

5.0 ALTERNATIVES AND RECOMMENDATIONS

This Alternatives and Recommendations chapter presents the alternatives considered as part of the AMP Update process. Each alternative aims to address the facility requirements and future growth and supports the current and anticipated fleet mix and critical aircraft identified in Chapter 3.0.

The master planning process has identified non-standard conditions of existing infrastructure as well as current and future airport needs, which are summarized below and are addressed in each of the alternatives presented in this report.

Non-Standard Conditions

- The Runway 04S/22S RSA grades between Runway 04/22 and 04S/22S do not meet FAA standards

Future Airport Needs

- Acquire property and avigation easements to support future growth and control RPZ for the ultimate runway condition
- Increase Runway 04/22 length and width to provide a 6,000-foot-long by 100-foot-wide main runway capable of supporting B-II aircraft operations in the near term and B-II and B-III aircraft operations in the ultimate configuration.
- Resurface Runway 04S/22S
- Expand GA apron areas and provide additional commercial/large aircraft parking to meet current and forecasted demand
- Lengthen and widen Taxiway B to provide full-length parallel taxiway to ultimate Runway 04/22 threshold location that is capable of accommodating TDG 3 taxiing aircraft
- Provide additional access to lease lots to meet current and forecasted demand
- Employ a full-time Airport Manager with an office on the airport
- Develop the City-owned Aviation Business Center with space for the Airport Manager's office, meeting rooms/classrooms, public bathrooms, and short-term hangar lease areas
- Construct a helipad for transient, training, and medevac helicopter operations
- Provide access to landside areas for development of hotels and aviation, tourism, and travel-related businesses
- Provide lease area for construction of an MSB-owned fire and rescue facility on airport property for reduced response time to aviation accidents
- Increase designated vehicle parking areas
- Install taxiway and vehicle gates to improve security and access control throughout the airport

Three alternatives are being considered to address these needs: one no build alternative and two action alternatives. Each action alternative was developed to bring the runways into compliance with FAA standards, accommodate growth, increase safety by improving the operative environment, and better meet the needs of Wasilla Airport users.

5.1 PRELIMINARY ALTERNATIVES

5.1.1 ALTERNATIVE 1 – NO BUILD

Alternative 1 is the “no build” option and is included to provide a baseline of existing airport conditions for comparison to the “build” alternatives proposed. The only change recommended under this alternative is the acquisition of an aviation easement on a 0.22-acre portion of Parcel 30 that is located within the existing Runway 04 RPZ.

This alternative will not change the current layout of the airport, as shown in Figure 5-1. The no build option would not accommodate future growth or meet the identified needs of the airport.

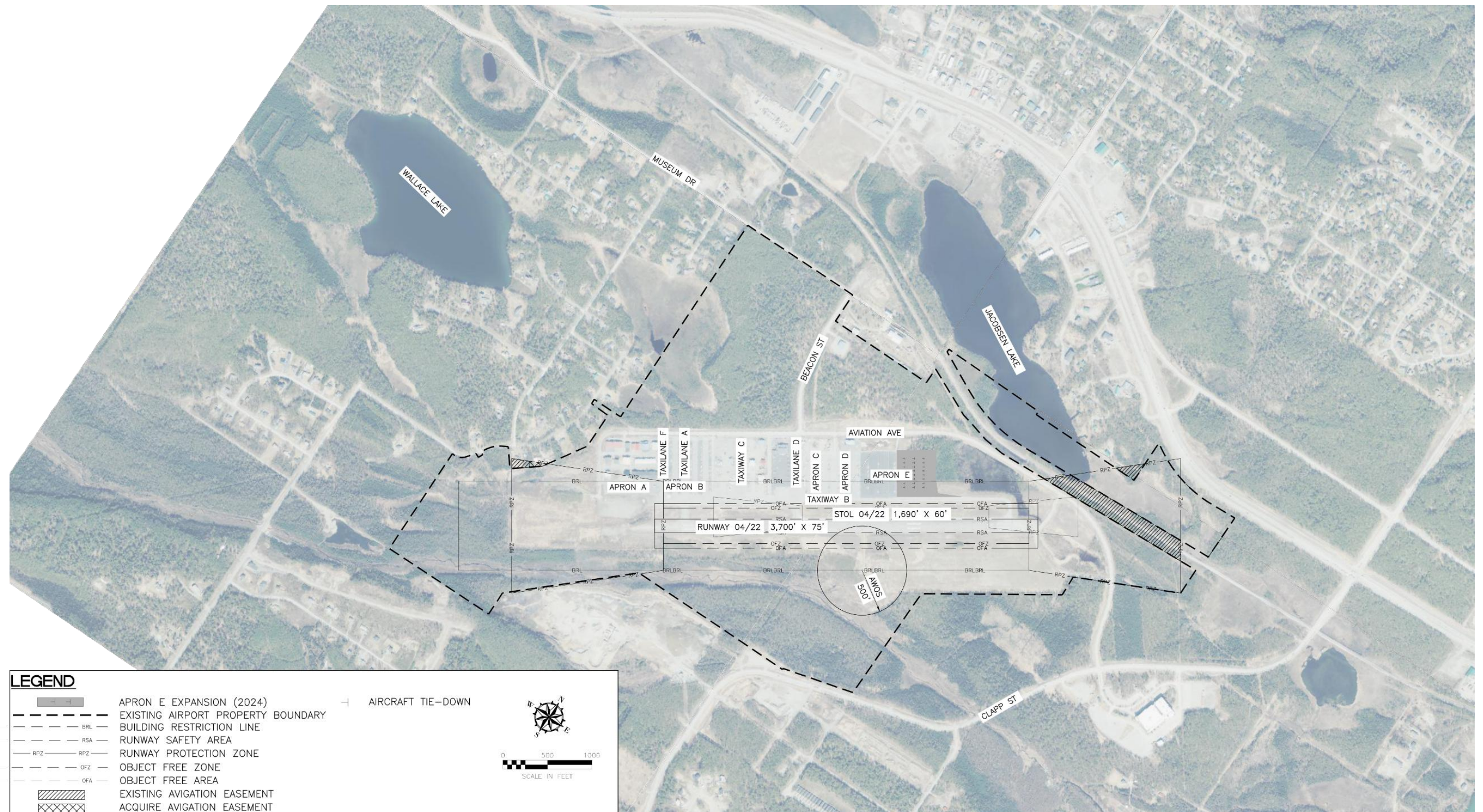


Figure 5-1: Alternative 1 – No Build

5.1.2 ALTERNATIVE 2 – EXPAND PRIMARY RUNWAY 04/22, APRONS, AND LEASE LOTS

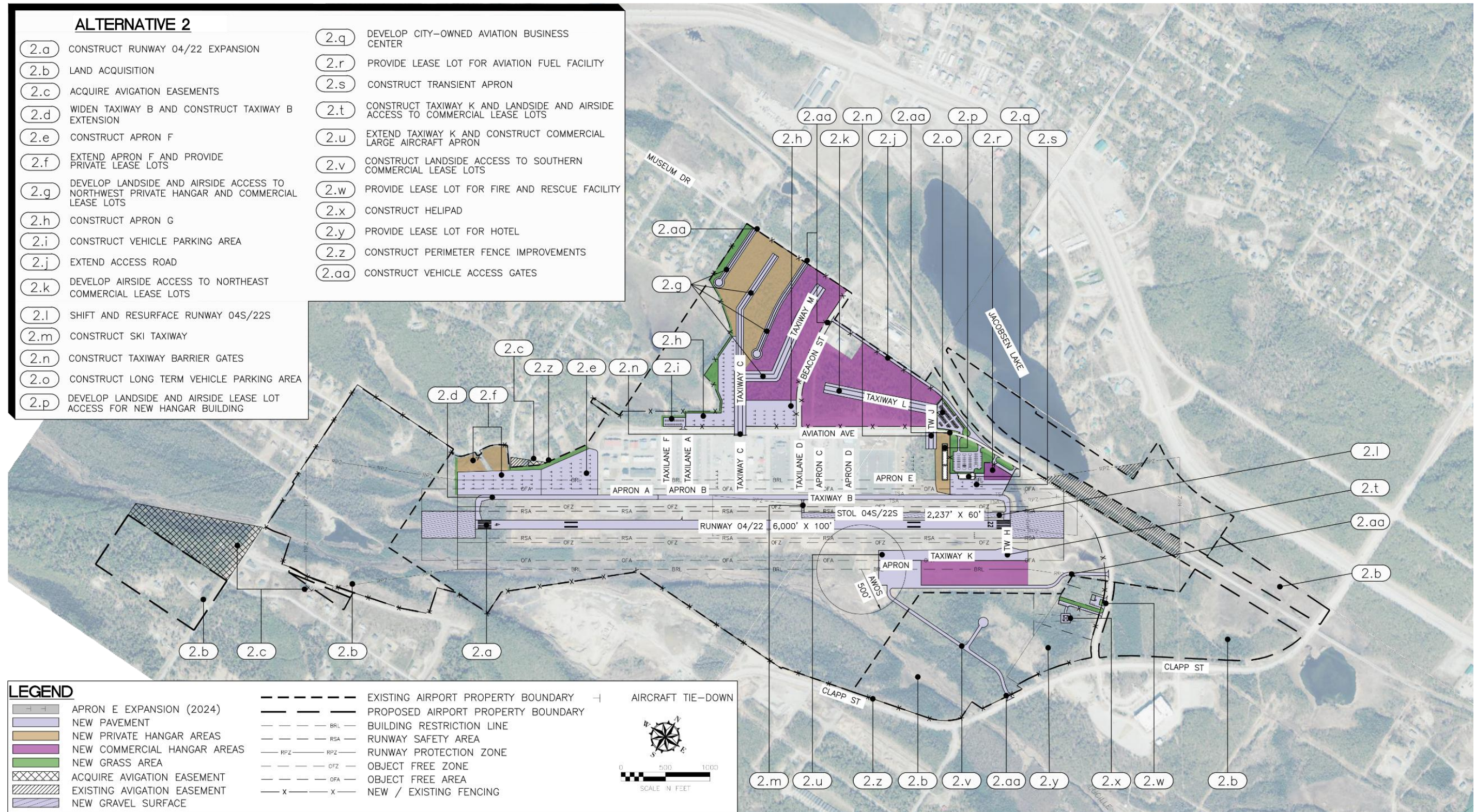
Alternative 2 expands Runway 04/22 to provide a 6,000-foot-long by 100-foot-wide paved runway, expands existing aprons, develops new apron and parking areas, and creates access to new lease lots. Alternative 2 consists of the following elements, each with a corresponding number in parentheses that correlates to the proposed work detailed in Figure 5-2.

CONSTRUCT PRIMARY RUNWAY 04/22 EXPANSION (2.A)

Construct Runway 04/22 expansion by extending the runway by 2,300 feet to the southwest along its current alignment and widening the runway by 25 feet (by adding 12.5 feet on either side) (Figure 5-3). This will result in a final runway length of 6,000 feet and a width of 100 feet.

The runway expansion will include new runway pavement, drainage features, markings, edge lighting, PAPIs, and REILs. The expanded runway will allow the airport to accommodate operations by larger B-III aircraft and Part 135 certificated air carriers.

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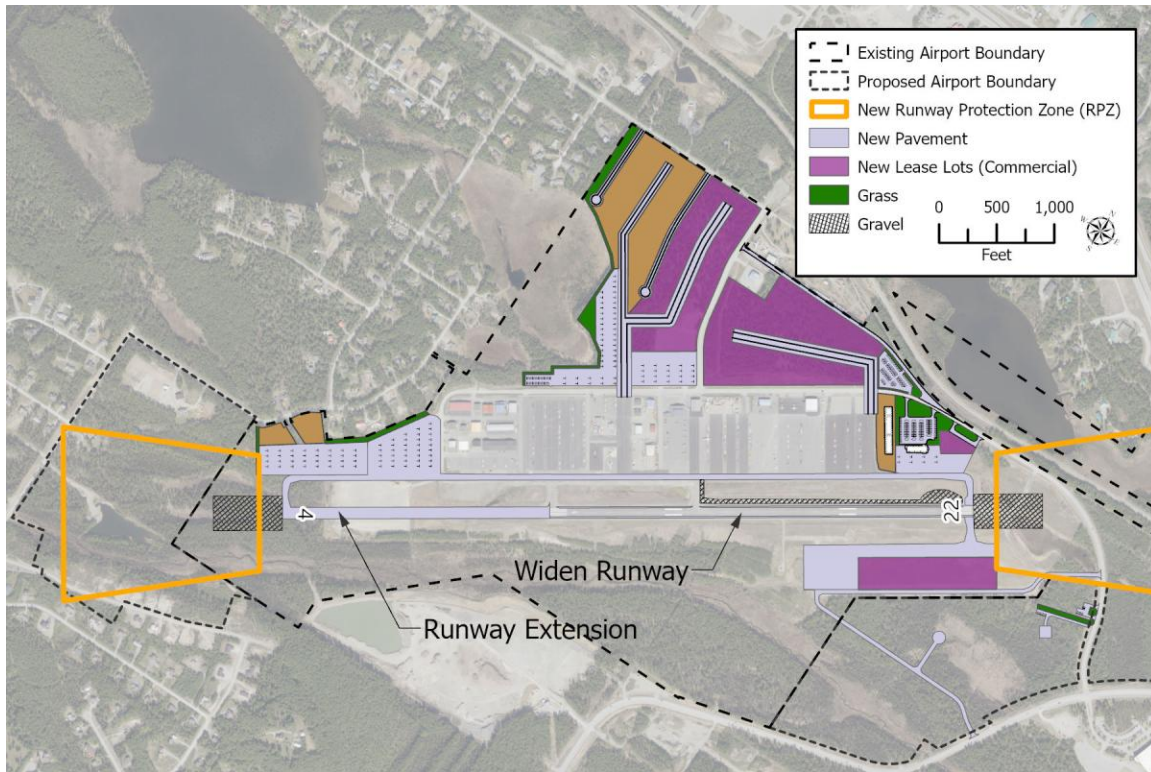


Figure 5-3: Primary Runway Expansion (2.a)

LAND ACQUISITION (2.B)

Alternative 2 will require the acquisition of approximately 206.9 acres of land (91.4 acres to the southwest and approximately 115.5 acres to the southeast) to support the ultimate runway condition and protect the airport environment. Land acquisition is required to allow the City to remove airspace obstructions and maintain control of the land within the ultimate RPZ.

Proposed land acquisition to the southwest of the airport will involve 19 parcels located within the ultimate Runway 04 RPZ and below the Runway 04 approach. Parcels proposed for acquisition are not currently zoned. Acquired land will need to be annexed by the City and zoned as “Industrial” to allow for airport development in this area. Parcels proposed for acquisition to the southwest of the airport are shown on Figure 5-4, and their associated legal descriptions and proposed acreages to be acquired are provided in Table 5-1.

The City’s acquisition of the land Runway 04 RPZ and below the Runway 04 approach is ongoing, as described in Section 2.5.

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Figure 5-4: Proposed Parcel Acquisitions – Southwest (2.b)

Table 5-1: Southwest Land Acquisition Descriptions

Parcel ID	Legal Description	Partial/Full Acquisition	Acreage to Be Acquired
1	T 17N R 2W S 13 LOT B4	Full	20.00
2	T 17N R 2W S 13 LOT B8	Full	10.00
3	T 17N R 2W S 13 LOT B7	Full	5.00
4	T 17N R 2W S 13 LOT B6	Full	5.00
5	BOREALIS RDG TRACT A-1	Full	16.10
6	BOREALIS RDG BLOCK 4 LOT 3	Full	1.30
7	BOREALIS RDG BLOCK 4 LOT 4	Full	1.22
8	BOREALIS RDG BLOCK 4 LOT 5	Full	1.43
9	BOREALIS RDG BLOCK 4 LOT 6	Full	1.07
10	BOREALIS RDG BLOCK 4 LOT 7	Full	1.00
11	BOREALIS RDG BLOCK 4 LOT 8	Full	1.00
12	BOREALIS RDG BLOCK 4 LOT 9	Full	1.06
13	BOREALIS RDG BLOCK 4 LOT 10	Full	1.11
14	BOREALIS RDG BLOCK 4 LOT 11	Full	1.37
15	BOREALIS RDG BLOCK 4 LOT 12	Full	1.50
16	BOREALIS RDG BLOCK 4 LOT 13	Full	1.18
17	BOREALIS RDG BLOCK 4 LOT 14	Full	1.08
18	BOREALIS RDG BLOCK 2 LOT 1	Full	1.00
20	T 17N R 1W S 7 LOT C3	Full	20.00
Total			91.42

Parcel 1 consists of 20 acres, of which 5.0 acres are located within the proposed RPZ for the ultimate runway condition. Acquisition of the entire parcel is preferred. If the owner is unwilling to sell the entire parcel, the lot will be subdivided for partial acquisition of the 5.0 acres within the southeast corner located within the ultimate RPZ. However, if the parcel cannot be subdivided, acquisition of an aviation easement for the land in the RPZ will be pursued. For this, the AMP Update, Parcel 1 is being shown as a full acquisition to ensure that the property is eligible to be acquired in the future should the property owner be willing to sell the parcel to the City for future airport development.

Parcel 2 contains existing residential structures that will require relocation consideration as part of the acquisition process.

Parcel 20 is located on the existing bluff beyond the ultimate Runway 04 RPZ. The acquisition of this parcel is necessary to control the height of constructed objects and to allow the City to remove trees that present airspace obstructions within the ultimate 34:1 Part 77 approach surface. The extent of the proposed clearing on this parcel limits the parcel's use and functionality, and acquisition is preferred by the owner and the City.

Proposed land acquisitions to the southeast of the airport involve four parcels. Each parcel is shown on Figure 5-5 and is described in detail in Table 5-2. This area is required to accommodate future airport growth, create a buffer to protect against encroachment from non-aviation-related development, and provide a lease area for City-controlled business development and airport revenue generation. Parcels proposed for acquisition are currently zoned as "Rural Residential". Zoning will need to be changed to "Industrial" to allow for airport development in this area and "Commercial" to support retail business and hotel development.

Under this alternative, parcels acquired to the southeast will not have airside access to the taxiways and runways. Future facilities and improvements in this area are anticipated to include access roads, a helipad, a fire and rescue facility, a hotel, and aviation, travel, and tourism-related businesses.

