Section 5 Industrial Land Supply

Section 5 presents the estimate of buildable industrial land supply and the holding capacity of these lands to support additional industrial development. It provides an overall summary and then estimates by zoning district and geographic subarea. The estimate of buildable land acreage is matched with the forecasted industrial land demand in Volume I of this Industrial Land Assessment to determine the adequacy of the buildable land supply to accommodate the forecasted industrial development demand.

Summary of Land Supply Findings

Tables 25–27 quantify the net supply of buildable industrial land in the Anchorage Bowl and Chugiak-Eagle River, including both industrial and non-industrial-zoned lands, and publicly owned parcels, that are likely to be available for industrial development. The net buildable land supply includes unconstrained, partially constrained, and significantly constrained lands. It only includes acreage that is likely to be available for new industrial development within the planning horizon. Table 24 shows the process of determining the net buildable acreage from the gross acres of land supply within the study area:

Table 24. Process of Determining Net Buildable Land Supply from Gross Acres

Gross Industrial Land Supply in the Study Area (from Tables 10 and 11)

subtract Transportation Facility and Utility Facility Lands

subtract Prohibitively Constrained Lands

remove lands currently in use that may be "Redevelopable" 13

equals Net Industrial Land Supply

deduct percentage of partly constrained Lands

equals Net Buildable Industrial Land Supply

deduct for commercial utilization rate

subtract lands anticipated to be lost to public infrastructure

equals Net Buildable Industrial Land Supply Available for Industrial

Development

¹³ Industrial development capacity of redevelopable lands is discussed separately on page 103.

Anchorage Bowl Land Supply

Anchorage Bowl Land Supply: High-Range Estimate

The Anchorage Bowl has up to 231.6 acres of buildable, industrial-zoned land available for industrial development (see Tables 25 and 26). This high-range estimate considers site constraints to development, removes parcels committed to a non-industrial use, and factors in the rate of non-industrial utilization of industrially zoned lands in the Bowl. (For comparison, the net acreage of industrial lands before factoring in the rate of non-industrial utilization is provided in Volume III: Appendix, of this report). The land included in the 231.6 acres comprises all of the net buildable vacant, partially vacant, and marginally used parcels zoned I-1 and I-2 in the Bowl.

The majority of this acreage consists of small infill parcels of between one-half acre up to several acres in size, scattered across the industrial districts of Central and South Anchorage. A handful of large vacant sites remain in the I-1 and I-2 land supply. Largest among these is the 38.6-acre former Granite Construction parcel (two lots) zoned I-2 in the Central Anchorage Subarea. Central Anchorage also has a sizeable cluster of developable lots to the north and east of the Carr-Gottstein Food Distribution Warehouse near 64th Avenue. Most other medium to large vacant or marginally used sites remaining in the Bowl are located in the South Anchorage subarea. A more detailed characterization of the land supply for each subarea is provided below.

Table 25 shows that, in addition to the 231.6 acres of I-1 and I-2 zoned land supply, up to 156.8 acres of buildable land is estimated in Table 25 to be available for industrial development in the PLI (Public Lands and Institutions) and T (Transition) districts—albeit subject to restrictions. The PLI and T districts include lands such as the following:

- A JBER parcel comprising the northeast quadrant at the intersection of Boniface Parkway and Glenn Highway, which is anticipated to transfer to Eklutna, Inc., and provide an estimated 77 acres of land for light industrial use; and
- Four large tracts of International Airport land that will be available for long-term leases for non-aviation uses, comprising approximately 87 acres of buildable, available land after factoring non-industrial utilization rates in the Bowl.
- The former Native Hospital site, located north of 3rd Avenue and west of Ingra Street, zoned PLI and comprising 5.7 acres of buildable, available land.

Including this PLI- and T-zoned land in addition to the industrial-zoned lands, up to 388.3 acres of buildable land supply acreage would be provided in the Bowl.

The estimate of industrial land supply does not include lands that are committed to future public utility operations, military operations, or airport, port, or railroad transportation operations. These facility lands mostly meet and exceed the projected land needed for the public utility and airport, railroad, and port transportation facility sectors. The only exception is that Table 25 anticipates a loss of 36.2 acres of industrially zoned land to future public utility and transportation facility expansions, including planned future roadway, airport, and power generation plant development. Therefore, the land supply estimate provided in this Section is what is anticipated to be available to all the other industrial sectors—including production, distribution, and repair activities—besides the utilities, airports, railroad, and port sectors.

The estimate of buildable land available to industrial development is also influenced by the anticipated rate of utilization of the industrial land supply by commercial and other non-industrial uses. The non-industrial utilization stems from permissive zoning regulations and market pressure for land conversions to commercial and institutional use. As discussed in Section 3, the lands analysis estimates that 36.5 percent of developed land in I-1 and I-2 in the Bowl is currently used for non-industrial employment.

All of these factors contribute to a limited supply of industrial-zoned land remaining in the Bowl. This finding corroborates the comments and observations of dozens of industrial business owners, managers, and employees who municipal planners spoke with during the field inventory for this project. The common refrain heard during the field inventory interviews was that there is very little available industrial land left, making land and industrial space difficult to find or expensive.

Table 25. Net Buildable Acres of Industrial Land after Factoring in Site Constraints and Commercial Utilization Rate Anchorage Bowl, by Subarea and Zoning, 2014

			Industrial Districts			All Districts
	I-1	I-2	Subtotal	PLI	т	Total
Tier 1 Land Supply						
North Anchorage	15.8	11.2	27	0	0	27
International Airport	0	0	0	0	0	0
Central Anchorage	39.1	29.3	68.5	0	0	68.5
South Anchorage	35.6	37.8	73.4	0	0	73.4
Tier 1 Total	90.6	78.3	168.8	0	0	168.8
Tier 2 Land Supply:						
North Anchorage	7.5	1.4	8.9	1.4	77	87.3
International Airport	9.2	0	9.2	58.5 ¹⁴	9.8	77.5
Central Anchorage	19.8	0	19.8	6.7	0.2	26.7
South Anchorage	19.9	2.0	22.0	0	0.9	22.8
Tier 2 Total	56.4	3.4	59.8	66.6	87.9	214.3
Tier 3 Land Supply:						
North Anchorage	2.5	3.3	5.8	2.2	0	8.0
International Airport	0	0	0	0	0	0.0
Central Anchorage	17.5	0	17.5	0	0	17.5
South Anchorage	8.0	7.9	15.8	0	0	15.8
Tier 3 Total	28.0	11.2	39.1	2.2	0	41.4
Total Supply:				-		
North Anchorage	25.8	15.8	41.7	3.6	77	122.3
International Airport	9.2	0	9.2	58.5	9.8	77.5
Central Anchorage	76.4	29.3	105.8	6.7	0.2	112.7
South Anchorage	63.5	47.7	111.2	0.0	0.9	112.1
Tiers 1–3 Total Supply	174.9	92.9	267.8	68.9	87.9	424.5
Anticipated Losses	-23.5	-12.7	-36.2	0	0	-36.2
Total Adjusted Supply:	151.4	80.2	231.6	68.9	87.9	388.3

¹⁴ The Airport suggested adding its 39-acre former FCC site to the industrial land inventory. While not included in the buildable lands estimate, it is discussed in the Airport subsection below.

Anchorage Bowl Land Supply: Low-Range Estimate

It is a question as to whether some of the parcels included in the Table 25 inventory will in fact be available for industrial development within the planning horizon. Table 26 on the following page provides a low- and high-range estimate of the amount of acres in the Bowl may actually be available.

The top half of Table 26 provides the high-end range estimate which includes all of the lands from Table 25. The high-range estimate of land supply is 388.3 acres, comprising 231.6 acres of industrially zoned land and 156.8 acres of T and PLI land.

This high-range estimate includes the small lots scattered around the Bowl (the "bread crumbs"), including those less than one-half acre in size. These consist of about 10 percent, or 26 acres, of the overall estimate for the Bowl, and are not considered optimal for medium- or larger-size establishments. It also includes lands with partial and significant environmental constraints (the "bottom of the barrel" lands), which may be more expensive and difficult for industrial users to develop. Likewise, parcels not anticipated to receive urban water or wastewater service within the planning horizon are also included.

The high-range estimate from Table 25 also includes those parcels in the net supply whose availability for industrial development is uncertain or questionable. Uncertain parcels include the JBER Boniface, which the municipal Planning Division estimates has potential to provide 77 acres of buildable land supply if JBER, the Municipality, and Eklutna, Inc., reach a three-party land exchange agreement, as discussed in the JBER section below.

The bottom half of Table 26 provides the low-end range estimate of available net buildable industrial land supply. The low-range estimate of land supply for the Anchorage Bowl is 209 acres, comprising 132.6 acres of industrial-zoned land and 76.4 acres of non-industrial (mostly PLI) land.

The low-range estimate includes parcels of a minimum one acre size to accommodate a majority of industrial users, with no environmental constraints, that either currently receive or will receive water and wastewater services, and that are zoned for industrial use. These comprise the "Tier 1" lands discussed in Section 3.

The low-range estimate excludes lands in the net supply inventory from Table 25 that are currently zoned T (Transition), whose availability for industrial development is uncertain—for example, the JBER Boniface site. The exception is that the low-range estimate does include Ted Stevens Anchorage International Airport property currently zoned T, which the Airport anticipates making available for commercial and industrial leases, and municipal land that seems most likely to be available for future industrial rezoning or use.

Table 26. Range Estimate of Available Net Buildable Industrial Land Supply, Anchorage Bowl, in Acres, by Zoning, 2014

			Industrial Districts			All Districts
	I-1	I-2	Subtotal	PLI	Т	Total
High-Range Estimate:						
Total Acreage	174.9	92.9	267.8	68.9	87.9	424.5
Anticipated Losses	-23.5	-12.7	-36.2	0	0	-36.2
Total Adjusted Acreage	151.4	80.2	231.6	68.9	87.9	388.3
Low-Range Estimate						
Total Acreage	90.6	78.3	168.8	66.6	9.8	245.2
Anticipated Losses	-23.5	-12.7	-36.2	0	0	-36.2
Total Adjusted Acreage	67.1	65.6	132.6	66.6	9.8	209

Even the low-range estimate may in some ways overstate the supply of industrial land likely to be available for industrial use. It includes some large sites that may experience greater site-specific pressure to convert to commercial use. For example, both low- and high-range estimates depend on the availability of these parcels:

- A partly improved site owned by Wal-Mart, located north of Dowling Road between the Old and New Seward Highways, comprising 14 acres of buildable industrial land supply in Tables 25 and 26.
- A cluster of medium-size vacant and partially vacant parcels owned by the Alaska Railroad and the municipal Heritage Land Bank between Reeve Boulevard and Commercial Drive, comprising 20 acres.
- Some medium- to large-size tracts along C Street which may be under market pressure to develop as commercial use, including an I-1 zoned property on the west side of C Street north of International Airport Road comprising 4.4 acres of buildable industrial land supply in Tables 25 and 26, and a cluster of I-2 zoned lots between 104th Avenue and Minnesota Drive, south of the new Cabela's store that comprises 9.3 acres in Tables 25 and 26.

Map 16. Net Supply of Buildable	Industrial Land – Anchorage Bowl
Placeholder (ma	p under development)
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Anchorage Bowl Redevelopment Potential

Depending on market conditions, cost and other factors, theoretically nearly all or almost none of Anchorage's industrial land base might redevelop within a given period.

Many industrial lots have few improvements: a low floor-to-area-ratio (FAR) and a low building-value-to-lot-value-ratio (BLVR). Therefore, these parcels might be considered to have a high redevelopment potential for a higher intensity industrial use.

However, most of these lots are in fact fully utilized by the business for equipment parking, maneuvering, storage, and maintenance that is integral to the enterprise. Industrial businesses such as contractors with heavy equipment need ample outdoor space. Redevelopment at higher intensities seems more prone to commercial rather than industrial use. For industrial purposes there may be little net gain in industrial space or employment over the previous use of the lot.

Table 27 uses assumptions about FAR and BLVR to identify which lands and subareas may be relatively more likely to experience redevelopment at an assumed redevelopment rate for the Anchorage Bowl. It illustrates one scenario for the types of lots and acreage of lands that might redevelop if Anchorage's "redevelopment rate"—i.e., percentage of industrial development that occurs through redevelopment instead of on vacant lands—were to exceed 33 percent over the planning time period. It assumes that lots with a FAR of less than 0.10 and a Building-to-Lot-Value Ratio (BLVR) of less than 0.75 redevelop such that the difference in intensity between previous and new industrial use on the lot is equal to the prevailing density of industrial development in the Bowl.

Table 27. Redevelopable Industrial Lands – Anchorage Bowl with FAR <0.1 and BLVR <0.75 and Factoring in Commercial Utilization Rate Anchorage Bowl, by Subarea and Zoning, 2014

	I-1	I-2	Subtotal	PLI	Т	Total
North Anchorage	17.3	6.9	24.3	0	0	24.3
International Airport	0.0	0.0	0.0	0	0	0.0
Central Anchorage	72.8	0.9	73.7	0	0	73.7
South Anchorage	57.1	53.0	110.2	0	0	110.2
Total Redevelopable	147.3	60.9	208.2	0	0	208.2

Chugiak-Eagle River Land Supply

Table 28 estimates that Chugiak-Eagle River has 187.4 acres of buildable, industrial-zoned land available for industrial development. This acreage comprises all vacant, partially vacant, and marginally used parcels that remain in the I-1, I-2 and I-3 districts in Chugiak-Eagle River. The estimate accounts for partial and prohibitive site constraints to development, removes parcels committed to a non-industrial use, and factors in the rate of non-industrial utilization of industrially zoned lands.

Chugiak-Eagle River industrial lands experience a far lower non-industrial utilization rate than does the Anchorage Bowl. Only 5.5 percent of developed land in I-1 and I-2 in Chugiak-Eagle River is currently used for non-industrial use—and half of that non-industrial use consists of religious institutions.

The land supply estimate in Chugiak-Eagle River is impacted by the lack of wastewater service in much of the community. As discussed in Section 3, the land inventory assumes that parcels unlikely to receive wastewater service during the planning horizon will, on average, develop at only 50 percent of the capacity of lots with sewer service. This assumption, which was developed in consultation with the project's Advisory Committee, impacted the acreage count in the Powder Reserve, Birchwood, Chugiak, and Eklutna subareas.

Although substantial tracts of undeveloped lands exist in Chugiak-Eagle River, the estimate of industrial land supply does not include military lands, public utility facility lands, or lands that are determined to be unlikely to receive road access during the planning horizon. Besides Fire Island west of the Bowl, large tracts of Eklutna land west of Mirror Lake and north of the Eklutna Power Generation Plant are seen as unlikely to receive road access within the time horizon, under current trends and policy scenarios. In addition, the Mink Creek wetland tracts, the Eklutna River Estuary, and the Fire Creek Estuary located southwest of Birchwood Airport have recently been placed in conservation easements. The follow section discusses these prohibitively constrained areas.

Therefore, only 190.9 acres of buildable non-industrial-zoned land, mostly PC (Planned Community) and T (Transition), is estimated to be available for industrial development within the planning horizon. This additional land brings the total supply in Chugiak-Eagle River to 378.2 acres. Available PC and T lands mainly include:

- 120.9 acres of Eklutna land in Tract B of the Powder Reserve.
- Northern portions of the Eklutna 770 Tract that, after considering site constraints, may be developable for industrial use.
- 10.9 acres of T zoned land south of the new Eklutna Power Generation Plant, which may be developable for industrial use.

Table 28. Net Buildable Acres of Industrial Land after Factoring in Site Constraints and Commercial Utilization Rate Chugiak-Eagle River, by Subarea and Zoning, 2014

	I-1	I-2	I-3	I-zones Subtotal	PC	PLI	т	Total
Tier 1 Supply:								
Eagle River	28.7	12.7	0	41.4	0	0	0	41.4
Powder Reserve	0	0	0	0	0	0	0	0
Chugiak with 770	0	0	0	0	0.1	0	0	0.1
Birchwood Airport	0	0	0	0	0	0	0	0
Eklutna Vicinity	0	0	0	0	0	0	0	0
Tier 1 Total	28.7	12.7	0	41.4	0.1	0	0	41.5
Tier 2 Supply:								
Eagle River	0.7	0	0	0.7	0	2.8	0	3.5
Powder Reserve	0	0	0	0	0	0	120.7	120.7
Chugiak with 770	6.3	0.0	0	6.3	56.2	0	0	62.5
Birchwood Airport	18.9	69.6	0	88.5	0	0	0	88.5
Eklutna Vicinity	35.5	13.8	0	49.3	0	0	10.9	60.2
Tier 2 Total	61.5	83.3	0	144.7	56.2	2.8	131.6	335.3
Tier 3 Supply:								
Eagle River	0.7	0	0	0.7	0	0	0	0.7
Powder Reserve	0	0	0	0	0	0	0.2	0.2
Chugiak with 770	0	0	0.1	0.1	0	0	0	0.1
Birchwood Airport	0.2	0	0	0.2	0	0	0	0.2
Eklutna Vicinity	0	0.2	0	0.2	0	0	0	0.2
Tier 3 Total	0.9	0.2	0.1	1.2	0	0	0.2	1.4
Total Supply:			_					
Eagle River	30.1	12.7	0	42.9	0	2.8	0	45.7
Powder Reserve	0	0	0	0	0	0	120.9	120.9
Chugiak with 770	6.3	0	0.1	6.4	56.3	0	0	62.6
Birchwood Airport	19.2	69.6	0	88.7	0	0	0	88.7
Eklutna Vicinity	35.5	13.9	0	49.4	0	0	10.9	60.4
Total Adjusted Supply	91	96.2	0.1	187.4	56.3	2.8	131.8	378.2

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	Placeholder (map under development)	
Map 17. Net	Supply of Buildable Land – Chugiak-Eagle Ri	iver

Prohibitively Constrained Vacant Lands Deducted from the Net Supply

In both Anchorage and Chugiak-Eagle River, much of the gross supply of vacant lands was found to have prohibitive constraints to industrial development. The lands were therefore deducted from the net buildable land supply that is anticipated by this study to be available for industrial development within the 2035 planning horizon, based on current growth forecasts and policy trends.

The study area of the Industrial Land Assessment include some lands not currently zoned or designated for industrial use that would become available were there to be a significant change in growth trends or public policies. In such cases, changes in land use and transportation planning policies and public infrastructure investment priorities would need to take place if these lands were to become available for future industrial use within the planning horizon. Therefore, it is prudent that municipal policy decisions avoid assuming the following major landholdings are included in how much industrial supply is available.

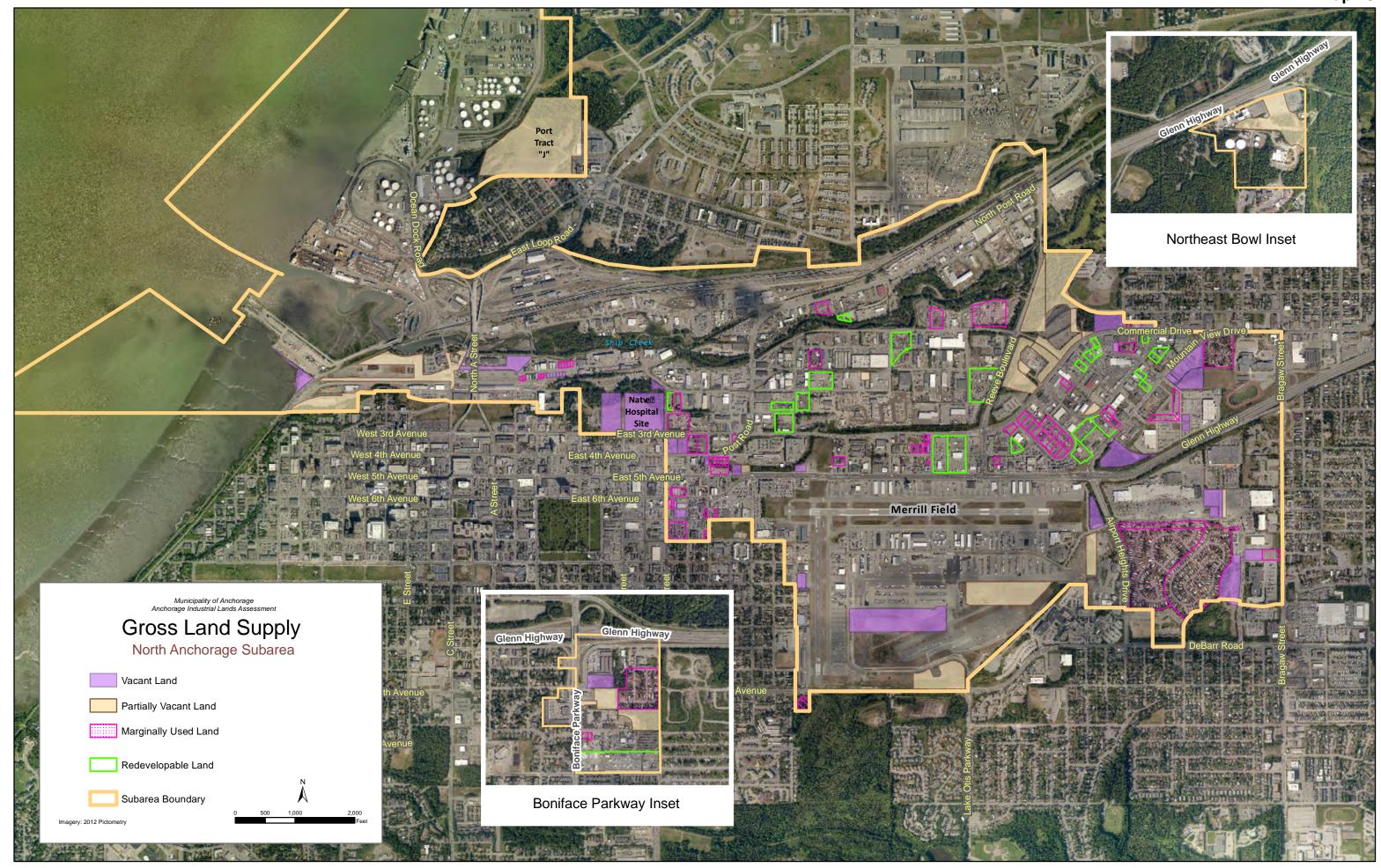
Table 29 on the next page identifies some of the major landholdings that are not anticipated to be available for industrial development within the planning horizon. A narrative describing the status of each of the major landholdings is provided later in this section, in the subarea land supply discussions.

