Supplemental Environmental Assessment

for the

North General Aviation Area Development

October 2022

PREPARED FOR

Central West Virginia Regional Airport Authority

PREPARED BY

Landrum & Brown

This environmental assessment becomes a federal document when evaluated and signed by the responsible FAA official.

_____ _____

Responsible FAA Official Date

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1 Introduction

This Supplemental Environmental Assessment (EA) is prepared as required by the National Environmental Policy Act of 1969 (NEPA), as amended (40 Code of Federal Regulations (CFR) 1500-1508) and in accordance with Federal Aviation Administration (FAA) Orders 1050.1F, *Environmental Impacts: Policies and Procedures and 5050.4B*, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. This Supplemental EA analyzes the potential environmental effects of a Proposed Action known as the North General Aviation (GA) Area Development at the West Virginia International Yeager Airport (CRW or Airport). The location of the Proposed Action is shown on **Exhibit 1-1, *Project Site***.

1.1 Background

CRW is owned and operated by the Central West Virginia Regional Airport Authority (CWVRAA). The GA area is located off of Eagle Mountain Road on the southeast side of the airfield at CRW. Access to Runway 5-23 is provided by either Taxiway B or C. The GA area currently consists of a fixed base operator (FBO), T-hangars, a Marshall University Flight School Facility, and miscellaneous businesses located to the south and southeast of Taxiway B and C.

In 2019, the *General Aviation Area at Yeager Airport Project* EA (2019 EA) was conducted for the proposed expansion of the GA facilities. This project included the following elements:

- Demolition of three structures (Hangar 1, Hangar 2 [including the fuelers office], and the Matheson building)
- New 4-bay garage with line office
- 2-story GA terminal expansion and modified vehicle parking
- Ground distribution facility and associated parking for vehicles
- Customs facility and modified vehicle parking
- The Marshall University Flight School and vehicle parking
- Rehabilitation of Taxiway B
- Expansion of the deicing pad on GA ramp
- A new perimeter fence

Exhibit 1-2, *Original Proposed Action from 2019 EA and 2020 Written Re-Evaluation*, shows the original Proposed Action from the 2019 EA. The FAA approved the 2019 EA and issued a Finding of No Significant Impact (FONSI) on September 16, 2019. In 2020, a Written Re-evaluation was prepared for a revised site plan for the Rehabilitation of Taxiway B. The revised project included the construction of several new access Taxiways between Taxiway B, Taxiway C, and the GA Apron to replace the access

taxiways impacted by the Marshall University Flight School development. The Written Re-evaluation found that the data and analysis in the 2019 EA remained valid and the pertinent conditions and requirements of the 2019 EA were still met with the change to the Proposed Action.

Construction began on some of the approved elements in the 2019 EA and 2020 Written Re-evaluation. However, not all projects were constructed as originally proposed. **Exhibit 1-3, *Status of Projects from 2019 EA and 2020 Written Re-Evaluation***, shows the project elements that were constructed. The CWVRAA has undertaken an updated needs assessment and has identified the need for new or replacement facilities that were not previously identified in the 2019 EA. This Supplemental EA assesses the current proposed development. **Exhibit 1-4, *Existing Conditions*,** shows the conditions and existing facilities within the Proposed Action site. **Exhibit 1-5, *Current Proposed Action***, shows the current Proposed Action that is the subject of this Supplemental EA.

1.2 Description of the Proposed Action

This Proposed North GA Area Development Project consists of the construction of new general aviation and community use facilities on the north side of Taxiway B, expansion of the Marshall University Flight School, and relocation of the Snow Removal Equipment (SRE) and Command Center. The proposed site is approximately 532,000 square feet (approximately 12.2 acres).

The existing GA facilities located on the south side of Taxiway B are insufficient to meet current demand and existing hangar space is at capacity. There is currently a waiting list for hangar space. This Proposed North GA Area Development Project would consist of the following elements:

- Construction of approximately 31,000 square feet of new aircraft hangar space, including three connected box hangars and two aircraft storage hangars to accommodate aircraft that are currently on a waiting list for hangar space;
- Construction of an approximately 11,000 square foot corporate hangar;
- Construction of a new Aerospace Economic Development Center (AEDC) with hangar space, multi-use conference and office space;
- Construction of an approximately 302,000-square foot apron to provide more efficient parking for GA aircraft with flex space that could also be used for military aircraft parking;
- Conversion of Taxiways C and B to internal apron taxilanes and infill of grass areas (fillets) to increase ramp space;
- Construction of public parking areas adjacent to the GA hangars, AEDC, and corporate hangar;
- Installation of apron lighting; and
- Installation of stormwater facilities and utilities.

The existing Marshall University Flight School was constructed in 2020 and currently consists of an approximately 10,000-square foot administration building and adjacent surface vehicle parking lot and a

12,000 square foot hangar and apron space. This Proposed Action would consist of the following elements:

- Expansion of the existing administration building;
- Construction of a 12,000-square foot Marshall University Hangar Expansion;
- Construction of new surface vehicle parking; and
- Installation of lighting and utilities.

The existing maintenance facility is located southwest of the existing passenger terminal in an aging building that it too small and inefficient to accommodate airport maintenance and snow removal equipment. Therefore, the maintenance facility would be relocated and combined with other uses to create a new SRE and Command Center on a new site on the southeast side of the airfield. The SRE and Command Center Relocation would include the following elements:

- Site work within the approximately 135,000-square foot site (3.1 acres).
- Construction of an approximately 35,000-square foot Snow Removal Equipment (SRE) and Command Center building with equipment wash bays, storage area, office area, conference room, public access area, and break room space for maintenance staff;
- Construction of an approximately 104,000-square foot paved area for equipment storage;
- Relocation of two above-ground fuel tanks at the existing maintenance structure to the new site as part of a new fuel farm to provide diesel and gasoline storage;
- Construction of an underground stormwater facility to control the increased amount of runoff due to the increase of impervious area with the project designed to release water back into the existing stormwater system at a controlled rate; and
- Construction of a new underground oil/water separator that would then connect to the underground stormwater system.

1.3 Proposed Federal Action

The “FAA Reauthorization Act of 2018” (the Act) was signed into law on October 5, 2018 (P.L. 115-254). In general, Section 163(a) of the Act requires FAA to evaluate its authority to directly or indirectly regulate an airport operator’s transfer or disposal of certain types of airport land. However, Section 163(b) identifies exceptions to this general rule. The FAA retains authority:

- To ensure the safe and efficient operation of aircraft or safety of people and property on the ground related to aircraft operations;
- To regulate land or a facility acquired or modified using Federal funding;
- To ensure an airport owner or operator receives not less than fair market value (FMV) in the context of a commercial transaction for the use, lease, encumbrance, transfer, or disposal of land, any facilities on such land, or any portion of such land or facilities;

- To ensure that the airport owner or operator pays not more than FMV in the context of a commercial transaction for the acquisition of land or facilities on such land;
- To enforce any terms contained in a Surplus Property Act instrument of transfer; and
- To exercise any authority contained in 49 U.S.C. § 40117, dealing with Passenger Facility Charges (PFCs).

In addition, Section 163(c) preserves the statutory revenue use restrictions regarding the use of revenues generated by the use, lease, encumbrance, transfer, or disposal of the land, as set forth in 49 U.S.C. §§ 47107(b) and 47133.

Section 163(d) of the Act limits the FAA's review and approval authority for Airport Layout Plans (ALPs) to those portions of ALPs or ALP revisions that:

- Materially impact the safe and efficient operation of aircraft at, to, or from the airport;
- Adversely affect the safety of people or property on the ground adjacent to the airport as a result of aircraft operations; or
- Adversely affect the value of prior Federal investments to a significant extent.

The CWVRAA is preparing an ALP update that includes the proposed development described in Section 1.2. The FAA has determined that ALP approval is required for several elements of the proposed development including the proposed GA box hangars, corporate hangar, GA apron, and Marshall University Flight School hangar and apron. FAA has determined that the proposed SRE and Command Center would have no material impact on aircraft operations, at, to, or from the Airport; would not affect the safety of people and property on the ground adjacent to the Airport as a result of aircraft operations; and would not have an adverse effect on the value of prior Federal investments to a significant extent. However, The FAA has approval authority for any projects funded through the Airport Improvement Program (AIP), any other FAA-administered grant in aid program, and PFC. FAA funding and/or PFCs are anticipated for this project.

The Proposed Federal Action includes the following:

- **Approval of the changes to the Airport Layout Plan (ALP) to reflect the proposed construction of the new structures associated with the proposed development.**

  The FAA action is necessary in connection with the construction of the proposed development projects. Pursuant to 49 USC §47107(a)(16), the FAA Administrator (under authority delegated from the Secretary of Transportation) must approve any revision or modification to an ALP before the revision or modification takes effect. The Administrator's approval includes a determination that the proposed alterations to the Airport, reflected in the ALP revision or modification, do not adversely affect the safety, utility, or efficiency of the Airport, including potential for impacts related to 14 CFR Part 77 (see following section).

- **Review and determination of the new structures associated with the proposed development for potential obstructions to air navigation, navigational aids, or navigational facilities.**

  Pursuant to 14 CFR Part 77, the FAA must determine the effect of the proposed construction on the safe and efficient use of navigable airspace and air navigation facilities. The purpose of an

aeronautical study is to determine whether the aeronautical effects of the specific proposal and, where appropriate, the cumulative impact resulting from the proposed construction or alteration when combined with the effects of other existing or proposed structures, would constitute a hazard to air navigation. The Proposed Action includes the construction of several vertical structures that would require review and determination. The FAA will issue a determination stating whether this proposed construction or alteration would be a hazard to air navigation.

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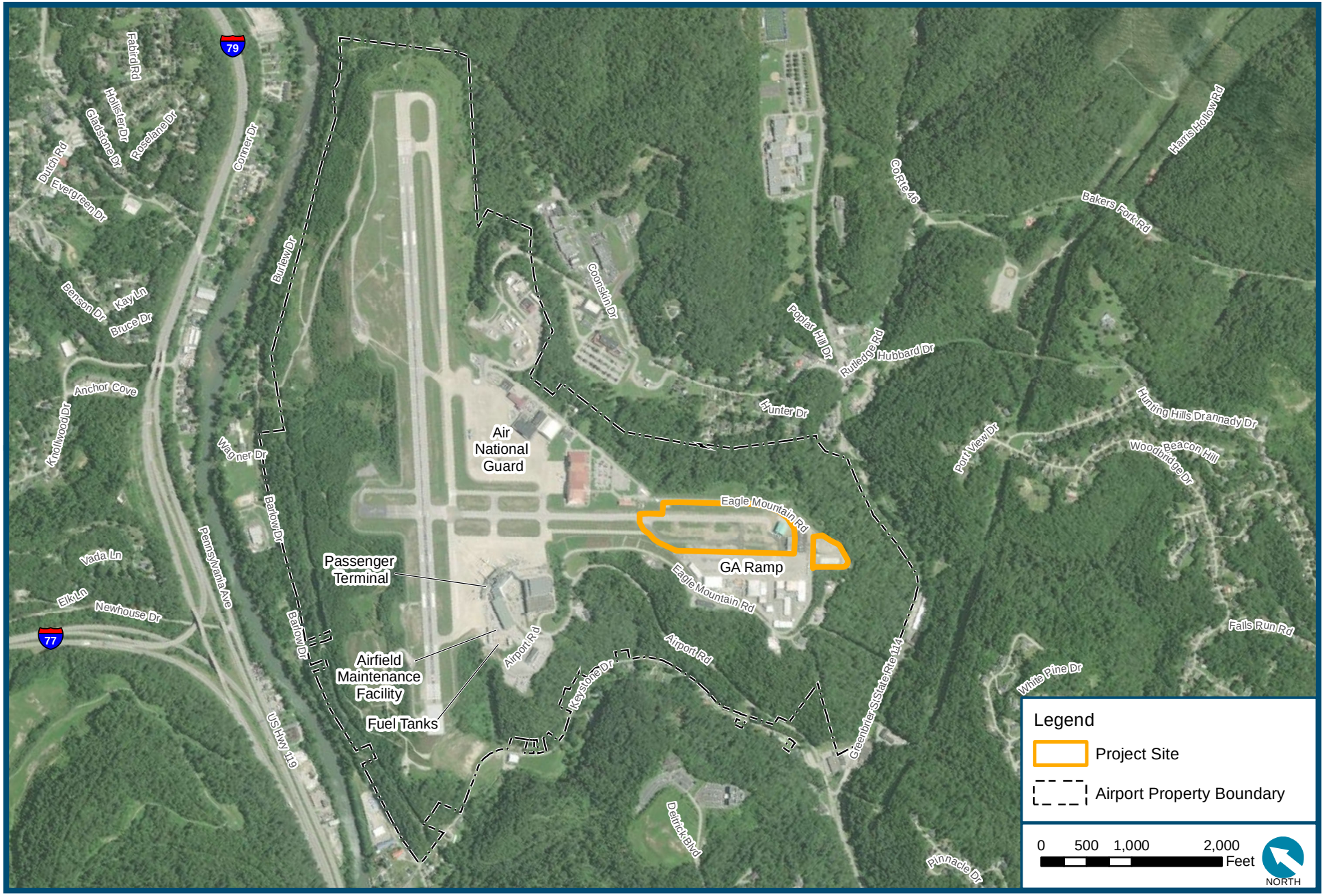

