

7.0 IMPLEMENTATION PLAN

7.1 Introduction

The analyses completed in Section 5.0 evaluated development needs at the airport over the 20-year planning horizon. This report aims to present an overview of the recommended capital improvements and provide a strategy for implementing a Capital Improvement Program (CIP) to construct the recommended alternative. Recommended improvements are separated into three categories: near-term (0 to 5 years), medium-term (6 to 10 years), and long-term (11 to 20 years). Near-term projects are necessary to satisfy the existing demand and to correct safety issues. The medium- and long-term projects are needed to accommodate forecasted growth and rehabilitate existing facilities. All improvements on the CIP are reflected on the ALP in Appendix E.

The CIP includes all of the improvements listed in the preferred alternative, repackaged into individual projects to provide a sequential order for construction based on priority. Many projects are interrelated, and construction is phased to maximize efficiency and reduce cost while taking advantage of available funding and addressing the operational needs at the airport. Planning-level cost estimates are provided for each project. If sufficient funding is available, some projects may be constructed concurrently.

7.2 Implementation Process

Airport improvements at Birchwood are funded through a combination of appropriations through the State of Alaska General Fund and AIP grants from the FAA. The FAA generally provides \$150,000 in yearly AIP entitlement funding for Non-Primary GA Airports. However, the FAA also allows the DOT&PF to pool the entitlement funding for all of their Non-Primary Airports and use the total amount to construct prioritized improvements across their entire Non-Primary Airport network. If the AIP program funding designated by the U.S. Congress exceeds the level necessary to meet the commitments of the entitlements, the FAA may provide additional support to a particular improvement by allocating “discretionary” AIP funding to the project. Projects funded through the AIP program are subject to a 6.25% local DOT&PF match.

Projects developed in accordance with the FAA’s AIP program follow the implementation process outline Order 5100.38D “FAA AIP Handbook,” otherwise known as the “Sponsor Handbook.” Figure 23 outlines the steps involved in the implementation process. The Sponsor Handbook emphasizes initiating projects early to allow sufficient time for planning, preparation of the appropriate environmental documentation, and land acquisition, design, and construction. Typically, funding for AIP-eligible projects aligns with the sequence graphically shown on the following page (HDL, 2023). For an overview of the rules determining AIP eligibility, see <https://www.faa.gov/airports/aip/overview>.



Step 1: Planning

- Identify the project on the approved ALP. Update ALP as necessary
- List the project on an approved airport specific of CIP, including data sheets, estimates, project justification, and graphical figures data sheet



Step 2: Preliminary Design

- Gather survey, geotechnical, and hydrological field data
- Advance conceptual design
- Develop preliminary cost estimate for budgeting and programming
- Prepare Draft Engineer's Design Report that establishes the basis for design
- Review submittals that identify anticipated environmental impacts and land acquisition needs
- Consult with FAA to confirm AIP eligibility of project components
- Consult with FAA to determine if Reimbursable Agreements are required for impacts to NAVAIDs



Step 3: Environmental Doc.

- Consult with FAA to determine Class of Action of environmental document required (Categorical Exclusion, Environmental Assessment, Environmental Impact Statement
- Perform consultation with impacted or adjacent agencies
- Perform public involvement
- Perform environmental fieldwork to quantify and delineate environmental impacts
- Prepare environmental document



Step 4: Land Acquisitions

- Complete real property appraisal
- Complete review appraisal
- Prepare offer
- Negotiate purchase agreement



Step 5: Final Design

- Execute reimbursable agreements to support NAVAIDs, if relevant
- Prepare an approved approval of Construction Safety Phasing Plan
- Secure environmental permits
- Request Modification-to-Standards for any project components that do not meet FAA requirements
- Develop final design, including plans, specifications, and estimate
- Submit FAA Form 7460-1 for airspace evaluation of project components



Step 6: Bidding

- Advertise and secure bids
- Finalize and submit FAA grant application
- Secure Construction Funding



Step 7: Construction

- Issue notice-to-proceed for construction
- Perform construction administration in accordance with sponsor grant assurances to ensure conformity with the approved plans and specifications



Step 8: After Construction

- Develop record drawings
- Submit final Close Out Report
- Update ALP, if necessary

Figure 23: Implementation Process

7.3 Capital Improvements Plan

This CIP includes projects shown in the preferred alternative that are anticipated during the 20-year planning period of 2023 to 2043. This plan should be re-evaluated by DOT&PF annually as the State's needs and priorities change with time.