Maps 18-25 document the gross supply of vacant, partially vacant, and marginally used lands identified by this Industrial Lands Inventory within the Industrial Land Assessment study area. Many of these lands that do not appear on the maps of net buildable land supply appear elsewhere in Section 5 due to prohibitive constraints. Section 3 describes the methodology of identifying prohibitive constraints used in this analysis.

Table 29. Major Landholdings Not Anticipated to Be Available under Current Trends by 2035

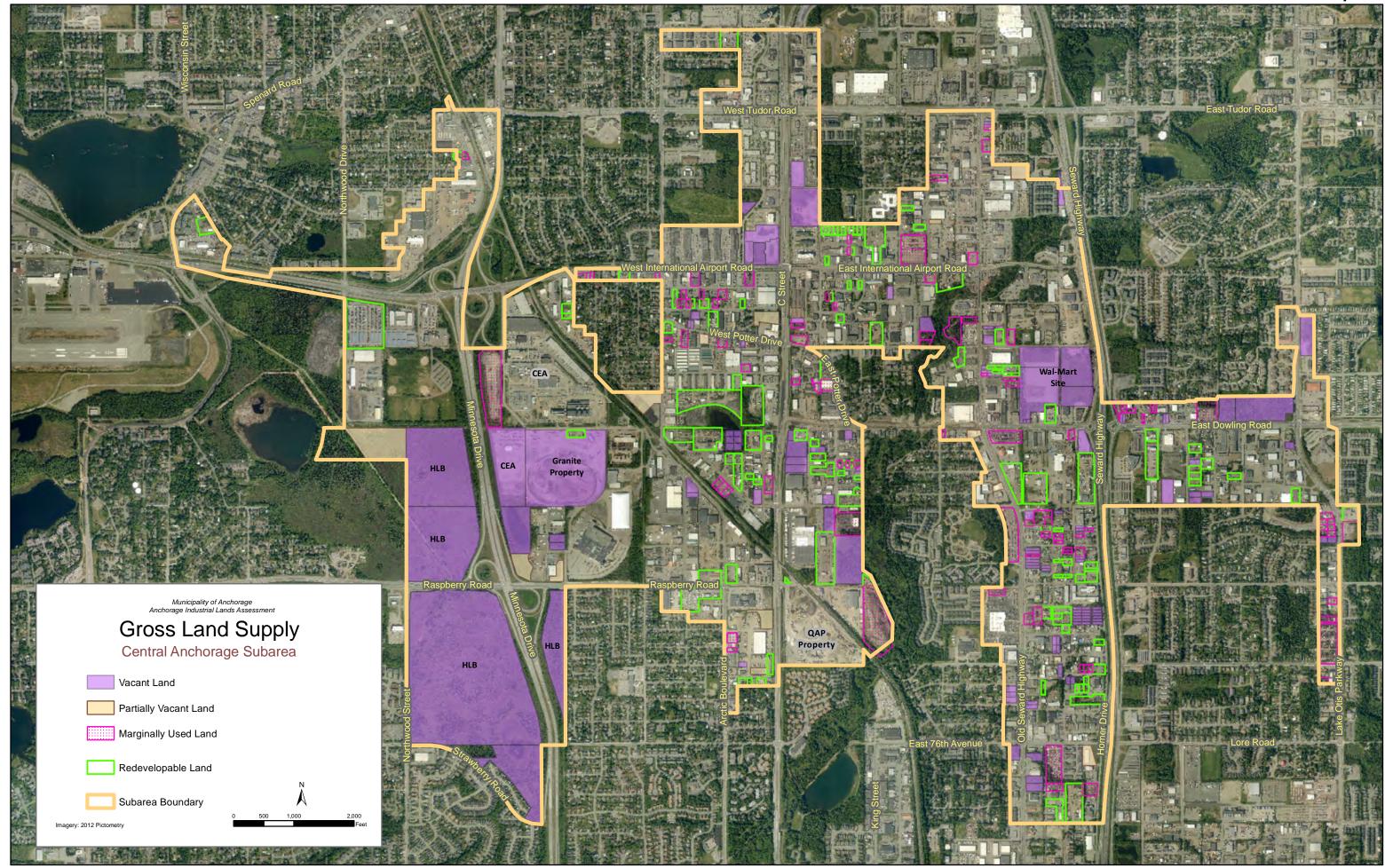
Parcels	Size in Acres	Prohibitive Constraints
Anchorage International Airport	818 (approx.)	Most of TSAIA is encumbered for future aviation use.
HLB Parcels west of Minnesota Drive south of Connors Lake Bog area		These are natural open space woodland and high value wetlands, and in conservation easements or to become part of a wetlands mitigation bank.
Laurel Acres Subdivision (small lots portion of plat)	91 (not including ROWs)	This is an unimproved "paper plat" comprised of undeveloped wetlands, with multiple property owners, and zoned R-1.
CIRI parcels and Municipal Park south of 100 th , west of C Street, east of Minnesota Drive	54 (CIRI west), 69 (Park), and 20 (CIRI east)	The western CIRI parcel, zoned R-1, is most likely to be rezoned to commercial or multifamily use. The parkland is dedicated. CIRI intends to develop northwest corner of Minnesota Drive and C Street as commercial.
Fire Island	4,240	Road access is not considered likely within the 20-year planning horizon, given growth and policy trends.
Joint Base Elmendorf- Richardson (JBER)	73,000 (approx.)	All JBER lands are in sensitive locations or encumbered for operations or training needs.
Powder Reserve Tract C and part of Tract B	120 (Tract B) 770 (Tract C)	Not anticipated to be developed as industrial.
Eklutna 770 Tract	675 (approx.)	Most of the 770 is designated for residential. This study assumes an area somewhat larger than the currently proposed monofill area master plan will become available.
Mirror Lake reserve lands of Eklutna, Inc.	1,200 (approx.)	Highway Interchange access is not planned to occur by 2035, given population growth trends.

A discussion about the landholdings in Table 28 is included in the subarea discussions later in this section.



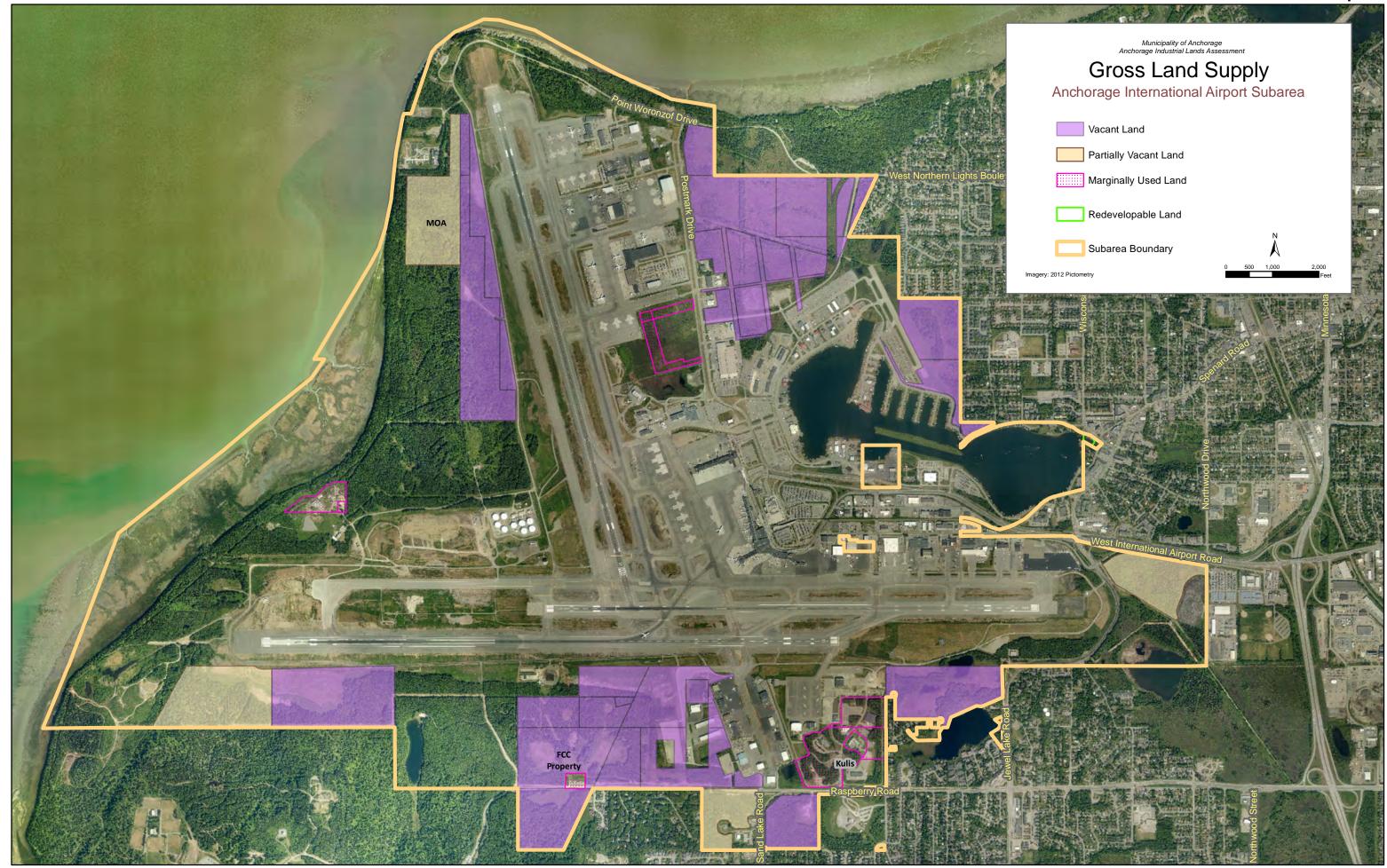
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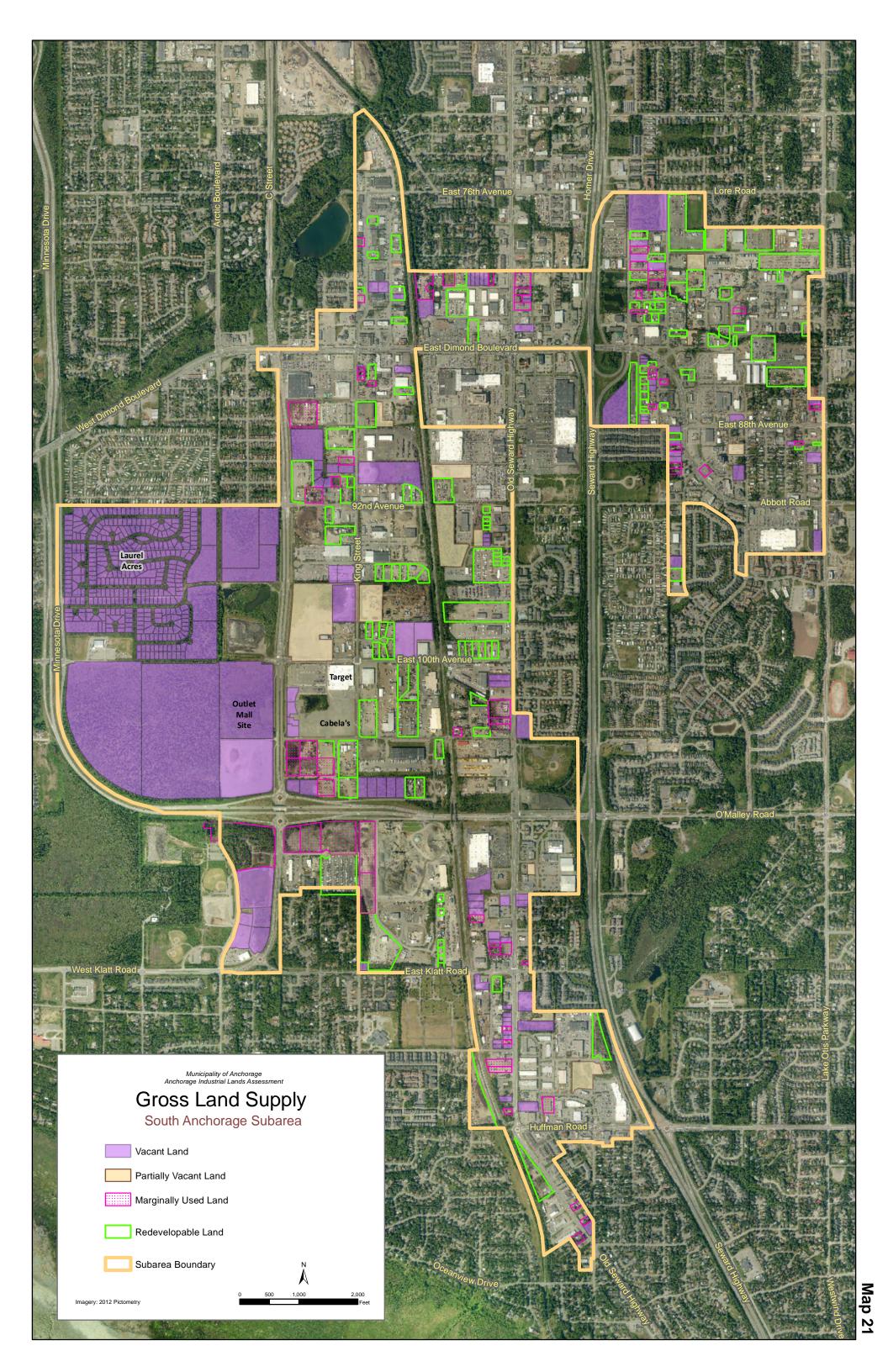
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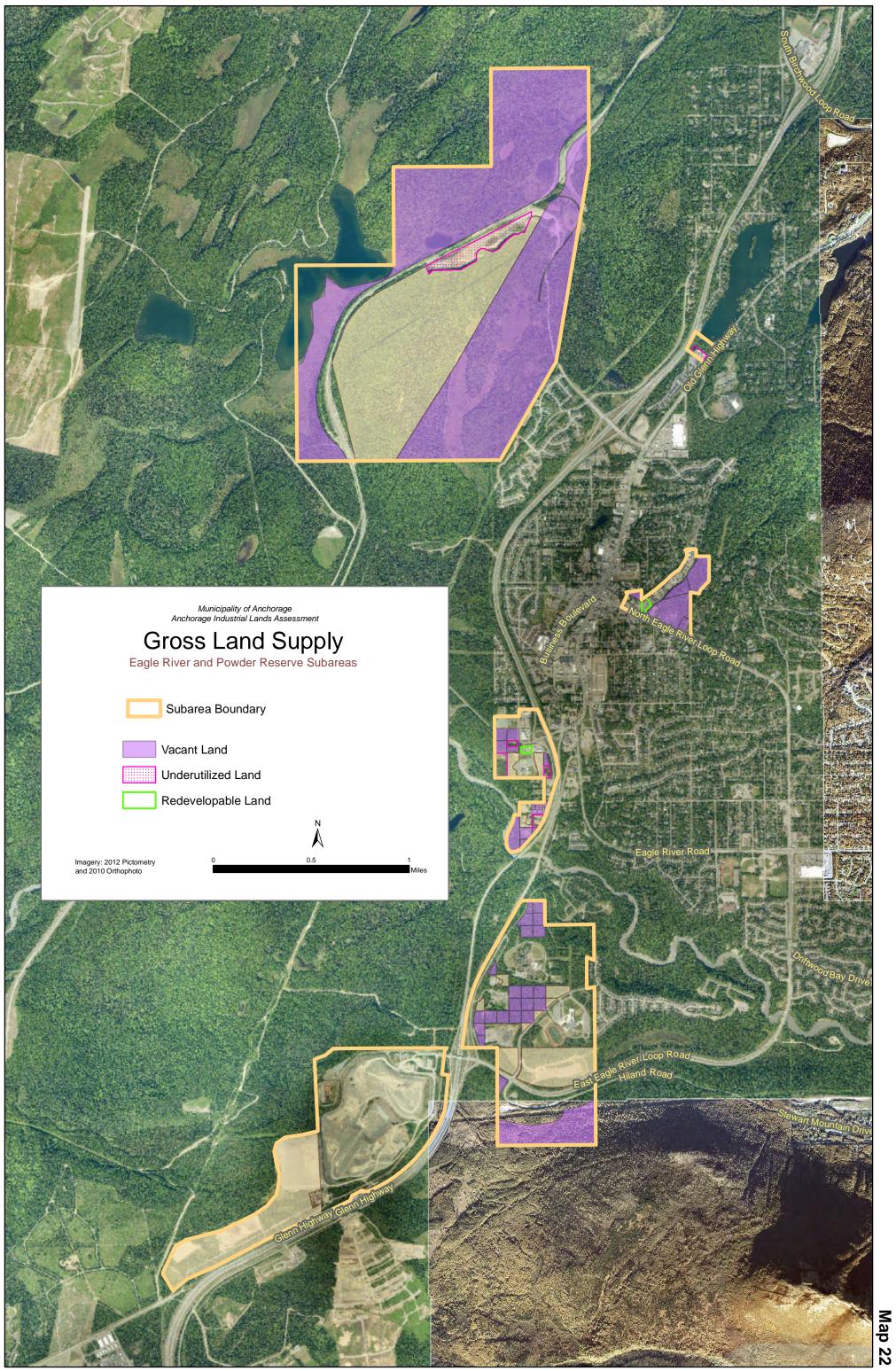
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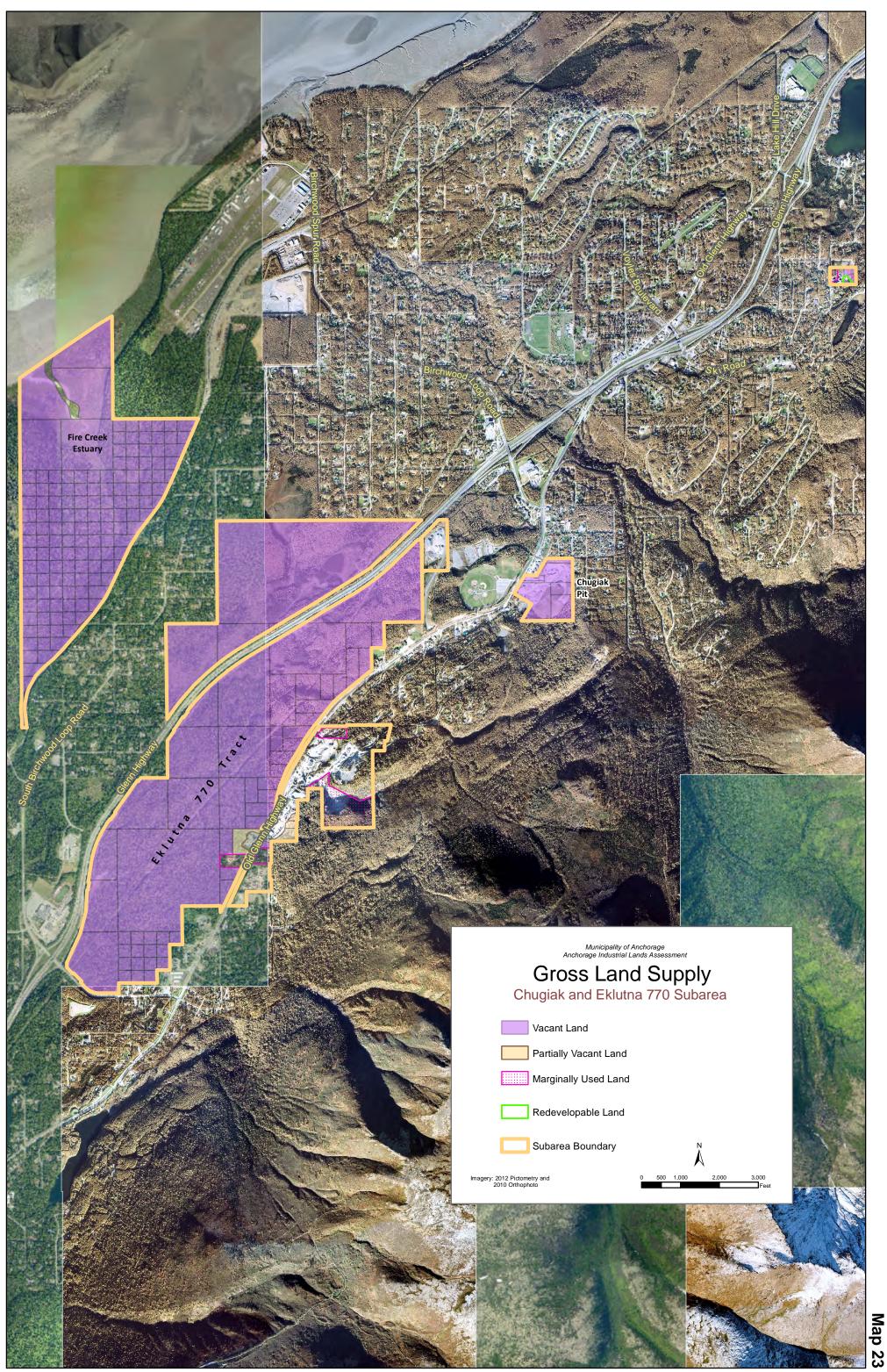
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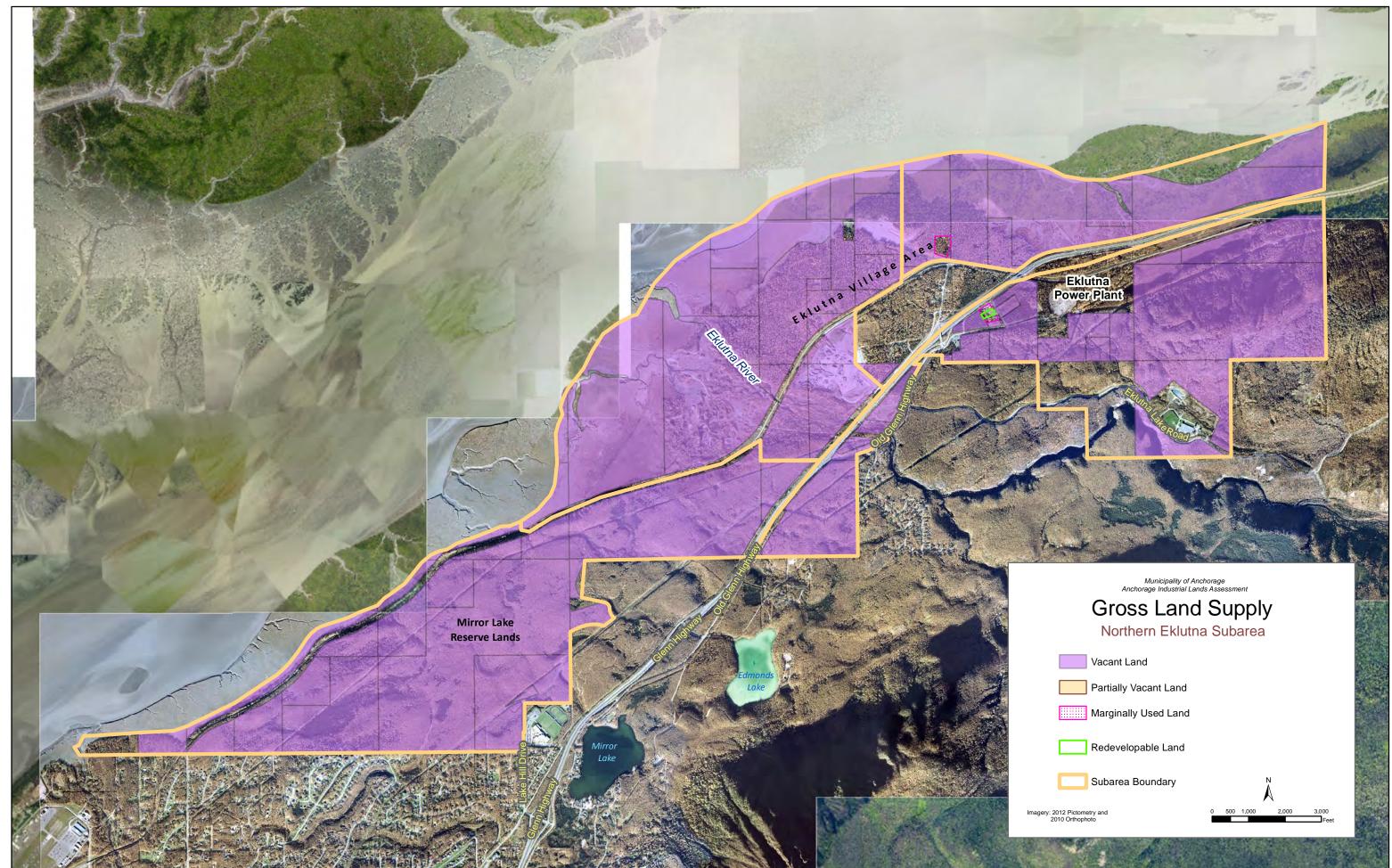
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CHARACTERIZATION OF BUILDABLE LAND SUPPLY BY SUBAREA

