7. Implementation Plan

The preceding chapters have identified the projects necessary for the Greater Binghamton Airport (BGM or the Airport) to accommodate the forecast level of demand throughout a 20-year planning period, as well as meet FAA standards.

This chapter provides guidance relevant to the implementation of the airport development and Airport Master Plan objectives by presenting a realistic capital improvement program and order of magnitude unit-based cost estimates for each project. The proposed development actions detailed in this chapter are derived from the Preferred Airport Development Alternative presented in Chapter 6, Alternatives Analysis as well as through the airports existing capital improvement program. The project phasing plan prescribes a plausible phasing schedule for implementing the proposed improvements over the twenty-year planning period. The subsequent chapter will present the Airport's capital improvement program and detail the potential funding mechanisms and costs for implementing those projects.

7.1. THE IMPLEMENTATION PROCESS

In general, each project implemented by the Airport must follow specific steps to be properly realized. For complex projects requiring federal discretionary funding, such as major airfield modifications, these steps may take up to five years prior to the issuance of an Airport Improvement Program (AIP) grant for construction. Less complex projects using entitlements such as pavement rehabilitation will require less lead times, typically no less than two to three years prior to grant issuance. This long lead time is needed to ensure that funding, environmental documentation, design, and construction are properly coordinated. Common steps in project implementation include:

Professional Services: Select a qualified consultant for the project planning, survey, design, construction administration, and/or environmental reviews for the project.

Four Years Prior to Construction: Assure the project is identified on the Airport Layout Plan (ALP), complete necessary airport planning studies and collect supporting documentation to demonstrate the project is justified for AIP funding and is compatible with the ALP.

Three Years Prior to Construction: Initiate any aeronautical surveys, navigational aid agreements (reimbursable agreements) and FAA coordination for flight procedures which may be necessary prior to construction. Solidify project funding plan and final justification with FAA.

Two Years Prior to Construction: Complete required National Environmental Policy Acy (NEPA) documentation and analysis for the proposed action. Prepare 30 percent project design plans, refine cost estimates, and prepare benefit/cost analysis, as necessary. Acquire land for the project and initiate airspace studies.

One Year Prior to Construction: Obtain environmental clearance and permits for the proposed action. Prepare detailed project plans and specifications including design report, airspace studies, and construction safety/phasing plan. Finalize project schedule.

Year of Construction: Complete final design. Solicit bid proposals from companies engaged in project construction. Prepare a grant application and accept the federal grant. Issue notice to proceed and monitor construction. Maintain FAA grant compliance and payments.

After Construction: Submit final report and close out the AIP grant.

7.2. PROJECT PHASING AND COST ESTIMATION

This section of the Airport Master Plan report seeks to establish a tentative schedule for the various projects required to fulfill the future development goals as expressed in previous chapters and depicted on the ALP documents. This year-by-year implementation plan provides guidance for continued maintenance, upgrade, and expansion of facilities, as consistent with the Airport facility requirements, and long-term strategic vision of the Airport.

The implementation plan documents the schedule of projects and estimation of probable costs across the 20-year development program. These costs are broken-down by the short-term (0-5 year), intermediate (6-10 year) and long-term (11-20 year) development needs. The implementation plan considers the demand-driven need for facilities based on information developed in the *Capacity Analysis and Facility Requirements* and *Alternatives Analysis* chapters of this document to provide the Airport and FAA with the information needed to integrate the Airport Master Plan recommendations with their greater funding and implementation schemes.

7.2.1. Project Identification

Projects identified in the Airport Master Plan are a response to identified facility or user needs and programed based on a reasonable expectation of when demand warrants and funding becomes available. The identification of projects is largely determined through recommendations resulting from Airport Master Plan findings, in which the assignments of project priorities, phasing and estimated costs were consulted with Airport staff. The following sources of project improvements have been reviewed for incorporation into the 20-year Airport Development Plan:

- Existing Twelve-Year Plan (TWP)

- Airport operating and maintenance improvement needs
- Airport Master Plan recommendations

The Airport Development Plan is a 20-year improvement schedule, including both eligible and non-eligible projects allowable under FAA funding programs. This plan focuses on the capital projects necessary to implement the full project recommendations of the Airport Master Plan, as opposed to routine operating and preventative maintenance projects.

