



Table of Contents

1.0 Introduction	1-1
1.1 Airport Master Plan and Airport Layout Plan	1-1
1.2 Airport Master Plan Purpose and Objectives	1-2
1.3 Federal Aviation Administration and the Colorado Department of Transportation.....	1-3
1.4 Airport Master Plan Context	1-5
1.5 Airport Master Plan Communication and Coordination	1-6
1.6 Study Elements.....	1-7
2.0 Inventory of Existing Conditions.....	2-1
2.1 Airport Overview	2-1
2.2 Airport Setting	2-2
2.3 Airport History.....	2-3
2.4 Airport Administration and Finances	2-5
2.5 Airport Role	2-5
2.6 Primary Airport Data	2-8
2.7 Airside Facilities.....	2-9
2.8 Airfield Lighting	2-14
2.9 Landside Facilities.....	2-16
2.10 Airspace System/Navigation & Communication Aids	2-28
2.11 Environmental Review.....	2-39
2.12 Sustainability	2-61
2.13 Environmental Resiliency	2-68
3.0 Forecast of Aviation Activity	3-1
3.1 Overview.....	3-1
3.2 Definitions	3-2
3.3 Impacts of the COVID-19 Pandemic on Aviation.....	3-3
3.4 General Aviation Industry.....	3-6
3.5 Commercial Aviation Industry.....	3-8
3.6 EGE Market Area	3-11
3.7 EGE in the State System	3-15
3.8 Based Aircraft	3-16
3.9 Operations.....	3-19



3.10	Enplanements.....	3-32
3.11	Peaking Characteristics.....	3-38
3.12	Forecast Summary.....	3-41
4.0	Facility Requirements	4-1
4.1	Airport Development Context and Considerations.....	4-1
4.2	Airfield Facility Requirements	4-11
4.3	Landside Facility Requirements.....	4-42
4.4	Analysis of Advanced Air Mobility Market Potential and Infrastructure Needs Assessment.....	4-68
4.5	Sustainability	4-85
4.6	Facility Requirements Summary.....	4-87
5.0	Alternatives Analysis and Development Plan	5-1
5.1	Development Goals	5-1
5.2	Alternatives Analysis	5-3
5.3	Airfield	5-4
5.4	Commercial Passenger Terminal	5-10
5.5	Roadways and Parking.....	5-31
5.6	Miscellaneous Airport Development	5-47
5.7	Development Plan Summary.....	5-59
5.8	Environmental Review.....	5-60
6.0	Airport Layout Plan.....	6-1
6.1	Airport Layout Plan Drawing Set Elements	6-1
7.0	Financial Implementation Plan	7-1
7.1	Capital Funding Sources	7-2
7.2	Financial Analysis and Implementation Plan.....	7-8
7.3	Financial Plan Summary	7-26



List of Figures

Figure 2-1: EGE Regional Map.....	2-3
Figure 2-2: Town of Gypsum Zoning Map.....	2-7
Figure 2-3: Eagle County Zoning Map.....	2-8
Figure 2-4: EGE Airside Facilities.....	2-10
Figure 2-5: EGE Pavement Condition Index Visual (2022)	2-14
Figure 2-6: North Landside Area	2-16
Figure 2-7: South Landside Area	2-17
Figure 2-8: Commercial Terminal Building.....	2-17
Figure 2-9: Commercial Terminal Schematic.....	2-18
Figure 2-10: Commercial Terminal Program Plan.....	2-19
Figure 2-11: Aircraft Deicing Areas and Corresponding Trench Drains	2-25
Figure 2-12: Landside Auto Parking Facilities	2-27
Figure 2-13: Airspace Classification Illustration.....	2-29
Figure 2-14: EGE Local Airspace.....	2-31
Figure 2-15: EGE Regional Airspace	2-32
Figure 2-16: Approach Plate – RNAV (GPS).....	2-34
Figure 2-17: Approach Plate – LDA/DME.....	2-35
Figure 2-18: Part 77 Plan View Example	2-37
Figure 2-19: Area Airport Locations.....	2-38
Figure 2-20: 2019 Sensitive Species Exhibit.....	2-43
Figure 2-21: Section 4(f) Resources	2-45
Figure 2-22: NRCS Web Soil Survey.....	2-46
Figure 2-23: Cultural and Archaeological Survey Results	2-50
Figure 2-24: Eagle County Gross Domestic Product	2-52
Figure 2-25: Eagle County Personal Income	2-53
Figure 2-26: USFWS National Wetland Inventory.....	2-59
Figure 2-27: FEMA Flood Map	2-60
Figure 2-28: Summary of Recommendations for Climate Action	2-62
Figure 2-29: CAC Timeline for Action.....	2-63
Figure 2-30: Priority Actions to Achieve 2030 Goal	2-64
Figure 2-31: Carbon Emission Reduction Potential from Priority Actions.....	2-65
Figure 2-32: Observed and Projected Temperature Change for Colorado.....	2-69
Figure 2-33: Snow Water Equivalent at Berthoud Pass, CO	2-70
Figure 2-34: Fire Risk Map Near EGE	2-72
Figure 2-35: Rate of Temperature Change in the United States, 1901–2021	2-73
Figure 2-36: Historical Change in Snow-to-Precipitation, 1949-2020	2-74
Figure 2-37: Black Hills Energy (BHE) Environmental and Social Priorities.....	2-75
Figure 2-38: SWOT Results.....	2-76
Figure 3-1: Forecasting Elements and What They May Impact on an Airport.....	3-1
Figure 3-2: Operations by FAA Region (2019-2021)	3-3
Figure 3-3: Operations in Northwest Mountain Region (2012-2021).....	3-4
Figure 3-4: Monthly Operations in Colorado (Jan 2017 – Sep 2022).....	3-5
Figure 3-5: TSA Passengers Screened Nationally (Jan 2017 – Oct 2022).....	3-5



