DALLAS FORT WORTH INTERNATIONAL AIRPORT

Final Environmental Assessment (FEA)

Aircraft Rescue and Firefighting (ARFF) Stations Consolidation Project

SUBMITTED BY:

Dallas Fort Worth International Airport

May 20, 2021

FINAL ENVIRONMENTAL ASSESSMENT

Department of Public Safety
Aircraft Rescue and Firefighting (ARFF) Stations Consolidation Project

Prepared by:

Dallas Fort Worth International Airport

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

_____	5/26/2021
Responsible FAA Official	Date

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ACRONYMS AND ABBREVIATIONS

AC	Advisory Circular
ACCRI	Aviation Climate Change Research Initiative
ACT	Antiquities Code of Texas
ALP	Airport Layout Plan
APE	Area of Potential Effects
BMP	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
CGP	Construction General Permit
CMMP	Contaminated Media Management Plan
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CWA	Clean Water Act
CZM	Coastal Zone Management
dB	Decibel
DFW	Dallas/Fort Worth
DNL	Day-Night Average Sound Level
DOT	Department of Transportation
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Environmental Site Assessment
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
GHG	Greenhouse Gas
GWP	Global Warming Potential
HFC	Hydrofluorocarbon

m	Meter
µm/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
NO_2	Nitrogen Dioxide
NOx	Nitrogen Oxides
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority List
NRHP	National Register of Historic Places
NRI	Natural Resources Inventory
O_3	Ozone
Pb	Lead
PFCs	Perfluorocarbons
PM	Particulate Matter
PM_{10}	Particulate Matter with a diameter less than 10 micrometers
$PM_{2.5}$	Particulate Matter with a diameter less than 2.5 micrometers
ppb	Parts Per Billion
ppm	Parts Per Million
RCRA	Resource Conservation and Recovery Act
ROW	Right of Way
SAL	State Antiquities Landmark
sf	Square Feet
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SOx	Sulfur Oxides

SOP	Standard Operating Procedure
SPCC	Spill Prevention, Control, and Countermeasures
SWPPP	Stormwater Pollution Prevention Plan
TASA	Texas Archeological Site Atlas
TCEQ	Texas Commission on Environmental Quality
THC	Texas Historical Commission
THSA	Texas Historic Site Atlas
TPDES	Texas Pollutant Discharge Elimination System
TPWD	Texas Parks and Wildlife Department
tpy	Tons Per Year
TSCA	Toxic Substances Control Act
TSD	Treatment, Storage, and Disposal
TXDOT	Texas Department of Transportation
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
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 terminals (A, B, C, D, and E) and its airfield system consists of a total of seven runways separated by a spine road, International Parkway, into the east and west airfield complexes. The east airfield includes runways 13L/31R, 17C/35C, 17L/35R, 17R/35L, the west airfield includes runways 13R/31L 18L/36R, and 18R/36L. Currently, the airport has seven Department of Public Safety (DPS) facilities that support safe, efficient, and secure operations. Of the seven DPS stations, four are dedicated to Aircraft Rescue and Fire Fighting (ARFF) operations. In 2019, DFW Airport developed an Emergency Services Master Plan (ESMP) that evaluated the current conditions of the existing DPS stations and assessed opportunities to improve safety and operational efficiency. The ESMP recommended the consolidation of the four ARFF stations into two new consolidated ARFF stations: one on the east side of the airport and the other on the west. The East Consolidated ARFF Station would combine existing Stations 1 and 3. The West Consolidated ARFF Station would combine existing stations 2 and 4 (**Figure 2: ARFF Consolidation Project Map**)

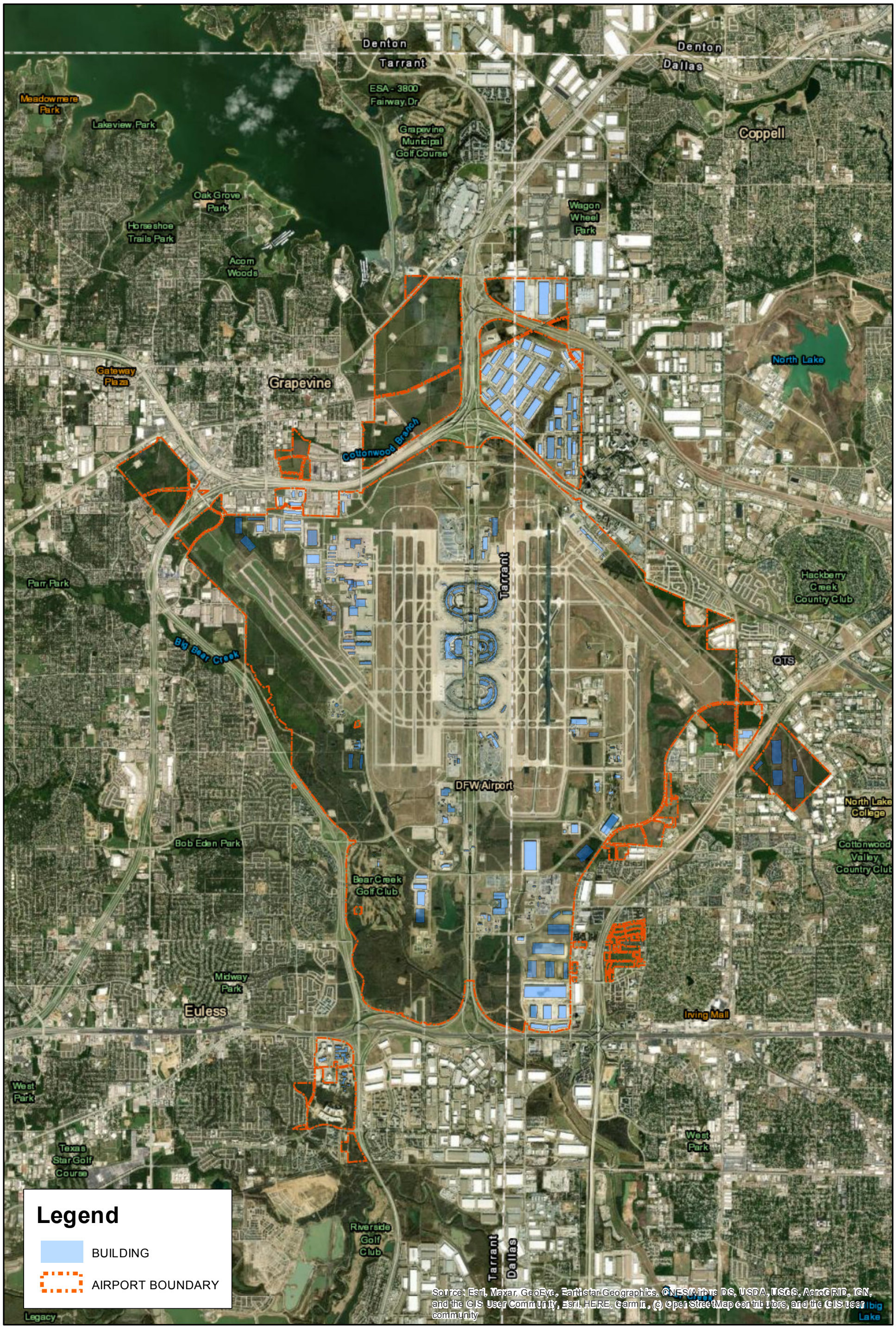
1.2 FEDERAL ACTION

DFW Airport is seeking federal funding as well as requesting approval of modifications to the Airport Layout Plan (ALP) to reflect the (i) demolition of four ARFF buildings, (ii) construction of two new consolidated ARFF stations, (iii) demolition of the fumigation building, and (iv) construction of a new fumigation building (also referred to as "*The Project*" in this Final Environmental Assessment (EA)). Federal Aviation Administration (FAA) action is necessary in connection with the Proposed Project, pursuant to 49 U.S. Code [USC] §47107(a) (16), which requires that the FAA Administrator (under authority delegated from the Secretary of Transportation) approve any revision or modification to the ALP before the revision or modification takes effect. The Administrator's approval includes a determination that the proposed alteration to the airport reflected in the ALP revision or modification, does not adversely affect the safety, utility, or efficiency of the airport.

This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, and the President's Council on Environmental Quality (CEQ) regulations to implement NEPA (40 Code of Federal Regulations [CFR] §1500 to 1508). NEPA requires Federal agencies to analyze and consider alternatives to the environmental impacts of their proposed actions, to disclose and consider mitigation for those impacts, and to provide interested parties with an opportunity to participate in the environmental review process. All airport improvement projects that are considered to be major Federal actions, including through the receipt of Federal Funding, must be examined from an environmental standpoint, to comply with NEPA, the Airport and Airway Improvement Act of 1982, as amended, and other pertinent laws and regulations. Guidance in the FAA's consideration of environmental impacts is provided in *FAA Order 1050.1F, Environmental Impacts: Policies and Procedures* (FAA, 2015), *FAA Order 1050.1F Desk Reference* (FAA, 2020), and *FAA Order 5050.4B, NEPA Implementing Instructions for Airport Actions* (FAA, 2006).

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

Figure 1: Dallas Fort Worth International Airport Location Map



DFW

DALLAS/FORT WORTH INTERNATIONAL AIRPORT

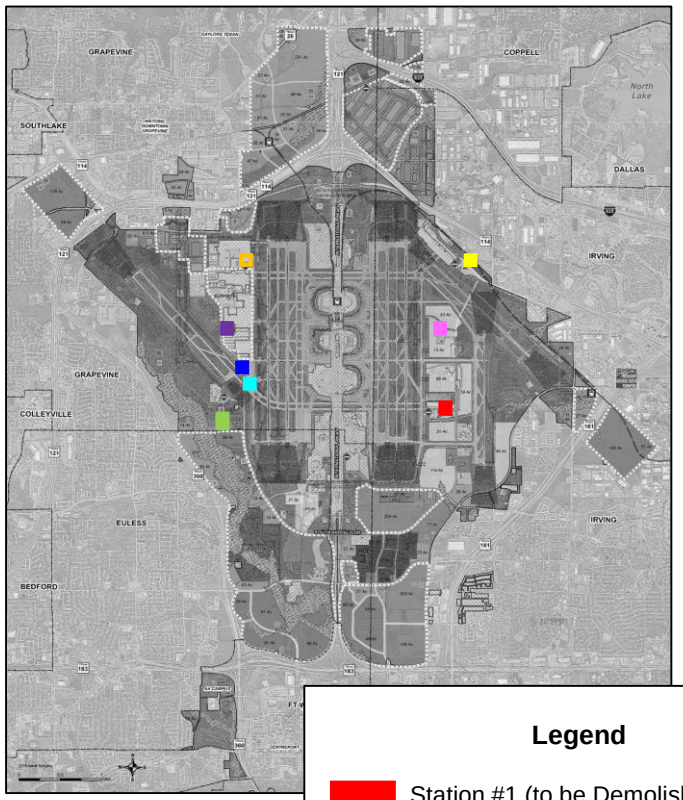
N W E S

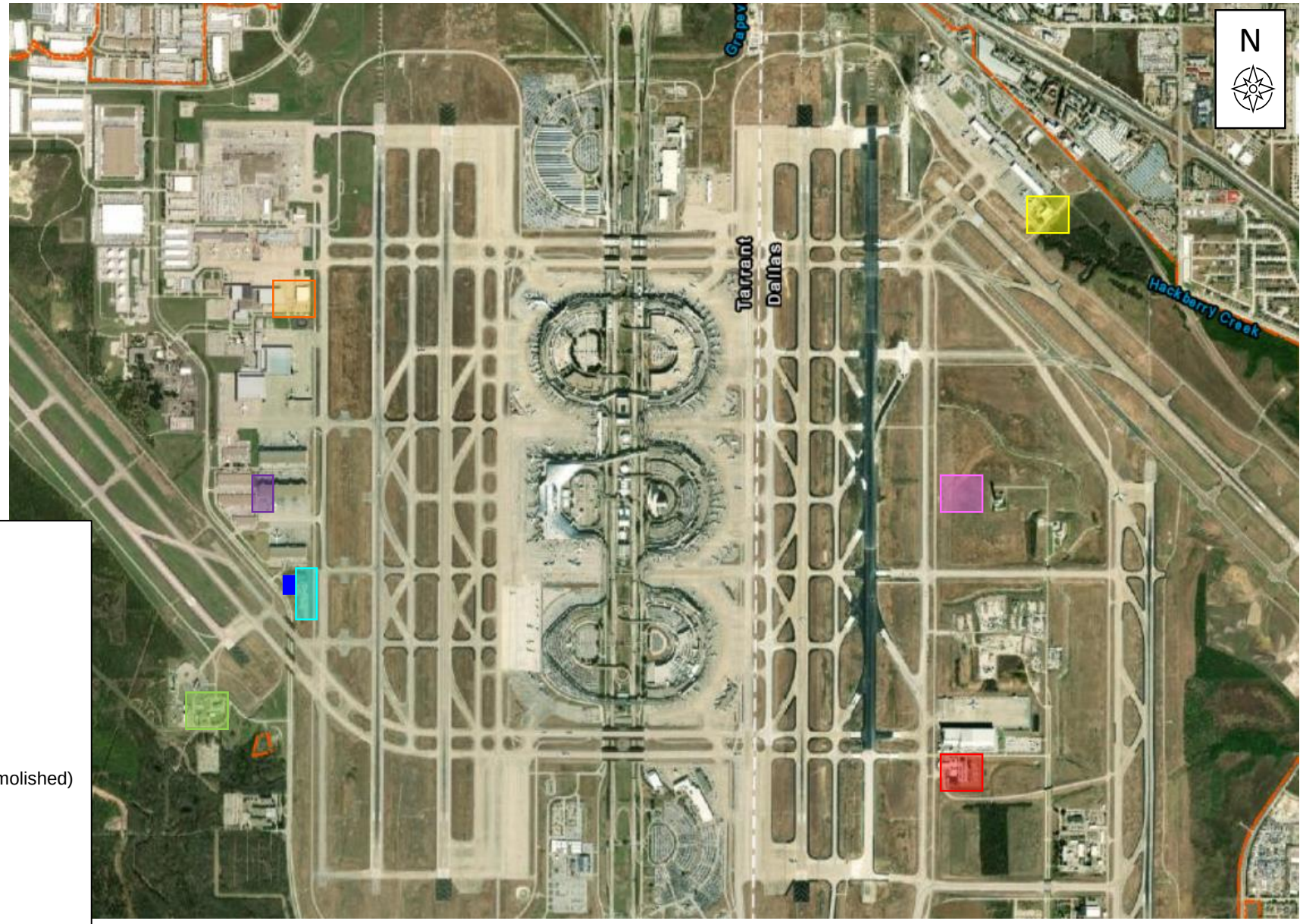
0 750 1,500 3,000 4,500 6,000 Feet

ArcGIS Web Map

WEB INFORMATION HOSTED BY:
ENERGY, TRANSPORTATION, AND ASSET MANAGEMENT - SYSTEMS PERFORMANCE GROUP - GEOSPATIAL ANALYTICS

