



**Federal Aviation
Administration**

Final Supplemental Environmental Assessment and Finding of No Significant Impact/Record of Decision for Drone Package Delivery in College Station, Texas

September 2024

DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
Finding of No Significant Impact and Record of Decision
for
Environmental Assessment for Amazon Prime Air Proposed Drone
Package Delivery Operations in College Station, Texas

Summary

The Federal Aviation Administration (FAA) prepared the attached final Environmental Assessment (EA) to analyze the potential environmental impacts of amending the Operations Specifications (OpSpec) of Amazon Prime Air (Prime Air), per its 49 United States Code (U.S.C.) Section 44807 exemption and Part 135 certificate that allow Amazon to carry the property of another for compensation or hire beyond visual line of sight (BVLOS) using its MK30 Unmanned Aircraft System (UAS). Amazon is seeking to amend its OpSpec to expand its unmanned aircraft (UA; also referred to as a drone) commercial package delivery operations in the College Station area. The EA was prepared in accordance with the National Environmental Policy Act of 1969, as amended (NEPA; 42 U.S.C. § 4321 et seq.); Council on Environmental Quality (CEQ) NEPA-implementing regulations (40 Code of Federal Regulations [CFR] parts 1500 to 1508); and FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*.

After reviewing and analyzing available data and information on existing conditions and potential impacts, the FAA has determined that the Proposed Action would not significantly affect the quality of the human environment. Therefore, the preparation of an Environmental Impact Statement is not required, and the FAA is issuing this Finding of No Significant Impact (FONSI) and Record of Decision (ROD). The FAA has made this determination in accordance with applicable environmental laws and FAA regulations. The EA is incorporated by reference into this FONSI/ROD.

Purpose and Need

The ***purpose*** of Prime Air's request is to expand commercial drone package delivery operations in College Station, TX. Prime Air has determined there is an increase in consumer demand for drone delivery services and the proposed action is ***needed***, necessitating expanded operations.

Proposed Action

The FAA prepared an Environmental Assessment (EA) for Prime Air's current drone operations at the College Station PADDC and issued a Finding of No Significant Impact (FONSI) and a Record of Decision (ROD) on December 9, 2022.

The 87-pound (lb) MK27-2 Prime Air drone currently in use carries packages weighing up to 5 lbs. (3 kilograms [kg]) and has a maximum takeoff weight of approximately 92 lbs. (42 kg). Prime Air operates up to 200 MK27-2 delivery flights per operating day and flies up to 260 operating days per year, for a total of roughly 52,000 annual delivery operations. All drone operations originate from and terminate at the Prime Air Drone Delivery Center (PADDC) located at 400 Technology Parkway, College Station, TX, which is approximately 85 mi (136 kilometers [km]) east of Austin and 75 mi (120 km) northwest of Houston.

Prime Air is proposing to amend its OpSpec by incorporating the next generation, MK30 drone variant into service, which offers longer range and a reduced noise profile. The MK30's operating range is 7.5 mi (12 km) (an increase of 3.7 mi (6.0 km) from the MK27-2 range), which increases the operating area from 43.7 sq mi (113.2 sq km) to 174 sq mi (450.6 sq km). As proposed, average daily operations would increase from the current estimated 200 operations per day using the MK27-2 to an estimated 470 daily operations using the MK30. The transition to the MK30 would result in an increase from 52,000 operations with the MK27-2 to 171,329 operations with the MK30 on an annual basis. These operational levels would result in a projected total of approximately 365 operating days and 171,329 delivery operations per year based on the scope of the Proposed Action.

Prime Air's request to amend its OpSpec to expand drone delivery operations using the MK30 in the College Station area requires FAA review and approval. The FAA has a statutory obligation to review

Prime Air's request to determine whether the amendment would affect safety in air transportation or air commerce and whether the public interest requires the amendment.

See Section 1.3 of the EA for detailed discussion.

See Section 2.2 of the EA for further information.

Alternatives

Council on Environmental Quality (CEQ) regulations at 40 CFR § 1502.14(c) require agencies to consider a no action alternative in their NEPA analyses. Thus, the no action alternative serves as a baseline to compare the impacts of the proposed action. The No Action alternative would entail the continued use of the MK27-2 drone at the current level of approximately 52,000 operations per year. Under the No Action alternative, the FAA would not issue the approvals necessary (e.g., the OpSpec amendment) to enable Prime Air to conduct expanded commercial drone package delivery operations in the College Station operating area, including the use of the MK30 drone and the associated increased number and range of delivery operations. Consumers in the College Station area would continue to be limited by the number of available daily package deliveries, as documented in the Final 2022 EA. This alternative does not support the stated purpose and need.

See Section 2.1 of the EA for further information.

Environmental Impacts

The potential environmental impacts of the Proposed Action and no action alternative were evaluated in the EA for each environmental impact category identified in FAA Order 1050.1F. Chapter 3 of the EA describes the affected environment within the project study area and identifies the following environmental impact categories that are not analyzed in detail: Air Quality and Climate; Coastal Resources; Farmlands; Hazardous Materials, Solid Waste, and Pollution Prevention; Land Use; Natural Resources and Energy Supply; Socioeconomics; Children's Environmental Health and Safety Risks; Visual Effects (Light Emission Only); and Water Resources (Wetlands, Floodplains, Surface Water, Groundwater, and Wild and Scenic Rivers).

Chapter 3 also evaluates the potential environmental consequences of the Proposed Action for each of the remaining environmental impact categories and documents the finding that no significant

environmental impacts would result from the Proposed Action. A summary of the documented findings for each impact category, including requisite findings with respect to relevant special purpose laws, regulations, and executive orders, is presented below.

- **Biological Resources, EA Section 3.3.** The Proposed Action is not anticipated to significantly influence wildlife within the affected area. Operations would occur mostly in an urban environment, typically well above the tree line and away from sensitive habitats. Individual areas would only briefly experience increased ambient sound levels during transit and delivery operations. A direct line of communication would be established with Texas Parks & Wildlife to discuss any potential concerns regarding impacts on wildlife or habitat in the action area. In addition, Prime Air would also specifically coordinate with the managing entities of state parks and natural areas within the action area on the thoughtful placement and use of delivery sites within these areas as necessary.

FAA concluded that the proposed action would have “*no effect*” on the Houston Toad (*Bufo houstonensis*), Texas fawnsfoot (*Truncilla macrodon*), and monarch butterfly (*Danaus plexippus*), and may affect, but is not likely to adversely affect the tricolored bat (*Perimyotis subflavus*), and whooping crane (*Grus americana*).

The tri-colored bat is proposed to be listed. Proposed species are not currently protected under the Act; however, conferencing is necessary if it is determined a federal action is likely to jeopardize the continued existence of a proposed species. Should the tricolored bat be listed, FAA will re-evaluate the project to determine the extent of effects on the species.

Given these factors, FAA determined that the Proposed Action “*may affect, but is not likely to adversely affect*” whooping crane (*Grus americana*). On August 12, 2024, the USFWS issued its concurrence on these effects.

This concluded the FAA’s obligations under Section 7 of the Endangered Species Act. In addition, the Proposed Action would not result in long-term or permanent loss of wildlife species; would not result in substantial loss, reduction, degradation, disturbance, or fragmentation of native species’ habitats or populations; and would not have adverse impacts on reproductive success rates, natural mortality rates, non-natural mortality, or ability to sustain the minimum population levels of any species. Therefore, no significant impacts on biological resources are expected under the Proposed Action.

- **Department of Transportation Act Section 4(f), EA Section 3.4.** The FAA has determined that drone operations would not cause substantial impairment to Section 4(f) resources that could occur in the study area and would not be considered a *constructive use* of any Section 4(f) resource. Occasional flyovers would not result in significant noise levels at any location within the study area, and the short duration of en route flights (approximately 15 seconds) would minimize any potential for significant visual impacts. There would be no physical use of Section 4(f) resources because the Proposed Action has no direct interaction with any resources on the ground. Constructive use could occur when a project would produce an effect, such as excessive noise, that would result in substantial impairment to a property where the features of that property are substantially diminished. However, as discussed in Section 3.6, the Proposed Action would not result in a significant increase in noise levels at any location within the study area. As further described in Section 3.8, the short duration of en route flights would minimize any potential for significant visual impacts.

The FAA is responsible for soliciting and considering the comments of the DOI and, where appropriate, U.S. Department of Agriculture (USDA), or Housing and Urban Development (HUD), as well as the appropriate official(s) with jurisdiction over the Section 4(f) property. Evaluations and determinations under Section 4(f) must reflect consultation with these Departments and officials. However, the ultimate decisionmaker for Section 4(f) determinations is the FAA. Consultation with agencies having jurisdiction over any public parks, recreation areas, waterfowl or wildlife refuges, or historic sites assists in identifying Section 4(f) properties. When a draft Section 4(f) evaluation is prepared, it must be provided to the official(s) with jurisdiction over the Section 4(f) resource, DOI, and as appropriate, to the USDA and HUD. FAA distributed the Notice of Availability (NOA) of the published draft EA for the public comment period to all identified appropriate official(s) with jurisdiction over the Section 4(f) properties.

Therefore, the FAA has determined that the Proposed Action would not cause substantial impairment, or direct or constructive use, as defined in Section 3.4.1, to any of the Section 4(f) resources in the study area. Therefore, the Proposed Action would not result in significant impacts on Section 4(f) resources.

- **Historical, Architectural, Archaeological, and Cultural Resources; EA Section 3.5.** The Proposed Action would not significantly impact historical, architectural, archaeological, and cultural

resources. Drone effects on historic properties are limited to non-physical, reversible impacts (i.e., the introduction of audible and/or visual elements).

The FAA consulted with Tribal Governments, on April 2, 2024, that may potentially attach religious or cultural significance to resources in the APE, which include the following: Alabama-Coushatta Tribe of Texas, Apache Tribe of Oklahoma, Comanche Nation, Oklahoma, Coushatta Tribe of Louisiana, Kickapoo Traditional Tribe of Texas, Tonkawa Tribe of Indians of Oklahoma, Wichita and Affiliated Tribes (Wichita, Keechi, Waco & Tawakonie), Oklahoma, and the Ysleta del Sur Pueblo. No request by tribal governments to participate under Section 106 of the National Historic Preservation Act (NHPA) have been received as of the issuance date of the FONSI-ROD.

FAA conducted a noise exposure analysis for the Proposed Action and concluded that noise levels would be below the FAA's threshold for significance. Based on the information available, the FAA made a finding of *no historic properties affected* in accordance with 36 CFR Part 800. The FAA received concurrence from the State Historic Preservation Office (SHPO) on July 19, 2024, that "*no historic properties would be affected*" by the Proposed Action. Therefore, the Proposed Action would not result in significant impacts on historical, architectural, archaeological, or cultural resources.

- **Noise and Noise-Compatible Land Use, EA Section 3.6.** The Proposed Action is not anticipated to result in any significant changes in the overall noise environment within the affected area. Noise impacts would be significant if the action would increase noise by day-night average sound level (DNL) 1.5 decibel (dB) or more for a noise-sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe.

FAA has an established noise significance threshold, defined in FAA Order 1050.1F, which is used when assessing noise impacts in a particular project area. A significant noise impact is defined as an increase in noise of DNL 1.5 dB or more at or above DNL 65 dB noise exposure or a noise exposure at or above the 65 dB level due to a DNL 1.5 dB or greater increase. Based on the results of the noise analysis performed for this EA, the DNL 65 dB contour is expected to extend approximately 150 feet from the launch pads and be contained within PADDC property. Thus, noise impacts from the College Station operations are not expected to result in a significant impact.

The noise generated by the College Station operations is not expected to be incompatible with noise sensitive resources within the action area. The resulting noise exposure for delivery site locations at a distance of 32 feet between drone and receiver is DNL 54.7 dB. Noise exposure from deliveries includes the en route overflight at the typical operating altitude of 165 feet AGL, as modeled in Appendix E. The maximum noise exposure at any property line in residential zoned property would not exceed DNL 55 dB, which is well below the FAA's DNL 65 dB significance threshold. Therefore, no significant impacts on noise and noise-compatible land use are expected under the Proposed Action.

- **Environmental Justice, EA Section 3.7.** The Proposed Action would not result in disproportionately high or adverse effects on minority or low-income populations. Drone noise emissions could be perceptible in areas within the study area but would stay well below the level determined to constitute a significant impact (DNL 65 dB). In addition, Prime Air's service is meant to provide additional and on-demand access to small goods and groceries without making use of roads and provides a greater benefit in more congested areas. Commercial drone delivery services may therefore result in a positive effect on low-income and minority communities who experience greater traffic congestion and have no other mode of transportation. As such, the Proposed Action would not result in significant environmental justice impacts or disproportionately high and adverse effects on minority and low-income populations.
- **Visual Effects (Visual Resources and Visual Character), EA Section 3.8.** Impacts on visual resources are expected to be less than significant. The Proposed Action would make no changes to any landforms or land uses; thus, there would be no effect on the visual character of the area, as the nests would be located in established commercial areas. Drone operations would not introduce new light emissions, and the short duration of overflights as well as the low number of overflights within any given location would minimize the potential for substantial visual impacts. Therefore, no significant impacts on visual effects are expected under the Proposed Action.

Please refer to Chapter 3 of the EA for a full discussion of the analysis for each environmental impact category.

Chapter 4 of the EA provides an analysis of the potential cumulative impacts of the Proposed Action when added to other past, present, and reasonably foreseeable actions. The FAA has determined that

the Proposed Action would not result in significant cumulative impacts in any environmental impact category.

Public Involvement and Coordination

On May 30th, 2024, the FAA published the draft EA for a 30-day public comment period scheduled to end on June 28th, 2024. At the request of a member of the public, the public comment period was extended to July 12th, 2024. The FAA received comments during the comment period for this EA, which are documented in appendix G. The FAA considered all public comments when preparing the EA. Comments were received in writing at 9-FAA-Drone-Environmental@faa.gov.

See Section 1.6 and Appendices A and G of the EA for further information.

Finding of No Significant Impact

The FAA finding is based on a comparative examination of environmental impacts for each of the alternatives studied during the environmental review process. The EA discloses the potential environmental impacts for each of the alternatives and provides a full and fair discussion of those impacts. Based on the FAA's review and analysis and consideration of comments, it has determined that there would be no significant impacts on the natural environment or surrounding population as a result of the Proposed Action.

The FAA believes the Proposed Action best fulfills the purpose and need identified in the EA. In contrast, the no action alternative fails to meet the purpose and need identified in the EA. An FAA decision to take the required actions and approvals is consistent with its statutory mission and policies supported by the findings and conclusions reflected in the environmental documentation and this FONSI/ROD.

After careful and thorough consideration of the facts contained herein and following consideration of the environmental impacts described, the undersigned finds that the proposed Federal action is consistent with existing national environmental policies and objectives as set forth in Section 101(a) of the National Environmental Policy Act of 1969 and other applicable environmental requirements, and will not significantly affect the quality of the human environment or otherwise include any condition requiring consultation pursuant to Section 102(2)(C) of NEPA. As a result, an Environmental Impact Statement will not be prepared by the FAA.

Decision and Order

The FAA recognizes its responsibilities under NEPA, CEQ regulations, and its own directives. Recognizing these responsibilities, the undersigned has carefully considered the FAA's goals and objectives in reviewing the environmental aspects of the Proposed Action to approve Prime Air's request to expand drone delivery services in the College Station area. Based upon the above analysis, the FAA has determined that the Proposed Action meets the purpose and need.

The environmental review included the purpose and need to be served by the Proposed Action, alternatives to achieving them, the environmental impacts of these alternatives, and conditions to preserve and enhance the human environment. This decision is based on a comparative examination of the environmental impacts for each of these alternatives. The EA provides a fair and full discussion of the impacts of the Proposed Action. The NEPA process included appropriate consideration for avoidance and minimization of impacts, as required by NEPA, the CEQ regulations, and other special-purpose environmental laws, and appropriate FAA environmental orders and guidance.

The FAA has determined that environmental concerns presented by interested agencies and the public have been addressed in the EA. The FAA believes that, with respect to the Proposed Action, the NEPA requirements have been met. FAA approval of this environmental review document indicates that applicable Federal requirements for environmental review of the Proposed Action have been met.

Accordingly, under the authority delegated to me by the Administrator of the FAA, I approve and direct that agency action be taken to carry out implementation of the Proposed Action.

Issued on: September 18, 2024

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HUFTY

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Derek Hufty
Manager, General Aviation and Commercial Operations Branch
Emerging Technologies Division
Office of Safety Standards, Flight Standards Service

Right of Appeal

This FONSI/ROD constitutes a final agency action and a final order taken pursuant to 49 U.S.C. §§ 40101 et seq., and constitutes a final order of the FAA Administrator, which is subject to exclusive judicial

review by the Courts of Appeals of the United States in accordance with the provisions of 49 U.S.C. § 46110. Any party having substantial interest in this order may apply for a review of the decision by filing a petition for review in the appropriate U.S. Court of Appeals no later than 60 days after the order is issued in accordance with the provisions of 49 U.S.C. § 46110.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Washington, D.C.

Notice of Availability of the Final Supplemental Environmental Assessment and Finding of No Significant Impact/Record of Decision for Amazon Prime Air Package Delivery Operations in College Station, Texas

The Federal Aviation Administration (FAA) hereby gives Notice of Availability (NOA) for this Final Supplemental Environmental Assessment (EA) and Finding of No Significant Impact/Record of Decision (FONSI/ROD) following the FAA's evaluation of the potential environmental effects of the FAA decision to authorize Amazon Prime Air to conduct commercial drone delivery service in the College Station, TX area.

Amazon Prime Air is seeking to amend its air carrier Operation Specifications (OpSpec) and other FAA approvals necessary to expand commercial drone delivery operations in Texas. The FAA's approval of the amended OpSpec is considered a major federal action under the National Environmental Policy Act (NEPA) and Council on Environmental Quality (CEQ) NEPA-implementing regulations (40 Code of Federal Regulations Parts 1500–1508) and requires a NEPA review.

The Final Supplemental EA has been prepared in accordance with the CEQ regulations and FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*. The Final Supplemental EA reflects the consideration of comments received during the public comment period for this Supplemental EA from May 30, 2024, through July 12, 2024.

The Final Supplemental EA and FONSI/ROD are available to view/download electronically at:

https://www.faa.gov/uas/advanced_operations/nepa_and_drones

CONTACT INFORMATION: For any questions or to request a copy of the Supplemental EA, please contact: 9-FAA-Drone-Environmental@faa.gov.

This Supplemental EA becomes a federal document when evaluated, signed, and dated by the Responsible FAA Official.

Responsible FAA Official:

DEREK W HUFTY  Digitally signed by DEREK W HUFTY
Date: 2024.09.18 15:01:38 -04'00'

Date: _____

Derek Hufty
Manager, General Aviation and Commercial Operations Branch
Emerging Technologies Division
Office of Safety Standards, Flight Standards Service

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CHAPTER 1

Purpose and Need

1.1 Introduction

Amazon.com Services LLC, doing business as Amazon Prime Air (Amazon or Prime Air), intends to expand its delivery capabilities in 2024 under its existing Part 135 air carrier certificate and related operating authorizations by adding the next generation MK30 drone variant to its fleet. Prime Air is seeking to amend its current Operation Specifications (OpSpec) and other Federal Aviation Administration (FAA) authorizations needed to integrate the MK30 and expand commercial drone package delivery operations from the Prime Air Drone Delivery Center (PADDC)¹ located in College Station, Texas.

The FAA prepared an Environmental Assessment (EA) for Prime Air's drone operations at the College Station PADDC and issued a Finding of No Significant Impact (FONSI) and a Record of Decision (ROD) on December 9, 2022 (the 2022 Final EA). This Supplemental EA was prepared by the FAA to evaluate the potential incremental environmental impacts that may result from the FAA's approval of the Proposed Action, which would expand commercial drone delivery operations from the PADDC. For purposes of this Supplemental EA, the operating area is the Study Area and is further defined in **Chapter 2**.

The FAA would have to amend Prime Air's existing OpSpec to grant airspace access to the MK30 in the proposed operating area. The issuance of an OpSpec is considered a major federal action subject to environmental review requirements. The FAA has prepared this Supplemental EA pursuant to the National Environmental Policy Act of 1969 (NEPA)² and its implementing regulations.³ Under NEPA, federal agencies are required to consider the environmental effects of proposed federal actions and to disclose to decision-makers and the interested public a clear and accurate description of the potential environmental impacts of proposed major federal actions. Additionally, under NEPA, federal agencies are required to consider the environmental effects of a proposed action, the reasonable alternatives to the proposed action, and a no action alternative (assessing the potential environmental effects of not implementing the proposed action). The FAA has established a process to ensure compliance with the provisions of NEPA through FAA Order 1050.1F, Environmental Impacts: Policies and Procedures, and the FAA Order 1050.1F Desk Reference.

¹ An Amazon PADDC is a ground-based service area where drones are assigned and where flights originate and return.

² 42 United States Code (U.S.C.) § 4321 et seq.

³ 40 Code of Federal Regulations (CFR) §§1500-1508

1.2 Current Operations

The 87-pound (lb) MK27-2 Prime Air drone currently in use carries packages weighing up to 5 lbs. (3 kilograms [kg]) and has a maximum takeoff weight of approximately 92 lbs. (42 kg). Prime Air operates up to 200 MK27-2 delivery flights per operating day and flies up to 260 operating days per year, for a total of roughly 52,000 annual delivery operations. All drone operations originate from and terminate at the Prime Air Drone Delivery Center (PADDC)⁴ located at 400 Technology Parkway, College Station, TX, which is approximately 85 mi (136 kilometers [km]) east of Austin and 75 mi (120 km) northwest of Houston. Current commercial drone package delivery operations from the College Station PADDC occur during daylight hours, defined in the 2022 Final EA as between 30 minutes before sunrise and 30 minutes after sunset, but never after 10 P.M., up to five days per week.⁵ The existing circle-shaped operating area, which is 43.7 square (sq) miles (mi) (113.2 sq km), has a radius of approximately 3.7 mi (6 km) from the PADDC, which is depicted in **Figures 1-1** and **1-2**.

The PADDC facility includes a warehouse building with office space, ground control station, aircraft maintenance area, battery storage area, parking, truck loading areas, landscaped grounds, paved departure and arrival pads, and perimeter fencing. The PADDC site is zoned for Planned Development District (PDD) with Suburban Commercial Base.⁶ The allowable uses for the PDD specifically include “consumer, small scale aerial distribution,” which is defined as “the use of drones or similar devices weighing less than 100 pounds on takeoff, including everything that is on board or otherwise attached to the drone, to enable the receipt, storage, and distribution of packages by air.”⁷ Additional discussion of land use can be found in **Chapter 3.2**. The PADDC is located near the intersection of Texas 6 Frontage Road and Sebesta Road with State Highway 6 approximately 0.3 mi (0.5 km) to the west of the site. The properties adjacent to the PADDC are a mix of privately-owned rural, commercial, and residential properties. The closest residential neighborhood is approximately 425 ft (0.13 km) from the site, as shown in **Figure 1-2**. Information about community noise exposure related to drone operations in the vicinity of the PADDC can be found in **Section 3.6**. Prime Air conducts deliveries from the PADDC to eligible delivery sites, such as private residences and commercial facilities.⁸ It is important to note that drone delivery flights may occur in any direction to and from the PADDC, but Prime Air may modify operations, if warranted, to avoid or minimize any negative impacts.

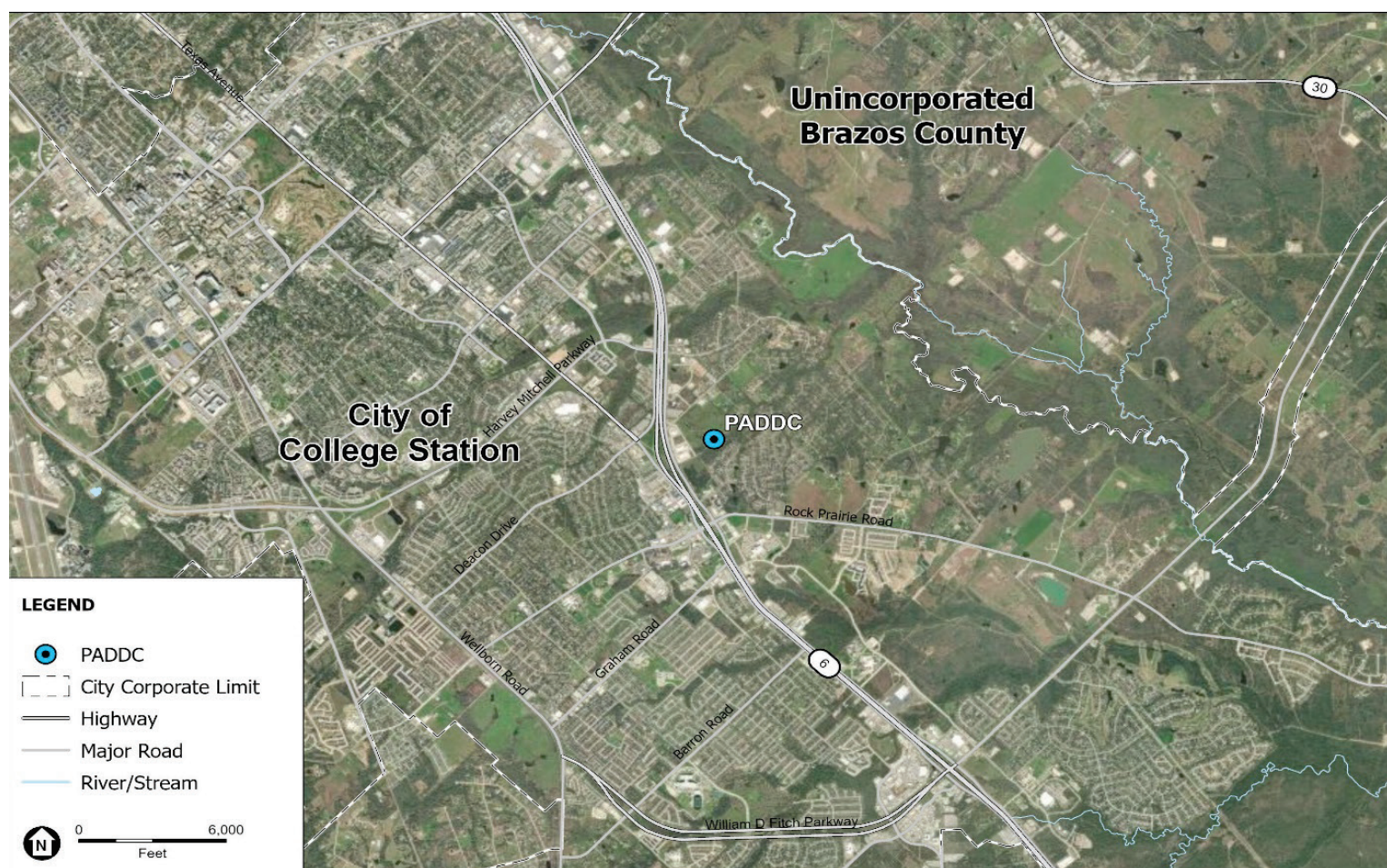
⁴ An Amazon PADDC is a ground-based service area where drones are assigned and where flights originate and return.

⁵ The proposed hours of operation include the time period between 7 A.M. and 10 P.M. It should be noted that the FAA and Amazon Prime Air are currently consulting with the United States Fish and Wildlife Service to determine the optimal operating window to minimize potential impacts to biological resources, as discussed in Section 3.3.

⁶ College Station Zoning Map:
<https://cstx.maps.arcgis.com/apps/webappviewer/index.html?id=1b2d3c188cd5479e9dbc61b6448f714b>

⁷ College Station Ordinance No. 2022-4372, Jul4 14 2022:
<https://opendoc.cstx.gov/DocArc/DocView.aspx?id=1692051&dbid=0&repo=DOCUMENT-SERVER>

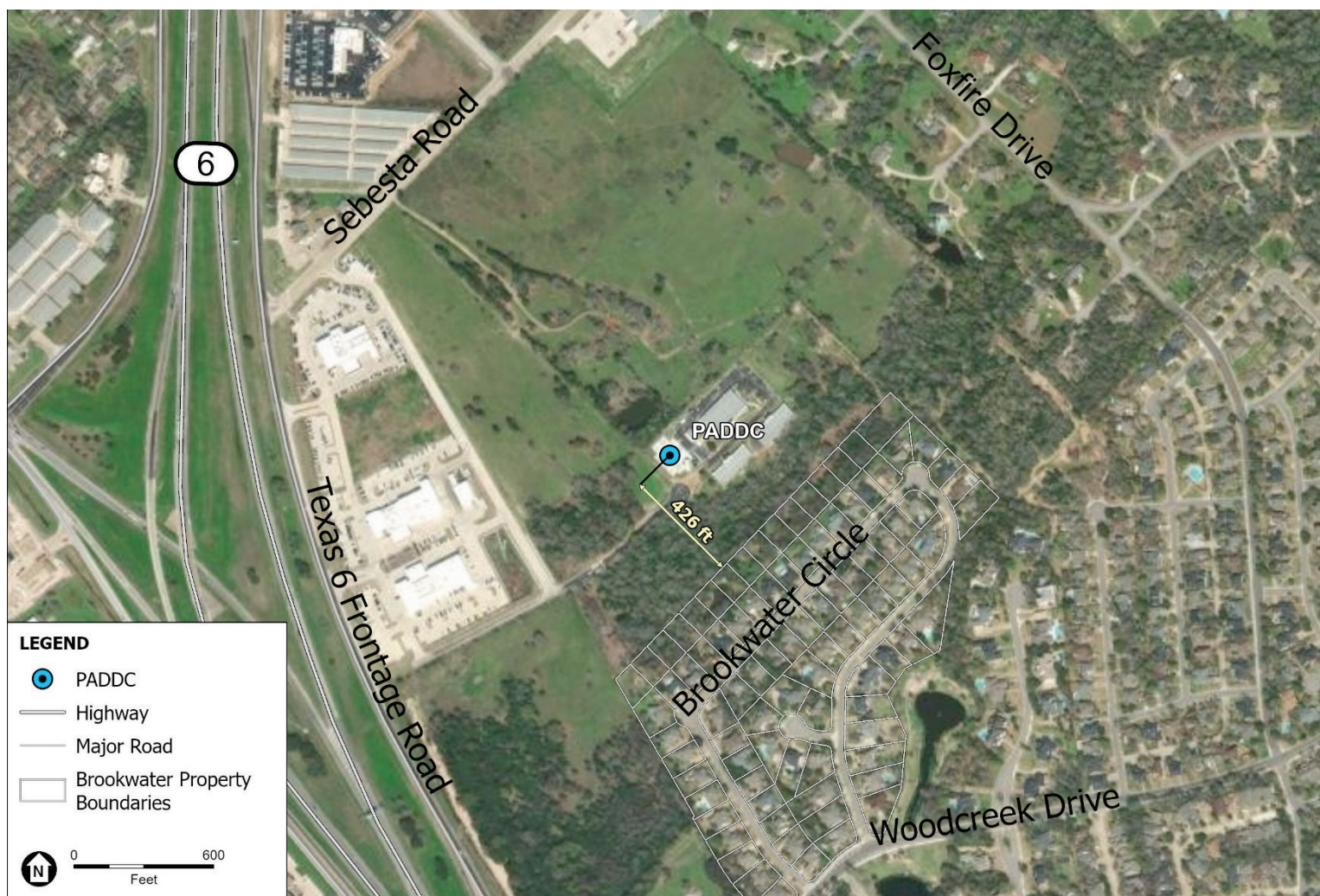
⁸ Each delivery site is vetted by Amazon to ensure that the area can receive deliveries.



SOURCE: ESA, 2023; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022.

Supplemental Environmental Assessment for Amazon Prime Air — College Station, TX

Figure 1-1
Prime Air's PADDC Location in College Station, TX



SOURCE: ESA, 2023; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022.

Supplemental Environmental Assessment for Amazon Prime Air — College Station, TX

Figure 1-2
Close-up View of the College Station PADD

1.3 Proposed Operations

Based on community demand for service, Prime Air is proposing to amend its OpSpec by incorporating the next generation, MK30 drone variant into service, which offers longer range and a reduced noise profile.

The MK30's operating range is 7.5 mi (12 km) (an increase of 3.7 mi (6.0 km) from the MK27-2 range), which increases the operating area from 43.7 sq mi (113.2 sq km) to 174 sq mi (450.6 sq km). As proposed, average daily operations would increase from the current estimated 200 operations per day using the MK27-2 up to 469 daily operations using the MK30. The transition to the MK30 would result in an increase from 52,000 operations with the MK27-2 to 171,329 operations with the MK30 on an annual basis. The number of operating hours would increase from the current eight (8) hours per day (between 30 minutes before sunrise and 30 minutes after sunset and never after 10 P.M.) to ten (10) hours per day (between 7 A.M. and 10 P.M.), and the number of operating days would increase from the current 260 days per year to 365 days per year. These operational levels would result in a projected total of approximately 365 operating days and 171,329 delivery operations per year based on the scope of the Proposed Action.

1.4 FAA Role and Federal Action

The FAA has a statutory obligation to review Prime Air's request to amend the OpSpec and determine whether the amendment would affect safety in air transportation or air commerce, and to determine whether the public interest requires the amendment. In general, Congress has charged the FAA with the safety of air commerce in the United States and to encourage the development of civil aeronautics.⁹

In addition, the FAA has specific statutory and regulatory obligations related to its issuance of a Part 135 certificate and the related OpSpec. The FAA is required to issue an operating certificate to an air carrier when it "finds, after investigation, that the person properly and adequately is equipped and able to operate safely under this part and regulations and standards prescribed under this part."¹⁰ An operating certificate also specifies "terms necessary to ensure safety in air transportation; and (2)...the places to and from which, and the airways of the United States over which, a person may operate as an air carrier."¹¹ Also included in air carrier certificates is a stipulation that the air carrier's operations must be conducted in accordance with the provisions and limitations specified in the OpSpec.¹²

The regulations also specify that a Part 135 certificate holder may not operate in a geographical area unless its OpSpec specifically authorizes the certificate holder to operate in that area.¹³ The regulations implementing Section 44705 specify that an air carrier's approved OpSpec must include, among other things, "authorization and limitations for routes and areas of operations."¹⁴ An air carrier's OpSpec may be

⁹ 49 U.S.C. § 40104.

¹⁰ 49 U.S.C. § 44705.

¹¹ Id.

¹² 14 CFR § 119.5 (g), (l).

¹³ 14 CFR § 119.5(j).

¹⁴ 14 CFR § 119.49(a)(6).

amended at the request of an operator if the FAA “determines that safety in air commerce and the public interest allows the amendment.”¹⁵ After making this determination, the FAA must take an action on the OpSpec amendment.

1.5 Purpose and Need

The **purpose** of Prime Air’s request is to expand commercial drone package delivery operations in College Station, TX. Based on an assessment of the initial phase of delivery operations in College Station, TX, Prime Air has determined there is increased consumer **need** for drone delivery services, necessitating expanded operations. The MK30’s extended range and reduced noise profile support Prime Air’s purpose and need.

1.6 Public Involvement

The FAA provided a Notice of Availability (NOA) of the Draft Supplemental EA on May 30, 2024 to local interest groups, local government officials, public park authorities, and the State Historic Preservation Office (SHPO), tribes and Tribal Historic Preservation Offices (THPOs). A complete NOA distribution list and documentation of Prime Air’s overall public outreach efforts can be found in **Appendix A**. On the same date, the FAA made the Draft Supplemental EA available to the general public on the FAA website. The NOA, which was published in the local College Station newspaper, The Eagle, and can be found in **Appendix A**, provides information about the Proposed Action and requested review and comments on the Draft Supplemental EA, which was available on the FAA website for a 45-day comment period (May 30, 2024, to July 12, 2024). Interested parties were invited to submit comments on any environmental concerns relating to the Proposed Action to a specifically assigned email address. All submitted public comments and associated FAA responses can be found in **Appendix G**.

¹⁵ 14 CFR § 119.51(a); see also 49 U.S.C. § 44709.

CHAPTER 2

Proposed Action and Alternatives

FAA Order 1050.1F, Paragraph 6-2.1(d) states that, “[a]n EA may limit the range of alternatives to the proposed action and no action alternative when there are no unresolved conflicts concerning alternative uses of available resources.” The FAA has not identified any unresolved conflicts concerning alternative uses of available resources associated with Prime Air’s proposal. Therefore, this EA only considers the No Action and the Proposed Action alternatives.

2.1 No Action Alternative

Council on Environmental Quality (CEQ) regulations at 40 CFR § 1502.14(c) require agencies to consider a no action alternative in their NEPA analyses. Thus, the no action alternative serves as a baseline to compare the impacts of the proposed action. As described briefly in **Section 1.2** and in detail in the 2022 Final EA, the No Action alternative would entail the continued use of the MK27-2 drone at the current level of approximately 52,000 operations per year. Under the No Action alternative, the FAA would not issue the approvals necessary (e.g., the OpSpec amendment) to enable Prime Air to conduct expanded commercial drone package delivery operations in the College Station operating area, including the use of the MK30 drone and the associated increased number and range of delivery operations. Consumers in the College Station area would continue to be limited by the number of available daily package deliveries, as documented in the 2022 Final EA. This alternative does not support the stated purpose and need.

2.2 Proposed Action

In order for Prime Air to expand commercial drone package deliveries in an existing location, it must receive a number of approvals from the FAA, such as a Certificate of Waiver or Authorization (COA) and an amended OpSpec. Accordingly, Prime Air has requested the FAA to approve its OpSpec amendment so that it can expand and increase commercial drone package delivery operations by using the MK30 drone and expanding airspace access across the intended College Station operating area. The B050 OpSpec, *Authorized Areas of En Route Operations, Limitations, and Provisions*, includes a reference section titled Limitations, Provisions, and Special Requirements. The FAA’s approval of this OpSpec amendment – including the paragraph in the B050 OpSpec’s reference section with descriptive language about the operating area boundaries, including the specific location and operational profile proposed in Prime Air’s request – is the proposed federal action for this EA. The B050 OpSpec will restrict Prime Air to this particular location; any future expansion beyond the authorization and limitations for the area of operations described in the B050 OpSpec may require additional OpSpec amendments from the FAA, and may be subject to appropriate NEPA review, as necessary.

2.2.1 Description of Proposed Operations

As described in **Section 1.3**, Prime Air anticipates operating up to 469 delivery flights per operating day, up to 10 hours per day and 7 days per week, from the College Station PADDC. These operational levels would result in a projected total of approximately 365 operating days and 171,329 delivery operations per year based on the scope of the Proposed Action. Delivery operations would occur between 7 A.M. and 10 P.M. and are anticipated to be distributed evenly across the operating area. The MK30's proposed operating range is 7.5 mi (12 km) from the PADDC, with a potential operating area of 174 sq mi (450.6 sq km). The drone departure and arrival paths from and to the PADDC would generally correspond to the geographical location of the package delivery address.

The proposed operating area, which also serves as the Study Area for the Supplemental EA, is depicted in **Figure 2-1**.

2.2.2 Drone Specifications

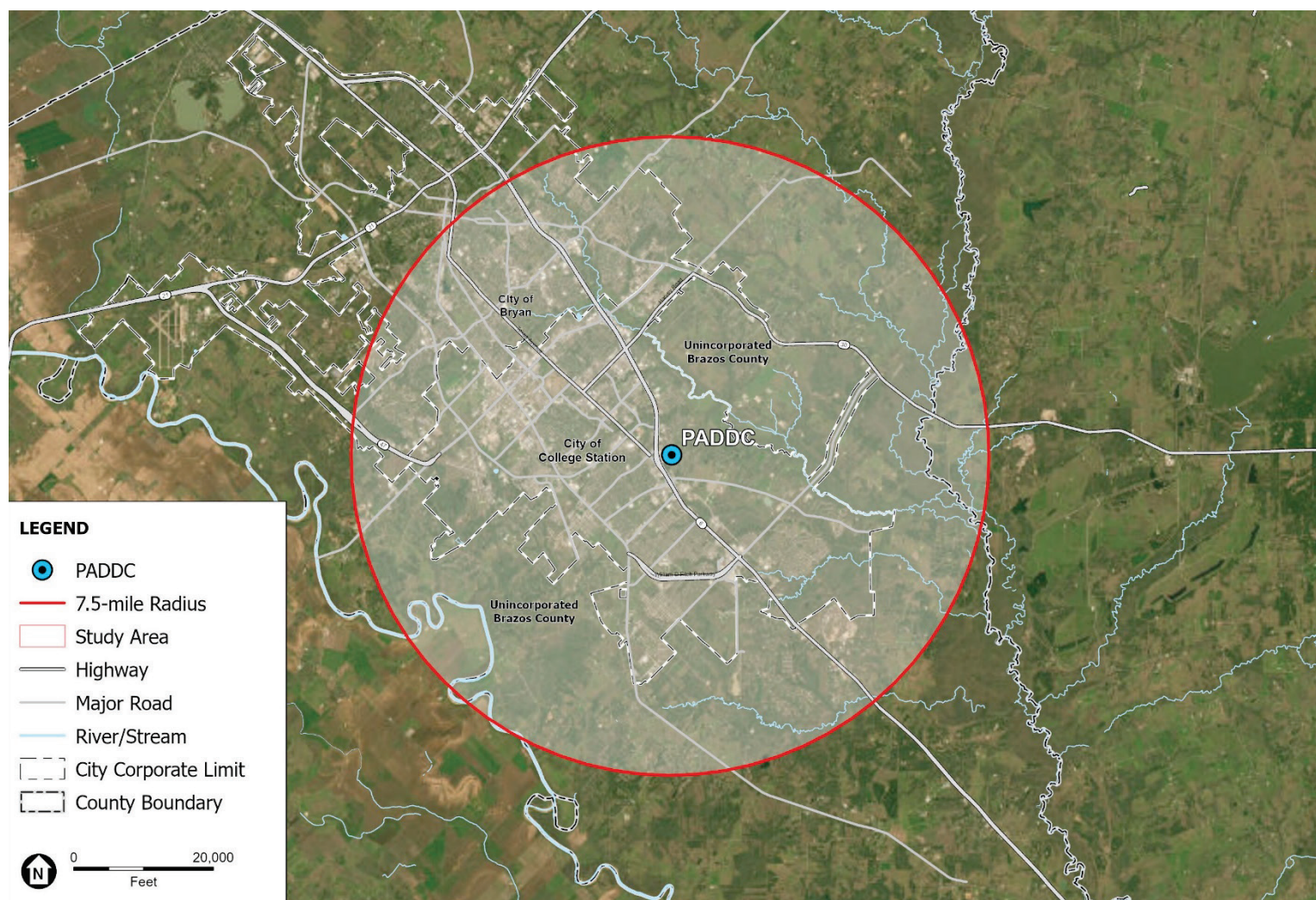
As shown in **Figure 2-2**, the MK30 is an electric powered drone that has a vertical take-off and landing, and transitions to wing borne flight using wing lift during *en route* flight. The drone systems include hardware and software designed for safety and efficiency. The airframe is composed of staggered wings, the propulsion system includes a rechargeable lithium-ion battery, and six (6) motors that include propellers designed for noise reduction, the package delivery system contains the package in a two-door interior receptacle, and a camera and avionics system that has redundancy for critical systems. The drone weighs 77.9 lbs. (35.5 kg) and has a maximum takeoff weight of 83.2 lbs. (37.8 kg), which includes a maximum payload of 5 lbs. (3 kg). It has a maximum operating range of 7.5 mi (12 km) and can fly up to 400 ft (122 m) above ground level (AGL) at a maximum cruise speed of 73 mph (64 knots) during horizontal flight.

2.2.3 Flight Operations

As shown in **Figure 2-3**, a typical flight profile can be broken into the following general flight phases: launch, *en route* outbound, delivery, *en route* inbound, and landing. After launch, Prime Air's MK30 drone would rise to an altitude of less than 400 ft (122 m) AGL and follow a predefined route to its delivery site.¹⁶ Aircraft would typically fly *en route* at between approximately 180 to 377 ft (55 to 115 m) AGL, except when descending to drop a package. Packages would be carried internally in the drone's fuselage. When making a delivery, the drone descends, opens a set of payload doors, and drops the package to the ground from approximately 13 ft (4 m) AGL. Prime Air's drone would not touch the ground in any place other than the PADDC (except during safe contingent landings) and will remain airborne throughout the operation including the delivery stage.¹⁷ After the package is dropped, the MK30 drone climbs vertically and follows its predefined route back to the PADDC at its assigned altitude. A close-up aerial view of the PADDC is shown in **Figure 2-4**.

¹⁶ Prime Air may modify operations, if warranted, to avoid or minimize any negative impacts.

¹⁷ The MK30 vehicle is built with multiple redundant safety features and "detect and avoid" technology. The drone is designed to handle unexpected situations; it is independently safe.



SOURCE: ESA, 2023; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022.

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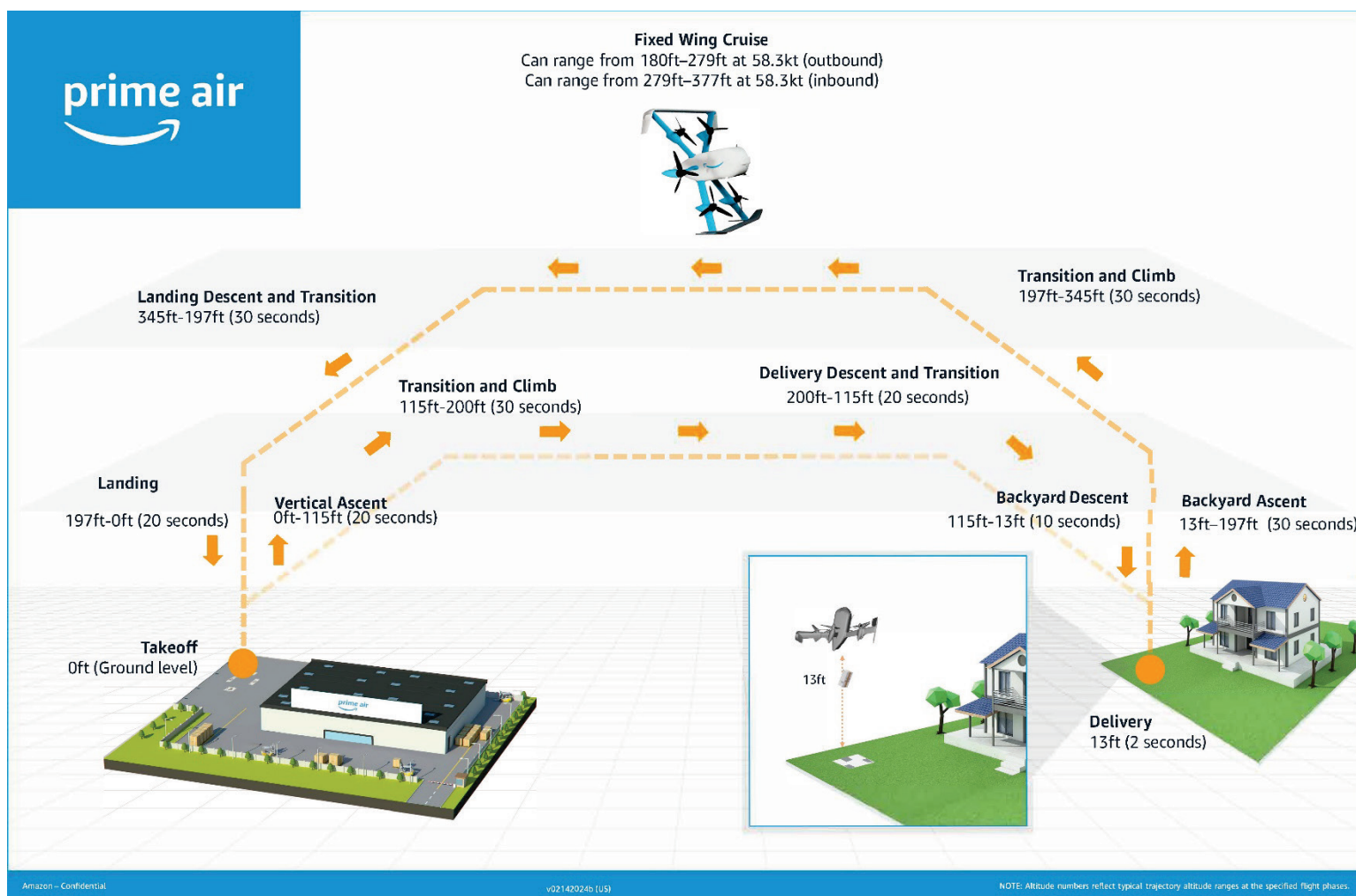
Figure 2-1
Drone Operation Study Area



SOURCE: Amazon Prime Air, 2023.

Supplemental Environmental Assessment for Amazon Prime Air — College Station, TX

Figure 2-2
MK30 Drone



SOURCE: Amazon Prime Air, 2024.

Supplemental Environmental Assessment for Amazon Prime Air — College Station, TX

Figure 2-3
MK30 Drone Flight Profile



SOURCE: Amazon Prime Air, 2024.

Supplemental Environmental Assessment for Amazon Prime Air — College Station, TX

Figure 2-4
Aerial View of the PADDC

CHAPTER 3

Affected Environment and Environmental Consequences

3.1 Introduction

This chapter provides a description of the affected environment and potential environmental consequences for the environmental impact categories that have the potential to be affected by the No Action Alternative and Proposed Action, as required by CEQ's NEPA-implementing regulations and FAA Order 1050.1F. As required by FAA Order 1050.1F, this EA presents an evaluation of impacts for the environmental impact categories listed below.

- Air quality
- Biological resources (including fish, wildlife, and plants)
- Climate
- Coastal resources
- Department of Transportation Act, Section 4(f)
- Farmlands
- Hazardous materials, solid waste, and pollution prevention
- Historical, architectural, archaeological, and cultural resources
- Land use
- Natural resources and energy supply
- Noise and noise-compatible land use
- Socioeconomics, environmental justice, and children's environmental health and safety risks
- Visual effects (including light emissions)
- Water resources (including wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers)

The study area evaluated for potential impacts is defined as Prime Air's proposed operating area shown in **Figure 2-1**. The level of detail provided in this chapter is commensurate with the importance of the potential impacts (40 CFR § 1502.15). EAs are intended to be concise documents that focus on aspects of the human environment that may be affected by the Proposed Action.

3.2 Environmental Impact Categories Not Analyzed in Detail

This EA did not analyze potential impacts on the following environmental impact categories in detail because the Proposed Action would not affect the resources included in the category (see FAA Order 1050.1F, Paragraph 4-2.c).

- **Air Quality and Climate:** The MK30 is battery-powered and does not generate emissions that could result in air quality impacts or climate impacts. Electricity consumed for battery charging at the PADDC would be minimal. The electricity consumed for the Proposed Action would come from the power grid. College Station, TX is located in an area designated as attainment by the US Environmental Protection Agency; thus, these minimal emissions would not contribute to any exceedance of National Ambient Air Quality Standards. Research suggests that drone-based package delivery could reduce greenhouse gas (GHG) emissions and energy use in the freight sector (Lyon-Hill et al. 2020, Rodrigues et al. 2022, Stolaroff et al. 2018), which would have beneficial effects on climate change.

The MK30 would be used to replace personal vehicle trips to stores for needed items. The Proposed Action is expected to decrease emissions from automobile delivery services that contribute to GHG emissions; as such, the decreased emissions would have positive effects on climate change as the Proposed Action would replace vehicle miles traveled by GHG-emitting consumer vehicles. MK30 operations are not expected to be impacted by climate change impacts (e.g., rising sea levels, increasing temperatures). Therefore, the Proposed Action would not affect nor be affected by the impacts of climate change, and it is consistent with the January 9, 2023, CEQ *NEPA Guidance on Consideration of Greenhouse Gas Emissions and Climate Change*.

- **Coastal Resources:** The Proposed Action would not directly affect any shorelines or change the use of shoreline zones or be inconsistent with any National Oceanic and Atmospheric Administration–approved state Coastal Zone Management Plan as there are no shorelines in the proposed area of operations. The study area is approximately 100 miles from the nearest shoreline. The Texas Coastal Zone was reviewed from the Texas Coastal Management Program on January 23, 2024 (TGLO 2024).
- **Farmlands:** The Proposed Action would not involve the development or disturbance of any land, regardless of use, nor would it have the potential to convert any farmland to non-agricultural uses. The Proposed Action would not affect designated prime or unique farmlands.
- **Hazardous Materials, Solid Waste, and Pollution Prevention:** The Proposed Action would not result in any construction, development, or any physical disturbances of the ground. Therefore, the potential for impacts related to hazardous materials, pollution prevention, and solid waste is not anticipated. The drones are made of common aircraft-related materials, such as steel, aluminum, and composite materials, such as plastic. Drone/battery disposal would be properly managed at the end of its operating life in accordance with applicable 14 CFR Part 10, *Disposition of life-limited aircraft parts*, and any hazardous materials would be disposed of in accordance with all applicable federal, tribal, state, and local laws, including 40 CFR Part 273, *Standards for Universal Waste Management*.
- **Land Use:** The Proposed Action would not involve any changes to existing, planned, or future land uses within the area of operations. Prime Air would use its current PADDC to conduct its MK30 operations. The PADDC must conform with all applicable local or state land use ordinances and zoning requirements.
- **Natural Resources and Energy Supply:** The Proposed Action would not require the need for unusual amounts of natural resources and materials, or those in scarce supply. The MK30 is powered

by a rechargeable battery which does not consume fossil fuel (e.g., gasoline or aviation fuel) resources. The battery is charged by an electric charger which can leverage the local grid to charge the batteries. The MK30 would be used to replace personal vehicle trips to stores for urgently needed items; thus, the MK30 is expected to reduce consumption of fossil fuel resources. The Proposed Action is expected to decrease emissions from automobile delivery services that contribute to GHG emissions. The decreased emissions would have positive effects on climate change as the Proposed Action would replace vehicle miles traveled by GHG-emitting consumer vehicles.

- **Socioeconomics and Children’s Environmental Health and Safety Risks:** The Proposed Action would not involve acquisition of real estate, relocation of residents or community businesses, disruption of local traffic patterns, loss in community tax base, or changes to the fabric of the community. Executive Order (EO) 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, requires federal agencies to ensure that children do not suffer disproportionately from environmental or safety risks. The proposed action would not introduce products or substances a child would be likely to come into contact with, ingest, use, or be exposed to, and would not result in environmental health and safety risks that could disproportionately affect children. It is not anticipated that the Proposed Action would pose a greater health and safety risk to children than package delivery by other means (truck, mail, personal automobile, etc.).
- **Visual Effects (Light Emissions Only):** The Proposed Action would not result in significant light emission impacts because flights would not be conducted during the nighttime.¹⁸
- **Water Resources (Wetlands, Floodplains, Surface Water, Groundwater, Wild and Scenic Rivers):** The Proposed Action would not result in any further construction of facilities and does not include any new facilities in areas identified as flood hazard areas according to the approaches established in the Federal Flood Risk Management Standard (FFRMS)¹⁹. The Proposed Action would not result in any changes to existing discharges to water bodies, create a new discharge that would result in impacts to surface waters, or modify a water body. The Proposed Action does not involve land acquisition or ground disturbing activities that would withdraw groundwater from underground aquifers or reduce infiltration or recharge to ground water resources through the introduction of new impervious surfaces. The Proposed Action would not affect any river segments in the Wild and Scenic River System (WSRS) as there are no WSRS river segments nearby. The Proposed Action would not affect any river segments in the Nationwide Rivers Inventory (NRI) as the nearest NRI river segment is Village Creek and Big Sandy Creek, approximately 90 miles from the operating area boundary.
- **Biological Resources (Fish and Plants):** The Proposed Action would not result in impacts to fish and plant species as the action is launched from developed/industrial areas, transported by drone, and delivered to residential houses and communities.

3.3 Biological Resources (Wildlife)

3.3.1 Definition of Resource and Regulatory Setting

Biological resources include plant and animal species and their habitats, including special status species (federally-listed or state-listed threatened or endangered species, species proposed for listing, species that are candidates for federal listing, marine mammals, and migratory birds) and environmentally sensitive or

¹⁸ The FAA defines nighttime between the hours 10 P.M. and 7 A.M.

¹⁹ Executive Order 14030, *Climate-Related Financial Risk*, May 2021.

critical habitat. In addition to their intrinsic values, biological resources provide aesthetic, recreational, and economic benefits to society.

3.3.1.1 Threatened and Endangered Species

The Endangered Species Act (ESA) of 1973 [16 U.S.C. § 1531 et seq.] requires the evaluation of all federal actions to determine whether a proposed action is likely to jeopardize any proposed, threatened, or endangered species or proposed or designated critical habitat. Critical habitat includes areas that will contribute to the recovery or survival of a listed species. Federal agencies are responsible for determining if an action *may affect* listed species, which determines whether formal or informal consultation with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) is needed. If the FAA determines that the action may affect listed species, consultation with the USFWS must be initiated. Conversely, if the FAA determines the action would have *no effect* on listed species or critical habitat, consultation is not required.

Impacts considered significant to federally listed threatened and endangered species would occur when the USFWS or NMFS determines that the proposed action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species or would be likely to result in the destruction or adverse modification of federally designated critical habitat. An action need not involve a threat of extinction to federally listed species to meet the NEPA standard of significance. Lesser impacts, including impacts on non-listed or special status species, could also constitute a significant impact.

3.3.1.2 Migratory Birds

The Migratory Bird Treaty Act (16 U.S.C. §§ 703-712) protects migratory birds, including their nests, eggs, and parts, from possession, sale, purchase, barter, transport, import, export, and take. The USFWS is the federal agency responsible for the management of migratory birds as they spend time in habitats of the U.S. For purposes of the Migratory Bird Treaty Act, “take” is defined as “to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect” (50 CFR § 10.12). The Migratory Bird Treaty Act applies to migratory birds identified in 50 CFR § 10.13 (defined hereafter as “migratory birds”).

3.3.1.3 Bald and Golden Eagles

The Bald and Gold Eagle Protection Act prohibits anyone from “taking” a Bald or Golden Eagle, including their parts, nests, or eggs, without a permit issued by the USFWS. Implementing regulations (50 CFR § 22), and USFWS guidelines as published in the National Bald Eagle Management Guidelines, provide for additional protections against “disturbances.” Like take, “disturb” means to agitate or bother a Bald or Golden Eagle to a degree that causes, or is likely to cause, injury to an Eagle or causes either a decrease in its productivity or nest abandonment due to a substantial interference with breeding, feeding, or sheltering. A permitting process provides limited exceptions to the Bald and Golden Eagle Protection Act’s prohibitions. The USFWS has issued regulations for the permitting process in 50 CFR Part 22, which include permits for the incidental take of Bald Eagles. Such permits are only needed when avoidance of incidental take is not possible. According to the USFWS National Bald Eagle Management Guideline, to avoid Bald Eagle disturbance resulting from new or intermittent activities, the implementation of conservation measures to avoid operating aircraft within 1,000 feet of a nest during the

breeding season should be implemented.²⁰ However, a Bald Eagle Disturbance Take General Permit may be offered if disturbance (range of 330 to 1,000 feet) to an in-use eagle nest is unavoidable.²¹

3.3.2 Affected Environment

This section describes the existing biological environment of the operating area. The operating area is in the Post Oak Savanna ecoregion, a transitional area between woodlands and prairies, within Brazos and portions of Burleson and Grimes Counties, Texas. The Post Oak Savanna ecoregion is characterized by gently rolling to hilly land scattered with a variety of trees, including oaks, black hickory, cedar elm, and persimmon. Today the region is mostly improved pastureland and vast acreage of grassland.²²

The Proposed Action would take place over high to medium density developed urban and commercial areas, and some rural areas scattered throughout the study area. Therefore, wildlife habitats within the study area predominantly include parks, a few open spaces, waterways, and vacant lands. These areas provide habitat for many of the more common and ubiquitous bird and mammal species in the region, including deer, squirrels, raccoons, armadillos, wild boar, jackrabbits, mice, badgers, songbirds, raptors, waterfowl, and insects.²³

3.3.3 Special Status Species

3.3.3.1 Federally Listed Species

The potential for impacts to federally listed species was assessed using the USFWS Information for Planning and Consultation (IPaC) map tool and resource. The action area covered the entire operating area, outlined in red in **Figure 2-1**. The USFWS official species list, obtained through IPaC, is included with this EA (accessed January 2024, see **Appendix B**).

Based on the official species list, there are seven (7) federally listed endangered and threatened species and one (1) candidate species with potential to occur in the action area. **Table 3-1** lists the federally threatened and endangered species that could be present in the action area. In addition, there is one critical habitat identified that overlaps the action area.

Based on the IPaC report, there are three bird species: the piping plover (*Charadrius melodus*), a threatened species; the Rufa Red Knot (*Calidris canutus rufa*), a threatened species; and the Whooping Crane (*Grus americana*), an endangered species. As noted in the official species list, both the Piping Plover and the Rufa Red Knot only need to be considered for wind energy or wind related projects, so no further analysis was conducted for those two species (please refer to **Appendix B**, page 3). Additionally, there is one mammal (Tricolored bat (*Perimyotis subflavus*)) – proposed endangered, one amphibian (Houston toad (*Bufo houstonensis*)) – endangered, one clam species Texas fawnsfoot (*Truncilla*

²⁰ National Bald Eagle Management Guidelines, US Fish and Wildlife Service, May 2007.

²¹ Department of the Interior, USFWS, Federal Register, Vol. 89, No 29 Rules and Regulations, 50 CFR Parts 13 and 22. Available at: <https://www.endangeredspecieslawandpolicy.com/assets/htmldocuments/NewBlogs/EndangeredSpecies/2024-02182.pdf>, accessed April 2024.

²² Texas Parks and Wildlife. Ecoregion 3 – Post Oak Savannah. Available: https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/wildscapes/ecoregions/ecoregion_3.phtml, Accessed January 2024.

²³ iNaturalist. Brazos County, US, TX Species. Available: Brazos County, TX, US <https://www.inaturalist.org/places/brazos-county>. Accessed August 19, 2022.

macrodon)) – proposed threatened, and one flowering plant species (Navasota ladies-tresses (*Spiranthes parksii*)) - endangered, identified in the official species list (see Appendix A). The IPaC list also included one candidate species, the monarch butterfly (*Danaus plexippus*), that has the potential to occur in the action area.

**TABLE 3-1
IPAC RESULTS**

Species	Common Name	Species Name	Federal Status	Critical Habitat
Mammals	Tricolored bat	<i>Perimyotis subflavus</i>	Proposed Endangered	N
Birds	Rhus Red Knot	<i>Calidris canutus rufa</i>	Threatened	N
	Piping Plover	<i>Charadrius melodus</i>	Threatened	N
	Whooping Crane	<i>Grus americana</i>	Endangered	N
Clams	Texas fawnsfoot	<i>Truncilla macrondon</i>	Proposed Threatened	Y
Insects	Monarch butterfly	<i>Danaus plexippus</i>	Candidate Species	N
Plants	Navasota lades-tresses	<i>Spiranthes parksii</i>	Endangered	N

SOURCE: USFWS IPaC, accessed January 2024

Bald Eagles are not included within Table 3-1; however, they are addressed under **Migratory Birds**, below. The Whooping Crane nests much farther north in Canada; there is no threat of disturbing that critical part of their lifecycle. According to IPaC, Whooping Cranes currently exist in the wild at three locations. There is only one self-sustaining wild population, which winters in the coastal marshes in Texas at Aransas. However, Whooping Cranes migrate through the central portion of Texas, from the eastern panhandle to the Dallas-Fort Worth area to Texas' coastal plains near Rockport, in and around Aransas National Wildlife Refuge.²⁴ It is possible that Whooping Cranes could use wetlands and/or waterbodies within and/or adjacent to the action area as stopover habitat on their way to wintering grounds along the Gulf Coast. However, most of the identified wetlands / water bodies that exist within the action area are identified as riverine systems and and/or small water retention ponds.²⁵ According to the Cornell University eBird database (2019-2024), one observation of a whooping crane transitioning through the action area was documented in March 2023.²⁶ No sightings have been recorded on iNaturalist's Texas Whooper Watch Program.

According to IPaC and the Texas Parks & Wildlife Department (TPWD), the tricolored bat has the potential to occur within the action area. This small, yellowish-brown bat typically hibernates from September/October to April/May in caves or mines, migrating to nursery sites for the remainder of the spring and summer months.²⁷ During these spring and summer months, tricolored bats can be found in live and/or dead deciduous hardwood forests. Tricolored bats are known to have one emergence in the

²⁴ Texas Parks & Wildlife Department, <https://tpwd.texas.gov/huntwild/wild/species/whooper/#:~:text=Whooping%20cranes%20migrate%20throughout%20the%20central%20portion%20of,central%20coast%20during%20October-November%20and%20again%20in%20April>, accessed January 2024.

²⁵ EPA, NEPAassist, <https://nepassisttool.epa.gov/nepassist/nepamap.aspx?wherestr=college+station+>, accessed January 2024.

²⁶ https://www.allaboutbirds.org/guide/Whooping_Crane/maps-sightings, accessed January 2024.

²⁷ Texas Parks & Wildlife Department, <https://tpwd.texas.gov/huntwild/wild/species/easpi/>, accessed January 2024.

early evening (dusk) and one emergence later in the evening where foraging occurs along the forested edges and over pond or other waterbodies.²⁸

Data received using the USFWS IPaC system also identified the monarch butterfly as potentially occurring in the action area. Monarchs occur throughout the United States during summer months and is a candidate species for federal listing. The preferred habitat for monarchs is open meadows, fields, and wetland edges with the presence of milkweed and flowering plants. Monarchs migrate through Texas in the fall and the spring through two major flyways. Monarchs enter the first flyway during the last days of September and travel from Wichita Falls to Eagle Pass. The second flyway is along the Texas coast and lasts roughly from the third week of October to the middle of November.²⁹

The Texas Fawnsfoot clam and its associated critical habitat (identified Brazos and Navasota Rivers) are identified within the action area. While there is the potential for the Texas Fawnsfoot clam to exist within the action area, potential impacts to the species or its habitat are not anticipated due to the nature of the Proposed Action.

One additional plant species, Navasota ladies-tresses, is listed on IPaC as endangered. This species is known to exist within the action area, specifically within Brazos, Burleson, and Grimes Counties. Navasota Ladies-tresses are perennial herbaceous plants that occur primarily in openings of post oak woodlands, in association with sandstone glades.³⁰ Given the nature of the Proposed Action, it is not anticipated that activities associated with the Action would impact Navasota Ladies-tresses, nor is it anticipated that the Proposed Action would impact naturally existing plant community.

3.3.3.2 State Species of Concern

The Texas Parks and Wildlife Department's database of Rare, Threatened, and Endangered Species of Texas lists 85 species of amphibians, birds, fish, insects, mammals, mollusks, plants, and reptiles in Brazos, Burleson, and Grimes Counties, including some that are considered Species of Greatest Conservation Need (SGCN) as defined within the Texas Conservation Action Plan, updated January 31, 2024.³¹ **Appendix B** provides information on the SGCN in these counties. The State of Texas maintains a list of fish and wildlife that are protected under the Texas Parks and Wildlife Code. This list includes all species that the director of the Texas Parks and Wildlife Department deems threatened with statewide extinction (Title 31, Part 2, Chapter 65, Subchapter G RULE, § 65.175 and § 65.176).³² In addition, a species that is indigenous to the State of Texas and listed by the federal government as endangered automatically receives state protection as an endangered species. Species on this list are protected under state law: the Texas Parks and Wildlife Code (§ 68.015, *Prohibited Acts*) states that “no person may

²⁸ U.S. Fish & Wildlife Service, Tricolored Bat (*Perimyotis subflavus*) | U.S. Fish & Wildlife Service (fws.gov), accessed January 2024.

²⁹ Texas Parks & Wildlife Department, https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/texas_nature_trackers/monarch/#:~:text=Monarchs%20funnel%20through%20Texas%20both%20in%20the%20fall,early%20November%2C%20most%20have%20passed%20through%20into%20Mexico, accessed January 2024.

³⁰ Texas Parks & Wildlife Department, https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/nongame/listed-species/plants/navasota_ladies_tresses.phtml, accessed January 2024.

³¹ Texas Parks & Wildlife Department, Species of Greatest Conservation Need – TPWD (texas.gov), accessed January 2024.

³² Texas Endangered Species List. Available: <https://texreg.sos.state.tx.us/fids/202001043-2.pdf>, accessed January 2024.

capture, trap, take, or kill, or attempt to capture, trap, take, or kill, endangered fish or wildlife.”³³ Additionally, the Texas Administrative Code (Title 31, Part 2, Chapter 65, Subchapter G RULE, § 65.171) states that “no person may: (1) take, possess, propagate, transport, export, sell or offer for sale, or ship any species of fish or wildlife listed by the department as endangered; or (2) take, possess, propagate, transport, import, export, sell, or offer for sale any species of fish or wildlife listed in this subchapter as threatened.”³⁴

3.3.3.3 Migratory Birds

Migratory bird species found within the operating area will vary throughout the year. During certain weeks in the spring and fall, hundreds of species of songbirds, raptors, and waterfowl may potentially pass through the operating area. Additionally, several dozen species of birds may potentially nest in the operating area at certain times of the year.

The Bald Eagle is a migratory species that is protected under the Bald and Golden Eagle Act. Eagles may appear year-round throughout Texas as spring and fall migrants, breeders, or winter residents.³⁵ Bald Eagles could nest in areas near bodies of water such as Carter Lake, Lake Placid, Bee Creek, Carters Creek, or Hudson Creek in the operating area. One active Bald Eagle nest has been identified that exists within the action area, as shown in **Appendix B**. Based on the National Bald Eagle Management Guidelines, to reduce an incursion incident, aircraft should stay at least 1,000 feet from Bald Eagle nests during the breeding season unless the aircraft is operated by a trained wildlife biologist.

In addition to Bald Eagles, both Chimney Swifts and Red-Headed Woodpeckers are also migratory birds that are identified as Birds of Conservation Concern (BCC). These species are further discussed under **Section 3.3.4**, below.

3.3.4 Environmental Consequences

Drones used for commercial package delivery fly at lower speeds and elevations and are smaller than conventional aircraft. Furthermore, the drones would be hovering in fixed positions at both the nest and delivery locations leaving them temporarily exposed to a potential mobbing and/or attacking bird defending its breeding territory.

Bird behavior, in particular mobbing and territorial defense behaviors, on flying and hovering drones is the most important risk consideration analysis, as these behaviors are the most pertinent to the Proposed Action. Mobbing behavior includes birds emitting alarm calls, flying at a potential predator, diverting its attention, and harassing it. Mobbing and aerial attack behaviors typically occur when a raptor, crow, or

13 Texas Parks and Wildlife Code, § 68.015 Prohibited Acts. Under the Federal ESA, the term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect. Available: https://texas.public.law/statutes/tex._parks_and_wild._code_section_68.015. Accessed: September 28, 2022.

34 Texas Parks & Wildlife Department, Available: [https://texreg.sos.state.tx.us/public/readtac\\$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=31&pt=2&ch=65&rl=171](https://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=31&pt=2&ch=65&rl=171).

35 Cornell Lab of Ornithology (Cornell Lab). No Date. All About Birds: Bald Eagle. Available: https://www.allaboutbirds.org/guide/Bald_Eagle/overview.

other aerial predator enters the airspace of a breeding habitat bird or territorial male.³⁶ Certain species of birds are known to harass, mob, and attack aerial predators that fly into or near their territory, especially during the breeding season when birds are actively nesting. The defending birds will chase, dive bomb, attack the backside, and vocalize to harass the aerial predator until the offender is far enough from the territory that the defending birds cease attacking and return to their nests and foraging activities.³⁷ Not all bird species exhibit mobbing and territorial defensive behaviors. Some bird species are more aggressive, defensive, and cued on aerial predators, while other species may show aggression or interest towards an overflying hawk in its territory. Species of birds that exhibit mobbing and territorial defense behaviors include Northern Mockingbirds, kingbirds, blackbirds, grackles, jays, crows, ravens, and some raptors.

The facility where Amazon's PADDC is located was built in 1998. The MK30 drone would utilize existing PADDC infrastructure developed for the MK27-2 drone in 2022. There would be no further expansion of the PADDC or habitat modification associated with the Proposed Action, beyond what Prime Air has already completed at their PADDC site for the MK27-2. Earlier construction was not part of the Proposed Action reviewed by the FAA, and any future ground construction at the PADDC site would not require approval or authorization by the FAA.

Prime Air's aircraft would not touch the ground in any other place than the PADDC (except during emergency landings) since it remains airborne while conducting deliveries. The operations would be taking place within airspace, and typically well above the tree line and away from sensitive habitats. After launch, Prime Air's drone would rise to a cruising altitude between 180 feet and 377 feet AGL and follow a preplanned route to its delivery site. The pre-planned route is optimized to avoid terrain and object obstructions, areas of high aircraft traffic, and areas where people may gather in large numbers such as highways, parks, and schools.

Aircraft would typically stay at 180 to 377 feet AGL or higher except when descending to drop a package. When making a delivery, the aircraft descends, and packages are dropped to the ground from approximately 13 feet AGL. Packages are carried internally in the aircraft's fuselage and are dropped by opening a set of payload doors on the aircraft. After the package is dropped the drone then climbs vertically to approximately 180 to 377 feet and reverses the path taken, returning to the takeoff/landing pad at the PADDC. The drone would take approximately 53 seconds to complete a delivery, which includes the descent from en route altitude, dropping the package, and returning back to en route altitude. As a result, the duration of exposure by most wildlife on the ground to the visual or noise impacts from the drone would be of very short duration (less than a minute).

It is not likely that listed species would be in the vicinity of the delivery location because such locations would be developed areas. However, even if species were expected to be exposed to this noise level, the noise would be unlikely to cause significant disturbance (for context, a drone overflight at 50 feet is

³⁶ Royal Society for the Protection of Birds (RPSB). 2023. What is Mobbing? Available: <https://www.rspb.org.uk/birds-and-wildlife/wildlife-guides/birdwatching/bird-behaviour/what-is-mobbing/>. Accessed: July 2023 and February 2024.

³⁷ Kalb, N., and C. Randler. 2019. Behavioral Responses to Conspecific Mobbing Calls Are Predator-Specific in Great Tits (*Parus major*). *Ecology and Evolution* 9(16):9207–9213. Available: <https://doi.org/10.1002/ece3.5467>.

approximately 74.2 decibels, whereas a leaf blower at 50 feet is approximately 73 to 77 decibels).³⁸ At a potential maximum of 469 flights per day across the entire action area, the distribution and altitude of the flights are not expected to significantly affect wildlife in the action area.

A significant impact on federally listed threatened and endangered species would occur when the USFWS or NMFS determines the proposed action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species or would be likely to result in the destruction or adverse modification of federally designated critical habitat. An action need not involve a threat of extinction to federally listed species to meet the NEPA standard of significance. Lesser impacts, including impacts on non-listed or special-status species, could also constitute a significant impact.

Additionally, the FAA has looked at the potential effects of wildfires that may be caused by the Proposed Action. While the Prime Air drone has been evaluated for airworthiness and is considered to be safe for the proposed operations over the operating area, the FAA acknowledges that a crash may occur and could result in a wildfire. Amazon Prime Air will use system reported data to locate and report an off-nominal drone and will follow their Safety Management System's prescribed Incident Response Process to coordinate with local first responders as required.

The FAA understands that Prime Air would immediately notify local emergency fire response services if one of its drones were to crash, and that fire responders would be able to manage any wildfire that could occur before the wildfire could cause significant impacts to biological resources in the operating area.

3.3.4.1 No Action Alternative

Under the No Action Alternative, the FAA would not issue the approvals necessary to enable Prime Air to conduct expanded commercial drone package delivery operations in the College Station operating area, including the use of the MK30 drone and the associated increased annual number (from 52,000 to 171,329) and range (from 3.7 mi to 7.5 mi) of delivery operations. As described briefly in **Section 1.2** and in detail in the 2022 Final EA, the No Action Alternative would entail the continued use of the MK27-2 drone at the current level of approximately 52,000 operations per year. Accordingly, the No Action Alternative would not result in impacts on biological resources.

3.3.4.2 Proposed Action

The Proposed Action includes up to 469 MK30 drone flights per day, up to 365 days per year, operating between 7 A.M. and 10 P.M. There would be no ground construction or habitat modification associated with the Proposed Action. The drone would not touch the ground in any other place than the PADDC (except during emergency landings) because it remains aerial while conducting deliveries. Scheduled deliveries would initiate from the nest, approach an en route altitude less than 400 feet AGL, and would generally occur between 180 and 377 feet AGL. The drone would lower to around 13 feet AGL and hover for two seconds to make a delivery. Then, the drone would transition back to an en route flight mode to return to the PADDC.

³⁸ Appendix E: Noise Assessment Amazon Prime Air MK27-2 Unmanned Aircraft Operations at College Station Texas, Table 10 and Characteristics of Lawn and Garden Equipment Sound: A Community Pilot Study (National Institutes of Health) (National), December 2017, Available <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6707732/>, Table 2.

Operations would occur mostly in an urban environment, typically well above the tree line and away from sensitive habitats and given the short duration of increased ambient sound levels, flights are not expected to significantly influence wildlife in the area. A direct line of communication would be established with Texas Parks & Wildlife to discuss any potential concerns regarding impacts on wildlife or habitat in the action area. In addition, Prime Air would also specifically coordinate with the managing entities of state parks and natural areas within the action area on the thoughtful placement and use of delivery sites within these areas as necessary.

Special Status Species

Since the operations would continue to occur within airspace only, and there would be no construction or ground disturbance under the Proposed Action, it is anticipated that there would be *no effect* on the Texas fawnsfoot clam or plant species identified within the USFWS IPaC official species list. Additionally, since Texas fawnsfoot critical habitat is identified within the action area, *no effect* would occur to the habitat because of the Proposed Action.

The monarch butterfly, a candidate for federal - listing, has the potential to occur in the operating area. Information regarding drone impacts on insects is limited and there have been no widespread negative impacts identified in the scientific literature. Some research shows that monarch butterflies are not commonly observed at higher AGL altitudes (generally between 1 and 300 feet) and would not be expected to frequently occur at the altitudes where Prime Air is proposing to operate.³⁹

The federally-endangered Whooping Crane was identified in the official species list as possibly occurring in the area, although it nests much further north in Canada so there is no threat of disturbing that critical part of their lifecycle. The Whooping Crane's traditional wintering grounds and closest critical habitat is approximately 171 miles south of the action area, in Aransas National Wildlife Refuge.⁴⁰

While it is possible that Whooping Cranes could use the small agricultural fields in the eastern part of the operating area as stopover habitat on their way to wintering grounds along the Gulf Coast, only one recorded sighting of a whooping crane transitioning through the action area has been recorded. The FAA has found that there is no known stopover habitat in the action area based on the Texas Parks and Wildlife Nature Trackers project, Texas Whooper Watch.⁴¹ Based on 1) operations occurring mostly in an urban environment, 2) the altitude at which the drone flies in the en route phase (150 to 300 feet AGL); 3) the expected low sound levels experienced by a whooping crane, 4) any increase in ambient sound levels would be short in duration, 5) the low probability of a whooping crane occurring in the action area, and 6) the low likelihood of the drone striking a Whooping Crane, the FAA has determined that the action *may affect, but is not likely to adversely affect*, the Whooping Crane. Any effects would be discountable (extremely unlikely to occur) or insignificant (not able to be meaningfully measured, detected, or evaluated).

³⁹ Altitudes attained by migrating monarch butterflies, *Danaus p. plexippus* (Lepidoptera: Danaidae), as reported by glider pilots. Available: <https://cdnsiencepub.com/doi/abs/10.1139/z81-084>. Accessed April 2022 and February 2024.

⁴⁰ USFWS Whooping Crane, Critical Habitat Spatial Extents. Available: <https://ecos.fws.gov/ecp/species/758#crithab>. Accessed: August 2022 and February 2024.

⁴¹ Texas Parks and Wildlife, Nature Trackers, Texas Whooper Watch. iNaturalist. Available: <https://www.inaturalist.org/projects/texas-whooper-watch>. Accessed: August 2022 and January 2024.

The tricolored bat is a proposed federally-endangered species that could be located within the action area. The Proposed Action will extend current drone service flights from 5pm to 10pm, depending on the need. This increase is anticipated to occur during the dusk emergence of bat activity during the evening civil twilight hours, however, drone service will not affect the dawn civil twilight hours. Although operations may occur during dusk emergence, tricolor bats typically forage in areas near water or along forested edges.⁴² Research suggests that drones have “*minimal impact on bat behavior*”⁴³ and that bats do not appear to be disturbed by drones.⁴⁴ Also, the risk of bat conflicts is only present for 3 to 6 months each year (i.e., when bats are not hibernating). Tricolored bats at roost or in flight could experience drone noise during the en route and delivery flight phases. Bats foraging at or near the tree line at the time a drone flies by would experience the greatest sound levels. Roosting bats or bats foraging near the ground at the time a drone flies by would experience lower sound levels. Given the estimated sound levels of the drone, the drone’s linear flight profile to and from nests and delivery locations, the short period of time the drone would be in any particular location, and the low probability of encountering an individual tricolored bat in the action area, drone noise is not expected to adversely affect tricolored bats. Any increase in ambient sound levels caused by the drone’s flight would only last a few seconds during the en route phase and approximately 49 seconds during a delivery.

Bats could also be struck by a drone, particularly around dawn and dusk when foraging. Given the bat’s ability to avoid flying into objects, the short period of time the drone would be in any one place, and the low probability of encountering a tricolored bat during operations, the likelihood of the drone striking a bat is not likely.

Based on 1) operations occurring mostly in an urban environment, 2) the altitude at which the drone flies in the en route phase (150 to 300 feet AGL), 3) the expected low sound levels experienced by a bat, 4) the short duration of any increases in ambient sound levels, 5) the low probability of a tricolored bat occurring in the action area, and 6) the low likelihood of the drone striking a bat, the FAA has determined the action *may affect, but is not likely to adversely affect*, the tricolored bat. Any effects would be discountable (extremely unlikely to occur) or insignificant (not able to be meaningfully measured, detected, or evaluated).

Appendix B identifies the federal and state-listed threatened and endangered species that could occur in Brazos, Burleson and Grimes Counties. The Red-Cockaded Woodpecker (*Dryobates borealis*) was identified on the Texas state endangered list and was identified on the Texas Species of Greatest Conservation Need list as potentially being found within Brazos, Burleson and/or Grimes Counties. This species is also federally - listed endangered; however, the Red-Cockaded Woodpecker was not identified within the USFWS IPaC review area. Since Red-Cockaded Woodpeckers are known to nest in old (60+ years) pines trees and given the urbanized action area, minimal habitat to support this species exists. Therefore, it is anticipated that the Proposed Action would have *no effect* to this species.

⁴² US Fish & Wildlife Service, Tricolored Bat. Available: <https://www.fws.gov/species/tricolored-bat-perimyotis-subflavus>. Accessed: February 2024.

⁴³ Fu, Y., M. Kinniry, and L.N. Kloepper. 2018. The Chirocopter: A UAV for Recording Sound and Video of Bats at Altitude. *Methods in Ecology and Evolution* 9(6):1531-1535. Available: <https://doi.org/10.1111/2041-210x.12992>

⁴⁴ August, T. and T. Moore. 2008. Autonomous Drones Are a Viable Tool for Acoustic Bat Surveys. Available: <https://www.biorxiv.org/content/10.1101/673772v1.full.pdf>. Accessed July 2023 and February 2024.

Given the habitat type and distribution required by state-listed species that may occur in Brazos, Burleson and /or Grimes Counties, and due to the lack of suitable habitat in the action area, no effects to state-listed species or species habitat are anticipated.

The FAA's effect determinations for the federally-listed species discussed are presented in **Table 3-2** below.

TABLE 3-2
EFFECTS DETERMINATION TABLE

Common Name	Species Name	Federal Status	Effects Determination
Tricolored bat	<i>Perimyotis subflavus</i>	Proposed Endangered	<i>Not Likely to Adversely Affect (NLAA)</i>
Whooping Crane	<i>Grus americana</i>	Endangered	<i>Not Likely to Adversely Affect (NLAA)</i>
Texas fawnsfoot	<i>Truncilla macrondon</i>	Proposed Threatened	<i>No Effect</i>
Monarch butterfly	<i>Danaus plexippus</i>	Candidate Species	<i>No Effect</i>
Navasota lades-tresses	<i>Spiranthes parksii</i>	Endangered	<i>No Effect</i>

SOURCE: FAA, 2024.

3.3.4.3 Migratory Birds

Prime Air has stated to the FAA that it would monitor the operating area for any active Bald Eagle nests that may occur. Bald Eagle nests are typically very conspicuous, usually five to nine feet in diameter, with a vertical depth up to eight feet, and Prime Air should be able to visually identify any nests that may be present in the area.⁴⁵ Online resources such as iNaturalist were utilized to identify a Bald Eagle nest found during the 2023 nesting season that is located within the action area. This nest has been identified as an active nest and Prime Air has established an avoidance area such that there is a 1,000 feet vertical and horizontal separation distance between the vehicle's flight path and the nest. This avoidance area would be maintained until the end of the breeding season (September 1 through July 31 in the action area), or when/if a qualified biologist indicates the nest has been vacated. At this time, Amazon is in consultation with USFWS regarding this nest as it has been possibly identified to be located within the current operating area.

The Red-Headed Woodpecker (*Melanerpes erythrocephalus*) is a BCC within the operating area. Red-Headed Woodpeckers typically nest in tall, dead trees near marshes and open bodies of water. Throughout the Red-Headed species range, their population numbers are in decline. It is possible that Red-Headed Woodpeckers may be nesting within the operating area and, while it is not anticipated, there is the possibility that drone operations in close proximity could disturb birds at nesting sites during its breeding season (May 10 to September 10). While it is not expected that infrequent drone overflights would cause adverse effects to Red-Headed Woodpeckers, Prime Air would continually monitor the operating area for their nesting sites and take avoidance measures if determined to be necessary by Prime Air.

⁴⁵ USFWS Midwest Region: Identification of Large Nests. Available: <https://www.fws.gov/program/eagle-management/eagle-permits>. Accessed: January 2024.

The Chimney Swift (*Chaetura pelagica*) is another BCC within the operating area. Chimney Swifts often make their nests in manmade vertical surfaces such as within a chimney, air shaft, or abandoned buildings.⁴⁶ It is possible that Chimney Swifts may be nesting within the operating area and that drone operations in close proximity could affect its nesting sites during its breeding nesting season (March 15 to August 25). While it is not expected that infrequent drone overflights would cause adverse effects to nesting or feeding Chimney Swifts, Prime Air would continually monitor the operating area for active Chimney Swift nesting sites and take avoidance measures if determined to be necessary by Prime Air.

The other BCC species identified in the IPaC official species list breed elsewhere or they are not likely to be nesting out in the open and within close proximity to human presence. These other BCC species typically nest in forests and riparian corridor environments that are not within close proximity to locations where the Prime Air drone would be completing its ascent and descent. Additionally, the drone's en route overflights are not expected to result in effects to any lifecycles of these species.

Due to the limited operating area and proposed number of daily operations, occasional drone overflights at approximately 180 to 377 feet AGL are not expected to impact critical lifecycles of wildlife species or their ability to survive.

In summary, the Proposed Action is not expected to cause any of the following impacts:

- A long-term or permanent loss of unlisted plant or wildlife species, i.e., extirpation of the species from a large project area;
- 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.

The FAA initiated Section 7 consultation with the USFWS on March 19, 2024. The USFWS concurred with the FAA's determination that the Proposed Action *may affect, but is not likely to adversely affect*, the whooping crane. Based on the consultation, the FAA and USFWS do not believe the Proposed Action would jeopardize the continued existence of the tricolored bat, a species proposed to be listed under the ESA. If the tricolored bat is listed in the future, the FAA will re-evaluate the project to determine the extent of effects on the species. At such time, if the FAA determines the project may affect the tricolored bat, the FAA will reinitiate consultation with the USFWS. Until such time consultation can be completed, the USFWS recommends that Amazon implement the following measures to avoid incidental take of the species:

- Determine the extent of tricolored bat presence in the action area through acoustic surveys.
- Restrict flight hours to daylight hours during non-hibernating season.

⁴⁶ Texas Parks and Wildlife. Chimney Swift. Available: <https://tpwd.texas.gov/huntwild/wild/species/cswift/>. Accessed: August 2022 and February 2024.

During consultation with the USFWS, Prime Air proposed to implement a Biological Monitoring Plan to help determine if operations associated with the Proposed Action are adversely affecting wildlife, which includes:

- Capturing drone maintenance and telemetry records.
- Recovering potential biological materials that can be sent for testing (e.g., utilizing airport Birdstrike Kits).
- Providing targeted recordings/observations of drone deliveries and potential avian/bat interactions.
- Evaluating and providing appropriate feedback analysis, which may include geographic information system (GIS) analysis of potential wildlife occurrence or recorded conflicts, heat maps, guild information in delivery process, etc.
- Reporting findings to the USFWS on an annual basis.

In accordance with USFWS recommendations to minimize and document potential drone interactions with wildlife, Prime Air will develop and implement a Biological Monitoring Plan, as outlined above.

As noted in the August 12, 2024, USFWS letter, Prime Air will be responsible for compliance with the Migratory Bird Treaty Act of 1918.

Copies of all agency correspondence are provided in **Appendix B**.

3.4 Department of Transportation Act, Section 4(f) Resources

3.4.1 Definition of Resource and Regulatory Setting

Section 4(f) of the U.S. Department of Transportation (DOT) Act (codified at 49 U.S.C. § 30I) protects significant publicly owned parks, recreational areas, wildlife and waterfowl refuges, and public and private historic sites. Section 4(f) states that "... [the] Secretary of Transportation may approve a transportation program or project requiring the use of any publicly owned land from a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance or land from a historic site of national, State, or local significance, only if there is no feasible and prudent alternative to the use of such land and the program or project includes all possible planning to minimize harm resulting from the use."

The word "use" can mean either a physical or constructive use. A physical use is the actual physical taking of a Section 4(f) property through purchase of land or a permanent easement, physical occupation of a portion or all of the property, or alteration of structures of facilities on the property. A "constructive" use does not require a physical taking of a Section 4(f) property. A constructive use would occur when a project would produce an effect, such as excessive noise, that would result in substantial impairment to a property to the degree that the activities, features, or attributes of the property that contribute to its significance or enjoyment are substantially diminished. The determination of use must consider the entire property and not simply the portion of the property being used for a Proposed Action.

The procedural obligations for Section 4(f) compliance are outlined in DOT Order 5610.1C, *Procedures for Considering Environmental Impacts*. Additionally, the FAA adheres to the regulations and guidance provided by the Federal Highway Administration (FHWA) when evaluating potential impacts on Section 4(f) properties.^{47, 48} While these requirements are not obligatory for the FAA, they may be utilized as guidance to the extent that they are applicable.⁴⁹

3.4.2 Affected Environment

The FAA used data from federal, state, and other publicly accessible sources to identify potential Section 4(f) resources within the study area. As listed in Table C-1 of **Appendix C**, the FAA identified a total of 152 properties that could meet the definition of a Section 4(f) resource, including public parks administered by city authorities. There are no state parks, national parks, or wildlife or waterfowl refuges within the operating area. Historic and cultural resources are addressed by both Section 4(f) and the National Historic Preservation Act (NHPA) of 1966 (16 U.S.C. § 470, as amended), and are discussed further in **Section 3.5**. Additionally, the FAA requested assistance from national, state, city, and county governments in identifying the appropriate stakeholders that likely have an interest in the project and its effects on Section 4(f) resources. The entities with Section 4(f) regulatory interest, such as the City of College Station, City of Bryan, and Texas A&M University, were informed of the Proposed Action and the opportunity to provide comments via the Notice of Availability, which was electronically distributed to them on May 30, 2024.

3.4.3 Environmental Consequences

3.4.3.1 No Action Alternative

Under the No Action Alternative, the FAA would not issue the approvals necessary to enable Prime Air to conduct expanded drone commercial drone package delivery operations in the College Station operating area, including the use of the MK30 drone and the associated increased number and range of delivery operations. As described briefly in **Section 1.2** and in detail in the 2022 Final EA, the No Action Alternative would entail the continued use of the MK27-2 drone at the current level of approximately 52,000 operations per year. There would be no change in noise exposure to Section 4(f) resources under the No Action Alternative. Further, there would be no visual effects under the No Action Alternative. Accordingly, the No Action Alternative would not result in impacts on Section 4(f) properties.

3.4.3.2 Proposed Action

Under the Proposed Action, the FAA would approve Prime Air's OpSpec amendment so that it can expand and increase commercial drone package delivery operations by using the MK30 drone and expanding airspace access across the intended College Station operating areas. There would be no physical use of Section 4(f) resources because the Proposed Action has no direct interaction with any resources on the ground. Constructive use could occur when a project would produce an effect, such as

⁴⁷ FHWA, July 20, 2012. Section 4(f) Policy Paper. Office of Planning, Environment and Realty Project Development and Environmental Review, Washington, DC. Available at: <https://www.environment.fhwa.dot.gov/legislation/section4f/4fpolicy.aspx>.

⁴⁸ 23 CFR Part 774, Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and historic Sites (Section 4(f)).

⁴⁹ Further details about the DOT Act and Section 4(f) can be accessed in 23 CFR Part 774 et seq.

excessive noise, that would result in substantial impairment to a property where the features of that property are substantially diminished. However, as discussed in **Section 3.6**, the Proposed Action would not result in a significant increase in noise levels at any location within the study area. As further described in **Section 3.8**, the short duration of en route flights would minimize any potential for significant visual impacts. Therefore, the FAA has determined that *the Proposed Action would not cause substantial impairment, or direct or constructive use*, as defined in **Section 3.4.1**, to any of the Section 4(f) resources in the study area.

3.5 Historical, Architectural, Archaeological, and Cultural Resources

3.5.1 Regulatory Setting

This section discusses historic, architectural, archaeological, and cultural resources within the study area. These resources reflect human culture and history in the physical environment, and may include structures, objects, and other features important in past human events. Cultural resources can also include characteristics of the physical environment such as natural features and biota that are important to traditional cultural practices and institutions.

The primary laws pertaining to the treatment of historic, architectural, archaeological, and cultural resources during environmental analyses are the *National Historic Preservation Act of 1966* (NHPA) (54 U.S.C. §§ 300101 *et seq.*), the *Archaeological Resources Protection Act* (16 U.S.C. §§ 470aa-470mm), and the *Native Graves Protection and Repatriation Act* (25 U.S.C. §§ 3001-3013).

Section 106 of the NHPA requires federal agencies with jurisdiction over a proposed federal action (referred to as an “undertaking” under the NHPA) to take into account the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the National Register of Historic Places (National Register). The term “historic properties” describes “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register” (36 CFR § 800.16(l)(1)).

As documented in the 1050.1F Desk Reference, the regulations implementing Section 106 require the FAA to consult with certain parties, such as the SHPO and the THPO of a Federally Recognized Indian Tribe pursuant to Section 1010(d)(2) of the NHPA. Consultation with THPO(s) occurs if an undertaking is occurring on tribal lands or if an undertaking’s Area of Potential Effects (APE) is located outside tribal lands but include historic resources of religious and cultural significance to a tribe. The purpose of consultation is to identify potentially affected historic properties, assess effects to such properties, and seek ways to avoid, minimize, or mitigate any adverse effects on such properties. The agency also must provide an opportunity for public involvement (36 CFR § 800.1(a)). Consultation with Federally Recognized Indian Tribes regarding issues related to Section 106 must recognize the government-to-government relationship between the Federal Government and Native American tribes as set forth in Executive Order (EO) 13175, “*Consultation and Coordination with Indian Tribal Governments*” and the Presidential Memorandum on Tribal Consultation, dated November 5, 2009.

Consultation under Section 106 is not required if the undertaking has no potential to affect historic properties. The regulations implementing Section 106 state: “If the undertaking is a type of activity that does not have the potential to cause effects on historic properties, assuming such historic properties were present, the agency official has no further obligations under section 106 of this part.” (36 CFR § 800.3(a)(1)).

As discussed in FAA Order 1050.1F, the FAA has not established a significance threshold for Historical, Architectural, Archaeological, and Cultural Resources. Whether an action would result in a finding of adverse effect through the Section 106 process is a consideration when assessing the significance of an impact. However, a finding that an adverse effect has occurred does not necessarily mean an impact is significant; nor would it necessarily require the preparation of an Environmental Impact Statement. Should an adverse effect be determined to have occurred, the Section 106 process would be resolved through a Memorandum of Agreement or Programmatic Agreement to record resolution measures to mitigate or minimize adverse effects.

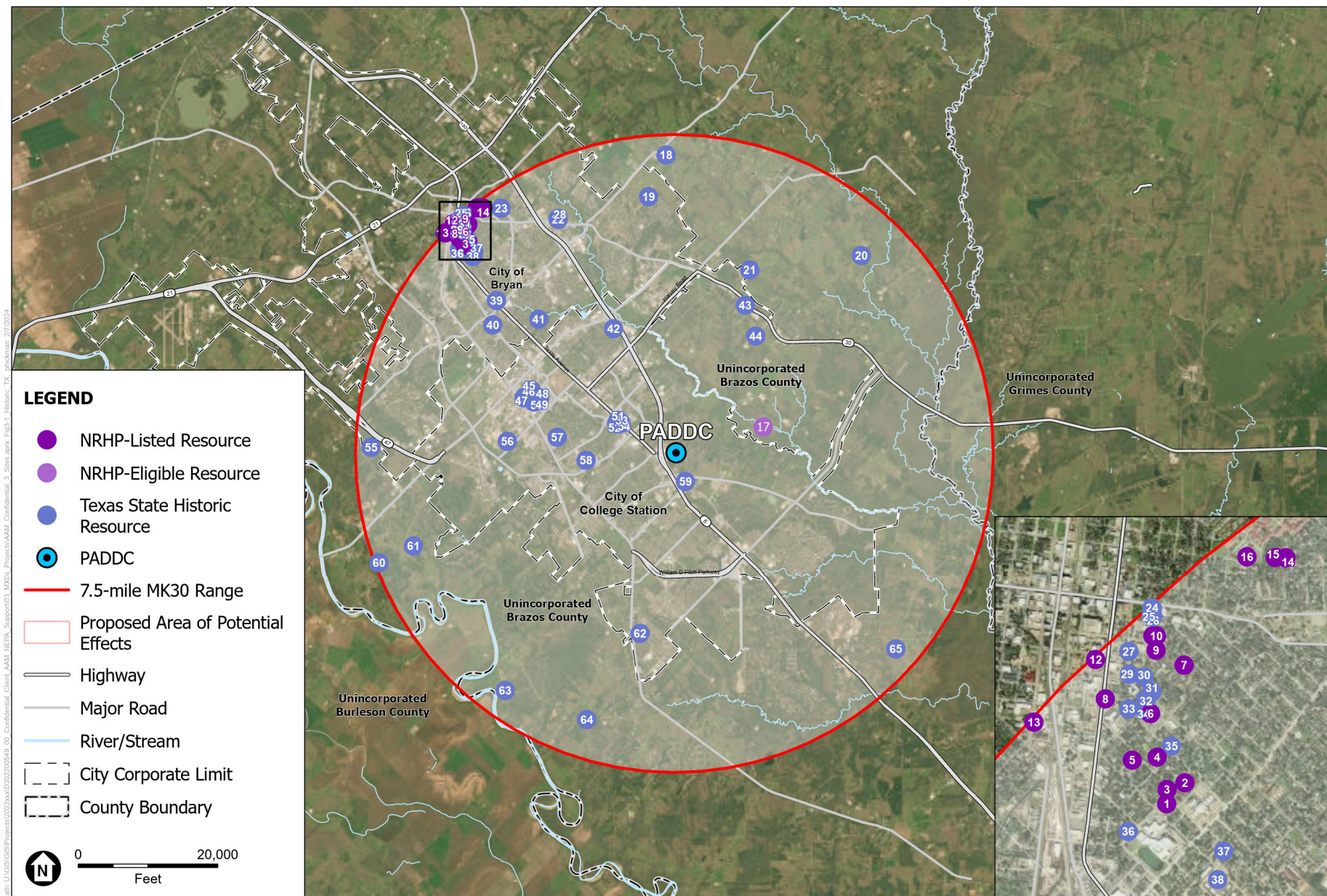
3.5.2 Affected Environment

An APE was established pursuant to 36 CFR § 800.4(a) which encompasses approximately 175 square miles occurring within a 7.5-mile radius surrounding the PADCC. The historical, architectural, archaeological, and cultural resources located within the APE are depicted in **Figure 3-1**. According to geospatial data published by the National Park Service, there are 16 historic resources listed in the National Register located in the APE. Additionally, there is one National Register-eligible resource, and 48 state-listed resources located in the APE. The historic and cultural attributes of these sites are unlikely to be affected by drone overflights. Historic resources occurring within the APE are listed in **Table D-1** of **Appendix D**.

3.5.3 Environmental Consequences

3.5.3.1 No Action Alternative

Under the No Action Alternative, the FAA would not issue the approvals necessary to enable Prime Air to conduct expanded drone commercial drone package delivery operations in the College Station operating area, including the use of the MK30 drone and the associated increased number and range of delivery operations. As described briefly in **Section 1.2** and in detail in the 2022 Final EA, the No Action Alternative would entail the continued use of the MK27-2 drone at the current level of approximately 52,000 operations per year. As such, no additional drone commercial delivery operations would be implemented within the APE, and there would be no impact on any historical, architectural, archaeological, or cultural resources.



SOURCE: ESA, 2023; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022; National Park Service, 2023; Texas Historical Commission, 2022.

Supplemental Environmental Assessment for Amazon Prime Air – College Station, TX

Figure 3-1
Historical, Architectural, Archaeological, and Cultural Resources
College Station, TX

3.5.3.2 Proposed Project

The effect of drone operations on historic properties would be limited to non-physical, reversible impacts such as the introduction of audible and/or visual elements. The number of daily drone operations would be limited such that any historic or cultural resource would only be subject to a small number of overflights per day. Furthermore, as described in **Section 3.6**, a noise analysis concluded that noise levels would be below the FAA's threshold for significance, even in areas with the highest noise exposure.

In accordance with 36 CFR § 800.4(a)(1) and (d)(1), the FAA previously consulted with the Texas SHPO and received concurrence on July 12, 2022, that “*no historic properties are present or affected by the project as proposed*” by the initial introduction of commercial drone delivery operations using the MK27-2. For the current Proposed Action (MK30 drone operations), the FAA initiated consultation with the TX SHPO on June 17, 2024, seeking concurrence with the FAA's finding of *no historic properties affected*. On July 19, 2024, the TX SHPO issued a finding of *no historic properties are present or affected by the project as proposed*. Copies of the SHPO consultation are included in **Appendix D**.

The FAA also consulted with Tribal Governments, on April 2, 2024, that may potentially attach religious or cultural significance to resources in the APE, which include the following:

- Alabama-Coushatta Tribe of Texas
- Apache Tribe of Oklahoma
- Comanche Nation, Oklahoma
- Coushatta Tribe of Louisiana
- Kickapoo Traditional Tribe of Texas
- Tonkawa Tribe of Indians of Oklahoma
- Wichita and Affiliated Tribes (Wichita, Keechi, Waco & Tawakonie), Oklahoma
- Ysleta del Sur Pueblo

Copies of representative correspondence with potentially interested Tribal Governments are included in **Appendix D**. No replies were received.

3.6 Noise and Noise-Compatible Land Use

3.6.1 Regulatory Setting

Aircraft noise is often the most noticeable environmental effect associated with any aviation project. Several federal laws, including the Aviation Safety and Noise Abatement Act of 1979, as amended (49 U.S.C. §§ 47501-47507) regulate aircraft noise. Through 14 CFR Part 36, the FAA regulates noise from aircraft. To ensure that noise would not cause a significant impact to any residential land use or noise sensitive resource within the study area, the FAA initiated an analysis of the potential noise exposure in the area that could result from implementation of the Proposed Action.

FAA Order 1050.1F, Appendix B, Paragraph B-1.3 requires the FAA to identify the location and number of noise sensitive areas that could be significantly impacted by noise. As defined in FAA Order 1050.1F, Paragraph 11-5b, a *noise sensitive area* is “[a]n area where noise interferes with normal activities associated with its use. Normally, noise sensitive areas include residential, educational, health, and religious structures and sites, and parks, recreational areas, areas with wilderness characteristics, wildlife refuges, and cultural and historical sites.”

Sound is measured in terms of the decibel (dB), which is the ratio between the sound pressure of the sound source and 20 micropascals, which is nominally the threshold of human hearing. Various weighting schemes have been developed to collapse a frequency spectrum into a single dB value. The A-weighted decibel, or dBA, corresponds to human hearing accounting for the higher sensitivity in the mid-range frequencies. Unless otherwise noted, all sound levels discussed in this document should be understood to be A-weighted.

To comply with NEPA requirements, the FAA has issued requirements for assessing aircraft noise in Appendix B of FAA Order 1050.1F. The FAA’s primary noise metric for aviation noise analysis is the yearly Day Night Average Sound Level (DNL) metric. The DNL metric is a single value representing the logarithmically average aircraft sound level at a location over a 24-hour period, with a 10 dB adjustment added to those noise events occurring from 10:00 P.M. and up to 7:00 A.M. the following morning. A significant noise impact is defined in Order 1050.1F as an increase in noise of DNL 1.5 dB or more at or above DNL 65 dB noise exposure or a noise exposure at or above the 65 dB level due to a DNL 1.5 dB or greater increase at a noise sensitive receiver (e.g. residential).

3.6.2 Affected Environment

As shown in **Figure 2-1**, the study area is approximately 175 square miles, and the estimated population within the area is roughly 186,000. The population density is approximately 1,100 persons per square mile.⁵⁰ There is one airport and four heliports located in the MK30 drone’s proposed area of operations, to include⁵¹:

- Easterwood Field Airport, 1 McKenzie Terminal Blvd., College Station, TX
- Texas World Speedway Helistop, 17529 Texas 6 Frontage Rd., College Station, TX
- Scott & White Medical Center - College Station Heliport, 700 Scott & White Dr., College Station, TX
- St Joseph Health/College Station Heliport, 1604 Rock Prairie Rd., College Station, TX
- St Joseph Hospital Heliport, 2801 Franciscan Dr., Bryan, TX

⁵⁰ Environmental Protection Agency’s (EPA) Environmental Justice Screening Tool (EJSCREEN). Available: <https://www.epa.gov/ejscreen>. Accessed: February 7, 2024.

