished from surrounding regions by gently rolling hills mantled by fine-textured, black clayey soils with predominant prairie vegetation (Griffith et al. 2007). The project area is underlain by the Cretaceous-age Eagle Ford Formation (Kef), which is comprised of shale, sandstone, and limestone, and the Woodbine Formation (Kwb), which primarily consists of sandstone and a small percentage of siltstone, mudstone, and clay (McGowen et al. 1987; USGS 2018). Vertisols dominate the Texas Blackland Prairie ecoregion and consist of clay-rich soils that have great shrinking and swelling potential.

#### ***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 previously recorded archeological sites, NRHP listed properties, historical markers, or cemeteries located within the APE (TASA 2018; THSA 2018). The TASA records did identify six previously conducted archeological surveys and three previously recorded archeological sites located within one mile of the APE. Historical aerial photographs show that the direct and indirect APE were used for agricultural or ranching purposes. Since 1972, significant ground disturbances have transpired throughout the APE with five buildings were constructed within the APE. The ground surrounding these buildings was paved over for parking, cargo loading, and maintenance areas. Only a few areas along for northern and western boundaries were kept as medians with maintained landscaping.

An architectural survey of the APE was performed in December 2018 to identify any potential significant architectural resources. During the survey five buildings were identified within the direct APE. The largest building within the APE is the Evergreen facility, which is located in the eastern part of the APE at 1530 W. 19<sup>th</sup> Street. The west half of the APE features a row of four identical warehouses known as the AeroTerm buildings A, B, C, and D. Based on research, it was determined that the Evergreen facility and four AeroTerm buildings are not of historic age, nor have they achieved exceptional importance since its construction and does not qualify for NHRP listing under Criteria Consideration G.

The indirect APE is characterized by a built and disturbed environment. Presently, most of the indirect APE occupies roadways, parking lots, and modern airport facilities. Through the

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reconnaissance survey of the indirect APE, it was determined that no historic-age resources were present. However, one resource, the American Airlines West Supply Warehouse built in 1972 or 1973, was identified that was 45 years or more in age and was evaluated to NRHP eligibility under Criteria Consideration G. It was determined to be ineligible for NRHP listing under Criteria Consideration G. (see **Appendix 1 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). Further it was determined by IES, DFW's consultant, that the APE was significantly disturbed and contained no potential for archaeological resources and would not require an archaeological survey to be performed.

### **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. An Airport Sponsor must incorporate the construction guidance and impact minimization measures prescribed in *FAA Advisory Circular (AC) 150/5370-10G, Standards for Specifying Construction at Airports*. Additionally, project sponsors 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 73 Million 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, traffic management, waste management, and storm water pollution prevention plans.

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## **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 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***

Field surveys of WOUS have been conducted on a large portion of DFW Airport property. These field surveys have identified jurisdictional waters, tributaries, man-made drainage channels, ponds, and potential wetlands on various portions of DFW Airport's property. Field studies identified a jurisdictional wetland as well as a jurisdictional tributary within 0.10 miles of the proposed project area.

DFW Airport operates a stormwater pretreatment collection system for stormwater associated with industrial activities. The stormwater associated with industrial activities includes first-flush stormwater discharges from the aircraft parking aprons, gates, hangars, maintenance areas, fuel farm, and parking lots. The first-flush stormwater is directed by diverter boxes to the on-site pretreatment facility. After pretreatment, stormwater is conveyed to the Trinity River Authority (TRA) Central Plant in Irving, Texas, although there is also an option to discharge to Bear Creek.

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

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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***

A WOUS, including wetlands delineation of the project site showed that the project area is characterized by impervious surfaces. There is an open ditch, water feature adjacent to West Airfield Drive, however, this water feature is non-jurisdictional. The Proposed Action will not affect any sensitive environmental resources either directly or indirectly.

## 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>	<u>Description</u>
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</i> . This project consists of the demolition of the Evergreen building.

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**

**Table 5-1: Summary of Environmental Consequences**

Environmental Impact Category & Significance Threshold Criteria	Significant Impacts	
	No Action Alternative	Proposed Action Alternative
<b>Air Quality</b> <ul style="list-style-type: none"> <li>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.</li> </ul>	No	No
<b>Hazardous Materials, Solid Waste, and Pollution Prevention</b> <ul style="list-style-type: none"> <li>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;</li> </ul>	No	No
<ul style="list-style-type: none"> <li>Involve a contaminated site (including but not limited to a site listed on the National Priorities List);</li> </ul>	No	Yes ( <b>see Section 5.3.2</b> )
<ul style="list-style-type: none"> <li>Produce an appreciably different quantity or type of hazardous waste;</li> </ul>	No	No
<ul style="list-style-type: none"> <li>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</li> </ul>	No	No

Environmental Impact Category & Significance Threshold Criteria	Significant Impacts	
	No Action Alternative	Proposed Action Alternative
<ul style="list-style-type: none"> <li>Adversely affect human health and the environment.</li> </ul>	No	No
<b>Historical, Architectural, Archeological, and Cultural Resources</b> <ul style="list-style-type: none"> <li>The action would result in a finding of <i>Adverse Effect</i> through the Section 106 process</li> </ul>	No	No
<b>Secondary (Induced) Impacts</b> <ul style="list-style-type: none"> <li>The action would cause shifts in patterns of population movement and growth;</li> </ul>	No	No
<ul style="list-style-type: none"> <li>Public service demands;</li> </ul>	No	No
<ul style="list-style-type: none"> <li>Changes in business and economic activity to the extent influenced by the airport development; or</li> </ul>	No	No
<ul style="list-style-type: none"> <li>Create disruptions of local traffic patterns that substantially reduce the levels of service of the roads serving the airport and its surrounding communities.</li> </ul>	No	No
<b>Visual Effects</b> <ul style="list-style-type: none"> <li>The lighting associated with the proposed action would create an annoyance or interfere with normal activities from light emissions; and</li> </ul>	No	No
<ul style="list-style-type: none"> <li>The action would affect the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources.</li> </ul>	No	No
<b>Water Resources</b>  <i>Surface Water and Stormwater Treatment</i> <ul style="list-style-type: none"> <li>The action would exceed water quality standards established by Federal, state, local, or tribal regulatory agencies; or</li> </ul>	No	No
<ul style="list-style-type: none"> <li>Contaminate public drinking water supply such that public health may be adversely affected.</li> </ul>	No	No
<i>Waters of the United States Including Wetlands</i> <ul style="list-style-type: none"> <li>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;</li> </ul>	No	No

Environmental Impact Category & Significance Threshold Criteria	Significant Impacts	
	No Action Alternative	Proposed Action Alternative
<ul style="list-style-type: none"> <li>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;</li> </ul>	No	No
<ul style="list-style-type: none"> <li>Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare;</li> </ul>	No	No
<ul style="list-style-type: none"> <li>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</li> </ul>	No	No
<ul style="list-style-type: none"> <li>Promote development of secondary activities or services that would cause the circumstances listed above to occur; or</li> </ul>	No	No
<ul style="list-style-type: none"> <li>Be inconsistent with applicable state wetland strategies.</li> </ul>	No	No
<ul style="list-style-type: none"> <li>The action would impact a WOUS</li> </ul>	No	No

**General Construction Permitting and Mitigation:**

All construction activities would be conducted consistent with all pertinent federal, state, and local laws, regulations, and standards as appropriate and/or adopted by DFW Airport. On-airport construction activities should adhere to the FAA AC 150/5370-10H Standards for Specifying Construction of Airports. A site-specific stormwater pollution prevention plan (SWPPP) in accordance with the CWA and DFW best management practices (BMPs) would also be implemented. The SWPPP would be maintained on site and would provide measures to eliminate or reduce any potential impacts to surface water quality in the immediate area. Mitigation and control measures are available and would be implemented, as needed, to mitigate construction impacts.

**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*,<sup>5</sup> 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.

If the air quality assessment for the Proposed Action were to show that any of the Federal *de minimis* thresholds established under the Clean Air Act (CAA) were equaled or exceeded, further, more detailed analyses to demonstrate conformity with the State Implementation Plan (SIP) would

<sup>5</sup> FAA, *Aviation Emissions and Air Quality Handbook Version 3 Update 1*, January 2015.

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be required. This more detailed analysis process is known as a General Conformity Determination. Conversely, if the analysis were to show that none of the relevant thresholds were equaled or exceeded, the Proposed Action at DFW would be presumed to conform to the applicable SIP and no further analysis would be required under NEPA and the CAA.

The DFW metropolitan area is currently designated as a “serious” nonattainment area under the 2008 8-hour, 0.075 ppm O<sub>3</sub> standard, and has not yet been designated for the 2015 8-hour, 0.070 ppm standard (USEPA, 2017). There is no *de minimis* threshold for O<sub>3</sub> emissions. This is because O<sub>3</sub> is not directly emitted from a source; O<sub>3</sub> is formed through photochemical reactions involving emissions of precursor pollutants Nitrogen Oxides (NO<sub>x</sub>) and Volatile Organic Compounds (VOCs) in the presence of abundant sunlight, and heat. Therefore, emissions of ozone on a project level are evaluated based on the rate of emissions of the ozone precursor pollutants, NO<sub>x</sub> and VOC. The applicable *de minimis* levels for this project are 50 tons per year for the O<sub>3</sub> precursors, NO<sub>x</sub> and VOCs.

### **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**

The Proposed Action would result in temporary air quality effects during the demolition of the Evergreen building and associated pavement. 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 “road sources” and “non-road sources.” Road sources include automobiles, light-duty and heavy-duty trucks., Construction-related on- and off-road equipment would cause a short-term increase in air emissions; these emissions are further evaluated for this EA.

Construction emissions associated with the Proposed Action include NO<sub>x</sub> and VOCs, the two primary precursors to O<sub>3</sub> formation. 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 (MOVES3, January 2021 release) and USEPA AP-42 guidance. The Proposed Project will not have any effect on aircraft, taxi, or ground support vehicle operations, adding or changing of haul routes/roads, or any other operational activities. Therefore, no operational emissions have been calculated. (**Appendix 2: Air Quality and Climate Change Assessment Technical Report**). **Table 5-2** shows the estimated emissions associated with the Proposed Action. The project-related emissions shown in **Table 5-2** are well below the *de minimis* levels of 50 tons per year for

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either NO<sub>x</sub> or VOCs. If the FAA approves the Proposed Action, construction activities are proposed to begin in July 2021 (after FAA approval) and would be completed by October 2021.

**Table 5-2: Construction Emissions Inventory**

Year	NO <sub>x</sub> / tpy	VOCs / tpy
2021	5.76	0.49

### **5.1.3 No Action Alternative Operational Emissions**

The No Action Alternative (NAA) would not involve any in airport operations and runway utilization.

### **5.1.4 Proposed Action Alternative**

The Proposed Project would not cause an increase in aircraft operations including nighttime operations, change the aircraft fleet mix, nor change the airfield configuration, runway use, taxiing patterns, or flight patterns. This Proposed Project would be located entirely on Airport property and would not increase the number of operations or operational characteristics. It would not affect runway use percentages or number or type of aircraft operations. 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 NO<sub>x</sub> or VOCs. Thus, the Proposed Action does not meet the significance threshold for air quality and mitigation measures for the pollutants VOCs and NO<sub>x</sub> (as precursors to O<sub>3</sub> formation) would not be necessary.

To reduce any potential, temporary impacts to air quality, standard operational measures for dust control developed by DFW Airport would be implemented during construction phases. 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.

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## **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 Alternative***

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. The Proposed Action would not change airport runway utilization. No material changes in GHG emissions would be associated with the implementation of the Proposed Action Alternative. Therefore, no mitigation measures are required to mitigate the GHGs attributed to the Proposed Action. DFW will continue to ensure that the Airport and its tenants are operating in an environmentally responsible and sustainable way.

## **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. 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 short-term 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:**

There are asbestos containing materials (ACM) in the Evergreen building. As noted in Section 4.4.2.1, the asbestos in the pipe riser insulation and exterior caulking located in the perimeter of the building will be abated during demolition.

The asbestos would be managed in place through a 'wet demolition' process and would be properly disposed of in accordance with all applicable Federal, State, and Local regulations and good industrial hygiene and safety practices. Prior to conducting the proposed demolition and building modifications, requisite permits, abatement specifications, and final inspections would be

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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.

During the implementation of the Proposed Action, additional suspect ACM that was previously inaccessible or concealed will be encountered; the abatement of such materials would be handled in compliance with all applicable federal and State 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.

The project area is located within the footprint of DFW's Voluntary Cleanup Program (VCP). Existing VCP contamination is located in groundwater some 20 to 25 feet below the ground surface. The project will not affect nor disturb any portion of the VCP contamination. The project will have temporary effects on approximately seven monitoring wells in the project area that will need to be temporarily plugged to allow for the demolition activities. Refer to **Figure 4** for a map of the VCP relative to the Proposed Action.

The project will also include the removal and proper disposal of other potential hazardous materials including lead fixtures, lead-based paint, universal wastes containing mercury, and refrigerants. The project includes the demolition and proper disposal of approximately eight electrical transformers (potentially PCB-containing). 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. 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 would be developed to document the measures that will be taken to prevent accidental release to the environment and, in the event of a release, the SPCC 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 to minimize the use and manage disposal of hazardous and non-hazardous substances. With these measures, 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. All concrete slabs and

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walls would be hauled to DFW's East Material Management and Storage (MMS) site for crushing and disposal. All other debris would be disposed as appropriate. Once demolished the paved areas would be removed within the Proposed Project limits and the site would be sodded to drain to the existing storm sewer system. It is estimated that 40,000 cubic yards (cy) fill would be required to properly contour the site. The preferred borrow site is the southwest (SW) End Around Taxilane stockpile (SW of Runway 18R) with additional fill available at the secondary sites of the East MMS or 17th Street stockpiles.

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. Recycling of materials from demolition activities would be utilized to the extent possible.

No significant impacts related to hazardous materials or solid waste would occur as a result of the Proposed Action because the Proposed Action would not have the potential to 1) violate applicable laws and regulations; 2) the Proposed Action does not involve a site listed on the National Priorities List; 3) the Proposed Action does not produce an appreciably different quantity or type of hazardous waste; 4) 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 5) adversely affect human health and the environment.