Figure 2: Proposed ARFF Consolidation Project Context Map





Legend

- Station #1 (to be Demolished)
- Station #2 (to be Demolished)
- Station #3 (to be Demolished)
- Station #4 (to be Demolished)
- Fumigation Building (to be Demolished)
- Proposed East ARFF Station
- Proposed West ARFF station
- Proposed Fumigation Building
- DFW Airport Property Boundary

Not To Scale

SECTION 2 PURPOSE AND NEED

2.1 PURPOSE

The purpose of the proposed ARFF Consolidation Project is to remove old, outdated, and dilapidated buildings and replace them with new buildings and support facilities that are sized to meet current and future needs of the airport. DFW's ESMP recommended the consolidation of the four existing fire stations into two new ARFF stations that combine the functionality of the existing facilities and improve overall efficiency and collaboration. The proposed East and West ARFF stations would be strategically located to meet federally mandated emergency response times from each facility to the airfield.

DFW Airport is one of the world's busiest airports. In 2018 DFW managed roughly 660,000 aircraft operations and over 65,000,000 passengers. During this time, ARFF responded to 214 calls and 83% or 178 calls were an Alert 2 meaning it was a 'Full Emergency Alert'. As DFW operations continue to grow, ARFF responses will increase driving the need for larger facilities and improved operational efficiencies. Consolidation of the four existing ARFF stations into two new facilities will benefit ARFF operations and positively impact the Airport as a whole.

Over the past five years, operating and maintenance costs of existing four (4) Aircraft Rescue and Fire Fighting (ARFF) stations have increased due to extensive essential repairs. ARFF Stations 1, 2 and 3 are 45+ years old and Station 4 is 30+ years old and at the end of useful life according to asset management best practices. From 2012 to 2019, DFW has completed over 8,616 work orders pertaining to the ARFF stations. Roughly 6,676 repairs have been made to mechanical, electric, plumbing, roofing, and windows systems between 2012-2018. The maintenance history for these buildings reveals a 142% increase in work orders since 2012 and a 30% increase from 2017 to 2018 alone. As such, DFW is proposing to consolidate four (4) existing ARFF station into two (2) new ARFF stations. With the construction of two new consolidated stations, built up to current building codes, maintenance costs will inherently decrease dramatically. By combining two stations in a central location, it is estimated that standard operating expenses will decrease by at least 25%. Furthermore, the consolidated ARFF stations will also improve ARFF operations and increase efficiencies to staffing, while addressing the current operation and maintenance issues caused by the aging infrastructure.

2.2 NEED

The proposed consolidated ARFF stations project is needed to continue to support safe and efficient airfield operations as well as to comply with federal regulations. The four existing ARFF stations were constructed more than 45-years ago and have exceeded their useful life. The facilities need to be replaced with buildings that appropriately sized for the current and future staff and operational demands. Additionally, the consolidation of ARFF stations is needed to reduce operation, maintenance, and repair costs; these cost savings are needed to support DFW's financial self-sufficiency.

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 Final 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 ARFF Consolidation Project. The airport would not be able to remove the old, outdated infrastructure, and would incur significant maintenance and repair costs. Furthermore, DFW would not consolidate mission critical infrastructure. 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.

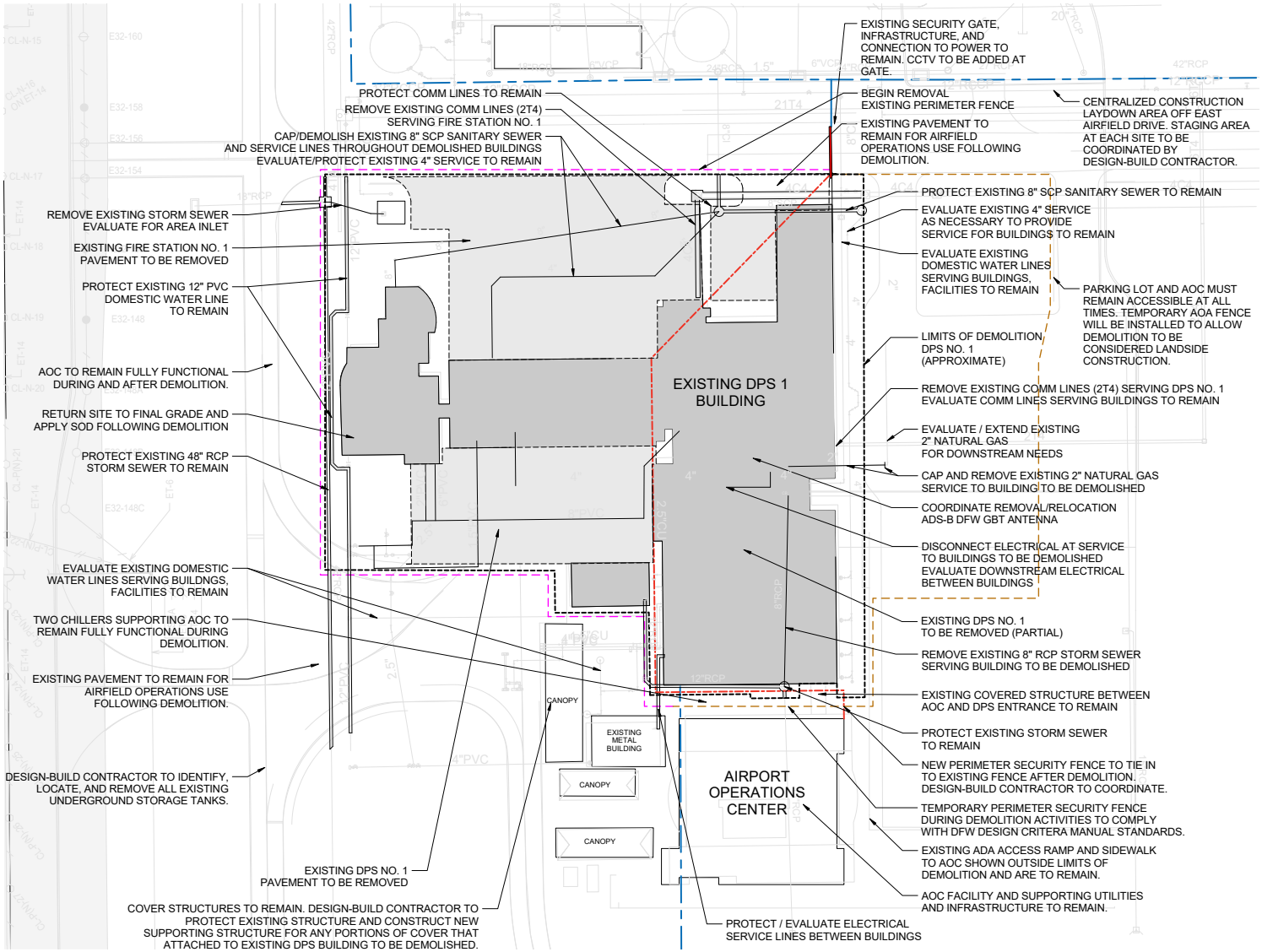
3.2 PROPOSED ACTION ALTERNATIVES

3.2.1 Action Alternative #1

The *Action Alternative* #1 would include the construction of the ARFF Consolidation Project as turnkey project delivered by a Design-Build firm. The project scope would include the demolition of four existing DPS Stations (**Figures 3 - 6**), demolition of the old Fumigation building (**Figure 7**), construction of the East ARFF Station (**Figure8**), construction of a West ARFF Station (**Figure9**), and construction new Fumigation building (**Figure 10**). The ARFF Stations Consolidation program would require demolition and construction of multiple facilities as such DFW will develop and deliver the project in different phases. The proposed construction phasing is summarized in **Table 3.1**; the Design-Build Contractor may further refine the delivery phases and project schedule.

As a strategy to enhance efficiency and reduce costs, the ARFF Consolidation project includes the demolition of DPS Station #1. The DPS Station #1 demolition scope of work received FAA environmental clearance and FONSI in October 2019. The construction of the Proposed Action is expected to begin in 2022, after receiving FAA approval of this EA. The proposed project area is comprised of eight separate sites with a combined area of approximately 30-acres. Site preparation would include the complete demolition of any structures and subsurface utilities that would conflict with the proposed buildings.

Figure 3: DPS Station #1 Demolition Plan



1 DEMOLITION PLAN - DPS 1
SCALE: 1" = 30'-0"

PRELIMINARY

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3	08/10/2020	100% SCHEMATIC DESIGN
4	9/17/2020	100% SCHEMATIC DESIGN

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DEMOLITION PLAN - DPS 1

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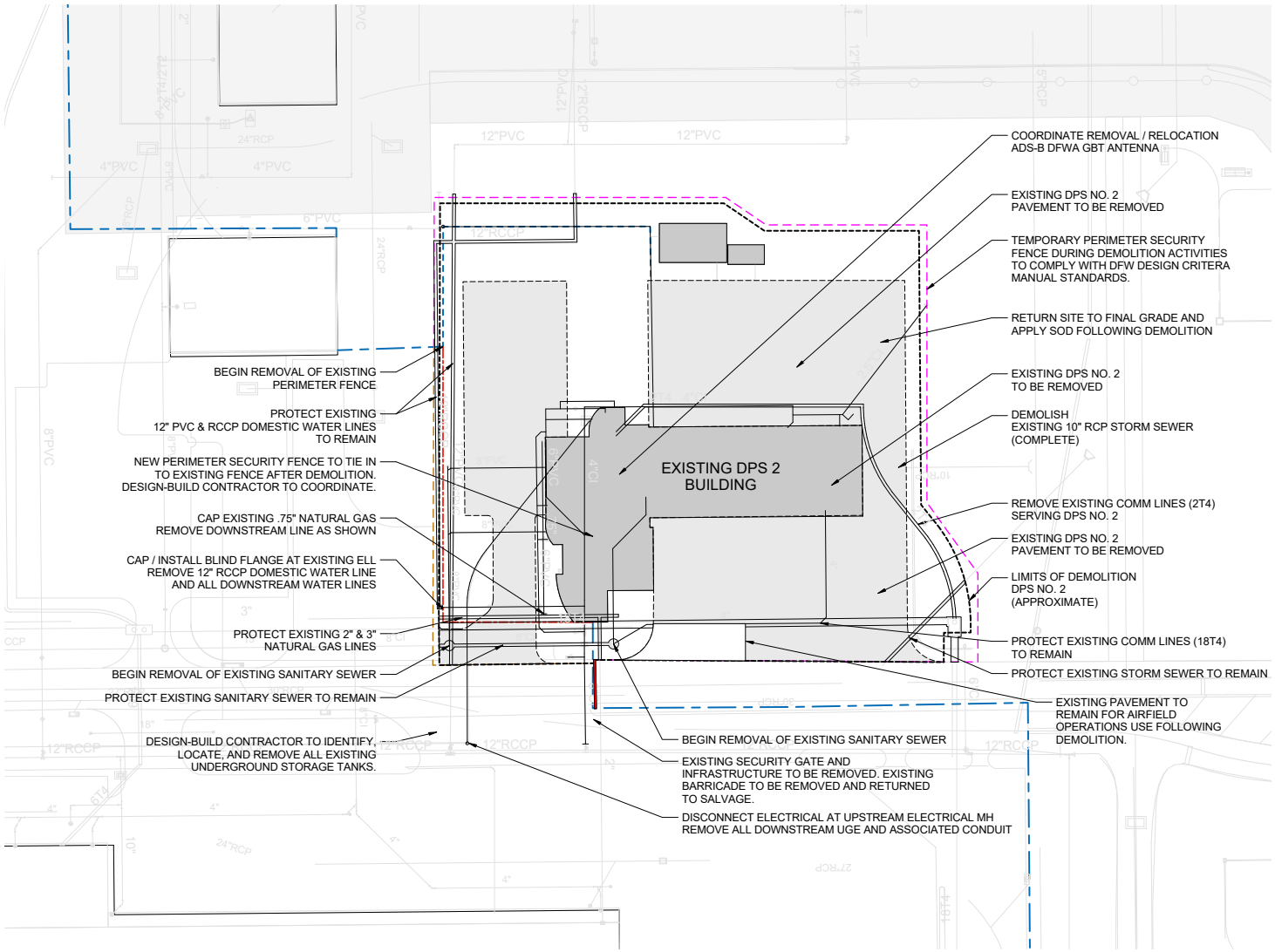
Figure 4: DPS Station #2 Demolition Plan