Exhibit 1-1
Project Site

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Prepared by: Landrum & Brown
Date: 9/15/2022
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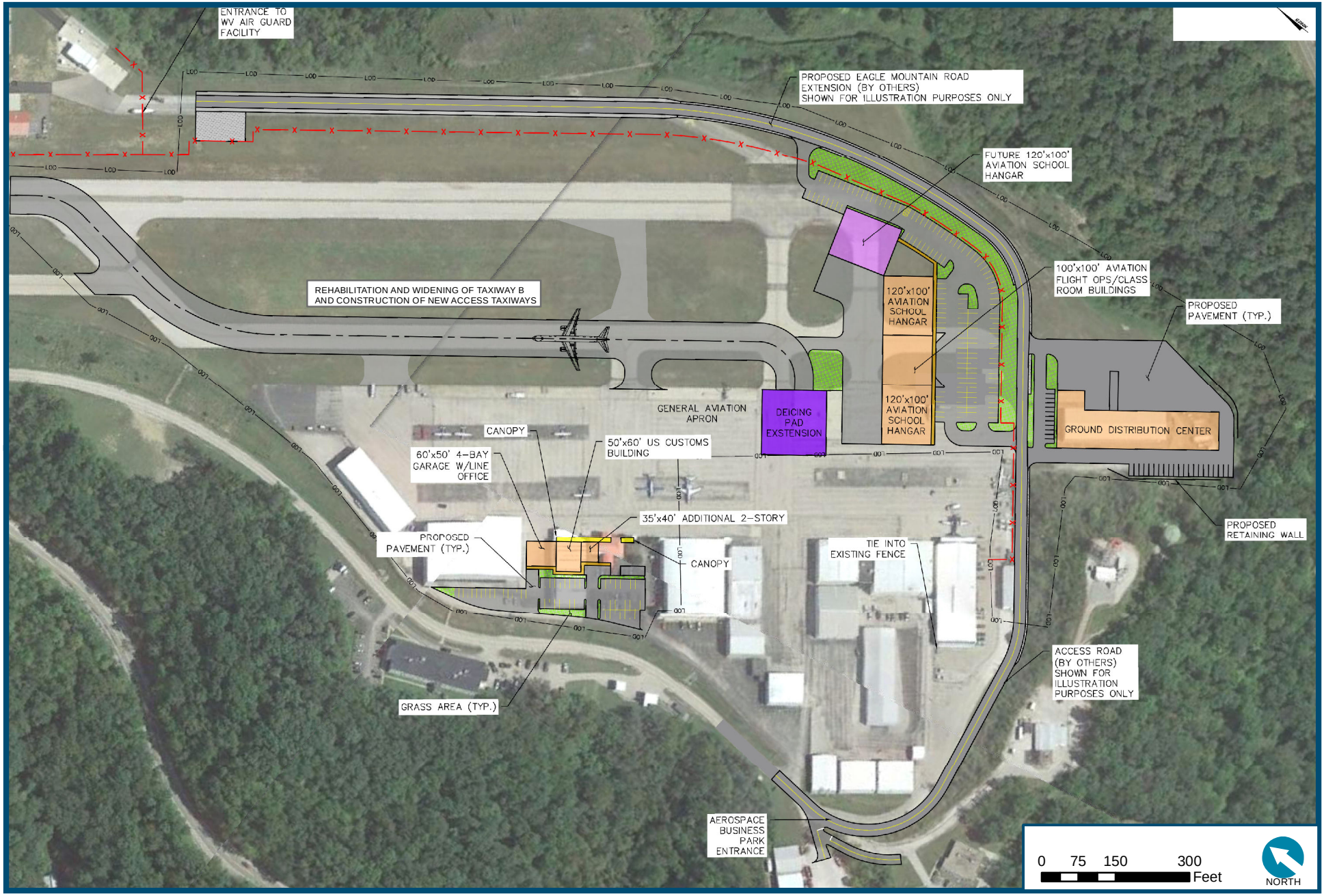

Exhibit 1-2

Original Proposed Action from 2019 EA and 2020 Written Re-Evaluation

Source: General Aviation Area at Yeager Airport Project EA (Figure 2), July 2019
Date: 9/16/2022
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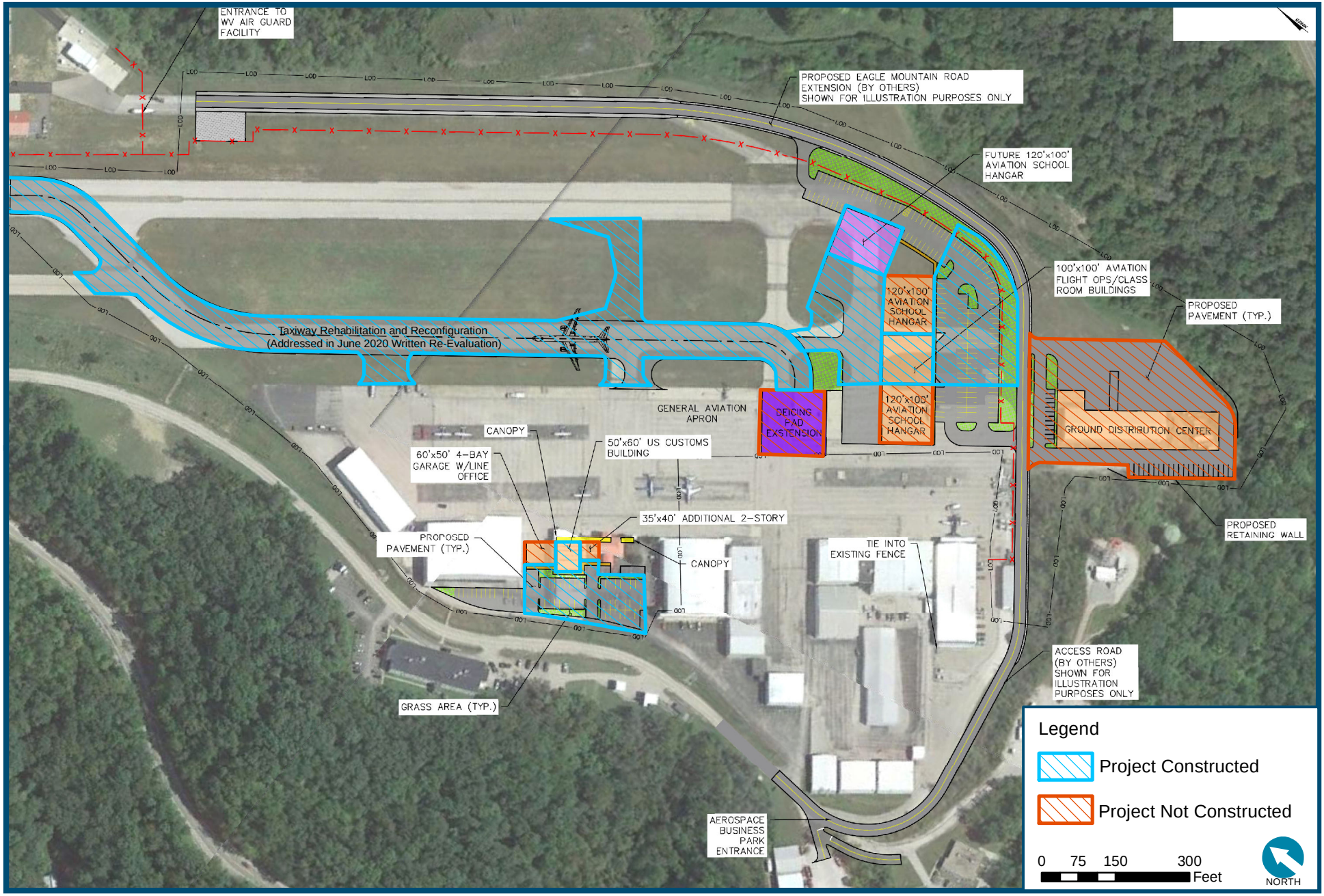

Exhibit 1-3

Status of Projects from 2019 EA and 2020 Written Re-Evaluation

Source: General Aviation Area at Yeager Airport Project EA (Figure 2), July 2019
Date: 9/16/2022
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Exhibit 1-4
Existing Conditions

Imagery Source: ESRI, Maxar, Earthstar Geographics, September 2021
Date: 9/15/2022
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1-4-CRW_Existing Conditions.mxd

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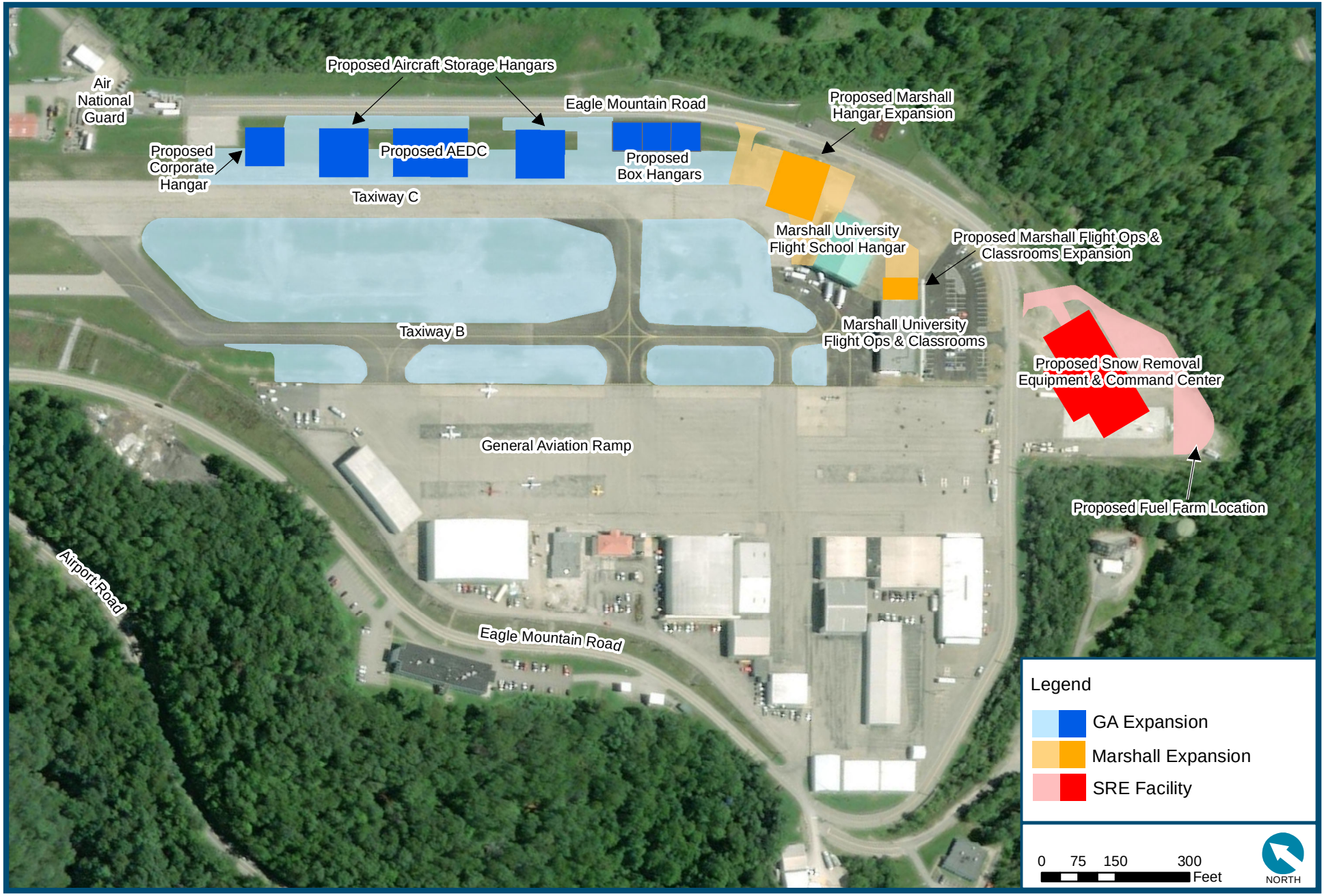

Exhibit 1-5
Current Proposed Action

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
Prepared by: Landrum & Brown
Date: 10/20/2022
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1.4 Document Content and Organization

This document is organized as follows:

- Chapter Two describes the purpose and need for the Proposed Action
- Chapter Three describes alternatives to the Proposed Action
- Chapter Four describes the affected environment
- Chapter Five describes the potential environmental impacts of the Proposed Action and of the No Action Alternative and recommended avoidance, minimization, and/or mitigation measures
- Chapter Six describes the public involvement that was completed as part of the EA
- Chapter Seven provides a list of those responsible for preparing the EA
- Chapter Eight provides a list of references used in the preparation of the EA

An EA is a disclosure document prepared for the Federal agency (in this case the FAA) responsible for approving a proposed Federal or Federally funded action, in compliance with the requirements set forth by the Council on Environmental Quality (CEQ) in its regulations implementing NEPA. The purpose of this EA is to investigate, analyze, and disclose the potential impacts of the Proposed Action and its reasonable alternatives. In this case, the FAA is responsible for reviewing and approving actions that pertain to airports and their operation. As such, this EA has been prepared in accordance with FAA Orders 1050.1F and 5050.4B, and guidance included in the FAA Environmental Desk Reference for Airport Actions.

This EA was also prepared pursuant to other laws relating to the quality of the natural and human environments, including:

- The Department of Transportation Act, 49 U.S.C., § 303 (formerly Section 4(f))
- 49 U.S.C., §40114, as amended
- 49 U.S.C., §§47101, et seq.
- Executive Order 11990, *Protection of Wetlands*
- Executive Order 11988, *Floodplain Management*
- Executive Order 11593, *Protection and Enhancement of the Cultural Environment*
- Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*
- Federal Aviation Act of 1958 recodified as 49 U.S.C. §§40101, et seq.
- The Airport and Airway Improvement Act of 1982, 49 U.S.C. §47108, as amended
- National Historic Preservation Act, 16 U.S.C. §470(f), as amended
- 36 CFR Part 800, Advisory Council on Historic Preservation

- Farmland Protection Policy Act, 7 U.S.C. §73, and implementing regulations at 7 CFR §658
- Clean Air Act, 42 U.S.C. §§7401, et seq., and implementing regulations at 40 CFR. Parts 51 and 93
- Clean Water Act, 33 U.S.C. §1251 et seq., and implementing regulations at 33 CFR §§325 and 33 CFR §336
- 33 CFR Parts 320-330, Regulatory Programs of the Corps of Engineers
- Endangered Species Act, 16 U.S.C. § 1531 et. Seq.
- Fish and Wildlife Coordination Act, 16 U.S.C. §661, et seq., as amended
- Other laws, regulations, and policies as applicable

1.5 Public Involvement

To satisfy requirements for public involvement, an advertisement announcing the availability of the Draft Supplemental EA was published in the Charleston Gazette-Mail. The advertisement informed the public on how to obtain a copy of the Draft Supplemental EA and initiated the public comment period. The Draft Supplemental EA was made available starting on October 28, 2022 at the CWVRAA Airport Administration offices located at the following address:

100 Airport Road, Suite 175
Charleston, WV 25311

and online at the following website: https://yeagerairport.com/business-at-crw/.

If you have important information that has not been considered in this document or comments on the Draft Supplemental EA, please send your written/email comments to the following:

Dominique Ranieri
100 Airport Road, Suite 175,
Charleston, WV 25311
Email: info@yeagerairport.com

Comments are due no later than 5:00 p.m. Eastern Daylight Time on November 28, 2022. If submitting via the U.S. Postal Service, please allow enough time for mailing. Your comment must be postmarked by that date.

Before including your name, address and telephone number, email 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.