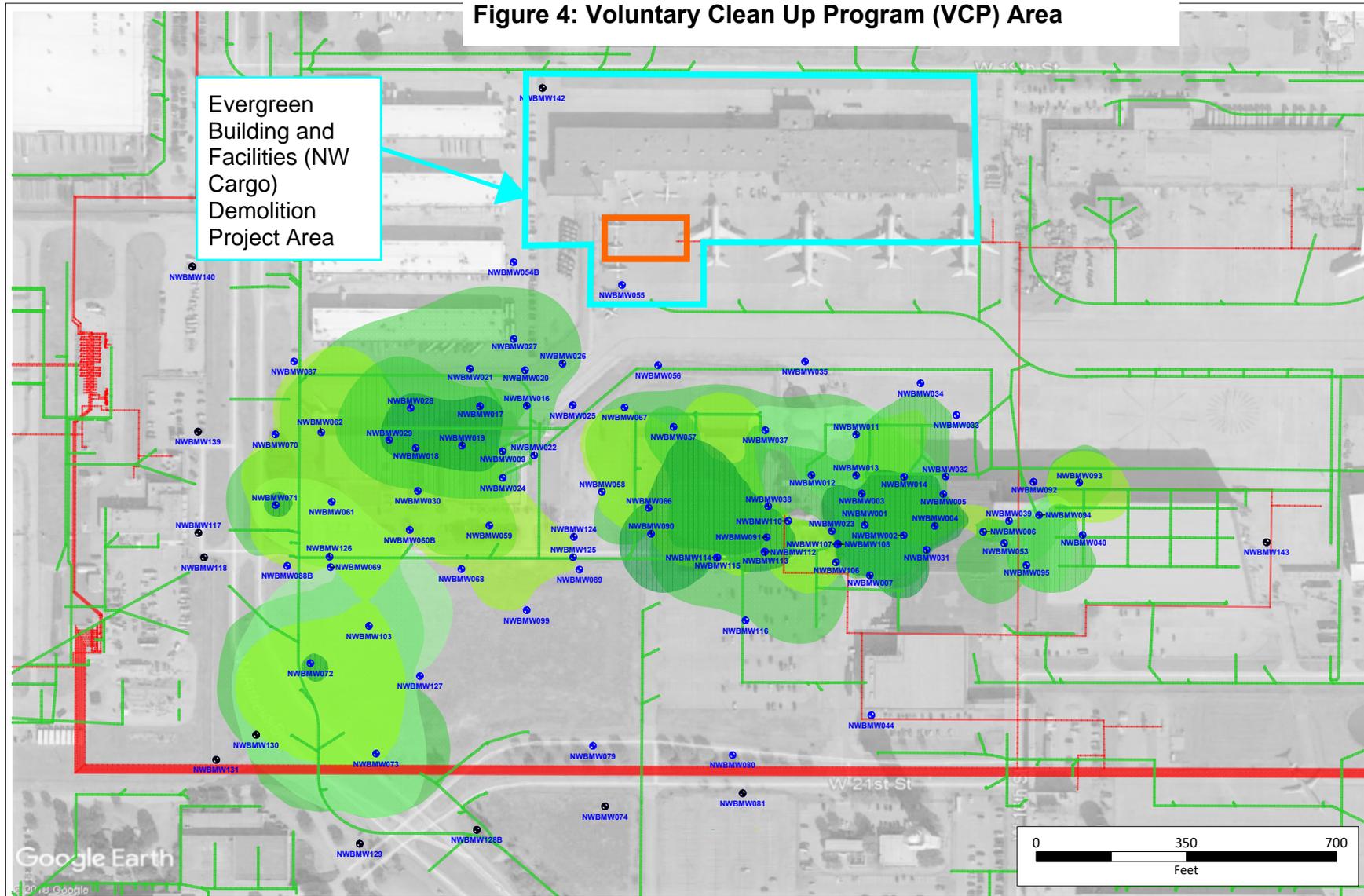
### **5.3.1 Mitigation**

DFW Airport will comply with all Federal, State, and Local requirements with regard to 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.

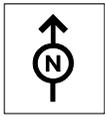
If deemed necessary, asbestos abatement activities will be monitored by an Asbestos Inspector licensed by the Texas Department of State Health Services (DSHS) to aid identification methods and procedures. The construction contractor would take appropriate measures to prevent, minimize, and control spills 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 hazardous materials and/or petroleum contaminated media according to applicable Federal, state, and local regulations.

The Proposed Action would not have a significant impact on solid waste collection, landfill capacity, and waste disposal operations; therefore, mitigation is not required.

Figure 4: Voluntary Clean Up Program (VCP) Area



Evergreen Building and Facilities (NW Cargo) Demolition Project Area



LEGEND

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

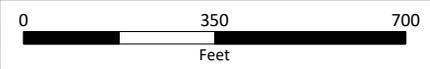
Samples Collected December 2019

cis12DCE	CPCL = 0.07 mg/L
11DCE	CPCL = 0.007 mg/L
PCE	CPCL = 0.005 mg/L
TCE	CPCL = 0.005 mg/L
VC	CPCL = 0.002 mg/L

A small portion of the NW Cargo Demolition project area has media contaminated with Chlorinatedethenes from historic releases of chlorinated solvents. The contamination is 20-25 feet below the surface and not affected by the NW Cargo demolition, which will be limited to 8ft below the surface



Google Earth



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## 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 potentially disturb cultural resources.

### 5.4.2 *Proposed Action Alternative*

An architectural survey of the APE was performed in December 2018 to identify any potential significant architectural resources. As part of the cultural resource report, 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. Results of the survey were compiled into a report titled *Cultural Resources Desktop Analysis for the West Cargo Demolition Project #1 at the Dallas Fort Worth International Airport in Dallas County, Texas* (Integrated Environmental Solutions Dec. 2018) (**Appendix 1**). As noted in Section 4.5.2, the survey determined that the Evergreen facility and four AeroTerm buildings were not of historic age, nor have they achieved exceptional importance since its construction and does not qualify for NHRP listing under Criteria Consideration G. THC concurred with the findings of the survey (see **Appendix 1 for the THC Concurrence Letter**).

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. Additionally, the indirect APE included the American Airlines West Supply Warehouse that was 45 years or more in age and was evaluated to NRHP eligibility under Criteria Consideration G. It was determined to be ineligible for NRHP listing under Criteria Consideration G. On January 29, 2019, the SHPO concurred with the report recommendations and determined that “No historic properties are present or affected” under 36 CFR Part 800.4(d)(1) (see **Appendix 1**). 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.

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## **5.5 WATER RESOURCES**

### **5.5.1 Groundwater**

The Project Area is in a well-developed area with public water available. There are no drinking water wells or agricultural wells within the Project Study Area. In addition, according to EPA's database there are no sole-source aquifers located directly beneath the Project Study Area.

#### **5.5.1.1 No Action Alternative**

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

#### **5.5.1.2 Proposed Action**

The Proposed Action would abide by all applicable regulations related to spill prevention and control regulations to prevent spills from causing significant adverse impacts to groundwater. Therefore, no significant impacts to groundwater are anticipated.

### **5.5.2 Wetlands and Waters of the U.S.**

According to FAA Order 1050.1F, Environmental Impacts: Policies and Procedures, a significant impact occurs if the proposed action would:

- Adversely affect the function of a wetland's function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other potable water aquifers
- 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
- Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare (this includes cultural, recreational, and scientific resources or property important to the public)
- 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
- Promote development of secondary activities or services that would cause the circumstances listed above to recur; or be inconsistent with applicable state wetland strategies.

#### **5.5.2.1 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.

#### **5.5.2.2 Proposed Action**

The FAA follows the "avoid, minimize, mitigate" policy regarding wetland impacts. According to the National Wetland Inventory Map, 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

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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 are no jurisdictional wetlands or jurisdictional tributaries located in close proximity to the project area, within 0.15-miles. The Proposed Action will not directly or indirectly affect the nearby wetlands and tributary. Best management practices to protect water quality will be implemented during the Proposed Action.

### **5.5.3 Floodplains**

The 100-year flood has been adopted by the Federal Emergency Management Agency as the base flood for floodplain management purposes. Floodplains are valued for their natural flood and erosion control, enhancement of biological productivity, and socioeconomic benefits and functions. There are no floodplains within the Project Study Area according to the National Flood Insurance Rate Map (FIRM) Panel Map Number 48439C0115K; effective Sep. 25, 2009.

#### ***5.5.3.1 No Action Alternative***

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

#### ***5.5.3.2 Proposed Action***

With the implementation of the Proposed Action, there would not be any development within the floodplain. Furthermore, any other floodplains would be avoided during construction and BMPs would be employed to limit runoff and erosion to ensure there would be no direct significant impacts to any floodplain due to the Proposed Action.

### **5.5.4 Surface Waters**

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 (July 2015), 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.

#### ***5.5.4.1 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.

#### ***5.5.4.2 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, and excavation of subsurface utilities.

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Approximately 90% of the proposed project area is impervious area, the remaining area is characterized by maintained mixed-grass strip. This pervious area would be minimally disturbed during the demolition and minor construction work associated with the Proposed Action. The construction of the Proposed Action would not be expected to result in a material change in the stormwater runoff rates, discharge volumes, and pollutant characteristics of the stormwater runoff.

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.

#### **5.5.5 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, 2017). 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.

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## **SECTION 6      AGENCY COORDINATION AND PUBLIC INVOLVEMENT**

The development of this FEA included coordination with affected Federal and State agencies. This coordination process informs the public and agencies and allows an opportunity to identify any possible environmental concerns during the FEA 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 1**.

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## **SECTION 7      PREPARERS**

As required by FAA Order 5050.4A, paragraph 77, the names and qualifications of the principal persons contributing information to this PEA 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. Specialists involved in this EA included those in such fields as airport planning; noise assessment and abatement; land use planning; air quality; biology; historic, architectural, and archaeological resources; and other disciplines. 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**

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Esther Chitsinde, Environmental Project Manager, Environmental Affairs

Zoe Bolack, Environmental Analyst (Air Quality, Climate, and Sustainability)

Eduardo Tovar, P.E., Systems Performance Manager, Energy Transportation & Asset Management

Ivan Nicodemus, Project Manager, DFW Design Code and Construction (DCC)

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## SECTION 8      REFERENCES

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**Appendix 1:**  
**Texas Historic Concurrence Letter (State Historic Preservation Officer)**

## This Correspondence sent to CRM@intenvsol.com on 01-29-2019



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

**201904329**

West Cargo Demolition Project

N/A

Grapevine, TX

Dear Integrated Environmental Solutions, LLC:

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 historic properties are present or affected by the project as proposed. However, if historic properties are discovered or unanticipated effects on historic properties are found, work should cease in the immediate area; work can continue where no historic properties are present. Please contact the THC's History Programs Division at 512-463-5853 to consult on further actions that may be necessary to protect historic properties.

### Archeology Comments

- No historic properties present or affected. However, if buried cultural materials are encountered during construction or disturbance 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.
- THC/SHPO concurs with information provided

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 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](mailto:Arlo.McKee@thc.texas.gov), [justin.kockritz@thc.texas.gov](mailto:justin.kockritz@thc.texas.gov).

Sincerely,

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

**Please do not respond to this email.**



integrated environmental solutions

13 December 2018

Mr. Mark Wolfe  
Texas Historical Commission  
1511 Colorado Street  
Austin, TX 78701

RE: Cultural Resources Desktop Analysis for the West Cargo Demolition Project #1, City of Grapevine, Dallas County, Texas

## **INTRODUCTION**

Integrated Environmental Solutions, LLC (IES) has been contracted by the Dallas/Fort Worth International Airport (DFW) to provide coordination with the Texas Historical Commission (THC) for the proposed West Cargo Demolition Project #1 on DFW property. The proposed project area or Area of Potential Effects (APE) is located at the southeast corner of the intersection of W. Airfield Drive and W. 19<sup>th</sup> Street in Tarrant County, Texas (**Attachment A, Figure 1**). The APE is comprised of a direct and indirect APE. DFW is presently seeking approval from the Federal Aviation Administration (FAA) to modify the Airport Layout Plan (ALP) to reflect permanent improvements and is performing the necessary environmental review to support the ALP modification. Since the ALP modification is a federal action, the FAA will review the 17.7-acre area in accordance with the National Environmental Policy Act of 1969 (NEPA). Thus, coordination with the State Historic Preservation Officer (SHPO), represented by the THC, is necessary to comply with the National Historic Preservation Act (NHPA) of 1966 and the Antiquities Code of Texas (ACT). Therefore, we are requesting a review of the project to determine SHPO recommendations to proceed.

## **PERTINENT REGULATIONS**

### *Section 106 of the National Historical Preservation Act (NHPA)*

The NHPA (54 U.S. Code [USC] 300101), specifically Section 106 of the NHPA (54 USC 306108) requires the SHPO, represented by the 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 NRHP, or eligible for such listing. Per 36 Code of Federal Regulations (CFR) Part 800, the federal agency responsible for overseeing the action must make a reasonable and good faith effort to identify cultural resources. Federal actions include, but are not limited to, construction, rehabilitation, repair projects, demolition, licenses, permits, loans, loan guarantees, grants, and federal property transfers.

### *Antiquities Code of Texas (ACT)*

As the DFW is a political subdivision of the State of Texas, it is required to comply with the 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 5 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.

## **AREA OF POTENTIAL EFFECTS**

The direct APE for the proposed project encompasses approximately 17.7 acres located at the southeast corner of W. Airfield Drive and W. 19<sup>th</sup> Street (**Attachment A, Figure 1**). Current plans call for the demolition of five buildings for the purpose of future redevelopment. As the project will require approval from the FAA, an assessment of indirect effects is required to comply with the NHPA. For this project, it was anticipated that the sole indirect effect of the undertaking would be related to the visual effects of above-ground elements associated with the demolition of existing buildings and future construction of new airport facilities. To account for these above-ground elements, the indirect effects assessment area will assess a 300-foot buffer surrounding the APE.

