

CHAPTER SIX:

# LAND USE COMPATIBILITY

## 6.1 Introduction

Airports provide significant employment and economic benefits to communities through the movement of people and goods, promotion of tourism and trade, stimulation of business development, and the opportunity for a wide variety of jobs. The flying public and local communities do not readily discern the huge size and scale of economic development airports provide and stimulate.

Land decisions that conflict with aviation activity and airport facilities can result in undue constraints being placed on an airport. In order to enable this sector of the economy to continue to expand, to provide the wide variety of job opportunities for local citizens, and to meet the needs of the traveling public, it is vitally important that airports operate in an environment that maximizes the compatibility with off airport development.

The development of land uses that are not compatible with airports and aircraft noise is a growing concern across the country. In addition to aircraft noise, there are other issues, such as safety and other environmental impacts to land uses around airports which need to be considered when addressing the overall issue of land use compatibility. Although several federal programs include noise standards or guidelines as part of their funding-eligibility and performance criteria, the primary responsibility for integrating airport consideration into the land use planning process rests with local governments. The objectives of compatible land use planning

are to encourage land uses that are generally considered to be incompatible with airports (such as residential, schools and churches) to locate away from airports and to encourage land uses that are more compatible (such as industrial and commercial uses) to locate around airports. The FAA has been actively supporting programs to minimize noise impacts. These include phase out of noisy aircraft, supporting airport noise compatibility programs, funding of mitigation measures in environmental studies.

While the FAA can provide assistance in funding to encourage compatible land use development around airports, it has no regulatory authority for controlling land uses to protect airport capacity. The FAA recognizes that state and local governments are responsible for land use planning, zoning, and regulations including those necessary to provide land uses compatible with airport operations.

However, pursuant to the Federal Airport and Airway Development Act, as a condition precedent to approval of an FAA-funded airport development project, the airport sponsor (Gallatin Airport Authority) must provide the FAA with written assurances. These assurances state that "...appropriate action, including the adoption of zoning laws have been or will be taken, to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with the normal landing and takeoff of aircraft..." As the majority of the capital improvement projects at BZN are funded through this grant program, the Airport Authority cannot jeopardize this funding.

Interest has been expressed in having the federal government play a much stronger role in airport-related land use compatibility planning. Although the federal government cannot dictate local land use policies, it can play a role in facilitating the coordination between airports, local, county, and regional planning agencies to ensure that compatible land use planning occurs around our nation's airports.

To assist in these efforts the Federal Aviation Administration (FAA), local airport sponsors, and state aviation agencies have expended significant funds in support of airport planning and land use compatibility planning in the United States. Compatible land use guides have been prepared for airport managers, local land use planners, developers, and elected and appointed public officials. The purpose is to provide information on FAA programs and sources of support and to promote an understanding of land use compatibility planning issues around airports that could result in improved compatibility in airport environments.

While not the only compatibility issue, aircraft noise has been the primary driver of airport land use compatibility conflicts. Since the introduction of the turbo jet aircraft in the late 1950s, there has been a constant technical effort to reduce aircraft noise emissions. Although there has been significant reduction in aircraft engine noise, little more can be expected in the field of noise-reduction technology. Consequently the focus must now be on airport specific land use compatibility planning.

There are many entities involved in implementing or supporting actions directed toward improved land use compatibility around airports. These entities include the

FAA, airlines, cargo carriers, commercial and general aviation airports, state and local governments, system users and the community at large. Knowing the interwoven roles and responsibilities for land use compatibility planning and implementation is important for helping understand the responsibilities placed on each entity and individual involved.

Aviation is an element of a region's transportation system, therefore, the goals of airport development should be established in the framework of an area's comprehensive plan. The Master Plan is a published document, approved through a public hearing process by the governmental agency or authority that owns or operates the airport. The Airport Master Plan should be coordinated with local jurisdictions surrounding the airport to ensure that the future airport development plans are taken into consideration in each of the jurisdiction's local comprehensive land use plan. Local land use planners and airport planners should use it to evaluate new development within the airport's environments.

Historically land use plans (comprehensive plans) prepared by local governments have only minimally recognized the implications of planning airports and offsite, airport-related development. Local land use planning, as a method of determining appropriate (and inappropriate) use of properties around airports should be an integral part of the land use policy and regulatory tools used by the airports and land use planners. Very often such land use planning coordination is hampered by the fact that airport facilities can be surrounded by a multitude of individual local governmental jurisdictions, each with their own comprehensive planning process.

There are many land use planning and regulatory tools available to local governmental organizations. Among them are:

- Comprehensive Plans
- Zoning Regulations
- Subdivision Regulations
- Building Codes
- Housing Codes
- Capital Improvement Programming
- Official Map Regulations
- Infrastructure Extensions
- Growth Policies
- Transferable Development Rights (TDR)
- Purchase of Development Rights (PDR)
- State Airport Zoning Regulations
- Aviation Easements

Four key issues have been identified for evaluating the types of land uses to be considered compatible around airports:

- The impact of aircraft noise and noise compatibility planning;
- The potential for airspace conflicts from tall structures in the vicinity of an airport;
- The possibility of electronic interference with aviation navigational aids; and
- The potential for conflict between aircraft and wildlife attractants.

## **6.2 Roles and Responsibility**

### **Federal Aviation Administration (FAA)**

The FAA is responsible for the development of guidance related to federal laws and regulations affecting the aviation industry. This guidance is provided through the

establishment of Federal Aviation Regulations (FARs), FAA Orders, and FAA Advisory Circulars (ACs). The FAA also distributes funds to support the development of master plans, noise and land use studies, and environmental studies for airport development projects (which directly relate to the compatibility between the airport and aircraft activity with the local community), and the expansion and safe operation of airports and related aviation facilities.

The FAA is also responsible for the utilization of airspace and control of aircraft flight through its air traffic control facilities; is responsible for the implementation of flight standards (airworthiness of aircraft and noise emissions of aircraft, for example); is responsible for navigation aids and other facilities necessary to provide a safe and efficient air system and is responsible for making sure that airports that receive federal funding are in compliance with grant assurances.

### **Airlines, Cargo Carriers, and General Aviation**

In terms of land use compatibility, the airlines and air cargo carriers are required to replace or retrofit aircraft to meet the latest noise requirements. The pilots of all aircraft types, including general aviation aircraft, are responsible for operating their aircraft according to noise abatement procedures established at an airport and within the local airspace.

### **Airport Proprietor/Airport Management**

Airport owners and operators are responsible for the development of information to support the compatibility effort. This support includes the preparation of master plans, noise compatibility and land

use studies, community involvement programs, and the interaction with local planners and elected officials related to land use compatibility. Airport management is also responsible for the establishment of controls to reduce noise impacts, the development of on-airport facilities in a manner which reduces the interaction with wildlife, and the dissemination of information related to the growth of the airport and its relationship to the local economy.

#### **Local Government and Elected Officials**

Local land use planners and elected officials are responsible for local land use zoning and control. These entities and individuals are responsible for preparation of comprehensive plans and reviewing and implementing zoning and land use regulations in a manner that considers the effects related to local airport facilities and aviation activity. These responsibilities include paying particular attention to noise impact mitigation, tall structure location, landfill development, and wildlife interaction with aviation activity in addition to other infrastructure interface considerations.

#### **Passengers and Shippers**

Passengers and shippers, through ticket and air bill taxes, generate the funds for aviation development and land use compatibility considerations. Portions of these taxes are directly allocated for noise control and planning activities, while others are allocated to the safe and efficient use of the airspace and development of aviation facilities. In addition, passenger facility charges (PFCs) at some airports are also used to fund similar activities at the airports where they are received.

#### **Citizens**

There are a wide variety of citizens interested in airports and aviation, including those who

travel through airports (whether on commercial carriers or general aviation); those who work at airports (whether directly for the airport or indirectly for an aviation-related business); those who are affected by tourism and industry (the airport being the entry and exit point for passengers and cargo); those who have property interests in the vicinity of an airport; and those who are impacted by airport and aircraft activity (particularly aircraft noise). These interests represent a wide variety of viewpoints regarding the role and effect of aviation in the community. The overall role of the citizenry is to understand the issues involving aviation in their community, to protect the benefits of aviation in their community, and to minimize the adverse consequences that can result from aviation activity in their community.

It is important to understand the roles and responsibilities for land use compatibility planning and implementation and the requirements that have been placed on each entity and individual involved. More important, however, is the knowledge that these roles and responsibilities must be interwoven for successful land use compatibility planning to occur.

### **6.3 Legislation and Federal Regulations Relating to Compatible Land Use Planning**

In the early 1960s with the advent of jet aircraft, the aircraft noise issue became increasingly apparent. The issue was soon magnified by the rapidly increasing number of aircraft operations in the latter part of the decade. Due to its adverse effect on people, aircraft noise was recognized as a major constraint on the further development of the

aviation network, threatening to limit the construction and expansion of airports and access to them. By the mid-1970s, approximately seven million people nationwide were exposed to what is considered a significant level of aircraft noise.

Subsequently, aircraft engine manufacturers and the federal government both initiated extensive research into quieting jet engines. In 1969, Congress gave the FAA the responsibility to regulate aircraft design and equipment for noise-reduction purposes. The FAA then embarked upon a long-term program of controlling aircraft noise at its source. A regulation published in 1969 established noise standards for turbojet aircraft of new design effective December 1, 1969. An amendment to these regulations in 1973 extended the same standards to all new aircraft of older design.

On October 21, 1976, President Ford directed the FAA to publish its noise compliance rule not later than January 1, 1977. Consequently, the U.S. Department of Transportation (DOT) and FAA issued an Aviation Noise Abatement Policy on November 19, 1976. This policy established a general policy on noise control plans and proprietary use restrictions.

In addition to the various federal laws and processes described herein, the following sections include other airport-related regulations that should be considered in local land use planning decisions.

The following paragraphs describe, in detail, the federal legislation and other airport-related regulations that affect airport land use compatibility planning.

### **Aviation Safety and Noise Abatement Act of 1979**

In 1979, Congress passed the Aviation Safety and Noise Abatement (ASNA) Act. The Act provides assistance to airport owners to prepare and carry out noise compatibility programs to ensure continued safety in aviation, and for other purposes.