1 DEMOLITION PLAN - DPS 2
SCALE: 1" = 30'-0"

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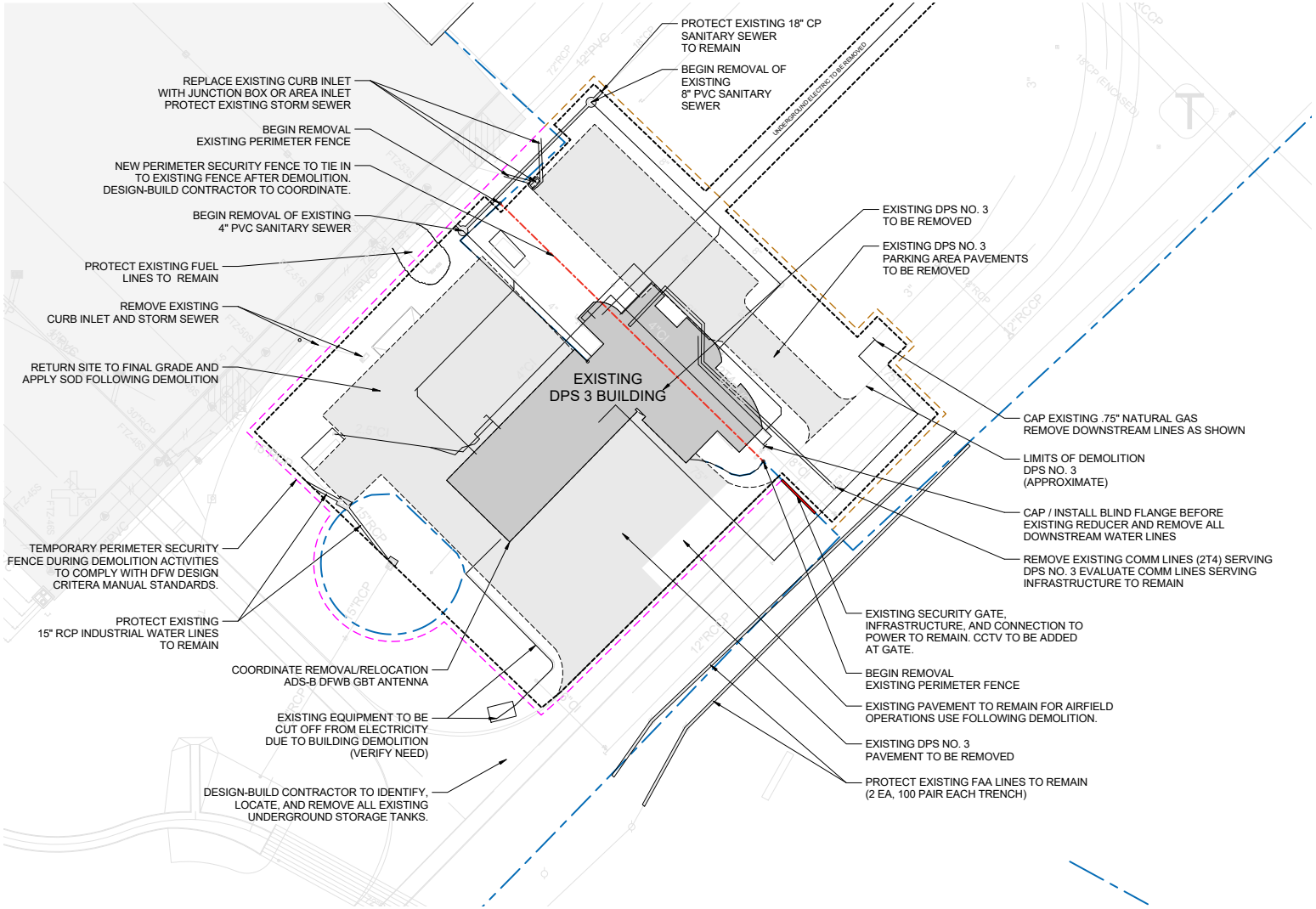
Figure 5: DPS Station #3 Demolition Plan



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DEMOLITION PLAN - DPS 3

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Figure 6: DPS Station #4 Demolition Plan

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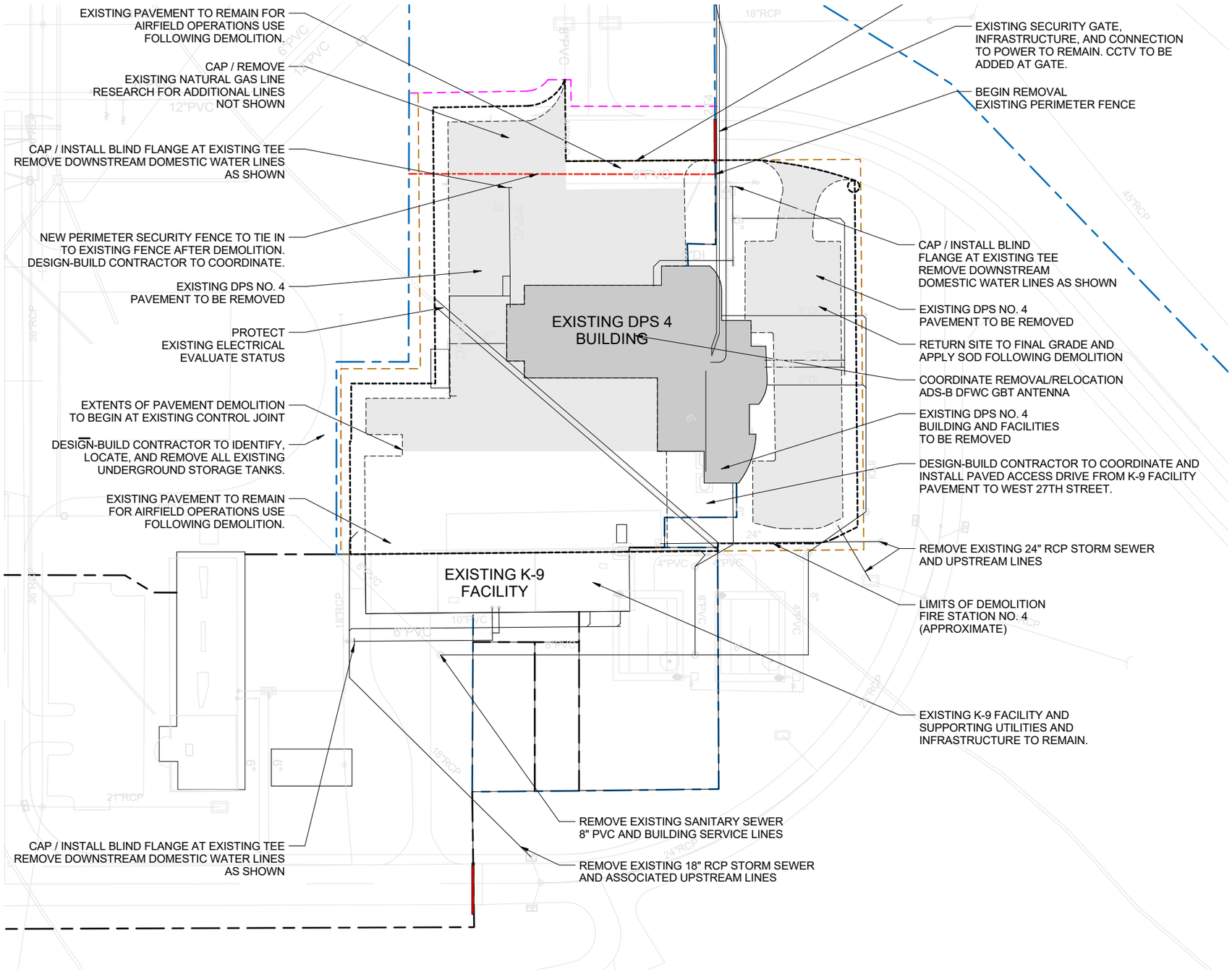

1 DEMOLITION PLAN - DPS 4 SOUTH
SCALE: 1" = 30'-0"

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4	8/7/2020	100% SCHEMATIC DESIGN

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DEMOLITION PLAN - DPS 4

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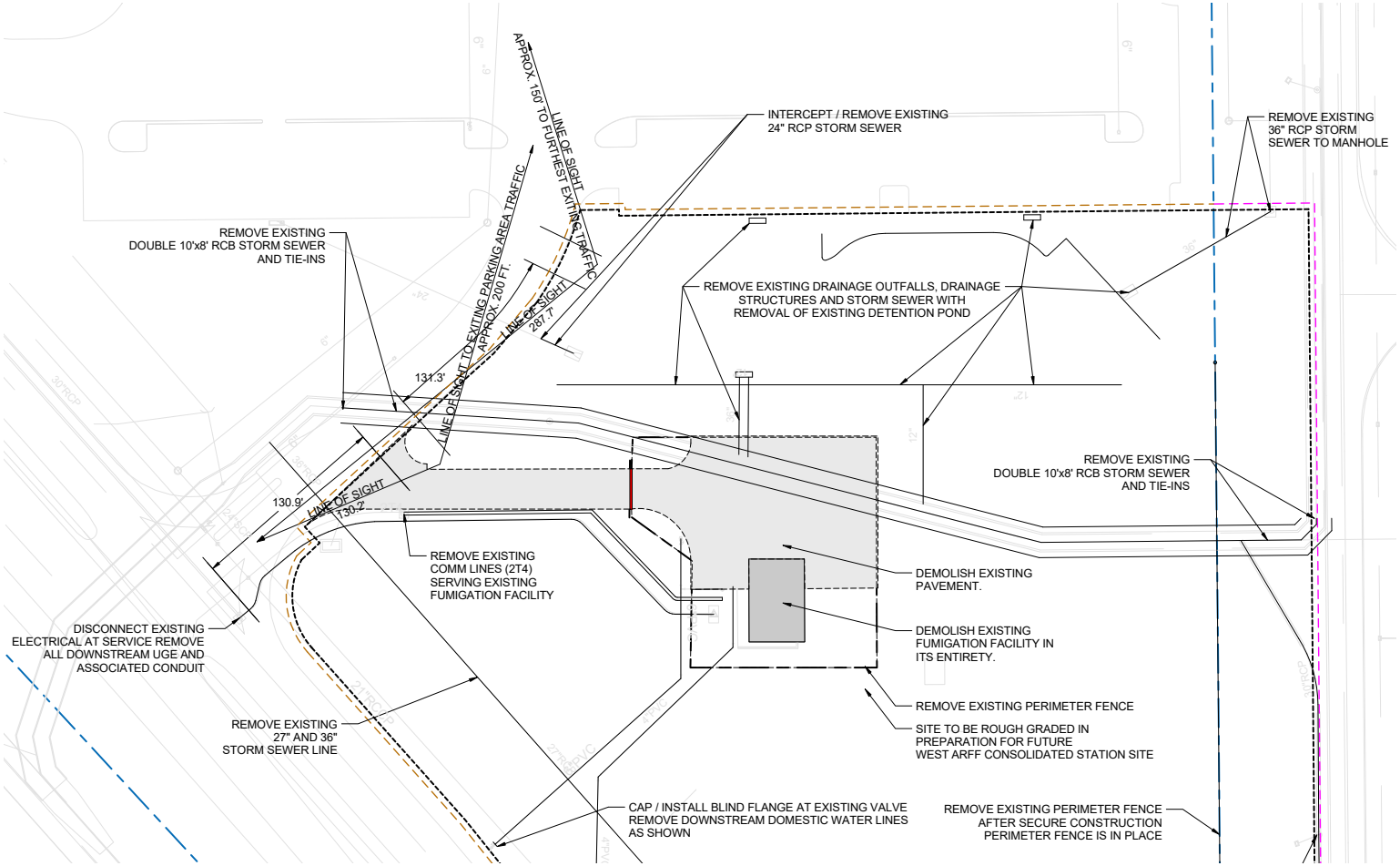
Figure 7: Fumigation Building Demolition Plan



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4	8/7/2020	50% SCHEMATIC DESIGN

ARFF STATION CONSOLIDATION

DEMOLITION PLAN - EXISTING FUMIGATION FACILITY

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SHEET NUMBER

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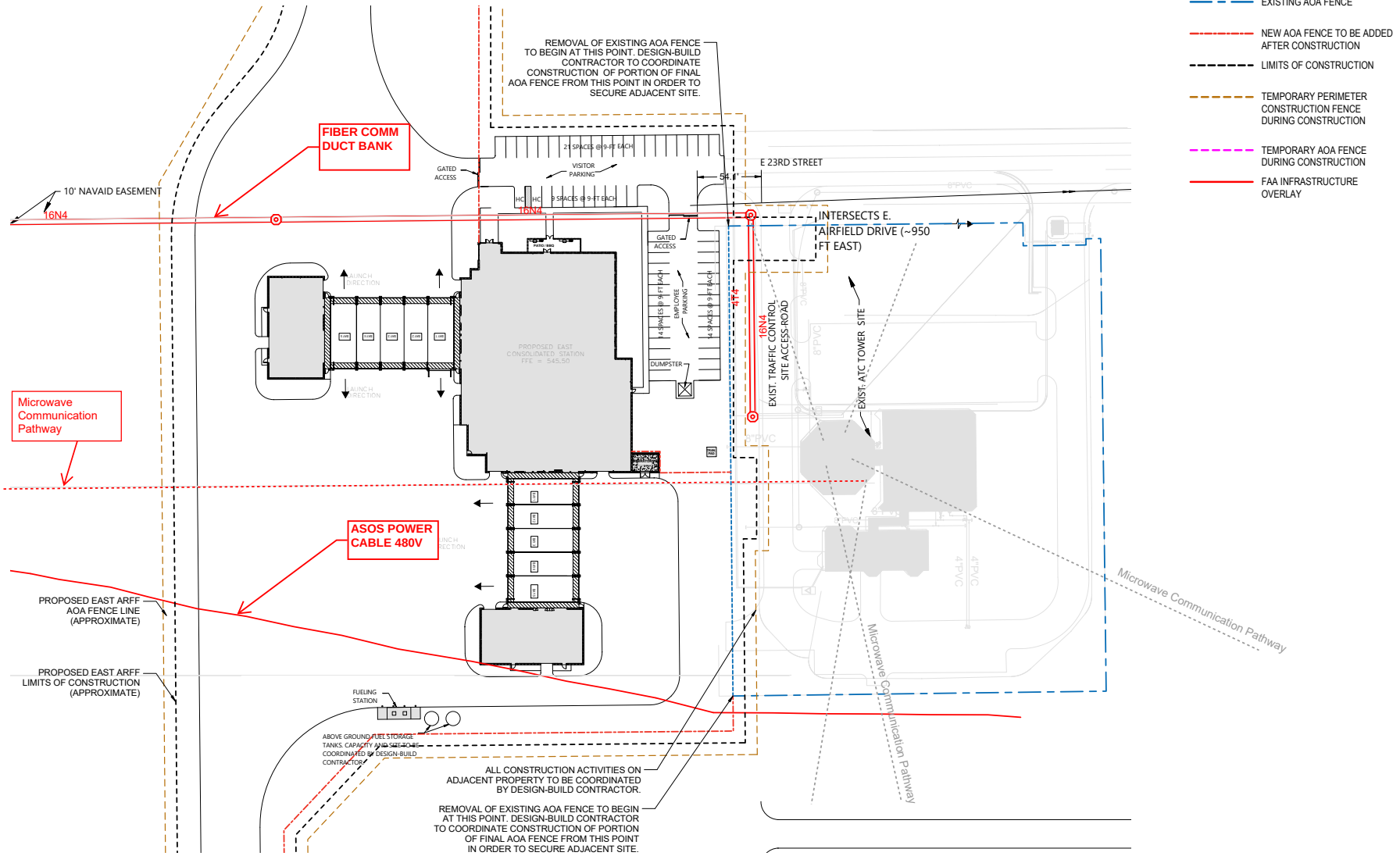
Figure 8: Proposed Action Alternative #1 - East ARFF (Dismissed due to adverse impacts to FAA Infrastructure)