2 Purpose and Need

The purpose and need for the Proposed Action serves as the foundation for identifying reasonable alternatives to the Proposed Action; and for comparison of the impacts of the various alternatives. In order for a potential alternative to be considered viable and carried forward for detailed evaluation within the NEPA process and the EA, that alternative must address the purpose and need and pass an alternatives evaluation process using screening criteria. This is further discussed in Chapter 3, *Alternatives*.

The following sections discuss the purpose and need for the project. The CWVRAA has identified these needs through ongoing planning and needs assessment efforts at CRW. This EA analyzes the proposed solutions (purpose) to meet the needs of the identified deficiencies (need).

2.1 Need for the Project

CRW is the largest commercial service airport in West Virginia and an integral part of the transportation network in the region. The CWVRAA has a responsibility to ensure that CRW maintains adequate facilities to serve the transportation and aeronautical needs of its users. The following needs have been identified:

- Insufficient GA Hangar Space
- Insufficient Space for the Marshall University Flight School
- Aging and insufficient Space for Snow Removal Equipment
- Need for alternative and sustainable revenue sources

2.1.1 Insufficient General Aviation Hangar Facilities

The CWVRAA has identified the need for additional GA and corporate hangar space that was not addressed in the original EA. There are a total of 52 aircraft based at CRW as shown in **Table 2-1**. Currently, there is a waiting list for GA aircraft operators wanting to have access to aircraft hangars at CRW. Due to lack of hangar space, aircraft are parked on the current GA ramp to the south of Taxiway B. These parking areas are often crowded and inefficient. Due to space constraints, aircraft are often parked in front of other aircraft which requires maneuvering aircraft around to move aircraft in and out of parking positions. This creates additional taxi or towing requirements, the need for additional staff time to move aircraft, and safety issues when parking and moving multiple aircraft in close proximity.

Table 2-1 Based General Aviation Aircraft

Aircraft Type	Number Based at CRW
Single engine airplanes	35
Multi engine airplanes	10
Jet airplanes	2
Helicopters	5
Total Based Aircraft	**52**

Source: Capital Jet Center, 2022

To meet current demand, suitable GA hangars and apron space must meet the following requirements:

- Sufficient space for hangars and apron area with relatively flat land outside a runway or taxiway safety area or other protected surface;
- Direct airfield access; and
- Roadway access for surface vehicle parking for pilots, passengers, visitors.

2.1.2 Insufficient Facilities for the Marshall University Flight School

The 2019 EA identified the need for alternative and sustainable revenue sources at CRW. The Marshall University Flight School (Flight School) was established at CRW in 2020 to serve the needs for flight training in the central West Virginia region and allow CRW to become more self-sufficient and financially independent. The 2019 EA proposed construction of a flight ops classroom building and three aviation school hangars. Ultimately, a single hangar and an administration building, that houses a flight operations center and classrooms, was constructed in approximately the same location proposed in the 2019 EA (See Exhibit 1-3 and Exhibit 1-5). These facilities are undersized for the existing demand for flight training and other administrative functions. The Flight School currently has five based aircraft with a delivery of an additional aircraft in November 2022 and two aircraft in 2023 to meet existing demand for flight training. Without the additional hangar, aircraft would be parked on the apron.

As a result, the Flight School is proposing to expand the flight ops and classroom building and corresponding vehicle parking to the northeast, in the location of a previously proposed hangar, and construct the second hangar with corresponding vehicle parking to the north of the existing hangar. This second hangar location has been modified from what was proposed in the 2019 EA. Suitable space must meet the following requirements:

- Sufficient flat land for a 12,000 square-foot hangar and associated apron and parking space;
- Adjacency to the existing Marshall University Flight School
- Direct airfield access; and
- Roadway access for surface vehicle parking for students, staff, and visitors.

2.1.3 Aging and Insufficient Space in the Current Location for an Expanded Snow Removal Equipment Facility

The existing maintenance facilities were built over 40 years ago and are beginning to degrade due to age. There are three separate buildings of varying ages and condition and none of the buildings are large enough to accommodate the new larger snow removal equipment needed to properly maintain the Airport. Suitable space must meet the following requirements:

- Sufficient flat land for a 12,000 square-foot SRE and Command Center and associated apron and parking space;
- Direct airfield access; and
- Roadway access for surface vehicle parking for employees and deliveries.

2.1.4 Need for alternative and sustainable revenue sources

The CWVRAA has an obligation to ensure the financial well-being of CRW. To meet that obligation, the CWVRAA has identified a need for additional alternative and sustainable revenue sources to supplement current CRW revenue sources and help fund the Airport's operating and capital budgets. The additional GA hangars and expansion of the Marshall University Flight School would meet this need and allow CRW to become more self-sufficient and financially independent.

2.2 Purpose of the Project

The purpose of this project is for the CWVRAA (Sponsor) to provide suitable facilities at CRW for airport users in a way that would be consistent with the Airport's long-term plans and meet existing and future demands. Based on the various deficiencies (needs) previously discussed, the purposes of the Proposed Action are to:

- Provide suitable hangar and apron space to meet the demand for general aviation and corporate aircraft users;
- Provide suitable space for the operation of the Marshall University Flight School;
- Provide facilities for equipment staging and storage for winter operations and snow removal; and
- Diversify occupants in the GA area to create additional revenue sources to help the airport diversify revenue and achieve financial stability and independence.

2.3 Requested Federal Actions

The following are the major Federal actions subject to NEPA applicable to the Proposed Action:

- Unconditional approval of the Proposed Action on the ALP to depict the proposed improvements in this EA pursuant to 49 United States Code (U.S.C.) §§ 40103(b) and 47107(a)(16).

- Determinations as to the eligibility of the Proposed Action for federal funding for construction of eligible components of the Proposed Action under (1) the Airport Improvement Program (AIP) (49 U.S.C §§ 47106 and 47107) and/or (2) through PFCs (49 U.S.C. § 40117, as implemented by 14 CFR § 158.25).
- Determination of eligibility for Federal assistance under the Federal grant-in-aid program authorized by the Airport and Airway Improvement Act of 1982, as amended (49 U.S.C. § 47101 et seq.).

In addition, the Sponsor requires the following approvals from the FAA before it can implement the Proposed Action:

- Determinations under 14 CFR Part 77, *Objects Affecting Navigable Airspace*, and 14 CFR Part 157, *Notice of Construction, Alteration, Activation, and Deactivation of Airports*.
- Determination under 49 U.S.C. § 44502(b) that the airport development is reasonably necessary for use in air commerce or in the interests of national defense.
- Determination under 49 U.S.C. § 47106(a)(1) that the Selected Alternative is Reasonably Consistent with Existing Plans of Public Agencies Responsible for Development in the Area.
- Approval of a Construction Safety and Phasing Plan to maintain aviation and airfield safety during construction pursuant to FAA AC 150/5370-2G, *Operational Safety on Airports During Construction*, (14 CFR Part 139 [49 U.S.C. § 44706]).
- Approval of changes to the airport certification manual pursuant to 14 CFR Part 139.

2.4 Implementation Phasing

Construction would begin on the proposed GA apron in early 2023 and the box hangars, corporate hangar, and AEDC would be operational by the end of 2024. The Marshall University Flight School Expansion would be constructed from 2023 to 2024. The SRE and Command Center would be constructed from 2023 to 2024.

2.5 Required Land Use/Environmental Permits and Approvals

Federal

- FAA approval of modification of the ALP
- Federal environmental approval pursuant to NEPA
- Endangered Species Act Section 7 Compliance
- National Historic Preservation Act Section 106 Compliance

State

- National Pollution Discharge Elimination System Permits (NPDES) administered by the West Virginia Division of Water and Waste Management

Local

- County Zoning Review and Building permits

3 Alternatives

CEQ regulations implementing the NEPA require that the Federal decision-makers perform the following tasks when preparing an EA:

- Evaluate all reasonable alternatives, including alternatives not within the jurisdiction of the Federal agency, and for alternatives which were eliminated from detailed study, briefly discuss the reason for eliminating the alternative.
- Devote substantial treatment to each alternative considered in detail, including the No Action Alternative and the Proposed Action, so that reviewers may evaluate their comparative merits.

This section describes the Proposed Action and alternatives to the Proposed Action, including the No Action Alternative, and evaluates the ability of each to meet the purpose and need described in Chapter Two, Purpose and Need. The Proposed Action, described in Section 1.2 of this Supplemental EA, would fulfill the purpose and need for the project. The No Action Alternative would not meet the purpose and need; however, it is analyzed in the EA pursuant to the requirements of the CEQ, FAA Orders 1050.1F, 5050.4B, and NEPA.

Various development alternative sites for the proposed facilities were considered. As noted in Chapter 2, the following criteria must be met for the proposed projects.

- Proposed North GA Area Development
  - Sufficient space for hangar and apron area on relatively flat land outside a runway or taxiway safety area or other protected surface;
  - Direct airfield access; and
  - Roadway access for surface vehicle parking.
- Marshall University Flight School Expansion
  - Sufficient flat land for a 12,000 square-foot hangar and associated apron and parking space;
  - Direct airfield access; and
  - Roadway access for surface vehicle parking.
- SRE and Command Center Relocation
  - Sufficient flat land for a 12,000 square-foot SRE and Command Center and associated apron and parking space;
  - Direct airfield access; and
  - Roadway access for surface vehicle parking and deliveries

Each project element requires suitable flat land area that is not within a runway or taxiway safety area or other protected surface and requires airfield and roadway access for both airside and landside activities. The 2019 EA evaluated one alternative (Alternative 1) to the Proposed Action in addition to the No Action. Alternative 1 proposed to develop the area west of

Runway 5-23. The area west of Runway 5-23, that was not steeply sloped terrain, could not accommodate the proposed facilities and therefore did not meet the need to provide suitable area for the proposed development. In addition, the area was below the runway elevation and additional earthwork would be required to allow for the development of the alternative which was determined cost prohibitive. Alternative 1 was re-evaluated in this Supplemental EA and still found not to meet the need of the current Proposed Action. See **Exhibit 3-1** for a depiction of Alternative 1 and the land area available at CRW that is not constrained by terrain.

There are no other suitable sites for the Proposed Action. Due to the lack of any other suitable sites, the only alternatives that are carried forward for full environmental analysis are the No Action and the Proposed Action. The No Action would result in no new development. The following conditions would continue to occur:

- Insufficient GA Hangar facilities
- Insufficient facilities for the Marshall University Flight School
- Aging and insufficient space in the current location for an expanded Snow Removal Equipment facility

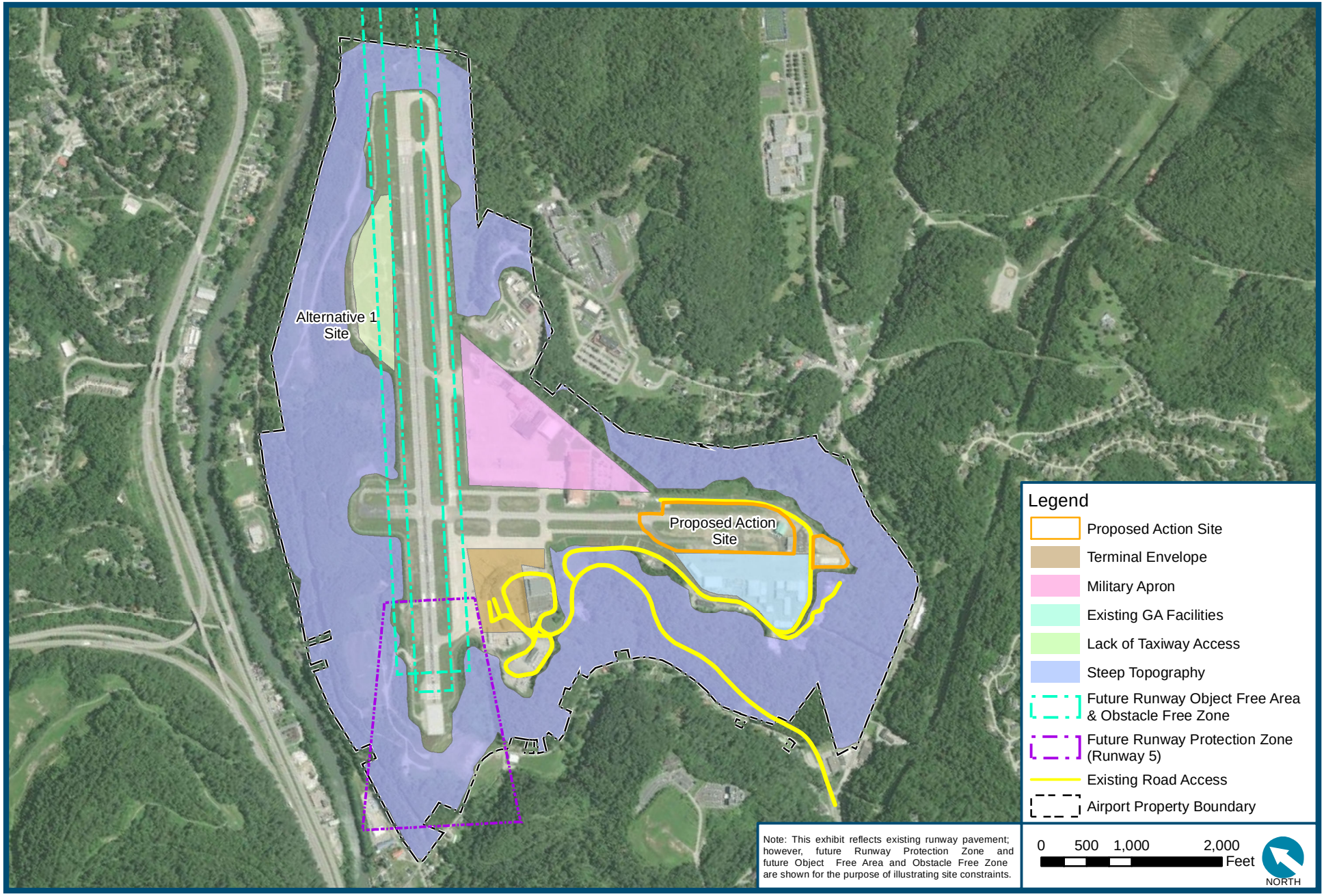

Exhibit 3-1
Site Constraints

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Prepared by: Landrum & Brown
Date: 9/15/2022
Y:\CRW\2021 On-Call\E-LB Work\Task 1403-NEPA\5-GIS\MXD\Document\3-1-CRW_Site_Constraints.mxd

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4 Affected Environment

Pursuant to the environmental documentation requirements of FAA Orders 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, and 1050.1F, *Environmental Impacts, Policies, and Procedures*, this affected environment section succinctly describes the existing environmental conditions of the potentially affected geographic area for the proposed construction of the North GA Area Development at CRW.