The Aviation Safety and Noise Abatement Act of 1979 required the following actions be taken:

- Establishment of a single system of measuring noise, for which there is a highly reliable relationship between projected noise exposure and surveyed reactions of people to noise, to be uniformly applied in measuring the noise at airports and the areas surrounding airports;
- Establishment of a single system for determining exposure of individuals to noise which results from the operations of an airport and which includes, but is not limited to, noise intensity, duration, frequency, and time of occurrence; and
- Identification of land uses which are normally compatible with various exposures of individuals to noise.

Section 103 of the Act authorized the Secretary of the DOT to award grants for airport noise compatibility planning to minimize noise impacts on communities in and around airports. According to the ASNA, a noise compatibility program identifies measures that an airport owner has taken or has proposed for the reduction of existing incompatible land uses, and the prevention of additional incompatible land uses within the area covered by noise exposure maps.

### **Federal Aviation Regulation Part 150 Noise Compatibility Program.**

In 1981, the FAA initiated a program ("Part 150") to fund airport noise compatibility planning and projects. This program provides financial assistance to the airport owners to assess noise impacts and to identify and carry out noise-reduction measures.

FAR Part 150 Airport Noise Compatibility Planning was required by the Aviation Safety and Noise Abatement Act of 1979 (ASNA). It was adopted as an interim rule in February 1981. FAR Part 150 establishes requirements for airport owners who choose to submit noise exposure maps and submit noise compatibility planning programs to the FAA for review and approval.

Revisions to Part 150 Airport Noise Compatibility Planning were adopted on December 13, 1984, and became effective on January 18, 1985. Revisions to Part 150 were based, in part, on comments invited and received following passage of the interim rule. As required by the Act, revisions to the regulations established a single system of measuring aircraft noise and a single system for determining the exposure of individuals to noise in the vicinity of airports. The regulations as revised also established a standardized airport noise compatibility planning program including:

- Voluntary development and submission to the FAA of noise exposure maps (NEMs) and noise compatibility programs (NCPs) by airport owners;
- Standard noise measurement methodologies and units;

- Identification of land uses that are normally compatible (or incompatible) with various levels of aircraft noise around airports; and
- The procedures and criteria for preparation and submission of NEMs and NCPs.

The Final Rule included language that stated that Part 150 regulations apply to any "public use airport" as defined by Section 502 (17) of the Airport and Airway Improvement Act of 1982 (described later in this section). It also noted that although Part 150 specifies requirements that must be met when submitting NEMs and airport NCPs to the FAA, the submission of these maps and programs is completely voluntary. ASNA does not allow the federal government to interfere with or override local government zoning, subdivision building, and health authority.

The program got off to a slow start in the late 1980s because many community residents were afraid that once their properties were identified on the maps as being within an airport's noise contours, their property values would decline. However, this perception has changed throughout the 1990s. The FAA continues to work in partnership with airport owners and airport communities in developing and updating FAR Part 150 NCPs.

### **Airport and Airway Improvement Act of 1982**

On May 13, 1946, President Truman signed the Federal Airport Act of 1946. This Act established a federal airport grants-in-aid program known as the Federal Aid to Airports Program (FAAP). The Act's goal was to promote the development of a civil system of airports nationwide. Funds were

appropriated from the general fund of the U.S. Treasury. The Airport and Airway Development Act (AADA) replaced the FAAP in 1970.

As part of the Airport and Airway Development Act, the Secretary of Transportation is authorized to make project grants for airport planning and development to maintain a safe and efficient nationwide system of public-use airports. Upon acceptance of federal funding, an airport owner becomes obligated to operate and maintain the airport to certain standards and comply with several specific assurances and obligations contained in grant agreements. One of the assurances with which an airport owner must comply involves the establishment and maintenance of compatible land uses around airports. This assurance requires the airport owner to restrict the use of land adjacent to or in the immediate vicinity of the airport, to the extent reasonable, to activities and purposes compatible with normal airport operations, including landings and takeoffs of aircraft. In 1982, the AADA was replaced by the Airport and Airway Improvement Act (AAIA) of 1982.

In addition to the above assurances there are several other assurances of the Act relating to planning, land use plan consistency, public participation, and safety, including:

- **Assurance 6: Consistency with Local Plans** – A finding of consistency or inconsistency with local plans based upon the results of the intergovernmental review process is required at the time of application.
- **Assurance 7: Consideration of Local Interests** – The non-airport sponsor certifies that fair

consideration has been given to the interests of local communities. This does not require the sponsor to receive concurrence from all local communities, only that during project development their interests have been fairly considered in reaching decisions relative to the project.

- **Assurance 19: Operation and Maintenance** – Applies to federal assisted noise compatibility project items and requires a sponsor to operate and maintain certain noise project items.
- **Assurance 20: Hazard Removal and Mitigation** – When funds are allocated for developing new runways, runway safety areas, or to improve existing runways, the airport sponsor must own, acquire, or agree to acquire adequate property interest.
- **Assurance 21: Compatible Land Use** – The sponsor is responsible to take appropriate action, to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations. If the project is for noise compatibility program implementation, it will not cause or permit any change in land use, within its jurisdiction, that will reduce its compatibility, with respect to the airport, of the noise compatibility program measures upon which Federal funds have been expended.
- **Assurance 29: Airport Layout Plan** – Each project for airport development must provide for

updating the airport layout plan unless otherwise authorized by the Administrator of the FAA. By this assurance, the airport sponsor (owner/operator) agrees to keep the ALP current at all times.

### **Airport Noise and Capacity Act of 1990 (National Noise Policy)**

On November 5, 1990, Congress passed the Airport Noise and Capacity Act (ANCA). This act required the establishment of a National Noise Policy. The emphasis for establishing a National Noise Policy came about due to the magnitude of noise complaints from the public. The opposition to aircraft noise by the public is one of the major obstacles to expanding and increasing capacity at our nation's airports. Resolution of the noise debate is one of the most important issues facing the aviation industry. The lack of a National Noise Policy had created conflict between the airlines, the airport owners, and the communities they serve.

A critical part of the National Noise Policy set by Congress was the requirement to eliminate Stage 2 aircraft operating in the contiguous United States. Aircraft are rated or classified on the level of noise they emit while taking off and landing. Stage 1 aircraft are the noisiest aircraft, such as the original Boeing 707 and Douglas DC-8. Congress banned Stage 1 aircraft in 1987.

The Airport Noise and Capacity Act of 1990 specifically states that after December 31, 1999, no person may operate a civil turbojet airplane weighing more than 75,000 pounds in the contiguous United States unless that airplane meets Stage 3 noise levels. The Act also required that a schedule of phased-in compliance be established. All U.S. airlines have replaced the older Stage 2 aircraft with the newer Stage 3 aircraft such as the Boeing

737, 747-400, 757, 767, 777, Airbus A320, A330 and A340 families.

### **Other Applicable Federal Laws and Processes**

There are several other applicable federal laws and processes that affect land use compatibility planning at and around airports:

- **National Environmental Policy Act (NEPA) of 1969** - This Act established the fundamental commitment of the federal government to fully consider the effects of a proposed action on the human environment. It also set the basic requirement for the contents of a "detailed statement" (of impact) to be prepared for "major federal actions." The Council on Environmental Quality (CEQ), which was created by NEPA, has developed regulations for the implementation of NEPA, and each federal agency has developed guidelines for the application of this national policy to its specific programs. NEPA applies to every federal approval process. In terms of aviation, this would include, but now be limited to, such actions as approval of an Airport Layout Plan (ALP) revision, construction of a new runway, or a major runway extension.

NEPA is the basic national charter for protection of the environment. NEPA declares it a national policy to "encourage productive and enjoyable harmony between man and the environment; to promote efforts will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfares of man; and to enrich the understanding



of the ecological systems and natural resources important to the Nation.” The profound impacts of man’s activities “on the interrelations of all components of the natural environment” are recognized (including urbanization, population growth, industrial expansion, and resource exploitation). The Act specifically declares that “governments, and other public and private organizations, use all practicable means and measures... to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.”

Federal agencies are required to “utilize a systematic, interdisciplinary approach which will ensure the integrated use of the natural and social sciences and environmental design arts in planning and decision-making...” They are also to ensure that “unquantified environmental amenities and values may be given appropriate consideration in decision making along with economic and technical consideration.”

In land use planning, NEPA comes into play when an airport sponsor proposes a project or action that requires federal approval. All actions proposed by an airport sponsor are reviewed to determine whether there are environmental impacts that may result from the action being implemented and if these impacts are significant.

- **Environmental Assessments (EAs) and Environmental Impact Statements (EISs)** - The primary purpose of an Environmental Assessment (EA) or Environmental Impact Statement (EIS) is to ensure that the policies and goals defined in NEPA are incorporated into the ongoing programs and actions of the federal government, in this case, the FAA. An EIS/EA is to provide the full and fair disclosure of significant environmental impacts and serves to inform decision-makers and the public of the reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment. An EIS is more than a disclosure statement; it is to be used by federal officials in conjunction with other relevant material to plan actions and make decisions.

NEPA requires that a detailed statement be prepared for every recommendation or proposal for major federal actions which may significantly affect the quality of the human environment. The FAA normally prepares EISs for approval and construction of major projects; for changes in projects that substantially increase size, capacity, or incorporate additional purposes; and for major changes in the operation and/or maintenance of completed projects. EAs are normally prepared for all other FAA actions except for certain minor and/or routine actions that are categorically excluded from NEPA documentation. A Finding of No Significant Impact (FONSI) is prepared by the FAA to accompany an EA when it is

determined that an EIS will not be prepared.

An EIS/EA process may result in land use programs that are similar to land use programs resulting from FAR Part 150 Studies. In addition, EIS/EAs must consider the broader land use, social, and socioeconomic fabric of the communities surrounding an airport.