North Anchorage Subarea

Net buildable, available supply of Tier 1 industrial-zoned land: 27 acres

Additional supply in PLI and T zoned lands: 87.9 acres

North Anchorage has a net buildable supply of 27 acres of Tier 1 and 41.7 acres *total* of Tier 1, 2 and 3 industrially zoned land, when factoring partial and significant site constraints and commercial utilization rate on industrial land in the Bowl. The total amount of net buildable land supply available for future industrial development, when including non-industrial-zoned lands, is 122.3 acres.

This subarea includes Anchorage's oldest industrial district, and is almost completely developed. No vacant parcels remain in the Ship Creek basin industrial district. Developable acreage in the North Anchorage Subarea is characterized by scattered small lots up to an acre or two in size, currently occupied by marginal uses. Map 26 depicts the net buildable land supply in North Anchorage.

Several medium-size vacant or partially vacant parcels under Railroad and HLB ownership are located near Reeve Boulevard and Viking Drive on Railroad lands.

An I-1 industrial enclave east of Boniface Parkway near the Glenn Highway provides a medium-size cluster of partially vacant, marginally used, and vacant lots in the North Anchorage subarea. Several vacant parcels in this area are currently zoned B-3, R-3, and R-4, and are not included in the estimate of existing industrial land supply, although there is speculation about potential conversion to industrial uses, and interest on the part of several property owners in rezoning to I-1.

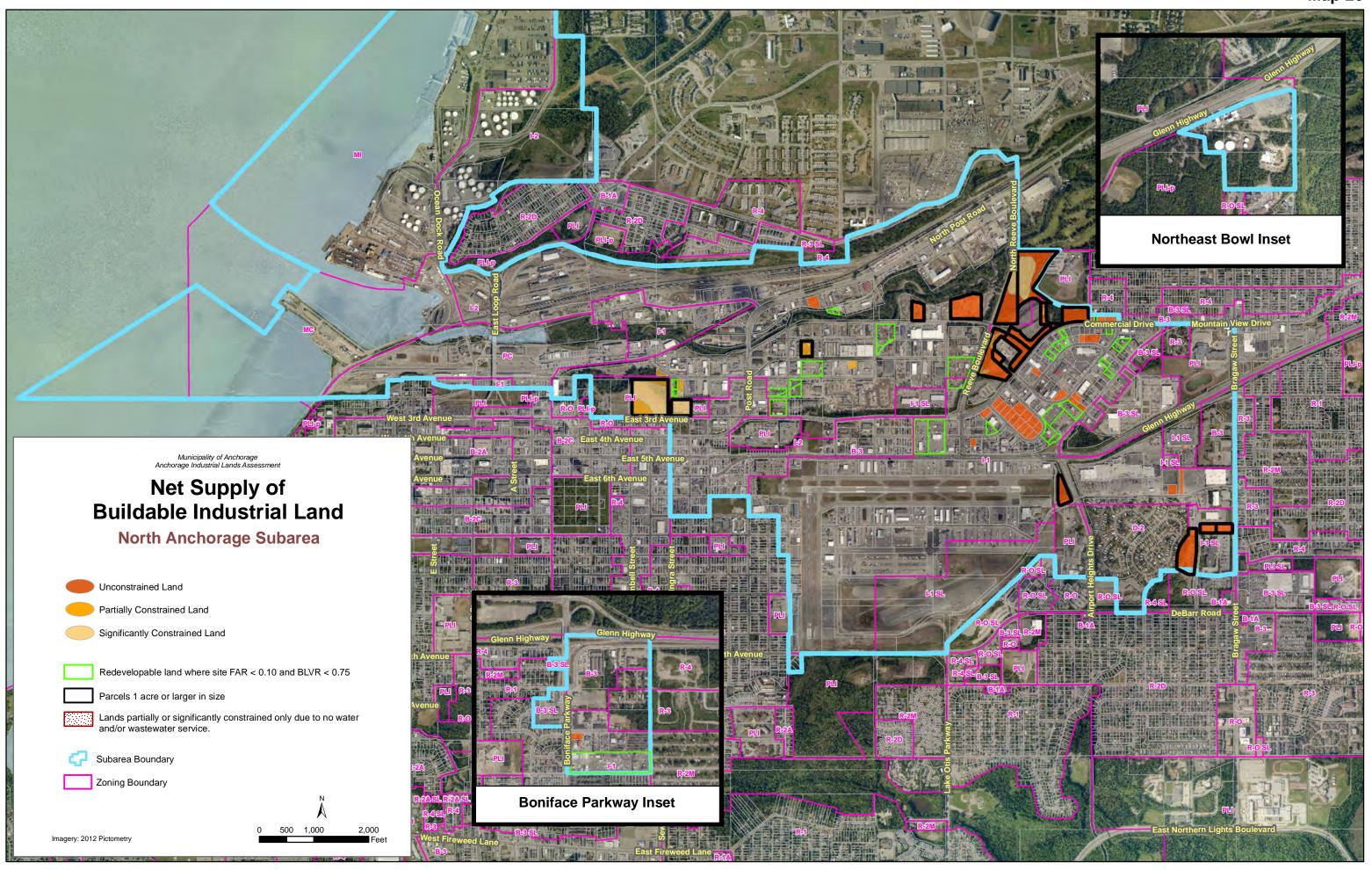
Anticipated losses of both vacant and utilized I-1 and I-2 lands to planned highway projects, potential expansion of Railroad operations north of East Post Road, and Merrill Field Airport expansion in the Orca Street vicinity may cancel out the net buildable land supply in North Anchorage. If constructed as planned in the *Metropolitan Transportation Plan (MTP)*, the Seward Highway to Glenn Highway Connection (H2H) project could remove more than 10 acres of I-1 and 20 acres of I-2 (as well as more than 10 acres of B-3) zoned land from the Ship Creek and Commercial Drive industrial areas. Loss of usable land base through attrition by highway projects in central city areas was a common feature in postwar era metropolitan areas, and may be experienced by Anchorage in the future.

During the latter stages of the industrial study, a worksession participant from the Anchorage Assembly requested a review of the adopted plans for Downtown (2007) and Ship Creek (2014) to determine if the recommendations in these plans would lead to further loss of industrial land. These plans emphasize

mixed-use residential and commercial redevelopment in the western Ship Creek area. A review found that the plans do in fact recommend converting some existing lots currently in active industrial use to non-industrial redevelopment sites. While here is no direct impact on the vacant land supply, this study's projection of anticipated future loss of industrial lands could have been increased by approximately 10 acres over what is depicted in Tables 25 and 26.

Most federal, state and municipal lands in North Anchorage Subarea (besides the Railroad Terminal Reserve lease lots) are committed to public facility use—such as the ML&P power generation plant campus east of Centennial Park, Port of Anchorage Tract J (discussed in the JBER section that follows), or at Merrill Field Airport. Most of these lands are not available other than for transportation facilities or utilities. However, there are three tracts of public land which this study includes in the estimate of land supply acreage for North Anchorage. These are the former Native Hospital site, the Railroad/HLB lands east of Reeve Boulevard, and a large JBER tract northeast of the Boniface Parkway and Glenn Highway intersection. A description of each follows:

- The former site of the Alaska Native Hospital is now municipal HLB land, zoned PLI, and comprises 5.7 acres of net buildable supply, after factoring constraints, such as steep slopes and seismically induced ground failure hazards. However, these lands could be useful as construction lay-down yards, or materials and equipment staging areas. Longer-term, more intensive use may be precluded by planned highway improvements related to the Knik Arm Crossing (KAC) and H2H connection road projects.
- Although partially constrained by slopes and wetlands, there is a relatively large vacant and underutilized land base between Reeve Boulevard and Commercial Drive. It consists of lowlands accessible to Reeve across from Viking Drive, and uplands accessible to Commercial Drive. The lowlands along Reeve adjoin the former Eagleglen Golf Course (now Eagleglen Fitness Park) to the north, which is discussed in the following pages as one of five JBER study sites as part of the industrial lands inventory.
- However, it is another JBER property, zoned T (Transition) and occupying the northeast quadrant of the Boniface Parkway and Glenn Highway intersection, which appears most likely to contribute to the net buildable land supply. The JBER Boniface site is subject to a three-party land conveyance agreement in progress between the Municipality, JBER, and Eklutna, Inc. In the event of a land exchange, an estimated 77 acres of net buildable land supply would transfer to Eklutna, Inc. JBER is considered likely to place covenants restricting future uses to primarily light industrial. It would be the largest contiguous area of undeveloped, buildable industrial land in the Bowl. For this reason, the 77 acres of the JBER Boniface property are included in the North Anchorage Subarea acreages. A discussion and map of the Boniface site are provided in the JBER narrative section below.



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Alaska Railroad Operations in the Ship Creek Terminal Reserve

The overall land use pattern for the Alaska Railroad operations areas within Ship Creek is expected to continue with moderate expansion of operational activities in the Port and East Post Road areas during the Planning horizon.

Much of the Ship Creek industrial district is part of the Alaska Railroad Ship Creek Terminal Reserve, which consists of about 600 acres. The Alaska Railroad leases much of its Terminal Reserve lands to primarily industrial users.

Although the Railroad's industrial lease lots include many older buildings that could be renovated or replaced, redevelopment opportunities have historically been constrained because the land could only be leased. The availability of longer lease terms (i.e., 99 years) could improve the potential for infill and redevelopment at higher intensities to reflect the strategic advantages of this area near rail and port operations.

The Railroad still uses the majority of its industrial-zoned lands for railroad operations. Any future expansion, reduction, or relocation of Railroad operation areas would therefore affect the amount of acreage in Anchorage's industrial land supply. However, consultation with the Alaska Railroad indicates that operational areas available within its Ship Creek Terminal Reserve lands are less than optimal for current Railroad operations. As a result, the Railroad indicates that it is unlikely to lease more of its designated operational areas to non-railroad industrial uses.

Removal of the Alaska Railroad operations from the Ship Creek Terminal Reserve to another location in the Municipality, in Whittier, or in the Mat-Su Borough is not anticipated within the planning time horizon. The Railroad explained that, although the Ship Creek Terminal Reserve is constrained in area, it remains most advantageous for the Railroad and associated distributors and warehousing to co-locate with the Port of Anchorage near major markets and transportation. The proposed Knik Arm Crossing would not include a railroad line, and Railroad lands in Eagle River (i.e., Powder Reserve Tract C) and Birchwood Industrial Park supplementary laydown yard areas are considered too remote.

The Alaska Railroad has several options to alleviate pressure within its terminal operations areas. It intends to build a second railroad track in the north area of the Port of Anchorage within five to 10 years. This would enable moving cargo directly from ships to rail, avoiding the "drayage" costs of trucking cargo to rail cars. Single handling at the Port between ship and rail is likely to cut the cost of transportation by rail. This investment would also relieve some pressure from existing railroad operations and other Terminal Reserve lands.

Further operational area expansion may occur at the east end of the Ship Creek industrial basin. Terminal Reserve lease lands on the north side of East Post Road are anticipated to be reserved for future Railroad operational needs. This consists of a relatively narrow strip of lease lots currently in non-railroad industrial use. A realignment of Post Road, to shift it somewhat north, is also

possible, and would encroach into these existing lease lots on the north side of Post Road.

Expansion of industrial or Railroad operations west into the Ship Creek PC (Planned Community) Zoning District lands appears unlikely, based on consultations with the Alaska Railroad and the Municipality's recently adopted *Ship Creek Framework Plan*. The PC zoned area is expected to remain designated for commercial/mixed-use related to Downtown. The *Ship Creek Framework Plan* (adopted by the Municipality in 2014) also covers the boat launch area currently zoned MC (Marine Commercial).

Market demand and improvements in sewer service are, however, likely to increase the potential for more intensive industrial use of existing industrial lease lot areas. The Railroad plans to extend wastewater service east to Viking Drive within five to ten years, which will increase the capacity of the area to accommodate industrial users.

The Railroad considers the Terminal Reserve to be well positioned relative to other industrial areas in the Municipality for users that transport goods north from Anchorage. Distribution, warehousing, intermodal shipping container management, and recycling are among the growing uses found in Ship Creek.

Port of Anchorage

Lands owned by the Port of Anchorage are anticipated to remain available only for Port and Railroad related transportation operations. The Port's modernization project no longer appears likely to result in land reclamation or additional space on pilings as a means of increasing the operational land supply in Anchorage within the planning horizon. The Port has redirected its priorities toward modernization to extend the life of its existing operating area. For the purposes of the industrial land study the Port is not expected to contribute additional acreage to the industrial land supply.

Merrill Field Airport

The municipal-owned Merrill Field Airport is zoned I-1 and comprises more than 320 acres of land, some of which is not currently in use. However, consultation with Merrill Field staff indicates only two small parcels on these Airport lands are identified as likely to become available for additional non-aviation industrial or commercial development. Moreover, the Airport plans to expand aviation operations and non-industrial uses into lands currently used for industrial and snow storage activities. Therefore, this study anticipates a net loss of the industrial land base in and around Merrill Field Airport.

Merrill Field intends to ensure adequate lease areas are available to satisfy projected increased demand by aviation uses, subject to Federal Aviation Administration (FAA) regulations prioritizing the national aviation transportation system. Therefore, nearly all of the remaining developable lands within Merrill Field Airport are reserved for aviation uses, airfield and air traffic control improvements, and airport buffer zones to protect against incompatible

uses. The Merrill Field Airport Master Plan and Noise Study Update identifies a potential helicopter training area, tie-down space, and an expanded campground for pilots and aviation passengers. There is demand for additional hangar space than is currently available at Merrill Field. Two additional hangars are in planning stages to be built on vacant, formerly industrial property located on the east side of Orca Street next to the Fairview neighborhood.

The area north of the Municipal Fire Training Center on Airport Heights Drive is underutilized; however, it is questionable if this site is available for long-term lease for non-aviation uses. One scenario considered in the *Airport Master Plan Update_*process_includes the possibility of Airport acquisition of lands east of the Airport, to Airport Heights Drive, for a commercial and/or residential airpark.

Development at the south end of the Airport, next to 15th Avenue, is significantly constrained as it is on the southern edge of the former city landfill that underlies most of the Airport. Merrill Field has an on-going program of improving the development potential in existing developed aviation use areas through a process of "dynamic compaction" of the fill underlying the airport to make the former landfill areas more buildable, or at least make it more stable for paved surfaces. The process delays subsidence for at least 12 to 15 years, based on 10 to 12 feet of compaction, making Airport lands more suitable for longer term improvements and structures. However, improvement costs will remain above normal and the lifespan of structures shorter than comparable improvements elsewhere in town.

The Merrill Field Airport Master Plan directs expansion of the Airport along the east side of Orca Street for aviation use. Two parcel areas currently in industrial use, occupied by Potelcom (wholesale supply) and City Electric (contracting), both generally located east of Orca Street and north of 8th Avenue, are anticipated to be converted to an aviation use such as hangar space within the planning horizon.

Long-term leases for non-aviation uses are required to be at fair market value, and the FAA is moving Merrill Field toward redeveloping its existing leased lands toward a higher income-generating PLI use rather than snow storage and park. A U-Med type of health services use on Tract V (its easternmost tract on the south side of 15th Avenue) would relate to Alaska Regional Hospital, for example. This change in use would eliminate an existing municipal snow disposal site in favor of more commercial/institutional development.