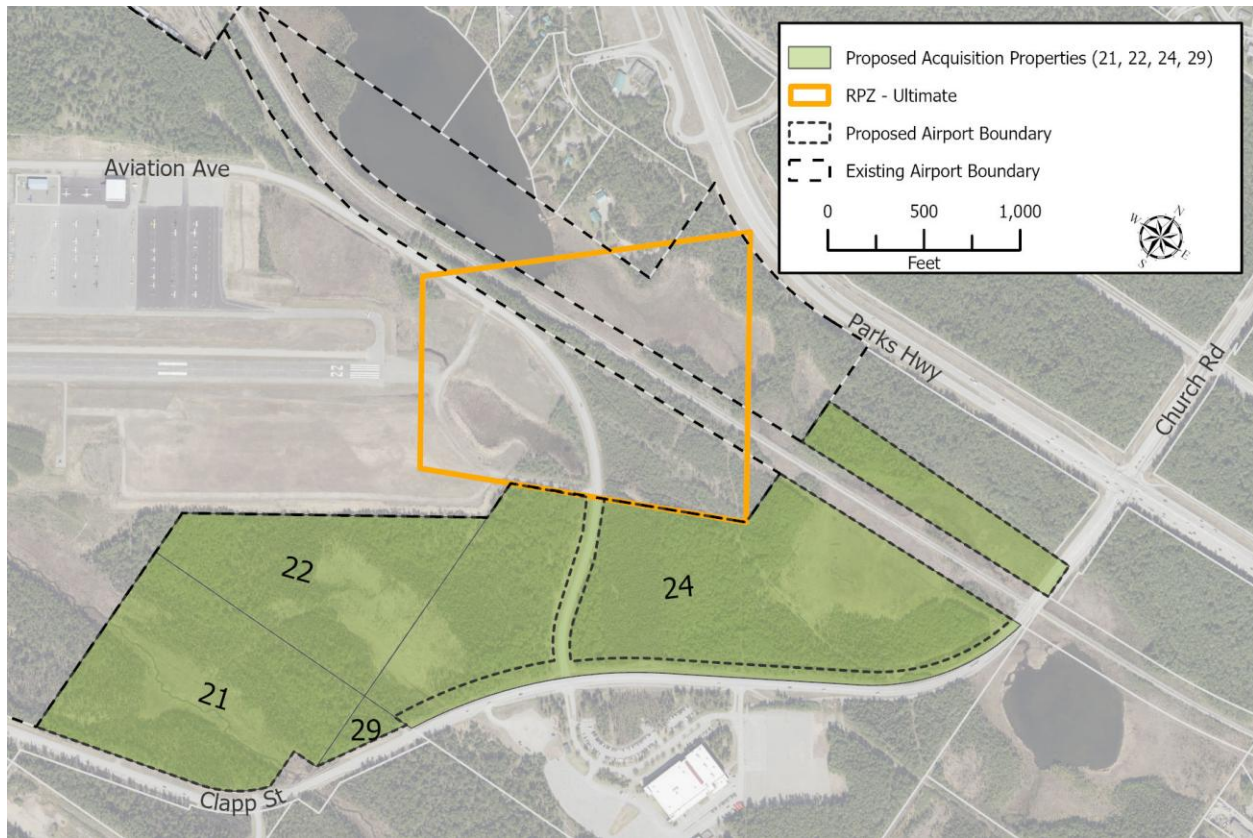


Figure 5-5: Proposed Parcel Acquisitions – Southeast (2.b)

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Table 5-2: Southeast Land Acquisition Descriptions

Parcel ID	Legal Description	Full/Partial Acquisition	Acreage to be Acquired
21	T 17N R 1W S 18 LOT B13	Full	26.75
22	T 17N R 1W S 7 LOT C3	Full	20.87
24	T 17N R 1W S 7 LOT D4	Full	66.53
29	T 17N R 1W S 18 LOT A22	Full	1.33
Total			115.48

ACQUIRE AVIGATION EASEMENTS (2.C)

Avigation easements are proposed within the 34:1 Part 77 approach surface for ultimate Runway 04 to limit the height of obstructions and land uses in affected areas to those that the FAA has deemed compatible with Runway RPZs under FAA AC 150/5190-4B *Airport Land Use Compatibility Planning* (FAA, 2022c).

Avigation easements are proposed on four parcels located southwest of the existing airport property boundary. The parcels are shown in Figure 5-6 and are described in detail in Table 5-3.

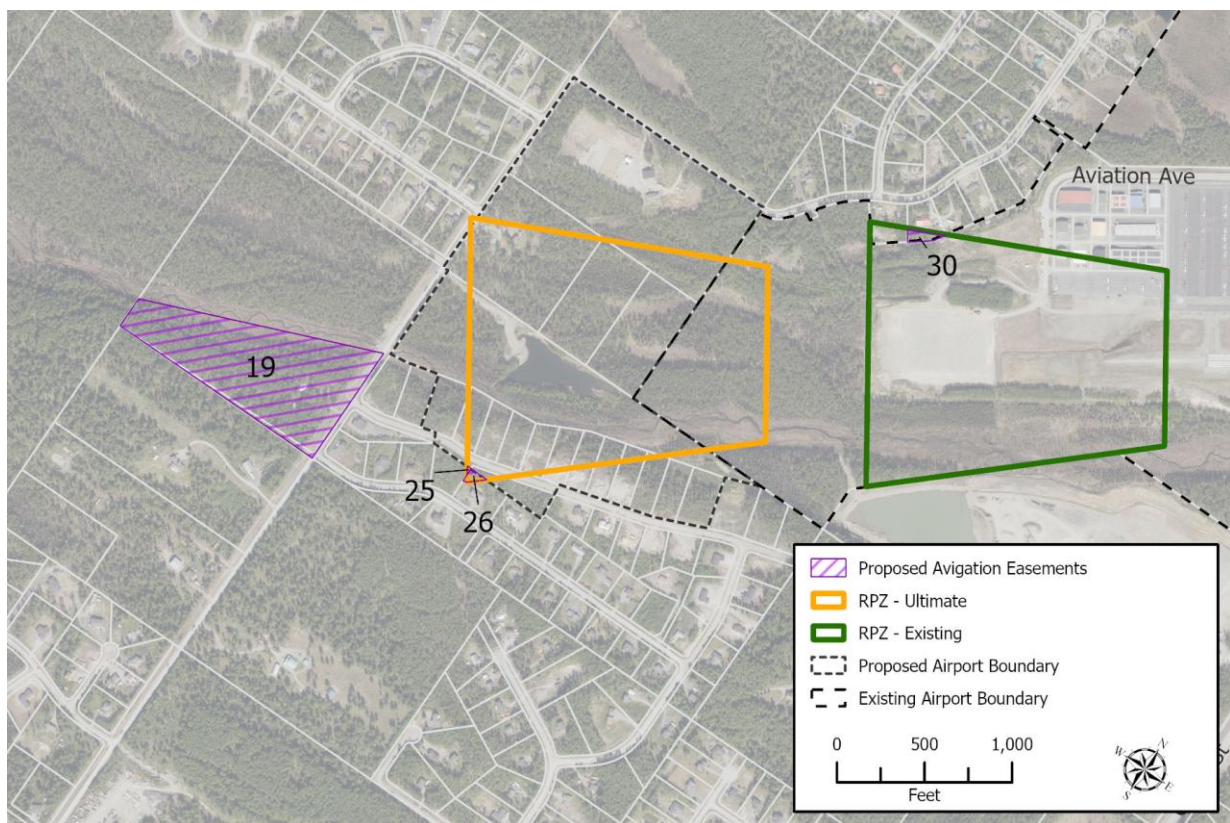


Figure 5-6: Proposed Avigation Easement Areas – Southwest (2.c)

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Table 5-3: Avigation Easement Acquisition Descriptions – Southwest

Parcel ID	Legal Description	Size of Easement (acres)
19	T 17N R 1W S 18 LOT B13	13.00
25	T 17N R 2W S 14 LOT D2	0.01
26	T 17N R 2W S 14 LOT D5	0.12
30	T17N R 2W S 13 LOT B4	0.22
Total		13.35

Parcel 19 is located on the edge of an existing bluff beyond the ultimate runway RPZ for Runway 04. An avigation easement is necessary in this area to control the height of constructed objects and to allow the City to remove airspace obstructions (often trees) within the ultimate 34:1 Part 77 approach surface for Runway 04. The easements in this area would include language that provides the City the right to remove obstructions infringing on the Part 77 surfaces, including the right to remove trees, structures, buildings, and any objects that interfere with runway lights, navigation aids, or radio communication.

Avigation easements are also proposed on Parcels 25 and 26, both of which are located within the ultimate Runway 04 RPZ. These easements would include the same language as required for easements on Parcel 19, but would also limit activity within those easements to compatible land uses for RPZs, as defined by AC 150/5190-4B *Airport Land Use Compatibility Planning* (FAA, 2022c). Examples of non-compatible land uses include, but are not limited to, residential, commercial, manufacturing, utility, education, health care, religious, and community service uses. Land use within the RPZ would prohibit construction of permanent structures and areas where the public may congregate.

An avigation easement is needed on a portion of Parcel 30, including a 0.22-acre area that is located within the existing Runway 04 RPZ.

WIDEN TAXIWAY B AND CONSTRUCT TAXIWAY B EXTENSION (2.D)

Widen existing Taxiway B to provide a new taxiway width of 50 feet to accommodate TDG 3 aircraft. Extend Taxiway B approximately 1,950 feet to the south from its existing terminus with Apron A to the intersection with the ultimate Runway 04 threshold, resulting in a full-length parallel taxiway (Figure 5-7). Widening the taxiway will push the existing TOFA further into the aprons and will eliminate approximately 25 existing small aircraft tie-downs.

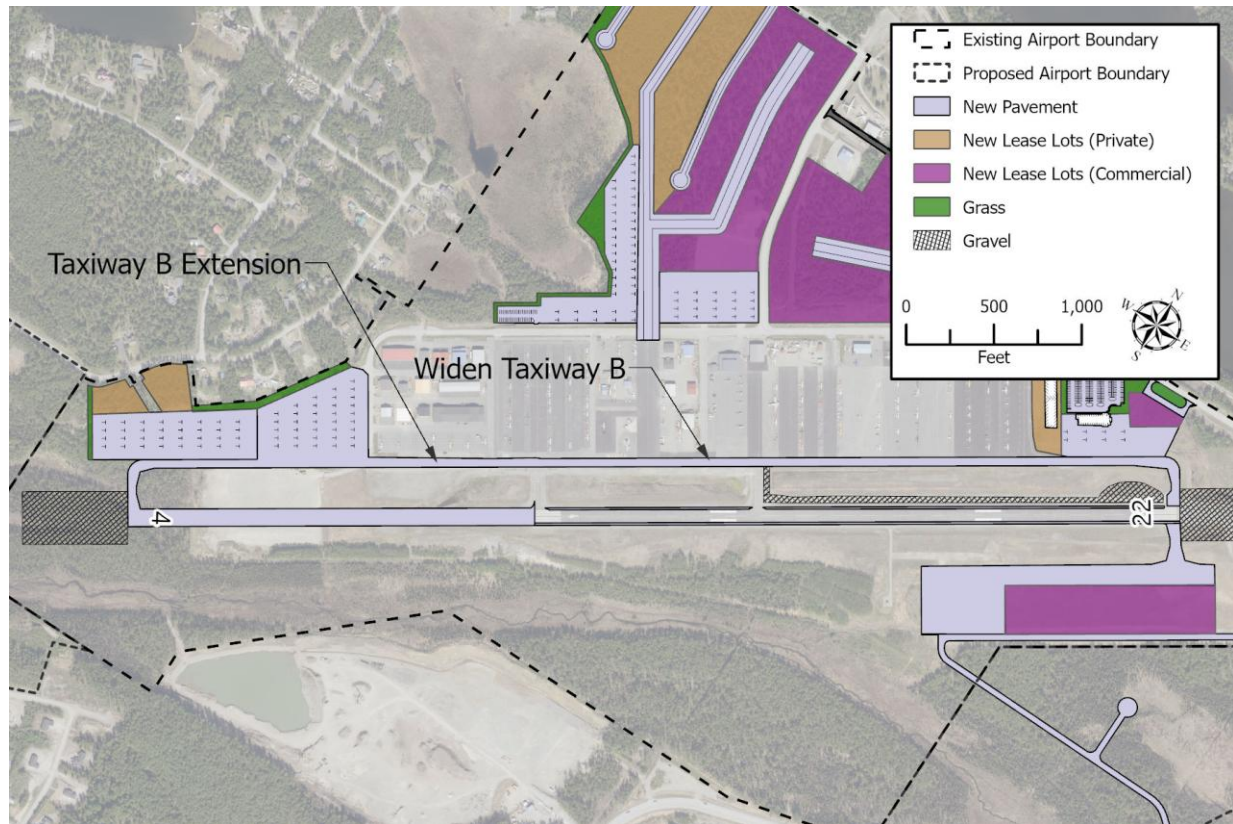


Figure 5-7: Taxiway B Improvements (2.d)

CONSTRUCT APRON F (2.E)

Construct approximately 267,000 square feet of additional GA apron southwest of Apron A that includes approximately 35 new small aircraft tie-downs (Figure 5-8). New apron development is required to meet the demand for additional tie-downs for based aircraft. Electric outlets will be installed for all tie downs on proposed Apron F.

EXTEND APRON F AND PROVIDE PRIVATE LEASE LOTS (2.F)

Extend the new Apron F (2.e) by approximately 257,300 square feet to the southwest (Figure 5-8). The apron expansion will include approximately 32 new small aircraft tie-downs with electrical outlets. Additional private lease lot space will be provided immediately west of the extension area.

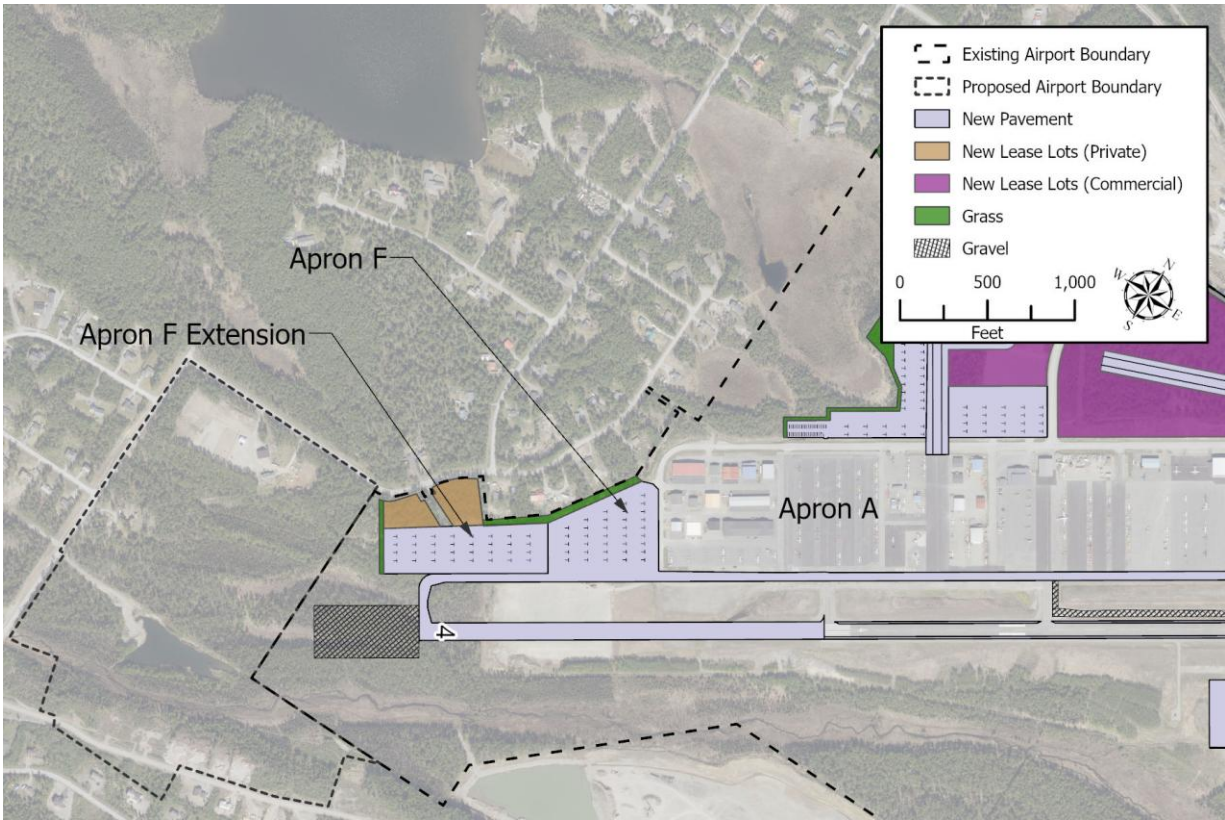


Figure 5-8: Apron F (2.e - 2.f)

DEVELOP LANDSIDE AND AIRSIDE ACCESS TO NORTHWEST PRIVATE HANGAR AND COMMERCIAL LEASE LOTS (2.G)

Construct approximately 2,200 linear feet of Taxiway C to the northwest of the current Taxiway C terminus with future Airport Way (existing Aviation Avenue) (Figure 5-9). The new taxiway will cross Airport Way and provide access to the proposed North GA Aprons (2.h), private hangar lease areas, and commercial lease areas. The taxiway will divide approximately 650 feet north of Airport Way. Taxiway C will continue north for approximately 1,500 feet to provide airside access to new private hangar lease areas. Another 50-foot-wide taxiway, Taxiway M, will continue to the northeast to provide airside access to new commercial lease areas.

Construct two separate 24-foot-wide vehicle roads, with cul-de-sacs, south from West Museum Drive to provide landside access to the new private hangar and commercial lease areas (Figure 5-9). One of the new roads will be approximately 750 feet long and provide access to leases on the northwest edge for the private hangar lease area. The other road will be approximately 1,200 feet long and will provide access to private hangars and commercial leases that are centrally located in the lease area. Utilities will be extended along each road to support and service aviation-related buildings and businesses. New electronic vehicle access gates will be installed at the intersection of the new access roads and West Museum Drive. The gates will remain open during normal business hours. At night, the gates will close and will allow for controlled key card access.

Taxiway and road development are expected to include approximately 240,000 cubic yards of excavation to remove portions of an existing hill to create flat surfaces suitable for taxiing aircraft and meet the FAA's requirements for apron, taxiway, and taxilane grades per AC 150/5300-13B *Airport Design*.

CONSTRUCT APRON G (2.H)

Construct new Apron G, which will be bisected by the Taxiway C extension, north of the intersection with Airport Way (existing Aviation Avenue) (Figure 5-9). One new section of apron, Apron G (West), will be located west of the new taxiway and will consist of 220,300 square feet of additional apron space and 43 new small aircraft tie-downs. Apron G (East) will be located east of the Taxiway C extension and will consist of 165,300 square feet of additional apron space and 20 small aircraft tie-downs. Electric outlets will be installed for all tie-downs on the new aprons.

CONSTRUCT VEHICLE PARKING AREA (2.I)

Develop a 25,000 square foot vehicle parking area on Airport Way (existing Aviation Avenue) by the proposed Apron G (West) (Figure 5-9). The parking area will provide a designated area for GA tie-down holders to park vehicles and reduce the potential for conflict between aircraft and vehicles on the aprons.