- **Section 404 (b) (1) of the Clean Water Act of 1977** - This Act provides for protection of waters (and wetlands) of the United States by ensuring that alternatives to avoid and minimize impacts have been considered. The U.S. Army Corps of Engineers (ACOE) administers the Act with assistance from the U.S. Environmental Protection Agency (EPA). Airport development projects can often involve impacts to wetlands.
- **Section 401 of the Clean Water Act** - This Act ensures that any activity that may result in a discharge of a pollutant into waters of the United States be evaluated for its effects upon water quality and compliance with federal and state effluent limitation and water quality standard requirements of the Act. The Act is administered by the individual states through their Department of Environmental Protection (DEP) or Department of Natural Resources (DNR). Storm water run-off is a concern at airports due to the type of activities (such as refueling and deicing) and the amount of impervious surfaces at an airport.

- **The Endangered Species Act of 1973** - This Act ensures that proposed projects do not jeopardize the continued existence of, or result in the destruction of any designated critical habitat for, threatened or endangered species and is administered by the U.S. Fish and Wildlife Service. Endangered and threatened species often find habitat in and around airports attractive, and therefore, could pose a concern for developing airport projects in those areas.

- **National Historic Preservation Act of 1969** - The National Historic Preservation Act (NHPA) established preservation as a national policy and directs the federal government to provide leadership in preserving, restoring, and maintaining the historic and cultural environment of the Nation. The Act authorizes the Secretary of the Interior to expand and maintain a national register of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, and culture, referred to as the National Register.

Homes or properties that are to be acquired or altered by a proposed airport development project (such as in the case of sound insulation) as a part of a land use management program are subject to review and coordination under Section 106 of this Act.

The FAA or its sponsor airports must prepare historic preservation plans for projects under its jurisdiction that discuss survey and evaluation

strategies, costs, and schedules, and that establish management objectives for historic properties.

- **The Clean Air Act Amendments of 1990** - In 1970, the Clean Air Act (CAA) was signed into law, and was amended in 1990. The Act is administered by the U.S. EPA and establishes national air quality standards. Aircraft emissions do not significantly contribute to air pollution, however, large commercial airports attract a lot of automobiles which are major contributors to carbon monoxide/ozone.

#### **Airport-Related Regulations Relating to Compatible Land Use Planning**

The following paragraphs describe, in detail, other airport-related regulations that affect airport land use compatibility planning.

**FAA Advisory Circular 150/5200-33C, Hazardous Wildlife Attractants on or Near Airports** - The unwanted interaction between aircraft and wildlife is a situation that needs to be avoided. Bird strikes during flight and the interaction of terrestrial and avian species with aircraft on the ground is a hazard to aviation. FAA Advisory Circular (AC) 150/5200-33C, Hazardous Wildlife Attractants on or Near Airports, provides guidance on locating certain land uses having the potential to attract hazardous wildlife to or in the vicinity of public-use airports such as sanitary landfills and wetland mitigation areas. Specifically the AC identifies land uses of concern in proximity to airports including, wetlands, ponds, storm water retention facilities, and other similar uses for they offer excellent habitat for avian wildlife. In addition, the location of landfills within the proximity of an airport is also

considered a hazard due to its likelihood to attract flocks of birds.

The FAA strongly recommends that no new sanitary landfill or wetland mitigation projects should be sited within 10,000 feet of an active air carrier runway end or within 5,000 feet of an active general aviation runway end. The standards, practices, and suggestions contained in this AC are recommended by the FAA for use by the operators and sponsors of all public-use airports. In addition, the standards, practices, and suggestions contained in this AC are recommended by the FAA as guidance for land use planners, operators, and developers of projects, facilities, and activities on or near airports.

**Wetlands Mitigation Banking** -The concept of wetlands mitigation banking and how the FAA and airport sponsors can use this newly accepted mitigation strategy to more efficiently meet Section 404 permit requirements and environmental responsibilities, including land use planning, is gaining wider acceptance. These programs provide opportunities for the FAA, airports, and local communities and planners to develop common-use wetlands mitigation sites away from airports that have the potential to provide broader public benefits such as public parks, recreation, wildlife refuge, and education areas.

**Federal Aviation Regulation Part 77** - The construction of tall structures – including buildings, construction cranes, and cell towers – in the vicinity of an airport can be hazardous to the navigation of airplanes. The FAA, through FAR Part 77, established a method of identifying surfaces that should be free from penetration by obstructions in order to maintain sufficient airspace around airports. FAR Part 77, in effect, identifies the

maximum height at which a structure would be considered an obstacle at any given point around an airport. The extent of the off-airport coverage needing to be evaluated for tall structure impacts can extend miles from an airport facility.

Tall structure impacts have historically involved the height of buildings and the height of cranes used in construction. However, with the influx of radio antennas, and most recently, towers to support wireless telecommunications and digital television, the need for careful review of such facilities has increased. The location of tall structures within local airspace can significantly affect the ability of FAA's Air Traffic Control to route aircraft into and out of an airport and can also reduce an airport's capacity. FAR Part 77 presents the criteria for evaluating potential obstructions and summarizes the general processes involved in the review and approval of the location of tall structures around airports.

The FAA airspace process serves several essential notification and coordination functions, beyond simply ensuring that the approaches to an airport are not obstructed by the construction of objects or the construction of other runways. Each person proposing any type of construction or alteration under the provisions of FAR Part 77 is required to notify the FAA by completing FAA Form 7460-1, Notice of Proposed Construction or Alteration. The completed form should be sent to the Air Traffic Division of the FAA regional office having jurisdiction over the area where the construction or alterations would be located.

Aviation electronic navigation aids (such as radar facilities, and instrument landing systems) are necessary to provide for the safe movement of aircraft. Although many of the

navigation systems are located on the airport, some systems (or portions of systems) must be located off airport property. Such electronic systems (whether located on-airport or off) have the potential of being interfered with if non-aviation related electronic sources are placed in proximity or if structures are constructed which could block the navigational aid signals. Where off-airport electronic navigation facilities occur, any development proposed to be located near these facilities needs to be reviewed by the FAA to determine if any interference to the use of the navigation aid would occur. In addition, the placement of lights (high mast lighting and stadium lights, for example) near an airport can be a visual distraction to pilots approaching an airport facility.

**AC 70/7460-2J, Proposed Construction or Alteration of Objects that May Affect the Navigable Airspace** - The FAA Form 7460-1 and the accompanying information in a 7460 Notice of Proposed Construction or Alteration package should be sent to the FAA Airports Division for all proposed construction or temporary construction cranes on any Federally Obligated Airport or to the FAA Air Traffic Division for any construction off an airport that meets the notice criteria listed below. (see FAR Part 77, Section 77.13-Notice Criteria).

A 7460 form is required for the following reasons:

- So that hazards to aviation are minimized,
- To serve as notification to pilots (NOTAMS) of potential airspace hazards,
- For marking and lighting of structures,

- To depict obstacles on aeronautical charts, and
- To coordinate radio transmissions between the FAA and FCC.

Construction activities at or near airports must be reported via FAA Form 7460-1 at least 30 days before proposed construction or application for building permit, in any of the following situations:

- Construction/alteration including construction cranes more than 200 feet in height above the ground level at its site.
- Construction/alteration including construction cranes of greater height than an imaginary surface extending outward and upward at one of the following slopes:
  - 100-to-1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport (public-use or military) with at least one runway more than 3,200 feet in actual length, excluding heliports.
  - 50-to-1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each airport (public-use or military) with its longest runway no more than 3,200 feet in actual length, excluding heliports.
  - 25-1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and take-off area of each heliport (public-use or military).

- Highways, railroads, or other traverseway for mobile objects of a height which, if adjusted upward 17 feet for interstate highways, 15 feet for public roadways, 10 feet (or the height of the highest mobile object that would normally traverse the road, whichever is greater) for private roads, 23 feet for a railroad, and for a waterway or any other traverseway not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of the previous paragraphs.

- When requested by the FAA, construction/alteration that would be in an instrument approach area.
- Any construction on public or military airports. If runways or taxiways to be constructed are already shown on an approved Airport Layout Plan (ALP) and no changes are required, the 7460-1 does not need to be submitted. Temporary cranes or other construction equipment over 20 feet in height require submittal of the 7460-1.

The FAA will conduct an aeronautical study and issue a determination to the proponent of the construction/alteration which is also forwarded to the airport operator if determined to be a hazard. A determination does not relieve the proponent of responsibility for compliance with any other local law, ordinances, or regulation, or state or other federal regulations. When evaluating proposals, the FAA will also examine the use of cranes, derricks, and

other construction equipment that is used to accomplish the proposal. If construction information is not available at the time the 7460 proposal is submitted, further aeronautical study for the height of construction equipment is necessary.

FAA Memorandum, *Interim Guidance on Land Uses Within a Runway Protection Zone*, provides information related to RPZ land use compatibility. This guidance, published in September 2012, clarifies that the following are considered incompatible land uses:

- Buildings and structures;
- Recreational land uses (golf courses, sports fields, amusement parks, and other places of public assembly, etc.);
- Transportation facilities such as railroads, public roads and highways, vehicular parking facilities;
- Fuel storage facilities;
- Hazardous material storage;
- Wastewater treatment facilities;
- Above-ground utility infrastructure (sub-stations, solar arrays)

Many airports have incompatible land uses within their RPZs, including BZN. It is the responsibility of the airport sponsor to pursue policies that will ultimately provide for compatible land uses within the RPZs. If the size or location of an RPZ changes, thus introducing new incompatible land uses into the RPZ, a detailed alternatives analysis must be undertaken and approved by FAA headquarters. Changes in the size and/or location of an RPZ is a function of an airfield project (i.e. runway extension), a change in the critical design aircraft, a new or revised instrument approach, or a local development proposal within the RPZ (i.e., new or modified public roadway). Existing RPZ land use incompatibilities are generally acceptable, with the understanding that as opportunities

arise to clear the RPZ, the airport sponsor should pursue and/or support those.

Because the FAA has no land use control powers, it is important that local planners are aware of the various, critical safety considerations when reviewing developments around airports.

## **6.4 Current Land Use Planning – BZN**

As the population continues to grow, so does the use of the Airport. Ensuring compatible land use around the Airport is very important to the future of the Airport operation. This has been done primarily through land acquisition.

The Gallatin Airport Authority currently owns 2,787 acres of land in fee title. The Authority also controls 1,279 acres of land through clear zone easements, development rights and leases. In total, the Authority controls 4,066 acres of land surrounding BZN. The lands owned and controlled by the Sponsor are displayed on **Figure 6-1, Exhibit A Property Map**.