Figure 3-6: EGE Drive Time Map	3-11
Figure 3-7: EGE Commercial Air Service Catchment Area	3-12
Figure 3-8: EGE Paved Runway Catchment Area	3-12
Figure 3-9: County Population	3-14
Figure 3-10: County Employment	3-14
Figure 3-11: County Per Capita Income	3-14
Figure 3-12: State Commercial Service Airport Rankings (2021)	3-15
Figure 3-13: EGE Based Aircraft Forecast	3-18
Figure 3-14: EGE Historical Annual Operations	3-19
Figure 3-15: EGE Monthly Operations	3-21
Figure 3-16: EGE Originating Flights 2021.....	3-23
Figure 3-17: EGE Destination Flights 2021.....	3-24
Figure 3-18: EGE Operations by Time of Day.....	3-25
Figure 3-19: EGE Operations by Day of Week.....	3-25
Figure 3-20: EGE Operations Forecast	3-27
Figure 3-21: EGE Operations TFMSC and OpsNet Comparison	3-28
Figure 3-22: FAA Airport Design Codes.....	3-30
Figure 3-23: Boeing 757 Parked at EGE	3-32
Figure 3-24: EGE Enplanements.....	3-32
Figure 3-25: EGE Enplanements by Quarter	3-33
Figure 3-26: EGE Load Factor.....	3-34
Figure 3-27: Colorado Load Factor.....	3-34
Figure 3-28: EGE Available Seat Miles (ASM).....	3-35
Figure 3-29: EGE, ASE, HDN Available Seat Miles (ASM)	3-35
Figure 3-30: EGE Enplanements Forecast	3-37
Figure 3-31: EGE Passengers Waiting for Baggage	3-41
Figure 4-1: 2020 CASP - EGE Airport Report Card.....	4-3
Figure 4-2: Pilot Activity by Geography	4-4
Figure 4-3: Adequacy of Existing Airfield Facilities	4-6
Figure 4-4: Pilot and Aircraft Owner Rating of Facilities and Amenities.....	4-6
Figure 4-5: HAATS Five-Year Facility Needs	4-8
Figure 4-6: HAATS Rating of Facilities and Amenities.....	4-9
Figure 4-7: EGE Commercial Passenger Survey Results.....	4-10
Figure 4-8: EGE Commercial Passenger Survey Results – Word Cloud.....	4-11
Figure 4-9: Monthly Temperature (1980-2010).....	4-13
Figure 4-10: Monthly Snow Fall (1980-2010)	4-13
Figure 4-11: Monthly Precipitation (1980-2010)	4-13
Figure 4-12: Monthly Flight Conditions	4-14
Figure 4-13: Monthly Cloud Ceiling	4-15
Figure 4-14: Monthly Visibility	4-15
Figure 4-15: Monthly Percentage Below Minimums	4-16
Figure 4-16: Wind Direction and Speed Heat Map.....	4-17
Figure 4-17: Gust Direction Map.....	4-18
Figure 4-18: Wind All Weather Aerial Overlay.....	4-19