Two parcels within Airport lands may, depending on FAA approval, become available for long-term leases to non-aviation industrial or commercial uses. These parcels are not affected by fill conditions and include:

1. A limited area on the west side of the runway protection zone (RPZ) north of 5th Avenue could be available for a small commercial (non-industrial) use, such as a coffee stand; and

2. A parcel at the east end of the E-W runway could be available for a long-term lease. The site is limited in size and is noisy. However, it has good access along Airport Heights Drive and topography separates it from the runway areas.

At the time of this writing, the future status of the Anchorage Fire Department facilities on Airport Height Road was undetermined.

Merrill Field Airport management does not currently forecast a need for expansion of Aviation uses or supporting industrial uses east of Airport Heights Road in the Northway Mall/Penland Parkway area. Compatible commercial uses in this area such as hotels and commercial services would be adequate and appropriate for Airport support.

Central Anchorage Subarea

Net buildable, available supply of Tier 1 industrial-zoned land: 68.5 acres

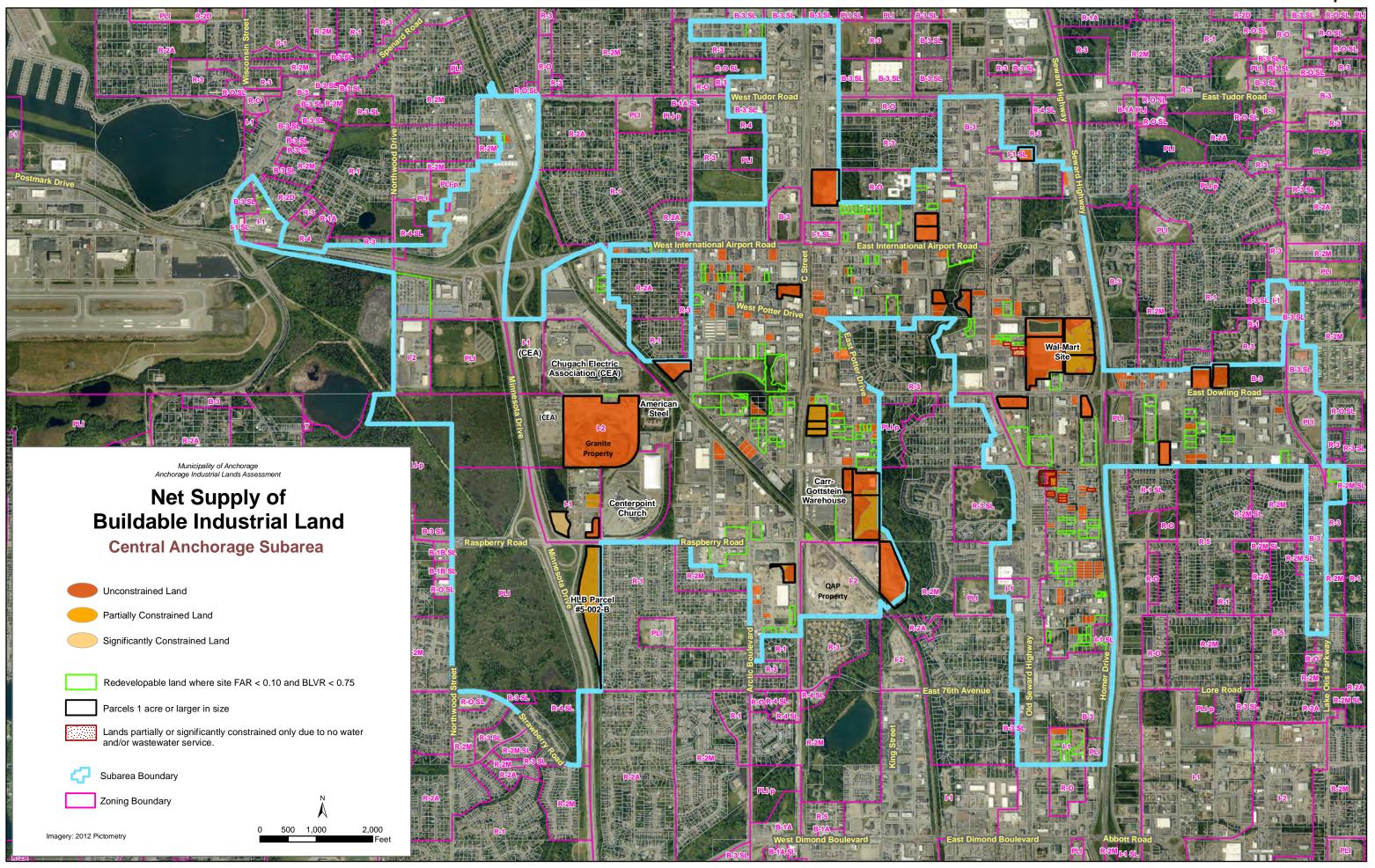
Additional supply in PLI lands: 6.9 acres

Central Anchorage subarea has a net buildable supply of 105.8 acres of industrially zoned land including Tiers 1, 2, and 3, when factoring partial and significant site constraints and commercial utilization rate on industrial land in the Bowl. The total amount of land supply available for future industrial development, including non-industrial-zoned lands, is 112.7 acres.

Map 27 depicts the net buildable land supply in Central Anchorage.

Table 25 indicates there is 17.5 acres of Tier 3 I-1 zoned land in Central. Most of this consists of small lots of less than a half acre in size scattered around the subarea, more than in all other subareas combined. Lots this small are not optimal for most businesses; however, they can provide space for smaller enterprises or supplementary space for businesses outgrowing their primary locations.

More than two-thirds of the buildable land supply in Central Anchorage is zoned I-1. However, approximately 40 percent of the I-1 land supply in Central consists of a single undeveloped site owned by Wal-Mart Corporation. The lot is approximately 35 acres and located south of the municipal Solid Waste Central Transfer Station between the Old and New Seward Highways. At the time of this report Wal-Mart's plans for the site were not known. Wal-Mart received site plan approval for a large retail establishment in 2005; however, no store was built and Wal-Mart instead remodeled its existing stores in Midtown and at Dimond Center.



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Another of the larger I-1 sites in question is a 6.9-acre I-1 zoned property located on C Street between three hotels to the south and restaurants and another hotel to the north. The established land use pattern surrounding it is commercial. The site is being prepared for development.

The remainder of the I-1 zoned land supply, comprising more than a third of the buildable industrial lands in the Central subarea, consists of small-l to medium-size vacant and marginally used parcels scattered in the various industrial areas of Central Anchorage. Several medium-size clusters of vacant or marginally used parcels exist in the general vicinity of the Carr-Gottstein Food Distribution Warehouse, east of C Street near 64th Avenue.

Most of the remaining one-third of the buildable land base is zoned I-2. Almost all of this I-2 buildable acreage consists of a 37-acre site formerly owned by Granite Construction, located south of Electron Drive and north of the CenterPoint Church/cold storage warehouse on Raspberry Road. The former Granite property is being replatted into a subdivision of eight industrial parcels. The primary constraint to development of the property has been a lack of wastewater service. A sewer line will need to be extended from Raspberry Road to the south. This inventory anticipates that wastewater service will most likely be achieved within the planning horizon thereby avoiding significant constraints to the property's development potential.

The second large I-2 property is approximately 10 acres and located at the deadend of Raspberry Road extending east from C Street, next to the Campbell Creek Greenbelt. Its current use observed during the field inventory is dirt and gravel material storage. The inert nature of observed use led the field inventory team to place this lot in the "marginally used" category and include it as part of the land supply estimate.

The Central subarea has a limited amount of acreage of public land that could be available for non-utility industrial use. This includes a 6.7-acre HLB tract zoned PLI and partially constrained by wet soils, located on the east side of Minnesota Drive and south of Raspberry Road. The much larger HLB tracts on the west side of Minnesota Drive are considered committed to natural open space use, based on consultation with HLB. (More specific discussion of all HLB lots within the Anchorage Bowl is provided below, following the discussion of the South Anchorage subarea.)

Chugach Electric Association (CEA) Lands in Central

The Chugach Electric Association (CEA) has invested in a new electrical power generation plant and headquarters building at its Electron Drive campus. The Electron Drive campus still includes several extensive CEA parcels not fully utilized. Consultation with CEA indicates that all of its lands in the Electron Drive campus are reserved for future utility use. These include a parcel located along Minnesota Drive west of the main power generation plant, which is used as a laydown yard for CEA projects, and a larger reserve parcel located to the south. CEA may use a portion of these lands for a pilot project to install a flywheel battery energy storage system as a means of regulating variable wind resource inputs into the power grid.

CEA is exploring the potential for a waste-to-energy plant in another part of the Central Anchorage subarea. Such a plant may generate up to 20 megawatts of electricity and require 20 to 25 acres of land. For transportation reasons CEA believes that the optimal location for such a plant would be next to the municipal Central Transfer Station rather than on the CEA Electron Drive campus. This scenario remains in concept only. If plans solidify, the industrial lands inventory should be adjusted to remove an additional 20 to 25 acres from the estimate of net buildable land supply available for non-utility industrial uses.

International Airport Subarea

Net buildable, available supply of Airport land: 77.5 acres

The largest subarea of the Anchorage Bowl consists primarily of the Ted Stevens Anchorage International Airport (TSAIA) property. It also includes the AWWU Asplund Wastewater Treatment facility and municipal park and HLB lands west of the Airport. However, these municipal lands are not considered as potential industrial sites, other than continuation and potential expansion of the AWWU utility function, and any Airport operations expansion that may occur from a potential future land exchange between TSAIA and the Municipality.

This Subarea has a net buildable supply of 77.5 acres of Tier 2 land, when factoring partial and significant site constraints and commercial utilization rate on industrial land in the Bowl. Although parcels are large in size and mostly uplands, all of this potential supply is located on TSAIA property, zoned variously as I-1, PLI, and T; and may be subject to constraints on industrial uses.

Ted Stevens Anchorage International Airport

The state-owned TSAIA property includes 4,733 acres. TSAIA provides primary passenger and cargo service to the region, serves as the primary means of transportation for many rural Alaska communities, and is a worldwide air cargo refueling and distribution point. The Airport has recently grown in area with the transfer of the former Kulis Air National Guard Base (2011) and the former Federal Communications Commission (FCC) property (2014) along Raspberry Road near South Airpark.

Parcels within Airport properties which are fully or partially in use account for approximately 2,700 to 2,800 acres of Airport land. Most of the remainder, other than areas in parks and recreational trail use under temporary use permit, is undeveloped, and is not currently in use. This includes significant land holdings west of the N-S runway (West Airpark), in the vicinity of Postmark Drive (North Airpark), and south of the E-W runway (South Airpark) including the aforementioned FCC and Kulis ANG acquisitions.

For reasons discussed below, the Industrial Land Assessment identified only four tracts of developable or reusable Airport land, which may be available for future non-aviation industrial use. However, the tracts are relatively large, as compared to the average vacant parcel size in other subareas of the Bowl. Map 28 shows these developable tracts, which are located along Raspberry Road and east of Jewel Lake Road along the south side of International Airport Road. A fifth tract, comprising the south portion of the Airport's recent FCC land acquisition, was also identified by the Airport and is discussed below.

The Airport is subject to Federal Aviation Administration (FAA) regulations that restrict non-aeronautical use of airport land, including most industrial uses. When airports accept land or funding from the federal government, they agree to certain assurances in return. This policy is intended to make sure that federal resources are used for their intended purpose of enhancing the national aviation system. TSAIA has accepted both land and funding and, therefore, is subject to FAA grant assurances. Grant assurances apply to the entire Airport property, not just the parts acquired with federal resources.

The Airport can permit non-aeronautical uses on a short-term, interim basis, provided the area is not needed for immediate airport development and the use is compatible with airport operations. The length of the lease period depends on when the Airport may need the land. The typical maximum lease of airport land for non-aeronautical use is five years although some parcels designated non-aeronautical use on the Airport Master Plan will likely be available for up to 35 years. Lease rates for non-aeronautical uses must be based on fair market value. By contrast, aviation uses receive a discounted lease rate and a longer (35-year) lease term.

Nearly all industrial sectors besides airport transportation operations would be classified as a non-aeronautical use, and are therefore subject to the limitations above. For example, non-aeronautical uses as classified by the FAA include: freight forwarding companies; administrative offices of airline corporations; the U.S. Postal Service Office at Postmark Drive; and seafood cold storage warehousing and fish processing facilities for handling and consolidation of seafood products transported by air. Most industrial or transportation users besides the operation of aircraft or direct support to the operation of aircraft is likely to be considered non-aeronautical related.

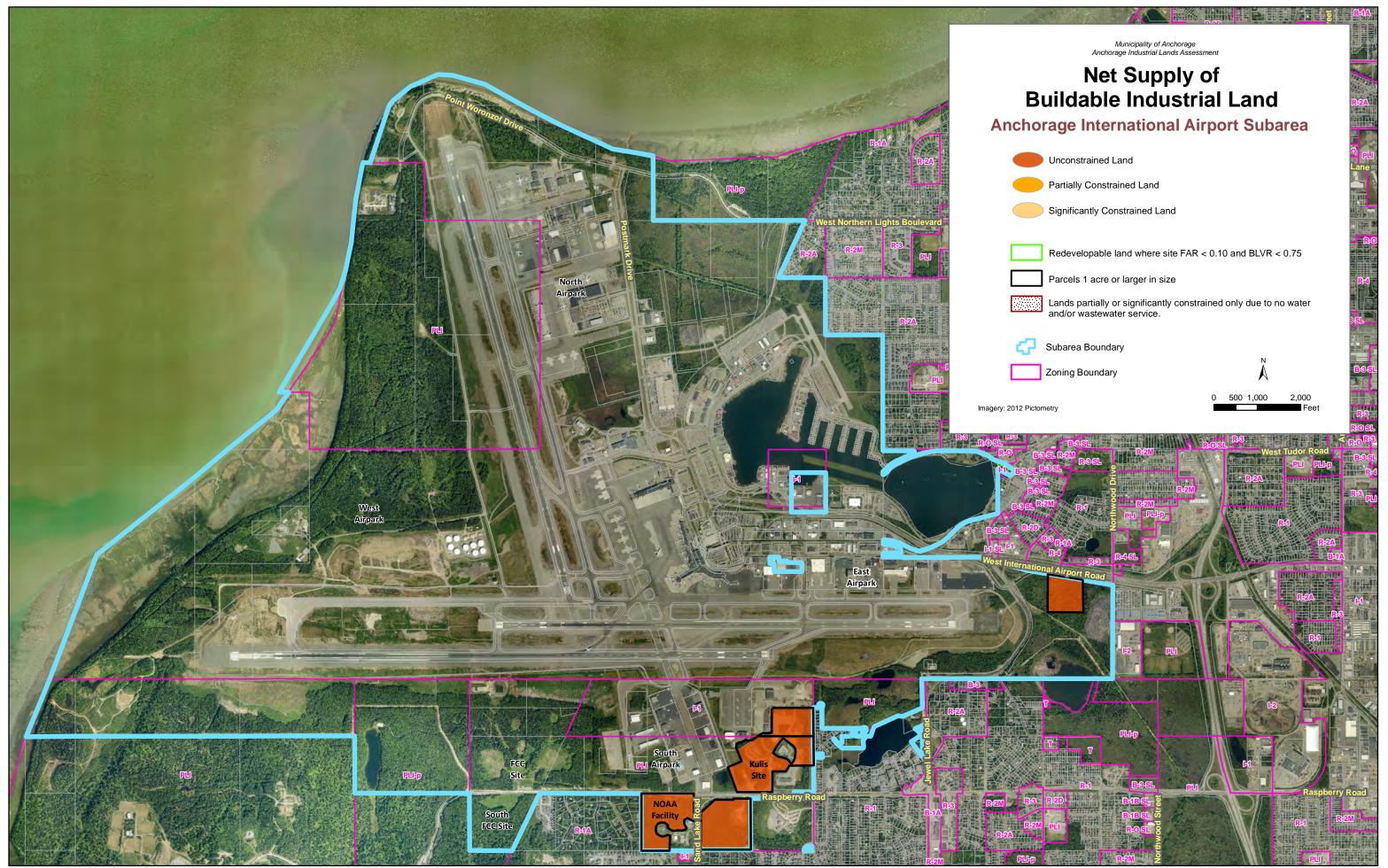
Parts of TSAIA that have existing runway access will remain reserved exclusively for aeronautical related use. These include the West Airport area on the west side of the existing N-S runway, the South Airpark area comprising

most of the lands north of Raspberry Road, and the North Airpark area in the vicinity of Postmark Drive. The five-year limitation on non-aeronautical land leases makes these areas unlikely candidates for non-aeronautical industrial uses, because leasing on a five-year basis is inadequate for most industrial businesses to invest in vertical improvements on the land. If vertical improvements cannot be sold to the next (lessee) user, the improvements are required by Airport regulations to be torn down by the lessee.

However, some of the Airport property not currently in use and which does not have direct runway access is considered likely to be available for long-term leases for non-aeronautical use. For example, TSAIA has recently been able to offer 35-year leases in parts of the former Kulis Air National Guard Base, because the FAA has agreed to let Kulis be designated as an interim non-aeronautical use area. TSAIA achieved this by demonstrating to the FAA that the former Kulis ANG lands would not be needed for aviation uses for the foreseeable planning horizon. The State of Alaska is working with the FAA to designate approximately 68 acres of the 129 acres. Approximately 193,000 square feet of existing building space is available for lease. This includes four office buildings in the uplands located away from the aircraft parking aprons and three hangars adjacent to the apron.

TSAIA is working to designate additional Airport lands to allow longer-term leases for non-aviation uses as part of its *Airport Master Plan* (AMP) Update (December 2014). The AMP identifies and plans for airport growth needed to meet forecasted aviation demand. The FAA requires an AMP to include an "Airport Layout Plan" (ALP) set of drawings, which includes an airport land use plan map and development phasing plan. Most of the AMP Update was finalized as of March 2015; however, the Airport Layout Plan was still only available in draft form. Subject to FAA approval, the draft ALP designates several areas in the draft airport layout plan to allow long-term non-aviation uses on 35-year leases. Those areas include the following:

- 1. The southern half of the former Kulis Air National Guard Base, comprising approximately 68 acres, as discussed above;
- 2. The Airport tract located east of Jewel Lake Road along the south side of International Airport Drive, comprising approximately 37 acres; and
- 3. The three Airport tracts located on the south side of Raspberry Road, including: the south part of the recently acquired FCC property (39 acres); the undeveloped portion of the National Oceanic and Atmospheric Administration (NOAA) facility site located on the southwest corner of Sand Lake Road and Raspberry Road (18 acres); and the vacant tract on the southeast corner of Sand Lake Road and Raspberry Road (29 acres).



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In addition, a non-aeronautical use area is designated for the existing industrial parcels of East Airpark, located along the south side of International Airport Road west of the Airport Terminal. However, this analysis has determined that it would not be prudent to count on East Airpark contributing additional industrial land supply. Because East Airpark is in existing use, it is assumed to be unlikely to redevelop at substantially higher than existing intensities within the planning horizon.

The three areas discussed above may provide only a partial opportunity for industrial uses, for several reasons. First, even areas without direct runway access and which are designated to allow non-aeronautical use leases still allow and prioritize aeronautical users. There are aeronautical uses that can (and do) locate in areas that do not have runway access. Aviation uses have priority on TSAIA lands. However, TSAIA representatives to the Industrial Land Assessment Advisory Committee have explained that non-aeronautical use areas on Airport property are most likely to be available for long-term commercial or industrial lease.

Second, the Airport is obligated to consider all applications to lease airport land, and is required under federal grant assurances to lease to the highest income generating use compatible with Airport operations. Because commercial uses can command a higher rent, there is no guarantee that lands available for long-term leases for non-aviation uses would be leased to an industrial (PDR) use as opposed to a commercial (non-PDR) use.

Third, most of these tracts are currently zoned PLI (Public Lands and Institutions). Typically, the range of potential industrial uses in a PLI district is somewhat limited unless approved by a zoning variance. In the experience of TSAIA the Municipality has been lenient in allowing departures from the allowed use limitations, perhaps in part due to recognition that PLI is not necessarily an appropriate zoning designation for airport lands. The Municipality has stated its intent to complete the preparation of an airport-specific zoning district replacing the patchwork of PLI, T, and I-1 zoning on Airport lands (ref. *West Anchorage District Plan*; Anchorage Municipal Code Title 21 Section 21.04.060A.). Therefore, airport PLI zoning alone is not considered a prohibitive constraint for most of these lands, at least for the purposes of this 20-year industrial lands analysis.