⁵¹ It is necessary to evaluate the cumulative noise exposure in areas subject to other aviation noise sources.

3.6.3 Environmental Consequences

3.6.3.1 No Action Alternative

Under the No Action Alternative, the FAA would not issue the approvals necessary to enable Prime Air to conduct expanded commercial drone package delivery operations in the College Station operating area, including the use of the MK30 drone and the associated increased number and range of delivery operations. As described briefly in **Section 1.2** and in detail in the 2022 Final EA, the No Action Alternative would entail the continued use of the MK27-2 drone at the current level of approximately 52,000 operations per year. As such, no impacts to compatible land use would occur.

3.6.3.2 Proposed Action

Human perception of noise depends on a number of factors, including overall noise level, number of noise events, the extent of audibility above the background ambient noise level, and acoustic frequency content (pitch).⁵² Drone noise generally has high-frequency acoustic content, which can often be more discernable from other typical noise sources.

To ensure that noise would not cause a significant impact to any noise sensitive area within the action area, the FAA initiated an analysis of the potential noise exposure in the area that could result from implementation of the Proposed Action. Except for on the actual PADDC property, the rural, commercial, and residential properties that are adjacent to the PADDC location are likely to experience the highest noise levels as a result of the Proposed Action. This is due to noise from drone departures from and arrivals to the PADDC, as well as more concentrated en route noise from the aircraft transiting to and from the PADDC.

Noise Exposure

Since the MK30 drone is still under development and final noise data is not yet available, a more conservative approach was taken that uses the MK27-2 noise data to assess potential environmental impacts associated with the Proposed Action. This ensures that the noise impact of the MK30 (which was demonstrated during acoustical testing to be quieter than the MK27-2) falls within the analyzed parameters and supports the Proposed Action. The measured difference in Maximum A-Weighted Level (Lmax)⁵³ for the MK30 drone during the takeoff and landing phase of flight was between 5 and 7 dB lower than the MK27-2 drone, and the measured Sound Exposure Level (SEL)⁵⁴ was lower in all cases for the MK30 when compared to the MK27-2. The measured Lmax for the MK30 drone during the forward flight flyover phase were equivalent or lower when compared to the MK27-2.

The flight profiles between the MK27-2 and MK30 are also similar in nature, in that they both perform a VTOL climb, a transition to fixed-wing flight en route to backyard, transition back to VTOL for descent into the backyard for delivery at 13 feet AGL, followed by the same maneuvers to return to the PADDC. Differences between the drones are shown in the manner in which they operate in each phase of flight. For example, the MK30 en route altitude is between 200 feet and 345 feet AGL as compared to the 160-

⁵² Federal Aviation Administration, Fundamentals of Noise and Sound. Available: https://www.faa.gov/noise/aviation_noise/fundamentals_of_noise. Accessed: April 30, 2024.

⁵³ Lmax is defined as the maximum, or peak, sound level during a noise event, expressed in decibels. The metric only accounts for the highest A-weighted sound level measured during a noise event, not for the duration of the event.

⁵⁴ SEL is defined as the sound energy of a single noise event at a reference duration of one second, expressed in decibels. The sound level is integrated over the period that the level exceeds a threshold. Therefore, SEL accounts for both the maximum sound level and the duration of the sound.

foot AGL en route altitude of the MK27-2. In addition to the increased altitudes of the MK30, the ground speed also increased from 52.4 to 58.3 knots. Additional information on the drone comparison, noise measurement methodology, and results can be found in **Appendix E**.

To this end, it was determined that the MK27-2 noise exposure data would be used for this EA noise analysis. It is expected that the noise generated by the MK27-2 is equivalent to or louder than the MK30; therefore, this substitution represents a more conservative approach to estimating community noise exposure. Importantly, this substitution ensures that the noise exposure values presented in this EA are higher than what is expected to occur when the MK30 drone is deployed into delivery service. Utilizing the operational projections defined in **Chapters 1 and 2**, the noise analysis methodology detailed in **Appendix E** was used to estimate DNL levels for the proposed College Station operations. Noise levels were calculated for each flight phase and are presented in the following three sub-sections:

- Noise Exposure for PADDC Operations
- Noise Exposure for En route Operations
- Noise Exposure for Delivery Operations

Noise Exposure for PADDC Operations

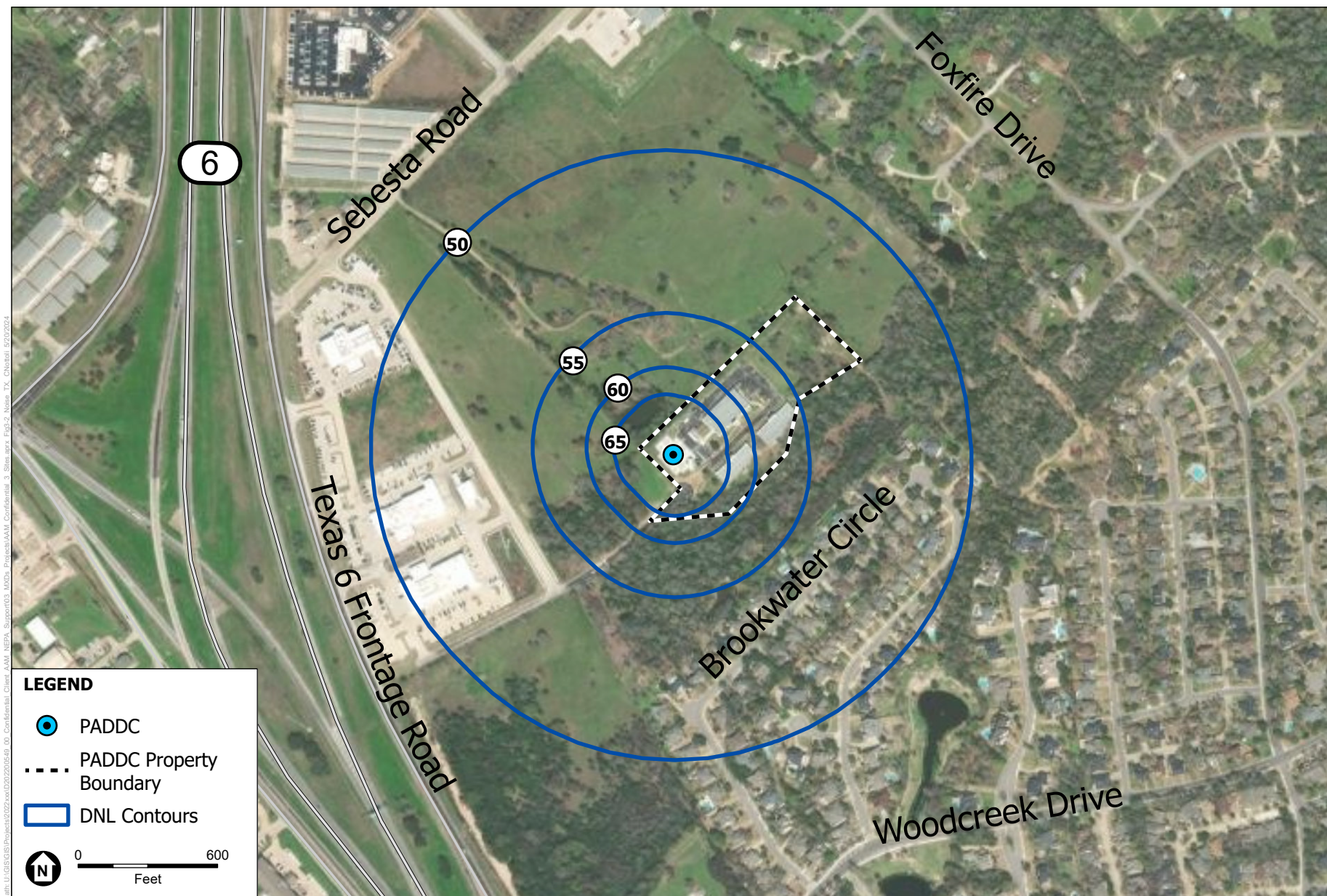
Based on the anticipated average daily maximum of 470 deliveries provided by Prime Air, the extent of noise exposure associated with PADDC operations is shown in **Figure 3-2**. This region was determined based on a review of the layout of the College Station PADDC location and using the noise level information presented in **Table 8** of the Noise Technical Report in **Appendix E**. **Table 3-3** provides the extent of noise exposure for nest operations for the DNL 65 dB and lower noise levels.

Noise Exposure for En route Operations

As described in the Noise Technical Report in **Appendix E**, the drone is expected to typically fly the same outbound flight path between the PADDC and the delivery point and inbound flight path back to the PADDC. While the average daily deliveries from the PADCC is 469, the number of overflights in a day will be dispersed because the PADCC is centrally located in the proposed operating area and delivery locations would be distributed throughout the proposed operating area. A conservative estimate for the maximum number of overflights over any one location would be half, or 235 daily overflights. The en route noise exposure can be determined by referencing **Tables 9 and 10** of the Noise Technical Report in **Appendix E**. This analysis shows that en route noise levels could reach DNL 45 dB in any location within the action area.

Noise Exposure for Delivery Operations

Due to the inherent uncertainty of the exact delivery site locations, the noise analysis developed a minimum and maximum representative distribution of deliveries in the action area. The noise analysis conservatively assumes the minimum and maximum distribution of average daily deliveries that could occur at a single delivery location. The distribution of average annual daily deliveries ranges from 0.1 to 4.0 deliveries per operating day.



SOURCE: ESA, 2023; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022.

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Figure 3-2
PADD Noise Exposure Contours
College Station, TX

TABLE 3-3
ESTIMATED EXTENT OF NOISE EXPOSURE FROM PADDC

Annual Average Daily DNL Equivalent Deliveries	Annual DNL Equivalent Deliveries	DNL 50 dB	DNL 55 dB	DNL 60 dB	DNL 65 dB
≤480	≤175,200	1,100 feet	450 feet	250 feet	150 feet

SOURCE: ESA, 2024.

The noise exposure for delivery operations also includes en route overflights at the lower end of the typical operating altitude of 165 feet AGL, as modeled, for operations associated with deliveries to other locations. En route flight altitudes for the MK30 are expected to be flown at higher altitudes than what was modeled.

A conservative estimate of delivery noise exposure can then be determined by referencing **Table 11** of the Noise Technical Report in **Appendix E**. The estimated delivery DNL includes values at the minimum and maximum distribution of DNL equivalent deliveries at various distances from the delivery point. They include the minimum listener distance from the delivery point at 16.4 feet, which is representative of the closest distance a person may approach before the aircraft takes automated actions to safely cancel the delivery. This is in addition to the minimum measured distance from the drone for which noise measurement data was available for a delivery, which is 32.8 feet. Values were also calculated at distances of 50 feet, 75 feet, 100 feet, and 125 feet from the delivery point, and are representative of distances from which nearby properties may experience noise from a delivery based on the average lot size for sold homes as reported in the 2022 US Census.⁵⁵ The noise exposure for any one delivery point (with en route noise as mentioned above) is provided in **Table 3-4**. Noise exposure from deliveries is shown graphically in **Figure 3-3**. The noise exposure is depicted over the PADDC but is only representative of a maximum of five deliveries at any one delivery point.

TABLE 3-4
DNL FOR DELIVERY LOCATIONS BASED ON MAXIMUM DELIVERIES PER LOCATION

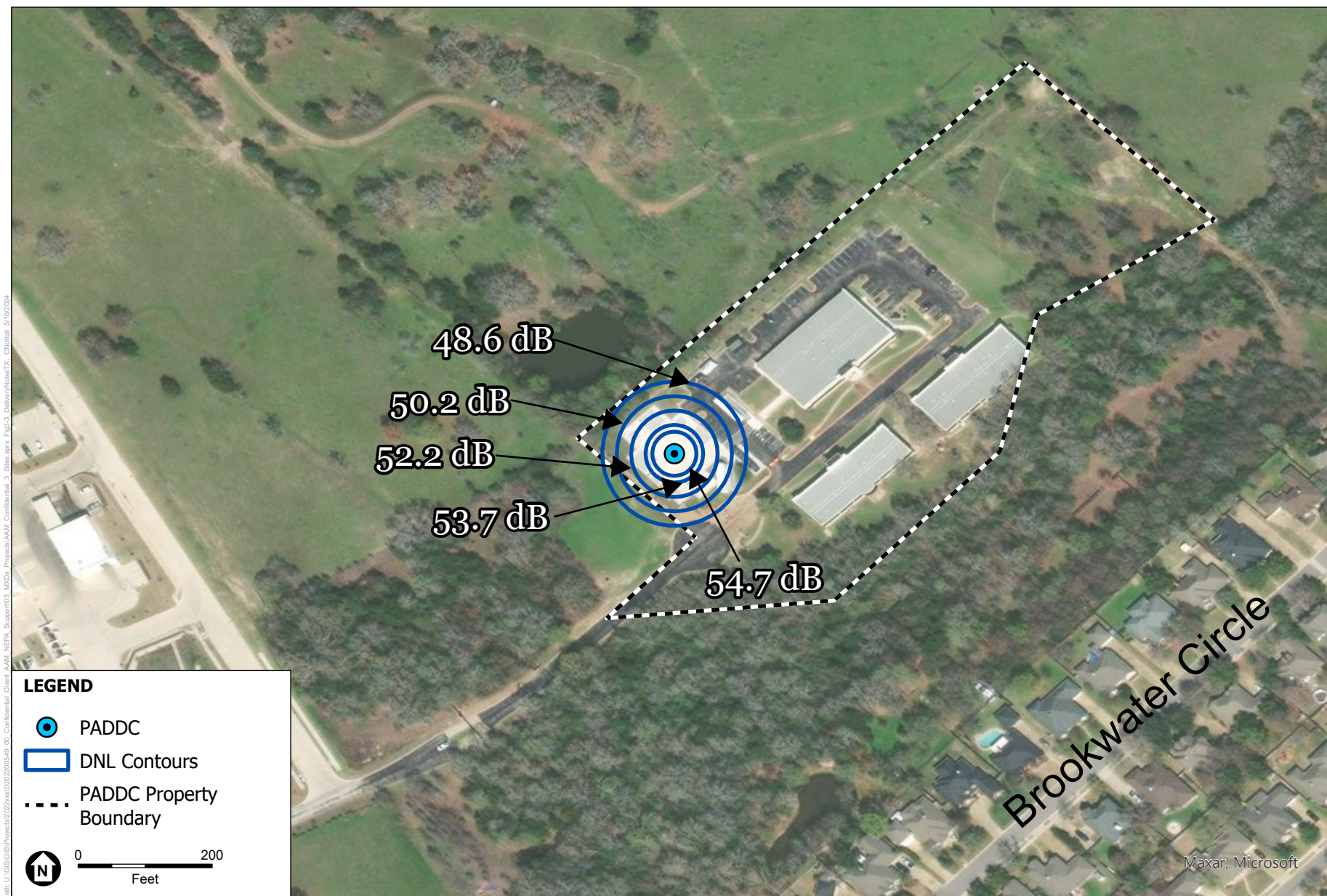
Average Daily DNL Equivalent Deliveries	Annual DNL Equivalent Deliveries	Estimated Delivery DNL at 16 Feet ¹	Estimated Delivery DNL at 32.8 Feet ²	Estimated Delivery DNL at 50 Feet	Estimated Delivery DNL at 75 Feet	Estimated Delivery DNL at 100 Feet	Estimated Delivery DNL at 125 Feet
≤5	≤1,825	58.1	54.7	53.7	52.2	50.2	48.6

NOTES:

1. Minimum possible listener distance from drone.
2. Minimum measured listener distance.
3. Assumes conservative estimate of 235 overflights over any one delivery location as mentioned above.

SOURCE: ESA, 2024.

⁵⁵ The 2022 US Census national average lot size for single-family sold homes was 15,265 square feet. This is representative of a property with dimensions of a 123.55 x 123.55-foot square. 125 feet represents a 125-foot lateral width of the parcel rounded up to the nearest 25 feet. Available: https://www.census.gov/construction/chars/xls/soldlotsize_cust.xls. Accessed: January 18, 2024.



SOURCE: ESA, 2023; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022.

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Figure 3-3
Noise Exposure Contours Based on Maximum Deliveries Per Location
College Station, TX

Table 3-4 shows that, with the maximum number of average annual daily deliveries at a single location, including overflights, noise levels at or above DNL 49 dB could extend beyond 125 feet from the delivery location and may reach adjacent properties. However, these noise levels would not exceed the FAA's significance threshold for noise of DNL 65 dB in any of the areas where Prime Air anticipates conducting deliveries.

Total Noise Exposure Results

The maximum noise exposure levels within the action area would occur at the PADDC site where noise levels at or above DNL 50 dB would extend approximately 1,100 feet from the College Station PADDC. Noise levels at or above DNL 65 dB would extend approximately 150 feet from the PADDC, although this is within the PADDC property. Additionally, the estimated noise exposure for en route operations could reach DNL 45 dB at any location within the action area, and the estimated noise exposure for delivery operations, including en route overflights, would not have the potential to exceed DNL 55 dB at any location in the action area and is below the FAA's threshold of significance for noise.

College Station has a noise ordinance under Section 26.8 of the College Station Code of Ordinances which declares a nuisance and prescribes an offense for unreasonable noise between 7 A.M. and 10 P.M. measured from the property line of a residence located in a residential-zoned property that exceeds 63 dB and would disturb or annoy a person of ordinary sensibilities.⁵⁶ Likewise, Section 26.8 declares a nuisance and prescribes an offense for unreasonable noise between 10:01 P.M. and 6:59 A.M. that exceeds 56 dB and would disturb or annoy a person of ordinary sensibilities.

As explained in **Section 3.6.1** above, the FAA has an established noise significance threshold, defined in FAA Order 1050.1F, which is used when assessing noise impacts in a particular project area. A significant noise impact is defined as an increase in noise of DNL 1.5 dB or more at or above DNL 65 dB noise exposure or a noise exposure at or above the 65 dB level due to a DNL 1.5 dB or greater increase. Based on the results of the noise analysis performed for this EA, the DNL 65 dB contour is expected to extend approximately 150 feet from the launch pads and be contained within PADDC property. Thus, noise impacts from the College Station operations are not expected to result in a significant impact. Nor is the noise generated by the College Station operations expected to be incompatible with noise sensitive resources within the action area. The resulting noise exposure for delivery site locations at a distance of 32 feet between drone and receiver is DNL 54.7 dB. Noise exposure from deliveries includes the en route overflight at the typical operating altitude of 165 feet AGL, as modeled in **Appendix E**. The maximum noise exposure at any property line in residential zoned property would not exceed DNL 55 dB, which is well below the FAA's DNL 65 dB significance threshold.

⁵⁶ City of College Station, Texas. Code of Ordinances Sec. 26-8 – Noise. Available: https://library.municode.com/tx/college_station/codes/code_of_ordinances?nodeId=SPAGEOR_CH26MIPROF_S26-8NO. Accessed: February 2024.

3.7 Environmental Justice

3.7.1 Regulatory Setting

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies. Fair treatment means no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies. Meaningful involvement means people have an opportunity to participate in decisions about activities that may affect their environment and/or health; the public's contribution can influence the regulatory agency's decision; community concerns will be considered in the decision-making process; and decision makers will seek out and facilitate the involvement of those potentially affected.⁵⁷

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was enacted in 1994. The purpose of the EO is to focus federal attention on the environmental and human health effects of federal actions on minority and low-income populations with the goal of achieving environmental protection for all communities. The EO directs federal agencies to identify and address the disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations, to the greatest extent practicable and permitted by law. The order is also intended to promote nondiscrimination in federal programs that affect human health and the environment, as well as provide minority and low-income communities' access to public information and public participation.

EO 14096, *Revitalizing Our Nation's Commitment to Environmental Justice for All* (April 21, 2023), made changes to federal policy regarding environmental justice including an update of the definition of environmental justice, an expansion of what constitutes an environmental justice impact, and a broadening of what constitutes a community with environmental justice concerns.

DOT Order 5610.2C, *Procedures for Considering Environmental Impact*, incorporates consideration of environmental justice principles into the Department of Transportation's planning and decision-making processes. The order provides helpful guidance for defining minority and low-income populations. The term minority population is established to refer to "any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy, or activity." A minority person is defined as a person who is:

- Black: a person having origins in any of the black racial groups of Africa;
- Hispanic or Latino: a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race;
- Asian American: a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent;

⁵⁷ US Environmental Protection Agency, <https://www.epa.gov/environmentaljustice/learn-about-environmental-justice> (accessed February 5, 2024).

- American Indian and Alaskan Native: a person having origins in any of the original people of North America, South America (including Central America), and who maintains cultural identification through tribal affiliation or community recognition; or
- Native Hawaiian and Other Pacific Islander: people having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

DOT Order 5610.2C establishes a low-income population as “any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy, or activity.” A low-income person is “a person whose median household income is at or below the Department of Health and Human Services poverty guidelines.”

The FAA has not established a significance threshold for Environmental Justice. FAA Order 1050.1F indicates the factors to be considered in determining whether an action would have the potential to lead to a disproportionate and adverse impact to communities with environmental justice concerns include:

- Significant impacts in other environmental impact categories; or
- Impacts on the physical or natural environment that affect a community in a way that the FAA determines are unique to communities with environmental justice concerns and significant to that population.

Whether an adverse effect is “disproportionately high” on minority and low-income populations depends on whether that effect is:

- Predominantly borne by an environmental justice community of concern population, or
- Will be suffered by the environmental justice community of concern population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the population outside of the environmental justice community of concern.⁵⁸

3.7.2 Affected Environment

The environmental justice communities of concern were identified using demographic and socioeconomic data derived from 2022 American Community Survey data published by the US Census Bureau. The census block group level of census geography was used to map populations, and to compare minority populations and occurrences of household income below the Department of Health and Human Services Poverty Guidelines.

The study area intersects 134 census block groups occurring within Brazos, Burleson, and Grimes Counties. The total land area of the census block groups intersected by the GSA comprised the reference area used to determine communities of environmental justice concern. An aggregation of the 134 census block groups comprising the reference area was determined to serve as the baseline to which individual census block groups were compared. Data for the State of Texas and the United States were also provided for additional context.

⁵⁸ Federal Aviation Administration, Office of Environment and Energy, 1050.1F Desk Reference, p. 12-12, October 2023.

Census block groups were identified as communities of environmental justice concern when the proportion of minority or low-income populations exceeded that of the reference area.

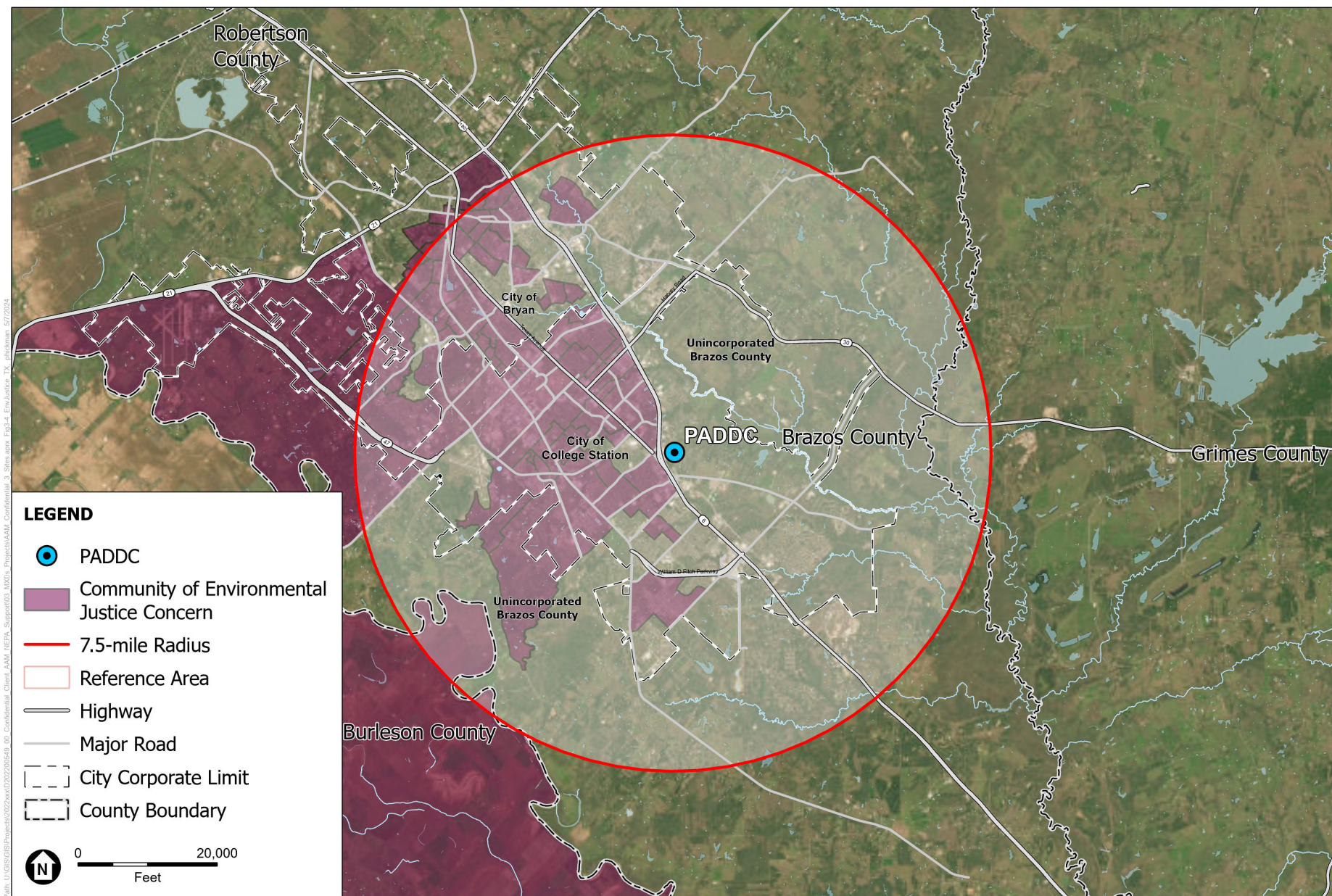
The demographic data for the census block groups within the reference area are presented in **Tables F-1 and F-2 of Appendix F**. The data were gathered from 2018-2022 American Community Survey 5-Year Estimates from the U.S. Census Bureau. The HHS Poverty Guidelines were gathered from the US Department of Health and Human Services Federal Poverty Income Guidelines, effective January 17, 2024.⁵⁹

Table F-1 indicates the racial demographic information for the reference area and all 134 census block groups. The percentage of the population identified as minority includes the total population, less the white, non-Hispanic population. The minority population of the reference area is 41 percent of the total population. The aggregate threshold for the reference area discussed above was used to determine communities of environmental justice concern.

Table F-2 indicates the income and poverty data for each area. The Health and Human Services Poverty Guidelines in **Table F-2** were determined by comparing the Federal Poverty Income Guidelines annual income per persons to the average household size provided by the American Community Survey 5-year estimates. The poverty threshold is proportional to the household size, and both measures are presented in the table. The percentage of households below poverty were determined by gathering the annual household income below the Health and Human Services Poverty Guideline. As with the data on ethnicity, the low-income population aggregate threshold for the reference area was used to determine communities of environmental justice concern. Approximately 24 percent of the households residing in the reference area are living below poverty. Any census block group whose percentage of households below poverty equals or exceeds the reference area constitutes a community of environmental justice concern. Reference Area communities of environmental justice concern are listed in **Table F-3 of Appendix F**.

Of the 134 census block groups evaluated in the reference area, 90 have been identified as communities of environmental justice concern. This total includes 63 census block groups with minority populations exceeding the average for the reference area and 63 census block groups with occurrences of low-income households exceeding that of the reference area aggregate percentage. There are 36 census block groups identified as having both a minority population and a percentage of low-income households exceeding the reference area aggregate percentage. Communities of environmental justice concern in the reference area are depicted on **Figure 3-4**.

⁵⁹ US Department of Health and Human Services, Poverty Guidelines, January 17, 2024. <https://aspe.hhs.gov/topics/poverty-economic-mobility/poverty-guidelines>.



SOURCE: ESA, 2023; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2022.

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Figure 3-4
Reference Area Communities of Environmental Justice Concern
College Station, TX

3.7.3 Environmental Consequences

3.7.3.1 No Action Alternative

Under the No Action Alternative, the FAA would not issue the approvals necessary to enable Prime Air to conduct expanded commercial drone package delivery operations in the College Station operating area, including the use of the MK30 drone and the associated increased number and range of delivery operations. As described briefly in **Section 1.2** and in detail in the 2022 Final EA, the No Action Alternative would entail the continued use of the MK27-2 drone at the current level of approximately 52,000 operations per year. Accordingly, there would be no adverse effects on low-income or minority populations as no new types of operations would be introduced into the reference area.

3.7.3.2 Proposed Project

As indicated throughout this EA, the Proposed Action *would not result in significant impacts in any environmental impact categories evaluated*, and there is no indication any disproportionately high and adverse effects would be borne by any communities with environmental justice concerns. As noted in **Section 3.6**, the drone's noise emissions could be perceptible in areas within the study area, but noise exposure equal to or greater than DNL 65 dB, the level determined to constitute a significant impact, would not occur in any residential areas or other sensitive locations. Furthermore, the drone delivery operations could provide increased access to in-demand goods without increasing congestion on local roads. As traffic congestion can have a disproportionate effect on low-income populations, the implementation of commercial drone delivery services could positively affect low-income populations.

Thus, the Proposed Action would not create impacts exceeding thresholds of significance in any environmental impact categories; neither would the Proposed Action generate impacts that affect an environmental justice population in a way that the FAA determines are unique and significant to that population. Therefore, *the Proposed Action would not result in significant environmental justice impacts or disproportionately high and adverse effects on minority and low-income populations*.

3.8 Visual Effects (Visual Resources and Visual Character)

3.8.1 Regulatory Setting

Visual resources and visual character impacts deal with the extent to which the Proposed Action would result in visual impacts to resources in the operating area. Visual impacts can be difficult to define and evaluate because the analysis is generally subjective but are normally related to the extent that the Proposed Action would contrast with, or detract from, the visual resources and/or the visual character of the existing environment. In this case, visual effects would be limited to the introduction of a visual intrusion – a drone in flight – which could be out of character with the suburban or natural landscapes.

The FAA has not developed a visual effects significance threshold. Factors the FAA considers in assessing significant impacts include the degree to which the action would have the potential to: (1) affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources; (2) contrast with the visual resources and/or visual character in the study area; or (3) block or obstruct the views of visual resources, including whether these resources would still be viewable from other locations.

3.8.2 Affected Environment

The Proposed Action would take place over a combination of suburban and rural properties. As noted in **Section 3.4**, there are public parks that could be valued for aesthetic attributes within the study area. Prime Air's proposal is to avoid overflights of large open-air gatherings of people during the scope of the Proposed Action, which includes public parks and other public properties that may be covered under Section 4(f) (which are identified in **Appendix C**).

3.8.3 Environmental Consequences

3.8.3.1 No Action Alternative

Under the No Action Alternative, the FAA would not issue the approvals necessary to enable Prime Air to conduct expanded drone commercial drone package delivery operations in the College Station operating area, including the use of the MK30 drone and the associated increased number and range of delivery operations. As described briefly in **Section 1.2** and in detail in the 2022 Final EA, the No Action Alternative would entail the continued use of the MK27-2 drone at the current level of approximately 52,000 operations per year. As such, there would be no visual impacts associated with the No Action Alternative.

3.8.3.2 Proposed Action

The Proposed Action makes no changes to any landforms or land uses, and visual effects would be short-term in nature; thus, there would be no effect to the visual character of the area. Excluding ground-based activities supporting the drones, operations would be occurring in airspace only. The FAA estimates that at typical operating altitude and speeds the drone en route would be observable for approximately 3.6 seconds by an observer on the ground. The Proposed Action involves airspace operations that are unlikely to result in visual impacts anywhere in the study area, including Section 4(f) properties. The short duration that each drone flight could be seen from any resource in the operating area – approximately 3.6 seconds while the drone is traveling en route at 52.4 knots (approximately 60 mph) – and the distribution of flights throughout the 175-square mile operating area, would minimize any potential for significant visual impacts at any location in the study area. Any visual effects are expected to be similar to existing air traffic in the vicinity of the operating area. Therefore, *the Proposed Action would not result in significant visual impacts.*

CHAPTER 4

Cumulative Effects

Consideration of cumulative impacts applies to the impacts resulting from implementing the Proposed Action along with other actions. The CEQ regulations define cumulative impacts as “effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.” (40 CFR § 1508.1(g)(3).)

As most of the potential impacts discussed in Chapter 3, *Affected Environment and Environmental Consequences*, were found to be minimal and given that drone operations are unlikely to interact with other outside actions due to the short duration of flights, the Proposed Action's contribution to cumulative impacts in the Study Area would primarily be from noise. Thus, this section will focus on the Proposed Action's potential cumulative impact on the noise environment.

Because drone operations would occur in areas subject to other aviation noise sources, it is necessary to evaluate the cumulative noise exposure that would result from the other aviation noise sources present. Examples of such scenarios are drone operations occurring in the vicinity of Prime Air's operating areas with increased aviation activity (e.g., where other commercial drone operators operate or operations close to airports). Aviation noise sources are most likely to be the dominant contribution to noise exposure near airports. By comparison, other sources of noise would not appreciably contribute to overall noise levels at these locations.

Easterwood Field Airport, which is located in a portion of the drone's proposed area of operations, operates with controlled surface area Class D airspace. For areas where the drone operating area does not overlap with Easterwood Field Airport's Class D airspace, there would be little potential for the cumulative effect of traditional aircraft noise combined with drone noise. Based on calculations presented in the Noise Technical Report in **Appendix E**, the potential for noise and compatible land use cumulative effects could result from drones and traditional aircraft operating within an airport's DNL 55 dB contour (overlapping inside Class D airspace). However, the potential for cumulative effects would be minimized because Prime Air's PADDC is not located near the vicinity of the Easterwood Field Airport's DNL 55 dB contour.⁶⁰ Prime Air's delivery route planning would take into account air traffic to avoid dense airspace restrictions such as airport runways. This would help avoid potential noise cumulative effects of the air traffic near Easterwood Field Airport. There are no other known Part 135 commercial drone

⁶⁰ DNL contours for Easterwood Field Airport were reported in 2005 Master Plan. While the DNL 60 dB extends several thousand feet from the main runway ends, it can be expected that the current fleet operating at the airport would result in a smaller noise exposure due to changes in fleet mix. As such, it was assumed that drone activity could be possible within the DNL 55 dB, although unlikely. For additional information, see Appendix E.
<https://fcor.tamu.edu/downloads/Easterwood%20Airport%20Combined.pdf>.

package delivery operators conducting operations in proximity to Prime Air's proposed MK30 operations area or the PADDC, which is located in an area zoned for commercial activities. As such, the addition of Prime Air's commercial delivery service is not expected to result in cumulative effects with other potential Part 135 commercial drone operations. Any future Part 135 operators would be required to work with the FAA to complete an environmental review before beginning operations, ensuring that any potential cumulative effects are properly analyzed and disclosed, and the appropriate siting of potential drone operating facilities would be considered to avoid a significant impact on the environment.

In the future, other drone operators may propose locating operations within this Proposed Action's Study Area. Should that occur, Prime Air understands the potential for impacts may increase due to another operator's activities and would work with that operator and the FAA to mitigate potential impacts. Additionally, the FAA would conduct a new environmental analysis – including noise and cumulative impacts – prior to another operator beginning drone package delivery operations in this area.

As discussed in Chapter 3, the Proposed Action is not expected to significantly impact any of the environmental impact categories. Areas of existing aviation noise sources within the Study Area would be avoided; thus, the Proposed Action would not contribute to significant cumulative noise impacts. No other actions are anticipated to interact with the Proposed Action in a way that could result in cumulative effects; therefore, *the Proposed Action is not expected to result in significant cumulative effects.*

CHAPTER 5

List of Preparers and Agencies Consulted

5.1 Preparers

Name and Affiliation	Years of Industry Experience	EA Responsibility
FAA Evaluators		
Nicholas Baker, FAA AUS (UAS Integration Office, Safety & Integration Division)	15	Environmental Protection Specialist, Biological Resources, Document Review
Shelia Neumann Ph.D., P.E., FAA AFS (Office of Safety Standards, Flight Standards Service) Emerging Technologies Division	30	Environmental Protection Specialist, Document Review
Christopher Hurst REM, CEA, CESCO, FAA AFS (Office of Safety Standards, Flight Standards Service) Emerging Technologies Division	20	Environmental Protection Specialist, Document Review
Christopher Couture, FAA AQS (Aviation Safety, Quality, Integration, and Executive Services)	17	Environmental Protection Specialist, Document Review
Adam Scholten, FAA AEE (Office of Environment and Energy, Noise Division [AEE-100])	13	Environmental Protection Specialist, Noise Analysis and Document Review
Susumu Shirayama, FAA AEE (Office of Environment and Energy, Noise Division [AEE-100])	22	Environmental Protection Specialist, Noise Analysis and Document Review
Preparers		
Mike Arnold/ESA	34	QA/QC review
Justin Cook/ESA	24	Noise modeling
Jeff Covert/ESA	12	NEPA documentation
Patricia Davis/ESA	4	NEPA documentation
Patrick Hickman/ESA	14	NEPA documentation
Sarah McAbee/ESA	16	NEPA documentation
Chris Nottoli/ESA	10	Noise modeling
Susan Shaw/ESA	23	NEPA documentation
Neal Wolfe/ESA	23	Project Manager, NEPA documentation

5.2 Agencies Consulted

List of Preparers and Agencies Consulted

U.S. Fish and Wildlife Service, Houston Field Office

Texas Historical Commission

Alabama-Coushatta Tribe of Texas

Apache Tribe of Oklahoma

Comanche Nation, Oklahoma

Coushatta Tribe of Louisiana

Kickapoo Traditional Tribe of Texas

Tonkawa Tribe of Indians of Oklahoma

Wichita and Affiliated Tribes (Wichita, Keechi, Waco & Tawakonie), Oklahoma

Ysleta del Sur Pueblo

Appendix A

Public Outreach

(English and Spanish Versions)

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Washington, D.C.

Notice of Availability, Notice of Public Comment Period, and Request for Comment on the Draft Supplemental Environmental Assessment for Amazon Prime Air Package Delivery Operations in College Station, Texas

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Amazon Prime Air is seeking to amend its air carrier Operation Specifications (OpSpec) and other FAA approvals necessary to expand commercial drone delivery operations in Texas. The FAA's approval of the amended OpSpec is considered a major federal action under NEPA and Council on Environmental Quality (CEQ) NEPA-implementing regulations (40 Code of Federal Regulations Parts 1500–1508) and requires a NEPA review. The Draft EA is submitted for review pursuant to NEPA, CEQ NEPA Implementing Regulations, FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, Section 4(f) of the Department of Transportation Act (49 U.S.C. § 303), and Section 106 of the National Historic Preservation Act (16 U.S.C. § 470). The Draft EA will be available for a 30-day public review beginning on Thursday, May 30th, 2024, and ending on Friday, June 28th, 2024.

The Draft EA is available for online review at:

https://www.faa.gov/uas/advanced_operations/nepa_and_drones

Comments on the Draft EA may be submitted electronically to 9-faa-drone-environmental@faa.gov. Written comments may be submitted via U.S. Mail to the address below. Please ensure adequate time for receipt. All comments must be received by 5:00 p.m. Central Time on *Friday, June 28, 2024*.

Federal Aviation Administration, Suite 802W
C/O AVS Environmental
800 Independence Ave SW
Washington, DC 20591

All substantive comments received will be responded to in the Final EA.

PRIVACY NOTICE: Before including your address, phone number, email address, or other personal identifying information in your comment, be advised that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

DEPARTAMENTO DE TRANSPORTACIÓN

Administración Federal de Aviación

Washington, D.C.

AVISO DE DISPONIBILIDAD, NOTIFICACIÓN DE PERÍODO DE COMENTARIOS PÚBLICOS Y SOLICITUD DE COMENTARIOS SOBRE EL BORRADOR DEL SUPLEMENTO DE EVALUACIÓN AMBIENTAL PARA OPERACIONES COMERCIALES DE ENTREGA DE PAQUETES MEDIANTE DRONES DE AMAZON PRIME AIR EN COLLEGE STATION, TX

La Administración Federal de Aviación (FAA, sigla en inglés) notifica que un Borrador del Suplemento de Evaluación Ambiental (EA), preparado conforme a la Ley de Política Ambiental Nacional (NEPA) (42 Código de los Estados Unidos §§ 4321 - 4355), para evaluar el servicio propuesto por Amazon Prime Air para llevar a cabo operaciones comerciales de entrega de paquetes mediante drones en el área de College Station, TX, está disponible para revisión y comentarios.

Amazon Prime Air busca enmendar sus especificaciones operacionales (OpSpec) y otras autorizaciones emitidas por la FAA que son necesarias para expandir las operaciones comerciales de entrega de paquete mediante drones en Texas. La aprobación de la FAA de los OpSpecs enmendados se considera una acción federal mayor en virtud de NEPA y de los reglamentos de implementación del Consejo de Calidad Ambiental (CEQ) de NEPA (40 Código Federal de Reglamentos Partes 1500-1508) y requiere una evaluación bajo NEPA. El Borrador de EA ha sido sometido para revisión conforme a NEPA, los reglamentos de implementación de CEQ NEPA, la Orden 1050.1F de la FAA, *Impactos Ambientales: Políticas y Procedimientos*, Sección 4(f) de la Ley del Departamento de Transportación (49 U.S.C. § 303), la y Sección 106 de la Ley de Preservación Nacional Histórica (16 U.S.C. § 470).

El Borrador de EA estará disponible para revisión pública durante 30 días a partir del jueves, 30 de mayo de 2024 hasta el viernes 28 de junio de 2024.

El Borrador de EA está disponible para revisión en línea en:

https://www.faa.gov/uas/advanced_operations/nepa_and_drones

Se pueden someter comentarios electrónicos sobre el Borrador de EA enviándolos 9-faa-drone-environmental@faa.gov. También se pueden someter enviando un escrito por correo postal a la dirección a continuación. Asegúrese de dejar tiempo suficiente para la recepción de sus comentarios. Todos los comentarios deben recibirse antes de las 5:00 p.m., hora Central, el viernes 28 de junio de 2024.

Federal Aviation Administration, Suite 802W
C/O AVS Environmental
800 Independence Ave SW
Washington, DC 20591

Se responderá a todos los comentarios recibidos en el EA final.

AVISO DE PRIVACIDAD: Antes de incluir su dirección, número de teléfono, dirección de correo electrónico u otra información de identificación personal en su comentario, tenga en cuenta que la

totalidad de su comentario, incluida su información de identificación personal, podría hacerse pública en cualquier momento. Si bien puede pedirnos en su comentario que no divulguemos al público su información de identificación personal, no podemos garantizar que podamos hacerlo.

Appendix A-1

NOA Distribution List

**Prime Air NEPA Notice of Availability Distribution -
College Station**

Name	Organization	Email Contact	Type of Contact
Bill Norman	Foxfire HOA	6normans@bellsouth.net	Homeowner's Assn President
Kathy Brick	Foxfire HOA	katbrick17@gmail.com	Homeowner's Assn Secretary
General HOA	Foxfire HOA	foxfirehoa@gmail.com	Homeowner's Assn General Inbox
Cindy Giedraitis	Sandstone HOA	safetycmg@gmail.com	Homeowner's Assn President
David Higdon	Emerald Forest HOA	agdad74@gmail.com	Homeowner's Assn President
Jason Jaggars	Emerald Forest HOA	thejaggars@hotmail.com	Homeowner's Assn Secretary
BHHS Caliber	Emerald Forest HOA	HOAMGMT18@bhhs caliber.com	Homeowner's Assn Manager
Jimmy Brown	Amberlake HOA	jimmy.brown457@gmail.com	Homeowner's Assn Board Member
Tom Moore	Amberlake HOA	ralphtmoore@yahoo.com	Homeowner's Assn Board Member
Suzan Reed	Amberlake HOA	suzanr@bhhs caliber.com	Homeowner's Assn Manager
Kyanne Hoak	Shadowcrest HOA	kyannev@gmail.com	Homeowner's Assn President
Gabe Neal	Shadowcrest HOA	stacyandgabe@gmail.com	
Suzan Reed	Shadowcrest HOA	suzanr@bhhs caliber.com	Homeowner's Assn Manager
Robert Chronister	Chadwick--HOA	chroni66@hotmail.com	
Dwight Allen	Stonebridge--HOA	drallen34@outlook.com	Homeowner's Assn President
Tiffany York	Stonebridge--HOA	help@association services bcs.com	Homeowner's Assn Manager
Michael McCaul	Member of Congress - Michael McCaul	andrew.ross@mail.house.gov , destinee.vargas@mail.house.gov	Elected official
John Raney	State Rep	john.raney@house.texas.gov	Elected official
Kyle Kacal	State Rep	kyle.kacal@house.texas.gov	Elected official
Charles Schwertner	State Senator	charles.schwertner@senate.texas.gov	Elected official
Susan Davenport	Brazos Valley EDC	sdavenport@brazosvalleyedc.org	Community Partner
Glen Brewer	Bryan-College Station Chamber	Glen@bcschamber.org	Community Partner
Todd McDaniel	City of Bryan, TX Economic Development	tmcdaniel@bryantx.gov	Community Partner
Kelli Weatherman	Texas A&M University	kelliweatherman@tamu.edu	University partner
William Rice	St. Joseph Health (heliport)	william.rice@commons spirit.org	Aviation stakeholder
Kevin Davis	Easterwood Airport	kmdavis49@gmail.com	Aviation stakeholder - Airport Manager
Jeff Borowiec	Texas Transportation Institute	<a href="mailto:Borowiec,Jeff'<j-borowiec@tti.tamu.edu>">Borowiec, Jeff' <j-borowiec@tti.tamu.edu>	University partner

**Prime Air NEPA Notice of Availability Distribution -
City of College Station**

Department	Contact Name	Email	About
Parks and Recreation Department	Kelsey Heiden - Director	parks@cstx.gov / swright@cstx.gov	
Neighborhood Services	Barbara Moore	NeighborhoodServices@cstx.gov / bmoore@cstx.gov	Neighborhood Services maintains collaborative partnerships between neighborhoods, community organizations and the City of College Station.
Historic Preservation Committee	Crystal Garcia	cgarcia@cstx.gov	The duties of the Historic Preservation Committee shall be to aid in the collection and preservation of the history of the City of College Station and its environs, and to provide for education of citizens on the history of this City.
Parks and Recreation Advisory Board	Andrea Lauer	alauer@cstx.gov	
Economic Development	BRIAN PISCACEK	bpiscacek@cstx.gov	City official- taken from Amazon List
Chief Development Officer	Michael Ostrowski	mostrowski@cstx.gov	City official- taken from Amazon List
Planning and Zoning Committee	Anthony Armstrong	cspds@cstx.gov / aarmstrong@cstx.gov	The Planning and Zoning Commission serves as a review body to recommend changes in development codes and the zoning ordinance to the City Council. The Commission shall prepare, adopt, and modify a comprehensive plan for the city for subsequent approval and adoption by the City Council.
Mayor	John Nicols	jnichols@cstx.gov	
Place 1 Councilman	Mark Smith	msmith@cstx.gov	
Place 2 Councilman	William Wright	wwright@cstx.gov	
Place 3 Councilwoman	Linda Harvell	lhavell@cstx.gov	
Place 4 Councilwoman	Elizabeth Cunha	ecunha@cstx.gov	
Place 5 Councilman	Bob Yancy	byancy@cstx.gov	
Place 6 Councilman	Dennis Maloney	dmaloney@cstx.gov	
City Manger's Office	Bryan Woods (City Manager)	cmo@cstx.gov	
City Secretary Office	Tanya D. Smith (City Secretary)	cso@cstx.gov	The City Secretary's Office provides citizens with public information and implements requests for city records, attends and prepares official minutes of the city council meetings, conducts city elections, coordinates boards and commissions appointments, provides staff support to the mayor and council, and manages the council and city secretary budgets
Heritage Programs Office	Meaghan O'Rourke	heritageprogram@cstx.gov / morourke@cstx.gov	
Department of Emergency Management	Tradd Mills	dem@cstx.gov / tmills@cstx.gov	
Fire Department	Richard Mann	csfire@cstx.gov / rmann@cstx.gov	
Planning and Development	Anthony Armstrong	cspds@cstx.gov / aarmstrong@cstx.gov	Planning & Development Services is responsible for services including land use, development, engineering, building regulations, comprehensive planning, floodplain management, and community development.
Chief of Police	Billy Couch	bcouch@cstx.gov	
Police Public Information Officer	David Simmons	dsimmons@cstx.gov	
Public Communication Manager	Colin Killian	ckillian@cstx.gov	

**Prime Air NEPA Notice of Availability Distribution -
City of Brian**

Historic Landmark Commission (HLC)	Allison Kay	akay@bryantx.gov	Planning Administrator
Parks and Recreation Advisory Board	Brad Stafford	bstafford@bryantx.gov	Parks and Rec Director
Business Development Manager	Todd McDaniel, CEcd	tmcdaniel@bryantx.gov	
Chief Development Officer	Kevin Russell	krussell@bryantx.gov	Development Services Director
Planning and Zoning Committee	Allison Kay	akay@bryantx.gov	Planning Administrator
Mayor	Bobby Gutierrez	CouncilWeb@bryantx.gov	Mayor
Councilmember	Paul Torres	CouncilWeb@bryantx.gov	Single Member District 1
Councilmember	Ray Arrington	CouncilWeb@bryantx.gov	Single Member District 2
Councilmember	Jared Salvato	CouncilWeb@bryantx.gov	Single Member District 3
Councilmember – Mayor Pro Tem	James Edge	CouncilWeb@bryantx.gov	Single Member District 4
Councilmember	Marca Ewers-Shurtleff	CouncilWeb@bryantx.gov	Single Member District 5
Councilmember	Kevin Boriskie	CouncilWeb@bryantx.gov	At Large, Place 6
City Manger's Office	Kean Register	kregister@bryantx.gov	City Manager
City Secretary Office	Mary Lynne Stratta, TRMC, MMC	citysecretaryweb@bryantx.gov	City Secretary/Legislative Director
Heritage Programs Office (if applicable)			
Department of Emergency Management (if applicable)			
Fire Department	Richard Giusti	rgiusti@bryantx.gov	
Planning and Development	Martin Zimmermann, AICP	mzimmermann@bryantx.gov	
Chief of Police	Eric Buske	ebuske@bryantx.gov	
Public Information Officer (if applicable)			
Public Communication Manager	Lacey Lively, CPC	llively@bryantx.gov	Communications & Marketing Director
	tonya barrios	tbarrios@bryantx.gov	Providing final email list- did not respond post phone call

Prime Air NEPA Notice of Availability Distribution -
Brazos County

County Level	Commission	Name	Email
	Commisioner Precinct 1	Steve Aldrich	saldrich@brazoscountytexas.gov
	Commisioner Precinct 2	Chuck Konderla	ckonderla@brazoscountytexas.gov
	Commisioner Precinct 3	Nancy Berry	nberry@brazoscountytexas.gov
	Commisioner Precinct 4	Wanda J. Watson	wjwatson@brazoscountytexas.gov
	Brazos County Historical Commission		info@brazoscountyhistory.org

Wildlife Contact Title	Name	Email
Wildlife Biologist Brazos County	Bobby Allcorn	Robert.Allcorn@tpwd.texas.gov
District Leader Post Oak Savannah District	Roger Wolfe	Roger.Wolfe@tpwd.texas.gov

Prime Air NEPA Notice of Availability Distribution -
Other Organizations

Organization	Contact Name	Contact Email	About
Rio Brazos Audubon Society	Nancy Thaden	riobrazosaudubon@gmail.com/nan513@yahoo.com	Local Chapter for College Station
Keep Brazos Beautiful	Allison Batte/Executive Director	director@keepbrazosbeautiful.org/allison@keepbrazosbeautiful.org	
Audubon Texas		audubontexas@audubon.org	
Scenic Texas	NA	info@scenictexas.org	
Texas Foundation for Conservation	John Shepperd	info@TexasFoundationForConservation.org/js@TexasFoundationForConservation.org	

Department	Contact Name	Email	About
Director of Parks & Recreation	Ms. Kelsey Heiden	kheiden@cstx.gov	City of College Station Ms. Kelsey Heiden Director of Parks & Recreation City of College Station P.O. Box 9960 College Station, TX, 77842 979.764.3415 kheiden@cstx.gov City of Bryan Mr. Brad Stafford Director Department of Parks and Recreation City of Bryan 1309 East Martin Luther King Street Bryan, Texas 77803 Texas A&M Mr. John Saffle Director of Golf Operations 1 Bizzell St College Station, TX 77841 John@thegolfclubtamu.com
Director, Department of Parks and Recreation	Mr. Brad Stafford	bstafford@bryantx.gov	
Director of Golf Operations	Mr. John Saffle	John@thegolfclubtamu.com	

The Eagle
1729 Briarcrest Dr
(979) 776-4444

I, Laquansay Nickson Watkins, of lawful age, being duly sworn upon oath depose and say that I am an agent of Column Software, PBC, duly appointed and authorized agent of the Publisher of The Eagle, a newspaper published in Bryan, Brazos County, Texas, and generally circulated in Brazos, Burleson, Grimes, Lee, Leon, Madison, Milam and Robertson Counties, and that the notice, a copy of which is hereto attached, was published in said newspaper on the following named dates:

May. 30 2024

The First Insertion being given May. 30, 2024

PUBLICATION FEE: \$561.45

Laquansay Nickson Watkins

Agent

VERIFICATION

State of New Jersey
County of Hudson

Signed or attested before me on this: 05/30/2024

Shannea H. Holmes

Notary Public
Notarized remotely online using communication technology via Proof.

SHANNEA H HOLMES
NOTARY PUBLIC
STATE OF NEW JERSEY
My Commission Expires August 1, 2026

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration
Washington, D.C.

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Federal Aviation Administration,
Suite 802W
C/O AVS Environmental
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Washington, DC 20591

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**DEPARTAMENTO DE
TRANSPORTACIÓN**

**Administración Federal de Aviación
Washington, D.C.**

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https://www.faa.gov/uas/advanced_operations/nepa_and_drones

Se pueden someter comentarios electrónicos sobre el Borrador de EA enviándolos a 9-faa-drone-environmental@faa.gov. También se pueden someter enviando un escrito por correo postal a la dirección a continuación. Asegúrese de dejar tiempo suficiente para la recepción de sus comentarios. Todos los comentarios deben recibirse antes de las 5:00 p.m., hora Central, el viernes 28 de junio de 2024.

Federal Aviation Administration,
Suite 802W
C/O AVS Environmental
800 Independence Ave SW
Washington, DC 20591

Se responderá a todos los comentarios recibidos en el EA final.

AVISO DE PRIVACIDAD: Antes de incluir su dirección, número de teléfono, dirección de correo electrónico u otra información de identificación personal en su comentario, tenga en cuenta que la totalidad de su comentario, incluida su información de identificación personal, podría hacerse pública en cualquier momento. Si bien puede pedirnos en su comentario que no divulguemos al público su información de identificación personal, no podemos garantizar que podamos hacerlo.

Appendix A-2

Prime Air Public Engagement

Public Engagement Summary

During the course of this Supplemental Environmental Assessment (SEA), Prime Air held several public engagement events and received feedback from the public. These engagement events were part of the normal course of Prime Air business, but were also used to supplement the required NEPA public outreach process.

The first public engagement related to the introduction of the MK30 drone was conducted in February 2024. A second public engagement event hosted by Prime Air was conducted in April 2024 prior to the release of the Draft SEA. A third public engagement event hosted by Prime Air was conducted in June 2024 during the public comment period following the release of the Draft SEA. **Table A-1** below lists the location, date, and summary of each public engagement event.

TABLE A-1

Event	Location	Date	Summary
City Council Meeting	College Station City Hall, 1101 Texas Ave, College Station, TX 77840	2/22/2024	<p>On Thursday, February 22, 2024, Prime Air presented updates on the Prime Air commercial drone delivery program and future plans to College Station City Council. Remarks were given Prime Air's Director of Regulatory Affairs, which highlighted service to date, the Prime Air and Amazon Pharmacy partnership at PTX3, and feedback received from the community. During this meeting Prime Air announced that they intended to bring a new drone in to service later in 2024 and that it would be working through the approvals required by the FAA including an Environmental Assessment per NEPA guidelines. Members of the public were given the opportunity to provide comments. Additionally, Prime Air provided opportunity for questions and answers from the community during and after the council session.</p> <p>Council Agenda: https://opendoc.cstx.gov/DocArc/DocView.aspx?id=2120406&dbid=0&repo=DOCUMENT-SERVER</p>
Prime Air Meet & Greet	Sandstone Park, 1700 Sebesta Rd College Station, TX 77845	4/20/2024	<p>On Saturday, April 20, 2024, Prime Air hosted a Meet-and-Greet event at Sandstone Park. Prime Air invited (Figure A-1) neighbors from all HOAs in the area surrounding Sandstone Park to ask questions and to learn more about Prime Air programs. The event included live delivery demonstrations with the MK27 drone, activities, food and drinks from local businesses for attendees. Brochures were also provided with contact information for providing feedback (Figure A-2). The event was attended by over 100 community members.</p>
Prime Air Shares	College Station Visitor Center, 1207 Texas Avenue S, College Station, Texas 77840	6/25/2024	<p>On Wednesday, June 25, 2024, Prime Air hosted a Meet-and-Greet event at the College Station Visitor Center. Prime Air invited (Figure A-3) the public to attend a community event through social media and a local online publication. Prime Air provided an opportunity for the public to ask questions and to learn more about Prime Air programs as well as inform attendees of plans for the introduction of the MK30 drone and NEPA draft availability. The event included a static display of the MK27 drone, food and drinks from local businesses for attendees, as well as handouts with excerpts from the Draft SEA (Figure A-4).</p> <p>Local media invitation link: https://insitebrazosvalley.com/events/prime-air-shares/?occ_dtstart=2024-06-25T16:00</p>

Public Event Invitations and Collateral

Figure A-1 – Prime Air Meet & Greet Invitation



Figure A-2 - Prime Air Meet & Greet Trifold Brochure



NO LONGER SCIENCE FICTION
We've Made Drone Delivery a Reality

Our teams of scientists, engineers, aerospace professionals, and futurists have worked hard to build an ultra-fast, safe delivery service.

Amazon customers living in your area are eligible to receive drone delivery in less than an hour.

Thousands of everyday items are ready to be delivered to your home.




Scan this QR code to request enrollment!

General Feedback

Please contact Amazon's drone delivery Customer Service at (888) 283-0587. Our dedicated customer service team is available 7 days a week.





prime air

Welcome to Amazon's Drone Delivery Service



SAFETY IS THE TOP PRIORITY
Drone Delivery is Safe, Secure and Convenient

We have worked for years to develop an industry leading detect and avoid technology. This allows our drones to safely navigate to a destination and back. They can detect and navigate away from static and dynamic obstacles, ensuring the safety of people, pets, and property.

Our autonomous drones are designed to handle unexpected situations.

Our drone delivery service was designed to be a safe and fast service that customers love, and our operating procedures have been approved by the Federal Aviation Administration.



FASTER THAN EVER
Speedy Deliveries in Less Than an Hour

Prime Air makes ultra-fast delivery speeds possible. Drones safely take to the skies and deliver products directly to your home in less than 60 minutes.

How Drone Delivery Works

Once enrolled, customers will see drone delivery eligible items on Amazon. Once the order is placed on Amazon, the drone will fly to the customer's home, descend to the delivery location, and deliver the package. It will then rise back up to its cruising altitude and return to its origin.



#PRIMEAIRCARES
Giving Back to the Community

Amazon is committed to giving back to the communities we serve. We have community engagement programs in the locations we operate. Our resources are frequently funneled into community initiatives including enhancing STEM education, fighting food insecurity, and supporting various non-profit organizations through donations, volunteering, and hands-on help with each of their unique needs. Ultimately, Amazon is a global business with local roots set firmly in the communities we partner with.

Figure A-3 - Prime Air Shares Invitation



Figure A-4 - Prime Air Shares Hand-outs

2. Proposed Action and Alternatives

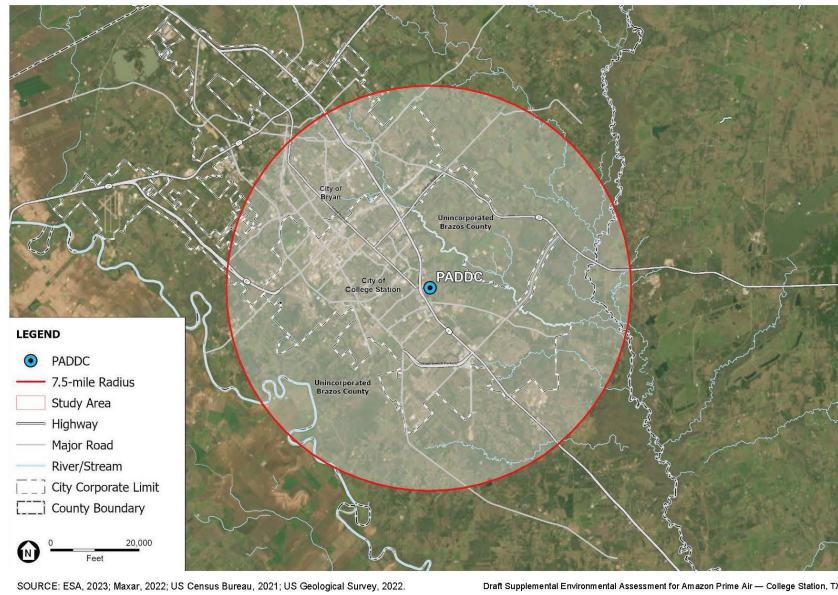


Figure 2-1
Drone Operation Study Area

Amazon Prime Air — College Station, TX
Draft Supplemental Environmental Assessment

2-3

ESA / D202200549.01
May 2024

2. Proposed Action and Alternatives



SOURCE: Amazon Prime Air, 2023.

Draft Supplemental Environmental Assessment for Amazon Prime Air — College Station, TX

Figure 2-2
MK30 Drone

Amazon Prime Air — College Station, TX
Draft Supplemental Environmental Assessment

2-4

ESA / D202200549.01
May 2024

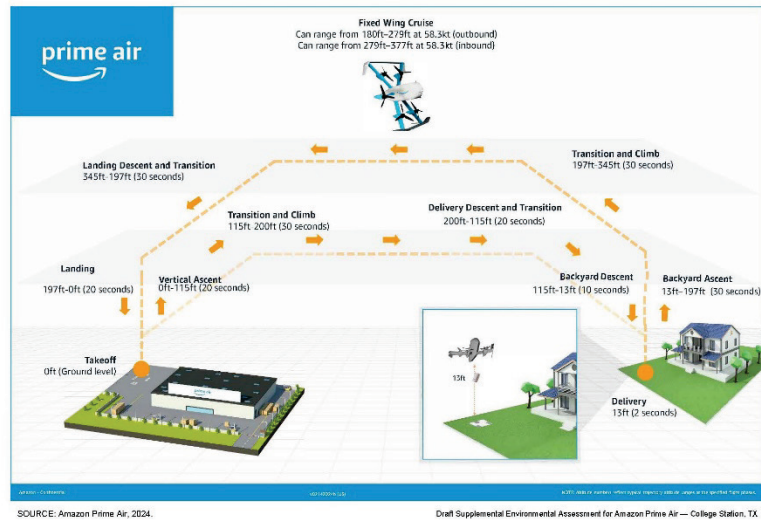


Figure 2-3
MK30 Drone Flight Profile

Appendix B

Biological Resources and Agency Consultation



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Texas Coastal & Central Plains Eso
17629 El Camino Real, Suite 211
Houston, TX 77058-3051
Phone: (281) 286-8282 Fax: (281) 488-5882



In Reply Refer To:
Project Code: 2024-0042426
Project Name: Drone Project

January 30, 2024

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

To Whom It May Concern:

The U.S. Fish and Wildlife Service (Service) field offices in Clear Lake, Corpus Christi, Arlington, and Alamo, Texas, have combined administratively to form the Texas Coastal Ecological Services Field Office. All project related correspondence should be sent to the field office address listed below responsible for the county in which your project occurs:

Project Leader; U.S. Fish and Wildlife Service; 17629 El Camino Real Ste. 211; Houston, Texas 77058

Angelina, Austin, Brazoria, Brazos, Chambers, Colorado, Fayette, Fort Bend, Freestone, Galveston, Grimes, Hardin, Harris, Houston, Jasper, Jefferson, Leon, Liberty, Limestone, Madison, Matagorda, Montgomery, Newton, Orange, Polk, Robertson, Sabine, San Augustine, San Jacinto, Trinity, Tyler, Walker, Waller, and Wharton.

Assistant Field Supervisor, U.S. Fish and Wildlife Service; 4444 Corona Drive, Ste 215; Corpus Christi, Texas 78411

Aransas, Atascosa, Bee, Brooks, Calhoun, De Witt, Dimmit, Duval, Frio, Goliad, Gonzales, Hidalgo, Jackson, Jim Hogg, Jim Wells, Karnes, Kenedy, Kleberg, La Salle, Lavaca, Live Oak, Maverick, McMullen, Nueces, Refugio, San Patricio, Victoria, and Wilson.

U.S. Fish and Wildlife Service; Santa Ana National Wildlife Refuge; Attn: Texas Ecological Services Sub-Office; 3325 Green Jay Road, Alamo, Texas 78516

Cameron, Hidalgo, Starr, Webb, Willacy, and Zapata.

For questions or coordination for projects occurring in counties not listed above, please contact arles@fws.gov.

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your

proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

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

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <http://www.fws.gov/media/endangered-species-consultation-handbook>.

Non-Federal entities may consult under Sections 9 and 10 of the Act. Section 9 and Federal regulations prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is further defined (50 CFR § 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. "Harass" is defined (50 CFR § 17.3) as intentional or negligent actions that create the likelihood of

injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Should the proposed project have the potential to take listed species, the Service recommends that the applicant develop a Habitat Conservation Plan and obtain a section 10(a)(1)(B) permit. The Habitat Conservation Planning Handbook is available at: <https://www.fws.gov/library/collections/habitat-conservation-planning-handbook>.

Migratory Birds:

In addition to responsibilities to protect threatened and endangered species under the Act, there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts visit: <https://www.fws.gov/program/migratory-birds>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable National Environmental Policy Act (NEPA) documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat.

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

Note: IPaC has provided all available attachments because this project is in multiple field office jurisdictions.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds

- Wetlands

OFFICIAL SPECIES LIST

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

This species list is provided by:

Texas Coastal & Central Plains Eso

17629 El Camino Real, Suite 211

Houston, TX 77058-3051

(281) 286-8282

This project's location is within the jurisdiction of multiple offices. However, only one species list document will be provided for all offices. The species and critical habitats in this document reflect the aggregation of those that fall in each of the affiliated office's jurisdiction. Other offices affiliated with the project:

Austin Ecological Services Field Office

1505 Ferguson Lane

Austin, TX 78754-4501

(512) 937-7371

PROJECT SUMMARY

Project Code: 2024-0042426

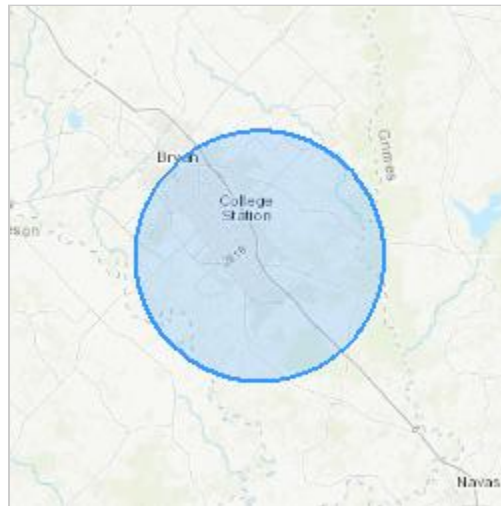
Project Name: Drone Project

Project Type: Drones - Use/Operation of Unmanned Aerial Systems

Project Description: Drone facility

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@30.59221505,-96.28657050984259,14z>



Counties: Brazos , Burleson , and Grimes counties, Texas

ENDANGERED SPECIES ACT SPECIES

There is a total of 8 threatened, endangered, or candidate species on this species list.

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

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

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

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
<p>Piping Plover <i>Charadrius melodus</i></p> <p>Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered.</p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>This species only needs to be considered under the following conditions:</p> <ul style="list-style-type: none"> ▪ Wind related projects within migratory route. ▪ Wind Energy Projects <p>Species profile: https://ecos.fws.gov/ecp/species/6039</p>	Threatened
<p>Rufa Red Knot <i>Calidris canutus rufa</i></p> <p>There is proposed critical habitat for this species.</p> <p>This species only needs to be considered under the following conditions:</p> <ul style="list-style-type: none"> ▪ Wind related projects within migratory route. ▪ Wind Energy Projects <p>Species profile: https://ecos.fws.gov/ecp/species/1864</p>	Threatened
<p>Whooping Crane <i>Grus americana</i></p> <p>Population: Wherever found, except where listed as an experimental population</p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/758</p>	Endangered

AMPHIBIANS

NAME	STATUS
<p>Houston Toad <i>Bufo houstonensis</i></p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/2206</p>	Endangered

CLAMS

NAME	STATUS
<p>Texas Fawnsfoot <i>Truncilla macrodon</i></p> <p>There is proposed critical habitat for this species. Your location overlaps the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/8965</p>	Proposed Threatened

INSECTS

NAME	STATUS
<p>Monarch Butterfly <i>Danaus plexippus</i></p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/9743</p>	Candidate

FLOWERING PLANTS

NAME	STATUS
Navasota Ladies-tresses <i>Spiranthes parksii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1570	Endangered

CRITICAL HABITATS

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Texas Fawnsfoot <i>Truncilla macrodon</i> https://ecos.fws.gov/ecp/species/8965#crithab	Proposed

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "[Supplemental Information on Migratory Birds and Eagles](#)".

-
1. The [Bald and Golden Eagle Protection Act](#) of 1940.
 2. The [Migratory Birds Treaty Act](#) of 1918.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

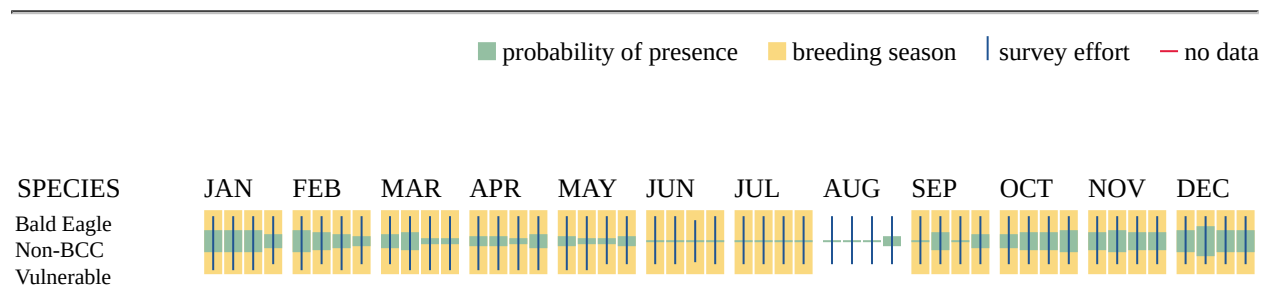
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>

- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the ["Supplemental Information on Migratory Birds and Eagles"](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Golden-plover <i>Pluvialis dominica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10561	Breeds elsewhere
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Kentucky Warbler <i>Oporornis formosus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9443	Breeds Apr 20 to Aug 20

NAME	BREEDING SEASON
Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Little Blue Heron <i>Egretta caerulea</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9477	Breeds Mar 10 to Oct 15
Long-billed Curlew <i>Numenius americanus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5511	Breeds elsewhere
Mountain Plover <i>Charadrius montanus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3638	Breeds elsewhere
Pectoral Sandpiper <i>Calidris melanotos</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561	Breeds elsewhere
Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9439	Breeds Apr 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Sprague's Pipit <i>Anthus spragueii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8964	Breeds elsewhere

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

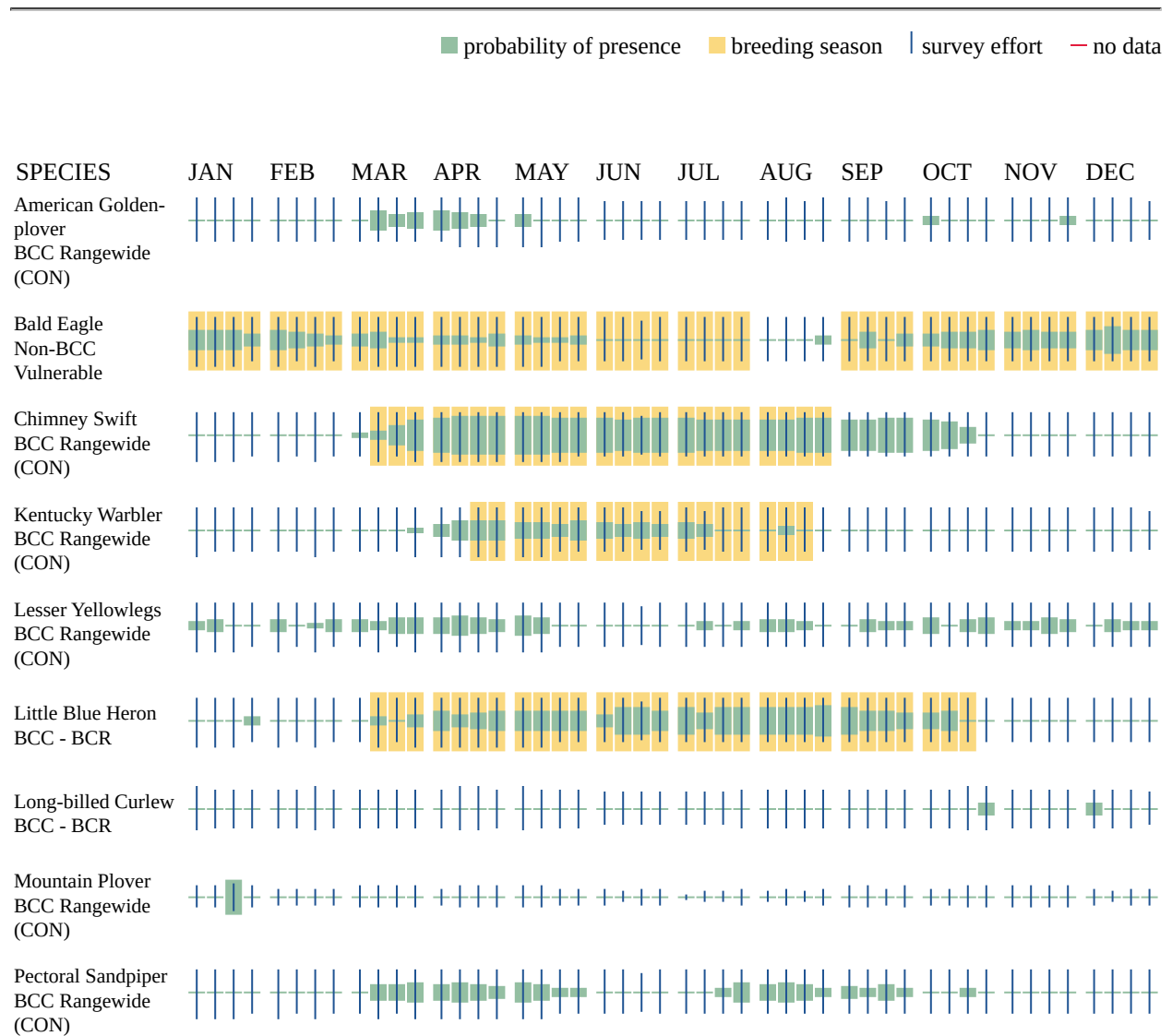
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

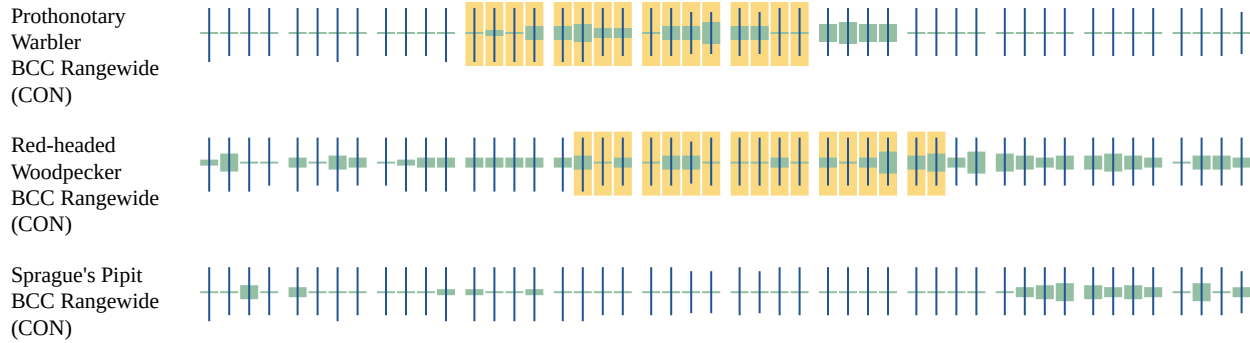
Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.





Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

Due to your project's size, the list below may be incomplete, or the acreages reported may be inaccurate. For a full list, please contact the local U.S. Fish and Wildlife office or visit <https://www.fws.gov/wetlands/data/mapper.HTML>

LAKE

- L1UBHx
- L1UBHh

FRESHWATER EMERGENT WETLAND

- PEM1F
- PEM1C
- PEM1/SS1A

- PEM1A
- PEM1Fh

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1C
- PFO1A
- PSS1A
- PSS1C
- PFO5/UBHh
- PSS1F
- PFO1Fh
- PSS1/UBF
- PFO1F
- PFO1Ch

FRESHWATER POND

- PAB4Hh
- PUBH
- PAB3/UBH
- PUBF
- PUB/AB4Hh
- PUBHh

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Sarah McAbee
Address: 1001 Virginia Avenue
City: Hapeville
State: GA
Zip: 30354
Email: smcabee@esassoc.com
Phone: 4076006723

Appendix X
SGCN used for Brazos, Burleson and Grimes Counties, Texas

Taxon	SName	CName	USES A	SPROT	GRank	SRank	SGCN	Description
Amphibians	Ambystoma tigrinum	eastern tiger salamander			G5	S3	Y	Terrestrial adults generally occur under cover objects or in burrows surrounding a variety of lentic freshwater habitats, such as ponds, lakes, bottomland wetlands, or upland ephemeral pools. The specific terrestrial habitats are also varied and the occurrence of this species seems to be more closely associated with sandy, loamy or other soils which have easy burrowing properties, rather than any particular ecological system type. Requires fishless breeding pools for successful reproduction.
Amphibians	Anaxyrus houstonensis	Houston toad	LE	E	G1	S1	Y	Terrestrial and aquatic: Primary terrestrial habitat is forests with deep sandy soils. Juveniles and adults are presumed to move through areas of less suitable soils using riparian corridors. Aquatic habitats can include any water body from a tire rut to a large lake.
Amphibians	Anaxyrus woodhousii	Woodhouse's toad			G5	SU	Y	Terrestrial and aquatic: A wide variety of terrestrial habitats are used by this species, including forests, grasslands, and barrier island sand dunes. Aquatic habitats are equally varied.
Amphibians	Pseudacris streckeri	Strecker's chorus frog			G5	S3	Y	Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.
Amphibians	Lithobates areolatus areolatus	southern crawfish frog			G4T4	S3	Y	Terrestrial and aquatic: The terrestrial habitat is primarily grassland and can vary from pasture to intact prairie; it can also include small prairies in the middle of large forested areas. Aquatic habitat is any body of water but preferred habitat is ephemeral wetlands.
Birds	Plegadis chihi	white-faced ibis		T	G5	S4B	Y	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.
Birds	Mycteria americana	wood stork		T	G4	SHB,S2N	Y	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers to nest in large tracts of baldcypress (Taxodium distichum) or red mangrove (Rhizophora mangle); forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960.
Birds	Elanoides forficatus	swallow-tailed kite		T	G5	S2B	Y	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Lowland forested regions, especially swampy areas, ranging into open woodland; marshes, along rivers, lakes, and ponds; nests high in tall tree in clearing or on forest woodland edge, usually in pine, cypress, or various deciduous trees.
Birds	Haliaeetus leucocephalus	bald eagle			G5	S3B,S3N	Y	Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds
Birds	Laterallus jamaicensis	black rail	T	T	G3	S2	Y	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of Salicornia
Birds	Grus americana	whooping crane	LE	E	G1	S1S2N	Y	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.
Birds	Charadrius melodus	pipin plover	LT	T	G3	S2N	Y	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.

Taxon	SName	CName	USESA	SPROT	GRank	SRank	SGCN	Description
Birds	Calidris canutus rufa	rufa red knot	LT	T	G4T2	S2N	Y	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore. Bolivar Flats in Galveston County, sandy beaches Mustang Island, few on outer coastal and barrier beaches, tidal mudflats and salt marshes.
Birds	Leucophaeus pipixcan	Franklin's gull			G5	S2N	Y	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.
Birds	Athene cunicularia hypugaea	western burrowing owl			G4T4	S2	Y	Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows
Birds	Dryobates borealis	red-cockaded woodpecker	LE	E	G3	S2	Y	Cavity nests in older pine (60+ years); forages in younger pine (30+ years); prefers longleaf, shortleaf, and loblolly
Birds	Anthus spragueii	Sprague's pipit			G3G4	S3N	Y	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat during migration and in winter consists of pastures and weedy fields (AOU 1983), including grasslands with dense herbaceous vegetation or grassy agricultural fields.
Birds	Calcarius ornatus	chestnut-collared longspur			G5	S3	Y	Occurs in open shortgrass settings especially in patches with some bare ground. Also occurs in grain sorghum fields and Conservation Reserve Program lands
Fish	Polyodon spathula	paddlefish		T	G4	S3	Y	Species occurred in every major river drainage from the Trinity Basin eastward, but its numbers and range had been substantially reduced by the 1950â€s; recently reintroduced into Big Cypress drainage upstream of Caddo Lake. Prefers large, free-flowing rivers but will frequent impoundments with access to spawning sites.
Fish	Atractosteus spatula	alligator gar			G3G4	S4	Y	From the Red River to the Rio Grande (Hubbs et al. 2008); occurs in the Trinity River upstream of Lake Livingston. Found in rivers, streams, lakes, swamps, bayous, bays and estuaries typically in pools and backwater habitats. Floodplains inundated with flood waters provide spawning and nursery habitats.
Fish	Anguilla rostrata	american eel			G4	S4	Y	Originally found in all river systems from the Red River to the Rio Grande. Aquatic habitiats include large rivers, streams, tributaries, coastal watersheds, estuaries, bays, and oceans. Spawns in Sargasso Sea, larva move to coastal waters, metamorphose, and begin upstream movements. Females tend to move further upstream than males (who are often found in brackish estuaries). American Eel are habitat generalists and may be found in a broad range of habitat conditions including slow- and fast-flowing waters over many substrate types. Extirpation in upstream drainages attributed to reservoirs that impede upstream migration.
Fish	Hybognathus nuchalis	Mississippi silvery minnow			G5	S4	Y	Found in eastern Texas streams, from the Brazos River eastward and northward to the Red River; found in moderate current; silty, muddy, or rocky substrate. In Texas, adults likely to inhabit smaller tributary streams.
Fish	Notropis atrocaudalis	blackspot shiner			G4	S3	Y	Occurs from the lower Brazos River to the Sabine River drainage; Red River drainage. Small to moderate size tributary streams in runs and pools over all types of substrates.
Fish	Notropis buccula	smalleye shiner	LE	E	G2	S1S2	Y	Endemic to the Brazos River drainage; presumed to have been introduced into the Colorado River. Historically found in lower Brazos River as far south as Hempstead, Texas but appears to now be restricted to upper Brazos River system upstream of Possum Kingdom Lake. Typically found in turbid waters of broad, sandy channels of main stream, over substrate consisting mostly of shifting sand.
Fish	Notropis potteri	chub shiner		T	G4	S2	Y	Brazos, Colorado, San Jacinto, and Trinity river basins. Flowing water with silt or sand substrate
Fish	Notropis shumardi	silverband shiner			G5	S4	Y	In Texas, found from Red River to Lavaca River; Main channel with moderate to swift current velocities and moderate to deep depths; associated with turbid water over silt, sand, and gravel.
Fish	Macrhybopsis storeriana	silver chub			G5	S3	Y	Red River and Brazos River basins. Mainly restricted to large, often silty rivers. Ranges over gravel to silt substrates but found more commonly over silt or mud bottom.
Fish	Erimyzon claviformis	western creek chubsucker		T	G5	S2S3	Y	Eastern Texas streams from the Red River to the San Jacinto drainage. Habitat includes silt-, sand-, and gravel-bottomed pools of clear headwaters, creeks, and small rivers; often near vegetation; occasionally in lakes. Spawning occurs in river mouths or pools, riffles, lake outlets, or upstream creeks. Prefers headwaters, but seldom occurs in springs.
Mammals	Myotis austroriparius	southeastern myotis bat			G4	S3?	Y	Caves are rare in Texas portion of range; buildings, hollow trees are probably important. Historically, lowland pine and hardwood forests with large hollow trees; associated with ecological communities near water. Roosts in cavity trees of bottomland hardwoods, concrete culverts, and abandoned man-made structures.
Mammals	Myotis velifer	cave myotis bat			G4G5	S2S3	Y	Colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (Hirundo pyrrhonota) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter; opportunistic insectivore.
Mammals	Perimyotis subflavus	tricolored bat			G3G4	S2	Y	Forest, woodland and riparian areas are important. Caves are very important to this species.

Taxon	SName	CName	USESA	SPROT	GRank	SRank	SGCN	Description
Mammals	<i>Eptesicus fuscus</i>	big brown bat			G5	S5	Y	Any wooded areas or woodlands except south Texas. Riparian areas in west Texas.
Mammals	<i>Lasiurus borealis</i>	eastern red bat			G3G4	S4	Y	Red bats are migratory bats that are common across Texas. They are most common in the eastern and central parts of the state, due to their requirement of forests for foliage roosting. West Texas specimens are associated with forested areas (cottonwoods). Also common along the coastline. These bats are highly mobile, seasonally migratory, and practice a type of wandering migration". Associations with specific habitat is difficult unless specific migratory stopover sites or wintering grounds are found. Likely associated with any forested area in East
Mammals	<i>Lasiurus cinereus</i>	hoary bat			G3G4	S3	Y	Hoary bats are highly migratory, high-flying bats that have been noted throughout the state. Females are known to migrate to Mexico in the winter, males tend to remain further north and may stay in Texas year-round. Commonly associated with forests (foliage roosting species) but are found in unforested parts of the state and lowland deserts. Tend to be captured over water and large, open flyways.
Mammals	<i>Lasiurus intermedius</i>	northern yellow bat			G5	S4	Y	Occurs mainly along the Gulf Coast but inland specimens are not uncommon. Prefers roosting in spanish moss and in the hanging fronds of palm trees. Common where this vegetation occurs. Found near water and forages over grassy, open areas. Males usually roost solitarily, whereas females roost in groups of several individuals.
Mammals	<i>Corynorhinus rafinesquii</i>	Rafinesque's big-eared bat		T	G3G4	S2	Y	Historically, lowland pine and hardwood forests with large hollow trees. roosts in cavity trees of bottomland hardwoods, concrete culverts, and abandoned man-made structures
Mammals	<i>Nyctinomops macrotis</i>	big free-tailed bat			G5	S3	Y	Habitat data sparse but records indicate that species prefers to roost in crevices and cracks in high canyon walls, but will use buildings, as well; reproduction data sparse, gives birth to single offspring late June-early July; females gather in nursery colonies; winter habits undetermined, but may hibernate in the Trans-Pecos; opportunistic insectivore
Mammals	<i>Sylvilagus aquaticus</i>	swamp rabbit			G5	S5	Y	Primarily found in lowland areas near water including: cypress bogs and marshes, floodplains, creeks and rivers.
Mammals	<i>Cynomys ludovicianus</i>	black-tailed prairie dog			G4	S3	Y	Dry, flat, short grasslands with low, relatively sparse vegetation, including areas overgrazed by cattle; live in large family groups
Mammals	<i>Ondatra zibethicus</i>	muskrat			G5	S5	Y	Found in fresh or brackish marshes, lakes, ponds, swamps, and other bodies of slow-moving water. Most abundant in areas with cattail. Dens in bank burrow or conical house of vegetation in shallow vegetated water. It is primarily found in the Rio Grande near El Paso and in SE Texas in the Houston area.
Mammals	<i>Ursus americanus luteolus</i>	Louisiana black bear		T	G5T2	SNA	Y	Bottomland hardwoods, floodplain forests, upland hardwoods with mixed pine; marsh. Possible as transient; bottomland hardwoods and large tracts of inaccessible forested areas.
Mammals	<i>Mustela frenata</i>	long-tailed weasel			G5	S5	Y	Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.
Mammals	<i>Spilogale putorius</i>	eastern spotted skunk			G4	S1S3	Y	Generalist; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. S.p. ssp. interrupta found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.
Mammals	<i>Conepatus leuconotus</i>	western hog-nosed skunk			G4	S4	Y	Habitats include woodlands, grasslands & deserts, to 7200 feet, most common in rugged, rocky canyon country; little is known about the habitat of the ssp. <i>telmalestes</i>
Mammals	<i>Puma concolor</i>	mountain lion			G5	S2S3	Y	Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.
Reptiles	<i>Macrochelys temminckii</i>	alligator snapping turtle		T	G3	S2	Y	Aquatic: Perennial water bodies; rivers, canals, lakes, and oxbows; also swamps, bayous, and ponds near running water; sometimes enters brackish coastal waters. Females emerge to lay eggs close to the waters edge.
Reptiles	<i>Deirochelys reticularia miaria</i>	western chicken turtle			G5T5	S2S3	Y	Aquatic and terrestrial: This species uses aquatic habitats in the late winter, spring and early summer and then terrestrial habitats the remainder of the year. Preferred aquatic habitats seem to be highly vegetated shallow wetlands with gentle slopes. Specific terrestrial habitats are not well known.
Reptiles	<i>Terrapene carolina</i>	eastern box turtle			G5	S3	Y	Terrestrial: Eastern box turtles inhabit forests, fields, forest-brush, and forest-field ecotones. In some areas they move seasonally from fields in spring to forest in summer. They commonly enters pools of shallow water in summer. For shelter, they burrow into loose soil, debris, mud, old stump holes, or under leaf litter. They can successfully hibernate in sites that may experience subfreezing temperatures.
Reptiles	<i>Terrapene ornata</i>	western box turtle			G5	S3	Y	Terrestrial: Ornate or western box turtles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species.
Reptiles	<i>Apalone mutica</i>	smooth softshell			G5	S3	Y	Aquatic: Large rivers and streams; in some areas also found in lakes and impoundments (Ernst and Barbour 1972). Usually in water with sandy or mud bottom and few aquatic plants. Often basks on sand bars and mudflats at edge of water. Eggs are laid in nests dug in high open sandbars and banks close to water, usually within 90 m of water (Fitch and Plummer 1975).
Reptiles	<i>Ophisaurus attenuatus</i>	slender glass lizard			G5	S3	Y	Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.

Taxon	SName	CName	USESA	SPROT	GRank	SRank	SGCN	Description
Reptiles	Phrynosoma cornutum	Texas horned lizard		T	G4G5	S3	Y	Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.
Reptiles	Plestiodon septentrionalis	prairie skink			G5	S2	Y	The prairie skink can occur in any native grassland habitat across the Rolling Plains, Blackland Prairie, Post Oak Savanna and Pineywoods ecoregions.
Reptiles	Heterodon nasicus	western hognose snake			G5	S4	Y	Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.
Reptiles	Crotalus horridus	timber (canebrake) rattlesnake			G4	S4	Y	Terrestrial: Swamps, floodplains, upland pine and deciduous woodland, riparian zones, abandoned farmland. Limestone bluffs, sandy soil or black clay. Prefers dense ground cover, i.e. grapevines, palmetto.
Reptiles	Sistrurus tergeminus	western massasauga			G3G4	S3	Y	Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.
Reptiles	Sistrurus miliarius	pygmy rattlesnake			G5	S2S3	Y	The pygmy rattlesnake occurs in a variety of wooded habitats from bottomland coastal hardwood forests to upland savannas. The species is frequently found in association with standing water.
Crustaceans	Fallicambarus houstonensis	Houston burrowing crayfish			G2	S3	Y	All species in the genus <i>Fallicambarus <i>are primary burrowers (Guíasu, 2007). It is clearly a primary burrower with 100% of adult and subadult specimens known from excavated burrows. Large numbers of juveniles were collected from Temporary pools (October through February) (Johnson, 2008).
Insects	Bombus pensylvanicus	American bumblebee			G3G4	SNR	Y	Habitat description is not available at this time.
Insects	Bombus variabilis	No accepted common name			G1G2	SNR	Y	Habitat description is not available at this time.
Insects	Pogonomyrmex comanche	Comanche harvester ant			G2G3	S2	Y	Habitat description is not available at this time.
Insects	Melanoplus alexanderi	No accepted common name			G1G2	S2?	Y	Primarily in open oak or pine/oak savannah type habitats with fine grain loamy sand to sandy loam soils.
Insects	Neotrichia mobilensis	No accepted common name			G1G2	S1?	Y	Habitat description is not available at this time.
Mollusks	Potamilus streckersoni	Brazos heelsplitter		T	GNR	SNR	Y	Reported from streams, but not far into the headwaters, to large rivers, and some reservoirs. In riverine systems occurs most often in nearshore habitats such as banks and backwater pools but occasionally in mainchannel habitats such as riffles. Typically found in standing to slow-flowing water in soft substrates consisting of silt, mud or sand but occasionally in moderate flows with gravel and cobble substrates (Randklev et al. 2014b,c; Tsakiris and Randklev 2016b; Smith et al. 2019) [Mussels of Texas 2020]
Mollusks	Fusconaia mitchelli	false spike	PE	T	GNR	S1	Y	Occurs in large rivers but may also be found in medium-sized streams. Is found in protected near shore areas such as banks and backwaters but also riffles and point bar habitats with low to moderate water velocities. Typically occurs in substrates of mud, sandy mud, gravel and cobble. Considered intolerant of reservoirs (Randklev et al. 2010; Howells 2010a; Randklev et al. 2014b,c; Randklev et al. 2017a,b). [Mussels of Texas 2019]
Mollusks	Truncilla macron	Texas fawnsfoot	PT	T	G1	S2	Y	
Plants	Tauschia texana	Texas tauschia			G3	S3	Y	Occurs in loamy soils in deciduous forests or woodlands on river and stream terraces; Perennial; Flowering/Fruiting Feb-April
Plants	Liatris cymosa	branched gay-feather			G2	S2	Y	Somewhat barren grassland openings in post oak woodlands on tight clayey, chalky, or gravelly soils, often over Catahoula Formation; flowering July-October
Plants	Paronychia setacea	bristle nailwort			G3	S2	Y	Flowering vascular plant endemic to eastern southcentral Texas, occurring in sandy soils
Plants	Cuscuta exaltata	tree dodder			G3	S3	Y	Parasitic on various Quercus, Juglans, Rhus, Vitis, Ulmus, and Diospyros species as well as Acacia berlandieri and other woody plants; Annual; Flowering May-Oct; Fruiting July-Oct
Plants	Amorpha paniculata	panicked indigobush			G3	S3	Y	A stout shrub, 3 m (9 ft) tall that grows in acid seep forests, peat bogs, wet floodplain forests, and seasonal wetlands on the edge of Saline Prairies in East Texas. It is distinguished from other Amorpha species by its fuzzy leaflets with prominent raised veins underneath, and the flower panicles, which are 8 to 16 inches long and slender, held above the foliage. Perennial; Flowering May-August.
Plants	Nemophila sayersensis	Sayersville blue eyes			G2	S2	Y	Open fields and woodland margins on deep loose nutrient-poor sand (Simpson, Helgott and Neff 2001). Mar-May.
Plants	Rhododon ciliatus	Texas sandmint			G3	S3	Y	Open sandy areas in the Post Oak Belt of east-central Texas; Annual; Flowering April-Aug; Fruiting May-Aug
Plants	Spigelia texana	Texas pinkroot			G3	S3	Y	Woodlands on loamy soils; Perennial; Flowering March-Nov; Fruiting April-Nov
Plants	Polygonella parksii	Parks' jointweed			G2	S2	Y	Mostly found on deep, loose, whitish sand blowouts (unstable, deep, xeric, sandhill barrens) in Post Oak Savanna landscapes over the Carrizo and Sparta formations; also occurs in early successional grasslands, along right-of-ways, and on mechanically disturbed areas; flowering June-late October or September-November
Plants	Thalictrum texanum	Texas meadow-rue			G2Q	S2	Y	Mostly found in woodlands and woodland margins on soils with a surface layer of sandy loam, but it also occurs on prairie pimple mounds; both on uplands and creek terraces, but perhaps most common on claypan savannas; soils are very moist during its active growing season; flowering/fruiting (January-)February-May, withering by midsummer, foliage reappears in late fall(November) and may persist through the winter
Plants	Crataegus viridis var. glabriuscula	Sutherland hawthorn			G5T3T4	S3	Y	In mesic soils of woods or on edge of woods, tree line/fenceline, or thicket. Above\near creeks and draws, in river bottoms. Flowering Mar-Apr; fruiting May-Oct.

Taxon	SName	CName	USES A	SPROT	GRank	SRank	SGCN	Description
Plants	<i>Agalinis navasotensis</i>	Navasota false foxglove			G1	S1	Y	Relatively sparsely vegetated, shallow, sandy soils on calcareous sandstone outcrops of the Oakville Formation, with associated surrounding species more typical of Edwards Plateau, than Post Oak Savanna or Blackland Prairie; also, Catahoula Formation barrens in pine savanna; Annual; Flowering September-October
Plants	<i>Valerianella florifera</i>	Texas cornsalad			G3	S3	Y	Grasslands and early-successional openings in the post oak belt of east-central and northeast Texas; Sandy soils; Annual; Flowering March-April
Plants	<i>Cyperus grayioides</i>	Mohlenbrock's sedge			G3G4	S3S4	Y	Deep sand and sandy loam in dry, almost barren openings in upland longleaf pine savannas, mixed pine-oak forests, and post oak woodlands; Occurs primarily in deep, periodically disturbed sandy soils in open areas maintained by factors such as wind, erosion, or fire. This species does not occur in shaded areas or in areas of high competition with other herbaceous species. Habitats include remnant sand prairies, sandy fields, sand blow outs, sandhill woodlands, pine barrens, and open barrens in which the slope is sufficient to produce sand erosion. May also occur in areas where the soils have been disturbed by logging or road construction; Perennial
Plants	<i>Eriocaulon koernickianum</i>	small-headed pipewort		T	G2	S1S2	Y	In East Texas, post-oak woodlands and xeric sandhill openings on permanently wet acid sands of upland seeps and hillside seepage bogs, usually in patches of bare sand rather than among dense vegetation or on muck; in Gillespie County, on permanently wet or moist hillside seep on decomposing granite gravel and sand among granite outcrops; flowering/fruiting late May-late June
Plants	<i>Schoenolirion wrightii</i>	Texas sunnysbell			G3	S3	Y	Rocky barrens in the Post Oak region near College Station, with a few disjunct populations on the Catahoula Formation of southeast Texas; Perennial; Flowering March-April; Fruiting March
Plants	<i>Calopogon oklahomensis</i>	Oklahoma grass pink			G2	S1S2	Y	Mesic, acidic, sandy to loamy prairies, pine savannas, oak woodlands, edges of bogs, and frequently mowed meadows (Goldman, Magrath & Catling 2002). Flowering March-July.
Plants	<i>Spiranthes parksii</i>	Navasota ladies'-tresses	LE	E	G3	S3	Y	Openings in post oak woodlands in sandy loams along upland drainages or intermittent streams, often in areas with suitable hydrologic factors, such as a perched water table associated with the underlying claypan; flowering populations fluctuate widely from year to year, an individual plant does not flower every year; flowering late October-early November (-early December)
Plants	<i>Chloris texensis</i>	Texas windmill grass			G2	S2	Y	Sandy to sandy loam soils in relatively bare areas in coastal prairie grassland remnants, often on roadsides where regular mowing may mimic natural prairie fire regimes; flowering in fall

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Lon: -96.288801
Accuracy: 29.33km
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Encompassing Places

Standard: [North America](#)Continent[United States](#)Country[Texas, US](#)State[Brazos County, TX, US](#)County

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- **Taxon is threatened, coordinates obscured by default:** One of the taxa suggested in the identifications, or one of the taxa that contain any of these taxa, is known to be rare and/or threatened, so the location of this observation has been obscured.

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[Observation Fields](#)

Count of Individuals Observed:

3

Is this an active nest?:

Yes

Nesting Activity:

Nest with young

For Bald Eagles, what kind of tree is the nest in?:

sycamore

TPWD Staff/Contractors: A Private Land Owner Permission Form is Required.:

No

Observation Fields (5)

Count of Individuals Observed:

3

For Bald Eagles, what kind of tree is the nest in?:

sycamore

Is this an active nest?:

Yes

Nesting Activity:

Nest with young

TPWD Staff/Contractors: A Private Land Owner Permission Form is Required.:

No

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**SUBJECT: Endangered Species Act Section 7 Consultation for Drone Commercial Package
Delivery Operations in College Station, Texas**

In accordance with Section 7 of the Endangered Species Act (ESA), the Federal Aviation Administration (FAA) is requesting U.S. Fish and Wildlife Service (USFWS) concurrence that the FAA's action of authorizing Amazon Prime Air to expand its drone package delivery operations in the College Station metropolitan area **may affect, but is not likely to adversely affect**, the tricolored bat (*Perimyotis subflavus*) and whooping crane (*Grus americana*). Our biological evaluation is provided below, including a brief background, project description, identification of the action area, and a discussion of potential effects to ESA-listed species.

Project Description

Amazon Prime Air (Amazon) currently operates the MK27-2 drone under 14 Code of Federal Regulations Part 135 (Part 135) in College Station, TX. Amazon has a Part 135 Air Carrier Certificate from the FAA, which allows it to conduct commercial package deliveries using drones. Amazon intends to expand its delivery capabilities in 2024 and has requested the FAA to authorize the operation of its next generation MK30 drone variant so it can add it to its Part 135 fleet to provide broader access to its drone package delivery services across its operating areas.

Amazon projects flying up to approximately 469 MK30 drone flights per operating day from the Prime Air Drone Delivery Center (PADDC) located in College Station, with each flight taking a package to a customer delivery address before returning to the PADDC. The PADDC is associated with Amazon's existing fulfillment center in College Station. The number of flights per day would vary based on customer demand and weather conditions. Amazon is taking an incremental approach to operations and expects to gradually ramp up to approximately 469 flights per day as consumer demand increases over time. Drone flights could be conducted up to 365 days a year and, as Amazon ramps up operations, it could operate up to 10 hours per day, primarily during daylight hours (operations will not occur before 7 A.M. or after 10 P.M). The current MK27-2 operating area and PADDC are depicted in **Attachment A**. The proposed MK30 operating area and PADDC are depicted in **Attachment B**.

Unmanned Aircraft

As pictured in **Attachment C**, the MK30 drone is a hybrid multicopter fixed-wing tail-sitter drone with six propulsors allowing it to take off and land vertically and transition to wing borne flight. Its airframe is composed of staggered tandem wings for stable wing borne flight. The drone weighs approximately 78 pounds and has a maximum takeoff weight of approximately 83 pounds, which includes a maximum payload of 5 pounds. It has a maximum operating range of 7.5 miles and can fly up to 58 knots (67 miles per hour) during wing-borne flight. It uses electric power from rechargeable lithium-ion batteries and is launched vertically using powered lift and converts to using wing lift during en route flight.

Flight Operations

The MK30 drone would generally be operated at an altitude of 300 feet above ground level (AGL) and up to a maximum operating altitude of 400 feet AGL while en route to and from delivery locations. At a delivery location, the drone would descend vertically to a stationary hover and drop a package to the ground. Once a package has been delivered, the drone would ascend vertically to the en route altitude and depart the delivery area to return to the PADDC. The drone would fly a predefined flight path that is set prior to takeoff. Flight missions would be automatically planned by Amazon's flight planning software, which assigns, deconflicts, and routes each flight. The PADDC is a controlled area wherein drone flights are launched and recovered.

Takeoff

Once a package is loaded onto the MK30 drone and the drone is cleared for takeoff at the PADDC, the drone takes off from the ground vertically to an altitude of about 180 feet AGL and then transitions and climbs to its en route altitude of about 300 feet AGL.

En Route Outbound

The en route outbound phase is the part of flight in which the MK30 drone transits from the PADDC to a delivery point on a predefined flight path. During this flight phase, the drone will typically operate at an altitude of 300 feet AGL with a typical airspeed of 58 knots (67 miles per hour).

Delivery

The delivery phase consists of descent from the en route altitude to a delivery point to deliver a package. The MK30 drone transitions and descends to about 180 feet AGL and then vertically descends to about 13 feet AGL while maintaining position over the delivery point. The drone hovers while dropping the package and then proceeds to climb vertically back to en route inbound altitude.

En Route Inbound

The MK30 drone continues to fly at an altitude of about 300 feet AGL with a speed of 58 knots towards the PADDC.

Landing

Upon reaching the PADDC, the MK30 drone slowly descends over its assigned landing pad and lands on the pad.

Predicted Sound Levels

The FAA conducted a noise analysis using sound level measurement data for the MK27-2 drone. Amazon reports that improvements made to the MK30 model have reduced the overall operating sound level of the drone, and as such, use of the MK27-2 as a surrogate in the noise analysis is conservative for noise estimation. The estimated maximum sound exposure level (SEL) for the takeoff, delivery, and landing

phases of flight is approximately 95.7, 96.3, and 94.8 decibels (dB), respectively, at 32.8 feet from the drone. Predicted sound levels decrease as distances from the drone increase. The maximum SEL for the en route phase is approximately 67.7 dB when the drone is flying about 52 knots (60 miles per hour). The detailed noise analysis is provided as **Attachment D**.