4.1 Environmental Setting and Proposed Action Site

CRW is located in Kanawha County, West Virginia. The Airport is approximately two miles northeast of downtown Charleston. The Proposed Action would occur on the southeast side of the airfield to the north of the existing GA facilities and adjacent to the existing Marshall University Flight School. This area is collectively referred to as the North GA Area. The North GA Area is located off of Eagle Mountain Road and includes the area of Taxiway B and Taxiway C and the land to the north. The areas to the north and east of the North GA Area are wooded with steep terrain. Areas to the south and west of the Proposed Action site are developed airfield. The Proposed Action site is shown on **Exhibit 4-1, *Proposed Action Site***.

4.2 Resources Potentially Affected

The No Action and Proposed Action do not have the potential to affect the following environmental resource categories because the resources are not present: coastal resources and wild and scenic rivers. Therefore, no discussion of the existing conditions related to these categories is included in this chapter. The Proposed Action has the potential to include impacts to the following resource categories:

- Air Quality;
- Biological Resources;
- Climate;
- Department of Transportation Act, Section 4(f);
- Farmland;
- 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 Health and Safety Risks;
- Visual Effects; and
- Water Resources (including Wetlands, Floodplains, Surface Waters, and Groundwater).

The current conditions for each of these resource categories are described in the following sections.

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Exhibit 4-1
Proposed Action Site

Imagery Source: ESRI, Maxar, Earthstar Geographics, September 2021
Date: 7/15/2022
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4-1-CRW_Proposed_Action_Site.mxd

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4.2.1 Air Quality

An airport air quality assessment requires consideration under both the Clean Air Act of 1970, as amended (CAA), and the National Environmental Policy Act of 1969, as amended (NEPA). These two federal laws require distinct analyses and may be separately applicable to an airport project. The CAA establishes standards and programs to evaluate, achieve, and maintain acceptable air quality in the United States. In accordance with CAA requirements, the United States Environmental Protection Agency (USEPA) established the National Ambient Air Quality Standards (NAAQS), for six common air pollutants (known as "criteria air pollutants") that are potentially harmful to human health and welfare. The USEPA considers the presence of the following six criteria pollutants to be indicators of air quality: Carbon monoxide (CO); Nitrogen dioxide (NO_2); Ground-level Ozone (O3); Sulfur dioxide (SO_2); Particulate matter (PM_{10} and $PM_{2.5}$); and Lead (Pb).

CRW is located in the Kanawha Valley Intrastate Air Quality Control Region (AQCR)[1] area which has previously been classified by the USEPA as non-attainment for the 1997 standards for the 1-hour concentrations of ozone and the 1997 and 2006 standards for fine particulate matter ($PM_{2.5}$). The Kanawha Valley Intrastate AQCR was redesignated as attainment for the 1997 standards for ozone in 2006 and was redesignated as attainment for the both the 1997 and 2006 standards for $PM_{2.5}$ in 2014. The 1997 standards for ozone and $PM_{2.5}$ have been revoked.[2] The region operates under a maintenance plan for the 2006 standards for $PM_{2.5}$. Therefore, the pollutants of concern are $PM_{2.5}$ and the precursors sulfur dioxide (SO_2), oxides of nitrogen (NO_X), and volatile organic compounds (VOC).[3, 4]

4.2.2 Biological Resources

Biological resources are valued for their intrinsic, aesthetic, economic, and recreational qualities and include fish, wildlife, plants, and their respective habitats. The Proposed Action site is mostly paved or maintained grass fill within the airfield. Based on a review the U.S. Fish and Wildlife Service Information for Planning and Consultation (IPaC) website, **Table 4-1, *Threatened and Endangered Species*** shows the protected species that may be found within range of the Proposed Action.

[1] 40 CFR § 81.233
[2] United States Environmental Protection Agency, West Virginia Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants Available online at https://www3.epa.gov/airquality/greenbook/anayo_wv.html, Data current as of June 30, 2022.
[3] Particulate matter is formed in the atmosphere through complex chemical reactions. $PM_{2.5}$ precursors such as nitrogen oxides (NOx), volatile organic compounds (VOCs), sulfur dioxides (SO2), and ammonia contribute to the formation of secondary fine particulates.
[4] Ozone, is not emitted directly into the air at ground level. Rather it is created by chemical reactions between NOx and VOCs. Therefore, these pollutants are referred to as ozone precursors.

Table 4-1 Threatened and Endangered Species

Common Name	Scientific Name	Type	Status
Indiana bat	Myotis sodalis	Mammal	E
Northern long-eared bat	Myotis septentrionalis	Mammal	T
Gray bat	Myotis grisescens	Mammal	E
Diamond Darter	Crystallaria cincotta	Fish	E
Clubshell	Pleurobema clava	Mussel	E
Fanshell	Cyprogenia stegaria	Mussel	E
Northern Riffleshell	Epioblasma rangiana	Mussel	E
Pink Mucket	Lampsilis abrupta	Mussel	E
Sheepnose Mussel	Plethobasus cyphyus	Mussel	E
Snuffbox Mussel	Epioblasma triquetra	Mussel	E
Spectaclecase	Cumberlandia monodonta	Mussel	E
Tubercled Blossom	Epioblasma torulosa	Mussel	E
Monarch Butterfly	Danaus plexippus	Insect	C

Note: E = Endangered Species; T = Threatened; PE = Proposed Endangered Species; C = Candidate Species; SC = Species of Concern; NL = Not Listed
Source: U.S. Fish and Wildlife Service IPaC Database, July 14, 2022.

The gray bat inhabits caves year-round. Indiana bats and Northern long-eared bats spend winter hibernating in caves and mines. During the summer and portions of the fall and spring, Indiana bats and northern long-eared bats may be found roosting singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags, or dead trees. Males and non-reproductive females may also roost in cooler places, like caves and mines. Indiana bats and northern long-eared bats typically forage in semi-open to closed forested areas. These features are not found within the Proposed Action site. There are no high-quality streams or aquatic features within the Proposed Action site that would provide habitat for protected fish or mussel species. Stormwater run-off from the Proposed Action site feeds into Elk-Two Mile Creek, a tributary of the Elk River, which is located adjacent to CRW. This tributary has habitat for several listed aquatic species. There are no critical habitats for Federally listed species present in the area of the Proposed Action according to the IPaC database.[5] Coordination with the US Fish and Wildlife Service (USFWS) was completed in the 2019 EA which resulted in the USFWS providing technical assistance letters concurring the project would not have any long-term or permanent loss of unlisted plants or wildlife or adversely affect Federally-listed endangered or threatened species. These technical assistance letters from the USFWS are included in Appendix B – Biological Resources. The IPaC review conducted for this Supplemental EA did not identify any additional threatened or endangered species that were not identified in the 2019 EA.

[5] U.S. Fish & Wildlife Service, Information for Planning and Consultation, Available online at https://ipac.ecosphere.fws.gov/, Accessed July 14, 2022.

4.2.3 Climate

According to FAA Order 1050.1F, the discussion of potential climate impacts should be documented in a separate section of the NEPA document, distinct from air quality. Where the Proposed Action or alternative(s) would result in an increase in greenhouse gases (GHG) emissions, the emissions should be assessed either qualitatively or quantitatively. There are no significance thresholds for aviation GHG emissions, and it is not required for the NEPA analysis to attempt to link specific climate impacts to the Proposed Action or alternative(s) given the small percentage of emissions that aviation projects contribute. Both naturally occurring and anthropogenic (man-made) GHGs include water vapor, carbon dioxide (CO_2),[6] methane (CH_4), nitrous oxide (N_2O), and O_3.[7]

Research has shown that there is a direct link between fuel combustion and GHG emissions. Therefore, sources that require fuel or power at an airport are the primary sources that would generate GHGs. Aircraft are probably the most often cited air pollutant source, but they produce the same types of emissions as cars. Aircraft jet and piston engines, like many other vehicle engines, produce CO_2, water vapor, nitrogen oxides, carbon monoxides, oxides of sulfur, VOCs, particulates, and other trace compounds.

According to most international reviews, aviation emissions comprise a small but potentially important percentage of human made GHGs and other emissions that contribute to global warming. The Intergovernmental Panel on Climate Change (IPCC) estimates that aviation accounted for 4.1 percent of global transportation GHG emissions. In the United States, USEPA data indicate that commercial aviation contributed 6.6 percent of total CO_2 emissions in 2013, compared with other sources, including the remainder of the transportation sector (20.7 percent), industry (28.8 percent), commercial (16.9 percent), residential (16.9 percent), agricultural (9.7 percent) and U.S. territories (0.05 percent).[8]

4.2.4 Department of Transportation Act Section 4(f)

Section 4(f) of the United States Department of Transportation (USDOT) Act of 1966 (49 U.S. Code [U.S.C.] § 303) protects publicly owned parks, recreational areas, wildlife and waterfowl refuges of national, state, or local significance, and public and private historic sites of national, state, or local significance. Section 4(f) provides that the Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance, only if there is no feasible and prudent alternative to using that land and the program or project includes all possible planning to minimize harm resulting from the use. Section 4(f) applies only to transportation modal agencies within the USDOT.

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[6] All greenhouse gas inventories measure carbon dioxide emissions. Beyond carbon dioxide, GHG inventories may vary according to other greenhouse gases (GHGs) assessed.

[7] Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also greenhouse gases, but they are, for the most part, solely a product of industrial activities. For example, chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) are halocarbons that contain chlorine while halocarbons that contain bromine are referred to as bromofluorocarbons (i.e. halons) or sulfur (sulfur hexafluoride: SF6).

[8] GHG allocation by economic sector. Environmental Protection Agency (2015). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013. Available at: http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html#fullreport..

A playground, owned and maintained by the CWVRAA, is located adjacent to the Proposed Action site. There are no other historic properties or parks, recreation areas, or wildlife/waterfowl refuges in the vicinity of the Proposed Action site. Additional information on efforts to identify historic sites is included in Section 4.2.7.

4.2.5 Farmland

Farmlands are defined as those agricultural areas considered important and protected by federal, state, and local regulations. Important farmlands include all pasturelands, croplands, and forests (even if zoned for development) considered to be prime, unique, or of statewide or local importance. Farmland does not include land already in or committed to urban development or water storage.[9,10]

The Proposed Action would occur on paved surfaces and previously disturbed and maintained grass airfield. None of these areas are used for farming nor would they be considered prime or unique farmland.

4.2.6 Hazardous Materials and Solid Waste

The potential impacts resulting from hazardous materials and solid waste collection due to Federal projects are assessed under four primary laws that govern the handling and disposal of hazardous materials, chemicals, substances, and wastes:

- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), (as amended by the Superfund Amendments and Reauthorization Act of 1986 and the Community Environmental Response Facilitation Act of 1992);[11]
- Pollution Prevention Act of 1990;[12]
- Toxic Substances Control Act of 1976, as amended (TSCA);[13] and
- Resource Conservation and Recovery Act of 1976 (RCRA), (as amended by the Superfund Amendments and Reauthorization Act of 1986 and the Community Environmental Response Facilitation Act of 1992).[14]

The two statutes that are most applicable to FAA actions to construct and operate airport facilities and other development are RCRA and CERCLA. RCRA governs the generation, treatment, storage, and disposal of hazardous wastes. CERCLA provides for consultation with natural resources trustees and cleanup of any release of a hazardous substance (excluding petroleum) into the environment. The USEPA maintains the Superfund Enterprise Management System (SEMS) database of hazardous waste sites listed under CERCLA and RCRA regulations. Sites of highest concern are listed on the National Priorities List (NPL).

[9] Farmland “already in” urban development or water storage includes all such land with a density of 30 structures per 40-acre area.
[10] Farmland already in urban development also includes lands identified as “urbanized area” (UA) on the Census Bureau Map, or as urban area mapped with a “tint overprint” on the USGS topographical maps, or as “urban-built-up” on the USDA Important Farmland Maps. Areas shown as white on the USDA Important Farmland Maps are not “farmland” and, therefore, are not subject to the Act.
[11] 42 U.S.C. 9601-9675.
[12] 42 U.S.C. 1310-1319.
[13] 15 U.S.C. 2601-2692
[14] 42 U.S.C. 6901-6992(k)

Typical hazardous materials may be present within the existing maintenance facility and GA area, including asbestos, lead, and PCBs. No petroleum storage tanks or spills have been reported within the Proposed Action site. The existing maintenance facility has two above-ground storage tanks (ASTs), one used for diesel fuel and one used for gasoline storage. No known leaks or spills have been reported from these ASTs that would cause a hazardous condition. There are no other known hazardous material sites within the Proposed Action site.

4.2.7 Historical, Architectural, Archaeological, and Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA) of 1966[15] as amended, requires Federal agencies to consider the effects of their projects on cultural sites listed on or eligible for inclusion on the National Register of Historic Places (NRHP). The Archaeological and Historic Preservation Act of 1974[16] provides for the preservation of historic American sites, buildings, objects, and antiquities of national significance by providing for the survey, recovery, and preservation of historical and archaeological data which might otherwise be destroyed, or irreparably lost due to Federal, federally licensed, or Federally-funded actions. The Department of the Interior's (DOI's) Standards and Guidelines (48 FR 44716, September 29, 1983) advises Federal agencies on implementation of this law.

There are no historic properties or known archaeological resources within the Area of Potential Effects (APE). The APE includes the area of direct disturbance and areas outside the area of direct disturbance that would be within the viewshed of the Proposed Action and is shown on **Exhibit 4-2, *Area of Potential Effects***. Past disturbance within the APE includes the construction of airfield pavement of depths ranging up to several feet. There are no known cultural resources within the APE that would be of interest or significance to Native American tribes. This Proposed Action would occur in an area that was previously coordinated for aeronautical development with the State Historic Preservation Office (SHPO) in 2018 and revised through additional project planning as the Proposed Action from the 2019 *Short Form Environmental Assessment for the General Aviation Area at Yeager Airport (*2019 EA). Coordination was conducted with the SHPO from April 2018 through July 2019. Coordination with the SHPO for the 2019 EA did not identify any known historic, architectural, or archaeological resources. Appendix C – Cultural Resources, contains the coordination with the SHPO.