Integrated Environmental Solutions, LLC. | 610 Elm Street, Suite 300  
McKinney, Texas 75069 | [www.intenvsol.com](http://www.intenvsol.com)

**Telephone: 972.562.7672**

## **METHODOLOGY**

### *Background Research*

During the background review, a variety of literature and online sources were referenced to determine if potential cultural resources were located within the APE. These sources included the *Soil Survey of Tarrant County, Texas*, the Geologic Atlas of Texas (Dallas Sheet), the U.S. Geological Survey (USGS) topographic map, the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) digital soil database for Tarrant County, the National Archives and Records Administration's 1940 Census Enumeration District Maps, the Texas Historic Overlay, Potential Archeological Liability Map (PALM) of Tarrant County, records from Vought Heritage, and both past and current aerial photography of the proposed APE. Additionally, a file search of the Texas Archeological Site Atlas (TASA) and Texas Historical Sites Atlas (THSA) were performed to identify if archeological sites or any previously designated or identified historic properties were within the APE, including: NRHP properties, State Archeological Landmarks (SAL), and Official Texas Historical Markers (OTHM), which includes Recorded Texas Historic Landmarks (RTHL), historic cemetery markers, thematic markers, and 1936 Centennial Markers. This review was performed by Anne Gibson on 20 November 2018.

All photographs used within the desktop analysis were taken by IES staff during a reconnaissance architectural survey. This survey was performed 06 November 2018. No archeological field assessments have been conducted as part of this project. IES archeologists used the photographs to assist in determining potential effects to archeological resources and if an archeological survey would be required.

### *National Register Evaluation Criteria*

The assessment of significance of a cultural resource property 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. The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, material, workmanship, feeling, and association and:

- 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)].

The principal objective is to determine whether a cultural resource possesses the potential to contribute to one or more of the above-defined criteria. Adequate information regarding site function, context, and chronological placement from both archeological and, if appropriate, historical perspectives is essential for cultural resources investigations. Because research questions vary as a result of geography, temporal period, and project design, determination of site context and chronological placement of cultural resources is a particularly important objective during the inventory and evaluation processes. Criterion D is generally associated with prehistoric, but also historic-era, archeological sites. Criteria A, B, and C typically reflect association with historic-era resources, rarely with prehistoric sites. Above ground non-archeological resources less than 50 years in age can be evaluated for NRHP eligibility under Criteria Consideration G. As the NRHP Criteria Evaluation exclude properties that are 50 years 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.

## **BACKGROUND REVIEW**

### *Topographic Setting Geology, and Soils*

The USGS Grapevine 7.5' Quadrangle map illustrates the APE is located within a gently sloping upland setting (**Attachment A, Figure 2**). The APE is situated approximately 0.6-mile northeast of the watershed of Big Bear Creek. The project area occupies an elevation range of 610 to 620 feet (ft; 186 to 189 meters [m]) above modern sea level (amsl).

As shown by the *Soil Survey of Tarrant County, Texas*, there is only a single soil unit within the APE (Ressel 1981). The entire APE contains Houston Black-Urban land complex, 1 to 4 percent slopes, which consists of clay weathered from calcareous shale of the Taylor Marl and Eagleford Shale formations. These soils are typically located in upland settings within the Northern Blackland Prairie and are moderately well drained. Soil data was viewed from the USDA NRCS Web Soil Survey (Web Soil Survey 2018; **Attachment A, Figure 3**).

The APE is located within the Northern Blackland Prairie of the Texas Blackland Prairie ecoregion. This area is distinguished from surrounding regions by the gently rolling hills and fine-textured, black clayey soils with predominant prairie vegetation (Griffith et al. 2007). Vertisols dominate the Blackland Prairie ecoregion and consist of high content clay that has great shrinking and swelling potential. Soils in this area are underlain by the Eagle Ford Formation (Kef), which is comprised of shale, sandstone, and limestone dating to the Cretaceous (McGowen et al. 1987; USGS 2018).

#### *Texas Archeological Sites Atlas Review*

A file search within the TASA and THSA maintained by the THC identified no previously recorded archeological sites, National Register Properties, historical markers, or cemeteries located within the APE (TASA 2018; THSA 2018). The TASA records did identify six previously conducted archeological surveys and three previously recorded archeological sites located within 1 mile of the APE, which are summarized in **Table 1** and **Table 2**, respectively (**Attachment A, Figure 4**).

**Table 1: Recorded Archeological Surveys within 1 Mile of the APE**

Agency	ACT* Permit No.	Firm/Institution	Date	Survey Type	Location (Approximate)
No data	n/a	No data	1991	Area	0.26 mile southwest of APE
Texas Department of Transportation (TxDOT)	3561	Geo-Marine, Inc.	2004	Area	0.04 mile northwest of APE
DFW, FAA	4491	AR Consultants, Inc. (ARC)	2008	Linear	0.86 mile southwest of APE
DFW	7373	IES	2015	Area	0.40 mile northwest of APE
DFW	8215	IES	2018	Area	0.92 mile southwest of APE
DFW	8392	IES	2018	Area	0.24 mile west of APE

\*ACT=Antiquities Code of Texas

**Table 2: Previously Recorded Archeological Sites within 1 Mile of the APE**

Site	Time Period	Site Type	Cultural Materials	Topographic Setting	Reference
41TR126	Prehistoric; Historic	Lithic scatter; Farmstead	Lithic debitage, projectile point; nails, window glass, ceramics, bottle glass, brick fragments; well feature	Upland	Goodmaster 2017
41TR216	Historic	Surface scatter	Bottle glass, metal fragments, bed springs, pocket knife, whiteware	Upland	Trask 2007
41TR315	Historic	Historic artifact scatter	clear bottle glass, ceramics, 78-rpm record fragments, and brick fragments	Upland	Stone, Goodmaster, Chapman, Gibson 2018

#### *Direct APE Archeological Resource Potential*

##### Disturbance Analysis

Prior to the construction of DFW in the early 1970s, the APE was used for agricultural and ranching purposes. Since 1972, significant ground disturbances have transpired throughout the APE related to large-scale surface grading, contouring, and development of DFW facilities. As depicted within aerial photography, once the airport construction began, ground disturbances associated with large-scale grading occurred throughout the APE. In 1972, five buildings were constructed within the APE. The ground surrounding these buildings was paved over for parking, cargo loading, and maintenance areas. Only a few areas along the northern and western boundaries were kept as medians with maintained landscaping.

##### Prehistoric Resources

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. Similar conclusions were reported in 2007 and 2008 by AR Consultants, Inc. (ARC), who conducted intensive pedestrian surveys of 1,210 acres on the DFW property under Texas Antiquities Permit Number 4491. These results were published in the report *An Archaeological Survey for Chesapeake Energy Corporation at DFW International Airport Dallas and Tarrant Counties, Texas*. Through this study, three environmental zones were identified within the DFW that contain varying amounts of cultural resources probability. The current APE will have ground disturbances within Zone 1 (**Attachment A, Figure 5**).

Zone 1 is comprised of the Blackland Prairie Uplands ecoregion, which consists of mostly level clay or clay loam soils over a thin layer of limestone bedrock. Water permeates very slowly to the water table causing slow surface runoff and high shrink and swell potential. This setting has a low biotic diversity and is dominated by short grasses. Due to the limited resources available within the area, it has a low probability for containing prehistoric sites (Shelton et al. 2008). The THC reviewed and concurred with these conclusions.

Based on previous research, in combination with the current analysis, it has been determined the APE contains a negligible potential for containing prehistoric cultural deposits.

#### Historic-Period Resources

Historic-period resources within North-Central Texas are primarily related to farmsteads, houses, and associated outbuildings and structures that date from the mid-19<sup>th</sup> to the mid-20<sup>th</sup> centuries. Typically, these types of resources are located along old roadways, but can be located along railroads, creeks, and open pastures. Although determining the presence of the earliest of these buildings and structures is problematic, maps depicting these features are widely available post-1920.

Historical aerial photography and maps identified several historic-age roads and a historic-aged structure were once located within the APE. The structure was associated with a farmstead, which is depicted as early as 1920 in a USDA soils map. A 1942 aerial photograph shows the farmstead was located along the northern boundary of the APE. By 1946, all structures associated with the farmstead had been demolished. Between 1970 and 1979, the construction of the current buildings and surrounding pavement destroyed any identifiable footprints of these historic-age features. As such, the APE is considered to have negligible potential for containing historic-period cultural resources.

### **RESULTS**

#### *Archeological Resources*

Through the background review and review of photographs taken during the architectural survey, IES determined that the APE was significantly disturbed and contained no potential for archeological resources and would not require an archeological survey to be performed prior to construction.

#### *Architectural Resources*

##### Direct APE

An architectural survey of the APE was performed 06 November 2018 to identify potentially significant architectural resources. During this survey, five buildings were identified within the direct APE (**Table 3; Attachment A, Figure 6**). Research of these buildings indicate each were constructed in 1972 during the original build phase of the airport. Although these buildings were not of historic age at the time of survey, each building was evaluated for significance under NRHP Criteria Consideration G per DFW's request to assess architectural resources of at least 45 years of age. During the architectural survey, photographs were taken of the exterior and interior of each building.

The largest of these recorded buildings was the Evergreen facility, which is located in the eastern part of the APE at 1530 W. 19<sup>th</sup> Street (**Attachment B, Photographs 1 through 22**). The Evergreen facility features offices, warehouse storage, and loading docks used by various air freight companies for cargo transportation. The building was constructed in the Modern style, which emphasized function over aesthetic embellishment. The facility is comprised of a flat roof, reinforced concrete slab exterior walls supported by steel beam framing, and a concrete foundation. The main entrance on the north wall of the building features three walls of glass paneling. The interior contains exposed metal beam roof supports and columns in the storage areas, second story cat walks, concrete block dividing walls, and insulated rooms (ceiling tiles, sheet rock walls, glass windows, wooden doors) for offices and common areas. Based on research, it was determined that the Evergreen facility is not of historic age, nor has it achieved exceptional importance since its construction and does not qualify for NHRP listing under Criteria Consideration G.

The west half of the APE features a row of four identical warehouses (**Attachment B, Photographs 23 and 24**), known as Building A (**Attachment A, Photographs 25 through 31**), Building B (**Attachment B, Photographs 32 through 46**), Building C (**Attachment B, Photographs 47 through 61**), and Building D (**Attachment B, Photographs 62 through 69**). The Modern style buildings feature flat roofs, reinforced concrete exterior walls, concrete block or sheet rock interior walls, steel beam framing, and concrete flooring. Each building contains warehouse and enclosed office space. A portion of Building C is currently being leased by an airport limousine service provider for maintenance and office space. In Building D, a portion of the space is used by a bussing contractor for DFW. Based the age of the buildings and general lack of significance in the history of DFW, Buildings A, B, C, and D are not eligible for NRHP listing under Criteria Consideration G.

**Table 3: Architectural Resources within the Direct APE**

Property Name	Property Location/Address	Construction Date/ Architectural Elements	Photograph of Resource
Evergreen Facility	1530 W. 19 <sup>th</sup> Street	1972 Modern style, two-story building constructed of steel beam framing with concrete block and concrete slab walls. The front entrance features a series of large glass windows. The building contains numerous cargo-holds and loading docks.	
Building A	1900 W. Airfield Drive	1972 Modern style, two-story building constructed of steel beam framing with concrete block and concrete slab walls. The building features offices, storage, maintenance areas, and loading docks.	
Building B	1910 W. Airfield Drive	1972 Modern style, two-story building constructed of steel beam framing with concrete block and concrete slab walls. The building features offices, storage or maintenance areas, and loading docks.	
Building C	1920 W. Airfield Drive	1972 Modern style, two-story building constructed of steel beam framing with concrete block and concrete slab walls. The building features offices, storage or maintenance areas, and loading docks.	
Building D	1930 W. Airfield Drive	1972 Modern style, two-story building constructed of steel beam framing with concrete block and concrete slab walls. The building features offices, storage or maintenance areas, and loading docks.	

Indirect APE

As the project will require approval from the FAA, an assessment of indirect effects was required to comply with the NHPA. The sole potential indirect effect of the undertaking was determined to be related to visual effects associated with the demolition of multiple buildings and redevelopment of the area. To account for potential visual impacts associated with these above-ground elements, indirect impacts were considered within the direct APE footprint and within a 300-foot radius surrounding the direct APE. Thus, any standing structure or building 45 years or older within the direct and indirect APE was photographed and assessed for potential NRHP eligibility (see **Attachment A, Figure 1**).

Historical aerial photography indicates the indirect APE is located within a built and disturbed environment. Presently, most of the indirect APE occupies roadways, parking lots, and modern airport facilities. Through the reconnaissance survey of the indirect APE, it was determined that no historic-age resources were present. However, one resource was identified that was 45 years in age and was evaluated for NRHP eligibility under Criteria Consideration G (**Table 4**).

**Table 4:** Architectural Resources within the Indirect APE

Property Name	Property Location/Address	Construction Date/ Architectural Elements	Photograph of Resource
American Airlines West Supply Warehouse	1630 W. 19 <sup>th</sup> Street	1972 Modern style, two-story building constructed of steel beam framing with concrete slab walls. The building features offices, storage, and loading docks.	

The American Airlines West Supply Warehouse was built in 1972 or 1973 as part of the original development of the airport. The Modern style two-story building features administrative offices, warehouse storage space, and numerous loading docks (**Attachment B, Photograph 70**). According to current and historic aerial photographs, the building appears to have been minimally altered since its initial construction. Because the building is not historic-period and lacks historical significance, the American Airlines West Supply Warehouse is ineligible for NRHP listing under Criteria Consideration G.

**CONCLUSIONS**

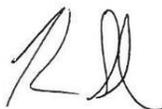
The entire APE has been exposed to significant previous ground disturbances and contains negligible potential for containing prehistoric or historic-age archeological sites. There are five modern architectural elements that are 45 years in age (Evergreen facility and Buildings A, B, C, and D) within the direct APE and one resource (American Airlines West Supply Warehouse) in the indirect APE. IES does not consider any of these buildings to be eligible for the NRHP under Criteria Consideration G.

Therefore, DFW is requesting concurrence with the findings of this desktop analysis and the recommendation that no historic properties will be affected under 36 CFR Part 800.4(d)(1) within the current APE. It is the recommendation of IES that the SHPO concur with these findings and the undertaking be permitted to continue without the need for further cultural resources investigations. However, in the unlikely event that any prehistoric or historic features or deposits are encountered during construction, work should cease in that area immediately and the THC should be contacted for further consultation.

If you have questions, please contact me by phone at (972) 562-7672 or via email at [kstone@intenvsol.com](mailto:kstone@intenvsol.com).