Action Area

The action area is defined as all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action (50 CFR § 402.02). The action area is defined as Amazon’s proposed MK30 operating area (see **Attachment B**). This area captures all possible flight routes to the delivery areas and where potential effects (e.g., visual, auditory, physical) to listed species could occur.

According to the Texas Parks and Wildlife Department (TPWD), the action area is in the Post Oak Savanna ecoregion, a transitional area between woodlands and prairies, within Brazo County and portions of Burleson and Grimes counties. The Post Oak Savanna ecoregion is generally characterized by gently rolling to hilly land scattered with a variety of trees, including oaks, black hickory, cedar elm, and persimmon. Today the region is mostly improved pastureland and vast acreage of grassland.¹ However, within the action area, high to medium density developed urban and commercial areas exist, including some rural areas scattered throughout. Wildlife habitats within the action area predominantly include parks, a few open spaces, waterways, and vacant lands. Additionally, urban flora and fauna thrive in such environments and typically are well established and populated. These areas provide habitat for many of the more common and ubiquitous bird and mammal species in the region, including deer, squirrels, raccoons, armadillos, wild boar, jackrabbits, mice, badgers, songbirds, raptors, waterfowl, and insects.

ESA-Listed Species and Critical Habitat in the Action Area

The FAA acquired the Official Species List (see **Attachment E**) from the USFWS Information for Planning and Conservation online system to identify ESA-listed species, species proposed for listing, and designated critical habitat in the action area (**Table 1**). The action area contains designated critical habitat for the Texas fawnsfoot (*Truncilla macrodon*).

Table 1. ESA-Listed Species, Species Proposed for Listing, and Candidate Species Potentially Present in the Action Area

Species	Common Name	Species Name	Federal Status	Critical Habitat
Mammals	Tricolored bat	<i>Perimyotis subflavus</i>	Proposed Endangered	N
Birds	Rufa red knot	<i>Calidris canutus rufa</i>	Threatened	N
	Piping plover	<i>Charadrius melodus</i>	Threatened	N
	Whooping crane	<i>Grus americana</i>	Endangered	N
Amphibian	Houston toad	<i>Bufo houstonensis</i>	Endangered	N
Clams	Texas fawnsfoot	<i>Truncilla macrodon</i>	Proposed Threatened	Y

¹ Texas Parks and Wildlife. Ecoregion 3 – Post Oak Savannah. Available: https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/wildscapes/ecoregions/ecoregion_3.phtml, Accessed January 2024.

Insects	Monarch butterfly	<i>Danaus plexippus</i>	Candidate Species	N
Plants	Navasota lades-tresses	<i>Spiranthes parksii</i>	Endangered	N

SOURCE: USFWS IPaC, accessed January 2024

The Official Species List states the piping plover and red knot only need to be considered for wind energy projects. Since the action is not a wind energy project, these two species are not considered further.

Potential Effects of the Action on ESA-Listed Species and Critical Habitat

The action does not include any ground construction or habitat modification. During nominal operations, the drone would not touch the ground except at the PADDC, which is a developed area. The action would not result in any physical disturbance to habitat. Therefore, the proposed action does not have the potential to affect the Texas fawnsfoot critical habitat and Navasota lades-tresses (*Spiranthes parksii*). The FAA has determined the action would have **no effect** on Texas fawnsfoot critical habitat and Navasota lades-tresses.

Drone noise and the potential for airborne strikes with flying species are the action’s potential stressors or threats to ESA-listed species. Flight operations would take place mostly in an urban environment, within airspace, and typically remain well above the tree line while en route to and from the PADDC. The duration of exposure by wildlife on the ground to visual or noise impacts from the drone would be of very short duration (approximately 30 seconds during takeoff/landing and delivery and a few seconds during the en route phase).

As noted above, the highest estimated SEL associated with Amazon’s proposed operations is 96.3 dB, which would occur when the drone is taking off from or landing at the PADDC in a commercial area and during a delivery. For reference, the sound level of a diesel truck at 50 feet or a noisy urban environment during the day is approximately 80 to 90 dB. The SEL on the ground when the drone is flying in the en route phase at an altitude of 165 feet AGL is estimated to be around 67.7 dB, which is comparable to the sound of an air conditioning unit at 100 feet (60 dB).

A noise descriptor for noise effects on wildlife has not been universally adopted, but some research indicates SEL is the most useful predictor of responses. Characteristic of the bulk of research to date has been lack of systematic documentation of the source noise event. Many studies report “sound levels” without specifying the frequency spectrum or duration. A notable exception is a study sponsored by U.S. Air Force that identifies SEL as the best descriptor for response of domestic turkey poults to low-altitude aircraft overflights (Bradley et al. 1990). This study identified a threshold of response for disturbance of domestic turkeys (“100 percent rate of crowding”) as SEL 100 dB. None of the predicted sound levels for the different flight phases exceed SEL 96.3 dB.

The following paragraphs describe the anticipated effects of the action on the remaining ESA-listed species and species proposed for listing (**Table 1**).

Tricolored Bat

The tricolored bat typically uses trees, caves, or manmade structures for roosting and forages for insects during dusk, nighttime, and dawn time periods. Tricolored bats emerge early in the evening and forage at treetop level or above but may forage closer to ground later in the evening. This species exhibits slow, erratic, fluttery flight while foraging and are known to forage most commonly over waterways and forest edges (USFWS 2023a). This species spends six to nine months per year hibernating in caves or mines (TPWD 2023c). The USFWS has proposed to list the tricolored bat as an endangered species,

primarily due to white-nose syndrome.² Other factors that influence the tricolored bat's viability include wind-energy-related mortality, habitat loss, and effects from climate change.

Suitable habitat for tricolored bat roosting and feeding in the action area includes wooded areas, open water habitat, and manmade structures. Based on current data from the North American Bat Monitoring Program (USGS 2024), there is a low average occupancy of tricolored bats occurring in the action area, particularly in the urban environment where the PADDC is located and deliveries would occur (see **Attachment F**). The PADDC is located in a commercial area and therefore not within suitable habitat for tricolored bats.

As stated above, Amazon is proposing to conduct drone delivery operations during daylight hours (never before 7 A.M. or after 10 P.M). Therefore, the time period that represents the greatest potential for the action to affect a tricolored bat is at dawn and dusk. Also, the risk is only present for three to six months each year (i.e., when bats are not hibernating). Tricolored bats at roost or in flight could experience drone noise during the en route and delivery flight phases. Bats foraging at or near the tree line at the time a drone flies by would experience the greatest sound levels. Roosting bats or bats foraging near the ground at the time a drone flies by would experience lower sound levels. Given the estimated sound levels of the drone, the drone's linear flight profile to and from the PADDC and delivery locations, the short period of time the drone would be in any particular location, and the low probability of encountering an individual tricolored bat in the action area, drone noise is not expected to adversely affect tricolored bats. Any increase in ambient sound levels caused by the drone's flight would only last a few seconds during the en route phase and approximately 30 seconds during a delivery.

Bats could also be struck by a drone, particularly around dawn and dusk when foraging. Given the bat's ability to avoid flying into objects, the short period of time the drone would be in any one place, and the low probability of encountering a tricolored bat during operations, the likelihood of the drone striking a bat is discountable.

Based on 1) operations occurring mostly in an urban environment, 2) the altitude at which the drone flies in the en route phase (300 feet AGL), 3) the expected low sound levels experienced by a bat, 4) any increase in ambient sound levels would be short in duration, 5) the low probability of a tricolored bat occurring in the action area, and 6) the low likelihood of the drone striking a bat, the FAA has determined the action **may affect, but is not likely to adversely affect** the tricolored bat. Any effects would be discountable (extremely unlikely to occur) or insignificant (not able to be meaningfully measured, detected, or evaluated).

Whooping Crane

Whooping cranes use a variety of habitats, including wetlands, estuaries, pastures, agricultural fields, and shallow areas of open water habitats. They are omnivores that eat a variety of food including insects, reptiles, rodents, fish, small birds, mollusks, crustaceans, and berries. Whooping cranes breed in northwest Canada and migrate south and winter in Texas, primarily in the Aransas National Wildlife Refuge located on the Gulf coast (TPWD 2023e). The whooping crane is listed under the ESA primarily due to hunting pressures and habitat loss (USFWS 2023b; Cornell 2023). Suitable foraging habitat in the action area includes shallow areas of open water habitats, marshes, pastures, and agricultural fields.

The whooping crane may occur in the action area in the spring or fall months as it migrates to and from its breeding grounds in Canada and wintering grounds at the Aransas National Wildlife Refuge. The majority of migrant crane observations in Texas occur in the spring from March 19 to April 30 and fall

² 87 Federal Register 56381 (September 14, 2022).

from October 20 to November 24 (Pearse et al. 2020). The crane may use habitat (e.g., agricultural fields) in the action area as a stopover site to feed or rest during migration.

The action does not include ground disturbance and therefore would not physically impact potential foraging or resting habitat. If present in the action area during operations, whooping cranes could experience en route noise. Given the estimated sound levels of the drone, the drone's linear flight profile to and from the PADDCC and delivery locations, the low probability of encountering an individual whooping crane during operations, and the short period of time the drone would be in any particular location, drone noise is not expected to adversely affect whooping cranes. Further, the chances of any one individual experiencing multiple overflights of a drone are low given the mobility of the birds. One study found that, in most instances, drones within 4 meters of birds did not cause a behavioral response (Vas et al. 2015).

Whooping cranes could be struck by a drone when in flight. The risk of a strike is low given the crane's limited occurrence in the action area and the crane's ability to fly and avoid the drone. The FAA has found that there is no known stopover habitat in the study area based on the Texas Parks and Wildlife Nature Trackers project, Texas Whooper Watch TPWD. 2023. Additionally, whooping crane migration flights are usually between 1,000 and 6,000 feet; therefore, it is not expected that occasional drone flights around 300 feet AGL would affect transitory swooping cranes if they were to migrate through the study area.

Based on 1) operations occurring mostly in an urban environment, 2) the altitude at which the drone flies in the en route phase (300 feet AGL), 3) the expected low sound levels experienced by a whooping crane, 4) any increase in ambient sound levels would be short in duration, 5) the low probability of a whooping crane occurring in the action area, 6) the low likelihood of the drone striking a whooping crane, and 7) no known stopover habitat in the study area based on the Texas Parks and Wildlife Nature Trackers project, the FAA has determined the action **may affect, but is not likely to adversely affect** the whooping crane. Any effects would be discountable (extremely unlikely to occur) or insignificant (not able to be meaningfully measured, detected, or evaluated).

Houston Toad

The Houston toad requires loose, deep sands supporting Loblolly pine forest, or mixed post oak-woodland savannah with 60-80% canopy cover and an open understory that supports native bunch grasses and still or flowing waters for breeding. The Houston toad lives primarily on land. These toads are considered habitat specialists, requiring very specific environmental conditions to survive. They aestivate (a dormant period during hot, dry conditions similar to hibernation during cold conditions) during most of the year, burrowing into the sand for protection. Habitat preferences include forested areas with loblolly pine, post oak, bluejack or sandjack oak, yaupon, and little bluestem. . The action does not involve any ground-disturbing activities or activities within Houston Toad habitat. As there is no plausible route of effect to this species, the FAA determined the action would have **no effect** on the Houston Toad.

Texas Fawnsfoot

The Texas fawnsfoot is a freshwater mussel that is endemic to Texas and found in the three river basins: Colorado, Brazos, and Trinity. The action does not involve any ground-disturbing activities or activities within Texas fawnsfoot habitat. As there is no plausible route of effect to this species, the FAA determined the action would have **no effect** on the Texas fawnsfoot.

Monarch Butterfly

The monarch butterfly is a candidate for federal listing. The primary threat to monarch butterflies is habitat loss, including the loss of breeding, migratory, and overwintering habitat. Pesticide use and climate change are also threats. While portions of the action area may contain potential summer breeding habitat, the entirety of Texas is within the migration path of monarch butterflies flying back and forth to wintering grounds in Mexico (TPWD 2023g).

The action would not physically affect monarch butterfly habitat or host plants. Monarch butterflies could be struck by drones en route to and from delivery; however, strikes are not likely given the species' mobility. Information regarding drone impacts on insects is limited, and there have been no widespread negative impacts identified in the scientific literature. Based on the information available and the limited scale of operations, the action is ***not expected to adversely affect*** the monarch butterfly.

Conclusion

Based on the analysis above, the FAA has determined the proposed action ***may affect, but is not likely to adversely affect*** the tricolored bat and whooping crane. The FAA appreciates your review of the proposed project and requests your concurrence with our effects determinations for these two species within 30 days of receiving this letter. If you have any questions, please contact Christopher Hurst via email at 9-faa-drone-environmental@faa.gov.

Sincerely,

**DEREK W
HUFTY**

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Derek Hufty
Manager, General Aviation and Commercial Branch (AFS-750)
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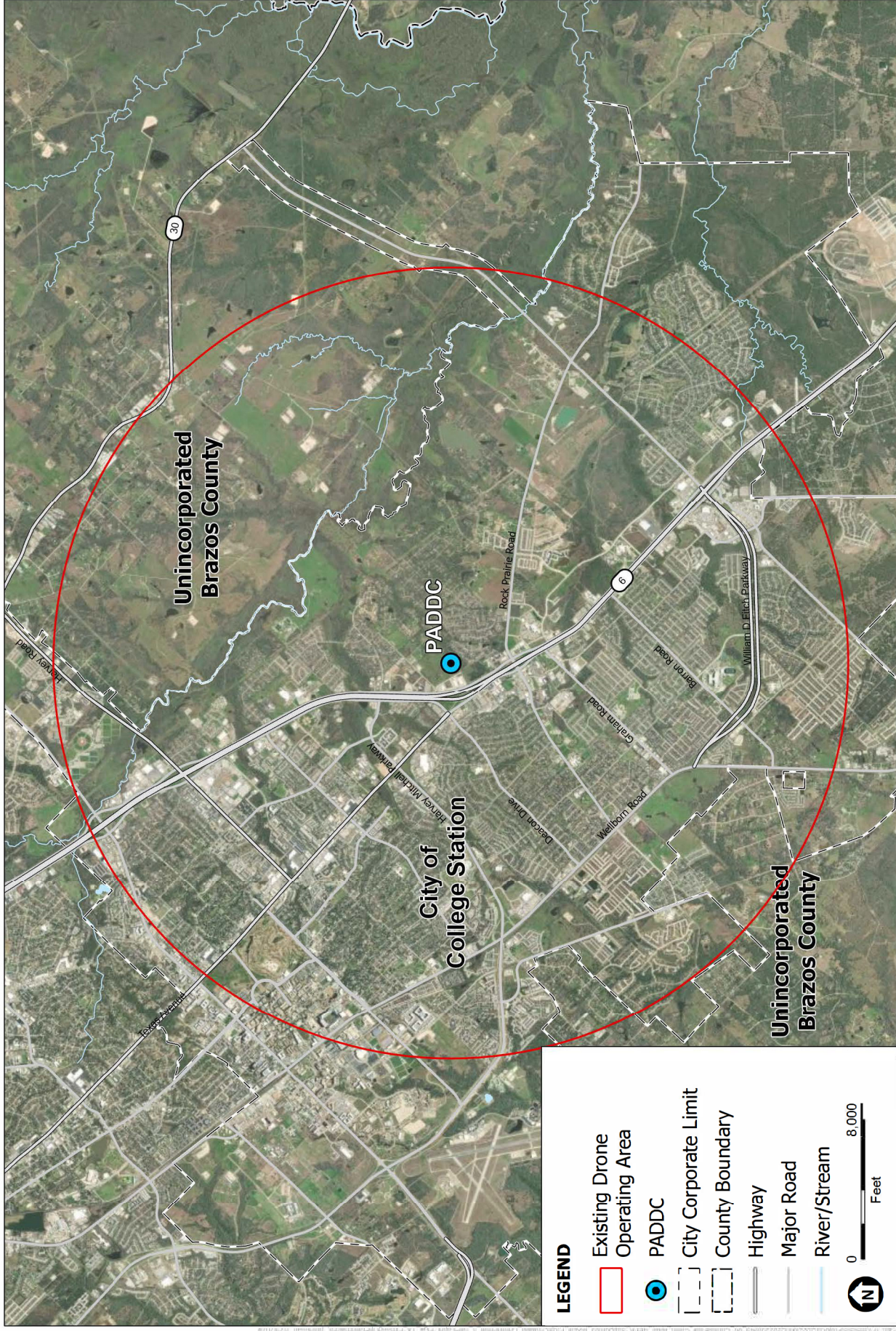
Attachment A – MK27-2 Operating Area
Attachment B – Proposed MK30 Operating Area
Attachment C – MK 30 Drone
Attachment D – Technical Noise Report
Attachment E – Official Species List
Attachment F – Tricolored Bat Mean Occupancy Probabilities

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Attachment A
MK27-2 Operating Area

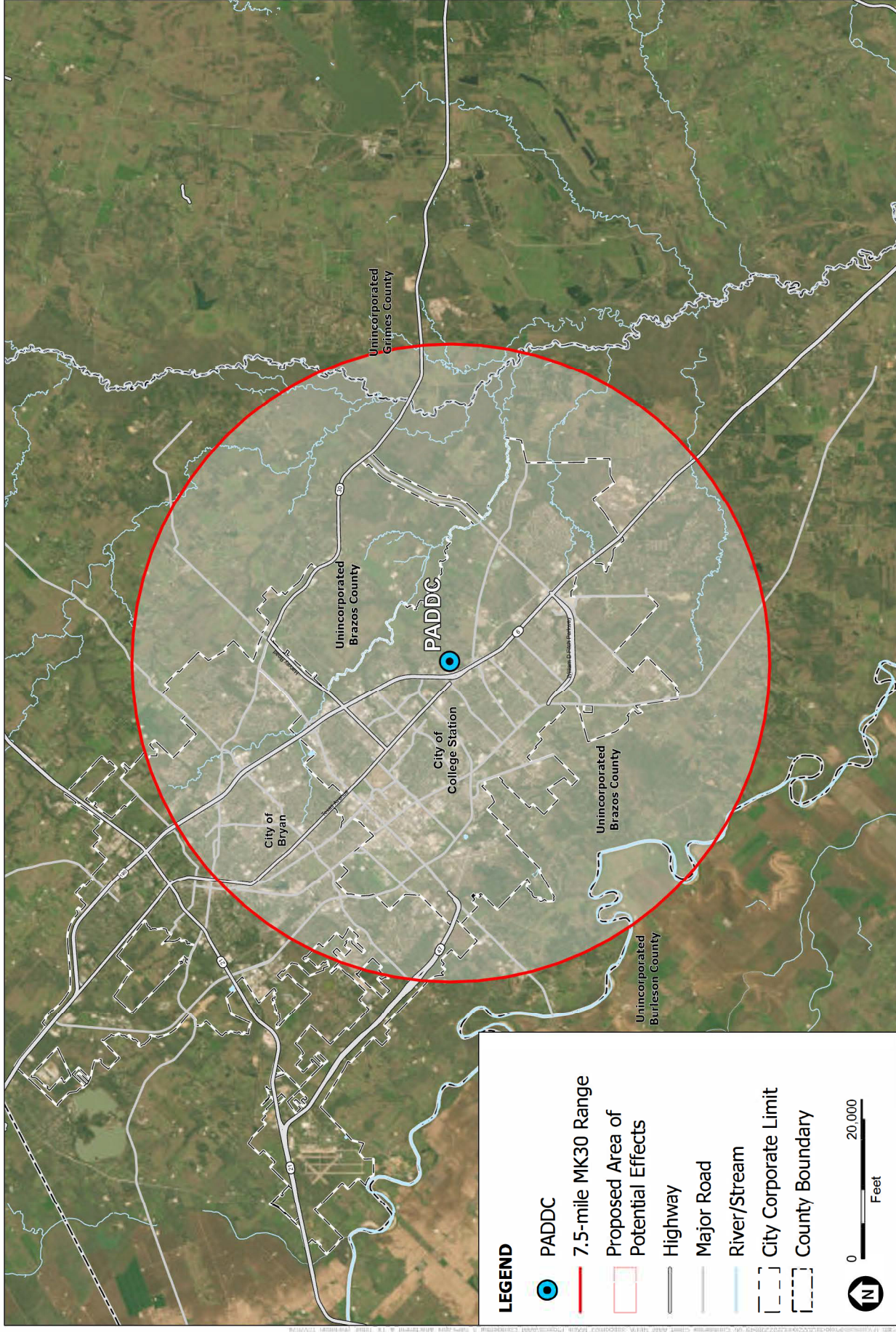


SOURCE: ESA, 2023; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022.

Existing Drone MK27-2
Operating Area
College Station, TX



Attachment B
Proposed MK30 Operating Area



SOURCE: ESA, 2023; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022; National Park Service, 2023.

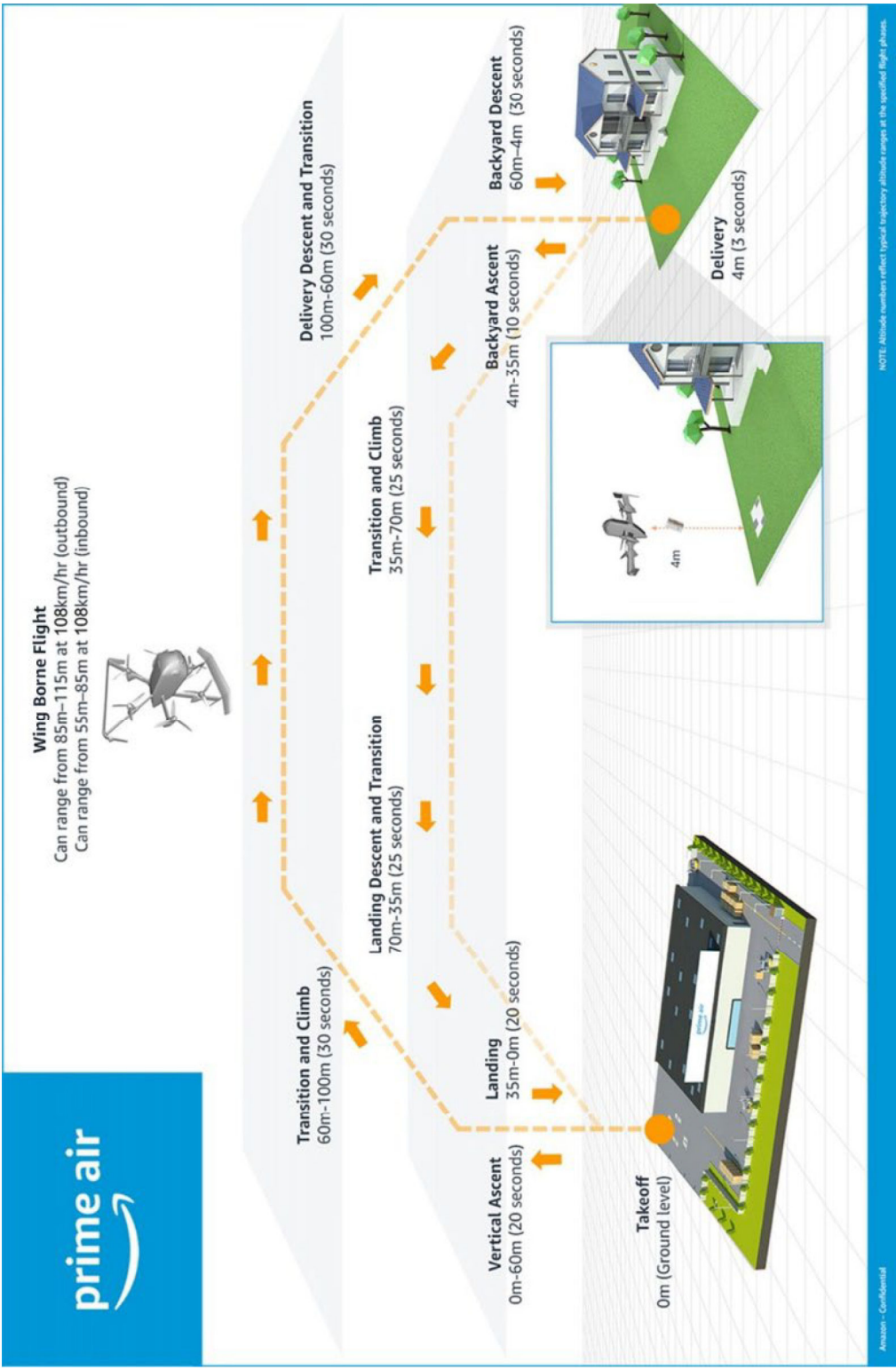
Proposed Drone MK30
Operating Area
College Station, TX

Attachment C
MK30 Drone



SOURCE: Amazon Prime Air, 2023.

MK30 Drone



SOURCE: Amazon Prime Air, 2023.

MK30 Drone Flight Profile

Attachment D
Technical Noise Report

NOISE ASSESSMENT AMAZON PRIME AIR MK27-2 UNMANNED AIRCRAFT OPERATIONS AT COLEGE STATION TEXAS

Noise Technical Report

February 2024



NOISE ASSESSMENT AMAZON PRIME AIR MK27-2 UNMANNED AIRCRAFT OPERATIONS AT COLEGE STATION TEXAS

Noise Technical Report

February 2024

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1 Introduction

Amazon Prime Air (Prime Air) is proposing to conduct drone delivery operations with the MK27-2 drone at their distribution hub (the Prime Air Drone Delivery Center, or PADDC) in College Station, Texas. The PADDC is located approximately 4 miles southeast of downtown College Station on Technology Parkway, as shown in **Figure 1**.

This document outlines the methodology and estimation of noise exposure expected with the proposed use of Prime Air's drone package delivery operations. The nonstandard methodology, equivalent to Federal Aviation Administration (FAA) Order 1050.1F, was approved by the FAA to inform the environmental decision-making regarding drone noise exposure from the proposed Prime Air package delivery operations¹. Noise measurements of the MK27-2 drone were conducted by Amazon and processed by the FAA for the five phases of flight expected from drone operations. The methodology below adheres to the requirements of the National Environmental Policy Act (NEPA) and other relevant environmental local and federal review requirements. The results of the noise analysis are presented in terms of the annual Day-Night Average Sound Level (DNL), considering varying levels of operations for areas at ground level below each flight phase.

The MK27-2 is equipped with a multi-rotor design consisting of six propellers extending horizontally from the central frame with the ability to switch between vertical and horizontal flight. Per the specification from Prime Air, the drones' empty weight, including the battery, is 86.6 pounds with a maximum allowable takeoff weight is 91.5 pounds. The maximum allowable package weight the UA is certified to carry is 4.9 pounds. Packages delivered by the UA are transported within an internal cargo bay. An image of the MK27-2 drone is shown in **Figure 2**.

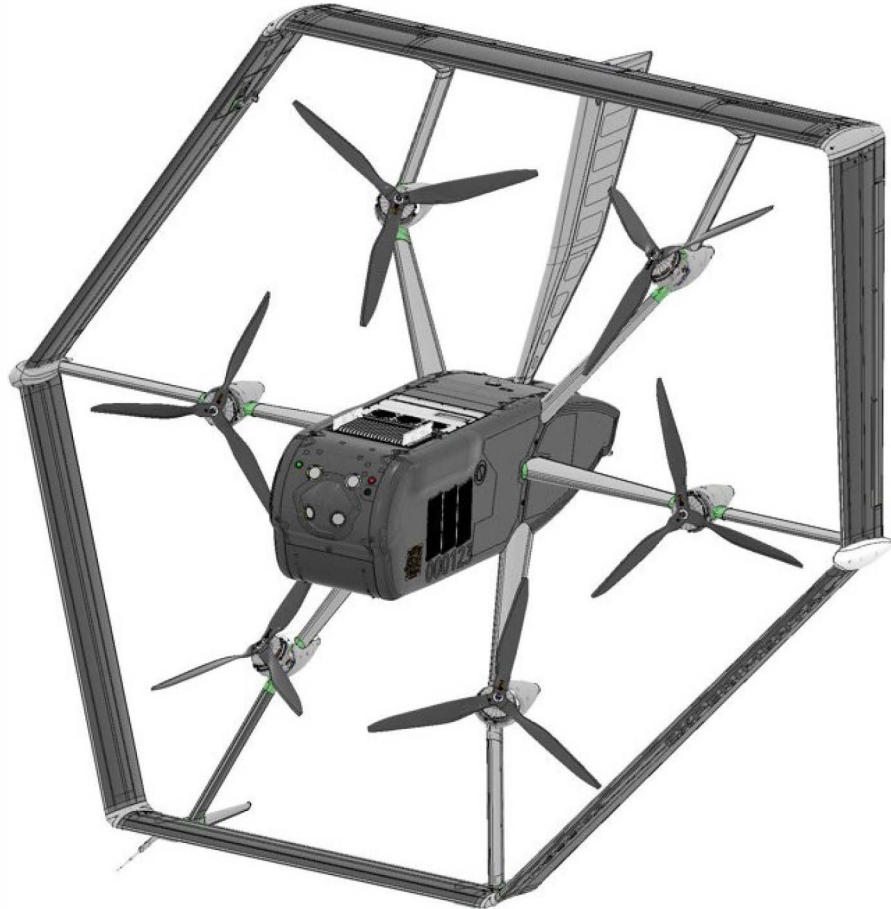
¹ *Environmental Assessment (EA) Noise Methodology Approval Request for Amazon Prime Air Commercial Package Delivery Operations with the MK27-2 UA from College Station, Texas*, FAA Office of Environment and Energy, September 2022. (See Attachment A).

Figure 1. PADDC Regional Location



Source: ESA, 2024; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022.

Figure 2. Amazon Prime Air MK27-2 Drone



Source: Amazon Prime Air, 2022.

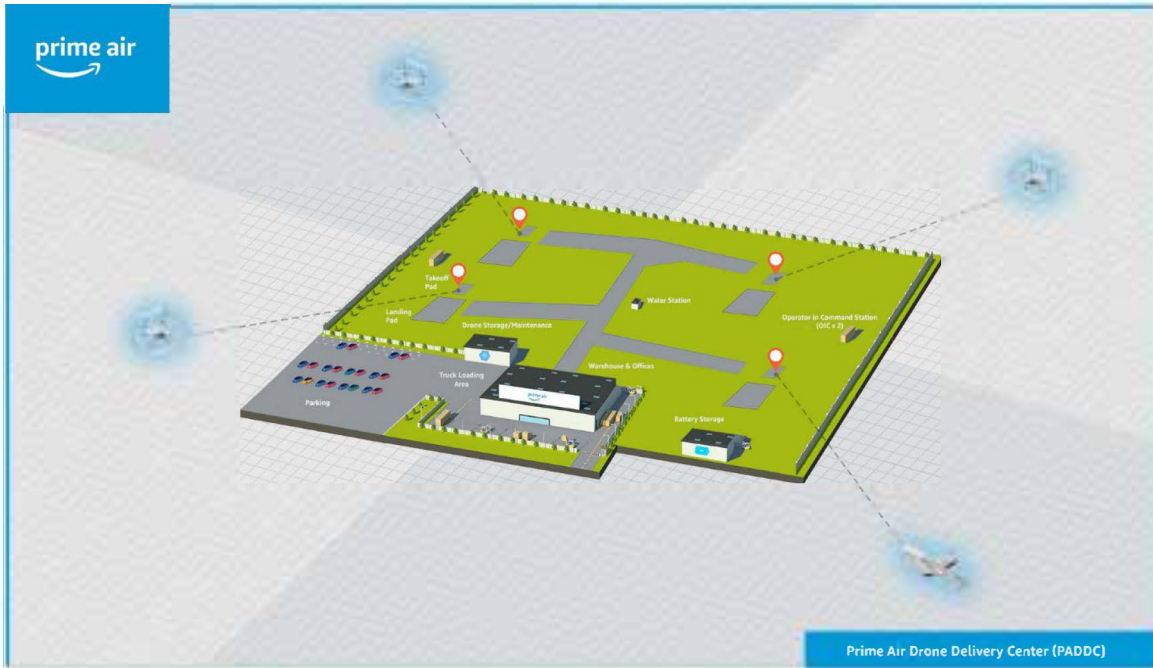
2 Drone Delivery Operations

The PADDC and its associated flight routes are determined by 'Prime Air's business and operational needs.

Takeoff pads at the PADDC's are four meters by four meters. Landing pads are eight meters by eight meters. Both pads are contained within a launch area approximately 35 meters by 45 meters. A diagram of a representative PADDC layout is presented in **Figure 3**.

The MK27-2 drone is capable of vertical ascent and descent, hovering, and flying upright with forward-facing propellers for en route travel. Airspeeds during normal en route flight are expected to be approximately 52.4 knots. A typical flight will commence with a vertical ascent from the launch pad to the en route altitude ranging between 160 and 180 feet Above Ground Level (AGL). The drone then maintains altitude and follows a predetermined route, traveling at 52.4 knots toward the designated delivery point. Upon arrival of the delivery point, the drone decelerates to zero speed and begins a vertical descent to 13 feet AGL at which time the package is released. The drone will ascend back to en route altitude and accelerate to 52.4 knots along the predetermined route back to the PADDC. Once the drone arrives at the PADDC it will decelerate to zero speed and begin a vertical descent to the landing pad.

Figure 3. Representative PADDC Layout



Source: Amazon Prime Air, 2022.

2.1 Flight Paths and Flight Profiles

Flight profiles of drone operations are broken into five general phases: takeoff, transitions to and from vertical and horizontal flight, en route, delivery, and landing. These phases can be combined to represent the typical operational profile of the drone as outlined below. A graphical representation of the operational profile is presented in **Figure 4** and each phase is summarized in **Table 1**.

Takeoff and Vertical Ascent

The drone departs from the launch pad once cleared for takeoff. It will ascend vertically to the en route altitude of between 160 and 180 feet AGL in vertical flight mode.²

Transition and Outbound Climb

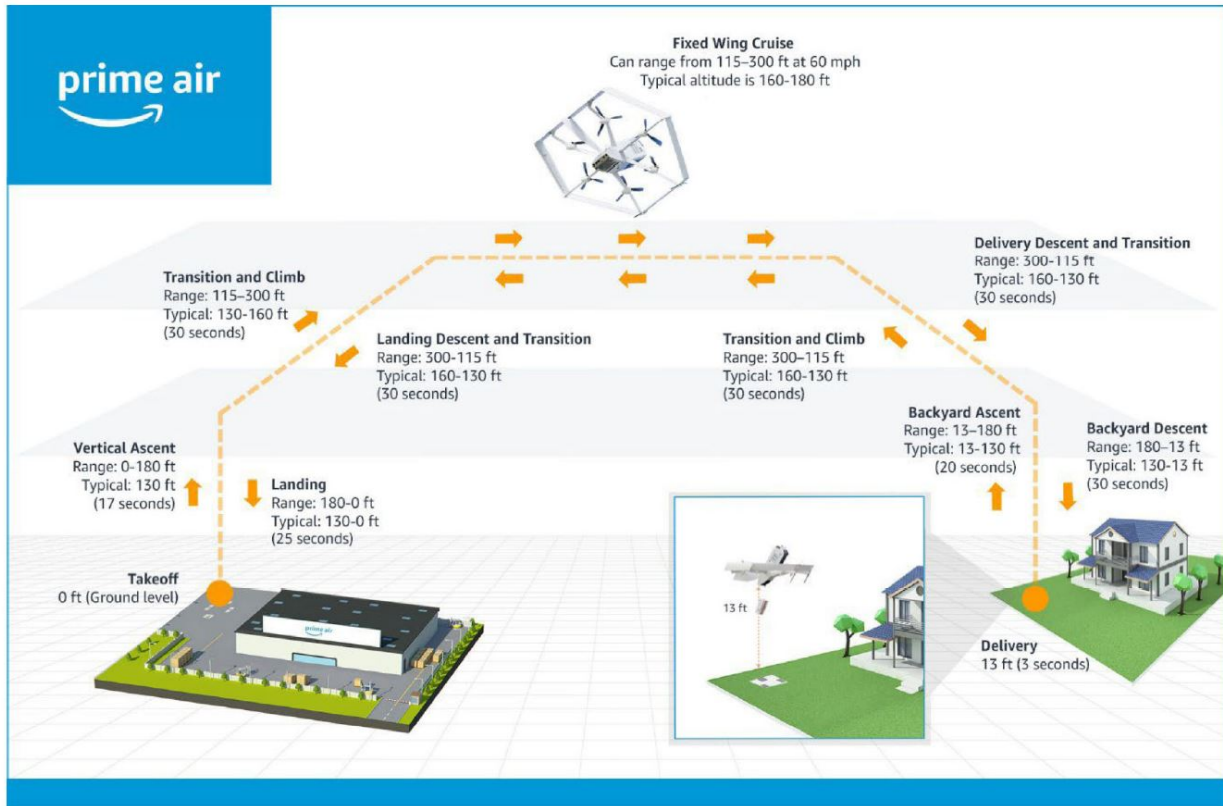
Upon reaching the en route altitude and while still positioned above the launch pad, the drone transitions from zero speed to its cruise speed of 52.4 knots. This transition is accompanied by a shift from vertical flight mode to horizontal flight mode.

Fixed-wing Outbound Cruise

The drone proceeds to fly at between 160 and 180 feet AGL and 52.4 knots to the delivery point.

² En route altitude is assumed to be 165 feet AGL, corresponding to the measurement data reviewed in FAA's memorandum, *Estimated Noise Levels for Amazon Prime Air MK27-2 UA*, FAA Office of Environment and Energy, August 2022 (See Attachment B).

Figure 4. Representative Operational Profile



Source: Amazon Prime Air, 2022.

Table 1. Representative Operational Profile by Phase of Flight

Phase of Flight	Altitude (feet AGL)	Ground Speed (knots)	Duration (seconds)
Takeoff and Vertical Ascent	Ascent from 0 to 165	0	21
Transition and Outbound Climb	165	0 to 52.4	20
Fixed-wing Outbound Cruise	165	52.4	Variable
Delivery Decent and Transition	165	52.4 to 0	20
Backyard Descent	Descend from 165 to 13	0	32
Delivery	13	0	2
Backyard Ascent	Ascent from 13 to 165	0	24
Transition and Inbound Climb	165	0 to 52.4	20
Fixed-wing Inbound Cruise	165	52.4	Variable
Landing Descent and Transition	165	52.4 to 0	20
Vertical Descent and Landing	Descend from 165 to 0	0	38

SOURCE: FAA, August 2022.

Delivery Descent and Transition

The drone decelerates from the en route speed of 52.4 knots and transitions to vertical flight mode, where it will be positioned over the delivery point at zero speed.

Backyard Descent, Delivery, and Ascent

The drone begins a vertical descent from en route altitude to 13 feet AGL while maintaining position above the delivery point. Once at 13 feet AGL, the drone drops the package and ascends vertically back to the en route altitude. It's important to note that the nearest allowable proximity of any individual, animal, or other obstacles to the delivery point during this maneuver is 16.4 feet.

Transition and Inbound Climb

Once at the en route altitude and positioned above the delivery point, the drone transitions from zero speed to en route speed while changing from vertical flight to horizontal flight.

Fixed-wing Inbound Cruise

The drone continues to fly at the en route altitude and speed towards the PADDC.

Landing Descent and Transition

The drone decelerates as it approaches the PADDC and transitions from horizontal flight to vertical flight, coming to a zero-speed position over its assigned landing pad.

Vertical Descent and Landing

The drone descends over its assigned landing pad in vertical flight until it touches down and shuts down the motors.

3 Acoustical Data of Flight Profiles

Prime Air conducted noise measurements of the MK27-2 drone in April 2021 at the Pendleton UAS Range located at the Eastern Oregon Regional Airport (KPDT). The FAA processed and analyzed the measurement data and calculated the estimate noise levels for each of the five phases of flight.³ The following tables show either the A-weighted Sound Exposure Levels (SEL) or formulas to calculate the estimated SELs used for this analysis, which can be matched to each flight phase detailed in **Table 1**. The formula is based on Equation 1 below.

$$eq. 1. SEL = m \times \log_{10}(d) + b(dB)$$

Where:

- d is the distance along the ground in feet between the drone and receiver
- m and b are parameters provided in the tables below

Table 2 provides parameters to use within Equation 1 to estimate SELs associated with takeoff as a function of distance from the PADDC launch pad to the receiver. **Table 3** provides parameters to use within Equation 1 to estimate SELs associated with takeoff as a function of distance from the PADDC launch pad to the receiver. **Table 4** provides parameters to use within Equation 1 to estimate the SEL associated with delivery, as a function of distance from the delivery point to the receiver. **Table 5** presents the estimated SELs that correspond to the transition between vertical flight to horizontal flight. The values in this table are for distances relative to the point under the vertical flight path. **Table 5** is applicable to all transition phases discussed in **Section 2.1**. These levels should be integrated with data from appropriate phases of flight (e.g., to estimate maximum possible landing noise, combine the transition noise from **Table 5** with the landing noise from **Table 3**). Lastly, **Table 6** presents the estimates of en route SEL.

Table 2. Parameters for Estimating Sound Exposure Level for Takeoff versus Distance

Range for d (feet from launch pad)	m	b
32.8 to 49.2	-9.09	109.47
49.2 to 65.6	-16.41	121.86
65.6 to 85.3	-26.39	140.00
85.3 to 142.2	-27.79	142.71
142.2 and greater	-23.39	134.99

SOURCE: FAA, August 2022.

Note: Distance is along ground from launch pad to receiver.

³ *Estimated Noise Levels for Amazon Prime Air MK27-2 UA*, FAA Office of Environment and Energy, August 2022 (See Attachment B).

Table 3. Parameters for Estimating Sound Exposure Level for Landing versus Distance

Range for d (feet from delivery point)	m	b
32.8 to 49.2	-9.26	108.81
49.2 to 65.6	-8.80	108.05
65.6 to 85.3	-17.1	123.12
85.3 to 142.2	-24.56	137.53
142.2 and greater	-23.39	134.99

SOURCE: FAA, August 2022.

Note: Distance is along ground from launch pad to receiver.

Table 4. Parameters for Estimating Sound Exposure Level for Delivery versus Distance

Range for d (feet from delivery point)	m	b
32.8 to 49.2	-5.85	105.35
49.2 to 65.6	-7.20	107.64
65.6 to 85.3	-16.92	125.3
85.3 to 142.2	-26.31	143.42
142.2 and greater	-21.9	133.91

SOURCE: FAA, August 2022.

Note: Distance is along ground from launch pad to receiver.

Table 5. Estimated Sound Exposure Levels from Transition Phase of Flight Profile at 165 Feet Above Ground Level

Distance from launch pad, landing pad or delivery point (ft)	SEL (dB)
0	69.9
100	70.6
200	70.3
400	69.4
800	68.2
1600	67.7
3200	67.7

SOURCE: FAA, August 2022.

Table 6. Estimates of En Route SEL

Aircraft Configuration	Reference Air Speed (knots)	Reference Altitude (feet AGL)	SEL (dB)
Max Weight	52.4	165	67.7

SOURCE: FAA, August 2022.

4 Methodology

Operations originating from the College Station PADDC is expected to occur daily between the hours of 7:00 AM and 10:00 PM. The number of daily and equivalent annual delivery operations is 469 and 171,329, respectively. As previously mentioned, there is not a standardized process for drone noise assessments. Therefore, ESA is applying technical guidance that was previously approved by the FAA Office of Environment and Energy for past analyses. The following subsection outlines this methodology.

4.1 Daytime Equivalent Operations and DNL

As mentioned, results are presented as DNL which applies a 10 dB weighting, or equivalent to 10 times the number of nighttime operations, for operations between 10:00 PM and 7:00 AM. Therefore, the operations near point i can be weighted to develop a daytime equivalent number of operations ($N_{equiv,i}$).

$$eq. 2. N_{equiv,i} = W_{Day} \times N_{Day,i} + W_{Eve} \times N_{Eve,i} + W_{Night} \times N_{Night,i}$$

Where:

- $N_{Day,i}$ is the number of user-specified operations between 7 AM and 7 PM local time
- $N_{Eve,i}$ is the number of user-specified operations between 7 PM and 10 PM local time
- $N_{Night,i}$ is the number of user-specified operations between 10 PM and 7 AM local time
- W_{Day} is the day-time weighting factor, which is 1 operation for DNL
- W_{Eve} is the evening weighting factor, which is 1 operation for DNL
- W_{Night} is the night-time weighting factor, which is 10 operations for DNL

The number of daytime equivalent operations, $N_{DNL,i}$ can be simplified to

$$eq. 3. N_{DNL,i} = N_{Day,i} + N_{Eve,i} + 10 \times N_{Night,i}$$

4.2 PADDC Infrastructure

The PADDC at College Station accommodates four sets of launch and landing pads. In the context of this noise analysis, it is assumed that only one launch/landing pad is under consideration at a given time. To conservatively represent all operations within the PADDC, including all launch and landing pads, the analysis is focused on the southernmost launch and landing pad that is closest to the noise-sensitive location. Application of Acoustical Data

The summation of the SELs in the previous section are used to estimate the DNL for Prime Air's drone operations covered in this report. SEL results are detailed in FAA's Memorandum found in **Attachment B**.

For calculating SEL, five specific activities are considered:

- The drone taking off from the PADDC
- The drone transitioning from either vertical to horizontal flight or horizontal to vertical flight
- En route travel of the drone in horizontal flight between the PADDC and the delivery point
- Delivery

- The drone landing at the PADDC

This analysis is based on the SEL data provided in **Section 3. Table 5** displays noise exposure values at distinct increments corresponding to the drone vertical profile, ranging from 0 to 3,200 feet. In instances where additional values within this range are required, linear interpolation can be employed to approximate SEL values at intermediary distances. However, extrapolating SEL values for distances less than 32.8 feet during takeoff, landing, or delivery is discouraged due to increased deviations in the estimation method's accuracy as the distance approaches the noise source.

4.2.1 Takeoff

The process for calculating SELs for the takeoff profile is presented in **Section 3**, Equation 1 combined with the parameters presented **Table 2**.

Application of the SEL is based on the position of the southernmost launch pad at a PADDC. It should be noted that the SEL values provided do not include the transition to horizontal flight or the acceleration to en route speed that would occur after the climb.

4.2.2 Transitions between Vertical and Horizontal Flight

Table 5 presents noise exposure values SELs for the transition between vertical and horizontal flight. Noise exposure is expressed at discrete increments relative to the drone's ground location for distances from 0 to 3,200 feet. These values are applicable to the drone when it is in level flight at 165 feet AGL and is either accelerating or decelerating within the speed range of 0 to 52.4 knots over a duration of 20 seconds.

4.2.3 En Route

The anticipated flight speed of the drone en route is 52.4 knots at a cruise altitude of 165 feet AGL. Sound exposure level for a given point i ($SELi$) with the drone flying directly overhead at altitude (Alt_i) in feet and a ground speed (Vi) in knots, is calculated based on the guidance in *14 CFR Part 36 Appendix J, Section J36.205 Detailed Data Correction Procedures*.⁴ The equations presented in this section are only applicable for a drone that is moving relative to a stationary receptor. The sound exposure level adjustment for the altitude of a moving drone is presented in Equation 4.

$$Eq. 4. \Delta J_1 = 10 \times \log_{10} \frac{H_A}{H_T}, dB$$

Where:

- ΔJ_1 is the quantity in decibels that must be algebraically added to the measured SEL in order to estimate the SEL for a level flight path at an altitude differing from the altitude corresponding to the measured SEL.
- H_A is the reference height, in feet, corresponding to the measured SEL.
- H_T is the altitude at which an estimate of the SEL is being made; and the constant (12.5) accounts for the effects on spherical spreading and duration from the off-reference altitude.

Note the value of ΔJ_1 is 0 if H_T is equal to H_A and can be negative if H_T is greater than (higher altitude) than H_A .

⁴ <https://www.ecfr.gov/current/title-14/chapter-I/subchapter-C/part-36>.

The sound exposure level adjustment for speed is presented in Equation 5.

$$Eq. 5. \Delta J_3 = 10 \times \log_{10} \frac{V_R}{V_{RA}}, dB$$

Where:

- ΔJ_3 is the quantity in decibels that must be algebraically added to the measured SEL noise level to estimate the SEL of the drone at speed V_{RA} when the measured SEL corresponds to the drone traveling at a reference speed V_R .

This adjustment accounts for how the varying speed impacts the duration of the overflight at the stationary receptor.

As shown in **Table 6**, the SEL is 67.7 dB when the drone is at maximum weight, at 165 feet from the stationary receiver and traveling at approximately 52.4 knots. Using the maximum weight (outbound) en route condition when the drone is operating at an altitude of Alt_i feet (AGL) and ground speed of V_i knots can be made using Equation 6 to arrive at an estimate SEL_{max} weight dB for that respective phase of flight.

$$Eq. 6. SEL_{Max} = 67.7 + 12.5 \times \log_{10} \frac{165}{Alt_i} + \log_{10} \frac{52.4}{V_i}, dB$$

For this analysis, it was assumed that Equation 6 is applicable for all en route activity to ensure a conservative assumption for drone flyovers at 165 feet AGL.⁵

4.2.4 Delivery

The available SELs to be applied for the delivery phase in Equation 1 are presented in **Table 4**. The SELs are based on the distance of the receiver relative to the position of the delivery point. The minimum distance used for calculation between the delivery point and a person is 16.4 feet.⁶ The values in **Table 4** are valid for distances from the delivery point of 32.8 feet or greater. SEL values for distances of between 16 and 32.8 feet are adjusted by distance to the delivery point and sound level adjustment of a stationary source as provided by Equation 7.

$$Eq. 7. SEL_{Delivery} = 96.5 + 12.5 \times \log_{10} \frac{32.8}{Distance \text{ from Delivery Point (ft)}}$$

The SEL values in **Table 4** do not provide the noise contribution from the horizontal flight associated with either the drone transitioning from en route speed to vertical flight before delivery, or the transition between vertical flight to en route speed after delivery. The SEL values only include descent from en route altitude to delivery altitude, various maneuvers associated with the delivery, and climb back to en route altitude.

⁵ *Estimated Noise Levels for Amazon Prime Air MK27-2 UA*, FAA Office of Environment and Energy, August 2022 (See Attachment B).

⁶ Prime Air's safety guidance stipulates that there should not be a person, animal or object within 5 meters of the delivery point, and if the drone detects a person, animal or object within 5 meters of the delivery point, it will abort the delivery.

4.2.5 Landing

The available SELs to be applied for the landing profile in Equation 1 are presented in **Table 3**. Application of the SEL is based on the location of the southernmost landing pad at a PADDC. It should be noted that the SEL values provided only include descent from en route altitude and do not include the deceleration from en route speed or transition to vertical flight that would occur after descent.

4.3 DNL Estimation Methodology

The number of operations flying over a specific receiver's ground location will fluctuate depending on the proposed operating area and demand. For a given receiver location, i , and a single instance of sound source, A , the SEL for that sound source SEL_{iA} is (energy) summed for the average annual daily number of DNL daytime equivalent operations ($N_{DNL,iA}$) to compute the equivalent DNL in Equation 8.

$$Eq. 8. DNL_{iA} = SEL_{iA} + 10 \times \log_{10}(N_{DNL,iA}) - 49.4, dB$$

The above equation applies to an SEL value representing one noise source such as a drone takeoff or landing. For cases where a receiver would be exposed to multiple noise sources (e.g. takeoff, transiting, en route, and departure), the complete DNL at that point was calculated with Equation 9.

$$Eq. 9. DNL_i = 10 \times \log_{10} \left(10^{\left(\frac{DNL_{ia}}{10}\right)} + 10^{\left(\frac{DNL_{ib}}{10}\right)} + \dots + 10^{\left(\frac{DNL_{iz}}{10}\right)} \right), dB$$

For each of the conditions presented below, results are presented in tabular format based on the equivalent daytime operations, in DNL daytime equivalent, for the estimated DNL. The proper output of DNL is dependent on the calculation of respective daytime equivalent operations.

4.3.1 DNL at PADDC

The takeoffs and landings are anticipated to occur at the same location. Therefore, the results for both will be calculated for a single set of receptors. Operations were assumed to takeoff and the landing flight paths along the path.

Takeoff operations are represented by two sound levels. The drone will take off and climb to en route altitude as discussed in Section 2. The drone will then begin en route flight by transitioning from vertical flight to horizontal flight and accelerating to en route speed of 52.4 knots.

Landing operations are also represented by two sound levels. The drone flies to the PADDC at en route altitude while slowing down and transitions from horizontal to vertical flight as described in Section 2. Then the drone descends from en route altitude to the ground and shuts down.

The four noise sources representing the complete takeoff and landing cycle associated with a single delivery departing and returning at the PADDC were added together in Equation 9.

4.3.2 DNL for En Route

A receiver will be positioned directly under the flight path, and the DNL will be calculated based on the altitude and speed-adjusted delivery SEL calculated in Section 3. The number of operations would be based on relevant materials and assume that a drone directly overflies the receiver while

at maximum weight for both outbound and inbound for a single delivery. The en route outbound and inbound noise level are added together with Equation 9.

4.3.3 DNL for Delivery Points

Delivery operations will be represented by three sound levels. First, the drone decelerates from en route speed and transitioning from horizontal flight to vertical flight over the delivery point at the en route altitude of 165 ft. Second, delivery phase where the package is dropped at the delivery point. Lastly, the drone transitions from vertical flight to horizontal flight after reaching the en route altitude of 165 feet AGL and accelerating to en route speed. The three sound levels are added together with Equation 9.

5 Estimated Noise Exposure

This section outlines the estimated noise exposure for Prime Air's proposed operations for any given number of average annual day (AAD) deliveries. Results are based off the estimated number of DNL equivalent deliveries associated with the PADDC and presented in tabular format. Prime Air expects to conduct 469 daily deliveries, which per note B in **Table 7**, the average daily deliveries rounds to 480. Note that one delivery includes the outbound takeoff and inbound landing and is representative of two operations.

The DNL equivalent deliveries, $N_{DNL,i}$ as described in Section 4.1, is presented below as Equation 10.

$$\text{Eq. 10. } Deliveries_{DNL,i} = Deliveries_{Day} + 10 \times Deliveries_{Night}$$

$Deliveries_{Day}$ are between 7 AM and 10 PM and $Deliveries_{Night}$ are between 10 PM and 7 AM. If a portion of a delivery (either takeoff or landing) occurs in the nighttime hours, then it is counted within $Deliveries_{Night}$. If a portion of a delivery (either takeoff or landing) occurs in two time periods, then it should be counted within $Deliveries_{Night}$ for a more conservative approach.

For estimating noise exposure, the noise levels for each flight phase are considered separate based on the level of proposed operations for a given location. When a particular receptor is at the transition of different flight phases, the cumulative noise exposure is then determined by adding the noise from each phase.

5.1 Noise Exposure for Operations at the PADDC

For operations at the PADDC, noise generated by the drone includes takeoff, landing, and transitions from vertical to fixed-wing horizontal flight within the corresponding en route flight phases. It was assumed that all operations follow the same en route flight path, with outbound and inbound flights traversing it in opposing directions for a conservative approach.

Table 7 presents data for the number of average daily DNL equivalent deliveries (including the takeoff and climb, transition to en route outbound, transition from en route inbound, and descent and landing as detailed in Section 2. The table provides the estimated extent of DNL 45 dB, 50 dB, 55 dB, 60 dB, and 65 dB contours under the flight path for the PADDC. The analyses presented were rounded up conservatively to the nearest interval available from the data from Section 3, out to 3,500 feet.

Table 7. Estimated Extent of Noise Exposure from PADDC per Number of Deliveries

Number of DNL Equivalent Deliveries		Estimated Extent of Exposure (feet)				
Average Daily	Annual	DNL 45	DNL 50	DNL 55	DNL 60	DNL 65
<= 1	<= 365	75	32.8	32.8	32.8	32.8
<= 5	<= 1,825	150	100	50	32.8	32.8
<= 10	<= 3,650	250	150	75	32.8	32.8
<= 15	<= 5,475	250	150	100	50	32.8
<= 20	<= 7,300	300	200	100	75	32.8
<= 40	<= 14,600	450	250	150	100	32.8
<= 60	<= 21,900	550	300	200	100	75
<= 80	<= 29,200	650	350	200	150	75
<= 100	<= 36,500	750	400	250	150	75
<= 120	<= 43,800	850	400	250	150	100
<= 140	<= 51,100	1000	450	250	150	100
<= 160	<= 58,400	1150	500	300	150	100
<= 180	<= 65,700	1400	500	300	200	100
<= 200	<= 73,000	1650	550	300	200	100
<= 220	<= 80,300	2650	600	300	200	100
<= 240	<= 87,600	Note 3	600	350	200	150
<= 260	<= 94,900	Note 3	650	350	200	150
<= 280	<= 102,200	Note 3	700	350	200	150
<= 300	<= 109,500	Note 3	700	350	200	150
<= 340	<= 124,100	Note 3	800	400	250	150
<= 360	<= 131,400	Note 3	800	400	250	150
<= 380	<= 138,700	Note 3	850	400	250	150
<= 400	<= 146,000	Note 3	900	450	250	150
<= 420	<= 153,300	Note 3	950	450	250	150
<= 440	<= 160,600	Note 3	1000	450	250	150
<= 460	<= 167,900	Note 3	1050	450	250	150
<= 480	<= 175,200	Note 3	1100	450	250	150

SOURCE: ESA, 2024.

Notes:

1. One delivery accounts for the outbound takeoff and inbound landing and is representative of two operations.
2. If a value for deliveries is not specifically defined in this table, use the next highest value. For example, if there are 50 average daily DNL equivalent deliveries, use the entry for 60 average daily DNL equivalent deliveries.
- 3 The DNL noise level noted extends more than 3,500 feet from the PADDC based on the level of operations specified as the aircraft continues along its en route flight path. En route results in Section 5.2 may be more applicable in these instances for determining noise levels.

5.2 Noise Exposure under En Route Paths

When the drone is en route it is expected to fly the same outbound flight path between the PADDC and the delivery point and inbound flight path back to the PADDC. Therefore, each receiver under the en route path would experience two overflights for each delivery served by the corresponding en route flight path.

Table 8 provides the estimated DNL for a receiver on the ground directly under an en route path for various counts of daily average DNL equivalent deliveries. The en route noise calculated for each delivery includes both the inbound and outbound traversal of the en route path at 165 feet AGL and a ground speed of 52.4 knots.

The drone may overfly locations at operational levels that differ from both an inbound and outbound traversal of the en route path by the drone as described above and presented in **Table 8**. For these circumstances, **Table 9** presents the equations for calculating the estimated DNL for a receiver directly under a specified given number of DNL equivalent average daily individual overflights, defined as N_o .

Table 8. Estimated Noise Exposure Directly Under En Route Flight Paths

Number of DNL Equivalent Deliveries

Average Daily	Annual	DNL
<= 1	<= 365	21.3
<= 5	<= 1,825	28.3
<= 10	<= 3,650	31.3
<= 15	<= 5,475	33.1
<= 20	<= 7,300	34.4
<= 40	<= 14,600	37.4
<= 60	<= 21,900	39.1
<= 80	<= 29,200	40.4
<= 100	<= 36,500	41.3
<= 120	<= 43,800	42.1
<= 140	<= 51,100	42.8
<= 160	<= 58,400	43.4
<= 180	<= 65,700	43.9
<= 200	<= 73,000	44.4
<= 220	<= 80,300	44.8
<= 240	<= 87,600	45.1
<= 260	<= 94,900	45.5
<= 280	<= 102,200	45.8
<= 300	<= 109,500	46.1
<= 340	<= 124,100	46.7
<= 360	<= 131,400	46.9
<= 380	<= 138,700	47.1
<= 400	<= 146,000	47.4
<= 420	<= 153,300	47.6
<= 440	<= 160,600	47.8
<= 460	<= 167,900	48.0
<= 480	<= 175,200	48.2
<= 500	<= 182,500	48.3

SOURCE: ESA, 2024.

Table 9. Estimated Noise Exposure Directly Under Overflights

Altitude of Overflight	SEL for One Overflight (dB)	DNL for One Overflight Between 7 AM and 10 PM (dB)	DNL Equation for the Number of DNL Equivalent Overflights
115 feet AGL	69.7	20.3	$10 \times \log_{10} (No) + 20.3$
160 feet AGL	67.9	18.5	$10 \times \log_{10} (No) + 18.5$
165 feet AGL	67.7	18.3	$10 \times \log_{10} (No) + 18.3$
180 feet AGL	67.2	17.9	$10 \times \log_{10} (No) + 17.9$
300 feet AGL	64.5	15.1	$10 \times \log_{10} (No) + 15.1$
N Feet AGL	$12.5 \times \log_{10}(165/N_{ft}) + 67.7$	$SEL_1 - 49.4$	$10 \times \log_{10}(No) + DNL_1$

SOURCE: ESA, 2024.

Notes:

1. The DNL value for a given number of average DNL Equivalent Operations, N_o , can be found by using the equations associated with operation of the drone at a specified altitude and speed interval. In this case, one operation represents a single overflight.
2. All values in this table are for level flight at maximum weight and 52.4 knots.

5.3 Noise Exposure for Operations at Delivery Point

Table 10 presents the estimated DNL values for a range of potential daily average DNL equivalent delivery counts at a delivery point. Also included in **Table 10** is the equation for calculating the estimated DNL for a specific number of daily average DNL equivalent delivery counts at a delivery point, defined as N_d , for instances where the number of deliveries may fall between the range of presented delivery count intervals.

The DNL values include the transition from en route speed to vertical flight at en route altitude, the delivery maneuver, and the transition from vertical flight at en route altitude to en route speed as discussed in Section 4.4.3. The minimum listener distance is 16.4 feet from the delivery point and corresponds to minimum distance between a person and delivery point. Values are also presented at 32.8 feet from the delivery point which corresponds to minimum distance from the available measurement data and analysis presented by FAA. Values were also calculated at distances of 50 feet, 75 feet, 100 feet, and 125 feet from the delivery point and are representative of distances from which nearby properties may experience noise from a delivery.⁷

⁷ The 2022 US Census national average lot size for single-family sold homes was 15,265 square feet. This is representative of a property with dimensions of a 123.55 x 123.55-foot square. 125 feet represents a 125-foot lateral width of the parcel rounded up to the nearest 25 feet.
<https://www.census.gov/construction/charts/> See file “Soldlotsize_cust.xls” sheet MALotSizeSold.
 Accessed January 18, 2024.

Table 10. Estimated Noise Exposure at Various Distances from a Delivery Point per Number of DNL Equivalent Deliveries

Average Daily Deliveries	Annual Deliveries	DNL at 16.4 feet ¹	DNL at 32.8 feet ²	DNL at 50 feet	DNL at 75 feet	DNL at 100 feet	DNL at 125 feet
<= 1	<= 365	51.0	47.2	46.1	44.3	41.6	39.1
<= 5	<= 1,825	57.9	54.2	53.1	51.3	48.6	46.1
<= 10	<= 3,650	61.0	57.2	56.1	54.3	51.6	49.1
<= 15	<= 5,475	62.7	58.9	57.9	56.1	53.3	50.8
<= 20	<= 7,300	64.0	60.2	59.1	57.3	54.6	52.1
<= 40	<= 14,600	67.0	63.2	62.1	60.3	57.6	55.1
<= 60	<= 21,900	68.7	65.0	63.9	62.1	59.3	56.9
<= 80	<= 29,200	70.0	66.2	65.1	63.3	60.6	58.1
<= 100	<= 36,500	71.0	67.2	66.1	64.3	61.6	59.1
<= 120	<= 43,800	71.7	68.0	66.9	65.1	62.4	59.9
<= 140	<= 51,100	72.4	68.6	67.6	65.8	63.0	60.5
<= 160	<= 58,400	73.0	69.2	68.2	66.3	63.6	61.1
<= 180	<= 65,700	73.5	69.7	68.7	66.9	64.1	61.6
<= 200	<= 73,000	74.0	70.2	69.1	67.3	64.6	62.1
<= 220	<= 80,300	74.4	70.6	69.5	67.7	65.0	62.5
<= 240	<= 87,600	74.8	71.0	69.9	68.1	65.4	62.9
<= 260	<= 94,900	75.1	71.3	70.3	68.5	65.7	63.2
<= 280	<= 102,200	75.4	71.7	70.6	68.8	66.0	63.6
<= 300	<= 109,500	75.7	72.0	70.9	69.1	66.3	63.9
<= 340	<= 124,100	76.3	72.5	71.4	69.6	66.9	64.4
<= 360	<= 131,400	76.5	72.8	71.7	69.9	67.1	64.6
<= 380	<= 138,700	76.8	73.0	71.9	70.1	67.4	64.9
<= 400	<= 146,000	77.0	73.2	72.1	70.3	67.6	65.1
<= 420	<= 153,300	77.2	73.4	72.4	70.5	67.8	65.3
<= 440	<= 160,600	77.4	73.6	72.6	70.7	68.0	65.5
<= 460	<= 167,900	77.6	73.8	72.7	70.9	68.2	65.7
<= 480	<= 175,200	77.8	74.0	72.9	71.1	68.4	65.9
<= 500	<= 182,500	77.9	74.2	73.1	71.3	68.6	66.1

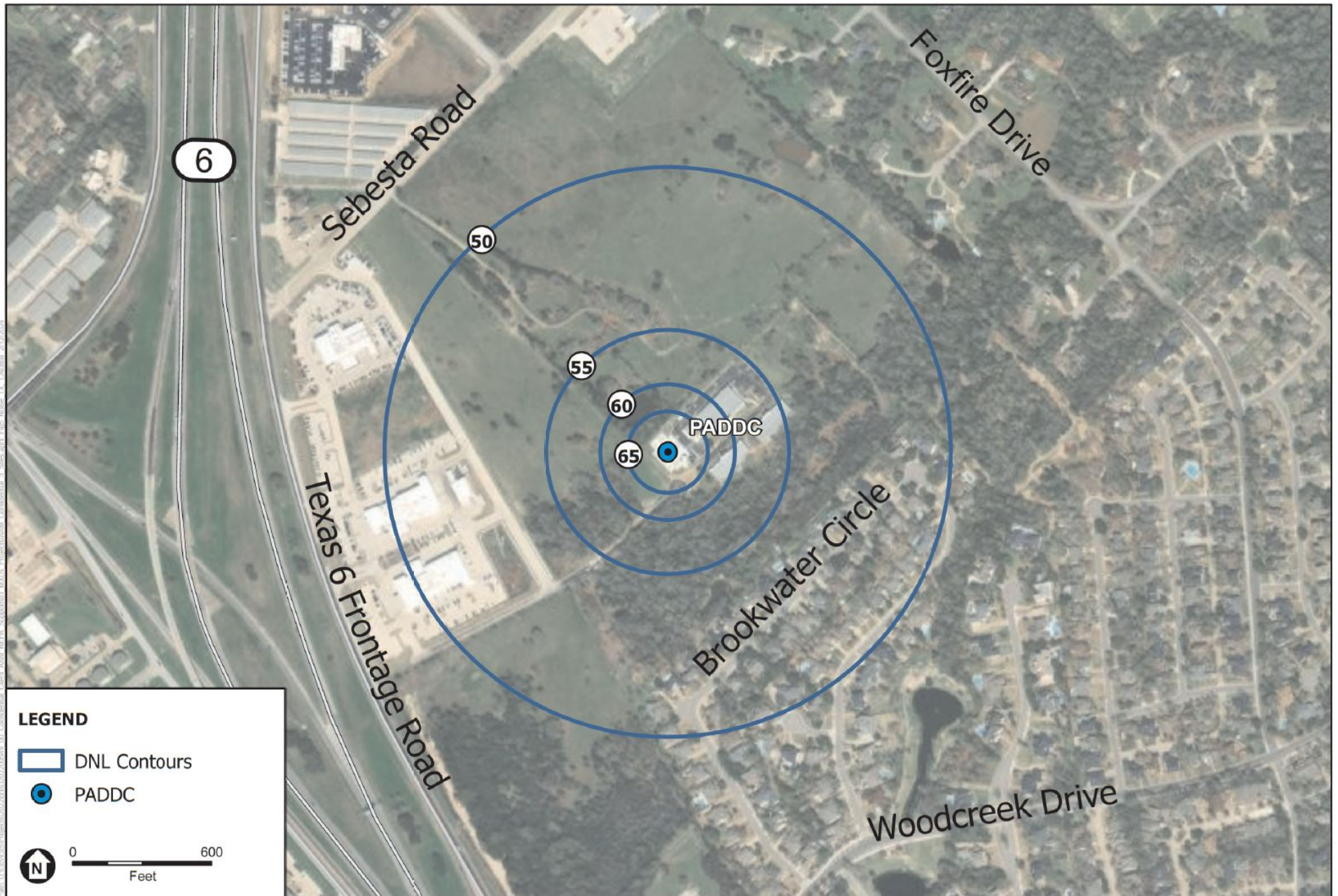
SOURCE: ESA, 2024.

Notes:

1. Minimum possible listener distance from drone.
2. Minimum measured distance to listener from drone.
3. The DNL values presented in this table only reflect the UA conducting descent and climb flight maneuvers associated with a delivery. DNL values associated with en route flight to and from a PADDC to a delivery point associated with a delivery, or nearby en route overflights, should be added to these values utilizing the DNL presented in Table 8.
4. If a value for deliveries is not specifically defined in this table, use the next highest value. For example, if there are 50 average daily DNL equivalent deliveries, use the entry for 60 average daily DNL equivalent deliveries.

6 Results

The DNL 50-, 55-, 60-, and 65-dB contours for Proposed Action are presented in **Figure 5**. These contours represent the 24-hour drone noise exposure to areas surrounding the College Station PADDCC on an average annual day. Note that the DNL 65 dB contour does not extend beyond the Prime Air property line and is expected that no noise impacts to non-compatible land uses would occur.



SOURCE: ESA, 2023; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022.

Draft Supplemental Environmental Assessment for Amazon Prime Air – College Station, TX

Figure 5
PADDCC Noise Exposure Contours
College Station, TX

Attachment A



Federal Aviation Administration

Memorandum

Date: September 22, 2022

To: Don Scata, Noise Division Manager, Office of Environment and Energy (AEE-100)
MICHAEL JAY MILLARD Digitally signed by MICHAEL JAY MILLARD
Date: 2022.09.22 13:41:19 -04'00'

From: Mike Millard, Flight Standards (AFS), General Aviation Operations Branch, AFS-830

Subject: Environmental Assessment (EA) Noise Methodology Approval Request for Amazon Prime Air MK27-2 UA Part 135 Operations at College Station, TX

FAA Office of Flight Standards (AFS) requests FAA Office of Environmental and Energy, Noise Division (AEE-100) approval of the noise methodology to be used for the Environmental Assessment (EA) for Amazon operations using the Amazon Prime Air MK27-2 unmanned aircraft (UA) in College Station, TX to provide package delivery services as a 14 CFR Part 135 operator as described below.

As required under the National Environmental Policy Act (NEPA), the FAA must consider the potential for environmental impacts in informing the agency's decision to approve Federal actions, including the potential for noise impacts as detailed in FAA Order 1050.1F.

As the FAA does not currently have a standard approved noise model for UA, this memo serves as a request for written approval from AEE-100 to use the methodology proposed in the following sections to support the noise analysis for this EA.

Description of Aircraft and Proposed Operations

AFS is evaluating Amazon's proposed commercial package delivery operations using the Model MK27-2 UA from one Prime Air Drone Delivery Center (PADDC) located in the College Station, TX operating area. Approval of a Federal Action providing Amazon's air carrier Operations Specifications (OpSpecs) is required before these operations can occur.

Amazon is proposing to perform package delivery operations from the site within the proposed operating area to transport packages to delivery sites including residential homes in the area.

The MK27-2 UA is a multi-rotor design with six propellers mounted on equally spaced arms extending horizontally from a center frame. The UA can transition between vertical and horizontal flight. According to data provided by Amazon, the maximum allowable takeoff weight of the UA is 91.5 pounds, its empty

weight (including battery) is 86.6 pounds, and its maximum allowable package weight is 4.9 pounds. The package is carried in an internal cargo bay.

The MK27-2 can climb and descend vertically, hover, and fly upright with its propellers facing forward like a fixed-wing aircraft for en route flight. Airspeeds during normal en route flight are expected to be approximately 52 knots. Typical flights begin with the UA ascending vertically from a PADDC launch pad at ground level to an en route altitude between 160 and 180 feet Above Ground Level (AGL). The UA then flies a pre-assigned route between 160 and 180 feet AGL and 52 knots to a selected delivery point. Once near the delivery point, the UA decelerates and descends vertically over the delivery point. The UA descends to 13 feet AGL, drops the package, and ascends back to en route altitude. Once back at en route altitude, the UA accelerates to 52 knots and follows a predefined track to return to its originating PADDC. When the UA arrives at the PADDC, it decelerates and vertically descends to its sector's assigned landing pad. Once it lands, the UA is serviced and prepared for the next delivery.

A single PADDC is expected to have four sectors and each sector will have no more than one UA operating at a time. Amazon projects operating 52,000 annual deliveries, no night time flights, with 142.47 total deliveries on an average annual daily basis. Based on those overall levels Amazon expects deliveries to be distributed among delivery locations with a minimum number of 0.1 deliveries per day or less at any one location and maximum of 4.0 per day at any one location on an average annual daily basis.

Noise Analysis Methodology

AFS requests use of the noise analysis methodology described in HMMH Report No. 309990.003-7 for the "Noise Assessment for Amazon Prime Air Proposed Package Delivery Operations with Amazon Prime Air MK27-2 Unmanned Aircraft" dated August 19, 2022.



Federal Aviation Administration


Memorandum

Date: September 26, 2022

To: Mike Millard, Flight Standards (AFS), General Aviation Operations Branch, AFS-830

From: Don Scata, Manager, Noise Division, Office of Environment and Energy (AEE-100)

Subject: Environmental Assessment (EA) Noise Methodology Approval Request for Amazon Prime Air Commercial Package Delivery Operations with the MK27-2 UA from College Station, Texas

 Digitally signed by DONALD S SCATA
Date: 2022.09.26 09:42:28 -04'00'

The Office of Environment and Energy (AEE) has reviewed the proposed non-standard noise modeling methodology to be used for Amazon Prime Air (Amazon) operations using the MK27-2 unmanned aircraft (UA) from College Station, Texas. This request is in support of an Environmental Assessment (EA) for Amazon to provide package delivery services as a 14 CFR Part 135 operator in College Station and a surrounding operating area.

The Proposed Action is to use the MK27-2 UA to deliver packages from a central distribution center, referred to as a Prime Air Drone Delivery Center (PADCC), to potential delivery locations such as residential homes within a proposed operating area in College Station. Typical operations of the UA will consist of departure from a launch/takeoff pad at the PADCC followed by a vertical climb to a typical en route altitude of 160 to 180 feet above ground level (AGL). The UA then transitions from vertical to horizontal flight and accelerates to a typical en route speed of 52 knots for transit to a delivery location. Approaching the delivery location, the UA will decelerate and transition from horizontal to vertical flight, and then descend vertically over the delivery point. At 13 feet AGL, the UA drops the package at the delivery point, and ascends vertically back to en route altitude. Once back at en route altitude, the UA transitions from vertical to horizontal flight and accelerates to 52 knots for transit back to its originating PADCC. When the UA arrives at the PADCC, the UA will decelerate and transition from horizontal to vertical flight and vertically descends to its assigned landing pad. Once it lands, the UA is serviced and prepared for the next delivery.

Amazon expects to operate four sectors at the College Station PADCC and each sector will have no more than one UA operating at a time. Amazon projects operating a maximum of 52,000 annual deliveries, no night time flights, with 142.47 total deliveries on an average annual daily (AAD) basis. Amazon anticipates deliveries will be distributed throughout the operating area with a maximum of 4 per day at any one delivery location on an AAD basis as detailed in the proposed non-standard noise modeling methodology request, "Environmental Assessment (EA) Noise Methodology Approval Request for Amazon Prime Air MK27-2 UA Part 135 Operations at College Station, TX" dated September 22, 2022.

As the FAA does not currently have a standard approved noise model for assessing UA, and in accordance with FAA Order 1050.1F, all non-standard noise analysis in support of the noise impact analysis for the National Environmental Policy Act (NEPA) must be approved by AEE. This letter serves as AEE's response to the method developed in in HMMH Report No. 309990.003-7 for the "Noise Assessment for Amazon Prime Air Proposed Package Delivery Operations with Amazon Prime Air MK27-2 Unmanned Aircraft" dated August 19, 2022.

The proposed methodology appears to be adequate for this analysis; therefore, AEE concurs with the methodology proposed for this project. Please understand that this approval is limited to this particular Environmental Review, location, vehicle, and circumstances. Any additional projects using this or other methodologies or variations in the vehicle will require separate approval.

Attachment B



Federal Aviation Administration

Date: August 4, 2022

To: Donald Scata, Manager, Noise Division,
Office of Environment and Energy (AEE-100)

From: Christopher Hobbs, General Engineer, Noise Division,
Office of Environment and Energy (AEE-100)

Subject: Estimated Noise Levels for Amazon Prime Air MK27-2 UA

This memo presents an analysis of noise measurements of the Amazon Prime Air MK27-2 Unmanned Aircraft (UA) by Amazon Prime Air (Amazon), measured between April 1 and April 16, 2022 at the Pendleton UAS Range located at the Eastern Oregon Regional Airport (KPDT) in Pendleton, Oregon. The purpose of the analysis is to provide estimates of expected sound exposure levels resulting from typical operations of the Amazon MK27-2 UA by Amazon and provides the methods used to create the noise estimates. Any deviation of the expected flight profile from those measured at Pendleton will need to be accounted for in the noise estimates using appropriate methodology.

1. Flight Profile and Segment Noise

The phases of a typical flight profile from takeoff to landing from a Prime Air Drone Delivery Center (PADDC) with an included delivery are listed in Table 1 for the MK27-2 UA. For the purposes of this analysis, the point on the ground that the UA takes off of (launch pad), delivers to (delivery point), and lands on (landing pad) will be referred to as the PADDC. For normal operations Amazon will be basing the UA at a PADDC containing the landing and takeoff pad infrastructure, and delivery will be completed at a remote location using a target on the ground at the delivery location to mark the specific delivery point. All noise measurements at Pendleton were made with the UA carrying a 5 lbs package representative of the UA operating at the max takeoff weight of 91.5 lbs. The package was not released during the delivery phase of the flight profile. It is assumed that the noise generated during the climb out after delivery with the package will be greater than if the package had been released; therefore, the noise measurements presented here are a conservative estimate of those during actual operations.

The method used to estimate the noise on the ground during each phase of flight is listed below. The methodology presented for estimating the noise for each flight phase uses the best available information from available measurement data for the MK27-2 UA and represents a conservative estimate of the noise levels resulting from operations of this UA.

Table 1. Phases of Flight for Typical Flight Profile of MK27-2 UA

Phase of Flight	Description
Takeoff	Vertical launch from PADDC on ground to en route altitude (165 ft Above Ground Level (AGL)) in vertical flight mode (pointed upward)
Transition to Outbound En Route Flight	Transition from zero speed above PADDC at en route altitude to cruise speed (52.4 kts) while changing from vertical flight mode to fixed-wing flight mode (pointed horizontally)
Outbound En Route Flight	Fixed-wing flight mode at operational en route altitude and cruise speed
Transition to Delivery	Transition from cruise speed at en route altitude and fixed-wing flight mode to zero speed above PADDC/delivery point at en route altitude and in vertical flight mode
Delivery	Vertically descend from en route altitude to 13 ft AGL delivery altitude, drop a package at the PADCC/delivery point, and vertical ascent back to en route altitude in vertical flight mode
Transition to Inbound En Route Flight	Transition from zero speed above PADDC/delivery point at en route altitude to cruise speed while changing from vertical flight mode to fixed-wing flight mode
Inbound En Route Flight	Fixed-wing flight mode at operational en route altitude and cruise speed
Transition to Landing	Transition from cruise speed at en route altitude and fixed-wing flight mode to zero speed above PADDC at en route altitude and in vertical flight mode
Landing	Descend from en route altitude to PADDC on ground in vertical flight mode

1.1 Transition Noise

Because the transition phase from vertical to fixed-wing flight mode or vice versa is involved in the takeoff, delivery, and landing phases of flight it will be discussed first. The measurements made by Amazon were done with the microphones oriented normal to the flight track as shown in Figure 1. As the figure shows, the UA did not fly over the microphones after takeoff. The same is true for the transitions before and after delivery and the transition before landing. To estimate the maximum noise at a distance from the takeoff/landing pad or delivery point on the ground one must combine the noise emitted from the UA during the vertical portion of the trajectory (descent or ascent) and the noise the UA make as it transitions from the vertical flight mode (pointed up) to fixed-wing flight mode (pointed horizontally). The microphones were not positioned to capture the majority of the transition noise; thus, an estimate of the noise made by the UA while transitioning had to be made based on the overflight measurements as discussed below.

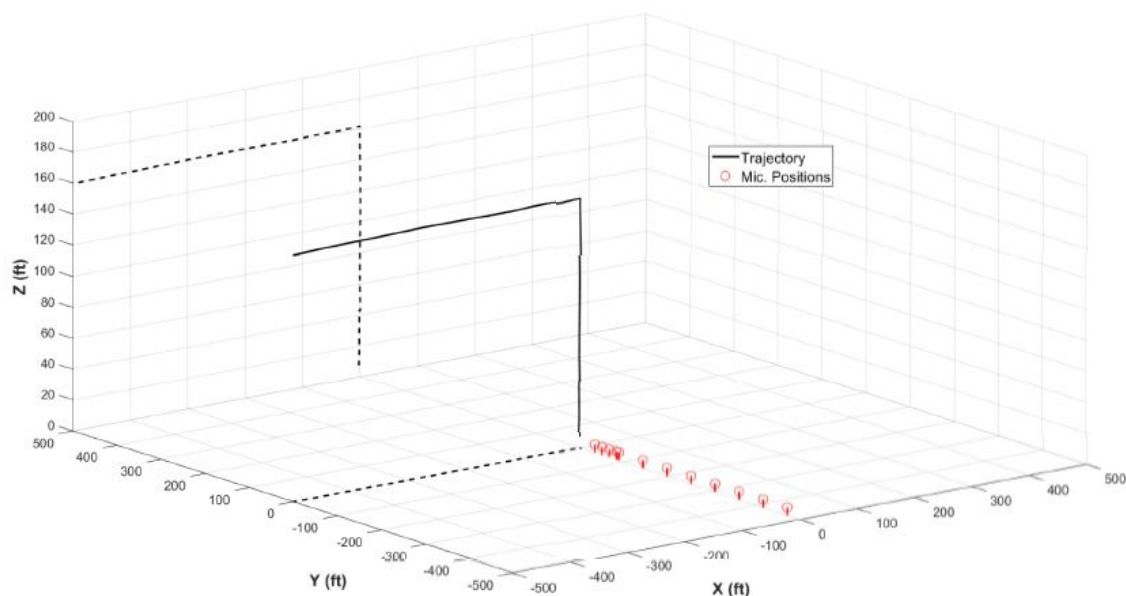


Figure 1. Microphone locations for takeoff, delivery, and landing measurements for MK27-2 UA with example takeoff trajectory.

The duration of the transition of the UA from vertical to fixed-wing flight mode was measured using the time it took the UA to reach cruise speed after it reached the top of the vertical climb during takeoff and post-delivery. The start of the duration for both phases was set as the time the UA began having non-zero ground speed. For the duration of the transition of the UA from fixed-wing flight mode to vertical flight during landing and pre-delivery, the transition duration was measured from the time the UA began to decelerate from cruise speed to zero ground speed. In all cases the acceleration was noted as being nearly constant. The pitch of the UA from vertical to horizontal fixed-wing flight mode was shown to coincide with this time as well. Table 2 shows the average durations for the UA to transition to and from fixed-wing flight mode. As presented in Table 2, the average duration for transition during takeoff and landing was the same 20 seconds. Assuming a constant acceleration to and from a 52.4 knot cruise speed, the distance to transition from vertical to fixed-wing flight mode is approximately 884 ft. It is the same approximate distance to transition from fixed-wing to vertical flight mode.

Table 2. Description of Transition to and from Fixed-Wing Flight Mode

Phase	Description	Altitude (ft AGL)	Ground Speed (kts)	Duration (s)
Transition to Fixed-Wing Mode	Transition from vertical to horizontal fixed-wing flight	165	0 accelerating to 52.4	20
Transition from Fixed-Wing Mode	Transition from horizontal fixed-wing flight to vertical flight	165	52.4 decelerating to 0	20

In order to estimate the noise made by the UA at positions undertrack as it transitions to or from fixed-wing flight mode, the following assumption has been made:

The noise of the UA in fixed-wing flight mode is approximately the same it transitions; furthermore, the noise radiated from the UAS is assumed to be omnidirectional. That is to say that the noise level measured a fixed distance from the UA will be the same in all directions.

To calculate the noise from the transition phase of the flight profile at distances from the PADDC undertrack, the following steps were performed:

1. The maximum noise level from measured overflights was corrected to the en route altitude distance (165 ft) using spherical spreading.
2. At each distance from the PADDC undertrack the estimated sound pressure level was calculated from 25 ft segments along the transition flight trajectory based on the maximum sound level measured during the overflight corrected to the distance between using spherical spreading. The duration applied to each respective segment's sound pressure level was found from the calculated motion of the UA as a function of time to / from a cruise speed of 52.4 kts to / from zero kts using constant acceleration.
3. The sound pressure level duration products were summed to find the estimated sound exposure level at each position.
4. The estimate of the sound exposure levels were corrected to match the overflight sound exposure level once past the effects of the transition at approximately 1600 ft from the PADDC.

The levels in Table 3 are the results of the calculations. It is recommended to use linear interpolation to find values between the distances in the table for the transition flight phases. This estimate of the transition phase of flight can be used for the transition from zero speed to the cruise speed as well as the transition from cruise speed to zero speed. The calculation was done for an estimated altitude of 165 ft AGL.

Table 3. Estimated Sound Exposure Levels from Transition Phase of Flight Profile

Distance from PADDC (ft)	Sound Exposure Level (dBA) ₁
0	69.9
100	70.6
200	70.3
400	69.4
800	68.2
1600	67.7
3200	67.7

Notes: 1) Applicable to either profile described in Table 2.

The sound exposure levels presented in Table 3 show that beyond 1600 ft from the PADDC the transition profile (Table 2) does not differ from the en route levels (Section 1.3); therefore, the transition phase noise levels present in Table 2 should be added to the noise created by the UA during takeoff, delivery, and landing out to a distance of 1,600 feet. The sound exposure levels from the overflight measurements should be combined with the other phases of flight for distances greater than 1,600 feet from the PADDC.

1.2 Takeoff and Landing Noise

There are two flight activities that generate noise in the vicinity of the takeoff and landing pads at the PADCC. The vertical portion of the trajectory (i.e., the climb or descent to/from the en route altitude), and the transition from vertical flight mode to horizontal fixed-wing flight mode as described above. During takeoff, the MK27-2 will climb from the ground vertically to an operational altitude of 165 feet AGL, then transition from vertical to fixed-wing flight for transit to the delivery location. After completing delivery, the UA returns from the delivery location at 165 feet AGL in fixed-wing flight, transitions to vertical flight, and then descends vertically to the ground at the landing pad. Table 4 details the takeoff and landing phases of the flight profile. The durations in the table are the average time it took the UA to ascend or descend from the cruise altitude.

Table 4. MK27-2 UA Takeoff and Landing Profile Details

Phase of Flight	Flight Description	Altitude (ft AGL)	Ground Speed (kts)	Duration (s)
Takeoff	Vertical ascent to cruise altitude	0 ascend to 165	0	21
Landing	Descent from cruise altitude to land	165 descend to 0	0	38

To estimate the sound exposure level from the takeoff and landing phases of the flight profile, measurements of the noise emissions of the MK27-2 UA were made when the UA was at maximum weight and was following a simulated takeoff and landing profile representative of typical operations. The profile included the vehicle climbing vertically from the PADDC to en route altitude where it transitioned to fixed-wing mode for en route flight, flying an oval “racetrack” pattern at en route altitude to simulate outbound en-route flight, and transitioning from en-route altitude in fixed-wing flight mode to the vertical flight mode for a descent to landing. The microphone positions relative to the takeoff and landing pad are shown in Figure 1. The PADDC

is located at the origin in the plot. It is important to note that only 4 microphones were used for each flight. They were moved to different positions between flights.

The sound exposure level was calculated from the data collected by each microphone for each flight. The sound exposure level was calculated from the entire A-weighted time history of the event. Because the microphone array is normal to the flight track, the noise during transition between en route fixed-wing flight to vertical flight mode is not completely captured as it would be under the vehicle for the inbound and outbound phases of the flight profile and is assumed to not be accounted for in the following tables. Because of this, the sound exposure values versus distance measured from the PADDC must be supplemented to estimate the most conservative sound exposure as detailed below.

There were a total of nine flights where the UA performed a takeoff, delivery, and landing. The microphones were moved for some of the flights. The number of flights for each positioning of the four microphone was not equal; however, the available data represents a good range of distance from the PADDC and has a behavior that can be used to adequately represent the noise emissions from the vertical portion of the flight profile. There were two other flights performed for overflight measurements. Because the aircraft's flight track on takeoff and landing was not the same orientation to the microphone array as the first nine flights, metrics for those four events were not included in the averages. Table 5 presents the averaged results at each microphone for all takeoff events, and Table 6 presents the averaged results for averaged landing events.

Table 5. Average Sound Exposure Levels of MK27-2 UA during Takeoff versus Distance

Position	Distance (ft)	Sound Exposure Level (dBA) ¹
1	32.8	95.7
2	49.2	94.1
3	65.6	92.1
4	82.0	90.1
5	87.5	88.3
6	142.2	83.0
7	196.9	78.7
8	251.5	77.7
9	306.2	75.8
10	360.9	73.8
11	415.6	72.4
16	689.0	69.1
17	743.7	65.6
18	798.4	64.7
19	853.0	64.0

Notes: 1) Applicable for the takeoff profile presented in Table 4.

Table 6. Average Sound Exposure Levels of MK27-2 during Landing versus Distance

Position	Distance (ft)	Sound Exposure Level (dBA) ₁
1	32.8	94.8
2	49.2	93.2
3	65.6	92.1
4	82.0	90.2
5	87.5	90.1
6	142.2	85.0
7	196.9	80.7
8	251.5	79.0
9	306.2	77.3
10	360.9	74.9
11	415.6	73.7
16	689.0	69.7
17	743.7	67.6
18	798.4	67.0
19	853.0	66.2

Notes: 1) Applicable for the landing profile presented in Table 4.

The measured data are presented in the following figures. The curve fits in the Tables below represent the best estimates of the sound levels for the distance ranges listed. It is recommended to use the curve fit equations to calculate the sound exposure levels representing only the vertical portion of the flight profile noise emissions for the takeoff and landing phases. Positions four and five were averaged together and the effective distance weight-averaged because of their proximity. The distance of 149 feet from the PADDC is the minimum distance for which the behavior of the noise levels versus distance is consistently decreasing by approximately 6 dB per doubling of distance for the takeoff, delivery, and landing phases of flight. The same distance was chosen to begin the curve fit for consistency. The coefficients in the table for distance less than 149 feet are effectively linear interpolations between the average, measured values.

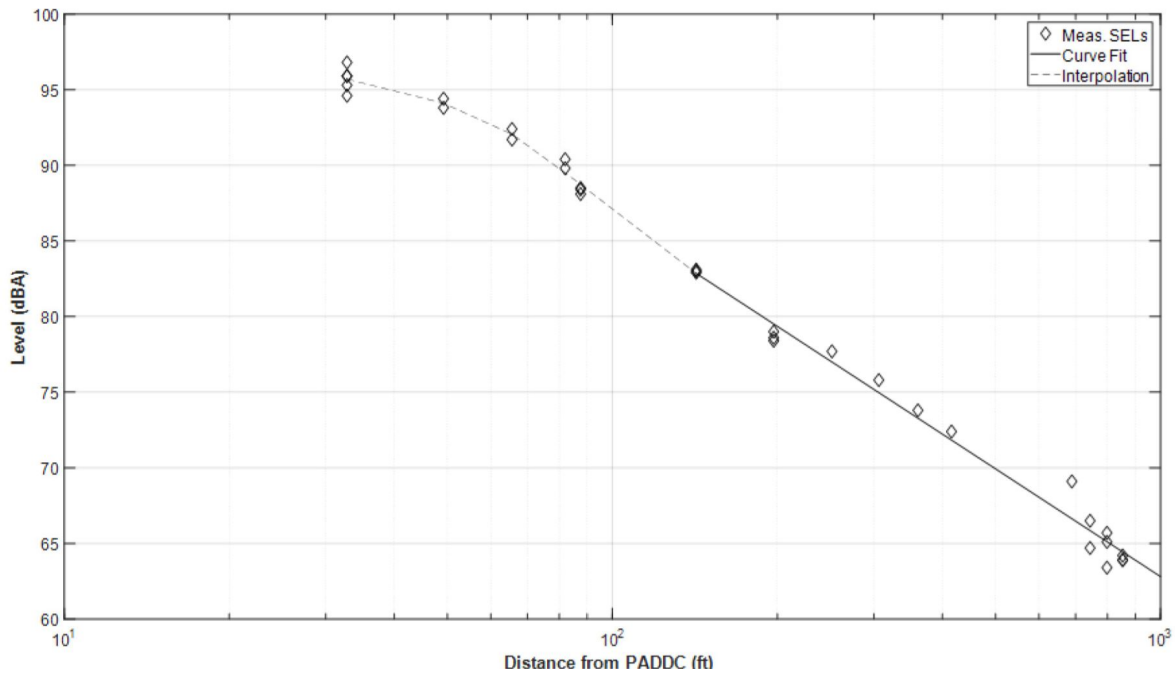


Figure 2. Measured sound exposure levels during takeoffs as described in Table 4.

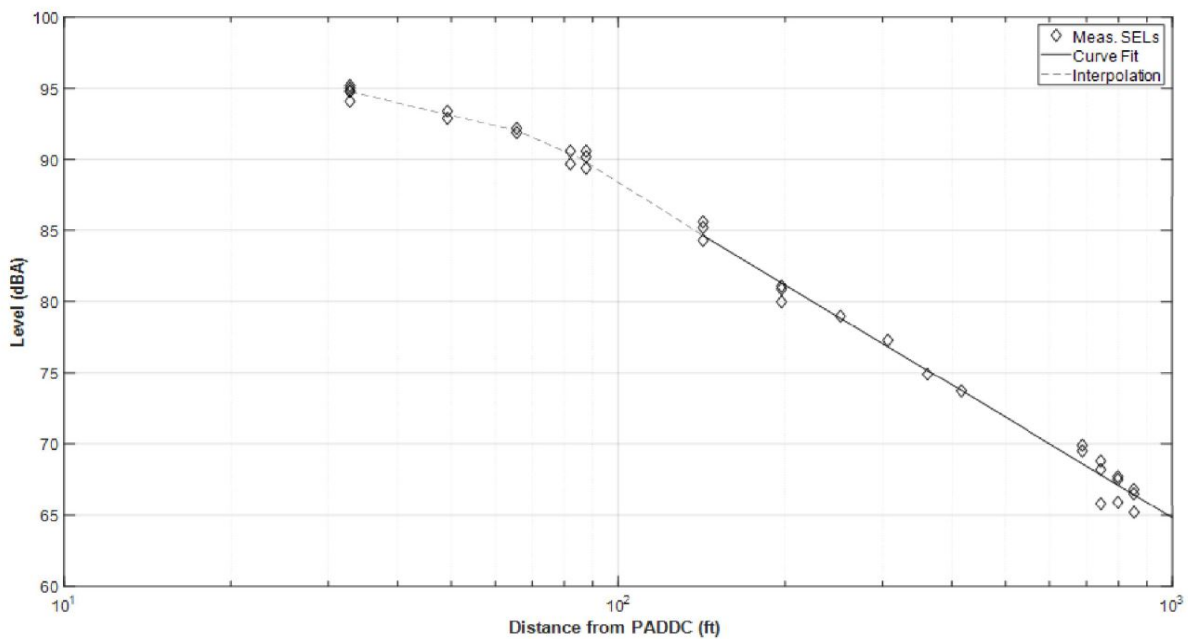


Figure 3. Measured sound exposure levels during landings as described in Table 4.

The following equation governs how to estimate the sound exposure level for a given distance, d , in feet from the PADDC resulting from the vertical portion of the takeoff, delivery, or landing portion of the flight

profile of the UA. The constants m and b are to be used in Eq. 1 for the appropriate row in the tables based on the Range. These estimates assume the UA reaches an en route altitude of 165 feet AGL.

$$SEL = m * \log_{10}(d + b) \quad (dB) \quad (1)$$

Table 7. Parameters for Estimating Sound Exposure Level for Takeoff versus Distance₂

Range for d (ft from PADDC)	m	b
32.8 to 49.2	-9.09	109.47
49.2 to 65.6	-16.41	121.86
65.6 to 85.3 ¹	-26.39	140.00
85.3 ¹ to 142.2	-27.79	142.71
Greater than 142.2	-23.39	134.99

Notes: 1) Average, weighted distance for the 82 and 87.5 ft position measurements
2) Applicable for the takeoff profile in Table 4

Table 8. Parameters for Estimating Sound Exposure Level for Landing versus Distance₂

Range for d (ft from PADDC)	m	b
32.8 to 49.2	-9.26	108.81
49.2 to 65.6	-8.80	108.05
65.6 to 85.3 ¹	-17.10	123.12
85.3 ¹ to 142.2	-24.56	137.53
Greater than 142.2	-23.39	134.99

Notes: 1) Average, weighted distance for the 82 and 87.5 ft position measurements
2) Applicable for the landing profile in Table 4

1.3 En Route Noise

Two flights were flown to measure noise from the en route phase of flight. The UA flew in a "dog bone" pattern in order to overfly the lead microphone in the array three times traveling in each direction. The microphone array was not moved between the flights and the four positions were the only distances measured from undertrack. A cross wind may be responsible for the microphone undertrack not measuring the highest noise level. The 12 sound exposure levels measured from the two flights were averaged at each of the positions and results presented in Table 9. The slant range column presented in Table 9 is the distance between the UA and position at the closest point of approach during the overflight.

It is recommended that 67.7 dBA sound exposure level be used to represent the noise generated by the UA at cruise speed of 52.4 kts and en route altitude of 165 ft AGL because it is the highest level measured; therefore, it is the most conservative estimate.

Table 9. Average Sound Exposure Levels Measured During Level Overflights

Position	Sound Exposure Level ¹ (dBA)	Maximum Level (dBA)	Distance from Undertrack (ft)	Slant Range (ft)	Sound Exposure Level Normalized to 165 ft ² (dBA)	Maximum Level Normalized to 165 ft ³ (dBA)
1	66.0	59.2	0	165	66.0	59.2
5	67.0	60.3	88	187	67.7	61.4
6	65.1	57.8	142	218	66.6	60.2
7	63.0	55.2	197	257	65.4	59.1

Notes: 1) Measured levels normalized to 52.4 kts before averaging.
2) Using $12.5 * \log_{10}(\text{Slant/Distance})$
3) Using $20 * \log_{10}(\text{Slant/Distance})$

To estimate the sound exposure level of the UA traveling at speed v_1 when the measured sound exposure level for a level overflight was done when the UA was traveling at speed v_{ref} add the value $del1$ calculated with Eq. 2 to the sound exposure level measured with the speed v_{ref} .

$$del1 = 10 * \log_{10}\left(\frac{v_1}{v_{ref}}\right) \quad (dB) \quad (2)$$

To estimate the sound exposure level of the UA traveling at a height, h_1 ft, above the ground different than 165 ft AGL, add the value $del2$ calculated with Eq. 3 to the 67.7 dBA sound exposure level.

$$del2 = 12.5 * \log_{10}\left(\frac{h_{ref}}{h_1}\right) \quad (dB) \quad (3)$$

1.4 Delivery Noise

There are five flight activities that generate noise in the vicinity of a delivery location. The MK27-2 will approach the delivery location from fixed-wing en route flight at 165 feet AGL, transition to vertical flight, and then descend vertically to a delivery altitude of 13 ft AGL. At delivery altitude, the UA will drop the package while in hover which takes approximately 2 seconds. At completion of the delivery, the UA will climb from the delivery altitude vertically back to an en route altitude of 165 feet AGL, and then transition from vertical to fixed-wing flight mode for en route flight back to the PADDC. This section considers only the noise generated from the vertical phases of the flight profile during delivery. Table 10 details the vertical portion of the delivery procedure starting at en route altitude and positioned over the delivery point to return to en route altitude. Within this portion of the procedure, Table 10 details the average durations for the descent, delivery, and ascent portions of the profile.

Table 10. MK27-2 UA Delivery Profile Details

Phase	Flight Description	Altitude (ft AGL)	Ground Speed (kts)	Duration (s)
Descent	After transition to above PADDC, descend to delivery height	165 to 13	0	32
Delivery	Drop package on PADDC	13	0	2
Ascent	Ascend to en route altitude before transitioning to en route flight	13 to 165	0	24

To estimate the sound exposure level at a delivery location, measurements of the noise emissions of the MK27-2 UA were made when the UA was at maximum weight utilizing a simulated delivery profile representative of typical operations. The profile included the vehicle flying an oval “racetrack” pattern in fixed-wing mode flight at en route altitude to simulate outbound en route flight, transition from fixed-wing flight mode to vertical flight for descent and delivery at the PADDC, vertical descent to delivery altitude, delivery, vertical climb back to en-route altitude, and transition back to fixed-wing flight mode to simulate inbound en route flight. The microphone locations utilized for the delivery measurements are the same as shown Figure 1. As with the takeoff and landing measurements, the 4 microphones were moved between flights in order to measure the noise at different distances from the PADDC. As with the takeoff and landing measurements, the transition noise was not fully captured by the microphones because the UA did not perform the transition above them.

The average sound exposure level for the entire vertical portions of the delivery phase (descent, delivery, and ascent) were then calculated at each of the microphones. As with the takeoff and landing measurements each position did not have the same number of measurements. The results were then averaged together for each microphone position. Table 11 presents the averaged results at each microphone for all delivery events. Figure 4 shows a plot of the measurements versus distance along with lines showing the methods of estimating the levels between and beyond positions. Table 12 contains the parameters suggested for use in Eq. 1 for estimating the sound exposure level at distances from the delivery location for the noise emitted from the UA during the vertical portion of the delivery. As was the case for the takeoff and landing flight phases, it is recommended for the delivery phase to use the appropriate parameters in Table 12 for the required distance. In order to estimate the noise levels near the delivery location the transition noise would need to be logarithmically added to this noise in order to properly estimate the maximum levels expected for undertrack locations.

Table 11. Average Sound Exposure Level of MK27-2 UA during Delivery versus Distance

Position	Distance (ft)	Sound Exposure Level (dBA) ₁
1	32.8	96.5
2	49.2	95.5
3	65.6	94.6
4	82.0	93.1
5	87.5	92.3
6	142.2	87.4
7	196.9	82.8
8	251.5	81.6
9	306.2	79.8
10	360.9	77.9
11	415.6	76.3
16	689.0	72.3
17	743.7	70.9
18	798.4	70.4
19	853.0	69.6

Notes: 1) Applicable for the delivery profile presented in Table 10

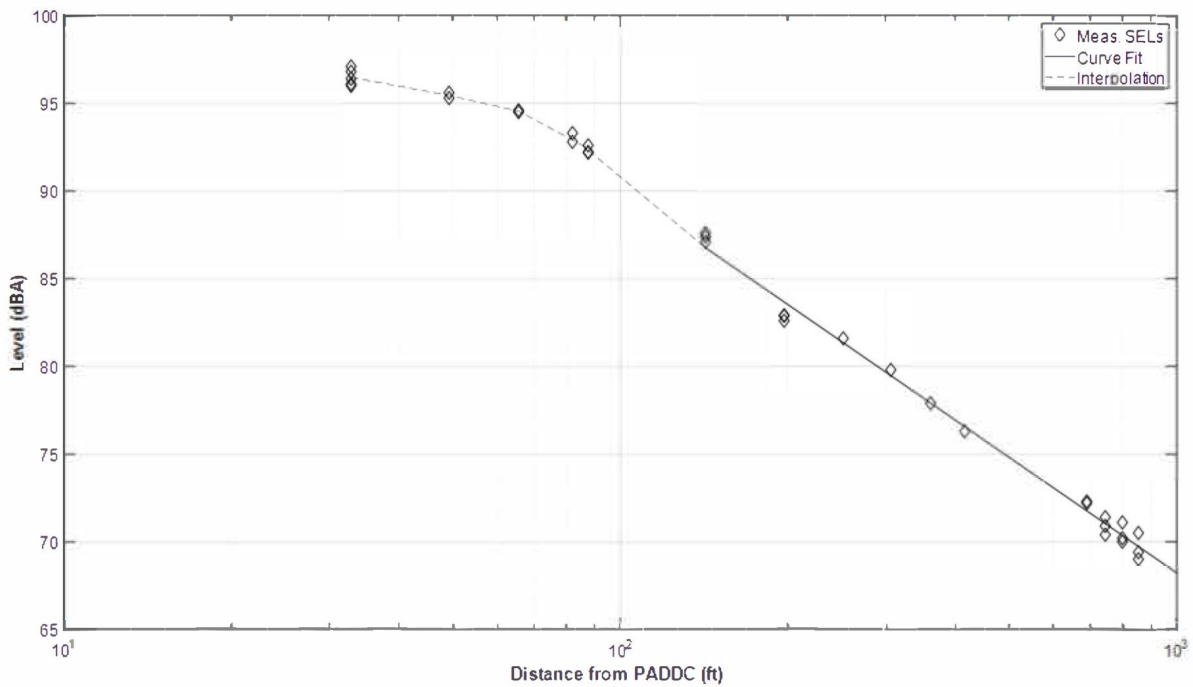


Figure 4. Measured Sound Exposure Levels during deliveries as described in Table 10.