Figure 4-19: Wind IFR Aerial Overlay	4-19
Figure 4-20: All Weather Bidirectional.....	4-21
Figure 4-21: IFR Wind Rose Bidirectional.....	4-22
Figure 4-22: Runway 7-25 RSA.....	4-28
Figure 4-23: Runway 7-25 ROFA	4-29
Figure 4-24: EGE Runway 7 Approach RPZ / Runway 25 Departure RPZ.....	4-30
Figure 4-25: Runway 7 Departure RPZ.....	4-32
Figure 4-26: EGE Runway 25 Approach RPZ	4-32
Figure 4-27: Runway 25 Blast Pad.....	4-33
Figure 4-28: Runway Markings	4-41
Figure 4-29: Boeing 757 at Gate 6	4-44
Figure 4-30: EGE Ticket Counter Area.....	4-45
Figure 4-31: EGE Departure Lounges.....	4-46
Figure 4-32: EGE Baggage Claim	4-47
Figure 4-33: EGE Inbound Baggage Area	4-48
Figure 4-34: EGE Baggage Make Up Area	4-49
Figure 4-35: EGE Food and Beverage Space	4-50
Figure 4-36: EGE Retail Space	4-50
Figure 4-37: EGE Rental Car Counters.....	4-51
Figure 4-38: EGE Departure Curb Front	4-56
Figure 4-39: Future EGE FIS Facility	4-61
Figure 4-40: EGE SRE Building	4-66
Figure 4-41: An eVTOL's Controlling Dimensions	4-71
Figure 4-42: EB 105 Basic Landing Area	4-72
Figure 4-43: EB 105 Vertiport imaginary surfaces.	4-73
Figure 4-44: Airport Electric Utility Coordination Process.	4-75
Figure 5-1: Taxiway Improvements (TW B, TW A2, TW A3, and TW A4) – Southwest Perspective	5-5
Figure 5-2: Taxiway Improvements (TW B, TW A2, TW A3, and TW A4) – Northeast Perspective	5-5
Figure 5-3: Runway Improvements (1,000' Extension).....	5-6
Figure 5-4: Hangar and Airport Support Facility Improvements	5-8
Figure 5-5: Southwest Development Area Concept	5-8
Figure 5-6: Cooley Mesa Road Realignment Concept.....	5-9
Figure 5-7: Cooley Mesa Road Realignment Hangar Concept	5-10
Figure 5-8: Peninsula Alternative.....	5-12
Figure 5-9: Linear Alternative	5-13
Figure 5-10: Level 1, Overall Floor Plan	5-15
Figure 5-11: Level 2, Overall Floor Plan	5-16
Figure 5-12: Curbside, Massing Diagram	5-17
Figure 5-13: Curbside, Program Layout	5-18
Figure 5-14: Ticketing Hall, Massing Diagram.....	5-18
Figure 5-15: Ticketing Hall, Program Layout.....	5-19
Figure 5-16: ATOs, Airline Modules, Future Program Area	5-20
Figure 5-17: SSCP, Program Layout.....	5-21
Figure 5-18: Baggage Claim, Massing Diagram	5-21

Figure 5-19: Baggage Claim Device Alternative 1: Flat Plate	5-22
Figure 5-20: Baggage Claim Device Alternative 2: Incline Plate Option 1	5-23
Figure 5-21: Baggage Claim Device Alternative 3: Incline Plate Option 2	5-23
Figure 5-22: Baggage Claim Device Preferred Alternative.....	5-24
Figure 5-23: Administration, Level 2 Program Layout	5-25
Figure 5-24: GSE Storage, Level 0 Program Layout.....	5-26
Figure 5-25: Baggage Screening and Makeup, Massing Diagram	5-26
Figure 5-26: Baggage Screening and Makeup, Program Layout	5-28
Figure 5-27: Gates and Gate Lounges, Massing Diagram	5-29
Figure 5-28: Gates and Gate Lounges, Level 2 Program Layout	5-30
Figure 5-29: Gates and Gate Lounges, Level 1 Program Layout	5-30
Figure 5-30: Roadway and Circulation Alternative 1	5-34
Figure 5-31: Roadway and Circulation Alternative 1A.....	5-34
Figure 5-32: Roadway and Circulation Alternative 2	5-36
Figure 5-33: Roadway and Circulation Alternative 3	5-37
Figure 5-34: Roadway and Circulation Preferred Alternative.....	5-38
Figure 5-35: Conceptual CONRAC Layout	5-41
Figure 5-36: Parking Areas – Alternative 1 (Rental Car Onsite).....	5-43
Figure 5-37: Parking Areas – Alternative 1A (Rental Car Offsite)	5-44
Figure 5-38: Potential GSE Storage Areas	5-49
Figure 5-39: Anticipated Progression of AAM Development.....	5-55