Additionally, the largest of the three Airport tracts located south of Raspberry Road is the recently acquired former FCC tract (39 acres). The Airport planning managers suggested that the Industrial Land Assessment inventory of potential industrial lands include this site. In review of recent planning processes, this analysis considers the south FCC tract to be, on a relative scale, the least likely among the non-aeronautical use lots in the Airport Master Plan to become industrial areas. The FCC lot could be affected by the local community prioritization of this site for parks and open space use. The West Anchorage District Plan (WADP), adopted by the Anchorage Assembly in 2012, designates

this parcel in a manner that recognizes Airport ownership and use subject to FAA restrictions. However, it also overlays a "Parks and Natural Open Resource" Alternative Land Use Classification on the property. This is consistent with the way the WADP classifies other open space priority areas including the Coastal Trail, Sisson Loop, Connors Bog, and Little Campbell Lake areas on Airport land. This reflects the Municipality's prioritization of this site as future open space as part of a potential comprehensive land exchange agreement with the Airport. The report and findings of the West Anchorage Land Trade Task Force (October 2014), states that the Municipality and the public have a long-term primary interest and need in the FCC parcel. Municipal officials and community representatives on the Task Force proposed future use as parkland or as an airport buffer. These factors make the future use of the site for industrial development uncertain, such that this Industrial Land Assessment recommends to avoid counting this acreage when estimating the community's net supply of industrial land.

Finally, the Anchorage Economic Developing Corporation (AEDC) recently completed a study with the State of Alaska and a consulting firm to determine the potential for development of an air cargo logistics industry accessing the Airport. Were such an industry to develop, it may compete with existing industrial users for space in and around the Airport.

As of this writing, the global logistics study was available on the AEDC website at the following URL:

http://aedcweb.com/wp-content/uploads/2014/10/AirCargo-Economic_Development_Opportunity.pdf.

Given these constraints, the industrial land supply estimate includes the acreages of the former Kulis site, Airport-owned uplands along the south side of International Airport Road (north of Connors Bog), and two of the Airport-owned parcels south of Raspberry Road at its intersection with Sand Lake Road.

South Anchorage Subarea

Net buildable, available supply of Tier 1 industrial-zoned land: 73.4 acres

South Anchorage has more buildable acreage of industrially zoned land than any other subarea in the Municipality. Most of its industrial-zoned land supply consists of larger parcels than industrial lots available in other subareas. However, unlike most of the other subareas, South has very little PLI or T zoned land available for future industrial use. Therefore, the total net buildable supply in South Anchorage, when factoring partial and significant site constraints and commercial utilization rate on industrial land in the Bowl, is only 112.1 acres.

Map 29 depicts the net buildable land supply in South Anchorage. Almost 60 percent of this land supply is located in the I-1 district, and nearly all of the remainder is zoned I-2.

The industrial zoned supply includes 15.8 acres of Tier 3 (less than half-acre lot size and/or significantly constrained) land, after factoring in the commercial utilization rate (Table 25). Most of the 8.0 acres of I-1 zoned Tier 3 land is comprised of lots smaller than a half acre. In contrast, the almost equal amount of I-2 zoned Tier 3 land is larger lots that are significantly constrained because of environmental or wastewater service limitations. Most of the 22 acres of Tier 2 land consists of a cluster medium to large sized parcels in the I-1 district straddling King Street north of 92nd Avenue, all partially constrained by wetlands.

Other than the south King Street and C Street corridors (discussed below), much of the land supply in the South Anchorage subarea is comprised of scattered individual or groups of small to medium-size parcels, in a similar pattern as in the Central Anchorage subarea. Several are pockets of small, individually owned lots which are vacant or marginally used that do not have water or wastewater services. There are several undeveloped parcels remaining in the Huffman Business Park I-1 district. Some scattered vacant or marginally used lots exist along the Old Seward Highway corridor. The largest is a cluster of partially vacant private and municipal lands along the east side of the Railroad Corridor around 92nd Avenue. Another cluster of lots line the west side of Old Seward Highway south of 100th Avenue. Scattered B-3 and I-1 zoned parcels exist between O'Malley Road and Huffman Road.

The most significant area of vacant or marginally used lots outside of the King Street and C Street corridor is located on the south side of Lore Road, one block east of the New Seward Highway, at the northwestern end of the Cinnabar Loop industrial area. This includes a vacant 10-acre parcel fronting on Lore Road and a number of smaller lots to the south. A number of other parcels in active use in the Cinnabar Loop vicinity meet the thresholds of low FAR and low BLVR used by this analysis to identify potentially redevelopable lands.

However, the majority of the remaining land supply is clustered among vacant, partially vacant, and marginally used lands in the King Street and C Street corridors south of Dimond Boulevard. A cluster of lots, constrained by Class C Wetlands, comprising around 20 acres in total, straddles King Street just north of 92nd Avenue. Several medium-size tracts also exist north of 100th Avenue on either side of King Street. Among these is the King Street parcel owned by Fairweather, an oil services related company. Another is a pair of adjoining lots, about 7.5 acres between them, advertised as a future distribution warehouse development site along 100th Avenue abutting the Railroad Corridor on the west side.

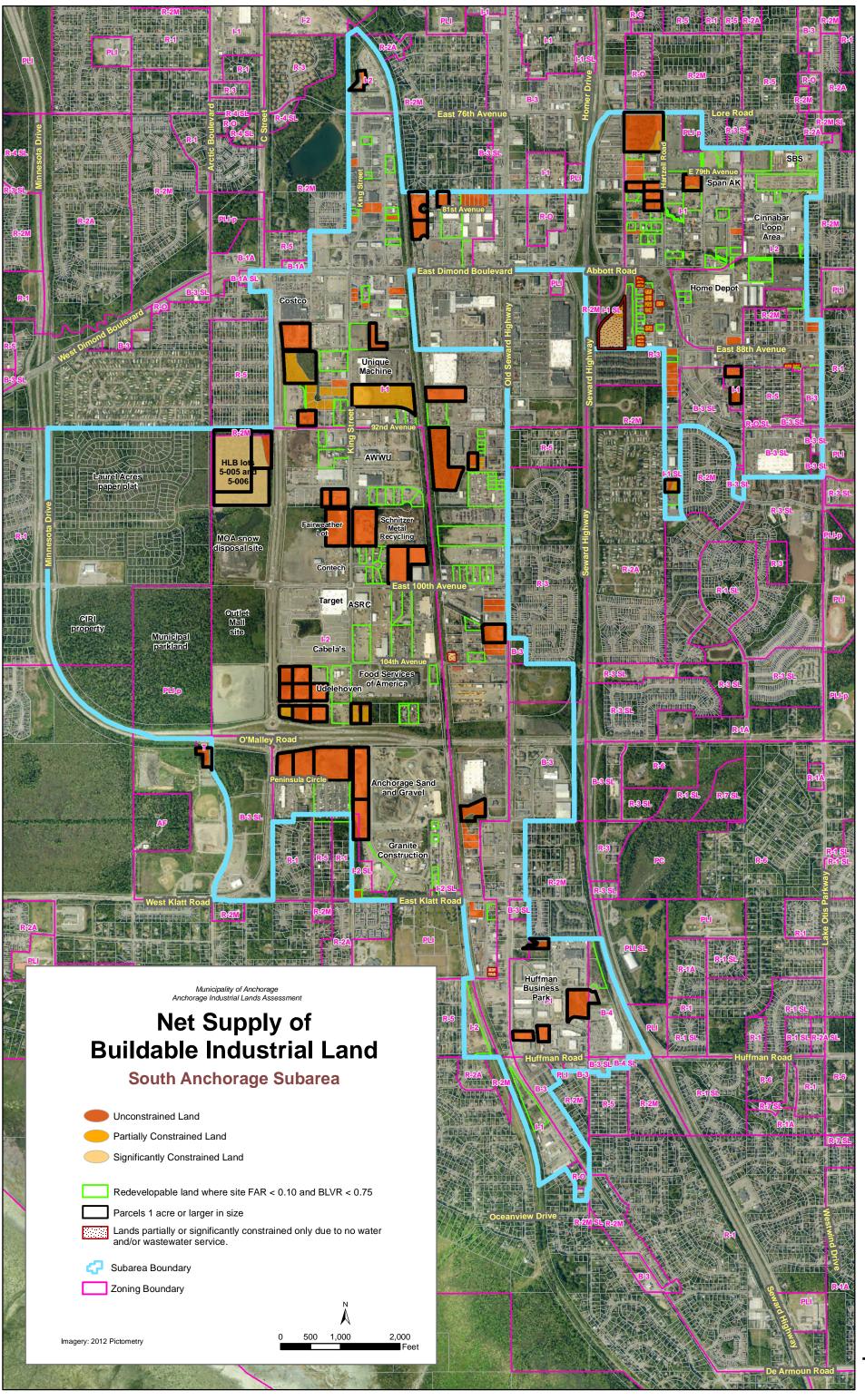
The two largest areas of net buildable land supply available to industrial use in South Anchorage are along C Street. The first is comprised of the northeast and southeast quadrants of the intersection of C Street and O'Malley Road. The lots in the northeast quadrant, between O'Malley Road and the Cabela's parking lot, are considered likely to come under market pressure to be developed as retail commercial as a sewer line is extended to the east side of C Street in that area. The lots in the southeast quadrant are used only seasonally as snow storage.

Other vacant lands south of Dimond Boulevard between C Street and Minnesota Drive are not expected to contribute industrial land supply. Among these is Laurel Acres, a large, paper platted (i.e., unimproved) subdivision located on the east side of Minnesota, extending between Dimond Estates Mobile Home Park in the north to a religious institution (City Church) at 100th Avenue to the south. The area is zoned for residential development. Various public agencies own some of the parcels; however, a majority is privately owned by multiple individual property owners.

The municipal Public Works Department is in the process of purchasing two of the four large privately owned lots that comprise the eastern portion of Laurel Acres Subdivision. The four lots are located along the west side of Arctic Boulevard (extended). Public Works is attempting to acquire the lots in order to locate a Vactor plant for storm water sediment treatment, and expand the existing snow dump adjacent to the east. All four lots remain zoned R-1. They could be available for future development for public facilities (e.g., the Vactor plant) or commercial or even industrial use, if re-designated for such use in the Comprehensive Plan and subject to a rezoning process.

The remaining lands within the study area west of C Street are considered unlikely to be available for industrial use. These include a dedicated municipal park and two tracts owned by CIRI that are committed to non-industrial (commercial and residential) use.

The second group of buildable industrial properties is along the east side of C Street. It includes three municipal HLB properties zoned I-2 abutting the municipal snow disposal site north of 100th, as well as four medium-size lots to the west of the snow dump that are currently zoned R-1. A discussion of these lots and other existing HLB lots in the Bowl follows.



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Municipal Heritage Land Bank (HLB) Lands in the Bowl

The Heritage Land Bank (HLB) is a division of the Municipality's Real Estate Department, which works with other municipal entities such as the Community Development Department, Anchorage Community Development Authority, Parks and Recreation Department, Anchorage School District, and the Anchorage Fire Department, among others, to provide land needed for a variety of public purposes.

Consultations with HLB indicate a limited number of HLB parcels in the Anchorage Bowl are potentially available for industrial purposes given the HLB's existing land bank portfolio. Municipal planners reviewed a number of candidate industrial sites on a parcel-by-parcel basis. Table 29 identifies specific HLB sites and notes any significant limitations or constraints.

For the most part HLB lands are not available for future industrial development for the following reasons:

- 1. High-value wetlands that provide important environmental mitigation measures subject to U.S. Army Corps of Engineers permitting requirements;
- 2. Contamination that would require remediation;
- 3. Difficult parcel configuration;
- 4. Zoning or designation by municipally adopted plan for residential or commercial use; and,
- 5. Designations for public use only.

In a number of cases, certain municipal lands are encumbered by "reverter clauses" that require the reconveyance of the property back to the previous owner (usually the state or Federal government) if the property is no longer used for the specified public purpose.

HLB parcels within the Industrial Land Assessment study area are included in the maps and acreage counts of gross land supply, including vacant, partially vacant, and marginally used lands. If the following Table 30 indicates a HLB parcel is "potentially available," then the parcel's acreage is also included in the net buildable land supply maps and counted toward the total acres of available industrial land for this study.

Table 30. Heritage Land Bank – Industrial Study Parcels

Parcel Location	Status
HLB Parcels 5-001, 5-002-A, 5-021, 5-020, consisting of undeveloped natural open space woodland and bog on the west side of Minnesota Drive extending from Connors Lake Bog/Javier de la Vega Park in the north to Strawberry Road in the south.	These parcels include high value wetlands, some of which are located in conservation easements. These lands are designated in the West Anchorage District Plan as open space.
Blueberry Lake HLB parcel located on east side of Minnesota Drive between CEA utility campus lands to the north and Raspberry Road parcels to south.	This parcel consists of wetland forest around an open waterbody and is subject to a permanent conservation easement.
HLB 5-002-B, a narrow parcel including uplands located on southeast corner of Raspberry Road and Minnesota Drive	Potentially Available. Includes some uplands with no conservation easement; the lot layout is very narrow which may constrain industrial use. It has been found too narrow for MOA Street Maintenance vehicle shops for heavy equipment.
HLB Parcels 5-005 and 5-006 located between C Street and Arctic Boulevard (extended), south of 92 nd Avenue ROW.	Potentially Available. Zoned industrial; however, affected by wetlands. If other lands are not acquired, it may be used in part for expansion of existing municipal snow dump abutting to the south, or to locate a four acre Vactor plant for storm water sediment treatment.
HLB 5-010, 5-011, and 5-012, a trio of small lots located on the north frontage of O'Malley Road, part way between the Alaska Railroad corridor and C Street.	These undeveloped parcels are subject to a reverter clause and therefore available for public use only, such as for support for the municipal Street Maintenance Division.

Table 30 continued

Parcel Location	Status
HLB 4-021 containing the Brother Francis Shelter. HLB 4-046 and 4-047, comprising most of the site of the former Alaska Native Hospital.	These lots were acquired by HLB in anticipation of the Knik Arm Crossing (KAC) and Glenn Highway to Seward Highway connection projects.
	Native Hospital Site (Eastern Lot) Potentially Available for Limited Use
	The two former Native Hospital site parcels are impacted by high and very high seismic ground failure hazard designation. They may also be future right-of-way for the Knik Arm Crossing project. In the interim, these parcels could be used for lay-down yard storage or other low intensity industrial uses on a temporary (lease) basis. They seem unlikely to be developed under long-term lease for more intensive industrial use. The western HLB lot is designated for mixed-use residential in the Downtown Comprehensive Plan.
HLB 3-002, located on east side of Reeve Blvd., north of Viking Drive.	Potentially Available. Mostly woodland under Railroad lease to HLB. May be affected by steep slope or wetlands.
HLB 3-004, located along east side of Reeve Boulevard and north of	Potentially Available.
Commercial Drive	Contaminated site affected by steep slopes, but could be remediated and made available in part for future industrial development.
HLB 3-010, abutting north end of the new Special Olympics center on Mountain View Drive.	This lot is for use as driveway access to adjacent parcels.
HLB 3-069, on northwest corner of Commercial Drive and Mayer Street in the Mountain View neighborhood.	Potentially Available.
	This is a vacant, undeveloped parcel that was part of lands recently re-platted into three parcels. AWWU and Street Maintenance each received one parcel and HLB retained the remainder parcel of approximately 3 acres, which now comprises HLB 3-069. The lot is zoned I-1 and is potentially available for industrial.

Table 30 continued

Parcel Location	Status
HLB Parcel on north side of Porcupine Drive in the Commercial Drive industrial area	HLB parcel consisting of an old one-story office building complex. Although zoned for industrial use in an industrial area, it is required to be used for public or institutional use only, subject to a reverter clause. It is not available for commercial or industrial use.
HLB Parcel 3-009 on northwest side of Mountain View Dr., north of Glenn Highway intersection	Municipal Paint/Sign Shop.
HLB Parcel 3-011 on NE corner of Glenn Highway intersection with Airport Heights/Mountain View Drive	Undeveloped wetland wooded lot reserved for future right-of-way for the Glenn Highway.
HLB and other public lands in East Tudor Road and Far North/Bicentennial Park vicinity (Not included in Industrial Land Assessment study area).	None of the HLB parcels in the vicinity of Far North/Bicentennial Park are considered to be candidates for industrial development. They are primarily intended for park, open space, and wetland use. The Bureau of Land Management (BLM) has recently renewed its long-term lease on the Campbell Airstrip area.

Fire Island

Fire Island is located approximately three miles directly west of Point Campbell (Kincaid Park) and Ted Stevens Anchorage International Airport.

Approximately five miles in length and two miles wide, the island contains approximately 4,240 acres, which is mostly undeveloped land except for wind power turbines in the southwestern part of the island. It is included in the study area to assess its potential availability for more intensive development within the planning horizon.

Ownership of most of the island has transferred from federal agencies to Cook Inlet Region, Inc. (CIRI), which filed land selections on Fire Island following the Alaska Native Claims Settlement Act (ANCSA). Remaining FAA lands were declared in excess of FAA needs and are in the process of being transferred to CIRI, which will then own all of Fire Island except for a U.S. Coast Guard reserve area of approximately 200 acres around Race Point, a natural, deep water harbor site on the north side of the island.

CIRI is the largest private landowner in Southcentral Alaska, with 1.3 million acres of subsurface estate. CIRI owns, manages, and invests in significant commercial and residential real estate developments in Alaska and the South 48

states. CIRI Land Development Corporation has expressed in a consultation for the Industrial Land Assessment project an interest in future development of Fire Island for residential and/or industrial uses.

The consultation with CIRI real estate and wind energy staff highlighted existing and future wind energy projects on Fire Island. So far 11 wind turbines have been constructed on the southwestern corner of the island. This alternative energy project produces about 18-megawatts of electricity that is delivered to Chugach Electric Association (CEA) via submarine cable. A second phase of wind turbine development has begun construction. A future third phase is presently on hold.

There is no ground transportation access to Fire Island. Access remains limited to small boat or aircraft. The CIRI Land Development Corporation remains interested in the construction of a causeway that would connect Fire Island to the Anchorage Bowl. A causeway would create accessibility for more intensive land use development opportunities.

However, the distance from developed portions of the Bowl to Fire Island is comparable to the distance across the Knik Arm between Anchorage and the Mat-Su Borough at Point MacKenzie. Historical cost studies indicate that the access alone would represent a significant financial investment. A 1988 feasibility study evaluated the construction of a bridge linking Fire Island with Anchorage at an estimated cost of \$55 million (1980s dollars). Investments in connecting roads and utilities would also need to be made on both Fire Island and the Bowl sides of the causeway. Increasing cost and environmental permitting issues, as well as the distance factors involved would require the Municipality to make a major investment and reprioritize its transportation improvements from current adopted planning priorities, in order to make access to Fire Island a reality within the 20-year planning horizon.

Neither the Municipality nor the State has any plans to study or build a causeway. The Municipality of Anchorage *Metropolitan Transportation Plan* (MTP) establishes project priorities through year 2035. Its list of transportation projects does not include so much as an access reconnaissance study, even among the longer-term and unfunded illustrative (aspirational) projects. Current State and Federal budget constraints, and competing State and local project priorities, and cost factors continue to keep Fire Island access from being a substantive priority in transportation plans. It may be that, beyond the planning horizon of this industrial land assessment study, the cost of providing direct bridge access from the International Airport to Fire Island will be justified, perhaps as part of a larger project. Imaginable scenarios might include the arrival of a massive new driver industry for the state (e.g., air cargo logistics), or a "Turnagain Arm Crossing" connecting Anchorage through Fire Island to the Kenai Spur/Pipeline road route to Nikiski and Kenai.

Other factors limiting development potential during the planning horizon may (or may not) limit industrial development potential. These include site factors such as topography, seismic hazards, bird and sensitive wildlife habitat, and airport height restrictions on the northern portion of the island. Additionally, future use of the Island remains undesignated in the Comprehensive Plan, and the island is zoned Transition (T). Future intensive development would require amending the city's comprehensive plan and zoning designation for the island. Industrial uses may compete with other potential land uses, such as public facilities or even residential. The northern half of the island, which is directly underneath flight approaches at TSAIA and includes a potential deep water port site, does appear to be more appropriate as a light industrial rather than residential or commercial use area.

Because significant changes would need to occur in current and forecasted growth trends, adopted State and Municipal planning policies, transportation technology, and/or public and private investment priorities, Fire Island and its approximately 3,400 acres of buildable land under the current trends scenario appear to be prohibitively constrained from being reachable for ground access industrial development within the 20-year planning horizon. It seems likely to continue to be limited to utility power generation. While trends can change, the information above suggests that the more prudent course for the municipal wide land assessment is to avoid assuming the availability of these lands as part of the industrial land supply available to satisfy industrial land demand through 2035, at least under the current trends growth scenarios and policies.