4.2.8 Land Use

Special guidance relevant to land use is given in the NEPA implementing regulations, which require consideration of "[p]ossible conflicts between the Proposed Action and the objectives of Federal, regional, State, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned." The impacts on land use may include indirect impacts such as the disruption of communities, relocation, induced socioeconomic impacts, and impacts to land uses protected under USDOT Section 4(f) Act. The regulations recognize that certain inconsistencies may exist between the proposed Federal action and any approved state or local plan or law. Where an inconsistency exists, the NEPA document should describe the extent to which the agency would

[15] Public Law 89-665; 16 U.S.C. 470 et seq.
[16] Public Law 86-523, 16 U.S.C. 469-469c-2,

reconcile its action with the plan or law (See 40 CFR § 1506.2(d)).The Proposed Action site is located on Airport property. The site is adjacent to other Airport facilities and steep terrain that would not be disturbed. The nearest residential land use is approximately 560 feet northeast of the Proposed Action site. Existing land use patterns around the Airport are shown on **Exhibit 4-3, *Existing Land Use***.

4.2.9 Natural Resources and Energy Supply

This impact category provides an evaluation of a project's consumption of natural resources (such as water, asphalt, aggregate, wood, etc.) and use of energy supplies (such as coal for electricity; natural gas for heating; and fuel for aircraft, commercial space launch vehicles, or other ground vehicles). Consumption of natural resources and use of energy supplies may result from construction, operation, and/or maintenance of the Proposed Action or alternative(s).

The Charleston region and area surrounding CRW is a well-developed urban area with adequate access to natural resources for construction projects. Electricity is provided to the area by Appalachian Power. Natural gas service is provided by Mountaineer Gas Company. Drinking water is provided by West Virginia American Water.

4.2.10 Noise and Noise-Compatible Land Use

For aviation noise analyses, the FAA has determined that the cumulative noise energy exposure of individuals to noise resulting from aviation activities must be established in terms of annual Day-Night Average Sound Level (DNL), the FAA's primary noise metric.

The FAA uses the 14 CFR Part 150, Airport Noise Compatibility Planning, land use compatibility guidelines to determine compatibility with most land uses. These guidelines are consistent with land use compatibility guidelines developed by other federal agencies such as the USEPA and the United States Department of Housing and Urban Development.

The Proposed Action site is located in the southeastern area of the CRW airfield and is subject to noise from aircraft and the surrounding airfield. Other noise sources in the vicinity of the Airport include surface vehicle traffic on local roadways.

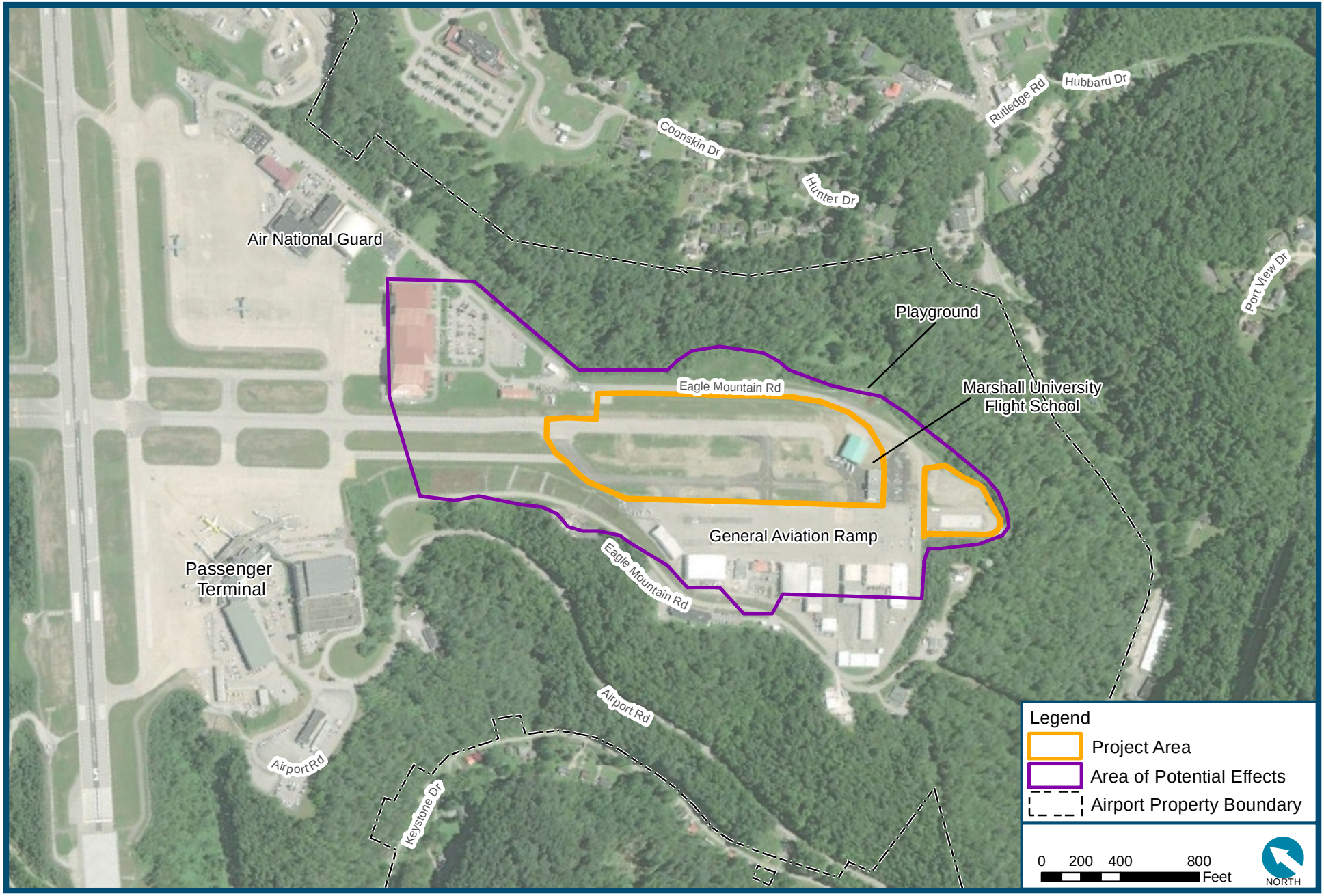

Exhibit 4-2
Area of Potential Effects

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Prepared by: Landrum & Brown
Date: 9/15/2022
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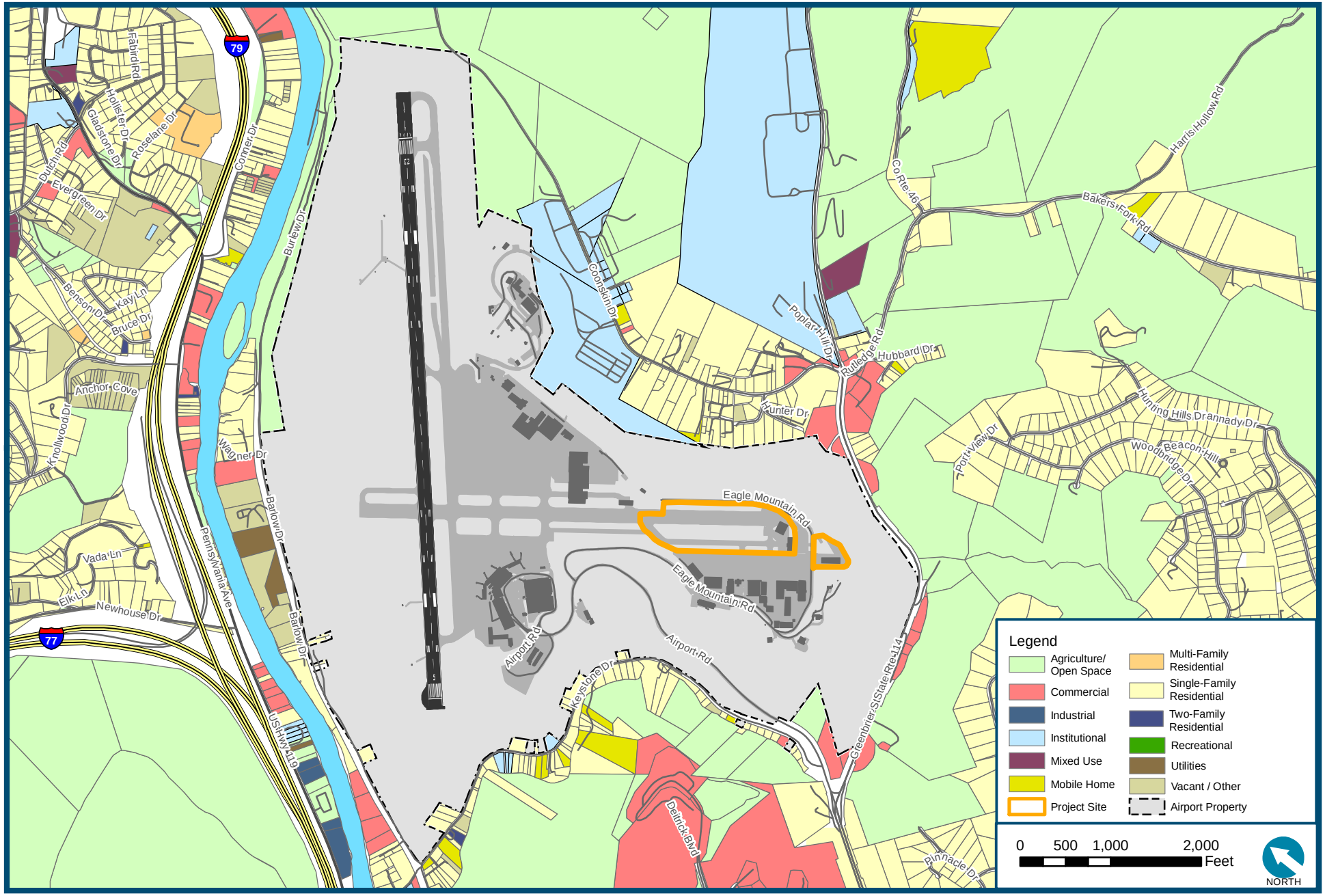

Exhibit 4-3
Existing Land Use

Service Layer Credits: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Kanawha County

Prepared by: Landrum & Brown
Date: 9/20/2022
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4.2.11 Socioeconomics, Environmental Justice, and Children's Health and Safety Risks

Socioeconomics is an umbrella term used to describe aspects of a project that are either social or economic in nature. A socioeconomic analysis evaluates how elements of the human environment such as population, employment, housing, and public services might be affected by the Proposed Action and alternatives.

Section 1508.14 of the CEQ Regulations requires all Federal agencies to conduct a socioeconomic analysis in the event that economic or social and natural environmental effects are interrelated as a result of the Proposed Action and alternative(s). This would include an evaluation of how elements of the human environment such as population, employment, housing, and public services might be affected by the Proposed Action and alternative(s). The Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970, 42 U.S.C. § 61 et seq., and implementing regulations found at 49 CFR Part 24, provides standards if acquisition of real property or displacement of people would occur as a result of implementing the Proposed Action.

CRW is located in Kanawha County. The population of Kanawha County has decreased by roughly eight percent since 2010 from 193,063 to an estimated 177,952 in 2021. Total employment in 2020 was 76,904 in Kanawha County. This represents a three percent decrease in employment from 2019.[17]

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 that 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 that:

- 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;
- Their concerns will be considered in the decision-making process; and,
- The decision makers seek out and facilitate the involvement of those potentially affected.

Table 4-2 shows the total population by race and poverty status within Kanawha County and the Census Track adjacent to the Airport.

[17] U.S. Census Bureau, Available online at https://www.census.gov/quickfacts/kanawhacountywestvirginia

Table 4-2 Existing Population and Demographics

Statistic	Kanawha County	Populations within or Adjacent to the Project Area[1]
Population		
Not Hispanic	98.9%	99.1%
White	87.7%	97.5%
Black / African American	7.1%	1.6%
Native American / Alaskan Native	0.2%	0.0%
Asian	1.2%	0.0%
Native Hawaiian or Pacific Islander	0.0%	0.0%
Other	2.7%	0.0%
Hispanic	1.1%	0.9%
Percent Total Minority	**12.3%**	**2.5%**
Percent Below Poverty Level[2]	**17.2%**	**16.2%**

Notes: 1. Census Tract 113.01, Kanawha County, West Virginia
2. American Community Survey, 2020 Five-Year Estimates, Table C17002.
Source: U.S. Census Bureau, 2022

Pursuant to EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, federal agencies are directed to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. Environmental health risks and safety risks include risks to health or to safety that are attributable to products or substances that a child is likely to come in contact with or ingest, such as air, food, drinking water, recreational waters, soil, or products to which they might use or be exposed.

Based on a review of U.S. Census data, there are minority and/or low-income populations within the Census Tract adjacent to Airport property. The nearest residential land use is approximately 560 feet away and separated from the Proposed Action site by steep wooded terrain. The Proposed Action is adjacent to a playground located outside of the Airport Operations Area fence. The playground is owned and operated by the CWVRAA and open to the public as a recreational amenity.

4.2.12 Visual Effects

FAA Order 1050.1F states that the Visual Effects environmental impacts category deals with the extent to which the Proposed Action would have the potential to either 1) produce light emissions that create annoyance or interfere with normal activities; or 2) affect the nature of the visual resources or visual character of the area, including the importance, uniqueness and aesthetic value of the affected visual resources, including by contrasting with, or detracting from, the visual resources and/or the visual character of the existing environment or blocking or obstructing the views of visual resources, including

whether those resources would still be viewable from other locations.[18] Although there are no special-purpose laws or requirements for visual effects or light emissions, the analysis for Proposed Actions must consider other special-purpose laws and requirements that may be relevant. Regulations that may provide protection to visual resources include Section 106 of the NHPA for impacts to historic and cultural resources, Section 4(f) of the USDOT Act for impacts to parks, wildlife and waterfowl refuges, the Endangered Species Act for impacts to light-sensitive species, and applicable state and local regulations, policies, and zoning.

The Proposed Action site is adjacent to airport land uses to the south and west. To the east and north of the Proposed Action site the land is wooded and steeply sloped which provides a visual buffer between the Airport and land uses off airport property.

4.2.13 Water Resources

Water resources are surface waters and groundwater that are vital to society; they are important in providing drinking water and in supporting recreation, transportation and commerce, industry, agriculture, and aquatic ecosystems. Surface water, groundwater, floodplains, and wetlands do not function as separate and isolated components of the watershed, but rather as a single, integrated natural system.

Wetlands

Wetlands are defined as areas that are inundated by surface or ground water with a frequency to support, and under normal circumstances do or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds. The Proposed Action would occur on paved surfaces and previously disturbed and maintained grass airfield that does not contain any jurisdictional streams or wetlands. The 2019 EA identified two palustrine emergent wetlands within the project area. Wetland areas are shown on **Exhibit 4-4, *Wetlands and Streams*.** Wetland W1 was originally identified to be impacted by the Ground Distribution Center; however, that facility was not constructed and therefore Wetland W1 was not impacted. Wetland W2 was identified to be impacted by the Flight School vehicle parking and was ultimately impacted; therefore, this wetland is no longer present.