1 COORDINATION PLAN - EAST ARFF - FAA INFRASTRUCTURE
SCALE: 1" = 30'-0"

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4	10/1/20	50% SCHEMATIC DESIGN

ARFF STATION CONSOLIDATION

FAA INFRASTRUCTURE OVERLAY - EAST ARFF

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SHEET NUMBER

SK-001

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Figure 9: West ARFF Station Site Plan

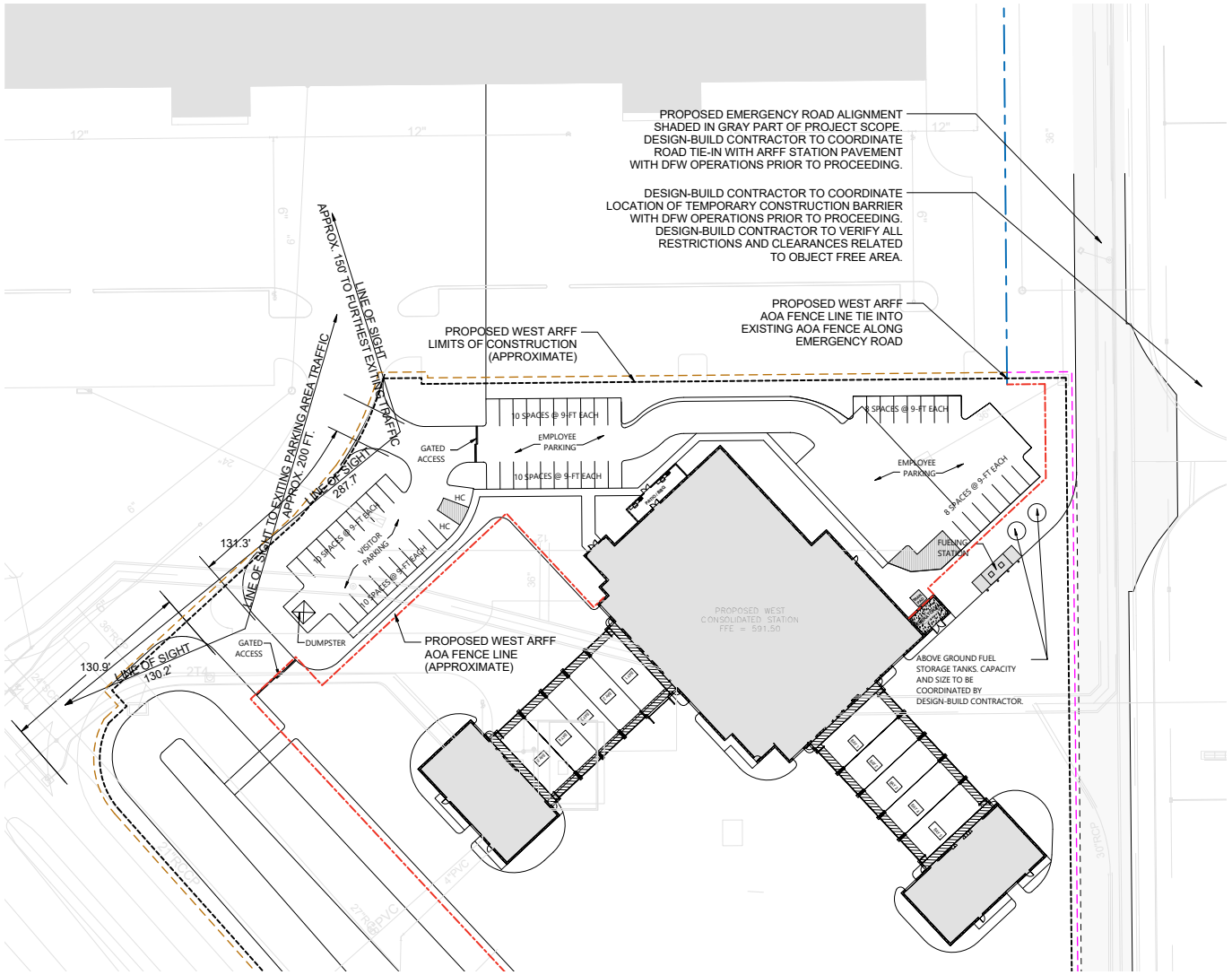
EXISTING AOA FENCE

NEW AOA FENCE TO BE ADDED AFTER CONSTRUCTION

LIMITS OF CONSTRUCTION

TEMPORARY PERIMETER CONSTRUCTION FENCE DURING CONSTRUCTION

TEMPORARY AOA FENCE DURING CONSTRUCTION



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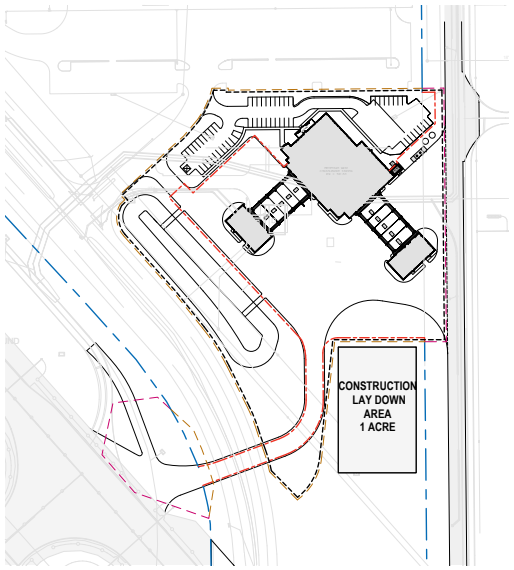
2 CONSTRUCTION PLAN - WEST ARFF ENLARGED NORTH
SCALE: 1" = 30'-0"



1 CONSTRUCTION PLAN - WEST ARFF SITE OVERALL
SCALE: 1" = 100'-0"

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ISSUE DATE: 08/07/20

NO:	DATE:	REVISION:
1	06/15/20	50% SCHEMATIC DESIGN
2	07/06/20	INTERIM SCHEMATIC DESIGN SUBMISSION
3	07/13/20	50% SCHEMATIC DESIGN
4	07/20/20	50% SCHEMATIC DESIGN
5	08/07/20	50% SCHEMATIC DESIGN

ARFF STATION CONSOLIDATION

CONSTRUCTION SITE PLAN - WEST ARFF

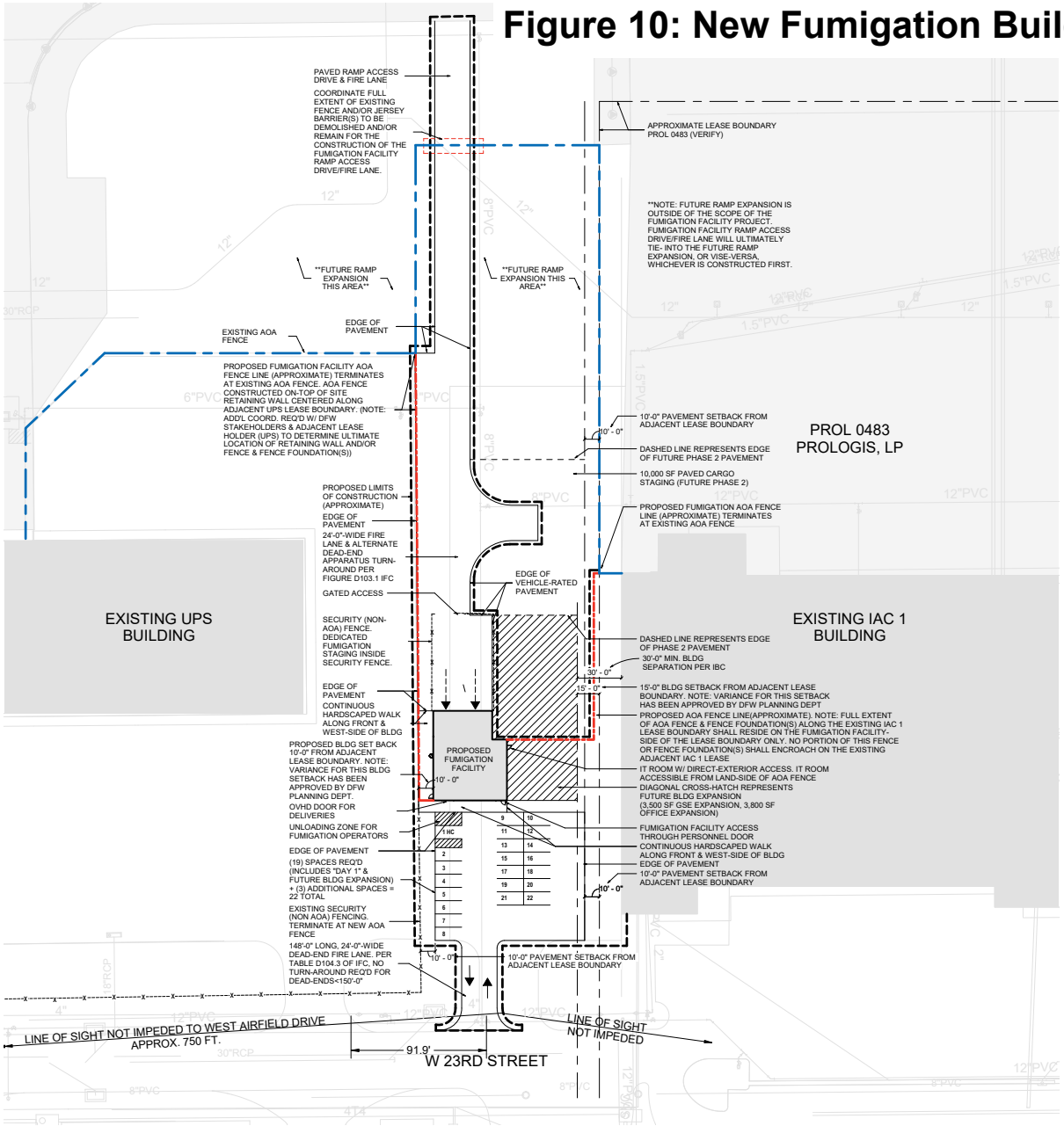
CONTRACT NUMBER: 9500729 PERMIT NUMBER: A20-134B

SHEET NUMBER

CS1-0-001

SCALE(S) AS NOTED ON THIS SHEET ARE BASED ON A FULL SIZE 30 X 42 SHEET.

Figure 10: New Fumigation Building Site Plan



1 CONSTRUCTION PLAN - FUMIGATION FACILITY ENLARGED
SCALE: 1" = 30'-0"

EXISTING AOA FENCE

PROPOSED AOA FENCE LOCATION

LIMITS OF CONSTRUCTION (APPROXIMATE)

SECURITY FENCE (NON AOA)

ARFF ACCESS ROAD

PRELIMINARY

DFW DALLAS FORT WORTH INTERNATIONAL AIRPORT

DESIGN, CODE & CONSTRUCTION (DCC)
3003 SOUTH SERVICE ROAD
DFW AIRPORT, TX 75261

Gensler

NOT FOR CONSTRUCTION

ISSUE DATE: 08/07/20

NO:	DATE:	REVISION:
1	06/05/20	50% SCHEMATIC DESIGN
2	07/06/2020	INTERIM SCHEMATIC DESIGN SUBMISSION
3	08/10/2020	100% SCHEMATIC DESIGN
4	8/17/2020	100% SCHEMATIC DESIGN

ARFF STATION CONSOLIDATION

CONSTRUCTION SITE PLAN - FUMIGATION FACILITY

CONTRACT NUMBER: 9500729 PERMIT NUMBER: A20-134B

SHEET NUMBER

CS1-0-005

SCALE(S) AS NOTED ON THIS SHEET ARE BASED ON A FULL SIZE 30 X 42 SHEET.