7.2.2. Project Phasing Periods

Projects are phased to facilitate systematic development over the course of the next 20-years. Projects appearing in the first phase are of greater importance to the Airport and have the least tolerance for delay. Additionally, some projects included in an early phase may be a prerequisite for other planned improvements in a later phase. The development phasing for BGM has been divided into four distinct phases as follows:

- Phase I: 2021-2022
- Phase II: (6 to 10 years), 2023-2028
- Phase III: (11 to 20 years), 2029-2038
- Phase IV: (beyond 20 years)

The phasing of individual projects should undergo periodic review to determine the need for changes based upon variations in forecast demand, available funding, economic conditions, and/or other factors that may reasonably influence airport development. Additionally, other projects not foreseen in this report may be identified in the future and would likely necessitate changes in the phasing of projects and the overall CIP. Further, the projects and overall development identified in the CIP, though tied to a timetable, will only occur once the triggering demand and/or need is realized.

7.2.3. Critical Capital Improvement Projects

A list of capital improvement projects has been assembled using the documentation previously presented regarding anticipated facility demands and preliminary engineering analysis focusing on facility and equipment rehabilitation needs. This phasing plan focuses on the substantive facility improvements addressed in this Airport Master Plan. As such, typical budgeted airport expenses such as regular maintenance activities, small pavement rehabilitations or sealing have not been included.

Table 7-1 presents this information along with planning level order of magnitude cost estimates for each identified project. Cost estimates for individual projects, based on current 2020 costs, have been prepared for the improvement projects identified over the planning period. These estimates are intended to be used for planning purposes only and should not be construed as construction cost estimates, which can only be compiled following the preparation of detailed engineering design documents. However, the cost estimates presented in this document allow for an understanding of the plausible cost for each development action and inform future decision making. To accompany Table 7-1, Figure 7-1 graphically illustrates each individual project by phase.

Table 7-1: Project Phasing and Cost Estimates

Description	Year	Project Cost ($1,000)
Phase I: (2021 – 2022)		
Reconstruct Runway Safety Area (Runway 16 EMAS) - Design	2021	$500
Install (Relocate) Airport Lighting Vault - Design	2021	$200
Install Wind Cone - Design	2021	$10
Reconstruct Taxiway Lighting (Taxiways A, C, D, F, G, & J) - Design	2022	$75
Rehabilitate Taxiway (Taxiways A, D, F, & G) - Design	2022	$395
Install (Relocate) Airport Lighting Vault - Construction	2022	$2,550
Reconstruct Airfield Guidance Signs (Taxiways C, D, F, G, & J) - Design	2022	$30
Install Wind Cone - Construction	2022	$100
Total Phase I		**$3,860**
Phase II: (2023 – 2028)		
Reconstruct Runway Safety Area (Runway 16 EMAS) - Construction (Phase I - Block Procurement)	2023	$7,425
Reconstruct Taxiway Lighting (Taxiways A, C, D, F, G, & J) - Construction	2023	$833
Rehabilitate Taxiway (Taxiways A, D, F, & G) - Construction	2023	$4,384
Reconstruct Airfield Guidance Signs (Taxiways C, D, F, G, & J) - Construction	2023	$333
Reconstruct Runway Safety Area (Runway 16 EMAS) - Construction (Phase II - Installation)	2024	$3,000
Acquire Snow Removal Equipment - MTE (replacement)	2024	$951
Replace Passenger Boarding Bridge - Design & Construction	2025	$1,450
ARFF Building Rehabilitation - Design & Construction	2026	$2,000
Install REILs Runway 10	2027	$104
Acquire Land in Runway Protection Zones (Runway 34)	2028	$840
Total Phase II		**$21,320**
Phase III: (2029 – 2038)		
Acquire Land in the Runway protection Zones (Runway 10)	2029	$720
Relocate Localizer Control Building	2030	$367
Acquire Land in the Runway Protection Zones (Runway 28)	2031	$705
South Apron Taxiway (Design)	2032	$250

South Apron Taxiway (Construct)	2033	$3,100
South Apron (Design)	2034	$452
South Apron Access Road	2035	$13,400
South Apron (Construct)	2036	$5,800
South Apron Hangars (Design)	2037	$2,100
South Apron Corporate Hangars	2038	$28,300
Total Phase III		**$55,194**

EMAS is Engineered Materials Arrestor System; MTE is multi-tasking equipment.
Source: McFarland Johnson analysis, 2021.