Floodplains

The Proposed Action site is not located within a floodplain. A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs)[19] indicates that all land within the Proposed Action site is located outside of a designated 100-year floodplain. As shown on **Exhibit 4-5, *Floodplain Map***, the nearest 100-year floodplain is located approximately 520 feet away at its closest point to the southeast of the Proposed Action site.

[18] FAA, 2015, Order 1050.1F, Environmental Impacts: Policies and Procedures, Exhibit 4-1, page 4-10.
[19] Federal Emergency Management Agency, FIRMs, Panel Numbers 54039C0426E, 54039C0427E, and 54039C0263E.

Surface Waters

Surface waters surrounding the Proposed Action site are the Elk River, located to the north and west of CRW, and the Elk Two-mile Creek, located south of CRW. The 2019 EA identified one ephemeral stream adjacent the project area which was outside the limits of disturbance for the development and was not impacted (see Exhibit 4-4). Mapped streams from the U.S. Geological Survey National Hydrography Dataset are shown on **Exhibit 4-6, *Surface Waters.***

Groundwater

There are no sole source aquifers or drinking water wells as designated by the USEPA located in the area surrounding the Proposed Action site.

Exhibit 4-4
Wetlands and Streams

Source: Written Re-Evaluation of The 2019 Short Environmental Assessment Form for the General Aviation (GA) Area At Yeager Airport, June 2020, Figure 4.
Date: 10/20/2022
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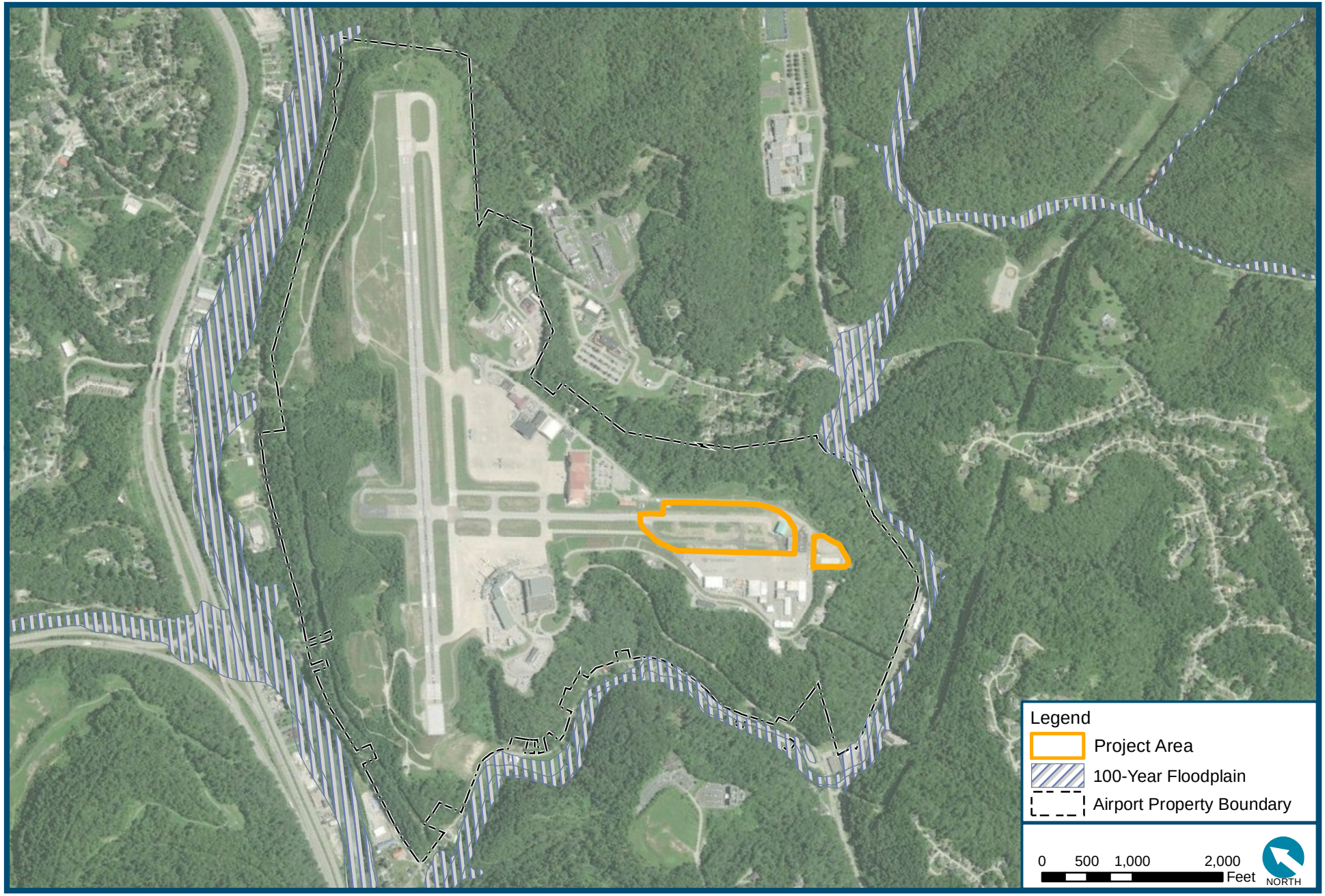

Exhibit 4-5
Floodplain Map

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, FEMA Flood Hazard Area maps

Prepared by: Landrum & Brown
Date: 9/16/2022
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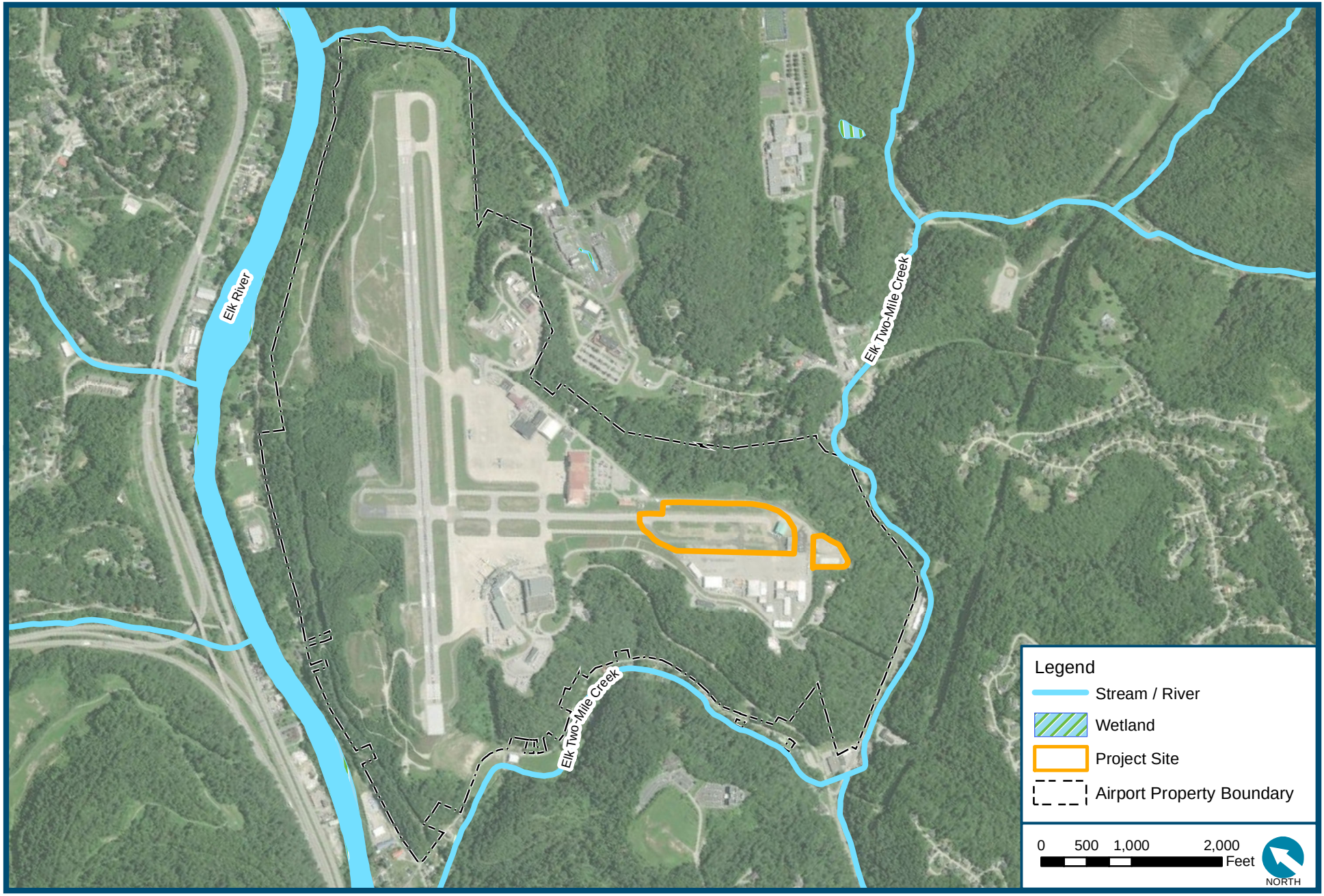

Exhibit 4-6
Surface Waters

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community , USGS National Hydrography Dataset, USFWS National Wetlands Inventory

Prepared by: Landrum & Brown
Date: 9/15/2022
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5 Environmental Consequences

This chapter presents the assessment of potential environmental impacts of the Proposed Action and the No Action alternative. As required by FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Projects*, and FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, the environmental categories listed below are addressed in this EA. Construction activities could result in potential impacts to multiple categories. Per FAA Order 1050.1F, the assessment of potential construction related impacts is discussed where applicable for each of the categories listed.

As discussed in Chapter Four, *Affected Environment*, the No Action and Proposed Action do not have the potential to affect the following categories because the resources do not exist in the vicinity of the North GA Area (the Proposed Action site): coastal resources and wild and scenic rivers. Therefore, no discussion of potential impacts related to these categories is included in this EA.

5.1 Resources Potentially Affected

The Proposed Action has the potential to include impacts to the following resource categories:

- Air Quality;
- Biological Resources;
- Climate;
- Department of Transportation Act, Section 4(f);
- Farmland;
- 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 Health and Safety Risks;
- Visual Effects; and
- Water Resources (including Wetlands, Floodplains, Surface Waters, and Groundwater).

The potential impacts for each of these resource categories are described in the following sections.

5.1.1 Air Quality

The potential impacts to air quality due to the Proposed Action were determined in accordance with the guidelines provided in FAA, *Aviation Emissions and Air Quality Handbook Version 3*,[20] and FAA Order 5050.4B, which together with the guidelines of FAA Order 1050.1F, constitute compliance with all the relevant provisions of NEPA and the CAA. The FAA's significance threshold for air quality is if the Proposed Action would cause pollutant concentrations to exceed one or more of the NAAQS, as established by the USEPA under the CAA, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations.

No Action

No construction would occur and no other changes would occur under the No Action that would cause any changes in aircraft operations or construction emissions.

Proposed Action

The Proposed Action would not cause un-forecasted growth in aircraft activity nor would it cause a change in fleet mix or a permanent change in runway use patterns, taxi time, or airfield delay at CRW. The proposed facilities would accommodate existing general aviation (GA) currently on a waitlist for a hangar and Flight School aircraft that are already operating or will be operating in 2023 at CRW. Therefore, the proposed facilities would not cause an increase or decrease in aircraft operations and would not result in changes to the aircraft fleet. Under the Proposed Action, the GA ramp would operate more efficiently and reduce or eliminate emissions from taxiing or towing aircraft around each other and in and out of ramp parking positions.

The change in emissions would include temporary emissions from construction activity. Estimates of construction equipment usage was prepared using the Airport Construction Emissions Inventory Toolkit (ACEIT) based on the types of construction equipment required for construction of the Proposed Action. Emissions modelling of these equipment and vehicle types was prepared using the USEPA's Motor Vehicle Emissions Simulator (MOVES) Version 2014b. The emissions estimated to occur during construction and operation of the Proposed Action are provided in **Table 5-1, *Proposed Action Emissions Inventory***. The emissions from the Proposed Action are compared to the applicable *de minimis* levels. The applicable de minimis levels are 100 tons per year each of VOCs, NO_x, and $PM_{2.5}$.

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

Table 5-1 Proposed Action Emissions Inventory

Construction Year	Criteria and Precursor Pollutants					
	CO	VOC	NOx	SOx	PM_{10}	$PM_{2.5}$
	Applicable *de minimis levels* (tons per year)					
	n/a	100	100	100	n/a	100
	Project Construction Emissions (tons per year)					
2023	5.33	0.48	6.59	0.02	0.37	0.36
2024	6.81	0.78	8.83	0.02	0.58	0.56

Notes: NOx, VOC and $PM_{2.5}$ emissions from the project are compared with the 100 tons per year de-minimis threshold. Emissions of CO, SO2, and PM10 are provided for disclosure purposes. Total may not sum correctly due to rounding.
Source: Landrum & Brown analysis, 2022.

The air quality assessment summarized in Table 5-1 demonstrates that the Proposed Action would not cause an increase in air emissions above the applicable *de minimis* thresholds. Therefore, the Proposed Action conforms to the State Implementation Plan (SIP) and the CAA and would not create any new violation of the NAAQS, delay the attainment of any NAAQS, nor increase the frequency or severity of any existing violations of the NAAQS. As a result, no adverse impact on local or regional air quality is anticipated due to construction and operation of the Proposed Action. No further analysis or reporting is required under the CAA or NEPA. More information about the air quality assessment and emissions inventory is included in **Appendix A, *Air Quality***.

5.1.2 Biological Resources

Section 7 of the Endangered Species Act requires Federal agencies to assess potential impacts of a proposed Federal action upon endangered species or critical habitat. FAA Order 1050.1F states a significant impact to biological resources (including fish, wildlife, and plants) would occur when the USFWS or the National Marine Fisheries Service (NMFS) determines that the action would be likely to jeopardize the continued existence of a Federally-listed threatened or endangered species, or would result in the destruction or adverse modification of federally-designated critical habitat. The FAA has not established a threshold of significance for species of concern or non-listed species; however, the following factors should be considered, as noted in Order 1050.1F:

- 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 for population maintenance.

No Action

The No Action alternative does not involve any development and therefore would not cause any impacts to biological resources.