Sincerely,

Integrated Environmental Solutions, LLC



Kevin Stone, MA, RPA  
 Cultural Resources Principal Investigator

---

## REFERENCES

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**ATTACHMENT A**

**Figures**

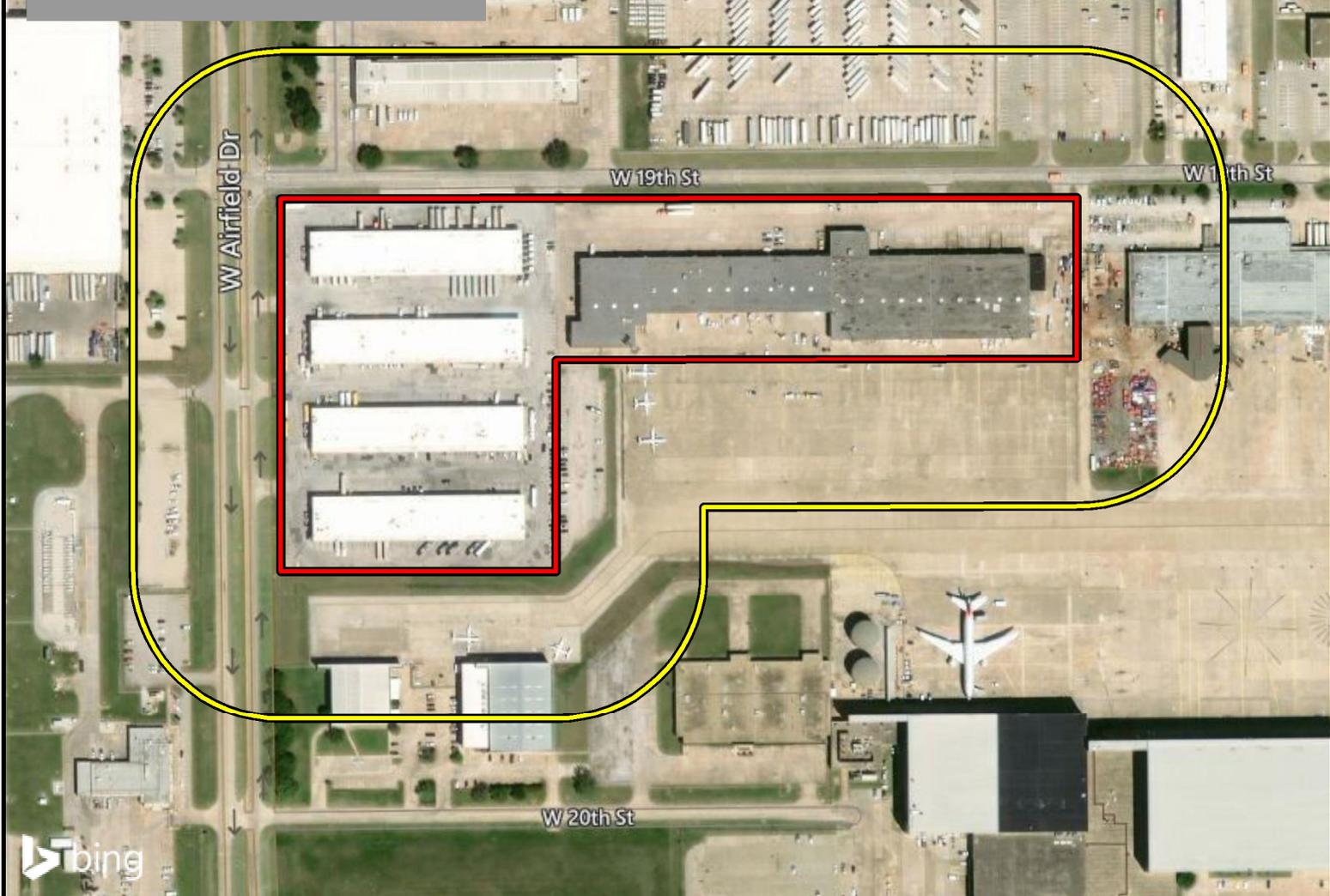
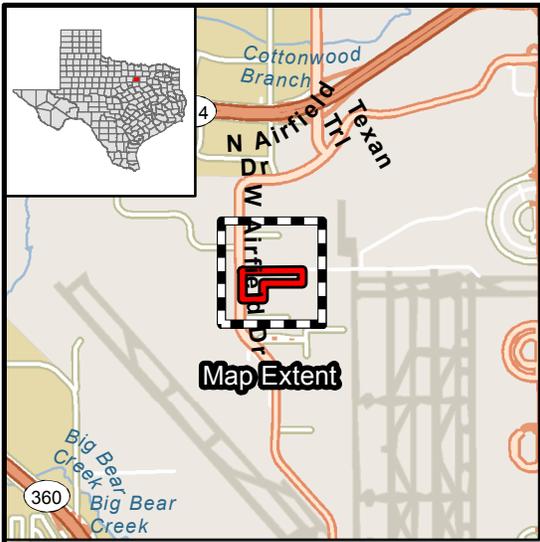
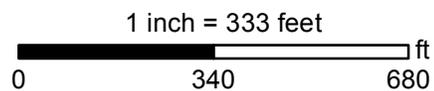


Figure 1  
General Location Map

- Area of Potential Effects - Direct
- Area of Potential Effects - Indirect



County: Tarrant  
 State: Texas  
 Date map created: 12/10/2018  
 Source: (c) 2009 Microsoft Corporation  
 and its data suppliers; ESRI 10.5  
 Streetmap  
 IES Project Ref: 03.006.066



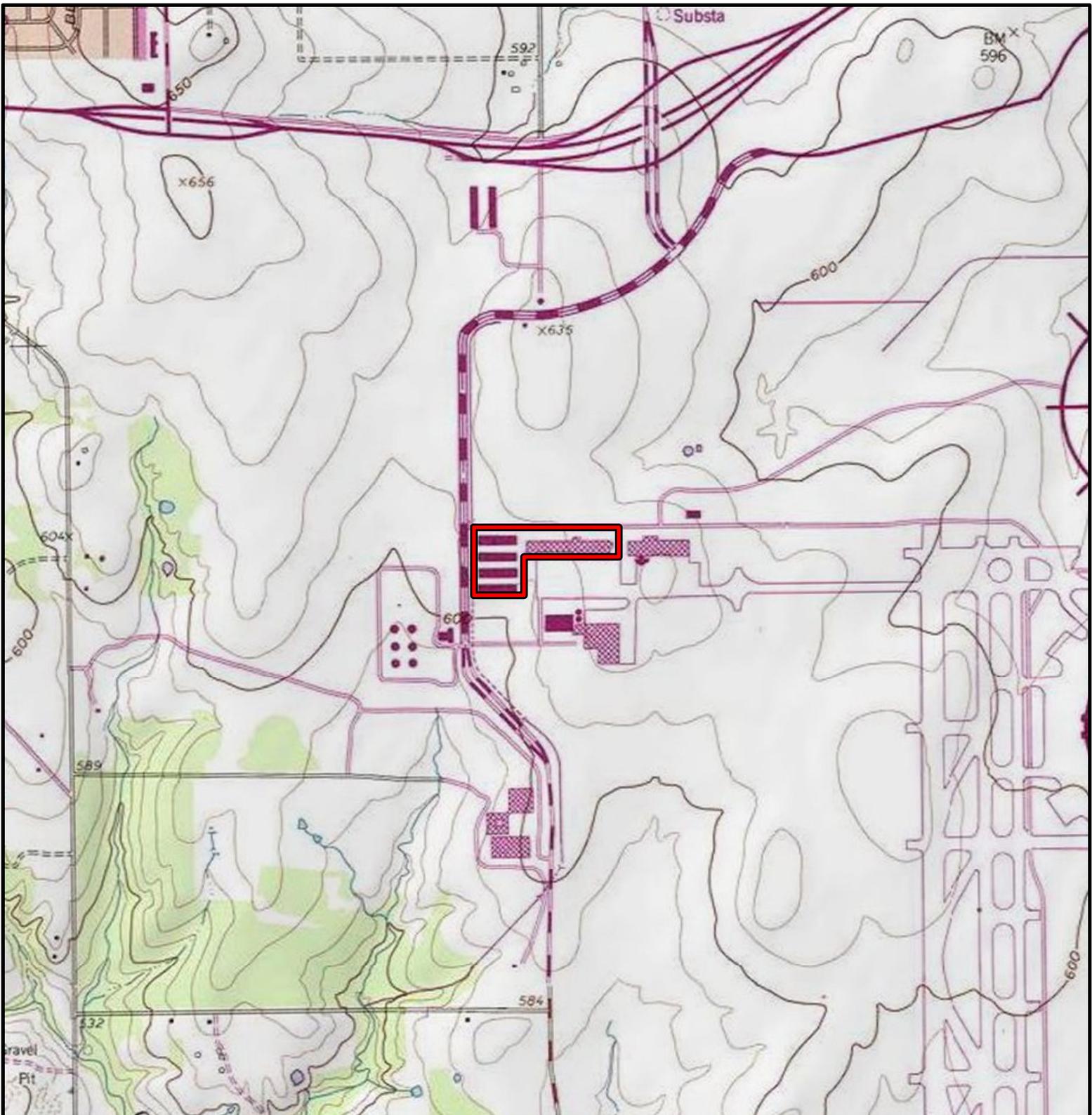
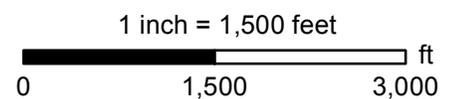


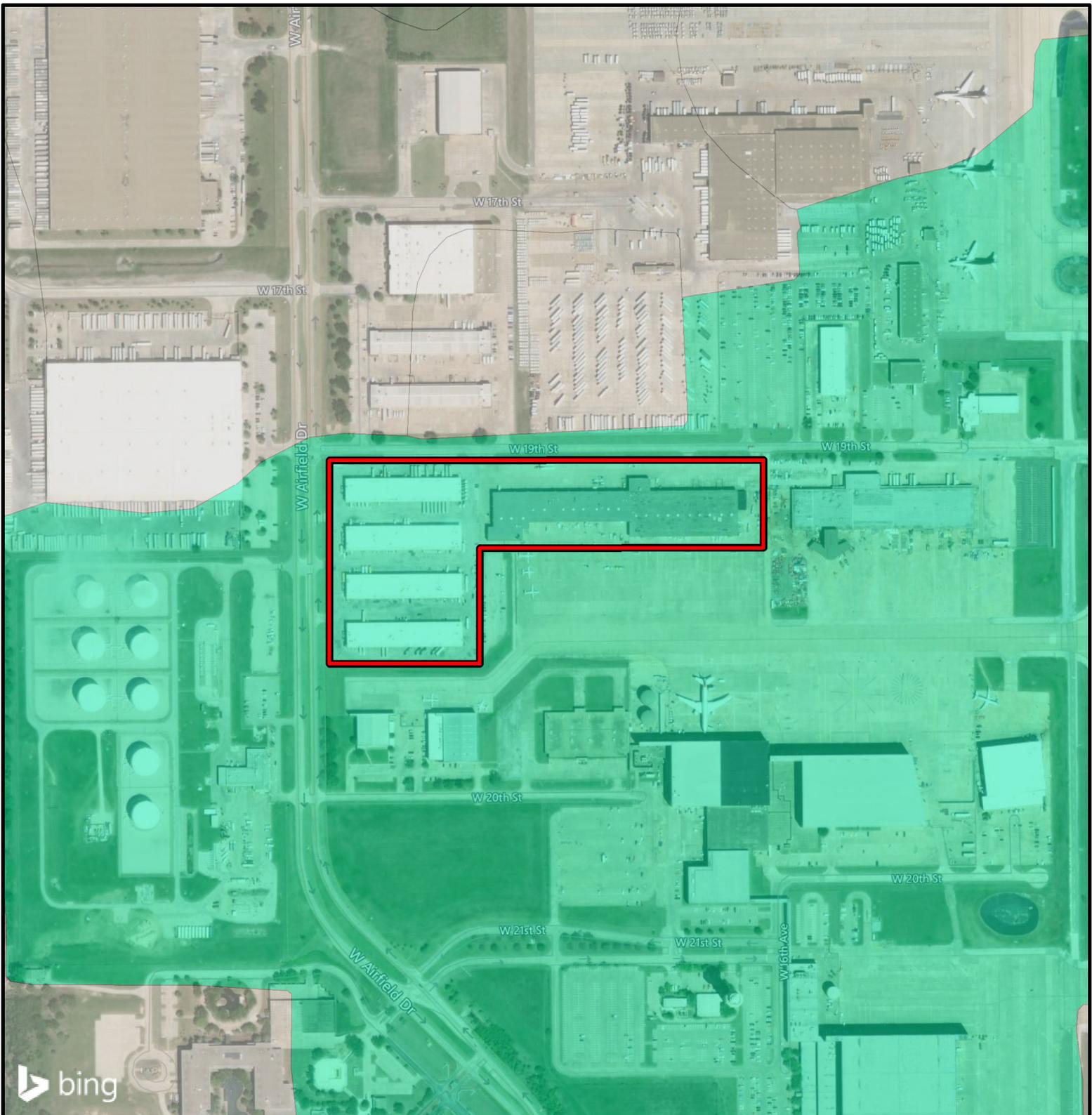
Figure 2  
Topographic Setting

 Area of Potential Effects



County: Tarrant  
 State: Texas  
 Date map created: 11/20/2018  
 Source: USGS topographic map  
 Grapevine (1982) 7.5-minute quadrangle  
 IES Project Ref: 03.006.066





**Figure 3**  
Soil Map Units Located Within and Adjacent to the APE

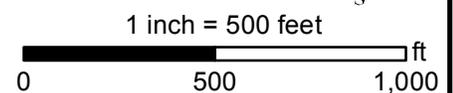
County: Tarrant  
 State: Texas  
 Date map created: 11/21/2018  
 Source: 2007 USDA  
 NRCS Digital Soils Database  
 IES Project Ref: 03.006.066