The following pages include a high-level summary of the projects included in each phase.

Near-Term Projects (~2028): Approximately \$13.95M - See Figure 24

- Reconfigure Taxiways and Install Supplemental Wind Cone
- Remove Obstructions and Re-align Southeast Apron Access Road
- Reconstruct Runway 03G/21G
- Construct Northeast Apron Improvements
- Land Acquisition, Construct Perimeter Fencing Improvements, and Rehabilitate Runway 03/21 Lighting

Mid-Term Projects (~2033): Approximately \$3.89M – See Figure 25

- Construct Access Road and Vehicle Parking Area Improvements
- Construct Apron and Run-Up/Staging Area Improvements

Long-Term Projects (~2038): Approximately \$50.55M – See Figure 26

- Land Acquisition
- Construct New GA Apron and Lease Lot Access
- Construct Access Road Improvements
- Rehabilitate Runway 03/21
- Relocate Weather Station

As noted previously, Eklutna, Inc. has expressed that it has no desire to sell their land for future airport expansion. However, it has also expressed interest in developing its land to meet the growing demand for tie-down and lease areas. Future discussion and negotiations between Eklutna, Inc., DOT&PF, and the FAA will be required to develop a mutually agreeable strategy for airport expansion on to Eklutna's existing property adjacent to the airport.