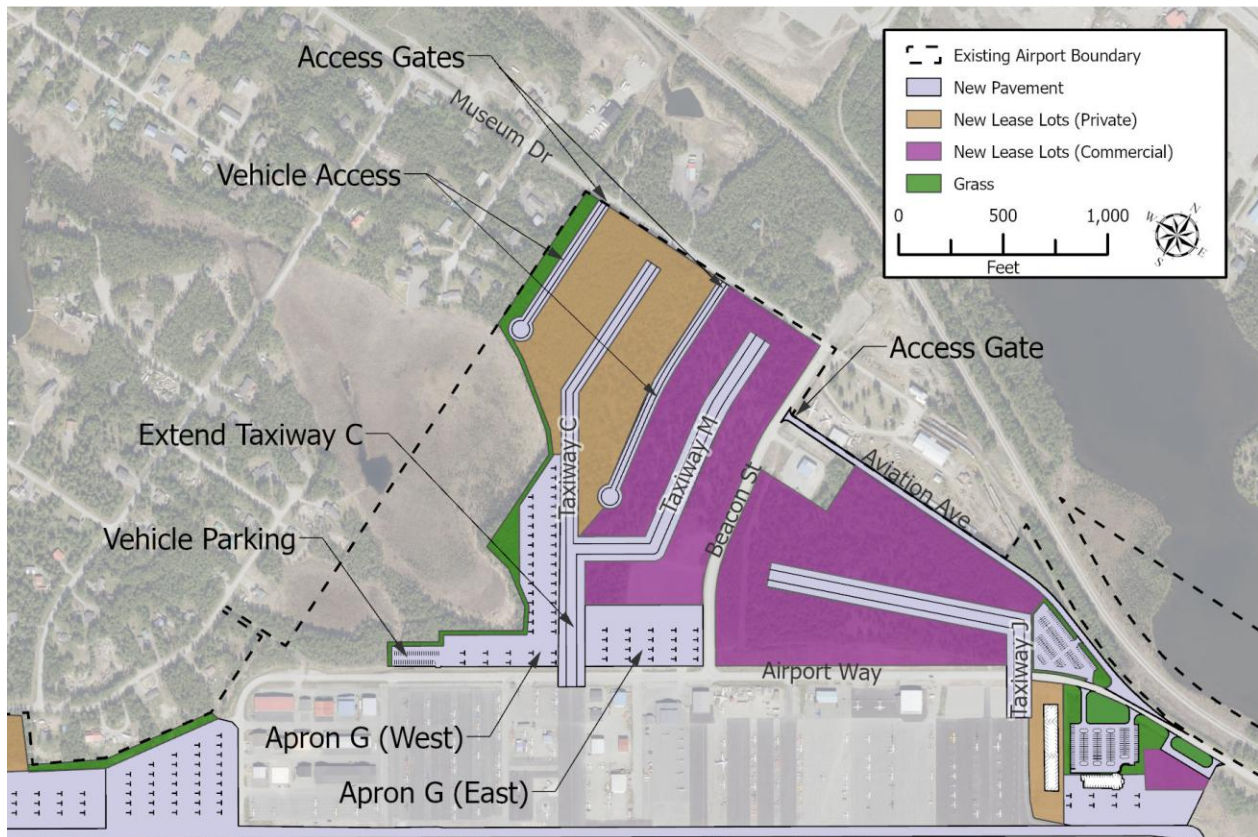


Figure 5-9: Apron G and Lease Lot Development (2.g – 2.i)

EXTEND ACCESS ROAD (2.J)

Re-route Aviation Avenue around the northern perimeter of the existing airport property boundary (Figure 5-10). Develop and construct 2,200 feet of new perimeter road (Aviation Avenue) that borders the proposed commercial lease area to the south and ARRC ROW and the Museum of Alaska Transportation and Industry property to the north. The new perimeter road will provide access to proposed lease areas and improve vehicle circulation in and around the airport between West Museum Drive and Clapp Street. The new traffic pattern will allow vehicles to travel around the perimeter of the airport property and reduce non-aviation-related traffic in close proximity to the taxiways and taxilanes. The proposed perimeter road will terminate at a new stop sign located on Beacon Street, north of the existing SREB. The road extension will be constructed on existing airport property. Therefore, additional property is not required.

Rename the section of existing Aviation Avenue that provides interior access to the airport and intersects with the southern terminus of South Beacon Street as Airport Way.

DEVELOP AIRSIDE ACCESS TO NORTHEAST COMMERCIAL LEASES LOTS (2.K)

Construct approximately 1,700 linear feet of new 50-foot-wide taxiway, Taxiway J, to provide access to proposed commercial lease lot areas located between Beacon Street and Airport Way (Figure 5-10). The new taxiway will extend from the terminus of the existing taxiway on the east end of existing Apron E and will cross Airport Way to the intersection with new Taxiway L. Taxiway L will be 50 feet wide and continue southwest to provide airside lease lot access. Landside access to the new lease lots will be provided by Airport Way, South Beacon Street, and the new Aviation Avenue extension (2.j).

Taxiway development is expected to include approximately 400,000 cubic yards of excavation to remove portions of an existing hill in order to create flat surfaces that are suitable for taxiing aircraft and meet the FAA's requirements for apron, taxiway, and taxilane grades per AC 150/5300-13B *Airport Design*.

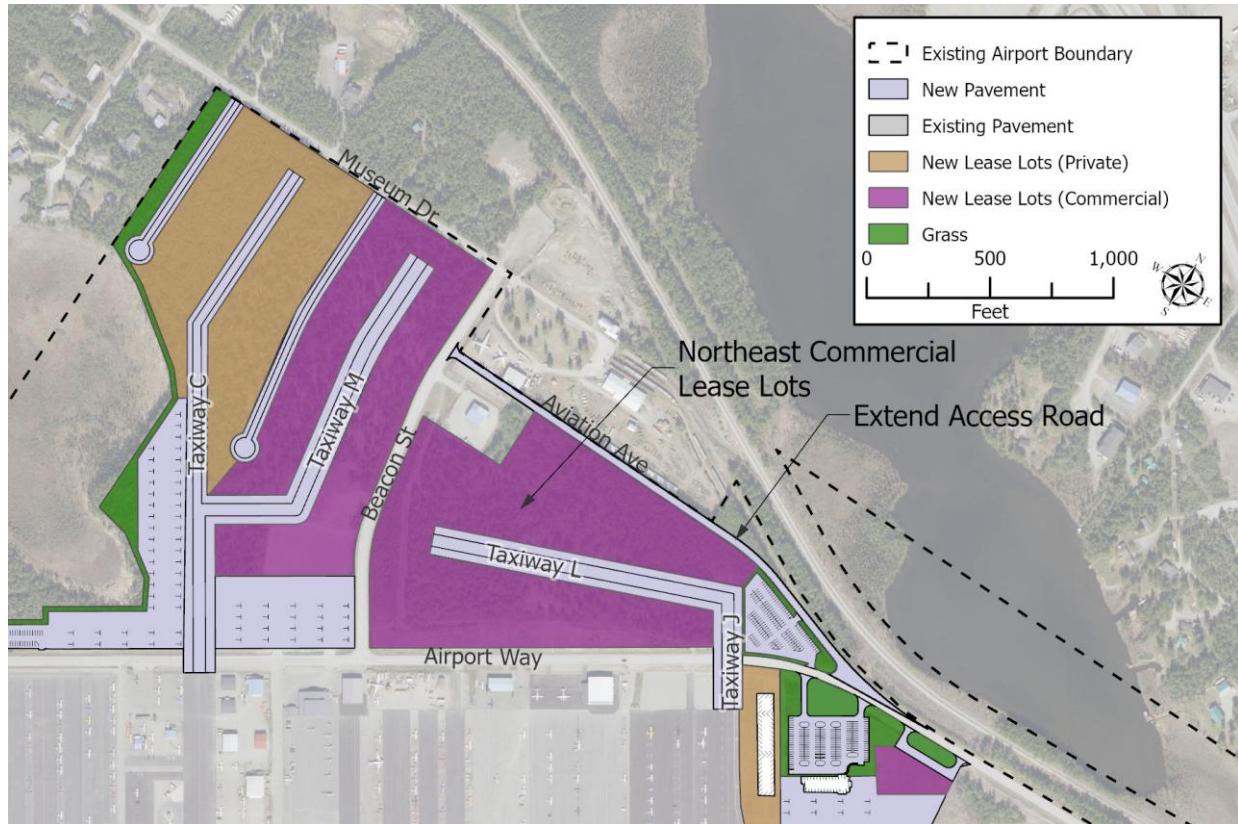


Figure 5-10: Access Road and Northeast Commercial Lease Lots (2.j – 2.k)

SHIFT AND RESURFACE GRAVEL RUNWAY 04S/22S (2.L)

Shift the centerline 15 feet north and resurface the existing 1,690-foot-long by 60-foot-wide gravel Runway 04S/22S with new crushed aggregate surface course (Figure 5-11). Shifting the runway centerline 15 feet north will provide more space between Runway 04S/22S and Runway 04/22 and will allow room to widen Runway 04/22 to the 100-foot ultimate width. Construct new embankment along the north edge of the 04S/22S to accommodate shifting the runway centerline. Extend surfacing to the edges of the full runway width. Replace existing runway edge and threshold markers and install new edge marker 2 feet beyond the runway edge.

CONSTRUCT SKI TAXIWAY (2.M)

Construct a 170-foot-long by 25-foot-wide ski taxiway between Taxiway B and the threshold of Runway 04S, parallel to the existing paved midfield connecting Taxiway D, to support wintertime ski operations only (Figure 5-11). This taxiway will be surfaced with gravel and remain unplowed in the winter to limit the need for ski-equipped aircraft to taxi on plowed taxiways. The construction of the ski taxiway will allow the City to designate a portion of Apron C as a ski apron so that the apron area may remain unplowed during winter to support ski-equipped traffic.

Designate an area of GA Apron C, directly north of the intersection of the new ski Taxiway and Taxiway B, as a ski-equipped aircraft parking area. Taxilanes will remain unplowed in this area during the winter months to provide snow surfaces for ski-equipped aircraft to maneuver on.

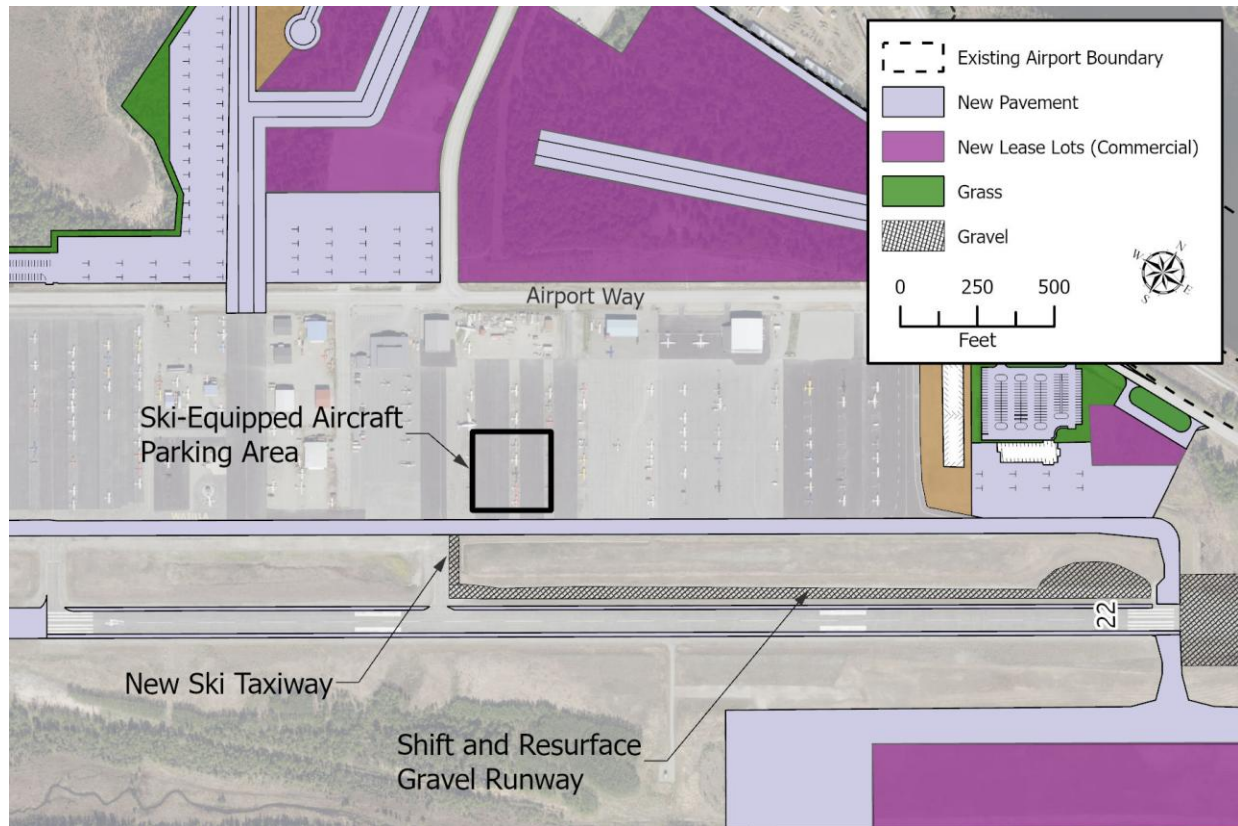


Figure 5-11: Gravel Runway and Ski Taxiway (2.l – 2.m)

CONSTRUCT TAXIWAY BARRIER GATES (2.N)

Construct two new taxiway barrier gates at the two proposed taxiway road intersections: the new intersection between Taxiway C and Airport Way (described in 2.g) and the new intersection between Taxiway J and Airport Way (described in 2.k) (Figure 5-12). The new barrier gates will be 40-foot double sliding gates that span across the airside of the Taxiway intersection, similar to existing gates located on nearby Merrill Field Airport. The gates will provide access for the airside of the taxiway and reduce vehicle access to the taxiway and the potential for vehicle incursions on the runway. The gates will remain closed and will be triggered to open and close by signals from the electronic traffic loops embedded in the taxiway pavement.

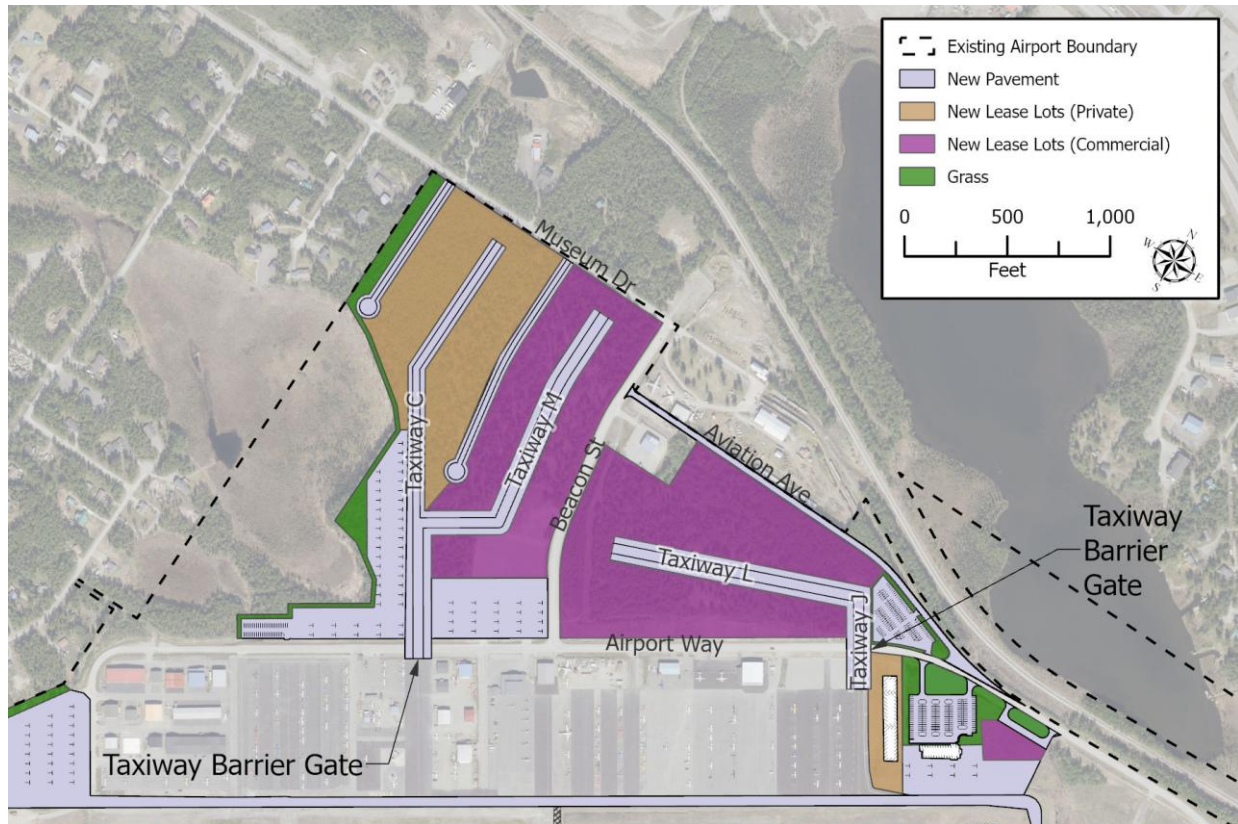


Figure 5-12: Taxiway Barrier Gates (2.n)

CONSTRUCT LONG-TERM VEHICLE PARKING AREA (2.0)

Develop a new long-term parking area encompassing 64,000 square feet to accommodate long- and short-term vehicle parking on the northeast end of the airport (Figure 5-13). The new parking area will be located to the north of the proposed Aviation Business Center, between Airport Way and the proposed Aviation Avenue extension (2.j). The long-term vehicle parking area will include approximately 123 perpendicular parking spaces and will include a fenced area for long-term vehicle storage. Short-term vehicle parking for tie-down holders located on Apron E will also be available.

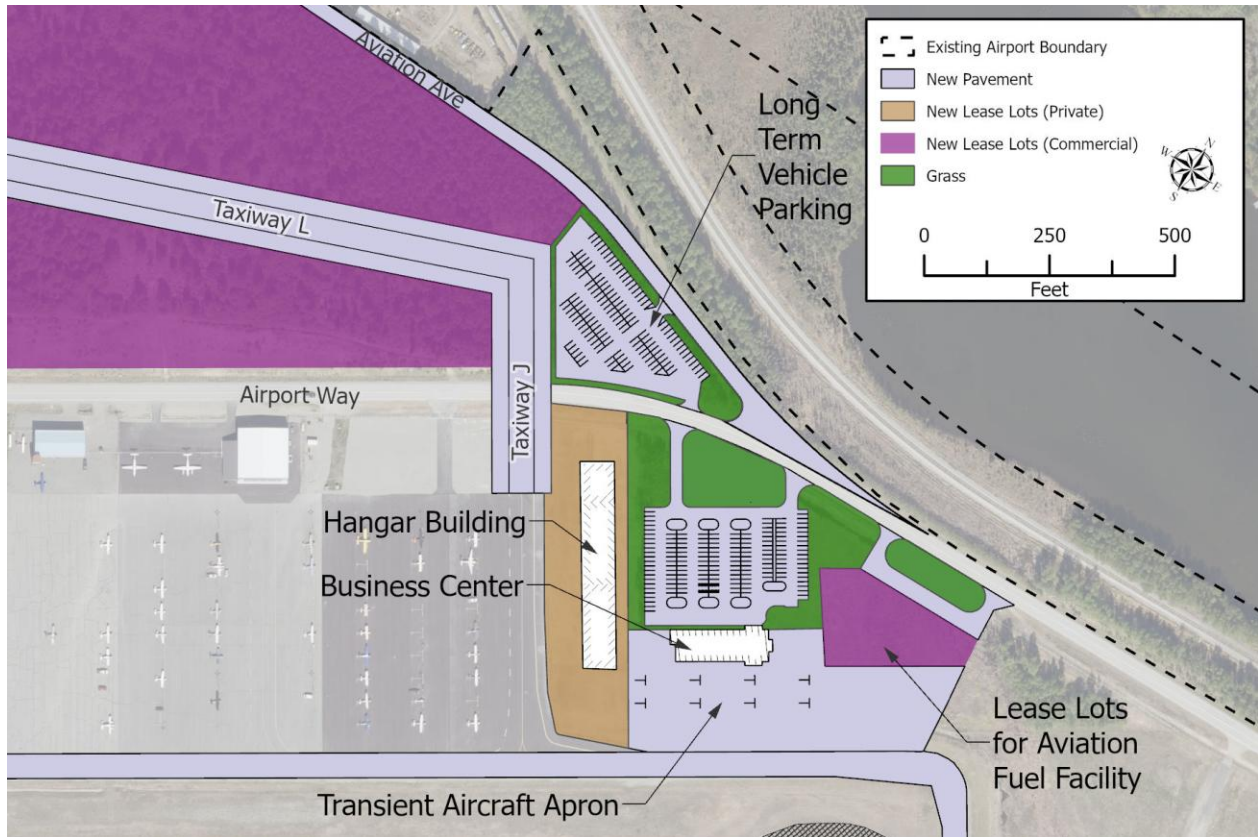


Figure 5-13: City Owned Terminal/Business Center (2.0 – 2.s)

DEVELOP AIRSIDE AND LANDSIDE LEASE LOT ACCESS FOR NEW HANGAR BUILDING (2.P)

Provide a lease area for construction of a future hangar building located between existing Apron E and the new Aviation Business Center (Figure 5-13). Development will include required site preparation, such as clearing and subgrade earthwork.