Proposed Action

The Proposed Action site includes approximately 12.2 acres of paved surfaces and previously disturbed and maintained grass fill within the airfield and would include no tree removal. No protected species or habitat occur within the project site. No potential adverse impacts to species protected under the Migratory Bird Treaty Act were identified for the Proposed Action. No proposed construction practices have been identified that would cause the spread of invasive species. Based on previous coordination conducted in the 2019 EA, and subsequent reviews of threatened and endangered species data from the IPaC database, which found a lack of habitat within the Proposed Action site, it was determined that the Proposed Action would not cause any significant impacts to biological resources. Best management practices such as soil erosion and runoff controls would be employed during construction to protect downslope water resources.

5.1.3 Climate

Although there are no Federal standards for aviation-related greenhouse gas (GHG) emissions, it is well established that GHG emissions can affect climate. The CEQ has indicated that climate should be considered in NEPA analyses.

No Action

The No Action alternative does not involve any construction activities and therefore would not cause any impacts to climate from operations or construction activity. Under the No Action alternative there would be no development so no change in GHG emissions would occur. Therefore, the No Action alternative would not cause additional operational impacts to climate.

Proposed Action

The following provides an estimate of GHG emissions. This report used the carbon dioxide equivalent (CO_2E) method to show the relative impacts on climate change from different GHGs. The resulting CO_2E is provided for information only because no Federal NEPA standard for the significance of GHG emissions from individual projects on the environment has been established. **Table 5-2*, Total Annual GHG Emissions***, provides the CO_2E emissions inventory for the construction and operational activities for the Proposed Action.

Table 5-2 Total Annual GHG Emissions

METRICS	ANNUAL METRIC TONS (PEAK YEAR)		
	CO_2	CH_4	N_2O
Maximum Annual Emissions	5,826	0	0
GWP_{100}	1	28	265
CO_{2e}	5,826	3	0
CO_{2e} Net Annual Emissions	5,828		

Notes: 1. CO2 = Carbon Dioxide, CO2E = Carbon Dioxide equivalent, CH4 = Methane, N2O = Nitrous oxide, GWP = Global Warming Potential.
2. Total emissions may not sum exactly due to rounding.
Source: Landrum & Brown analysis, 2022.

5.1.4 Department of Transportation Act Section 4(f) Resources

Two types of impacts to a Section 4(f) resource, physical (direct) or constructive (indirect) use, can occur from a Proposed Action. A physical use would occur if the Proposed Action or alternative(s) would involve an actual physical taking of 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 or facilities on the property. Constructive use occurs when the impacts of a project on a Section 4(f) property are so severe that the activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. The FAA may also make a de minimis impact determination with respect to a physical use of Section 4(f) property if, after taking into account any measures to minimize harm, the result is either:

- A determination that the project would not adversely affect the activities, features, or attributes qualifying a park, recreation area, or wildlife or waterfowl refuge for protection under Section 4(f); or
- A Section 106 finding of no adverse effect or no historic properties affected.

Section 6(f) of the Land and Water Conservation Act (LWCA) is also pertinent to Section 4(f) lands. Section 6(f) prohibits recreational facilities funded under the LWCA from being converted to non-recreational use unless approval is received from the director of the grantor agency.

No Action

Under the No Action alternative, there would be no development that would cause a direct (physical taking) or indirect (constructive taking) impact to a Section 4(f) or Section 6(f) resource.

Proposed Action

As noted in Section 4.2.7 of this EA, there are no historic sites listed on or eligible for the National Register of Historic Places (NRHP) within the APE. As discussed in Section 4.2.4, a playground is located adjacent to the Proposed Action site. There are no other historic properties or parks, recreation areas, or wildlife/waterfowl refuges in the vicinity of the Proposed Action site.

The construction and operation of the Proposed Action would not result in a physical use of the playground as it is located outside of the project area. In addition, the Proposed Action would not cause un-forecasted growth in aircraft activity, cause a change in fleet mix or a permanent change in runway use patterns, or cause a permanent increase in taxi time or airfield delay, or any other effects that would diminish the use of the playground. Therefore, the Proposed Action would not result in a constructive use of the playground. There are no Section 6(f) resources within the vicinity of the Proposed Action site; therefore, there would be no conversion of a Section 6(f) resource.

5.1.5 Farmland

Exhibit 4-1 of FAA Order 1050.1F provides factors to consider in evaluating the context and intensity of potential environmental impacts for farmlands. These factors are not intended to be thresholds. If these factors exist, there is not necessarily a significant impact; rather, the FAA must evaluate these factors in light of context and intensity to determine if there are significant impacts. Factors to consider that may be applicable to farmlands include, but are not limited to, situations in which the Proposed Action or alternative(s) would have the potential to convert important farmlands to non-agricultural uses. Important farmlands include pastureland, cropland, and forest considered to be prime, unique, or of state or local importance.

No Action

Under the No Action alternative, there would be no development and no impacts to farmland would occur.

Proposed Action

The Proposed Action would occur on paved surfaces and previously disturbed and maintained grassed areas on the airfield. None of these areas are used for farming nor would they be considered prime or unique farmland. No significant impacts to farmland would occur due to the Proposed Action.

5.1.6 Hazardous Materials and Solid Waste

According to the FAA's Order 1050.1F Desk Reference, a significant hazardous materials impact would occur if an action would have the potential to:

- Violate applicable Federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management;
- Involve a contaminated site (including, but not limited to, a site listed on the NPL) that is not properly mitigated. If appropriately mitigated, actions within the boundaries of a contaminated site would not have significant impacts;
- Produce an appreciably different quantity or type of hazardous waste;
- Generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity; or
- Adversely affect human health and the environment.

No Action

Under the No Action alternative, there would be no development that would impact any sites containing hazardous materials and no additional solid waste would be generated. Therefore, no impacts would occur.

Proposed Action

There are no known hazardous waste sites or sites listed on the NPL within the Proposed Action site. Construction of the Proposed Action would not produce hazardous materials or increase the requirements for storage or use of hazardous materials beyond those materials used for normal construction activities. Fuel usage would increase temporarily during construction to power construction vehicles. The storage, use, transportation, and disposal of hazardous materials and other regulated substances is governed by Federal, state, and local regulations. These regulations, combined with existing technologies and work practices developed to properly manage these substances, substantially reduce the risks of causing environmental contamination from the construction and operation of the Proposed Action. Construction of the facilities would meet all applicable regulations regarding the transport and disposal of hazardous materials.

Two ASTs containing diesel fuel and gasoline would be relocated from the existing maintenance facility to the proposed new SRE and Command Center. No known hazardous conditions exist at the current site of the ASTs. Relocation of these ASTs would be conducted in accordance with all applicable laws and regulations, including rules governing the permanent closure of a regulated AST promulgated in West Virginia State Rule Title 47 Series 63.

It is anticipated that additional solid waste would be generated during construction of the proposed facilities. It is expected that the amount of solid waste generated by the Proposed Action would not exceed local waste hauling or disposal capacity. All solid waste would be removed from CRW by Waste Management and be disposed of at the Charleston Landfill located approximately four miles from CRW. Pollution prevention methods, such as minimization and recycling, would be implemented to the extent practical during construction and operation to reduce solid waste streams.

The Proposed Action would not be expected to generate unmanageable hazardous waste or an unmanageable amount of solid waste nor is it expected to adversely affect human health. Therefore, the Proposed Action is not expected to result in significant impacts from hazardous materials or solid waste.

5.1.7 Historical, Architectural, Archaeological, and Cultural Resources

The FAA has not established a significance threshold for the full range of historical, architectural, archeological, and cultural resources in FAA Order 1050.1F; however, the FAA has identified a factor to consider when evaluating the context and intensity of potential environmental impacts for historical, architectural, archeological, and cultural resources (see Exhibit 4-1 of FAA Order 1050.1F). This factor includes, but is not limited to, situations in which the Proposed Action or alternative(s) would result in a finding of Adverse Effect through the Section 106 process. Mitigation of adverse effects may be considered sufficient to keep impacts below levels of significance.

No Action

Under the No Action, there would be no development and no impacts to historic resources would occur.

Proposed Action

No resources that are eligible for listing on the NRHP have been identified within the APE. The Proposed Action would occur in an area that was previously coordinated for aeronautical development with the SHPO in 2018. Coordination was conducted with the SHPO from April 2018 through July 2019 for the 2019 EA. Consultation with the SHPO for the 2019 EA did not identify any known historic, architectural, or archaeological resources that would be impacted. Therefore, no historic properties would be affected as a result of the Proposed Action.

5.1.8 Land Use

The FAA has not established a significance threshold for land use impacts other than those related to noise impacts. However, CEQ Regulations require that NEPA documents discuss any inconsistency with approved state and/or local plan(s) and law(s). Furthermore, the NEPA document should discuss potential hazards to aviation such as landfills, wildlife refuges, or wetland mitigation that may attract wildlife species hazardous to aviation and potential structure height impacts.

No Action

Under the No Action alternative, there would be no development and no changes to existing land use patterns would occur.

Proposed Action

The Proposed Action would occur entirely on CRW-owned property. The site is surrounded by commercial and aviation land uses and steep terrain. The Proposed Action would not be inconsistent with local land use plans or zoning. Development would be constructed in accordance with FAA requirements on height limitations and potential wildlife attractants.

5.1.9 Natural Resources and Energy Supply

The FAA has not established a significance threshold for natural resources and energy supply in FAA Order 1050.1F; however, the FAA has identified a factor to consider when evaluating the context and intensity of potential environmental impacts for natural resources and energy supply (see Exhibit 4-1 of FAA Order 1050.1F). This factor is not intended to be a threshold. If this factor exists, there is not necessarily a significant impact.

This factor includes, but is not limited to, situations in which the Proposed Action or alternative(s) would have the potential to cause demand to exceed available or future supplies of these resources. For most actions, changes in energy demands or other natural resource consumption for FAA projects would not result in significant impacts. To make a significance determination, estimated amount of natural resources and energy demand that are expected to be needed for a project are evaluated and compared to the local context of supply and demand to make an evaluation of significance.

No Action

Under the No Action alternative, there would be no development or use of natural resources or energy for construction.

Proposed Action

The Proposed Action would include the construction of new GA facilities. Operation of these proposed facilities would require the use of electricity to power and light the buildings and to light the parking areas. Natural gas would be needed to provide heating for the proposed facilities. No capacity issues are known to exist that would prevent the utilities from meeting the demand for service. Construction of the Proposed Action would require natural resources such as steel, gravel, sand, aggregate, concrete, asphalt, water, and other construction materials. These materials are not in short supply in the Charleston region and consumption of these materials is not expected to deplete or cause a shortage of existing supplies.

No change in the number of aircraft operations or changes to vehicle patterns that would increase fuel use would occur as a result of the Proposed Action. Fuel demand would increase during construction to power construction equipment; however, that demand would be temporary and is not expected to exceed the local supply. The relocation of the maintenance facility and consolidation of airport maintenance and snow removal equipment at the proposed SRE and Command Center would include relocation of two ASTs for fueling diesel and gasoline powered equipment. The amount of diesel fuel and gasoline needed for airport maintenance and snow removal equipment is dependent upon airport and weather conditions and is expected to be similar to the No Action conditions. Therefore, construction and operation of the Proposed Action would not significantly impact natural resources or energy supply.

5.1.10 Noise and Noise-Compatible Land Use

According to FAA Order 1050.1F, the FAA's significance threshold for noise is if the Proposed Action would increase noise by DNL 1.5 decibels (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 would 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. For example, an increase from DNL 65.5 dB to 67 dB is considered a significant impact, as is an increase from DNL 63.5 dB to 65 dB.

No Action

Under the No Action alternative, there would be no construction or change in noise levels.

Proposed Action

As noted in Section 2.1.2, the Proposed Action would accommodate existing aircraft that are currently parked on the ramp areas at CRW or scheduled to be delivered in 2023. Therefore, the Proposed Action would not cause un-forecasted growth in aircraft activity nor would it cause a change in fleet mix or a change in runway use patterns, taxi time, or airfield delay. Therefore, no impacts from aircraft noise would occur. Noise levels during construction of the Proposed Action would be limited to construction time periods. Typical construction equipment, including dump trucks, bulldozers, front loaders, pavers,

and backhoes would be used at the site. It is expected that construction would occur during the daytime (8 a.m. to 5 p.m.). The planned haul route would be State Route 114 to Airport Road to Eagle Mountain Road to avoid residential areas. The terrain and wooded areas between the Proposed Action site and the nearest residential area would serve as a buffer to attenuate noise from construction equipment. Therefore, no significant noise impacts would occur.

5.1.11 Socioeconomics, Environmental Justice, and Children's Health and Safety Risks

The FAA has not established a significance threshold for socioeconomics; however, in general, the significance of socioeconomic impacts is determined by the magnitude and duration of the impacts, whether beneficial or adverse. According to FAA Order 1050.1F, potential impacts to consider include:

- Inducing substantial economic growth,
- Dividing or disrupting an established community,
- Extensive relocation of housing when sufficient replacement housing is unavailable,
- Extensive relocation of businesses that would cause economic hardship,
- Disruption of local traffic patterns, or
- Substantial loss of the community tax base.

No Action

Under the No Action alternative, there would be no development or changes that would cause changes to socioeconomic conditions. No impacts would occur to surface vehicle traffic patterns. No relocation of residences or businesses would occur; and there would be no disproportionate impacts to minority or low-income populations, or impacts to children's environmental health and safety.

Proposed Action

Socioeconomics

The Proposed Action would not cause the relocation of existing residences. No off-airport businesses would be displaced by the Proposed Action. The Proposed Action would not cause the demand for public services to exceed local capacity nor would it cause a decrease in the local tax base. The Proposed Action has the potential to benefit the local economy with local jobs through temporary construction-based employment. No additional operational job creation and operational traffic would be associated with the additional hangar demand, as the aircraft are currently located at CRW and on a waiting list for the space or already scheduled to be delivered in 2023.

Surface vehicle traffic access to the Proposed Action Site is provided via Eagle Mountain Road. The construction of the Proposed Action would result in a temporary increase in surface traffic due to construction vehicles. Construction traffic is estimated to include approximately 95 construction worker vehicle trips per day and 45 material delivery trucks per day during peak construction activity. Construction is expected to occur from 2023 to 2024. Construction traffic would avoid residential areas and is not expected to cause any level-of-service impacts on local roadways and would occur over a

two-year period and would include vehicles coming and going on a daily basis if the vehicle is not parked onsite. Therefore, no significant surface vehicle traffic impacts would occur.

Environmental Justice

Executive Order 12898 directs Federal agencies to incorporate environmental justice into their planning processes by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations. A specific significance threshold for environmental justice has not been established by the FAA. However, potential impacts would occur if disproportionately high environmental impacts in one or more environmental categories were to occur to minority or low-income populations. In addition, unique impacts to a minority or low-income population should also be considered even if there is no significant impact from other environmental categories.