Joint Base Elmendorf–Richardson (JBER)

Joint Base Elmendorf-Richardson (JBER) was formed by combining Elmendorf Air Force Base and Fort Richardson as a result of the 2005 Base Closure and Realignment Commission. The 673d Air Base Wing was activated as the host wing combining installation management in July 2010. Today, the military installation and reserve occupies some 73,014 acres. The installation and reserve is located on the north-northeastern border of the Anchorage Bowl, and on the west-southwestern border of Chugiak-Eagle River. Most of JBER (about eighty-five percent) consists of Federal lands that were originally withdrawn from the public domain. These lands were most recently administered by the Bureau of Land Management (BLM) on behalf of the Department of the Interior. The remaining portions of JBER (approximately fifteen percent) are former private in-holdings, mostly homesteads that were purchased or reacquired by the U.S. Government, directly for the military, and are designated as fee simple title or reacquired property.

Some observers have speculated that various JBER properties constitute a potential source of surplus, undeveloped land that could serve as a prime supply of industrial lands. On the other hand, military officials have generally tended to view the supply and demand of military property through the lens of encroachment. The U.S. Air Force, for example, defines encroachment as "any deliberate action by any governmental or non-governmental entity or individual that does, or is likely to inhibit, curtail, or impede current or future military activities within the installation complex and/or mission footprint; or any deliberate military activity that is, or is likely to be incompatible with a community's use of its resources."

Land use development outside of JBER poses cumulative impacts to military operations. Examples of land development impacts include: realignment of the Alaska Railroad Right-of-Way, the proposed bridge over Knik Arm to Point MacKenzie in the Matanuska-Susitna Borough with access through JBER property, critical habitat designation for Cook Inlet Beluga whales, and commercial or long-term real estate interests involving rights-of-way, easements, land use permits, leases, outgrants, land transfers, exclusive use areas, and special concessions, many of which are viewed as detrimental to current or future military operations and training requirements. As demand in the Anchorage Bowl and Chugiak-Eagle River area for home building, shopping malls, and industrial parks continues to increase, so does the frequency of potential conflicts associated with military-generated noise impacts and requests for use of JBER lands for recreation and other purposes such as industrial development.

Moreover, as military budgets have been reduced there has been increasing interest in finding new ways to generate revenue to support base operations. One method known as Enhanced Use Leasing (EUL) is a relatively new capital asset management tool in the U.S. military's real property toolbox. EUL provides an alternative to the traditional approach of acquiring, constructing, or upgrading land and/or facilities. It provides a mechanism for receiving rent, in cash or in-kind services at no less than fair market value of the asset, by leveraging assets that are currently available, but not excess to military needs.

For its part, the Air Force's EUL program seeks to partner with public entities or private developers to create mutually beneficial commercial projects on non-excess Air Force real property. The goal of the EUL program is to optimize the full value of its real property assets. Air Force EUL projects throughout the South 48 states have been implemented ranging from energy to commercial real estate development.

Recently, one constraint that would have historically limited leasing of JBER land for non-military use has been removed. As previously noted, eighty-five percent of JBER lands were designated as withdrawn and under the administration of the BLM. BLM was entitled to receive revenues generated from leases on withdrawn lands, so there was no incentive for JBER to pursue or agree to a EUL on those lands. Now, according to JBER staff, BLM no longer administers any new outgrants for use on the base, thereby providing the base with the authority to enact them.

However, there remain several significant constraints that limit the potential utility of EUL at JBER. First, there is a general federal government policy that federal lands must be used for a federal purpose. If the federal government does not need the land then it may be designated as surplus property. If Base lands are not needed for a military use, then they must be returned to the BLM.

A second constraint is that JBER does not need a EUL to support its long-term mission mandate. In other military installations, for example, there may be opportunities for an EUL to develop a hotel or facility that can complement a

specific need on that particular military installation. JBER apparently has, with the exception of certain utility facilities or services, what it needs to operate on base. Therefore, the only incentive for a EUL would be to enhance revenue generation. However, revenue generation is not a function of the military, and would only occur if it is found not in conflict with but rather in support of its overall mission.

A third constraint is that JBER actively uses most of its land area for base operations, training, or as a buffer zone for sensitive land management purposes. The base was historically much larger, including parts of what are now the Chugiak-Eagle River area and Chugach State Park. While the base has shrunk in area from its largest extent, its training mission and operational needs over time have not diminished. Information provided by JBER indicates that the Base has a shortfall of 11,345 acres based on calculations from its unit training requirements and U.S. Army minimum standards (ref. U.S. Army Training Circular 25-1). Consequently, the military makes up for this deficit by transferring some training activities to other areas within the state, such as Donnelly Training Area in Interior Alaska. However, training in away locations is substantially more expensive, and so is minimized to the extent possible.

Operations on the base have increased recently as overseas deployments have been reduced while domestic training requirements have increased. Some parcels in the base that may not currently be viewed by some observers, or the general public, to be fully in use may actually be used for training, storage; or may be needed for future expansion; or may be located fully internal to the base in sensitive areas not appropriate for outside civilian encroachment or use. Some training areas, for example, require large buffer zones due to year-round live-fire weapons training using explosive or non-explosive ordnance in various training areas. In consultation with Planning Division staff, military officials and civilian contractors alike have emphasized the need for greater public awareness regarding the use of the Training Areas, as well as the associated operating requirements of JBER. Map 30 (provided by JBER staff) illustrates that its training ranges, of which some are used for live-fire exercises, comprise nearly all the seemingly "undeveloped" portions of JBER along the Glenn Highway and west of Eagle River.

A fourth constraint is that roughly sixty percent of the fee simple and withdrawn lands on JBER are subject to provisions of land acts or agreements that include the North Anchorage Land Agreement (NALA); the Alaska National Interest Lands Conservation Act (ANILCA); and, the Alaska Native Claims Settlement Act (ANCSA).

NALA is recognized by BLM where it pertains to land title transfer of certain lands covered by the agreement. Alaska Native regional corporations such as Cook Inlet Region, Inc. (CIRI) and Native village corporations such as Eklutna, Inc., have top filed claims to most of the lands located within JBER, and they have the first claim to these lands if they are declared in excess. Native regional and village corporations view these lands as the remaining part of their land entitlement due from the federal government that have yet to be finalized.

Furthermore, they have a legal right to these lands if they are considered surplus and unnecessary for military use.

JBER has discovered through experience that if it attempts a EUL for an extended lease period of 25 years or more, Native regional and village corporations will most likely pursue their entitlement rights to lands not deemed necessary for federal use. As noted above, the Air Force cannot keep land if there is not a specific need. These constraints in combination are deemed to be major obstacles to the use of nearly all existing JBER property for non-military industrial uses within the 20- to 30-year community planning horizon, assuming that current municipal land management trends and policies continue.

Municipal planning staff developed the following criteria to determine if any specific individual sites with industrial development potential exist in JBER, and assess the suitability of those industrial study sites:

- Areas for which there is no identified existing or future need to support JBER functions for a 25-year or more lease time horizon;
- Areas where the non-military uses of the site would have no identified impact on existing or anticipated JBER uses on adjacent lands.
- Areas located at the Base periphery, which can be accessed from roads exterior to the Base, and not interior or sensitive to Base operations.
- Areas with road access to freight trucking routes, and preferably with potential to be served by utilities (e.g., sewer and water).
- Areas near other industrial uses, to effect clustering and compatibility.
- Areas at least 5 to 10 acres in size.
- Areas that can accommodate site-specific industrial or utility use types compatible with JBER and for which there is an identified need in the community.
- Areas subject to ongoing or previous agreements by JBER for nonmilitary use.

These criteria were prepared in the context of awareness of encroachment issues that potentially impact JBER, and the need to minimize impacts to its mission sustainment function.

According to these criteria, an assessment of JBER lands identified only four sites in JBER worthy of consideration as industrial study sites. (A fifth study site located east of the Port of Anchorage and north of Government Hill neighborhood was removed from consideration after receiving additional information and clarification from JBER.) These industrial study sites tend to be located at the periphery of the Base, away from sensitive operational areas, and adjacent to existing industrial districts or local community utility facilities. The

municipal Planning Division researched the status of the sites and discussed them in some detail with officials and contract staff from JBER, and parties to NALA (MOA; Eklutna, Inc.). Research and discussions revealed a complex and politically sensitive land management system that is quite different from the typical EUL arrangement conducted in the Lower 48. Non-military use of several of the sites noted above may result in a land trade agreement but those agreements are subject to negotiations as well as a formal approval process per ANCSA, NALA, and ANILCA provisions.

- 1. Regional Landfill Expansion Site (see Map 31). JBER is not a party to NALA, although it is a party to other federal legislation such as the 2012 National Defense Authorization Act authorizing a three-party conveyance between the Municipality, JBER, and Eklutna, Inc. One scenario under a potential agreement would provide the Municipality with a tract located just to the west of the existing Anchorage Regional Landfill, which is located at the intersection of the Glenn Highway and Hiland Road in Eagle River. This tract, depicted in red in Map 31, may satisfy future expansion needs of the landfill. The Industrial Land Assessment does not assume this land would be available for non-public facility industrial development.
 - **Map 31 Note**: Municipal planners have not confirmed the exact location of the boundaries of the tracts to be subject to a land conveyance. These boundaries, may still be under negotiation. The boundaries in Map 34 do not follow any specific information from a municipal agency or JBER.
- 2. <u>Boniface Parkway Site</u> (see Map 32). Also subject to the possible three-party conveyance between the Municipality, JBER, and Eklutna, Inc., is a 130-acre tract occupying the northeast quadrant of the Glenn Highway and Boniface Parkway intersection. Any agreement between the three parties at the end of negotiations would need to be clarified by a Memorandum of Agreement. Details of a potential land exchange are under feasibility review by the parties. Therefore, JBER could not provide an estimate of the acreage, future allowed uses, or other characteristics of portion of Boniface lands which may be subject to a potential land exchange agreement.

This Industrial Land Assessment assumes that, in the event of a land exchange agreement, JBER would be unlikely to release more than 100 acres of the Boniface site, because consultations with JBER staff indicated that JBER would need to preserve a no-development zone along the Base fence line as a means to protect the military mission. Additionally, this report assumes that JBER would place restrictive covenants on the use of the property, because the property is located in the Accident Potential Zone II (APZ II) of the north-south runway at Elmendorf, as depicted on Map 32. APZ based guidelines prohibit residential use, and favor low density light industrial uses, with few if any on-site employees or customers. Because this runway is JBER's primary mission asset, there is reason to believe JBER might place additional restrictions against commercial retail development.

Such restrictions, as well as the absence of a frontage road along the Glenn Highway (access is still possible from Boniface but considered problematic due to traffic volumes from the Boniface Gate), could reduce the value of the property to Eklutna, Inc. A portion of the site is also impacted by wetlands and a former military landfill site, and potential contamination from historical military training exercise use.

The Alaska Department of Environmental Conservation (DEC) database indicates the old landfill site is 15 acres in size. Using this information, municipal planning staff estimated that, in the event of a land exchange agreement, as much as 84 acres of land in the Boniface site may become available for low-density light industrial type use within the planning horizon. Maps and satellite imagery suggest the significantly constrained wetland area is approximately 14 acres. Therefore, with the information currently available this industrial land inventory estimates the effective holding capacity of the buildable site may be up to 70 + (14/2) = 77 acres of new industrial land, if a land exchange were to occur. Seventy-seven acres is a gross, order-of-magnitude estimate by municipal planners. The Municipality should correct this estimate as needed after the outcome of a land exchange agreement becomes available.

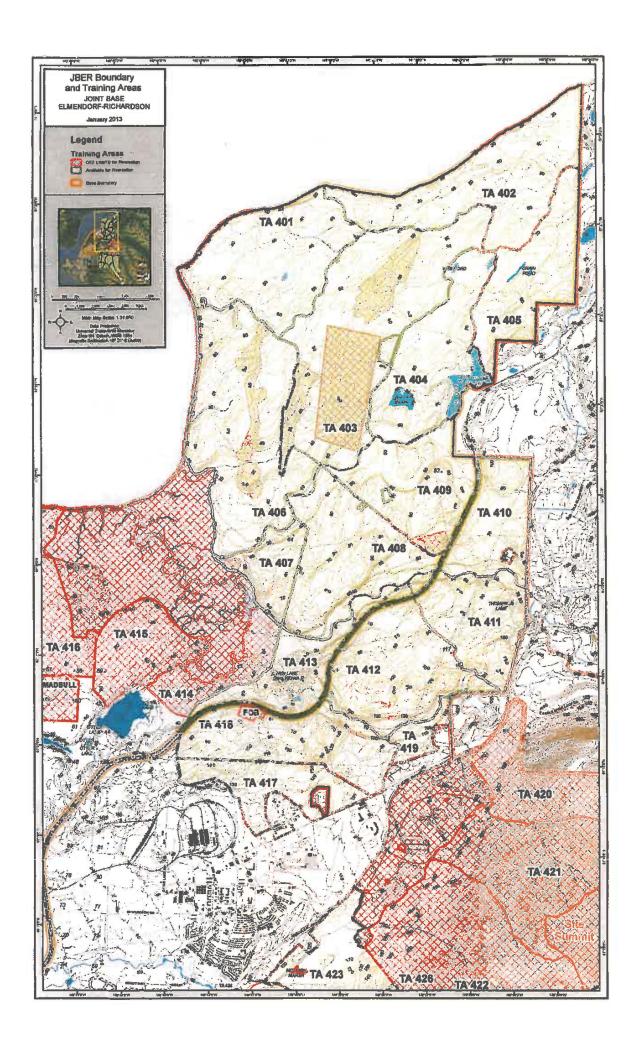
- 3. Artillery Road Site (see Map 33). The Chugiak-Birchwood-Eagle River Rural Road Service Area (CBERRSA) street maintenance department is potentially interested in leasing a JBER tract located between the Eagle River Wastewater Treatment facility and the Artillery Road industrial district of Eagle River. One scenario for this site contemplates its use as a potential snow disposal site. At the time of this writing there has been informal discussion among municipal agencies about the pros and cons of obtaining this area through a lease agreement with JBER but these discussions have not been formally initiated with the Base. The potential cost of any leasing arrangement based on fair market value may preclude further consideration of this site. Though as Map 33 shows it is isolated from the contiguous Army training areas by the neighboring Eagle River Water and Wastewater Utility (AWWU) wastewater treatment plant, which currently operates under a 25year lease agreement with BLM, the Artillery Road site is located within JBER Training Area #410. As the need for training area space and buffering from encroachments have increased, the military is generally reluctant to give up designated training areas. Therefore, the Industrial Lands Inventory has determined this site is unlikely to be available to industrial use.
- 4. Port of Anchorage Vicinity. A potential study site located east of the Port of Anchorage and north of Government Hill neighborhood was removed from consideration after receiving additional information and clarification from JBER. Map 34 depicts the general area.
- 5. <u>Eagleglen Golf Course Site</u> (see Map 35). JBER closed (summer 2014) the Eagleglen Golf Course, located east of Reeve Boulevard, between the Ship Creek watercourse and Mountain View neighborhood. At the time of this writing, JBER has transitioned the golf course to the Eagleglen Fitness Park.

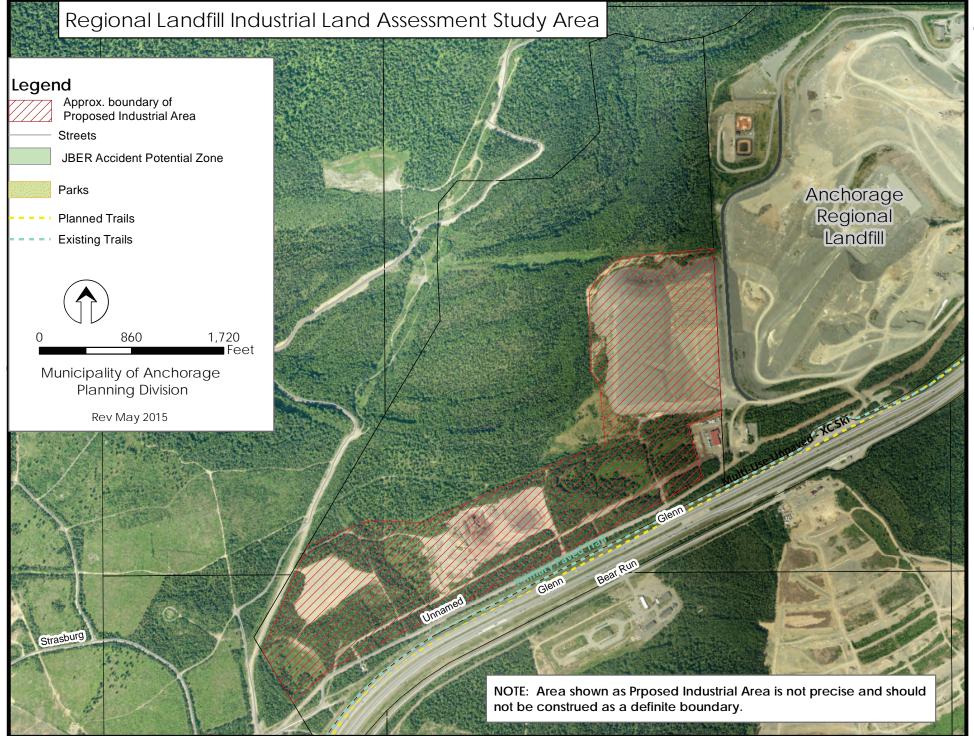
The site is south of Ship Creek without road access to the rest of the Base. Consultations with JBER staff indicate that the 673d Force Support Squadron, which has maintenance responsibility for this site, has indicated that they prefer to keep this area as a JBER recreation area although JBER is considering several options.

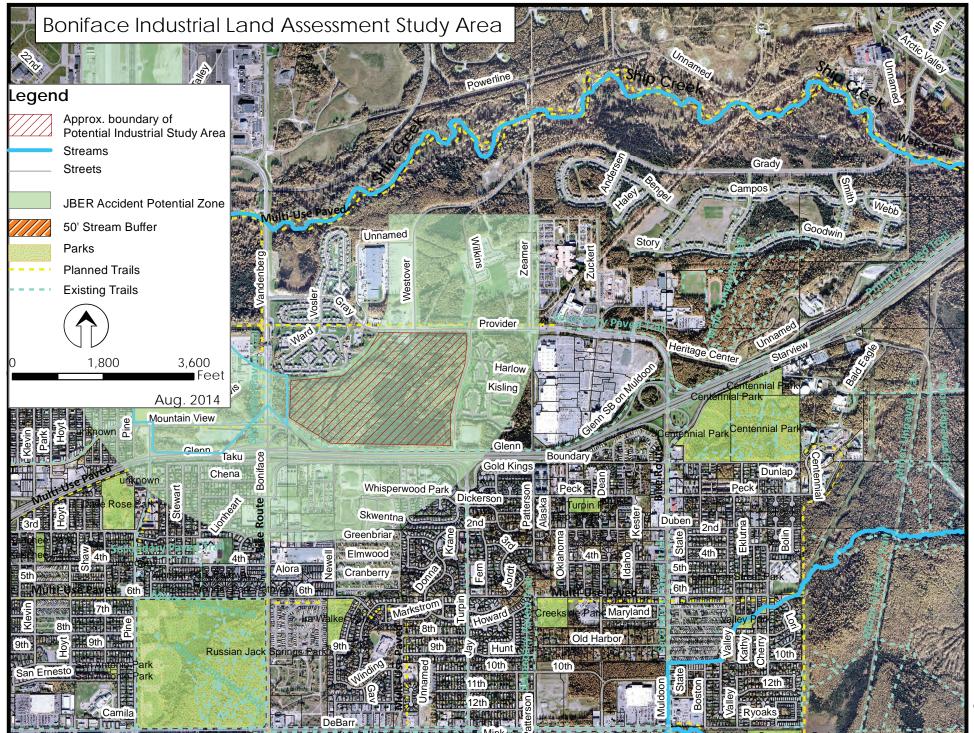
Highlighted in red in Map 35, the area of most relevance to the Industrial Land Assessment is the 130 acres concentrated at the western end of the Eagleglen Fitness Park, outside of the JBER Clear Zone and adjacent to the Ship Creek industrial district at Reeve Boulevard. Anchorage's Ship Creek industrial district is a strategic distribution hub for the regional economy; however, it has limited remaining developable land. From an industrial lands perspective, if it were ever determined in excess to military needs, the 130 acres at the west end of Eagleglen would be geographically positioned to accommodate growing demand for additional warehousing and freight distribution uses, extending the Ship Creek industrial district, in addition to natural buffers from Ship Creek and Mountain View residential neighborhood. An EUL agreement would not necessarily need to involve the Municipality as a direct party. However, given the uncertainty surrounding this area, this study avoids including the land in the estimate of available industrial land supply. If the Industrial Land Assessment report determines there is unmet demand for industrial development expansion within the Ship Creek area, and Eagleglen was determined in excess to military needs, the Municipality could discuss this site further with the military and parties to NALA, as an industrial development strategy.