 Area of Potential Effects

**Soil Description**

 35 - Houston Black-Urban land complex, 1 to 4 percent slopes

 Other Values



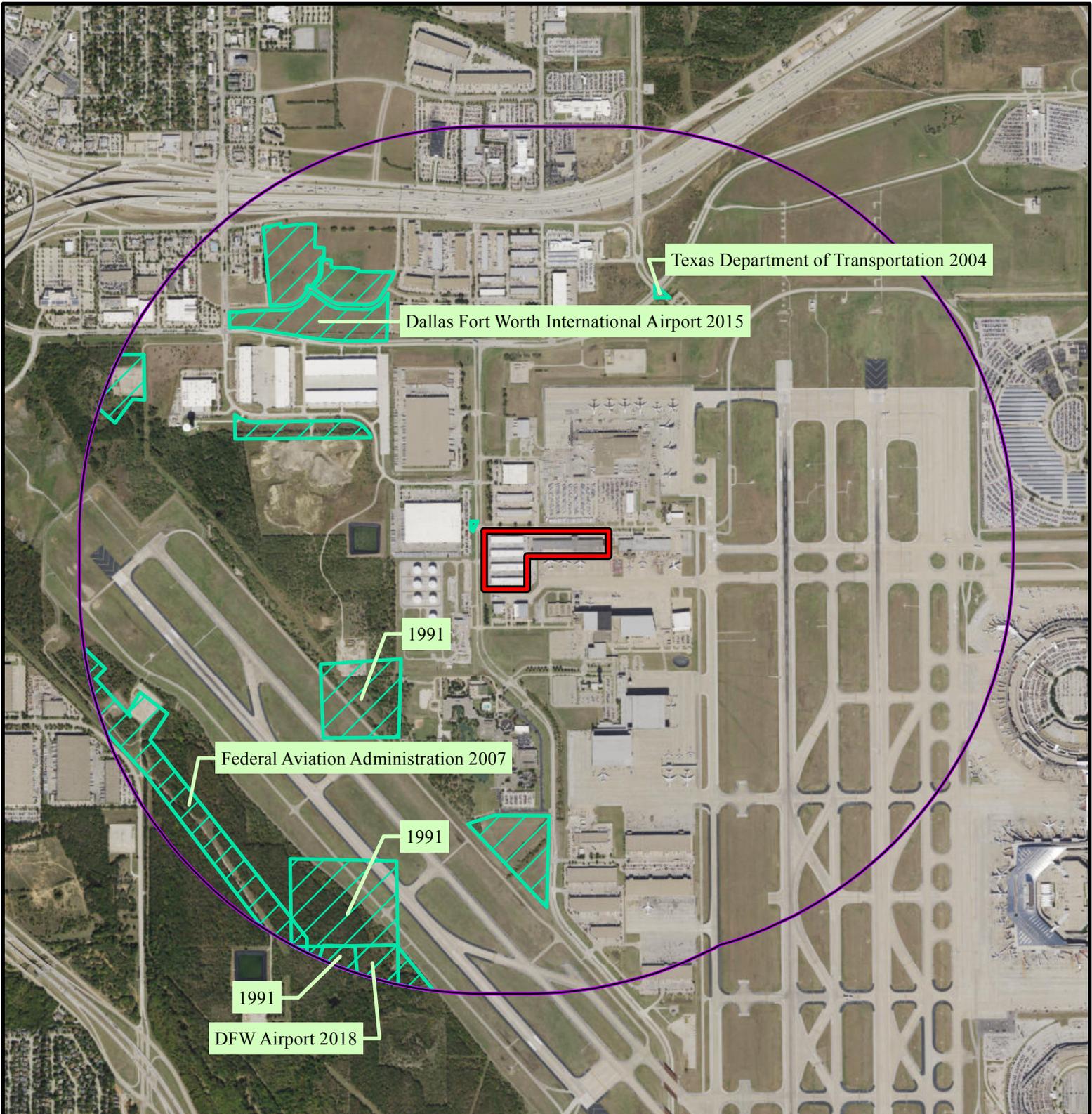
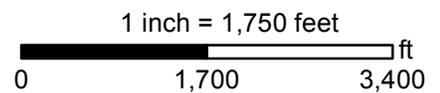


Figure 4  
Previous Investigations within  
1 Mile of the APE

- Area of Potential Effects
- Area of Potential Effects - 1 Mile Buffer
- Previous Archeological Survey



Counties: Tarrant  
 State: Texas  
 Date map created: 11/20/2018  
 Source: (c) 2009 Microsoft Corporation  
 and its data suppliers; ESRI 10.5  
 IES Project Ref: 03.006.066



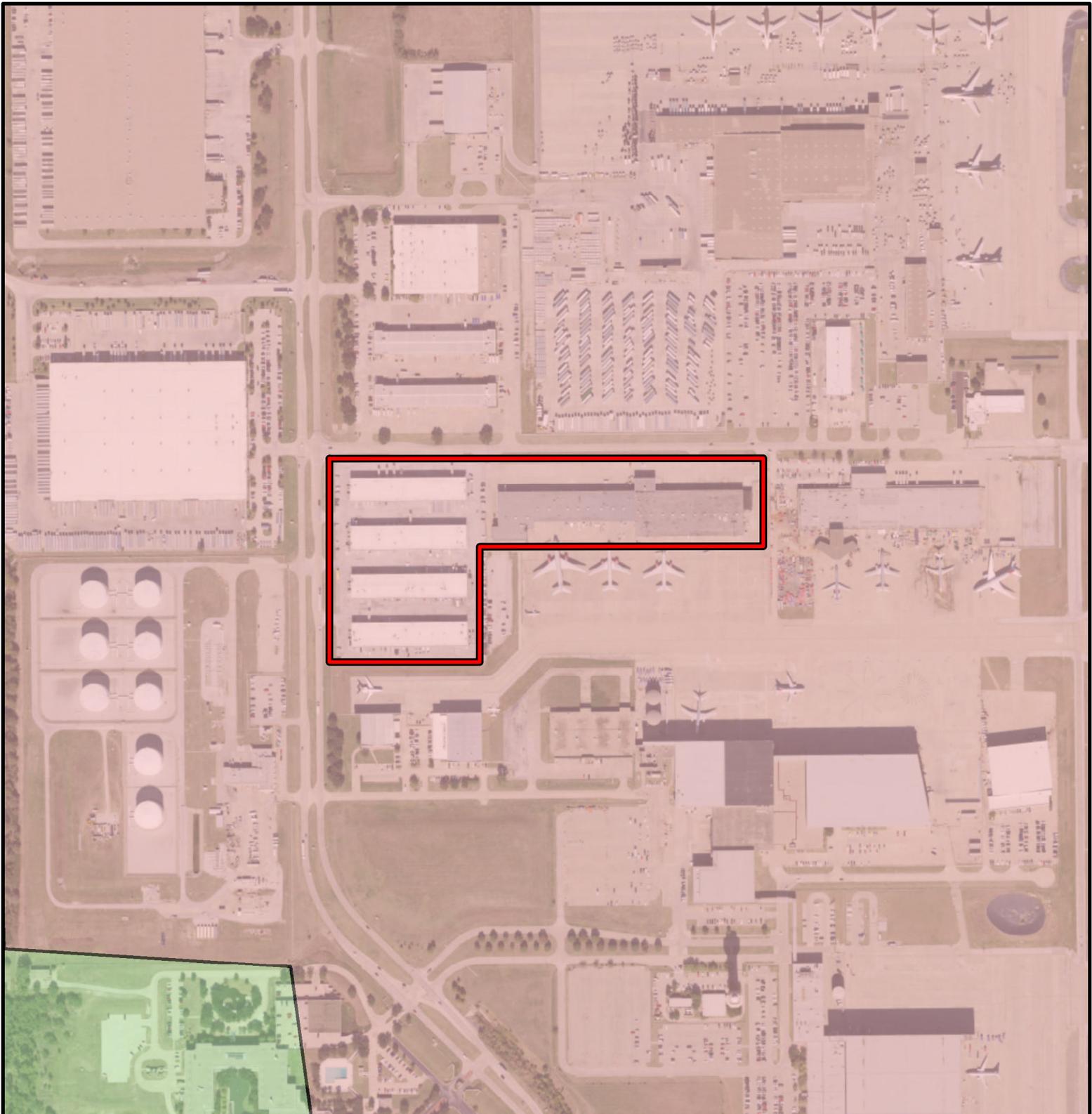


Figure 5  
Archeological Environmental  
Zone Map



Area of Potential Effects

**Archeological-Environmental Zone**



Zone 1 - Blackland Prairies Uplands



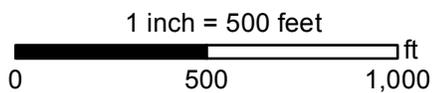
Zone 2 - Eastern Cross Timbers



Zone 3 - Bear Creek Floodplain



Counties: Tarrant  
State: Texas  
Date map created: 11/20/2018  
Source: (c) 2009 Microsoft Corporation  
and its data suppliers; ESRI 10.5  
IES Project Ref: 03.006.066



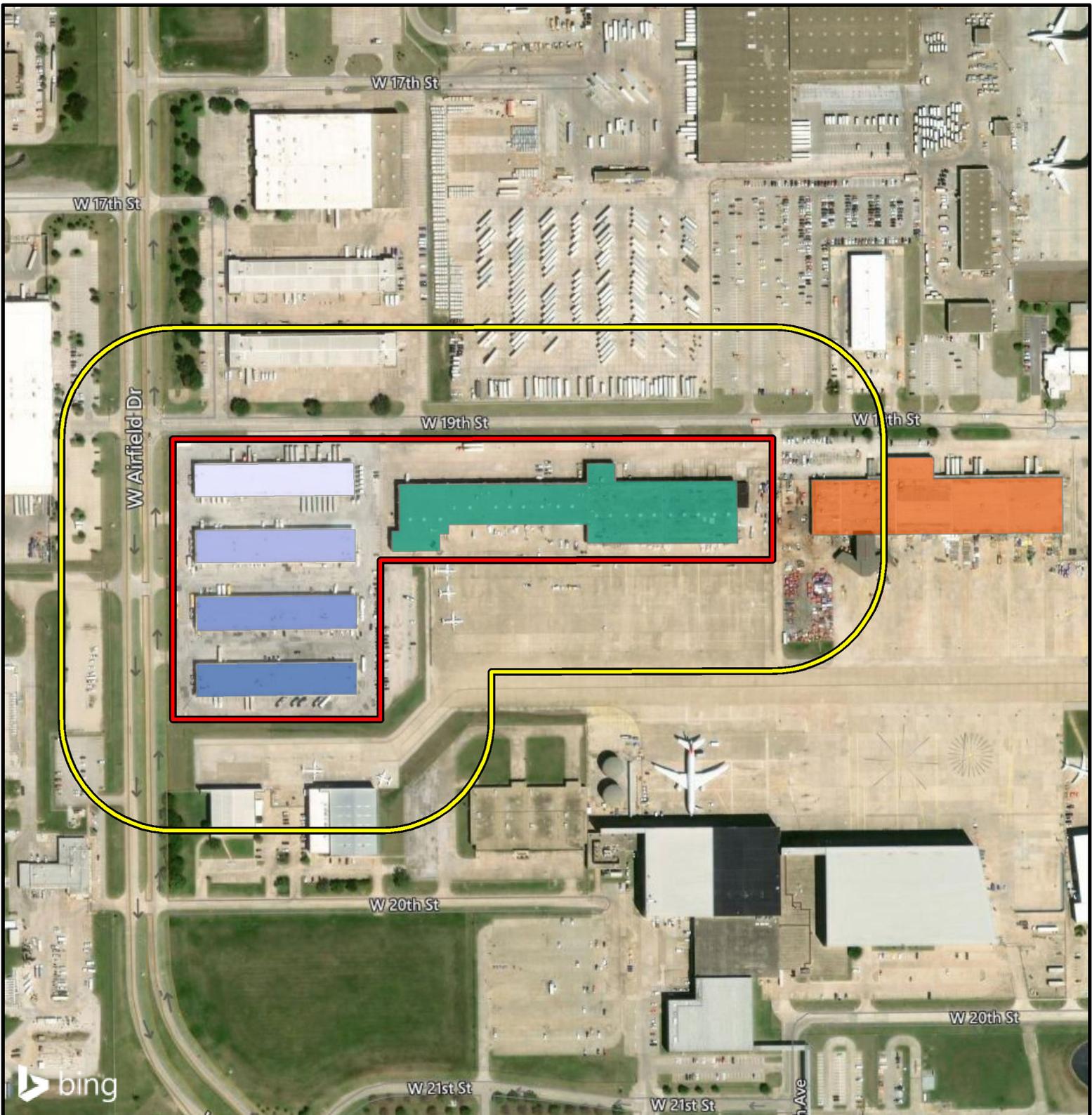


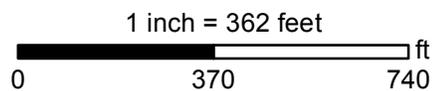
Figure 6  
Architectural Resource Map

County: Tarrant  
 State: Texas  
 Date map created: 12/10/2018  
 Source: (c) 2009 Microsoft Corporation  
 and its data suppliers; ESRI 10.5  
 Streetmap  
 IES Project Ref: 03.006.066

- Area of Potential Effects - Direct
- Area of Potential Effects - Indirect

**Architectural Resource**

- Building A
- Building B
- Building C
- Building D
- Evergreen Facility
- American Airlines West Supply



**ATTACHMENT B**  
**Representative Photographs**



Photograph 1 – Evergreen Facility, View to the South



Photograph 2 - Evergreen Facility, View to the Southwest



Photograph 3 - Evergreen Facility, View to the Southwest



Photograph 4 - Evergreen Facility, View to the South



Photograph 5 - Evergreen Facility, View to the Southeast



Photograph 6 - Evergreen Facility, View to the East



Photograph 7 - Evergreen Facility, View to the Northwest



Photograph 8 - Evergreen Facility, View to the North



Photograph 9 - Evergreen Facility, View to the Northeast



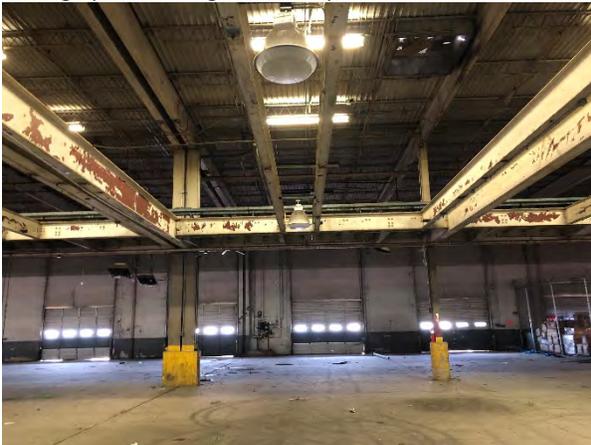
Photograph 10 - Evergreen Facility, View to the North