Table 12. Parameters for Estimating Sound Exposure Level for Delivery versus Distance₂

Range for <i>d</i> (ft from PADDC)	<i>m</i>	<i>b</i>
32.8 to 49.2	-5.85	105.35
49.2 to 65.6	-7.20	107.64
65.6 to 85.3 ¹	-16.92	125.30
85.3 ¹ to 142.2	-26.31	143.42
Greater than 142.2	-21.90	133.91

Notes: 1) Average, weighted distance for the 82 and 87.5 ft position measurements

2) Applicable for the delivery profile presented in Table 10

2. Analysis

The analysis of the measurements performed while the MK27-2 flew a typical profile can be used for estimating the noise created for each phase of flight. It is important to combine the transition noise with the takeoff, delivery, and landing phases in order to estimate the maximum noise expected undertrack for those portions of the flight profile. In order to estimate the noise from a flight profile with different speed or altitude, utilization of the correction for different cruise speed using equation 2 and a different en route altitude using equation 3 should be used. It is not expected that the contribution to the noise levels around the takeoff, delivery, or landing sites from the vertical part of the flight profile will change if the cruise speed or altitude are different.

3. Conclusion

This memo provides the means to estimate the sound exposure level from the typical flight profile for the MK27-2 delivering a package. By combining the transition noise with the noise from the vertical phases of the flight profile a conservative estimate of the noise created by the UA is achieved in that the estimate should be greater than the actual noise levels. The means for adjusting the provided noise levels for different flight profile parameters are provided with the assumption that minor changes to the en route altitudes will not change the noise levels for the takeoff, delivery, and landing phases of flight.

Attachment E
Official Species List



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Texas Coastal & Central Plains Esfo
17629 El Camino Real, Suite 211
Houston, TX 77058-3051
Phone: (281) 286-8282 Fax: (281) 488-5882



In Reply Refer To:

03/13/2024 12:29:15 UTC

Project Code: 2024-0061947

Project Name: Amazon College Station, TX Drone Package Delivery 2024 Official

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

To Whom It May Concern:

The U.S. Fish and Wildlife Service (Service) field offices in Clear Lake, Corpus Christi, Fort Worth, and Alamo, Texas, have combined administratively to form the Texas Coastal Ecological Services Field Office. All project related correspondence should be sent to the field office address listed below responsible for the county in which your project occurs:

Project Leader; U.S. Fish and Wildlife Service; 17629 El Camino Real Ste. 211; Houston, Texas 77058

Angelina, Austin, Brazoria, Brazos, Chambers, Colorado, Fayette, Fort Bend, Freestone, Galveston, Grimes, Hardin, Harris, Houston, Jasper, Jefferson, Leon, Liberty, Limestone, Madison, Matagorda, Montgomery, Newton, Orange, Polk, Robertson, Sabine, San Augustine, San Jacinto, Trinity, Tyler, Walker, Waller, and Wharton.

Assistant Field Supervisor, U.S. Fish and Wildlife Service; 4444 Corona Drive, Ste 215; Corpus Christi, Texas 78411

Aransas, Atascosa, Bee, Brooks, Calhoun, De Witt, Dimmit, Duval, Frio, Goliad, Gonzales, Hidalgo, Jackson, Jim Hogg, Jim Wells, Karnes, Kenedy, Kleberg, La Salle, Lavaca, Live Oak, Maverick, McMullen, Nueces, Refugio, San Patricio, Victoria, and Wilson.

U.S. Fish and Wildlife Service; Santa Ana National Wildlife Refuge; Attn: Texas Ecological Services Sub-Office; 3325 Green Jay Road, Alamo, Texas 78516

Cameron, Hidalgo, Starr, Webb, Willacy, and Zapata.

For questions or coordination for projects occurring in counties not listed above, please contact arles@fws.gov.

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your

proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

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

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <http://www.fws.gov/media/endangered-species-consultation-handbook>.

Non-Federal entities may consult under Sections 9 and 10 of the Act. Section 9 and Federal regulations prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is further defined (50 CFR § 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. "Harass" is defined (50 CFR § 17.3) as intentional or negligent actions that create the likelihood of

injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Should the proposed project have the potential to take listed species, the Service recommends that the applicant develop a Habitat Conservation Plan and obtain a section 10(a)(1)(B) permit. The Habitat Conservation Planning Handbook is available at: <https://www.fws.gov/library/collections/habitat-conservation-planning-handbook>.

Migratory Birds:

In addition to responsibilities to protect threatened and endangered species under the Act, there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts visit: <https://www.fws.gov/program/migratory-birds>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable National Environmental Policy Act (NEPA) documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat.

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

Note: IPaC has provided all available attachments because this project is in multiple field office jurisdictions.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds

- Wetlands

OFFICIAL SPECIES LIST

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

This species list is provided by:

Texas Coastal & Central Plains Esfo

17629 El Camino Real, Suite 211

Houston, TX 77058-3051

(281) 286-8282

This project's location is within the jurisdiction of multiple offices. However, only one species list document will be provided for all offices. The species and critical habitats in this document reflect the aggregation of those that fall in each of the affiliated office's jurisdiction. Other offices affiliated with the project:

Austin Ecological Services Field Office

1505 Ferguson Lane

Austin, TX 78754-4501

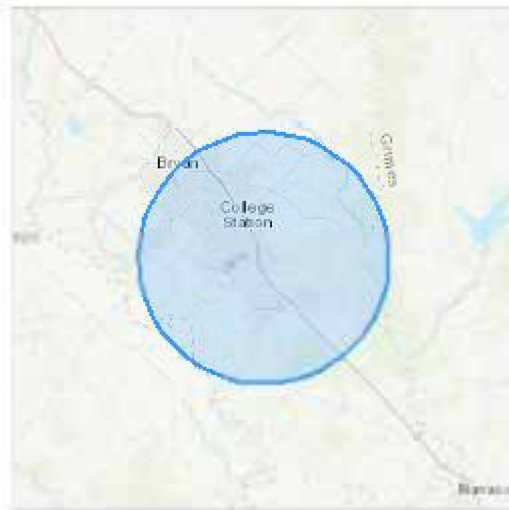
(512) 937-7371

PROJECT SUMMARY

Project Code: 2024-0061947
Project Name: Amazon College Station, TX Drone Package Delivery 2024 Official
Project Type: Drones - Use/Operation of Unmanned Aerial Systems
Project Description: Prime Air Drone Delivery Center (PADDC) located at 400 Technology Parkway, College Station, TX. MK30's operating range is 7.5 mi (12 km); operating area is 174 sq mi (450.6 sq km).

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@30.59585075,-96.28365164506553,14z>



Counties: Brazos , Burleson , and Grimes counties, Texas

ENDANGERED SPECIES ACT SPECIES

There is a total of 8 threatened, endangered, or candidate species on this species list.

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

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

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

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location does not overlap the critical habitat. This species only needs to be considered under the following conditions: <ul style="list-style-type: none">▪ Wind related projects within migratory route.▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Rufa Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none">▪ Wind related projects within migratory route.▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Whooping Crane <i>Grus americana</i> Population: Wherever found, except where listed as an experimental population There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

AMPHIBIANS

NAME	STATUS
Houston Toad <i>Bufo houstonensis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2206	Endangered

CLAMS

NAME	STATUS
Texas Fawnsfoot <i>Truncilla macrodon</i> There is proposed critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8965	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i>	Candidate

NAME	STATUS
No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	

FLOWERING PLANTS

NAME	STATUS
Navasota Ladies-tresses <i>Spiranthes parksii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1570	Endangered

CRITICAL HABITATS

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Texas Fawnsfoot <i>Truncilla macrodon</i> https://ecos.fws.gov/ecp/species/8965#crithab	Proposed

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "[Supplemental Information on Migratory Birds and Eagles](#)".

1. The [Bald and Golden Eagle Protection Act](#) of 1940.
2. The [Migratory Birds Treaty Act](#) of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

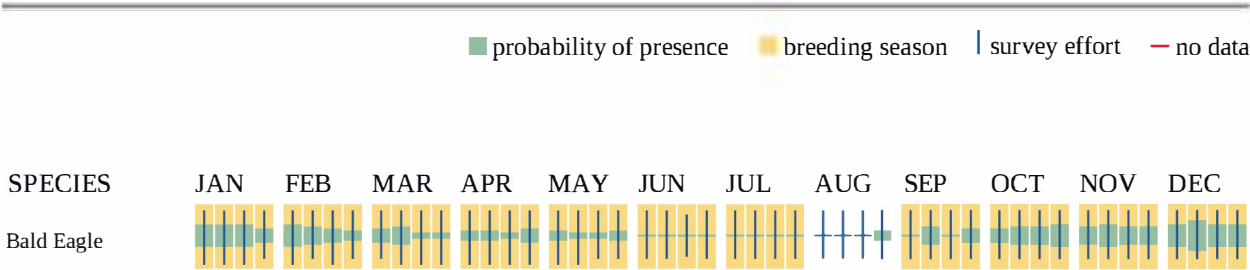
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.



Non-BCC
Vulnerable

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "[Supplemental Information on Migratory Birds and Eagles](#)".

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Golden-plover <i>Pluvialis dominica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10561	Breeds elsewhere

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Little Blue Heron <i>Egretta caerulea</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9477	Breeds Mar 10 to Oct 15
Long-billed Curlew <i>Numenius americanus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5511	Breeds elsewhere
Mountain Plover <i>Charadrius montanus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3638	Breeds elsewhere
Pectoral Sandpiper <i>Calidris melanotos</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561	Breeds elsewhere
Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9439	Breeds Apr 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Sprague's Pipit <i>Anthus spragueii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8964	Breeds elsewhere

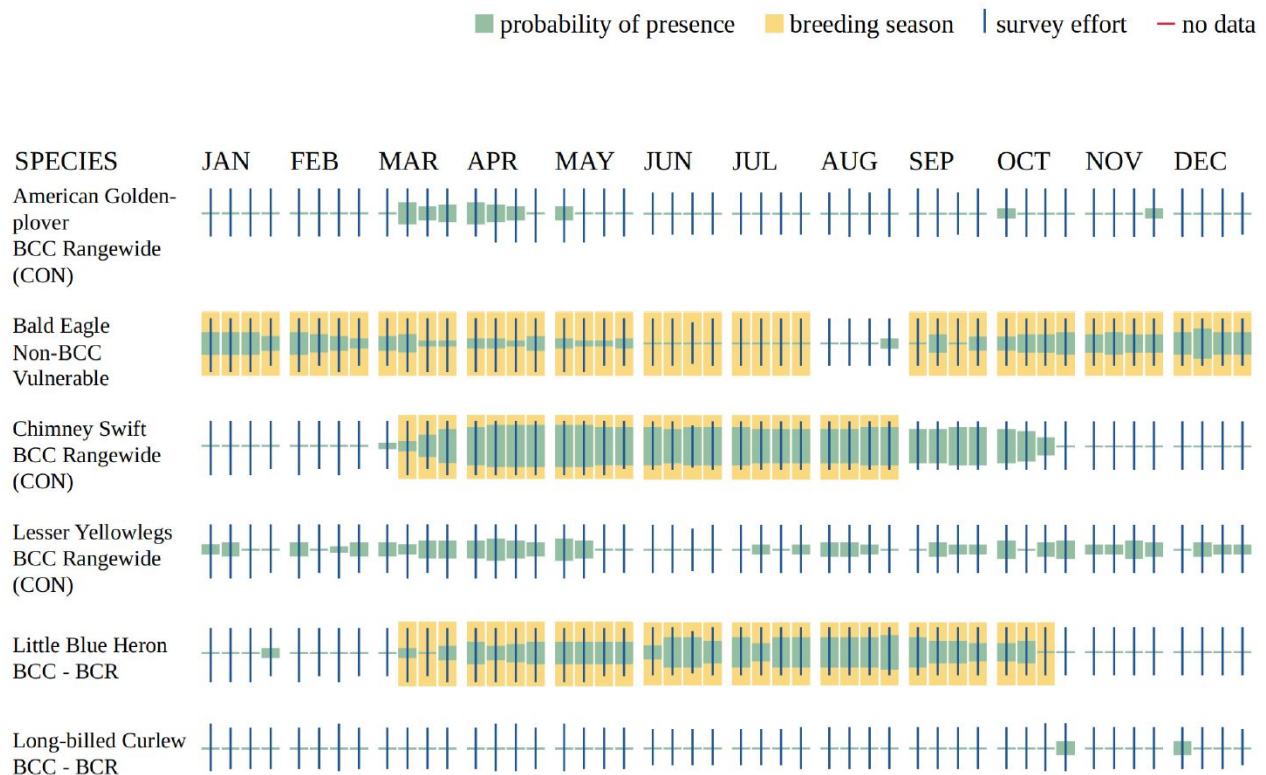
The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

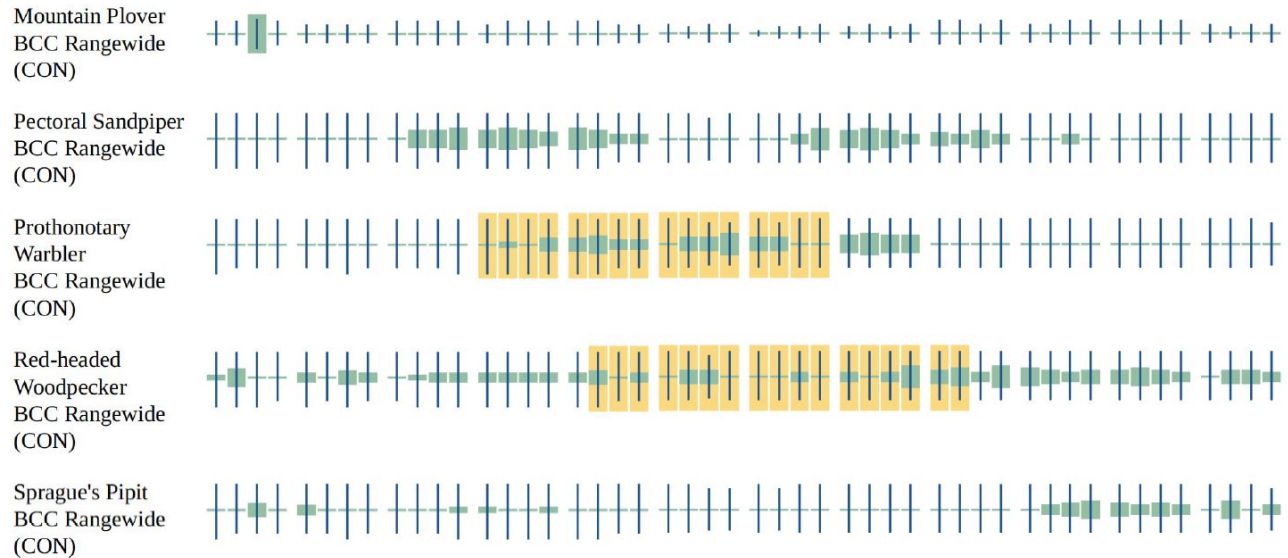
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

A week is marked as having no data if there were no survey events for that week.





Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

Due to your project's size, the list below may be incomplete, or the acreages reported may be inaccurate. For a full list, please contact the local U.S. Fish and Wildlife office or visit <https://www.fws.gov/wetlands/data/mapper.HTML>

FRESHWATER POND

- PUBH

- PUBF
- PAB4Hh
- PAB3/UBH
- PUB/AB4Hh
- PUBHh

FRESHWATER FORESTED/SHRUB WETLAND

- PSS1F
- PFO5/UBHh
- PSS1A
- PFO1Ch
- PFO1C
- PSS1C
- PSS1/UBF
- PFO1F
- PFO1Fh
- PFO1A

LAKE

- L1UBHh
- L1UBHx

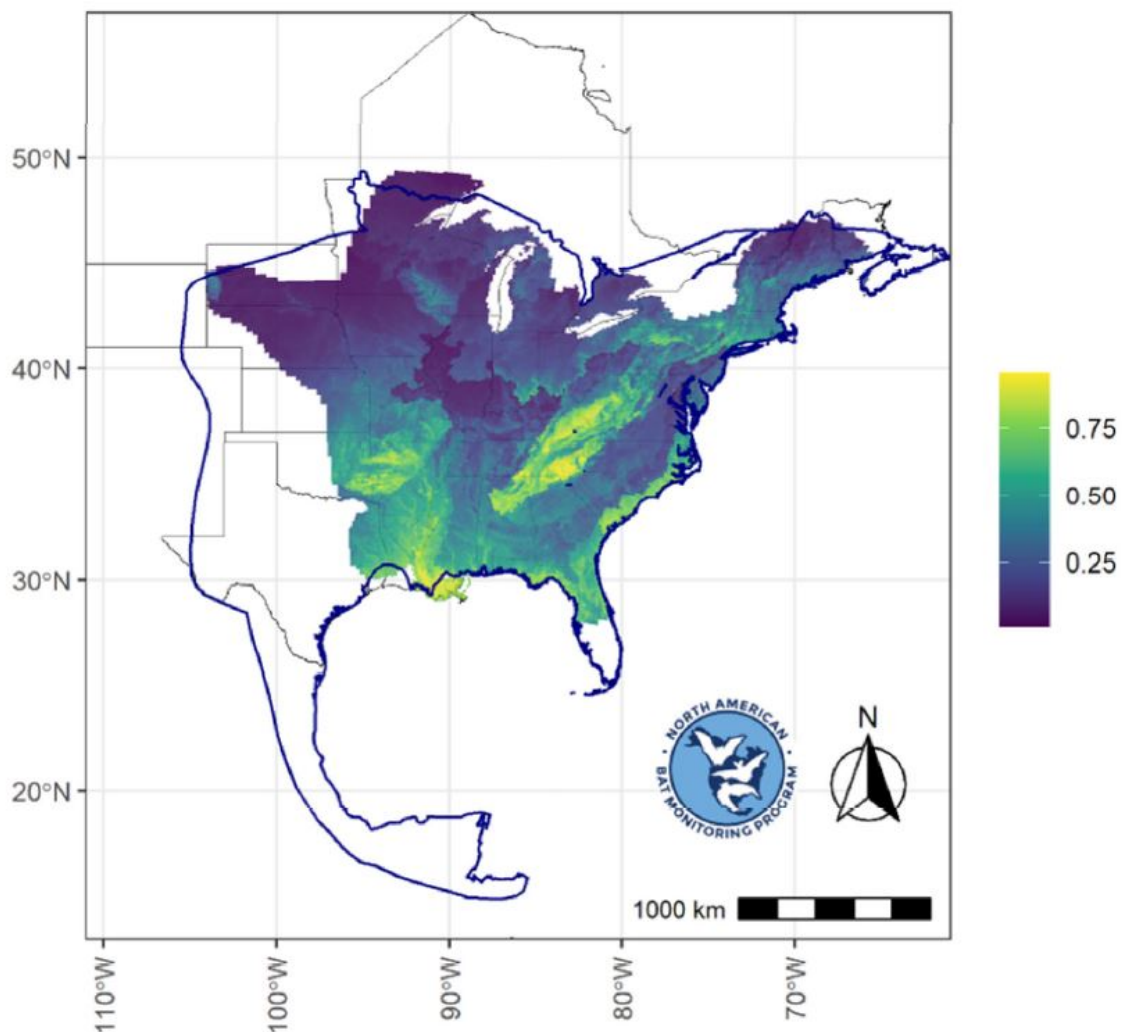
FRESHWATER EMERGENT WETLAND

- PEM1C
- PEM1A
- PEM1F
- PEM1Fh
- PEM1/SS1A

IPAC USER CONTACT INFORMATION

Agency: Federal Aviation Administration
Name: Chris Hurst
Address:
Address Line 2:
City:
State:
Zip:
Email: Christopher.a.hurst@faa.gov
Phone:

Attachment F
Tricolored Bat Mean Occupancy Probabilities



Perimyotis subflavus (PESU) mean occupancy probabilities (color bar) predicted in each NABat grid cell in the modeled species range for 2019. Probabilities are depicted against the reference range map (blue polygon; M. Turner written communication, August 20, 2021) and borders of U.S. states and Canadian provinces/territories.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Texas Coastal and Central Plains Ecological Services Office

Houston Sub-Office

17629 El Camino Real, Suite 211

Houston, Texas 77058

PHONE: 281/286-8282

FAX: 281/488-5882



In Reply Refer To:
2024-0061947

August 12, 2024

Derek Hufty
Office of Safety Standards, Flight Standards Service
Federal Aviation Administration
800 Independence Avenue, SW
Washington, D.C. 20591

RE: Endangered Species Act Section 7 Consultation for Drone Commercial Package Delivery
Operations in the College Station, Texas

Dear Mr. Hufty,

This responds to the Federal Aviation Administration's (FAA) March 19, 2024, letter requesting consultation pursuant to Section 7 of the Endangered Species Act of 1973 as amended (16 U.S.C. 1531-1544) (Act). Your letter includes a biological evaluation of the proposed action of authorizing Amazon Prime Air (Amazon) expansion of unmanned aircraft (UA) drone package delivery operations in the City of College Station, Brazos County, Texas. The biological evaluation concluded that the proposed action would have no effect on the Houston Toad (*Bufo houstonensis*), Texas fawnsfoot (*Truncilla macrodon*), and monarch butterfly (*Danaus plexippus*), and may affect, but is not likely to adversely affect the tricolored bat (*Perimyotis subflavus*), and whooping crane (*Grus americana*).

The purpose of the proposed action is to expand package drone delivery operations from the existing Prime Air Drone Delivery Center (PADDC), which includes; upgrading drone type to MK 30 (approximately 6 feet in diameter), operating a maximum of 469 flights per day, 365 days per year, increasing flight times from 7:00 am to 10:00 pm MK 30 drones are limited to flights during day light hours) and expanding drone service area to 7.5 mile radius from the PADDC (figure 1). The UA would be operated at an altitude of 180 feet above ground level (AGL) and up to an altitude of 300/400 feet AGL, while en route to and from delivery locations. UA flight operations defined flight paths between distribution centers and delivery sites, include:

- Takeoff and climb
- En route flight outbound
- Delivery

- En route flight inbound
- Descent and landing

Additionally, the FAA conducted a noise analysis using sound level measurement data for the UA. For reference, “the sound level of a diesel truck at 50 feet or a noisy urban environment during the day is approximately 80 to 96 decibels (dB)”, and the sound exposure level (SEL) “on the ground when the UA is flying in the en route phase at an altitude of 165 feet AGL is estimated to be around 67.7 dB, which is comparable to the sound of an air conditioning unit at 100 feet (60 dB).”

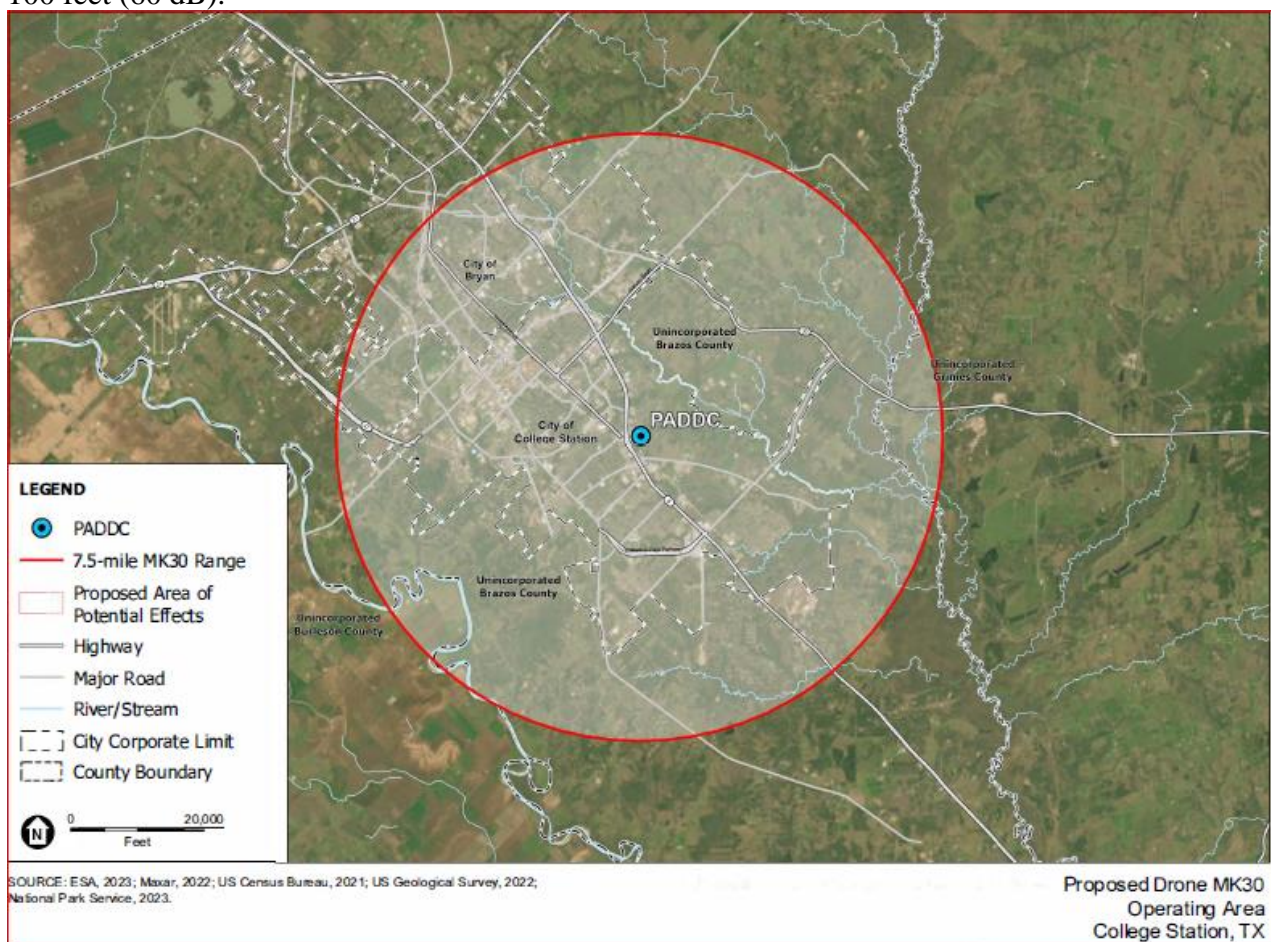


Figure 1. Action Area.

The federally-listed, proposed listed, and candidate species known to occur in Brazos County are the threatened piping plover (*Charadrius melodus*), red knot (*Calidris canutus rufa*), Houston Toad (*Bufo houstonensis*) and Texas fawnsfoot (*Truncilla macrodon*) (listing effective July 5, 2024), and whooping crane (*Grus americana*), the proposed endangered tricolored bat (*Perimyotis subflavis*), and the candidate monarch butterfly (*Danaus plexippus*). Currently, the Service recommends the piping plover and red knot be evaluated only for wind energy projects in these counties; therefore, no consultation is necessary regarding those species. Candidate

species are not afforded protection under the Act, but we do suggest consideration of candidate species in project planning for the purpose of reducing impacts. We recommend you maintain the information used to make these determinations (evaluations, photos, habitat descriptions, etc.) with your project file.

The tri-colored bat is proposed to be listed. Proposed species are not currently protected under the Act; however, conferencing is necessary if it is determined a federal action is likely to jeopardize the continued existence of a proposed species. Your biological evaluation does not indicate the need for conference on the proposed species. We should note that there is a lack of information on the potential effects of drone flights on the tricolored bat. While the proposed action is not expected to directly affect roosting habitat for the species and the majority of flight time would occur when bats are roosting, there are times when active/feeding tricolored bats, if present in the action area, could be exposed to drone activity. Should the tricolored bat be listed, you should re-evaluate the project to determine the extent of effects on the species. If that evaluation indicates adverse effects would or are occurring on the species, measures should be implemented to avoid incidental take until consultation can be completed. The following measures should be considered to avoid incidental take:

- Determining the extent of tricolored bat presence in the action through acoustic surveys
- Restricting flight hours to daylight hours during non-hibernating season

For more information on tricolored bat acoustic surveys, please see the U.S. Fish and Wildlife (the Service) Range-Wide Indiana Bat & Northern Long-Eared Bat Survey Guidelines at <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

Additionally, we recommend the FAA/Amazon develop and implement long term procedures for monitoring and reporting potential effects of drone activity on tricolored bats. This would include a process for reporting survey data, detection of collisions, and contingency planning in the event that adverse effects are reported.

During the July 24, 2024, meeting the FAA/Amazon proposed the following monitoring program based on current monitoring efforts on other projects. We encourage you to incorporate these into your MK30 drone project monitoring plan. Any addition information collected could be evaluated to determine what, if any, impacts may occur to the species.

Conditional Operations and Monitoring Program

- Develop and implement an acceptable monitoring program.
- Continue to capture maintenance and telemetry records.
- Recover potential biological materials (snarge / feathers) that could be sent for testing (e.g. Birdstrike kits). May be something similar available for bat strikes.
- Provide random recordings/observations of drone deliveries and potential avian/bat interactions.
- Provide data to a team that can evaluate and provide appropriated feedback analysis, may include geographic information system (GIS) special analysis of potential wildlife occurrence or recorded conflicts, heat maps, guild information in delivery process, etc.
- Report findings to the Service on an annual basis

Whooping cranes currently exist in three wild populations and in captivity at 13 sites. There is only one self-sustaining wild population, the Aransas-Wood Buffalo National Park population, which nests in Wood Buffalo National Park and adjacent areas in Canada, and winters in coastal marshes in Texas. The migratory corridor runs in an approximately straight line from northwest Canada through the Great Plains to overwinter on the Gulf Coast. The whooping crane breeds, migrates, winters, and forages in a variety of wetland and other habitats, including coastal marshes and estuaries, inland marshes, lakes, ponds, wet meadows and rivers, and agricultural fields. Whooping cranes could be encountered at suitable stopover sites within the corridor during spring and fall migration. Although whooping crane migratory flights are generally at altitudes of between 1,000 and 6,000 feet, they fly at lower altitudes when seeking stop-over habitats such as reservoirs, large ponds, rivers, and wetlands. While cranes generally avoid areas with human activity present (e.g., roads, neighborhoods, etc.), suitable stopover habitat for the species may be present in the proposed project areas. Based on: 1) operations occurring mostly in an urban environment, 2) the altitude at which the UA flies in the en route phase (300-400 feet AGL); 3) the expected low sound levels experienced by a whooping crane, 4) any increase in ambient sound levels would be short in duration, 5) the low probability of a whooping crane occurring in the action area, and 6) the low likelihood of the UA striking a whooping crane, the FAA has determined that the action *may affect, but is not likely to adversely affect*, the whooping crane. Any effects would be discountable (extremely unlikely to occur) or insignificant (not able to be meaningfully measured, detected, or evaluated).

Based on the information provided within the BE and later correspondence, we concur with the determination that the project, as proposed, may affect, but is not likely to adversely affect the whooping crane pursuant to Section 7 of the Act. Therefore, no further Section 7 consultation will be required unless: 1) the identified action is subsequently modified in a manner that causes an effect on a listed species or designated critical habitat; 2) new information reveals the identified action may affect federally listed species or designated critical habitat in a manner or to an extent not previously considered; or 3) a new species is listed or a critical habitat is designated under the Act that may be affected by the identified action. If new effects are identified in the future, Section 7 consultation may need to be reinitiated.

Mr. Derek Hufty

5

Please note that this guidance does not authorize bird mortality for species that are protected under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. sec.703-712). If you believe migratory birds will be affected by this activity, we recommend you contact our Migratory Bird Permit Office at P.O. Box 709, Albuquerque, NM 87103, 505-248-7882. Thank you for the opportunity to review and provide information on the proposed project. If you have any questions, please contact Moni Belton at 281-286-8282 or moni_belton@fws.gov.

Sincerely,

CHARLES
ARDIZZONE

Digitally signed by
CHARLES ARDIZZONE
Date: 2024.08.12
11:29:22 -05'00'

Chuck Ardizzone
Project Leader

Appendix C

Section 4(f) Resources

APPENDIX C
TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address
Texas Independence Ballpark	College Station, City of	
Edelweiss Gartens	College Station, City of	500 Hartford Dr, 77845
Anderson	College Station, City of	900 Anderson St, 77840
Billie Madeley	College Station, City of	760 Sunny Ln, 77840
Brothers Pond	College Station, City of	3100 Rio Grande Blvd, 77845
Cy Miller	College Station, City of	2609 Texas Ave S, 77840
Edelweiss	College Station, City of	3900 Victoria Ave, 77845
Emerald Forest	College Station, City of	8400 Appomattox Dr, 77845
Gabbard	College Station, City of	1201 Dexter Dr S, 77840
Georgie K Fitch	College Station, City of	925 Balcones Drive, 77840
Jack & Dorothy Miller	College Station, City of	501 Rock Prairie Rd, 77845
Lemontree	College Station, City of	1300 Lemontree Ln, 77840
Lions	College Station, City of	501 Chappel St, 77840
Longmire	College Station, City of	2601 Longmire Dr, 77845
Luther Jones	College Station, City of	400 Park Place, 77840
Merry Oaks	College Station, City of	1401 Merry Oaks Dr, 77840
Oaks	College Station, City of	1601 Stallings Dr, 77840
Parkway	College Station, City of	901 Woodland Pkwy, 77840
Pebble Creek	College Station, City of	400 Parkview Dr, 77845
Woodland Hills	College Station, City of	4418 Woodland Ridge Dr, 77845
Sandstone	College Station, City of	1700 Sebesta Rd, 77845
Southwest	College Station, City of	300 Southwest Pkwy, 77840
Brian Bachmann	College Station, City of	1600 Rock Prairie Rd, 77845
Steeplechase	College Station, City of	301 West Ridge Dr, 77845
University	College Station, City of	300 Park Rd, 77840
W A Tarrow	College Station, City of	107 Holleman Dr, 77840
Windwood	College Station, City of	2600 Brookway Ct, 77845
Wolf Pen Creek	College Station, City of	2275 Dartmouth St, 77840
Woodcreek	College Station, City of	9100 Shadowcrest Dr, 77845
John Crompton	College Station, City of	201 Holleman Dr W, 77840
Castle Rock	College Station, City of	4550 Castle Rock Pkwy, 77845
Crescent Pointe	College Station, City of	2191 Crescent Pointe Pkwy, 77845
Cove of Nantucket	College Station, City of	1725 Parkland Dr, 77845
Northgate	College Station, City of	306 Spruce St, 77840
Southern Oaks	College Station, City of	4101 Alexandria Dr, 77845
Art & Myra Bright	College Station, City of	2505 Raintree Dr, 77845
Carter's Crossing	College Station, City of	2101 North Forest Pkwy, 77845

Name	Owner	Address
Sonoma	College Station, City of	318 Hanna Ct, 77845
Smith Tract	College Station, City of	2708 Harvey Rd, 77845
Wallace Lake	College Station, City of	4202 W S Phillips Pwky, 77845
Phillips	College Station, City of	4197 W S Phillips Pkwy, 77845
College Station Cemetery	College Station, City of	2530 Texas Ave S, 77840
Bridgewood	College Station, City of	4023 Dunlap Lp, 77845
Etonbury	College Station, City of	3330 Greens Prairie Rd W, 77845
Summit Crossing	College Station, City of	4001 Harvey Rd, 77845
Reatta Meadows	College Station, City of	1108 Southern Plantation Dr, 77840
Castlegate	College Station, City of	4455 Castlegate Dr, 77845
Creek View	College Station, City of	951 Eagle Ave, 77845
Eastgate	College Station, City of	910 Foster Ave, 77840
Thomas	College Station, City of	1300 James Pkwy, 77840
Wildwood	College Station, City of	4609 Lakeway Dr, 77845
Lick Creek	College Station, City of	14800 Rock Prairie Rd, 77845
Huntington Trail	College Station, City of	1130 Midtown Dr, 77845
Greens Prairie Reserve	College Station, City of	4801 Diamondback Dr, 77845
Midtown Reserve	College Station, City of	1027 Toledo Bend Dr, 77845
First Down	College Station, City of	8670 HSC Pkwy, 77845
Southland	College Station, City of	
MD Wheeler Ph2	College Station, City of	1150 Midtown Dr, 77845
Headlake	College Station, City of	
Stephen C Beachy Central	College Station, City of	1000 Krenek Tap Rd, 77840
Memorial Cemetery	College Station, City of	3800 Raymond Stotzer Pkwy, 77845
Barracks II	College Station, City of	3331 Cullen Trl, 77845
Bee Creek	College Station, City of	1900 Anderson St, 77840
Veterans Park & Athletic Comp.	College Station, City of	3101 Harvey Rd, 77845
Anderson Aboretum	College Station, City of	
Fun For All Playground	College Station, City of	
Adamson Lagoon	College Station, City of	
Cindy Hallaran Pool	College Station, City of	
Lick Creek Greenway	College Station, City of	
Lincoln Recreation Center	College Station, City of	1000 Eleanor St, 77840
Brisson	College Station, City of	400 Dexter Dr, 77840
Spring Creek	College Station, City of	Subdivision, COCS – Fire Station #5
Bee Creek	College Station, City of	Subdivision, COCS – City Centr
White Creek	College Station, City of	Subdivision, TCC
Carter Creek	College Station, City of	Subdivision, High Ridge
Lick Creek	College Station, City of	Subdivision, Carroll Addition

Name	Owner	Address
Lick Creek	College Station, City of	Subdivision, Lick Creek Ph 1
Lick Creek	College Station, City of	Subdivision, COCS – Spring Creek Electric Substation
Wolf Pen Creek	College Station, City of	Subdivision, Lacour
Wolf Pen Creek	College Station, City of	Subdivision, Boardwalk
Wolf Pen Creek	College Station, City of	Subdivision, Wolf Pen Plaza
Wolf Pen Creek Trib A	College Station, City of	Subdivision, University Oaks
Wolf Pen Creek Trib A	College Station, City of	Subdivision, University Oaks
Bee Creek	College Station, City of	Subdivision, COCS – Water Services
Carter's Creek	College Station, City of	Subdivision, Entergy
Carter's Creek	College Station, City of	N/A
Carter's Creek	College Station, City of	Subdivision, Martell
Lick Creek Trib 13	College Station, City of	Subdivision, Alexandria
Lick Creek Trib 13	College Station, City of	Subdivision, Dove Crossing Ph 6
Spring Creek	College Station, City of	Subdivision, Spring Creek Gardens
Spring Creek	College Station, City of	Subdivision, Spring Creek Gardens
Spring Creek	College Station, City of	Subdivision, Spring Creek Gardens
Lick Creek	College Station, City of	Subdivision, Graham Corner Plaza
Lick Creek	College Station, City of	Subdivision, Aggieland
Burton Creek Park	College Station, City of	
Copperfield Park	Bryan, City of	5001 Canterbury Dr
Garden Acres Park	Bryan, City of	700 Garden Acres Blvd
Tiffany Park	Bryan, City of	3890 Copperfield Dr
Austins Colony Park	Bryan, City of	2496 Austins Colony
Astin Recreational Area	Bryan, City of	129 Rountree Dr
Williamson Park	Bryan, City of	411 Williamson Dr
Cherry Park	Bryan, City of	3800 Oak Hill Dr
Miracle Place Park	Bryan, City of	1605 E Wjb Pkwy
Garden Acres Boulevard	Bryan, City of	Garden Acres Blvd
Barbara's Byway	Bryan, City of	Villa Maria Rd & 2818
Morris ""Buzz"" Hamilton Memorial Park	Bryan, City of	Boonville Rd
Autumn Lake	Bryan, City of	2011 Turning Leaf Dr
Hudson @ University	Bryan, City of	Park Hudson Development
Crescent Park	Bryan, City of	Hensel Av
Greenbrier (Future)	Bryan, City of	Thornberry Dr
Shirewood Trail	Bryan, City of	W Villa Maria Rd Sw of Westwood Main
Briar Meadows Creek	Bryan, City of	Ella Ln & Peterson Way
Freedom Blvd	Bryan, City of	Freedom Blvd
Sue Haswell Memorial Park	Bryan, City of	1142 E Wjb Pkwy

Name	Owner	Address
Villa West Park	Bryan, City of	2050 W Villa Maria Rd
Travis Bryan Midtown Park	Bryan, City of	206 W Villa Maria Rd
Bryan Aquatic Center	Bryan, City of	3101 Oak Ridge Dr
Camelot Park	Bryan, City of	E Villa Maria Rd
Henderson Park	Bryan, City of	1629 Mockingbird Ln
Heritage Park	Bryan, City of	600 S Hutchins St
Federal Park	Bryan, City of	1111 Waco St
Tanglewood Park	Bryan, City of	3901 Carter Creek Pkwy
Travis Athletic Complex	Bryan, City of	525 Carson St
Crescent Triangle	Bryan, City of	Hensel Av
Austin's Colony Greenway	Bryan, City of	2400 Austin's Colony Pw
Carriage Hills Trail	Bryan, City of	Graystone Dr
Heritage Triangle	Bryan, City of	30th St
Moran Boulevard	Bryan, City of	Moran St
Redbud Park	Bryan, City of	Redbud St
Shady Point	Bryan, City of	S Rosemary Dr
Winchester Park	Bryan, City of	5004 Brompton Ln
Sam Rayburn School Park	Bryan, City of	1048 N Earl Rudder Frw
Allen Ridge Park	Bryan, City of	1517 Prairie Dr
Coulter Park	Bryan, City of	S Coulter Dr
Shirewood Park	Bryan, City of	Beaver Pond Ct
Symphony Park	Bryan, City of	2530 Rhapsody Ct
Rosewood Trail	Bryan, City of	W Villa Maria & Shirewood Dr
Visitors Center	Bryan, City of	512 E 26th St
Bryan High Tennis Courts	Bryan, City of	3401 E 29th St
Twin Blvd	Bryan, City of	Twin Blvd
Park Hudson Trail	Bryan, City of	Boonville Rd
Avondale Park	Bryan, City of	Deadend Of Avondale Dr
Madeley Park	Bryan, City of	End Of Sunny Lane
Edgewater Parkland	Bryan, City of	6720 Chick Ln
Dominion Oaks Park	Bryan, City of	Bienski Pkwy
Rock Hollow Trail	Bryan, City of	Off N Harvey Mitchell Pkwy-Rear Rock Hollow Subd
City Course at the Philips Event Center	Bryan, City of	
City Course at the Philips Event Center	Bryan, City of	
Bob Bond Park	Bryan, City of	
Texas A&M University Golf Course	Texas A&M University	
SOURCE: City of Bryan, 2024; City of College Station, 2024; County of Brazos, 2024.		

Appendix D

Section 106 Resources and Agency Consultation

APPENDIX D
TABLE D-1
HISTORIC RESOURCES IN THE APE

Map Key	Resource Name	Significance
1	Jones, J. M., House	NRHP Listed
2	Edge, Eugene, House	NRHP Listed
3	Stone, Roy C., House	NRHP Listed
4	Cavitt House	NRHP Listed
5	House at 603 E. Thirty-first	NRHP Listed
6	East Side Historic District	NRHP Listed
7	House at 1401 Baker	NRHP Listed
8	Sinclair Station, (Old)	NRHP Listed
9	Jenkins, Edward J., House	NRHP Listed
10	House at 604 E. Twenty-seventh	NRHP Listed
11	McDougal--Jones House	NRHP Listed
12	Bryan Municipal Building	NRHP Listed
13	House at 407 N. Parker	NRHP Listed
14	Armstrong House-Allen Academy	NRHP Listed
15	Allen, R. O., House-Allen Academy	NRHP Listed
16	Allen Academy Memorial Hall	NRHP Listed
17	Bridge Replacement on Bird Pond Road at Carter Creek	NRHP Eligible
18	Steep Hollow Cemetery	State Listed
19	Moravian Czech Cemetery	State Listed
20	Stick Cemetery	State Listed
21	Old Bethel Cemetery	State Listed
22	Boonville Cemetery	State Listed
23	Site of Villa Maria Ursuline Academy	State Listed
24	Odd Fellows University and Orphans Home	State Listed
25	St. Joseph School	State Listed
26	St. Joseph Catholic Church	State Listed
27	First Methodist Church of Bryan	State Listed
28	Weddington, Wesa	State Listed
29	Wipprecht Home	State Listed
30	Astin-Porter Home	State Listed
31	Wilkerson, A.W.	State Listed
32	Waldrop House	State Listed
33	Edge, Eugene	State Listed
34	First Public School in Bryan	State Listed
35	McMichael-Wilson House	State Listed
36	First Christian Church	State Listed

Map Key	Resource Name	Significance
37	First Presbyterian Church	State Listed
38	Woman's Club	State Listed
39	First National Bank of Bryan	State Listed
40	Martin's Place	State Listed
41	South Family Cemetery	State Listed
42	Carter, Richard	State Listed
43	Bright Light Cemetery	State Listed
44	Roans Chapel Cemetery	State Listed
45	Texas AMC and WWI	State Listed
46	Main Drill Field, Texas A&M University	State Listed
47	College Station Railroad Depots	State Listed
48	Texas A&M Corps of Cadets	State Listed
49	Texas A&M University	State Listed
50	Early Play-By-Play Radio Broadcast of a College Football Game	State Listed
51	Shiloh Community	State Listed
52	College Station Cemetery	State Listed
53	Shiloh Cemetery	State Listed
54	Salem Cemetery	State Listed
55	Jones-Roberts Cemetery	State Listed
56	Bush Cemetery	State Listed
57	African American Education in College Station	State Listed
58	A&M College Consolidated Rural School	State Listed
59	Rock Prairie School and Church	State Listed
60	Brushy Cemetery	State Listed
61	Newsom Cemetery	State Listed
62	Wellborn Cemetery	State Listed
63	Burkhalter Cemetery	State Listed
64	Minter Springs Cemetery	State Listed
65	Peach Creek Cemetery	State Listed

SOURCE: National Park Service, 2024; Texas Historical Commission, 2022.

From: NoResponse@thc.state.tx.us
To: [Hurst, Christopher A \(FAA\)](#)
Subject: Project Review Submission
Date: Monday, June 24, 2024 7:38:28 AM

CAUTION: This email originated from outside of the Federal Aviation Administration (FAA). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Thank you for submitting project: Unmanned Aircraft System (UAS) delivery operation in College Station, TX

Tracking Number: 202411571

Due Date: 7/24/2024 7:37:54 AM (30 days)

TEXAS HISTORICAL COMMISSION



U.S. Department
of Transportation
**Federal Aviation
Administration**

Aviation Safety

800 Independence Ave., SW.
Washington, DC 20591

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

Via electronic submission to <https://xapps.thc.state.tx.us/106Review/>

Re: Concurrence with No Adverse Effect to Historic Properties for Drone Delivery Operations in College Station, TX

Dear Mr. Wolfe:

The Federal Aviation Administration (FAA) is currently evaluating a proposal from Amazon.com Services, doing business as Amazon Prime Air, to expand its existing drone package delivery operations in the College Station, TX area. The FAA has determined the proposed action, which requires FAA approvals to enable operations, is an undertaking as defined under the regulations implementing Section 106 of the National Historic Preservation Act (36 CFR § 800.16(y)). The purpose of this letter is to coordinate with the State Historic Preservation Officer (SHPO) and request the SHPO's concurrence on the definition of the Area of Potential Effects (APE) and the agency's finding of *no historic properties affected* associated with the Proposed Undertaking.

The FAA conducted Section 106 consultation with the SHPO for a similar undertaking in July 2022 when evaluating Prime Air's initial proposed operations in College Station (see **Attachment A**). The SHPO concurred with the FAA's finding of no historic properties affected on August 4, 2022.

Proposed Undertaking

Amazon Prime Air currently operates the MK27-2 drone under 14 Code of Federal Regulations Part 135 in College Station, TX. Amazon Prime Air has a Part 135 Air Carrier Certificate from the FAA, which allows it to conduct commercial package deliveries using drones. Amazon Prime Air intends to expand its delivery capabilities in 2024 and has requested the FAA to authorize the operation of its next generation MK30 drone variant so it can add it to its Part 135 fleet to provide broader access to its drone package delivery services across its operating areas.

Amazon Prime Air projects flying up to 469 MK30 drone flights per operating day from the Prime Air Drone Delivery Center (PADDC) located in College Station, with each flight taking a package to a customer delivery address before returning to the PADDC. The number of flights per day would vary based on customer demand and weather conditions. Amazon Prime Air is taking an incremental approach to operations and expects to gradually ramp up to 469 flights per day as consumer demand increases over time. Drone flights could be conducted up to 365 days a year and, as it ramps up

operations, it could operate up to 10 hours per day, but operations will not occur before 7 A.M. or after 10 P.M.

Unmanned Aircraft

As pictured in **Attachment B**, the Amazon Prime Air MK30 drone is a hybrid multicopter fixed-wing tail-sitter drone with six propulsors allowing it to take-off and land vertically and transition to wing borne flight. Its airframe is composed of staggered tandem wings for stable wing borne flight. The drone weighs 78.15 pounds and has a maximum takeoff weight of 83.292 pounds, which includes a maximum payload of 5 pounds. It has a maximum operating range of 7.5 miles and can fly up to 58 knots during wing borne flight. It uses electric power from rechargeable lithium-ion batteries and is launched vertically using powered lift and converts to using wing lift during en route horizontal flight.

Flight Operations

The MK30 drone would generally be operated at an altitude of 115 to 300 feet above ground level (AGL) and up to a maximum operating altitude of 400 feet AGL while en route to and from delivery locations. At a delivery location, the drone would descend vertically to a stationary hover and drop a package to the ground. Once a package has been delivered, the drone would ascend vertically to the en route altitude, and depart the delivery area back to the PADDC. The drone would fly a predefined flight path that is set prior to takeoff. Flight missions would be automatically planned by Amazon Prime Air's flight planning software, which assigns, deconflicts, and routes each flight. The PADDC would have access to a controlled area wherein drone flights are launched and recovered.

A typical drone flight profile can be broken into the following general flight phases: takeoff, en route outbound, delivery, en route inbound, and landing, as depicted in **Attachment C**.

Takeoff

Once the loaded MK30 drone is cleared for takeoff at the PADDC, it takes off from the ground vertically to an altitude of about 180 feet AGL and then transitions and climbs to its en route altitude of about 300 feet AGL.

En Route Outbound

The en route outbound phase is the part of flight in which the MK30 drone transits from the PADDC to a delivery point on a predefined flight path. During this flight phase, the drone will typically operate at an altitude of 300 feet AGL with a typical airspeed of 58 knots.

Delivery

The delivery phase consists of descent from the en route altitude to a delivery point to deliver a package. The MK30 drone transitions and descends to about 180 feet AGL and then vertically descends to about 13 feet AGL while maintaining position over the delivery point. The drone hovers while dropping the package and then proceeds to climb vertically back to en route inbound altitude.

En Route Inbound

The MK30 drone continues to fly at an altitude of about 300 feet AGL with a speed of 58 knots towards the PADDC.

Landing

Upon reaching the PADDC, the MK30 drone slowly descends over its assigned landing pad and lands on the pad

Predicted Sound Levels

The FAA conducted a noise analysis using sound level measurement data for the MK27-2 drone. Amazon Prime Air reports that improvements made to the MK30 model have reduced the overall operating sound level of the drone, and as such, use of the MK27-2 as a surrogate in the noise analysis is conservative for noise estimation.

The FAA conducted a noise analysis using sound level measurement data for the MK27-2 drone. Amazon Prime Air reports that improvements made to the MK30 model have reduced the overall operating sound level of the drone, and as such, use of the MK27-2 as a surrogate in the noise analysis is conservative for noise estimation. The estimated maximum sound exposure level (SEL) for the takeoff, delivery, and landing phases of flight is approximately 95.7, 96.3, and 94.8 decibels (dB), respectively, at 32.8 feet from the drone.¹ Predicted sound levels decrease as distances from the drone increase. The maximum SEL for the en route phase is approximately 67.7 dB when the drone is flying 52.4 knots at 165 feet AGL, the lowest altitude the drone is anticipated to operate.

The drone is generally expected to fly the same outbound flight path between the PADDC and the delivery point and inbound flight path back to the PADDC. While the average daily deliveries from the PADCC is not expected to exceed 469, the number of daily overflights will be dispersed because the PADCC is centrally located, and delivery locations would be distributed throughout the proposed operating area. A conservative estimate for the maximum number of overflights over any one location would not be anticipated to exceed half, or 235 daily overflights, which would result in en route noise levels of Day-Night Average Sound Level (DNL) 45.1 dB at any location within the action area.

Additionally, due to the inherent uncertainty of the exact delivery site locations, the noise analysis developed a minimum and maximum representative distribution of deliveries in the action area. The noise analysis conservatively assumes the minimum and maximum distribution of average daily deliveries that could occur at a single delivery location, which ranges from 0.1 to 4.0 deliveries per operating day. The resulting DNL values include the descent, climb flight maneuvers associated with a delivery, and the noise exposure for delivery operations also includes the en route overflight at the typical operating altitude of 165 feet AGL, as discussed above. The resulting noise exposure for delivery site locations is DNL 54.7 dB.

Area of Potential Effects

In accordance with 36 CFR § 800.4(a)(1), the FAA has defined the APE in consideration of the undertaking's potential direct and indirect effects. The proposed APE is the drone operating area outlined in red in **Attachment D**. This area encompasses a portion of the College Station area within a 7.5-mile drone operating radius around the PADDC.

Identification of Historic Properties

The proposed undertaking does not have the potential to affect below ground or archaeological resources because it does not include ground disturbance, but may include visual and auditory effects. Therefore, the FAA focused its identification efforts on above-ground historic properties. According to the National Park Service's online database of the National Register of Historic Places (NRHP), a total of 15 historic properties, 1 eligible property, and 1 historic district are located in the proposed APE (see **Attachments E and F**). Additional properties in the proposed APE may be otherwise recognized for

¹ SEL is a single event metric that considers both the noise level and duration of the event, referenced to a standard duration of one second.

historical significance by the SHPO. Most of the historic properties in the proposed APE are residences and businesses, but also includes government buildings and schools. Most of the historic properties are included on the NRHP because of their historic architectural features.

Assessment of Effects

Given the small size of the MK30 drone and predicted sound levels, operations would not produce vibrations that could impact the architectural structure or contents of any structure in the proposed APE. While the MK30 drone is not expected to generate significant noise levels at or within any historic property, the FAA considered drone delivery noise and potential visual effects on historic properties where a quiet setting or visually unimpaired sky might be a key attribute of the property's significance.

The noise modeling methodology and methods presented in the Draft Supplemental EA are suitable for the evaluation of Federal actions in compliance with the National Environmental Policy Act (NEPA) and other applicable environmental regulations or federal review standards at the discretion and approval of the FAA. In particular, the analysis is intended to function as a nonstandard equivalent methodology under FAA Order 1050.1F, and therefore required prior written consent from the FAA's Office of Environment and Energy for each project seeking a NEPA determination. The results presented above are expressed in terms of the DNL, considering varying levels of operations for areas at ground level below each flight phase.

The FAA has not developed a visual effects significance threshold; however, factors the FAA considers in assessing significant impacts include the degree to which the action would have the potential to: (1) affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources; (2) contrast with the visual resources and/or visual character in the study area; or (3) block or obstruct the views of visual resources, including whether these resources would still be viewable from other locations. The Proposed Action makes no changes to any landforms or land uses, and visual effects would be short-term in nature; thus, there would be no effect to the visual character of the area. Excluding ground-based activities supporting the drones, operations would be occurring in airspace only. The FAA estimates that, at typical operating altitude and speeds, the drone would be observable for approximately 3.6 seconds during en route flight by an observer on the ground.

The FAA has not identified any properties in the proposed APE that would be affected by the drone's sound levels or visual effects, which are not anticipated to be significant at any locations along the drone's flight path, including delivery locations. Therefore, the FAA has made a finding of no historic properties affected.

Conclusion

The FAA requests your concurrence on the definition of the proposed APE and with the FAA's finding of no historic properties affected from the Proposed Undertaking. Your response within the next 30 days will greatly assist us in our environmental review process. In the event that you would like to consult with the FAA about the determination, please contact Christopher Hurst via email at 9-faa-drone-environmental@faa.gov.

Sincerely,

Derek Hufty
Manager, General Aviation and Commercial Branch (AFS-750)
Emerging Technologies Division
Office of Safety Standards, Flight Standards Service

Enclosures:

Attachment A – Previous SHPO Correspondence
Attachment B – Amazon Prime Air MK30 Drone
Attachment C – MK30 Drone Flight Profile
Attachment D – Proposed Area of Potential Effects
Attachment E – NRHP Resources within the Proposed Area of Potential Effects
Attachment F – Listing of NRHP Resources

Attachment A
Previous SHPO Correspondence



U.S. Department
of Transportation
**Federal Aviation
Administration**

Aviation Safety

800 Independence Ave., S.W.
Washington, DC 20591

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

Via electronic submission to <https://xapps.thc.state.tx.us/106Review/>

Dear Mr. Wolfe:

The purpose of this letter is to inform you of a proposal under consideration by the Federal Aviation Administration (FAA) for the approval of a Certificate of Waiver and/or Exemption for an Unmanned Aircraft System (UAS) delivery operation in College Station, TX. The FAA has determined that this proposed action is a Federal undertaking as defined in 36 CFR § 800.16 (y). Therefore, the FAA is initializing consultation with the State Historic Preservation Officer (SHPO) pursuant to § 800.4(d), Finding of no historic properties affected.

Proposed Activity Description

The FAA has been asked to approve waivers and/or exemptions to aeronautical regulations, thereby approving the UAS operation in the area depicted below. FAA approval of the UAS operation in the area is an undertaking subject to regulations pursuant to the National Historic Preservation Act.

The UAS operation will be flown by an MK27-2 unmanned aircraft at approximately 200 feet, but no more than 400 feet above ground level (AGL) within a 3.73 mile radius in College Station, TX (see attached operations area map). The purpose is for package delivery, consisting of no greater than approximately 200 flights each day, with each flight lasting approximately 15 minutes. Flights will occur primarily Mon-Fri, no holidays, with operations being conducted for 8-10 hours per day, during daylight hours. The dimension of the UAS area defines the Area of Potential Effect (APE). According to the National Park Service online database of the National Register of Historic Places, no historical places were identified within the proposed APE. The UAS operation will have no affects to the ground. All flights will takeoff from, and return to a drone delivery center in College Station, TX

Consultation

Based on the results of the FAA's search of the National Park Service online database of the National Register of Historic Places, the FAA has determined that this undertaking will have no historic properties affected. In accordance with to § 800.4(d) please review this finding

and the enclosed documentation, and provide either your concurrence or non-concurrence within the 30 day regulatory time frame.

If you have any comments or questions or need additional information regarding the proposed operation, please do not hesitate to contact Mr. Mike Millard, in writing at: FAA, AFS-800, 800 Independence Ave., S.W., Washington, D.C. 20591; by telephone: (202) 267-7906; or by email: 9-AWA-AVS-AFS-ENVIRONMENTAL@faa.gov.

Sincerely,

**DAVID M
MENZIMER**

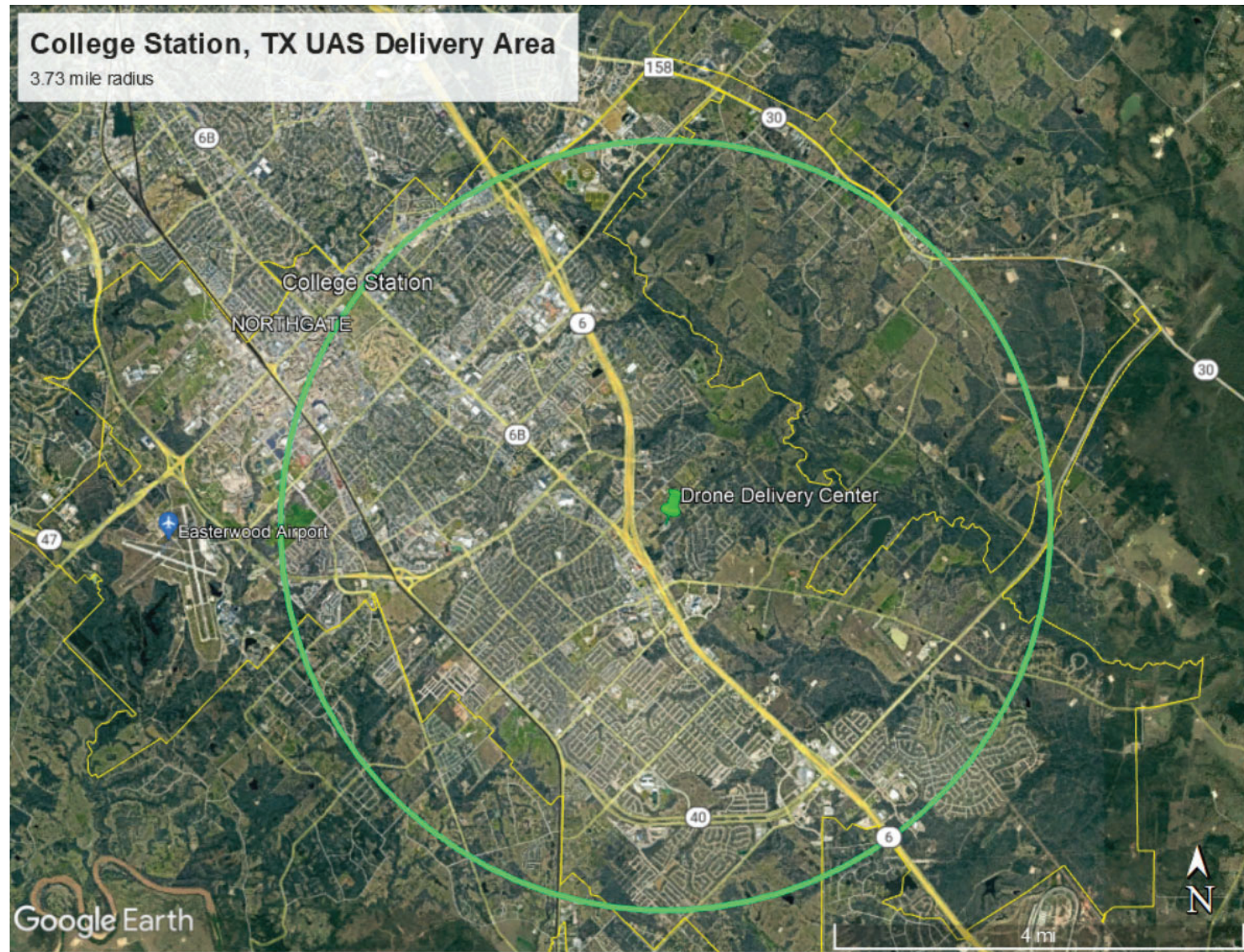
Digitally signed by DAVID
M MENZIMER
Date: 2022.07.12 11:00:01
-07'00'

David Menzimer
Manager, General Aviation Operations Section
General Aviation and Commercial Division
Office of Safety Standards, Flight Standards Service

Enclosure

College Station, TX UAS Delivery Area

3.73 mile radius



From: noreply@thc.state.tx.us
Sent: Thursday, August 4, 2022 2:27 PM
To: Millard, Mike (FAA); reviews@thc.state.tx.us
Subject: Section 106 Submission



TEXAS HISTORICAL COMMISSION
real places telling real stories

Re: Project Review under Section 106 of the National Historic Preservation Act

THC Tracking #202212464

Date: 08/04/2022

Unmanned Aircraft System (UAS) delivery operation in College Station, TX.
400 Technology Parkway
College Station, TX 77845

Description: FAA approval of a Certificate of Waiver and/or Exemption for an Unmanned Aircraft System (UAS) delivery operation in College Station, TX.

Dear Mike Millard:

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

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

Above-Ground Resources

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

Archeology Comments

- No historic properties affected. However, if cultural materials are encountered during construction or disturbance activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.
- THC/SHPO concurs with information provided.

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

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

Sincerely,

A handwritten signature in dark ink, appearing to read "Mark Wolfe", with a long, sweeping horizontal line extending to the right.

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

Please do not respond to this email.

Attachment B
Amazon Prime Air MK30 Drone

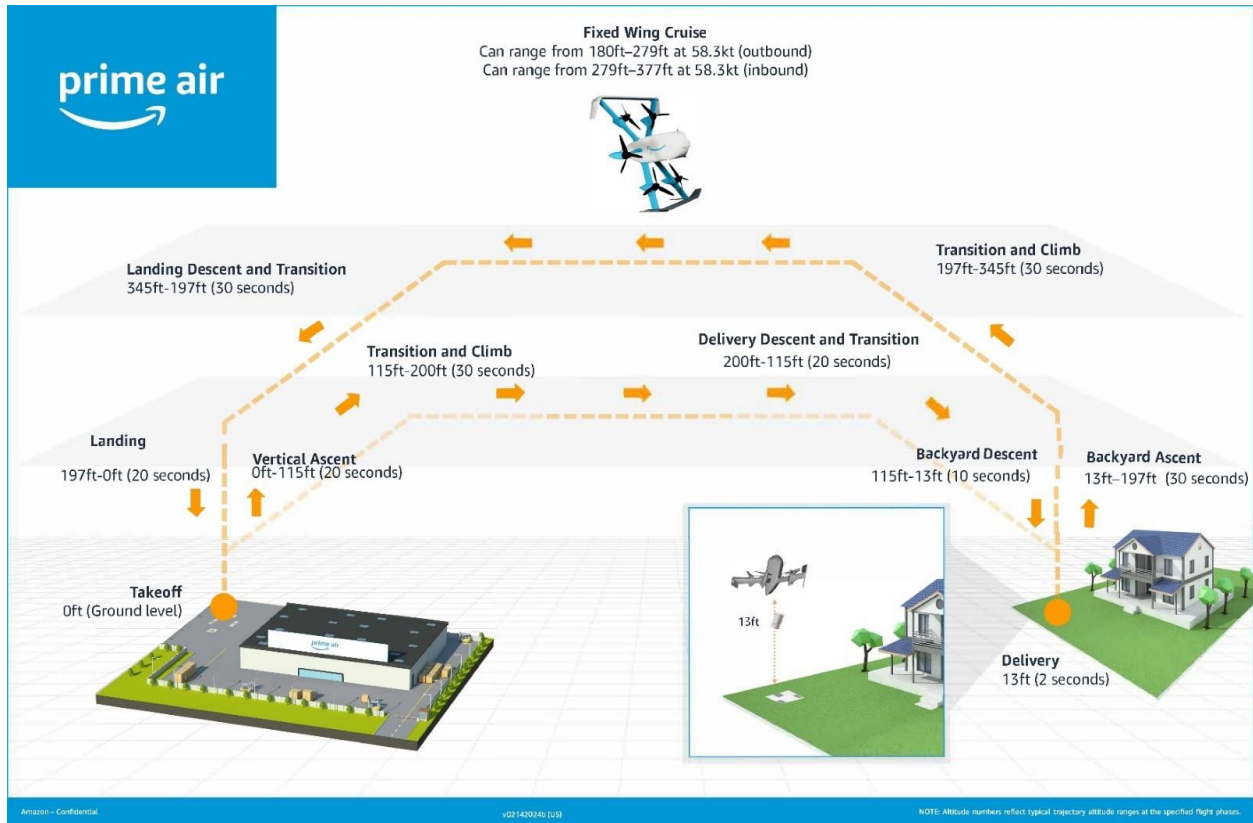
Attachment B

Prime Air MK30 Unmanned Aircraft

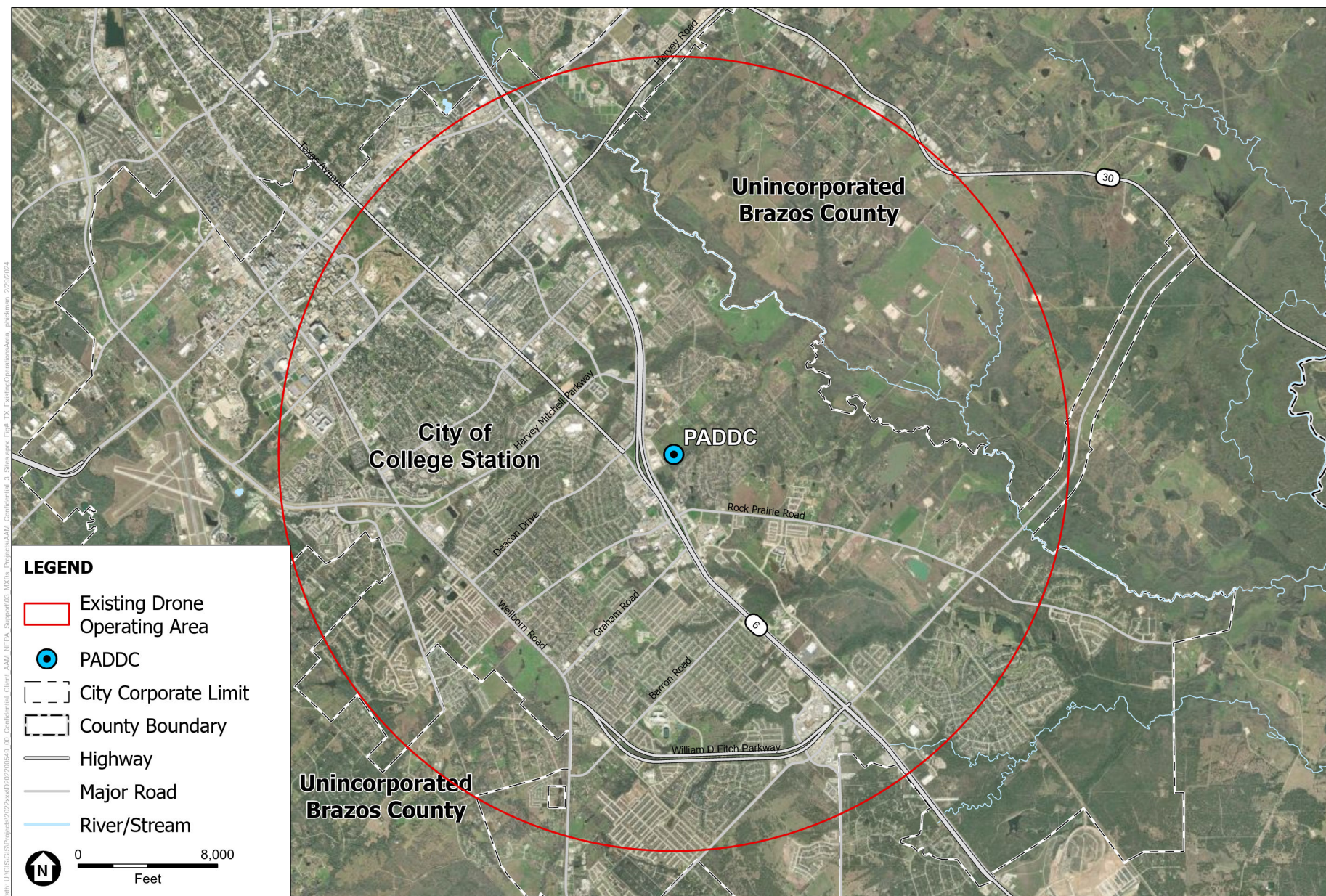


Attachment C
MK30 Drone Flight Profile

MK30 Drone Flight Profile



Attachment D
Proposed Area of Potential Effects

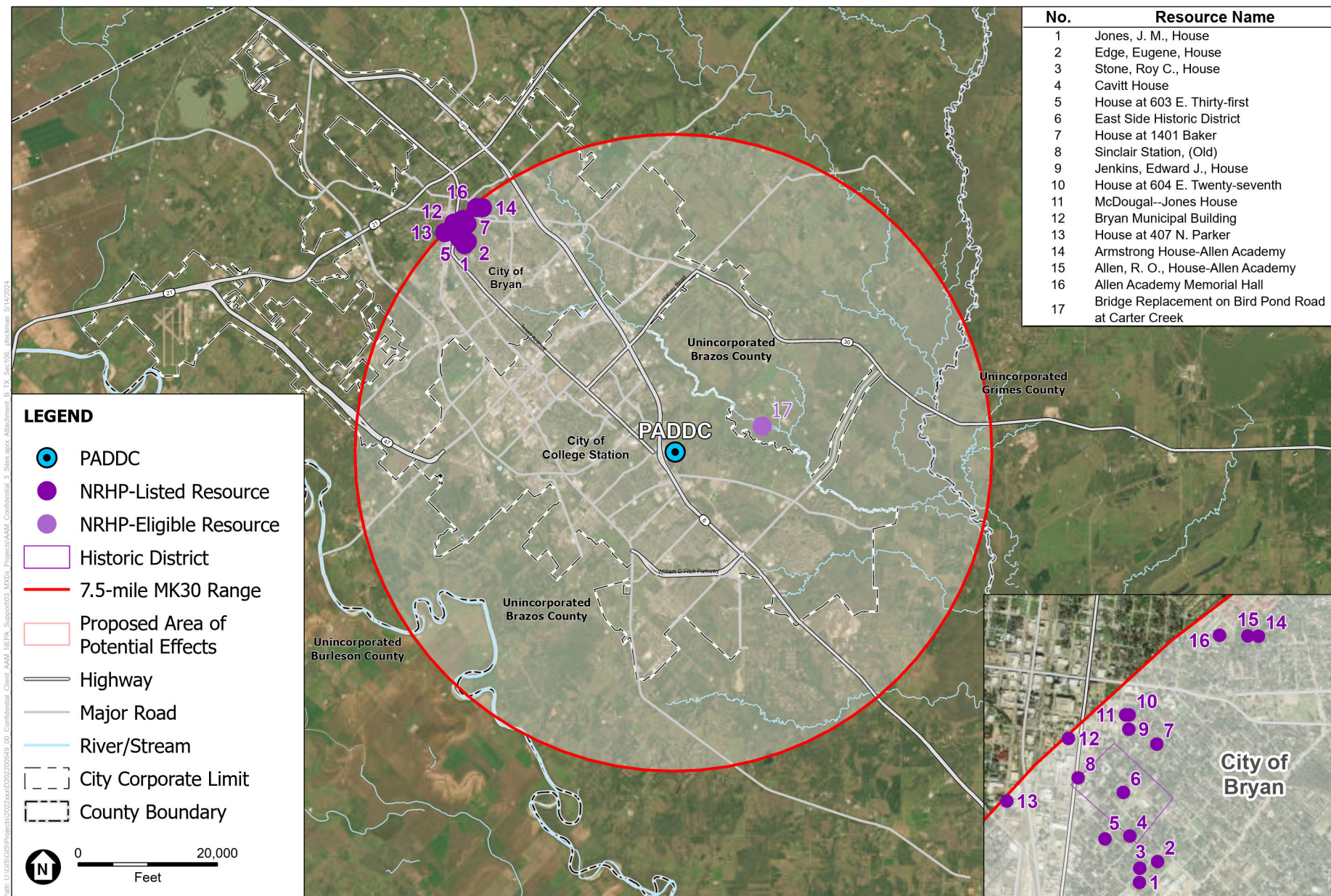


SOURCE: ESA, 2023; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022.

Draft Environmental Assessment for Amazon Prime Air – College Station, TX

Attachment E

NRHP Resources within the Proposed Area of Potential Effects



SOURCE: ESA, 2023; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022; National Park Service, 2023.

Draft Supplemental Environmental Assessment for Amazon Prime Air – College Station, TX

Attachment F
Listing of NRHP Resources

Attachment F

NRHP Properties

Resource Name	Source	NRIS Reference Number
Cavitt House	National Register of Historic Places -- National Park Service	76002010
Stone, Roy C., House	National Register of Historic Places -- National Park Service	87001649
Sinclair Station, (Old)	National Register of Historic Places -- National Park Service	87001644
Jenkins, Edward J., House	National Register of Historic Places -- National Park Service	87001633
House at 604 E. Twenty-seventh	National Register of Historic Places -- National Park Service	87001629
House at 603 E. Thirty-first	National Register of Historic Places -- National Park Service	87001627
House at 407 N. Parker	National Register of Historic Places -- National Park Service	87001624
House at 1401 Baker	National Register of Historic Places -- National Park Service	87001621
Edge, Eugene, House	National Register of Historic Places -- National Park Service	87001614
Armstrong House-Allen Academy	National Register of Historic Places -- National Park Service	87001606
Allen, R. O., House-Allen Academy	National Register of Historic Places -- National Park Service	87001605
Jones, J. M., House	National Register of Historic Places -- National Park Service	87001634
McDougal--Jones House	National Register of Historic Places -- National Park Service	87001637
Allen Academy Memorial Hall	National Register of Historic Places -- National Park Service	87001603
Bryan Municipal Building	National Register of Historic Places -- National Park Service	02000116
East Side Historic District	National Register of Historic Places -- National Park Service	87001613
Bridge Replacement on Bird Pond Road at Carter Creek		65005868

From: noreply@thc.state.tx.us
To: [Hurst, Christopher A \(FAA\)](#); reviews@thc.state.tx.us
Subject: Unmanned Aircraft System (UAS) delivery operation in College Station, TX
Date: Friday, July 19, 2024 11:45:57 AM

CAUTION: This email originated from outside of the Federal Aviation Administration (FAA). Do not click on links or open attachments unless you recognize the sender and know the content is safe.



Re: Project Review under Section 106 of the National Historic Preservation Act
THC Tracking #202411571

Date: 07/19/2024

Unmanned Aircraft System (UAS) delivery operation in College Station, TX
400 Technology Parkway College Station, TX 77845
College Station, TX 77845

Description: FAA approval of a Certificate of Waiver and/or Exemption for an Unmanned Aircraft System (UAS) delivery operation in College Station, TX.

Dear Christopher:

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

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

Above-Ground Resources

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

Archeology Comments

- No historic properties affected. However, if cultural materials are encountered during construction or disturbance activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.
- THC/SHPO concurs with information provided.

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

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

Sincerely,



for Bradford Patterson
Chief Deputy State Historic Preservation Officer

Please do not respond to this email.



U.S. Department
of Transportation

**Federal Aviation
Administration**

Aviation Safety

800 Independence Ave., SW.
Washington, DC 20591

Via Email and Regular Mail

President Terri Parton
Wichita and Affiliated Tribes (Wichita, Keechi, Waco & Tawakonie), Oklahoma
PO Box 729
Anadarko, OK 73005
Email: terri.parton@wichitatribe.com

RE: Invitation for Government-to-Government Tribal Consultation for Drone Package Delivery Operations in Texas

The purpose of this letter is to initiate formal government-to-government consultation regarding a proposal under consideration by the Federal Aviation Administration (FAA) to authorize commercial Unmanned Aircraft Systems (UAS) operators to deliver goods to customers (referred to as package delivery) using unmanned aircraft (also referred to as drones) in accordance with 14 Code of Federal Regulations Part 135 (Part 135) in the state of Texas. The FAA is the lead federal agency for government-to-government consultation for the proposed project. Amazon.com Services LLC, doing business as Amazon Prime Air, is the proponent of the project. We wish to solicit your views regarding potential effects on tribal interests in the area.

The primary purpose of government-to-government consultation is to ensure that Federally Recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA actions that uniquely or significantly affect the Tribes. This policy is provided in Federal Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*; Presidential Memorandum, *Uniform Standards for Tribal Consultation*; DOT Order 5301.1A, *Department of Transportation Tribal Consultation Policy and Procedures*; and FAA Order 1210.20, *American Indian and Alaska Native Tribal Consultation Policy and Procedures*.

Consultation Initiation

With this letter, the FAA is seeking input concerning any Tribal lands or sites of religious or cultural significance that may be affected by the proposed operation. Early identification of Tribal concerns, or known properties of traditional, religious, and cultural importance, will allow the FAA to consider ways to avoid or minimize potential impacts to Tribal resources. We are available to discuss the details of the proposed project with you.

Proposed Activity Description

The FAA is preparing an Environmental Assessment to assess the potential environmental impacts of commercial package delivery operations using drones in College Station, TX under Part 135. Since 2019, the FAA has been issuing air carrier certificates to UAS operators in accordance with Part 135 so that operators can conduct package delivery flights. Generally, these approvals are associated with issuing a

new or amended Part 135 air carrier Operations Specifications as the operative approval. For your reference, the project description used for consultation under Section 106 is enclosed with this letter.

Confidentiality

We understand that you may have concerns about the confidentiality of information on areas or resources of traditional, religious, and cultural importance to your Tribe. We are available to discuss these concerns and develop procedures to ensure the confidentiality of such information is maintained.

FAA Contact Information

Your timely response over the next 30 days will greatly assist us in incorporating your concerns into our environmental review of the operation. In addition, we respectfully request your response in the event that the Wichita and Affiliated Tribes of Oklahoma would like to consult with the FAA in a government-to-government relationship about this proposal. Please contact Christopher Hurst via email at 9-faa-drone-environmental@faa.gov within 30 days of receipt of this letter to confirm your intent to participate in this government-to-government consultation.

Sincerely,

Derek Hufty
Manager, General Aviation and Commercial Branch (AFS-750)
Emerging Technologies Division
Office of Safety Standards, Flight Standards Service

CC: Ms. Robin Williams
Tribal Historic Preservation Officer

Enclosure:
Attachment A – Section 106 Consultation Package

Attachment A
Section 106 Consultation Package



U.S. Department
of Transportation

**Federal Aviation
Administration**

Aviation Safety

800 Independence Ave., SW.
Washington, DC 20591

Ms. Robin Williams
Tribal Historic Preservation Officer
Wichita and Affiliated Tribes (Wichita, Keechi, Waco & Tawakonie), Oklahoma
PO Box 729
Anadarko, OK 73005
Email: robin.williams@wichitatribe.com

Dear Ms. Williams:

The Federal Aviation Administration (FAA) is currently evaluating the Amazon.com Services LLC, doing business as Amazon Prime Air, proposal to conduct expanded delivery drone operations in the College Station, TX area. Prime Air must obtain approval from the FAA prior to expanding its existing operations by operating the new, MK30 drone in College Station, TX. The FAA has determined that its proposed action, which would encompass all FAA approvals necessary to enable expanded operations, is an undertaking as defined under the regulations implementing Section 106 of the National Historic Preservation Act (36 CFR § 800.16(y)). The purpose of this letter is to initiate Section 106 consultation with the Wichita and Affiliated Tribes and to solicit your views regarding potential effects on tribal interests in the area. The FAA has begun an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) to analyze the proposed action. FAA intends to complete consultation for Section 106 of the NHPA concurrently with the NEPA process.

Project Description

Amazon Prime Air is proposing to continue transporting consumer goods via drone delivery in the communities they already serve and expand these services to the larger operational area using the new MK30 drone. The MK30 drone would take off from the Prime Air Drone Delivery Center (PADDC) and quickly rise to a cruising altitude of 115 to 300 feet above ground level (AGL). The MK30 drone weighs approximately 77.9 pounds and can transport a small package up to about 5 pounds. The MK30 drone has an approximate 7.5-mile service radius. Once at the delivery site, the MK30 drone hovers in place at about 13 feet AGL and drops the package to the ground. Once the package has been delivered, the drone flies back to the PADDC at roughly the same altitude.

Amazon Prime Air is proposing up to 469 MK30 drone flights per day from the PADDC, with each flight taking a package to a customer delivery address before returning. There is variability in the number of flights per day based on customer demand and weather conditions. Initially, Amazon Prime Air expects to fly much less than 469 flights per day from the PADDC and gradually ramp up to the proposed level as consumer demand increases. Flights will occur up to 365 days a year, with operations being conducted for 10 hours per day, primarily during daylight hours, but never before 7 A.M. or after 10 P.M.

Area of Potential Effects

In accordance with 36 CFR § 800.4(a)(1), the FAA has defined the Area of Potential Effects (APE) in consideration of the undertaking's potential direct and indirect effects. The current operation that was coordinated with the TX SHPO showed the APE would be limited to areas near College Station, TX. This expansion extends through the similarly, densely populated or congested regions of the College Station area. The enclosed map (see **Attachment A**) shows the newly proposed APE in detail.

Identification of Historic Properties

The proposed undertaking does not have the potential to affect below ground or archeological resources because the undertaking does not include ground disturbance, but could result in auditory or visual effects. Therefore, the FAA focused its identification efforts on above-ground historic properties.

Consultation

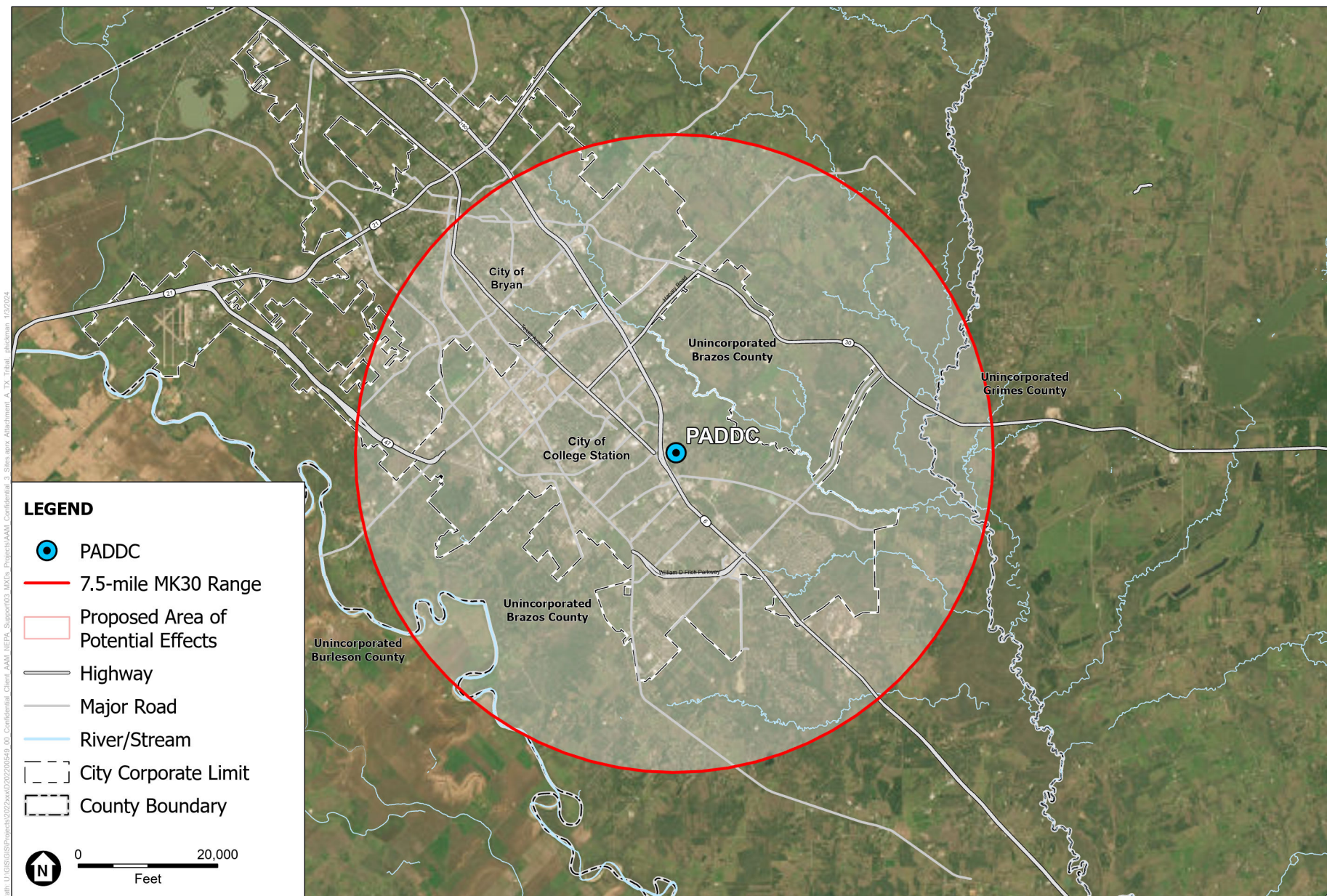
The FAA is soliciting the opinion of the tribes concerning any tribal lands, or sites of religious or cultural significance that may be affected by the proposed operations area. Your response over the next 30 days will greatly assist us in incorporating your concerns into our environmental review of the operation. If you have any questions or need additional information, please contact Christopher Hurst via email at 9-faa-drone-environmental@faa.gov within 30 days of receipt of this letter.

Sincerely,

Derek Hufty
Manager, General Aviation and Commercial Branch (AFS-750)
Emerging Technologies Division
Office of Safety Standards, Flight Standards Service

Enclosure:
Attachment A – Proposed Area of Potential Effects

Attachment A
Proposed Area of Potential Effects



SOURCE: ESA, 2023; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022; National Park Service, 2023.

Draft Supplemental Environmental Assessment for Amazon Prime Air – College Station, TX



U.S. Department
of Transportation

**Federal Aviation
Administration**

Aviation Safety

800 Independence Ave., SW.
Washington, DC 20591

Via Email and Regular Mail

Chairman Ricky Sylestine
Tribal Council Chairman
Alabama-Coushatta Tribe of Texas
571 State Park Road 56
Livingston, TX 77351
Email: tcrsylestine@actribe.org

RE: Invitation for Government-to-Government Tribal Consultation for Drone Package Delivery Operations in Texas

The purpose of this letter is to initiate formal government-to-government consultation regarding a proposal under consideration by the Federal Aviation Administration (FAA) to authorize commercial Unmanned Aircraft Systems (UAS) operators to deliver goods to customers (referred to as package delivery) using unmanned aircraft (also referred to as drones) in accordance with 14 Code of Federal Regulations Part 135 (Part 135) in the state of Texas. The FAA is the lead federal agency for government-to-government consultation for the proposed project. Amazon.com Services LLC, doing business as Amazon Prime Air, is the proponent of the project. We wish to solicit your views regarding potential effects on tribal interests in the area.

The primary purpose of government-to-government consultation is to ensure that Federally Recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA actions that uniquely or significantly affect the Tribes. This policy is provided in Federal Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*; Presidential Memorandum, *Uniform Standards for Tribal Consultation*; DOT Order 5301.1A, *Department of Transportation Tribal Consultation Policy and Procedures*; and FAA Order 1210.20, *American Indian and Alaska Native Tribal Consultation Policy and Procedures*.

Consultation Initiation

With this letter, the FAA is seeking input concerning any Tribal lands or sites of religious or cultural significance that may be affected by the proposed operation. Early identification of Tribal concerns, or known properties of traditional, religious, and cultural importance, will allow the FAA to consider ways to avoid or minimize potential impacts to Tribal resources. We are available to discuss the details of the proposed project with you.

Proposed Activity Description

The FAA is preparing an Environmental Assessment to assess the potential environmental impacts of commercial package delivery operations using drones in College Station, TX under Part 135. Since 2019,

the FAA has been issuing air carrier certificates to UAS operators in accordance with Part 135 so that operators can conduct package delivery flights. Generally, these approvals are associated with issuing a new or amended Part 135 air carrier Operations Specifications as the operative approval. For your reference, the project description used for consultation under Section 106 is enclosed with this letter.

Confidentiality

We understand that you may have concerns about the confidentiality of information on areas or resources of traditional, religious, and cultural importance to your Tribe. We are available to discuss these concerns and develop procedures to ensure the confidentiality of such information is maintained.

FAA Contact Information

Your timely response over the next 30 days will greatly assist us in incorporating your concerns into our environmental review of the operation. In addition, we respectfully request your response in the event that the Alabama-Coushatta Tribe of Texas would like to consult with the FAA in a government-to-government relationship about this proposal. Please contact Christopher Hurst via email at 9-faa-drone-environmental@faa.gov within 30 days of receipt of this letter to confirm your intent to participate in this government-to-government consultation.

Sincerely,

Derek Hufty
Manager, General Aviation and Commercial Branch (AFS-750)
Emerging Technologies Division
Office of Safety Standards, Flight Standards Service

CC: Mr. Delvin Johnson
Tribal Historic Preservation Officer

Enclosure:
Attachment A – Section 106 Consultation Package

Attachment A
Section 106 Consultation Package



U.S. Department
of Transportation

**Federal Aviation
Administration**

Aviation Safety

800 Independence Ave., SW.
Washington, DC 20591

Mr. Delvin Johnson
Tribal Historic Preservation Officer
Alabama-Coushatta Tribe of Texas
571 State Park Road 56
Livingston, TX 77351
Email: tcrsylestine@actribe.org

Dear Mr. Johnson:

The Federal Aviation Administration (FAA) is currently evaluating the Amazon.com Services LLC, doing business as Amazon Prime Air, proposal to conduct expanded delivery drone operations in the College Station, TX area. Prime Air must obtain approval from the FAA prior to expanding its existing operations by operating the new, MK30 drone in College Station, TX. The FAA has determined that its proposed action, which would encompass all FAA approvals necessary to enable expanded operations, is an undertaking as defined under the regulations implementing Section 106 of the National Historic Preservation Act (36 CFR § 800.16(y)). The purpose of this letter is to initiate Section 106 consultation with the Alabama-Coushatta Tribe of Texas and to solicit your views regarding potential effects on tribal interests in the area. The FAA has begun an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) to analyze the proposed action. FAA intends to complete consultation for Section 106 of the NHPA concurrently with the NEPA process.

Project Description

Amazon Prime Air is proposing to continue transporting consumer goods via drone delivery in the communities they already serve and expand these services to the larger operational area using the new MK30 drone. The MK30 drone would take off from the Prime Air Drone Delivery Center (PADDC) and quickly rise to a cruising altitude of 115 to 300 feet above ground level (AGL). The MK30 drone weighs approximately 77.9 pounds and can transport a small package up to about 5 pounds. The MK30 drone has an approximate 7.5-mile service radius. Once at the delivery site, the MK30 drone hovers in place at about 13 feet AGL and drops the package to the ground. Once the package has been delivered, the drone flies back to the PADDC at roughly the same altitude.

Amazon Prime Air is proposing up to 469 MK30 drone flights per day from the PADDC, with each flight taking a package to a customer delivery address before returning. There is variability in the number of flights per day based on customer demand and weather conditions. Initially, Amazon Prime Air expects to fly much less than 469 flights per day from the PADDC and gradually ramp up to the proposed level as consumer demand increases. Flights will occur up to 365 days a year, with operations being conducted for 10 hours per day, primarily during daylight hours, but never before 7 A.M. or after 10 P.M. There are no ground disturbing activities associated with this proposed action.

Area of Potential Effects

In accordance with 36 CFR § 800.4(a)(1), the FAA has defined the Area of Potential Effects (APE) in consideration of the undertaking's potential direct and indirect effects. The current operation that was coordinated with the TX SHPO showed the APE would be limited to areas near College Station, TX. This expansion extends through the similarly, densely populated or congested regions of the College Station area. The enclosed map (see **Attachment A**) shows the newly proposed APE in detail.

Identification of Historic Properties

The proposed undertaking does not have the potential to affect below ground or archeological resources because the undertaking does not include ground disturbance, but could result in auditory or visual effects. Therefore, the FAA focused its identification efforts on above-ground historic properties.

Consultation

The FAA previously consulted the Alabama-Coushatta Tribe of Texas on July 13, 2022, regarding the introduction of the current drone operations (see **Attachment B**). The FAA is now soliciting the opinion of the tribes concerning any tribal lands, or sites of religious or cultural significance that may be affected by the proposed operations area. Your response over the next 30 days will greatly assist us in incorporating your concerns into our environmental review of the operation. If you have any questions or need additional information, please contact Christopher Hurst via email at 9-faa-drone-environmental@faa.gov within 30 days of receipt of this letter.

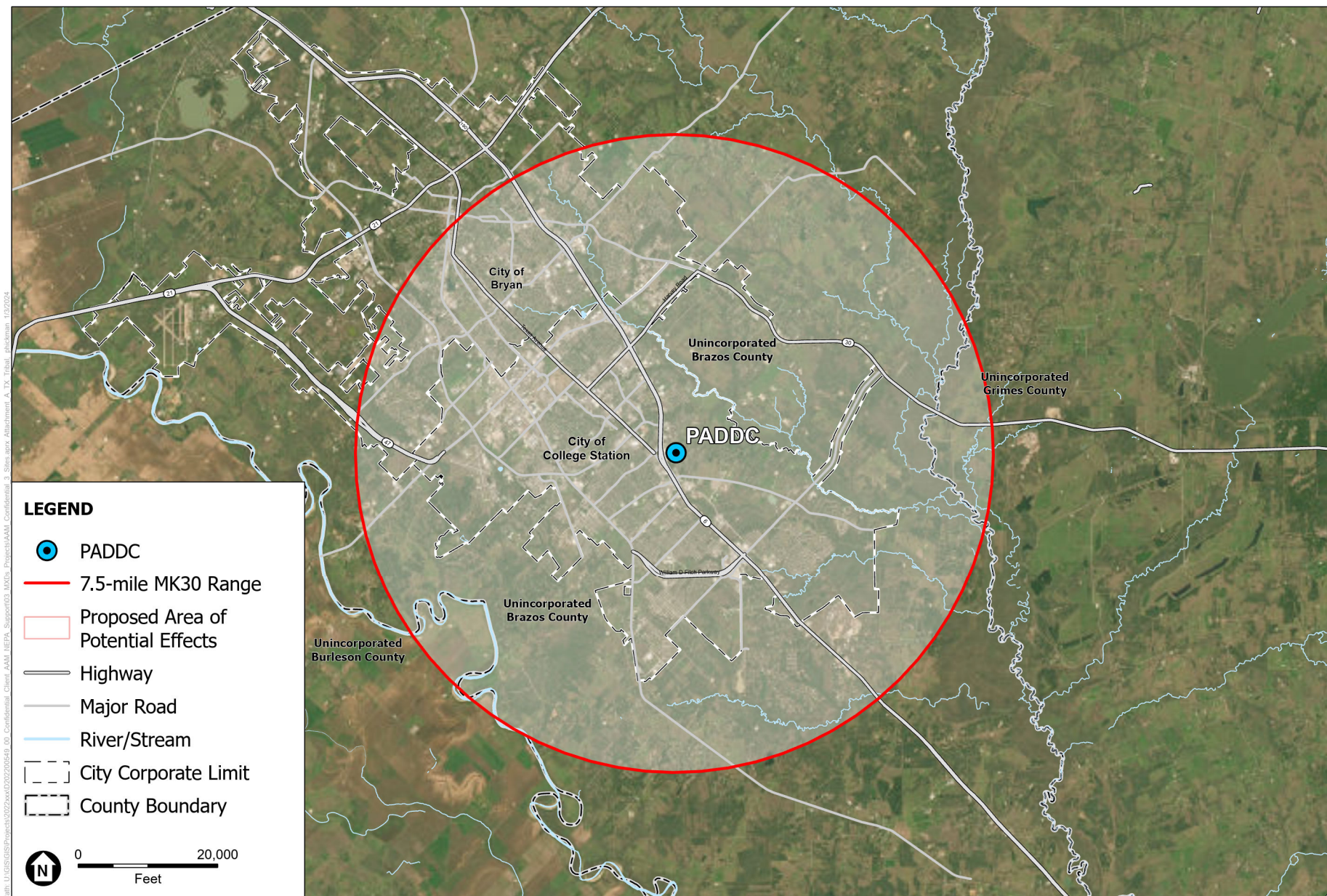
Sincerely,

Derek Hufty
Manager, General Aviation and Commercial Branch (AFS-750)
Emerging Technologies Division
Office of Safety Standards, Flight Standards Service

Enclosures:

Attachment A – Proposed Area of Potential Effects
Attachment B – Previous Tribal Consultation

Attachment A
Proposed Area of Potential Effects



SOURCE: ESA, 2023; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022; National Park Service, 2023.

Draft Supplemental Environmental Assessment for Amazon Prime Air – College Station, TX

Attachment B
Previous Tribal Consultation



U.S. Department
of Transportation
**Federal Aviation
Administration**

Aviation Safety

800 Independence Ave., S.W.
Washington, DC 20591

THPO Bryant Celestine
Alabama-Coushatta Tribe of Texas
571 State Park Road 56
Livingston, TX, 77351

Dear Mr. Celestine:

The purpose of this letter is to initiate formal government-to-government consultation regarding a proposal under consideration by the Federal Aviation Administration (FAA) for the approval of a Certificate of Waiver and/or Exemption, or Operations Specifications for an Unmanned Aircraft System (UAS) operation area in College Station, TX. We wish to solicit your views regarding potential effects on tribal interests in the area.

Proposed Activity Description

The FAA has been asked to approve waivers and/or exemptions to aeronautical regulations, thereby approving the UAS operation in the area described below. FAA approval of the UAS operation in the area is an undertaking subject to regulations pursuant to the National Historic Preservation Act.

The UAS operation will be flown by an MK27-2 unmanned aircraft at approximately 200 feet, but no more than 400 feet above ground level (AGL) within a 3.73 mile radius in College Station, TX (see attached operations area map). The purpose is for package delivery, consisting of no greater than approximately 200 flights each day, with each flight lasting approximately 15 minutes. Flights will occur primarily Mon-Fri, no holidays, with operations being conducted for 8-10 hours per day, during daylight hours. The dimension of the UAS area defines the Area of Potential Effect (APE). The UAS operation will have no effects to the ground. All flights will takeoff from, and return to a drone delivery center in College Station, TX.

Consultation

The FAA is soliciting the opinion of the tribe(s) concerning any tribal lands, or sites of religious or cultural significance that may be affected by the proposed operation area. Based on a review of the area, as well as our increasing knowledge with respect to the level of environmental impacts from drone operations, FAA has determined that this new approval has no potential to effect historic properties. FAA expects that drone operations will continue to grow and that we all will continue to learn more about this emerging technology.

FAA is amenable to answer any questions you may have generally on this new technology. Your response over the next 30 days will greatly assist us in incorporating your concerns into our environmental review of the operation.

If you have any comments or questions or need additional information regarding the proposed operation, please do not hesitate to contact Mr. Mike Millard, in writing at: FAA, AFS-800, 800 Independence Ave., S.W., Washington, D.C. 20591; by telephone: (202) 267-7906; or by email: 9-AWA-AVS-AFS-ENVIRONMENTAL@faa.gov.

Sincerely,

**DAVID M
MENZIMER**  Digitally signed by
DAVID M MENZIMER
Date: 2022.07.13
11:22:55 -07'00'

David Menzimer
Manager, General Aviation Operations Section
General Aviation and Commercial Division
Office of Safety Standards, Flight Standards Service

Enclosure

Appendix E

Technical Noise Report

NOISE ASSESSMENT AMAZON PRIME AIR MK27-2 UNMANNED AIRCRAFT OPERATIONS AT COLLEGE STATION TEXAS

Noise Technical Report

May 2024



NOISE ASSESSMENT AMAZON PRIME AIR MK27-2 UNMANNED AIRCRAFT OPERATIONS AT COLLEGE STATION TEXAS

Noise Technical Report

May 2024

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1 Introduction

Amazon Prime Air (Prime Air) is proposing to conduct drone delivery operations with the MK30 drone at their distribution hub (the Prime Air Drone Delivery Center, or PADDC) in College Station, Texas. The PADDC is located approximately 4 miles southeast of downtown College Station on Technology Parkway, as shown in **Figure 1**. This figure shows the 7.5-mile extent of the drone's operating radius, which corresponds to the project area.

Since the MK30 drone is still under development and final noise data is not yet available, a more conservative approach was taken that uses the MK27-2 noise data to assess potential environmental impacts associated with the Proposed Action. This ensures that the noise impact of the MK30 (which was demonstrated during acoustical testing to be quieter than the MK27-2) falls within the analyzed parameters.

The MK27-2 and MK30 are equipped with a multi-rotor design consisting of six propellers extending horizontally from the central frame with the ability to switch between vertical and horizontal flight. Per the specification from Prime Air, the empty weight of each drone includes the battery, and is 86.6 pounds for the MK27-2 and 77.9 pounds for the MK-30. The maximum allowable takeoff weight is 91.5 pounds for the MK27-2 and 83.2 pounds for the MK-30. The maximum allowable package weight that both drones are certified to carry is 5 pounds. Packages delivered by the UA are transported within an internal cargo bay. An image of the MK27-2 and MK30 drone is shown in **Figure 2** and **Figure 3**, respectively.

As shown in **Table 1**, the flight profiles are similar in nature, in that they both perform a VTOL climb, a transition to fixed-wing flight en route to backyard, transition back to VTOL for descent into the backyard for delivery at 13 feet Above Ground Level (AGL), followed by the same maneuvers to return to the PADDC. Differences between the drones are shown in the manner at which they operate in each phase of flight. A breakdown of each difference is shown in **Table 1** and in **Figure 4** and **Figure 5**.

Prime Air conducted noise measurements from flights in February 2024 to compare noise exposure between each drone. The measured difference in Maximum A-Weighted Level (L_{max})¹ for the MK30 drone during the takeoff and landing phase of flight was between 5 and 7 dB lower than the MK27-2 drone, and the measured Sound Exposure Level (SEL)² was lower in all cases for the MK30 when compared to the MK27-2. The measured L_{max} for the MK30 drone during the forward flight flyover phase were equivalent or lower when compared to the MK27-2. The difference in L_{max} between the MK30 and the MK27-2 is expected to be smaller in the flyover phase versus the takeoff/landing phase. However, given that the MK30 flies faster and higher than the MK27-2 in actual operation, the SEL in operational flyover will still be lower for the MK30 due to the shorter event duration. Overall, the measurement data showed that the MK27-2 has an equivalent or louder noise profile compared to the MK-30 drone. Additional information on the drone comparison, noise measurement methodology, and results can be found in **Attachment A, MK30 to MK27-2 Noise Flight Test Comparison Report**.

¹ L_{max} is defined as the maximum, or peak, sound level during a noise event, expressed in decibels. The metric only accounts for the highest A-weighted sound level measured during a noise event, not for the duration of the event.

² SEL is defined as the sound energy of a single noise event at a reference duration of one second, expressed in decibels. The sound level is integrated over the period that the level exceeds a threshold. Therefore, SEL accounts for both the maximum sound level and the duration of the sound.