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### **BZN Airport Noise – Land Use Study**

The Gallatin Airport Authority, Belgrade City-County Planning Board, Aeronautics Division of the Montana Department of Community Affairs, and the FAA sponsored the BZN Airport Noise – Land Use Study prepared by T.A.P., Inc in 1979. The objective of the study was to provide guidelines for BZN for future actions in the community and airport development so that the airport and its activities achieve long-term compatibility with its neighbors and the area controlled by the Belgrade City-County Planning Board.

Effective July 1, 1977, a new law was enacted by the 45<sup>th</sup> Legislature of the State of Montana. This law was an act requiring local governing bodies to adopt noise, height and land use regulations for airport influence areas and establish criteria for the regulation of noise, height, and land use within these areas. The law remains in place and was amended by the 2003 legislature.

The Gallatin County Commissioners held a public hearing on July 6, 1978 for the purpose of establishing the interim boundary of the airport influence zone or area and approved the final resolution No. 381 on June 28, 1979. The resolution has been amended on August 15, 1979, September 9, 1997 and September 30, 2003.

The primary purpose of the airport influence area (AIA) is to limit the height of objects within the area so that they do not conflict with any air space required for the airport and so that the airport would conform to Federal Air Regulation Part 77 Controlling Navigational Air Space. The Resolution also established criteria and guidelines to control noise sensitive land uses within the AIA for BZN to promote the public health, safety and general welfare. The AIA is based on FAA rules and guidelines within which no person may recover from the local government

damages caused by noise and vibrations from normal and anticipated normal airport operations.

The Airport Influence Area is defined in Resolution #381 as "that area extending 10,000 feet out from the thresholds of Runways 12 and 30, and generally one (1) mile in width on each side of the centerline of Runways 12 and 30 and their extended centerlines, with the exclusion of the portion which extends south beyond Highway #10." A map showing the entire Airport Influence Area is on file with the Gallatin County Clerk and Recorder.

In order to implement the provisions of Resolution #381, certain Airport Land Use Districts were established, including all the land lying within the approach zones, transitional zones, horizontal zones, and conical zones as they apply to the airport. However, such Airport Land Use Districts shall not extend more than 10,000 feet out from the thresholds of the primary instrument approach runway or exceed one (1) mile in width on each side of the runway and its extended centerline. Height restrictions within the AIA are discussed in detail in Section 2.05 of Resolution #381.

The noise contours developed in the study, identified noise sensitive Districts A and B. These two zones or districts are the areas where significant exposure (District B) and severe exposure (District A) to noise. District B being "normally unacceptable" for residences because the decibels range between 65 and 75 and the classification of "clearly unacceptable" is placed on District A which is 75 decibels and higher. The classification of the two districts is to limit residences and their exposure to excessive noise located in those areas.



District A, permits agriculture and airport landing field with related uses, except structures designated for human residency as the only allowable uses. District B, area within the 65 dnl noise contour exclusive of District A, allows agriculture or open space; public parks; industrial use; wholesale trade; retail trade; eating and drinking establishments. New construction or development in District B should not be undertaken unless a detailed analysis of noise reduction requirements is made, and needed noise insulation features include in the design.

reflecting the future planned development of Runway 11-29 and amend the map if necessary.

The study made specific recommendations on land acquisition and the securing of development rights and certain restrictions within the noise contours. The Gallatin Airport Authority has completed the acquisition of all of the property recommended in the Airport Noise – Land Use Study.

The AIA and noise contours as established in the 1979 resolution are displayed on **Figure 6-2**. New noise contours were developed in 2016 as part of the environmental process for the development of parallel Runway 11-29. These contours are shown alongside the original 1979 noise contours in **Figure 6-3**. Consistent with national trends, noise contours at BZN have become smaller over time with the retirement of older, louder aircraft and the phase-in of newer, quieter aircraft into the fleet mix. The recorded AIA with original noise contours remains the basis of land use planning.

As a result of this master plan, the Part 77 surfaces have changed with the planned development and use of Runway 11-29 as a second primary runway. The sponsor should work with the Belgrade City-County Planning Board to ensure that the AIA depicts appropriate FAR Part 77 height restrictions