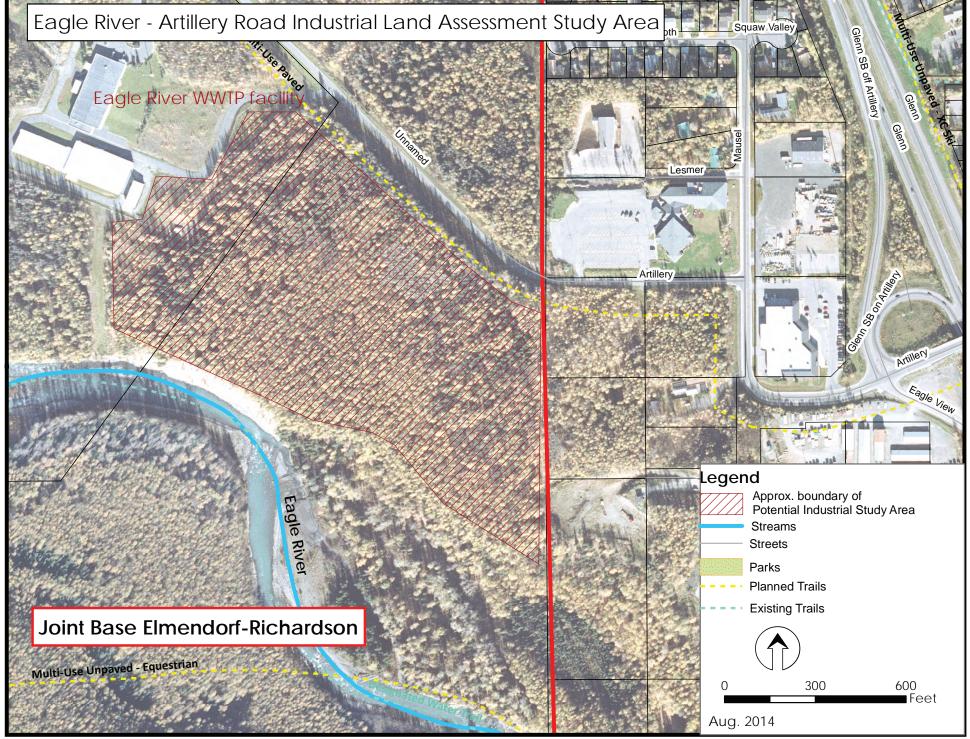
Map 35 Note: Based on comments from JBER, Map 35 depicts a 100-foot riparian buffer along Ship Creek. The JBER Installation Natural Resources Management Plan prohibits timber harvest within 100 feet adjacent to an anadromous water body, and restricted harvest between 100 and 300 feet of that water body. While exceptions to the riparian vegetative buffer can be approved after a review process and potential mitigation.

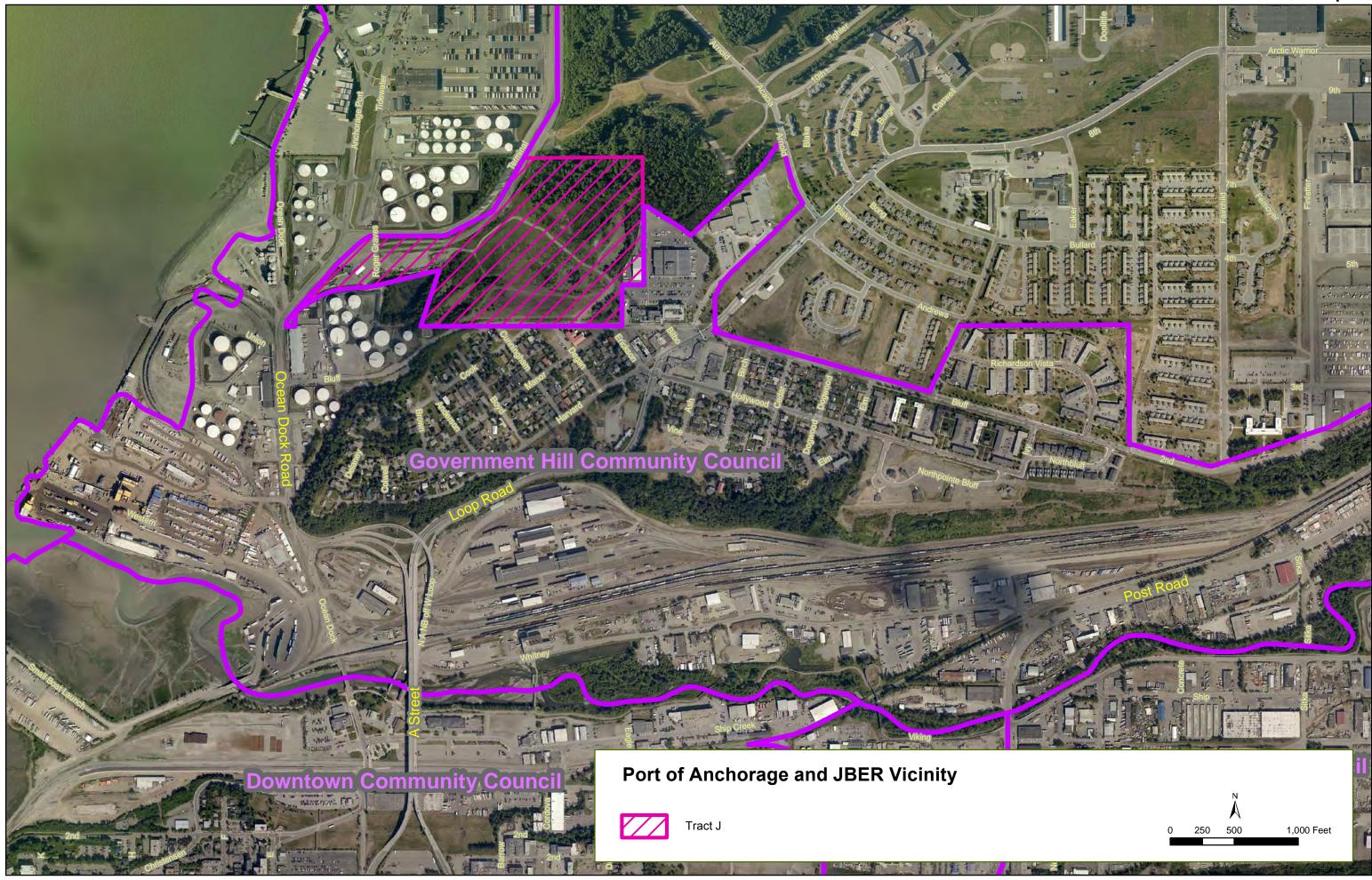
In conclusion, the Industrial Lands Inventory includes only a portion of the acreage of the Boniface Parkway site in its estimate of the industrial land supply available for future industrial development. The Eagleglen site is a possibility; however, it seems as likely to continue as a recreation and fitness area as noted above. The Industrial Assessment finds that the rest of the 73,000-acre military base is unlikely to be available for industrial use within the planning horizon.







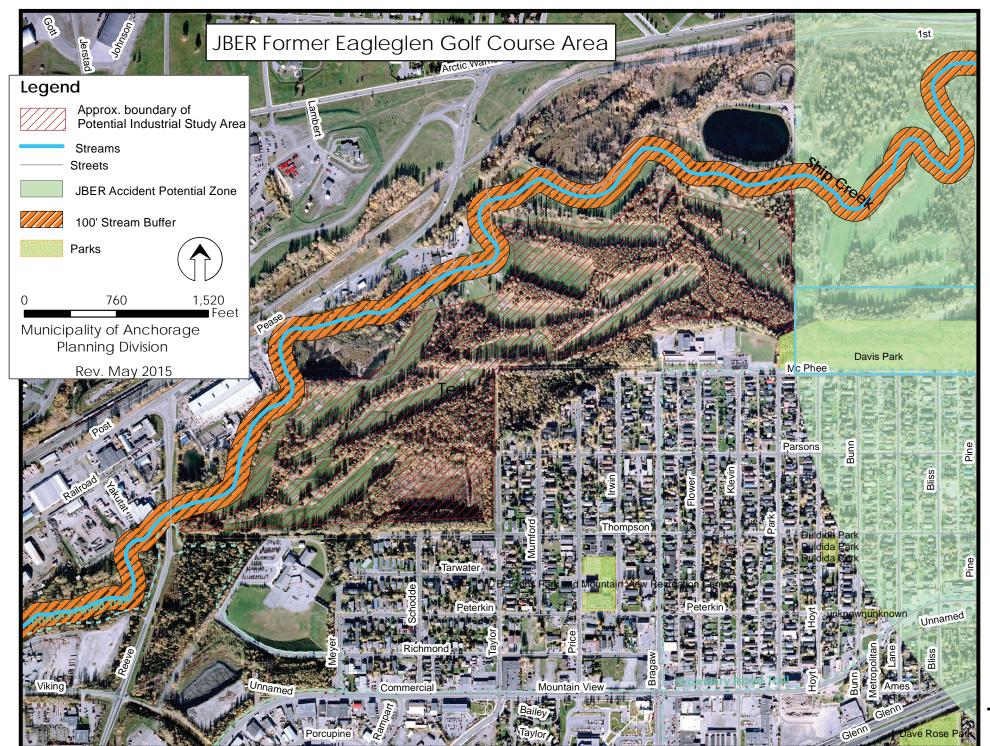




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Eagle River and Powder Reserve Subareas

Net buildable, available supply of Tier 1 industrial-zoned land: 41.4 acres Additional supply in T zoned lands (Powder Reserve): 120.9 acres

Eagle River subarea has a net buildable supply of 42.9 acres of industrial-zoned land, including Tier 1, 2, and 3 lands, after factoring partial and significant site constraints as well as the historical commercial utilization rate of 5.5 percent in Chugiak-Eagle River (Table 28).

Map 36 shows the net buildable land supply in the Eagle River subarea. The largest undeveloped industrially zoned area of Eagle River lies on the north side of North Eagle River Loop Road and east of Spring Brook Drive, across from developed industrial uses lining the west side of Spring Brook. The undeveloped lands lie on the steeper side, and include both I-1 lands and the Eagle River Subarea's entire supply of vacant I-2 land.

The remaining industrial land supply in Eagle River is in the Artillery Road industrial district, and consists primarily of a contiguous grouping of vacant 2.5-acre lots on the south side of Artillery Road, next to the military base boundary. Minor opportunities exist to the south, on significantly constrained lands near the watercourse of Eagle River.

Only a small amount of acreage is anticipated to come from non-industrial districts, other than in the Powder Reserve (see below). The PLI district includes municipal HLB Parcel 1-085, a mostly undeveloped area between Eagle River High School, the State Department of Corrections Hiland Mountain Correctional Center, a municipal Street Maintenance operations and storage area, and the State Division of Forestry facilities. Parcel 1-085 was in the process of being replatted as of the writing of this report. Most of the vacant lots are likely to remain as a buffer between the high school and the correctional facility. Some expansion of the municipal street maintenance yard is possible. Parcel 1-085 is not considered likely to be available for other industrial uses. Likewise, a PC (Planned Community) zoned district south of Parcel 1-085 is currently designated for future commercial and residential (i.e., non-industrial) use.

Powder Reserve Tracts B and C

The Powder Reserve, originally comprised of three tracts, A, B, and C, holds a significant share of the near term urban development potential in Chugiak-Eagle River. Tract A, owned by Eklutna, Inc., is in a gradual process of development as a mixed density residential master planned community with some commercial and institutional uses. Tracts B and C, owned by Eklutna and the Alaska Railroad, respectively, are essentially future reserve lands.

The Alaska Railroad does not presently see its lands in Tract C of the Powder Reserve as a likely future industrial development area within the planning horizon. Further research and consultation with the Railroad would be

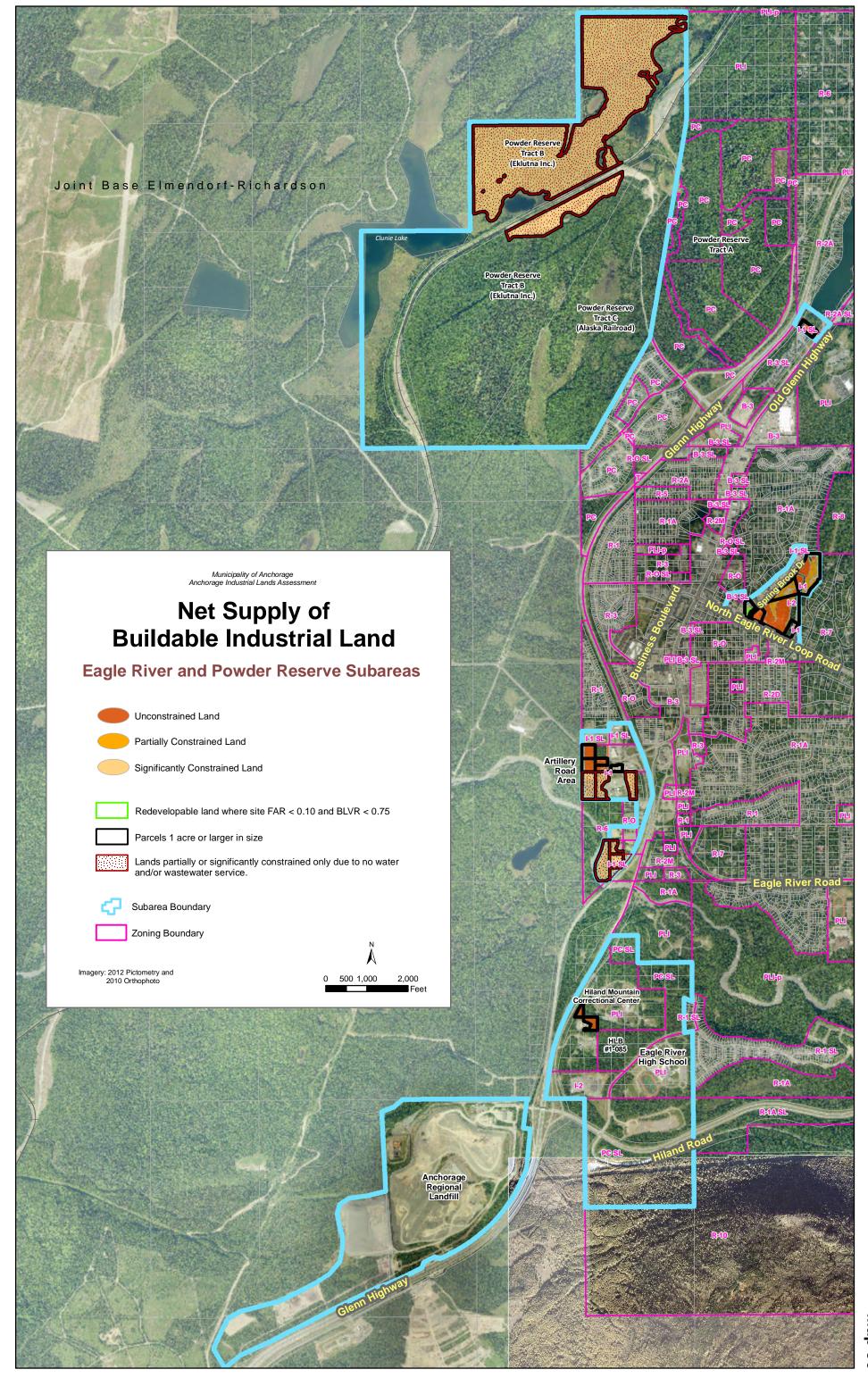
important to determine if the Railroad's Patent (50-2000-0018) may have exclusive license restrictions on development limited to transportation, communication and transmission purposes. The *Chugiak-Eagle River Comprehensive Plan* designates Tract C as transportation facility lands.

Tract B, previously thought of as most likely as lower density residential extension of the Powder Reserve community¹⁵, is now anticipated by Eklutna, Inc., to develop partly as a low-intensity industrial use area. This study assumes that such development may occur within the 20-year planning horizon. Eklutna, Inc., is a party to the 2012 National Defense Authorization Act authorizing a three-party conveyance between the Municipality, JBER, and Eklutna, Inc. The land exchange is under consideration or in process of negotiation. Under the potential agreement, use of Tract B areas located west of the Alaska Railroad Corridor would be subject to non-residential development restrictions and may be limited to low intensity uses in general that are compatible with JBER operations on its adjacent training lands. Eklutna would receive the JBER Boniface site in exchange (see JBER discussion). Further consultation with Eklutna, Inc., in early 2015 clarified the following with respect to Tract B:

- 1. Most of Track B east of the Railroad Corridor is anticipated by Eklutna, Inc., to develop as primarily residential, although with some industrial activity likely within a 25-acre excavated area fronting along the railroad tracks. Eklutna has a snow disposal site there now, and this development area enables access further south. As provided in the *Chugiak-Eagle River Comprehensive Plan*, a part of this low-lying area may, alternatively, be eventually urbanized with a commuter railroad station serving Powder Reserve and Eagle River generally.
- 2. On Tract B west of the Railroad Corridor, the uses are anticipated to be light industrial in scope in context of a JBER land exchange agreement. In consideration of possible buffering for the military base training lands and deduction of Class A Wetlands, municipal planners estimate 70-90 acres of buildable land supply could become available in Tract B west of the Railroad Corridor. Some residential has been considered by Eklutna, Inc.; however, it is likely that JBER would prefer Tract B not be developed as residential. If the three-party land exchange occurs, JBER may wish to impose limited industrial type uses on the west side of the tracks, and perhaps the remainder of Tract B also as part of the transaction/exchange conditions.
- 3. Road access to the west side would require a new railroad crossing. This study assumes that such access is possible to develop within the planning horizon. An amendment to the *Chugiak-Eagle River Comprehensive Plan* and a rezoning would also be necessary to move Tract B out of development holding reserve classification status and into active use.

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¹⁵ Anchorage Housing Market Analysis (2012)



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Chugiak Subarea including Eklutna 770 Tract

Net buildable, available supply of Tier 2 industrial-zoned land: 6.3 acres

Additional supply of Tier 2 PC zoned industrial land: 56.3 acres

The Chugiak subarea has a net buildable supply of 6.3 acres of Tier 2 industrial zoned (I-1) land, after factoring partial and significant site constraints as well as the historical commercial utilization rate of 5.5 percent in Chugiak-Eagle River (Table 28). This land base is mostly comprised of a few partially vacant, small-to medium-size parcels along the eastern side of the Old Glenn Highway.

Most of the industrial potential in the Chugiak subarea lies in the PC (Planned Community) zoned Eklutna 770 Tract and two gravel extraction sites also zoned PC along the Old Glenn Highway. The northernmost gravel extraction site, Chugiak Pit, is in the process of being replatted into seven lots for commercial-industrial use. The second gravel extraction site, approximately 25 acres across the Old Glenn Highway from the 770 Tract, is currently an active rock quarry. Consultation with an area property and business owner indicated that this site is likely to become available for industrial redevelopment within the planning horizon. Including this particular site is intended to illustrate the potential future reuse of gravel extraction sites along the Old Glenn Highway, some of which may (or may not) become available within the 20-year horizon.

Map 37 depicts the net buildable land supply in the Chugiak subarea including the 770 Tract. This subarea is not anticipated to receive water or wastewater service within the planning horizon, so all of it is included in Tier 2.