Table 1. Comparison of Typical MK27-2 and MK30 Operational Flight Profiles

Phase of Flight	Altitude (feet AGL)		Ground Speed (knots)		Duration (seconds)	
	MK27-2	MK30	MK27-2	MK30	MK27-2	MK30
Takeoff and Vertical Ascent	Ascent from 0 to 130	Ascent from 0 to 115	0	0	21	15
Transition and Outbound Climb	130 to 160	115 to 200	0 to 52.4	0 to 58.3	20	30
Fixed-wing Outbound Cruise	160	200	52.4	58.3	Variable*	Variable*
Delivery Decent and Transition	Descent from 160 to 130	Descent from 200 to 115	52.4 to 0	58.3 to 0	20	30
Backyard Descent	Descent from 130 to 13	Descent from 115 to 13	0	0	32	21
Delivery	13	13	0	0	2	2
Backyard Ascent	Ascent from 13 to 130	Ascent from 13 to 197	0	0	24	26
Transition and Inbound Climb	Ascent from 130 to 160	Ascent from 197 to 345	0 to 52.4	0 to 58.3	20	30
Fixed-wing Inbound Cruise	160	345	52.4	58.3	Variable*	Variable*
Landing Descent and Transition	Descent from 160 to 130	Descent from 345 to 197	52.4 to 0	58.3 to 0	20	30
Vertical Descent and Landing	Descent from 130 to 0	Descent from 197 to 0	0	0	38	35

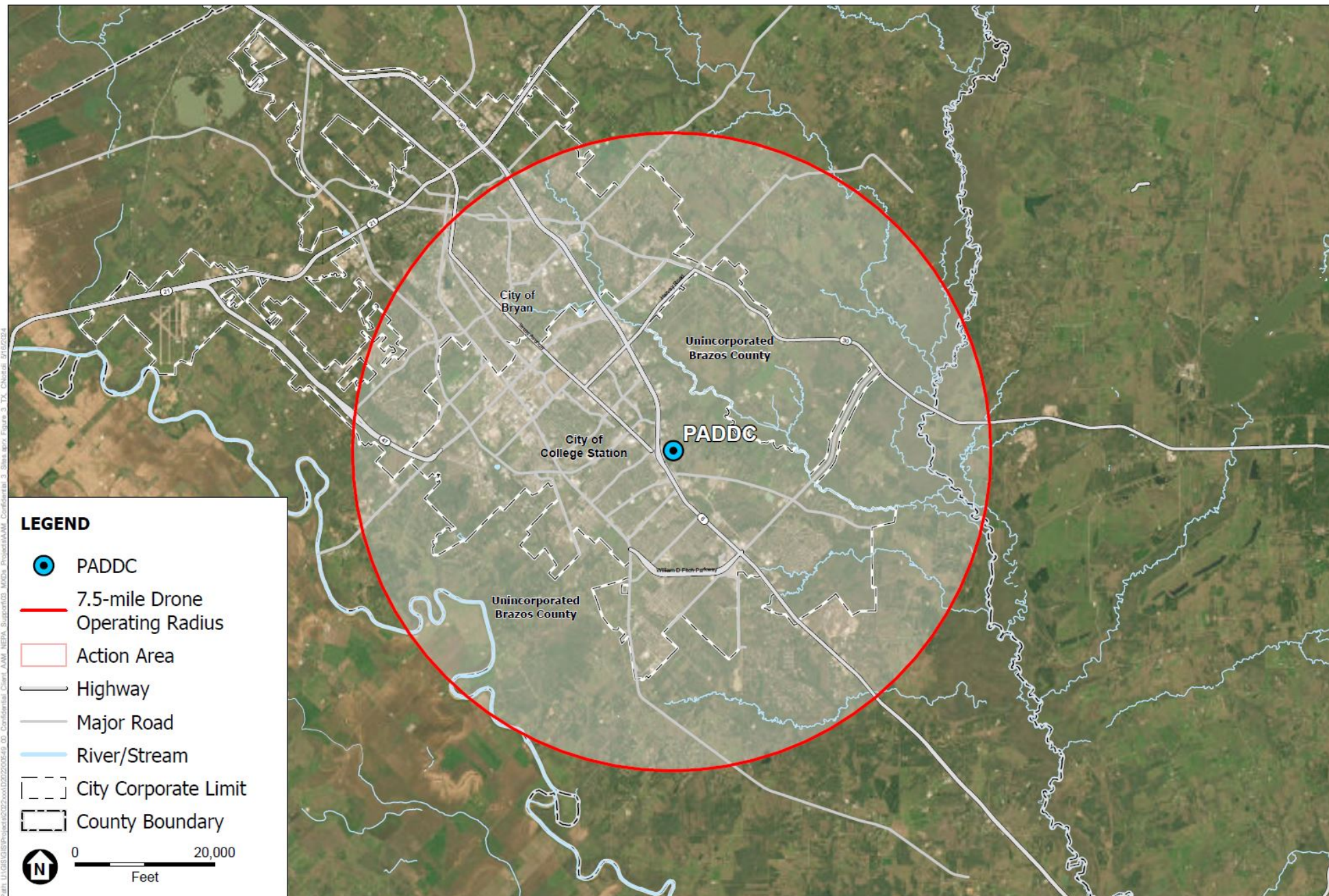
SOURCE: Amazon Prime Air, April 2024

Note: *Duration of fixed-wing flight time varies based on distance to customer.

This document outlines the methodology and estimation of noise exposure expected with the proposed use of Prime Air’s drone package delivery operations.³ The methods presented below are suitable for the evaluation of Federal actions in compliance with the National Environmental Policy Act (NEPA) and other applicable environmental regulations or federal review standards at the discretion and approval of the FAA. In particular, this report is intended to function as a nonstandard equivalent methodology under FAA Order 1050.1F, and therefore requires prior written consent from the FAA's Office of Environment and Energy (AEE) for each project seeking a NEPA determination.⁴ The results of the noise analysis are presented in terms of the annual Day-Night Average Sound Level (DNL), considering varying levels of operations for areas at ground level below each flight phase.

³ *Supplemental Environmental Assessment (EA) Noise Methodology Approval Request for Amazon Prime Air Commercial Package Delivery Operations with the MK30 UA from College Station, Texas*, FAA Office of Environment and Energy, May 2024. (See Attachment B).

⁴ See FAA Order 1050.1F, July 16, 2015, Appendix B, Section B-1.2, for discussion on the use of “equivalent methodology”, available online at https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1050_1F.pdf#page=113

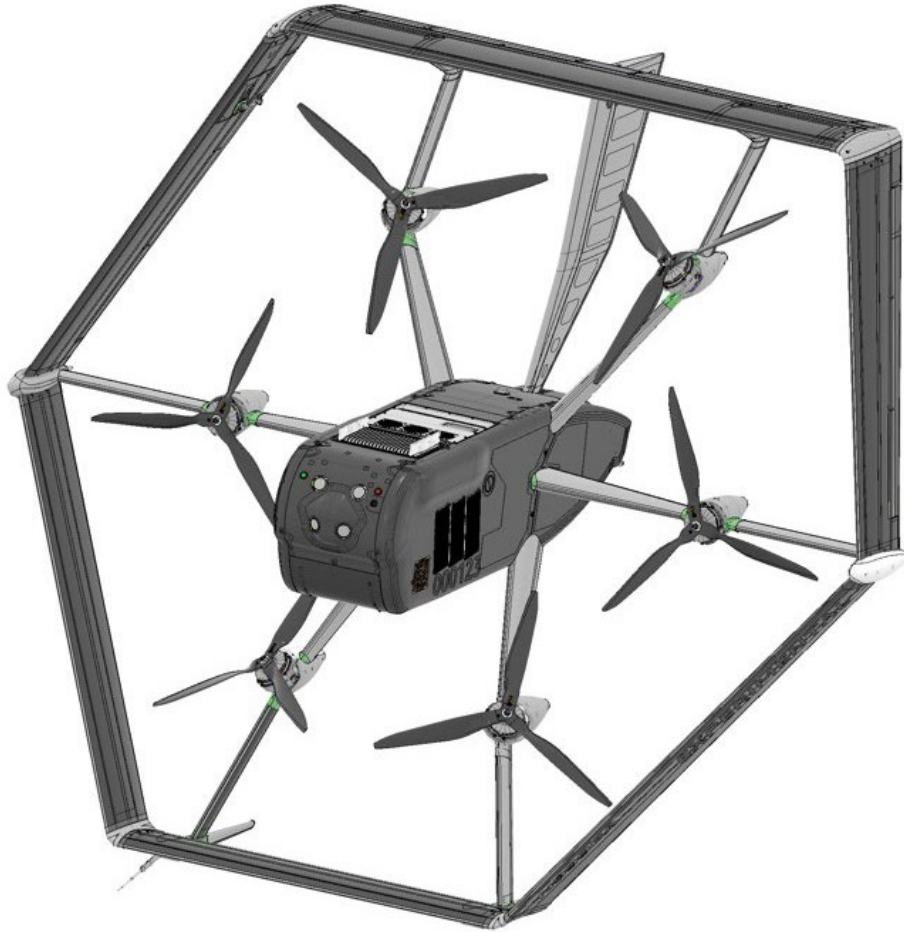


SOURCE: ESA, 2023; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022.

Draft Supplemental Environmental Assessment for Amazon Prime Air – College Station, TX

Figure 1
Action Area and PADDCC
College Station, TX

Figure 2. Amazon Prime Air MK27-2 Drone



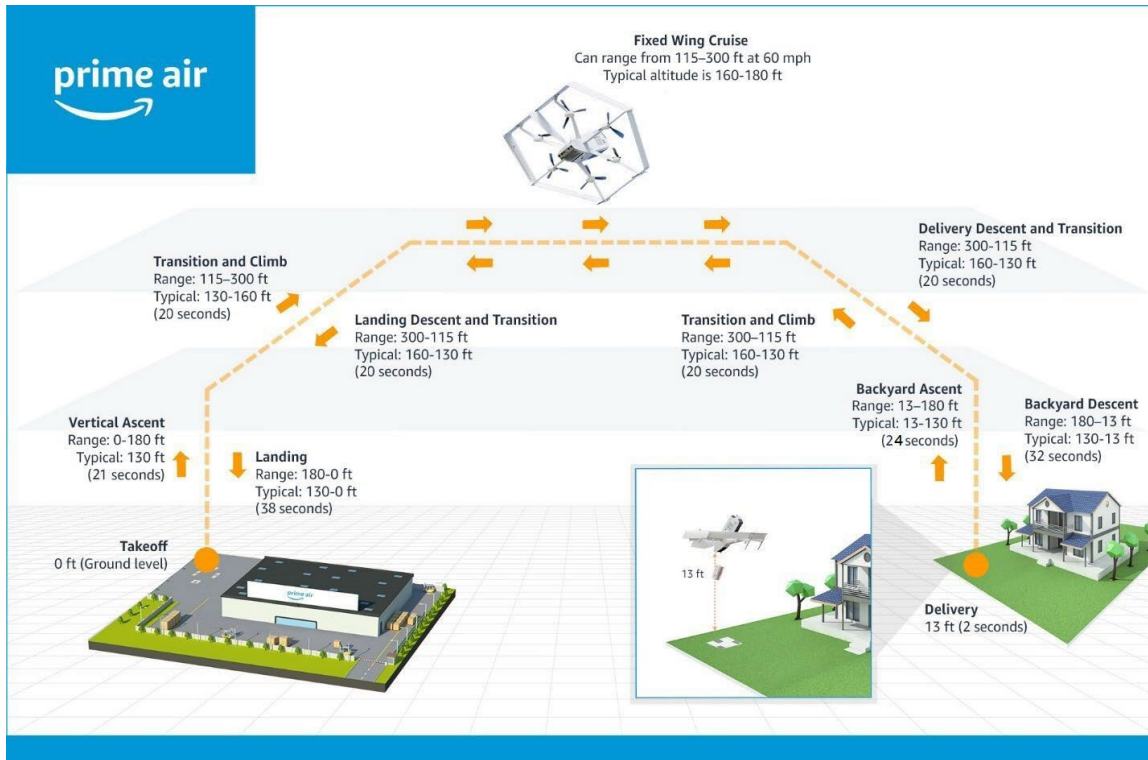
Source: Amazon Prime Air, 2022.

Figure 3. Amazon Prime Air MK30 Drone



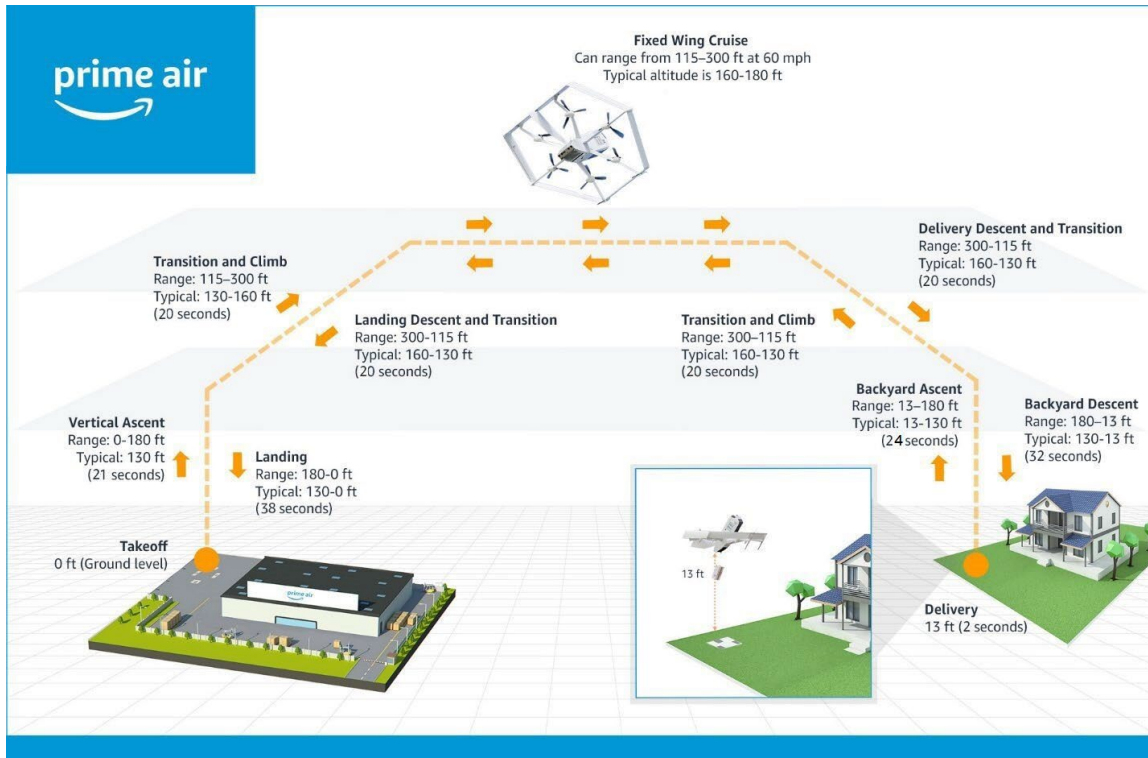
Source: Amazon Prime Air, 2024.

Figure 4. Representative Operational Profile of the MK27-2



Source: Amazon Prime Air, 2022.

Figure 5. Representative Operational Profile of the MK30



Source: Amazon Prime Air, 2024.

2 Drone Delivery Operations

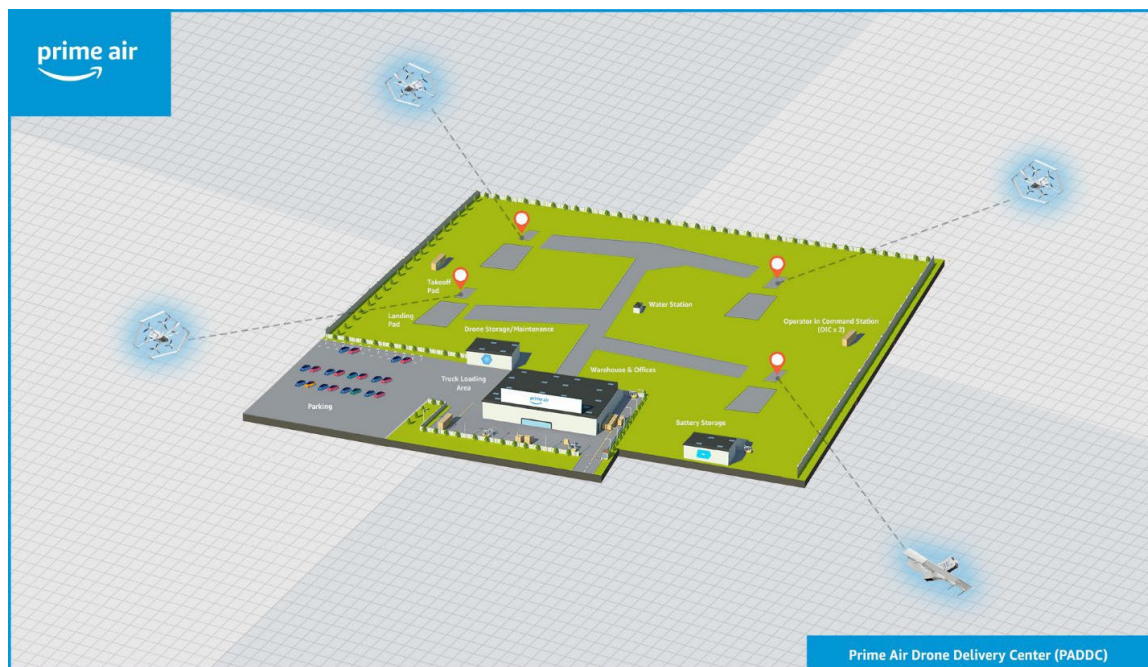
The PADDC and its associated flight routes are determined by Prime Air's business and operational needs.

Takeoff pads at the PADDC's are four meters by four meters. Landing pads are eight meters by eight meters. Both pads are contained within a launch area approximately 35 meters by 45 meters. A diagram of a representative PADDC layout is presented in **Figure 6**.

As demonstrated above, MK27-2 is a conservative surrogate to the MK30 through its similar flight profiles and equivalent or louder noise profile. As such, the flight profiles of the MK27-2 are discussed below.

The MK27-2 drone is capable of vertical ascent and descent, hovering, and flying upright with forward-facing propellers for en route travel. Airspeeds during normal en route flight are expected to be approximately 52.4 knots. A typical flight will commence with a vertical ascent from the launch pad to the en route altitude ranging between 160 and 180 feet AGL. The drone then maintains altitude and follows a predetermined route, traveling at 52.4 knots toward the designated delivery point. Upon arrival at the delivery point, the drone decelerates to zero-speed and begins a vertical descent to 13 feet AGL at which time the package is released. The drone will ascend back to en route altitude and accelerate to 52.4 knots along the predetermined route back to the PADDC. Once the drone arrives at the PADDC it will decelerate to zero speed and begin a vertical descent to the landing pad.

Figure 6. Representative PADDC Layout



Source: Amazon Prime Air, 2022.

2.1 Flight Profiles

Flight profiles of drone operations are broken into five general phases: takeoff, transitions to and from vertical and horizontal flight, en route, delivery, and landing. These phases can be combined to

represent the typical operational profile of the drone as outlined below. A graphical representation of the operational profile is presented in **Figure 4** and each phase is summarized in **Table 2**.

Takeoff and Vertical Ascent

The drone departs from the launch pad once cleared for takeoff. It will ascend vertically to the en route altitude of between 160 and 180 feet AGL in vertical flight mode.⁵

Transition and Outbound Climb

Upon reaching the en route altitude and while still positioned above the launch pad, the drone transitions from zero speed to its cruise speed of 52.4 knots. This transition is accompanied by a shift from vertical flight mode to horizontal flight mode.

Fixed-wing Outbound Cruise

The drone proceeds to fly at between 160 and 180 feet AGL and 52.4 knots to the delivery point.

Table 2. Representative Operational Profile by Phase of Flight

Phase of Flight	Altitude (feet AGL)	Ground Speed (knots)	Duration (seconds)
Takeoff and Vertical Ascent	Ascent from 0 to 165	0	21
Transition and Outbound Climb	165	0 to 52.4	20
Fixed-wing Outbound Cruise	165	52.4	Variable
Delivery Decent and Transition	165	52.4 to 0	20
Backyard Descent	Descend from 165 to 13	0	32
Delivery	13	0	2
Backyard Ascent	Ascent from 13 to 165	0	24
Transition and Inbound Climb	165	0 to 52.4	20
Fixed-wing Inbound Cruise	165	52.4	Variable
Landing Descent and Transition	165	52.4 to 0	20
Vertical Descent and Landing	Descend from 165 to 0	0	38
SOURCE: FAA, August 2022.			

⁵ En route altitude is assumed to be 165 feet AGL, corresponding to the measurement data reviewed in FAA's memorandum, *Estimated Noise Levels for Amazon Prime Air MK27-2 UA*, FAA Office of Environment and Energy, August 2022 (See Attachment C).

Delivery Descent and Transition

The drone decelerates from the en route speed of 52.4 knots and transitions to vertical flight mode, where it will be positioned over the delivery point at zero speed.

Backyard Descent, Delivery, and Ascent

The drone begins a vertical descent from en route altitude to 13 feet AGL while maintaining position above the delivery point. Once at 13 feet AGL, the drone drops the package and ascends vertically back to the en route altitude. It's important to note that the nearest allowable proximity of any individual, animal, or other obstacles to the delivery point during this maneuver is 16.4 feet.

Transition and Inbound Climb

Once at the en route altitude and positioned above the delivery point, the drone transitions from zero speed to en route speed while changing from vertical flight to horizontal flight.

Fixed-wing Inbound Cruise

The drone continues to fly at the en route altitude and speed towards the PADDC.

Landing Descent and Transition

The drone decelerates as it approaches the PADDC and transitions from horizontal flight to vertical flight, coming to a zero-speed position over its assigned landing pad.

Vertical Descent and Landing

The drone descends over its assigned landing pad in vertical flight until it touches down and shuts down the motors.

3 Acoustical Data of Flight Profiles

As demonstrated above, MK27-2 is a conservative surrogate to the MK30 through its similar flight profiles and equivalent or louder noise profile. As such, the noise profiles of the MK27-2 are discussed below.

Prime Air conducted noise measurements of the MK27-2 drone in April 2021 at the Pendleton UAS Range located at the Eastern Oregon Regional Airport (KPDT). The FAA processed and analyzed the measurement data and calculated the estimate noise levels for each of the five phases of flight.⁶ The following tables show either the A-weighted Sound Exposure Levels (SEL) or formulas to calculate the estimated SELs used for this analysis, which can be matched to each flight phase detailed in **Table 2**. The formula is based on Equation 1 below.

$$eq. 1. SEL = m \times \log_{10}(d) + b(dB)$$

Where:

- d is the distance along the ground in feet between the drone and receiver
- m and b are parameters provided in the tables below

Table 3 provides parameters to use within Equation 1 to estimate SELs associated with takeoff as a function of distance from the PADDCC launch pad to the receiver. **Table 4** provides parameters to use within Equation 1 to estimate SELs associated with landing as a function of distance from the PADDCC launch pad to the receiver. **Table 5** provides parameters to use within Equation 1 to estimate the SEL associated with delivery, as a function of distance from the delivery point to the receiver. **Table 6** presents the estimated SELs that correspond to the transition between vertical flight to horizontal flight. The values in this table are for distances relative to the point under the vertical flight path. **Table 6** is applicable to all transition phases discussed in **Section 2.1**. These levels should be integrated with data from appropriate phases of flight (e.g., to estimate maximum possible landing noise, combine the transition noise from **Table 6** with the landing noise from **Table 4**). Lastly, **Table 7** presents the estimates of en route SEL.

Table 3. Parameters for Estimating Sound Exposure Level for Takeoff versus Distance

Range for d (feet from launch pad)	m	b
32.8 to 49.2	-9.09	109.47
49.2 to 65.6	-16.41	121.86
65.6 to 85.3	-26.39	140.00
85.3 to 142.2	-27.79	142.71
142.2 and greater	-23.39	134.99

SOURCE: FAA, August 2022.
Note: Distance is along ground from launch pad to receiver.

⁶ *Estimated Noise Levels for Amazon Prime Air MK27-2 UA*, FAA Office of Environment and Energy, August 2022 (See Attachment C).

Table 4. Parameters for Estimating Sound Exposure Level for Landing versus Distance

Range for d (feet from delivery point)	m	b
32.8 to 49.2	-9.26	108.81
49.2 to 65.6	-8.80	108.05
65.6 to 85.3	-17.1	123.12
85.3 to 142.2	-24.56	137.53
142.2 and greater	-23.39	134.99

SOURCE: FAA, August 2022.
Note: Distance is along ground from launch pad to receiver.

Table 5. Parameters for Estimating Sound Exposure Level for Delivery versus Distance

Range for d (feet from delivery point)	m	b
32.8 to 49.2	-5.85	105.35
49.2 to 65.6	-7.20	107.64
65.6 to 85.3	-16.92	125.3
85.3 to 142.2	-26.31	143.42
142.2 and greater	-21.9	133.91

SOURCE: FAA, August 2022.
Note: Distance is along ground from launch pad to receiver.

Table 6. Estimated Sound Exposure Levels from Transition Phase of Flight Profile at 165 Feet Above Ground Level

Distance from launch pad, landing pad or delivery point (ft)	SEL (dB)
0	69.9
100	70.6
200	70.3
400	69.4
800	68.2
1600	67.7
3200	67.7

SOURCE: FAA, August 2022.

Table 7. Estimates of En Route SEL

Aircraft Configuration	Reference Air Speed (knots)	Reference Altitude (feet AGL)	SEL (dB)
Max Weight	52.4	165	67.7

SOURCE: FAA, August 2022.

4 Methodology

Operations originating from the College Station PADDC is expected to occur daily between the hours of 7:00 AM and 10:00 PM. The number of daily and equivalent annual delivery operations is 469 and 171,329, respectively. As previously mentioned, there is not a standardized process for drone noise assessments. Therefore, ESA is applying technical guidance that was previously approved by the FAA Office of Environment and Energy for past analyses. The following subsection outlines this methodology.

4.1 Daytime Equivalent Operations and DNL

As mentioned, results are presented as DNL which applies a 10 dB weighting, or equivalent to 10 times the number of nighttime operations, for operations between 10:00 PM and 7:00 AM. Therefore, the operations near point i can be weighted to develop a daytime equivalent number of operations ($N_{equiv,i}$).

$$eq. 2. N_{Equiv,i} = W_{Day} \times N_{Day,i} + W_{Eve} \times N_{Eve,i} + W_{Night} \times N_{Night,i}$$

Where:

- $N_{Day,i}$ is the number of user-specified operations between 7 AM and 7 PM local time
- $N_{Eve,i}$ is the number of user-specified operations between 7 PM and 10 PM local time
- $N_{Night,i}$ is the number of user-specified operations between 10 PM and 7 AM local time
- W_{Day} is the day-time weighting factor, which is 1 operation for DNL
- W_{Eve} is the evening weighting factor, which is 1 operation for DNL
- W_{Night} is the night-time weighting factor, which is 10 operations for DNL

The number of daytime equivalent operations, $N_{DNL,i}$ can be simplified to

$$eq. 3. N_{DNL,i} = N_{Day,i} + N_{Eve,i} + 10 \times N_{Night,i}$$

4.2 PADDC Infrastructure

The PADDC at College Station accommodates four sets of launch and landing pads. In the context of this noise analysis, it is assumed that only one launch/landing pad is under consideration at a given time. To conservatively represent all operations within the PADDC, including all launch and landing pads, the analysis is focused on the southernmost launch and landing pad that is closest to the noise-sensitive location.

4.3 Application of Acoustical Data

The summation of the SELs in the previous section are used to estimate the DNL for Prime Air's drone operations covered in this report. SEL results are detailed in FAA's Memorandum found in **Attachment C**.

For calculating SEL, five specific activities are considered:

- The drone taking off from the PADDC
- The drone transitioning from either vertical to horizontal flight or horizontal to vertical flight
- En route travel of the drone in horizontal flight between the PADDC and the delivery point
- Delivery

- The drone landing at the PADDC

This analysis is based on the SEL data provided in **Section 3. Table 6** displays noise exposure values at distinct increments corresponding to the drone transition profile, ranging from 0 to 3,200 feet. In instances where additional values within this range are required, linear interpolation can be employed to approximate SEL values at intermediary distances. However, extrapolating SEL values for distances less than 32.8 feet during takeoff, landing, or delivery is discouraged due to increased deviations in the estimation method's accuracy as the distance approaches the noise source.

4.3.1 Takeoff

The process for calculating SELs for the takeoff profile is presented in **Section 3**, Equation 1 combined with the parameters presented **Table 3**.

Application of the SEL is based on the position of the southernmost launch pad at a PADDC. It should be noted that the SEL values provided do not include the transition to horizontal flight or the acceleration to en route speed that would occur after the climb.

4.3.2 Transitions between Vertical and Horizontal Flight

Table 6 presents noise exposure values SELs for the transition between vertical and horizontal flight. Noise exposure is expressed at discrete increments relative to the drone's ground location for distances from 0 to 3,200 feet. These values are applicable to the drone when it is in level flight at 165 feet AGL and is either accelerating or decelerating within the speed range of 0 to 52.4 knots over a duration of 20 seconds.

4.3.3 En Route

The anticipated flight speed of the drone en route is 52.4 knots at a cruise altitude of 165 feet AGL. Sound exposure level for a given point i ($SELi$) with the drone flying directly overhead at altitude ($Alti$) in feet and a ground speed (Vi) in knots, is calculated based on the guidance in *14 CFR Part 36 Appendix J, Section J36.205 Detailed Data Correction Procedures*.⁷ The equations presented in this section are only applicable for a drone that is moving relative to a stationary receptor. The sound exposure level adjustment for the altitude of a moving drone is presented in Equation 4.

$$Eq. 4. \Delta J_1 = 10 \times \log_{10} \frac{H_A}{H_T}, dB$$

Where:

- ΔJ_1 is the quantity in decibels that must be algebraically added to the measured SEL in order to estimate the SEL for a level flight path at an altitude differing from the altitude corresponding to the measured SEL.
- H_A is the reference height, in feet, corresponding to the measured SEL.
- H_T is the altitude at which an estimate of the SEL is being made; and the constant (12.5) accounts for the effects on spherical spreading and duration from the off-reference altitude.

Note the value of ΔJ_1 is 0 if H_T is equal to H_A and can be negative if H_T is greater than (higher altitude) than H_A .

⁷ <https://www.ecfr.gov/current/title-14/chapter-I/subchapter-C/part-36>.

The sound exposure level adjustment for speed is presented in Equation 5.

$$Eq. 5. \Delta J_3 = 10 \times \log_{10} \frac{V_R}{V_{RA}}, dB$$

Where:

- ΔJ_3 is the quantity in decibels that must be algebraically added to the measured SEL noise level to estimate the SEL of the drone at speed V_{RA} when the measured SEL corresponds to the drone traveling at a reference speed V_R .

This adjustment accounts for how the varying speed impacts the duration of the overflight at the stationary receptor.

As shown in **Table 7**, the SEL is 67.7 dB when the drone is at maximum weight, at 165 feet from the stationary receiver and traveling at approximately 52.4 knots. Using the maximum weight (outbound) en route condition when the drone is operating at an altitude of Alt_i feet (AGL) and ground speed of V_i knots can be made using Equation 6 to arrive at an estimate SEL_{max} weight dB for that respective phase of flight.

$$Eq. 6. SEL_{Max} = 67.7 + 12.5 \times \log_{10} \frac{165}{Alt_i} + \log_{10} \frac{52.4}{V_i}, dB$$

For this analysis, it was assumed that Equation 6 is applicable for all en route activity to ensure a conservative assumption for drone flyovers at 165 feet AGL.⁸

4.3.4 Delivery

The available SELs to be applied for the delivery phase in Equation 1 are presented in **Table 5**. The SELs are based on the distance of the receiver relative to the position of the delivery point. The minimum distance used for calculation between the delivery point and a person is 16.4 feet.⁹ The values in **Table 5** are valid for distances from the delivery point of 32.8 feet or greater. SEL values for distances of between 16 and 32.8 feet are adjusted by distance to the delivery point and sound level adjustment of a stationary source as provided by Equation 7.

$$Eq. 7. SEL_{Delivery} = 96.5 + 12.5 \times \log_{10} \frac{32.8}{Distance \text{ from Delivery Point (ft)}}$$

The SEL values in **Table 5** do not provide the noise contribution from the horizontal flight associated with either the drone transitioning from en route speed to vertical flight before delivery, or the transition between vertical flight to en route speed after delivery. The SEL values only include descent from en route altitude to delivery altitude, various maneuvers associated with the delivery, and climb back to en route altitude.

⁸ *Estimated Noise Levels for Amazon Prime Air MK27-2 UA*, FAA Office of Environment and Energy, August 2022 (See Attachment C).

⁹ Prime Air's safety guidance stipulates that there should not be a person, animal or object within 5 meters of the delivery point, and if the drone detects a person, animal or object within 5 meters of the delivery point, it will abort the delivery.

4.3.5 Landing

The available SELs to be applied for the landing profile in Equation 1 are presented in **Table 4**. Application of the SEL is based on the location of the southernmost landing pad at a PADDC. It should be noted that the SEL values provided only include descent from en route altitude and do not include the deceleration from en route speed or transition to vertical flight that would occur after descent.

4.4 DNL Estimation Methodology

The number of operations flying over a specific receiver's ground location will fluctuate depending on the proposed operating area and demand. For a given receiver location, i , and a single instance of sound source, A , the SEL for that sound source SEL_{iA} is (energy) summed for the average annual daily number of DNL daytime equivalent operations ($N_{DNL,iA}$) to compute the equivalent DNL in Equation 8.

$$Eq. 8. DNL_{iA} = SEL_{iA} + 10 \times \log_{10}(N_{DNL,iA}) - 49.4, dB$$

The above equation applies to an SEL value representing one noise source such as a drone takeoff or landing. For cases where a receiver would be exposed to multiple noise sources (e.g. takeoff, transiting, en route, and departure), the complete DNL at that point was calculated with Equation 9.

$$Eq. 9. DNL_i = 10 \times \log_{10} \left(10^{\left(\frac{DNL_{ia}}{10}\right)} + 10^{\left(\frac{DNL_{ib}}{10}\right)} + \dots + 10^{\left(\frac{DNL_{iz}}{10}\right)} \right), dB$$

For each of the conditions presented below, results are presented in tabular format based on the equivalent daytime operations, in DNL daytime equivalent, for the estimated DNL. The proper output of DNL is dependent on the calculation of respective daytime equivalent operations.

4.4.1 DNL at PADDC

The takeoff and landing operations are anticipated to occur at the one Pad for this analysis. Therefore, the results at PADDC will be calculated for a single set of receptors. Operations were assumed to take off and land along the same flight path.

Takeoff operations are represented by two sound levels. The drone will takeoff and climb to en route altitude as discussed in Section 2. The drone will then begin en route flight by transitioning from vertical flight to horizontal flight and accelerating to en route speed of 52.4 knots.

Landing operations are also represented by two sound levels. The drone flies to the PADDC at en route altitude while slowing down and transitions from horizontal to vertical flight as described in Section 2. Then the drone descends from en route altitude to the ground and shuts down.

The four noise sources representing the complete takeoff and landing cycle associated with a single delivery departing and returning at the PADDC were added together using Equation 9.

4.4.2 DNL for En Route

A receiver will be positioned directly under the flight path, and the DNL will be calculated based on the altitude and speed-adjusted delivery SEL calculated in Section 3. The number of operations would be based on relevant materials and assume that a drone directly overflies the receiver while at

maximum weight for both outbound and inbound for a single delivery. The en route outbound and inbound noise level are added together with Equation 9.

4.4.3 DNL for Delivery Points

Delivery operations will be represented by three sound levels. The first sound level is represented by the deceleration of the drone from en route speed and transitioning from horizontal flight to vertical flight over the delivery point at the en route altitude of 165 ft. The second sound level is represented by the delivery phase where the package is dropped at the delivery point. The first sound level is represented by the drone's transition from vertical flight to horizontal flight after reaching the en route altitude of 165 feet AGL and accelerating to en route speed. The three sound levels are added together with Equation 9.

5 Estimated Noise Exposure

This section outlines the estimated noise exposure for Prime Air's proposed operations for any given number of average annual day (AAD) deliveries. Results are based off the estimated number of DNL equivalent deliveries associated with the PADDC and presented in tabular format. Prime Air expects to conduct 469 daily deliveries, which per note B in **Table 8**, the average daily deliveries rounds to 480. Deliveries will not occur during nighttime hours (10 P.M. – 7 A.M.). Note that one delivery includes the outbound takeoff and inbound landing and is representative of two operations.

The DNL equivalent deliveries, $N_{DNL,i}$ as described in Section 4.1, is presented below as Equation 10.

$$Eq. 10. Deliveries_{DNL,i} = Deliveries_{Day} + 10 \times Deliveries_{Night}$$

$Deliveries_{Day}$ are between 7 AM and 10 PM and $Deliveries_{Night}$ are between 10 PM and 7 AM. If a portion of a delivery (either takeoff or landing) occurs in the nighttime hours, then it is counted within $Deliveries_{Night}$. If a portion of a delivery (either takeoff or landing) occurs in two time periods, then it should be counted within $Deliveries_{Night}$ for a more conservative approach.

For estimating noise exposure, the noise levels for each flight phase are considered separate based on the level of proposed operations for a given location. When a particular receptor is at the transition of different flight phases, the cumulative noise exposure is then determined by adding the noise from each phase.

5.1 Noise Exposure for Operations at the PADDC

For operations at the PADDC, noise generated by the drone includes takeoff, landing, and transitions from vertical to fixed-wing horizontal flight within the corresponding en route flight phases. It was assumed that all operations follow the same en route flight path, with outbound and inbound flights traversing it in opposing directions for a conservative approach.

Table 8 presents data for the number of average daily DNL equivalent deliveries (including the takeoff and climb, transition to en route outbound, transition from en route inbound, and descent and landing as detailed in Section 2. The table provides the estimated extent of DNL 45 dB, 50 dB, 55 dB, 60 dB, and 65 dB contours under the flight path for the PADDC. The analyses presented were rounded up conservatively to the nearest interval available from the data from Section 3, out to 3,500 feet.

Table 8. Estimated Extent of Noise Exposure from PADDC per Number of Deliveries

Number of DNL Equivalent Deliveries		Estimated Extent of Exposure (feet)				
Average Daily	Annual	DNL 45	DNL 50	DNL 55	DNL 60	DNL 65
<= 1	<= 365	75	32.8	32.8	32.8	32.8
<= 5	<= 1,825	150	100	50	32.8	32.8
<= 10	<= 3,650	250	150	75	32.8	32.8
<= 15	<= 5,475	250	150	100	50	32.8
<= 20	<= 7,300	300	200	100	75	32.8
<= 40	<= 14,600	450	250	150	100	32.8
<= 60	<= 21,900	550	300	200	100	75
<= 80	<= 29,200	650	350	200	150	75
<= 100	<= 36,500	750	400	250	150	75
<= 120	<= 43,800	850	400	250	150	100
<= 140	<= 51,100	1000	450	250	150	100
<= 160	<= 58,400	1150	500	300	150	100
<= 180	<= 65,700	1400	500	300	200	100
<= 200	<= 73,000	1650	550	300	200	100
<= 220	<= 80,300	2650	600	300	200	100
<= 240	<= 87,600	Note 3	600	350	200	150
<= 260	<= 94,900	Note 3	650	350	200	150
<= 280	<= 102,200	Note 3	700	350	200	150
<= 300	<= 109,500	Note 3	700	350	200	150
<= 340	<= 124,100	Note 3	800	400	250	150
<= 360	<= 131,400	Note 3	800	400	250	150
<= 380	<= 138,700	Note 3	850	400	250	150
<= 400	<= 146,000	Note 3	900	450	250	150
<= 420	<= 153,300	Note 3	950	450	250	150
<= 440	<= 160,600	Note 3	1,000	450	250	150
<= 460	<= 167,900	Note 3	1,050	450	250	150
<= 480	<= 175,200	Note 3	1,100	450	250	150
<= 500	<= 182,500	Note 3	1,150	500	300	150

SOURCE: ESA, 2024.

Notes:

1. One delivery accounts for the outbound takeoff and inbound landing and is representative of two operations.
2. If a value for deliveries is not specifically defined in this table, use the next highest value. For example, if there are 50 average daily DNL equivalent deliveries, use the entry for 60 average daily DNL equivalent deliveries.
- 3 The DNL noise level noted extends more than 3,500 feet from the PADDC based on the level of operations specified as the aircraft continues along its en route flight path. En route results in Section 5.2 may be more applicable in these instances for determining noise levels.

5.2 Noise Exposure under En Route Paths

When the drone is en route it is expected to fly the same outbound flight path between the PADDC and the delivery point and inbound flight path back to the PADDC. Therefore, each receiver under the en route path would experience two overflights for each delivery served by the corresponding en route flight path.

Table 9 provides the estimated DNL for a receiver on the ground directly under an en route path for various counts of daily average DNL equivalent deliveries. The en route noise calculated for each delivery includes both the inbound and outbound traversal of the en route path at 165 feet AGL and a ground speed of 52.4 knots.

The drone may overfly locations at operational levels that differ from both an inbound and outbound traversal of the en route path by the drone as described above and presented in **Table 9**. For these circumstances, **Table 10** presents the equations for calculating the estimated DNL for a receiver directly under a specified given number of DNL equivalent average daily individual overflights, defined as N_o .

Table 9. Estimated Noise Exposure Directly Under En Route Flight Paths

Number of DNL Equivalent Deliveries		
Average Daily	Annual	DNL
<= 1	<= 365	21.3
<= 5	<= 1,825	28.3
<= 10	<= 3,650	31.3
<= 15	<= 5,475	33.1
<= 20	<= 7,300	34.4
<= 40	<= 14,600	37.4
<= 60	<= 21,900	39.1
<= 80	<= 29,200	40.4
<= 100	<= 36,500	41.3
<= 120	<= 43,800	42.1
<= 140	<= 51,100	42.8
<= 160	<= 58,400	43.4
<= 180	<= 65,700	43.9
<= 200	<= 73,000	44.4
<= 220	<= 80,300	44.8
<= 240	<= 87,600	45.1
<= 260	<= 94,900	45.5
<= 280	<= 102,200	45.8
<= 300	<= 109,500	46.1
<= 340	<= 124,100	46.7
<= 360	<= 131,400	46.9
<= 380	<= 138,700	47.1
<= 400	<= 146,000	47.4
<= 420	<= 153,300	47.6
<= 440	<= 160,600	47.8
<= 460	<= 167,900	48.0
<= 480	<= 175,200	48.2
<= 500	<= 182,500	48.3
SOURCE: ESA, 2024.		

Table 10. Estimated Noise Exposure Directly Under Overflights

Altitude of Overflight	SEL for One Overflight (dB)	DNL for One Overflight Between 7 AM and 10 PM (dB)	DNL Equation for the Number of DNL Equivalent Overflights
115 feet AGL	69.7	20.3	$10 \times \log_{10}(No) + 20.3$
160 feet AGL	67.9	18.5	$10 \times \log_{10}(No) + 18.5$
165 feet AGL	67.7	18.3	$10 \times \log_{10}(No) + 18.3$
180 feet AGL	67.2	17.9	$10 \times \log_{10}(No) + 17.9$
300 feet AGL	64.5	15.1	$10 \times \log_{10}(No) + 15.1$
N Feet AGL	$12.5 \times \log_{10}(165/N_R) + 67.7$	$SEL_1 - 49.4$	$10 \times \log_{10}(No) + DNL_1$

SOURCE: ESA, 2024.

Notes:

1. The DNL value for a given number of average DNL Equivalent Operations, N_o , can be found by using the equations associated with operation of the drone at a specified altitude and speed interval. In this case, one operation represents a single overflight.
2. All values in this table are for level flight at maximum weight and 52.4 knots.

5.3 Noise Exposure for Operations at Delivery Point

Table 11 presents the estimated DNL values for a range of potential daily average DNL equivalent delivery counts at a delivery point. Also included in **Table 11** is the equation for calculating the estimated DNL for a specific number of daily average DNL equivalent delivery counts at a delivery point, defined as N_d , for instances where the number of deliveries may fall between the range of presented delivery count intervals.

The DNL values include the transition from en route speed to vertical flight at en route altitude, the delivery maneuver, and the transition from vertical flight at en route altitude to en route speed as discussed in Section 4.4.3. The minimum listener distance is 16.4 feet from the delivery point and corresponds to minimum distance between a person and delivery point. Values are also presented at 32.8 feet from the delivery point which corresponds to minimum distance from the available measurement data and analysis presented by FAA. Values were also calculated at distances of 50 feet, 75 feet, 100 feet, and 125 feet from the delivery point and are representative of distances from which nearby properties may experience noise from a delivery.¹⁰

¹⁰ The 2022 US Census national average lot size for single-family sold homes was 15,265 square feet. This is representative of a property with dimensions of a 123.55 x 123.55-foot square. 125 feet represents a 125-foot lateral width of the parcel rounded up to the nearest 25 feet.
<https://www.census.gov/construction/chars/> See file “Soldlotsize_cust.xls” sheet MALotSizeSold.
 Accessed January 18, 2024.

Table 11. Estimated Noise Exposure at Various Distances from a Delivery Point per Number of DNL Equivalent Deliveries

Average Daily Deliveries	Annual Deliveries	DNL at 16.4 feet¹	DNL at 32.8 feet²	DNL at 50 feet	DNL at 75 feet	DNL at 100 feet	DNL at 125 feet
<= 1	<= 365	51.0	47.2	46.1	44.3	41.6	39.1
<= 5	<= 1,825	57.9	54.2	53.1	51.3	48.6	46.1
<= 10	<= 3,650	61.0	57.2	56.1	54.3	51.6	49.1
<= 15	<= 5,475	62.7	58.9	57.9	56.1	53.3	50.8
<= 20	<= 7,300	64.0	60.2	59.1	57.3	54.6	52.1
<= 40	<= 14,600	67.0	63.2	62.1	60.3	57.6	55.1
<= 60	<= 21,900	68.7	65.0	63.9	62.1	59.3	56.9
<= 80	<= 29,200	70.0	66.2	65.1	63.3	60.6	58.1
<= 100	<= 36,500	71.0	67.2	66.1	64.3	61.6	59.1
<= 120	<= 43,800	71.7	68.0	66.9	65.1	62.4	59.9
<= 140	<= 51,100	72.4	68.6	67.6	65.8	63.0	60.5
<= 160	<= 58,400	73.0	69.2	68.2	66.3	63.6	61.1
<= 180	<= 65,700	73.5	69.7	68.7	66.9	64.1	61.6
<= 200	<= 73,000	74.0	70.2	69.1	67.3	64.6	62.1
<= 220	<= 80,300	74.4	70.6	69.5	67.7	65.0	62.5
<= 240	<= 87,600	74.8	71.0	69.9	68.1	65.4	62.9
<= 260	<= 94,900	75.1	71.3	70.3	68.5	65.7	63.2
<= 280	<= 102,200	75.4	71.7	70.6	68.8	66.0	63.6
<= 300	<= 109,500	75.7	72.0	70.9	69.1	66.3	63.9
<= 340	<= 124,100	76.3	72.5	71.4	69.6	66.9	64.4
<= 360	<= 131,400	76.5	72.8	71.7	69.9	67.1	64.6
<= 380	<= 138,700	76.8	73.0	71.9	70.1	67.4	64.9
<= 400	<= 146,000	77.0	73.2	72.1	70.3	67.6	65.1
<= 420	<= 153,300	77.2	73.4	72.4	70.5	67.8	65.3
<= 440	<= 160,600	77.4	73.6	72.6	70.7	68.0	65.5
<= 460	<= 167,900	77.6	73.8	72.7	70.9	68.2	65.7
<= 480	<= 175,200	77.8	74.0	72.9	71.1	68.4	65.9
<= 500	<= 182,500	77.9	74.2	73.1	71.3	68.6	66.1

SOURCE: ESA, 2024.

Notes:

1. Minimum possible listener distance from drone.
2. Minimum measured distance to listener from drone.
3. The DNL values presented in this table only reflect the drone conducting descent and climb flight maneuvers associated with a delivery. DNL values associated with en route flight to and from a PADDC to a delivery point associated with a delivery, or nearby en route overflights, should be added to these values utilizing the DNL presented in Table 9.
4. If a value for deliveries is not specifically defined in this table, use the next highest value. For example, if there are 50 average daily DNL equivalent deliveries, use the entry for 60 average daily DNL equivalent deliveries.

6 Results

The DNL 50-, 55-, 60-, and 65-dB contours for Proposed Action are presented in **Figure 7**. These contours represent the 24-hour drone noise exposure to areas surrounding the College Station PADDC on an average annual day. Note that the DNL 65 dB contour does not extend beyond the Prime Air property line and is expected that no noise impacts to non-compatible land uses would occur.

As described Section 4.3.1, the drone is expected to fly the same outbound flight path between the PADDC and the delivery point and inbound flight path back to the PADDC. While the average daily deliveries from the PADCC is 469, the number of overflights in a day will be dispersed because the PADCC is centrally located in the proposed operating area and delivery locations would be distributed throughout the proposed operating area. A conservative estimate for the maximum number of overflights over any one location would not be anticipated to exceed half, or 235 daily overflights, which would result in en route noise levels of DNL 45.1 dB at any location within the action area. The en route overflight noise exposure is determined by referencing **Table 9**.

Due to the inherent uncertainty of the exact delivery site locations, the noise analysis developed a minimum and maximum representative distribution of deliveries in the action area. The noise analysis conservatively assumes the minimum and maximum distribution of average daily deliveries that could occur at a single delivery location. The distribution of average annual daily deliveries ranges from 0.1 to 4.0 deliveries per operating day. The resulting DNL values, provided in **Table 12**, include the descent and climb flight maneuvers associated with a delivery. The noise exposure for delivery operations also includes the en route overflight at the typical operating altitude of 165 feet AGL as presented in **Table 9** and discussed above. The resulting noise exposure for delivery site locations is DNL 58.1 dB. Noise exposure from deliveries is shown graphically in **Figure 8**. The noise exposure is depicted over the PADDC but is only representative of a maximum of five deliveries at any one delivery point.

Table 12. DNL for Delivery Locations Based on Maximum Deliveries Per Location

Average Daily DNL Equivalent Deliveries	Annual DNL Equivalent Deliveries	Estimated Delivery DNL at 16 Feet ¹	Estimated Delivery DNL at 32.8 Feet ²	Estimated Delivery DNL at 50 Feet	Estimated Delivery DNL at 75 Feet	Estimated Delivery DNL at 100 Feet	Estimated Delivery DNL at 125 Feet
≤5	≤1,825	58.1	54.7	53.7	52.2	50.2	48.6

NOTES:

1. Minimum possible listener distance from drone.
2. Minimum measured listener distance.
3. Assumes conservative estimate of 235 overflights over any one delivery location as mentioned above.

SOURCE: ESA, 2024.

6.1 Cumulative Noise

It is necessary to evaluate the cumulative noise exposure that would result from other aviation noise sources present in College Station. This may occur in the vicinity of Easterwood Airport (KCLL), located southwest of Texas A&M University.

FAA has an established noise significance threshold, defined in FAA Order 1050.1F Environmental Impacts: Policies and Procedures and the associated 1050.1F Desk Reference, which is used when assessing noise impacts in a particular project area that are considered reportable and/or significant.

A significant noise impact is defined as an increase in noise of DNL 1.5 dB or more at or above DNL 65 dB noise exposure or a noise exposure at or above the 65 dB level due to a DNL 1.5 dB or greater increase. For example, an increase from DNL 63.5 dB to 65.0 dB is considered a significant impact.

FAA Order 1050.1F requires additional reporting where the study area is larger than the immediate vicinity of an airport. These noise exposure assessments should identify where noise will change by the following specified amounts:

- For DNL 65 dB and greater: +1.5 dB (“Significant” impact)
- Between DNL 60 dB to <65 dB: +3 dB (“Reportable” impact)
- Between DNL 45 dB to <60 dB: +5 dB (“Reportable” impact)

Easterwood Field Airport, which is located in a portion of the drone’s proposed area of operations, operates with controlled surface area Class D airspace. For areas where the drone operating area does not overlap with Easterwood Field Airport’s Class D airspace, there would be little potential for the cumulative effect of traditional aircraft noise combined with drone noise. Based on calculations presented in **Table 13**, the potential for noise and compatible land use cumulative effects could result from drones and traditional aircraft operating within an airport’s DNL 55 dB contour (overlapping inside Class D airspace). However, the potential for cumulative effects would be minimized because Amazon Prime Air’s PADDC is not located near the vicinity of the Easterwood Field Airport’s DNL 55 dB contour¹¹. Prime Air’s delivery route planning would take into account air traffic to avoid dense airspace restrictions such as airport runways. This would help avoid potential noise cumulative effects of the air traffic near Easterwood Field Airport.

Prime Air’s delivery route planning would take into account air traffic to avoid dense airspace restrictions such as airport runways. This would help avoid potential noise cumulative effects of the air traffic near Easterwood Field Airport. There are no other known Part 135 commercial drone package delivery operators conducting operations in proximity to Amazon Prime Air’s proposed MK30 operations area or PADDC, which is located in an area zoned for commercial activities. As such, the addition of Amazon Prime Air’s commercial delivery service is not expected to result in cumulative effects with other potential Part 135 commercial drone operations. Any future Part 135 operators would be required to complete an environmental review before beginning operations, ensuring that any potential cumulative effects are properly analyzed and disclosed, and the appropriate siting of potential drone operating facilities would be considered to avoid a significant impact on the environment. Therefore, no significant cumulative noise impacts are expected.

¹¹ DNL contours for Easterwood Field Airport were reported in 2005 Master Plan. While the DNL 60 dB extends several thousand feet from the main runway ends, it can be expected that the current fleet operating at the airport would result in a smaller noise exposure due to changes in fleet mix. As such, it was assumed that drone activity could be possible within the DNL 55 dB, although unlikely”, available online at <https://fcor.tamu.edu/downloads/Easterwood%20Airport%20Combined.pdf>.

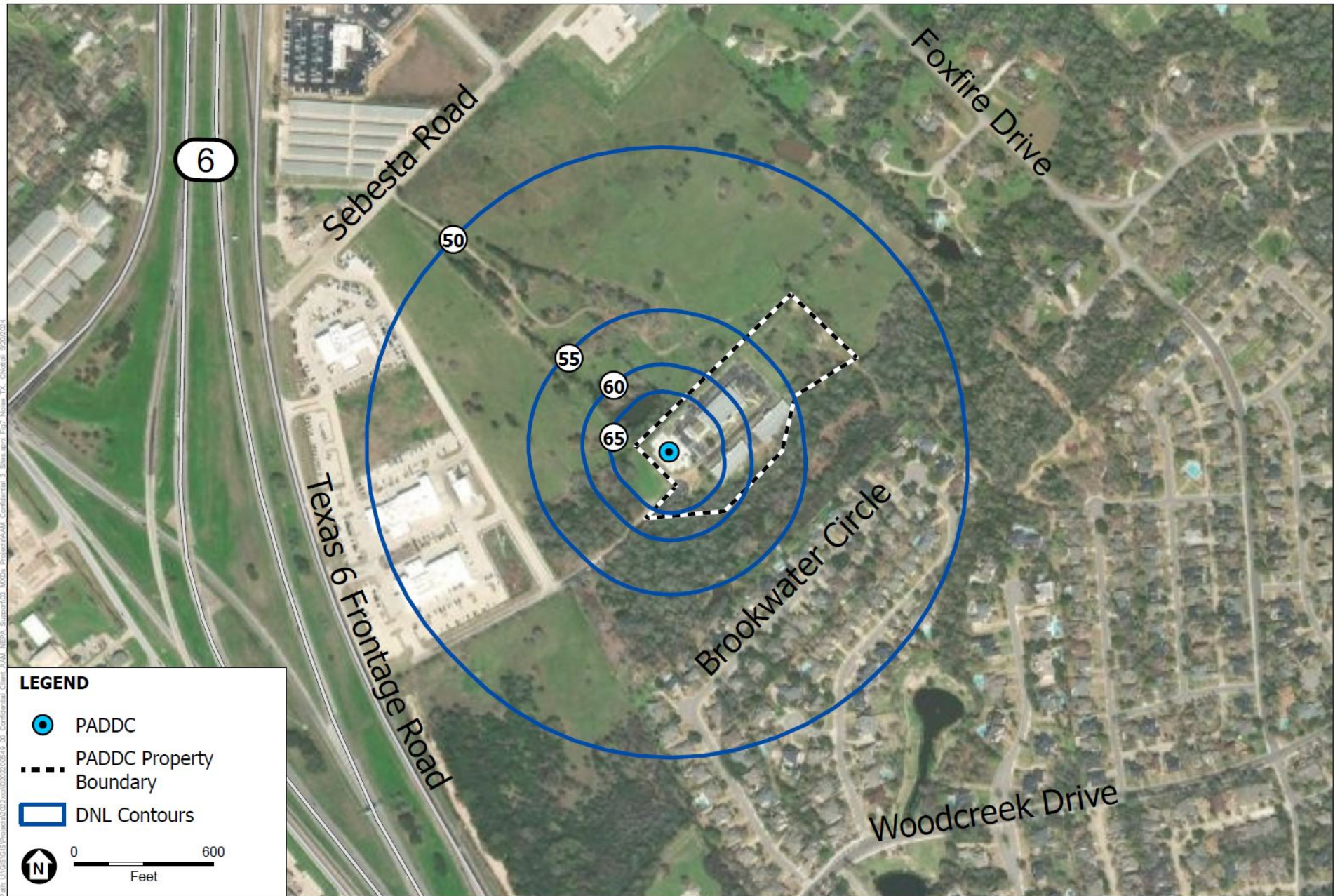
Table 13. Potential Cumulative Noise Exposure

Noise Source	Description	DNL (dB)	Energy $10^{(DNL/10)}$	Combine Noise Sources in DNL (dB)
1	Proposed Action ¹	58.1	645654.2	-
2	Airports within Study Area	55.0	316227.8	-
1+2	Proposed Action + Airports	-	961882.0	59.8
Delta	Change in Cumulative Noise	-	-	4.8

SOURCE: ESA, 2024.

Notes:

1. Proposed Action DNL based off exposure at delivery site location to assume conservative estimates.



SOURCE: ESA, 2023; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022.

Draft Supplemental Environmental Assessment for Amazon Prime Air – College Station, TX

Figure 7
PADDCC Noise Exposure Contours
College Station, TX



SOURCE: ESA, 2023; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022.

Draft Supplemental Environmental Assessment for Amazon Prime Air – College Station, TX

Figure 8
Noise Exposure Contours Based on Maximum Deliveries Per Location
College Station, TX

Attachment A

MK30 to MK27-2 Noise Flight Test Comparison Report

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REVISION LOG

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1	Initial revision	Arvin Shajanian	2024-04-16

APPROVING AUTHORITY

Amazon Approvals ID	Name [First and last name]	Role
28010954	Tonya Del Maestro	Regulatory
	Arvin Shajanian	Flight Sciences

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1. INTRODUCTION

This document contains the data gathered during the noise flight test campaign performed in February 2024. The purpose of the testing was to provide noise profiles of the MK27-2 drone and the MK30 drone when flown back-to-back under the same environmental conditions to demonstrate that the MK30 is quieter than the MK27-2. This enables the use of previously collected MK27-2 National Environmental Policy Act (NEPA) noise data for the NEPA assessment of the MK30 drone for operations at College Station, TX and Tolleson, AZ. The results from this test campaign demonstrate that the MK30 is equivalent or quieter when compared to the MK27-2, which supports the use of the MK27-2 noise data as a more conservative representation of the MK30 noise profile for NEPA evaluation of MK30 operations. The MK27-2 and MK30 flight profiles are similar in nature, in that they both perform a VTOL climb, a transition to fixed-wing flight en route to the customer backyard, transition back to VTOL for descent into the backyard area for delivery at 4m (12 feet) Above Ground Level (AGL), followed by the same maneuvers to return to the Prime Air Drone Delivery Center (PADDC). The difference between these profiles is that the MK30 flies higher and faster than the MK27-2, which contributes to the reduction of the overall Sound Exposure Level (SEL) for the MK30. A comparison of the typical operational flight parameters can be seen below in Table 1. Additionally, a comparison of the MK27-2 and MK30 flight profiles can be seen below in Figure 1. Note that these are the flight profiles for operational flights and not the flight test profiles for this noise flight test campaign. The data gathered during this testing, detailed in section 3, was collected with both the MK27-2 and the MK30 flying at similar AGLs between 31 and 44 meters (102 to 145 feet), in order to review the data at a consistent distance.

Phase of Flight	Altitude (feet AGL)		Ground Speed (knots)		Duration (seconds)	
	MK27-2	MK30	MK27-2	MK30	MK27-2	MK30
Takeoff and Vertical Ascent	Ascent from 0 to 130	Ascent from 0 to 115	0	0	21	15
Transition and Outbound Climb	130 to 160	115 to 200	0 to 52.4	0 to 58.3	20	30
Fixed Wing Outbound Cruise	160	200	52.4	58.3	Variable*	Variable*
Delivery Descent and Transition	Descent from 160 to 130	Descent from 200 to 115	52.4 to 0	58.3 to 0	20	30
Backyard Descent	Descent from 130 to 13	Descent from 115 to 13	0	0	32	21
Delivery	13	13	0	0	2	2
Backyard Ascent	Ascent from 13 to 130	Ascent from 13 to 197	0	0	24	26
Transition and Inbound Climb	Ascent from 130 to 160	Ascent from 197 to 345	0 to 52.4	0 to 58.3	20	30
Fixed-wing Inbound Cruise	160	345	52.4	58.3	Variable*	Variable*
Landing Descent and Transition	Descent from 160 to 130	Descent from 345 to 197	52.4 to 0	58.3 to 0	20	30
Vertical Descent and landing	Descent from 130 to 0	Descent from 197 to 0	0	0	38	35

*Duration of fixed-wing flight time varies based on distance to customer

Table 1: Comparison of Typical MK27-2 and MK30 Operational Flight Profiles

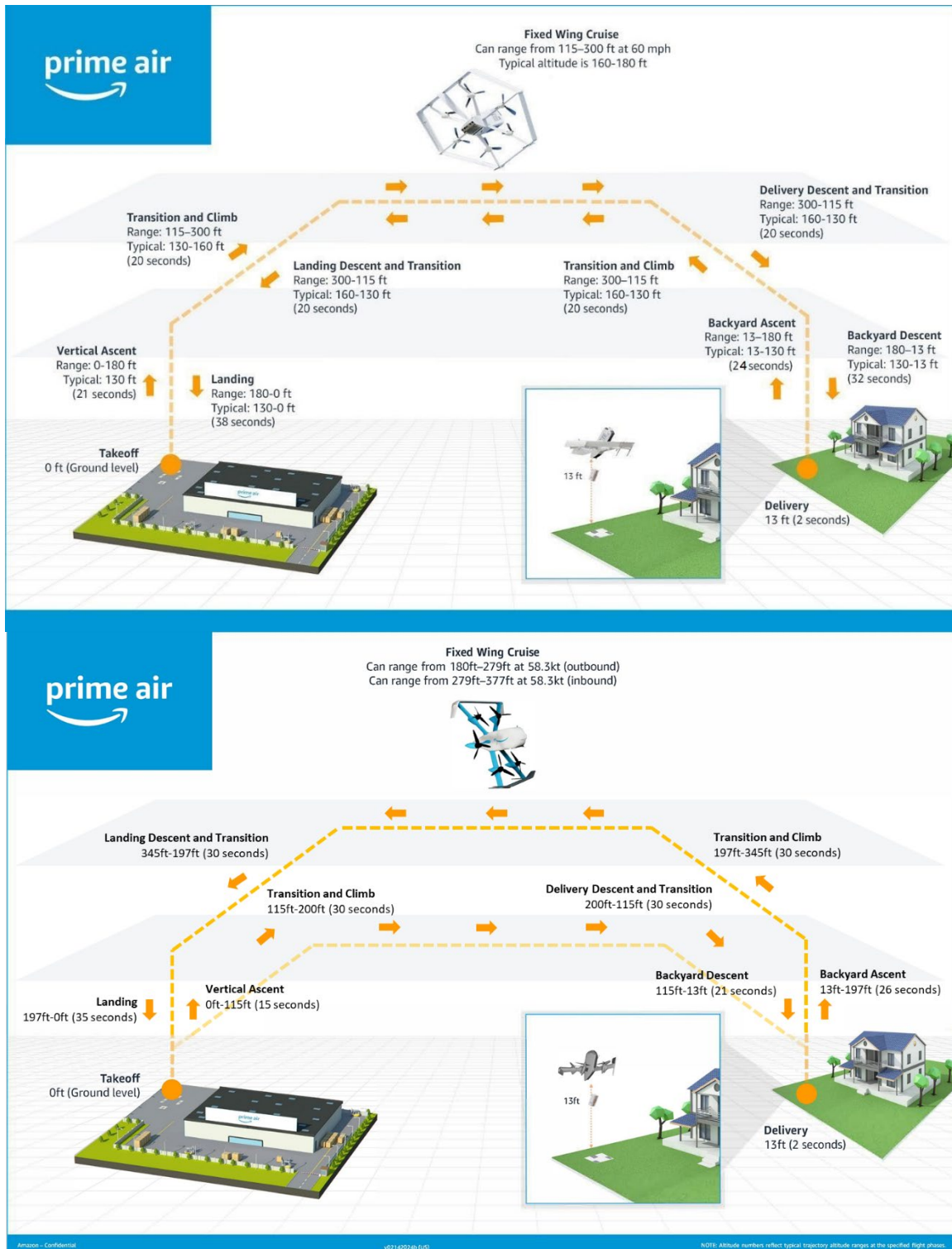


Figure 1: MK27-2 (Top) and MK30 (Bottom) Example Operational Flight Profiles

2. TEST METHODOLOGY

2.1. Overview

The data gathered during this test campaign utilized the same test methodology, instrumentation, and analysis methods as those utilized to support the MK27-2 NEPA evaluation conducted in April 2022 as described in the Prime Air Noise Measurement Report for the MK27-2 and the MK27-2 NEPA reports for College Station, TX and Lockeford, CA.

2.2. Instrumentation

An internally developed system for gathering acoustic data measurements was utilized in this campaign. This system provides time synchronized audio and location data with respect to the drone. The audio, drone-synchronized time and location data allow accurate determination of sound pressure level (SPL), distance, and incidence angle required for post-processing.

The system is composed of commercially available hardware with internal and external calibrations. The data acquisition system (DAQ) is a National Instruments cDAQ-9171 with a NI- 9234 analog unit capable of 51.2 kHz sampling rate at 24-bit resolution. New and calibrated GRAS 46AO ½" CCP Pressure Standard Microphones were used with the factory sensitivity values for the test. Calibration tones of the microphones were collected using a GRAS 42AG sound calibrator at 1000 Hz/114dB and 1000Hz/94dB at the start of each day.

2.3. Test Description

2.3.1. Overview

The flight profiles flown by the MK27-2 and the MK30 consisted of clockwise racetracks, with the microphone array positioned adjacent to the takeoff/landing pad to capture data for the VTOL/transition flight phases, and under a segment of straight and level flight to capture data for the fixed wing flight phase (See Figures 2 & 3). Both vehicles' flight profiles utilized the same takeoff/landing pad as well as the same overflight location in order to keep vehicle flight conditions the same at the acoustic measurement points.

For both vehicles' flight profiles, the drones performed a VTOL climb to an AGL between 27 and 40 meters (89 to 131 feet), began a Westbound transition to fixed-wing flight, continued in fixed wing flight until passing beyond the overflight microphone array, performed a right hand 180 degree turn, flew Eastbound, performed another right 180 degree turn, transitioned back to VTOL flight, and landed back at the pad. Both drones remained at a constant cruising altitude throughout the cruise segments. A package delivery segment was not performed, but is represented by the VTOL landing segment.

The MK27-2 flew a total of 1km westbound prior to its initial 180 degree turn, and 1.3km eastbound prior to its turn back to return to the pad. The MK30 flew 0.8km westbound prior to its initial turn, and 1.6km eastbound prior to its turn back to return to the pad. The difference in the racetrack geometry flown by the MK30 seen in Figure 2 is due to differences in the drone design and flight performance characteristics for turn radius and transition distances. However, as can be seen in Figure 2, the microphone array was set up below a flight segment with at least 150m (500 feet) of straight and level flight on both sides of the microphone array, which is more than was found to be required during prior testing to cover the 10dB down interval (as described in 14 CFR 36).

2.3.2. Microphone Locations

Microphones were placed on a North/South line perpendicular to the flight path. For both the overflight (Microphone Setup #1 in Figure 2) and takeoff/landing (Microphone Setup #2 in Figure 2) measurement locations, microphones were placed at a 5 ft height and oriented for a proper incidence angle with the aircraft during both phases of flight. Figure 3 shows the placement of the four microphones at each of the two setup locations. Tables 2 and 3 show the GPS coordinates of the microphones and the distances between them.

Note that some of the signals were not usable due to interference and were excluded from this analysis.



Figure 2: MK27-2 Racetrack (Blue) and MK30 Racetrack (Red) Overlay



Figure 3: MK27 Flight Path with Microphone Locations

Location	Mic 1	Mic 2	Mic 3	Mic 4
Takeoff/Landing	45°42'09.2"N 118°51'20.1"W	45°42'09.9"N 118°51'20.1"W	45°42'10.4"N 118°51'20.1"W	45°42'10.9"N 118°51'20.1"W
Overflight	45°42'08.5"N 118°51'46.9"W	45°42'09.1"N 118°51'46.9"W	45°42'09.8"N 118°51'46.9"W	45°42'10.4"N 118°51'46.9"W

Table 2: GPS Coordinates for each microphone

Location	Pad Center to Mic 1	Pad Center to Mic 2	Pad Center to Mic 3	Pad Center to Mic 4
Takeoff/Landing	10m	26.67m	43.33m	60m
Location	Flight Path Center to Mic 1	Mic 1 to Mic 2	Mic 1 to Mic 3	Mic 1 to Mic 4
Overflight	0m	20m	40m	60m

Table 3: Microphone placement summary

3. RESULTS

The following section contains the test data comparing the noise signatures of the MK27-2 and MK30, as well as the ambient atmospheric conditions of each recording. A total of 12 flights were flown, comprising six total pairs of back-to-back flights (each pair having one MK27-2 flight and one MK30 flight). Of the six pairs, three were flown to collect data for VTOL, and three were flown to collect data for flyover.

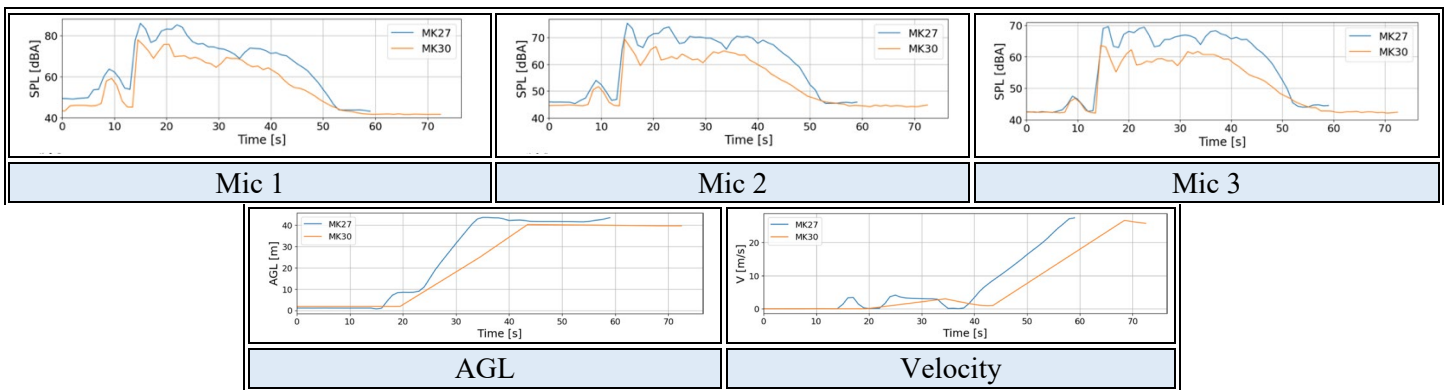
3.1. VTOL

This section contains the test data for each of the three pairs of VTOL flights having both a takeoff and landing segment.

3.1.1. Pair 1

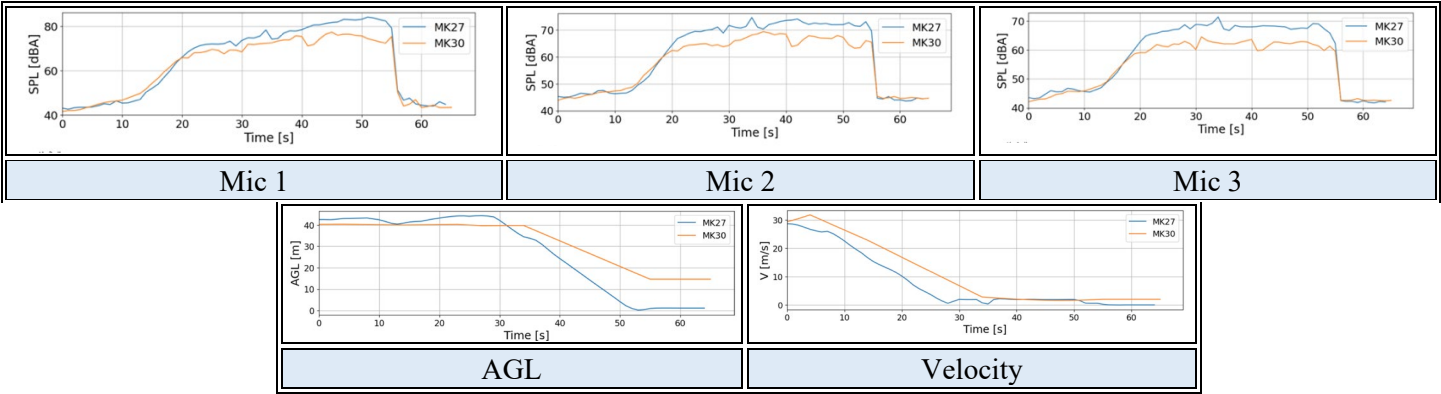
Drone	MK27-2	MK30
Temperature [C]	12.4	11.4
Wind 10 Min Average Speed [kts]	4.3	1.6
Wind 10 Min Average Direction [deg]	296	24.3
Wind 10 Min Gust Average [kts]	6.6	2.1
Density Altitude [ft]	1461	1331

Takeoff



	Drone	Mic 1	Mic 2	Mic 3
L_{max}	MK27-2	86.1	75.4	69.6
	MK30	78.1	69.4	63.5
SEL	MK27-2	94.0	85.3	81.7
	MK30	85.4	78.4	74.8

Landing

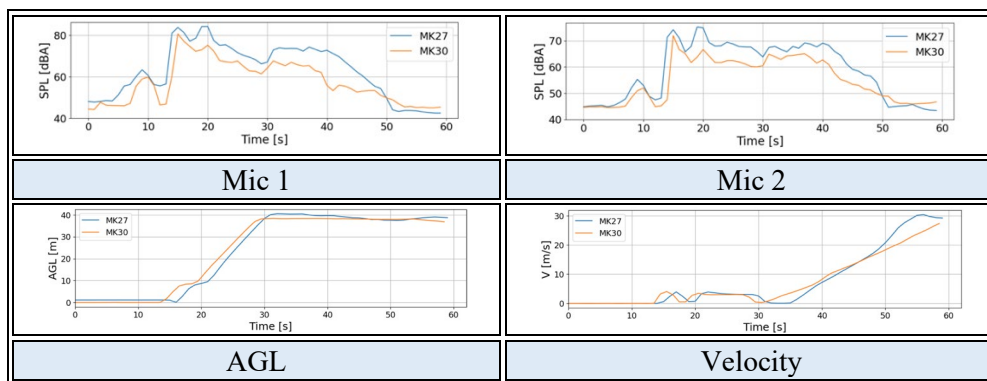


	Drone	Mic 1	Mic 2	Mic 3
L _{max}	MK27-2	84.2	74.6	71.4
	MK30	77.4	69.3	64.5
SEL	MK27-2	95.1	87.2	83.3
	MK30	89.0	82.0	77.8

3.1.2. Pair 2

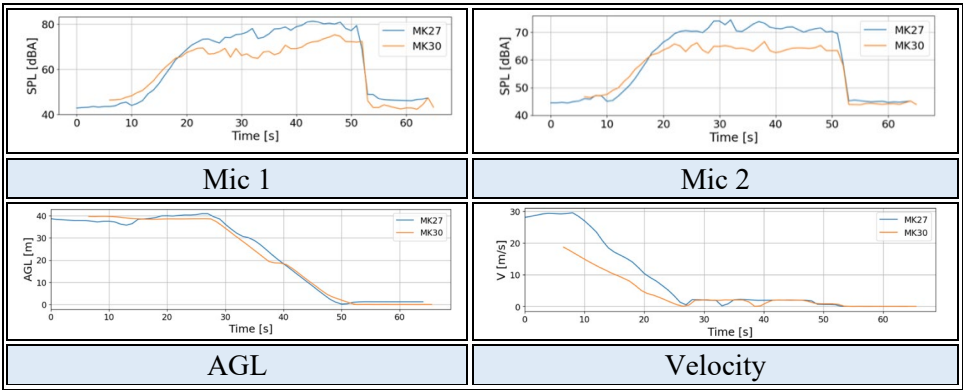
Drone	MK27-2	MK30
Temperature [C]	3.9	2
Wind 10 Min Average Speed [kts]	3.5	3.1
Wind 10 Min Average Direction [deg]	134	144.1
Wind 10 Min Gust Average [kts]	5.2	4.5
Density Altitude [ft]	380	140.2

Takeoff



	Drone	Mic 1	Mic 2
L_{max}	MK27-2	84.2	75.2
	MK30	80.6	72.0
SEL	MK27-2	92.0	84.3
	MK30	85.5	78.8

Landing

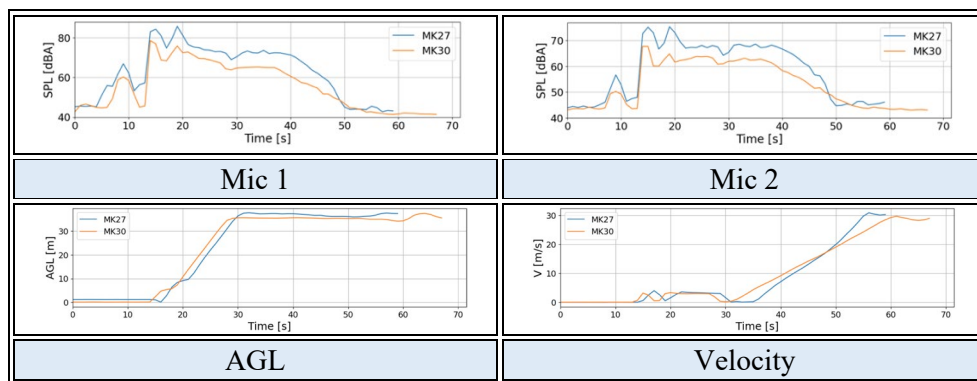


	Drone	Mic 1	Mic 2
L _{max}	MK27-2	81.2	74.5
	MK30	75.2	66.6
SEL	MK27-2	92.7	86.6
	MK30	85.7	79.8

3.1.3. Pair 3

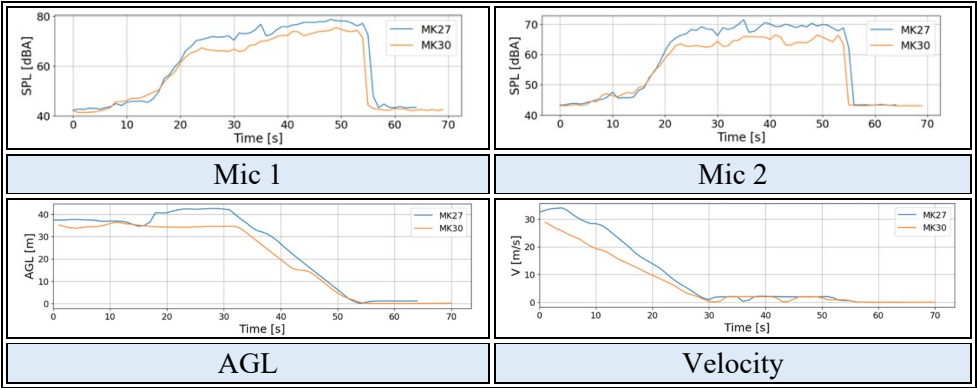
Drone	MK27-2	MK30
Temperature [C]	8.1	8.3
Wind 10 Min Average Speed [kts]	9.1	9.5
Wind 10 Min Average Direction [deg]	5	354
Wind 10 Min Gust Average [kts]	13.6	12.4
Density Altitude [ft]	964	994

Takeoff



	Drone	Mic 1	Mic 2
L_{max}	MK27-2	85.8	75.4
	MK30	78.6	67.8
SEL	MK27-2	92.3	84.3
	MK30	85.1	77.7

Landing



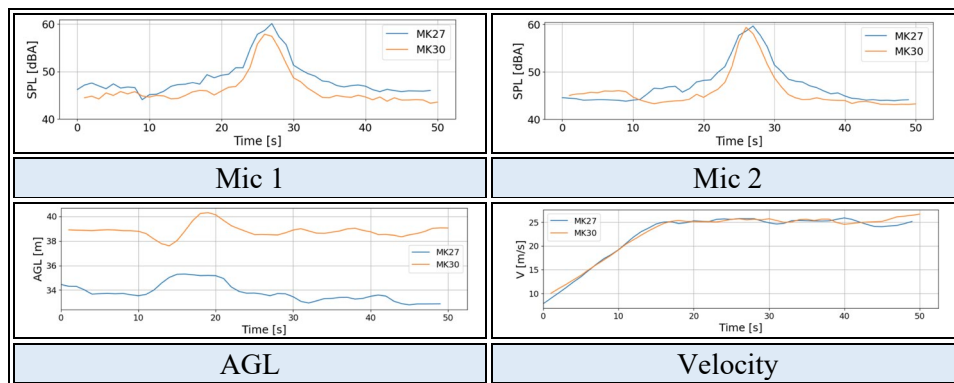
	Drone	Mic 1	Mic 2
L _{max}	MK27-2	78.8	71.4
	MK30	75.5	66.4
SEL	MK27-2	90.9	84.2
	MK30	86.9	79.8

3.2. Forward Flight (Flyover)

This section contains the test data for each of the three pairs of forward flight (flyover) flights.

3.2.1. Pair 1

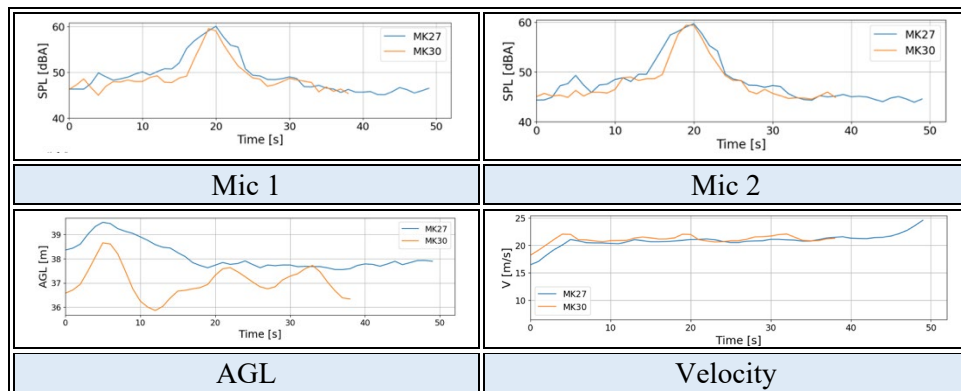
Drone	MK27-2	MK30
Temperature [C]	8	8.8
Wind 10 Min Average Speed [kts]	2	5.7
Wind 10 Min Average Direction [deg]	169	259
Wind 10 Min Gust Average [kts]	5.1	8
Density Altitude [ft]	856	987



	Drone	Mic 1	Mic 2
L_{max}	MK27-2	60.1	59.6
	MK30	57.9	59.4
SEL	MK27-2	66.1	65.7
	MK30	63.7	64.3

3.2.2. Pair 2

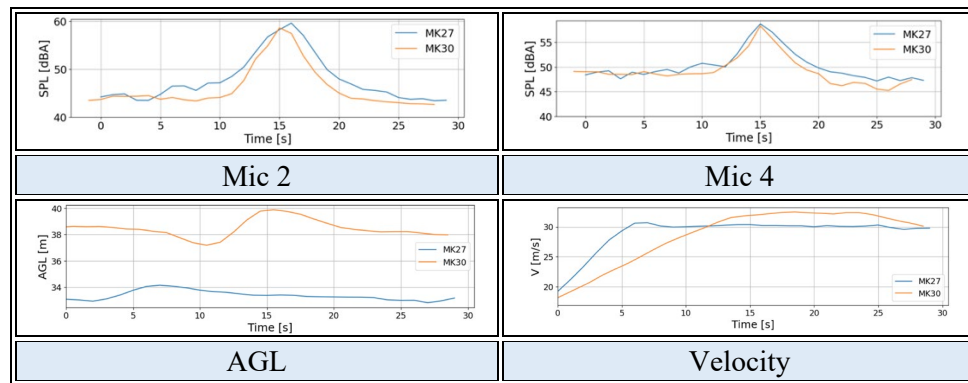
Drone	MK27-2	MK30
Temperature [C]	9	9.6
Wind 10 Min Average Speed [kts]	11.7	14.4
Wind 10 Min Average Direction [deg]	264	264
Wind 10 Min Gust Average [kts]	15.7	18.5
Density Altitude [ft]	1015	1083



	Drone	Mic 1	Mic 2
L_{max}	MK27-2	60.0	59.7
	MK30	59.5	59.4
SEL	MK27-2	67.0	66.8
	MK30	65.1	65.5

3.2.3. Pair 3

Drone	MK27-2	MK30
Temperature [C]	7	5.4
Wind 10 Min Average Speed [kts]	11.7	6.8
Wind 10 Min Average Direction [deg]	359	15.4
Wind 10 Min Gust Average [kts]	14.6	9.9
Density Altitude [ft]	840	640



	Drone	Mic 2	Mic 4
L_{max}	MK27-2	59.6	58.8
	MK30	58.6	58.4
SEL	MK27-2	65.3	64.4
	MK30	63.4	63.2

4. CONCLUSIONS

The data in Section 3.1 shows that the MK30 noise is 5-7 dB lower in maximum noise levels than the MK27-2 in the takeoff/landing phases of flight. In some localized portions of the flight noise data, the MK30 was recorded at higher SPL, but these occurred outside the peak noise event regions. The SEL in all cases is lower for the MK30.

The data in Section 3.2 showed that the MK30 maximum noise levels in the flyover phase are equivalent or lower when compared to the MK27-2. The difference in L_{max} between the MK30 and the MK27-2 is expected to be smaller in the flyover phase versus the takeoff/landing phase. However, given that the MK30 flies faster and higher than the MK27-2 in actual operation (detailed in Table 1), the SEL in operational flyover will still be lower for the MK30 due to the shorter event duration.

The data in Section 3 shows that in all flights, the MK30 is equivalent to or quieter than the MK27-2 in terms of maximum noise levels. It also shows that the SEL for the MK30 is lower in all cases. This supports the approach of using the previously collected MK27-2 NEPA noise data as a conservative representation of the MK30 noise profile for the purpose of the NEPA evaluation of MK30 operations.

Attachment B



Federal Aviation Administration

Memorandum

Date: May 16, 2024

To: Dave Senzig (Acting), Noise Division Manager, Office of Environment and Energy (AEE-100)

From: Chris Hurst, Flight Standards (AFS), General Aviation and Commercial Branch, AFS-752

Subject: Environmental Assessment (EA) Noise Methodology Approval Request for MK-30 Amazon Prime Air Operations in College Station, TX

AFS requests AEE approval of the noise methodology to be used for the supplemental Environmental Assessment (EA) for Amazon Prime Air (Amazon) operations using the Amazon MK30 unmanned aircraft (UA) in College Station, TX to expand its package delivery services as a 14 CFR Part 135 operator as described below.

As required under the National Environmental Policy Act (NEPA), the FAA must consider the potential for environmental impacts in informing the agency's decision to approve Federal actions, including the potential for noise impacts as detailed in FAA Order 1050.1F.

As the FAA does not currently have a standard approved noise model for UA, this letter serves as a request for written approval from AEE to use the methodology proposed in the following sections to support the noise analysis for the EA.

Description of Aircraft and Proposed Operations

AFS is evaluating Amazon's proposal to expand its delivery capabilities from the College Station, TX Prime Air Drone Delivery Center (PADCC) and associated operating area under its existing Part 135 air carrier certificate and related operating authorizations by adding the next generation MK30 UA to its fleet, increasing the number of operations and operating days, and expanding the approved area of operations.

The MK30 UA has six (6) propulsors allowing it to take-off and land vertically and transition to wing borne flight (WBF). Its airframe is composed of staggered tandem wings for stable WBF. The drone weighs 77.9 lbs. (35.5 kg) and has a maximum takeoff weight of 83.2 lbs. (37.8 kg), which includes a maximum payload of 5 lbs. (3 kg). It has a maximum operating range of 7.5 mi (12 km). It is a hybrid multicopter fixed-wing UA that uses electric power from rechargeable lithium-ion batteries and can fly

up to 400 ft (122 m) above ground level (AGL) at a maximum cruise speed of 73 mph (64 knots) during WBF. It is launched vertically using powered lift and converts to using wing lift during en route flight. A typical flight profile can be broken into the following general flight phases: launch, en route outbound, delivery, en route inbound, and landing. After launch, Amazon's MK30 UA would rise to an altitude of less than 400 ft (122 m) AGL and follow a predefined route to its delivery site. Aircraft would typically fly en route at between approximately 180 to 377 ft (55 to 115 m) AGL, except when descending to drop a package. Packages would be carried internally in the UA's fuselage. When making a delivery, the UA descends, opens a set of payload doors, and drops the package to the ground from approximately 13 ft (4 m) AGL. Amazon's UA would not touch the ground in any place other than the PADDC (except during safe contingent landings) and will remain airborne throughout the operation including the delivery stage. After the package is dropped, the MK30 UA climbs vertically and follows its predefined route back to the PADDC at its assigned altitude.

Amazon is seeking to amend its current Operation Specifications (OpSpec) and other Federal Aviation Administration (FAA) authorizations needed to integrate the MK30 and expand drone commercial package delivery operations from a single PADDC located in College Station, Texas.

Amazon is proposing to amend its OpSpec by:

- (1) Incorporating the next generation, MK30 drone variant into service, which offers longer range and a reduced noise profile,
- (2) Increasing the number of annual operations,
- (3) Increasing the number of daily operating hours (between 7 AM and 10 PM) and operating days, and
- (4) Increase the College Station, TX approved area of operations. The MK30's operating range is 7.5 mi (12 km) (an increase of 3.7 mi (6.0 km) from the MK27-2 range), which increases the potential operating area from 43.7 sq mi (113.2 sq km) to 174 sq mi (450.6 sq km).

As proposed, average daily operations would increase from the current estimated 200 operations per day using the MK27-2 UA to an estimated 469 average annual daily operations using the MK30 UA. The transition to the MK30 UA would amount to an increase from 52,000 operations with the MK27-2 UA to 171,329 operations with the MK30 UA on an annual basis. The number of daytime (7 AM to 10 PM) operating hours would increase from the current eight (8) hours per day (daytime) to 10 hours per day and the number of operating days would increase from the current 260 days per year to 365 days per year. Based on those overall levels Amazon expects deliveries to be distributed among delivery locations with a minimum number of 0.1 deliveries per day or less at any one location and maximum of 4.0 per day at any one location on an average annual daily basis.

Noise Analysis Methodology

AFS requests to use the noise analysis methodology described in ESA Report No. 202200549.03 for the "Noise Assessment Amazon Prime Air MK27-2 Unmanned Aircraft Operations at College Station Texas Noise Technical Report May 2024" dated May 2024.



Federal Aviation Administration

Memorandum

Date: May 20, 2024

To: Chris Hurst, Flight Standards (AFS), General Aviation and Commercial Branch (AFS-752)

From: David Senzig, Manager (Acting), Noise Division, Office of Environment and Energy (AEE-100)

Subject: Supplemental Environmental Assessment (EA) Noise Methodology Approval Request for Amazon Prime Air Commercial Package Delivery Operations with the MK30 UA from College Station, Texas

The Office of Environment and Energy (AEE) has reviewed the proposed non-standard noise modeling methodology to be used for Amazon Prime Air (Amazon) operations using the MK30 unmanned aircraft (UA) from College Station, Texas. This request is in support of a supplemental Environmental Assessment (EA) for Amazon to provide expanded package delivery services as a 14 CFR Part 135 operator in College Station and a surrounding operating area.

The Proposed Action is for Amazon to expand its package delivery capabilities from the existing Prime Air Drone Delivery Center (PADCC) located in College Station by integrating the MK30 UA into its fleet, increasing the number of operations and operating days, and expanding Amazon's approved operating area. Typical operations of the MK30 UA will consist of departure from a launch/takeoff pad at the PADCC followed by a vertical climb to a typical en route altitude of 180 to 377 feet above ground level (AGL). The UA then transitions from vertical to horizontal wing borne flight (WBF) for transit to a delivery location. Approaching the delivery location, the UA will transition from horizontal WBF to vertical flight, and then descend vertically over the delivery point. At 13 feet AGL, the UA drops the package at the delivery point, and ascends vertically back to en route altitude. Once back at en route altitude, the UA again transitions from vertical to horizontal WBF for transit back to its originating PADCC. When the UA arrives at the PADCC, the UA will transition from horizontal WBF to vertical flight and vertically descends to its assigned landing pad. Once it lands, the UA is serviced and prepared for the next delivery.

Under the scope of the Proposed Action Amazon is proposing to increase from the current estimated 52,000 annual deliveries at the College Station PADCC with the MK27-2 UA to a maximum of 171,329 annual deliveries with the MK30 UA. This is equivalent to 169 average annual daily (AAD) deliveries. Based on those overall levels Amazon expects deliveries to be distributed among delivery locations with a minimum number of 0.1 deliveries per day or less at any one location and maximum of 4.0 per day at any one location on an AAD basis. Additionally, the number of daytime (7 AM to 10 PM) operating hours would increase from the current eight (8) hours per day to 10 hours per day and the number of operating days would increase from the current 260 days per year to 365 days per year. The area of operations associated

with the College Station PADCC will also expand from 43.7 square miles to 174 square miles due to the increased range of the MK30 UA when compared to the MK27-2.

The MK30 UA is still under development and final noise data for the vehicle is not yet available. To assess the noise exposure of MK30 UA operations for the Proposed Action being considered in this supplemental EA, Amazon in coordination with AEE conducted noise measurements in February 2024 of the MK30 and MK27-2 UAs. The purpose of these measurements was to evaluate if the MK30 is quieter than the MK27-2 and determine if the noise measurement data and analysis methodology developed for the MK27-2 as detailed in the December 2022 EA for evaluating Amazon's initial package delivery operations in College Station could be used as a surrogate for evaluating the noise exposure of the MK30. Overall, the noise measurement data showed that the MK27-2 UA has an equivalent or louder noise profile compared to the MK-30 and use of the previously developed noise analysis methodology and measurement data from the MK27-2 represents a conservative surrogate for evaluating the noise exposure from proposed MK30 operations.

As the FAA does not currently have a standard approved noise model for assessing UA, and in accordance with FAA Order 1050.1F, all non-standard noise analysis in support of the noise impact analysis for the National Environmental Policy Act (NEPA) must be approved by AEE. This letter serves as AEE's response to the method developed in ESA Report No. 202200549.03 for the "Noise Assessment Amazon Prime Air MK27-2 Unmanned Aircraft Operations at College Station Texas Noise Technical Report" dated May 2024.

The proposed methodology appears to be adequate for this analysis; therefore, AEE concurs with the methodology proposed for this project. Please understand that this approval is limited to this particular Environmental Review, location, vehicle, and circumstances. Any additional projects using this or other methodologies or variations in the vehicle will require separate approval.

Attachment C



Federal Aviation Administration

Date: August 4, 2022

To: Donald Scata, Manager, Noise Division,
Office of Environment and Energy (AEE-100)

From: Christopher Hobbs, General Engineer, Noise Division,
Office of Environment and Energy (AEE-100)

Subject: Estimated Noise Levels for Amazon Prime Air MK27-2 UA

This memo presents an analysis of noise measurements of the Amazon Prime Air MK27-2 Unmanned Aircraft (UA) by Amazon Prime Air (Amazon), measured between April 1 and April 16, 2022 at the Pendleton UAS Range located at the Eastern Oregon Regional Airport (KPDT) in Pendleton, Oregon. The purpose of the analysis is to provide estimates of expected sound exposure levels resulting from typical operations of the Amazon MK27-2 UA by Amazon and provides the methods used to create the noise estimates. Any deviation of the expected flight profile from those measured at Pendleton will need to be accounted for in the noise estimates using appropriate methodology.

1. Flight Profile and Segment Noise

The phases of a typical flight profile from takeoff to landing from a Prime Air Drone Delivery Center (PADDC) with an included delivery are listed in Table 1 for the MK27-2 UA. For the purposes of this analysis, the point on the ground that the UA takes off of (launch pad), delivers to (delivery point), and lands on (landing pad) will be referred to as the PADDC. For normal operations Amazon will be basing the UA at a PADDC containing the landing and takeoff pad infrastructure, and delivery will be completed at a remote location using a target on the ground at the delivery location to mark the specific delivery point. All noise measurements at Pendleton were made with the UA carrying a 5 lbs package representative of the UA operating at the max takeoff weight of 91.5 lbs. The package was not released during the delivery phase of the flight profile. It is assumed that the noise generated during the climb out after delivery with the package will be greater than if the package had been released; therefore, the noise measurements presented here are a conservative estimate of those during actual operations.

The method used to estimate the noise on the ground during each phase of flight is listed below. The methodology presented for estimating the noise for each flight phase uses the best available information from available measurement data for the MK27-2 UA and represents a conservative estimate of the noise levels resulting from operations of this UA.

Table 1. Phases of Flight for Typical Flight Profile of MK27-2 UA

Phase of Flight	Description
Takeoff	Vertical launch from PADDC on ground to en route altitude (165 ft Above Ground Level (AGL)) in vertical flight mode (pointed upward)
Transition to Outbound En Route Flight	Transition from zero speed above PADDC at en route altitude to cruise speed (52.4 kts) while changing from vertical flight mode to fixed-wing flight mode (pointed horizontally)
Outbound En Route Flight	Fixed-wing flight mode at operational en route altitude and cruise speed
Transition to Delivery	Transition from cruise speed at en route altitude and fixed-wing flight mode to zero speed above PADDC/delivery point at en route altitude and in vertical flight mode
Delivery	Vertically descend from en route altitude to 13 ft AGL delivery altitude, drop a package at the PADCC/delivery point, and vertical ascent back to en route altitude in vertical flight mode
Transition to Inbound En Route Flight	Transition from zero speed above PADDC/delivery point at en route altitude to cruise speed while changing from vertical flight mode to fixed-wing flight mode
Inbound En Route Flight	Fixed-wing flight mode at operational en route altitude and cruise speed
Transition to Landing	Transition from cruise speed at en route altitude and fixed-wing flight mode to zero speed above PADDC at en route altitude and in vertical flight mode
Landing	Descend from en route altitude to PADDC on ground in vertical flight mode

1.1 Transition Noise

Because the transition phase from vertical to fixed-wing flight mode or vice versa is involved in the takeoff, delivery, and landing phases of flight it will be discussed first. The measurements made by Amazon were done with the microphones oriented normal to the flight track as shown in Figure 1. As the figure shows, the UA did not fly over the microphones after takeoff. The same is true for the transitions before and after delivery and the transition before landing. To estimate the maximum noise at a distance from the takeoff/landing pad or delivery point on the ground one must combine the noise emitted from the UA during the vertical portion of the trajectory (descent or ascent) and the noise the UA make as it transitions from the vertical flight mode (pointed up) to fixed-wing flight mode (pointed horizontally). The microphones were not positioned to capture the majority of the transition noise; thus, an estimate of the noise made by the UA while transitioning had to be made based on the overflight measurements as discussed below.

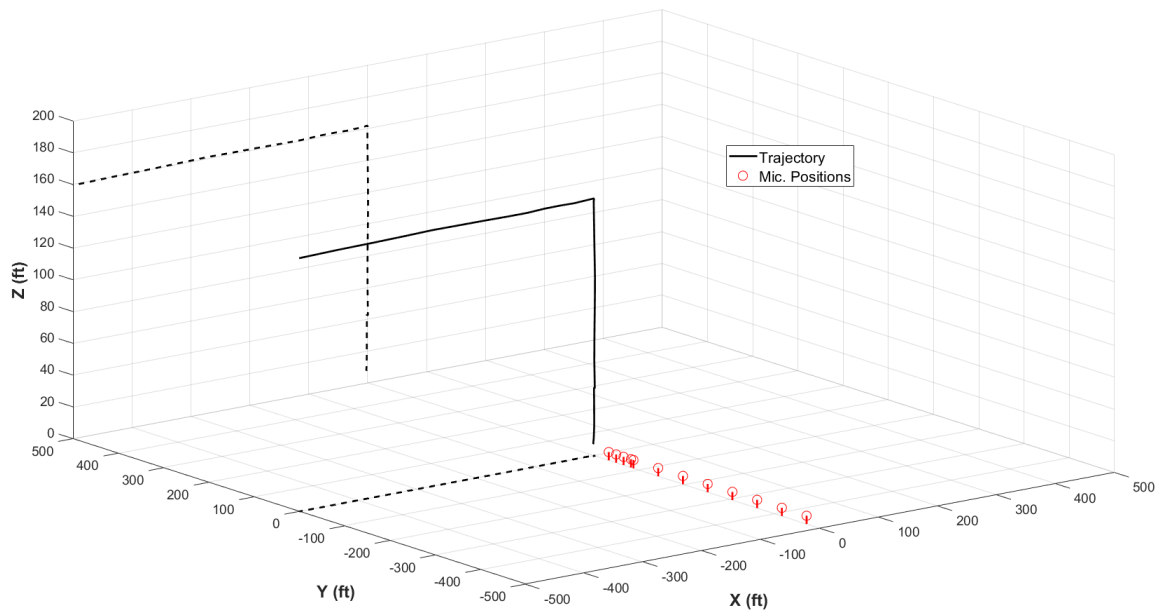


Figure 1. Microphone locations for takeoff, delivery, and landing measurements for MK27-2 UA with example takeoff trajectory.

The duration of the transition of the UA from vertical to fixed-wing flight mode was measured using the time it took the UA to reach cruise speed after it reached the top of the vertical climb during takeoff and post-delivery. The start of the duration for both phases was set as the time the UA began having non-zero ground speed. For the duration of the transition of the UA from fixed-wing flight mode to vertical flight during landing and pre-delivery, the transition duration was measured from the time the UA began to decelerate from cruise speed to zero ground speed. In all cases the acceleration was noted as being nearly constant. The pitch of the UA from vertical to horizontal fixed-wing flight mode was shown to coincide with this time as well. Table 2 shows the average durations for the UA to transition to and from fixed-wing flight mode. As presented in Table 2, the average duration for transition during takeoff and landing was the same 20 seconds. Assuming a constant acceleration to and from a 52.4 knot cruise speed, the distance to transition from vertical to fixed-wing flight mode is approximately 884 ft. It is the same approximate distance to transition from fixed-wing to vertical flight mode.

Table 2. Description of Transition to and from Fixed-Wing Flight Mode

Phase	Description	Altitude (ft AGL)	Ground Speed (kts)	Duration (s)
Transition to Fixed-Wing Mode	Transition from vertical to horizontal fixed-wing flight	165	0 accelerating to 52.4	20
Transition from Fixed-Wing Mode	Transition from horizontal fixed-wing flight to vertical flight	165	52.4 decelerating to 0	20

In order to estimate the noise made by the UA at positions undertrack as it transitions to or from fixed-wing flight mode, the following assumption has been made:

The noise of the UA in fixed-wing flight mode is approximately the same it transitions; furthermore, the noise radiated from the UAS is assumed to be omnidirectional. That is to say that the noise level measured a fixed distance from the UA will be the same in all directions.

To calculate the noise from the transition phase of the flight profile at distances from the PADDC undertrack, the following steps were performed:

1. The maximum noise level from measured overflights was corrected to the en route altitude distance (165 ft) using spherical spreading.
2. At each distance from the PADDC undertrack the estimated sound pressure level was calculated from 25 ft segments along the transition flight trajectory based on the maximum sound level measured during the overflight corrected to the distance between using spherical spreading. The duration applied to each respective segment's sound pressure level was found from the calculated motion of the UA as a function of time to / from a cruise speed of 52.4 kts to / from zero kts using constant acceleration.
3. The sound pressure level duration products were summed to find the estimated sound exposure level at each position.
4. The estimate of the sound exposure levels were corrected to match the overflight sound exposure level once past the effects of the transition at approximately 1600 ft from the PADDC.

The levels in Table 3 are the results of the calculations. It is recommended to use linear interpolation to find values between the distances in the table for the transition flight phases. This estimate of the transition phase of flight can be used for the transition from zero speed to the cruise speed as well as the transition from cruise speed to zero speed. The calculation was done for an estimated altitude of 165 ft AGL.

Table 3. Estimated Sound Exposure Levels from Transition Phase of Flight Profile

Distance from PADDC (ft)	Sound Exposure Level (dBA) ₁
0	69.9
100	70.6
200	70.3
400	69.4
800	68.2
1600	67.7
3200	67.7

Notes: 1) Applicable to either profile described in Table 2.

The sound exposure levels presented in Table 3 show that beyond 1600 ft from the PADDC the transition profile (Table 2) does not differ from the en route levels (Section 1.3); therefore, the transition phase noise levels present in Table 2 should be added to the noise created by the UA during takeoff, delivery, and landing out to a distance of 1,600 feet. The sound exposure levels from the overflight measurements should be combined with the other phases of flight for distances greater than 1,600 feet from the PADDC.

1.2 Takeoff and Landing Noise

There are two flight activities that generate noise in the vicinity of the takeoff and landing pads at the PADCC. The vertical portion of the trajectory (i.e., the climb or descent to/from the en route altitude), and the transition from vertical flight mode to horizontal fixed-wing flight mode as described above. During takeoff, the MK27-2 will climb from the ground vertically to an operational altitude of 165 feet AGL, then transition from vertical to fixed-wing flight for transit to the delivery location. After completing delivery, the UA returns from the delivery location at 165 feet AGL in fixed-wing flight, transitions to vertical flight, and then descends vertically to the ground at the landing pad. Table 4 details the takeoff and landing phases of the flight profile. The durations in the table are the average time it took the UA to ascend or descend from the cruise altitude.