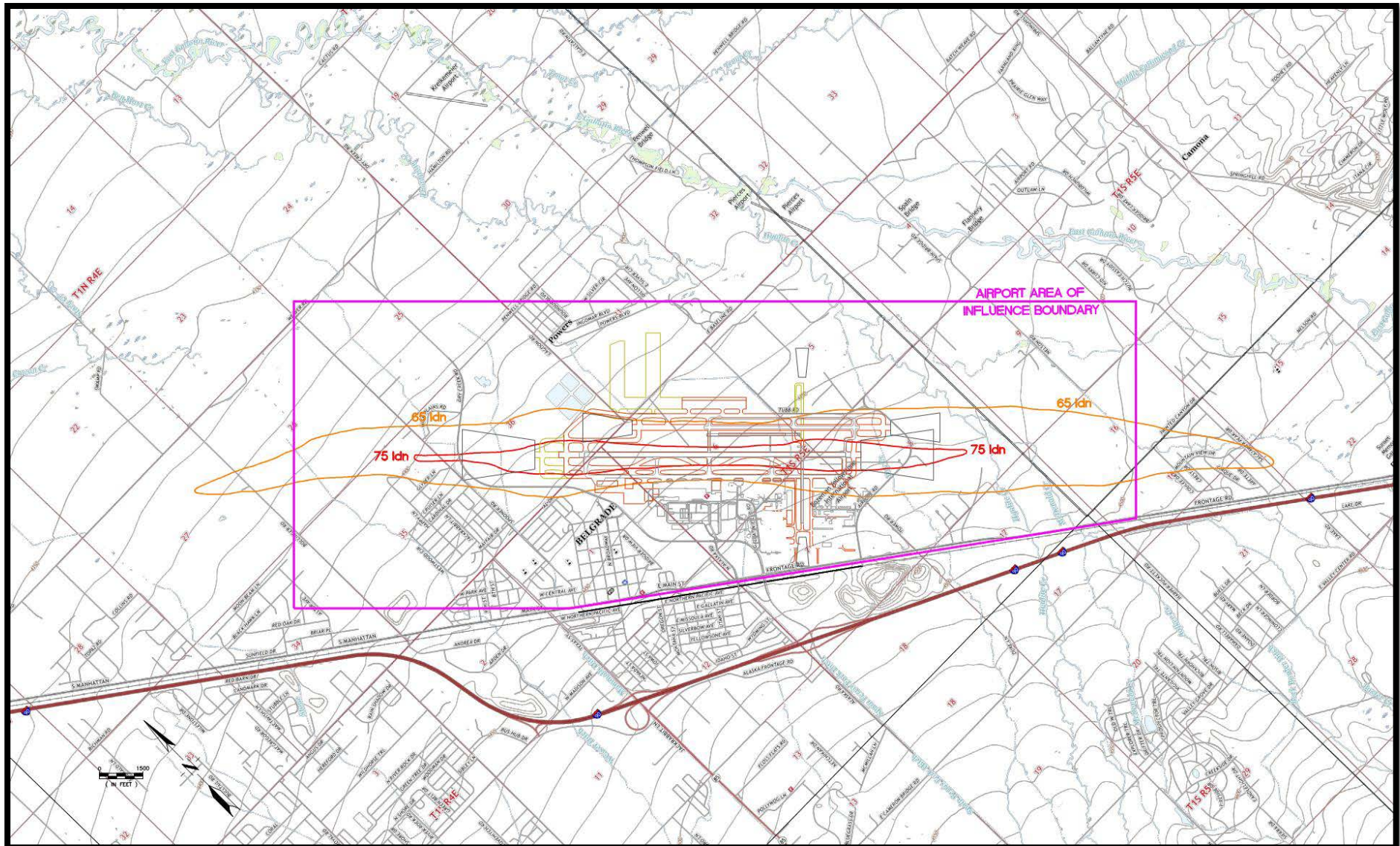


Figure 6-2: AIA Boundary with Original 1979 Noise Contours



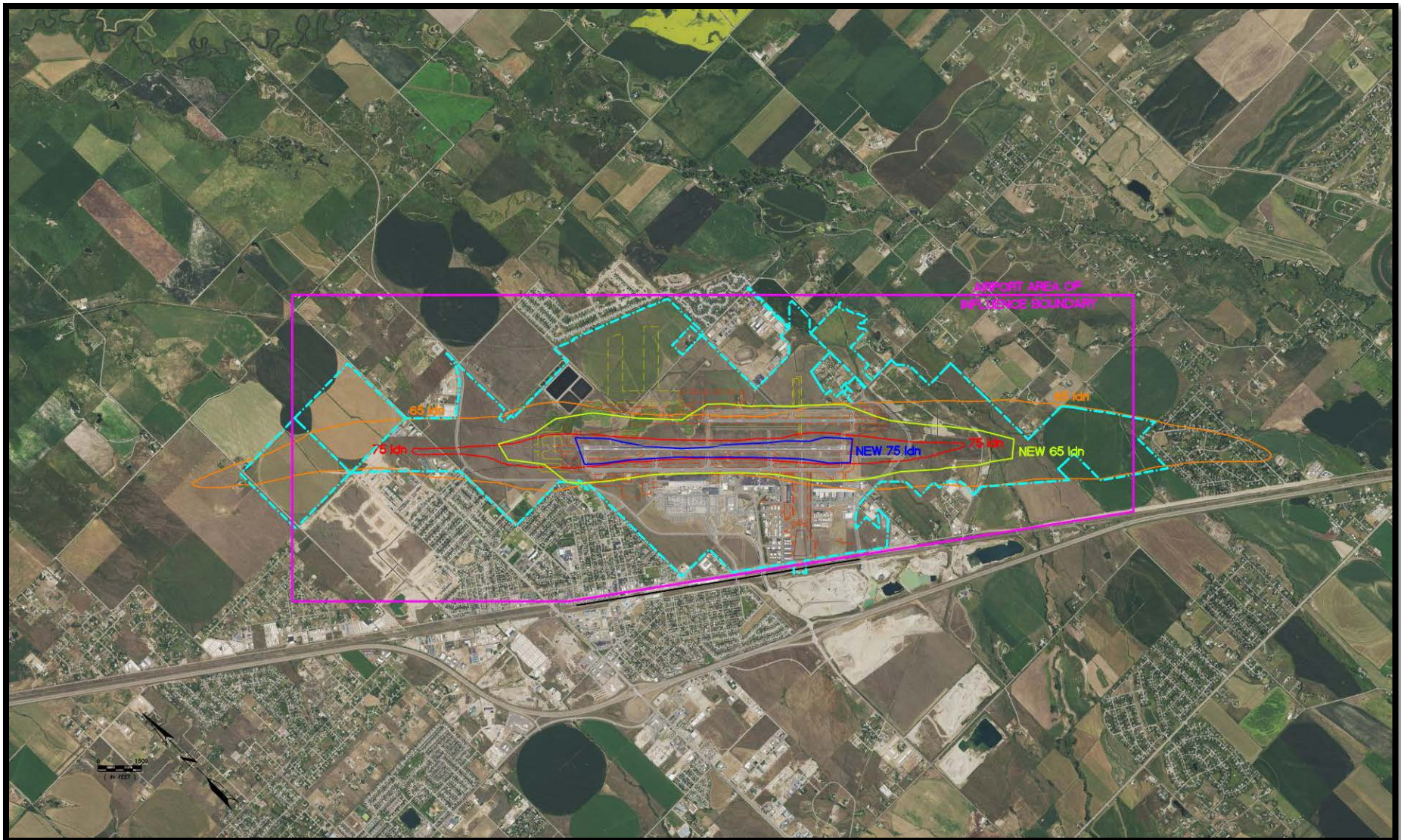


Figure 6-3: AIA Boundary with Existing and Original Noise Contours

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### **Subdivision Regulations**

In cooperation with the Airport Authority, Gallatin County and the City of Belgrade amended their subdivision regulations to create an aviation easement area that covers 107 square miles of land, or approximately 246,528 acres. The City of Belgrade and Gallatin County require an aviation easement to be granted to the Airport Authority on any new subdivision of land within this area.

These easements inform landowner that they live in an area adjacent to the Airport and the easement grants the Airport Authority “the right of flight for the passage of aircraft for the use and benefit of the public in the airspace above the Grantor’s property, together with the continuing right to cause in said airspace such noise, vibration, dust, fumes, smoke, vapor, and other effects as may be inherent for navigation of or flight in air, using said airspace, or landing at, taking off from, or operating at BZN.” The easement also limits the height of any structure, tree or other vegetation as required by Federal Aviation Regulations (FAR) Part 77, “Objects affecting Navigational Airspace” for BZN.

The easement further restricts property around the Airport from interference with radio communications, navigational aids or devices such as instrument landing system, by generators, motors, and artificial lighting devices that can cause interference. The easement prevents the installation of any structure, business or tree which is dangerous or hazardous to the safety of aircraft using BZN or to the property or persons using BZN or flying in the vicinity thereof.

The aviation easement area boundary and easements granted to date are displayed on **Figure 6-4**. **Figure 6-5** demonstrates the height limitations above the ground for the properties within the easement area based

on the ultimate Part 77 surfaces for the Airport.

As a result of this master plan, the Part 77 surface has changed with respect to the future development and use of Runway 11-29. The sponsor should work with the Belgrade City-County Planning Board to ensure that Subdivision Regulations reflect appropriate FAR Part 77 height restrictions in consideration of the future planned development of Runway 11-29.



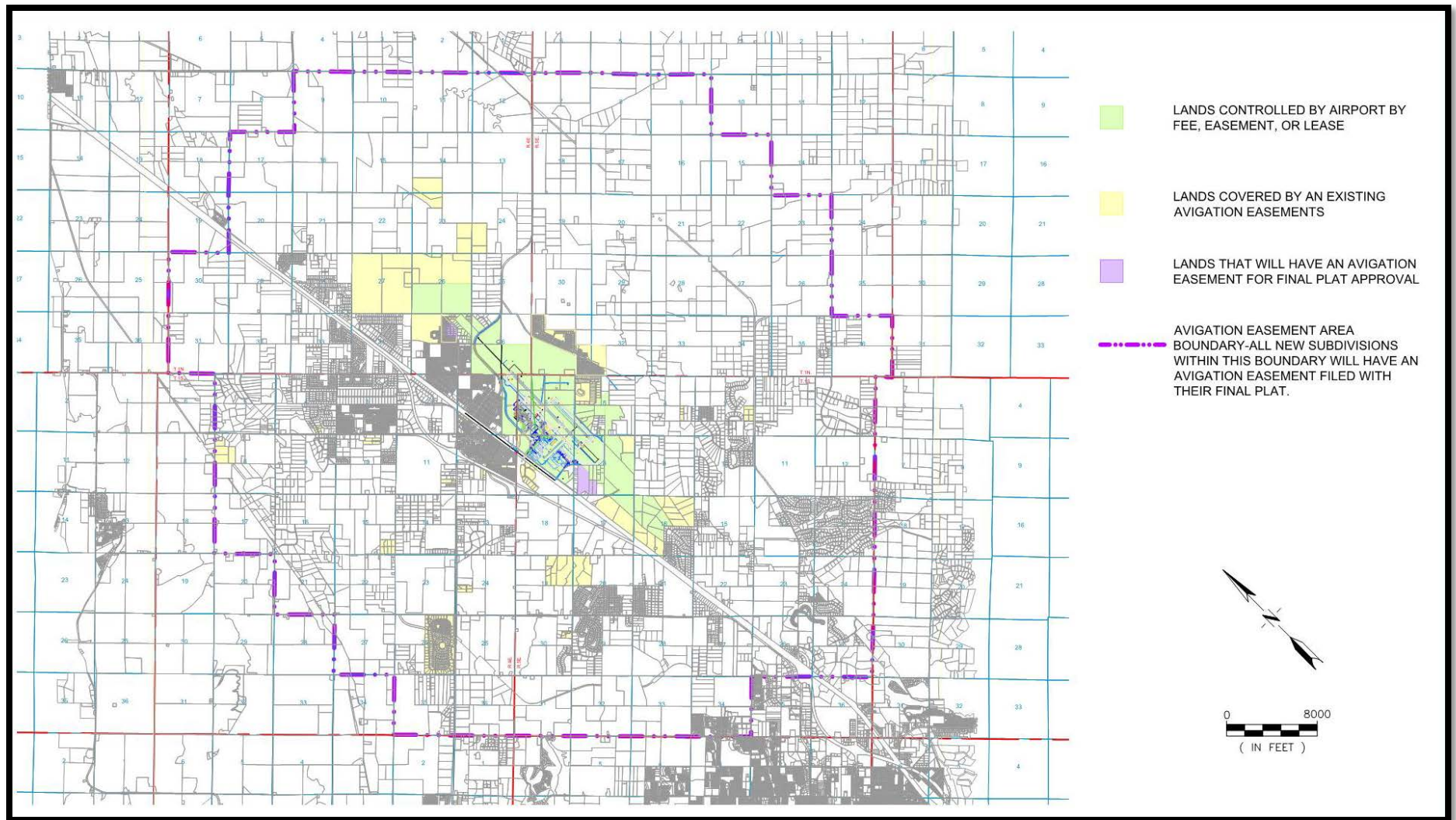


Figure 6-4: Aviation Easement Area



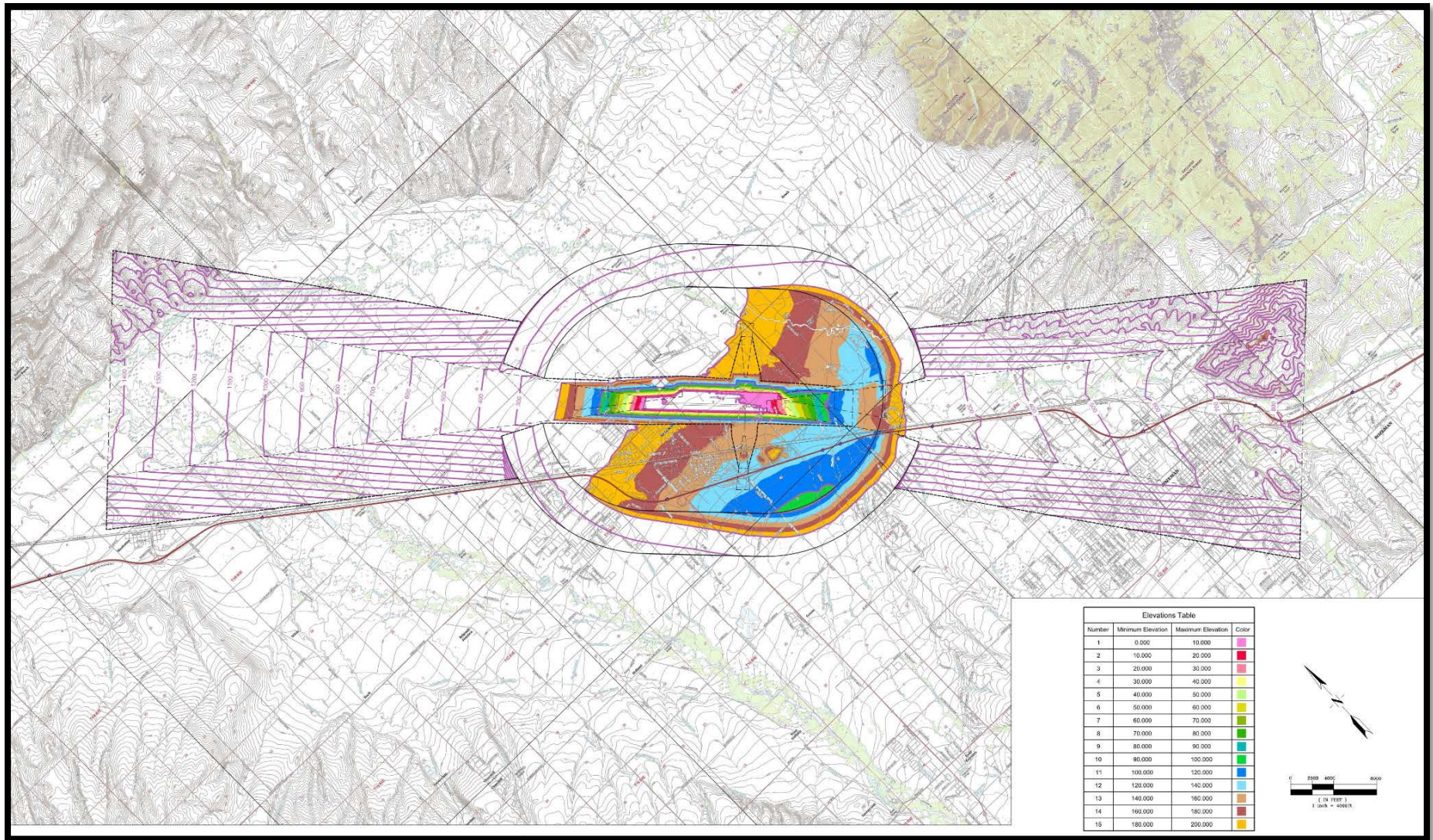


Figure 6-5: BZN FAR Part 77 Surfaces

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**Hazardous Wildlife Attractants On or Near BZN**

The FAA has developed Advisory Circular 150/5200-33C, Hazardous Wildlife Attractants on or near Airports, to provide guidance on certain land uses that have the potential to attract hazardous wildlife on or near public-use airports.