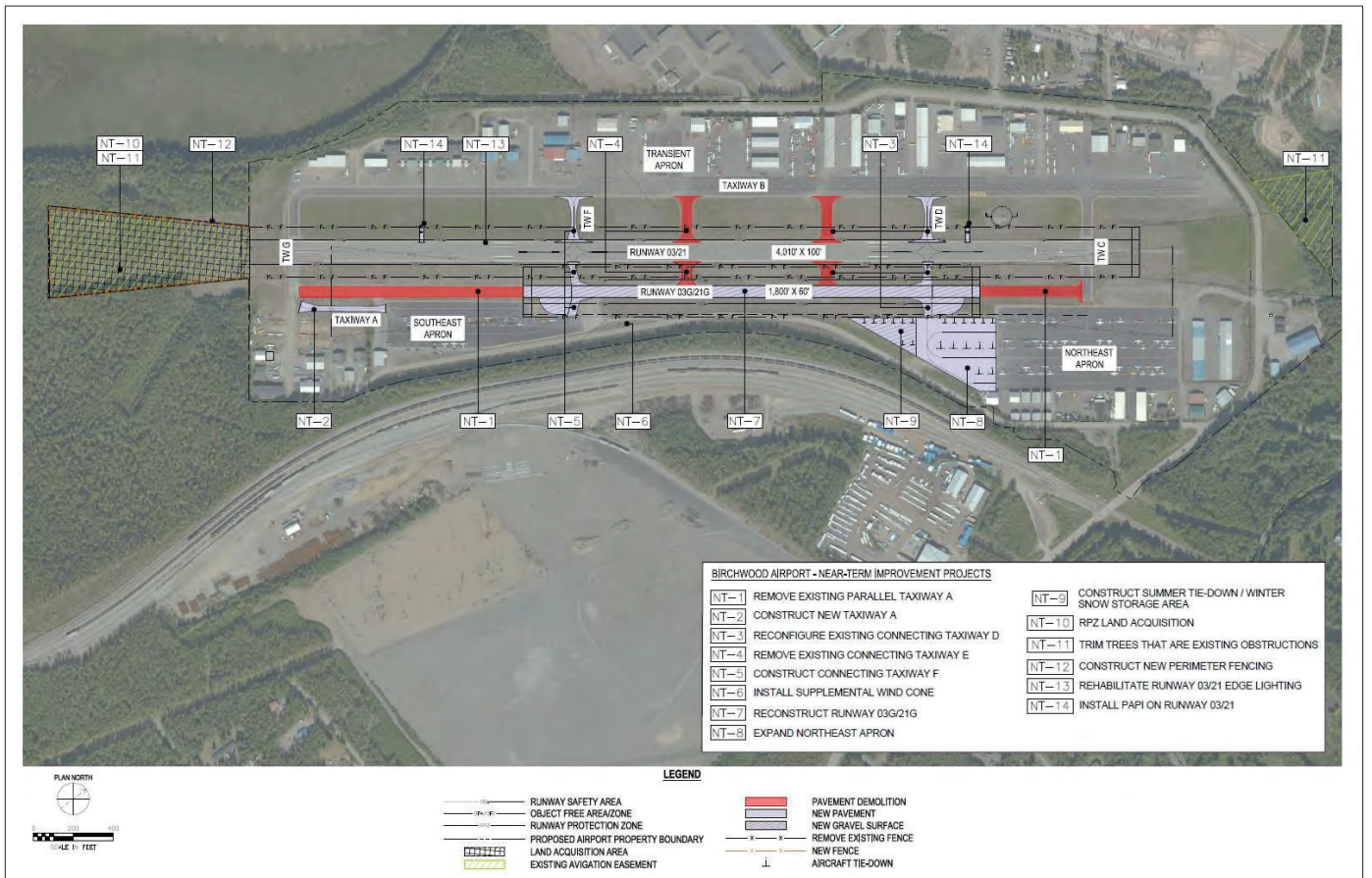


Figure 24: Near-Term Projects

PAGE INTENTIONALLY LEFT BLANK

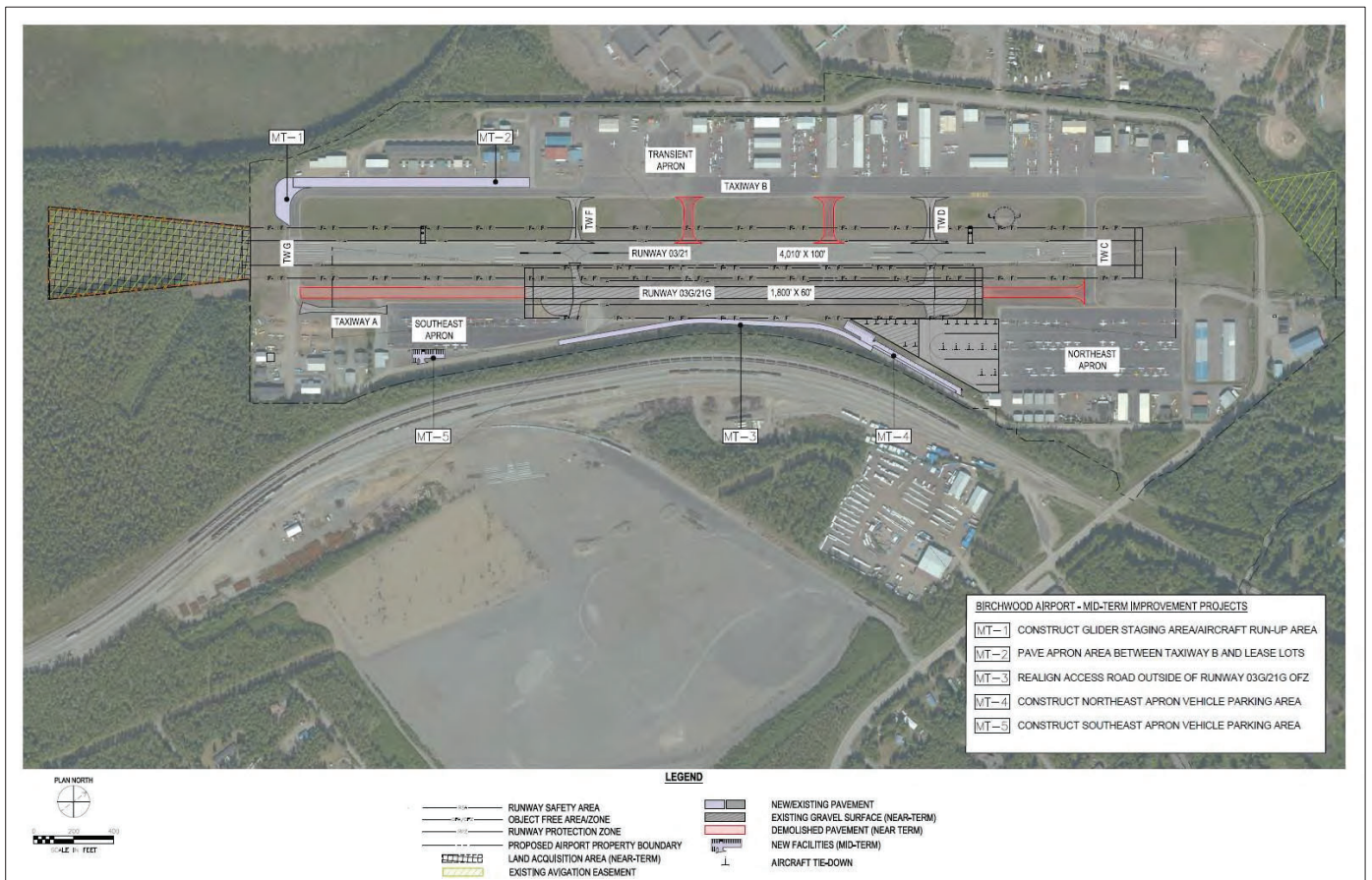


Figure 25: Mid-Term Projects

PAGE INTENTIONALLY LEFT BLANK

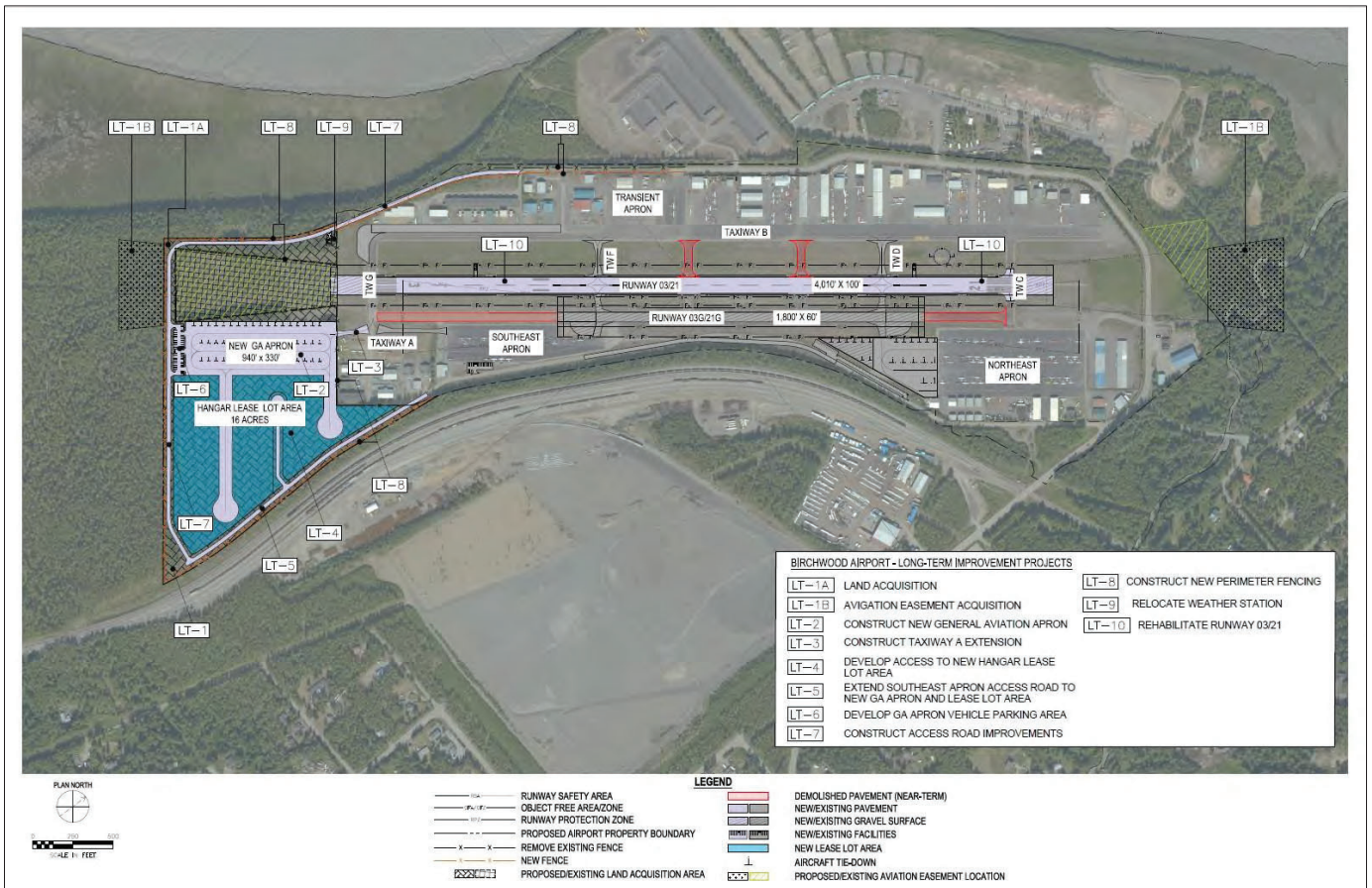


Figure 26: Long-Term Projects

Table 32 lists projects included in the preferred alternative and is phased according to near-term, mid-term, and long-term priorities. The table also includes a brief project description, estimated capital costs, and a discussion about the likelihood that the project is AIP-eligible. The AIP eligibility of each project will need to be confirmed early in the design process.

Capital cost estimates include inflation factors and assumed design, construction administration, and DOT&PF indirect costs (per the 2023 approved Indirect Cost Rate Proposal for federally funded Airport Projects) as a percentage of construction. Draft CIP data sheets with additional cost estimate breakdowns for each project are included in Appendix F. The total cost of the CIP is approximately \$68.04 million.

Table 32: Birchwood Airport Implementation Plan

Project Name		Project Description	AIP Eligibility	Estimated Project Subtotals	Estimated Project Cost
Reconfigure Taxiways and Rehab Runway 03G/21G					