Table 4. MK27-2 UA Takeoff and Landing Profile Details

Phase of Flight	Flight Description	Altitude (ft AGL)	Ground Speed (kts)	Duration (s)
Takeoff	Vertical ascent to cruise altitude	0 ascend to 165	0	21
Landing	Descent from cruise altitude to land	165 descend to 0	0	38

To estimate the sound exposure level from the takeoff and landing phases of the flight profile, measurements of the noise emissions of the MK27-2 UA were made when the UA was at maximum weight and was following a simulated takeoff and landing profile representative of typical operations. The profile included the vehicle climbing vertically from the PADDC to en route altitude where it transitioned to fixed-wing mode for en route flight, flying an oval “racetrack” pattern at en route altitude to simulate outbound en-route flight, and transitioning from en-route altitude in fixed-wing flight mode to the vertical flight mode for a descent to landing. The microphone positions relative to the takeoff and landing pad are shown in Figure 1. The PADDC

is located at the origin in the plot. It is important to note that only 4 microphones were used for each flight. They were moved to different positions between flights.

The sound exposure level was calculated from the data collected by each microphone for each flight. The sound exposure level was calculated from the entire A-weighted time history of the event. Because the microphone array is normal to the flight track, the noise during transition between en route fixed-wing flight to vertical flight mode is not completely captured as it would be under the vehicle for the inbound and outbound phases of the flight profile and is assumed to not be accounted for in the following tables. Because of this, the sound exposure values versus distance measured from the PADDC must be supplemented to estimate the most conservative sound exposure as detailed below.

There were a total of nine flights where the UA performed a takeoff, delivery, and landing. The microphones were moved for some of the flights. The number of flights for each positioning of the four microphone was not equal; however, the available data represents a good range of distance from the PADDC and has a behavior that can be used to adequately represent the noise emissions from the vertical portion of the flight profile. There were two other flights performed for overflight measurements. Because the aircraft's flight track on takeoff and landing was not the same orientation to the microphone array as the first nine flights, metrics for those four events were not included in the averages. Table 5 presents the averaged results at each microphone for all takeoff events, and Table 6 presents the averaged results for averaged landing events.

Table 5. Average Sound Exposure Levels of MK27-2 UA during Takeoff versus Distance

Position	Distance (ft)	Sound Exposure Level (dBA) ¹
1	32.8	95.7
2	49.2	94.1
3	65.6	92.1
4	82.0	90.1
5	87.5	88.3
6	142.2	83.0
7	196.9	78.7
8	251.5	77.7
9	306.2	75.8
10	360.9	73.8
11	415.6	72.4
16	689.0	69.1
17	743.7	65.6
18	798.4	64.7
19	853.0	64.0

Notes: 1) Applicable for the takeoff profile presented in Table 4.

Table 6. Average Sound Exposure Levels of MK27-2 during Landing versus Distance

Position	Distance (ft)	Sound Exposure Level (dBA)₁
1	32.8	94.8
2	49.2	93.2
3	65.6	92.1
4	82.0	90.2
5	87.5	90.1
6	142.2	85.0
7	196.9	80.7
8	251.5	79.0
9	306.2	77.3
10	360.9	74.9
11	415.6	73.7
16	689.0	69.7
17	743.7	67.6
18	798.4	67.0
19	853.0	66.2

Notes: 1) Applicable for the landing profile presented in Table 4.

The measured data are presented in the following figures. The curve fits in the Tables below represent the best estimates of the sound levels for the distance ranges listed. It is recommended to use the curve fit equations to calculate the sound exposure levels representing only the vertical portion of the flight profile noise emissions for the takeoff and landing phases. Positions four and five were averaged together and the effective distance weight-averaged because of their proximity. The distance of 149 feet from the PADDC is the minimum distance for which the behavior of the noise levels versus distance is consistently decreasing by approximately 6 dB per doubling of distance for the takeoff, delivery, and landing phases of flight. The same distance was chosen to begin the curve fit for consistency. The coefficients in the table for distance less than 149 feet are effectively linear interpolations between the average, measured values.

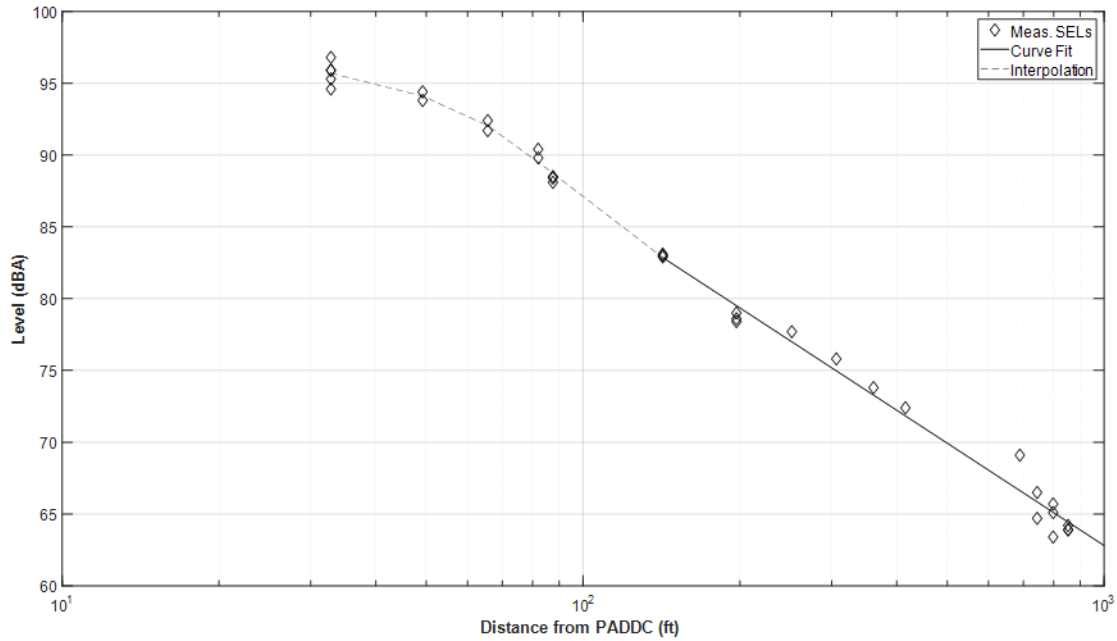


Figure 2. Measured sound exposure levels during takeoffs as described in Table 4.

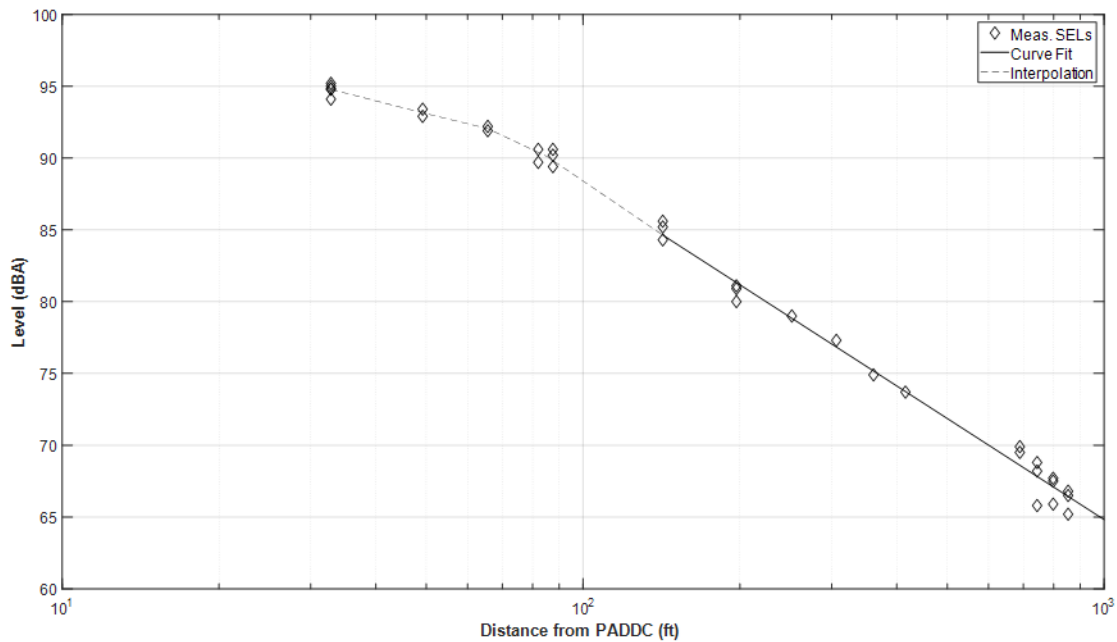


Figure 3. Measured sound exposure levels during landings as described in Table 4.

The following equation governs how to estimate the sound exposure level for a given distance, d , in feet from the PADDC resulting from the vertical portion of the takeoff, delivery, or landing portion of the flight

profile of the UA. The constants m and b are to be used in Eq. 1 for the appropriate row in the tables based on the Range. These estimates assume the UA reaches an en route altitude of 165 feet AGL.

$$SEL = m * \log_{10}(d + b) \quad (dB) \quad (1)$$

Table 7. Parameters for Estimating Sound Exposure Level for Takeoff versus Distance₂

Range for d (ft from PADDC)	m	b
32.8 to 49.2	-9.09	109.47
49.2 to 65.6	-16.41	121.86
65.6 to 85.3 ¹	-26.39	140.00
85.3 ¹ to 142.2	-27.79	142.71
Greater than 142.2	-23.39	134.99

Notes: 1) Average, weighted distance for the 82 and 87.5 ft position measurements
2) Applicable for the takeoff profile in Table 4

Table 8. Parameters for Estimating Sound Exposure Level for Landing versus Distance₂

Range for d (ft from PADDC)	m	b
32.8 to 49.2	-9.26	108.81
49.2 to 65.6	-8.80	108.05
65.6 to 85.3 ¹	-17.10	123.12
85.3 ¹ to 142.2	-24.56	137.53
Greater than 142.2	-23.39	134.99

Notes: 1) Average, weighted distance for the 82 and 87.5 ft position measurements
2) Applicable for the landing profile in Table 4

1.3 En Route Noise

Two flights were flown to measure noise from the en route phase of flight. The UA flew in a "dog bone" pattern in order to overfly the lead microphone in the array three times traveling in each direction. The microphone array was not moved between the flights and the four positions were the only distances measured from undertrack. A cross wind may be responsible for the microphone undertrack not measuring the highest noise level. The 12 sound exposure levels measured from the two flights were averaged at each of the positions and results presented in Table 9. The slant range column presented in Table 9 is the distance between the UA and position at the closest point of approach during the overflight.

It is recommended that 67.7 dBA sound exposure level be used to represent the noise generated by the UA at cruise speed of 52.4 kts and en route altitude of 165 ft AGL because it is the highest level measured; therefore, it is the most conservative estimate.

Table 9. Average Sound Exposure Levels Measured During Level Overflights

Position	Sound Exposure Level ¹ (dBA)	Maximum Level (dBA)	Distance from Undertrack (ft)	Slant Range (ft)	Sound Exposure Level Normalized to 165 ft ² (dBA)	Maximum Level Normalized to 165 ft ³ (dBA)
1	66.0	59.2	0	165	66.0	59.2
5	67.0	60.3	88	187	67.7	61.4
6	65.1	57.8	142	218	66.6	60.2
7	63.0	55.2	197	257	65.4	59.1

Notes: 1) Measured levels normalized to 52.4 kts before averaging.
2) Using $12.5 * \log_{10}(\text{Slant/Distance})$
3) Using $20 * \log_{10}(\text{Slant/Distance})$

To estimate the sound exposure level of the UA traveling at speed v_l when the measured sound exposure level for a level overflight was done when the UA was traveling at speed v_{ref} add the value $del1$ calculated with Eq. 2 to the sound exposure level measured with the speed v_{ref} .

$$del1 = 10 * \log_{10}\left(\frac{v_l}{v_{ref}}\right) \quad (dB) \quad (2)$$

To estimate the sound exposure level of the UA traveling at a height, h_l ft, above the ground different than 165 ft AGL, add the value $del2$ calculated with Eq. 3 to the 67.7 dBA sound exposure level.

$$del2 = 12.5 * \log_{10}\left(\frac{h_{ref}}{h_l}\right) \quad (dB) \quad (3)$$

1.4 Delivery Noise

There are five flight activities that generate noise in the vicinity of a delivery location. The MK27-2 will approach the delivery location from fixed-wing en route flight at 165 feet AGL, transition to vertical flight, and then descend vertically to a delivery altitude of 13 ft AGL. At delivery altitude, the UA will drop the package while in hover which takes approximately 2 seconds. At completion of the delivery, the UA will climb from the delivery altitude vertically back to an en route altitude of 165 feet AGL, and then transition from vertical to fixed-wing flight mode for en route flight back to the PADDC. This section considers only the noise generated from the vertical phases of the flight profile during delivery. Table 10 details the vertical portion of the delivery procedure starting at en route altitude and positioned over the delivery point to return to en route altitude. Within this portion of the procedure, Table 10 details the average durations for the descent, delivery, and ascent portions of the profile.

Table 10. MK27-2 UA Delivery Profile Details

Phase	Flight Description	Altitude (ft AGL)	Ground Speed (kts)	Duration (s)
Descent	After transition to above PADDC, descend to delivery height	165 to 13	0	32
Delivery	Drop package on PADDC	13	0	2
Ascent	Ascend to en route altitude before transitioning to en route flight	13 to 165	0	24

To estimate the sound exposure level at a delivery location, measurements of the noise emissions of the MK27-2 UA were made when the UA was at maximum weight utilizing a simulated delivery profile representative of typical operations. The profile included the vehicle flying an oval “racetrack” pattern in fixed-wing mode flight at en route altitude to simulate outbound en route flight, transition from fixed-wing flight mode to vertical flight for descent and delivery at the PADDC, vertical descent to delivery altitude, delivery, vertical climb back to en-route altitude, and transition back to fixed-wing flight mode to simulate inbound en route flight. The microphone locations utilized for the delivery measurements are the same as shown Figure 1. As with the takeoff and landing measurements, the 4 microphones were moved between flights in order to measure the noise at different distances from the PADDC. As with the takeoff and landing measurements, the transition noise was not fully captured by the microphones because the UA did not perform the transition above them.

The average sound exposure level for the entire vertical portions of the delivery phase (descent, delivery, and ascent) were then calculated at each of the microphones. As with the takeoff and landing measurements each position did not have the same number of measurements. The results were then averaged together for each microphone position. Table 11 presents the averaged results at each microphone for all delivery events. Figure 4 shows a plot of the measurements versus distance along with lines showing the methods of estimating the levels between and beyond positions. Table 12 contains the parameters suggested for use in Eq. 1 for estimating the sound exposure level at distances from the delivery location for the noise emitted from the UA during the vertical portion of the delivery. As was the case for the takeoff and landing flight phases, it is recommended for the delivery phase to use the appropriate parameters in Table 12 for the required distance. In order to estimate the noise levels near the delivery location the transition noise would need to be logarithmically added to this noise in order to properly estimate the maximum levels expected for undertrack locations.

Table 11. Average Sound Exposure Level of MK27-2 UA during Delivery versus Distance

Position	Distance (ft)	Sound Exposure Level (dBA) ₁
1	32.8	96.5
2	49.2	95.5
3	65.6	94.6
4	82.0	93.1
5	87.5	92.3
6	142.2	87.4
7	196.9	82.8
8	251.5	81.6
9	306.2	79.8
10	360.9	77.9
11	415.6	76.3
16	689.0	72.3
17	743.7	70.9
18	798.4	70.4
19	853.0	69.6

Notes: 1) Applicable for the delivery profile presented in Table 10

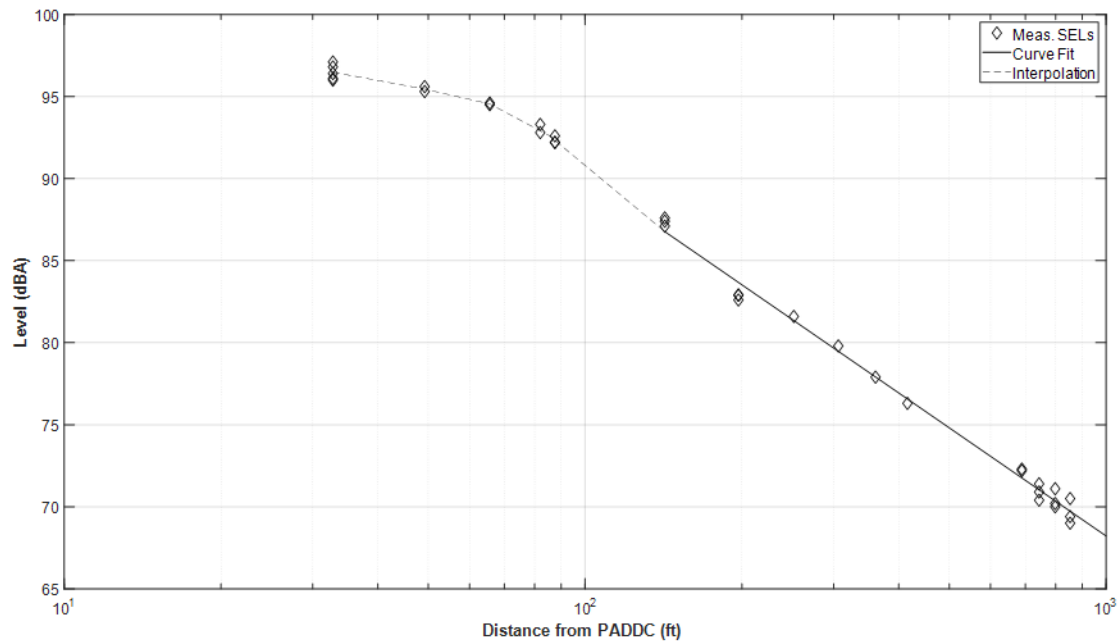


Figure 4. Measured Sound Exposure Levels during deliveries as described in Table 10.

Table 12. Parameters for Estimating Sound Exposure Level for Delivery versus Distance₂

Range for d (ft from PADDC)	m	b
32.8 to 49.2	-5.85	105.35
49.2 to 65.6	-7.20	107.64
65.6 to 85.3 ¹	-16.92	125.30
85.3 ¹ to 142.2	-26.31	143.42
Greater than 142.2	-21.90	133.91
<i>Notes: 1) Average, weighted distance for the 82 and 87.5 ft position measurements 2) Applicable for the delivery profile presented in Table 10</i>		

2. Analysis

The analysis of the measurements performed while the MK27-2 flew a typical profile can be used for estimating the noise created for each phase of flight. It is important to combine the transition noise with the takeoff, delivery, and landing phases in order to estimate the maximum noise expected undertrack for those portions of the flight profile. In order to estimate the noise from a flight profile with different speed or altitude, utilization of the correction for different cruise speed using equation 2 and a different en route altitude using equation 3 should be used. It is not expected that the contribution to the noise levels around the takeoff, delivery, or landing sites from the vertical part of the flight profile will change if the cruise speed or altitude are different.

3. Conclusion

This memo provides the means to estimate the sound exposure level from the typical flight profile for the MK27-2 delivering a package. By combining the transition noise with the noise from the vertical phases of the flight profile a conservative estimate of the noise created by the UA is achieved in that the estimate should be greater than the actual noise levels. The means for adjusting the provided noise levels for different flight profile parameters are provided with the assumption that minor changes to the en route altitudes will not change the noise levels for the takeoff, delivery, and landing phases of flight.

Appendix F

Environmental Justice

APPENDIX F

**TABLE F-1
SELECTED DEMOGRAPHIC CHARACTERISTICS (RACE) BY CENSUS BLOCK GROUP**

Geographic Area	Total Population	White (Non-Hispanic) Population	% White	Minority Population	% Minority
Census Block Group 480410001051	2,387	1,736	73%	651	27%
Census Block Group 480410001052	956	785	82%	171	18%
Census Block Group 480410001063	1,523	1,370	90%	153	10%
Census Block Group 480410001071	1,982	1,402	71%	580	29%
Census Block Group 480410001072	2,440	1,288	53%	1,152	47%
Census Block Group 480410001081	827	777	94%	50	6%
Census Block Group 480410002031	1,132	535	47%	597	53%
Census Block Group 480410002032	1,284	793	62%	491	38%
Census Block Group 480410002041	353	239	68%	114	32%
Census Block Group 480410002042	661	164	25%	497	75%
Census Block Group 480410002043	896	142	16%	754	84%
Census Block Group 480410002044	521	44	8%	477	92%
Census Block Group 480410002045	1,702	416	24%	1,286	76%
Census Block Group 480410002061	2,529	1,245	49%	1,284	51%
Census Block Group 480410002071	582	110	19%	472	81%
Census Block Group 480410002072	2,202	995	45%	1,207	55%
Census Block Group 480410004011	1,528	37	2%	1,491	98%
Census Block Group 480410004012	1,585	317	20%	1,268	80%
Census Block Group 480410004013	705	242	34%	463	66%
Census Block Group 480410004021	1,159	306	26%	853	74%
Census Block Group 480410006031	531	292	55%	239	45%
Census Block Group 480410006033	2,620	255	10%	2,365	90%
Census Block Group 480410006051	566	0	0%	566	100%
Census Block Group 480410006052	1,257	451	36%	806	64%
Census Block Group 480410006053	1,815	312	17%	1,503	83%
Census Block Group 480410006061	654	75	11%	579	89%
Census Block Group 480410006062	822	57	7%	765	93%
Census Block Group 480410007001	927	93	10%	834	90%
Census Block Group 480410007002	768	192	25%	576	75%
Census Block Group 480410007003	820	279	34%	541	66%
Census Block Group 480410007004	587	337	57%	250	43%
Census Block Group 480410008001	385	89	23%	296	77%
Census Block Group 480410008002	1,081	891	82%	190	18%
Census Block Group 480410008003	422	253	60%	169	40%
Census Block Group 480410008004	2,067	1,055	51%	1,012	49%

Geographic Area	Total Population	White (Non-Hispanic) Population	% White	Minority Population	% Minority
Census Block Group 480410008005	880	419	48%	461	52%
Census Block Group 480410009001	1,158	256	22%	902	78%
Census Block Group 480410009002	1,397	124	9%	1,273	91%
Census Block Group 480410010011	874	298	34%	576	66%
Census Block Group 480410010012	681	514	75%	167	25%
Census Block Group 480410010013	1,446	604	42%	842	58%
Census Block Group 480410010014	337	254	75%	83	25%
Census Block Group 480410010021	1,140	941	83%	199	17%
Census Block Group 480410010022	518	153	30%	365	70%
Census Block Group 480410010023	1,153	892	77%	261	23%
Census Block Group 480410010024	1,195	322	27%	873	73%
Census Block Group 480410011011	617	308	50%	309	50%
Census Block Group 480410011012	1,339	950	71%	389	29%
Census Block Group 480410011013	817	767	94%	50	6%
Census Block Group 480410011021	790	657	83%	133	17%
Census Block Group 480410011022	832	325	39%	507	61%
Census Block Group 480410013011	1,879	1,106	59%	773	41%
Census Block Group 480410013012	856	505	59%	351	41%
Census Block Group 480410013021	2,128	1,762	83%	366	17%
Census Block Group 480410013022	738	588	80%	150	20%
Census Block Group 480410013023	903	160	18%	743	82%
Census Block Group 480410013024	908	277	31%	631	69%
Census Block Group 480410013031	1,571	1,250	80%	321	20%
Census Block Group 480410013032	1,527	342	22%	1,185	78%
Census Block Group 480410013033	1,537	774	50%	763	50%
Census Block Group 480410013034	1,740	1,187	68%	553	32%
Census Block Group 480410014011	1,542	712	46%	830	54%
Census Block Group 480410016041	1,147	860	75%	287	25%
Census Block Group 480410016042	821	670	82%	151	18%
Census Block Group 480410016043	1,470	876	60%	594	40%
Census Block Group 480410016044	723	373	52%	350	48%
Census Block Group 480410016045	812	402	50%	410	50%
Census Block Group 480410016051	1,724	1,079	63%	645	37%
Census Block Group 480410016052	2,451	859	35%	1,592	65%
Census Block Group 480410016061	1,333	870	65%	463	35%
Census Block Group 480410016062	1,559	712	46%	847	54%
Census Block Group 480410016071	1,689	904	54%	785	46%

Geographic Area	Total Population	White (Non-Hispanic) Population	% White	Minority Population	% Minority
Census Block Group 480410016081	613	150	24%	463	76%
Census Block Group 480410016082	1,554	1,369	88%	185	12%
Census Block Group 480410017021	1,452	700	48%	752	52%
Census Block Group 480410017022	1,646	631	38%	1,015	62%
Census Block Group 480410017031	1,053	632	60%	421	40%
Census Block Group 480410017032	1,695	1,035	61%	660	39%
Census Block Group 480410017033	1,436	932	65%	504	35%
Census Block Group 480410017041	1,307	683	52%	624	48%
Census Block Group 480410017042	730	415	57%	315	43%
Census Block Group 480410018011	2,927	1,586	54%	1,341	46%
Census Block Group 480410018012	1,110	925	83%	185	17%
Census Block Group 480410018013	1,442	1,225	85%	217	15%
Census Block Group 480410018031	2,335	1,190	51%	1,145	49%
Census Block Group 480410018032	1,857	1,031	56%	826	44%
Census Block Group 480410018033	1,786	1,109	62%	677	38%
Census Block Group 480410018041	1,786	966	54%	820	46%
Census Block Group 480410019011	1,722	1,085	63%	637	37%
Census Block Group 480410019012	1,314	1,050	80%	264	20%
Census Block Group 480410019021	444	241	54%	203	46%
Census Block Group 480410019022	1,222	731	60%	491	40%
Census Block Group 480410019023	1,161	897	77%	264	23%
Census Block Group 480410020011	2,695	1,842	68%	853	32%
Census Block Group 480410020012	2,153	1,844	86%	309	14%
Census Block Group 480410020061	1,395	885	63%	510	37%
Census Block Group 480410020091	2,343	1,477	63%	866	37%
Census Block Group 480410020092	2,754	2,052	75%	702	25%
Census Block Group 480410020093	547	416	76%	131	24%
Census Block Group 480410020101	1,439	1,113	77%	326	23%
Census Block Group 480410020102	2,759	2,218	80%	541	20%
Census Block Group 480410020111	2,161	1,945	90%	216	10%
Census Block Group 480410020112	4,666	3,550	76%	1,116	24%
Census Block Group 480410020141	844	788	93%	56	7%
Census Block Group 480410020142	2,330	1,524	65%	806	35%
Census Block Group 480410020161	2,473	1,602	65%	871	35%
Census Block Group 480410020162	1,154	1,064	92%	90	8%
Census Block Group 480410020171	2,683	1,515	56%	1,168	44%
Census Block Group 480410020181	1,881	1,279	68%	602	32%

Geographic Area	Total Population	White (Non-Hispanic) Population	% White	Minority Population	% Minority
Census Block Group 480410020182	1,871	1,170	63%	701	37%
Census Block Group 480410020191	1,559	742	48%	817	52%
Census Block Group 480410020192	3,358	2,093	62%	1,265	38%
Census Block Group 480410020201	641	505	79%	136	21%
Census Block Group 480410020202	1,912	1,598	84%	314	16%
Census Block Group 480410020211	3,897	2,900	74%	997	26%
Census Block Group 480410020212	2,731	2,332	85%	399	15%
Census Block Group 480410020221	1,636	1,136	69%	500	31%
Census Block Group 480410020222	1,876	1,245	66%	631	34%
Census Block Group 480410020223	1,839	1,151	63%	688	37%
Census Block Group 480410020231	547	156	29%	391	71%
Census Block Group 480410020232	2,377	1,583	67%	794	33%
Census Block Group 480410020241	1,450	787	54%	663	46%
Census Block Group 480410020242	1,590	1,128	71%	462	29%
Census Block Group 480410020251	2,663	1,913	72%	750	28%
Census Block Group 480410020252	2,787	2,016	72%	771	28%
Census Block Group 480410020261	1,525	898	59%	627	41%
Census Block Group 480410020262	4,926	2,856	58%	2,070	42%
Census Block Group 480410021001	2,527	1,025	41%	1,502	59%
Census Block Group 480410021002	880	254	29%	626	71%
Census Block Group 480410021003	8,930	5,215	58%	3,715	42%
Census Block Group 480419800001	0	0	0%	0	0%
Census Block Group 480519704004	700	443	63%	257	37%
Census Block Group 481851803031	2,124	1,681	79%	443	21%
Census Block Group 481851803032	854	854	100%	0	0%
Aggregate Reference Area	206,577	121,004	59%	85,573	41%
Texas	29,243,342	11,732,834	40%	17,510,508	60%
United States	331,097,593	194,886,464	59%	136,211,129	41%

SOURCE: US Census Bureau, 2018-2022 American Community Survey 5-Year Estimates.

APPENDIX F
TABLE F-2
SELECTED DEMOGRAPHIC CHARACTERISTIC (POVERTY) BY CENSUS BLOCK GROUP

Geographic Area	Number of Households	Average Household Size	2024 HHS Poverty Guideline	% of Households Below Poverty
Census Block Group 480410001051	1,072	2.23	\$21,677.40	2%
Census Block Group 480410001052	398	2.40	\$22,592.00	3%
Census Block Group 480410001063	660	2.30	\$22,054.00	4%
Census Block Group 480410001071	768	2.58	\$23,560.40	9%
Census Block Group 480410001072	974	2.51	\$23,183.80	5%
Census Block Group 480410001081	330	2.51	\$23,183.80	7%
Census Block Group 480410002031	535	2.12	\$21,085.60	7%
Census Block Group 480410002032	498	2.58	\$23,560.40	17%
Census Block Group 480410002041	201	1.76	\$19,148.80	19%
Census Block Group 480410002042	224	2.95	\$25,551.00	34%
Census Block Group 480410002043	483	1.86	\$19,686.80	15%
Census Block Group 480410002044	198	2.63	\$23,829.40	31%
Census Block Group 480410002045	803	2.12	\$21,085.60	59%
Census Block Group 480410002061	970	2.61	\$23,721.80	5%
Census Block Group 480410002071	264	2.20	\$21,516.00	4%
Census Block Group 480410002072	1,106	1.99	\$20,386.20	19%
Census Block Group 480410004011	553	2.76	\$24,528.80	33%
Census Block Group 480410004012	412	3.85	\$30,393.00	12%
Census Block Group 480410004013	0	0.00	N/A	0%
Census Block Group 480410004021	579	2.00	\$20,440.00	3%
Census Block Group 480410006031	156	2.40	\$22,592.00	4%
Census Block Group 480410006033	867	2.84	\$24,959.20	32%
Census Block Group 480410006051	124	4.56	\$34,212.80	29%
Census Block Group 480410006052	548	2.29	\$22,000.20	19%
Census Block Group 480410006053	417	4.35	\$33,083.00	49%
Census Block Group 480410006061	179	3.65	\$29,317.00	28%
Census Block Group 480410006062	284	2.89	\$25,228.20	23%
Census Block Group 480410007001	228	3.89	\$30,608.20	56%
Census Block Group 480410007002	265	2.90	\$25,282.00	7%
Census Block Group 480410007003	392	2.09	\$20,924.20	4%
Census Block Group 480410007004	232	2.52	\$23,237.60	5%
Census Block Group 480410008001	160	2.41	\$22,645.80	28%
Census Block Group 480410008002	390	2.77	\$24,582.60	3%
Census Block Group 480410008003	235	1.80	\$19,364.00	16%
Census Block Group 480410008004	803	2.46	\$22,914.80	16%

Geographic Area	Number of Households	Average Household Size	2024 HHS Poverty Guideline	% of Households Below Poverty
Census Block Group 480410008005	436	1.84	\$19,579.20	24%
Census Block Group 480410009001	390	2.89	\$25,228.20	21%
Census Block Group 480410009002	457	3.06	\$26,142.80	32%
Census Block Group 480410010011	318	2.69	\$24,152.20	46%
Census Block Group 480410010012	386	1.76	\$19,148.80	72%
Census Block Group 480410010013	514	2.81	\$24,797.80	45%
Census Block Group 480410010014	157	2.15	\$21,247.00	48%
Census Block Group 480410010021	334	3.41	\$28,025.80	25%
Census Block Group 480410010022	259	2.00	\$20,440.00	35%
Census Block Group 480410010023	526	2.19	\$21,462.20	61%
Census Block Group 480410010024	434	2.75	\$24,475.00	60%
Census Block Group 480410011011	386	1.39	\$17,158.20	10%
Census Block Group 480410011012	537	2.49	\$23,076.20	7%
Census Block Group 480410011013	271	3.01	\$25,873.80	14%
Census Block Group 480410011021	261	3.03	\$25,981.40	5%
Census Block Group 480410011022	381	2.18	\$21,408.40	29%
Census Block Group 480410013011	794	2.37	\$22,430.60	35%
Census Block Group 480410013012	466	1.84	\$19,579.20	53%
Census Block Group 480410013021	769	2.77	\$24,582.60	24%
Census Block Group 480410013022	250	2.95	\$25,551.00	26%
Census Block Group 480410013023	378	2.39	\$22,538.20	24%
Census Block Group 480410013024	297	2.62	\$23,775.60	11%
Census Block Group 480410013031	482	3.26	\$27,218.80	49%
Census Block Group 480410013032	631	2.42	\$22,699.60	54%
Census Block Group 480410013033	510	1.96	\$20,224.80	26%
Census Block Group 480410013034	844	2.06	\$20,762.80	63%
Census Block Group 480410014011	415	1.65	\$18,557.00	53%
Census Block Group 480410016041	395	2.90	\$25,282.00	71%
Census Block Group 480410016042	295	2.78	\$24,636.40	19%
Census Block Group 480410016043	833	1.76	\$19,148.80	34%
Census Block Group 480410016044	448	1.61	\$18,341.80	14%
Census Block Group 480410016045	404	2.01	\$20,493.80	34%
Census Block Group 480410016051	678	2.54	\$23,345.20	27%
Census Block Group 480410016052	1,204	2.04	\$20,655.20	32%
Census Block Group 480410016061	618	2.16	\$21,300.80	25%
Census Block Group 480410016062	728	2.02	\$20,547.60	39%
Census Block Group 480410016071	759	2.23	\$21,677.40	25%

Geographic Area	Number of Households	Average Household Size	2024 HHS Poverty Guideline	% of Households Below Poverty
Census Block Group 480410016081	347	1.77	\$19,202.60	78%
Census Block Group 480410016082	544	2.86	\$25,066.80	30%
Census Block Group 480410017021	614	2.36	\$22,376.80	37%
Census Block Group 480410017022	697	2.36	\$22,376.80	38%
Census Block Group 480410017031	480	2.19	\$21,462.20	36%
Census Block Group 480410017032	779	2.18	\$21,408.40	58%
Census Block Group 480410017033	573	2.51	\$23,183.80	58%
Census Block Group 480410017041	719	1.82	\$19,471.60	39%
Census Block Group 480410017042	361	2.02	\$20,547.60	16%
Census Block Group 480410018011	1,270	2.30	\$22,054.00	8%
Census Block Group 480410018012	592	1.88	\$19,794.40	9%
Census Block Group 480410018013	847	1.70	\$18,826.00	20%
Census Block Group 480410018031	908	2.57	\$23,506.60	28%
Census Block Group 480410018032	704	2.41	\$22,645.80	4%
Census Block Group 480410018033	882	2.00	\$20,440.00	31%
Census Block Group 480410018041	588	3.04	\$26,035.20	31%
Census Block Group 480410019011	723	2.38	\$22,484.40	22%
Census Block Group 480410019012	700	1.80	\$19,364.00	25%
Census Block Group 480410019021	186	2.39	\$22,538.20	10%
Census Block Group 480410019022	688	1.78	\$19,256.40	14%
Census Block Group 480410019023	322	3.61	\$29,101.80	25%
Census Block Group 480410020011	926	2.89	\$25,228.20	5%
Census Block Group 480410020012	946	2.26	\$21,838.80	8%
Census Block Group 480410020061	618	2.26	\$21,838.80	15%
Census Block Group 480410020091	794	2.91	\$25,335.80	5%
Census Block Group 480410020092	1,014	2.72	\$24,313.60	2%
Census Block Group 480410020093	186	2.94	\$25,497.20	0%
Census Block Group 480410020101	540	2.66	\$23,990.80	0%
Census Block Group 480410020102	965	2.86	\$25,066.80	3%
Census Block Group 480410020111	737	2.92	\$25,389.60	7%
Census Block Group 480410020112	1,478	3.16	\$26,680.80	2%
Census Block Group 480410020141	345	2.45	\$22,861.00	0%
Census Block Group 480410020142	768	3.03	\$25,981.40	80%
Census Block Group 480410020161	1,544	1.60	\$18,288.00	22%
Census Block Group 480410020162	450	2.56	\$23,452.80	0%
Census Block Group 480410020171	532	2.03	\$20,601.40	77%
Census Block Group 480410020181	630	2.99	\$25,766.20	4%

Geographic Area	Number of Households	Average Household Size	2024 HHS Poverty Guideline	% of Households Below Poverty
Census Block Group 480410020182	658	2.84	\$24,959.20	7%
Census Block Group 480410020191	545	2.86	\$25,066.80	4%
Census Block Group 480410020192	1,075	3.12	\$26,465.60	5%
Census Block Group 480410020201	279	2.30	\$22,054.00	16%
Census Block Group 480410020202	640	2.99	\$25,766.20	3%
Census Block Group 480410020211	1,450	2.69	\$24,152.20	68%
Census Block Group 480410020212	1,048	2.61	\$23,721.80	37%
Census Block Group 480410020221	1,105	1.35	\$16,943.00	16%
Census Block Group 480410020222	597	3.05	\$26,089.00	9%
Census Block Group 480410020223	948	1.94	\$20,117.20	11%
Census Block Group 480410020231	186	2.94	\$25,497.20	55%
Census Block Group 480410020232	877	2.71	\$24,259.80	69%
Census Block Group 480410020241	721	2.01	\$20,493.80	46%
Census Block Group 480410020242	711	2.24	\$21,731.20	45%
Census Block Group 480410020251	769	3.44	\$28,187.20	2%
Census Block Group 480410020252	1,228	2.25	\$21,785.00	5%
Census Block Group 480410020261	461	3.31	\$27,487.80	2%
Census Block Group 480410020262	1,762	2.80	\$24,744.00	3%
Census Block Group 480410021001	329	1.49	\$17,696.20	11%
Census Block Group 480410021002	414	2.08	\$20,870.40	39%
Census Block Group 480410021003	435	2.06	\$20,762.80	54%
Census Block Group 480419800001	0	0.00	N/A	0%
Census Block Group 480519704004	315	2.13	\$21,139.40	25%
Census Block Group 481851803031	809	2.63	\$23,829.40	12%
Census Block Group 481851803032	293	2.88	\$25,174.40	4%
Aggregate Reference Area	78,205	2.49	\$23,075.38	24%
Texas	10,490,553	2.73	\$24,367.40	13%
United States	125,736,353	2.57	\$23,506.60	12%

SOURCE: US Census Bureau, 2022; US Department of Health and Human Services, 2024.

APPENDIX F
TABLE F-3
COMMUNITIES OF ENVIRONMENTAL JUSTICE CONCERN

Geographic Area	% Minority	% Households Below Poverty
Census Block Group 480410001072	47%	X
Census Block Group 480410002031	53%	X
Census Block Group 480410002042	75%	34%
Census Block Group 480410002043	84%	X
Census Block Group 480410002044	92%	31%
Census Block Group 480410002045	76%	59%
Census Block Group 480410002061	51%	X
Census Block Group 480410002071	81%	X
Census Block Group 480410002072	55%	X
Census Block Group 480410004011	98%	33%
Census Block Group 480410004012	80%	X
Census Block Group 480410004013	66%	X
Census Block Group 480410004021	74%	X
Census Block Group 480410006031	45%	X
Census Block Group 480410006033	90%	32%
Census Block Group 480410006051	100%	29%
Census Block Group 480410006052	64%	X
Census Block Group 480410006053	83%	49%
Census Block Group 480410006061	89%	28%
Census Block Group 480410006062	93%	X
Census Block Group 480410007001	90%	56%
Census Block Group 480410007002	75%	X
Census Block Group 480410007003	66%	X
Census Block Group 480410007004	43%	X
Census Block Group 480410008001	77%	28%
Census Block Group 480410008004	49%	X
Census Block Group 480410008005	52%	24%
Census Block Group 480410009001	78%	X
Census Block Group 480410009002	91%	32%
Census Block Group 480410010011	66%	46%
Census Block Group 480410010012	X	72%
Census Block Group 480410010013	58%	45%
Census Block Group 480410010014	X	48%
Census Block Group 480410010021	X	25%
Census Block Group 480410010022	70%	35%
Census Block Group 480410010023	X	61%

Geographic Area	% Minority	% Households Below Poverty
Census Block Group 480410010024	73%	60%
Census Block Group 480410011011	50%	X
Census Block Group 480410011022	61%	29%
Census Block Group 480410013011	X	35%
Census Block Group 480410013012	X	53%
Census Block Group 480410013021	X	24%
Census Block Group 480410013022	X	26%
Census Block Group 480410013023	82%	24%
Census Block Group 480410013024	69%	X
Census Block Group 480410013031	X	49%
Census Block Group 480410013032	78%	54%
Census Block Group 480410013033	50%	26%
Census Block Group 480410013034	X	63%
Census Block Group 480410014011	54%	53%
Census Block Group 480410016041	X	71%
Census Block Group 480410016043	X	34%
Census Block Group 480410016044	48%	X
Census Block Group 480410016045	50%	34%
Census Block Group 480410016051	X	27%
Census Block Group 480410016052	65%	32%
Census Block Group 480410016061	X	25%
Census Block Group 480410016062	54%	39%
Census Block Group 480410016071	46%	25%
Census Block Group 480410016081	76%	78%
Census Block Group 480410016082	X	30%
Census Block Group 480410017021	52%	37%
Census Block Group 480410017022	62%	38%
Census Block Group 480410017031	X	36%
Census Block Group 480410017032	X	58%
Census Block Group 480410017033	X	58%
Census Block Group 480410017041	48%	39%
Census Block Group 480410017042	43%	X
Census Block Group 480410018011	46%	X
Census Block Group 480410018031	49%	28%
Census Block Group 480410018032	44%	X
Census Block Group 480410018033	X	31%
Census Block Group 480410018041	46%	31%
Census Block Group 480410019012	X	25%
Census Block Group 480410019021	46%	X

Geographic Area	% Minority	% Households Below Poverty
Census Block Group 480410019023	X	25%
Census Block Group 480410020142	X	80%
Census Block Group 480410020171	44%	77%
Census Block Group 480410020191	52%	X
Census Block Group 480410020211	X	68%
Census Block Group 480410020212	X	37%
Census Block Group 480410020231	71%	55%
Census Block Group 480410020232	X	69%
Census Block Group 480410020241	46%	46%
Census Block Group 480410020242	X	45%
Census Block Group 480410020262	42%	X
Census Block Group 480410021001	59%	X
Census Block Group 480410021002	71%	39%
Census Block Group 480410021003	42%	54%
Census Block Group 480519704004	X	25%
Aggregate Reference Area	41%	24%

SOURCE: US Census Bureau, 2022; US Department of Health and Human Services, 2024.

Public Comments Received on the Draft Supplemental EA and FAA Responses

1.0 Introduction

This appendix includes a summary of public comments received on the FAA's May 2024 Draft Supplemental Environmental Assessment for Amazon Prime Air Drone Package Delivery Operations in College Station, Texas (Draft Supplemental EA). The NOA announcing the public availability of the Draft Supplemental EA as well as the Draft Supplemental EA were published on the FAA's website on May 30, 2024, for public review and comment through July 12, 2024 (the FAA extended the Public Comment period from June 28, 2024 to July 12, 2024).

In total, the FAA received 162 comment submissions. When multiple topics were discussed in a single comment submission, each topic was individually identified and addressed through the use of bracketed letters (e.g., [A], [B], etc.) Commenters were notified that any personally identifiable information included as part of their comment submission could be made publicly available, but the FAA has attempted to redact personally identifiable information when requested. The comments are presented exactly as they were received and may contain typographical errors and/or misspellings. They have not been edited in any way and are provided in this manner to show that they were quoted exactly as they were in their original form.

The FAA developed Topic Specific Responses to cover topics that were raised in multiple comment submissions (e.g., drone noise, privacy, etc.). The Topic Specific Responses also contain background information on the general context of the Supplemental EA to assist the public in better understanding the FAA's responses to comments.

Topic Specific Responses are categorized into the following topics:

- Topic 1 – FAA Approval Process
- Topic 2 – NEPA Resource Categories
- Topic 3 – General/Other

Within each of those topics, specific responses were developed based on the nature of comments received or additional questions that were raised within each of the categories. A response was provided to each of the comment letters. A topic specific response number(s) might also be provided and referenced for a response to the comment and/or question. If a comment letter contained a comment or question that was not covered under these general responses, an individual response was provided.

2.0 Topic Specific Responses

Topic 1 – FAA Approval Process

1-1: Scope of FAA Authority

In accordance with 49 U.S.C. § 40103(a)(1), “[t]he United States Government has exclusive sovereignty of airspace of the United States.” Congress has provided the FAA with exclusive authority to regulate airspace in the United States, as well as aviation safety, the efficiency of navigable airspace, and air traffic control through Title 49, Subtitle VII of the United States Code (U.S.C.). Because a drone is considered an aircraft under both 49 U.S.C. § 44801 and 14 Code of Federal Regulations, any drone flown outdoors is subject to FAA regulation. In addition, 49 U.S.C. § 40103(a)(2) dictates that airspace is public space, stating that “A citizen of the United States has a public right of transit through the navigable airspace.” As such, the FAA regulates drone operations to ensure the safe and efficient use of navigable airspace, while also considering the public’s right of transit through the airspace.

The FAA does not select the locations for commercial drone operators to conduct operations. Those locations are selected by the operators. Land use and zoning are typically governed by state and local laws. Operators are responsible for complying with any such applicable laws relevant to establishing their operations. Operators are expected to site their distribution hubs in accordance with all local land use ordinances and zoning requirements.

1-2: Safety

49 U.S.C. § 44807 provides the Secretary of Transportation (the Secretary) with authority to determine whether a certificate of waiver, certificate of authorization, or a certificate under § 44703 or § 44704, is required for the operation of certain UAS. Section 44807(b) instructs the Secretary to base their determination on which types of UAS do not create a hazard to users of the National Airspace System (NAS) or the public. In making this determination, the Secretary must consider the size, weight, speed, and operational capability of the UAS, as well as other aspects of the proposed operation. The Secretary delegated this authority to the Administrator on October 1, 2021. In accordance with the statutory criteria provided in 49 U.S.C. § 44807, and in consideration of the size, weight, speed, and operational capability, proximity to airports and populated areas, and specific operations, the FAA determined that Prime Air’s drones and operations do not create a hazard to users of the NAS or the public. As with all operations authorized to be conducted under a § 44807 exemption, the FAA set appropriate conditions and limitations to minimize risk and maintain an equivalent level of safety to that provided and intended by the rules that would otherwise apply to the operation.

The current exemption was issued June 6, 2024. Exemption No. 18601D, <https://www.regulations.gov/document/FAA-2019-0573-0082>

The FAA’s safety determinations regarding the regulatory relief necessary to enable these operations are available at Regulatory Docket No. FAA-2019-0573.

The FAA Hotline accepts reports related to the safety of the National Airspace System, violations of Federal Aviation Regulations, aviation safety issues, and reports related to FAA employees or FAA

facilities.¹ The FAA Hotline provides a single venue for FAA employees, the aviation community, and the public to file their reports.

1-3: Proposed Action

Under NEPA, the FAA only has authority to regulate the scope of the Proposed Action, which includes the approval of Prime Air’s expansion of commercial drone package delivery operations using the MK30 drone in the College Station operating area. The Proposed Action does not include the siting of the PADDCC, which is an existing commercial distribution facility operated by Amazon Services, Inc, nor does it include determining alternative sites. As discussed in Chapter 1 of the Supplemental EA, the existing PADDCC site is zoned for Planned Development District with Suburban Commercial Base, which allows for “consumer, small scale aerial distribution.”

Topic 2 – NEPA Resource Categories

2-1: Biological Resources

Biological resources include plant and animal species and their habitats, including special status species (federally-listed or state-listed threatened or endangered species, species proposed for listing, species that are candidates for federal listing, marine mammals, and migratory birds) and environmentally sensitive or critical habitat. The Endangered Species Act (ESA) of 1973 [16 U.S.C. § 1531 et seq.] requires the evaluation of all federal actions to determine whether a proposed action is likely to jeopardize any proposed, threatened, or endangered species or proposed or designated critical habitat. Critical habitat includes areas that will contribute to the recovery or survival of a listed species. Federal agencies are responsible for determining if an action may affect listed species or critical habitat, which determines whether formal or informal consultation with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) is needed. In addition, the Migratory Bird Treaty Act (16 U.S.C. §§ 703-712) protects migratory birds, including their nests, eggs, and parts, from possession, sale, purchase, barter, transport, import, export, and take. The Migratory Bird Treaty Act applies to migratory birds identified in 50 CFR § 10.13 (defined hereafter as “migratory birds”). Prime Air will be responsible for compliance with the Bald and Golden Eagle Protection Act.

According to FAA Order 1050.1F, impacts to biological resources are considered significant when the USFWS or NMFS determines that a proposed action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species or would be likely to result in the destruction or adverse modification of federally designated critical habitat. An action need not involve a threat of extinction to federally listed species to meet the NEPA standard of significance. Lesser impacts, including impacts on non-listed or special status species, could also constitute a significant impact. Therefore, it is important to consider the area of potential impact. The Proposed Action would take place over high to medium density developed urban and commercial landscapes, with rural areas scattered throughout the study area. Therefore, wildlife habitats within the study area predominantly include parks, a few open spaces, waterways, and vacant lands.

¹ https://www.faa.gov/about/office_org/headquarters_offices/aae/programs_services/faa_hotlines

During the review process, state and federal databases were accessed, including Texas Parks and Wildlife Department's database of Rare, Threatened, and Endangered Species of Texas which lists 85 species of amphibians, birds, fish, insects, mammals, mollusks, plants, and reptiles in Brazos, Burleson, and Grimes Counties, including some that are considered Species of Greatest Conservation Need, as defined within the Texas Conservation Action Plan, updated January 31st, 2024. This list also includes all species that the director of the Texas Parks and Wildlife Department deems threatened with statewide extinction (Title 31, Part 2, Chapter 65, Subchapter G RULE, § 65.175 and § 65.176). In addition to this list, data was also received using the USFWS IPaC system for potential species listed as endangered, threatened, or species of concern, including potential migratory birds and USFWS's Birds of Conservation Concern that may occur within the study area.

From this list, species that have the greatest potential to be impacted by the Proposed Action were identified understanding that Prime Air's aircraft would not touch the ground in any other place than the PADDC (except during safe contingent landings) since it remains airborne while conducting deliveries. The operations would take place within airspace, and typically well above the tree line. After vertical take-off, Prime Air's drone would follow a preplanned route to its delivery site. The pre-planned route is optimized to avoid terrain and object obstructions, areas of high aircraft traffic, and areas where people may gather in large numbers such as highways, parks, and schools. Aircraft would typically operate between 180 and 377 feet AGL, except when descending to drop a package. When making a delivery, the aircraft descends, and packages are dropped to the ground from approximately 13 feet AGL. The drone would take approximately 53 seconds to complete a delivery, which includes the descent from en route altitude, dropping the package, and returning back to en route altitude. As a result, the duration of exposure by most wildlife on the ground to the visual or noise impacts from the drone would be of very short duration (less than a minute). At a potential maximum of 470 flights per day across the entire study action area, the distribution and altitude of the flights are not expected to significantly affect wildlife in the study action area.

The FAA initiated formal Section 7 consultation with the US Fish and Wildlife Houston Field Office on March 19, 2024, which included the FAA conclusion that the Proposed Action *may affect, but is not likely to adversely affect* the tricolored bat and whooping crane. On August 12, 2024, the USFWS recommended Prime Air to consider implementing the following measures to minimize interactions with the tricolored bat:

- To avoid incidental take:
 - Determine the extent of tricolored bat presence in the action through acoustic surveys
 - Restrict flight hours to daylight hours during non-hibernating season
- Develop and implement an acceptable monitoring program, which includes:
 - Capturing maintenance and telemetry records
 - Recovering potential biological materials that could be sent for testing (e.g., utilizing airport bird strike kits)
 - Providing random recordings/observations of drone deliveries and potential avian/bat interactions

- Providing data to a team that can evaluate and provide appropriated feedback analysis, may include geographic information system (GIS) special analysis of potential wildlife occurrence or recorded conflicts, heat maps, guild information in delivery process, etc.
- Reporting findings to the Service on an annual basis

Based on the information provided within the Section 7 consultation, the USFWS “...concur[s] with the determination that the project, as proposed, may affect, but is not likely to adversely affect the whooping crane pursuant to Section 7 of the Act.”

As noted in the August 12, 2024, USFWS letter, Prime Air will be responsible for compliance with the Migratory Bird Treaty Act of 1918.

Copies of all agency correspondence are provided in Appendix B of the Supplemental EA.

2-2: Department of Transportation Section 4(f)

Section 4(f) of the U.S. Department of Transportation (DOT) Act (codified at 49 U.S.C. § 301)) protects significant publicly owned parks, recreational areas, wildlife and waterfowl refuges, and public and private historic sites. As listed in Table C-1 of Appendix C of the Supplemental EA, the FAA identified a total of 152 properties that could meet the definition of a Section 4(f) resource, including public parks administered by city authorities. However, as noted in Section 3.4.2 of the Supplemental EA, there are no state parks, national parks, or wildlife or waterfowl refuges within the drone operating area. Drone operations, however, could occur over local parks and recreation areas. As documented in Section 3.6 of the Supplemental EA and associated Noise Technical Report (see Appendix E), noise levels associated with enroute operations over local parks would be low (Sound Exposure Level [SEL] of 67.7 decibels [dB] or less) when the drone is flying 52.4 knots at 165 feet above ground level, the lowest altitude the drone is anticipated to operate. Any increase over ambient sound levels would be of short duration (less than one minute). Accordingly, as described in Section 3.4.3 of the Supplemental EA, the Proposed Action is not expected to result in significant impacts on Section 4(f) resources, such as parks and recreational areas.

2-3: Noise

Methodology

To ensure that noise would not cause a significant impact to any residential land use or noise sensitive resource within the study area, the FAA analyzed the potential noise exposure in the area that could result from implementation of the Proposed Action. To comply with NEPA, the FAA has issued requirements for assessing aircraft noise in Appendix B of FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* and the associated 1050.1 Desk Reference. The FAA’s primary noise metric for aviation noise analysis is the DNL metric, which reflect a person’s cumulative exposure to sound over a 24-hour period and is expressed as the noise level for an average day of the year on the basis of annual aircraft or UA operations. The DNL metric also includes a 10 dB adjustment for those noise events occurring between the hours of 10:00 P.M. and 7:00 A.M to account for increased sensitivity to noise during nighttime hours.

As defined in Order 1050.1F, Paragraph 4-3.3 *Significance Thresholds*, a noise impact is considered significant if a Proposed Action would increase noise by DNL 1.5 dB or more for a noise sensitive

area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the No Action alternative for the same timeframe. The MK30 drone is still under development and final noise data is not yet available; as such, a conservative approach to estimating noise exposure was taken that uses the MK27-2 noise data to assess potential environmental impacts associated with the Proposed Action. The MK27-2 is the drone currently approved for operations at College Station, and acoustical testing of the MK30 demonstrated that the MK27-2 is equivalent to or louder than the MK30. This ensures that the noise impacts of the MK30 as presented in this Supplemental EA are higher than what is expected to occur when the MK-30 drone is deployed into delivery service. The methodology for measuring and analyzing the noise exposure from the MK27-2 and MK-30 drones was reviewed and approved by the FAA's Office of Environment and Energy and is detailed in Attachments B and C of the Technical Noise Report in Appendix E of the Supplemental EA.

Noise Exposure

Section 3.6 and the Technical Noise Report found in Appendix E of the Supplemental EA present the noise exposure estimates associated with delivery, en route, and PADCC operations in addition to total overall noise exposure from the Proposed Action. For the noise analysis, the number of drone overflights (en route operations) and deliveries in a day are expected to be dispersed because the PADCC is centrally located in the proposed operating area and delivery locations would be distributed generally evenly across the area. Therefore, a conservative estimate of 235 daily overflights, or half of the daily total of 469, was assumed for the maximum number of overflights, and up to four daily deliveries was assumed for estimating the noise exposure over any one delivery location.

Based on these estimates, the resulting noise exposure at a delivery location at a distance of 32.8 feet from the delivery point for up to four daily deliveries and 235 daily overflights would be DNL 54.7 dB. Likewise, the maximum noise exposure at any property line in residential zoned property for the same number of deliveries and overflights is not estimated to exceed DNL 48.6 dB. When considering only locations receiving drone overflights, the analysis shows that at these locations noise levels could reach up to DNL 45 dB.

For areas located near the PADCC, noise exposure was estimated assuming an average daily maximum of 469 deliveries and that all drone operations would overfly the same location in transit to or from the PADCC to delivery locations. Based on these conservative assumptions, the estimated extent of DNL 55 dB noise exposure associated with PADCC operations extended 450 feet from the PADCC drone operating pads, and DNL 60 dB was 250 feet from the PADCC pads, as shown in Table 3-3 of the Supplemental EA. As shown in Figure 3-2 of the Supplemental EA, the DNL 65 dB contour extends approximately 150 feet from the PADCC drone operating pads. With the closest residential property situated approximately 426 feet from the PADCC and approximately 176 feet from the DNL 65 dB contour.

Considering the overall combined estimated noise levels for en route, delivery, and PADCC operations, the maximum noise exposure levels within the action area would occur at the PADCC site where noise levels at or above DNL 55 dB would extend approximately 450 feet from the College Station PADCC. Noise levels at or above DNL 65 dB would extend approximately 150 feet

from the PADD, although this is within the PADD property. Additionally, the estimated noise exposure for en route operations could reach DNL 45 dB at any location within the action area, and the estimated noise exposure for delivery operations, including en route overflights, would not have the potential to exceed DNL 55 dB at any location in the action area. Considering these noise exposure levels, the Proposed Action is not expected to exceed the threshold of significance (DNL 65 dB) at the nearest noise sensitive location or result in a DNL 1.5 dB or greater increase at a noise sensitive area already exposed to aviation noise levels of DNL 65 dB or newly expose a noise sensitive area to DNL 65 dB.

Local Noise Ordinances

The determination of the compatibility of noise resulting from the Proposed Action with other regulations, such as local noise ordinances, is beyond the scope of authority of the FAA under NEPA.

Noise Complaints

The FAA encourages commenters to reach out to Prime Air regarding concerns related to potential noise disturbances. Commenters can email Prime Air at amazondronefeedback@amazon.com or call 888-283-0587.

2-4: Noise Metrics

The FAA uses the A-Weighted sound level to calculate DNL consistent with the Environmental Protection Agency's (EPA) recommendations as detailed in the 1974 report entitled "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety". The 1974 EPA report, often referred to as the "Levels Document", stated that a frequency-weighted sound pressure level is the most appropriate choice for describing the magnitude of environmental noise. The EPA also concluded that:

- The A-Weighted sound level has been shown to correlate well with human response to noise,
- has been widely used for describing transportation and community noise exposure, and
- can be easily measured by sound monitoring equipment and represents the most suitable choice for quantifying noise exposure levels.

In addition to use of the A-weighted sound level, the 1974 EPA report recommended the DNL metric as the best metric to describe the effects of environmental noise in a simple, uniform, and appropriate way. The EPA noted that representing a fluctuating noise level in terms of a steady state noise having an equivalent energy content, such as is the case with the DNL metric, accurately describes the onset of noise-induced hearing loss and is supported by substantial evidence that correlates with annoyance for a variety of circumstances as it relates to environmental noise.

The FAA's use of the A-weighted sound level and the DNL metric is also consistent with the findings of the June 1980 Federal Interagency Committee on Urban Noise (FICUN) report entitled "Guidelines for Considering Noise in Land Use Planning and Control." The 1980 FICUN report was adopted by the U.S. Department of Transportation (DOT) and the U.S. Environmental Protection Agency (EPA), both of which were FICUN members. FAA represented DOT at proceedings of FICUN

and continues to coordinate across the Federal government to carry out interagency coordination on matters related to aviation noise research including with FICUN's successor bodies.

Additionally, the FAA Reauthorization Act of 2018 (the Act) (Pub. L. 115-254) (Section 188) directed the FAA to submit a report evaluating alternative noise metrics to the current DNL standard. The report entitled: "Study regarding day-night average sound levels" (https://www.faa.gov/about/plans_reports/congress/media/DayNight_Average_Sound_Levels_COMPLETED_report_w_letters.pdf). This report includes information on the A-Weighted sound level and DNL used to inform federal policies as it relates to aircraft noise. The FAA has considered the use of other noise metrics as a supplement to DNL, such as Number Above (NA) a Maximum Sound Level (Lmax) as detailed in the report referenced above, for quantifying the noise exposure from UA operations. However, due to the low noise levels associated with UA operations, DNL to-date has represented a better metric for quantifying noise exposure for UA. As DNL is a cumulative noise metric, it considers the additive effect of multiple noise events including duration and loudness of the event regardless of if the event exceeds a specified sound level threshold. Other supplemental noise metrics such as Number Above Lmax (NALmax) only account for noise exposure if a specified Lmax is exceeded, and as such do not sufficiently capture the additive effect of exposure to repeated low noise operations such as is the case with UA.

2-5: Socioeconomics

The proposed action would not involve acquisition of real estate, relocation of residents or community businesses, disruption of local traffic patterns, loss in community tax base, or changes to the fabric of the community. Executive Order (EO) 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, requires federal agencies to ensure that children do not suffer disproportionately from environmental or safety risks.

The proposed action would not introduce products or substances a child would be likely to come into contact with, ingest, use, or be exposed to, and would not result in environmental health and safety risks that could disproportionately affect children. It is not anticipated that the proposed action would pose a greater health and safety risk to children than package delivery by other means (truck, mail, personal automobile, etc.). The MK30 would be used to replace automobile/truck trips to deliver small goods and would therefore reduce criteria air pollutant emissions and improve road safety, which are both appreciable concerns for children.

A limited number of studies have attempted to generally measure the impact of aviation related noise on property values, but specific studies of the impact of aviation noise on real property values have not been conducted and are not required.²³⁴⁵⁶ Some studies conducted at national airports, to date, have concluded that aviation noise has only a slight impact on property values within the DNL 65 dB or greater contours around airports. The aviation noise from drone overflights

² *Effects of Aircraft Noise: Research Update on Selected Topics, A Synthesis of Airport Practice*, Transportation Research Board, Airport Cooperative Research Program (ACRP), Washington, DC, 2008.

³ Booz-Allen & Hamilton, Inc. *Effect of Airport Noise on Housing Values: A Summary Report*. 1994. (Prepared for the Federal Aviation Administration, Office of Environment and Energy.)

⁴ *Aviation Noise Effects*, Federal Aviation Administration (FAA), Washington, DC, March 1985.

⁵ *Meta-Analysis of Airport Noise and Hedonic Property Values: Problems and Prospects*, Jon P. Nelson, 2004.

⁶ *Aviation Noise Effects*, Federal Aviation Administration (FAA), Washington, DC, March 1985.

and delivery locations in the Proposed Action is well below the DNL 65dB threshold of significance; even in the vicinity of the PADDCC, the Proposed Action is not expected to exceed the threshold at the nearest noise sensitive location.

A 2008 report by the Airport Cooperative Research Program (ACRP) Synthesis 9: Effects of Aircraft Noise: Research Update on Selected Topics concluded the studies of the effects of aviation noise on property values are highly complex owing to the differences in methodologies, airport/community environments, market conditions, and demand variables involved. Other studies have concluded that aviation noise effects on property value range from some negative impacts to significant negative impacts, while other studies combined airport noise and proximity and concluded that the net effect on property value was positive.

The FAA recognizes that there is on-going interest in measuring the potential impact of aviation related noise on property values and is conducting on-going research in this area through ASCENT, the Aviation Sustainability Center. This research involves work through ASCENT with the Massachusetts Institute of Technology to quantify the capitalized impact of aircraft noise exposure for a sample of US airports on transaction values for residential properties and changes in business activity. For more information, please see:

<https://ascent.aero/project/aircraft-noise-exposure-and-market-outcomes-in-the-us/>

Topic 3 – General/Other

3-1: Privacy

The FAA’s mission is to provide the safest, most efficient airspace system in the world, but that does not include regulating privacy. Although the FAA is not authorized to impose regulations based on privacy concerns, it intends to continue collaborating with stakeholders, including the public and other agencies with authority and expertise in privacy law and policy.⁷ The FAA’s lack of jurisdiction over privacy, however, does not relieve Prime Air from complying with other laws and regulations, including those related to privacy, that may be applicable to Prime Air’s operations in College Station, TX.

The MK30 drone does not capture imagery from underneath and the camera is only forward looking to ensure safe flight. During the delivery phase, the drone descends in the customer backyard and hovers, looking down to ensure the delivery area is clear of obstacles and the delivery can be made safely. The cameras and sensors on the drones are operational to see what’s around them to aid in flight navigation and safety. They are not built or operated to be surveillance drones. They store only critical mission data to improve systems and flight planning.

3-2: Quality of Life

“Quality of life” is not a category that is specifically called out in NEPA, its implementing regulations, or FAA Order 1050.1F. However, Section 101 of NEPA sets forth a national policy “to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under

⁷ Additional information on the FAA’s Privacy Impact Assessments is available here: <https://www.transportation.gov/individuals/privacy/privacy-impact-assessments>.

which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.” The concept of quality of life is frequently associated with several environmental resource categories addressed in NEPA documents, including noise and socioeconomics. The Proposed Action is not expected to generate significant impacts or adverse effects. In accordance with the requirements of NEPA, the purpose of the Supplemental EA is to assess and disclose the environmental impacts of the Proposed Action and make a determination as to the significance of the impact(s). While some of the environmental resource categories could have project-related environmental effects (e.g., noise), these effects would not be significant. Chapter 3 of the Supplemental EA discusses the effects of the Proposed Action on each environmental resource category, including noise and socioeconomic impacts, which are most frequently associated with quality of life effects. See *Topic Specific Responses 2-3: Noise* and *2-5: Socioeconomics* for additional information.

3-3: Health Effects of Noise

The FAA implements NEPA through FAA Order 1050.1F. Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F and 1050.1F Desk Reference (v2) February 2020. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. The Supplemental EA was prepared consistent with FAA’s noise criteria currently identified within FAA Order 1050.1F and the 1050.1 Desk Reference. Applying the noise criteria in FAA Orders and guidance, the aviation noise from drone overflights and delivery locations in the Proposed Action is well *below* the threshold of significance; even in the vicinity of the PADDC, the Proposed Action is not expected to exceed the significance threshold at the nearest noise sensitive location.

3-4: Public Involvement

As required by FAA Order 1050.1F, the FAA initiated a number of actions to inform and engage the public and potentially interested regulatory agencies about the Proposed Action, which include:

- Agency coordination/consultation/notification, to include the Texas SHPO, USFWS, City of College Station and City of Bryan government officials, local political representatives, and local officials with jurisdiction over Section 4(f) properties or resources
- Native American/Tribal consultation
- Public review and comment period of 30 days (subsequently extended to 44 days)

The FAA provided a NOA of the Draft Supplemental EA on May 30, 2024, to local interest groups, local government officials, public park authorities, and the SHPO, tribes and THPOs. On the same date, the FAA made the Draft Supplemental EA available to the general public on the FAA website. The NOA was published in the local College Station newspaper, *The Eagle*, in both English and Spanish.

All communications and consultations between the FAA and the abovementioned stakeholders are documented in the following appendices of the Supplemental EA:

- Appendix B – USFWS
- Appendix C – Section 4(f)

- Appendix D – SHPO and Tribal

Appendix A of the Supplemental EA also describes the public involvement process that Prime Air initiated for the Proposed Action. A robust public involvement program was implemented to ensure information regarding the Proposed Action, alternatives, and potential environmental impacts was made available to the public, and that comments from the public were considered during the preparation of the Supplemental EA.

3.0 Public Comments and FAA Responses

Public Comment No.	Commenter Name
01a_Thomas	Katherine J. Thomas
01b_Thomas	Katherine J. Thomas
02_Brick	Bob Brick
03_Malaise	Bob Malaise
04_Henryson	Gary Henryson
05_Neal	Gabriel and Stacy Neal
06_Neal	Gabriel and Stacy Neal
07_Gorski	Karen Gorski
08_Rosson	Helen and Parr Rosson
09_Flippen	Micah Flippen
10_Wilson	Troyce Wilson
11_MSmith	Mark Smith
12_RBeasley	Ryan Beasley
13_Driscoll	Ann Driscoll
14_Maness	Melissa Maness
15_Smeins	Fred and Judy Smeins
16_Corley	Frank Corley
17_Moore	Tom Moore
18_MCulpepper	Mary Culpepper
19_Liu	Mei Liu
20_Gorski	Karen Gorski
21_JCulpepper	Jack Culpepper
22_Flaherty	Jane Flaherty
23_McLeroy	Don McLeroy
24_Bauman	Greg and Melissa Bauman
25_JBeasley	Joanna Beasley
26_Sueoka	Ben Sueoka
27_Foxfire	Foxfire HOA Board
28_Green	John Green
29_Jett	Barry Jett
30_Howell	Felesha Howell
31_ESmith	Ellen Smith
32_BMorpurgo	Ben Morpurgo
33_Vargo	Renae Vargo
34_Penny	Kathy Penny
35_EMorpurgo	Einat Morpurgo

36_Morris	Theresa Morris
37_Ngo	Van Ngo
38_Bouton	Cynthia Bouton
39_Wilshire	Wilshire HOA
40_Lee	John Lee
41_Klein	Robert Klein
42_SuAchgill	Suzanne Achgill
43_SAchgill	S Achgill
44_Beremand	Phil and Marian Beremand
45_CPeevey	Chad Peevey (1 additional duplicate submission)
46_PPeevey	Paige Peevey (3 additional duplicate submissions)
47_Cunningham	N. Cunningham
48_Neisch	Andrew Neisch
49_LeClear	Angela LeClear
50_Cothran	Marian Cothran
51_Sims	Lauren Sims
52_Barber	Brad Barber
53_Shane	Therese Shane
54_Legg	Cindy Legg
55_Hoak	Kyanne Hoak
56_Chronister	Robert Chronister
57_Lostracco	Mark Lostracco
58_Macfadyen	Ross Macfadyen
59a_Shockey	Veida Shockey
59b_Shockey	Veida Shockey
60_Miller	Kim Miller
61_Anderson	Stephanie Anderson
62_Paine	Elizabeth Paine (3 additional duplicate submissions)
63_Thomson	Krista Thomson
64_Marcantonio	Franco Marcantonio
65_Crompton	Elizabeth Crompton
66_Geishauser	Shilah Geishauser
67_Stockton	Linda Stockton
68_Case	John Case
69_Grivas	Belinda Grivas
70_Lara	Jorge Lara
71_Cagle	Lori Cagle
72_Steele	Patty Steele
73_Cumings	Lydia Cumings
74_Long	Katharine Long
75_Cumings	Lydia Cumings
76_Meinecke	Sara Meinecke
77_Espitia	Norberto Espitia
78_Hardeman	Devy Hardeman
79_Smeins	Fred and Judy Smeins
80_Hall	Robert Hall

81_Wang	Wei Wang
82_Morganti	Andrew Morganti
83_Garrard	Julianne Garrard
84_AWilson	Alison Wilson
85_DWilson	David Wilson
86_Riedel	Colton Riedel
87_Oliver	W.H. Oliver
88_Alikhan	Amina Alikhan
89_Matarrita	David Matarrita
90_Phariss	Jeanette Phariss
91_Christiansen	Margot Christiansen
92_Braun	Pam Braun
93_Williams	Laura Williams
94_Cooper	Maryvonne Cooper
95_BMarquardt	Brad Marquardt
96_Hinson	Loretta Hinson
97_Malaise	Bob Malaise
98_Snyder	Linda Snyder
99_Holy Cross	Holy Cross Lutheran Church and Learning Center
100_Lassila	Dennis Lassila
101_Yates	Randall Yates
102_Gade	Tim Gade
103_Prinz	Cynthia Prinz
104_Turner	Karla Turner
105_Smeins	Fred & Judy Smeins
106_Hudson	Kendra Hudson
107_Hilal	Yousef Hilal
108_Osinovskaia	Nataliia Osinovskaia (1 additional duplicate submission)
109_Perrone	Ellyn Perrone
110_McKinley	Robbie McKinley
111_Freeman	Nick and Sara Freeman
112_Warner	James and Linda Warner
113_JMarquadt	Jenny Marquadt
114_Pesek	Ashley Pesek
115_Grisham	Lynn Grisham
116_City Council	City Council of College Station
117_Olson	Dana Olson
118_Pearson	Richard Pearson
119_Razvi	Aabid Razvi
120_Smith	Claudia Smith (2 additional duplicate submissions)
121_McCaskey	Laurie McCaskey
122_CBastian	Cheryl Bastian
123_Holliday	Ashton Holliday
124_Penny	Derek Penny
125_Orsi	Linda Orsi
126_MDixit	Manish Dixit (1 additional duplicate submission)

127_SDixit	Savyasachi Dixit
128_Bay-Williams	Laura Bay-Williams
129_PBastian	Peter Bastian
130_Casto	Maria Casto
131_Brick	Blanche Brick
132_Burrell	Millie Burrell
133_Safetycmg	Safetycmg
134_Savell	Ann Savell
135_Stockton	Bill Stockton
136_Klein	Patricia Klein
137_Razvi	Aadil Razvi
138_Dames	Salma Dames
139_AAlikhan	Amina Alikhan
140_Fuller	Ellen Fuller
141_Thomson	Patrick Thomson
142_Matheny	John Matheny
143_Penny	Derek Penny
144_Slaydon	Tara Slaydon
145_Holliday	Ray Holliday
146_Johnson	Becky Johnson
147_Burk	Holly Burk
148_Wood	Kristie Wood
149_ZAlikhan	Zulfi Alikhan
150_ARavzi	Azra Ravzi
151_Mcilhaney	George and Lynn Mcilhaney
152_Richards	Anne Richards
153_McAdams	Kimberly McAdams
154_BAchgill	Bob Achgill
155_McDermott	Mark McDermott
156_Williams	Monica Williams
157_Higdon	David Higdon
158_Naqi	Syed Naqi
159_Stauffer	Cheryl Stauffer
160_Thomas	Robert Thomas
161_Greer	Paul Greer
162_SNaqi	Safia Naqi

Public Comment – 01a_ Thomas

Attached are comments, data and photos of birds relating to Amazon Prime's application to expand package delivery service in College Station.

(Email attachment 1)

Response to Amazon Prime Air's Application to Expand College Station Service

Amazon Prime Air is seeking to expand its College Station package delivery service to 171,185 operations (flights) or 342,370 take offs and landings annually and to extend its operating hours to 10 p.m. Given the FAA's failure to do an on-the-ground determination of the effect of drone operations on birds during its initial permitting of the Amazon drone service, the correct response to Amazon's application is to suspend its operational permit until these deficiencies are corrected.

At issue is the effect of the noise from nearly constant daily take off and landings on the resident and migratory bird population. In addition, what is the risk to migrating birds who fly principally at night from drones? My home is within 1,000 feet of the Amazon droneport. College Station is on a major flyway for the spring and fall migrations. Around two billion birds migrate through Texas each year, which is about one in three birds migrating through the United States in the spring and one in four in the fall, according to Audubon Texas. Texas has recorded over 615 species of birds, including more than 400 species that migrate through the state. This is more than any other state in the country. These migrant birds that have followed one or more of these flyways into Texas, according to Texas Parks and Wildlife. Thousands of these migrating birds fly over College Station as documented by Birdcast, an app cosponsored by Cornell Lab of Ornithology, the country's most authoritative source on birds. Many rest and recuperate in the woods surrounding the droneport before the next stage of their journey. (see attached list and photos) The FAA analysis failed to take migration into consideration when doing its initial of analysis of drone operations.

In addition, birdwatching in a multibillion industry, which is especially important in Texas. This is part of Texas's birthright which should not be taken lightly or for granted. Recent studies show that approximately 4.4 million Texans are wildlife viewers, including 2.2 million birdwatchers, and they generate \$1.8 billion dollars in economic impact for Texas. Bird-friendly habitat has a positive effect on property value, according to Texas Tech University researchers, and the more bird species found in an area, the greater the property value increases. Birds are essential to the ecosystem, whether endangered or not. Birds serve as bioindicators. When diverse native birds are present, that area is assumed to be healthy and functional; when they're gone, the opposite is true, according to Texas Parks and Wildlife. Birds control insects and rodents, helping keep many human diseases in check. By focusing solely on risks to endangered species in its initial analysis, the FAA is basically writing off as unimportant the contributions resident and migratory birds have in maintaining a sustainable ecosystem.

A 2019 study found North America has lost over 3 billion birds, or 29 percent of its population since 1970. The threats to birds are significant. Texas alone has 111 birds listed as Species of Greatest Conservation Need, meaning they're declining or rare and need attention to maintain healthy populations, Texas Parks and Wildlife reported. The initial FAA assessment entirely overlooked this important information, a list readily available on the Texas Parks and Wildlife website. A very brief

search of resources turned this list up immediately and helped point to listed birds that have visited or resided in the area. This is an important indicator of the value of the habitat surrounding the droneport to these birds and their potential susceptibility to noise disturbances and flight disturbances. Among those listed are 10 which we have recorded or seen in our backyard. (See list X) Earlier this spring we heard the lonesome cry of chuck will's widow, indicating a bird we treasured from our childhood was very close. We have seen and heard the Mississippi kite flying overhead, as recently as June 8. We believe there is a painted bunting pair nesting the woods behind us.

Attached are lists of bird the bird app Merlin has recorded in the woods or we have seen feeding in our backyard. (List A and B) Also attached are photos of migratory birds including the rose-breasted grosbeak, painted bunting and indigo buntings. This suggests there is abundant food and water nearby. Presently, we have resident downy woodpeckers, red-bellied woodpeckers, painted buntings, wrens, sparrows, chickadees, cardinals, multiple doves, bluejays, and mockingbirds at our feeders. For comparison on a recent visit to a similar urban neighborhood in Tennessee, we recorded perhaps seven species over a week's time.

In its initial report, the FAA did not consult with local experts such as the Rio Brazos Audubon Society. It is time for the FAA to do a realistic and honest assessment of the bird population within the droneport's existing and proposed range, including during spring migration to determine the effect the drones' frequent flights and high-pitched noise (described as sounding like a flying chainsaw by one resident) have on migrating and nesting populations. This would include the ponds, the creek bottom and wooded areas near the drone port, plus the expanded area.

In summary, the FAA has concluded without doing a proper data-driven value analysis that a five-pound package delivered in 15 minutes delivers a greater economic benefit than a healthy diverse bird population. In its hast to approve the initial application, the FAA relied on inadequate, incomplete data. It's time for the FAA to take its responsibilities seriously. Perfunctory, superficial reports do not live up to the charge the agency has been given to protect the nation's natural resources. Ultimately, the FAA is accountable for its decisions and their consequences. State and Texas Audubon officials have called bird conservation urgent to halt the decline in bird populations. With that in mind, the FAA should suspend Amazon's operating license or deny the expansion application until a thorough investigation of its impact on vulnerable bird populations has been documented through on-the-ground observations. Another location may be in order.

(Email attachment 2)

Great Backyard Bird Count Feb 16, 2024 10:15 AM - 12:00 PM

Protocol: Stationary

19 species

White-winged Dove 2; Mourning Dove 3; Great Horned Owl 1; Blue Jay 3; Carolina Chickadee 2; Tufted Titmouse 1; Carolina Wren 2; Northern Mockingbird 1; American Robin 1; House Sparrow 4; House Finch 2; Pine Siskin 3; American Goldfinch 4; Chipping Sparrow 2; White-throated; Sparrow 4; Savannah Sparrow 3; Song Sparrow 5; Yellow-rumped Warbler 1; Northern Cardinal 3

View this checklist online at <https://ebird.org/checklist/S162204529>

This report was generated automatically by the Great Backyard Bird Count
(<http://gbbc.birdcount.org>)

(Email attachment 3)

List A Species Recorded or Seen Since 2023-04-28 From Backporch (Random)

Edit species

Observations

1. Common Ground Dove;
2. White-winged Dove
3. Mourning Dove
4. Yellow-billed Cuckoo
5. Chuck-will's-widow (4-15-24)
6. Ruby-throated Hummingbird
7. Killdeer
8. Black Vulture
9. Cooper's Hawk
10. Red-shouldered Hawk
11. Swainson's Hawk
12. Red-tailed Hawk
13. Great Horned Owl
14. Red-bellied Woodpecker
15. Downy Woodpecker
16. Eastern Phoebe
17. Great Crested Flycatcher
18. White-eyed Vireo
19. Red-eyed Vireo
20. Blue Jay
21. American Crow
22. Carolina Chickadee
23. Tufted Titmouse
24. Purple Martin
25. Blue-gray Gnatcatcher
26. House Wren
27. Carolina Wren
28. Gray Catbird
29. Northern Mockingbird
30. American Robin
31. Cedar Waxwing
32. House Sparrow
33. House Finch
34. Yellow-breasted Chat

35. *Baltimore Oriole*
36. *Red-winged Blackbird*
37. *Brown-headed Cowbird*
38. *Common Grackle*
39. *American Redstart*
40. *Pine Warbler*
41. *Summer Tanager*
42. *Northern Cardinal*
43. *Rose-breasted Grosbeak*
44. *Indigo Bunting*
45. *Painted Bunting*
46. *Dickcissel*
47. *Tufted Titmouse*
48. *American Crow*
49. *Warbling Vireo*
50. *Cliff Swallow*
51. *Mourning Warbler*
52. *Yellow-rumped warbler*
53. *Bewick's Wren*
54. *Magnolia Warbler*
55. *Chestnut sided Warbler*
56. *Eastern-wood Pewee*
57. *Scissor-tailed Flycatcher*
58. *Brown Thrasher*
59. *European Starling*
60. *American Goldfinch*
61. *Yellow Warbler*
62. *Alder Flycatcher*
63. *Eastern Towhee*
64. *Yellow-bellied Flycatcher*
65. *Ovenbird*
66. *Osprey*
67. *Kentucky Warbler*
68. *White tipped Dove*
69. *Marsh Tit*
70. *Green Jay*
71. *Common Ground Dove*
72. *Tree Swallow*
73. *Barn Swallow*
74. *Bald Eagle (4-17-24)*
75. *Lincoln's Sparrow*
76. *Wood Thrush*
77. *Great Blue Heron*
78. *Purple Finch*

79. *Blue Gray Gnatcatcher*
80. *White-breasted Nuthatch*
81. *White-throated Sparrow*
82. *Spotted Towhee*
83. *Barn Owl*
84. *Hutton's Vireo*
85. *Olive Sparrow*
86. *Fox Sparrow*
87. *Song Thrush*
88. *Spotted Sandpiper*
89. *Eurasian Blackbird*
90. *Eastern Screech Owl*
91. *Field Sparrow*
92. *Brown Creeper*
93. *Lesser Goldfinch*
94. *Ruby-crowned kinglet*
95. *Hairy Woodpecker*
96. *Chipping Sparrow*
97. *Rock Pigeon*
98. *Acadian Flycatcher*
99. *Eurasian Magpie*
100. *Least Flycatcher*
101. *Buff-Rumped Warbler*
102. *Canada Goose*
103. *Common Nighthawk*
104. *Blackpoll Warbler*
105. *Black-crested titmouse*
106. *Least Grebe*
107. *Loggerhead Shrike*
108. *Common Yellowthroat*
109. *Yellow-bellied Flycatcher*
110. *Killdeer*
111. *Hermit Thrush*
112. *Peregrine Falcon*
113. *Grasshopper Sparrow*
114. *Orange-crowned Warbler*
115. *Savannah Sparrow*
116. *Song Sparrow*
117. *Clapper Rail*
118. *Inca Dove*

(Email attachments 4 - 6)



FAA Response – 01a_Thomas

Thank you for your comments. The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

Public Comment – 01b_Thomas

Please add this to my previous comments. I intended to add this bird list but I'm not sure I did.

(Email attachment)

Birds in need of conservation; Red shouldered hawk; Swainson's hawk; Chuck-will's widow; Yellow throated warbler; Peregrine falcon; Common yellowthroat; Bald eagle; Wood thrush; Mississippi kite; Painted bunting; Scissor tailed flycatcher; Logger head shrike

FAA Response – 01b_Thomas

Thank you for your comment. It is understood that the information provided in this comment was to support the comment provided in 01a_Thomas; as such, please refer to *FAA Response – 01a_Thomas*.

Public Comment – 02_Brick

The placement of Amazon's drone port adjacent to residential homesites has greatly reduced the quality of life especially for those several residents but laso for the wider neighborhood. To renew or expand Amazon's operating permit in this case would be detrimental to the entire neighborhood area. The quality of life for residents of this established neighborhood is of greater value than Amazon's profits projected from current or proposed drone operations.

FAA Response – 02_Brick

Thank you for your comments. For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

Public Comment – 03_Malaise

I would like to give my input into the testing program and feelings toward the program. I like the idea of the new technology and fully support it. I know the many are concerned with the noise element. I understand that but also know that can be controlled as technology advances. I also know that drones can be smaller and can reach positions not accessible for delver be other means. I appreciate that our area was open for the testing program as Texas A&M has always been about engineering and new ways to improve our well being. Thanks for taking my comments.

FAA Response – 03_Malaise

Thank you for your comments.

Public Comment – 04_Henryson

Please do not allow Amazon to expand their drone delivery service. I am 72 years old... The drones over fly my house constantly. [A] It has ruined my quality of life. I can no longer spend the day outside because of their presence. My doctor (personal medical information redacted). I moved to this property because it WAS such a quiet neighborhood. I do not want to move but I can't stand the drones.? [B] 7 complained to Amazon and got zero response.

FAA Response – 04_Henryson

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] Please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 05_Neal

I am an Amazon Prime member and am generally favorable towards the Amazon enterprise. I like the idea of drone deliveries and supported the creation of the Prime Air drone port from its beginning. The Amazon Prime Air Drone Port operates directly adjacent to our neighborhood. As cool as it is--the noise of the current drones especially as they take off and land is a real nuisance--particularly for my neighbors whose homes are closest to the drone port. I feel bad for them. The current Amazon application to the FAA to expand drone services to more deliveries per day includes adding quieter drones to their fleet, but there would be far less opposition for increasing the number of deliveries per week if Amazon was required to replace the current noisy drones with the quieter model. Increasing the take-offs and landings with the noisy drones will be awful for our community. It seems like a small ask for Amazon to only use its quiet model to show its commitment to the needs of the community that supports the Prime Air service.

FAA Response – 05_Neal

Thank you for your comments. Prime Air intends to soon replace the currently operating MK27-2 drone with the quieter MK30 drone. For more information on the noise levels associated with the MK30 drone, please see Appendix E of the Supplemental EA. For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 06_Neal

I am an Amazon Prime member and am generally favorable towards the Amazon enterprise. I like the idea of drone deliveries and supported the creation of the Prime Air drone port from its beginning. The Amazon Prime Air Drone Port operates directly adjacent to our neighborhood. As cool as it is--the noise of the current drones especially as they take off and land is a real nuisance--particularly for my neighbors whose homes are closest to the drone port. I feel bad for them. The current Amazon application to the FAA to expand drone services to more deliveries per day includes adding quieter drones to their fleet, but there would be far less opposition for increasing the number of deliveries per week if Amazon was required to replace the current noisy drones with the quieter model. Increasing the take-offs and landings with the noisy drones will be awful for our community. It seems like a small ask for Amazon to only use its quiet model to show its commitment to the needs of the community that supports the Prime Air service.

FAA Response – 06_Neal

Thank you for your comments. Prime Air intends to soon replace the currently operating MK27-2 drone with the quieter MK30 drone. For more information on the noise levels associated with the MK30 drone, please see Appendix E of the Supplemental EA. For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 07_Gorski

I am NOT in favor of drone delivery for several reasons: 1. They currently are flying in the air, and the noise is a nuisance. It sounds like a nagging giant mosquito, and everyone HATES mosquitos buzzing around! 2. Who controls these things in the sky that invade our personal property? 3. It boggles the mind to imagine this expanding from what it currently is and having drones crisscrossing the state of Texas and even over Bryan/College Station. Again, I urge you to vote against the implementation of drone delivery. This is a crucial decision that could lead to the erosion of our freedoms, particularly in terms of noise pollution and invasion of privacy.

FAA Response – 07_Gorski

Thank you for your comments. Prime Air would control and operate the proposed drone operations. For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*. The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA's regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

Public Comment – 08_Rosson

We are strongly opposed to ANY expansion of the drone activity in our area. [A] Furthermore, we would like to see the present testing activity terminated! This activity is [B] noisy and disruptive to humans, [C] wildlife, and migratory birds.

FAA Response – 08_Rosson

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[C] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

Public Comment – 09_Flippen

[A] With drones flying over our neighborhood (we are in college station approximately 1 mile from amazons drone delivery pilot site) wildlife is fleeing the area and not returning. This includes both whitetail deer and many of the birds. During hunting trips to South Africa, I have seen wildlife run great distances when a drone came into the area. When this happens regularly, the wildlife will flee that area permanently. This is not acceptable. Please don't turn the entire country into an airport landing strip. [B] The noise from these things is absolutely crazy.

FAA Response – 09_Flippen

Thank you for your comments.

[A] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

Public Comment – 10_Wilson

This is in regards to the Draft Supplemental Environmental Assessment for Amazon Prime Air Package Delivery Operations in College Station, Texas. As a resident in the affected area in College Station, I want to state my vehement opposition to allowing this operation to continue. [A] The drone delivery service is a major noise nuisance to residents, and a [B] major invasion of our privacy by flying over our property with cameras. I urge you to not allow Amazon to ruin our neighborhood with this program.

FAA Response – 10_Wilson

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA's regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

Public Comment – 11_Msmith

In our neighborhood we hear the sounds of lawn mowers, trimmers, and blowers routinely. It lasts for less than an hour maybe once a week during the summer months. Now imagine that same neighbor mowing, trimming, and blowing 200 or 400 times each day, seven days a week, year round. Amazon Prime Air is seeking to amend its air carrier Operation Specifications and other FAA approvals necessary to expand commercial drone delivery operations in College Station. What this means is Prime Air wants to increase the number of flights from the base of operations adjacent to the homes on Brookwater Circle from 200 operations per day to an estimated 470 operations per day. See and listen to the video at this link <https://fb.watch/svu9Ayii4E/>. Now imagine hearing this 200 times a day then 470 times a day, every day, from 7am until 10pm. That's what residents who live near the drone base are facing. [A] The base is located too close to this residential neighborhood. [B] It degrades the quality of life. [C] It reduces property values. [D] I think that it is reasonable to ask that the review period be extended and the permit amendment delayed to allow more time for our community to review the report and to develop plans to mitigate the impact that the Prime Air base of operations has on the nearby people and property.

FAA Response – 11_MSmith

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of

significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[D] Please note that the Public Comment period was extended to July 12, 2024, to accommodate additional feedback from interested parties.

Public Comment – 12_RBearley

I live in the Emerald Forest home owner's association, inside the current delivery zone for Prime Air.

[A] *The current drones are loud enough to be a nuisance and a distraction. A single drone flying overhead is very distracting and breaks my concentration, causing me lost time. [B] I am strongly opposed to increasing the number of drone flights that might pass near my house, particularly if the new drones are even louder. Furthermore, I am strongly opposed to increasing the operating hours beyond daylight hours. Noise from drones would be extremely unwelcome outside of daylight hours.*

FAA Response – 12_RBearley

Thank you for your comments.

[A] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[B] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 13_Driscoll

What used to be a highly desirable residential neighborhood is quickly deteriorating due to impact of Amazon's drones. The noise is already unbearable. It is like living on an airport tarmac. [A] Amazon is asking to increase the number of flights. P L E A S E deny this request. Suggest a relocation of the droneport away from any residential neighborhood. [B] Currently the drones exceed the City of College Station noise limit each and every flight. City leaders say they were misinformed as to the noise level and only the FAA can impact Amazon's future here on our Brookwater Circle neighborhood. This is a well established neighborhood. Educated, hard working folks have called this home for a number of years. But, the drones are causing a serious problem that the City leaders have not been able to resolve. They recommend us dealing with FAA. [C]

Therefore, we beg you to reconsider the location of the drone port and deny Amazon's request for expansion.

FAA Response – 13_Driscoll

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[C] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 14_Maness

*I am a resident in Foxfire, the neighborhood next to the drone airport. We were under the impression this was a test facility and now that testing is over they are asking to become commercial. **[A]** I don't believe that the number of flights, noise and hours proposed are acceptable for being near churches, parks, and houses. Airports generally have a buffer area around them to mitigate these effects and there is no buffer with where the facility is situated right next to these areas. **[B]** Please do not allow the facility to continue and worse yet drastically expand their hours and numbers.*

FAA Response – 14_Maness

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*. After careful analysis and coordination with the appropriate local regulatory authorities, the FAA determined it was unlikely that the Proposed Action would significantly affect any local parks or recreation areas. For additional information on this analysis, please refer to *Topic Specific Response 2-2: Department of Transportation Section 4(f)*.

[B] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*. Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 15_Smeins

Please deny Amazon's drone request. In 1996, we built our home located at (address redacted), College Station, Texas. As others in our area, we chose this location because it was quiet and peaceful. We did not choose to move in next to an airport/droneport. However, an airport has moved in very close to our home. The decision was approved by the FAA and imposed on us without anyone understanding the implications to the nearby neighborhoods. [A] Before the drone airport, we could enjoy wildlife in our back area. That has changed greatly since Amazon came in with a drone delivery service approximately five hundred feet from our property. [B] The Amazon drones are extremely noisy and have made a significant adverse impact on our lives. Apparently Amazon Prime Air is now asking the FAA to increase the daily limit on drone flights by 235% from the current maximum of 200 flights to 469 every day, 171,000 flights per year. Currently they average less than 20 flights per day, that is an increase of more than 2000%. The drone noise is already unbearable to us neighbors living nearby. It exceeds the City noise limit each and every done flight so the FAA noise estimate was used to misinform city leaders. [C] Our quality of life and mental health has been greatly impacted by this drone airport. Neighbors described the drone noise like a flying chainsaw, a flying lawnmower, etc. PLEASE DENY THE REQUEST OF AMAZON PRIME AIR. We want our peaceful life back.

FAA Response – 15_Smeins

Thank you for your comments.

[A] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[C] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F and the associated 1050.1 Desk Reference. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

Public Comment – 16_Corley

I am 80 years old and have lived on (address redacted) in College Station for 22 years. Up till recently I have enjoyed a quite, peaceful existence with relatively little noise, enjoying a beautiful yard with plenty of birds and squirrels to feed, watch and care for. That has all changed with the Amazon Drone Flights. Amazon Prime Air is asking the FAA to increase the capacity of daily drone flights by 235%, from the current capacity of 200 flights to 469. Since they currently average less than 20 flights per day, that's an actual increase of more than 2000%. Amazon is also requesting service be expanded to 365 days per year with daily flights from 7 AM to 10 PM. The noise is already unbearable to neighbors living throughout the east side, and especially on Brookwater Circle. [A] The solution is to relocate the droneport to a more suitable commercial location, like Post Oak Mall. Please deny Amazon's request. Here are some arguments you may want to consider: Approval in the current location will subject all citizens to as much as 40 times the number of noise disruptions per day. [B] Current operations are already disruptive to day-sleepers (including local law enforcement), home schooling and bed-ridden neighbors. With the expanded hours of service, this disruption will impact all homeowners during the evening and morning hours 365 days a year. [C] As these neighborhoods become the centroid for hundreds of flights per day, the once desirable part of College Station will decline in value, occupancy, and sales. The overall peace of my neighborhood is and will continue to decline. [D] The FAA noise methodology is fundamentally different from the City's noise ordinance. If allowed to continue, Amazon's drone operation would likely be in violation of the city's allowed noise level, and enforcement of the local ordinance could result in as many as 400 citizen calls per day to police. Amazon has repeatedly demonstrated their indifference to neighbor impacts that include: a) they never did a live drone flight demonstration for the City leaders, b) their proposal does not commit to switching to the MK-30 drone, c) they claim consumer demand is the driving force behind the requested flight expansion, but they currently average less than 20 flights per day, and d) constructive dialogue from the citizens affected by these drone flights has been ignored by Amazon. Please do not approve any increase in drone flights or hours of operation. In addition, Amazon should relocate their hub to a location that is in a more commercial area and not adjacent to a well and long established neighborhood.

FAA Response – 16_Corley

Thank you for your comments.

[A] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[B] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[D] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

Public Comment – 17_Moore

Amazon is asking the FAA to increase flights from 200 to 470 per day in College Station, Texas from an existing drone airport that is located less than 500 feet from residents in a well-established large neighborhood. Amazon is building a new drone facility outside of Phoenix, Arizona. This new facility will be deployed out of their same day delivery site warehouse located in an industrial area. This is the proper location for this service. College Station's drone port is less than 500 feet away from residents in a large neighborhood. The You Tube video was produced to simulate sound level at the 500 foot mark as per Amazon's sound test at Pendleton, Oregon.

*<https://www.youtube.com/watch?v=ARANW44Muxo>. The You Tube video shows what 70 Db's sound like, which the Amberlake neighbors are subjected to now during take offs and landings and will be subjected to all day for 15 hours straight if approval is given to Amazon to increase flights. **[A]** The Amberlake citizens wants the FAA to deny approval for the Amazon request for more hours and more flights so that the City of College Station and Amazon can relocate the drone port to a more suitable site for everyone concerned. **[B]** The noise from the take-offs and landings have an adverse impact on the neighbors. Some people sleep during the day, some people are at home recuperating from surgery, and the loud noise is stressful. Homeowners in this neighborhood are unable to enjoy their own backyard since Amazon established the drone airport. If this approval goes through and Amazon does increase their flights per day, OSHA will be called because of the noise. **[C]** The City of College Station will be getting calls on code enforcement of their noise ordinance of 63 Db's for any of their zoned areas, including the drone port. The homeowners in College Station, Texas have been protesting the Amazon's drone location since the drone began flying. I ask the FAA to please think about the little man who has bought a nice home in a nice neighborhood and deny this request from Amazon.*

FAA Response – 17_Moore

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[C] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

Public Comment – 18_MCulpepper

I have lived in my home on (address redacted) for 24 years. This location was chosen years ago for our family's home because of its central location, serene and peaceful green spaces/park and established, as well as newer constructed homes. Woodcreek Subdivision had all the amenities preferred for my family of five; including three children ages 5 and under. [A] Today, the serenity and peacefulness has been destroyed by the noise pollution of Amazon Prime Air. Gone are the days of having family functions on my patio or gardening in flowerbeds without the sound of drones flying overhead. It is alarming to humans and for my dogs -a reason to bark and howl. [B] Please reconsider Amazon Prime Air being allowed to fly over homes of families, and in our neighborhood, the elderly. There are alternative areas that Amazon Prime Air could be located; ie the airport, industrial park, along main roadways like Highway 6 or Highway 30. It is unfortunate that I write to you today in an attempt to preserve this neighborhood's quality of living. [C] It is most unfair that the homesteads' values will plummet because of a multi-billion business flying noisy, buzzing drones overhead. This is not fair and most unjust when other locations are available for Amazon Prime Air to locate.

FAA Response – 18_MCulpepper

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*. As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*. Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

Public Comment – 19_Liu

The noise of the Amazon drone is already unbearable to neighbors living throughout the east side, and especially on Brookwater Circle. [A] The solution is to relocate the droneport to a more suitable

commercial location, like Post Oak Mall. [B] This is a significant adverse impact. The FAA should deny Amazon's request.

FAA Response – 19_Liu

Thank you for your comments.

[A] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

Public Comment – 20_Gorski

Regarding amazon drone delivery in College Station and specifically over Foxfire neighborhood. [A] I adamantly oppose the proximity of the drone site to our neighborhood. The noise is annoying and constant. Having experienced this as just a test, I shudder to think what it will sound like should it expand across Bryan and College Station ... and beyond. [B] I oppose the drone deliveries as well as an invasion of privacy ... it is downright creepy. I am NOT IN FAVOR of Amazon drone deliveries or, at the very least, the location hub.

FAA Response – 20_Gorski

Thank you for your comments.

[A] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*. As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA's regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

Public Comment – 21_JCulpepper

[A] Please deny Amazon Prime Air request to increase the capacity of daily drone flights. As a homeowner in the neighborhood where the Amazon drone airport is located, we are being impacted adversely by the noise of the drones. The drone noise is already bad please don't allow it to get

worse. **[B]** *This drone airport is impacting the market value of all homes in our neighborhood and reducing resell values, thus reducing property values and taxes. Please deny this application.*

FAA Response – 21_JCulpepper

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*. As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

Public Comment – 22_Flaherty

*I am a resident of the Shadowcrest neighborhood in College Station, TX. We have been subjected to Amazon Drone activity for several months and it is very disruptive and disconcerting. The drones are noisy and a constant irritant. I work at home and find the constant noise from the drones a distraction from my work. One can hear them even in the house with the windows closed. **[A]** Our neighborhood has been told that Amazon has requested increased capacity for daily drone flights, and I request that this be denied. **[B]** The drones are driving us crazy. **[C]** They seem to pose an environmental threat as well - the activity of birds in our area has decreased significantly. Please reject this request.*

FAA Response – 22_Flaherty

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[C] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

Public Comment – 23_McLeroy

Please deny Amazon Prime Air's request to increase drone flights in our neighborhood.

FAA Response – 23_McLeroy

Thank you for your comment. For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 24_Bauman

I am writing regarding the potential for Amazon to increase drone flight above College Station, TX. Bottom line: I strongly recommend that the FAA deny Amazon's request due to significant adverse impact on the local community. Currently, there are approximately 20 drone flights per day, and many of them fly directly above my community (and sometimes my home). They are visible and definitely audible. This includes overflights during the week as well as on the weekends. [A] At the current volume of flights, I find the noise disruptive when I am in my yard, I can only imagine what it is like for people that live closer to where all of the flights take off and land. Based on my understanding, the FAA is considering increasing the allowed volume of flights significantly. Including expanding hours for flight to 7 AM to 10 PM. Based on the information I have been made aware of, this could be up to 40 times the number of noise disruptions per day! I am strongly against this increase. [B] As a property owner, I see this as noise pollution that will have a detrimental impact on property values. [C] As a member of a community, I can only imagine the negative impact this would have on day sleepers or those who choose to home school their children. [D] One solution that may at least partially mitigate the issue would be to relocate the drone-port from its current location to the Post Oak Mall, which is already has distance from residential areas and have ample space due to Thank you for your time and attention.

FAA Response – 24_Bauman

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[C] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[D] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 25_JBeasley

Please do not allow Amazon to expand its drone delivery. [A] They've already destroyed any ability we have during daylight hours to sit peacefully on our deck. The drones have a loud buzzing sound and already have a path that frequently takes them across our house. We used to be able to sit out and listen to wind chimes and nature, now we really can't. I can't imagine this continuing into early morning and after dark. They provide massive noise pollution and make it unpleasant to be outside. [B] If anything, they should be scaled back and forced to follow roads or other areas that are already loud. [C] They should not be allowed to invade airspace above private residences, particularly of people who have not consented.

FAA Response – 25_JBeasley

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*. As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[C] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA’s regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

Public Comment – 26_Sueoka

I am a Doctor at a Hospital only A few blocks from me, and we have been having lots of problems with Amazon Drones. They are large, with multiple propellers and are very loud. [A] They frequently will wake you up from sleep. Their flight path starts in Back of the BMW dealer a few blocks away and goes directly over our house. There have been up to three drones flying at a time over us. They claim to be flying high but the truth is they are barely over tree level. [B] Their path is directly over the main route of the Life Flight Helicopters to our Helipad which also is over our house. They are a direct threat to the Emergency Helicopter service for our area. We attended the meeting with Amazon over this but they refused to move the route or relocate. They also bribed the City Council and some of the board of trustees with presents and vacations. [C] The property values of our houses are directly involved as well, as we are trying to sell our 1.3 million dollar hov=me here and have lost one deal directly because of the drone activity. If this request gets approved for Amazon we are participating in a class action lawsuit against them.

FAA Response – 26_Sueoka

Thank you for your comments.

[A] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] The FAA’s primary mission is the safety and efficiency of the National Airspace System, and the safety and reliability of the proposed drone operations have been carefully assessed. The FAA has determined that Prime Air’s drones and operation does not create a hazard to users of the NAS or the public and can be conducted safely. For specific information on the FAA’s role in assessing drone safety, please refer to *Topic Specific Response 1-2: Safety*. Operation of the existing PADDCC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

Public Comment – 27_Foxfire

Foxfire HOA Board Statement Regarding Amazon Drone Delivery

As representatives of the residents of the Foxfire neighborhood of College Station, Texas, the board of the Foxfire Homeowners Association submits the following comments regarding the Draft FAA Supplemental Environmental Assessment for Amazon Prime Air Package Delivery Operations in College Station, TX. While we are not against drone delivery in our community, and many of our residents would individually welcome drone delivery service to their home, we find issue with the proximity of the Amazon drone site to our residential area and neighborhood park, as well as the frequency of drone trips over our homes, parks, churches and recreational areas. TEST FACILITY: The initial plans for this Amazon location were for a test facility. The functional feasibility of drone delivery has been proven. However, Amazon, the City of College Station, and the FAA should recognize that the location of the hub so near a residential community is not feasible. [A] Since Amazon is not acting on its own, we strongly ask the FAA to deny the request for service expansion at the current location. We would also request Amazon to move the hub to a commercial location and be required to have a larger property to create a buffer between any noise sensitive areas. [B] NOISE SENSITIVE AREA: Based on FAA Order 1050.1F, our neighborhood meets many of the requirements of a noise sensitive area: residential, educational, parks, recreational, and areas with wildlife characteristics. Noise is the number one complaint that our residents share regarding the drones, again, due to both the proximity and frequency of flights. [C] WILDLIFE: There is also concern regarding the impact drones have on the wildlife in our neighborhood. With large creeks and wooded areas, Foxfire serves as a habitat for deer, birds, fox, racoons and numerous other

wildlife which may be impacted by both the noise and flight path of drone delivery. **SIGNIFICANT IMPACT:** *The viability of the current Amazon drone delivery location is untenable. [D] The location and large frequency of drone flights have a significant adverse impact on the well-being and quality of life of the residents of Foxfire and adjacent neighborhoods. This will only worsen if the FAA approves the application for increased deliveries.*

FAA Response – 27_Foxfire

Thank you for your comments.