Information about the risks posed to aircraft by certain wildlife species has increased a great deal in recent years. Improved reporting, studies, documentation, and statistics clearly show that aircraft collisions with birds and other wildlife are a serious economic and public safety problem. While many species of wildlife can pose a threat to aircraft safety, they are not equally hazardous. The circular ranks the wildlife groups commonly involved in damaging strikes in the United States.

Most public-use airports have large tracts of open, undeveloped land that provide added margins of safety and noise mitigation. These areas can also present potential hazards to aviation if they encourage wildlife to enter an airport's approach and departure airspace or air operations area (AOA). Constructed or natural areas – such as poorly drained locations, detention/retention ponds, roosting habitats on buildings, landscaping, odor-causing rotting organic matter (putrescible waste) disposal operations, wastewater treatment plants, agricultural or aquaculture activities, surface mining, or wetlands-can provide wildlife with ideal locations for feeding, loafing, reproduction, and escape. Even small facilities, such as fast food restaurants, taxicab staging areas, rental car facilities, aircraft viewing areas, and public parks can produce substantial attractions for wildlife.

During the past century, wildlife-aircraft strikes have resulted in the loss of hundreds

of lives worldwide, as well as billions of dollars in aircraft damage. Hazardous wildlife attractants on or near airports can jeopardize future airport expansion, making proper community land-use planning essential.

When considering proposed land uses, airport operators, local planners, and developers must take into account whether the proposed land uses, including new development projects, will increase wildlife hazards. Land-use practices that attract or sustain hazardous wildlife populations on or near airports can significantly increase the potential for wildlife strikes. The FAA recommends minimum separation criteria for land-use practices that attract hazardous wildlife to the vicinity of airports. Current land-uses in the vicinity that are identified as possible hazards by the Advisory Circular are discussed below.

**Water Management Facilities** - Drinking water intake and treatment facilities, storm water and wastewater facilities, associated retention and settling ponds, ponds built for recreational use, and ponds that result from mining activities often attract large numbers of potentially hazardous wildlife. To prevent wildlife hazards, land-use developers and airport operators may need to develop management plans in compliance with local and state regulations, to support the operation of storm water management facilities on or near public-use airports to ensure a safe airport environment.

**Existing storm water management facilities** - On-airport storm water management facilities allow quick removal of surface water, including discharges related to aircraft deicing, from impervious surfaces, such as pavement and terminal/hangar building roofs. Existing on-airport detention ponds collect storm water, protect water



quality, and control runoff. Because they slowly release water after storms, they create bodies of water that can attract hazardous wildlife.

Where possible, airport operators should modify storm water detention ponds to allow a maximum 48-hour detention period for the design storm. Detention basins should remain totally dry between rainfalls. The detention/retention basins at BZN rarely hold water greater than 48 hours.

**New storm water management facilities -**

The FAA strongly recommends that off-airport storm water management systems located within 10,000 feet of the airport be designed and operated so as not to create above-ground standing water. Storm water detention ponds should be designed, engineered, constructed, and maintained for a maximum 48-hour detention period after the design storm and remain completely dry between storms. To facilitate the control of hazardous wildlife, the FAA recommends the use of steep-sided, rip-rap lined, narrow, linearly shaped water detention basins. If the soil conditions and other requirements allow, the FAA encourages the use of underground storm water infiltration systems, such as French drains or buried rock fields, because they are less attractive to wildlife.

The FAA recommends that airport operators encourage off-airport storm water treatment facility operators to incorporate wildlife hazard mitigation techniques into storm water treatment facilities operating practices when their facility is located within 10,000 feet of the airport.

The City of Belgrade uses French drains for storm water disposal but could easily incorporate an underground infiltration gallery for larger disposals because of the gravelly soils.

**Existing wastewater treatment facilities.**

The FAA strongly recommends that airport operators immediately correct any wildlife hazards arising from existing wastewater treatment facilities located on or near the airport. Accordingly, airport operators should encourage wastewater treatment facility operators to incorporate measures, developed in consultation with a wildlife damage management biologist, to minimize hazardous wildlife attractants. Airport operators should also encourage those wastewater treatment facility operators to incorporate these mitigation techniques into their standard operating practices. In addition, airport operators should consider the existence of wastewater treatment facilities when evaluating proposed sites for new airport development projects and avoid such sites when practicable.

The Airport Authority requested the City of Belgrade to develop mitigation procedures for the Belgrade lagoon system. The City of Belgrade hired Eric C. Atkinson, Marmot's Edge Conservation to complete a Bird Population Trend and Control Evaluation for the Belgrade Wastewater Facilities Plan in February 2000. The plan investigated the amount and suitability of open water provided by the City of Belgrade's Wastewater Treatment lagoons in relation to the population of waterfowl within the Gallatin Valley. The study found that no avian risks to aircraft safety have been identified at BZN at the time of the study.

Waterfowl habitat is far superior to the wastewater treatment lagoons at many of the ponds within the Gallatin Valley through the combination of factors such as bank vegetation, privacy, proximity to forage areas, and bank complexity. However, the cells provide large surface areas which can be attractive to waterfowl. Any increase in



surface area of the cells, especially individual cells, may prove significantly more attractive to waterfowl during migration periods and winter.

BZN should institute mandatory reporting of avian incidents to determine if and when avian control measures would become necessary. In any assessment, the types of birds involved must be determined through pilot reporting, inspection of runways, and direct observation. Waterfowl would be the birds most influenced by the lagoons.

As waterfowl species do use the wastewater treatment lagoons at times, especially during the fall and spring migration and mid-winter if other open water sources become scarce, recommendations for future systems were made in the report to reduce potential avian related incidents. These recommendations include methods to make the wastewater treatment lagoons as unattractive to waterfowl as possible through continuation of present management and the ultimate deployment of electronic auditory hazing if bird control is deemed necessary for aircraft safety in the future.

**New wastewater treatment facilities.** The FAA strongly recommends against the construction of new wastewater treatment or associated settling ponds within 10,000 feet of the airport or 5 statute miles of approach, departure and circling airspace. The FAA defines wastewater treatment facility as “any devices and/or systems used to store, treat, recycle, or reclaim municipal sewage or liquid industrial wastes.” During the site-location analysis for wastewater treatment facilities, developers should consider the potential to attract hazardous wildlife if an airport is in the vicinity of the proposed site, and airport operators should voice their opposition to such facilities if they are in the proximity of the airport.

A wastewater treatment lagoon was constructed west of the airport in 2004. The facility was approved in the 1970's but not constructed until 2004. The City of Belgrade is in the process of upgrading the facility to include mechanical treatments. This upgrade will have the effect of reducing the surface water area of the treatment lagoons.

The FAA's understanding of the effects of waste disposal sites on hazardous wildlife is more recent than the approval date of the system. The facility did not require additional review by the public and therefore the airport operator was unable to comment. If the public is allowed to comment on the facility in the future, the airport operator should encourage the operator of the wastewater treatment facility to incorporate measures, developed in consultation with a wildlife damage management biologist, to minimize hazardous wildlife attractants.

**Wastewater discharge and sludge disposal.** The FAA recommends against the discharge of wastewater or sludge on airport property because it may improve soil moisture and quality on unpaved areas and lead to improved turf growth that can be an attractive food source for many species of animals. Also, the turf requires more frequent mowing, which in turn may mutilate or flush insects or small animals and produce straw, both of which can attract hazardous wildlife. In addition, the improved turf may attract grazing wildlife, such as deer and geese. Problems may also occur when discharges saturate unpaved airport areas. The resultant soft, muddy conditions can severely restrict or prevent emergency vehicles from reaching accident sites in a timely manner.

The Airport Authority currently allows the City of Belgrade to spray effluent on airport

property. The grass hay is harvested by a local rancher and removed from the airport property. The airport will continue to work with the City to assure that areas are not made soft and muddy in the future. The area is within the security fence such that deer cannot access the vegetation. It is believed that the irrigated grass area is less likely to attract birds than the alternative of infiltration or evaporation ponds. The airport operator should continue to monitor the irrigated areas to assure that hazardous birds are not attracted to the airport.

**Agricultural activities.** Because most, if not all, agricultural crops can attract hazardous wildlife during some phase of production, the FAA recommends against the use of airport property for agricultural production, including hay crops, within 10,000 feet of the airport. If the airport has no financial alternative to agricultural crops to produce the income necessary to maintain the viability of the airport, then the airport should consider growing crops that hold little food value for hazardous wildlife, such as grass hay. Attractiveness to hazardous wildlife species during all phases of production, from planting through harvest and fallow periods, should be considered when contemplating the use of airport property for agricultural production. Where agriculture is present, crop residue (e.g., waste grain) should not be left in the field following harvest. Also, airports should consult AC 150/5300-13A, Airport Design, to ensure that agricultural crops do not create airfield obstructions or other safety hazards.

The Airport Authority does not use airport property for agricultural activities, except in the areas of wastewater discharge. It has attempted, with limited success, to get a local rancher to cut the dry land hay and remove it from the airport to control weeds and fire danger.