DEVELOP CITY-OWNED AVIATION BUSINESS CENTER (2.Q)

Development of this site will include an approximately 13,300-square-foot Aviation Business Center building that will be owned and operated by the City (Figure 5-13). The proposed Aviation Business Center will be located directly to the northeast of Apron E and the new City-Owned Hangar Building (2.p). The facility will house the Airport Manager's Office, public bathrooms, pilot briefing rooms, passenger waiting area, classroom, concession/vendor space, air carrier terminal, baggage facilities, and a hangar bay for short-term rental. The facility will be constructed with a 71,000-square-foot public parking area for public parking and long-term parking, with space available for a rental vehicle fleet. The proposed parking area will include approximately 160 perpendicular parking spaces to meet the increased demand at the airport. A conceptual layout for the Aviation Business Center is shown in Figure 5-14.

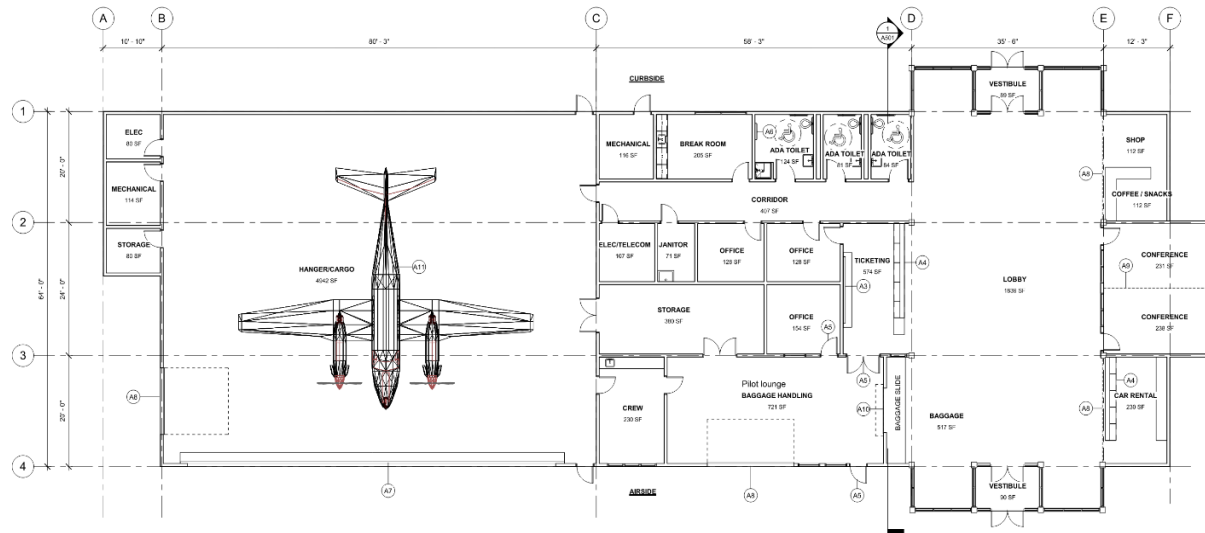


Figure 5-14: Conceptual Layout of Aviation Business Center

PROVIDE LEASE LOT FOR AVIATION FUEL FACILITY (2.R)

Develop a 44,000 square foot lease lot for lease to an aviation fuel vendor (Figure 5-13). The lease lot will be located directly north of the proposed Aviation Business Center (2.q) and have landside access via Airport Way for fuel delivery. The lease area will have sufficient room for protected above-ground bulk storage and dispensing tanks and an aviation fuel dispenser. The fuel facility will provide additional fuel sales to meet the increased aviation demand at the airport. Development includes required site preparation such as clearing, subgrade earthwork, and constructing landside access.

CONSTRUCTION TRANSIENT APRON (2.S)

Construct approximately 122,000 square feet of additional apron space south of the proposed Aviation Business Center (2.q) that includes approximately 40,000 square feet of apron for eight new transient aircraft tie-downs (Figure 5-13). The apron will be to the northwest of, and directly adjacent to, Taxiway B. New apron development is required to meet the demand for additional transient tie-downs at the airport.

CONSTRUCT TAXIWAY K AND LANDSIDE AND AIRSIDE ACCESS TO COMMERCIAL LEASE LOTS (2.T)

Construct 1,300-foot by 50-foot-wide Taxiway K, located parallel to the southeast side of Runway 04/22, to allow separation between GA and large aircraft operations (Figure 5-15). Taxiway K will provide space to develop facilities that support large aircraft, including taxiways, apron, lease lot areas, and an access road. Taxiway K will be connected to the threshold of Runway 22 by a 250-foot by 50-foot wide interlink Taxiway H. New taxiways will be designed to support operations by aircraft in TDG 3. New airfield lighting and signs will be installed along Taxiway H and K. Taxiway K will provide airside access for large aircraft to new commercial lease lots and the Commercial/Large Aircraft Apron (2.u) located south of the new taxiway. Landside access to the Taxiway K lease lots will be provided by a new access road that connects to Aviation Avenue (Figure 5-15). Lease lot utilities include underground water, sewer, electric, communication, and natural gas.

A new electronic vehicle access gate will be installed at the intersection of the new access roads and Aviation Avenue under (2.aa). The gate will remain open during normal business hours. At night, the gate will close and allow for controlled key card access.

EXTEND TAXIWAY K AND CONSTRUCT COMMERCIAL/LARGE AIRCRAFT APRON (2.U)

Extend new Taxiway K (2.t) approximately 350 feet to provide airside access to the new Commercial/Large Aircraft Apron and additional commercial lease areas. Construct a new 127,000-square-foot apron designated for TDG 3 large aircraft use (Figure 5-15). Approximately four new large apron tie-downs will be installed on the apron with electrical outlets. If sufficient construction funding is available, this project may be combined with the first phase of the Taxiway K project (described above) to provide savings and efficiency during construction.

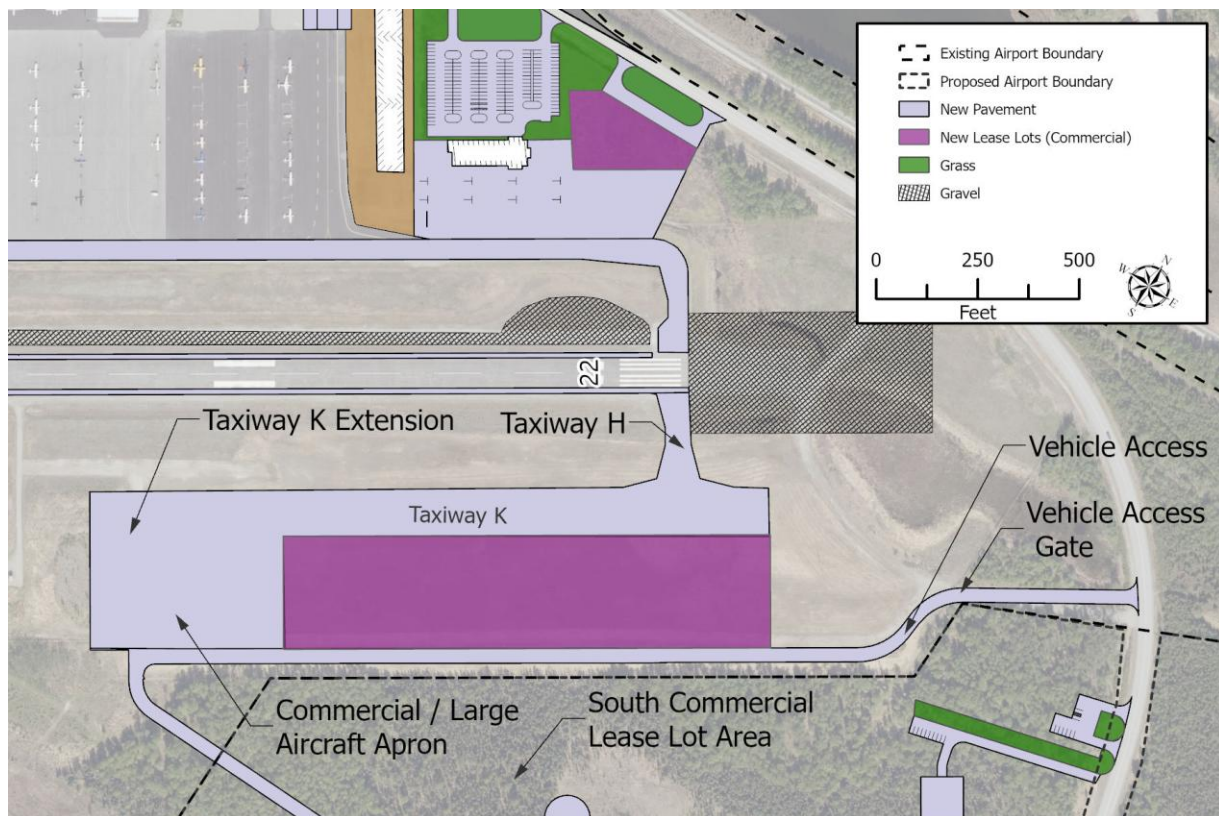


Figure 5-15: Taxiway K (2.t – 2.u)

CONSTRUCT LANDSIDE ACCESS TO SOUTHERN COMMERCIAL LEASE LOTS (2.V)

Develop and construct approximately 2,700 linear feet of 24-foot-wide access road to provide landside access to commercial lease areas on newly acquired property to the southeast of the airport (2.b) (Figure 5-16). The access road will consist of approximately 2,300 linear feet of road connecting the proposed large aircraft apron access road to Clapp Street. An additional 400 feet of road will branch from the midpoint of the proposed access road towards the northeast to provide access to additional lease areas. Underground water, electric,

communication, and natural gas utilities will be extended along the new access road for service to the lease lots.

PROVIDE LEASE LOT FOR FIRE AND RESCUE FACILITY (2.W)

Provide lease space for future development of a new fire and rescue facility on newly acquired land, southeast of the new Commercial/Large Aircraft Apron (Figure 5-16). Providing fire and rescue facilities on the airport is anticipated to decrease the response time for emergencies and allow aviation-specific fire and rescue equipment to be stored at the airport. The proposed facility will be owned, operated, and staffed by the MSB Fire Department.

CONSTRUCT HELIPAD (2.X)

Construct a new 105-foot by 105-foot helipad located on newly acquired land southeast of the airport and the new Commercial/Large Aircraft Apron (Figure 5-16). The helipad will be located directly south of the Fire and Rescue lease area to facilitate medevac helicopter operations. The helipad development would include approximately 500 linear feet of access road and an area for nine perpendicular vehicle parking spaces. The helipad is needed to accommodate helicopter training, medevac, and transient operations and provide separation between these operations and fixed wing operations on the runways, taxiways, and aprons.

PROVIDE LEASE LOT FOR HOTEL (2.Y)

Provide lease space for future development of a hotel on newly acquired land southeast of the airport, near the intersection of Aviation Avenue and South Clapp Street (Figure 5-16). The land in this area will need to be rezoned to “Commercial” to allow for hotel development.

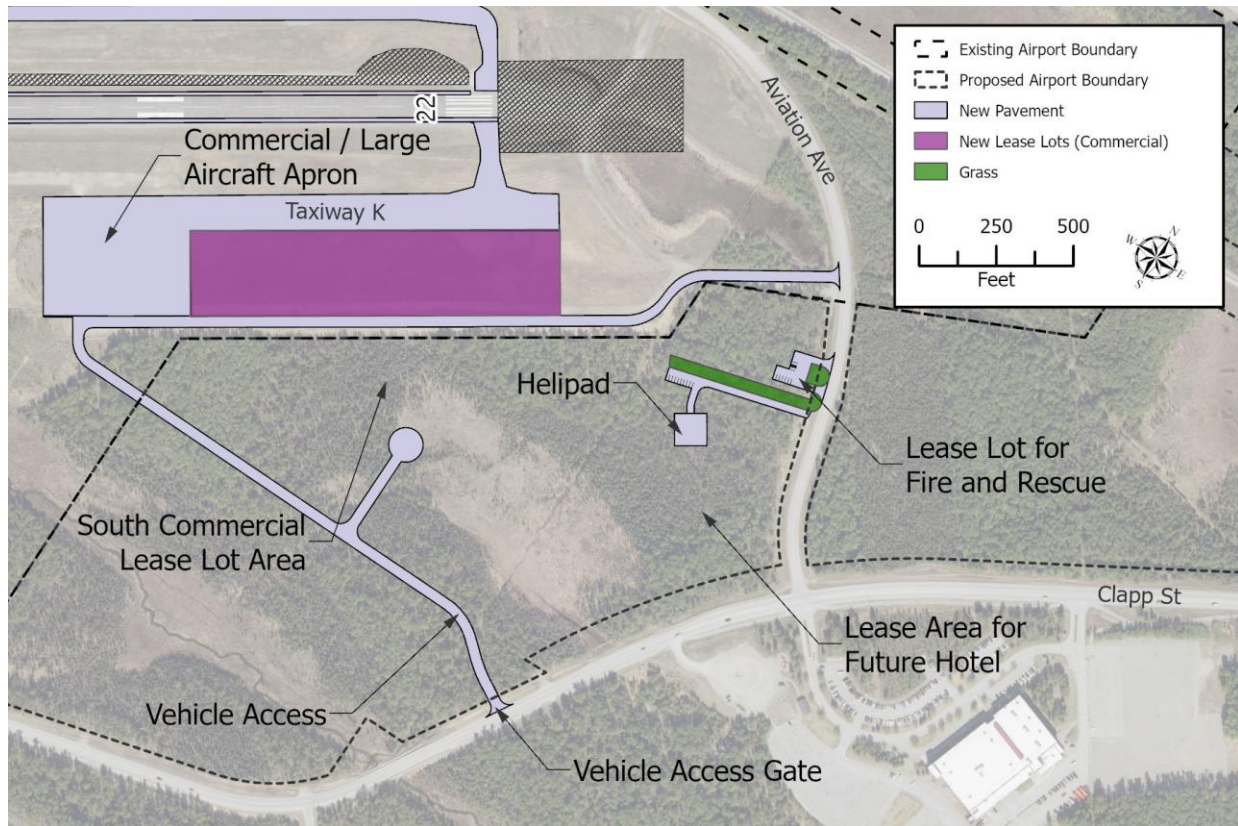


Figure 5-16: Southern Commercial Development (2.v – 2.y)

CONSTRUCT PERIMETER FENCE IMPROVEMENTS (2.Z)

Construct approximately 31,900 linear feet of fence along the perimeter of the airport that does not currently have fencing. The new fence would improve security at the airport and reduce possible incursions into airport property by wildlife and the public.

CONSTRUCT VEHICLE ACCESS GATES (2.AA)

Construct new vehicle access gates at six key locations to limit non-airport-related traffic throughout the airport (Figure 5-17). One gate will be installed on Beacon Street, south of the proposed stop sign at the terminus of the Aviation Avenue extension (discussed in 2.j). The second gate will be installed on Airport Way, west of the entrance to the proposed Aviation Business Center. Gates will be installed at the two northwest lease lot landside access entrances off of West Museum Drive (discussed in 2.g), and two gates will be installed at the two new southern landside access points from Aviation Avenue and South Clapp Street (discussed in 2.t and 2.v). The new electronic gates will remain open during normal business hours. At night, the gates will close and will allow for controlled key card access. Controlling access at these locations will allow continuous public access to businesses during normal business hours but discourage non-aviation-related traffic and limit unauthorized access during non-business hours. This additional access control will increase airport safety and security.

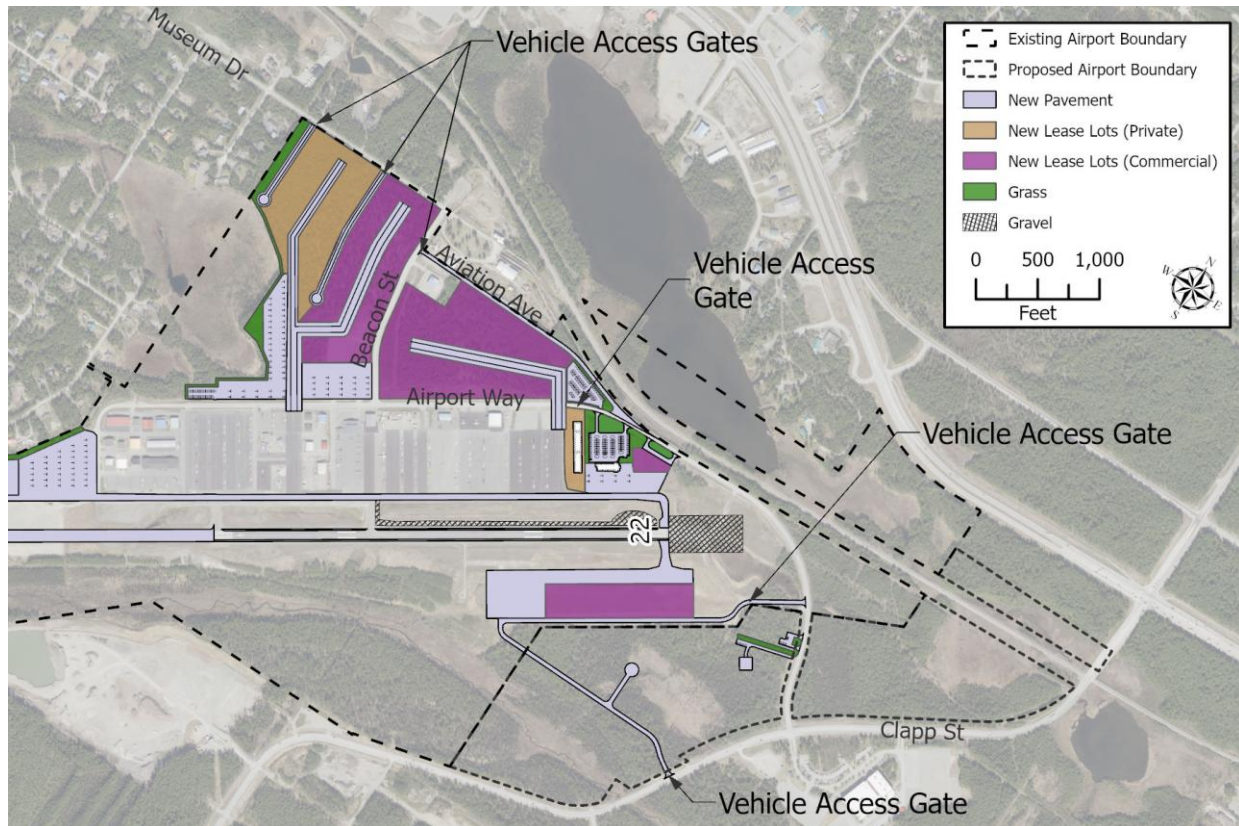


Figure 5-17: Vehicle Access Gates (2.z – 2.aa)

5.1.3 ALTERNATIVE 3 – EXPAND PRIMARY RUNWAY 04/22, APRONS, AND MAXIMIZE LEASE LOTS

Alternative 3 provides the same runway expansion and similar taxiway and aprons expansions described in Alternative 2, but acquires additional property to the northwest of the airport to provide additional lease areas and better circulate vehicle traffic in and around the airport and extends airside access to the southern commercial lease lots.

The following elements, included in Alternative 3, are the same as described in Alternative 2 and are not reiterated in this section:

- Construct Runway 04/22 Expansion (3.a)
- Acquire Avigation Easements (3.c)
- Widen Taxiway B and Construct Taxiway B Extension (3.d)
- Construct Apron F (3.e)
- Extend Apron F and Provide Private Lease Lots (3.f)
- Construct New Vehicle Parking Area (3.i)
- Resurface Runway 04S/22S (3.l)
- Construct Ski Taxiway (3.m)
- Construct Taxiway Barrier Gates (3.n)
- Develop Landside and Airside Lease Lot Access for New Hangar Building (3.p)

- Develop City-Owned Aviation Business Center (3.q)
- Provide Lease Lot for Aviation Fuel Facility (3.r)
- Construction Transient Apron (3.s)
- Construct Taxiway K and Landside Access to Commercial Lease Lots (3.t)
- Extend Taxiway K and Construct Commercial/Large Aircraft Apron (3.u)
- Provide Lease Lot for Fire and Rescue Facility (3.w)
- Construct Helipad (3.x)
- Provide Lease Lot for Hotel (3.y)
- Construct Vehicle Access Gates (3.aa)

Alternative 3 consists of the following elements. Each element has a corresponding number that correlates to the proposed work areas, which are detailed in Figure 5-18.