[A] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[B] After careful analysis and coordination with the appropriate local regulatory authorities, the FAA determined it was unlikely that the Proposed Action would significantly affect any local parks or recreation areas. For additional information on this analysis, please refer to *Topic Specific Response 2-2: Department of Transportation Section 4(f)*.

[C] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

[D] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*. For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

Public Comment – 28_Green

[A] *I am writing to urge you to deny Amazon Prime Air their request to increase drone flyovers in my neighborhood. I live at (address redacted) and [B] the drone noise is already loud and unbearable and is interfering with my sleep.*

FAA Response – 28_Green

Thank you for your comments.

[A] Please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

Public Comment – 29_Jett

Please consider not approving an increase in Amazon Drone Delivery Flights at the College Station, TX site for the following reasons: [A] NOISE: I live adjacent to the Amazon drone site and the drones are very disruptive with a sound like wild bees. This sound is panic inducing when it occurs and it occurs at random times based on flights and prevailing winds. [B] PROPERTY VALUE: My house was a significant investment and these drone noises will make it difficult to sell the property. I expect property values have already fallen as use of the back yard is not practical due to drone noise and overflights. [C] SAFETY: These drones are LARGE and fly at high speeds. One day there will be a failure and people will be injured or killed. Amazon flies directly over my house at low altitude with no regard to my safety or the safety of other occupants of the neighborhood. [D] I was previously a supporter of this drone facility but the noise and lack of Amazon engagement to the adjacent neighborhoods has changed my mind. Please help!

FAA Response – 29_Jett

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[B] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[C] The FAA's primary mission is the safety and efficiency of the National Airspace System, and the safety and reliability of the proposed drone operations have been carefully assessed. The FAA has determined that Prime Air's drones and operation does not create a hazard to users of the NAS or the public and can be conducted safely. For specific information on the FAA's role in assessing drone safety, please refer to *Topic Specific Response 1-2: Safety*.

[D] The scope of the FAA's public engagement process is documented in *Topic Specific Response 3-4: Public Involvement* and Appendix A of the Supplemental EA.

Public Comment – 30_Howell

We do not want the Amazon Drone operations to expand in our area. [A] We would definitely want the Amazon operations to move the location from near the neighborhoods. [B] It is very disturbing and could be dangerous if it were to crash into our house or vehicles.

FAA Response – 30_Howell

Thank you for your comments.

[A] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[B] The FAA’s primary mission is the safety and efficiency of the National Airspace System, and the safety and reliability of the proposed drone operations have been carefully assessed. The FAA has determined that Prime Air’s drones and operation does not create a hazard to users of the NAS or the public and can be conducted safely. For specific information on the FAA’s role in assessing drone safety, please refer to *Topic Specific Response 1-2: Safety*.

Public Comment – 31_ESmith

We live in the Woodcreek subdivision in College Station, Texas. We are near the Amazon drone base and under their flight path. This is what we hear, sometimes all day every day. https://fb.watch/sXaP_Rpu53/? [A] The peace and tranquility has been destroyed. No business has the right to do this to a neighborhood. We ask that you consider the impact on us and [B] extend the period for comments to allow us to make neighbors aware of where they can comment.

FAA Response – 31_ESmith

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*. For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] Please note that the Public Comment period was extended to July 12, 2024, to accommodate additional feedback from interested parties.

Public Comment – 32_BMorpurgo

[A] As a resident of College Station, TX, I request that you deny Amazon's request to increase the number of flights from their drone airport, located too close to my neighborhood. **[B]** Furthermore, I would ask you to encourage Amazon to find an alternative airport which is not located in the heart of a residential area. Approval in the current location will subject all citizens to as much as 40 times the number of noise disruptions. **[C]** Current operations are already disruptive to day-sleepers (including local law enforcement), home schooling and bed-ridden neighbors. **[D]** As these neighborhoods become the centroid for hundreds of flights per day, the once-desirable part of College Station will decline in value, occupancy, and sales. **[E]** The FAA noise calculation is about a 24-hour average, but City's noise limit is about each noise event. Amazon has repeatedly demonstrated their indifference to neighbor impacts: a) they never did a live demonstration for the City leaders, b) they do not commit to switching to the quieter drone, c) they claim consumer demand justifies this but they fly an average of less than 20 flights per day, **[F]** d) Amazon has never reached out to the surrounding neighborhoods for constructive dialogue. Let Amazon work with the City of College Station to find a good site for the droneport.

FAA Response – 32_BMorpurgo

Thank you for your comments.

[A] Please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[C] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

For additional information regarding "quality of life" please refer to *Topic Specific Response 3-2: Quality of Life*.

[D] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[E] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*. Also, please refer to please refer to *Topic Specific Response 2-4: Noise Metrics*.

[F] The scope of the FAA's public engagement process is documented in *Topic Specific Response 3-4: Public Involvement* and Appendix A of the Supplemental EA.

Public Comment – 33_Vargo

[A] We did NOT move to the Woodcreek area to have noisy drones flying over our house all the time. We moved here because it was a quiet, safe neighborhood where people walk their dogs and enjoy the environment. The drone noise is significantly higher than was described by Amazon. **[B]** If the number of flights increases it will lower our property value because no one wants to hear these drones day and night. **[C]** The wildlife in Woodcreek Park has been greatly affected. We rarely see deer now and other wildlife. Drones will ruin this nice, once quiet park. **[D]** I do not understand how a drone launching station can be allowed to be this close to people's houses. It's loud enough where I live on Timber Knoll Drive (backing up to Woodcreek Park) but the houses that are closer have a chainsaw going off regularly in their homes. Why don't you come check it out and see what it's like in a home that's close to the launching pad of these drones? This is not right to invade our neighborhoods and homes like this.

FAA Response – 33_Vargo

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[C] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

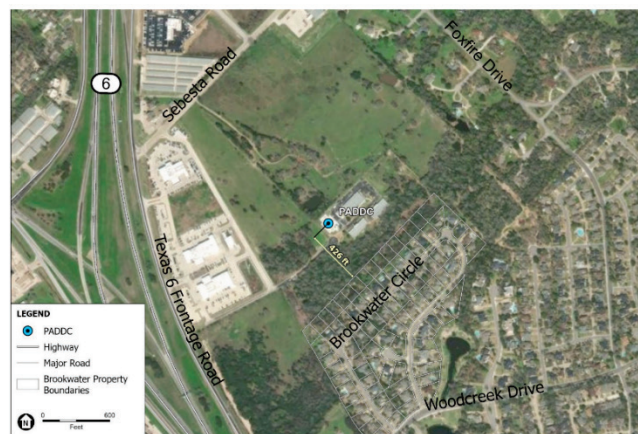
[D] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 34_Penny

I am writing to you to formally to request the denial of approval for the Amazon drone facility in College Station, Texas which falls within a noise sensitive area. Hi my name is Kathy Penny at (address redacted). My house backs up to the drone airport in College Station TX. Amazon launch pad is 426 feet from a pre-established neighborhood Woodcreek. Amazon prime air has submitted drone deliveries from 7:00am to 10:00pm. 7 days a week 365 days a year. Increase the drone deliveries from 200 a day to 469 a day. (Currently average is less than 20 a day) With the proposed hours and number of flights per day that would mean a drone flight would be taking off or close to every 1.5 minutes for a period of 10 hours a day. The drones lifting off and landing can already be

heard inside my house as well as sitting on the back porch especially. The lifting off and landing of the drone is extremely loud in reference sounds like a chainsaw going none stop. **[A]** The drone noise is going to have significant and adverse impact on the well being and quality of life of the residents. The noise is an invasion of one's privacy of natural surroundings. **[B]** The wildlife has also been affected do to the drone noise no longer do we see the deer on the back pond which is part of my land along with the bobcat, whistling ducks, coyotes and the big owl. They are no longer meander around the back pond. The current operation of the drone air is already disruptive to day sleepers including local law enforcement, home schooling and bed ridden neighbors and children with special needs. **[C]** We did not choose to move in next to a drone airport the decision to allow a drone port was approved by the FAA and imposed on us, without anyone being told of the implications of the noise and invasion of our privacy. **[D]** There is a solution to the problem relocate the drone airport to a more suitable location which can be done with the City of College Station and Amazon working together to find a more suitable location. Like the Post Oak Mall. FAA should deny the approval of Amazon drone airport in the noise sensitive area. I believe granting approval for such a facility would have detrimental effects on quality of life and well being of the residents of Woodcreek, Shadowcrest, Fox Fire and Emerald Forrest neighborhoods. Thank you for your attention to this important issue.

Email Attachments 1 – 6



SOURCE: ESA, 2023; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022.

Drift Supplemental Environmental Assessment for Amazon Prime Air — College Station, TX

Figure 1-2
Close-up View of the College Station PADD



FAA Response – 34_Penny

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[B] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

[C] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA’s regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[D] Operation of the existing PADDCC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 35_EMorpurgo

Amazon Prime Air is asking you, the FAA to increase the limit on daily drone flights by 235%, from the current maximum of 200 flights to 469. Since they currently average less than 20 flights per day, that's an actual increase of more than 2000%. The noise is already unbearable to neighbors living throughout the east side of college Station, TX, and especially on Brookwater Circle. [A] The solution is to relocate the droneport to a more suitable location, like Post Oak Mall. [B] Please deny this significant adverse impact and deny Amazon’s request. Approval in the current location will subject all citizens to as much as 40 times the number of noise disruptions. [C] Current operations are already disruptive to day-sleepers (including local law enforcement), home schooling and bed-ridden neighbors. [D] As these neighborhoods become the centroid for hundreds of flights per day, the once-desirable part of College Station will decline in value, occupancy, and sales. [E] The FAA noise calculation is about a 24-hour average, but City’s noise limit is about each noise event. Amazon has repeatedly demonstrated their indifference to neighbor impacts: a) they never did a live demonstration for the City leaders, b) they do not commit to switching to the quieter drone, c) they claim consumer demand justifies this but they fly an average of less than 20 flights per day, [F] d) Amazon has never reached out to the surrounding neighborhoods for constructive dialogue. Let Amazon work with the City of College Station to find a good site for the drone port.

FAA Response – 35_EMorpurgo

Thank you for your comments.

[A] Operation of the existing PADDCC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[C] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[D] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[E] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*. Also, please refer to please refer to *Topic Specific Response 2-4: Noise Metrics*.

[F] The scope of the FAA’s public engagement process is documented in Topic Specific Response 3-4: Public Involvement and Appendix A of the Supplemental EA.

Public Comment – 36_Morris

My name is Theresa Morris. I live at (address redacted). [A] I am writing to ask you to please deny Amazon’s request to increase the capacity of its drone operation in my neighborhood. [B] The drones have made a significant adverse impact on my daily quality of life. Can you imagine walking outside anytime day or night and hearing a loud “buzzzzzz” above you? It is not a quite buzz like a bee’s buzz. It is loud and obnoxious, unlike anything in nature. My neighborhood went from a peaceful, quiet neighborhood to a neighborhood with these loud and annoying pests that fly around day and night. The quality of life in my neighborhood has been significantly adversely impacted. The noise of drones flying everywhere is all the talk of my neighborhood, and no one is happy! My 4-year-old grandson now exclaims, “Damn drones!” whenever he sees one. This is significant because I, as a rule, do not swear or use foul language around him, but he must have heard me complaining about the drones. Here are some other points to note about having drones in our neighborhood: [C] Approval in the current location will subject all residents to as much as 40 times the number of noise disruptions per day we already have from Amazon drones, which, at the current level is UNACCEPTABLE. [D] Current operations are already disruptive to shift workers (e.g. law enforcement, healthcare workers, etc.) and bedridden neighbors. With the expanded hours of

service, this disruption will impact all resident during the evening and morning 365 days a year! **[E]** As these neighborhoods become the centroid for hundreds of flights per day, the once-desirable neighborhood will have declining home values. **[F]** The FAA noise methodology is fundamentally different from the City of College Station’s noise ordinance. If allowed to continue, Amazon’s drone operation would likely be in violation of the city’s allowed noise level, and enforcement of the local ordinance could result in as many as 400 resident calls per day to the police. Amazon has repeatedly demonstrated their indifference to neighborhood impacts including: (1) they did not present a live drone flight demonstration for the city leaders; (b) their proposal does not commit to switching to the MK-30 drone; (c) they claim consumer demand is the driving force behind the requested flight expansion, but they currently average fewer than 20 flights per day; and **[G]** (3) Amazon has never reached out to the surrounding neighborhoods for constructive dialogue. I implore you to deny Amazon’s request. My neighborhood has already been affected negatively by their program, and this expansion will be miserable. I cannot even imagine living in my neighborhood if you, the FAA, grant Amazon’s request. Neighborhood integrity is something the FAA should protect. There are other solutions to this problem. Amazon could move to a commercial location not surrounded by neighborhoods, for example the College Station airport or Post Oak Mall. I suggest that you require Amazon to look for a location they could use that does not have the negative neighborhood impact that it is having now. Remember, they are a commercial business, making large profits at our neighborhood’s expense. We gain NOTHING from this endeavor!

FAA Response – 36_Morris

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[C] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[D] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[E] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[F] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[G] The scope of the FAA’s public engagement process is documented in *Topic Specific Response 3-4: Public Involvement* and Appendix A of the Supplemental EA.

Public Comment – 37_Ngo

[A] I am writing to urge the FAA to deny Amazon PrimeAir's request to increase daily drone flights over my neighborhood in College Station. **[B]** As a physician who can be up all night taking care of patients, I value any chance to sleep when off call duty. The 365 day drone flights starting at 7 AM would be a rude awakening. Weekends are also sacred in being able to sleep in without disturbance. **[C]** The noise disturbance would also devalue the homes in my neighborhood since no one else will like the noise either.

FAA Response – 37_Ngo

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

Public Comment – 38_Bouton

My name is Cynthia Bouton and I live at (address redacted). **[A]** I am writing to ask you to please deny Amazon’s request to increase the capacity of its drone operation in my neighborhood. **[B]** The drones have made a significant adverse impact on my daily quality of life and the lives of my neighbors. My neighborhood has always been peaceful and quiet. However, the relentless noise (loud buzzing that, even inside, sounds like persistent wasp hives attached to my walls) is not only annoying, but interferes with my ability to do my work. Much of what I do requires zoom engagement with colleagues, some international. They can hear the drones while I’m trying to work with them! Moreover, sometimes my dog becomes agitated by the sound. Indeed, several neighbors’ dogs have been known to bark incessantly because the sound provokes them. Here are some other points to note about having drones in our neighborhood: **[C]** Approval in the current location will subject all residents to as much as 40 times the number of noise disruptions per day we already have from Amazon drones, which, at the current level is UNACCEPTABLE. **[D]** Current operations are already disruptive to shift workers (e.g. law enforcement, healthcare workers, etc.) and bedridden neighbors. With the expanded hours of service, this disruption will impact all resident during the evening and morning 365 days a year! **[E]** As this neighborhood becomes the center for hundreds of flights per day (more than we have already experienced), the once-desirable

neighborhood will experience declining home values. No one wants to live nearby this. **[F]** If allowed to continue, Amazon's drone operation would likely violate the city's allowed noise level, and enforcement of the local ordinance could result in as many as 400 resident calls per day to the police. Amazon has repeatedly demonstrated their indifference to neighborhood impacts including: (1) they did not present a live drone flight demonstration for the city leaders; (b) their proposal does not commit to switching to the MK-30 drone; (c) they claim consumer demand is the driving force behind the requested flight expansion, but they currently average fewer than 20 flights per day (although before the end of 2023, there were many more); and **[G]** (3) Amazon has never reached out to the surrounding neighborhoods for constructive dialogue. I can imagine the potential for significant lawsuits if this program continues to ruin our neighborhood. Neighborhood integrity is something the FAA should protect. There are other solutions to this problem. Amazon could move to a commercial location not surrounded by neighborhoods, for example the College Station airport or Post Oak Mall, or even cut a deal with Texas A&M University. I suggest that you require Amazon to look for a location they could use that does not have the negative neighborhood impact that it is having now. Remember, they are making large profits at our neighborhood's expense. We gain NOTHING from this endeavor! Thank you for considering my petition.

FAA Response – 38_Bouton

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] For additional information regarding "quality of life" please refer to *Topic Specific Response 3-2: Quality of Life*.

[C] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[D] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[E] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[F] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[G] The scope of the FAA's public engagement process is documented in *Topic Specific Response 3-4: Public Involvement* and Appendix A of the Supplemental EA.

Public Comment – 39_Wilshire

Wilshire Homeowners Association represents Woodcreek7 subdivision approximately 2400 feet south southeast of the existing drone port. Our location minimizes the impact to occasional sightings and moderate noise. Nevertheless, when the service was first proposed several members indicated opposition in principle due to the potential for noise pollution and accidental damage. No current owner in Woodcreek 7 has used, or proposes to use, drone delivery. However, members of our Association who walk in the neighborhood are keenly aware of the irritating noise created by the drones especially during walks in Woodcreek Park that adjoins Brookwater Circle and the drone port site. [A] What was previously a quiet rural environment is now punctuated by noise similar in intensity and tone to gas-powered grass trimmers, reportedly exceeding the City's own noise nuisance standard. We therefore support our neighbors to the north in opposing any increase in the current cap of 200 flights per day. It is reported that present usage averages 20 flights per day, and that the noise from even 40 landing and takeoff events that are intermittent and unpredictable is not consistent with a good living environment. [B] We ask that our City Council follow its stated position to be sensitive to neighborhood integrity and to deny Amazon's request to increase the cap to 469 flights (938 sound incidents) per day. [C] Furthermore, we believe that based on the experience of this trial period, the Council should encourage the operators to relocate the drone port away from residential areas altogether.

FAA Response – 39_Wilshire

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[C] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 40_Lee

I am sending this message to express my strong opposition to Amazon Prime Air's application to expand the capacity of its daily drone flights in College Station, Texas.. [A] My reason is simple and direct: these drone flights, even at current levels, produce significant noise pollution, and increasing the number of flights will increase this noise. I am directly affected by these drone flights. The flights currently originate on the edge of the subdivision in which I live, Woodcreek. [B] The noise decreases property values, including mine. [C] Drone flights should not originate from

residential areas—mine or others. They should originate from commercial locations or even open country, such as areas without residential construction, e.g., low-lying areas near flood plains. I am not opposed to technological advances—we must move forward. However, technical advances that negatively impact citizens are not appropriate.

FAA Response – 40_Lee

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[C] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 41_Klein

*I would like to communicate my opposition to Amazon Prime's application to expand its Drone Port operation at its present location in College Station, TX. I would like to emphasize that I am not opposed to drone operations, but I am opposed to the present location of the drone port, which is within 500 yards of an established single-family dwelling neighborhood. **[A]** I would fully support Amazon Air's request if they would move the facility to a commercial location that is not close to a neighborhood. Please consider the attached PDF document in which I have taken excerpts from Amazon Air's application and attempt to refute their justification for the expansion of the drone port operations. This drone port expansion will have a significant impact on a neighborhood and on the adjoining property that is owned by the College Station Independent School District (CSISD). thank you for your time and consideration of the significant impact that granting this expansion will have on adjoining neighborhoods.*

(Email Attachment)

TO: Federal Aviation Administration FROM: Robert R. Klein (address redacted) TOPIC: Amazon Prime's application to expand the Drone Port operation at the Technology Parkway site, College Station, TX 77845 This document is to communicate my strong opposition to Amazon Prime Air's application to expand their drone port in College Station, TX. The drone port is within 426 feet of an established single-family residential neighborhood; a neighborhood was established in the 1990s. The following are excerpts from Amazon Drone application and my response to their stated inaccuracies.

1. Amazon Prime's FAA Draft Supplement- Amazon claims that "Based on Community Demand, they propose to expand their commercial operations." FAA has a statutory obligation to review

Prime Air's request to amend the OpSpec and determine whether the public interest requires the amendment. *Neighborhood Responses and Observations-* The current operation capacity is well below their current allowed maximum and thus, the Community Demand is not supported based on Amazon Air's present daily operations: a) The number of days not operating this year is forty-one. b) The number of events per day at present range from 0-40 events. c) Thus, Amazon drone is thus requesting a >1000 % increase in capacity over their present average daily operation (based on community demand). **[B]** In summary, the neighborhood is challenging Amazon Air's claim that the community is demanding an increase in their present daily operations. 2) Amazon Prime's FAA Draft Supplement -The operating times would expand under the proposed action and would take place between 7:00 a.m. and 10:00 p.m., which is beyond the current operations that are limited to daylight hours. The average number of daily operations would increase to an estimated 470 flights per day using the MK30. The number of potential operating days would increase from the current 260 days per year to approximately 365 days per year. The transition to the MK30 would result in an increase from an estimated 52,000 operations per year with the MK27-2 to an estimated 171,329 operations per year with the MK30. *Neighborhood Responses and Observations-* (a) The FAA ruling will be based on the existing MK27-2 drone, not the proposed next generation MK30 that is under development. Thus, the noise levels (70 DB at the neighborhood boundary) are based on the MK27-2 drone despite what Amazon Air is attempting to convey to the public and the FAA. (b) The proposed operation would have up to 479 flights per day spanning 7AM to 10PM, 365 days per year. a. That means 950 noise-generating events per day or one noise event every 2 minutes adjacent to a residential single-family dwelling neighborhood; a neighborhood that is within 426 feet of the drone pads. **[C]** In summary, this requested increase will significantly impact adjacent neighborhoods and the potential for educational use of the adjacent property owned by the College Station Independent School District. 3. Amazon Prime's FAA Draft Supplement - Noise and noise-compatible land use. *Neighborhood Responses and Observations-* The present Amazon Air drone port exists adjacent to a residential neighborhood that is within 426 feet of the drone pads. a. The DB levels of the drones claimed by Amazon were not made by an independent study and thus, the noise levels stated by Amazon Air need to be confirmed by the FAA or an unbiased, independent agency. b. The actual noise level of the MK27-2 drone measured at the neighborhood boundary by sound engineers was 72 DB during drone takeoff or landing. c. This means that a noise event at > 70 DB has the potential to be experienced by a residential neighborhood every 2 minutes from 7AM to 10PM, 365 days a year. d. The ~40 acres adjacent to the Amazon Air Drone Port are the property of the College Station Independent School District. i. The College Station Independent School District purchased this property with the intent of building a school district facility (e.g., central offices, fine arts building, etc.) ii. The proposed increase in the commercial operation of the Amazon Air Drone Port would significantly impact the ability of the College Station Independent School District to establish an education-related facility on this site. 4. Amazon Prime's FAA Draft Supplement - "the drone delivery will replace personal vehicle trips to stores for needed items. The proposed action is proposed to decrease emission from automobile delivery services that contribute to GHG emissions." *Neighborhood Responses and Observations-* a. The capacity of the drones is 5 lbs., which severely limits what can be delivered. b. Most existing drone deliveries are pet toys based on Amazon Air's public comments. Amazon Air Drone deliveries are not of essential items such as groceries, home-improvement items, clothing (etc.). **[D]** In summary, the carrying capacity of the drones limits their ability to reduce greenhouse gases as the drone deliveries of pet toys will not

significantly impact the number of motor vehicles trips to local vendors, nor the number of road trips (e.g., UPS, USPS) to deliver Amazon packages. Most motor vehicle trips for purchases are for groceries and other local retailers including restaurants, coffee shops, prescription drugs, and home improvement items. The load capacity of the drones severely limits their ability to reduce road traffic based on the typical deliveries by motorized vehicles. FAA Draft Supplement -Noise and Noise-Compatible Land Use Paragraph 11-5b, a noise sensitive area is "[a]n area where noise interferes with normal activities associated with its use. Normally, noise sensitive areas include residential, educational, health, and religious structures and sites, and parks, recreational areas, areas with wilderness characteristics, wildlife refuges, and cultural and historical sites."

Neighborhood Responses and Observations- 1. The proposed changes in the Amazon Air Drone Port would significantly impact noise sensitive areas that are adjacent to the Drone Port, which include: a. Established neighborhoods that are within 426 feet of the drone port. b. The park that is near the Amazon Air Drone Port. c. The College Station Independent School District site that adjoins the Amazon Air Drone Port. Request by College Station Residence of the HOAs Impacted by the Expanded Drone Port 1. The citizens of neighborhoods adjacent to the Amazon Air Drone Port are requesting that the FAA pause the approval of the expanded Drone Port takeoff and landing to permit the following: a. Reexamination of the impact of the noise on local neighborhoods and the College Station Independent School District's proposed land use of adjacent property. a. Challenge Amazon Air claim for a community demand for greater number of drone deliveries given that the facility is presently not operating at capacity. b. Challenge Amazon Air claim that expanding drone deliveries will significantly impact car or truck deliveries given the limited carrying capacity of their drones.

FAA Response – 41_Klein

Thank you for your comments.

[A] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[B] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[C] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[D] Each package delivered by a drone represents at least one avoided roadway vehicle trip.

Public Comment – 42_SuAchgill

[A] *Please do not expand drone delivery service to Bryan. Instead deliver to a nearby warehouse or locker in CStat for pick up at discounted rate. Also offer discount for box recycling - collect at*

warehouse. **[B]** *Privacy infringement to have drones overhead constantly, not to mention the [C] noise and theft potential.*

FAA Response – 42_SuAchgill

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*. Operation of the existing PADDCC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[B] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA’s regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[C] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

Public Comment – 43_SAchgill

[A] *After reading your proposal to expand services into the Brian area, I have to firmly say please don’t! College Station has already been approved. Let’s try it there and see how it goes. And this is even more true in light of their desire to fly the drones without line of sight. There are all kinds of implications From [B] injuries to [C] privacy infringements. My yard is my yard and has already infringe upon that. But it does not need to go any further. Instead, consider shipping items to a central nearby warehouse in Bryan and we can pick up from there, like the lockers, if you want to save money . Open an Amazon store and let the pick up be there (in the mall, for instance, that Covid has single-handedly put out of business). Expanding services to Bryan – NO! Drones flying over my backyard and recording my children’s faces by accident – capital NO! Do you really want lawsuits levied against your company when some opportunist drone flyer capitalizes on what he sees through the camera in someone’s backyard? But regardless of the ethical-ness of drone delivery, I am commenting on the proposed expansion into Bryan. No!*

FAA Response – 43_SAchgill

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] The FAA’s primary mission is the safety and efficiency of the National Airspace System, and the safety and reliability of the proposed drone operations have been carefully assessed. The FAA has determined that Prime Air’s drones and operation does not create a hazard to users of the NAS or

the public and can be conducted safely. For specific information on the FAA's role in assessing drone safety, please refer to *Topic Specific Response 1-2: Safety*.

[C] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA's regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

Public Comment – 44_Beremand

We are writing to request that no action be taken on this matter. [A] Currently, up to 260 days per year, the residents on Brookwater Circle closest to the Amazon drone launch site (PADDC) are subjected to adverse drone noise levels which interfere with normal activities from enjoying a morning cup of coffee on the porch to a backyard barbecue with family and friends. [B] Not only does the drone noise reduce their enjoyment of their property, it reduces the value of their homes which in turn reduces the value of other nearby homes. Additional neighborhood residents, especially those also living on Brookwater Circle, who normally enjoy daily walks along these streets, are also negatively impacted by the noise generated by the current drone activities at this site. The current level of operation and noise is already unacceptable. Authorizing the proposed additional drone deliveries would be significantly detrimental. The proposed changes would not only increase the number of day of operation from 260 to 365 per year, it would also more than double the daily number of deliveries from 200 to 469, and increase the number of hours of actual operation per day from 8 to 10. The resulting nearly non-stop taking-off and landing activity would increase the intensity, range and duration of daily noise levels, The current 200 daily drone deliveries can produce a combined total of 400 take-off and landing events at a maximum rate of 40 events per hour over a 10 hour period. In contrast, the proposed 469 daily deliveries could produce a total of 938 take-off and landing events at a lowest rate of 63 to 64 events per hour over a 15 hour period. This could occur every single day of the year. In addition, the FAA also recognizes that “there are settings where the DNL 65dB standard may not apply”. This may be such a situation. Since drones impart a particularly annoying sound, the projected noise analysis of DNL of 50dB or more for properties within 1000 ft of the PADDC does not appear to reflect the actual noise impact that would be experienced. A more accurate assessment of the noise impact from drones and the proposed changes in delivery levels by Amazon is needed. This requires more information. As reported ‘there are currently no standardized tools or processes in place to conduct a noise assessment for the proposed operational scenario and drones. Thus a customized noise exposure prediction process was developed based on information from Amazon’. However, the more disruptive and annoying aspects of a drone noise profile, including the unique tonality and high frequency, did not appear to be accounted for in calculated A-weighted sound exposure levels or by the current aircraft noise metrics. The lack of the necessary tools to determine the noise annoyance level of drones combined with the lack of accurate noise information for the proposed Amazon MK30 drone (because it is still under development) does not provide enough information to determine if the proposed drone delivers changes are advisable.

FAA Response – 44_Beremand

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

Public Comment – 45_CPeevey

*I am an inhabitant of a home in the Woodcreek neighborhood of South College Station. We were chosen as one of the neighborhoods for Amazon Prime Air to pilot the droneports. The drones themselves are very disruptive already and it has been brought to my attention that Amazon is wanting to increase the daily limit of drone flights by 235%, from the current maximum of 200 flights to 469 flights per day. If approved, this will subject all citizens to as much as 40 times the number of existing noise disruptions all year round from 7am-10pm. **[A]** As a new dad with a 3 month old baby who needs multiple naps throughout the day and goes to bed at around 7:30pm every night, this is unacceptable. These drones not only disrupt infants' sleep, but those of night workers, such as healthcare workers and law enforcement, who only have access to sleep during the day. It also disrupts homeschooling lessons and those that are bedridden. It is clear that Amazon does not care about the impacts their drones has on neighborhoods by the following points: 1. They never did a live demonstration for the city leaders 2. They did not commit to switching to quieter drones 3. They claim consumer demand justifies expansion, but they fly an average of less than 20 flights per day, while authorized 200 4. Amazon has never reached out to the surrounding neighborhoods for constructive dialogue **[B]** I hope Amazon considers moving these drone flights and the drone port to a more commercialized area like Post Oak Mall. **[C]** This way, normal citizens are not subject to their property value decreasing and the neighborhood as a whole does not see a decrease in home sales or occupancy.*

FAA Response – 45_CPeevey

Thank you for your comments.

[A] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[B] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

Public Comment – 46_PPeevey

I am an inhabitant of a home in the Woodcreek neighborhood of South College Station. We were chosen as one of the neighborhoods for Amazon Prime Air to pilot the droneports. The drones themselves are very disruptive already and it has been brought to my attention that Amazon is wanting to increase the daily limit of drone flights by 235%, from the current maximum of 200 flights to 469 flights per day. If approved, this will subject all citizens to as much as 40 times the number of existing noise disruptions all year round from 7am-10pm. [A] As a new mom with a 3 month old baby who needs multiple naps throughout the day and goes to bed at around 7:30pm every night, this is unacceptable. These drones not only disrupt infants' sleep, but those of night workers, such as healthcare workers and law enforcement, who only have access to sleep during the day. It also disrupts homeschooling lessons and those that are bedridden. It is clear that Amazon does not care about the impacts their drones has on neighborhoods by the following points:

- 1. They never did a live demonstration for the city leaders*
- 2. They did not commit to switching to quieter drones*
- 3. They claim consumer demand justifies expansion, but they fly an average of less than 20 flights per day, while authorized 200*
- 4. Amazon has never reached out to the surrounding neighborhoods for constructive dialogue*

[B] I hope Amazon considers moving these drone flights and the drone port to a more commercialized area like Post Oak Mall. [C] This way, normal citizens are not subject to their property value decreasing and the neighborhood as a whole does not see a decrease in home sales or occupancy.

FAA Response – 46_PPeevey

Thank you for your comments.

[A] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[B] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

Public Comment – 47_Cunningham

We do not support or want this Amazon drone program in bcs. These drones are intrusive, [A] noisy, and [B] disrupt our highly valued privacy.

FAA Response – 47_Cunningham

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA's regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

Public Comment – 48_Neisch

As a resident of the community adjacent to the Prime Air facility who frequently observes drones flying over and near my residence I fully support the approval of expanded delivery service and the use of the improved MK30 drone.

FAA Response – 48_Neisch

Thank you for your comments.

Public Comment – 49_LeClear

I am writing to comment on the Prime Air drones in the College Station Texas area. [A] I am asking the the FAA not allow for this expansion. [B] The drones are noisy and disrupt the environment. The citizens of this area did not ask to be part of this program and are frustrated by the conditions we now have to endure. [C] What is the environmental impact as well as this area is a migration route for many species of birds? Thank you for your time.

FAA Response – 49_LeClear

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of

significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[C] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

Public Comment – 50_Cothran

*I do not support the proposed changes in the Amazon Prime drone delivery system in College Station, Texas, to include a second drone, the MK30 in their fleet. I live in the area impacted by the current delivery drone, the MK27-2, and find it exceedingly annoying. **[A]** The drones are noisy and disturb our sense of peace and tranquility in the neighborhood, and I cannot tolerate more drones zipping overhead all day long. I do not think Amazon has adequately addressed **[B]** privacy, **[C]** safety, and the **[D]** practical implementation of drones for the delivery of merchandise, which I feel can be more efficiently and reliably delivered to homes by trucks. The current limitations make delivery costly and wasteful—a big box for a small product, for example—wastes vital resources.*

FAA Response – 50_Cothran

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA's regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[C] The FAA's primary mission is the safety and efficiency of the National Airspace System, and the safety and reliability of the proposed drone operations have been carefully assessed. The FAA has determined that Prime Air's drones and operation does not create a hazard to users of the NAS or the public and can be conducted safely. For specific information on the FAA's role in assessing drone safety, please refer to *Topic Specific Response 1-2: Safety*.

[D] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 51_Sims

*I am a citizen of College Station within 2 miles of the Prime Air drone delivery center. I am extremely concerned about the possibility of Amazon Prime obtaining FAA approval to expand the drone delivery service at its current location. I hope there will be consideration of the negative impact residents have already encountered, and how these changes would make an even greater and negative impact to my neighborhood and livelihood, as I'm sure will be the case for many others. Please consider the following and my respectful plea to not provide this approval: 1. The drone delivery center (launchpad) is located directly adjacent to several residential neighborhoods, including my own. This has resulted in the destruction of our natural landscapes, based on the noise of the drones and frequency of the activity, which would be even further impacted if the FAA provides approval of this amendment. **[A]** 1a. The noise level of the drones is disruptive and can be heard even from the inside of my home. This is even more noticeable when I am outside or anywhere around the neighborhood or nearby Sandstone Park. The drones fly close to my roofline, despite the delivery not taking place on my street. **[B]** My pets are bothered by the drones, and we have seen a decrease in wildlife since the program launched. 1b. The frequency of the drones flying over my home is also an issue, which will certainly be impacted if the amendment is allowed. I have encountered drones from my yard, within my eyesight and flying over my yard, at a frequency which is not acceptable from my viewpoint. On several weekends while playing with my kids in our yard, we encountered a drone fly over at least every 15 minutes over the course of several hours. Our children are bothered by and often comment on the drone activity while walking home from the school bus stop, and while playing outside. This is no longer the peaceful residential neighborhood I invested in when we purchased our home. 2. There are social and cultural impacts to the drone program as it currently exists, and approval of this amendment would result in an even greater impact to hundreds of residents across many neighborhoods in College Station and Bryan. **[C]** Because of the drone activity, we are no longer able to enjoy our time outdoors, as we know it will be disrupted by low flying and noisy drones. **[D]** Our property value will be further impacted by the introduction of this amendment, as potential buyers will be deterred by the drone activity that occurs so frequently and loudly at my home because of the launchpad location. **[E]** I respectfully request, and even beg, that the FAA refrain from approving the requested changes currently, and until the location of the drone delivery center is moved from a residential area, into a more appropriate commercial and/or industrial area. I am sickened by the idea of drone activity increasing to 365 days per year, and for hours between 7:00 am - 10:00 pm. I am confident this will be disruptive to my family while we sleep and would result in even more negatively impacting our overall well-being. Matt McCardle with Amazon Prime Air shared at a recent city council meeting that the top product delivered has been boxed chocolate chip cookies. I am in shock that the inconvenience to so many residents, and the disruption to me and my family's livelihood has been mostly so that a drone can deliver such an unimportant and unnecessary item. Please, do not approve this amendment until Amazon Prime Air moves their delivery center out of our residential neighborhood, and out of proximity to so many residential neighborhoods. There are certainly many opportunities for this to happen in College Station and/or Bryan at other locations.*

FAA Response – 51_Sims

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

[C] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[D] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[E] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 52_Barber

[A] *I am writing to request that Amazon Prime Air operations be entirely disallowed in College Station.* **[B]** *The drones are a very noisy distraction that significantly reduces the quality of life for residents here. When they are flying in the area, I can hear them from inside of my house with all the windows closed. The idea that they want to increase operating hours into the night hours is especially odious.* **[C]** *This will impact home values negatively.*

FAA Response – 52_Barber

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

Public Comment – 53_Shane

I do not support the Amazon drone delivery in College Station, TX. The drones fly very low over my property and are very loud. This is constant. All day long. Akin to a lawn mower noise all day. **[A]**

This is noise pollution. [B] Furthermore, I had understood that the drones were not allowed to fly over peoples' houses. That they were supposed to fly above streets only. The drones are barely above my tree line. Please reject any further testing and stop this.

FAA Response – 53_Shane

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 54_Legg

[A] I live in Woodcreek and increasing the number of drones daily would be a hazard. [B] The noise is bad enough with the few they have now but increasing them would be horrible! [C] It may have a reason for people not buying in Woodcreek. I am against it.

FAA Response – 54_Legg

Thank you for your comments.

[A] The FAA's primary mission is the safety and efficiency of the National Airspace System, and the safety and reliability of the proposed drone operations have been carefully assessed. The FAA has determined that Prime Air's drones and operation does not create a hazard to users of the NAS or the public and can be conducted safely. For specific information on the FAA's role in assessing drone safety, please refer to *Topic Specific Response 1-2: Safety*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

Public Comment – 55_Hoak

I live in Woodcreek subdivision. The Amazon drone delivery warehouse isn't too far from my house. Since the inception of Amazon's drone delivery system, I frequently have drones fly over my house almost daily. I have counted as many as 12 times prior to noon and can hear them from anywhere inside my house. It sounds like a dirt bike is driving up my driveway. We are semi-retired and enjoy waking up later but the drones have altered that. [A] It is very disturbing and caused a once peaceful neighborhood to have constant buzzing noise. [B] Birds of all kinds have fled the area

because of it. These drones have flown directly over cars and people which Amazon stated not happen. [C] In conclusion, delivery trucks would obviously be far more efficient and far less disturbing. Drone delivery is nothing more than a gimmick to drum up more business and money. It possibly could serve a purpose where trucks could not drive to, maybe more rural properties but in the middle of a quiet, peaceful, established neighborhood is not the place. Please move this operation elsewhere. Please do NOT share my information. I do NOT give you permission to do so.

FAA Response – 55_Hoak

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

[C] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 56_Chronister

I am sending this email as a protest to the expansion of the drone deliveries by Amazon Prime in College Station. They are flying across my neighborhood and yard several times a day currently. [A] I find the noise to be a nuisance and obnoxious. [B] Please deny their expansion.

FAA Response – 56_Chronister

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 57_Lostracco

These drones need to be nowhere near a residential subdivision. I have been just walking in our neighborhood and can hear these things taking off from a half mile away. It's a constant buzz all day long. I cant imagine having my house close to this. It would be horrible. [A] I would challenge ANYONE to go spend just a few hours out by this launch pad to hear what a horrible thing it is to the noise level in the neighborhood. [B] I can't imagine anyone ever wanting to buy a home by this, so the value of your house is seriously affected. [C] If you're going to have these they need to be nowhere near a subdivision.

FAA Response – 57_Lostracco

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[C] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 58_Macfadyen

I am writing to express my opposition to the request from Amazon Prime Air operations to increase the number of daily flights from 200 to 469 in the current location of College Station, TX. This facility is located adjacent to quiet residential neighborhoods with little commercial development and associated noise. I am opposed to the current droneport location in general, and am definitely opposed to increasing the number of allowable daily flights. Assuming operations from 7am-10pm each day, 469 flights equate to approximately one every two minutes. [A] This represents an incredible nuisance and noise disruption to a relatively non-commercialized area. [B] It also represents significant and unwarranted intrusion into private property with the overflights. [C] Move the facility to a commercially zoned area, and at a bare minimum, were you to approve the flight operation, require the drones to follow established road patterns. This is easily doable with GPS and would have little impact on drone operability. [D] I respectfully urge you to deny the request to increase the number of daily flights.

FAA Response – 58_Macfadyen

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA's regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[C] Operation of the existing PADDCC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[D] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 59a_Shockey

I am honored to be a citizen of College Station watching Amazon make groundbreaking history and providing an invaluable service to the community. Not only are they providing an amazing service, they are bringing innovation and providing people of our town with lifelong careers to support themselves and their families. In my experience the drones are not a nuisance. They are no louder than the nearby highway or "Texas sized" trucks that frequent the roadways. Anything will become a nuisance if you sit outside and look for something to be bothered by. I am in FULL support of watching this new technology expand and thrive in our city.

FAA Response – 59a_Shockey

Thank you for your comments.

Public Comment – 59b_Shockey

I would also like to add the hours of operation are 100% in city code noise regulations!

FAA Response – 59b_Shockey

Thank your comments. It is understood that the information provided in this comment was to support the comment provided in 59a_Shockey.

Public Comment – 60_Miller

I'm a member of the Amberlake HOA in Woodcreek and am appealing for the droneport to be relocated to a more commercial location. I support innovative transportation solutions, and believe

society will benefit from fewer vehicles on the road, however, I would like to see careful thought and planning to make the effort successful.

FAA Response – 60_Miller

Thank you for your comments. Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 61_Anderson

As a homeowner for the past 25 years of the Sandstone Estates in College Station, Texas, I would like to complain about the drone activity in our area. [A] I specifically would like to complain about how low the drones appear to be flying over my property at (address redacted). [B] I can especially hear drones approaching while working in the yard and find it to be quite disruptive to myself as well as my two dogs. I feel like when we were informed about the drone program that they would be flying higher and would not be as disruptive as they are. [C] Please consider relocating or changing the elevation of flight.

FAA Response – 61_Anderson

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[C] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 62_Paine

My husband and I have lived at on (address redacted) in College Station for 17 years. We have loved the wildlife, the rural setting- even though it is close to town and the quiet. The park on Sebesta road is a gathering place for all ages! That has drastically changed with the arrival of Amazon Drone deliveries. Over our pond and home and over the park on Sebesta road where we walk and kids play and deer walk- we hear what sounds like low-flying buzz-saws overhead throughout the day and evening. The sound is LOUD and often and low and we feel much better suited to a non- residential family home neighborhood. [A] Sandstone, Foxfire, Woodcreek and Emerald Forest are all long

standing family neighborhoods that are being directly effected by this literal noise pollution. [B] And we have seen drones flying so low that they have been flying very close to the many birds in our neighborhood as well. In summary- the many many residential homes and families, children coming to the park for play and sports, the multitude of wildlife in our area are all being adversely effected by drone delivery. [C] [D] We respectfully ask that all drone delivery facilities- now and in the future have a location where the repeated and loud “buzz saws flying overhead” will not take away from our neighborhoods’ quality of life.

FAA Response – 62_Paine

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[C] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[D] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

Public Comment – 63_Thomson

We are completely against increasing the amount of drones in our neighborhood, and we’re against Amazon moving in in the first place with their drone program. We moved to this neighborhood for peace and quiet; hence why we are on wooded acreage not in a subdivision. [A] We were told they would be flying high, they have not. [B] We were told they would be quiet, they are not. [C] As we have stated, they need to move to a more industrial area where they belong or to a subdivision like neighborhood where noise is a part of the daily routine. When we met with city council last month, they were shocked at how loud and low the drones were flying, and their conclusion was that the drones needed to be moved. I’m shocked we are even having to address this after they saw the issues with the program that they said they were unaware of. Please do NOT approve more drone usage. It’s disruptive to our daily lives and brings more harm than good.

FAA Response – 63_Thomson

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[C] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 64_Marcantonio

*I am writing to let you know that I object to having Amazon fly their drones in my quiet and residential neighborhood in College Station, TX. Amazon is currently requesting that you increase the daily limit on their drone flights by 235%. The noise is already unbearable and there is a solution available! **[A]** Relocate the droneport to a more suitable commercial location, such as one that exists at an unused local mall (the Post Oak mall). The impact of your approving Amazon's request is that it will have a significant adverse impact and you must deny the request because: 1. Approval in the current location will subject all citizens to as much as 40 times the number of existing noise = disruptions, 7am to 10pm, 365 days/year. 2. My family and I did not choose to move in next to an airport/droneport, that decision was approved by the FAA and imposed on us with anyone understanding the implications. **[B]** If the Amazon request is approved the situation will get much worse, including declines in property value, home sales and occupancy. **[C]** 3. The FAA noise calculation is based on a 24-hour average, which is not relevant if it disrupts normal activities for 10 hours each day. The drones exceed our city's noise limit each and every drone flight, so the FAA noise estimate was used to misinform our city's leaders. 4. Amazon has repeatedly demonstrated their indifference to neighborhood impacts. They never did a live demonstration for the city leaders. They do not currently commit to switching to the quieter drone. The claim consumer demand justifies expansion, but they fly an average of less than 20 flights per day, while authorized 200. **[D]** Amazon has never reached out to the surrounding neighborhoods for constructive dialogue. Please, for the sake of our neighborhood, let Amazon work with the City of College Station to find a better site for the droneport. I am certain that one exists that will not have the adverse impact of the current droneport.*

FAA Response – 64_Marcantonio

Thank you for your comments.

[A] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[B] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[C] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*. Also, please refer to please refer to *Topic Specific Response 2-4: Noise Metrics*.

[D] The scope of the FAA’s public engagement process is documented in *Topic Specific Response 3-4: Public Involvement* and Appendix A of the Supplemental EA.

Public Comment – 65_Crompton

*Please rethink your permissions to Amazon for their drone deliveries in our area. **[A]** They are very noisy, too frequent, and fly over residential homeowners who enjoy their peace and tranquility which had been disrupted. **[B]** Maybe another location further out in the country would work.*

FAA Response – 65_Crompton

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 66_Geishauser

*I live in Sandstone neighborhood which is close to the Drone Airport (Droneport) in College Station, TX. We are opposed to the drone program in our neighborhood and oppose the approval request to expand the number of drone flight per day. The drones have been an absolute disruption to our daily lives. **[A]** They fly low directly over our homes. It is a violation of our ability to peacefully use our property, **[B]** a privacy concern and a **[C]** major concern of our property values. The expansion will allow 1,000 flight a day to traverse our neighborhood. There are so many concerns and Amazon has done nothing to address them. They have violated all their promises and made little effort to mitigate the noise and visual pollution they cause. If this technology is to be implemented, **[D]** FAA needs to reach out to the communities that have been impacted by this experiment. Most of the neighbors are understanding of the need for technological advancements. The agencies developing this technology needs to include the community it is servicing and impacting. An airport was dropped in our neighborhood, this is the reality and we will continue to spread the word to other communities.*

FAA Response – 66_Geishauser

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA's regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[D] The scope of the FAA's public engagement process is documented in *Topic Specific Response 3-4: Public Involvement* and Appendix A of the Supplemental EA.

Public Comment – 67_Stockton

Amazon Prime Air is asking the FAA to increase the limit of daily drone flights by 235%, from the current maximum of 200 flights to 469 every day, 171,000 flights per year. Since they currently average less than 20 flights per day, that's an actual increase of more than 2000%. What is the business need? [A] The noise is already unbearable to neighbors living throughout the east side, on Brookwater Circle in the Amberlake neighborhood, the Sandstone neighborhood, Chadwick neighborhood and the Foxfire neighborhood. [B] The solution is to relocate the droneport to a more suitable location, like Post Oak Mall. Approval in the current location will subject all citizens to as much as 2000% more noise disruptions 7 a.m. to 10 p.m., 365 days per year. The approval was for a TEST and experimental location for the drones, not for a permanent and greatly expanded operation. [C] Current operations are already disruptive to day-sleepers (including local law enforcement), home schooling and bed-ridden neighbors. Last summer when the Amazon drones were "practicing and testing" flight patterns (I do not believe all flights were actually delivering packages), the drones were at their highest number of flights and the noise was constant. A Schwan's delivery associate told me he thought we were being invaded as he was making a delivery. Also, a crew member working in my yard ask me "how do you stand that noise all day?" We did not choose to move in next to an airport/droneport – the decision to allow a droneport was approved by the FAA and imposed on us, without anyone being told the implications. If the Amazon supplemental request is approved by the FAA, the situation will worsen: including declines in property value, occupancy, and sales. The FAA noise calculation is based on a 24-hour average, which is not relevant if it disrupts normal activities 10 hours each day. The drone flights exceed the City's noise limit for each and every flight, so the FAA noise estimate was used to misinform City leaders and citizens. Amazon says that they have a quieter drone (quieter than what?), but they have not said they will discontinue use of the noisier drone. Amazon has repeatedly demonstrated their indifference to neighbor impacts: a) they never did a live demonstration for the City leaders or citizens, b) they do not commit to switching to the quieter (based on what?) drone, c) they claim consumer demand justifies this but they fly an average of less than 20 flights per day, d) Amazon has never reached out to the surrounding neighborhoods for constructive dialogue. When we email Amazon, their response is an automated form letter via email. When Amazon representatives are in

town to host a PR event, they are surprised that anyone is unhappy with the drone noise. Let Amazon work with the City of College Station to find a good site for the droneport. Please DENY Amazon's request to increase the limit on daily drone flights.

FAA Response – 67_Stockton

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Operation of the existing PADDCC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[C] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*. Also, please refer to please refer to *Topic Specific Response 2-4: Noise Metrics*.

Public Comment – 68_Case

*As a resident of College Station living close to the Amazon drone airport, we appreciate the opportunity to comment on Amazon's drone operation in College Station, TX. The drones seem to be working well and are a good innovation, but the placement of a busy and noisy drone airport near a residential area is a serious mistake. We have ordered drone deliverable items from Amazon and had them delivered. The drones did a great job with timely and geographically accurate deliveries. However, they sound like a big hive of angry bees and can be heard from a great distance away. I suppose this could be viewed as acceptable when only heard occasionally, but for residences close to the airport it is unacceptable. **[A]** Earlier this year, Amazon was apparently test flying the drones for a few weeks and the recurrent noise disruptions negatively affected our neighborhood quality of life. Many of my neighbors were complaining about this frequent loud noise. It was beyond annoying. To think that in the current situation these noisy flights will increase in number every day is unthinkable. For College Station and other communities to enjoy both drone delivery and an acceptably peaceful quality of life, changes need to be made. **[B]** First, the drone airport cannot be near a residential area. The drones are the loudest when taking off and when ascending and descending for package delivery. **[C]** This means that any residences anywhere near the airport will have an unbearable situation with the noise. It is highly disruptive. The drone airport needs to be in an industrial area far from any residences and perhaps adjacent to something like a highway that already has an ongoing level of noise. **[D]** Second, the drones need to traverse the community at a higher altitude to mitigate the noise heard below as they fly past. The drones currently fly*

significantly lower than they could. If a much quieter drone can be developed, that would of course diminish the noise as the drones fly overhead. By far the main concern is the location of the drone airport. The location in College Station needs to be moved away from residential areas, and until that is done there certainly does not need to be any increase in the number of drone flights or in the hours of operation. And as Amazon and other package delivery companies begin service in other communities, there should never be a drone airport placed near residential areas. The magnitude of the mistake in having the drone airport near residences was perhaps unforeseeable, but the mistake is now clearly and loudly evident. Again, we appreciate the opportunity to comment on this matter, because this is very important to our quality of life.

FAA Response – 68_Case

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[C] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[D] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 69_Grivas

*I am writing to express my concerns with the expansion of Amazon Drone Delivery in College Station, TX. My concerns with the expansion include, but are not limited to, the impact on our **[A]** native wildlife, pets, **[B]** property values, **[C]** privacy and **[D]** noise pollution. **[E]** Please reconsider placing your airport in a better suited area rather than in our neighborhood.*

FAA Response – 69_Grivas

Thank you for your comments.

[A] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

[B] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[C] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA's regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[D] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[E] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 70_Lara

This is to express my serious concerns about the potential approval of Amazon's request to increase the activity of Delivery drones in College Station, TX. Up to 40 times the number of existing noise disruptions. [A] The drones exceed the City of College Station TX noise limit on every drone flight. Amazon never did a live demo of the actual operating conditions to our city leaders. The previous decision to approve the Drone port at its present location was imposed on us, the neighbors living in this area of the city. [B] The solution is to relocate the Drone port to a more suitable location like Post Oak Mall in College Station TX.

FAA Response – 70_Lara

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 71_Cagle

[A], [B], [C] I'm DONE with having my privacy, wellbeing, and peace and quiet invaded by some billionaire's insatiable desire to make even more money, not to mention people's out-of-control inability to have what they want immediately. I want to go out to my garden and listen to birds and wind in the trees and have some stillness. I already have to listen to other people blasting their music, mowers going every second of the day, and vehicles of several people who think having the loudest engine possible is a sign of their superior masculinity. Jeff Bezos can buy a private island or

mountain or whatever to insulate himself from the chaos he imposes on the rest of the world. I don't have that kind of money. NO MORE DRONES.

FAA Response – 71_Cagle

Thank you for your comments.

[A] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA's regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[B] For additional information regarding "quality of life" please refer to *Topic Specific Response 3-2: Quality of Life*.

[C] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

Public Comment – 72_Steele

[A] *As a homeowner in the current path of the Amazon's drone-port delivery flights, I am asking that you deny their request to increase flight services in this residential area. [B] This location is not conducive for Amazon's drone-port and they should work with the City of College Station to find a better and more appropriate site for their future expansion. Approval for this current location will continue to subject all citizens to as much as 2,000% more noise disruptions from 7:00 am to 10:00 pm 365 days per year. [C] Current operations are already disruptive to day-sleepers (including local law enforcement), home schooling, bed-ridden neighbors, and wildlife. [D] The FAA noise calculation is based on a 24-hour average, which is not relevant if it disrupts normal activities 10-hours each day. The current drone flights exceed the City's noise limit for each and every flight, so the FAA noise estimate was used to misinform City leaders and citizens. Amazon has repeatedly demonstrated their indifference to neighbor impacts: a) they never did a live noise demonstration for the City of College Station leaders, b) they do not commit to switching to the quieter drone, c) they claim consumer demand justifies this but they fly an average of less than 20 flights per day, d) Amazon has never reached out to the surrounding neighborhoods for constructive dialogue. We did not choose to move in next to an airport/drone-port – the decision to allow a drone-port was approved by the FAA and imposed on us without anyone being told of the implications. If the Amazon supplemental request is approved by the FAA, the situation will worsen. [E] Including declines in property value, occupancy, and sales. I urge you to deny Amazon Prime Air's supplemental request to increase flights per day and to deny the increased noise levels to the neighborhoods impacted by the Amazon drones.*

FAA Response – 72_Steele

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

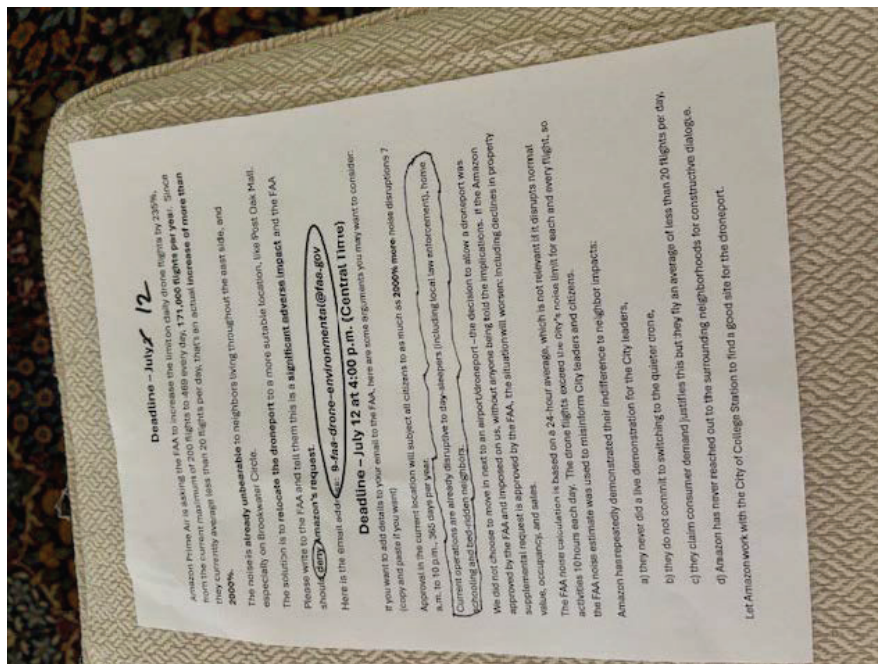
[C] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[D] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[E] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

Public Comment – 73_Cummings

My name is Lydia Cummings. I live in the Subdivision called Woodcreek, in College Station, TX. My zip code is 77845. I've just written an email letter to you concerning your Drone Center Location. This is a paper that has been handed out in our neighborhood, so that, we can communicate with you to try and fix the problems.



FAA Response – 73_Cummings

Thank you for your comments. Please see *FAA Response – 75_Cummings*.

Public Comment – 74_Long

[A] As a homeowner in the current path of the Amazon's drone-port delivery flights, I am asking that you deny their request to increase flight services in this residential area. **[B]** This location is not conducive for Amazon's drone-port and they should work with the City of College Station to find a better and more appropriate site for their future expansion. Approval for this current location will continue to subject all citizens to as much as 2,000% more noise disruptions from 7:00 am to 10:00 pm 365 days per year. **[C]** Current operations are already disruptive to day-sleepers (including local law enforcement), home schooling, bedridden neighbors, and wildlife. **[D]** The FAA noise calculation is based on a 24-hour average, which is not relevant if it disrupts normal activities 10-hours each day. The current drone flights exceed the City's noise limit for each and every flight, so the FAA noise estimate was used to misinform City leaders and citizens. Amazon has repeatedly demonstrated their indifference to neighbor impacts: a) they never did a live noise demonstration for the City of College Station leaders, b) they do not commit to switching to the quieter drone, c) they claim consumer demand justifies this but they fly an average of less than 20 flights per day, d) Amazon has never reached out to the surrounding neighborhoods for constructive dialogue. We did not choose to move in next to an airport/drone-port -- the decision to allow a drone-port was approved by the FAA and imposed on us without anyone being told of the implications. If the Amazon supplemental request is approved by the FAA, the situation will worsen. **[E]** Including declines in property value, occupancy, and sales. I urge you to deny Amazon Prime Air's supplemental request to increase flights per day and to deny the increased noise levels to the neighborhoods impacted by the Amazon drones.

FAA Response – 74_Long

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[C] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[D] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of

significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*. Also, please refer to please refer to *Topic Specific Response 2-4: Noise Metrics*.

[E] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

Public Comment – 75_Cummings

I live in College Station, Texas, in the Woodcreek Subdivision neighborhood. Amazon Prime Air set up their location at the edge of residential neighborhoods, here in College Station. [A] The drones are proving to be quite LOUD AND DISRUPTIVE to everyone in the nearby neighborhoods. Apparently, my house has been a direct testing route for the drones. I generally have 5-6 drones a day. That's NOT okay in our peaceful neighborhoods. We, as neighbors, would not have chosen our houses to be close to an airport or drone flying center. [B] One of my neighbors feeds birds and because of the drones the birds are even quite limited because of the sound. We are NOT against Amazons Drone Prime Air. The PROBLEM is that their facilities have been placed and located by 5-6 subdivisions in local neighborhoods. That seems to be quite a mistake from Amazon. There are plenty of commercial type locations that should have been explored. For example, the local airport is a very central location. The Post Oak Mall has plenty of land surrounding their property. [C] I suggest that you choose a new location that is in a commercial area and NOT in neighborhoods. [D] We, as neighbors, think that our property values will, also, be unfairly decreased. I understand that it will be a large expense to move your current location. However, we would like you to change locations. That would be in very good faith on your part. And, that would go a long way in support of our community. The man from Amazon was speaking about how Amazon "gives back" to the community. That's excellent...!!! And, I really liked how Amazon "gives back" and "contributes to the communities. The mistake about your neighborhood location was not carefully examined. I hope that in the future your drone service locations will be carefully studied as to not locate near neighborhoods. I will forward a copy of the letter that has been sent to people in our neighborhoods. The letter is asking us to write our concerns to you.

FAA Response – 75_Cummings

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

[C] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the

FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[D] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

Public Comment – 76_Meinecke

Amazon Prime air is asking the FAA to increase the daily limit on drone flights 235%, from the current maximum of 200 flights to 469 every day, 171,000 flights per year. Since they only currently average less than 20 flights per day, that is an actual increase of more than 2000%. [A] The noise is already unbearable to neighbors living though out the east side and especially on Brookwater circle. [B] The solution is to relocate the drone port and move it to a more suitable location like Post Oak Mall.

FAA Response – 76_Meinecke

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 77_Espitia

[A] Request by Amazon to increase authorized number of flights per day from shipment site located in College Station, TX should be denied. [B] Flights already approved and underway are a noise disruption to home owners/occupants of surrounding homesites, and are a cause resulting in home resale value for homes in surrounding developments including mine. [C] Amazon site should be required to relocate to a commercial retail mall site less than 1.5 miles further North.

FAA Response – 77_Espitia

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[C] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the

FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 78_Hardeman

REQUEST to deny Amazon's request- adverse impact on neighborhood in College Station, TX [A] SOLUTION - Let Amazon work with the City of College Station to find a good and better site for their droneport. There are several good options that make better sense for all sides. POINTS FOR CONSIDERATION - Amazon has never reached out to the surrounding neighborhoods for constructive dialogue. Amazon has repeatedly demonstrated their indifference to neighborhood impacts: they never did a live demonstration for the City of College Station leaders they do no commit to working with us to even switch to a quieter drone their claim is self-serving as they say "demand justifies" this drone and this site but they say they fly less than 20 flights per day; [B] however, they show no concern when told that their current operations disrupt day-sleepers, which include local law enforcement personnel, bed-ridden ill neighbors or those trying to home-school children This neighborhood has been well established for decades; we did not choose to move in next to an airport nor a droneport! If Amazon's supplemental requests (I'm sure an on-going tactic to get what the originally designed) is approved by the federal government agency, this situation will worsen ([C] decline in property value, occupancy and home sales). The decision to allow a droneport was approved by you - the FAA and imposed on us! This is one of the reasons several legislators are considering limiting or eliminating several federal agencies. I do not believe that is a good idea for citizens; [D] but when federal agencies disregard citizens requests for discussion and consideration along with big businesses and donors our needs and rights are violated. Please don't let this continue.

FAA Response – 78_Hardeman

Thank you for your comments.

[A] Operation of the existing PADDCC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[B] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[D] The scope of the FAA's public engagement process is documented in *Topic Specific Response 3-4: Public Involvement* and Appendix A of the Supplemental EA.

Public Comment – 79_Smeins

My husband & I live very near the Amazon drone airport. [A] Our quality of life has been greatly damaged due to the unbearable drone noise. Now Amazon is asking the FAA to increase the daily number of drone flights per day. [B] This already has a significant adverse affect on all of us living near the Amazon drone airport. [C] In addition to the above concerns, the value of our homes we worked hard to purchase or build will definitely be negatively affected. We are not opposed to the Amazon drone delivery if in a more suitable location, not in amongst our very nice neighborhoods. [D] PLEASE DENY AMAZON'S REQUEST TO INCREASE THE LIMIT OF DRONE FLIGHTS.

FAA Response – 79_Smeins

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[D] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 80_Hall

FAA should be ashamed at authorizing these noisy drones adjacent to neighborhood. I will consider tempering my objection IF the drones are essentially silent. We have a nationally recognized engineering/aerospace university in our community. Let them solve this noise issue!!! Until then, NO TO DRONES!!

FAA Response – 80_Hall

Thank you for your comments. As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

Public Comment – 81_Wang

Amazon Prime Air is asking the Federal Aviation Administration (FAA) to significantly increase the limit on daily drone flights. [A] The current operations/noises have already impacted the daily life of the residents in the east side of the Woodcreek Subdivision, College Station, Texas. [B] Please deny

Amazon Prime Air's request and let the Amazon coordinate with the City of College Station to relocate the droneport.

FAA Response – 81_Wang

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 82_Morganti

[A] *I wish for you to deny Amazon's request for drone flights in College Station, TX. Approval in the current location will subject all citizens to as much as 2000% more noise disruptions 7 a.m. to 10 p.m., 365 days per year. [B] Current operations are already disruptive to day-sleepers (including local law enforcement), home schooling and bed-ridden neighbors. We did not choose to move in next to an airport/droneport - the decision to allow a droneport was approved by the FAA and imposed on us, with, ute situation i told the implications. [C] If the Amazon supplemental request is approved by the FAA, the situation will worsen, including decline in property value, occupancy, and sales. [D] The FAA noise calculation is based one 24 hour average, which is not relevant if it operates only 10 hours per day The drone flight exceeds the cities noise limit for each and every flight so the FAA noise estimate was used to misinform City leaders and citizens. Amazon has repeatedly demonstrated their indifference to neighbor impacts: a. they never did a live demonstration for the City leaders, b. they do not commit to switching to the quieter drone, c. they claim consumer demand but they have less than 20 flights per day d) Amazon has never reached out to the surrounding neighborhoods for constructive dialogue [E] Let Amazon work with the city of College Station to find a suitable location for the drone port.*

FAA Response – 82_Morganti

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[D] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[E] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 83_Garrard

I previously lived in the area affected by Amazon drone delivery (Foxfire) and still have friends in the area. Foxfire is a rural subdivision and the peaceful atmosphere of the area was a key factor in our decision to buy a home there. According to the proposed changes, “The transition to the MK30 would result in an increase from an estimated 52,000 operations per year with the MK27-2 to an estimated 171,329 operations per year with the MK30.” That averages out to 469 drone flights a day. I cannot imagine ever wanting to live near such frequent drone traffic. Amazon should not be allowed to ruin the peace of our neighborhoods.

FAA Response – 83_Garrard

Thank you for your comments. As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

Public Comment – 84_AWilson

[A] *The Amazon drone impact in our neighborhood has already been significant with the noise of the drones flying lower and more frequently than reasonable for a residential neighborhood. The drones are always noticeable when out for walks or outside and the noise is significant and disruptive. It sounds like a hive of bees is flying by your head constantly. The increase that Amazon is pursuing would make these problems massively worse for the neighborhood and I am adamantly against the droneport being so close to a neighborhood as it is. An increase in activity is ridiculous. The drones are not what was communicated to us when Amazon launched. They are not quiet. They are frequent. They are annoying and will make living in our neighborhood unpleasant when it used to be a quiet refuge. I don't believe Amazon is trustworthy in fulfilling what they say because of they rollout so far. They are already not keeping their agreement. They never gave a live demonstration to the neighborhood or city leaders. They do not commit to changing to quieter drones. They are not working with the neighborhood or sensitive to neighborhood complaints! **[B]** There are other more suitable places to have the droneport.*

FAA Response – 84_AWilson

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Operation of the existing PADDCC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 85_DWilson

The drones in my neighborhood are terrible. I hate them. I would love to get rid of them somehow. Much worse than trucks going up and down the street. [A], [B] They fly very low and are not quiet at all. It has significant adverse impact on me. Please don't let them keep flying or fly over my neighborhood.

FAA Response – 85_DWilson

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

Public Comment – 86_Riedel

I receive notes from neighbors on a regular basis asking me to speak out against Amazon's operations in College Station, Texas. I live at (address redacted) within the Woodcreek subdivision. I can hear the drones inside my house when they fly nearby, but usually I don't notice them and I rarely see them fly anymore. Ultimately they don't really bother me that much. I welcome the testing of a new, quieter, hardware revision. [A] I don't know what the routes look like, but I would like to see them minimize traffic over residential areas (e.g. if they are traveling to another neighborhood, travel around Woodcreek rather than some path across it - previously it seemed like they would travel across the neighborhood to so somewhere like the Midtown subdivision, but I'm not certain of this). I have not witnessed the noise mentioned by residents on Brookwater Circle but don't have trouble imagining that it is at least partially true; [B] perhaps a sound barrier could be

constructed between the homes and the landing pad. In summary, I think there are some areas that could potentially be improved, but at least partially support Amazon's new proposal.

FAA Response – 86_Riedel

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

Public Comment – 87_Oliver

*My name is W. H. Oliver III, (address redacted), Bryan, Texas. **[A]** Do not let these noisemakers cross into Bryan, Texas. **[B]** I have PTSD from listening to the constant comings and goings of helicopters (bringing in the wounded or headed on missions) at Danang Air Base while I was serving in Vietnam. They would only trigger that experience again. Reject their request.*

FAA Response – 87_Oliver

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

Public Comment – 88_Alikhan

I am a resident of College Station, Texas who has been impacted by the presence of the Amazon drone hub in our residential neighborhood. On behalf of my neighbors, I kindly request a town hall style meeting to speak with you and other FAA representatives via zoom or a conference call as soon as possible. Thank you for considering community comments regarding expansion of Amazon drone distribution services. We look forward to sharing our thoughts and experiences with you.

FAA Response – 88_Alikhan

Thank you for your comments. The scope of the FAA's public engagement process is documented in *Topic Specific Response 3-4: Public Involvement* and Appendix A of the Supplemental EA.

Public Comment – 89_Matarrita

I am writing to oppose Amazon's request to increase the current number of drone flights in our town, particularly as they are located in our neighborhood Shadowcrest. [A] As it is, the noise is quite disturbing. Why the request from Amazon, the flights will increase daily by 235%. This would significantly affect our daily activities. [B] I work from home and it is hard already to work with the current number of flights. [C] I know some neighbors who are bed-ridden and others that work at night, who need to sleep during the day. The requested increase in flights will definitely affect us all. We were not asked about Amazon's plans when they first started and our neighborhood, historically quiet has changed since they started operations. We have not heard from Amazon about our opinions or how their operations have affected us, and now they are intending to increase their operations. [D] I would like for them to relocate to another part of town, hopefully more industrial in nature than their current location, which is completely surrounded by neighborhoods.

FAA Response – 89_Matarrita

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[C] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[D] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 90_Pharris

I live in Woodcreek Housing Addition in College Station, Texas where the Amazon Prime Air drones fly over my home. Amazon is requesting addition time to fly their drones over the neighborhood and surrounding area by 235%. [A] I pray that the FAA will deny their request. The flying of drones over one's home is one of the worst things that can happen to a home owner. [B] Our area is wooded and we had wonderful wild life that we got to see on a daily basis. That wildlife included birds of all kinds, rabbits, squirrels, and deer. That is all gone due to the noise of the drones. Even the birds

have gone because the drones are flying in their air space and making so much noise. I am a retired administrator from Texas A&M University and I choose this area for my home after I retired based on its wonderful living area. Amazon drones have changed all of that. Therefore, I plead with you not to allow them to fly additional drones or to extend the time and days they can fly. Amazon is entirely indifferent to the impact their drones have made on our neighborhood. I am 92 years old and when I can no longer look out my kitchen window in the morning and see morning doves, that is pretty sad just because Amazon wants to make additional money while damaging the neighborhood. [C] The value of our homes are declining because of the noise and environmental impact from the drones. Please deny Amazon's request.

FAA Response – 90_Phariss

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

Public Comment – 91_Christiansen

I am a resident of Bryan, Texas. Amazon Prime Air has requested FAA approval to expand their College Station, Texas, delivery radius from 3.7 miles to 7.5 miles. My neighborhood will be in the expanded delivery area. Amazon Prime Air has also requested increased fly days from 260 days / year to 365 days / year. I am against this expansion as the drones are too loud. Residents of the College Station Foxfire neighborhood, which is in the current drone delivery area, describe the drone noise as "flying leaf blowers." Amazon Prime Air is trying to address neighbor's noise complaints from the MK27-2 drones by development of the MK30 drone which has a reduced noise profile. However, the MK30 drones are still too noisy. The noise levels of the MK30 exceed 95 dBA when they are within 50 feet of the delivery site. Reference: Figure 4, p. 260, "Review Draft EA Amazon Prime Air Drone Package Delivery Operations in College Station, Texas." Both the EPA and OSHA require hearing protection for jobs at 85 dBA and above. Amazon Prime Air needs to address further drone noise abatement measures before expanding their delivery area. I advocate further noise reduction of the delivery drones to at least meet EPA and OSHA requirements of less than 85 dBA. Yes, I know this noise requirement is a "weighted average." Amazon Prime Air can argue a resident will not be exposed to noise exceeding 85 dBA continuously during the delivery day. However, expansion to 365 days a year, 400 flights a day, is a lot of noise. In summary, I am not against drone delivery. I am against loud, noisy, nuisance drone delivery. Thank you for considering this request.

FAA Response – 91_Christiansen

Thank you for your comments. As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

Public Comment – 92_Braun

Hi - I am writing to voice my concern over the Amazon drones that have been annoying our once peaceful neighborhood for some time now. [A] I work from home and all day long hear these drones flying over my house, back and forth and it is really distracting to my work as a financial analyst. I also love to go outside after work for my run/walks through the neighborhood and then again encounter the drones flying over me very loudly as I am trying to unwind for the day. My husband and I have lived here since 2001 and never thought as we were nearing retirement that we would be subjected to this disruptive drone activity. [B] The drone is having a significant adverse impact on our daily lives so we ask that you please DENY Amazon's request to increase their activity. [C] Amazon needs to work with the City of College Station to relocate the droneport to another location, away from neighborhoods. Thank you so much for your attention to this wonderful neighborhood's requests.

FAA Response – 92_Braun

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[C] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 93_Williams

I am a College Station resident and am urging you to deny Amazon’s request to increase drone flights in our area. I live less than a mile from the drone airport, and I can emphasize enough the negative impact the drones have had in our area. [A] They are quite loud (despite what Amazon claims) and have absolutely caused a shift in wildlife away from my home. My husband and I built our house 22 years ago because we love being able to watch the birds, deer and other animals in our area. When the drones are active the wildlife are simply not around. My own animals are quite reluctant to use the pet door we have which has caused a decrease in their quality of thus our as we have to accompany them outside since they have been frightened by the drones in the past. [B] My

teenage daughter is hesitant to use our swimming pool as she feels uncomfortable with them flying over our property knowing that they have cameras and are aware of address of properties based on their location. [C] There is absolutely no reason that our personal lives, not to mention property values, should be so adversely affected by a big corporation looking to make an even larger profit. We did not build in this area to be close to a drone airport, nor were we consulted about it when the initial permitting process was done. Amazon has never even done a drone demonstration for our city leaders (most likely because they are aware of how loud and disruptive they are – [D] every flight exceeds the limit of our city noise ordinance). [E], [F] I implore you to deny Amazon’s request to increase the daily limit on flights from the current drone airport, and furthermore hope that you realize that the drone airport needs to be relocated to a non-residential area where the impact will no be felt by hard-working, public citizens.

FAA Response – 93_Williams

Thank you for your comments.

[A] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

[B] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA’s regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[D] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[E] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[F] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 94_Cooper

My name is Maryvonne Cooper. I live at (address redacted). The Amazon droneport is near my home. Drones fly over and near my home to make deliveries. [A] They are noisy and disruptive. [B] I was never consulted about the installation of such a facility near my home. I am sure that this will affect resale and house values. [C] Please consider denying Amazon’s request to increase the number of flights. [D] The drone port should be moved to a more commercial location. [E] If

approved for increased flights the decision will affect a vulnerable elderly population in very adverse ways. Lower property values affect retirement savings Noise pollution affects general health and well being.

FAA Response – 94_Cooper

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[C] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[D] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[E] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

Public Comment – 95_BMarquardt

[A] Please consider denying Amazon Prime Air’s request to increase the limit on daily drone flights and the daily flight time window from its College Station, Texas facility. According to Google Earth, the property line for our residence on Brookwater Circle is less than 500 feet from the “droneport.” Our backyard firepit, where we spend many hours of family time, is 486 feet from the center of the launch/return area. Our property line is even closer. **[B]** While the flight of the drone is certainly an irritant, the takeoff/landing events are my biggest issue. The drones are very loud on takeoff and landing, and even louder when they are seeking to level themselves before leaving with product and then returning to the drone port. The assumption is this is due to the drone seeking to compensate for the wind. The drone flights exceed the City of College Station’s noise ordinance, which is defined as “disturbing or annoying a person of ordinary sensibilities,” for each and every flight. We can state, unequivocally, as a “(people) of ordinary sensibilities,” that the Amazon Prime Air drones are “disturbing and annoying.” Amazon’s current operations and the occupying noise pollution are disruptive to the surrounding residents. Each takeoff, outgoing flight, return flight and landing event is an irritant. Our home is our largest investment in life. We didn’t choose to move in next to an airport or a noisy highway with the knowledge that sporadic noise of 70+ decibels would be the norm. We moved into a quiet neighborhood backing up to a greenspace with the nearest source of

noise being Highway 6, which is over 1,000 feet from the closest residence in the neighborhood (and nearly 2,000 feet from our home). The decision to allow a droneport adjacent to multiple residential areas was approved by the FAA and the City of College Station and imposed on us, without citizens being informed of the true implications. **[C]** If the Amazon request is approved by the FAA, the situation will worsen: including declines in property value, occupancy, and sales. Real estate professionals have stated that property values within a mile will decline – even if you can’t hear the drones! Amazon has repeatedly demonstrated their indifference to neighbor impacts: a) they never did a live demonstration for the City leaders, b) they do not commit to switching to the quieter drone, c) Amazon has never reached out to the surrounding neighborhoods for constructive dialogue. **[D]** Please tell Amazon to work with the City of College Station to find a good site for the droneport.

FAA Response – 95_BMarquardt

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[D] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 96_Hinson

*I am writing to express profound concerns regarding the proposed Amazon Drone Port and its SEVERE impact on our community. **[A]** The current drone operations are already highly disruptive to day sleepers such as law enforcement officers, families with young children, those engaged in home-schooling, and bedridden residents. The noise and activity generated by these flights create an environment that is far from conducive to rest, education, and recovery. It is important to note that no resident chose to live next to an airport. Decisions about such developments are typically discussed openly, allowing potential homeowners to make informed choices. **[B]** However, the decision to establish a drone port has been imposed upon us by the FAA without prior notification or consultation regarding its implications. The approval of this drone port is likely to result in a significant decline in our property values, potentially reducing them by as much as threefold. **[C]** This will undoubtedly devastate home sales in the area. Local realtors have already expressed concerns about the negative impact on our community, citing a noticeable decline in sales within a mile of the proposed site, even if the drones are not audible. **[D]** Furthermore, the presence of*

drones equipped with cameras and microphones represents a substantial invasion of privacy. This has made residents increasingly uneasy about engaging in activities within their own backyards. This issue is particularly alarming given the current epidemic of privacy concerns, especially for families with young children. There is no assurance that these drones will not adversely affect the well-being of our children. [E] Additionally, these drone flights already exceed the city's noise limits and will continue to do so if the drone port is approved. It is imperative that Amazon collaborates with the city to identify a more suitable location for the drone port, preferably in an industrialized area where it will not disturb the peace and privacy of residential neighborhoods. We urgently request that Amazon and the FAA reconsider this decision and prioritize the well-being and privacy of our community.

FAA Response – 96_Hinson

Thank you for your comments.

[A] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[B] Operation of the existing PADDCC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[D] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA's regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[E] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

Public Comment – 97_Malaise

I am writing this email to give my input to the request by Amazon to increase the daily drone flights to 469 per day. I support their request. I live in the Chadwick Division on Woodcreek development in College Station. I watch the drone deliveries everyday in the area. I have not had any negative impact to the deliveries near my house. I think the technology is the future in helping the environment. I completely support the testing in College Station and am in the immediate area of the droneport. As far as moving the droneport to the Post Oak Mall, it would be a bad idea. Many people in the area, cars all around, telephone lines. Plus it would create a safety problem with

onlookers. I think that Texas A&M Area is a place that should support engineering technology and development. Keep up the good work.

FAA Response – 97_Malaise

Thank you for your comments.

Public Comment – 98_Snyder

I wish to object strenuously to the flying of drones in the Woodcreek subdivision of College Station TX. [A] The noise is quite annoying and diminishes my enjoyment of my backyard and neighborhood. I can hear the noise inside as well. [B] Please do not allow Amazon (or other companies) to operate drones over residential areas. [C] I also wish to ask if there has been an environmental study of the effects of drones on birds and other animals, as well as on humans?

FAA Response – 98_Snyder

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[C] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

Public Comment – 99_Holy Cross

It has come to our attention that Amazon Prime Air has requested the FAA to allow them an increase in the distance and number of drone flights in College Station. [A] We do not support this and ask that you deny Amazon Prime Air's request. As a church established here in 1985 and preschool established in the late 1990's, we are concerned with the existing level of air traffic noise and activity from the drones. We have noticed an increase in people using our property to simply watch the drone activity. [B] Since we value the safety of our children, families and staff, it has become a safety issue that we mitigate for our active preschool and church. We do not know the people and their intent when they are sitting in the parking lot. Staff members monitor parking lot activity and sometimes have to inquire a person's intent. Fortunately, this is a benign activity, but many people do not consider the unease that it puts into the minds of others protecting preschool children or those choosing activities that allow them to exercise religious freedom. [C] Another safety concern that we have regarding safety of our preschool and church is the capability of the

drones with cameras to record daily activity from an aerial viewpoint. Stored data is an ongoing concern for any entity in today's world, and we want to minimize this security concern. Additionally, it has become a distraction at points during church activities such as worship and special events including but not limited to funerals and weddings. [D] The noise is a nuisance and the frequent movement in a rural and residential area is distracting. Increased drone activity is anticipated to become a true disruption. Even at a reduced level of noise as proposed by Amazon, this quantity of drone flights will still have a bold presence in sound and physical form. [E] In support of our neighbors - several of whom are members of our congregation or are enrolled in our preschool program - we do not want the emotional and physical disruption of the drones' impact on our persons and livelihood. We do not want to live and work in such close proximity to an airport or droneport. We need to maintain or improve property value, occupancy and sale of the area. We need to relieve the anxiety of area residents and business patrons. Holy Cross Lutheran Church and Learning Center does not support the Amazon Prime Air location, activity and noise levels as it operates currently and we most certainly do not support increased drone activity that will undoubtedly have negative implications that have yet to be addressed and resolved with the residents, businesses and organizations in this area. [F] Please extend your consideration of Amazon Prime Air's request for increased distance and number of drone flights to possibly a better location in this area that is more conducive to high air traffic activity. We appreciate you working with the City of College Station to find a good site for the droneport. Thank you, Kendra Graf on behalf of Holy Cross Lutheran Church and Learning Center

FAA Response – 99_Holy Cross

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] The FAA's primary mission is the safety and efficiency of the National Airspace System, and the safety and reliability of the proposed drone operations have been carefully assessed. The FAA has determined that Prime Air's drones and operation does not create a hazard to users of the NAS or the public and can be conducted safely. For specific information on the FAA's role in assessing drone safety, please refer to *Topic Specific Response 1-2: Safety*.

[C] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA's regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[D] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[E] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep

disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[F] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 100_Lassila

I live on Brookwater Circle in College Station with property adjacent to the Amazon drone property.

[A] Amazon Prime's request to increase the limit on drone flights to 469 per day **SHOULD BE DENIED**. **[B], [C]** The drone flights already are very bothersome and noisy and disruptive to my sleep and outdoor enjoyment. Things will get much worse if the increase were approved, and **[D]** property values could be negatively affected. **[E]** Amazon should relocate the facility in some huge open field away from residences and closer to Houston where the facility would be more useful anyway. Please deny Amazon Prime's request.

FAA Response – 100_Lassila

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[C] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[D] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[E] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 101_Yates

RE: Comments on Prime Air College Station Proposed Operations **[A]** 1. Disturbing my quality of life and ability to appreciate and enjoy the investment I have made in my home a. My wife and I find

that being in the flight path of many drones completely disrupts the outdoor enjoyment of our back yard and pool. **[B]** We built this pool and landscape for quiet privacy and relaxation. The constant noise made by drones flying overhead can be heard for no less than a mile in advance both coming and going away. Work nights and use the privacy of our back yard for sleeping in the day. With drones passing both ways on each delivery this has become impossible. We once enjoyed having our windows open for fresh air and seasonal saving on energy costs but have had to refrain from this to escape the noise of the drones. My physician has suggested that it would be best for me to not work at night but as a Nuclear Pharmacy sterile compounding pharmacist, in order for the time sensitive products to be available at practice sites within a 2 hour driving range, these must be compounded in advance, thus night time. **[C]** I find that what seemed novel in the beginning has become a source of anger in my life as I realize they may not be just an experiment. 2. Drone take off and landing site: The site chosen by Amazon is entirely in the wrong location. The drone port is much too close to a residential neighborhood where individual's most costly investment being their home is directly impacted in a negative way. This impact is negative in a number of ways. As mentioned above it is disturbing to our life at home. It impacts our health relating to sleep and rest. It impacts us in our mental attitude in that it angers us to constantly be infringed upon from above by the large hummingbird or bumble bee type noises. **[D]** 3. Property Values: I think this negative impact is important enough to have it's own section of these comments. I have thought about the possibility of selling my home that I have made long term plans to be in and I have invested in. a. I recently spent over a hundred thousand dollars remodeling my home that I would not fully recover if I sell. The thought of a potential buyer wanting to buy here with drones disturbing the skies overhead makes me realize I likely would not be able to sell at the price I previously could. I'm sure property sales in this neighborhood will begin to reflect that. The next thing will be residents presenting this trend to the tax appraisal committee for a reduction in appraisal values. At least that will be my intention. 4. Increased Flights: Lastly, the comments I have made are a reflection of my attitude with the number of flights to this point being much smaller than proposed for the future. I'm very saddened that somehow I ended up in this situation. I went to the neighborhood meeting at Sandstone Park. What I saw there was a crowd of spitting mad residents like me on one side of the parking lot and the Amazon people all dressed in blue shirts on the other side. There was not much mingling. I was even surprised to see security officers there. Yet the next day it was reported by local media that the meeting was a success. Unbelievable. The good works of Amazon were touted and they were presented as a good neighbor. That couldn't be more false to their actual neighbors. **[E]** 5. My Recommendations: I recommend that at a minimum the drone port be required to be relocated, so that the concentrated take offs and landings and flight paths are not inflicted on close by homes. With the increased number of operations I don't see how we can even want to stay here any more.

FAA Response – 101_Yates

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA's regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[C] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[D] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

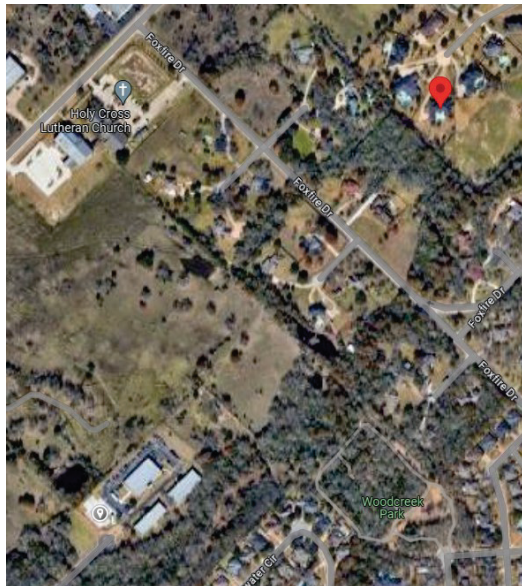
[E] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 102_Gade

(audio file attached)

[A] *I am reaching out to formally request the rejection of Amazon's proposal to raise the limit on their daily drone flights from 200 to 469. Even though they currently average a mere 20 flights per day, as noted through visual observation, such an increase is substantial. We have resided at 2031 Oakwood Trail, College Station, TX since 2001 (marked by a red arrow on the provided diagram) and are in close proximity to the Prime Air drone launch site. Our home is located within an esteemed neighborhood where we take great pride in our properties and wish to continue doing so. You can reference the Google Maps link here << 2031 Oakwood Trail - Google Maps>>. [B] The ongoing operations already affect our ability to peacefully enjoy our homes, and approving Amazon's steep increase to 469 deliveries, which totals to 938 takeoffs and landings, along with extended operational hours, will undoubtedly have a detrimental impact on our quality of life. This number of flights rivals the daily average of scheduled passenger flights at Houston Intercontinental Airport and was never contemplated under the original small-scale aerial distribution zoning approval. While the location may be convenient for Amazon's delivery logistics, transforming it into an 'airport-like' operation within an established residential area without a prior full-scale commercial impact assessment is inappropriate. Furthermore, while Amazon insists their drones maintain an altitude of 300 feet during all operations, we have documented evidence of them flying significantly lower (SEE ATTACHED). Additionally, there has been no firm commitment from Amazon on when they plan to deploy the quieter MK30 drone model, nor have they demonstrated any noise reduction measures to mitigate existing concerns. [C] FAA uses 24-hour averages to compute noise levels however every drone liftoff and landing exceeds the City's noise threshold on a per event basis. Neighborhoods adjacent to the facility have requested periodic in-person meetings to discuss concerns and build trust - Amazon has made ZERO effort to engage in constructive dialog. Any expansion of current operations should not be granted until research has been conducted on actual noise levels experienced by homeowners and the impact on quality of life - especially at*

commercial scale. Furthermore, I firmly believe that Amazon is misleading the public and FAA and is misrepresenting the facts as it pertains to their operation in College Station.



FAA Response – 102_Gade

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[C] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*. Also, please refer to please refer to *Topic Specific Response 2-4: Noise Metrics*.

Public Comment – 103_Prinz

*I am a resident of College Station, TX in Brazos County. Amazon Prime Air has a facility very near my property. **[A]** The noise generated by the drones in making deliveries is very disruptive. My pet even barks when it flies over my property; that’s how loud it is. This facility and its operations is having a significant negative impact on myself and my neighbors. Approving longer operating times and expanding the number of days per year they are able to fly the drones will only increase the already significant adverse impact even more. **[B]** I’m asking the FAA to deny Amazon’s request for any further growth of the company operations at the current location. Our lives have already been disrupted enough. **[C]** A better solution would be to relocate the drone port facility to a more suitable commercial location away from homeowners, like Post Oak Mall just off Hwy 6. Thank you in advance for listening to my concerns.*

FAA Response – 103_Prinz

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[C] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 104_Turner

[A] Please stop Amazon from using drones to deliver packages to customers in Brazos County, Texas or anywhere else. **[B], [C]** The drones are an invasion of privacy and they create a lot of noise. No one wants to listen to drones flying around their neighborhood. The noise levels are horrible. **[D], [E]** This will lower the quality of life in the neighborhood and decrease property values.

FAA Response – 104_Turner

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA’s regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[C] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[D] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[E] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

Public Comment – 105_Smeins

[A] Please deny amazon's request for more flights from the drone site in College Station, TX The location is totally unacceptable as it is located right in the midst of our nice neighborhoods. **[B]** The noise of their drones sounds like flying chain saws, swarms of bees or flying lawn mowers overhead. **[C]** Amazon has taken our quality of life & peaceful existence from us. **[D]** Our concern is also this will adversely affect the value of our homes. PLEASE deny Amazon's request. PLEASE.

FAA Response – 105_Smeins

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[C] For additional information regarding "quality of life" please refer to *Topic Specific Response 3-2: Quality of Life*.

[D] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

Public Comment – 106_Hudson

I would like to voice my opinion on the drone operation in College Station. I live very close and can hear the drones in my house. [A] It has been a huge nuisance. I counted 9 flyovers in a 30 minute time period one day when I was walking my dog. This is ridiculous. The location is terrible as it is right near multiple neighborhoods. [B] It needs to be moved to a non residential location. [C] Please do not let them increase the number of flights per day and especially do not allow them to fly after 5PM. The noise is like a buzzing saw. Please consider the people living near there.

FAA Response – 106_Hudson

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[C] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 107_Hilal

[A] Please deny Amazon's request to increase the drone limit in the amberlake neighborhoods and surrounding areas. These neighborhoods house retired folks, new families, and all types of professionals that work hard to keep College Station what it is today. The least we can have is a quiet neighborhood. **[B]** These drones are loud and the port is not in an appropriate location. **[C]** I am sure the city of College Station can work with Amazon to designate an area for the droneport that does not bother its citizens. Please take time to consider the requests that are being sent in and keep us citizens in your minds when these decisions are being made.

FAA Response – 107_Hilal

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[C] Operation of the existing PADDCC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 108_Osinovskaia

[A], [B] I ask you to deny the Amazon request to increase the limit on daily drone flights and to recommend that Amazon's implementation projects work out the issues of flight safety, while preserving the living comfort of the city's residents. When Amazon started its new delivery service, none of the company's executives raised the question of how to provide safe logistical routes for these drones. Every time the question has been addressed, the only thing we hear in response is that the number of delivery requests is growing and the company has found ways to solve it. Has the company found ways to solve the following two issues: 1. Who and how does the company ensure that Amazon's drones are not being flown by malicious actors who could use them for anything? 2. Who and how are the risks of drone drops on residential/school/medical facility grounds mitigated? **[C]** 3. How is my right to privacy protected if the drones have a locating device and can be equipped with cameras in the long run? **[D]** I am already silent about how it is planned to analyze the potential increase in diseases of the nervous system or hearing diseases. I.e. in addition to the huge noise, risks of increased nervous diseases, hearing aid diseases, risks of falling

devices on the territory, I am guaranteed to be deprived of the security of residence and the right to private life on my own territory! I ask you to refuse the company's request and ask them to provide an action plan to reduce the above risks and preserve the living comfort of the city's residents!

FAA Response – 108_Osinovskaia

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] The FAA's primary mission is the safety and efficiency of the National Airspace System, and the safety and reliability of the proposed drone operations have been carefully assessed. The FAA has determined that Prime Air's drones and operation does not create a hazard to users of the NAS or the public and can be conducted safely. For specific information on the FAA's role in assessing drone safety, please refer to *Topic Specific Response 1-2: Safety*.

[C] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA's regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[D] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

Public Comment – 109_Perrone

I am a resident of Amberlake HOA in College Station, Texas. I am writing to express my concern and strong opposition to Amazon Prime Air's request of the FAA to increase the capacity of daily drone flights by 235%, from the current capacity of 200 flights to 469 flights. Currently, they average less than 20 flights per day so that is actually an increase of 2000%. Amazon is also requesting their service be expanded to 365 days per year with daily flights from 7AM to 10PM. Amazon Prime Air never interacted with our neighborhood or the surrounding neighborhoods prior to establishing their droneport in our backyard. As we have tried to work with Amazon Prime Air to address our concerns about the noise level and the disruptions of our quality of life/integrity of the neighborhoods, Amazon has repeatedly demonstrated their indifference to neighbor impacts. They have never reached out to us or the surrounding neighborhoods for constructive dialogue. Amazon Prime Air claims that customer demand is the driving force behind their request to FAA for flight expansion. As previously mentioned, currently they are averaging less than 20 flights per day; thus there is no real need or justification for their FAA request as Amazon has not provided data showing such proclaimed customer demand exists. Amazon Prime Air's behavior exemplifies the mindset of Corporate greed and indifference at the expense of individual families and the quality of living in their homes/neighborhoods. Amazon Prime Air never did a live drone flight demonstration for City leaders or residents of the neighborhoods surrounding the location they chose for their operation. I

would suggest this was intentional so as not to disclose the unbearable noise level that residents/neighborhoods would be subjected to. **[A]** We are working with the City, and trying to work with Amazon Prime Air, to relocate the droneport to a more suitable commercial location. Amazon Prime Air is turning a deaf ear to such conversations. **[B]** The current noise level disrupts day-sleepers (night workers in health care, law enforcement, etc), home schooling, and bed-ridden individuals. **[C]** The FAA noise methodology is fundamentally different from the City's noise ordinance. If allowed to continue (and increase flights), Amazon's drone operation would likely be in violation of the City's allowed noise level, prompting potentially as many as 400 citizen complaints/calls per day to the police. Amazon Prime Air's current request before FAA for expanded hours of service will further disrupt and impact all homeowners during the evening and morning hours 365 days a year (including holidays!). Amazon has not committed to switching to the MK-30 drone which further illustrates they have no regard for our community nor for being a good Corporate citizen. If FAA grants the request by Amazon Prime Air, our neighborhoods will be the centroid for hundreds of flights per day. **[D]** Our current, very desirable neighborhoods in this part of College Station will decline in property value, occupancy, and sales. Should the FAA approve Amazon Prime Air's request, the Agency could, and most likely would, be seen as taking a deliberate action, with knowable impacts heard by citizens, to enable Amazon Prime Air to continue to degrade neighborhoods, and rewarding Corporate indifference to ensuring investments in homes are preserved and maintaining the quality of life in neighborhoods. **[E]** I sincerely request that the FAA deny the request by Amazon Prime Air due to the significant adverse impact to individuals/neighborhoods. Thank you for your serious consideration regarding this matter.

FAA Response – 109_Perrone

Thank you for your comments.

[A] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[B] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[C] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[D] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[E] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 110_McKinley

I was recently visiting with my daughter. She lives a few miles from me. We were sitting on her back patio when a drone went over. I was shocked about how loud it was. [A] It scares her dog, it is driving birds and wildlife away. [B] It is extreme noise pollution. Amazon made a big mistake building this right in a beautiful neighborhood. It is terrible that their family has to put up with the noise all day long. You need to listen to the people being affected by this. [C] Move it somewhere else that makes more sense. Use common sense and get these drones out of Firefox neighborhood. College Station never should have allowed something like this to affect a neighborhood so badly.

FAA Response – 110_McKinley

Thank you for your comments.

[A] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[C] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 111_Freeman

Stop Prime Air. We do not consent to this. Yes, the noise has been awful. [A] Yes, the drastic decrease in birds has been sad. [B] Yes, the loss of privacy has been offensive. This has to stop. We live near the airport, and what used to be 3 acres of home and peace has been destroyed since Amazon showed up. We do not consent to this. The drones skim the air just above our home. The incessant droning buzzing humming. It's miserable. My sons will come in from playing outside saying they don't want to be outside listening to that awful noise. Mason workers were at our home working and told us it was a miserable day listening to that noise - like nails on a chalkboard all day. I used to walk our neighborhood every day, all the trees, peaceful winding streets, wildlife — those drones made the walks uncomfortable and frustrating. [C] It's feels unsafe. I've tried to covey the feeling of what it's like to live with something you don't consent to. Now, I appeal to the logic and facts of this bad situation. FAA - we do not consent to this. As I would never consent to a UTV package delivery service driving back and forth across my property day and night, I do not consent to drones just a couple stories above my property doing the same thing. It's a breech of private

property. Stop this. We have the right to secure our property. We have the right to privacy. Amazon is blatantly violating this. Stop this. I understand the airspace is shared by helicopters and airplanes, but at a much higher elevation. Drones not only invade the space homeowners should consider part of their private property and part of the property for their enjoyment and safety, they invade the home of birds and other wildlife. I am a birder. I paint birds. So when I say these drones drive the birds out of their homes, I am saying it from actual lived experience. I use the Merlin bird app to identify the birds on our property. I also have specific birds I've been painting that return to our property seasonally. At the height of the drone time when they were going over every few minutes, I went out for my morning time with my sketchbook and Merlin app ... and there was not a sound. They were all gone. Gone. Stop this. If the FAA has not considered this factor, the proper agencies should be notified that these drones are an environmental issue on a very concerning scale. The drones are doing more harm to the environment than good. We all bought our homes with the knowledge that street traffic is acceptable and necessary. We do not consent to this low-level air traffic traveling through our property. It's disappointing to think they want to expand this when so many people want to see this shut down. Many people have expressed their disappointment that it feels like a losing battle because certain city officials and elites want to be able to brag about this on their resume at the expense of our quality of life. Big money wants this, and it appears the common people have no say that we don't consent to this. So please, represent our side. [D] Protect the airspace above our homes. We do not consent to this violation of our property. We do not consent to the destruction of the wildlife population of our neighborhood, of our town. Shut this down.

FAA Response – 111_Freeman

Thank you for your comments.

[A] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

[B] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA's regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[C] The FAA's primary mission is the safety and efficiency of the National Airspace System, and the safety and reliability of the proposed drone operations have been carefully assessed. The FAA has determined that Prime Air's drones and operation does not create a hazard to users of the NAS or the public and can be conducted safely. For specific information on the FAA's role in assessing drone safety, please refer to *Topic Specific Response 1-2: Safety*.

[D] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 112_Warner

We are 18 year home owners in the Woodcreek subdivision of College Station, TX. Our neighborhood is in the direct flight path of Amazon's unwelcomed drone flights. In addition to the annoying and constant sound of these airborne nuisances, we had no input into allowing this intrusion. We are already within a stone's throw of two major hospitals, both with constant emergency helicopter flights 24 hours daily. We understand that these are life-impacting flights and have no issue with them. [A] We do, however, have a serious issue with being subjected to merely commercial intrusions by Amazon who never reached out to us, demonstrated what we would be subjected to, or considered that we were already experiencing significant noise pollution. [B] Please direct Amazon to work with our elected city officials to find a more suitable location for their droneport.

FAA Response – 112_Warner

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 113_JMarquadt

Subject: Request to Reject Amazon's Proposal for Increased Drone Flights I am writing to express my strong opposition to Amazon's request for approval to increase the number of drone flights per day and extend the daily flight window. As a concerned resident of College Station, Texas, I believe that granting such approval would have detrimental effects on our community for several important reasons. [A] Firstly, the proposed increase in drone flights and extended flight window would inevitably lead to decreased property values in our adjacent neighborhoods. The constant presence of drones overhead, particularly in residential areas, creates a nuisance that potential buyers and current residents alike will find unappealing. This could have long-term financial implications for homeowners and the local real estate market. [B] Secondly, the anticipated increase in drone activity poses a significant risk of work disruption for residents. Noise pollution from drones flying overhead during extended hours can disrupt daily activities, including work-from-home arrangements and outdoor recreational pursuits. This disruption adversely impacts our quality of life and undermines the tranquility of our neighborhood. Furthermore, the environmental impact of increased drone operations cannot be understated. [C] Drones contribute to noise pollution, which disturbs local wildlife and disrupts ecosystems. [D] Additionally, the energy

consumption associated with drone flights and the potential for accidents or incidents further underscore the negative environmental consequences of expanding drone operations in residential areas. **[E]** Lastly, I strongly believe that droneports and similar industrial facilities are more appropriately situated in designated industrial zones rather than residential neighborhoods. Placing such facilities in residential areas goes against sensible urban planning and zoning principles, which aim to protect the residential character of our neighborhoods. **[F]** In conclusion, I urge the Federal Aviation Administration to prioritize the well-being of residents and the integrity of our community by rejecting Amazon's proposal to increase drone flights and extend the flight window. The potential negative impacts on property values, work disruption, noise pollution, environmental quality, and neighborhood planning outweigh any perceived benefits. I trust that the FAA will carefully consider these concerns and make a decision that upholds the interests of our community. Thank you for considering my perspective on this important matter. I look forward to your prompt attention to this issue.

FAA Response – 113_JMarquadt

Thank you for your comments.

[A] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[B] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[C] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

[D] The FAA’s primary mission is the safety and efficiency of the National Airspace System, and the safety and reliability of the proposed drone operations have been carefully assessed. The FAA has determined that Prime Air’s drones and operation does not create a hazard to users of the NAS or the public and can be conducted safely. For specific information on the FAA’s role in assessing drone safety, please refer to *Topic Specific Response 1-2: Safety*.

[E] Operation of the existing PADDCC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[F] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 114_Pesek

I am SICK of the Amazon drones. **[A]** They are very loud already and disruptive, I do not want the FAA to increase the limit on daily drone flights for Amazon. **[B]** If this is approved, this could very well negatively impact the property values of our homes and the ability to resell in this area. We

were not given the choice or option to opt out of this program when it was presented to us, we were simply told. Please do NOT allow Amazon to increase their daily drone usage. **[C]** They need to move their location away from our residential area to somewhere like Post Oak Mall. **[D]** Current operations are disruptive to day sleepers (including law enforcement), home schooling, and bed-ridden neighbors. The FAA noise calculation is based on a 24-hour average, which is not relevant if it disrupts normal activities 10 hours each day. The drone flights exceed the city's noise limit for each and every flight, so the FAA noise estimate was used to misinform city leaders and citizens. Amazon has repeatedly demonstrated their indifference to neighbor impacts: a.) they never did a live demonstration for city leaders, b.) they do not commit to switching to the quieter drone c.) Amazon has not reached to the surrounding neighborhoods for constructive dialogue. Let Amazon work with the City of College Station to find a good site for the drone port. Once again, please do NOT approve this request.

FAA Response – 114_Pesek

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[C] Operation of the existing PADDCC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[D] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*. Also, please refer to please refer to *Topic Specific Response 2-4: Noise Metrics*.