Table 3-1: ARFF Stations Consolidation Project Construction Phases and Scope of Work

Construction Phase	Scope of Work
Phase 1: Construction of East ARFF Station	• Construction of a new 49,000 SF ARFF facility with ten (10) vehicle apparatus bays located off East 23rd Street • Construction of 60 vehicle parking spaces • Construction of a new emergency access road connections to Taxiways EL, P, and Q. • Installation of above-ground fuel storage tanks • Relocation of FAA fiber communications ductbank (FAA infrastructure impacted by the proposed East ARFF station) • Partial relocation and splicing of ASOS and LLWAS electrical cables (FAA infrastructure impacted by the proposed East ARFF station)
Phase 2: Fumigation Building	• Up to 10,000 SF fumigation building located off West 23rd Street.
Phase 3 Demolition of Existing Fumigation Facility	• Demolition of existing ~2,500 SF Fumigation Building
Phase 4: Construction of West ARFF Station – new construction	• New 49,000 SF ARFF facility with ten (10) vehicle apparatus bays located off West Airfield Drive • 40 vehicle parking spaces • Approximately 2,000 linear feet of new AOA fencing • Construction of a new above-ground stormwater detention system along West Airfield Drive • Emergency Access Road Bridge over West Airfield Drive • Installation of above-ground fuel storage tanks
Phases 5: Demolition of East DPS Buildings	• Demolition of existing of Existing DPS Stations #1 and #3 (DPS Station 1 received NEPA Clearance in October 2019)
Phase 6: Demolition of West DPS buildings	• Demolition of Existing DPS Stations #2 and #4

The *Action Alternative #1* would include the abatement of any asbestos containing materials. Additionally, the proposed project would include the construction of requisite utilities, Airport Operations Area (AOA) security fences and barriers, access roadways, vehicle and equipment parking lots, apparatus bays, emergency generators, and stormwater detention structural controls. The proposed West ARFF Station would also require the relocation of an existing detention pond and the construction of bridge to provide ARFF equipment access to runway 31L/13R. The *Action Alternative #1* would cost up to $125 Million.

Under the *Action Alternative #1*, the East ARFF Station and apparatus bays would be constructed on top of FAA communications duct bank that supports some of the east airfield navigational aids and connect the FAA East Air Traffic Control Tower to the northeastern quadrant of the east airfield (see **Figure 8**). Accurate as-built drawings of the duct bank were not available but comments from subject matter experts noted that the proposed building and apparatus bays foundations could compromise the duct back and result in significant disruptions to DFW airfield operations and the overall National Airspace System (NAS).

Furthermore, under the *Action Alternative #1,* the construction of the proposed East ARFF station would negatively impact the electrical power cables that serve the *Automated Surface Observing Systems*

(ASOS[1]) and Low-Level Wind-shear Alert System (LLWAS). Interviews with subject matter experts noted that the electrical power cables were directly buried without any concrete encasement to protect the cables. The ASOS system provides minute-by-minute observations and generate the basic *Aviation Routine Weather Report (METAR)* and *Aviation Selected Special Weather (SPECI)* reports that are essential for safe and efficient aviation operations. The LLWAS measures wind speed and direction at remote sensor station sites situated around the airport. The remote sensor data received from the LLWAS is transmitted to a master station, which generates warnings when wind-shear or microburst conditions are detected. Current wind data and warnings are displayed for approach controllers in the Terminal Radar Approach Control Facility (TRACON) and for ground controllers in the ATCT. The FAA controllers will then communicate runway specific alerts to pilots via voice radio communication; these LLWAS alerts assist pilots during critical times when they must determine whether to attempt to land or take off in hazardous weather conditions.

To ensure the continued function of the ASOS and LLWAS systems, DFW proposed to reroute segments of the electrical cables that power the ASOS and LLWAS systems. The rerouted segments would be spliced to connect to the existing electrical power cable. To provide additional protection to the FAA fiber communications duct bank, DFW proposed to install a thicker layer of concrete; however, FAA still had concerns related to the construction of the foundations and support beams that could compromise the integrity of the communications ductbank. Failure to provide adequate protection for the communications ductbank could adversely impact east airfield operations, causing significant delays in aircraft operations and negatively impacting DFW's airfield throughput. FAA recommended that DFW relocate the communications duct bank or avoid constructing the East ARFF Station apparatus bays on top of the duct bank. FAA further recommended relocation of the electrical power cables and the construction a reinforced concrete duct bank that adequately protects these mission critical systems. Preliminary cost estimates for the relocation of the FAA fiber communications duct bank were approximately $3 Million; the relocation of the electrical cables and installation of new concrete duct bank would cost approximately $150,000. The radio frequencies, as well as the microwave and radar communication pathways are not affected by the *Proposed Action* Alternative #1.

Due to the potential for significant adverse operational impacts to safe and efficient aircraft operations, schedule impacts (additional 90-days of construction) and increased project costs, *Action Alternative #1* is not the sponsor's preferred alternative and not carried forward for further analysis. Only one action alternative, *Action Alternative #2* is carried forward and analyzed in this Final EA.

3.2.2 Proposed Action Alternative #2 (Sponsor Preferred Alternative):

Proposed Action Alternative #2, the Sponsor's Preferred Alternative would include the demolition of DPS Stations 1, 2, 3, 4, and the old Fumigation building and the construction of the East ARFF Station (~49,000 square feet), West ARFF Station (~49,000 square feet), and new Fumigation building (up to 10,000 square feet). The Proposed East ARFF Consolidation project would be delivered as a turnkey project constructed by a Design-Build Firm. The demolition of DPS Station 1 received NEPA Environmental clearance in 2019; FAA issued a FONSI in October 2019. DFW has elected to combine the demolition scope of the four DPS stations to reduce procurement costs. Similar to Action Alternative #1, the Sponsor Preferred Alternative requires the demolition and new construction of multiple facilities, DFW will break the project into phases. As DFW and the Design-Build contractor continue to develop this project, phasing plans will evolve and adapt to meet DFW's overall project goals. The proposed project construction phases would be delivered as summarized below:

[1] The ASOS also provides valuable information for the hydrometeorology, climatology, and meteorology research communities.

- **Phase 1:** Construction of the East ARFF Station, a new ~49,000 SF ARFF facility with ten (10) vehicle apparatus bays and 60 employee parking spaces. The East ARFF Station also includes new emergency access road connections to Taxiways EL, P, and Q, installation of above-ground fuel storage tanks, and construction of a new concrete encased duct bank for the ASOS and LLWAS electrical cables.
- **Phase 2**: construction of a new Fumigation Building measuring up to 10,000 SF
- **Phase 3:** Demolition of the existing 2,500 SF Fumigation Building
- Phase 4: Construction of West ARFF Station, a new ~49,000 SF ARFF facility with ten (10) vehicle apparatus bays and 40 employee vehicle parking spaces. This phase will also include the construction of approximately 3,000 linear feet of new AOA fencing, construction of bridge over West Airfield Drive to connect to DFW's west diagonal runway 31L/13R, installation of requisite stormwater detention system along, and installation of above-ground fuel storage tanks
- **Phases 5:** Demolition of existing of DPS Stations 1, 2, 3, and 4

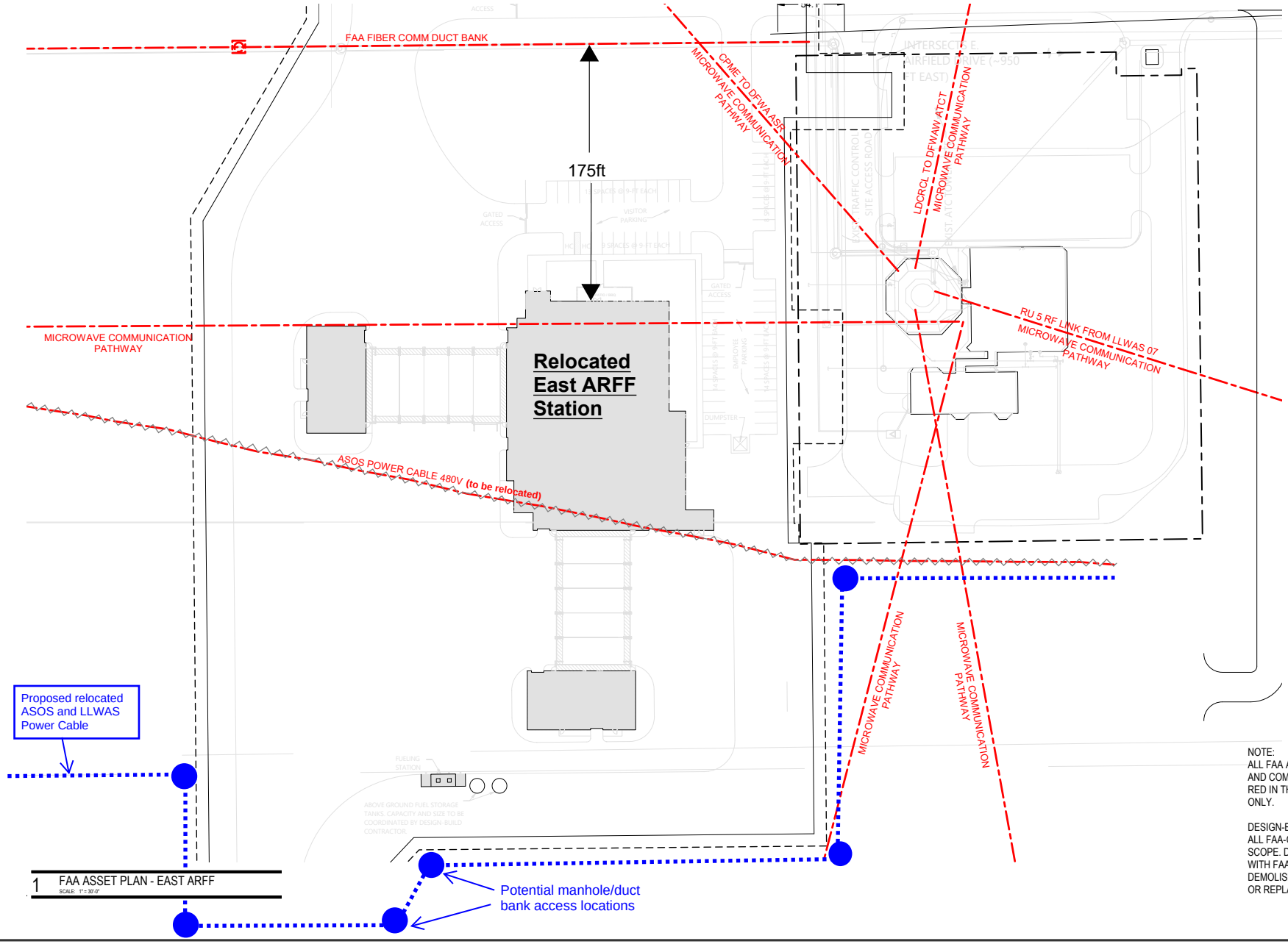
The construction of the *Proposed Action Alternative #2* (Proposed Action) is expected to begin in 2022, after receiving FAA approval of this EA. The *Proposed Action Alternative #2* is anticipated to cost approximately $119 Million. The proposed project area is comprised of eight separate sites with a combined area of approximately 30-acres. The *Proposed Action Alternative #2 also* includes abatement of any asbestos containing materials. Additionally, the proposed project would include construction of requisite utilities, Airport Operations Area (AOA) security fences, access roadways, vehicle and equipment parking lots, apparatus bays, emergency generators, and stormwater detention structural controls.

Under *Proposed Action Alternative #2*, the East ARFF Station was moved approximately 175 feet south to avoid impacting the FAA fiber communications ductbank, that supports some of the east airfield navigational aids and connect the FAA East Air Traffic Control Tower to the northeastern quadrant of the east airfield (**Figure 11)**. In accordance with FAA's recommendations and comments from subject matter experts DFW elected to move the proposed East ARFF Station building 175 feet south to avoid potential disruptions to FAA ATCT function, airfield operations, and the overall National Airspace System (NAS). Relocating the proposed building and apparatus bays eliminates the potential for building foundations to compromise the structural integrity of the communications ductbank.

The proposed East ARFF Station would be constructed on top of an existing electrical power cable that was directly buried approximately 18-inches below the ground surface. The electrical power cable serves as the main power source to the ASOS and LLWAS. The ASOS system provides minute-by-minute observations and generate the basic aviation routine weather and special weather reports that are essential for safe and efficient aviation operations. The LLWAS measures wind speed and direction at remote sensor station sites situated around the airport. Data from LLWAS stations is used to generate warnings when wind-shear or microburst conditions are detected. The wind-shear data and warnings are displayed for FAA approach controllers and ground controllers who then communicate runway specific alerts to pilots via voice radio communication. These LLWAS alerts assist pilots during critical times when they must determine whether to attempt to land or take off in hazardous weather conditions. To mitigate impacts to the electrical power cables that serve the ASOS and LLWAS, DFW under *Proposed Action Alternative #2* proposes to construct a new concrete encased duct bank for the electrical power cables. The duct bank will be routed around the perimeter of the proposed East ARFF station and will have access manholes; DFW will coordinate with FAA engineers and technical operations personnel to ensure that the new duct bank and power cables meet FAA's desired specifications.

The relocation of the building 175 feet south and the rerouting of electrical power cables in a new concrete encased duct bank mitigate the for impacts to FAA infrastructure and therefore eliminate the potential to adversely affect east airfield operations, cause operational delays, or negatively impact airfield throughput.

Figure 11: Proposed Action Alternative #2 - East ARFF (Sponsor Preferred Alternative)



1 FAA ASSET PLAN - EAST ARFF
SCALE: 1" = 30'-0"

NOTE:
ALL FAA ASSETS SUCH AS FIXED ANTENNAS AND COMMUNICATIONS PATHWAYS SHOWN IN RED IN THIS DIAGRAM ARE FOR REFERENCE ONLY.

DESIGN-BUILDER TO VERIFY AND IDENTIFY ALL FAA-OWNED ASSETS WITHIN PROJECT SCOPE. DESIGN-BUILDER TO COORDINATE WITH FAA TO DEFINE WHICH ASSETS TO BE DEMOLISHED, SALVAGED AND REINSTALLED, OR REPLACED.