LAND ACQUISITION (3.B)

In addition to the land acquisition described in association with Alternative 2, Alternative 3 proposes to acquire approximately 21.0 acres of land northeast of the existing airport property boundary that is currently owned by the Museum of Alaska Transportation and Industry. Expansion in this area will consist of the acquisition of two parcels owned by the Museum and will require relocation of the Museum and its exhibits. The parcels are shown in Figure 5-19 and are described in detail in Table 5-4.



Figure 5-19: Proposed Parcel Acquisitions – Northeast (3.b)

Table 5-4: Northeast Land Acquisition Descriptions

Parcel ID	Legal Description	Partial/Full Acquisition	Acreage to be Acquired
27	T 17N R 2W S 12 LOT D8	Full	10
28	T 17N R 2W S 12 LOT A14	Full	11
Total			21.0

Expansion in this area is required to accommodate rerouting Aviation Avenue around the northern boundary of the airport to intersect with the existing West Museum Drive/South Beacon Street intersection. This reroute will increase lease space on airport property, eliminate a stop sign on South Beacon Street and allow for more efficient routing of the Aviation Avenue extension to better serve airport users and the public.

Acquisition of this property also allows for future consideration of an intermodal connection between the airport and the Alaska Railroad. The existing museum property is located along the railroad ROW and could house a future rail stop for freight and passenger service if the demand develops.

The total land acquisition required under this alternative is approximately 228.8 acres.

DEVELOP LANDSIDE AND AIRSIDE ACCESS TO NORTHWEST PRIVATE HANGAR LEASE LOTS (3.G)

Construct approximately 2,200 linear feet of Taxiway C to the northwest of the current Taxiway C terminus with future Airport Way (existing Aviation Avenue) (Figure 5-20). The new section of Taxiway C will cross Airport Way and provide access to the proposed North GA Apron (3.h) and private hangar lease areas. The taxiway will divide approximately 650 feet north of Airport Way, with Taxiway C continuing north for approximately 1,500 feet. New Taxiway M, a 35-foot-wide taxiway, will branch off Taxiway C and continue to the northeast approximately 1,500 feet to provide airside access to additional new private hangar lease areas.

Construct two separate 24-foot-wide vehicle roads, with cul-de-sacs, south from West Museum Drive to provide landside access to the new private hangar lease area (Figure 5-20). One of the new roads will be approximately 750 feet long and will provide access to leases on the northwest edge of the lease area. The other road will be approximately 1,200 feet long and will provide access to the center of the lease area. Utilities will be extended along each road to support and service aviation-related buildings and businesses. New electronic vehicle access gates will be provided at the intersection of the new access roads and West Museum Drive. The gates will remain open during normal business hours. At night, the gate will close and allow for controlled key card access.

Taxiway and road development are expected to include approximately 230,000 cubic yards of excavation to remove portions of an existing hill to create flat surfaces that are suitable for taxiing aircraft and meet the FAA's requirements for apron, taxiway, and taxilane grades per AC 150/5300-13B *Airport Design*.

CONSTRUCT APRON G (3.H)

Construct approximately 294,000 square feet of additional GA Apron space located between the proposed Taxiway C expansion and Beacon Street, north of Airport Way (existing Aviation Avenue) (Figure 5-20). Proposed Apron G will include 44 new small aircraft tie-downs with electrical outlets.

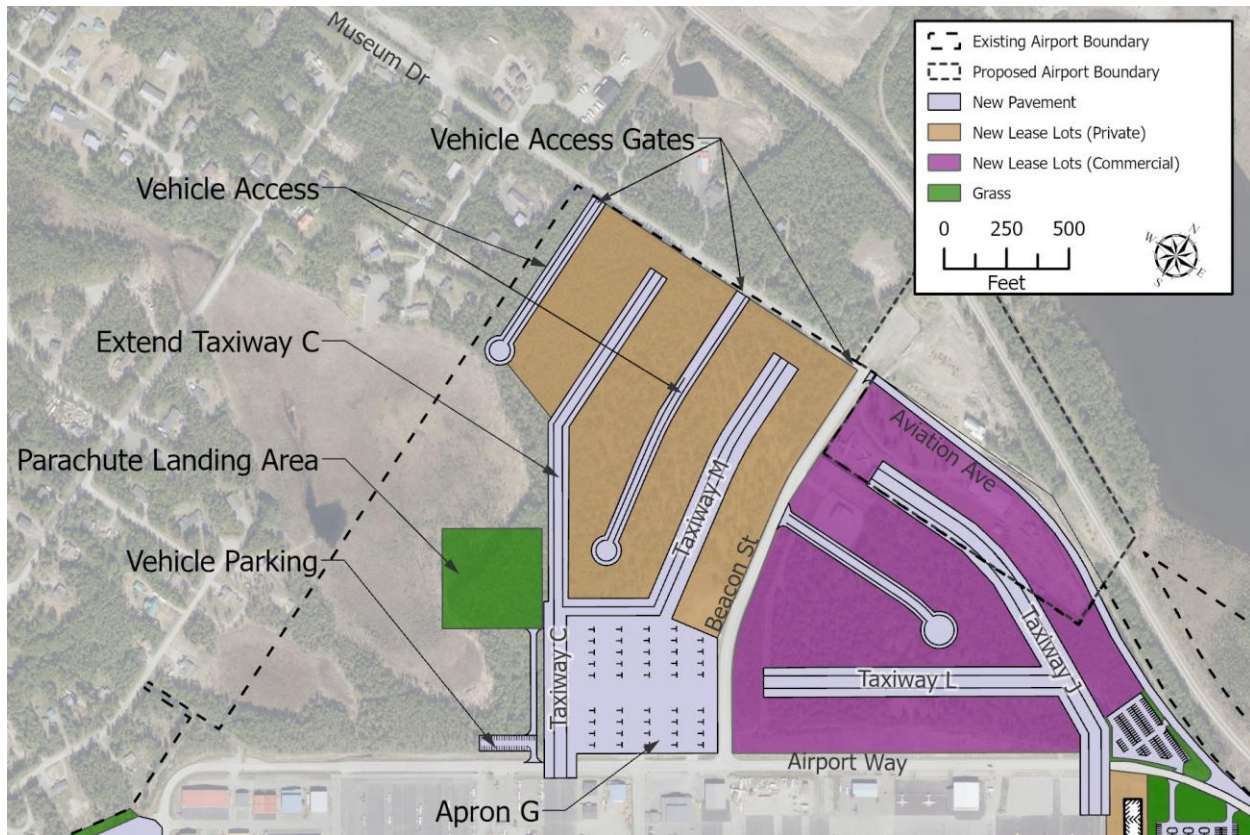


Figure 5-20: Apron G and Lease Lots Development (3g – 3.h, 3.ad)

EXTEND ACCESS ROAD (3.J)

Reroute Aviation Avenue around the northern perimeter of the existing airport property boundary and through the newly acquired Museum property (3.b) (Figure 5-21). Develop and construct 2,300 feet of new Aviation Avenue that borders the proposed commercial lease area to the south and ARRC ROW to the north. The new perimeter road will provide access to the proposed lease areas and improve vehicle circulation in and around the airport for vehicles traveling between West Museum Drive and Clapp Street. The new traffic pattern will allow vehicles to travel around the perimeter of the airport property, limit the number of stop signs, and reduce non-aviation-related traffic on the airport. The new road will terminate at a three-way stop at the existing intersection between West Museum Drive and Beacon Street.

Rename the portion of existing Aviation Avenue that provides interior access to the airport and intersects with the southern terminus of South Beacon Street as Airport Way.

DEVELOP AIRSIDE AND LANDSIDE ACCESS TO NORTHEAST COMMERCIAL LEASES LOTS (3.K)

Construct approximately 2,900 linear feet of new 50-foot-wide taxiways to provide access to the new commercial lease lot area located between Beacon Street and Airport Way (Figure 5-21). New Taxiway J will extend from the terminus of the existing taxiway on the east end of existing Apron E and will cross existing Airport Way to access the new lease lots. The taxiway will divide approximately 550 feet north of Airport Way. Taxiway J will continue northwest for approximately 1,150 feet to provide airside access to new commercial

lease areas in the newly acquired Museum property. Another 50-foot-wide taxiway, Taxiway L, will continue 1,200 feet to the south to provide airside access to additional commercial lease lots located along Beacon Street and Airport Way.

Landside access to the new lease lots on the perimeter of the lease area will be provided by Airport Way, Beacon Street, and the new Aviation Avenue extension (3.j). Construct one additional 24-foot-wide and 800-foot-long vehicle access road, with a cul-de-sac, east from Beacon Street and directly south of the existing snow removal equipment building, to provide landside access to the center of the new commercial lease area. Utilities will be extended along the road to support and service aviation-related buildings and businesses. New electronic vehicle access gates will be provided at the intersection of the new access roads and Beacon Street. The gates will remain open during normal business hours. At night, the gate will close and allow for controlled key card access.

Taxiway and road development are expected to include approximately 405,000 cubic yards of excavation to remove portions of an existing hill in order to create flat surfaces that are suitable for taxiing aircraft and meet the FAA's requirements for apron and taxiway grades per AC 150/5300-13B *Airport Design*.

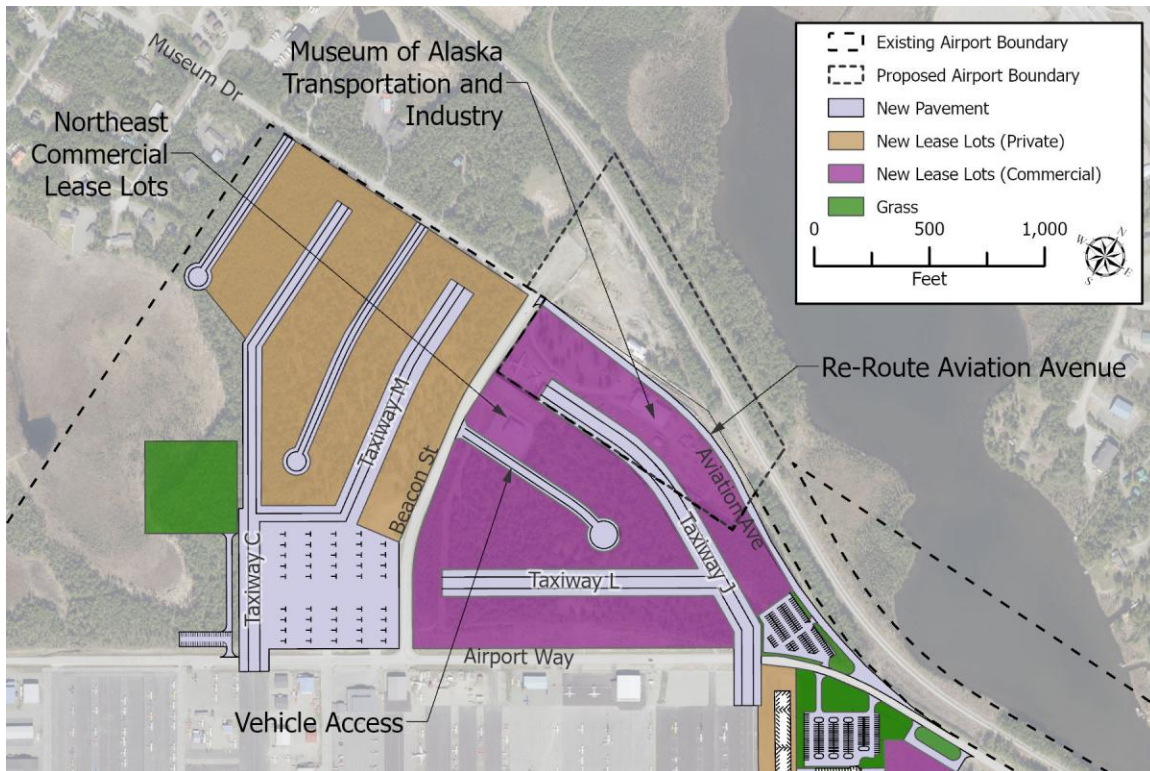


Figure 5-21: Access Road and Northeast Commercial Lease Lots (3.j – 3.k)

CONSTRUCT LONG-TERM VEHICLE PARKING AREA (3.0)

Develop a new 56,000-square-foot parking area to accommodate long- and short-term vehicle parking on the northeast end of the airport (Figure 5-22). The new parking area will be located to the north of the new Aviation Business Center, between Airport Way and the new Aviation Avenue extension (3.j). The new parking area will include approximately 107 perpendicular parking spaces. It will be available for short-term vehicle parking for

tie-down holders located on Apron E. A fenced area will be made available to rent for long-term vehicle storage for airport users.

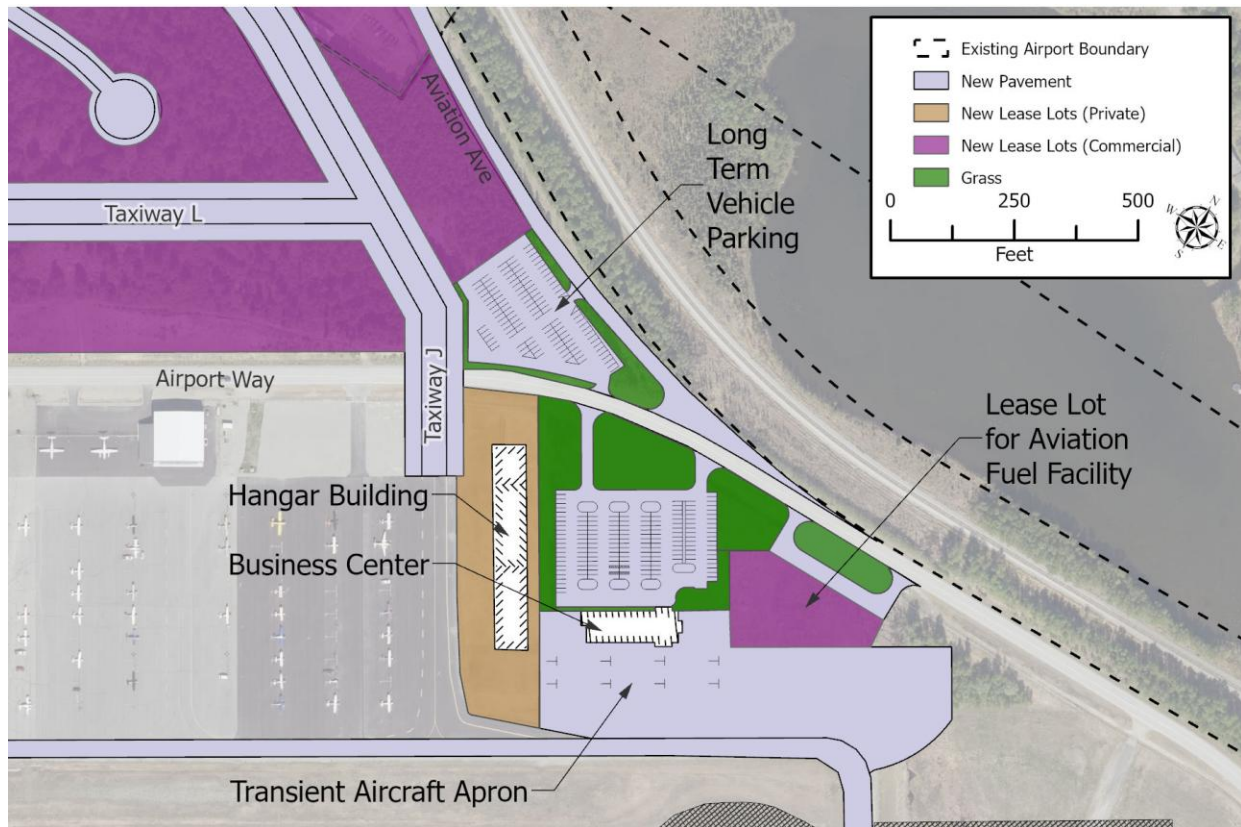


Figure 5-22: Aviation Business Center and Surrounding Development (3.o)

CONSTRUCT LANDSIDE AND AIRSIDE ACCESS TO SOUTHERN COMMERCIAL LEASE LOTS (3.V)

Develop and construct approximately 2,000 linear feet of 24-foot-wide access road (Figure 5-23) to provide landside access to commercial lease areas on newly acquired property to the southeast of the airport (3.b, Figure 5-19). The access road will consist of approximately 1,700 linear feet of road connecting the proposed large aircraft apron access road to Clapp Street, and an additional 300 feet of road will branch from the midpoint of the proposed access road towards the northeast to provide land access to additional lease areas. Underground utilities—including water, electric, communication, and natural gas—will be extended along the new access road for service to the lease lots.

Construct approximately 2,500 linear feet of new 50-foot-wide Taxiway R to provide access to the new commercial lease lot area located between the Large Aircraft/Commercial Apron and Clapp Street (Figure 5-23). The new taxiway will extend from its intersection with Runway 04/22, parallel to the Large Aircraft/Commercial Apron, and continue southeast toward Clapp Street.

Taxiway and road development are expected to include approximately 197,000 cubic yards of imported gravel to fill low areas and create flat surfaces that are suitable for taxiing aircraft and meet the FAA's requirements for apron, taxiway, and taxilane grades per AC 150/5300-13B *Airport Design*.

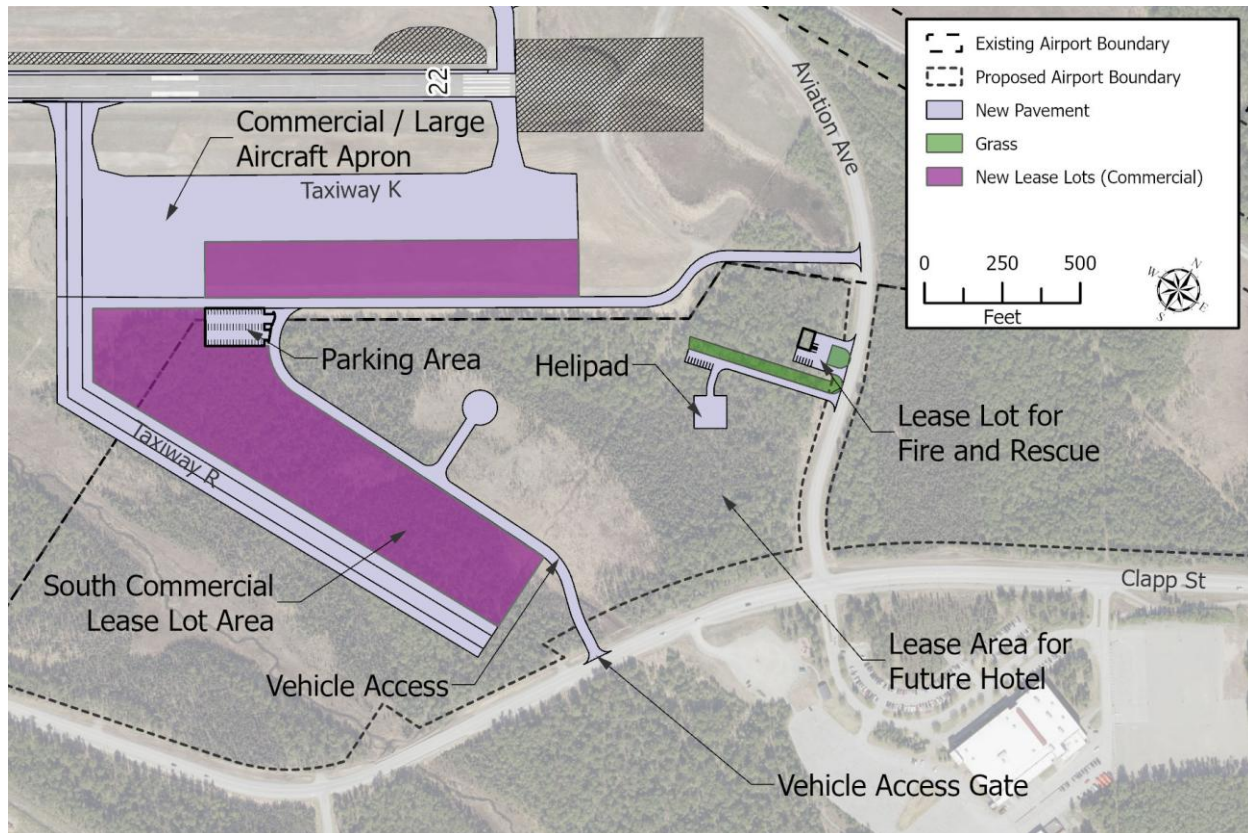


Figure 5-23: Southern Commercial Development (3.v – 3.ab)

CONSTRUCT PERIMETER FENCE IMPROVEMENTS (3.Z)

Construct approximately 31,600 linear feet of fence along the perimeter of the proposed airport that does not currently have fencing. The new fence would improve security at the airport and reduce possible incursions into airport property by wildlife and the public.