Public Comment – 115_Grisham

*I highly OPPOSE issuing authority for Amazon or any other applicant to increase drone flights over the residential areas encompassing the Amberlake HOA. **[A], [B]** I have lived in the neighborhood for over 25 years, and I firmly believe that additional drone traffic will unfairly affect my families right to quiet enjoyment of our home.*

FAA Response – 115_Grisham

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

Public Comment – 116_City Council

*On behalf of the City Council of College Station (City), I am providing comments regarding Amazon.com Services LLC, doing business as Amazon Prime Air (Amazon Prime Air) Draft Supplemental Environmental Assessment (EA) for expanding their commercial drone package delivery services at their Prime Air Drone Delivery Center (PADDC) in College Station, Texas. The City is excited to have Amazon Prime Air located in our community. Being home to the only drone delivery service for Amazon in the country is noteworthy. The City is thankful that Amazon Prime Air chose College Station, a community that has and continues to embrace innovation and technology. While the City is supportive of Amazon Prime Air’s efforts, we do not support their request in its entirety. Since locating in College Station, residents in neighborhoods adjacent to Amazon Prime Air’s facility have expressed concern to the City Council regarding drone noise levels, particularly during take-off and landing, as well as in some delivery operations. **[A]** With the potential to increase the frequency of drone deliveries to the amount stated in Amazon Prime Air’s request, residents have continued to voice their concerns to City Council that the noise levels will only get worse and will impact the enjoyment of their property. **[B]** Due to the level of concern from residents, the City would ask to delay the increase in service levels relating to the number of deliveries, as well as the expanded operation days and hours, until additional noise mitigation efforts are implemented by Amazon Prime Air. **[C]** In addition, the current zoning on the property has a base of Suburban Commercial, which is intended to provide for limited commercial uses that are compatible with nearby neighborhoods. The increase in their proposed service levels could exceed the intent of said zoning district. With respect to Amazon Prime Air’s request for bringing the new MK30 drone into service, our understanding is that this new drone will be 40% quieter than the current drone and will allow Amazon Prime Air to deliver packages further than their current drone. The City is supportive of Amazon Prime Air’s request for the new quieter drone. If the MK30 drone is quieter, it should have a positive effect on the current noise levels. Thank you for the opportunity to provide comments. If you should need any further information, please do not hesitate to reach out to me. John P. Nichols Mayor City of College Station, Texas*

FAA Response – 116_City Council

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[C] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 117_Olson

[A] I want to personally ask if you will deny Amazon’s request to increase the daily drone flights by 235%. **[B]** It’s been unbearable at the current rate. They are constantly flying over our house. **[C]** It’s loud and disrupting our daily life. **[D]** I would like to request the drones be relocated to another location to a more suitable location like post oak mall. Please deny Amazon’s request for more drones. **[E]** This will also affect our property values on our property.

FAA Response – 117_Olson

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[C] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[D] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[E] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

Public Comment – 118_Pearson

[A] The request of Amazon to increase the daily drone flights should be DENIED. Reasons are simple: Increase only benefits a small group of people while potentially harming large groups of people It is a negative for the environment No true studies have been conducted by Amazon to establish a real need for an increase Extra noise is detrimental and is without equal benefits It favors a special set of higher economic status **[B]** It ignores the question as to why Amazon is not receptive to a less objectionable location

FAA Response – 118_Pearson

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 119_Razvi

*There is an inherent power asymmetry when a multi-trillion dollar company moves in next door. Amazon is notorious for killing small businesses, exploiting employees, and now, it has come to creating massive noise pollution for people they claim to be serving. Noise pollution is not something to scoff at, and the idea that expanding Amazon drone delivery is a net good to the community is absurd. It's similar logic to saying that we are willing to destroy the lives of a few hundred, so that a few thousand can get a toothbrush on demand. This is no hyperbole. Take the example of noise pollution near a bitcoin mine in Arkansas. When it was built, they said it was just going to be a way to generate tax revenue, and the only sound would be that of fans. Fans can't be that loud... Right? Well now, years after the truth is coming to light, and people in the surrounding area have astoundingly high rates of anxiety and sleep deprivation as a result of the 17,000 fans being used. Now why does this relate to Amazon? It's because their drone port will immediately next to neighborhoods full of families and the elderly who crave peace and quiet in their own home. No one would stand for a band outside their door banging on drums, but for some reason, drones are acceptable, even though they are now being flown significantly lower than what was first promised at rate of hundreds per day. For those who live near by, it's as though an industrial lawn mower will be constantly whirring past their windows. This is the role of government. To protect communities from the deep pockets of businesses who care more about share buybacks than sharing profits with employees and benefits with communities. If the FAA fails to intervene, we are setting ourselves up for an age of mayhem. Neighborhoods that once served as sanctuary where children can play, rest, and learn will become a dreaded nightmare that never goes away. These drones have cameras. They record your homes, have no real regulation or enforcement on how that data is used, and will ultimately serve to eliminate any idea of privacy within the bounds of your own property. An Alexa listens to family conversations indoors, while a drone watches your children play in the yard. It is no time for dystopian society. It is time to stand up for neighborhoods, stand up for the rights of homeowners, renters, and anyone in-between. I firmly reject the strongarming of my community by a corporation that sees itself more as God than a taxpaying firm built to serve society. **[A], [B], [C]** I ask that the FAA intervene to mandate Amazon provide a more robust plan to eliminate noise pollution, take no images of private homes, and only fly over public roads.*

Sources: <https://ilsr.org/articles/fact-sheet-how-breaking-up-amazon-can-empower-small-business/>

<https://www.seattletimes.com/business/amazon/they-think-they-can-do-anything-amazon-psychologist-describes-on-the-job-bullying-discrimination/>

<https://www.nytimes.com/2024/02/03/us/bitcoin-arkansas-noise-pollution.html>

FAA Response – 119_Razvi

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA's regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[C] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 120_Smith

*My name is Claudia Smith and I live nearby Amazon Prime Air Drone Launch Pad. Two years ago, our city government approved Amazon Prime Air moving into our neighborhood. Since then, and not reaching their 200 flight limit, our lives have changed for the worst. Here is why: **[A]** 1) They are so loud we can even hear them when we are inside our homes. 2) Their flights are constant and the noise is constant. **[B]** Is this detrimental to our health? **[C]** 3) They fly over our homes at very low altitudes, with a drone that has a camera that is extremely intrusive. 4) If they are allowed to increase their take offs and landings, this operation would be equal to a big airport such as IAH. **[D]** Therefore they should have the same regulations as an airport with that number of flights, or at least be located in a proper site, not next door. **[E]** 5) Private property is meant to be used for the peace and enjoyment of owner. This has been taken away from us and our health and well being is being jeopardized. 6) Amazon has not tried to reach out to immediate neighbors to ask for feedback or solutions. Instead they give money to nonprofits in order to get community's approval. **[F]** 7) There must be more regulations on these type of operations in order to protect our communities. Drones are great, their location is terrible. 8) There must be regulations and repercussions if they do not respect the altitude at what they should be operating. I appreciate the time and effort the FAA is putting into all this as it regulates to mitigate possible abuse. This is new legislation that is well needed and should seek enforcement as well.*

FAA Response – 120_Smith

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of

significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[C] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA’s regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[D] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[E] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[F] Operation of the existing PADDCC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 121_McCaskey

*I am writing in response to Amazon Prime Air’s proposal to increase the number of drone delivery flights in College Station, Texas, to 469 flights per day. This equates to 171,000 flights per year. I appreciate the opportunity for my concerns to be heard. My home is on Brookwater Circle in the Amberlake subdivision, one of the areas that already has been impacted by Amazon’s drone service. **[A], [B], [C], [D]** Excessive noise, property values, quality of life, and safety are the key issues that are expected to be adversely affected by increasing the drone traffic in this neighborhood. Homeowners were not given the opportunity to consent to the location of the drone port and routes. We must, therefore, advocate for ourselves and express the seriousness of how going forward with this project will not only inconvenience, but also endanger our residents. Having lived with the incessant noise created by the current number of drone flights, neighbors are very concerned about the detrimental effects that additional drone traffic will cause. (It is my understanding that each drone flight exceeds the city’s noise limit.) Not only will property values decline for homes in the immediate vicinity of flight paths, but the entire subdivision will experience lower home values due to being in the flight zone. Real estate professionals state that properties within a mile of the zone will experience this devaluation. Of grave concern is the issue of safety for residents of my community. With hundreds of flights per day, 7 days per week, it is inevitable that drone malfunctions will occur, resulting in drones falling from the sky. An object the size of a drone travelling at high speed and falling without control or warning can cause serious injury, loss of life, and substantial property damage. The lithium batteries used to power the drones also pose a hazard. These batteries are known to cause fires, even when not in use. I see no reason, other than*

Amazon’s convenience, to place residents, their families, and property at this level of risk. As a frequent customer of Amazon, given the choice of having drones buzzing, and yes, threatening my neighborhood, I would gladly go to a safe, centralized location within city limits to pick up my packages. This may sound like a very low-tech solution, but it is safer for consumers, and packages are better protected from damage and theft. Sometimes the best solution can be lower-tech but also lower-risk, such as the system used at Lowes stores which uses barcodes throughout the steps of merchandise purchase and in-person pickup. Make no mistake, I am not against progress. I am just not able to tolerate Amazon’s form of “progress” which forces the citizens of College Station to endure what I have heard called abuse. [E] Thank you for providing this forum in which to express my request to deny Amazon’s request to further operate and expand their drone delivery initiative.

FAA Response – 121_McCaskey

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[C] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[D] The FAA’s primary mission is the safety and efficiency of the National Airspace System, and the safety and reliability of the proposed drone operations have been carefully assessed. The FAA has determined that Prime Air’s drones and operation does not create a hazard to users of the NAS or the public and can be conducted safely. For specific information on the FAA’s role in assessing drone safety, please refer to *Topic Specific Response 1-2: Safety*.

[E] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 122_CBastian

[A] *I am asking the FAA to deny Amazon Prime Air’s request to expand their OpSpec at the College Station, TX PADCC. I live on Brookwater Circle which is directly behind the Amazon facility and launchpad. My neighbor just 6 houses away is 425 ft from that launchpad. [B], [C] The noise from the drones interferes with our ability to enjoy the peace and quiet we came to love about our neighborhood. It is not the decibel level of the drones; it is the noise the drones make as they are taking off and landing. We hear every single takeoff and every single landing. We can hear them from inside our house and of course we hear them when we’re outside. We are not against drones and we are not against Amazon. [D] We simply feel that this drone port should not be located so close to a formerly quiet residential neighborhood. Adjacent neighborhoods that are further away from the launchpad are reporting that they seem to be directly under a flight path for all the drone*

deliveries. I understand that Amazon is required to show a need for the expanded OpSpec. Amazon has stated that they have determined that there is increased consumer need for more drone delivery services at the College Station, TX site. Amazon currently has authorization to fly up to 200 flights per day yet they are flying nowhere near that number today. Amazon is requesting to increase their capacity to 469 flights per day, seven days a week anywhere between 7am to 10pm. I cannot imagine what life would be like for us if they reached that capacity. Remember, those of us closest to the launchpad are exposed to every single flight both on takeoff and on landing leading to 938 times per day! We did not move to a home that is next to an airport; an airport moved in next door to us. I understand that when Amazon first moved in they felt they needed to be close to their customers because they only had authorization for Visual Line of Sight (VLOS). Now that they have been granted Beyond Visual Line of Sight (BVLOS) capabilities they no longer have any need to operate so close to our homes. Amazon has been operating her for about 1.5 years. They have moved beyond their “testing” period and small-scale operation. They appear to be moving into a large-scale commercial operation. If Amazon feels they are ready to expand their operation to such great lengths, they need to find a more appropriate location. If FAA grants Amazon their request to fly 469 flights per day, 7 days a week, 365 days a year from 7am until 10pm I fear what our lives will be like here in our formerly quiet little neighborhood.

FAA Response – 122_CBastian

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[C] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[D] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 123_Holliday

[A] *I am writing about the disapproval of Amazon Prime Air asking the FAA to increase the limit on daily drone flights. [B], [C]* *The current drones already contribute too much noise pollution for a quiet neighborhood ranging from families with small kids that require naps and early bedtimes, to retired patrons that are sometimes bed ridden due to illness or injury, to law enforcement officers that are up all night protecting our streets, to many families with dogs or live next to families with dogs that non stop bark at the pitch of the drone. An increase in flights would only make this*

unbearable. I am a licensed architect and part of my job everyday is helping clients with the best location for projects that are suitable for their needs as well as the community that they are impeding. Putting a drone airport in the middle of a residential neighborhood is not something I would ever advise to a client. [D] With Post Oak Mall losing popularity, stores are constantly closing down, traffic is non existence, and neighbors are a large distance away making this a great location for Amazon to host their drones and deliveries.

FAA Response – 123_Holliday

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[C] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[D] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 124_Penny

Federal Aviation Administration Subject: Request to Deny Approval for Amazon Drone Facility Dear

[A] *Sir/Madam, I am writing to ask that you reject the approval of the Amazon expansion of the number of flights (a 2000% increase), the hours of operation, and the number days of operation at its current College Station, Texas droneport’s location. This facility would bring too much noise to our quiet neighborhood. We are worried about how this noise will affect our daily lives, especially because our area is sensitive to noise. I’m not opposed to drones. I’m opposed to having a drone airport 450 feet from my home and well-established residential neighborhood. The noise is like a massive swarm of bees or like a chainsaw running. The pitch of the noise varies up and down. The drones currently being used by Amazon are the loudest drones compared to drones currently operated by Zipline, Causey Aviation, UPS Flight Forward, and Google Wing. [B] If understood correctly, the FAA uses a 24-hour average to calculate in your noise calculation. The noise level should be calculated on the number of hours of actual operation. OSHA requires companies to calculate noise based on a time weighted average of 8-hours or the actual number of hours worked by the employee which can be a 10-hour workday, or a 12-hour workday. Amazon is requesting*

hours operation of 10-hours. Thus, the calculation should be based on a 10-hour weighted average. Each flight utilizing the Amazon MK-27 exceeds the City's noise limit, and Amazon used the FAA's 24-hour average noise calculation to mislead the city leaders. I have heard this request for increased flights is equivalent to the number of airplane flights out of Houston airports. Droneports should never be placed among well-established residential neighborhoods. **[C]** The solution to this problem is to locate drone airports further away from residential neighborhoods and place them in true commercial, industrial areas or mall areas. Amazon requested and received a zoning change to operate at its current location. The city made this change against the local neighbors' wishes or without witnessing a live demonstration of the Amazon drone. During the zoning request or since then, Amazon has never reached out to the effected neighborhoods for constructive dialogue. Prior to approving Amazon's request, I ask that the FAA to require Amazon to relocate it's droneport to an appropriate location. College Station, Texas was selected by Amazon as a test site, as with all new technology there are learning curves. A lesson learned with this new technology is that droneports must be located in appropriate locations further away from established residential neighborhoods whether it's in College Station, Texas or any other US city. Please consider our community's concerns and say no to the Amazon drone facility. We value our peace and quiet and want to keep it that way.

FAA Response - 124_Penny

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*. Also, please refer to please refer to *Topic Specific Response 2-4: Noise Metrics*.

[C] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 125_Orsi

*Please keep our neighborhood quieter. On early morning walks, the drones are flying about. **[A], [B]** It's not good for the well being of the people who live so close by. **[C], [D]** It has caused a significant adverse impact and the FAA should work with Amazon to locate the drone space to a more suitable location.*

FAA Response – 125_Orsi

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[C] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[D] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 126_MDixit

*I am writing this email to voice my concern to The Amazon drone delivery in my neighborhood of Woodcreek College Station TX 77845. Approval in the current location of Brookwater Circle will subject all citizens to as much as 2000% more noise disruptions. Current operations are already disruptive to many residents in the area. Amazon has repeatedly demonstrated their indifference to our concerns over this operation. **[A]** We ask you to please take our email seriously and deny Amazon’s request of increasing its drone flights. **[B]** A better solution would be to move the drone point to another location by working with the City of College Station. I hope you consider these adverse impacts caused to our neighborhood and take the necessary actions.*

FAA Response – 126_Mdixit

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 127_SDixit

I am writing this email to voice my concern to The Amazon drone delivery in my neighborhood of Woodcreek College Station TX 77845. Approval in the current location of Brookwater Circle will

subject all citizens to as much as 2000% more noise disruptions. Current operations are already disruptive to many residents in the area. Amazon has repeatedly demonstrated their indifference to our concerns over this operation. [A] We ask you to please take our email seriously and deny Amazon's request of increasing its drone flights. [B] A better solution would be to move the drone point to another location by working with the City of College Station. I hope you consider these adverse impacts caused to our neighborhood and take the necessary actions. Thank you.

FAA Response - 127_SDixit

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 128_Bay-Williams

I am sending this as a concerned citizen of College Station as well as on behalf of many of my clients/patients. [A] I am a veterinarian and many of my patients live in the area near the current drone airport. There has been a significant increase in anxiety among dogs living in this area and many now require daily medication to help mitigate this. The frequent drone flights have caused significant symptoms in a large number of dogs that negatively impact their quality of life as well as that of their owners. [B], [C] I urge you to NOT approve Amazon's request to increase the number of daily drone flights and permanently close or relocate the drone airport to a non-residential area where pets and their people do not suffer the consequences. Thank you in advance for your consideration of this information in the decision making process.

FAA Response – 128_Bay-Williams

Thank you for your comments.

[A] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

[B] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[C] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 129_PBastian

(video file attachment)

To whom it may concern at the Federal Aviation Administration (FAA): This email is in response to the FAA's Draft Environmental Assessment (dated May 2024) for an application by Amazon Prime Air to expand its OpSpec beyond what its current OpSpec allows Amazon Prime Air to do at their current PADCC site. I live in a residential neighborhood that is only 425 ft from the PADCC, and the noise and nuisance of the drone flights is irritating to the residents that live immediately adjacent to this facility. **[A]** My primary concern is that expanding the Amazon Prime Air OpSpec to levels that are effectively a full-scale commercial operation will seriously compromise the enjoyment and value of our property. A survey of other commercial drone delivery operations shows that Amazon Prime Air's scale of operations in their requested, expanded OpSpec is larger than any other currently permitted operation in the United States in terms of daily flights. In addition, Amazon Prime Air is flying the heaviest, noisiest commercial drone among all the commercial drone operators, and chose to locate their PADCC immediately adjacent to and surrounded by residential neighborhoods instead of a more appropriate commercial or industrial site. **[B]** As you will see from my comments below, I am asking the FAA to deny Amazon Prime Air's request to expand their OpSpec at the College Station, TX PADCC on the grounds that Amazon Prime Air has not shown purpose or need for the expanded OpSpec, nor has Amazon Prime Air addressed unresolved conflicts related to the impact that the College Station, TX PADCC has had on the local residents adjacent to the facility. The PADCC is in a location surrounded by residential neighborhoods, and the current OpSpec and drones result in a loud and noisy nuisance. For reference, I attach a short video of a single Amazon Prime Air drone landing. Keep in mind, the distance from where this video was taken to the PADCC launch pad (625 ft) is not even the closest point. The backyard of this particular resident is even closer (425 ft) to the PADCC. There are several other residents that live within this distance. The OpSpec that Amazon Prime Air is asking for in the May 2024 Draft EA would allow Amazon Prime Air to operate takeoff or landing every 90 seconds if they operate at capacity. The residents that live adjacent to the PADCC in College Station will experience the takeoff and landing of EVERY SINGLE ORDER placed by customers...and that could be as much as 938 times a day, seven days a week, and up to 10:00 pm at night. Even on weekends, now, with the new OpSpec request for seven-day-a-week operations. This is unacceptable. Following are my more detailed comments. After reading the Draft Environmental Assessment, I have several comments regarding what Amazon Prime Air is asking for as it relates to purpose and need, and the fact that there are unresolved conflicts related to Amazon Prime Air's PADCC site that have not been addressed by Amazon Prime Air in spite of several attempts by local residents to work with Amazon Prime Air to address the noise problem. 1) Purpose and Need: In the "Draft Supplemental Environmental Assessment for Drone Package Delivery in College Station, Texas" (Draft EA) dated May 2024, Section 1.5 Purpose and Need, pg. 1-6, says "The purpose of Prime Air's request is to expand commercial drone package delivery operations in College Station, TX. Based on an assessment of the initial phase of delivery operations in College Station, TX, Prime Air has determined there is increased consumer need for drone delivery services, necessitating expanded operations. The MK30's extended range and reduced noise profile support Prime Air's purpose and need." Amazon Prime Air has not shown purpose or need for the expanded operation requested from the FAA. The

current OpSpec allows for up to 200 flights per day (400 takeoff or landing events), five days a week, between 30 minutes before sunrise to 30 minutes after sunset. The May 2024 Draft EA calls for expanding the OpSpec to allow up to 469 flights per day (938 takeoff or landing events), seven days a week, from the hours of 7 am to 10 pm. The May 2024 Draft EA does not include any supporting information that shows a need to expand the OpSpec to the requested level of operation. In the FAA's original Environmental Assessment of Amazon Prime Air's OpSpec application, titled "Draft Environmental Assessment Amazon Prime Air Drone Package Delivery Operations in College Station, Texas", dated September 2022, Section 1.1, paragraph 1 says "The proposed commercial delivery operations from the College Station PADDC would occur during daylight hours up to five days per week, including occasional weekend days." The original purpose of the Amazon Drone Port in College Station, TX, was to test their Drone Delivery technology, and use the site as a proving ground. At the time of the original application, Amazon Prime Air's poorly-chosen Drone Port PADDC site was and still is surrounded by residential neighborhoods, presumably because the original OpSpec required that Amazon Prime Air maintain Visual Line Of Sight (VLOS) with the drones at all times. This places additional emphasis on the fact that the Amazon Prime Air Drone Port in College Station, TX was a testing facility. Amazon Prime Air has already been granted Beyond Visual Line of Sight (BVLOS) operating capability for their drones. Therefore, Amazon Prime Air's new OpSpec expansion request:

- illustrates that their technology has outgrown the purpose and need for the current Drone Port Site,
- goes well beyond the stated original purpose and limits of the current Drone Port Site, and
- is not applicable to the current Drone Port site, considering its proximity to nearby residential areas, and the nuisance the Drone Port site creates with its current OpSpec.

In addition, FAA Order 1050.1F, Paragraph 6-2.1(c) states: "c. Purpose and Need. This section briefly describes the underlying purpose and need for the Federal action. It presents the problem being addressed and describes what the FAA is trying to achieve with the proposed action. The purpose and need for the proposed action must be clearly explained and stated in terms that are understandable to individuals who are not familiar with aviation or commercial aerospace activities. To provide context while keeping this section of the EA brief, the FAA may incorporate by reference any supporting data, inventories, assessments, analyses, or studies." Yet, the Draft EA contains no supporting data, inventories, assessments, analyses, or studies to justify a 234% increase in allowed daily flights, and/or expanding to seven days a week, and for a 15-hour period, up to 10:00 pm at night. The current Amazon Drone Port site is surrounded by several residential neighborhoods, and only 425 ft from the nearest home. For those of us that live near the current site, I can tell you that Amazon is not operating at the capacities allowed under the current OpSpec. So, it is not reasonable to approve an expansion of their allowed operating limits when they have not demonstrated a need for that expansion. Under the expanded OpSpec requested by Amazon Prime Air, the noise levels created by a 234% increase in takeoff and landing frequency, and at capacity, a noise event every 90 seconds, are unacceptable. Therefore, I ask that the FAA deny Amazon Prime Air's request for expanding their OpSpec as described in the May 2024 Draft EA. 2) Proposed Action and Alternatives: In the "Draft Supplemental Environmental Assessment for Drone Package Delivery in College Station, Texas" (Draft EA) dated May 2024, Chapter 2, pg. 2-1, says

“FAA Order 1050.1F, Paragraph 6-2.1(d) states that, “[a]n EA may limit the range of alternatives to the proposed action and no action alternative when there are no unresolved conflicts concerning alternative uses of available resources.” The FAA has not identified any unresolved conflicts concerning alternative uses of available resources associated with Prime Air’s proposal. Therefore, this EA only considers the No Action and the Proposed Action alternatives.” **[C]** Regarding “unresolved conflicts”, there are several, the most important being noise and the nuisance created by the prospect of 938 takeoff or landing events every day in close proximity to a residential neighborhood. The current Drone Port site, chosen by Amazon Prime Air, is surrounded by several residential neighborhoods, with the nearest neighborhood only 425 ft from the Drone Port launch pad. The takeoff and landing of these drones is very loud, intrusive, and a nuisance, just as it is for commercial airplanes. At 469 flights per day (938 takeoff and landing events), these residents will experience the takeoff and landing of every order placed through Amazon Prime Air, regardless of the destination delivery point of the drone within its 174-square mile delivery area. For a sense of scale, Houston Airports (about 90 miles SE of College Station) reports about 767 landings per day at their major airports. None of the residents that live close to the Amazon Drone Port site moved in next to an airport. The airport moved in next to them and encroached on the peaceful enjoyment of their property. In the FAA’s original Environmental Assessment of Amazon Prime Air’s OpSpec application, titled “Draft Environmental Assessment Amazon Prime Air Drone Package Delivery Operations in College Station, Texas”, dated September 2022, Section 1.1, paragraph 1 says “The proposed commercial delivery operations from the College Station PADDC would occur during daylight hours up to five days per week, including occasional weekend days.” Amazon Prime Air is now asking for seven-day-a-week operations extending into the night hours. This will have even greater negative impact on the personal enjoyment of nearby residents’ property, which has already been adversely affected by the proximity of the Amazon Prime Air Drone Port only 425 feet from homes, and the noise made by the takeoff and landing operations of those drones. Amazon Prime Air is asking for expanded operations without anyone completing a thorough post-implementation evaluation of the impact of this type of commercial airport operation so close to a residential neighborhood. Since there are in fact “unresolved conflicts” concerning alternative uses of available resources associated with Amazon Prime Air’s proposal, and that because of these “unresolved conflicts”, it is incumbent on the FAA to explore alternative uses, I ask that the FAA deny Amazon Prime Air’s request for expanding their OpSpec as described in the May 2024 Draft EA. 3) The FAA and its experience with Drone Port operations: While the FAA has decades of experience managing and regulating US airport infrastructure, airline operations and US airspace, the same cannot be said of Unmanned Aircraft. This is new territory for the FAA, and it appears that commercial enterprises like Amazon Prime Air want to move faster than the FAA should allow until the impact of these types of facilities can be fully understood. As of this writing, College Station, TX stands as the only active Amazon Prime Air Drone Port in the United States. This was originally billed by Amazon as a testing site, or proving ground, for Amazon Prime Air drone delivery service. In their original OpSpec application, they stated quite clearly that it would be daylight operations only. And only a certain number of flights per day. The Drone Port has been in operation for about 1.5 years. However, as a result of the poorly chosen location for this Drone Port, Amazon Prime Air should know that the site is too close to a residential neighborhood to operate at the scale being requested in this latest May 2024 Draft EA. What Amazon should know is that this site has served its original purpose (testing, or a proving ground), and should not be re-purposed as a full-scale

commercial Drone Port operation like the one they are asking for with the expanded OpSpec. Effectively, Amazon Prime Air is asking to expand to a full-scale, commercial operation, operating 469 flights per day, seven days a week, and within a 15-hour time window, which includes flying at night, within 425 ft of a residential neighborhood. This is without regard to the noise impact that the poorly chosen location has already had on nearby residences and property owners and will be made worse by the expanded OpSpec. **[D]** What the FAA should now get from this experience is a much better idea of what constitutes a reasonable site for a commercial Drone Port operation, regardless of the scale of the OpSpec. And it is not 425 feet from a person's home. For this reason, I ask that the FAA deny Amazon Prime Air's request for expanding their OpSpec as described in the May 2024 Draft EA. 4) **[E], [F]** Health and Wellbeing Impacts of the Amazon PADCC's proximity to residential areas: Amazon Prime Air drones have had a significant, adverse impact on the health and well-being of residents near the site and surrounding residential communities. The Amazon Prime Air drones, which are the heaviest, largest, and I believe, loudest of all the commercial delivery drones being evaluated by the FAA, are close enough to some homes to awaken residents in the morning, prevent night-shift workers from sleeping during the day (this is from my neighbor two doors down from me), and don't allow residents the peaceful enjoyment of their property during the day. The anticipation of when the next flight may takeoff, land or cross over homes leaves residents constantly on edge and causes anxiety, frustration and stress. Outdoor spaces of residential homes are no longer the place where residents can relax and enjoy their sanctuary. It has instead become a source of angst due to the frequency of drone operations and their close proximity. Even inside of homes, we are acutely aware of the drone flights. In my own home, I can tell when a drone flight is taking off or landing, even while I am on a Teams call with my employer. Amazon Prime Air is fully aware of their impact on these residential neighborhoods. However, Amazon Prime Air has not been a good neighbor and their operations need to move far from our residential setting to preserve our health and well-being. We depend upon the FAA to protect us from physical as well as mental health harms, and therefore, I ask that the FAA deny Amazon Prime Air's request for expanding their OpSpec as described in the May 2024 Draft EA.

FAA Response – 129_PBastian

Thank you for your comments.

[A] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[B] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[C] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[D] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[E] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[F] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

Public Comment – 130_Casto

*It has come to my attention that Amazon has requested FAA approval for a substantially increased number of drone flights out of their College Station, TX location. I resoundingly object to such authorization. The current number of flights has created disturbance in the residential areas surrounding the site. Any increase in the number of flights is unacceptable. I do not know if Amazon was transparent in its initial request to the City of College Station or FAA, and I wonder if a true, unbiased environmental impact study has been done. The properties affected by this facility were here long before Amazon ever entered into this area, and the needs and concerns of those of us who reside in the vicinity should have been taken into consideration long before the facility was approved. **[A], [B], [C]** Surely the FAA, as a governmental entity, should be concerned about the well-being of citizens, and the integrity of their properties. **[D]** The facility could most certainly be relocated to a more commercial/industrial site where the environmental impact would not be as egregious to residential homeowners and residents. Amazon’s unquenchable thirst for profits should not be permitted at the expense of private citizens. **[E]** Their request to expand operations at this location must be denied.*

FAA Response – 130_Casto

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[D] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[E] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 131_Brick

[A] PLEASE listen to the comments of residents from some of our largest neighborhoods in College Station and deny any extension of service by Amazon Drones. We do not oppose Amazon or even the drones, but we do oppose its location. **[B]** It should be located in an industrial area.

FAA Response – 131_Brick

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] Operation of the existing PADDCC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 132_Burrell

*I am a resident of the Woodcreek neighborhood, to which the Amazon droneport is in closest proximity. While my home is not directly adjacent to the droneport, my home is in the flight path of Amazon’s drones. Additionally, I walk my dog at least once daily in Woodcreek Park, which is adjacent to the droneport. We typically walk early in the morning and hear the takeoffs and landings of the drones. I had no idea that the drones would be so loud and am thankful that I do not live any closer to the droneport than I do. Our neighbors on Brookwater Circle are miserable with the noise produced over and over all day long due to the frequency of drone trips. It is bad enough that I can hear the drones flying overhead when I am inside my house. I can not fathom how awful it is for our neighbors. Amazon chose a truly inappropriate site to develop the busy droneport! I am dreading the possibility that Amazon will more than double their trips per day with expanded hours. I can't imagine them flying over at 10 pm. **[A]** My husband and I feel that our ability to enjoy our property, where we have lived for over 21 years, has been severely impacted by the presence of Amazon's drones. Woodcreek used to be a quiet, peaceful neighborhood. Amazon's drones have obliterated that! **[B]** I sincerely implore you to deny Amazon's request to increase the drone traffic. **[C]** I am aware that drones are likely to be part of the future but they should not be part of a residential neighborhood. Please help our community!*

FAA Response – 132_Burrell

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[C] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 133_Safetycmg

My husband and I are residents of the Sandstone Neighborhood, College Station, Texas and we strongly oppose the expansion request of Amazon Prime Air to increase their current permitted number of flights per day and hours of operation for the following reasons: [A] The current number of flights has ruined our ability to enjoy anywhere outside of our home or in our neighborhood. We can no longer enjoy the nature and quiet of the 3-acre home that we purchased in 1999. If the current drone operations continue and/or expand we will be seeking a home elsewhere as we refuse to continue paying unbelievably high property taxes for a home and neighborhood that is no longer the private and quiet natural area that we invested in. The Amazon Prime Air College Station Landing Pad and warehouse property were only zoned by the City of College Station as a PDD (Planned Development District) – it is not zoned as General Commercial Property. This means that the current Amazon Prime Air College Station Operation was provided special permission just for limited use which was detailed in the City of College Station City Council Minutes on July 14, 2022. “The applicant is requesting an allowed use to the property of consumer, small-scale aerial distribution.” 469 flights/day at 365 days per year is not “SMALL SCALE”. The current City of College Station Comprehensive Plan calls this property “Neighborhood Commercial.” Additional City of College Station wording says “service is intended to directly serve homeowners and residents within the surrounding neighborhoods,” not the entire cities of College Station or Bryan. The city wording also says “distribution of consumer packages by land must be limited to 5 trips per day.” Please see the City of College City Council Meeting Minutes here: page 6: City Council Minutes of Amazon Air 7 14 22.pdf Also see page 18 – Exhibit B – “The operating area for the drones on the property must be limited to the area identified on the Concept Plan. “Add stipulation that peak hour trip generation will be less than 150 trips/peak hour Trip Generation or a TIA will be required for the site” [B], [C] We have the following grave concerns: Amazon Drones are flying lower than 100’ and hovering (as if they are taking photos or filming) near our homes that have never ordered any prime air packages and/or never signed up to receive these kinds of packages. We have consistently observed the Amazon Drones flying over the Sandstone public park which backs up to our neighborhood. This park often has over 200 people attending public events. The Amazon Drones mostly seem to be joyriding. When we have observed the drones; they are not carrying any packages and they fly east over the Sandstone, Emerald Forest and Emerald Ridge neighborhoods to the open floodplain to our east and then they return to their Amazon landing pad. Our neighborhood’s proximity and location of the Drone Landing Pad requires the drones to fly 200’ or lower as we are within 5 miles of two hospital heliports. The Amazon drones are an invasion of our neighborhoods and our privacy. We were told in the original neighborhood meetings with Amazon personnel that the drones would fly 400’ or higher above our homes. We now see that they fly

directly over our yards, our pools and our parks at approximately 100 feet or less. How would you like a drone to hover above you when you are in your swimming pool, walking to the park or outside working in your yard? We were told that Amazon could not specifically tell us the decibel sound levels and now that we have heard them; they sound like a very loud beehive about to attack. How would you like to be in fear that you are about to be attacked by bees? Summary - The drones do affect our families and our neighbor's enjoyment of our residences. Yes, we have 5-10 airplanes and helicopters that fly over our neighborhoods daily; but they are flying thousands of feet high, they do not make loud sounds and there are not over 400 flights a day! [D] Please deny Amazon Prime Air's expansion request until they can find a more appropriate location for this business. We have omitted our names and contact information as we do not want our personal information shared publicly.

FAA Response – 133_Safetycmg

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[C] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA’s regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[D] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 134_Savell

We live in the Shadowcrest Subdivision in College Station, TX 77845, directly adjacent to the location on which Amazon Prime Air began piloting their drone deliveries. My husband and I have lived here for thirteen years and enjoyed raising our two children from infancy in this beautiful, serene area of College Station. Many businesses have opened adjacent to our area (including multiple car dealerships), and there has been no concern or disruption for the residents. [A] However, when Amazon Prime Air began piloting their drones nearby, the disruptive noise of the drones taking off, flying by, and returning could be heard throughout the day. The previously pleasant outdoors were continually interrupted by the loud buzzing of the drones. Even after Amazon Prime Air changed to their newer model of drones, it can still be heard by the residents in our neighborhood. Municipal Property Impact: Amazon Prime Air opened their facility very close to Woodcreek Park, a local wooded municipal park accessed through our neighborhood. It is a green zone where people take daily walks with their children or pets, participate in athletic activities, watch local wildlife such as the rabbits, deer, and turtles, or explore the natural, wooded trails and

waterway. You cannot visit the park now and enjoy the noises of nature without regular interruptions by loud, annoying drones taking off and returning. This impact on the peace and enjoyment in this area is a loss for the city that manages the park, the local residents, and the park visitors, and is inflicted by Amazon Prime Air. **[B]** *Property Values and Marketability Impact:* We have lived in this neighborhood for 13 years, and many residents have lived here much longer. As retirees in the neighborhood or people moving for work attempt to sell their homes, they are finding the desirability and home values of the neighborhood being impacted by the noise level of these drones. As one person put it, they "don't want to live near a race track", which is what it now sounds like throughout this area. This impact on home values and desirability is a loss for homeowners and local real estate agents inflicted by Amazon Prime Air. *Local Business Impact and Lack of Desire or Need for Amazon Drone Deliveries:* As I have said, I have lived in this neighborhood a long time and know several residents. I am not aware of anyone that is currently utilizing or requesting Amazon Prime Air deliveries. The drones deliver purchases from Amazon weighing less than 5 pounds, and they deliver to an area where people have easy access for any such purchasing needs at stores directly down the street that offer delivery services. This impact on sales is a loss for local businesses inflicted by Amazon Prime Air and the annoyance and inconvenience endured by all the residents is not worth having this Amazon Prime Air delivery located directly adjacent to a residential neighborhood. If Amazon is truly taking into consideration the impact it has on the communities it is moving into and is wanting to develop the best model for its new drone delivery program, Amazon should be taking these concerns and impacts into consideration. Request: **[C]** *As an entity that serves and preserves the people and not corporations, we request that the FAA please not grant Amazon Prime Air any expansion on its current drone services. [D] We request that the FAA facilitate and/or encourage the move of Amazon Prime Air, in whatever way they are capable of doing so, to a more commercially-zoned area in the city to pilot their drone deliveries.*

FAA Response – 134_Savell

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[C] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[D] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

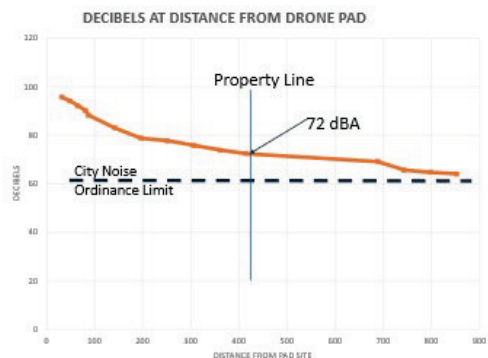
Public Comment – 135_Stockton

Thank you for the opportunity to provide feedback on Amazon's proposal to expand the drone operation in College Station, Texas. **[A]** I respectfully request that the FAA deny the proposal from

Amazon Prime Air. The Amazon proposal places a very high burden on the surrounding community, a burden that far exceeds public benefit. This is an example of technology outpacing public policy. In this case the public policy question for local and federal regulators should be “what are the characteristics of an acceptable droneport site?” Inadequate statement of need The original and supplemental EAs both establish ‘need’ on the basis of the applicant simply saying they need it for business purposes. There is no objective assessment of public need or benefit. Nor is there an attempt to weigh the purported need against the adverse impact on the community. My personal point of reference is the profound documentation of need required when an applicant proposes to build a toll road. The toll road applicant brings mountains of justification to the process, having often spent \$ millions on studies and analyses. In this case, Amazon has simply said ‘we need it.’ Furthermore, the recently released EA for Tolleson, AZ shows a virtually identical statement of need between suburban Phoenix and College Station - down to the number of flights requested: 469 per day. Somehow, that does not make sense and casts doubt on the legitimacy of both. Given the significant number of responses to FAA showing adverse neighborhood impacts and the completely unsupported statement of need, the FAA should deny the application. Protection of Sensitive Land Uses Paragraph 3.6.1 of the SEA describes why the FAA reviews noise - to protect sensitive land uses. In fact, the SEA cites FAA Order 1050.1F, Paragraph 11-5b, which defines “noise that interferes with normal activities associated with this land use.” Unfortunately, this is an example of technology outpacing policy. [B] In the absence of a noise assessment methodology for droneports, the FAA was compelled to use a somewhat modified airport noise model. That application does not fit the reality of noise impacts in the very near proximity of the pad site. Each operation is disruptive on its own and exceeds the local noise ordinance. One or two operations per day might be tolerable, but Amazon is asking for 469 flights, meaning there will be a takeoff or a landing every 45 seconds or so. [C] The protection of the ability to sleep, home school or convalesce should certainly be within the mandate and authority of the EA – this alone should qualify for denial. First-In Priority Every homeowner in east College Station chose a homesite for peaceful suburban life and then an “airport” moved in. We did not move in next to an airport and begin complaining about the noise. I am still struggling to understand how both the FAA and the City government could conclude that the droneport in the middle of neighborhoods was a good idea – unless none of the decision-makers had ever heard the MK-27-2 aircraft takeoff and land amidst the ambient noise level of a quiet neighborhood. We now know that no one in the City of College Station ever heard it and we wonder if the FAA made an informed decision about the noise differential. An application for a vertiport would have received many times the scrutiny applied to this EA, again demonstrating the reality that the technology of drone delivery is rapidly outpacing public policy, but those adversely impacted are the citizens, not the applicant. Noise Level The use of the DNL methodology may be common and well-understood in the aviation industry, but it is absolutely foreign to local governments and civilian land use planning. What the locals heard was “FAA has a threshold of 65 dB and this drone is well below that.” The locals had no idea that the actual SEL could be well above 65 dB and still meet the FAA DNL limit. Locals are still aghast at the quote from the FAA document, Fundamentals of Noise and Sound, that shows (paraphrasing) “100 noise events per day of 94 dB SEL < 65 dB DNL.” This is very complicated for anyone outside of the aviation field and the applicant used that complexity to mislead the public. The takeoff and landing sound levels exceed City ordinance. The graphics attached reflect the data in Table 6 from Attachment B, in the noise analysis section of the EA. The graphics show that the city noise

ordinance limit of 63 dB (per noise event, not averaged over 24 hours) is exceeded on every takeoff and landing. In theory, existing operations – already approved by FAA – could be challenged in municipal court dozens of times per day and the proposed expansion to 469 flights almost assures that citizens will challenge every flight. Regardless of the outcome of legal challenges, this is an unnecessary controversy that needs resolution. Until that resolution is accomplished at the local level, the FAA should deny the expansion, which will only aggravate the tension. Here again, public policy is sadly trailing technology because the FAA and local government roles are sufficiently ambiguous such that the applicant can always point at one or the other and say “we are only following their rules,” leading to an untenable outcome. Absence of Good Faith The successful incorporation of a new technology into suburban life requires good faith, even while good review and operational practices are developed. Yet the applicant has repeatedly demonstrated indifference to neighborhood impacts: Never did a live demonstration (Amazon explanation: “the FAA would not let us” [McArdle, Feb 22]) The Amazon proposal makes no commitment to discontinue MK-27-2, only to incorporate MK-30 In response to email complaints, the applicant responds with duplicate form letters The applicant has never attempted any dialogue with neighboring communities to find mutual understanding. In summary, the statement of need is completely inadequate, the proposal does not protect sensitive land uses - especially since the quiet communities were already in place, the noise level is not compatible with residential land use, and the applicant has not acted in good faith. Please deny this Amazon request for College Station.

(email attachments)



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Table 6. Average Sound Exposure Levels of MK27-2 during Landing versus Distance

Position	Distance (ft)	Sound Exposure Level (dBA)
1	32.8	94.5
2	49.2	93.2
3	65.6	92.1
4	82.0	90.2
5	87.5	90.1
6	142.2	85.0
7	196.9	80.7
8		79.0
9		77.3
10	360.9	74.9
11	415.6	73.7
16	689.0	69.7
17	743.7	67.6
18	798.4	67.0
19	853.0	66.2

Notes: 1) Applicable for the landing profile presented in Table 4.

FAA Response – 135_Stockton

Thank you for your comments.

[A] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[C] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

Public Comment – 136_Klein

*I am writing to indicate my strong opposition to Amazon Prime Air's application to expand their Drone Port operations at the Technology Parkway site in College Station, TX. My opposition is not against Drone Technology as I see a number of valuable areas where drone technology is needed. The issue is in the location of this particular operation. Amazon was approved by the city of College Station Planning and Zoning Commission, followed by approval from the City Council, to set up an experimental test site at the Technology Parkway location. The land owner leased the land to Amazon Prime Air for this experimental operation. Unfortunately, the location of their drone take off and landing pads is literally 500 ft from an established, high-end neighborhood. This neighborhood was established in the early 1990's and consists of 118 homes, several of which are considered estate homes. In addition to this neighborhood (Amberlake), five other established neighborhoods are in close proximity to this drone operation including Chadwick, Foxfire, Emerald Forest, Shadowcrest and Sandstone Estates. The existence of the current operation has frustrated all of these neighborhoods as the size of the drones and the noise they produce on take off and landing was never communicated or demonstrated to P&Z or City Council prior to being approved. In addition, it was clearly communicated that Amazon Prime was only using this current site on Technology Parkway as an experimental test site. Now they are asking to turn it into a commercial operation with flights occurring between 7 am and 10 pm, 365 days/year. This would be an increase of more than 1000% over their current flight schedule and has the potential to be busier than a major international airport directly in someone's backyard. **[A]** In addition to the size of the drones flying over all of these established neighborhoods, the noise level that is produced during takeoff and landing is over 70 decibels at the neighborhood boundary which is above the city's noise ordinance levels. For those houses closest to the boundary level, the noise is reminiscent of a chain saw which they would potentially hear up to 900 times per day. The original purpose of the Amazon Drone Port in College Station, TX, was to test their Drone Delivery technology, and use the site as a proving ground. At the time of the original application, the poorly chosen Drone Port Site*

was and still is surrounded by residential neighborhoods, presumably because the original OpSpec required that Amazon Prime Air maintain Visual Line Of Sight (VLOS) with the drones at all times. This places additional emphasis on the fact that the Amazon Drone Port in College Station, TX was a testing facility. Amazon Prime Air has already been granted Beyond Visual Line of Sight (BVLOS) operating capability for their drones. Therefore, Amazon Prime Air's new OpSpec expansion request: illustrates that their technology has outgrown the purpose and need for the current Drone Port Site, goes well beyond the stated original purpose and limits of the current Drone Port Site, and is not applicable to the current Drone Port site, considering its proximity to nearby residential areas, and the nuisance the Drone Port site creates with its current OpSpec. [B] If the application to expand the current Drone Port operation the integrity and value of our neighborhoods will decline considerably. [C] We have already seen a decline in wildlife in the area behind the homes that back up to the Drone Port and no potential buyer is going to visit a home for sale and want to listen to a drone take off and land every 90 seconds. [D], [E] I know that the FAA would not approve a new commercial airport be built within 500 feet of an established high-end neighborhood and thus I implore you to deny Amazon Prime Air's request for expanding their OpSpec as described in the May 2024 Draft EA. Thank you for taking the time to read this email and understand my opposition to this request.

FAA Response – 136_Klein

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[C] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

[D] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[E] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 137_Razvi

I am writing to express my strong opposition to Amazon Prime Air's outrageous request to increase drone flights to 469 per day. [A] The current drone noise is already unbearable for residents, especially on Brookwater Circle and throughout the east side. [B] This relentless noise disrupts

day-sleepers, home-schooled children, and bedridden neighbors. [C] We did not choose to live next to a droneport; this was imposed on us without any consideration for our quality of life. Approving this request will devastate our community further. [D] Property values will plummet, and the incessant noise exceeds the City's limits every single time. Amazon has shown zero regard for our well-being by not engaging in meaningful dialogue with us. [E], [F] The FAA must deny Amazon's request and ensure these drone operations are moved away from our neighborhood.

FAA Response – 137_Razvi

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[C] For additional information regarding "quality of life" please refer to *Topic Specific Response 3-2: Quality of Life*.

[D] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[E] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[F] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 138_Dames

[A] *The frequent sound of the overhead Amazon delivery drones has ruined my neighborhood peace. We used to have a quiet neighborhood that we could enjoy our outdoor spaces and inside of our homes but now, we can hear the drones coming and going because I live in Brookwater Circle and our neighbourhood are facing significant noise pollution because Amazon inconsiderately located their droneport just a few feet away from the backyards. [B] This adversely impacts all of us in the neighborhood by causing unrest, anxiety and frustration that we cannot get rid of this nuisance buzzing noise. Amazon has said that there is a NEED to expand their operating capabilities to 469 flights per day though there is no evidence that Amazon flies even close to the allowed 200 flights at this time. We have the right to have peace inside and outside of our homes and this droneport has been imposed upon us. The FAA may not realize the physical and mental*

impact of the frequent buzzing sounds as this is new technology which requires much more study and regulation. [C] This type of commercial operation that Prime Air has requested must be mandated to be in a remote location to prevent the effects on communities we are facing. [D] Amazon is just one of many companies moving to the air and we need the FAA to regulate the airspace to restrict such activities from residential areas. City governments have not caught up to this technology and we, citizens, need the FAA to safeguard our health and well being and right to live in a peaceful place if that is where we have purchased our home. For those who purchase near an airport, they know exactly what they are going to face. The Amazon experiment has been imposed upon us because the FAA has given its blessings. Amazon needs to immediately cease operations until they can move to a suitable location that fits with their goal to expand their operations without ruining our lives and neighborhood in the process.

FAA Response – 138_Dames

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[C] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[D] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 139_AAlikhan

We are literally sick of them! [A], [B] As a physician, I can confidently state that the Prime Air drones are making our community anxious, frustrated and on-edge affecting our health and well-being. The Amazon drones have had tremendous adverse impact on the health and well-being of my family. Living just a few yards from the drone launch site, we awaken to the annoying, humming motor sound of the overhead drones often. After waking us up, they don't allow peace during the day. The anticipation of when the next flight may cross over our home leaves us constantly guarded and causes unrest and stress. Our outdoor space is no longer the place where we can relax and enjoy our sanctuary. It has instead become a source of angst due to the frequency of drone flights and their close overhead proximity. Even inside of our home, we are acutely aware of the drones. The repeated loud buzzing noise makes it very difficult to concentrate and read or engage in any analytical thinking due to the incessant distraction. Every flight is multiplied by 2 because we hear

it coming and going. There is data on the harms of such noise exposure from other models including the loud Bitcoin fans that ruined an Arkansas neighborhood as reported in the New York Times. We are already gravely impacted by the number of flights being around 20, and Amazon's request to increase the number to 469/day is unfathomable! Amazon has been insincere and deceptive since they came to our community 2 years ago. We have no trust in anything they say because what they do is not aligned with their commitments. [C] Please do not approve Prime Air's request for expansion of service!

FAA Response – 139_Aalikhan

Thank you for your comments.

[A] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[B] For additional information regarding "quality of life" please refer to *Topic Specific Response 3-2: Quality of Life*.

[C] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 140_Fuller

(attached letter contains duplicate wording as email comment below)

Even though our home isn't within the current coverage, I can attest to several things: (1) Benefits of drone service to Amazon Prime Air customers (a) CONVENIENT pharmaceutical options, for those with transportation and health issues (b) QUICK delivery of last minute items One of my friends in the Emerald Forest loves to say that Prime Air saved her, when she realized that she had forgotten about a baby shower that was within the hour. While she showered, Prime Air delivered a gift, so she had it wrapped and was on her way in time. (2) SUPPORTIVE impact of Amazon Prime Air as a community neighbor, with support of United Way, Bryan/College Station (B/CS) Chamber, Brazos Valley Gives, "Health For All" free clinic, CSISD schools, and, full disclosure, the nonprofit that I co-founded to benefit Veterans and their families: Wreaths Across America Brazos Valley – Gold Star Help. Myself and other nonprofits have spoken at C/S City Council meetings in support of Prime Air. (3) RESPECT of local neighborhoods and community Having witnessed several drone deliveries at friends' homes, I was delighted when able to tour the droneport in March 2024. The facility was secure and well maintained. The songbirds surrounding the droneport are undisturbed by the drone activity and continued to sing loudly. Prime Air's efforts with the MK30 UA indicate their efforts to be sensitive to noise concerns. My research indicates current and proposed drones (less than DNL 55 dB, which under FAA's threshold of DNL65 dB) are also below other household items, such as leaf blowers (65 to 100 dB for electric- and gas-powered), vacuum cleaners & hair dryers (70-80 dB) and refrigerators & dishwashers (45-50 dB), as well as C/S Code of Ordinance

(56-63 dB). Source: <https://housetoolkit.com/how-noisy-are-leaf-blowers/>, dtd 6.17.2024 (4) **SAFETY** – My father was a Navy Captain that the Assistant Supply Officer of the USS Enterprise (not the starship, but the first nuclear aircraft carrier, CVN-65). I observed that same protocols for safe droneport visits, as I had experienced on the carrier “flight line”. (5) **TEAMWORK** – The droneport’s Lead, Christina Carter, who is an Army Veteran, fosters a work environment that is impressive! It is an incredible mix of specialization, cross-training and pride! Truly, “teamwork makes the dream work”! I’m excited for the MK30’s increased range (from 3.8 miles to 7.5 miles) and am thankful for Amazon Prime Air’s continuing commitment to the B/CS and Brazos Valley community. All the best, Ellen Fuller Volunteer Co-chair, Wreaths Across America (WAA) Brazos Valley & Gold Star Help

FAA Response – 140_Fuller

Thank you for your comments.

Public Comment – 141_Thomson

I am a resident of the Sandstone Neighborhood, College Station, Texas and I strongly oppose the expansion request of Amazon Prime Air to increase their current permitted number of flights per day and hours of operation for the following reasons: [A] The current number of flights has already ruined our ability to enjoy anywhere outside of our home or in our neighborhood. We can no longer enjoy the nature and quiet of the 3-acre home that we purchased in 2018. If the current drone operations continue and/or expand we will be seeking a home elsewhere as we refuse to continue paying unbelievably high property taxes for a home and neighborhood that is no longer the private and quiet natural area that we invested in. The Amazon Prime Air College Station Landing Pad and warehouse property were only zoned by the City of College Station as a PDD (Planned Development District) in July 2022 – it is not zoned as General Commercial Property. This means that the current Amazon Prime Air College Station Operation was provided special permission just for limited use which was detailed in the City of College Station Planning & Zoning Minutes on June 16, 2022. “The applicant is requesting an allowed use of the property of “consumer, small-scale aerial distribution.” 469 flights/day at 365 days per year is not “SMALL SCALE”. The current City of College Station Comprehensive Plan calls this property “Neighborhood Commercial.” Additional City of College Station wording says “service is intended to directly serve homeowners and residents within the surrounding neighborhoods,” not the entire cities of College Station or Bryan. The city wording also says ‘distribution of consumer packages by land must be limited to 5 trips per day.’ As it is, Amazon is currently allowed to have up to 200 flights/day at a shorter distance but is no were near that number. I don’t see the need to increase it from 200 flights/day to 469 flights/day if they are not even close to the initial flights requested. Along with this, there has been no evidence submitted to the FAA from Amazon stating why they are requesting the increase in number of flights and increased distance. I have the following grave concerns: [B] Amazon Drones are flying lower than 100’ and hovering near our homes that have never ordered any prime air packages and/or never signed up to receive these kinds of packages. Our neighborhood’s proximity and location of the Drone Landing Pad requires the drones to fly 200’ or lower as we are within 5 miles of two hospital heliports. We have consistently observed the Amazon Drones flying over the Sandstone public park which backs up to our neighborhood. This park often has over 200 people attending public events. The Amazon Drones mostly seem to be joyriding. When we have observed the

drones; they are not carrying any packages and they fly east over the Sandstone, Emerald Forest and Emerald Ridge neighborhoods to the open floodplain to our east and then they return to their Amazon landing pad. They do not drop any packages. **[C]** The drones are an invasion of our neighborhoods and our privacy. We were told in the original neighborhood meetings with Amazon personnel that the drones would fly 400' or higher above our homes. We now see that they fly directly over our yards, our pools and our parks at approximately 100 feet or less. How would you like a drone to hover above you when you are in your swimming pool, walking to the park or outside working in your yard? **[D]** We were told that Amazon could not specifically tell us the decibel sound levels and now that we have heard them; they sound like a very loud beehive about to attack. How would you like to be in fear that you are about to be attacked by bees? Summary - The drones do affect our families and our neighbor's enjoyment of our residences. Yes, we have 5-10 airplanes and helicopters that fly over our neighborhoods daily; but they are flying thousands of feet high, they do not make loud sounds and there are not over 400 flights a day! **[E]** Please deny Amazon Prime Air's expansion request until they can find a more appropriate location for this business.

FAA Response – 141_Thomson

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[C] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA's regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[D] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[E] Operation of the existing PADDCC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 142_Matheny

Subject: Amazon's request for FAA approval to increase drone flights in certain areas of College Station, Texas. Relevance: I live at (address redacted) in College Station, one of the neighborhoods affected by Amazon's drone operations. [A] Request: Please deny or delay Amazon's request to expand drone operations in College Station, Texas. Concerns: Amazon is presently requesting permission to operate up to 469 drone flights daily in College Station. [B], [C] As proposed, these operations will negatively affect property values and adversely impact the quality of life for

residents in this area. Amazon should: Avoid flying in narrow corridors and distribute drone flights across fairly wide areas. Defining flights along somewhat circuitous paths should not materially increase operating costs. (Flight paths should cross open areas and parallel major roadways.) Assure that drones only fly in rural areas. Ground transportation should always be used in highly populated residential and urban areas. (Avoid overflight of these areas for any reason.) [D] Acknowledge that drone operations are not risk free. Eventually, some drones will fail and crash into homes and buildings. Injury and death are possible for humans, pets and wildlife. The kinetic energy in drone aircraft is quite sufficient to endanger lives and property. Because of the inherent fire risk of lithium batteries, drone operations should be restricted or curtailed during drought conditions. Here is a reference for burning laws and regulations: <https://agrilife.org/rxburn/laws-and-regulations/burning-laws-and-regulations/> Conclusion: Amazon should respect the public's need for safety and quality of life. [E] I should not lose sleep or money (declining property value) to help Amazon make money. Companies unwilling to adjust profit objectives for the benefit of ordinary people are those companies afflicted by a condition known as greed.

FAA Response – 142_Matheny

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] For additional information regarding "quality of life" please refer to *Topic Specific Response 3-2: Quality of Life*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[D] The FAA's primary mission is the safety and efficiency of the National Airspace System, and the safety and reliability of the proposed drone operations have been carefully assessed. The FAA has determined that Prime Air's drones and operation does not create a hazard to users of the NAS or the public and can be conducted safely. For specific information on the FAA's role in assessing drone safety, please refer to *Topic Specific Response 1-2: Safety*.

[E] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

Public Comment – 143_Penny

(video file attached)

[A] *I am writing to ask that you reject the approval of the Amazon expansion of the number of flights (a 2000% increase), the hours of operation, and the number days of operation at its current College Station, Texas droneport's location. This facility would bring too much noise to our quiet neighborhood. [B] We are worried about how this noise will affect our daily lives, especially*

because our area is sensitive to noise. I'm not opposed to drones. I'm opposed to having a drone airport 450 feet from my home and well-established residential neighborhood. [C] The noise is like a massive swarm of bees or like a chainsaw running. The pitch of the noise varies up and down. The drones currently being used by Amazon are the loudest drones compared to drones currently operated by Zipline, Causey Aviation, UPS Flight Forward, and Google Wing. If understood correctly, the FAA uses a 24-hour average to calculate in your noise calculation. The noise level should be calculated on the number of hours of actual operation. OSHA requires companies to calculate noise based on a time weighted average of 8-hours or the actual number of hours worked by the employee which can be a 10-hour workday, or a 12-hour workday. Amazon is requesting hours operation of 10-hours. Thus, the calculation should be based on a 10-hour weighted average. Each flight utilizing the Amazon MK-27 exceeds the City's noise limit, and Amazon used the FAA's 24-hour average noise calculation to mislead the city leaders. I have heard this request for increased flights is equivalent to the number of airplane flights out of Houston airports. Droneports should never be placed among well-established residential neighborhoods. [D] The solution to this problem is to locate drone airports further away from residential neighborhoods and place them in true commercial, industrial areas or mall areas. Amazon requested and received a zoning change to operate at its current location. The city made this change against the local neighbors' wishes or without witnessing a live demonstration of the Amazon drone. During the zoning request or since then, Amazon has never reached out to the effected neighborhoods for constructive dialogue. Prior to approving Amazon's request, I ask that the FAA to require Amazon to relocate it's droneport to an appropriate location. College Station, Texas was selected by Amazon as a test site, as with all new technology there are learning curves. A lesson learned with this new technology is that droneports must be located in appropriate locations further away from established residential neighborhoods whether it's in College Station, Texas or any other US city. Please consider our community's concerns and say no to the Amazon drone facility. We value our peace and quiet and want to keep it that way.

FAA Response – 143_Penny

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] For additional information regarding "quality of life" please refer to *Topic Specific Response 3-2: Quality of Life*.

[C] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*. Also, please refer to please refer to *Topic Specific Response 2-4: Noise Metrics*.

[D] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 144_Slaydon

[A] Please deny the request from Amazon to increase the daily limit of drone flights in College Station, Texas. As a resident in the neighborhood adjacent to the drone facility, the noise and activity has oftentimes been unbearable. We have lived in our home for 20+ years and did not choose to live near an airport or droneport. **[B]** No one could have ever envisioned that it would negatively impact our neighborhood like it has. Imagine enjoying your backyard on a weekday or weekend, hearing the drone approaching from down the street, knowing that it will quickly and noisily pass overhead. Then you look up and see the drone buzzing by, only to have it return on the same flight path about five minutes later. This has often happened repeatedly throughout the day. I can't imagine what it will be like if the FAA approves this proposal to increase daily limits. The use of Amazon drones is so new - College Station is one of only two drone facilities in the nation. No one could have ever predicted the impact it would have on a community. While its advantages can be great (we love traditional Amazon!), the placement of a drone facility adjacent to well-established neighborhoods turned out to be detrimental and a huge mistake. **[C]** Rather than approving the request from Amazon to increase the daily limit of flights, please let Amazon work with our city to find an alternative solution such as relocating their facility.

FAA Response – 144_Slaydon

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] For additional information regarding "quality of life" please refer to *Topic Specific Response 3-2: Quality of Life*.

[C] Operation of the existing PADDCC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 145_Holliday

Our name is Ray and Shelley Holliday and our residence is (address redacted) We are AGAINST Amazon Prime increasing their daily drone flights. Amazon Prime Air is asking the FAA to increase the limit on daily drone flights by 235%, from the current maximum of 200 flights to 469 every day, 171,000 flights per year. Since they currently average less than 20 flights per day, that's an actual increase of more than 2000%. The noise is already unbearable to us and neighbors living throughout the east side. **[A]** The solution is to relocate the droneport to a more suitable location, like Post Oak Mall. Approval in the current location will subject all citizens to as much as 2000% more noise disruptions 7 a.m. to 10 p.m., 365 days per year. **[B]** Current operations are already disruptive to day-sleepers (including local law enforcement), home schooling and bed-ridden neighbors. We did not choose to move in next to an airport/droneport - the decision to allow a

droneport was approved by the FAA and imposed on us, without anyone being told the implications. [C] If the Amazon supplemental request is approved by the FAA, the situation will worsen: including declines in property value, occupancy, and sales. [D] The FAA noise calculation is based on a 24-hour average, which is not relevant if it disrupts normal activities 10 hours each day. The drone flights exceed the City's noise limit for each and every flight, so the FAA noise estimate was used to misinform City leaders and citizens. Amazon has repeatedly demonstrated their indifference to neighbor impacts: 1. they never did a live demonstration for the City leaders, 2. they do not commit to switching to the quieter drone, 3. they claim consumer demand justifies this but they fly an average of less than 20 flights per day, 4. Amazon has never reached out to the surrounding neighborhoods for constructive dialogue. Let Amazon work with the City of College Station to find a good site for the droneport.

FAA Response – 145_Holliday

Thank you for your comments.

[A] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[B] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*. **[D]** As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

Public Comment – 146_Johnson

Approval in the current location will subject all citizens to as much as a 2000% more noise disruptions 7am to 10 pm, 365 days a year We did not choose to own our homes next to an airport/droneport. [A] The decision to allow a droneport was approved by the FAA and was imposed on the citizens. [B] This was accomplished without proper notification and demonstration in the neighborhoods most affected by the noise of the drone paths and launch pads. [C] If the Amazon supplemental request is approved the situation will worsen greatly, including declining property values. [D] Current operations are already disruptive to day-sleepers (including local law enforcement), home schooling and homebound persons. The noise from the drones flying overhead is a nuisance already. [E] The drone flights exceed the city's noise limits for each and every flight

FAA Response – 146_Johnson

Thank you for your comments.

[A] Operation of the existing PADDCC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[B] The scope of the FAA’s public engagement process is documented in *Topic Specific Response 3-4: Public Involvement* and Appendix A of the Supplemental EA.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[D] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[E] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

Public Comment – 147_Burk

*Regarding, Prime Air College Station Draft EA. I am a resident and homeowner of Amberlake subdivision. I appreciate that the FAA has engaged the community and would look forward to a more thorough evaluation in partnership with us. We have been petitioning the move of the facilities that are less than 500 feet from many homes and are significantly concerned regarding excessive detriment expansion would cause. **[A], [B]** I am requesting not only that the proposal for expansion be denied but that the existing facilities be moved from among established housing developments. A large portion of our community was not consulted or otherwise made aware of the intention, or the impact placed upon us by the Amazon Prime Air Drone facility. **[C]** We are unaware of any sound tests or environmental impacts performed and understand that remote location results may have been used? We purchased our home in a mature environment filled with wildlife, peace, privacy, and enjoyment of property. Our home is considered higher mid-range in value based upon the quality of the building and the esthetic community in which we reside. I am aware from either personal experience or actual experiences of my neighbors that the invasion of the drone facility has had significant negative impacts to the surrounding communities, including but not limited to: Amazon Prime Air is asking the FAA to increase the limit on drone flights to 469 every day, one every 38 seconds, 7 days per week, 171,000 flights per year. The noise is already unbearable to neighbors living throughout the east side, and especially on Brookwater Circle. **[D]** Current operations are already disruptive to day-sleepers (including local law enforcement), home schooling and bed-ridden neighbors. We did not choose to move in next to an airport/droneport – the decision to allow*

a droneport was approved by the FAA and imposed on us, without citizens being told the implications. The drone flights exceed the City's noise limit for each and every flight. [E] Loss of property value. There are homes for which it will be very difficult to sell as you may not be able to show the home without a loud take-off, landing, or fly over. Should you sell the home, it is anticipated that market value will be impacted. Others are similarly hurt based upon proximity to the facility. [F] Loss of use of property. It has become prohibitive for many to enjoy the use of their property as they cannot engage in backyard conversations or activities, hear their children's laughter, or enjoy a cup of coffee while admiring wildlife because of the frequent drone events. Health and well-being, we have neighbors who are undergoing cancer treatments, have young children trying to nap or who work at night and require sleep during the day, not to mention those that simply do not want to hear a drone in their home. We cannot acquire needed rest & recovery as the sound penetrates the walls of our homes. These are but a few, and yet seriously, financially and health impacting examples of what surrounding communities and I have experienced because of this facility being situated so close to homes. Amazon has repeatedly demonstrated their indifference to neighbor impacts: a) they never did a live demonstration for the City leaders, b) they do not commit to switching to the quieter drone, c) Amazon has never reached out to the surrounding neighborhoods for constructive dialogue. As a community we have several questions as to how to approach sound tests, the impact of several take-offs or landing simultaneously, the potential variable use of older louder equipment among other relevant questions. There are proposals for locations that are believed to meet Amazon's proximity goal and are yet removed from backyards. If the Amazon request is approved by the FAA, the situation will worsen: including declines in property value, occupancy, and sales. Real estate professionals have stated that property values within a mile will decline – even if you can't hear the drones! I look forward to better understanding the next due diligence steps inclusive of community representation.

FAA Response – 147_Burk

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[C] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[D] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[E] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[F] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

Public Comment – 148_Wood

[A] *I wanted to share that the Amazon Drone location in College Station, TX is greatly interfering with the quality of life in my once peaceful neighborhood. I live very close to the takeoff zone, in what was supposed to be a quiet “country-life” neighborhood. Instead, we have drones flying overhead constantly; the noise and presence of these machines disrupts any sense of peace we once had in our nature-filled yard and home. [B] We used to see many deer, rabbits, and birds, and the number of these animals has decreased dramatically over the past year. [C] The thought of these flights increasing in number and allowed times of day is awful to consider—I am also very concerned about what this will do to our property value should we need to choose to move because of the disturbance. [D] Please consider moving this location to somewhere that is zoned as INDUSTRIAL not right next to a RESIDENTIAL area with parks, churches, homes, children, and wildlife disturbed. Thank you for considering the needs of College Station residents over a bottom line profit and business growth.*

FAA Response – 148_Wood

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[D] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 149_ZAlikhhan

Here it comes again! Another drone on its way! I live in College Station, Texas along the flight path of the Amazon drone. I am subjected to the nuisance noise multiple times per day as flights pass to and fro. I work from home, and the drone noise can be heard inside of my home from every room!

[A], [B] *The noise makes it very difficult to concentrate and complete my work as a radiologist. The noise has decreased my sense of well-being and quality of life. [C] The Amazon Prime Air request*

for more flights and longer hours should be denied because: 1. The environmental impact on the surrounding neighborhoods has been very negative and taken away our quality of life. Amazon has placed their launchpad 425 feet from the nearest home, destroying the life of my elderly neighbor! 2. The number of flights currently flown is not at the maximum allowed and should not be increased as this will be further detrimental to our health and well being as well as the wildlife and birds with whom we have always coexisted. 3. Flying on all 7 days of the week and expanding hours will never give us respite to sit outside and enjoy our own property or local park. No more outdoor parties or reading on the porch. [D] We will constantly be under the UAS surveillance and waiting for the next drone to disturb the peace. [E] 4. The sound data does not take into consideration the frequency of the annoying lawn mower sound of the drone all day long Even if the sound overhead isn't exceeding the 63 decibel mark, the recurrent noise throughout the day is exasperating! 5. The proposed quieter drone MK30 is only minimally quieter and will not make a difference to our neighborhoods. It doesn't impact the number of take-offs and landings nor the frequency of intrusive flyovers. Amazon needs to go back to R&D and perhaps hire some talent from Google! Amazon is not ready for showtime and must be denied the authorization to expand their operations in my backyard!

FAA Response – 149_ZAlikhan

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[C] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[D] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA’s regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[E] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

Public Comment – 150_ARavzi

[A] *In doing your Environmental Assessment, be aware that our neighborhood environment and integrity has been significantly compromised due to the very close proximity of flights to residential neighborhoods. Our quality of life has decreased, and there has been a change in the mood and*

irritabilty amongst neighbors amongst my neighbors as we try to defend our neighborhood that I have never witnessed before. I am well aware that the FAA only regulates the airspace, but the impact of your ruling has great implications on what happens on the ground. We need the FAA to protect us from the uncharted tech experiment that threatens my neighborhood and demand that they wait until appropriate regulations can be determined and implemented for UAS markets. Amazon has asked to expand service to 7 days per week for 15 hours per day, and this is highly inappropriate in the location in which they operate. [B], [C] We implore you not to grant Amazon permission to operate until they can find a suitable location to scale their operations. Amazon has not been a good neighbor. From the first meeting with Amazon representatives before the program started, Amazon has misled and deceived the public. They have already announced that they will be expanding their operations as reported by CNBC and Amazon themselves. Do they know something we don't know? Amazon operations need to move far from our residential setting to preserve our health and well-being. [D] We depend upon the FAA to protect us from physical as well as mental health harms, and therefore, we strongly ask that you DENY the Amazon application for expanded services in College Station Texas.

FAA Response – 150_ARavzi

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[C] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[D] The FAA’s primary mission is the safety and efficiency of the National Airspace System, and the safety and reliability of the proposed drone operations have been carefully assessed. The FAA has determined that Prime Air’s drones and operation does not create a hazard to users of the NAS or the public and can be conducted safely. For specific information on the FAA’s role in assessing drone safety, please refer to *Topic Specific Response 1-2: Safety*.

Public Comment – 151_Mcilhaney

[A], [B] *Having personally witnessed and listened to the Amazon Drone delivering to the park behind my house on three occasions-once as a practice run for a community event and twice during filming of something for Amazon, it is my opinion that, 1) there should not be an increase in the number of flights from the current location, and 2) the facility for the Amazon "droneport" should be moved to a location that would be at least a 1/2 mile or more from any residential, medical, school, etc. facility.*

FAA Response – 151_Mcilhaney

Thank you for your comments.

[A] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[B] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 152_Richards

(email attachment with the following comment)

*The Amazon drone situation is a weighty matter that deserves careful thought. What is happening in our city will set precedence for other cities. What is happening in our neighborhood sets precedence for regulations in your neighborhood. Virtually every citizen who has experienced the drones flying over or adjacent to their home has been upset by how disruptive and violating this has been. Consider the frail woman with cancer who came on oxygen to a city council meeting. She knew she was exposing herself to pathogens which might further endanger her health in her compromised condition, but this was too important to her to let it go unchecked. **[A]** Most of us want to enjoy our yards, but enjoyment is not possible when the distant sound of a giant swarm of locusts enters your consciousness. You know the dreaded giant drone will soon be upon you. It buzzes across the yard back and forth, back and forth, back and forth, again and again and again. Like a stranger with a giant eye, he comes through our yard whenever he wants. **[B]** It would be nice to enjoy a cup of coffee on a beautiful morning, work in the garden, or play in the pool with my grandkids without feeling violated by Amazon's noise and cameras. They say they are not looking/not recording but they have already broken our trust. They misrepresented both the noise level and the intrusion involved in their enterprise. The drone airport has been located adjacent to neighborhoods. Our city staff was duped by Amazon into believing it would not be disruptive. That is beyond untrue. Amazon refuses to be transparent and seems will stop at nothing to get their agenda accomplished. They even pretend they might have noble intentions. They have lied and broken our trust. Why? In reality they deceived us so people can get their toothbrushes (the number one drone request) without leaving their sofa. Our outdoor life is ruined for this. Even indoors, we hear it. Now they want to make it a constant ringing in our ears. Would you be okay if your neighbor flew his drone over your house every day, many times a day? Why is it okay for anyone? We have been informed that Amazon wants to increase their allowed activity by more than one hundred percent. They currently are not using the drones often, possibly to lull us into thinking it is not a problem. When they are running at the current full capacity, it is intolerable. Giving them more latitude in number of flights allowed and hours of operation will make life unbearable for those of us in the flight path or near their airport. How could we have foreseen this when we purchased our homes? These drones are unreasonable. **[C]** If this is going to be allowed, no one can be safe. They operate their airport without the same restrictions as an airport. These are not tiny drones. These*

are small aircraft. They make much noise and fly lower than aircraft. You do not want them in your yard. You do not want Amazon personnel to have access to your property and grandchildren. Few people have experienced this. Those who have are warning and pleading for the drones to go away. [D], [E] At the least, we beg you not to allow Amazon more latitude. Even better we wish the airport would be disallowed in neighborhoods. It will be much harder to undo what is done than to deny this access. You have great power and great responsibility to make this decision regarding this never-before-seen (and heard) activity. Please make your decision with full integrity. It impacts our country henceforth.

FAA Response – 152_Richards

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA’s regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[C] The FAA’s primary mission is the safety and efficiency of the National Airspace System, and the safety and reliability of the proposed drone operations have been carefully assessed. The FAA has determined that Prime Air’s drones and operation does not create a hazard to users of the NAS or the public and can be conducted safely. For specific information on the FAA’s role in assessing drone safety, please refer to *Topic Specific Response 1-2: Safety*.

[D] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[E] Operation of the existing PADDCC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 153_McAdams

I live in the Foxfire neighborhood, one of the residential neighborhoods adjacent to the Amazon drone location in College Station, Texas. This Amazon facility should NOT be located so close to residences, and Amazon should certainly NOT expand service from this location. Personally, I am not against developing drone delivery in our community. However, I have an issue with both the proximity of the Amazon drone site to our residential area and the frequency of drone trips over our homes, parks, churches, educational, and recreational areas. Operations at this location are currently a regular annoyance and have significant impact on the daily lives of numerous households near the site. With current allowed operations of 200 flights/day, this equates to a possible “sound event” every 2 minutes of daylight hours. It is the equivalent of being at your house and having your neighbor rev their chainsaw or lawn mower all day long. [A] This is already a huge annoyance to these residents, and to think that the FAA would allow these operations to expand is

frustrating in the least. This was supposed to be a test facility. Drone delivery is functionally proven. [B] However, the FAA should recognize that the location of the hub so near a residential community is not feasible. Right now, the FAA controls the use and expansion of these devices and must consider their impact on both humans and the environment. Please do not just push this back on the city of College Station. As only the second such site in the world, there was not enough available data or knowledge for the city to develop the appropriate restrictions regarding the location of the launch site. Now their hands are tied. It has proven to be a hazard and annoyance, and even the city is requesting that the FAA deny any expansion of current conditions. [C] Based on FAA Order 1050.1F, our neighborhood meets many of the requirements of a noise sensitive area: residential, educational, parks, recreational, and areas with wildlife characteristics. (I have attached a map from the Amazon application with the location of many of these areas added.) Noise is the number one complaint that residents and other neighbors share regarding the drones, again, due to both the proximity and frequency of flights. This nearly continuous noise has a significant impact on these people's lives, affecting not only their daily enjoyment, but essential needs such as sleep. I strongly ask the FAA to DENY the request for service expansion at the current location. We would also request Amazon to move the hub to a commercial location and be required to have a larger property to create a buffer between any noise sensitive areas. Until the technology can greatly improve to reduce noise levels, any launch sites should be in commercial areas.

FAA Response – 153_McAdams

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[C] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

Public Comment – 154_BAchgill

I am a Mechanical engineer class '81. I worked 7 years in Petrochemical plants and 5 years in the Space Shuttle program. Live in Bryan for past 12 years. Here are my comments regarding the permitting of Amazon flying drone deliveries. [A] I don't see that the ecological impact of birds killed or nesting habitats disturbed by your drones over the last 2 years and its resulting impact on mosquito population growth. I did not find this statistic in your environmental assessment. I would guess that Amazon and the FAA and the College Station government are concerned about this environmental impact and are tracking this important statistic as College Station is under

health threat each year from mosquito bites causing West Nile and Zika virus. Take the example in a simple form...If 10 birds are killed each day by the drones. If an average tree swallow can eat 850 adult mosquitoes each day and as many mosquitoes larve. Over ten years, at this rate of bird kill will result in the mosquito population growth by 100 million mosquitos given that no knew form of mosquito abatement is introduced. Thirty percent of the world's birds live in large population centers. Did you know that birds are the natural predator of mosquitoes? To summarize the concerns and arguments regarding Amazon drone deliveries and their potential environmental impact: **Birds as Natural Mosquito Control:** Birds play a crucial role in controlling mosquito populations by consuming large numbers of adult mosquitoes and larvae daily. This natural predation helps maintain ecological balance and reduces the risk of mosquito-borne diseases. **Impact of Drones on Birds:** The presence of drones has been noted to disturb wildlife, including birds. While there is no specific data on bird fatalities caused by Amazon's delivery drones in College Station, the European Environment Agency has reported that birds are sensitive to drone disturbances. This could potentially disrupt their natural behavior and feeding patterns, nesting and indirectly affecting mosquito population control. **Lack of Data on Drone-Related Bird Mortality:** There is a lack of public records or confirmed reports detailing bird mortality due to drone collisions. Without this data, it is challenging to assess the full impact of drone deliveries on local bird populations and, consequently, on mosquito populations. **Is the FAA and Amazon purposefully not disclosing this bird kill data from the past two years? Or is this data not able to be reconstructed from drone video and propellar repair data?** **Need for Environmental Impact Studies:** Given the potential risks to wildlife and the importance of birds in controlling mosquito populations, it is prudent to call for a halt to Amazon drone deliveries until a comprehensive environmental impact study is conducted. This study should focus on gathering actual bird strike data by Amazon delivery drones and examining the subsequent effects on the mosquito population in College Station and if bird abatement technology is being employed by the drones... what impact does this disturbance have on nesting and bird population? It's virtually impossible for Amazon drones to fly around every greenspace in College Station... without disturbing birds by the blast of bird avoidance noise makers if indeed thus technology is being used to reduce bird kill. The argument for halting drone deliveries hinges on the precautionary principle, prioritizing the protection of local ecosystems and public health until conclusive evidence is available to ensure that drone operations do not harm the environment. Is delivery of a hairdryer or toothbrush by drone so important that we need to get it delivered a few minutes quicker at the expense of causing an ecological disaster? It is not easy to grow birds again. **[B]** I also don't see that it is safe to fly a vehicle that can kill a person if the computer or sensor has an error. Space Shuttle in the 70's was using better fail safe technology than the Boeing 737max and Amazon drones. If one sensor or one computer goes out on either of these FAA permitted airplanes, there is certain catastrophic failure resulting in loss of life. The only reason the 737 max is still flying, with this errant design, is because the FAA knows that Boeing as a company will fail if the 737 max had to be able to be flown by pilot control when that one sensor, that is critical to the 737 max redesign, goes out that requires the computer to control the plane. The Space Shuttle had 3 computers that voted and 3 sensors for each sensor point to be voted on... so if any one went out the system would recover. Here we are 54 years later and we are trusting that a flying machine that could drill a hole through our body with its propellers if it has a computer or sensor glitch is as safe as a wheeled delivery truck that is 120 year old proven technology. Progress is not always Progress. Yes, the computers on the 737 max and

Amazon drones go a million times faster than those on Space Shuttle but a millions times checking the same failed sensor is not progressive. Did Amazon choose College Station because they know Texas A&M owes them a favor? Why has the entomology department of Texas A&M not been given a grant to study adverse effects on mosquito population due to the Amazon drones delivery? That kind of action would show that transparency with the public they serve is being sought after by Amazon. Thanks for letting the public give comments. It would be nice if all public comments would be shared as the FAA did for the recent permitting of SpaceX launches from KSC. You can see my comments on that matter, here. You might find my public comments regarding safety issues regarding SpaceX launch permits interesting. Since I used to work in the Space Shuttle program in the Failure Mode and Effects Analysis area... I feel compelled to speak up. Here are my oral comments for the SpaceX permitting process for their wanting to launch from KSC. Start listening at 46:15 (3 min) and 2:00:10 (3 min) <https://m.youtube.com/watch?v=R-PmV4B2mbE> Here is my second written comment against the SpaceX KSC permit indexed with my first <https://www.regulations.gov/comment/FAA-2024-1395-0058> I think you will find it informative to read the United Space Alliance comments, too. This is United Space Alliance's comment post... notice that they are calling out the need for a launchpad failure analysis: <https://www.regulations.gov/comment/FAA-2024-1395-0047> Sobering. Finally someone other than me and a guy with one of the preservation societies in Boca Chica are saying... what about launchpad explosion?! In my research regarding D-DAY I discovered a connection between D-Day, the Texas City port explosion of 1947 and observe a parallel to there being a lack of transparency regarding issues of public safety when the military is involved with issues of public safety. Think the Army Corps of Engineers rubber stamp of the SpaceX Boca Chica launch tower. The military is all about secrecy and the generals make the top down decisions. They are this way because Loose Lips sink Ships. Are far as I know, no one has ever discovered the link between DDay and Texas City port explosion. I found it in an old report written by the bureau of mines that is not text searchable. I used ai to make a YouTube short from my observations from the old report. <https://youtube.com/playlist?list=PL9pW1W9P6GvNEC8EyKTOYz3BpFKWbnYSd&feature=shared>

FAA Response – 154_BAchgill

Thank you for your comments.

[A] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

[B] The FAA's primary mission is the safety and efficiency of the National Airspace System, and the safety and reliability of the proposed drone operations have been carefully assessed. The FAA has determined that Prime Air's drones and operation does not create a hazard to users of the NAS or the public and can be conducted safely. For specific information on the FAA's role in assessing drone safety, please refer to *Topic Specific Response 1-2: Safety*.

Public Comment – 155_McDermott

*I am writing to you in my capacity as the President of the local Brazos County Audubon Society chapter- Rio Brazos Audubon. It has recently come to my attention that there is an Amazon drone test facility within our local area. The facility has raised concern amongst several of our membership and I have been asked to voice concerns on their behalf. Specifically, they are concerned that the presence of the drones within our local area will cause disturbance to the resident bird populations as well as those that migrate through the region every year during Spring and Fall migration. There is also concern from the wider nature conscious community, including the 'Conservation Advisory Board' for our continuing efforts to make College Station a 'Bird City'. As stated on the Bird City website (<https://environmentamericas.org/programs/bird-city/>): The Bird City Network serves to "promote sustainable urban planning, create bird-friendly communities, and raise awareness about the vital role people play in supporting bird populations. By fostering cooperation within and among communities, the program seeks to ensure the long-term well-being of birds by enhancing their habitats, safeguarding their migratory routes, reducing threats to their survival, and providing education to youth and adults. These steps help create healthy communities that also benefit people". The College Station City Council have offered full support for this project to make our area more bird friendly, efforts of which include majorly limiting lighting during migration, through an official Lights Out Proclamation. Concern regarding your drone facility is also raised by the local Parks and Recreation Board and park staff including Laurie Brown the Superintendent of Lick Crick Park, arguably our biggest and most used park in the system, since flying the drones in the vicinity of parks will impact birds and other wildlife as well as potentially impacting the experience of park visitors. As you may or may not be aware, the Brazos Valley is an area of rich bird diversity, with 356 species having been observed in Brazos County alone. Our parks, gardens and other green spaces form an important home and breeding area for many species and since we are located on the central migration flyway a major route for bird migration, many more pass through our area each spring and summer. Not only do many bird species breed in our green spaces, but these areas provide extremely important resting areas for birds migrating through the region. Included amongst the birds sighted in our area a number of species are listed as being of State and National concern ranging from vulnerable to endangered. Some of these species were covered in your environmental impact assessment (EA)– and I strongly commend these efforts. However, there are other species that were not listed in your EA and I would encourage you to include these in future assessments. A sampling of these species is listed below- this list is by no means exhaustive, but you will see that the list of species include a wide diversity of birds from birds of prey, to warblers, shorebirds, swallows and woodpeckers. Of course, the list of organisms potentially affected by large numbers of drone flights is likely not just limited to bird species. Texas is home to a wide variety of bat species including the endangered tricolored bat (*Perimyotis subflavus*) a species mentioned in your EA. Rio Brazos Audubon would welcome further discourse with you on these issues and we would be happy to assist you in providing a more thorough list for your company to include in their impact assessment. Given the short amount of time since I was made aware of this issue -I have read a number of studies looking at the effects of drones on birds. Encouragingly, at least the small sampling of studies that I was able to look at indicate that steps can be taken to minimize impact of drones to birds including vertical ascents and descents rather*

than horizontal flight within areas which birds frequent (Vas et al., 2015; Egan et al., 2020; Demmer et al., 2024). Also, use of drones which don't have large, fixed wings (which appear like a potential predator) appear to pose less of a threat to birds. Unsurprisingly, noise has been linked to stress in birds (Kleist et al., 2018; Meillère et al., 2024) and I commend your efforts to reduce the current noise levels of drones within your fleet by 40%. This will no doubt also be welcomed by members of our community, particularly those living adjacent to your facility. In addition to such efforts to improve safety and minimize stress for our wildlife from your drones I would also strongly urge you to restrict flights to urban areas and to avoid flights over or adjacent to parks and other green spaces. This would minimize disturbance to breeding populations as well as to birds sheltering at these sites during migration. I have no doubt this would also be welcomed by our park users looking for a quiet escape from urban life. I appreciate your time in reading this letter and would welcome the possibility to discuss this project further with your company. Sincerely, Mark Mark McDermott Ph.D., President, Rio Brazos Audubon

A list of just some of the species that live or move through our area that are of Federal or State Concern. Endangered Whooping crane (State and Federal endangered) Rare passage migrant Least tern (interior) (State and Federal endangered) Uncommon passage migrant Threatened Bald eagle (State threatened) Year round resident- breeds in area. Peregrine falcon (State threatened) Year round resident/ visitor Piping plover (State and Federal threatened) Rare passage migrant White-faced ibis (State threatened) Summer resident Wood stork (State threatened) Resident/ passage migrant June-October-primarily in river bottoms White-tailed hawk (State Threatened) Year round visitor- more common Fall/ Winter Reddish Egret (State Threatened) Rare Summer/ Fall visitor Swallow-tailed Kite (State Threatened) Rare passage migrant Vulnerable Red-headed woodpecker Year round resident- breeds in area-primarily Navasota river bottoms Swainson's warbler Summer resident-breeds primarily river bottoms/ Lick Creek Park Kentucky warbler Summer resident-breeds primarily river bottoms/ Lick Creek Park Golden winged warbler Passage migrant Blue winged teal Winter resident-managed for hunting. Northern-rough winged swallow Passage migrant and probable low density Summer resident-possibly breeds in area in low numbers Louisiana Waterthrush Potential breeder Chimney Swift Summer resident Burrowing owl Likely under-reported low-density Winter resident Imperiled Bank swallow Passage migrant Near-threatened. Henslow's Sparrow Uncommon Winter resident

Demmer, C. R., Demmer, S., & McIntyre, T. (2024). Drones as a tool to study and monitor endangered Grey Crowned Cranes (*Balearica regulorum*): Behavioural responses and recommended guidelines. *Ecology and Evolution*, 14, e10990. <https://doi.org/10.1002/ece3.10990>

Meillère A, Buchanan KL, Eastwood JR, Mariette MM. Pre- and postnatal noise directly impairs avian development, with fitness consequences. *Science*. 2024 Apr 26;384(6694):475-480. doi: 10.1126/science.ade5868. Epub 2024 Apr 25. PMID: 38662819.

Egan C. C., Blackwell B. F., Fernández-Juricic E., Klug P.E., Testing a key assumption of using drones as frightening devices: Do birds perceive drones as risky?, *The Condor*, Volume 122, Issue 3, 4 August 2020, duaa014, <https://doi.org/10.1093/condor/duaa014>

Kleist NJ, Guralnick RP, Cruz A, Lowry CA, Francis CD. Chronic anthropogenic noise disrupts glucocorticoid signaling and has multiple effects on fitness in an avian community. *Proc Natl Acad Sci U S A*. 2018 Jan 23;115(4):E648-E657. doi: 10.1073/pnas.1709200115. Epub 2018 Jan 8. Erratum

in: Proc Natl Acad Sci U S A. 2018 Feb 27;115(9):E2145. doi: 10.1073/pnas.1801328115. PMID: 29311304; PMCID: PMC5789909.

Vas E., Amélie L., Olivier D., Guillaume B. and Grémillet D. (2015) Approaching birds with drones: first experiments and ethical guidelines Biol. Lett. 1120140754

FAA Response – 155_McDermott

Thank you for your comments. The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

Public Comment – 156_Williams

I would like to express my concerns about the expansion of the Amazon drone program. I am thirteen years old, and I live in the Foxfire neighborhood. [A] My favorite thing to do is to go outside. I find the loud buzzing annoying and disruptive to the peace nature provides. I understand, however, that my problems with the drones are not as severe as those of my neighbors in Brookwater Circle. [B] First of all, I am concerned about the constant loud noise levels that the residents of Brookwater Circle will experience if Amazon succeeds with their plans. Currently, the residents are encountering loud buzzing sounds most of the week during daylight hours. [C] These noises are already interrupting their rest, therefore, I am concerned what their lives will look like if the drone delivery hours and density are increased. Amazon claims to be building quieter drones, but will the new drones decrease the noise levels during takeoff and landing? This is what affects Brookwater Circle. Another concern is that Amazon is misusing their property according to its zoning use. An airport is a place where flying machines take off and land. [D] This is exactly what the Amazon drones are doing: they are producing constant, disturbing noises, causing the value of the houses around them to decrease. Airports are businesses, but there are good reasons why they are not zoned in commercial areas. The Amazon drone situation is similar: they are a business, but a commercial zone may not be appropriate to their industry.

FAA Response – 156_Williams

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[C] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F.

Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[D] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

Public Comment – 157_Higdon

*I write today on behalf of over 434 College Station homeowners living in Emerald Forest subdivision adjacent to the current Amazon Prime Air Drone port in opposition to the Amazon request for expansion of flights and operational hours. Amazon is requesting the expansion of their operations from 225 flights per day to 469 flights per day and a dramatic increase of operational hours from Monday-Friday (Sunrise to Sunset) to Seven Days per week from 6am to 10pm. That is an incredible 124% increase. **[A]** 1) The current launch and landing noise levels exceed the decibel maximum authorized in the original operational request. Amazon has failed to acknowledge that this excessive noise level is due to the necessity of having larger rotary engines to lift the 89 pound carriage and 5 pound payload of both the MK-27 and MK-30 model. These Amazon models stand in direct contrast to the competing designs being offered by such competitors as UPS who received an approval on their Ohio drone port EA by utilizing a much lighter 24.4 pounds and quieter (>30 decibels) option. **[B]** Operation noise disruptions should not be expanded by Amazon until they can deliver a prototype that, at the very least matches, the current technology baseline. 2) Amazon has not produced any end user market data to justify the expansion of the number of flights from the current cap of 225 per day to over 469 flights per day. If the EA is approved and assuming there are actually 469 deliveries to be made, our neighborhoods will be subjected to over 900 take offs and landings from a drone port that is within 350 feet of many established homes. As is the case with any aircraft the loudest decibel levels are incurred at launch and landing and it is hard to imagine disruption of people's lives by having to endure a launch or landing noise level of nearly 80 decibels EVERY 58 seconds EVERY day. Our closest major airport is Bush Intercontinental in Houston (90 miles) and it handles 1100 flights per day. While recognizing that there are relatively few drone operation standards in place given the relative newness in commercial applications I believe that we have now crossed over from a small beta test to a full fledged airport operation. **[C]** It is the wrong location for what could be a tremendous technology advance. Our neighborhood is concerned that the expansion of the Amazon pilot program is a reflection of what Amazon THINKS it can be with little regard to the actual impact on the people who have to live next to the experiment.*

FAA Response – 157_Higdon

Thank you for your comments.

[A] As detailed in Section 3.6 and Appendix E of the Supplemental EA, the FAA has determined that the noise exposure levels resulting from the Proposed Action would not exceed the threshold of significance. For more information on drone noise, please refer to *Topic Specific Response 2-3: Noise*.

[B] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[C] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 158_Naqi

The environmental impact of the Amazon drone test center in College Station, Texas has been devastating to our community. [A], [B] The noise is maddening and doesn't allow us to sleep or rest inside or outside of our home. The thought of more flights and increased hours just makes my blood pressure rise! Amazon's operations have created frustration, anxiety due to the deceptive and misleading information Amazon has provided from the beginning. Every flight that goes overhead comes back overhead creating twice the number of noise events each day! Though the drones may not be exceeding the decibel regulations when they fly above my house, they create an annoying loud lawn mower/machinery sound that keeps coming and going and doesn't allow us to even relax in our own home! There is no NEED for Amazon in this community and certainly not to destroy our peaceful neighborhood! [C], [D] Please DENY Amazon any further approval for expansion until they stop all operations and resolve the issue of noise affecting our neighborhood! Better yet- they need to move somewhere more appropriate for their noise level. The neighborhood experiment has failed!

FAA Response – 158_Naqi

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[C] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[D] Operation of the existing PADD facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 159_Stauffer

Amazon Prime drone flights are a significant adverse impact on my neighborhood in Woodcreek Subdivision of College Station, Texas. [A] I feel strongly that the request by Amazon Prime drones to

increase the number and range of drone flights should be denied at this time. **[B]** The current drone port is located too close to neighborhoods. It is annoying to hear the constant buzzing from the drone flights and discourages residents from enjoying their own backyards and property. This is not something that was present in the neighborhood that we knew of its existence before buying our homes. It would be much better to locate drone ports in heavy commercial areas or outer city limits where there are fewer homes impacted. That way the constant flights wouldn't be centered over a portion of homes that hear them. They keep saying they will make quieter better drones but haven't. **[C]** Our property values do not deserve to be impacted by our city council's decision and the FAA to approve drone flights in this area. Please require them to have ports out of our neighborhoods! Once the precedent has been established out of this pilot program it will be harder to change. Now is the time to carefully consider the impact drones have. **[D]** In addition because drones have cameras - it seems to be very intrusive at a time when human trafficking is at a all time high. The emphasis is for all professionals to do trafficking training and then a program like this allows someone flying drones to spy on homes, pools, parks, young children walking home from school, etc. Overall I feel this program needs a lot more study and thought before it is allowed in neighborhoods.

FAA Response – 159_Stauffer

Thank you for your comments.

[A] For more information on the FAA's ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

[B] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[D] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA's regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

Public Comment – 160_Thomas

Dear Sir, I am writing to oppose the expansion of Amazon's request to expand drone service in College Station, Texas. **[A]** Based on the attached study it is clear that the noise can adversely affect humans by increasing stress. This is particularly true for Vietnam veterans like myself having flown USAF aircraft. **[B]** Please deny Amazon's request to expand the service.

(email attachment)

DRONE NOISE CAUSES INCREASED STRESS, STUDY FINDS HANNEKE WEITERING NOVEMBER 14, 2022 SOURCE: TECHNICAL JOURNAL OF ADVANCED MOBILITY

While proponents of urban air mobility (UAM) see electrically-powered air taxis and delivery drones as innovative solutions to problems many urbanites face, not much research has been done to address the negative impacts that a UAM ecosystem may present to communities, particularly when it comes to noise pollution. To find out how noise from drones and air taxis might affect the stress levels of people living in areas that adopt UAM, a team of researchers at Nagoya University and Keio University in Japan conducted a study using video and audio recordings simulating a drone flying overhead. As expected, the louder the noise pollution, the more stress the participants experienced. However, while the self-reported stress was reduced along with the noise levels, the researchers found that unconscious stress levels were maintained even after the noise was reduced. In addition to self-reported responses from study participants, the authors of the study used a Kansei analyzer to determine the stress levels experienced by people as they witnessed a drone flying overhead in the simulation. A Kansei analyzer is a brain wave meter that detects and measures five types of emotions: stress, concentration, preference, calmness, and interest. This technology has previously been used to assess how people feel about certain environments, such as interior decorations in restaurants and the comfort levels of car interiors, as well as choices on restaurant menus. For this experiment, the researchers placed 16 participants—all Nagoya University students—in front of a large projector screen inside the Flight Performance Evaluation Tunnel located in the Aeronautics and Machinery Experimental Building at Nagoya University. Each participant wore a Kansei analyzer headset. On the screen, the researchers displayed an 18-second animation that simulated an air taxi flying overhead at an altitude of 15 meters (50 feet) and a speed of 25 km/h (16 mph) during the daytime in an urban area. Each time they watched the 18-second animated video, the participants heard an audio recording of a multicopter industrial drone flying overhead. The researchers played two different audio recordings that were made at different locations on different dates, but both used the same type of drone flying overhead. Each audio recording was played four times along with the video, with the volume increasing with each subsequent session. After watching the video and hearing the accompanying noise, the participants were asked to fill out a questionnaire about their stress levels. For the quietest sessions, the audio recording had a volume of 72-73 decibels (dB). The medium-level audio was set to 78-79 dB, while the loud and loudest settings were 86-87 dB and 91-92 dB, respectively. For reference, most eVTOL aircraft under development today produce noise on the lower end of that range. A NASA study found that Joby Aviation's eVTOL, for example, produces about 65 dBA during takeoff and landing, at a distance of about 100 meters from the flight path (dBA, or A-weighted decibels, are decibel measurements adjusted to conform with the frequency response of the human ear). The study found that "the level of stress in the evaluation by the questionnaire corresponded almost exactly to the level of the sound volume at that time," the authors stated in the paper. However, while the self-reported data showed that stress levels went back down after the volume decreased between the fourth and fifth sessions, data from the Kansei analyzer showed that participants retained a higher level of stress even after the noise level decreased. "While the questionnaire evaluation showed that the stage of loudness and that of stress were almost identical, the evaluation using a Kansei analyzer showed that, after listening to loud noise once, the stress did not decrease easily even if the volume was lowered," the authors stated in the paper. "This difference is believed to provide important information for the formulation of future social acceptability survey methods." The findings of this study were published on September 7 in the *Technical Journal of Advanced Mobility*. U.S. Environmental Protection Agency (EPA) and the World

Health Organization (WHO) recommend maintaining environmental noises below 70 dBA over 24-hours (75 dBA over 8-hours) to prevent noise-induced hearing loss. According to a study by DronesGator, the average drone produces a sound of around 80 decibels, which is similar to the noise produced by a vacuum cleaner.

FAA Response – 160_Thomas

Thank you for your comments.

[A] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[B] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.

Public Comment – 161_Greer

*Please read and consider the following request. The Amazon Drone airport in College Station has had a negative effect on the Woodcreek Neighborhood from the noise of the drones from taking off and when flying overhead. And they are now asking for additional (from 200 to 469) flights to occur seven days a week from 7 a.m. until 10 p.m. Consider that each flight involved an outbound and a return flight, meaning the number requested is actually double the flights or double the amount of noise to homeowners. When first announced, the drones were supposed to be quiet enough to not disturb homeowners. But they are a disturbance in that they can be heard from the inside of my home, which is not what was explained during the original request. Also worth noting is that the original request for the drone facility and air space use was filed during the Covid Pandemic, which is a time when few or no in person meetings were being held. I can’t imagine that helped to get more people involved or understand what was about to happen to the neighborhood. I think it is important to note that the Woodcreek Neighborhood is a quiet and well established neighborhood, with nice sized wooded lots. Most lots have many older native trees that limit or restrict the ability to use the Amazon service, meaning locating the drone facility located up against (less than 500 feet) a well established neighborhood that many lots can’t use even if they wanted to. I’ve owned a home here for more than 20 years, so I have a good perspective on how the drones have effected this area. There is a city park very close to the Amazon drone facility. **[A]** I use the park at least once daily to walk my dog. When the drones are taking off or flying overhead, my dog is visibly upset and scared by the noise and seeing the drone flying by. There is also a neighborhood pool that is used by the families that live here. **[B]** There have been some women and children uncomfortable with the drones flying overhead while they are trying to enjoy the facilities. Many have asked if the drones have cameras, which of course they do. And while we have been told that they do not record video when flying, not many have found that comforting. As part of the FAA’s review of the request, there are several items required. See the “• Socioeconomics and Children’s Environmental Health and Safety Risks: The Proposed Action would not involve acquisition of real estate, relocation of*

residents or community businesses, disruption of local traffic patterns, loss in community tax base, or changes to the fabric of the community. Executive Order (EO) 13045, Protection of Children from Environmental Health Risks and Safety Risks, requires federal agencies to ensure that children do not suffer disproportionately from environmental or safety risks. The proposed action would not introduce products or substances a child would be likely to come into contact with, ingest, use, or be exposed to, and would not result in environmental health and safety risks that could disproportionately affect children. It is not anticipated that the Proposed Action would pose a greater health and safety risk to children than package delivery by other means (truck, mail, personal automobile, etc.).” “FAA Order 1050.1F, Appendix B, Paragraph B-1.3 requires the FAA to identify the location and number of noise sensitive areas that could be significantly impacted by noise. As defined in FAA Order 1050.1F, Paragraph 11-5b, a noise sensitive area is “[a]n area where noise interferes with normal activities associated with its use. Normally, noise sensitive areas include residential, educational, health, and religious structures and sites, and parks, recreational areas, areas with wilderness characteristics, wildlife refuges, and cultural and historical sites.” I believe children and others are negatively affected by the drones operating too close to an existing neighborhood, especially one with many outdoor recreational facilities for children and families. **[C]** I also believe the drone activity will have a negative effect on property values. **[D]** We used to have many Owls in the park, and it was common for me to see them in trees at my home or nearby. And I would hear them every evening and early mornings, I haven’t seen an Owl since the drones have started flying nearby. It was suggested that the drones would lessen traffic by eliminating the need for a homeowner to drive to the store etc, lessens or eliminate vehicle delivery traffic etc. However, I witnessed an Amazon van drive by my home delivering packages in the neighborhood. Additionally, the USPS, FedEx and UPS still deliver packages in the neighborhood. But not from 7 a.m. until 10 p.m.. And those deliveries do not have the same negative effect on the neighborhood as the near constant humming / buzzing noise of drones flying back and forth to deliver a single small package per round trip. I’m not against the use of drones for package deliveries, but the location right next to a neighborhood is not just poorly thought out, it is an insult to homeowners affected by this operation. **[E]** So, I strongly urge you to stop the operation completely until a more fitting location is found. And if not that, then please use the 2.1 No Action Alternative to help preserve the integrity of the neighborhood and sanctity of the citizens, property and homes of the residents of WoodCreek.

FAA Response – 161_Greer

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] The FAA is limited in its ability to regulate the privacy of individuals and property owners. For more information on FAA’s regulatory authority regarding drone overflights and privacy concerns, please refer to *Topic Specific Response 3-1: Privacy*.

[C] Please refer to *Topic Specific Response 2-5: Socioeconomics*.

[D] The FAA has conducted a comprehensive assessment of potential impacts to biological resources, including consultation with the USFWS, and determined that the Proposed Action is

unlikely to significantly affect wildlife in the College Station area. For more information on the determination process, please refer to *Topic Specific Response 2-1: Biological Resources*.

[E] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

Public Comment – 162_SNaqi

*I am a College Station, Texas resident very upset about the continued operation and proposed expansion of the Amazon Prime Air delivery operation. **[A]** Since their arrival, the drones have been nothing but disruptive! I visit my daughter's home and we used to be able to enjoy her yard and outdoors, but we can no longer do so because of the annoying drone traffic! As retired elderly people, we value the music of the birds and relaxing on the porch in her once tranquil neighborhood. **[B]** When we stay with her, we are unable to sleep in the morning nor nap in the afternoon because of the frequent whirring noise overhead. The drones fly directly over her house twice for each delivery throughout the day! I understand that the FAA only regulates airspace, but as part of your environmental assessment, the impact on the entire environment must be taken into account. I am very distressed that Amazon wants to expand its current service multifold from the level of about 20 per day to 469 per day. **[C], [D]** I hope that your decision will take into account that the current location in a neighborhood backing up directly to homes is not an appropriate location and I strongly urge you to DENY the Amazon expansion request.*

FAA Response – 162_SNaqi

Thank you for your comments.

[A] For additional information regarding “quality of life” please refer to *Topic Specific Response 3-2: Quality of Life*.

[B] Associations between aviation noise and disruption to normal activity are key components in the establishment of FAA’s residential noise impact thresholds defined in FAA Order 1050.1F. Use of the DNL 65 dB as the threshold for significant noise exposure is designed to account for sleep disturbance, speech interference, and annoyance among other factors. For additional information, please refer to *Topic Specific Response 3-3: Health Effects of Noise*.

[C] Operation of the existing PADDC facility, including determining the location of the facility, is outside the scope of the Proposed Action and, therefore, beyond the regulatory authority of the FAA. For additional information on the scope of the Proposed Action, please refer to *Topic Specific Response 1-3: Proposed Action*.

[D] For more information on the FAA’s ability to regulate drone operations, please refer to *Topic Specific Response 1-1: Scope of FAA Authority*.