PRELIMINARY

DFW DALLAS FORT WORTH INTERNATIONAL AIRPORT

DESIGN, CODE & CONSTRUCTION (DCC)
3003 SOUTH SERVICE ROAD
DFW AIRPORT, TX 75261

Gensler

NOT FOR CONSTRUCTION

ISSUE DATE: 020521

NO:	DATE:	REVISION:
1	020521	50% SCHEMATIC DESIGN
2	110520	INTERIM SCHEMATIC DESIGN SUBMISSION
3	101020	50% SCHEMATIC DESIGN
4	121020	50% SCHEMATIC DESIGN
5	040521	50% SCHEMATIC DESIGN

ARFF STATION CONSOLIDATION

FAA ASSET EXHIBIT - PROPOSED EAST ARFF

CONTRACT NUMBER: 9500729 PERMIT NUMBER: A20-134B

SHEET NUMBER

GI1-0-006

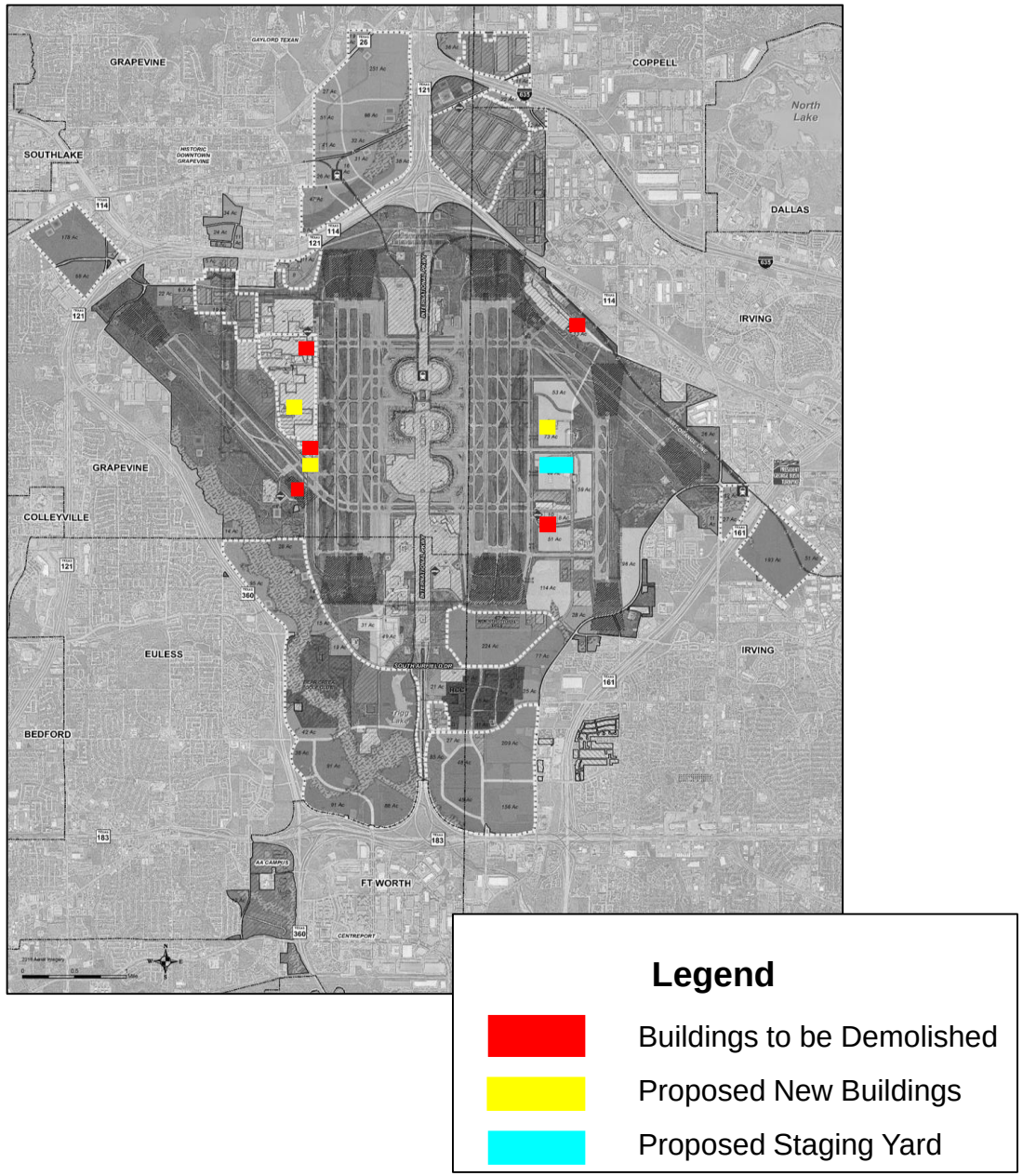
SCALE(S) AS NOTED ON THIS SHEET ARE BASED ON A FULL SIZE 30 X 42 SHEET.

The radio frequencies, as well as the microwave and radar communication pathways are not affected by the *Proposed Action* Alternative #2.

3.2.3 Connected Actions

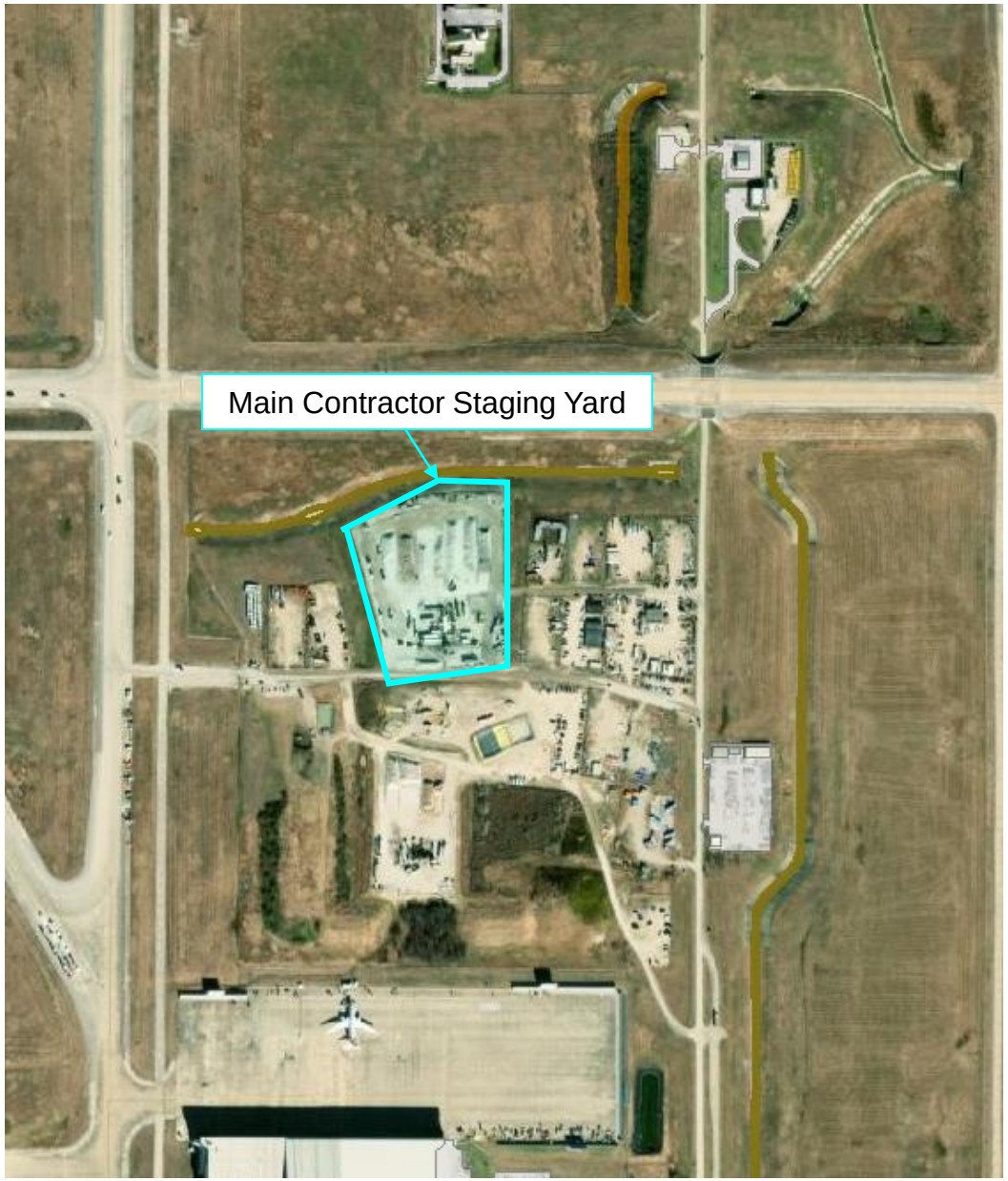
Project Support Locations (Contractor Staging and Materials Laydown Yard): Contractor staging, and materials laydown yards will be used to support the Proposed Action. The main contractor yard will be located within an existing established contractor staging area on the east side of the airport (**Figure 12: Connected Actions/Contractor Staging**). In addition to the main staging yard, the contractor will utilize dedicated staging areas at each job site, to maintain efficient construction operations. Upon completion of the proposed project, the job-site staging areas will be restored and stabilized, the main staging yard will be cleaned and stabilized in compliance with all applicable local, State, and Federal rules and regulations.

Figure 12: Connected Actions – Project Support Locations/Staging Yard



Legend

- Buildings to be Demolished
- Proposed New Buildings
- Proposed Staging Yard



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 Final EA.

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

Area	Significance Threshold	Rationale for Elimination
Biological Resources (Federally listed species, State-listed, and critical habitats)	• The USFWS or the National Marine Fisheries Service determines that the action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species or would result in the destruction or adverse modification of federally designated critical habitat. If the action would have the potential for: • A long-term or permanent loss of unlisted plant or wildlife species, i.e., extirpation of the species from a large project area (e.g., a new commercial service airport); • Adverse impacts to special status species (e.g., state species of concern, species proposed for listing, migratory birds, bald and golden eagles) or their habitats. • Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations; or • Adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural mortality (e.g., road kills and hunting), or ability to sustain the minimum population levels required for population maintenance.	No Effect. The Proposed Action would be constructed on impervious surfaces and within previously disturbed areas of the airport. The Information for Planning and Consultation (IPaC) Environmental Conservation Online System (ECOS) database provided a list of Federally listed species that could potentially occur in Tarrant County (**Appendix B**). No Federally listed species or their critical habitat would be potentially impacted by the Proposed Action. To avoid affecting species protected under the Migratory Bird Treaty Act (MBTA), the project will conduct nest surveys; active nests will be protected, and inactive nests will be disposed of in accordance with the Texas Parks and Wildlife Department (TPWD) guidelines and all applicable regulations. Therefore, the Proposed Action would not meet or exceed significance thresholds for biotic resources. Construction of the Proposed Action would not adversely impact Biological Resources or result in Secondary Impacts. As such, no mitigation is required or proposed.
Coastal Resources	• A determination by a State having an approved Coastal Zone Management (CZM) program that the proposed action would not be consistent with the applicable CZM plan, which cannot be avoided, minimized, or mitigated.	No Impact. There are no coastal resources located within or adjacent to the proposed project area.
Department of Transportation Act	• 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	No Impact. There are no Section 4(f) properties within the proposed project area. A review of potential Section 4(f) resources in the vicinity of the Proposed Action was completed by reviewing the Parks and

Area	Significance Threshold	Rationale for Elimination
Section 4(f)	would substantially impair the Section 4(f) resource.	Recreation Master Plans for the cities adjacent to DFW Airport—Fort Worth, Euless, Coppell, Irving, and Grapevine. No Section 4(f) resources were found within the DFW property boundary (approximately 27 square miles). The review was also included in the cultural resources evaluation report and during coordination with the Texas Historic Commission (THC), **Appendix C**. Therefore, the Proposed Action would not result in the physical use or constructive use of any Section 4(f) resource. As such, the Proposed Action would not meet or exceed significance thresholds for Section 4(f) resources.
Farmlands	• The action would have the potential to convert important farmlands to non-agricultural uses. According to the Farmland Protection Policy Act (FPPA) important farmlands include pastureland, cropland, and forest considered to be prime, unique, or statewide or locally important land.	No Impact. The Proposed Action would be located on DFW airport property. It would not require the acquisition of prime, unique, or state or locally significant farmland or the conversion/use of these types of farmlands that are protected by the Federal Farmland Protection Policy Act (FPPA). There are no farmlands within or adjacent to the project area; as such, the Proposed Action would not impact farmlands.
Floodplains	• The proposed action would have a notable adverse impact on natural and beneficial floodplain values.	No Impact. There are no floodplains within or immediately adjacent to the proposed project area as determined by review of National Flood Insurance Rate Maps (FIRM) published by the Federal Emergency Management Agency (FEMA), **Figure 13:** FIRM Map #48113C0145K (2014), #48439C0120K (2009), and #48439C0115K (2009).
Groundwater	• Exceed groundwater quality standards established by Federal, state, local, and tribal regulatory agencies. • Contaminate an aquifer used for public water supply such that public health may be adversely affected.	No Impact. According to the Interactive USEPA Sole Source Aquifer Map, the closest sole source aquifer, the Edward's Aquifer, is located over 100 miles south of the proposed project area (USEPA 2017).
Land Use	• Existence of noise sensitive receptors adjacent to the project area. • Potential for impacts that have land use ramifications, for example, disruption of communities or induced socioeconomic impacts.	No Impact. All surrounding land uses adjacent to the proposed site are compatible with DFW Airport's on-airport land use plans.
Natural Resources and Energy Supply	• The proposed action would result in an increase in demand of natural resources or energy supply that exceeds the available supply.	No Impact. The Proposed Action would increase energy demand and consumption of natural resources during construction; however, this increased demand would not exceed the regional supply of energy or convertible natural resources. The proposed consolidated east and west ARFF stations were strategically designed as Net Zero Energy (NZE) facilities and would achieve at least LEED silver design standards.