CONSTRUCT COMMERCIAL/LARGE AIRCRAFT APRON VEHICLE PARKING AREA (3.AB)

Develop a 24,000-square-foot vehicle parking area on the new large apron access road southeast of the Large Aircraft/Commercial Apron (Figure 5-23). The parking area will provide a designated area for Large Aircraft/Commercial Apron tie-down holders to park their vehicles and reduce the potential for conflict between aircraft and vehicles on the aprons.

CONSTRUCT AIRCRAFT RUN-UP AREAS (3.AC)

Construct 75-foot-wide run-up areas at both the east and west ends of Taxiway B, at the interlink taxiway with the ultimate Runway 03/21 threshold locations (Figure 5-24). Currently, glider staging and aircraft run-ups on Taxiway B can prevent landing aircraft from exiting the runway at the thresholds. A staging/run-up area is needed at these locations to allow gliders and aircraft to prepare for take-off without blocking the connecting taxiways.

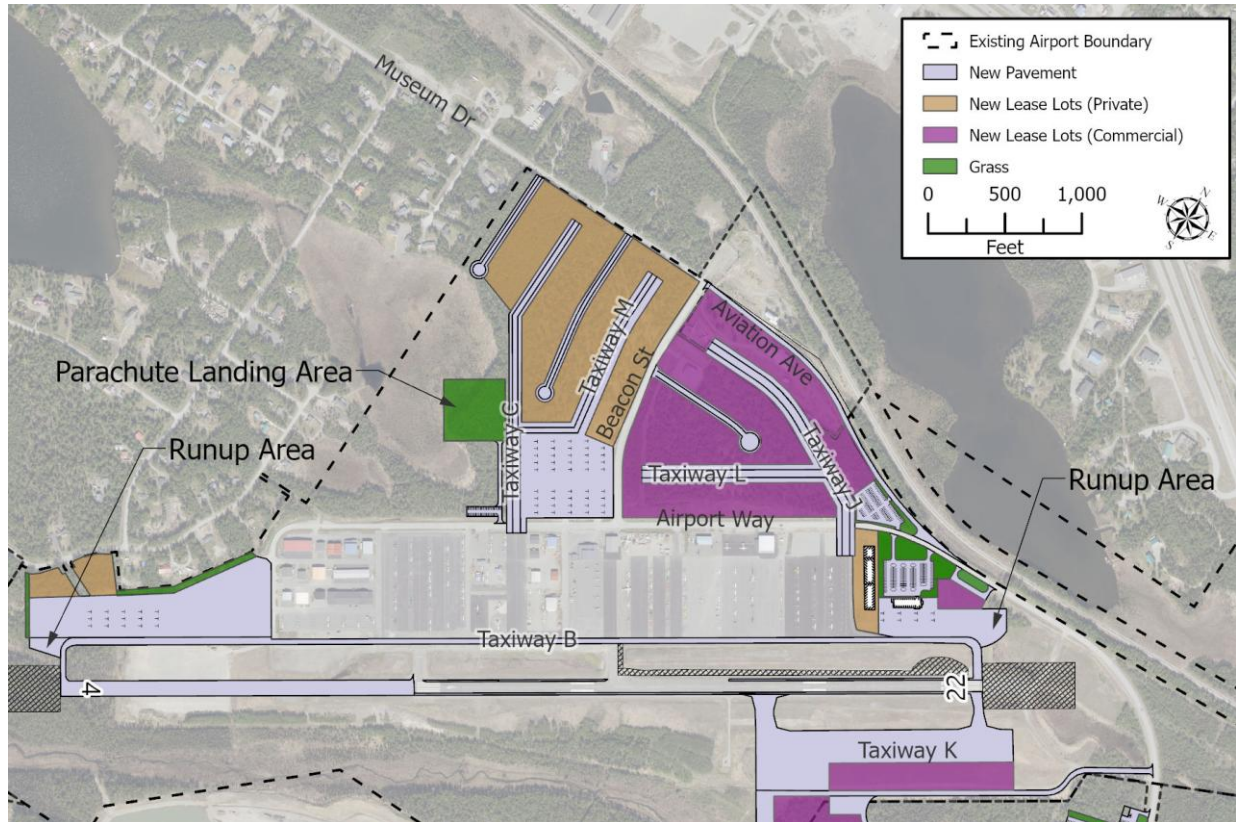


Figure 5-24: Aircraft Staging/Run-up Areas (3.ac)

CONSTRUCT PARACHUTE LANDING AREA AND ACCESS ROAD (3.AD)

Clear a 90,000-square-foot area (300 feet by 300 feet) designated for parachute landings west of the newly constructed portions of Taxiway C and the North GA Apron, north of the new vehicle parking area along new Airport Way (Figure 5-24). Provide a 50-foot buffer around the landing area perimeter that is free of obstructions. Delineate the landing area with cones, flags, streamers, landscaping, and/or mowing.

This landing area meets the size requirements of the United States Parachute Association for tandem jumps, but is not large enough to meet the requirements for training operations. If larger training areas are needed, skydiving operators should perform those jumps off airport property.

5.1.4 ALTERNATIVES SUMMARY

The attributes for the “no build” and each of the action alternatives are summarized in Table 5-5.

Table 5-5: Summary of Alternatives

	Alternative 1 No Build	Alternative 2 Expand Primary RW 04/22, Aprons, and Lease Lots	Alternative 3 Expand Primary Runway 04/22, Aprons, and Maximize Lease Lots
<i>Basic Description</i>	No changes to airport layout	Expand runway and Taxiway B; expand/develop aprons, taxilanes, and access roads for lease lot areas	Expand runway and Taxiway B; expand/develop aprons, taxilanes and access roads; acquire Museum property to maximize lease lots and improve vehicular traffic, and provide airside access to Southern Commercial Lease Lots
Runway 04/22 Improvements	None	• Extend Runway to 6,000 feet long and 100 feet wide and replace edge and threshold lighting and navigation aids	Same as Alternative 2
Gravel Runway 04S/22S Improvements	None	• Shift runway 15 feet north, resurface runway, and replace edge and threshold markers	Same as Alternative 2
Taxiway B Improvements	None	• Expand Taxiway B approximately 1,950 feet to the southwest, parallel to Runway 04/22, widen to 50 feet, and connect to the new lengthened Runway 04 end	Same as Alternative 2
Land Acquisition (approximate)	None	206.9 acres	228.8 acres
Avigation Easement Acquisition	0.22 acres	13.35 acres	Same as Alternative 2
Apron F	No	• Construct two aprons adjacent to Apron A, one approximately 267,000 square feet and the other approximately 257,300 square feet for a total of approximately 524,300 square feet of apron expansion including 67 new small tie-downs with electric outlets	Same as Alternative 2
Apron G	No	• Construct two aprons adjacent to Taxiway C extension, one 220,300 square feet and the other 165,300 square feet for a total of 385,600 square feet of apron expansion including 63 new small tie-downs with electric outlets	Construct one 294,000-square-foot apron including 44 new tie-downs with electric outlets
Commercial/Large Aircraft Apron	No	• Construct 127,000-square foot Commercial/Large Aircraft Apron to accommodate 4 future large aircraft tie-downs	Same as Alternative 2
Hangar Lease Lot, Aviation Business Center, and Transient Apron	No	• Hangar Lease Lot: Develop 107,500-square-foot paved area for construction of future hangar building • Aviation Business Center: Construct 13,300-square-foot Aviation Business Center and adjacent parking area • Transient Apron: 122,000-square feet of new apron including 8 new small tie-downs with electric outlets	Same as Alternative 2
Lease Space for New Fuel Facility	No	Develop 44,000-square foot lease lot with landside access adjacent to the aviation business center for aviation fueling	Same as Alternative 2
New Taxiway K and Large Aircraft Apron	No	Construct new Taxiway H and K, and 127,000 square feet of new apron for large aircraft	Same as Alternative 2
New Helipad	No	Construct 105-foot by 105-foot helipad and 500 feet of access road and parking area with 9 vehicle parking stalls	Same as Alternative 2
New Taxiways and Taxilanes	No	• Extend Taxiway C and construct new Taxiway M (3,700 feet) to access provide airside access to northwest private hangar and commercial lease lots • Construct new Taxiway J and L, totaling 1,700 feet in length, for airside access to new northeast commercial lease lots • Construct 230-foot-long connecting Taxiway H • Construct 1,700-foot-long Taxiway K • Construct 170-foot-long Ski Taxiway	• Extend Taxiway C and construct Taxiway M (3,700 feet) for airside access to northwest private hangar lease lots • Construct Taxiways J and L (2,900 feet in length) for airside access to new northeast commercial lease lots • Construct 230-foot-long connecting Taxiway H • Construct 1,700-foot-long Taxiway K • Construct 170-foot-long Ski Taxiway • Construct 2,500-foot-long Taxiway R to provide airside access to new southern commercial lease lots
New Private Hangar Lease Lots	None	18.6 acres	30.9 acres
New Commercial Hangar Lease Lots	None	40.9 acres	44.3 acres
Airport Access Road Improvements	None	• Construct 2 new roads to access northwest private hangar and commercial lease lot area (1,900 feet in length) • Construct 2,200-foot extension for Aviation Avenue to South Beacon Street • Construction 2,250-foot-long access road to access Commercial/Large Aircraft Apron • Construct 2,700 feet of access roads to provide landside access to southern commercial lease lots	• Construct 2 new roads to access northwest private hangar and commercial lease lots, totaling 1,900 feet • Construct 800-foot-long access road to access northeast commercial lease lot area • Construct 2,300-foot extension for Aviation Avenue to intersect Beacon Street • Construct 2,250-foot-long access road to access Commercial/Large Aircraft Apron • Construct 2,000 feet of access roads to provide landside access to southern commercial lease lots • Construct 450 feet of access road to provide access to parachute landing area
Airport User Vehicle Parking Improvements	None	• Northwest Public Lot: 25,000 square feet, 39 new parking stalls • Long-Term Lot: 64,000 square feet, 123 new parking stalls • New Aviation Business Center: 70,500 square feet, 160 new parking stalls • Total 169,500 square feet and 322 new parking stalls	• Northwest Public Lot: 25,000 square feet, 36 new parking stalls (3 of initial 39 removed upon construction of parachute access road) • Long-Term Lot: 56,000 square feet, 107 new parking stalls • New Aviation Business Center: 70,500 square feet, 160 new parking stalls • New Commercial/Large Aircraft Apron: 24,000 Square feet, 57 new parking stalls • Total 175,500 square feet and 360 new parking stalls
Fencing Improvements	None	Relocate 1,300 feet adjacent to Aviation Avenue and construct approximately 31,900 feet of new perimeter fence around acquired property and lease lot expansion areas	Relocate 1,300 feet adjacent to Aviation Avenue and construct 31,600 feet of new perimeter fence around acquired property and lease lot expansion areas
Gate Improvements	None	Install 6 new vehicle security gates and 2 new taxiway barrier gates	Same as Alternative 2
Impacts on NAVAIDs	None	New PAPIs for RW 03/21 and supplemental wind cone; Augment Weather Station for Terminal Area Forecast Information	Same as Alternative 2

5.2 OTHER ALTERNATIVES CONSIDERED

5.2.1 AIRCRAFT TRAFFIC CONTROL TOWER

The feasibility of implementing an FAA ATCT at Wasilla Airport was investigated due to a small number of public comments received during the master planning process that stated an ATCT was warranted. The FAA assesses an airport's eligibility for ATCT based on whether the economic benefits exceed the anticipated costs. Airport-specific activity forecasts are used to estimate the potential benefits of a tower, including the prevention of aircraft collisions, other accidents, and reduced flying time. These benefits, measured in present value, are then compared to the present value of tower costs over a 15-year period, using the cost-benefit methodology outlined in FAA-APO-90-7 *Establishment and Discontinuance Criteria for Airport Traffic Control Towers*.

To evaluate whether Wasilla Airport qualifies for a tower, now or within the next 20 years, cost-benefit ratios were calculated for both existing and forecasted operations, based on the FAA-approved 2023 Wasilla AMP Aviation Activity Forecast. Calculations were performed for the base year (2021) and the furthest projection (2040). A description of the data inputs used to calculate the cost benefit ratio is as follows:

- Cost:
 - Standardized national average costs for tower establishment and operations from FAA-APO-90-7.
- Benefits:
 - Operational data from the Wasilla AMP Aviation Activity Forecast
 - Airport-specific data on average aircraft value and number of passengers per aircraft.
 - National average safety data from FAA-APO-90-7, which includes differences in accident rates between towered and non-towered airports, injury severity fractions, and economic values for fatalities, injuries, and time savings.

For an airport to meet tower establishment criteria, the present value of benefits must equal or exceed the present value of tower costs, producing a cost-benefit ratio greater than or equal to 1.0. Under the analysis performed, the cost-benefit ratios based on existing and forecasted operations at Wasilla Airport were 0.23 and 0.30, respectively. Therefore, the cost-benefit ratio for the existing and forecasted condition at the Wasilla Airport is well below 1.0, and the airport is unlikely to qualify for installation of an FAA ATCT.

5.2.2 PRECISION INSTRUMENT APPROACHES WITH LESS THAN ¾ VISIBILITY MINIMUMS

Implementing precision approaches at Wasilla Airport was considered to reduce the visibility minimums of approach procedures and thereby improve the reliability of air service. The FAA's U.S. Terminal Procedures Publication includes non-precision instrument flight procedures for approaches to both ends of Wasilla's main runway. The existing procedures have GPS vertical guidance and visibility minimums that are greater than a ¾-statute mile. Approaches with less than ¾-mile minimums would require significant airport facility improvements that are typically supported by FAA-owned ground-based precision instruments and approach lighting systems. Implementation of the low visibility precision approaches also requires expansion of the airport's airspace and runway protection surfaces.

FAA AC 150/5300-13B *Airport Design* stipulates that the following changes to the existing design parameters and imaginary surfaces would be required to accommodate precision approaches with visibility minimums less than $\frac{3}{4}$ -mile for A/B-III aircraft.

Table 5-6: Approach Design Requirements

	Existing NPI Approaches with Greater than $\frac{3}{4}$ -mile Visibility Minimums	Vertically Guided Precision Approaches with less than $\frac{3}{4}$ -mile Visibility Minimums
Runway Safety Area Length Beyond Runway End	600 ft	800 ft
RSA Width	300 ft	400 ft
Object Free Area Length	600 ft	800 ft
Object Free Area Width	800 ft	800 ft
Object Free Zone Length Beyond Each Runway End	200 ft	800 ft
RPZ Length	1,700 ft	2,500 ft
RPZ Inner Width	1,000 ft	1,000 ft
RPZ Outer Width	1,510 ft	1,750 ft
Hold Position Separation from Runway Centerline	125 ft	175 ft
Parallel Taxiway Separation from Runway Centerline	300 ft	350 ft
Part 77 Approach Surface: Outer Width	4,000 ft	16,000 ft
Part 77 Approach Surface: Length	10,000 ft	50,000 ft
Part 77 Approach Slope	34:1	50:1 for 10,000 ft 40:1 Beyond 10,000 ft
Glide Slope Critical Area	N/A	400 ft x 800 ft
Approach Lighting System	N/A	A minimum of 2,400-foot-long lead-in Approach lighting

A precision approach installed at Wasilla would typically be initiated and developed by the FAA and supported by an FAA-owned and maintained localizer, glide antennae, and an approach lighting system. During a phone conversation on October 2, 2024, with the Lead Planner of the FAA Regional Office, it was stated that the FAA would not likely participate in the development of precision approach infrastructure and procedures for Wasilla until there was a demonstrated need based on passenger service demand.

As shown in Table 5-6, the implementation of the precision approach at Wasilla would greatly increase the size of the RSA, RPZ, Part 77 approach surface, the required hold position separation from the runway centerline, and the required parallel taxiway separation distance from the runway centerline. These changes would greatly impact the existing airport environment and require relocation/abandonment of taxiways, reduce available apron space, and necessitate the acquisition of additional residential properties located within the expanded RPZ. Existing trees and structures are anticipated to penetrate the new 50:1 approach slopes, and expanded avigation easements would be required to maintain the approaches clear of obstructions. The expanded approach surface would also intersect with designated airspace for Wolf Lake and other smaller airstrips in the MSB, interfering with air traffic utilizing the numerous public and private runways in the vicinity.

Due to the required changes to the airport environment, the small likelihood that the FAA would fund installation and maintenance of the required equipment, and the anticipated impact to the traditional uses of

the surrounding airspace, installation of a precision instrument approach to reduce visibility minimums at the Wasilla Airport is not recommended.

5.3 ENVIRONMENTAL CONSIDERATIONS

As part of this planning process, an environmental overview has been prepared, which inventories environmental resources in the vicinity of Wasilla Airport and compiles regulatory considerations that may apply to future airport projects (Appendix E). Development proposed as a result of this AMP will be formally evaluated for environmental impacts in accordance with the National Environmental Policy Act (NEPA) once projects are selected for AIP funding. Environmental information compiled in the AMP will inform this planning-level alternative impact analysis to assess the feasibility of each alternative, and will provide relevant information for future project-specific NEPA analyses.

Alternative 1 is a no build alternative and does not introduce any new environmental impacts; therefore, this section focuses on Alternatives 2 and 3. The following list highlights key environmental considerations identified through stakeholder comments and site visits. While not exhaustive, it highlights potential environmental concerns and data needs that will impact the project development process and NEPA analysis.

5.3.1 LAND USE COMPATIBILITY AND NOISE

The Wasilla Airport is located adjacent to noise-sensitive areas, including residences. Public involvement during development of the AMP has indicated that noise is a concern for neighboring property owners. Proposed development shown in Alternative 2 and Alternative 3, including the runway extension and increases in private and commercial lease lot and tie-down availability, could increase the frequency of operations and the use of larger aircraft at the airport. It is anticipated that airport expansion projects, such as the runway extension, will necessitate a noise analysis to identify potential noise impacts caused by changes in aircraft fleet mix and frequency of activity.

Both Alternatives 2 and 3 involve developing new lease lot and tie-down areas and propose a 6,000-foot runway, all of which are essential for increasing airport capacity and accommodating larger aircraft. Changes to the noise environment surrounding the airport are anticipated in association with Alternatives 2 and 3 but are anticipated to be similar. A noise analysis will be completed in association with the future development of a NEPA document.