Photograph 11 - Evergreen Facility, View to the West



Photograph 12 - Evergreen Facility, View to the South



Photograph 13 - Evergreen Facility, Interior



Photograph 14 - Evergreen Facility, Interior



Photograph 15 - Evergreen Facility, Interior



Photograph 16 - Evergreen Facility, Interior



Photograph 17 – Evergreen Facility, Interior



Photograph 18 – Evergreen Facility, Interior



Photograph 19 – Evergreen Facility, Interior



Photograph 20 – Evergreen Facility, Interior



Photograph 21 – Evergreen Facility, Interior



Photograph 22 – Evergreen Facility, Interior



Photograph 23 – Building A, B, C, & D, View to Southeast



Photograph 24 – Building A, B, C, & D, View to the Southwest



Photograph 25 – Building A, View to the Northeast



Photograph 26 – Building A, View to the East



Photograph 27 – Building A, View to the West



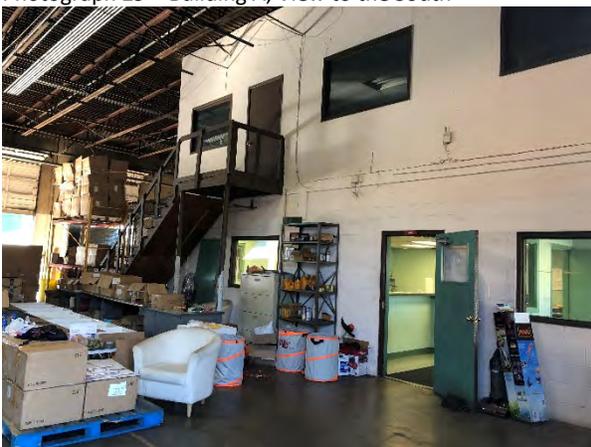
Photograph 28 – Building A, View to the South



Photograph 29 – Building A, View to the South



Photograph 30 – Building A, Interior



Photograph 31 – Building A, Interior



Photograph 32 – Building B, View to the Northeast



Photograph 33 – Building B, View to the Northwest



Photograph 34 – Building B, View to the Northeast



Photograph 35 – Building B, View to the North



Photograph 36 – Building B, View to the South



Photograph 37 – Building B, View to the South



Photograph 38 – Building B, View to the Southwest



Photograph 39 – Building B, Interior



Photograph 40 – Building B, Interior



Photograph 41 – Building B, Interior



Photograph 42 – Building B, Interior



Photograph 43 – Building B, Interior



Photograph 44 – Building B, Interior



Photograph 45 – Building B, Interior



Photograph 46 – Building B, Interior



Photograph 47 – Building C, View to the Southeast



Photograph 48 – Building C, View to the Southwest



Photograph 49 – Building C, View to the Northeast



Photograph 50 – Building C, View to the Southeast



Photograph 51 – Building C, View to the Northwest



Photograph 52 – Building C, Interior



Photograph 53 – Building C, Interior



Photograph 54 – Building C, Interior



Photograph 55 – Building C, Interior



Photograph 56 – Building C, Interior



Photograph 57 – Building C, Interior



Photograph 58 – Building C, Interior



Photograph 59 – Building C, Interior



Photograph 60 – Building C, Interior



Photograph 61 – Building C, Interior



Photograph 62 – Building D, View to the East



Photograph 63 – Building D, View to the Northeast



Photograph 64 – Building D, View to the North



Photograph 65 – Building D, View to the Northeast



Photograph 66 – Building D, View to the West



Photograph 67 – Building D, View to the Southeast



Photograph 68 – Building D, Interior



Photograph 69 – Building D, Interior



Photograph 70 – American Airlines West Supply Warehouse, View to the East

**Appendix 2:  
Air Quality Analysis Report**

Final

# Air Quality and Climate Change Assessment: Technical Report

**DFW Airport - Northwest Cargo Area  
Demolition/Restoration**

March 2021

HDR Project No. 10287303

Recipient Esther Chitsinde, DFW Airport

Date March 30, 2021

Prepared by Steven Peluso, HDR, Inc.

Checked by Ed Liebsch, HDR, Inc.

Approved by Ed Liebsch, HDR, Inc.





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## APPENDICES

### Appendix A. Proposed Project ACEIT Inputs – Overall Size

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## Acronyms and Abbreviations

ACEIT	Airport Construction Emissions Inventory Tool
ACM	Asbestos-Containing Materials
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
C&D	Construction and Demolition
CH <sub>4</sub>	Methane
CO	Carbon Monoxide
CO <sub>2</sub>	Carbon Dioxide
CO <sub>2e</sub>	Carbon Dioxide Equivalents
DFW	Dallas Fort Worth International Airport
EIS	Environmental Impact Statement
EV	Electric Vehicles
FAA	Federal Aviation Administration
FOD	Foreign Object Debris
GHG	Greenhouse Gases
GSE	Ground Support Equipment
GWP	Global Warming Potential
HAP	Hazardous Air Pollutants
MOVES3	Motor Vehicle Emission Simulator (version 3, Jan. 2021)
N <sub>2</sub> O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAVAIDS	Navigational Aids

NEPA	National Environmental Policy Act
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
NWS	National Weather Service
O <sub>3</sub>	Ozone
Pb	Lead
PM <sub>10</sub>	Particulate Matter Less Than 10 Microns in Diameter
PM <sub>2.5</sub>	Particulate Matter Less Than 2.5 Microns
RTC	Regional Transportation Council
SIP	State Implementation Plan
SO <sub>2</sub>	Sulfur Dioxide
SOP	Standard Operating Procedure
tpy	Tons Per Year
TCEQ	Texas Commission on Environmental Quality
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 Restoration of the Northwest Cargo Area at Dallas Fort Worth International Airport (the Airport or DFW) (the “Proposed Project”). The Proposed Project will demolish the existing Northwest Cargo Area including the Evergreen Building and AeroTerm Buildings A, B, C, D and associated concrete paved parking/vehicle access areas. The five buildings encompass 297,000 square feet of building space and the total project area is approximately 17 acres. The Proposed Project will include the following components that will render the area ready for future redevelopment as needed:

- Complete building demolition
- Concrete slab/foundation pier demolition along with utilities and soil excavation down to five feet below grade of each building footprint
- Concrete demolition of all paved parking and surrounding vehicle access areas
- Placement of approximately 40,000 cubic yards of fill and grading
- Topsoil placement and sodding the entire project area, and
- Install fencing to separate an aircraft apron from the project area.

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

HDR estimated criteria air pollutant (CAP) and greenhouse gas (GHG) emissions associated with construction of the Proposed 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 (MOVES3, January 2021 release) and USEPA AP-42 guidance. The Proposed Project will not have any effect on aircraft, taxi, or ground support vehicle operations, adding or changing of haul routes/roads, or any other operational activities. Therefore, no operational emissions have been calculated.

HDR evaluated the Proposed Project’s significance with respect to air pollutant emissions by comparing the estimated emissions to applicable USEPA *de minimis* levels under General Conformity Rules (40 CFR 93, Subpart B). DFW is in a Serious Ozone Non-Attainment Area; therefore, the Proposed Project is subject to 50 tons per year (tpy) volatile organic compounds (VOC) and nitrogen oxides (NOx) *de minimis* thresholds under the General Conformity Rules. This analysis was initiated to determine compliance with the Clean Air Act (CAA) and the Texas Commission on Environmental Quality (TCEQ) Dallas-Fort Worth Eight-Hour Ozone State Implementation Plan (SIP). Table 1 shows that maximum annual construction emissions are well below applicable *de minimis* thresholds. As noted above, the Proposed Project is expected to result in no net increases in operational emissions.

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

Project Year	Project Emissions (tons/yr)		General Conformity De Minimis Threshold <sup>1</sup>	
	NOx	VOC	NOx	VOC
2021	5.76	0.49	50	50

<sup>1</sup> 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 and discloses emissions of GHGs.

This analysis evaluates the potential air quality-related impacts of the Proposed Project, which would demolish the Northwest Cargo Area and restore it to grade with fill, topsoil, sod, and limited fencing. This technical report describes the scope and methodology for evaluation of air quality from construction 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 on air quality, from a proposed federal action on the human environment. Per the USEPA, NEPA's policy is to assure that all branches of government properly consider the environment prior to undertaking any major federal action that significantly affects the environment.

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

FAA 1050.1F, Exhibit 4-1 defines the significance threshold for air quality as when “[t]he action would cause pollutant concentrations to exceed one or more of the National Ambient Air Quality Standards (NAAQS), as established by the USEPA under the CAA, for any of the time period analyzed, or to increase the frequency or severity of any such existing violations.” FAA guidance requests that Air Quality analysis focus on NAAQS criteria air pollutants and that a separate section of the assessment 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 (SO<sub>2</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter less than 10 microns in diameter (PM<sub>10</sub>), particulate matter less than 2.5 microns (PM<sub>2.5</sub>), and Lead (Pb).<sup>1</sup> Specific geographic areas are classified as either "attainment" or "non-attainment" areas for each pollutant based upon comparison of ambient monitoring data with NAAQS. Those areas designated as "non-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

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<sup>1</sup> USEPA. NAAQS Table. Available at: <https://www.epa.gov/criteria-air-pollutants/naaqs-table>. Accessed: March 2021

quality plans are developed to meet federal requirements and are included in an overall program referred to as the SIP.

The Project site is in Dallas and Tarrant Counties which have been designated by the USEPA as being in attainment and non-attainment with the following NAAQS, respectively.<sup>2</sup>

- *Attainment or Unclassified:* CO (1-hr, 8-hr), NO<sub>2</sub> (1-hr, Annual), Sulfur Dioxide (SO<sub>2</sub>) (1-hr, 3-hr), PM<sub>10</sub> (24-hr), PM<sub>2.5</sub> (24-hr, Annual), and Pb (Rolling 3-month average);
- *Non-Attainment:* O<sub>3</sub> (2008 8-hr, Serious), O<sub>3</sub> (2015 8-hr, Marginal).

As indicated above, EPA NAAQS non-attainment classifications for the project area are limited to ozone. Ozone (O<sub>3</sub>) is not directly emitted but is formed in the atmosphere when NO<sub>x</sub> and VOC react under exposure to solar radiation. Ozone is considered a regional pollutant because NO<sub>x</sub> and VOC emissions throughout the airshed are involved in the formation of ozone. A regional photochemical model that considers emissions throughout the airshed is used to model ozone concentrations. The potential impacts to ozone concentrations are typically based on estimates of the annual or daily emissions of NO<sub>x</sub> and VOC. Air pollutant emissions from construction and any net increases in NO<sub>x</sub> or VOC emissions associated with operation of the Proposed Project would be relevant to ozone formation and concentration, especially if the emissions increases exceed the General Conformity *de minimis* thresholds.

## 1.2 Existing Conditions

DFW is jointly owned/controlled by the cities of Dallas and Fort Worth, Texas, as portions are included in both Dallas and Tarrant counties. In 2020, DFW serviced over 39 million passengers to over 200 nonstop destinations. DFW covers over 17,000 acres of land area and currently contains five terminals and 164 gates.

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.

The DFW Northwest Cargo Area operations were terminated within AeroTerm Buildings A through D and the Evergreen Building and moved to another location. Therefore, there are currently no operations ongoing in these buildings or associated paved parking and egress areas.

## 1.3 Proposed Project

The Proposed Project is to demolish the existing Northwest Cargo Area including the Evergreen Building and AeroTerm Buildings A, B, C, D and associated concrete paved parking/vehicle access areas. The Evergreen building encompasses 141,000 square feet and the other four buildings encompass 156,000 square feet. The total project area is approximately 17 acres. The subject

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<sup>2</sup> 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](https://www3.epa.gov/airquality/greenbook/anayo_tx.html). Accessed: February 2021.

buildings are not operational and are mostly empty. The Proposed Project will include the following components:

- Complete building demolition
- Concrete slab/foundation pier demolition along with utilities and soil excavation down to five feet below grade of each building footprint
- Concrete demolition of all paved parking and surrounding vehicle access areas
- Placement of approximately 40,000 cubic yards of fill and grading
- Topsoil placement and sodding the entire project area, and
- Install fencing to separate an aircraft apron from the project area.

After demolition and restoration is complete, the project area will be ready for future redevelopment as needed.

The Proposed Project would not cause an increase in aircraft operations including nighttime operations, change the aircraft fleet mix, nor change the airfield configuration, runway use, taxiing patterns, or flight patterns. This Proposed Project would be located entirely on Airport property and would not increase the number of operations or operational characteristics. It would not affect runway use percentages or number or type of aircraft operations. Therefore, HDR did not perform a quantitative evaluation of operational emissions as no project-related increases in operational emissions are expected.

The Proposed Project includes the following specific components in more detail:

- Demolition of AeroTerm Buildings A, B, C, and D which are each 39,000 square feet in area and approximately 27 feet in height (obtained from Google). Asbestos abatement is expected to be completed prior to demolition.
- Demolition of the Evergreen Building which is 141,000 square feet in area and approximately 29 feet in height. This includes some asbestos abatement of materials that cannot be removed prior to demolition. The demolition contractor is responsible for conducting asbestos abatement and proper asbestos disposal of approximately 59,163 square feet of asbestos-containing flooring, ceiling tiles, mastics, drywall/joint compound, ceramic tiles, tank insulation materials, exterior stucco, and roof flashing materials, and 10,759 linear feet of asbestos-containing caulking, mastic, elbow insulation, vibration damper, and exterior/interior expansion joint caulking materials. All ACM will be transported to and disposed in a local landfill approved for asbestos disposal. *[This assessment assumes there is no appreciable difference in the level of demolition activity and associated emissions if there was no asbestos abatement necessary and these same materials were disposed in a construction and debris (C&D) landfill vs. an asbestos-approved landfill.]*
- For the five buildings above, demolition of concrete building foundations, concrete parking and vehicle access areas around these buildings, underground structures/utilities and soils down to 5 feet below the building footprint concrete slab. This area encompasses 740,520 square feet based on the 17-acre project site. These buildings are unoccupied and operational equipment has been removed or will be removed prior to demolition.