1	Remove Existing Parallel Taxiway A	Remove portions of Taxiway A that are in line with Runway 03G/21G to mitigate the safety hazard present between the taxiway's alignment with the 03G and 21G thresholds.	Yes	\$415,000	
2	Construct New Taxiway A	Construct approximately 700 feet of new Taxiway A to provide airside access from Southeast Apron to Taxiway G.	Yes	\$715,500	
3	Reconfigure Existing Connecting Taxiway D	Remove existing Taxiway D and construct new Taxiway D required to provide access to Runway 21G threshold from Taxiway B and the Northeast Apron.	Yes	\$1,123,500	
4	Remove Existing Connecting Taxiway E	Approximate mid-point taxiway is no longer needed due to the relocation of Taxiway D and the construction of new Taxiway F.	Yes	\$181,500	
5	Construct Connecting Taxiway F	New Taxiway will provide access to Runway 03G threshold and access from the Southeast Apron to Runway 03/21, Runway 03G/21G, and Taxiway B.	Yes	\$972,500	
6	Install Supplemental Wind Cone	Install a supplemental wind cone on the eastern side of Runway 03G/21G that meets FAA standards and provides accurate wind information to pilots operating on the Runway 03G threshold.	Yes	\$116,500	
7	Reconstruct Runway 03G/21G	Rehabilitate existing Runway 03G/21G (1,800'x60') in its current location to meet DOT&PF and FAA design standards, resurface, and install new edge markers.	Yes	\$2,731,000	\$13,958,500