Eklutna 770 Tract

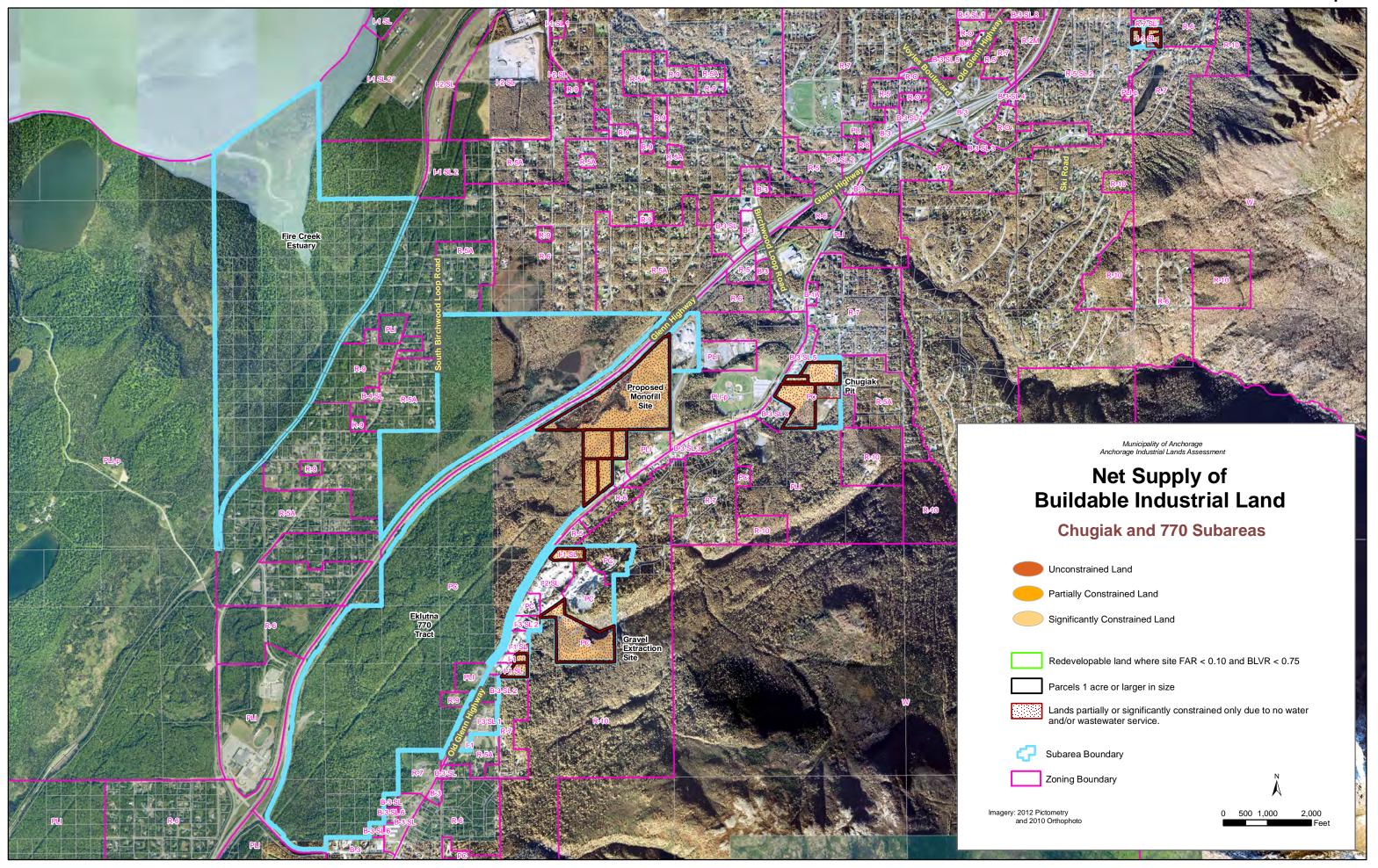
Eklutna, Inc., is the largest single private landowner in Anchorage, owning some 90,000 acres within the Municipality, including the communities of Eagle River, Birchwood, Chugiak, Peters Creek, and Eklutna. Its landholdings include some of the largest remaining tracts of potential commercial, industrial and residential real estate within the Municipality.

Among these holdings, Eklutna, Inc., has set aside an additional 770 acres, located between the New and Old Glenn Highways in Chugiak, primarily for future residential development. The "Eklutna 770," as it is commonly referred, is classified in the Comprehensive Plan as "Residential" at an overall average density of 1 to 2 dwellings per acre. The designation allows for different housing types and lot sizes within different portions of this property, and for a portion of the 770 to be used for commercial and industrial uses. The exact size and location of commercial and industrial uses are to be determined through area-specific master planning. Development of the Eklutna 770 is anticipated to occur gradually, over a timeframe extending beyond the planning horizon for this study.

The potential future supply of industrial land on the 770 is elastic and will depend on future market trends, area-specific master planning and suitability analyses, and community policy choices. As of this writing, Eklutna is seeking

master plan approval to develop a portion of the north set of parcels in Tract 770 as industrial, commercial and possibly residential areas, adjacent to the municipal road maintenance facility area abutting the north boundary of the 770. Uses under consideration include an inert waste monofill landfill type of solid waste management facility, and a separate industrial development area of approximately 10 acres in size. Eklutna believes that in the long term, once the proposed monofill site is reclaimed, it would be a positive addition to the municipal Loretta French Park located north of the 770.

This Industrial Lands Inventory assumes that approximately 50 acres in the northern portion of the 770 (after factoring in the significant constraints to development) could be available for industrial use within the planning horizon. This includes the area currently subject to Eklutna's proposed master plan, as well as several additional tracts to the south not specifically proposed for industrial use at this time. Adding this amount in addition to the existing proposed master plan illustrates the further potential of the 770 Tract to provide industrial lots. It also seems to be generally consistent with an upper-end range of the commercial-industrial lands envisioned for the 770 Tract in the *Chugiak*-Eagle River Comprehensive Plan. Even more aggressive scenarios for development of 770 lands could concurrently occur along the western side of the Old Glenn Highway, across from the existing industrial uses. However, the more aggressive industrial scenarios would probably require an amendment to the Chugiak-Eagle River Comprehensive Plan to reflect an increasing ratio of industrial use relative to the planned average density of residential development through the 770 Tract.



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Birchwood Airport Subarea

Net buildable, available supply of Tier 2 industrial-zoned land: 88.5 acres

Additional potential supply in two R-6 zoned parcels south of airport: 35.0 acres

The Birchwood Airport Subarea is located 24 miles from Downtown Anchorage, and just under that distance from Palmer and Wasilla. It is 1.6 miles from the Glenn Highway and is accessible by Birchwood Loop Road. One of the most significant cluster of parcels available for industrial development in Chugiak-Eagle River is located adjacent to the Birchwood Airport.

The Birchwood Airport subarea's net buildable supply is 88.7 acres of industrial-zoned land, after factoring the lack of sewer service as a significant constraint and the historical commercial utilization rate of 5.5 percent in Chugiak-Eagle River. The development capacity estimate without factoring the lack of sewer service would otherwise have been closer to 170 acres, as the land is developable uplands with few known environmental constraints.

Map 38 depicts the net buildable land supply in the Birchwood Airport subarea.

The Municipality is in the process of establishing a law enforcement training center on the undeveloped tract of Eklutna land located south of the Ames Izaak Walton League shooting range facility, just north of Birchwood Airport.

A pair of R-6 zoned parcels adjoining the south end of the Airport area, that are isolated from the Birchwood residential neighborhood by the Birchwood Industrial Park and Fire Creek Estuary conservation easement lands, could be converted to industrial zoning and make additional lands available equal to 35.0 acres when considering the significant constraints to development (lack of sewer). The acreage figure, without considering the lack of sewer service, would otherwise be closer to 70 acres in these two parcels.

Lands located further southwest of Birchwood Airport, including the Fire Creek estuary and uplands on the west side of the estuary abutting Beach Lake Regional Park, have been dedicated as a permanent conservation easement, and are not be available for industrial development.

Eklutna, Inc., recently established three permanent conservation easements over most of its coastlands and some adjacent coastal uplands, including areas to the north and south of the Birchwood Airport area. The easements are extensive in area. They include 520 acres of Eklutna lands in the Fire Creek estuary south of Birchwood Airport runway out to Beach Lake Regional Park. The conservation easements also include coastal lands extending from the mouth of Peters Creek to the mouth of Eklutna River and continuing to the northwestern part of Eklutna Village vicinity.

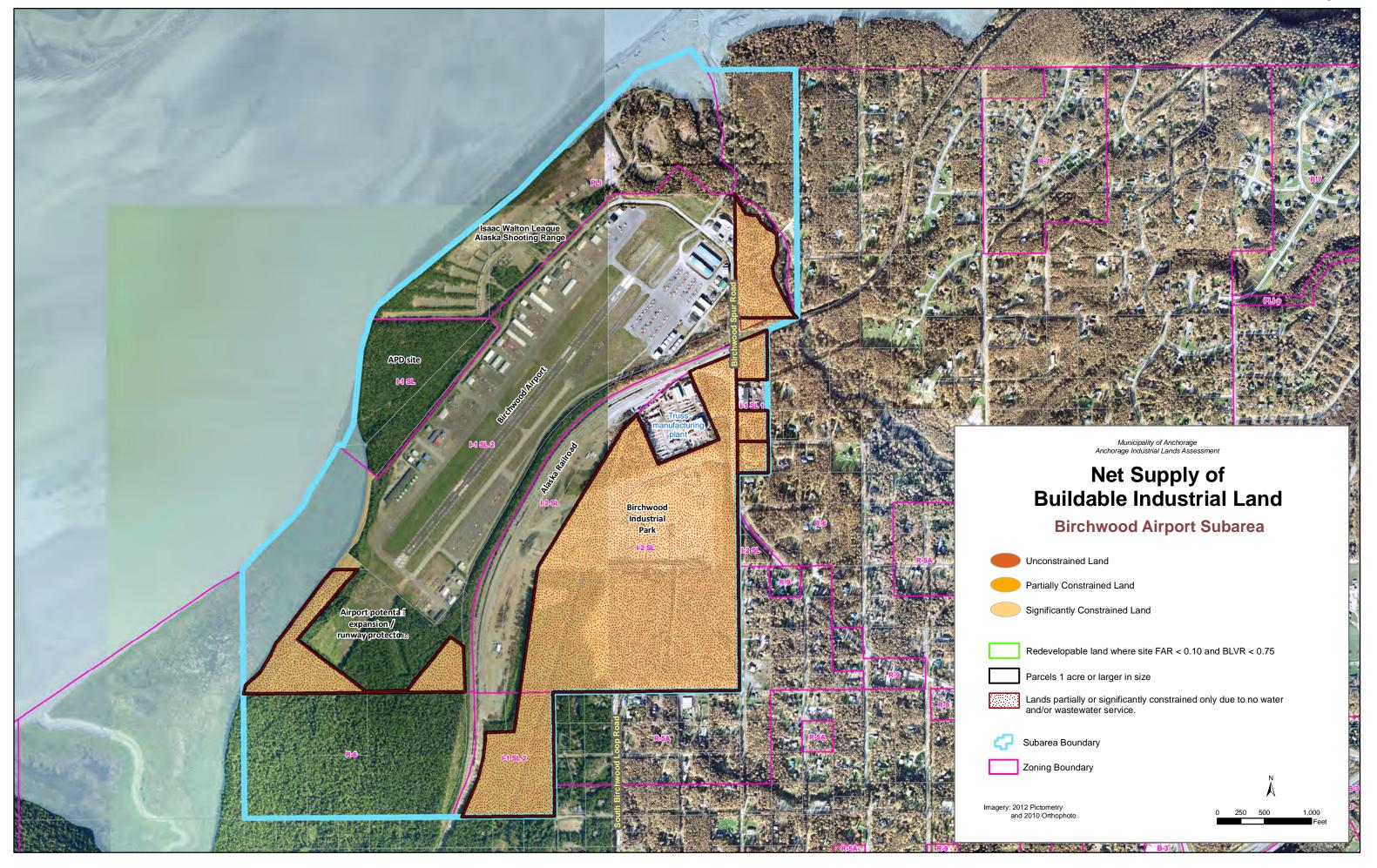
Birchwood Industrial Park

The Alaska Railroad in partnership with Eklutna, Inc., is jointly marketing the Birchwood Industrial Park, zoned I-2 SL, as the largest newly developed industrial zoning district property within the Municipality. Lands in the Birchwood Industrial Park are available for long-term lease, and will accommodate a wide range of parcel sizes depending on the needs of the user (lessee). Approximately 160 acres of land area have been cleared, quarried, and graded for industrial development. The partners are targeting corporations that may use the site as a construction materials laydown yard for anticipated energy development and other Alaska projects.

The industrial park property is adjacent to the Alaska Railroad corridor, the Alaska Railroad's satellite rail yard, and Birchwood Airport. A settlement agreement between the Alaska Railroad and Eklutna, Inc., dating from 1985 when the Railroad was transferred from federal to state ownership, established that the Railroad would provide certain accommodations, such as the Railroad Spur into the Birchwood Industrial Park and a ground---separated crossing at Powder Reserve. An established rail spur is in place and ready for use by future Birchwood Industrial Park businesses.

The area is served by natural gas, electricity, and telephone utilities. It is not anticipated to be serviced by municipal water or wastewater utilities in the planning horizon.

The three Eklutna, Inc., parcels south of the Birchwood Airport runway and comprising approximately 130 acres of land area are also buildable and accessible. Two are the R-6 parcels introduced above. Most of the third is reserved for the Birchwood Airport APZ. These have not been cleared or quarried, and rezoning would be necessary to convert the R-6 parcels. However, this study assumes that these parcels could become available as part of the industrial land base within the 20-year planning horizon.



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Northern Eklutna Subarea

Net buildable, available supply of Tier 2 industrial-zoned land: 49.3 acres Additional supply in T zoned lands: 10.9 acres

The northern Eklutna subarea comprises three vast, distinct land areas that the Industrial Lands Inventory delineates as Mirror Lake Reserve Lands; Eklutna Village Area, and Eklutna Power Plant Industrial Area. However, the net buildable supply is equivalent to only 49.4 acres of Tier 2 and 3 industrially zoned land, after deducting the substantial areas of prohibitively constrained lands, factoring partial and significant site constraints (primarily a lack of sewer service which reduced development capacity by 50 percent), and carrying forward the commercial utilization rate of 5.5 percent in Chugiak-Eagle River. The area calculation without considering the lack of sewer service would otherwise have been closer to 100 acres. An additional 10.9 acres is estimated to be available in T zoned lands located south of the new power plant. In fact, the entire available supply is located in the Eklutna Power Plant Industrial Area portion of the subarea, as shown on Map 39. A description of each of the three parts of the northern Eklutna subarea follows.

Mirror Lake Reserve Lands

The vast landholdings of Eklunta, Inc., located west and north of Mirror Lake, on the west side of the Glenn Highway, could be physically developable were the Municipality and Eklunta, Inc., to prioritize its access and development within the planning horizon. The Mirror Lake Reserve Lands represent the largest reserve of potentially developable lands in the Municipality.

The area is currently zoned Transition (T), and is not designated for a specific future use. While some tracts could develop as industrial, most could be used for residential and some commercial purposes. Areas to be urbanized may also be quarried for gravel for years as an initial use, prior to improvement for urban development.

Road access to the Mirror Lake Reserve Lands would likely be provided by a freeway interchange near Mirror Lake, and there are easements in place for a major thoroughfare into this large area. Besides site specific environmental constraints such as riparian areas, there are no other prohibitive obstacles to urban development of this subarea within a longer term planning horizon, with the exception of utilities infrastructure.

However, improvements to provide access into this area are not identified as priority projects in the *Metropolitan Transportation Plan* (MTP). The *Official Streets and Highways Plan* designates the area for a special study to be conducted in the long term to determine the most appropriate means of ultimately providing access, as a prerequisite to the area's development. The MTP does not indicate a timeframe for that sequence.

In addition, current forecasts for the rate of population growth and urban development in the Municipality, including Chugiak-Eagle River, do not support an argument that these areas would undergo urban development within the next 20 years. Instead, current trends suggest they are more likely to remain in reserve until sometime after the 2035 planning horizon. Consultations with Eklutna, Inc., indicate that Eklutna would prefer geographically phased and efficient urban-density development over multiple generations. Given the current and projected growth rates for the Municipality, the geographic extent of urbanization within the 20-year planning horizon is likely to be limited to Powder Reserve Tract A and portions of the Eklutna 770 Tract. Substantial investments in infrastructure such as sewer service will be necessary to finish building Tract A and initiate development in the 770 Tract.

For these reasons, the Industrial Lands Inventory does not assume the Mirror Lake Reserve Lands will be available for industrial development, at least under the current trend growth scenarios and policies. While trends can change, the information available suggests it is prudent for the Municipality to avoid assuming the availability of these lands as part of the industrial land supply to satisfy industrial land demand through 2035.

Village of Eklutna Area

The Village of Eklutna area, which includes all lands generally adjacent to and north of the Eklutna River on the northwest side of the Glenn Highway, is not anticipated to accommodate future industrial development. Resource extraction did occur historically, on a geologic granite foundation that is highly valued by the Eklutna Tribe. However, all lands in this area have been returned to ownership by Eklutna. Consultation with Eklutna, Inc., indicates that the Eklutna Tribal Council intends to reserve most upland areas north of the Railroad Corridor in the area north of Eklutna Village as a place for recreation, hunting, fishing, and natural open space between the Village and the Inlet and Eklutna River estuary area. Other parts are included in coastal and estuary conservation easements. The Village of Eklutna area is planned as the place to keep alive traditional lifestyles and recreation accessible to generations of Tribal members even after much of the rest of the Chugiak-Eagle River area is urbanized.

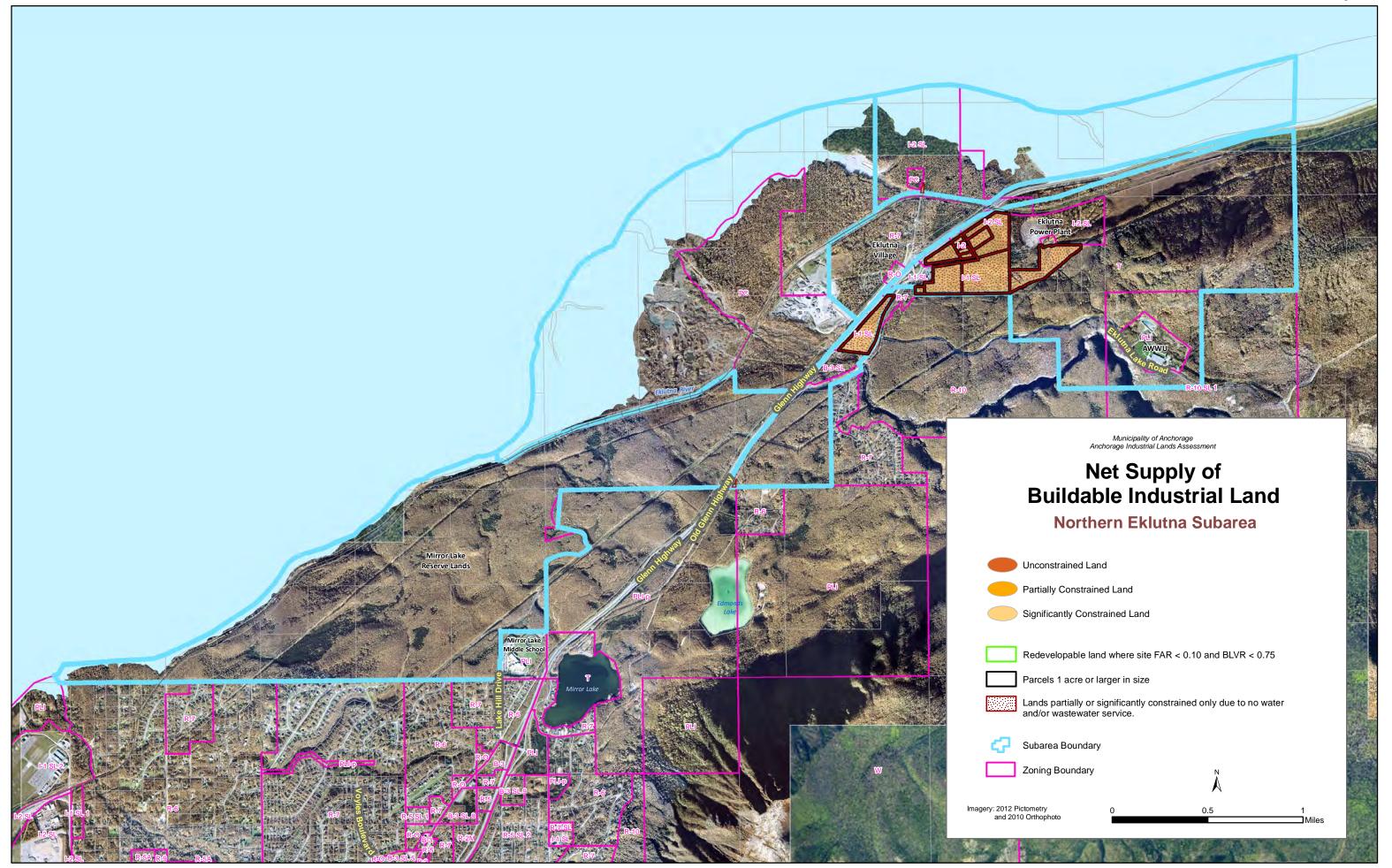
To recognize and support this objective, the Eklutna Village Overlay District has recently been adopted as a part of the municipal zoning regulations. This overlay zone is to provide for a traditional lifestyle intergenerational family housing pattern. Although limited non-residential uses are permitted, the Eklutna Village Overlay District is not intended to be available for any substantial industrial development.

Eklutna Power Plant Industrial Area

This area is located along the south side of the Glenn Highway and Alaska Railroad Utility Corridor across from Eklutna Village. The site of the new Eklutna Power Plant developed by the Matanuska Energy Association (MEA) is in the eastern part of the area. The Eklutna Power Plant industrial area represents one of the largest cluster of developable industrial parcels in Chugiak-Eagle River.

An amendment to the *Chugiak-Eagle River Comprehensive Plan* modified the community's Land Use Plan map in 2013, by changing the land use classifications for this area from "Commercial" and "Residential" to "Industrial" and "Community Facility." This Plan map amendment reflects several rezonings to industrial use that have occurred in the area since 2006, as well as the site plan for the new Eklutna Power Plant.

Most of the rezoning and plan amendment area consists of vacant or underutilized lands, and, therefore, represents another potential industrial area in addition to Birchwood Industrial Park.



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