- Removal and proper disposal of other potential hazardous materials including lead fixtures, lead-based paint, universal wastes containing mercury, and refrigerants.
- Demolition and proper disposal of approximately eight electrical transformers (potentially PCB-containing).
- Adjustment and tie-in to the existing stormwater drainage system.
- Transport of approximately 40,000 cubic yards of earthen fill material from either of three on-site borrow sources to the project site for filling and grading the project area after demolition. [*This assessment assumes all earthen material will come from the DFW Airport borrow area farthest away which is the East Materials Management Site; approximately 8 miles by road from the project site.*]
- Construction of an Airport Operating Area barrier-mounted chain-link and barbed wire fence; 1,208 linear feet.
- Transport and placement of 4 inches of topsoil and overlay of sod over the entire project area, which covers 740,520 square feet (17 acres).
- All C&D debris will be transported and disposed in either of two local C&D landfills: Lewisville and Arlington C&D landfills. [*The ACEIT emissions model utilizes a default of 40 miles round-trip distance for material delivery/hauling which is conservative compared to the C&D landfill that is farthest from the project site; Lewisville at 14.8 miles one-way.*]
- As dust control and Foreign Object Debris (FOD) control measures, there will be regular daily applications of water and use of sweepers on the project site to keep dust down and prevent FOD from getting onto the adjacent aircraft apron area.

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

The Proposed Project is expected to result in no increase in operational CAP or GHG emissions compared to existing conditions and future no project conditions. 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 policy<sup>3</sup> (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.

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<sup>3</sup> DFW. 2020. Clean Air policy. Available at: [https://www.dfwairport.com/cs/groups/webcontent/documents/webasset/p3\\_315435.pdf](https://www.dfwairport.com/cs/groups/webcontent/documents/webasset/p3_315435.pdf). Accessed: October 2020.

- 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 DFW Airport Board (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.

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## 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 Proposed Project; DFW has already been in discussions with the FAA regarding this Proposed 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 Proposed Project will cause or create a reasonably foreseeable increase in air emissions. As described further below, construction but not operations of this Proposed Project may cause a temporary increase in air emissions.
4. Establish the attainment/nonattainment status for the Project area and identify pollutants for which the area is designated nonattainment or maintenance, described in Section 1.1.
5. Evaluate agency/public scoping comments concerning air quality; this is only a requirement when preparing an EIS and is not addressed explicitly in this report.

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

### 2.2 Assessment Methodology

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

The potential methodologies are summarized here, and methodologies that were used for the Proposed Project are described below. Although the type of project for this proposed action, i.e. demolition, is not specifically listed in Figure 4-5, it is assumed the category "New or Expanded Cargo Facility" would be the best representation for determining the assessment methodology. This category lists the construction emissions inventory as "appropriate" and all other methodologies as "potentially appropriate." The decision to evaluate the "potentially appropriate" methodologies were assessed using Project-specific information.

Qualitative Assessment: When it has been determined that the Proposed 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 Proposed 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 Proposed 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 (temporary emissions) but not for operations as part of this Proposed Project.
- **Atmospheric Dispersion Modeling:** Dispersion modeling is used to predict the air quality effects of the operational and construction emissions inventory by distributing and dispersing the emissions across a project area both spatially and temporally based on the operational and physical characteristics of the emission source(s) combined with meteorological and local terrain data. This is not necessary for this Proposed Project given the nonattainment pollutant of interest (O<sub>3</sub>) and the results of the construction emissions assessment below.
- **Roadway “Hot-Spot” Analysis:** Hot-spot modeling is designed to assess the effects of motor vehicle traffic emissions on local air quality conditions. This is not applicable to the Proposed Project given that it will not result in significant increases in vehicle traffic. In addition, the Proposed Project is not subject to Transportation Conformity, which is when a formal hot-spot analysis can be required.

## 2.3 Scenarios Evaluated

### 2.3.1 Construction Scenarios Evaluated

HDR evaluated CAP and GHG emissions associated with construction/demolition of the Proposed Project. The Proposed Project would include the following which is the only scenario evaluated:

- Complete building demolition of five buildings; 297,000 square feet
- Concrete slab/foundation pier demolition along with utilities and soil excavation down to five feet below grade of each building footprint

- Concrete demolition of all paved parking and surrounding vehicle access areas; 740,520 square feet
- Placement of approximately 40,000 cubic yards of fill and grading
- Topsoil placement and sodding the entire project area, and
- Install fencing to separate an aircraft apron from the project area

Construction/demolition emissions depend on activity levels for heavy-duty construction equipment, truck haul trips (bulk deliveries and demo debris to local landfill), and vehicle trips made by construction workers and vendors/material deliveries traveling to and from the Proposed Project site. Construction activities would take place in 2021. A list of associated project types, schedule, and the year of activity is provided in Table 2. The overall project is estimated to occur over 120 days between late June 2021 and late October 2021.

**Table 2. Proposed Project Schedule by Project Type.**

Project Type	Estimated Start Date	Estimated End Date	Percentage of Project Type in 2021
Demolition - Building	6/28/2021	10/28/2021	100%
Demolition - Concrete	7/28/2021	9/28/2021	100%
Apron (GA) [ACEIT surrogate for building footprint excavation/demo down to 5 feet below grade and subsequent placement of earthen fill] <sup>(1)</sup>	7/28/2021	9/28/2021	100%
Site Work – 10000 square feet [Rough Grading]	9/28/2021	10/28/2021	100%
Landscaping [topsoil/sod placement]	9/28/2021	10/28/2021	100%
Fencing [AOA fence]	9/28/2021	10/28/2021	100%
Runway Markings [ACEIT surrogate for FOD Sweeper for entire duration of the project]	6/28/2021	10/28/2021	100%

<sup>(1)</sup> Also includes a water truck for fugitive dust control for the entire duration of the project.

### 2.3.2 Operational Scenarios Evaluated

The FAA Handbook recommends evaluation of several operational scenarios including the Existing/Baseline emissions, Proposed Project, No Project, and any other Alternatives. However, in this case the Proposed Project is expected to result in no net increases in operational emissions. Therefore, HDR 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 HDR 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:

- O<sub>3</sub> precursors: VOCs and NO<sub>x</sub>
- Other CAPs: CO, SO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>
- GHGs: CO<sub>2</sub> (carbon dioxide), CH<sub>4</sub> (methane), N<sub>2</sub>O (nitrous oxide); total GHG emissions are reported as CO<sub>2</sub>e (carbon dioxide equivalents)

Because O<sub>3</sub> is a secondary pollutant (i.e., it is not directly emitted but is formed in the atmosphere), emissions of VOCs and NO<sub>x</sub>, which react in the presence of sunlight to form ozone, were used to assess the potential for impacts on ozone levels.

CO<sub>2</sub>e emissions were estimated based on 20-year global warming potential (GWP) estimates for CH<sub>4</sub> (84) and N<sub>2</sub>O (264),<sup>4</sup> conservatively, as 20-year GWPs will result in higher CO<sub>2</sub>e estimates compared to 100-year GWP estimates.

To estimate CAP and GHG emissions from the Proposed Project, HDR directly or indirectly relied primarily on emissions estimation guidance from government-sponsored organizations, Project specific studies (e.g., design documents), DFW-provided project activity data, and emission estimation software, i.e. ACEIT and MOVES3.

## 2.4.1 Construction Emissions Inventory

Proposed Project construction/demolition would generate CAP and GHG emissions from heavy-duty construction equipment activity, truck haul trips (bulk deliveries and demo debris to local landfill), and construction workers and vendor/material truck trips 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, excavators, dozers, graders, rollers, skid steer loaders, cutting machines, forklifts, sweepers, water truck, passenger vehicles/trucks, flatbed trucks, and tractor trailers. CAP and ozone precursor emissions include emissions of NO<sub>x</sub>, CO, SO<sub>2</sub>, VOC, PM<sub>10</sub>, and PM<sub>2.5</sub>. Diesel-powered off-road construction equipment and traffic to and from the construction site would also generate GHGs. The assessment of construction air quality impacts considers each of the above sources. As DFW purchases 100% renewable electricity, there would be no indirect GHG emissions associated with electricity generation for construction of the Proposed Project.

To calculate Proposed Project construction, HDR utilized activity estimates from the ACEIT developed by the Airport Cooperative Research Program (ACRP) of the Transportation Research Board (TRB)<sup>5</sup> combined with the most recent emission factors from the USEPA MOVES3<sup>6</sup>

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<sup>4</sup> Intergovernmental Panel on Climate Change (IPCC), 2014. AR5 Synthesis Report: Climate Change 2014. Available at: <https://www.ipcc.ch/report/ar5/syr/>. Accessed: March 2021.

<sup>5</sup> Transportation Research Board. Transportation Research Board. Guidance for Estimating Airport Construction Emissions. Available at: <http://www.trb.org/main/blurbs/170234.aspx>. Accessed: March 2021.

<sup>6</sup> US Environmental Protection Agency. MOtor Vehicle Emission Simulator (MOVES3). Available at: <https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves>. Accessed: March 2021.

emissions model and USEPA AP-42 guidance.<sup>7</sup> Inventory activity and emission factors are described below.

### 2.4.1.1 Emissions Inventory Activities

#### 2.4.1.1.1 Project Schedule

The Proposed Project consists of several supporting project phases or project types as defined in ACEIT: Apron (GA) [includes building footprint excavation/demo down to 5 feet below grade and subsequent placement of earthen fill, and fugitive dust control for the entire project], Demolition – Building, Demolition – Concrete, Fencing, Landscaping, Runway Markings (for FOD sweepers only), and Site Work. Each project type is further broken down into relevant construction activities or subphases. The overall project construction is anticipated to take place between late June 2021 and October 2021. Anticipated project types and construction activities, as defined in ACEIT, are shown in Table 3.

**Table 3. Project Types and Demolition/Construction Activities for the Proposed Project.**

Project Type	Construction Activities
Apron (GA)	Dust Control (entire site), Excavation (Cut to Fill), Subbase Placement, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Soil Handling, Unstabilized Land and Wind Erosion, Employee Commute
Demolition - Building	Building Demolition, Employee Commute, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads)
Demolition - Concrete	Concrete Demolition, Employee Commute, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Soil Handling, Unstabilized Land and Wind Erosion
Fencing	Fencing, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Employee Commute
Landscaping	Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Sodding, Soil Handling, Topsoil Placement Employee Commute
Site Work	Construction Mob & Layout, Employee Commute, Material Delivery, Material Movement (Paved Roads), Material Movement (Unpaved Roads), Site Restoration- Landscaping (Rough Grading), Soil Handling, Unstabilized Land and Wind Erosion
Runway Markings (for FOD Sweepers only)	Marking Removal, Employee Commute

#### 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,

<sup>7</sup> 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: March 2021.

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 directly 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 (MOVES3), which is required to be used in this analysis.

ACEIT provides activity assumptions from demolition, site preparation/restoration, material delivery, construction employee work commute, waste disposal transportation, 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 VMT were obtained from ACEIT and scaled where appropriate based on project specific activity (i.e., buildings and site work). ACEIT was run for the calendar year 2021 using project size inputs.

Project-specific overall size inputs applied in ACEIT are provided for reference in Appendix A, Table A1 to this report. Input data that was modified in ACEIT to be more project-specific is included in the ACEIT output file provided electronically in MS Excel file format with this report; refer to data in columns titled “User Activity Size”, “User Activity Data”, “User VMT”, and “User Value”. The ACEIT output file with modifications for incorporating the MOVES3 emission factors and subsequent emissions calculations is called “DFW NW Cargo Area Demo\_ACEIT Run\_031621\_Initial detail\_output\_EF Replace\_Calcs.xlsx”. This file also has a tab with the MOVES3 emission factors. The Excel file that provides the MOVES3 output data and emission factors is called “DFW NW Cargo Area\_MOVES3\_Output for Emission Factors.xlsx”. The ACEIT input file is called “DFW\_NW\_Cargo Area Demo\_ACEIT Run\_031621\_Input.csv”.

#### 2.4.1.2 Emission Factors

ACEIT default off-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.<sup>8</sup> For the Air Quality Technical Report analysis, HDR has not relied upon ACEIT emission factors for on-road vehicles or non-road equipment. HDR 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, MOVES3 (Jan. 2021 release). The assumptions used for generating the MOVES3 emission factors are:

- Average speed of 50 mph for vehicles travelling On-road
- Average speed of 10 mph for On-road vehicles travelling on-site
- For grams/equipment-day calculations, a work-day was assumed to be 8 hours
- On-road emission rates/factors assumed to be from 8AM on a July 2021 weekday
- Non-road emission rates/factors assumed to be from July 2021 weekday
- Road type assumed to be Urban Unrestricted

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<sup>8</sup> Transportation Research Board. ACRP Report 102: Guidance for Estimating Airport Construction Emissions. Available at: <http://www.trb.org/main/blurbs/170234.aspx>. Accessed: March 2021.

HDR also refined specific AP-42 fugitive dust emission inventory input factors to be more relevant to the Proposed Project than default values used by ACEIT, as described in Section 2.4.1.2.3.

2.4.1.2.1 On-road

HDR used MOVES3 to estimate off-road equipment emission factors for calendar year 2021. MOVES3 was run at a national scale for Dallas County, Texas. The DFW airport is located in both Tarrant and Dallas Counties. HDR has followed ACRP Report 102 guidance on county choice: “If the project spans multiple counties, the county with the greatest populace should be used, as the county is used to select the appropriate emission factors.”<sup>8</sup> 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 nine 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.

**Table 4. MOVES Process Grouping and Activity Surrogates.**

MOVES Emission Process	Road Type	Activity Surrogate	
		Description	Metric
Crankcase Running Exhaust <sup>2</sup>	Urban Unrestricted Access	Distance	Miles
Running Exhaust <sup>2</sup>	Urban Unrestricted Access	Distance	Miles
Brake Wear <sup>3</sup>	Urban Unrestricted Access	Distance	Miles
Tire Wear <sup>3</sup>	Urban Unrestricted Access	Distance	Miles
Evaporation Fuel Leaks <sup>4</sup>	Urban Unrestricted Access	Distance	Miles
Evaporation Fuel Vapor Venting <sup>4</sup>	Urban Unrestricted Access	Distance	Miles
Evaporation Permeation <sup>4</sup>	Urban Unrestricted Access	Distance	Miles
Crankcase Start Exhaust <sup>5</sup>	Off-Network	Starts	One-Way Trips <sup>1</sup>
Start Exhaust <sup>5</sup>	Off-Network	Starts	One-Way Trips <sup>1</sup>
Evaporation Fuel Vapor Venting <sup>6</sup>	Off-Network	Vehicle Population	Vehicle-days
Evaporation Fuel Leaks <sup>7</sup>	Off-Network	Vehicle Population	Vehicle-days
Evaporation Permeation <sup>7</sup>	Off-Network	Vehicle Population	Vehicle-days
Refueling Spillage Loss <sup>8</sup>	Off-Network	Vehicle Population	Vehicle-days
Refueling Displacement Vapor Loss <sup>8</sup>	Off-Network	Vehicle Population	Vehicle-days
1 Number of starts is assumed to be equivalent to number of one-way trips 2 Rate per distance for exhaust processes 3 Rate per distance for brake wear and tire wear processes 4 Rate per distance for evaporative processes 5 Rate per vehicle for start processes			

MOVES Emission Process	Road Type	Activity Surrogate	
		Description	Metric
6 Rate per vehicle for diurnal processes			
7 Rate per vehicle for evaporative processes			
8 Rate per vehicle for refueling processes			

Detailed tables describing Proposed Project on-road vehicle data used (i.e., vehicle activity, vehicle emission factors) and estimated emissions are provided in the ACEIT output file described in Section 2.4.1.1.2 above.