List of Tables

Table 1-1: FAA Grant Assurances.....	1-4
Table 2-1: EGE FAA AIP History (2005-2021)	2-4
Table 2-2: EGE Primary Data	2-8
Table 2-3: EGE Airport Services.....	2-9
Table 2-4: EGE Runway Details	2-11
Table 2-5: Taxiway Details	2-12
Table 2-6: Apron Details.....	2-13
Table 2-7: EGE Runway Lighting.....	2-14
Table 2-8: Airline Service	2-19
Table 2-9: Hangar Facilities	2-20
Table 2-10: Equipment List	2-22
Table 2-11: Fuel Storage Tanks	2-25
Table 2-12: Parking Facilities.....	2-26
Table 2-13: EGE Communications.....	2-29
Table 2-14: NAVAIDS in Proximity to EGE.....	2-33
Table 2-15: Lowest Published Instrument Approach Minima at EGE.....	2-33
Table 2-16: Area Airport Data	2-38
Table 2-17: USFWS IPaC Species List	2-41
Table 2-18: NRHP Location List	2-48

Table 2-19: Eagle County Population by Racial Origin	2-54
Table 3-1: EGE Historical Based Aircraft	3-16
Table 3-2: EGE Based Aircraft Forecast Breakdown	3-18
Table 3-3: EGE Historical Annual Operations (OpsNet)	3-20
Table 3-4: EGE Operations Forecast Breakdown	3-27
Table 3-5: EGE Operations by ADG	3-31
Table 3-6: EGE Operations by AAC.....	3-31
Table 3-7: EGE Enplanements Forecast	3-38
Table 3-8: EGE Peak Period Operations	3-39
Table 3-9: EGE Peak Period Enplanements	3-40
Table 3-10: EGE Forecast Summary and TAF Comparison.....	3-42
Table 4-1: Visibility and Ceiling Criteria	4-14
Table 4-2: Crosswind Components	4-20
Table 4-3: Crosswind Component Wind Coverage	4-21
Table 4-4: Runway-Use Configuration and Capacity	4-23
Table 4-5: Airfield Demand v. Capacity.....	4-23
Table 4-6: FAA Runway Standard Specifications	4-25
Table 4-7: Critical Aircraft Runway Takeoff Weight Analysis.....	4-27
Table 4-8: Runway Pavement Strength	4-33
Table 4-9: Taxiway Dimensional Standards	4-35
Table 4-10: FAA Taxiway Design Principles.....	4-36
Table 4-11: Parking Utilization (Observed on 2/10/2023).....	4-57
Table 4-12: Tiedown Requirements.....	4-62
Table 4-13: Hangar Requirements	4-63
Table 4-14: Key eVTOL Market Players.....	4-69
Table 4-15: EB 105 On-Airport Vertiport Guidance	4-74
Table 4-16: BETA (OEM) Battery Charging Information.....	4-75
Table 4-17: JOBY (OEM) Battery Charging Information.....	4-76
Table 4-18: Lilium (OEM) Battery Charging Information	4-76
Table 4-19: AAM and Comparable Facility Footprints.....	4-84
Table 4-20: Infrastructure Roadmap Takeaways	4-84
Table 4-21: Sustainability Categories and Potential Initiatives	4-85
Table 4-22: Facility Requirements Summary	4-87
Table 5-1: Potential Parking Organization with Alternative 1 (Rental Car Onsite).....	5-43
Table 5-2: Potential Parking Organization with Alternative 1A (Rental Car Offsite)	5-45
Table 5-3: Parking Organization Summary	5-46
Table 5-4: Recommended Development Plan Summary	5-59
Table 5-5: Recommended Development Plan Environmental Summary ¹	5-62
Table 7-1: Capital Improvement Program	7-14
Table 7-2: Airport Operating Revenues and Expenses (Historical) for Eagle County Regional Airport ..	7-18
Table 7-3: Airport Operating Revenues and Expenses (Historical) for	7-20
Table 7-4: Airport Operating Revenues and Expenses (Historical) for EGE and ECAT.....	7-21
Table 7-5: Airport Rates and Charges (as of January 8, 2023)	7-24