**Golf courses.** The large grassy areas and open water found on most golf courses are attractive to hazardous wildlife, particularly Canada geese and some species of gulls. These species can pose a threat to aviation safety. The FAA recommends against construction of new golf courses within 5 miles of the airport. Existing golf courses located within these separations must develop a program to reduce the attractiveness of the sites to species that are hazardous to aviation safety. Airport operators should ensure these golf courses are monitored on a continuing basis for the presence of hazardous wildlife. If hazardous wildlife is detected, corrective actions should be immediately implemented.

The airport owns the development rights on 320 acres of property approximately 2 miles from the approach end of Runway 12. The allowable use of this property is to remain agricultural or be developed into a golf course without ponds or standing water that may attract waterfowl. The majority of this property is outside of the Airport Influence Area and adjacent to the City limits of Belgrade. The property would have inevitably been developed as high density residential if the Airport had not purchased the development rights for noise and safety reasons. A mitigation plan will be implemented if bird strikes become a problem due to the agricultural or golf course use.

### **Belgrade Zoning**

The City of Belgrade adopted zoning ordinance 86-1 with adopted amendments and changes on May 3, 2003. The document and zoning map is amended from time to time to reflect the changes in development patterns in and around the City and was last updated on May 14, 2006. The Belgrade Zoning Ordinance requires that any land

annexed into the City of Belgrade must be zoned at the time of annexation.

As per State Law, the City of Belgrade may adopt zoning regulations for within the city limits and for a one-mile zoning jurisdiction around the city limits for areas that are not zoned by the County.

The Gallatin County Commission has the authority to zone areas in the planning jurisdiction outside the city limits of Belgrade through the processes detailed in State Law.

The Belgrade City-County Planning Board and the planning jurisdiction were established by the Belgrade City Council and the Gallatin County Commission in 1975. The Planning Board consists of up to nine members. Four must reside within the city limits and are appointed by the Mayor and City Council. Four members must reside outside of the city limits and within the planning jurisdiction, and are appointed by the County Commissioners. The ninth member is an at-large member selected by the Planning Board and approved by both the City Council and the County Commission. The planning jurisdiction is a 4.5 mile area surrounding the City.

The current Belgrade Zoning map is shown on **Figure 6-6**. BZN is zoned PLI, Public Lands and Institutions. Airports and customary accessory uses required for the operation of airports are permitted uses in PLI.

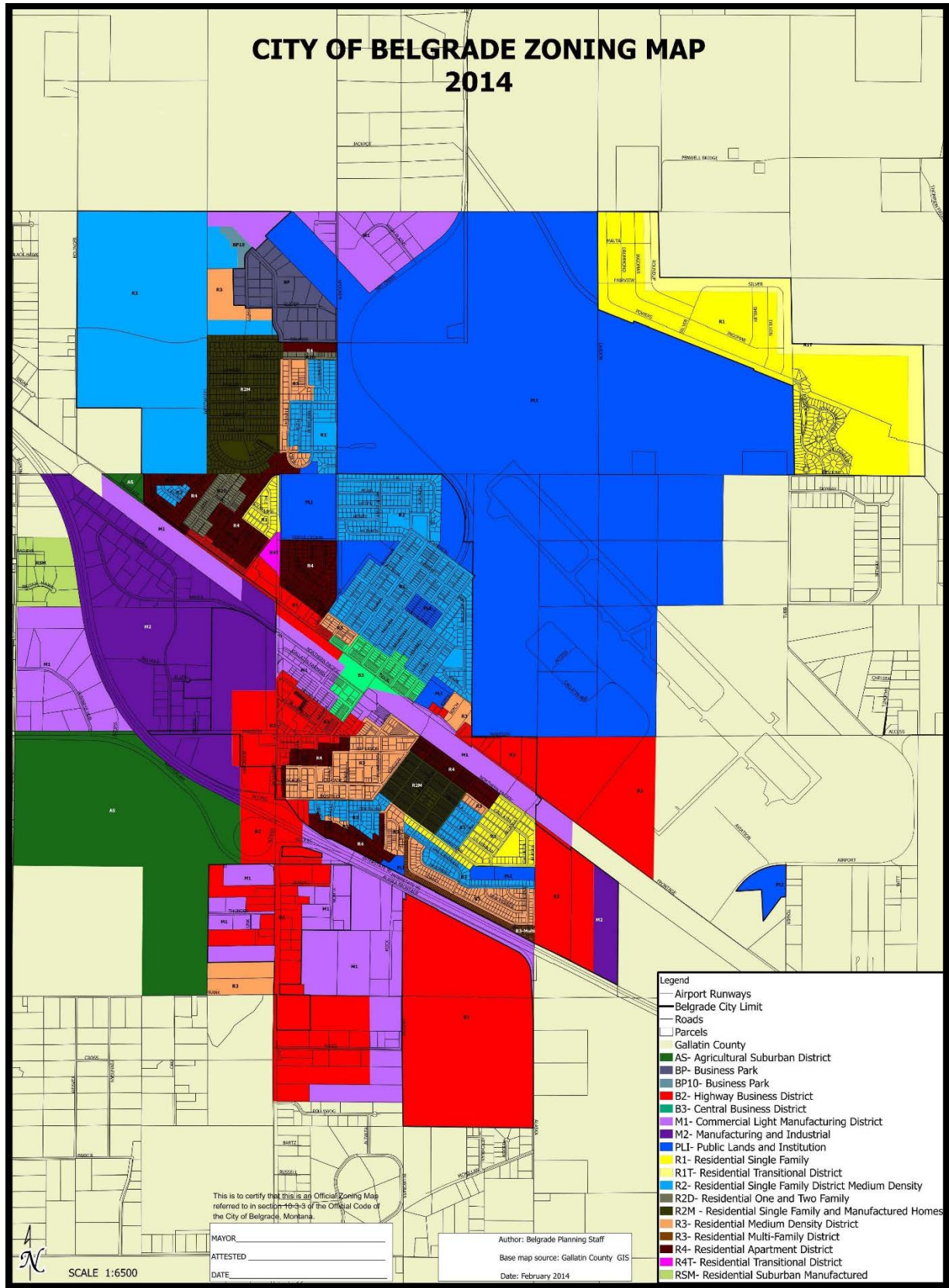


Figure 6-6: City of Belgrade Zoning

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### **Belgrade Growth Policy**

The Belgrade City-County Planning Board's mission is to provide growth policy recommendations to the Belgrade City Council and the Gallatin County Commission that insure development is done properly in appropriate areas, that impacts are mitigated, and that positive benefits are provided for the residents of the City of Belgrade, Belgrade City-County Planning Jurisdiction, and Gallatin County.

The Planning Board recently updated its growth policy for land within its jurisdiction. The Gallatin Airport Authority played an active role in the development of the growth policy. During the planning process, the Authority noted concerns of residential encroachment near the airport, and ensured that the City was aware of potential conflicts related to bird migration patterns and the open surface water ponds of the waste water treatment facility. The policy document notes that infrastructure demand and improvements will need continual communication between the City and the Airport Authority as demands increase and infrastructure upgrades are required. The document also recognizes the importance of collaboration between the City and the Airport, stating that "the City and the Gallatin Airport Authority will continue to be partners in the development of land where the two entities are adjacent."

Further, the Belgrade City-County Growth Policy acknowledges the AIA and Subdivision Regulations, including avigation easements previously discussed to assure that adequate land use planning around the airport is continued. The growth policy recognizes the importance of the airport to the area transportation plan and economic viability the airport adds to the community.