8	Expand Northeast Apron	Expand the Northeast Apron south to include approximately 119,000 square feet of additional paved apron area and provide 13 new tie-down spaces with electrical outlets.	Yes	\$2,903,000	
9	Construct Summer Tie-Down/Winter Snow Storage Area	Construct approximately 33,000 square feet of additional gravel apron space south of the Northeast Apron to accommodate 8 new tie-downs in the summer and snow storage in the winter.	Yes	\$752,500	
10	RPZ Land Acquisition	Acquire approximately 8.0 acres of land within the Runway 03 RPZ	Yes	\$223,000	
11	Trim Trees in Aviation Easements That Are Existing Obstructions	Trim trees located on airport property and within RPZs that were identified as obstruction in the aeronautical survey.	Yes	\$191,500	
12	Construct New Perimeter Fencing	Remove existing fencing that presents an obstruction and construct new perimeter fencing around newly acquired land within the Runway 03 RPZ.	Yes	\$381,500	
13	Rehabilitate Runway 03/21 Edge Lighting	Rehabilitated existing edge lighting and install new electrical equipment building to accommodate existing electrical loads and replace failing equipment.	Yes	\$2,712,500	
14	Install PAPI's on Runway 03/21	Remove existing VASI on Runway 21 and install new PAPI's on both ends of Runway 03/21.	Yes	\$539,500	