5.3.2 WETLANDS

A wetland delineation and preliminary jurisdictional determination were completed at the Wasilla Airport in 2025 to support the runway extension project. Jurisdictional status was evaluated under current legal framework, including the pre-2015 waters of the U.S. regulatory regime and the U.S. Supreme Court's May 25, 2023, decision in *Sackett v. Environmental Protection Agency*. The study area was limited to locations directly affected by the runway project; the rest of the airport property, including areas proposed for other development projects, has not been field delineated. For this preliminary analysis, wetlands extending outside the previous study area were assessed using available mapping from the National Wetlands Inventory (USFWS, 2023) and Cook Inlet Wetlands (Gratz, 2014), and wetlands not yet evaluated were

assumed to be jurisdictional. A field delineation and jurisdictional determination will be required for unsurveyed areas as projects progress. For wetlands where jurisdiction has already been evaluated, status should be re-evaluated during project planning to ensure impacts are assessed under the most current federal regulations.

Both Alternative 2 and Alternative 3 would require filling wetlands that may qualify as Waters of the U.S. and fall under the jurisdiction of the U.S. Army Corps of Engineers. Jurisdictional wetland impacts will require a Clean Water Act Section 404 Permit.

- Alternative 2: Development in wetlands that may be jurisdictional (have not yet been evaluated) includes an access road in the southwestern parcels and a sliver of grass near the new private lease lots on the north side of the airport (Figure 5-25), resulting in approximately 0.6 acres of wetland impact.
- Alternative 3: Development in wetlands that may be jurisdictional includes an access road and a new commercial hangar area in the southwestern parcels, and a parachute landing area, resulting in approximately 5.3 acres of jurisdictional wetland impact (Figure 5-26).

In addition, both Alternatives 2 and 3 would impact non-jurisdictional wetlands. Although non-jurisdictional wetlands are not federally regulated under the Clean Water Act, they must still be considered during the NEPA analysis for airport development projects.

- Alternatives 2 and 3 would involve the same extent of development in non-jurisdictional wetlands. Development related to the Aviation Business Center, the runway extension, and new tie-down areas would all impact non-jurisdictional wetlands, cumulatively impacting approximately 8.9 acres (Figure 5-25 and Figure 5-26).

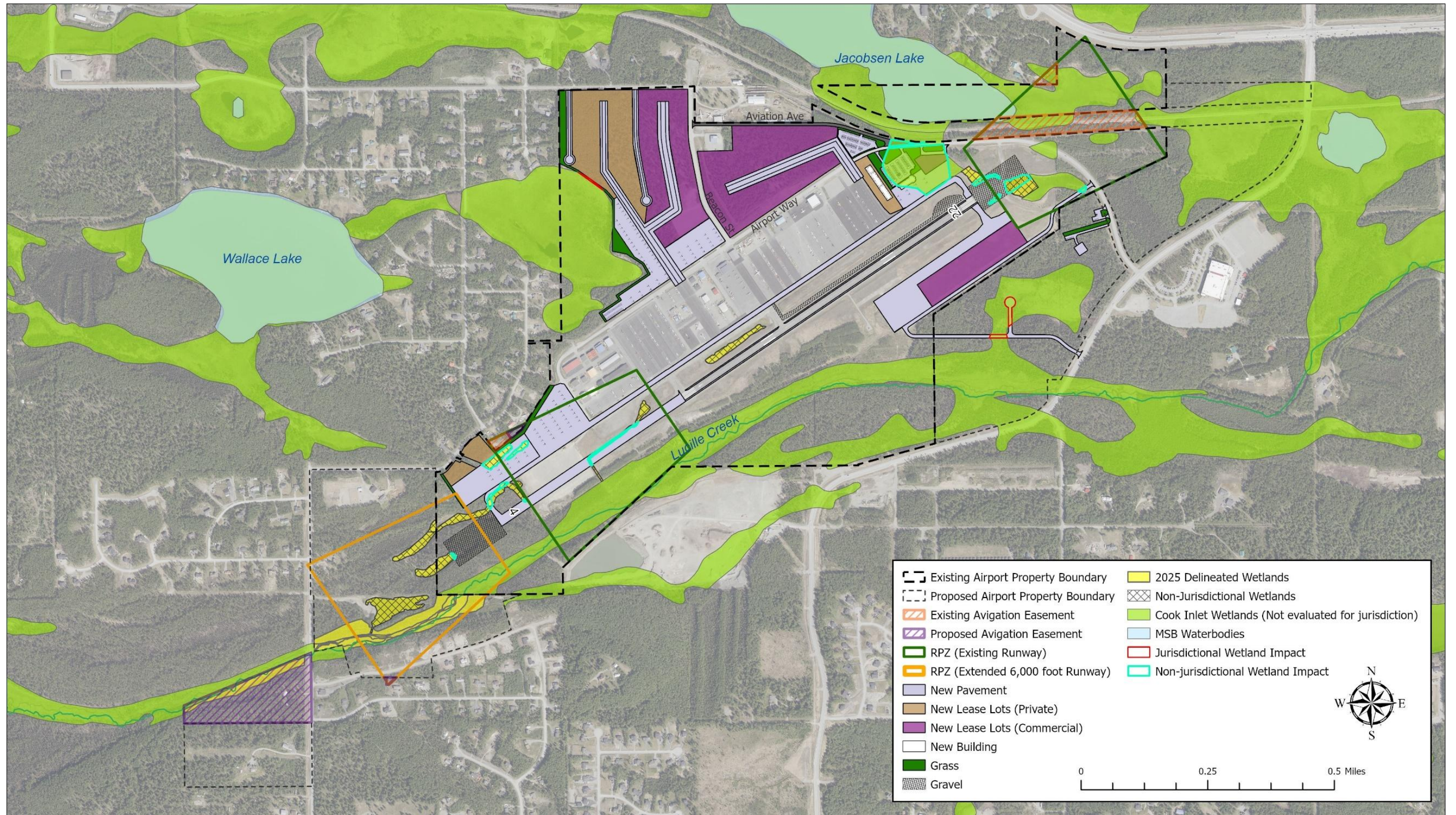


Figure 5-25: Potential Wetland Impacts (Alternative 2)

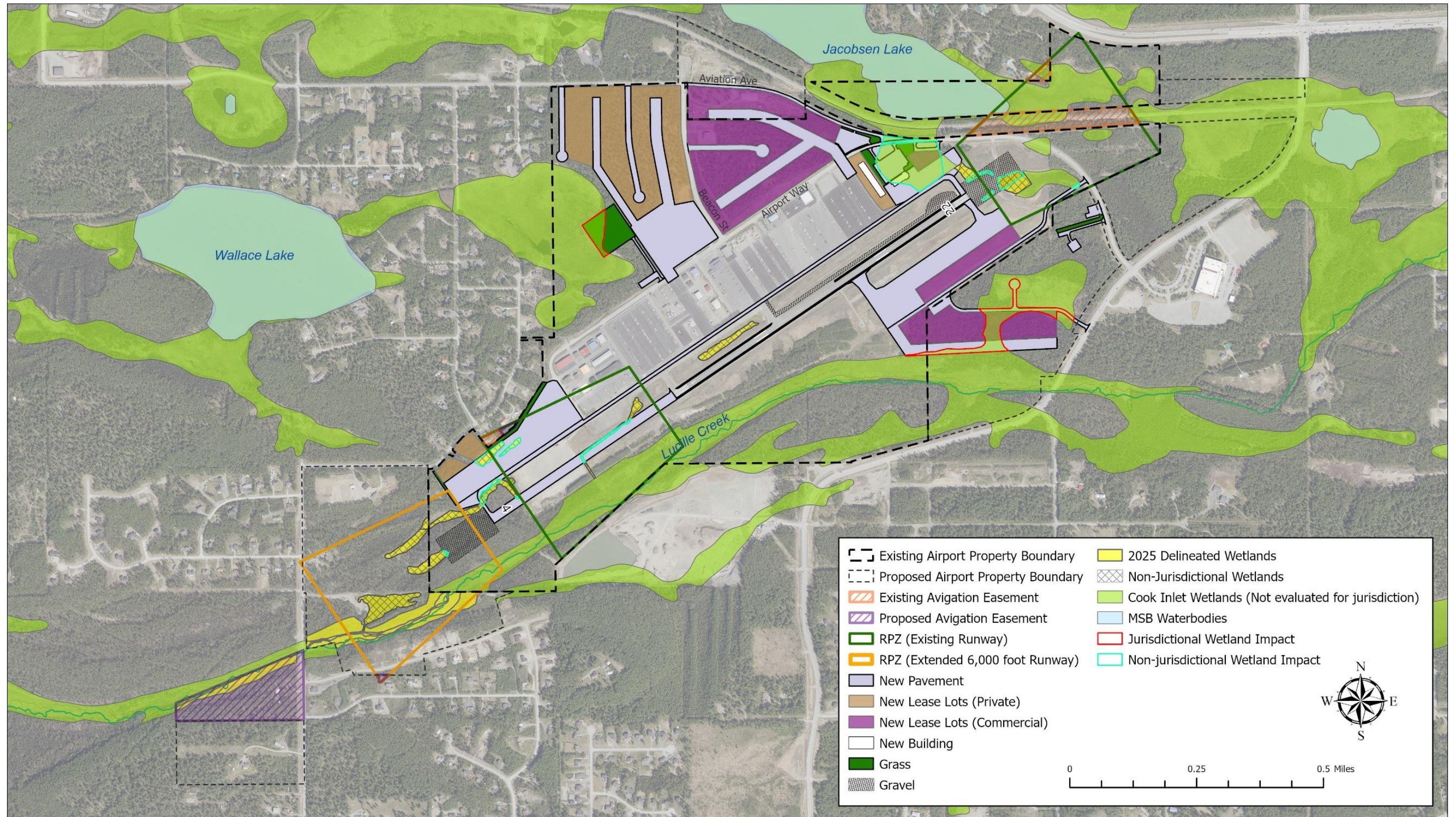


Figure 5-26: Potential Wetland Impacts (Alternative 3)

5.3.3 HISTORIC PROPERTIES

Although there are some differences in the ground disturbance footprints between Alternatives 2 and 3, the amount of ground disturbance and the degree of aesthetic impacts posed are similar, and the two alternatives have similar potential to cause effects to historic properties. Cultural resource identification studies will be required under the National Historic Preservation Act if projects advance into the environmental review stage, to determine if proposed development would impact historic properties.

5.3.4 LAND USE

Both Alternatives 2 and 3 propose acquiring private properties for new airport development and the RPZ to ensure compatibility of surrounding land uses with the runway extension. This may impact existing land uses in the surrounding area.

Alternative 3 would also require the acquisition of land currently occupied by the Museum of Transportation and Industry. The museum is a private nonprofit organization, and public engagement has highlighted it as a valuable asset to the community. If Alternative 3 progresses, additional planning would be needed to address the relocation of the museum.

5.0 ALTERNATIVES AND RECOMMENDATIONS

Table 5-7: Environmental Considerations Matrix

	Alternative 1	Alternative 2	Alternative 3
Noise	No Impact	Some of the development projects proposed under Alternative 2, including the runway extension, have the potential to introduce noise impacts. A noise analysis will be required.	Same as Alternative 2
Wetlands	No Impact	According to available wetland mapping, projects in Alternative 2 would cumulatively impact approximately 0.6 acres of jurisdictional wetland and 8.9 acres of non- jurisdictional wetland.	According to available wetland mapping, projects in Alternative 3 would cumulatively impact approximately 4.0 acres of jurisdictional wetland and 10.2 acres of non-jurisdictional wetland. Additional development in the southern commercial hangar area would result in more jurisdictional wetland impacts compared to Alternative 2.
Historic Properties	No Impact	Will need additional studies to evaluate the presence of historic and cultural resources.	Same as Alternative 2
Land Use	No Impact	Will require land acquisition of private parcels for new airport development and to accommodate the extended runway's RPZ.	In addition to land acquisition of private parcels for new airport development and to accommodate the extended runway's RPZ, will require the acquisition of land currently occupied by the Museum of Transportation and Industry.

5.4 ALTERNATIVE EVALUATION

Alternatives 1 through 3 were developed to address facility deficiencies and airport needs as identified by airport sponsors, maintenance staff, stakeholders, and other airport users. Each alternative was compared and evaluated against established criteria, including environmental impacts, construction costs, maintenance costs, airspace obstructions, land uses within the RPZs, meeting demand for additional lease lots, safety, and revenue generation.

5.4.1 ALTERNATIVE 1 IMPACT ANALYSIS

Alternative 1 is the “no build” alternative. Existing infrastructure will be maintained in its current layout, and no new improvements will be made to remove non-standard conditions or provide additional apron or lease space to meet the current demand. Acquisition of an additional aviation easement is recommended in a 0.22-acre area of the existing Runway 04 RPZ that extends beyond the airport boundary.

CONSTRUCTION COSTS

Not applicable. Alternative 1 does not include the construction of new improvements, and the proposed construction costs associated with this alternative are zero. The acquisition of the new aviation easement is anticipated to cost approximately \$152,000.

MAINTENANCE COSTS

Continued maintenance of existing infrastructure will be required under this alternative. Maintenance costs are anticipated to remain at or near the level of historical maintenance costs summarized in Section 7.3.

REVENUE GENERATION

No new tie-down and lease areas are proposed under this alternative to increase airport revenue. Revenue is anticipated to remain at or near the level of historical revenues summarized in Section 7.3.

AIRSPACE OBSTRUCTIONS

Obstruction to existing airspace will remain as described in Section 2.0. The City should perform tree removal on airport property to remove obstructions identified in the Runway 04/22 approaches and transitional surface.

LAND USES WITHIN THE RUNWAY RPZS

Both of the existing Runway 04/22 RPZs extend beyond the airport’s property line. Approximately 1.0 acre of the RPZ for the approach to Runway 04 and 0.6 acres of the Runway 22 RPZ are located on privately owned residential and commercial property outside of the airport boundary. These lands are covered by existing aviation easements, with the exception of the 0.22-acre portion of the Runway 04 RPZ. Acquisition of an easement on this portion of the Runway 04 RPZ is recommended under this alternative.

Approximately 3.1 acres of Apron A and Taxiway B lie within the Runway 04 RPZ. Also, approximately 0.38 acres of Taxiway B and Apron B are located within the Runway 04S RPZ. The presence of aprons and taxiways is incompatible with the FAA RPZ land use requirements. However, the FAA has stated that since these land uses are existing, they do not require a modification to standards. Therefore, the existing land uses in the RPZ will remain under this alternative and no changes are proposed.

SAFETY ANALYSIS

This alternative does not accommodate growth or meet the needs of larger aircraft that are forecasted to utilize the airport. Additional runway length and width are needed to safely accommodate B-II and B-III aircraft. Additional taxiways and aprons are needed to accommodate the existing and forecasted GA apron and commercial apron demand. Continued and expanded operations by larger commercial aircraft on the existing taxiways and aprons will further combine small GA aircraft with larger commercial aircraft. The mixed use presents conflict and safety concerns for both users. Separation of large commercial aircraft from small GA aircraft on aprons and taxiways is recommended to improve safety and operational efficiency.

MEETING DEMAND FOR ADDITIONAL LEASE LOTS

Alternative 1 does not provide additional apron or lease lot space to meet the existing demand.

5.4.2 ALTERNATIVE 2 IMPACT ANALYSIS

Alternative 2 consists of expanding the length and width of Runway 04/22, expanding apron and parking areas, and acquiring approximately 206.9 acres of new land for permanent control of ultimate RPZ and future apron and lease lot development, and other expansion-related improvements.

The following impacts are anticipated under this alternative:

CONSTRUCTION COSTS

Site development and construction costs developed for this alternative consider land acquisition; obstruction clearing; foundation and fill requirements; excavation of large quantities of material for taxiway, taxi lane, road, and lease lot development; utility improvements; and anticipated construction methods for each component project included in this alternative.

The total anticipated cost for the construction of Alternative 2 in 2025 dollars is anticipated to be approximately \$215,704,000.

MAINTENANCE COSTS

The cost of maintenance is anticipated to increase under this alternative to account for the maintenance of the new apron and taxiway areas. This includes routine mowing of new infield grass areas in the summer and snow removal of the newly paved surfaces in the winter.

This alternative will construct approximately 387,000 square yards of additional operational surfaces, including wider and longer paved runway and parallel taxiways, new GA and commercial aprons and taxiways, and lease lot access roads and taxilanes. The addition of these surfaces will increase the amount of City-maintained surfaces by approximately 154%. This will require additional maintenance staff and equipment to maintain access and ensure that the airport, particularly during the winter months, remains operational. The 2022 maintenance costs are included in the January 2024 Financial Assessment that was completed in support of the Wasilla AMP Update.

REVENUE GENERATION

Alternative 2 will provide approximately 18.6 acres of new private hangar lease area and 41.9 acres of new commercial lease lots with airside access. Additionally, land will be acquired to develop 100 acres of lease lots with landside access only, including land zoned to provide manufacturing, retail, hotel, and restaurant services. Construction will include approximately 20.6 acres of new GA Apron, adding a total of 130 small tie-down spaces, a new large/commercial aircraft apron with four new tie-downs, and 1 acre of new Transient Apron, adding eight tie-down spaces, and the construction of 1.8 acres of new apron space.

Based on the January 2024 Financial Assessment that was completed for the Wasilla AMP Update, approximately 44% of the airport's total annual revenue was generated from land use, and 56% was generated by airport-based tie-down and transient parking fees. Under Alternative 2, the accessible leasable area on the airport would be increased by approximately 363%, and the number of small GA tie-downs and large aircraft tie-downs available to customers would be increased by 68% and 67%, respectively. The addition of eight new transient spaces will bring the total amount of transient tie-downs available to 17 spaces, an 89% increase in transient parking.

AIRSPACE OBSTRUCTIONS

Under Alternative 2, Runway 04/22 will be extended along its alignment to the southwest and widened symmetrically along its alignment. The updated ALP (Appendix A) identifies the following obstructions to the Part 77 airspace, as documented during HDL's 2025 field surveys:

- Runway 04 Approach: The 34:1 approach surface to Runway 04 is penetrated by eight groups of trees. The first group penetrates the surface up to 16.5 feet and is located approximately 6,150 feet prior to the threshold and 1,400 feet southeast of the extended runway centerline. The second group penetrates the surface up to 43.5 feet and extends from approximately 2,700 to 4,490 feet prior to the runway threshold, from approximately 40 feet northwest to 1,200 feet southeast of the extended centerline. The third and fourth groups are located approximately 2,050 feet prior to the threshold, 580 feet southeast of the extended centerline and 1,600 feet prior to the threshold, 285 feet northwest of the extended centerline. They penetrate the surface up to 21 and 0.5 feet respectively.

The remaining groups penetrate the surface up to 10.5 feet and are located approximately 800 to 1,090 feet prior to the threshold, from approximately 640 feet northwest to 250 feet southeast of the runway centerline.

- Runway 22 Approach: There are five groups of trees penetrating the approach surface to Runway 22. The first three groups penetrate the surface up to 48 feet and are located from approximately 360 to 1,890 feet beyond the threshold and from 525 feet northwest to 515 feet southeast of the extended centerline. The fourth group penetrates the surface up to 17 feet and is located 2,230 feet beyond the threshold and 330 feet northwest of the runway centerline. The final group extends from 4,650 to 5,300 feet beyond the threshold and approximately 640 feet northwest to 240 feet southeast of the extended centerline. The final group penetrates the surface up to approximately 5 feet.

The locations of ultimate penetrations to the Runway 04 and 22 approaches are shown in Figure 5-27 and Figure 5-28, respectively.