#### 2.4.1.2.2 Non-road

HDR used MOVES3 to estimate emission factors for calendar year 2021. MOVES3 was run at a national scale for Dallas County, Texas. The DFW airport is located in both Tarrant and Dallas County. As stated above, HDR followed ACRP Report 102 guidance on county choice and used Dallas County as it has the largest population of the two. Emission and activity were output from MOVES by equipment type, fuel type, and horsepower bin for construction and industrial sectors for 2021. ACEIT equipment activity was cross referenced to MOVES equipment types based on name matching and experience in assigning appropriate types. Emission factors were estimated for each equipment type and fuel type by dividing output emissions by output energy consumption. MOVES3 does not estimate N<sub>2</sub>O emissions; therefore, N<sub>2</sub>O was computed from the ratios of N<sub>2</sub>O to CO<sub>2</sub> emissions from diesel combustion in Tables 13.1 and 13.7 of The Climate Registry Default Emission Factors, multiplied by CO<sub>2</sub> emissions from MOVES3 output.<sup>9</sup> A complete list of project non-road emission factors can be found in in the ACEIT output file described in Section 2.4.1.1.2 above.

#### 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. HDR 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.

**Table 5. Fugitives Emission Estimation Methodology and Project-Specific Adjustments.**

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 <sup>1</sup>
Unstabilized Land and Wind Erosion	AP-42 11.9	Emission inputs unchanged from ACEIT output
Material Movement (Paved Roads)	AP-42 13.2.1	ACEIT default VMT revised to correct ACEIT values calculated.
Material Movement (Unpaved Roads)	AP-42 13.2.2	ACEIT default VMT revised to correct ACEIT values calculated.
1 Dallas/Fort Worth - Normals (1981-2010), Means, and Extremes, NWS) <a href="https://www.weather.gov/fwd/dfwann">https://www.weather.gov/fwd/dfwann</a> . Accessed March 2021		

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

The ratio of PM<sub>2.5</sub> to PM<sub>10</sub> emissions for fugitives is provided in Table 6 by construction activity.

**Table 6. Fugitives PM<sub>2.5</sub> to PM<sub>10</sub> Emission Ratios.**

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

A complete list of fugitive inputs and emissions by project type and construction activity is provided in the ACEIT output file.

## 2.5 Operational Emissions

Operation of the Proposed Project would result in no net increase in emissions. However, for informational purposes, this section describes each potential emissions source and the reasoning for which the Proposed Project would not result in an increase in emissions above the *de minimis* thresholds.

- **Aircraft:** The Northwest Cargo Area Demolition and Site Restoration would not increase aircraft operations at DFW or change aircraft taxiing routes. Therefore, the Proposed Project would not increase operational emissions from this source category.
- **Auxiliary Power Units (APU):** The Northwest Cargo Area Demolition and Site Restoration 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 Northwest Cargo Area Demolition and Site Restoration 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 Northwest Cargo Area Demolition and Site Restoration 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:** Completion of the Northwest Cargo Area Demolition and Site Restoration would not increase aircraft operations and negligibly increases landscaping (mowing) needs at DFW and thus would negligibly 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 Northwest Cargo Area Demolition and Site Restoration 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 Northwest Cargo Area Demolition and Site Restoration 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 helps ensure that federal activities do not cause or contribute to a violation of NAAQS. The General Conformity process begins with an Applicability Analysis. If General Conformity applies, the Agency must prepare a General Conformity Determination. Then federal, state and local air quality governance are engaged in a public review process of the agency's determination.

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

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

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

DFW is in a Serious Ozone Non-Attainment Area<sup>10</sup> (based on 2008 ozone standards)<sup>2</sup>; therefore, the 50 tpy VOC and 50 tpy NO<sub>x</sub> *de minimis* thresholds apply to this Project.<sup>11</sup> 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.

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<sup>10</sup> DFW Airport is located in both Dallas and Tarrant Counties. Both Counties in their entirety are within 2008 Serious Ozone Non-Attainment Area.

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

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## 4 Results

### 4.1 Emission Inventories Results

The following analysis addresses whether the Proposed 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 CAP emissions associated with construction of the Proposed Project.

**Table 7. Proposed Project Criteria Air Pollutant Construction/Demolition Emissions**

Project Type	Emissions (tons/yr)					
	CO	NOx	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	VOC
<b>2021</b>						
<b>Demolition - Building</b>	2.90	3.55	0.007	0.34	0.16	0.30
<b>Demolition - Concrete</b>	0.78	0.57	0.002	0.05	0.03	0.05
<b>Apron (GA)</b> [ACEIT surrogate for building footprint excavation/demo down to 5 feet below grade and subsequent placement of earthen fill] <sup>(1)</sup>	1.01	1.37	0.003	0.13	0.06	0.11
<b>Site Work – 10000 square feet [Rough Grading]</b>	0.12	0.15	<0.001	0.01	0.006	0.01
<b>Landscaping [topsoil/sod placement]</b>	0.10	0.07	<0.001	0.01	0.004	0.01
<b>Fencing [AOA fence]</b>	0.05	0.03	<0.001	0.003	0.002	0.003
<b>Runway Markings</b> [ACEIT surrogate for FOD Sweeper for entire length of project]	0.01	0.02	<0.001	0.001	0.001	0.002
<b>Fugitive Dust (all project types)</b>	---	---	---	2.34	0.58	---
<b>2021 Emission Totals</b>	<b>4.96</b>	<b>5.76</b>	<b>0.01</b>	<b>2.88</b>	<b>0.84</b>	<b>0.49</b>

<sup>(1)</sup> Also includes a water truck for fugitive dust control for the entire length of the project.

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

**Table 8. Proposed Project Greenhouse Gas Construction/Demolition Emissions**

Project Type	Emissions (metric tons/yr)			
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
<b>2021</b>				
<b>Demolition - Building</b>	1,992.95	0.030	0.012	1,998.26
<b>Demolition - Concrete</b>	387.93	0.005	0.003	388.93
<b>Apron (GA)</b> [ACEIT surrogate for building footprint excavation/demo down to 5 feet below grade and subsequent placement of earthen fill] (1)	758.07	0.010	0.006	760.47
<b>Site Work – 10000 square feet [Rough Grading]</b>	95.41	0.001	<0.000	95.39
<b>Landscaping [topsoil/sod placement]</b>	33.72	0.001	0.001	33.82
<b>Fencing [AOA fence]</b>	17.05	<0.001	<0.001	17.10
<b>Runway Markings</b> [ACEIT surrogate for FOD Sweeper for entire length of project]	13.28	<0.001	<0.001	13.36
<b>Fugitive Dust (all project types)</b>	---	---	---	---
<b>2021 Emission Totals</b>	<b>3,298.41</b>	<b>0.040</b>	<b>0.022</b>	<b>3,307.33</b>

(1) Also includes a water truck for fugitive dust control for the entire length of the project.

As shown in Table 9, Proposed Project construction emissions are below *de minimis* thresholds for 2021. Therefore, the Project is presumed to conform with CAA requirements and a General Conformity determination is not needed for the Project.

**Table 9. Proposed Project Construction/Demolition Emissions Compared to Applicable General Conformity *de minimis* thresholds.**

Project Year	Project Emissions (tons/yr)		General Conformity De Minimis Threshold <sup>1</sup>	
	NO <sub>x</sub>	VOC	NO <sub>x</sub>	VOC
<b>2021</b>	<b>5.76</b>	<b>0.49</b>	<b>50</b>	<b>50</b>

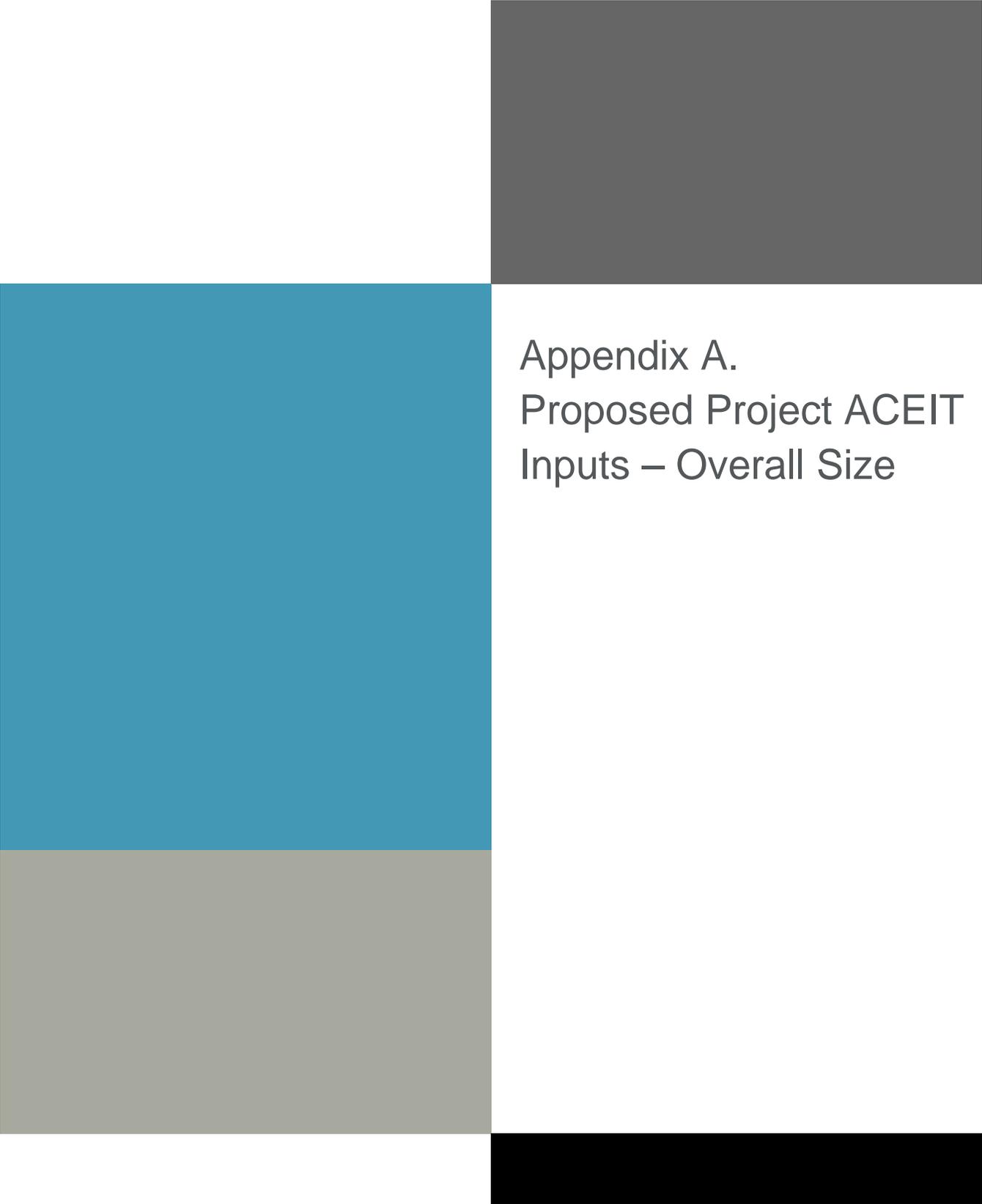
<sup>1</sup> Source: 40 CFR 93 § 153 de minimis thresholds applied to Dallas-Fort Worth Non-Attainment Area "serious" classification

#### 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

No alternatives for the Proposed Project have been identified.



# Appendix A. Proposed Project ACEIT Inputs – Overall Size

Table A1. ACEIT Inputs: DFW Northwest Cargo Area – Overall Size

**Table A1. ACEIT Inputs: DFW Northwest Cargo Area – Overall Size**

Project Type	Project Size	Project Estimate	Units
Apron (GA)	What is the estimated cost of the project?	0.5	\$ Million(s)
Apron (GA)	What is the maximum length of the apron (L) in feet?	1,607	Feet
Apron (GA)	What is the maximum width of the apron (W) in feet?	753	Feet
Demolition - Building	How many square feet of building will be demolished?	297,000	Square Feet
Demolition - Building	What is the estimated cost of the project?	5.9	\$ Million(s)
Demolition - Building	What is the height of building (H) in feet?	28	Feet
Demolition - Building	What is the open space height (H) in feet?	20	Feet
Demolition - Concrete	What is the estimated cost of the project?	6.4	\$ Million(s)
Demolition - Concrete	What is the maximum length of demolition area (L) in feet?	1,607	Feet
Demolition - Concrete	What is the maximum width of demolition area (W) in feet?	753	Feet
Fencing	What is the estimated cost of the project?	0.05	\$ Million(s)
Fencing	What is the maximum length of the fence (L) in feet?	1,208	Feet
Landscaping	What is the estimated cost of the project?	0.15	\$ Million(s)
Landscaping	What is the maximum length of the project area (L) in feet?	1,607	Feet
Landscaping	What is the maximum width of the project area (W) in feet?	753	Feet
Landscaping	What is the number of trees planted?	0	---
Landscaping	What is the number of trees pruned?	0	---
Runway Markings	What is the estimated cost of the project?	0.05	\$ Million(s)
Runway Markings	What is the maximum length (L) of the markings in feet?	1,607	Feet
Runway Markings	What is the maximum width (W) of the markings in feet?	753	Feet
Site Work - 10000 sqft	What is the estimated cost of the project?	0.15	\$ Million(s)

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