Area	Significance Threshold	Rationale for Elimination
Noise	• The action would cause noise sensitive areas to experience an increase in noise of day-night sound level (DNL) 1.5 decibels (dB) or more at or above DNL 65 dB noise exposure when compared to the no action alternative for the same timeframe.	No Impact. The activities associated with the proposed project would not change the number of aircraft operations or aircraft operational patterns; thus, there would be no change to aircraft noise exposure. There would be temporary, short term noise impacts associated with construction activities. The temporary noise impact would be on-airport and would not exceed any noise exposure thresholds.
Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks	• Extensive relocation of residents is required, but sufficient replacement housing is unavailable. • Extensive relocation of community businesses that would create severe economic hardship for the affected communities. • A substantial loss in the community tax base. • Disproportionately high and adverse human health or environmental effects on minority and low-income populations. • Disproportionate health and safety risks to children.	No Impact. Implementation of the Proposed Action would not substantially change the prevailing socioeconomic conditions, because there would not be any relocation of residents, relocation of businesses located within or adjacent to the project area due to the Proposed Action. 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. As such, both an analysis of the socioeconomic conditions and environmental justice are excluded from further detailed analysis.
Visual Effects including light emissions	• The FAA has not established a significance threshold for Visual Resources, Visual Character, or Light Emissions.	No Impact. Implementation of the Proposed Action would not result in a material change the visual character and light emissions at DFW Airport.
Wetlands and Waters of the United States	Action would: 1. 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 2. 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 3. Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare 4. 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 5. Promote development of secondary activities or services that would cause the circumstances listed above to occur; or 6. Be inconsistent with applicable state wetland strategies	No Impact. A wetlands and waters of the U.S. field survey of the project area was conducted. No wetlands or waters of the US are located within the project area (**Appendix D).** Jurisdictional waters of the U.S. were identified within 0.25miles of the project areas. The Proposed Action and the contractor staging area will not affect the jurisdictional waters of the U.S. either directly or indirectly.
Wild and Scenic Rivers	• A determination that the effects on a Natural Resources Inventory (NRI) river segment are significant or would preclude inclusion in the Wild and Scenic River System or downgrade its classification.	No Impact. According to the National Wild and Scenic Rivers System (2017), there are no wild or scenic rivers or eligible rivers located within or adjacent to the proposed project area.

Figure 13: FEMA Flood Insurance Rate Map

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

TARRANT COUNTY, TEXAS
AND INCORPORATED AREAS

PANEL 120 OF 495

Panel Contains:

COMMUNITY	NUMBER	PANEL
CITY OF GRAPEVINE	480598	0120
IRVING, CITY OF	480180	0120
CITY OF EULESS	480593	0120
GRAPEVINE, CITY OF	480598	0120

MAP NUMBER
48439C0120K
EFFECTIVE DATE
September 25, 2009

SCALE

Map Projection:
GCS, Geodetic Reference System 1980;
Vertical Datum: NAVD88
For information about the specific vertical datum for elevation features, datum conversions, or vertical monuments used to create this map, please see the Flood Insurance Study (FIS) Report for your community at https://msc.fema.gov

1 inch = 1,000 feet 1:12,000

0 500 1,000 2,000 3,000 4,000 Feet

N 0 105 210 420 630 840 Meters

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates, refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM was provided in digital format by the United States Geological Survey (USGS). The basemap shown is the USGS National Map: Orthoimagery. Last refreshed October, 2020.

This map was exported from FEMA's National Flood Hazard Layer (NFHL) on 3/25/2021 12:10 AM 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. For additional information, please see the Flood Hazard Mapping Updates Overview Fact Sheet at https://www.fema.gov/media-library/assets/documents/118418

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. 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.

https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd&extent=-97.18853552490212,32.80284757183153,-96.89808447509783,32.9470185837276

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

DALLAS COUNTY, TEXAS
AND INCORPORATED AREAS

PANEL 145 OF 695

Panel Contains:

COMMUNITY	NUMBER	PANEL
CITY OF GRAPEVINE	480598	0145
IRVING, CITY OF	480180	0145
CITY OF EULESS	480593	0145
COPPELL, CITY OF	480170	0145
GRAPEVINE, CITY OF	480598	0145

MAP NUMBER
48113C0145K
EFFECTIVE DATE
July 07, 2014

FLOOD HAZARD INFORMATION

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

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) Zone A, V, A99
	With BFE or Depth Zone AE, AO, AH, VE, AR
	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 Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X
	Area with Reduced Flood Risk due to Levee See Notes Zone X
	Area with Flood Risk due to Levee Zone D
OTHER AREAS	NO SCREEN Area of Minimal Flood Hazard Zone X
	Effective LOMRs
	Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
OTHER FEATURES	20.2 Cross Sections with 1% Annual Chance
	17.5 Water Surface Elevation
	8 Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	513 Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

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_2), ozone (O_3), particulate matter (PM), and sulfur dioxide (SO_2) (**Table 4-2**). Based on air monitoring data and in accordance with the CAA, areas within the United States are designated with respect to their attainment status with the NAAQS. Areas that meet the NAAQS are designated as attainment, those that do not meet the standards are designated as nonattainment[2], and those that are in transition from nonattainment to attainment are designated as maintenance[3]. Ozone nonattainment areas are further classified as extreme, severe, serious, moderate, and marginal by the degree of non-compliance with the NAAQS.

Table 4-2 National Ambient Air Quality Standards

Pollutant	Averaging Time	Standard		Type of Standard	Form
		ppm/ppb	µg/m³		
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/m³	Primary Secondary	Not to be exceeded
NO_2	1 hour	100 ppb		Primary	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	1 year	53 ppb		Primary Secondary	Annual Mean
O_3	8 hour	0.070 ppm		Primary Secondary	Annual 4th highest daily maximum 8-hour concentration, averaged over 3 years
PM_{10}	24 hours		150 µg/m³	Primary Secondary	Not to be exceeded more than once annually on average over 3 years
$PM_{2.5}$	1 year		12.0 µg/m³	Primary	Annual mean, averaged over 3 years
	1 year		15.0 µg/m³	Secondary	Annual mean, averaged over 3 years
	24 hours		35 µg/m³	Primary Secondary	98th percentile, averaged over 3 years
SO_2	1 hour	75 ppb		Primary	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	3 hours	0.5 ppm		Secondary	Not to be exceeded more than once annually

Notes:

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

[2] 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.

[3] 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.

Primary standards	provide public health and safety protection, including protecting the health of sensitive populations such as asthmatics, children, and the elderly
Secondary standards	provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

4.2.1 Existing Conditions

Based on air quality monitoring data collected by the Texas Commission on Environmental Quality (TCEQ), the DFW metropolitan area has been designated as an attainment area for all USEPA criteria pollutants except for O_3. The DFW metropolitan area is currently designated as a "serious[4]" nonattainment area under the 2008 8-hour, 0.075 ppm O_3 standard, and has not yet been designated for the 2015 8-hour, 0.070 ppm standard (USEPA, 2017). Under the reclassification of "serious", the DFW metropolitan area is required to meet the 2008 ozone NAAQS as expeditiously as practicable, but no later than July 20, 2021. The DFW metropolitan area remains in attainment for all other criteria pollutants.

Because of the nonattainment status for the 2008 8-hour O_3 standard, TCEQ prepared a State Implementation Plan (SIP) to help guide the area into meeting the 8-hour NAAQS by 2017. The SIP is the cumulative record of all air pollution control strategies, emission budgets, and timetables implemented or adopted by government agencies within Texas to bring nonattainment areas into compliance with the NAAQS by a designated deadline. The SIP focuses on reducing the two primary pollutants that lead to O_3 formation: volatile organic compounds (VOCs) and nitrogen oxides (NOx).

4.2.2 General Conformity

The *General Conformity Rule* established a process based on emissions analysis to determine whether a Federal action conforms to the SIP. General Conformity refers to the requirements under Section 176(c) of the CAA for Federal agencies to show that their actions conform to the purpose of the applicable SIP. As described in 40 CFR 51 and 93, issued by the USEPA, General Conformity analysis evaluates both direct emissions and indirect emissions, as defined by the 40 CFR § 93.152. "Direct emissions" are those that occur at the same time and place as the Federal action. As stated in 40 CFR § 93.152, "indirect emissions" are defined as emissions or precursors:

- That are caused or initiated by the Federal action and originate in the same nonattainment or maintenance area but occur at a different time or place from the action
- That are reasonably foreseeable
- That the agency can practically control; and
- For which the agency has continuing program responsibility.

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

[4] The DFW metropolitan area was previously designated as a "moderate" nonattainment area under the 2008 8-hour, 0.075 ppm O_3 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".

4.2.3 Sources of Airport Air Emissions

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

To determine whether a General Conformity Determination is required, the USEPA has established *de minimis* levels for the non-attainment air pollutants. For the pollutant O_3, its precursors (i.e., VOCs and NOx) are used as surrogates. The applicable *de minimis* values are 50 tpy for VOCs and 50 tpy for NOx. Notably, because the area around DFW is designated as an attainment area for CO, particulate matter (PM_{10}), 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 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 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_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), O_3, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). The characteristics of GHGs and their rapid dispersion into the global atmosphere makes GHGs different from other air pollutants evaluated in federal environmental reviews, because the impacts are not localized or regional. CO_2 is the most important anthropogenic GHG because it is a long-lived gas that remains in the atmosphere for up to 100 years. 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_2, H_2O vapor, N_2O, 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 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, and wastes, is primarily governed by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (more commonly known as "Superfund"), Pollution Prevention Act (PPA), Toxic Substances Control Act (TSCA), and 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 substance, and a hazardous waste follow:

- *Hazardous Material* – any substance or material that has been determined to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce (49 CFR §172, Table 172.101). This includes hazardous substances and hazardous wastes.
- *Hazardous 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.
- *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.

4.4.2 Existing Conditions

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 Materials, Substances, and Waste

Per the EPA's NPL database, there are no properties listed (or proposed) on the NPL in the Project Study Area. There is no evidence of jet-fuel contamination within the project area. There is potential for asbestos containing materials (ACM) within project area. The ACMs may potentially be found to be in walls, mastic, and caulking. A comprehensive asbestos assessment will inform the process of abating of any ACMs within the project area; abatement actions would be managed in compliance with all applicable federal and State regulations. In areas were ACMs are uncovered, no work would be permitted until the materials in question have been abated or are found to be non-asbestos containing. Additionally, the proposed West ARFF station is located on land that was previously used as a fumigation building for imported horticultural plants. The fumigation building primarily used methyl bromide; there is no evidence of methyl bromide releases into the surrounding environment. If needed, a Phase 1 Environmental Site Assessment will be conducted prior to demolition of the existing buildings. Should any contaminated media (soil or water) be unearthed

during the construction of the Proposed Action, the materials would be handled in accordance with the DFW Contaminated Media Management Plan (CMMP) as well as in compliance with any applicable local, state, and Federal regulations.

4.4.2.2 Solid Waste

Solid waste in the project area is generated by various activities associated with the demolition and construction projects. The Airport collects this solid waste and evaluates it to determine where it is to be disposed. Waste Management of Texas collects and transports DFW's municipal solid waste (MSW) to the DFW Landfill in Lewisville. The DFW Landfill is appropriately permitted and located approximately nine miles north-northeast of the airport. The DFW Landfill is consistent with guidance provided in FAA Advisory Circular (AC) 150/5200-33B, *Hazardous Wildlife Attractants on or Near Airports* and FAA Order 5200.5A, *Waste Disposal Sites on or Near Airport.* DFW Airport also has a consolidated materials recycling and reuse program that provides recycling containers[5] and a materials management site for construction projects. DFW Airport recycles a variety of materials including but not limited to construction and demolition waste, paper, cardboard, wood, metal, concrete, soil, and tires. Through the Sustainability Management Plan (SMP) DFW Airport is committed to decreasing the generation of municipal solid waste (MSW) and hazardous materials and increasing campus-wide recycling.

4.5 HISTORICAL, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES

4.5.1 Regulatory Background

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

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

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

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

Criterion A:	that are associated with events that have made a significant contribution to the broad patterns of our history; or
Criterion B:	that are association with the lives of persons significant in our past; or
Criterion C:	that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
Criterion D:	that have yielded, or may be likely to yield, information important in prehistory or history [36 CFR Part 60.4(a–d)].
**Criteria for 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): As a political subdivision of the State of Texas, DFW Airport is required to comply with the 1ntiquities Code of Texas (ACT) passed in 1969. The ACT requires state agencies and political subdivisions 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

DFW Airport property is approximately 17,200 acres characterized by urban development—buildings, roads and runways, and undeveloped land. A review of the THC's Texas Historic Site Atlas (THSA) illustrated that there were no NRHP listed properties, State Antiquities Landmarks (SALs), historical markers, or cemeteries located within the APE (THC THSA 2017). Historical aerial photographs showed that all buildings existing within the direct APE prior to the construction of the DFW Airport were removed in the 1960s.

The existing Fumigation Building and DPS Stations 1, 2, 3, and 4 were constructed between 1973 and 1990. The Cultural Resources survey of the direct and indirect areas of potential effect (APE) resulted in the identification of buildings that are approximately 45-years; these buildings were evaluated for NRHP eligibility under the four Criteria for Eligibility as well as under Criteria Consideration G. The evaluation for historic significance concluded that the DPS and Fumigation buildings were not historically significant or eligible for listing on the NRHP. Additionally, 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 the direct and indirect APE, or within 1-mile of the APE (TASA 2018). The THC concurred that there were no historically significant resources and the project could proceed as planned (see **Appendix C** for the THC Concurrence Letter).