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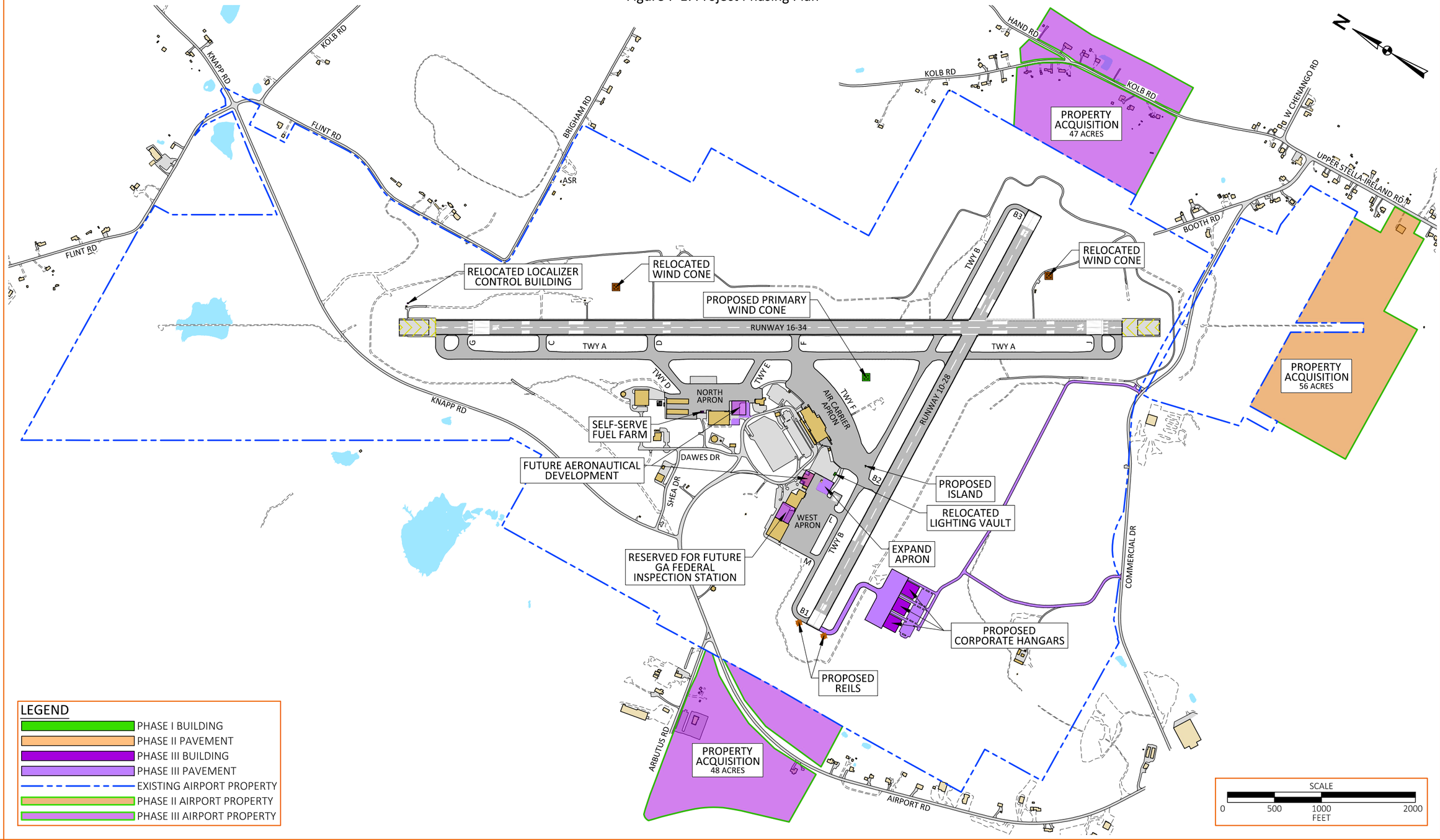
Figure 7-1: Project Phasing Plan



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