The Proposed Action would occur on Airport property and would not impact any minority or low-income residential areas. Therefore, no significant impacts would be disproportionately borne by minority or low-income populations. Furthermore, no unique circumstances have been identified that would cause disproportionate impacts to minority or low-income populations. Therefore, no significant environmental justice impacts would occur as a result of the Proposed Action. This EA included notification and opportunity for public comment as described in Appendix D.

Children's Environmental Health and Safety Risks

Executive Order 13045 directs Federal agencies to analyze their policies, programs, activities, and standards for any environmental health or safety risks that may disproportionately affect children. The FAA has not established a significance threshold for Children's Environmental Health and Safety Risks. However, according to FAA Order 1050.1F, potential impacts from other environmental categories should be assessed to determine if they have the potential to lead to a disproportionate health or safety risk to children.

The Proposed Action would not cause significant impacts to children. No other significant impacts have been identified that would cause a unique or disproportionate impact to children. The construction sites would be fenced off to prevent access to the site. Haul routes would avoid routing equipment near parks, schools, daycare facilities or play equipment. Therefore, no significant impacts to children's health or safety would occur as a result of the Proposed Action.

5.1.12 Visual Effects

Visual effects deal broadly with the extent to which the Proposed Action or alternative(s) would either: 1) produce light emissions that create annoyance or interfere with activities; or 2) contrast with, or detract from, the visual resources and/or the visual character of the existing environment.

The FAA has not established a significance threshold for visual effects in FAA Order 1050.1F; however, the FAA has identified factors to consider when evaluating the context and intensity of potential environmental impacts for visual effects. These factors are not intended to be thresholds. If these factors exist, there is not necessarily a significant impact; rather, the FAA must evaluate these factors in

light of context and intensity to determine if there are significant impacts. Factors to consider that may be applicable to visual effects include, but are not limited to:

- Light Emissions Effects
    - The degree to which the action would have the potential to create annoyance or interfere with normal activities from light emissions; and
    - The degree to which the action would have the potential to affect the visual character of the area due to the light emissions, including the importance, uniqueness, and aesthetic value of the affected visual resources.
- Visual Resources and Visual Character Effects
    - The degree to which the action would have the potential to affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources;
    - The degree to which the action would have the potential to contrast with the visual resources and/or visual character in the study area; and
    - The degree to which the action would have the potential to block or obstruct the views of visual resources, including whether these resources would still be viewable from other locations.

No Action

Under the No Action alternative, there would be no development or changes that would cause visual or light emission impacts.

Proposed Action

Light Emissions

The Proposed Action would include development that would increase light emissions from the illumination of the proposed new buildings and parking areas. Any new lighting would be directed at a downward angle and would not result in significant impacts from light emissions. Lighting would be compatible with the surrounding aviation-related development within the GA area.

The closest residence to the Proposed Action site is located off Coonskin Drive approximately 560 feet northeast from the Proposed Action site and 235 feet lower in elevation. The terrain and wooded areas between the Proposed Action site and the nearest residential area would serve as a buffer to block the light emissions when looking from the residential areas towards the Airport. Therefore, no significant impacts from light emissions are anticipated to occur.

Visual Resources and Visual Character

The Proposed Action Site is located on Airport property and is surrounded by other Airport facilities. It is adjacent to steep terrain that would not be disturbed. The Proposed Action would construct aviation facilities and pavement that are similar to the surrounding Airport facilities. The terrain and wooded

areas between the Proposed Action site and the nearest residential area would serve as a visual buffer to block the views when looking from the residential areas towards the Airport. Therefore, no significant visual impacts are anticipated to occur.

5.1.13 Water Resources

According to FAA Order 1050.1F a significant impact would occur to wetlands when the action would:

- Adversely affect a wetland's function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers;
- Substantially alter the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected;
- Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare (the term welfare includes cultural, recreational, and scientific resources or property important to the public);
- Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands;
- Promote development of secondary activities or services that would cause the circumstances listed above to occur; or
- Be inconsistent with applicable state wetland strategies.

FAA's significance threshold for floodplains is if the action would cause notable adverse impacts on natural and beneficial floodplain values. Natural and beneficial floodplain values are defined in Paragraph 4.k of USDOT Order 5650.2, *Floodplain Management and Protection*.

FAA's significance threshold for surface waters is when the action would:

- Exceed water quality standards established by Federal, State, local, and tribal regulatory agencies; or
- Contaminate public drinking water supply such that public health may be adversely affected.

In addition to the threshold above, Exhibit 4-1 of FAA Order 1050.1F provides additional factors to consider when evaluating the context and intensity of potential environmental impacts for surface waters. If these factors exist, there is not necessarily a significant impact; rather, the FAA must evaluate these factors in light of context and intensity to determine if there are significant impacts. Factors to consider that may be applicable to surface waters include, but are not limited to, situations in which the Proposed Action or alternative(s) would have the potential to:

- Adversely affect natural and beneficial water resource values to a degree that substantially diminishes or destroys such values;
- Adversely affect surface waters such that the beneficial uses and values of such waters are appreciably diminished or can no longer be maintained and such impairment cannot be avoided or satisfactorily mitigated; or
- Present difficulties based on water quality impacts when obtaining a permit or authorization.

FAA's significance threshold for a groundwater impact is if the action would:

- Exceed groundwater quality standards established by Federal, State, local, and tribal regulatory agencies; or
- Contaminate an aquifer used for public water supply such that public health may be adversely affected.

In addition to the threshold above, Exhibit 4-1 of FAA Order 1050.1F provides additional factors to consider when evaluating the context and intensity of potential environmental impacts for groundwater. If these factors exist, there is not necessarily a significant impact; rather, the FAA must evaluate these factors in light of context and intensity to determine if there are significant impacts. Factors to consider that may be applicable to groundwater include, but are not limited to, situations in which the Proposed Action or alternative(s) would have the potential to:

- Adversely affect natural and beneficial groundwater values to a degree that substantially diminishes or destroys such values;
- Adversely affect groundwater quantities such that the beneficial uses and values of such groundwater are appreciably diminished or can no longer be maintained and such impairment cannot be avoided or satisfactorily mitigated; or
- Present difficulties based on water quality impacts when obtaining a permit or authorization.

This section presents the analysis of potential impacts to water resources as a result of the Proposed Action. Under the No Action alternative, there would be no development or changes that would cause impacts to water resources.

Wetlands

Proposed Action

The Proposed Action site is paved or maintained grass fill within the airfield. The grass and other landscaped areas are continuously mowed and maintained and do not exhibit any features that would be classified as a wetland or stream. Wetland W2, identified in the 2019 EA, was impacted by the Flight School vehicle parking lot and therefore is no longer present. Wetland W1, identified in the 2019 EA, would be avoided and not impacted by the proposed SRE and Command Center. Therefore, no impact to wetlands would be caused by the Proposed Action.

Floodplains

Proposed Action

The Proposed Action site is not located within a designated floodplain, as shown on Exhibit 4-5, *Floodplain Map*. A review of the FEMA FIRMs indicates that all land within the Proposed Action site is located outside of a designated 100-year floodplain. Therefore, there would be no impacts to floodplains from construction or operation of the Proposed Action.

Surface Waters

Proposed Action

One ephemeral stream was identified in the 2019 EA. This ephemeral stream is outside the limits of disturbance for the Proposed Action in this Supplemental EA and therefore would not be impacted.

The Proposed Action would increase the amount of impervious surface area by approximately 450,000 square feet to construct new buildings and apron pavement. The increase in impervious surface area would generate additional stormwater runoff. The Proposed Action would be subject the NPDES Permit requirements. It is expected that all NPDES permit requirements would be met which would prevent significant impacts to water quality. Stormwater and runoff from construction would be collected by the existing stormwater detention facilities at CRW. The WVDEP General Stormwater Permit Guidelines for a NPDES permit require that if post discharge is greater than five cubic square feet and is greater than your pre-drainage discharge for a one year 24-hour storm event, the applicant is required to reduce the discharge to be within 10 percent of the existing condition. Stormwater plans have yet to be developed but it is assumed that storm inlets will be installed and connected into existing storm systems that are already in place to control any new stormwater runoff. Therefore, no significant adverse impact to water quality would occur as a result of the Proposed Action.

Groundwater

Proposed Action

There are no sole source aquifers as designated by the USEPA, nor are there any known drinking water protection areas designated by OEPA within the Proposed Action site. Relocation of the existing ASTs for diesel fuel and gasoline at the existing maintenance facility would be conducted in accordance with all applicable rules and regulations. Additionally, no activity that would generate or transport hazardous materials that could cause contamination to groundwater is expected as a result of the Proposed Action. Therefore, no significant impacts to groundwater resources would occur as a result of the Proposed Action.

5.1.14 Cumulative Impacts

This section describes the past, present, and reasonably foreseeable future actions relevant to cumulative impacts. The analysis of cumulative impacts recognizes that while the impacts of individual actions may be small, when combined with the impacts of past, present, and reasonably foreseeable future actions on populations or resources in and around CRW, the impacts could be potentially significant.

Cumulative impacts are defined by the CEQ in 40 CFR § 1508.7 as “The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” Additionally, the CEQ further explained in Considering Cumulative Effects under the National Environmental Policy Act that “each resource, ecosystem, and human community must be analyzed in terms of its ability to accommodate effects, based on its own time and space parameters.” Therefore, a cumulative effects analysis normally will encompass geographic

boundaries beyond the immediate area of the Proposed Action, and a time frame, including past actions and foreseeable future actions, in order to capture these additional effects.

The projects included in the Cumulative Impact analysis were identified through a review of the 2019 EA and coordination with the CWVRAA. Past actions are defined as 2016-2021. Present actions are any other actions occurring in the same general timeframe as the Proposed Action, which is between 2022 and 2024. Reasonably foreseeable future actions are defined as those planned to be completed between 2025 and 2033.

- Past Projects (2016-2021):
  - Repairs of the collapsed Runway 5 end
  - Terminal Rehabilitation – Roof Repairs
  - Removal of Taxiways from the Runway to Taxiway A
  - Re-building of Runway 5 end (Engineered Material Arresting System (EMAS) project)
  - Terminal Security Upgrades
  - Solar Energy Facility
  - Access Road from Eagle Mountain Road along the border of the GA facilities to the Army National Guard Facility;
- Present Projects (2022-2024):
  - Airport Road - inlets on and along Airport Road as well as the outfalls and pipe that leads to Keystone Drive around the outer perimeter
  - Runway 5/23 Rehabilitation
- Future Projects (2025-2033):
  - Passenger Terminal Redevelopment
  - Runway 5/23 Runway Safety Area Project
  - Airfield drainage project - drains around the perimeter of the airfield and taxiways as well as internal drains in the various infield as well as the drop inlets and outfalls
- Offsite Projects:
  - Repairs to I-77 and I-79 that could influence traffic in the area around CRW
  - A proposed recreational boat ramp may be constructed at Coonskin Park; this is not anticipated to be affected by this project.

The following sections describe the review of potential cumulative impacts for each environmental category of interest.

Air Quality - The Proposed Action includes construction activity that would increase air emissions temporarily. However the increase in emissions would be below applicable *de minimis* levels. Therefore, cumulative emissions are not anticipated to be significant.

Biological Resources - No rare, threatened, or endangered species would be affected by the Proposed Action. Therefore, cumulative impacts to biological resources are not anticipated.

Climate - There would be a temporary increase in GHG emissions during construction as well as a slight increase through the heating and cooling of the planned facilities. The Proposed Action is not anticipated to cumulatively result in a significant increase to GHG emissions.

Section 4(f) Resources - No impacts to Section 4(f) resources would occur from the Proposed Action. Therefore, cumulative impacts are not anticipated.

Hazardous Materials, Solid Waste, and Pollution Prevention - Relocation of fuel tanks would be conducted in accordance with all applicable laws and regulations, including rules governing the permanent closure of a regulated AST promulgated in West Virginia State Rule Title 47 Series 63. Solid waste disposal would be in accordance with current practices and pollution prevention procedures. No capacity issues have been identified at existing landfills. Therefore, significant cumulative impacts are not anticipated.

Historic, Architectural, Archaeological, and Cultural Resources - No impacts to Historic, Architectural, Archaeological, and Cultural resources would occur from the Proposed Action. Therefore, cumulative impacts are not anticipated.

Land Use - The Proposed Action would be located within a fenced area on CRW property. Cumulative impacts are unlikely to occur as the Proposed Project site is already developed for aviation uses.

Natural Resources and Energy Supply - Local utilities and construction companies would be able to accommodate the demand associated with the construction and operation of the Proposed Action; therefore, a cumulative impact to natural resources and energy supply is not anticipated.

Noise and Noise-Compatible Land Use - No permanent noise impacts would occur from the Proposed Action. Therefore, cumulative impacts are not anticipated.

Socioeconomic, Environmental Justice, and Children’s Health and Safety Risks - The Proposed Action site is surrounded by aviation development. No disproportionate adverse impacts to minority or low-income populations have been identified. The construction traffic is temporary therefore cumulative effects are unlikely to occur.

Visual Effects Including Light Emissions - While additional light pollution would be generated from additional outdoor lights associated with the buildings and parking areas, the location and elevation of CRW is unlikely to create nuisance light for nearby residents. Therefore, cumulative effects are unlikely to occur.

Water Resources – No wetlands or streams would be directly impacted by the Proposed Action. The Proposed Action would cause additional stormwater run-off; however, any increase in stormwater run-off would be collected by the Airport's stormwater collection system and would be within NPDES permit limits. Therefore, no impacts to water resources or water quality would occur from the Proposed Action. Therefore cumulative effects would not occur.

The level of cumulative impacts anticipated to occur within the analyzed environmental resource categories is not significant. The CWVRAA would ensure coverage under the NPDES permit and comply with all permit requirements. Best management practices would be implemented during construction to the extent practical.

6 List of Preparers

Landrum & Brown

Sarah Potter, Vice President, responsible for project direction, strategy, and oversight of the Environmental Assessment

Michelle Gallo, Associate Vice President, provided input into the Purpose and Need, Alternatives and Airport information for the Environmental Assessment

Chris Sandfoss, Managing Consultant, responsible for project management, technical input, and principal author of the Environmental Assessment

Gaby Elizondo, AICP, Consultant, assisted with the preparation of the air quality analysis

Kirsten Hammons, Analyst, assisted with the preparation of the air quality analysis and graphics

ADCI

Alan Peljovich, provided input and Airport information on the Environmental Assessment

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