Near-Term (Approx. 2028)

Project Name		Project Description		AIP Eligibility	Estimated Project Subtotals	Estimated Project Cost
		Apron Access and Parking Improvements				
Mid-Term (Approx. 2033)	1	Construct Glider Staging Area/Aircraft Run-Up Area	Construct a 75-foot-wide staging/run-up area south of the intersection between Taxiway B and Taxiway G.	Yes	\$533,500	\$3,892,000
	2	Pave Apron Area Between Taxiway B and Lease Lots	Pave a 50-foot-wide section of the existing gravel area between the southern portion of Taxiway B and the lease areas directly to the west.	Yes	\$794,500	
	3	Realign Access Road Outside of Runway 03G/21G OFZ	Shift approximately 1,500 feet of existing road to the south to remove road alignment from within the Runway OFZ.	Yes	\$1,583,500	
	4	Construct Northeast Apron Vehicle Parking Area	Construct a combination of 20 parallel parking spaces and 18 perpendicular parking spaces with portable restroom facility adjacent to the Southeast Apron Access Road.	AIP Eligibility May Be Limited	\$752,000	
	5	Construct Southeast Apron Vehicle Parking Area	Construct 19 perpendicular parking spaces with portable restroom facility accessed from the Southeast Apron Access Road.	AIP Eligibility May Be Limited	\$228,500	
		New GA Apron, Lease Areas, & Rehabilitate Runway 03/21				
Long-Term (Approx. 2038)	1	Land Acquisition	Acquire approximately 39 acres of land to accommodate future development and 9.1 acres of aviation easements	Yes	\$1,609,300	\$50,546,000
	2	Construct New General Aviation (GA) Apron	Construct an approximately 940-foot by 330-foot GA Apron that includes up to 52 small tie-downs.	Yes	\$13,490,500	
	3	Construct Taxiway A Extension	Construct approximately 700 feet of new Taxiway A to provide airside access from Southeast Apron to Taxiway G and from Taxiway G to the new apron and lease areas.	Yes	\$525,000	
	4	Develop Access to New Hangar Lease Lot Area	Construct taxi-lanes, driveways, and utility access in the new lease lot areas to provide airside and landside access and utilities to future lease lots.	Yes	\$8,624,000	
	5	Extend Southeast Apron Access Road to new GA Apron and lease lot area	Construct new Southeast Apron Access Road from existing road terminus to new GA vehicle parking area.	Yes	\$5,546,000	
	6	Develop GA Apron Vehicle Parking Area	Construct 44 perpendicular parking spaces with portable restroom adjacent to the Southeast Apron Access Road.	AIP Eligibility May Be Limited	\$1,181,500	
	7	Construct Access Road Improvements	Extend Southeast Apron Access Road from new GA Apron Parking Area to connect to terminus of Birchwood Spur Road.	Yes	\$4,425,500	
	8	Construct New Perimeter Fencing	Remove existing fencing on western and southern areas of airport the Runway 03 RPZ and construct new perimeter fencing around new southern airport boundary.	Yes	\$1,370,500	
	9	Relocate Weather Station	Relocate the existing weather station from its current location to a new location southwest of Taxiway G.	Yes	\$599,000	
	10	Rehabilitate Runway 03/21	Rehabilitate the runway in its current location to replace existing pavement.	Yes	\$13,175,500	