5.0 ALTERNATIVES AND RECOMMENDATIONS

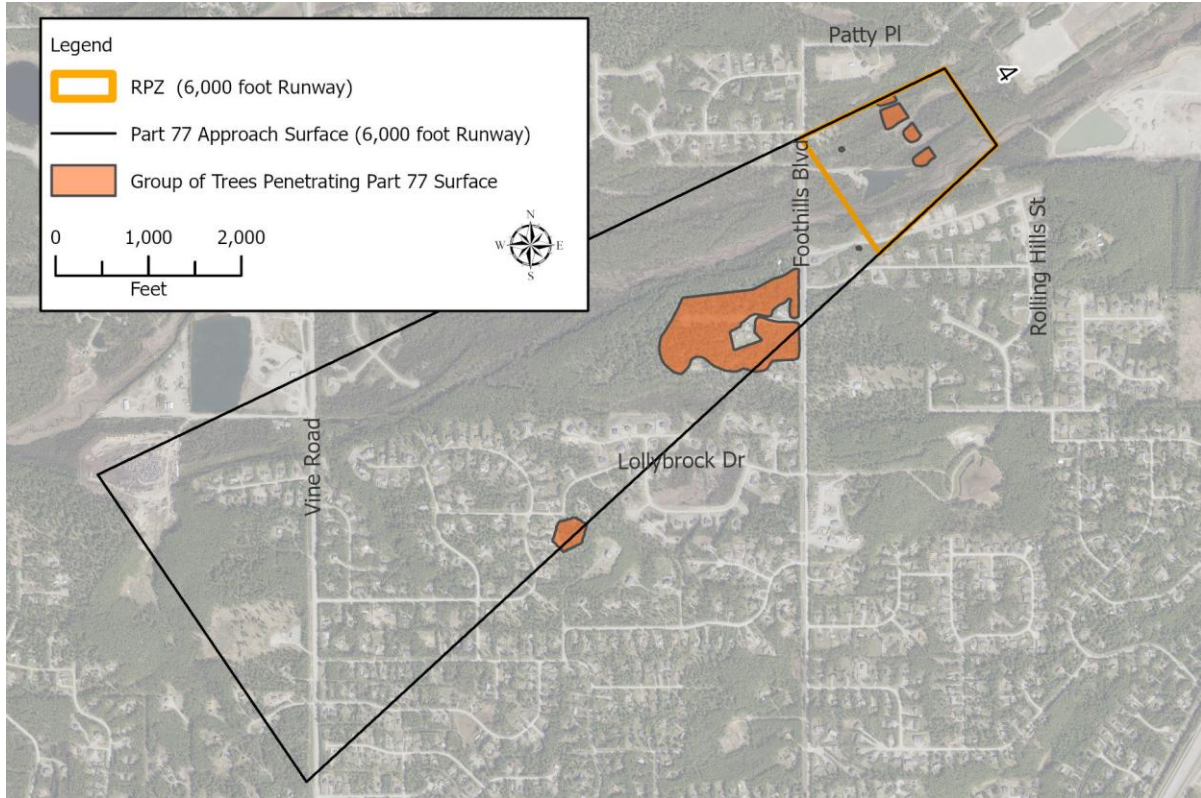


Figure 5-27: Runway 04 Ultimate Part 77 Surface Penetrations

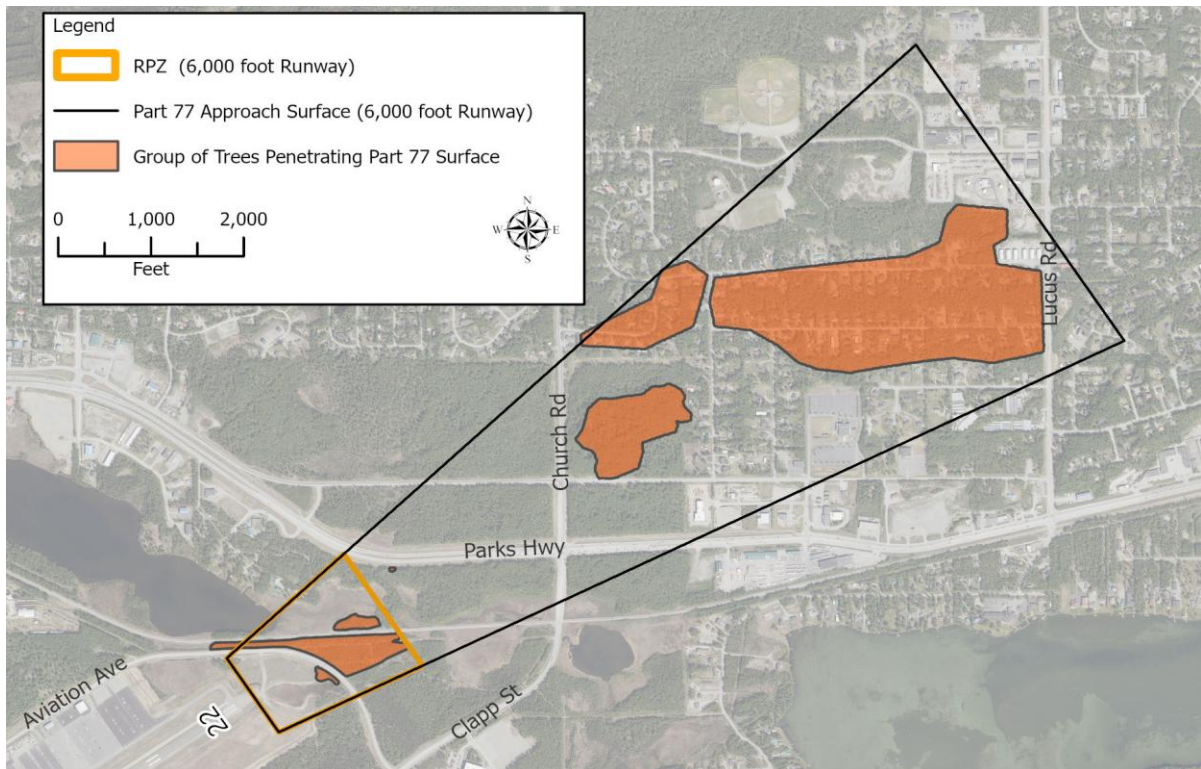


Figure 5-28: Runway 22 Ultimate Part 77 Surface Penetrations

- **Primary Surface:** The ALP denotes nine instances of penetrations to the Part 77 primary surface. Three groups of trees penetrate the primary surface by as much as 59 feet. The first group is located approximately 840 feet beyond the Runway 04 threshold and 350 feet northwest of the runway centerline. The second and third groups extend from approximately 430 to 4,360 beyond the Runway 04 threshold and approximately 100 to 500 feet southeast of the runway centerline. There are two utility poles penetrating the primary surface by up to 41 feet. Both utility poles are located within apron areas. One is located 2,295 feet prior to the Runway 22 threshold, and the other is located 1,085 feet prior to the Runway 22 threshold. Additional penetrations to the primary surface include a wind cone, rotating beacon, and weather station antenna located approximately 1,840, 1,690, and 1,670 feet prior to the Runway 22 threshold, respectively. These penetrations are located approximately 350, 450, and 500 feet southeast of the runway centerline and penetrate the surface by 25, 47, and 37 feet, respectively.
- The 7:1 transitional surface is penetrated in 10 locations, by four groups of trees, one utility pole with a luminaire, and five buildings. The first group of trees penetrates the surface up to 19.5 feet and extends from 1,660 to 370 feet prior to the Runway 04 threshold and from approximately 760 to 1,280 feet southeast of the extended centerline. The other three groups of trees penetrate the surface up to 46 feet and extend from approximately 1,170 feet prior to 1,300 feet beyond the Runway 04 threshold. They are located approximately 1,150 to 500 feet northwest of the runway centerline. The utility pole penetrates the surface by 48 feet and is located approximately 1,350 feet beyond the Runway 04 threshold, 500 feet northwest of the runway centerline. The five buildings penetrate the surface up to 33 feet and are located between 1,475 and 1,890 feet beyond the Runway 04 threshold, approximately 540 to 630 feet northwest of the runway centerline.
- The horizontal surface is penetrated by 10 groups of trees and two towers. The first group penetrates the surface up to 12.5 feet and extends approximately 6,950 to 5,250 feet prior to the Runway 04 threshold and 2,160 to 3,800 feet southeast of the extended runway centerline. The second group penetrates the surface up to 16.5 feet and extends from approximately 4,040 to 2,340 feet prior to the Runway 04 threshold and 2,060 to 3,270 feet southeast of the extended centerline. There are three groups of trees penetrating the horizontal surface, which are below the Runway 22 34:1 approach surface. The first is a continuation of the fifth group penetrating the Runway 22 34:1 approach surface and extends approximately 5,300 to 5,940 feet beyond the threshold on both sides of the extended centerline, penetrating the surface up to 5 feet. The other two groups penetrate the surface up to 63 feet and extend approximately 5,330 to 9,980 feet beyond the threshold and from approximately 1,370 feet northwest to 1,640 feet southeast of the extended centerline. The remaining five groups of trees penetrate the surface by up to 53 feet and are located from approximately 700 to 10,000 feet beyond the Runway 22 threshold and from 9,500 to 2,250 feet northwest of the extended centerline. The two towers are located 6,825 and 7,790 feet beyond the Runway 22 threshold, 270 feet northwest and 410 feet southeast of the extended centerline, and penetrate the surface by 57 and 71 feet, respectively.

Additional property and avigation easements will be acquired to the southwest of the airport boundary, which will enable tree removal to mitigate obstructions to the Runway 04 approach. The acquisition of the property and easements will allow the airport to remove penetrating obstructions to the Part 77 and AC 150/5300 approach surfaces, and approaches will not need to be altered due to the presence of obstructions.

LAND USES WITHIN THE RUNWAY RPZS

Under Alternative 2, the land within the ultimate Runway 04 RPZ will be acquired by the City. This will allow the City to have full control of future land use and development within the RPZs and prevent non-compatible use of this land.

Due to the Runway 04 extension, Apron A will no longer be located inside the RPZ. These changes will reduce the amount of paved area in the RPZs by approximately 120,700 square feet.

There will be no changes to the areas of Taxiways B and D that fall within the existing Runway 04S/22S RPZs.

SAFETY ANALYSIS

Alternative 2 increases the length and width of Runway 04/22, which improves operational safety for larger aircraft. It also acquires additional property within the ultimate RPZ and below the approaches to both runways to allow for additional obstruction removal and full control of the runway RPZs.

This alternative also reroutes Aviation Avenue around the northeast end of the existing airport property boundary and creates a new intersection between South Beacon Street and the Aviation Avenue extension to the south of the City's existing snow removal equipment building. The Aviation Avenue extension will route through traffic around the perimeter of the airport. Vehicle and taxiway barrier gates will be installed on new airport access points and taxiway intersections with roadways, respectively. These changes will better control airport access, improve security, and reduce the potential for taxing aircraft and vehicles to interact.

Alternative 2 also constructs three new vehicle parking locations outside of the aircraft operational area for the tie-down lease holder to use to park their vehicles prior to accessing the apron. This will reduce vehicle traffic on the aprons and taxiways and mitigate conflict between vehicles and taxiing aircraft.

These additions improve airport safety compared to current conditions, as represented in Alternative 1.

MEETING DEMAND FOR ADDITIONAL LEASE LOTS

Alternative 2 would provide areas for 60.6 acres of lease lot development, 20.9 acres of new GA Apron for the installation of 130 new tie-downs, and 2.9 acres of new large aircraft apron to accommodate four large aircraft tie-downs.

There is a forecasted need for approximately 33 to 39 acres of additional leasable area in the 20-year planning period. The actual number of leases developed on the new leasable land will be based on the lot configuration. This alternative provides approximately 180% of the land necessary to meet the forecasted demand for lease lots.

Also, approximately 90 additional small GA tie-downs are needed to meet the current demand, and 125 tie-downs are needed to meet the 2040 forecasted demand for public GA apron parking. Also, the need for a

minimum of 9 new large aircraft/glider spaces and three more transient parking spaces was identified. The apron development provided under this alternative provides 130 new small tie-downs at the four new GA Aprons. However, up to 25 existing tie-downs will be removed when Taxiway B is widened, resulting in a total cumulative addition of 105 tie-down spaces under this alternative, meeting 93% of the forecasted demand. This alternative also adds a large aircraft apron providing four new large aircraft tie-downs, which meets 44% of the forecasted demand for large aircraft spaces. However, sufficient lease lot space is available for private lease opportunities for additional GA and commercial aircraft parking to satisfy the unmet demand for aircraft parking that is not currently provided by City-owned tie-downs under this alternative. Also, the addition of eight transient parking spaces under this alternative exceeds the anticipated demand for additional transient parking.

5.4.3 ALTERNATIVE 3 IMPACT ANALYSIS

Alternative 3 consists of expanding the Runway 04/22 length and width, expanding apron and parking areas, and acquiring approximately 208.8 acres of new land for permanent control of runway RPZ and future apron and lease lot development, and other expansion-related improvements.

The following impacts are anticipated under this alternative:

CONSTRUCTION COSTS

Site development and construction costs developed for this alternative consider land acquisition; obstruction clearing; foundation and fill requirements; utility improvements; and anticipated construction methods for each component project included in this alternative.

The total anticipated cost for the construction of Alternative 3 in 2025 dollars is anticipated to be approximately \$239,233,000.

MAINTENANCE COSTS

The cost of maintenance is anticipated to increase under this alternative to account for the maintenance of the new apron and taxiway areas. This includes routine mowing of new infield grass areas in the summer and snow removal of the newly paved surfaces in the winter.

This alternative will construct approximately 422,900 square yards of additional operational surfaces, which will increase the amount of City-maintained surfaces by approximately 168%. The 2022 maintenance costs are included in the January 2024 Financial Assessment that was completed in support of the Wasilla Airport AMP Update.

REVENUE GENERATION

Alternative 3 will provide approximately 30.9 acres of new private hangar lease area and 45.3 acres of new commercial lease lots with airside access. Additionally, land will be acquired to develop 89.0 acres of lease lots with landside access only, including land zoned to allow manufacturing, retail, hotel, and restaurant services. New GA aprons will provide 111 new small apron tie-down spaces and eight new transient spaces. The new commercial apron will provide four new large aircraft tie-downs.

Under Alternative 3, the accessible leasable area on the airport would be increased by approximately 457%, the number of small GA tie-downs and large aircraft tie-downs available to customers would be increased by 56% and 67%, respectively. The addition of eight new transient spaces will bring the total number of transient tie-downs available to 17 spaces, an 89% increase in transient parking.

AIRSPACE OBSTRUCTIONS

As described under Alternative 2, Alternative 3 will also extend Runway 04/22 along its alignment to the southwest and widen symmetrically along its alignment. Additional property and avigation easements will be acquired to the southwest of the airport boundary, which will enable tree removal to mitigate obstructions to the Runway 04 approach. The acquisition of the property and easements will allow the airport to remove penetrating obstructions to the Part 77 and AC 150/5300 approach surfaces, and approaches will not need to be altered due to the presence of obstructions.

LAND USES WITHIN THE RUNWAY RPZS

As described under Alternative 2, the land within the ultimate Runway 04 RPZ will be acquired by the City. This will allow the City to have full control of future land use and development within the RPZs and prevent incompatible use of this land.

Due to the Runway 04 extension, Apron A will no longer be located inside the RPZ. These changes will reduce the amount of paved area in the RPZs by approximately 120,700 square feet.

There will be no changes to the areas of Taxiways B and D that fall within the existing Runway 04S/22S RPZs.

SAFETY ANALYSIS

The safety improvements of Alternative 3 are the same as described under Alternative 2, except that the acquisition of the existing Museum property to the north of the airport will allow a more efficient alignment of

the new extension of Aviation Avenue. The new alignment will intersect West Museum Drive and Beacon Street at the existing stop sign at the existing intersection between the two roads. This will eliminate the need for a new stop sign and intersection between the new Aviation Avenue extension and Beacon Street, which improves safety and connectivity of the road system. Also, Alternative 3 provides maximum separation between private hangar lease lots and commercial lease lots, with the entirety of the lease lot development southwest of Beacon Street reserved for private hangars and the development northeast of Beacon Street reserved for commercial lease lots. This separation increases safety and operational efficiency at the airport.

MEETING DEMAND FOR ADDITIONAL LEASE LOTS

Alternative 3 would provide areas for approximately 76.2 acres of lease lot development, 18.8 acres of new GA Apron for the installation of 111 new tie-downs and 2.9 acres of new large aircraft apron to accommodate four large aircraft tie-downs. This alternative provides approximately 230% of the land necessary to meet the forecasted demand for lease lots.

The apron development under this alternative provides 111 new small tie-downs at the three new GA Aprons. However, up to 25 existing tie-downs will be removed when Taxiway B is widened, resulting in a total cumulative addition of 86 tie-down spaces under this alternative, meeting 86% of the forecasted demand. This alternative also adds a large aircraft apron providing four new large aircraft tie-downs, which meets 44% of the forecasted demand for large aircraft spaces. However, sufficient lease lot space is available for private lease opportunities for additional GA and commercial aircraft parking to satisfy the unmet demand for GA and large aircraft parking that is not currently provided by City-owned tie-downs under this alternative. Also, the addition of eight transient parking spaces under this alternative exceeds the anticipated demand for additional transient parking.

Table 5-8: Alternatives Evaluation Matrix

Impacts on Airport	Alternative 1 No Build	Alternative 2 Expand Primary RW 04/22, Aprons, and Lease Lots	Alternative 3 Expand Primary RW 04/22, Aprons, Lease Lots, and Commercial Lots
Runway 04/22 Dimensions	Maintain Existing (3,700 ft by 75 ft)	Lengthen and Widen (6,000 ft by 100 ft)	Lengthen and Widen (6,000 ft by 100 ft)
Runway 04S/22S Dimensions	Maintain Existing (1,690 ft by 60 ft)	Maintain Existing (1,690 ft by 60 ft)	Maintain Existing (1,690 ft by 60 ft)
Maintains Single Traffic Pattern with Simultaneous Operations Prohibited	Yes	Yes	Yes
Meets Forecasted Tie-Down Demand	No	No - provides 93% of tie-downs forecasted	No - provides 86% of tie-downs forecasted
Meets Forecasted Lease Lot Demand	No	Yes	Yes
Provide full length Parallel Taxiway B	No	Yes	Yes
Environmental Impacts	No change	Environmental impacts are greater than Alternative 1 but less than Alternative 3	Environmental impacts are greater than Alternative 1 and Alternative 2
Construction Costs (approx.)	\$152,000	\$215.7M	\$239.2M
Annual Maintenance Costs	No change	More than Alternative 1 but less than Alternative 3	More than Alternative 1 and Alternative 2
Annual Revenue Generation	No change	More than Alternative 1 but less than Alternative 3	More than Alternative 1 and Alternative 2
Removal of Airspace Obstructions	Remains as described in Condition and Needs Assessment.	Obstructions are less than Alternative 1 and the same as Alternative 3	Obstructions are less than Alternative 1 and the same as Alternative 2
Land Uses within RPZ	No change	Incompatible land uses reduced from Alternative 1 and same as Alternative 3	Incompatible land uses reduced from Alternative 1 and same as Alternative 2
Mod-To-Standards Required	No	No	No
Safety Analysis	No corrections to non-standard conditions- existing safety hazards remain	Full control of land within RPZs for obstruction removal Reduced opportunities for airfield incursions	Full control of land within RPZs for obstruction removal Reduced opportunities for airfield incursions Maximizes separation of GA and commercial operations Maximizes safety of Aviation Avenue extension and realignment

5.5 RECOMMENDATION OF PREFERRED ALTERNATIVE

Alternative 1, the no build option, would not accommodate future growth. Therefore, a development alternative (either Alternative 2 or Alternative 3) is required to meet the needs of the airport.

Alternative 3 has been chosen as the preferred alternative. Alternative 3 increases apron space to accommodate additional tie-down areas and also acquires property to maximize lease lot development and airport revenue generation. Compared to Alternative 2, the preferred alternative provides more lease lot development and provides the greatest separation of future GA and commercial aircraft operations. Alternative 3 also provides the safest alignment of the Aviation Avenue extension by connecting to existing streets at existing intersections and eliminating the potential for additional intersections and stop signs. Alternative 3 also provides area for future development of an intermodal connection between the airport and the railroad, if ever desired. Engineer's estimates have been prepared for Alternatives 1, 2, and 3, and are included in Appendix F.