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

4.7 WATER RESOURCES

4.7.1 Surface Water and Stormwater Treatment

4.7.1.1 Regulatory Background

The Federal Water Pollution Control Act, commonly known as the Clean Water Act (CWA), passed in 1972 and last amended in 2002 was enacted to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. The CWA established a federal permitting system to regulate discharges into waters of the United States (WOUS), certify the protection of water quality, implement and enforce the NPDES program, and identify and characterize impaired water bodies 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

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. Stormwater drainage associated with the Proposed Action is conveyed to through a stormwater collection systems characterized by roof drains, inlets, curb-cuts, ditches, bioswales, stormwater pipes, diverter boxes and other structural controls designed to capture first flush stormwater and convey it to the on-site pre-treatment facility. Currently, no tributaries or water bodies located on DFW Airport are listed on the TCEQ impaired water bodies list (TCEQ Section 303(d) list).

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:

Alternative	Description
No Action	The No Action Alternative 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, *Purpose and Need and Section 3.2: Proposed Action*. This project consists of the consolidation of ARFF stations, relocation of the fumigation building, and demolition of existing old DPS Stations 1,2,3, and 4.

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
Air Quality: The action would cause pollutant concentrations to exceed one or more of the National Ambient Air Quality Standards (NAAQS), as established by the Environmental Protection Agency under the Clean Air Act, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations.	No	No
Climate: The FAA has not identified significant thresholds for climate (FAA Order 1050.1F, Exhibit 4-1).	No	No
Hazardous Materials, Solid Waste, and Pollution Prevention: The action would have the potential to violate applicable Federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management; Involve a contaminated site (including but not limited to a site listed on the National Priorities List); or Produce an appreciably different quantity or type of hazardous waste; or 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 Adversely affect human health and the environment.	No	Yes, there is potential for the Proposed Action to involve the handling, management, and disposal of asbestos containing materials and soil contaminated with methyl bromide.
Historical, Architectural, Archeological, and Cultural Resources: The action would result in a finding of *Adverse Effect* through the Section 106 process	No	No
Land Use (Permits and Construction Effects): The FAA has not established a significance threshold for land use.	No	No
Water Resources (Surface Water and Stormwater Treatment): The action would exceed water quality standards established by Federal, state, local, or tribal regulatory agencies; or contaminate public drinking water supply such that public health may be adversely affected.	No	No

5.1 AIR QUALITY

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

5.1.1 No Action Alternative Construction Emissions

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

5.1.2 Proposed Action Alternative Construction Emissions

Air quality and greenhouse gas emissions from construction of the Proposed Project were analyzed for anticipated construction years 2022 to 2024. The Proposed Action would result in temporary air quality effects during demolition and construction activities. An air quality analysis was completed to determine the potential impact of the Proposed Action. The methodology used to prepare the emissions inventories is consistent with the requirements outlined in the latest *FAA Air Quality Handbook and Guidance Document*. Construction equipment used to complete the Proposed Action would cause a short-term increase in air emissions such as NOx and VOCs, the two primary precursors to O_3 formation. The estimated construction emissions on-road mobile sources and non-road mobile sources such as automobiles, light-duty and heavy-duty trucks, and construction equipment used to support the Proposed Action were modeled the using the USEPA Motor Vehicles Emissions Simulator (MOVES) (2014b). **Table 5-2** shows the estimated construction emissions; as depicted in **Table 5-2**, the project-related emissions are well below the *de minimis* threshold of 50 tons per year for either NOx or VOCs (see **Appendix E for detailed Air Quality Analysis report**). If the FAA approves the Proposed Action, construction activities are proposed to begin in 2022, after FAA approval.

Table 5-2 Proposed Project construction emissions

Year	Project Emissions (tpy)		General Conformity *De Minimis* Threshold (tpy)	
	NO_x	VOCs	NOx	VOC
2022	*3.48*	*0.92*	*50*	*50*
2023	*3.11*	*0.94*	*50*	*50*
2024	*0.56*	*0.18*	*50*	*50*

5.1.3 No Action Alternative Operational Emissions

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

[6] FAA, *Aviation Emissions and Air Quality Handbook Version 3 Update 1*, January 2015.

5.1.4 Proposed Action Alternative

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

5.1.5 Mitigation

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

To reduce any potential, temporary impacts to air quality, standard operational measures for dust control developed would be implemented during construction phases. 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
- Application of water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust
- Maintaining clean roadways
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material
- The implementation of adequate containment methods during sandblasting or other similar operations
- Covering open equipment for conveying or transporting material likely to create objectionable air pollution when airborne
- Promptly removing spilled or tracked dirt and other materials from paved streets and of dried sediments resulting from soil erosion
- Reduce emissions associated with construction vehicles, including limiting unnecessary idling time and promoting the use of low-emission construction vehicles.

5.2 CLIMATE

Climate change is a global phenomenon that can have local impacts. Scientific measurements show that Earth's climate is warming, with concurrent impacts including warmer air temperatures, increased sea level rise, increased storm activity and severity, and an increased intensity in precipitation events. Research has shown there is a direct correlation between fuel combustion and GHG emissions.

5.2.1 No Action Alternative

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

5.2.2 Proposed Action

A GHG emission inventory was prepared using EPA MOVES (2014b). **Table 5-3** shows the annual GHG emissions summary in metric tons per year (see **Appendix E for detailed Air Quality Analysis report)**.

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

Year	Emissions Source	CO (tpy)	SO_2 (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	CO_2 (tpy)
2022	Non-Road	2.59	2.04	0.13	0.35	3932.37
	On-Road	5.25	0.02	0.04	0.04	1246.20
	Fugitive	0.00	0.00	0.69	0.00	0.00
	2022 Total	**7.83**	**2.06**	**0.86**	**0.38**	**5178.56**
2023	Non-Road	2.36	2.04	0.13	0.35	4069.65
	On-Road	5.57	0.01	0.03	0.03	1200.53
	Fugitive	0.00	0.00	0.70	0.00	0.00
	2023 Total	**7.93**	**2.05**	**0.86**	**0.38**	**5270.18**
2024	Non-Road	0.22	0.00	0.02	0.02	632.48
	On-Road	0.05	0.00	0.00	0.00	83.65
	Fugitive	0.00	0.00	0.17	0.00	0.00
	2024 Total	**0.28**	**0.00**	**0.19**	**0.02**	**716.13**

Units for Non-Greenhouse Gases Emission: Short Tons
Units for Greenhouse Gases (CO_2) Emission: Metric Ton

5.2.3 Mitigation

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

5.3 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

5.3.1 No Action Alternative

No impacts from hazardous materials and solid waste are expected as a result of the NAA, as no construction activities would occur. 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 is potential for ACM in the buildings that will be demolished as part of the Proposed Action. To the extent practicable, all confirmed ACM would be abated and disposed of in accordance with all applicable Federal, State, and Local regulations. 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. In addition to the potential for ACMs, the location of the proposed West ARFF station was associated with plant fumigation activities; therefore, there is potential for the project to disturb materials contaminated with methyl bromide. DFW will require all contractors to complete the requisite abatement specifications, inspections and environmental site assessments and secure necessary permits, prior to initiation construction and demolition activities. DFW maintains a Contaminated Media Management Plan (CMMP) that provides information and guidance on potential environmental concerns that may be encountered during the disturbance, excavation, and relocation of soils. All activities that involve disturbing or excavating soils will be performed in accordance with the CMMP and other applicable regulatory requirements.

The Proposed Action will include use of fuel and other hydrocarbons during and after construction. A Spill Prevention, Control, and Countermeasures (SPCC) Plan documenting measures taken to prevent accidental release of hydrocarbons into the environment would be developed and implemented. The SPCC plan would include the corrective actions that would be deployed to minimize the environmental impact.

Solid Waste:

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

5.3.3 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 requires contractors to submit detailed soil management and waste management plans and abide by those plans along with all applicable regulatory requirements. Based on the hazardous materials and solid waste management strategies that will be implemented, the Proposed Action would not have a significant impact on waste collection, landfill capacity, and waste disposal operations; therefore, mitigation is not required.

5.4 HISTORICAL, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES

5.4.1 No Action Alternative

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

5.4.2 Proposed Action Alternative

A Cultural Resources Survey of the project area was conducted in July 2020. As part of the cultural resource's evaluation, a background review, including a literature and online search was conducted to determine if potential cultural resources were located within the in the Direct and Indirect APE. From the background review and site visit, it was determined the Direct APE has been exposed to significant previous ground disturbances and contains negligible potential for containing prehistoric or historic -age archeological sites. Results of the survey were compiled into a report titled *Cultural Resources Report for The Demolition of Three Department of Public Safety (DPS) Stations And Two Future Construction Sites, at Dallas Fort Worth International Airport, Dallas County, Texas*. The cultural resources evaluation determined that the Proposed Action would not have adverse effects on historic properties and that further cultural resource investigations were not necessary. On September 8, 2020, the Texas SHPO concurred with the findings of the report and determined that "No historic, cultural, or archaeological resources and properties are present or affected by the Proposed Action" (see **Appendix C: Cultural Resources Evaluation and THC Concurrence Letter**).

5.4.3 Mitigation

The implementation of the Proposed Action Alternative will not affect/impact any historic properties, archeological sites, NRHP properties, or SALs. Therefore, mitigation measures are not proposed. 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 and THC prior to resuming construction activities.

5.5 LAND USE (PERMITS AND CONSTRUCTION EFFECTS)

5.5.1 No-Action Alternative

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

5.5.2 Proposed Action

The Proposed Action will include abatement, demolition, and construction activities; the area of disturbance is approximately 30-acres. The Proposed Action will not result in changes in on-airport land uses.

Air Quality – As discussed in Section 5.1, construction activities could temporarily degrade local air quality due to dust, equipment exhausts, and burning debris, but these impacts would be minor and temporary in nature.

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

Surface Transportation - The Proposed Action will result in temporary increases in construction vehicle traffic accessing the project area and the contractor staging yard. The project will implement a Traffic Management and Control Plan. No roadway closures are anticipated; additionally, the project will not cause a degradation in the levels of service of surrounding roadways (**Appendix F: Traffic Impact Analysis**). To avoid disrupting access to the FAA East Air Traffic Control Tower, DFW will install a secondary contractor equipment access road.

Water Quality - Short-term and temporary water quality impacts may result from demolition and construction activities, including temporary increases in sedimentation and turbidity in adjacent drainage ditches and outfalls. Prior to starting site disturbance activities, the project will obtain the requisite water quality construction permits and implement Stormwater Pollution Prevention Plan (SWPPP) structural controls, best management practices (BMPs).

5.5.3 Mitigation

Although, no specific significance thresholds have been established by the FAA for this impact category, DFW would ensure that all on-site construction activities are conducted in accordance with FAA AC 150/5370-10G, *Standards for Specifying Construction of Airports*. DFW will develop and implement a SWPPP, Dust Control Plan, Traffic Management Plan, and any other requisite best management practices and structural controls that protect the environment. Additionally, DFW will coordinate with FAA and all applicable stakeholders, prior to closing initiating construction near the FAA East Air Traffic Control Tower. The Proposed Action is consistent with state and local land-use plans and would not result in direct and indirect construction-related impacts. Therefore, no additional mitigation is required or proposed.

5.6 WATER RESOURCES

5.6.1 Surface Water and Stormwater Treatment

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

5.6.1.1 No Action Alternative

Under the NAA, there would be no impacts to water quality, as no construction or other activities would occur.

5.6.1.2 Proposed Action

The potential impacts to surface water quality connected to the Proposed Action are 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.

The ARFF Consolidated Project Areas are characterized by undeveloped maintained landscaping and impervious surfaces. In compliance with the DFW Design Criteria Manual, the Proposed Action was designed to ensure that post-development stormwater runoff coefficients would match predevelopment conditions (see **Appendix G: Drainage Determination Memorandum**). The Proposed Action will utilize stormwater management structures such as detention ponds, infiltration trenches, and bioswales to ensure that there is not a material change in the runoff rates and quantities. The contractor staging yard is characterized by gravel and maintained mixed-grass buffer strips around the staging yard. The construction of the Proposed Action is not expected to result in a material change in the stormwater runoff rates, discharge volumes, and pollutant characteristics of the stormwater runoff. Therefore, implementing the Proposed Action would not adversely impact Surface and Stormwater runoff rates, quality, and quantities.

5.6.1.3 Mitigation

Temporary impacts to surface water quality would be minimized to the fullest extent possible through the development and implementation of SWPPP best management practices, in compliance with the TPDES Construction General Permit (CGP) requirements as well as any other applicable federal, state, and local requirements. Therefore, no significant adverse impacts would occur relative to surface waters.

SECTION 6 AGENCY COORDINATION AND PUBLIC INVOLVEMENT

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

6.1 AGENCY COORDINATION

Agency coordination was conducted with the affected agencies based on an analysis of the project's potential effects. During the development of this Final EA, DFW consulted with the FAA National Airspace System (NAS) Planning and Engineering Services lines of business (**Appendix H – Agency Coordination Documentation)**, Transportation Security Administration (TSA), and the Texas Historic Commission (THC), see (**Appendix C)**.

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

Sandra Lancaster, Environmental Program Manager, Environmental Affairs
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
Robert Rodriguez, P.E., Traffic Engineer, Design Code and Construction
Soheyla Rousta, P.E., Civil and Traffic Engineer, Design Code and Construction
Aamir Butt, Senior Project Manager, Design Code and Construction
Dan Chapman, Program Director, Design Code and Construction

AIR QUALITY ANALYSIS CONSULTANTS - GARVER
Mitchell McAnally, Senior Project Manager

DESIGN CONSULTANTS – GENSLER
Tim Hudson, Principal Practice Area Leader - Aviation & Transportation
Joseph M. O'Connor, AIA, Associate - Aviation & Transportation

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