**Figures 6-7** and **6-8** display the Belgrade City County Future Land Use map, adopted in January of 2020.



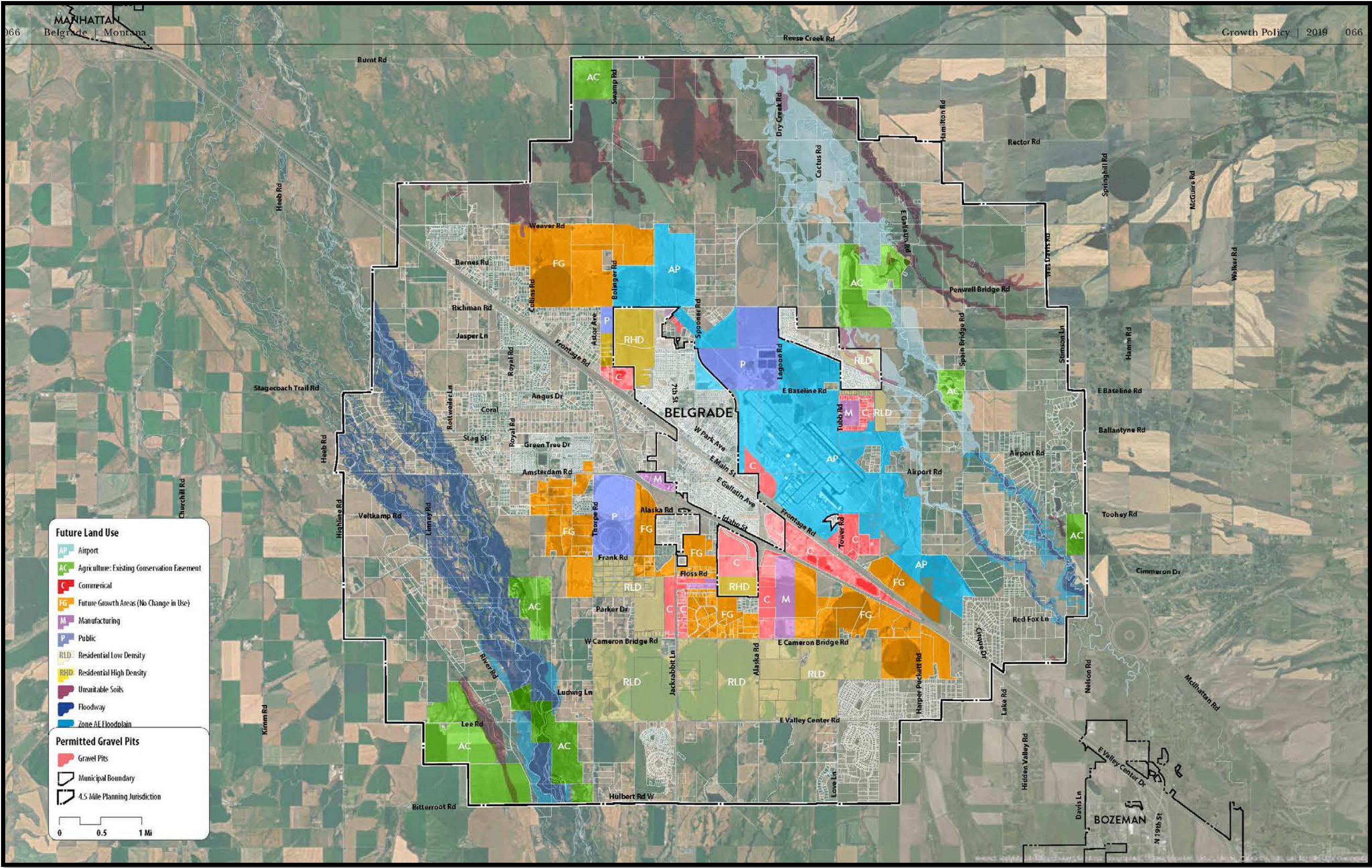


Figure 6-7: Belgrade Growth Policy Future Land Use Map



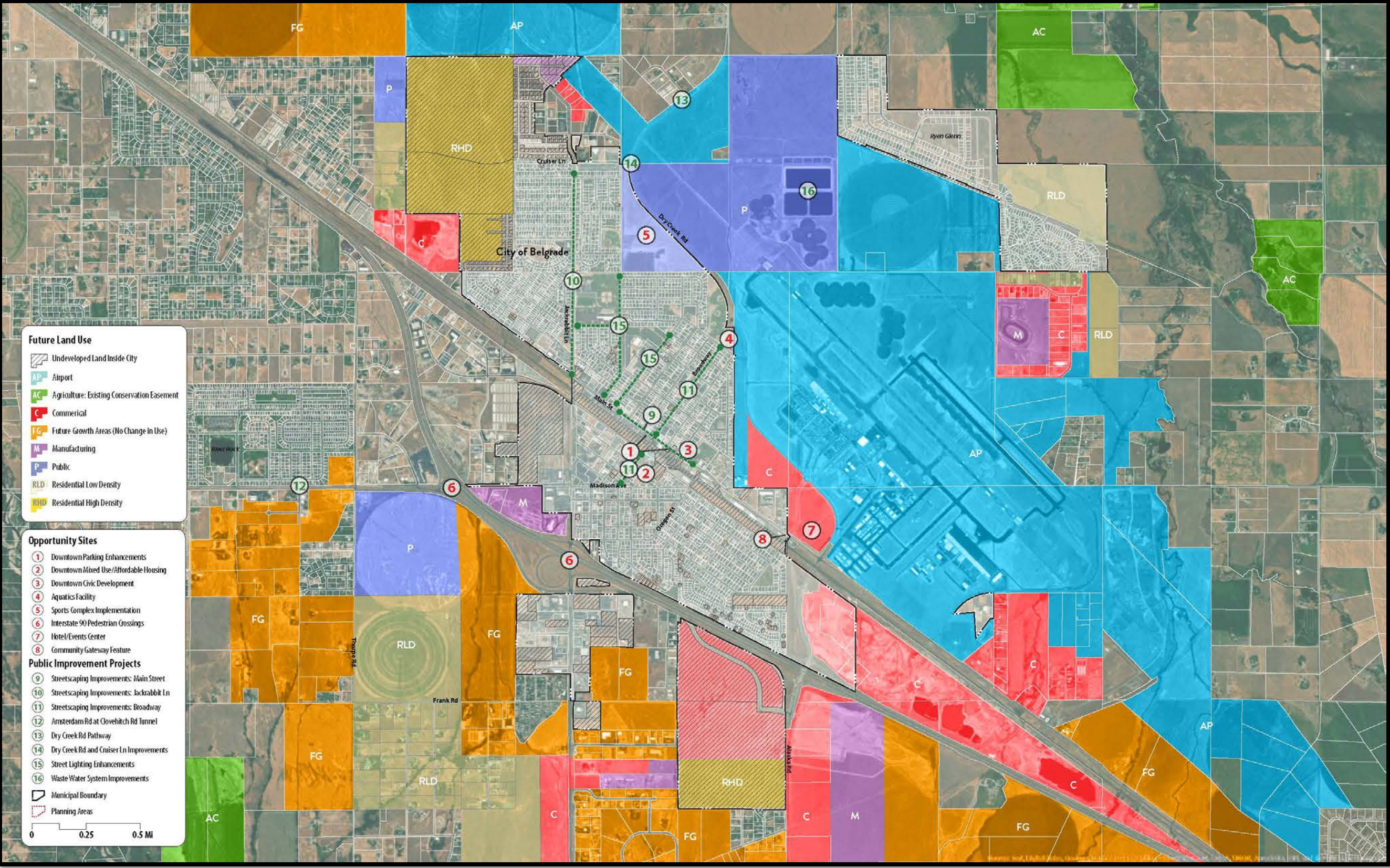


Figure 6-8: Belgrade Growth Policy Future Land Use Map



### **Gallatin County Growth Policy**

Unfortunately, the Gallatin County Growth Policy, adopted in April, 2003, does not currently address the airport as part of the transportation system and land use planning around the airport. The county is currently in the process of updating its 2003 growth policy with completion estimated in October 2020.

### **East Gallatin Zoning District**

The East Gallatin Zoning district was approved on June 20, 2006. The district is located north and east of the airport as shown on **Figure 6-9**.

The general character of the District is agricultural and rural residential. It is the intent of the District to maintain the existing character as much as possible while encouraging compatible development densities. The District is generally divided into a northern sector that is predominately agricultural and the southern sector that includes dispersed residential subdivisions. To preserve the character, an average density of one residence per 20 acres is permitted throughout the District with cluster development encouraged. Straight 20-acre-lot development is generally discouraged, as is similar development that may not use the land in an efficient manner.

Increased density, up to a maximum density of one residence per five acres, may be permitted, granted such development meets the open space requirements of the zoning district, as well as the standards of Gallatin County Subdivision Regulations and the Montana Subdivision & Platting Act.

### **Gravel Pits**

Within a 2.5 mile radius of BZN, there are a total of nine gravel pit sites. The reclamation plans presented in the Opencut Permit

Applications for these gravel pits show that, of the nine present and potential sites, six are proposed pond or watercourse sites of varying sizes. These plans fall under the definition of 'land uses of concern' under FAA Advisory Circular 150/5200-33C, Hazardous Wildlife Attractants on or Near Airports for the potential aviation hazards presented by the water features' likelihood to attract flocks of birds.

The nine gravel pit sites are located on **Figure 6-10**. The Gallatin Airport Authority, with the assistance of the FAA, should discourage the development of new mining operations in the vicinity of the airport that extract gravel below the high water table that would create large bodies of water or possible wet lands. The Authority should discuss reclamation plans and possible bird mitigation procedures with the owners of permitted sites to reduce any future impacts to the Airport.

### **Recommended Land Use Planning – BZN (Off Airport)**

Throughout its history, the Gallatin Airport Authority, in conjunction with local planners, has spent large amounts of time and money to assure compatible land use planning on and around BZN. Their efforts have protected the large public investment in the airport and eliminated any constraints being placed on the airport to date. Future Boards must continue to be involved in land use planning around the airport to enable this sector of the economy to continue to expand, to provide a wide variety of job opportunities for local citizens, and to meet the needs of the traveling public. It is vitally important that airports operate in an environment that maximizes the compatibility with off airport development.

**Figure 6-11** overlays the land use planning efforts completed by the local governmental



agencies to date. The plan recommends three areas adjacent to the Airport that require additional review to help assure compatible land use development throughout the Master Planning period. The following is a list of recommendations to assure the future viability of the Airport:

- Continue to pursue land acquisition adjacent to the airport depicted on the Exhibit A, Property Map.
- Review zoning with City of Belgrade, Gallatin County and adjacent landowners that are not adequately covered by existing zoning or resolution.
- Continue to map, monitor and track aviation easements granted through future subdivisions.
- Discourage open pit mining below high ground water to control bird habitat.
- Continue to work with Belgrade City-County Planning, City of Belgrade, and Gallatin County to assure that future development in the airport area is compatible with the airport and that any future development at the airport is compatible with its surrounding neighbors.
- Monitor storm water discharge facilities both on and adjacent to the airport to assure that the design does not promote the habitat of waterfowl.

#### **Recommended Land Use Planning – BZN (On Airport)**

Land use planning on the airport is as important as off airport planning. The Master Plan Update identifies areas of future development to meet the expected growth of the airport. The airport property for terminal expansion, general aviation expansion, and the expansion of the necessary runways and taxiways to access these areas must be set aside first. Next, an

adequate area for aviation support facilities that are best located on the airport should be determined and then protected. Finally, if there are areas that are not needed for aviation facilities or support purposes that can then be developed as compatible land use business areas to generate revenue to operate the airport

**Figure 6-12** shows the land use planning developed for Airport Property and the area immediately adjacent to the Airport. In reviewing the exhibit, it is apparent that over the years, the Airport Authority has done a good job ensuring compatible land use planning around the Airport as required by the FAA.

The following recommendations should be implemented to continue to improve the land use planning immediately adjacent to the Airport. This continuous process will assure that the airport is compatible with its neighbors and that FAA requirements are met so the airport can continue to receive federal funding.

- Acquire the northwest corner of Section 36 for relocation of VOR and/or future disposal of sewage effluent that is compatible with FAA requirements around airports.
- Continue land acquisition of areas necessary for future airport development.
- Work with the Belgrade City-County Planning Board to assure that all areas around the airport are zoned compatible with the Airport Master Plan and the Belgrade Growth Policy.
- Work with landowners east of the Airport to assure that any development in these areas is compatible.

A more specific list of tasks required of the Airport Authority to assure on airport compatible land use planning are as follows:

- Design future storm water facilities on the airport to eliminate standing water lasting over 48 hours as increased runoff occurs.
- Assist other governmental agencies in completing tasks identified in the off airport land use recommendations included in this report and educate those agencies in compatible land use planning around airports.

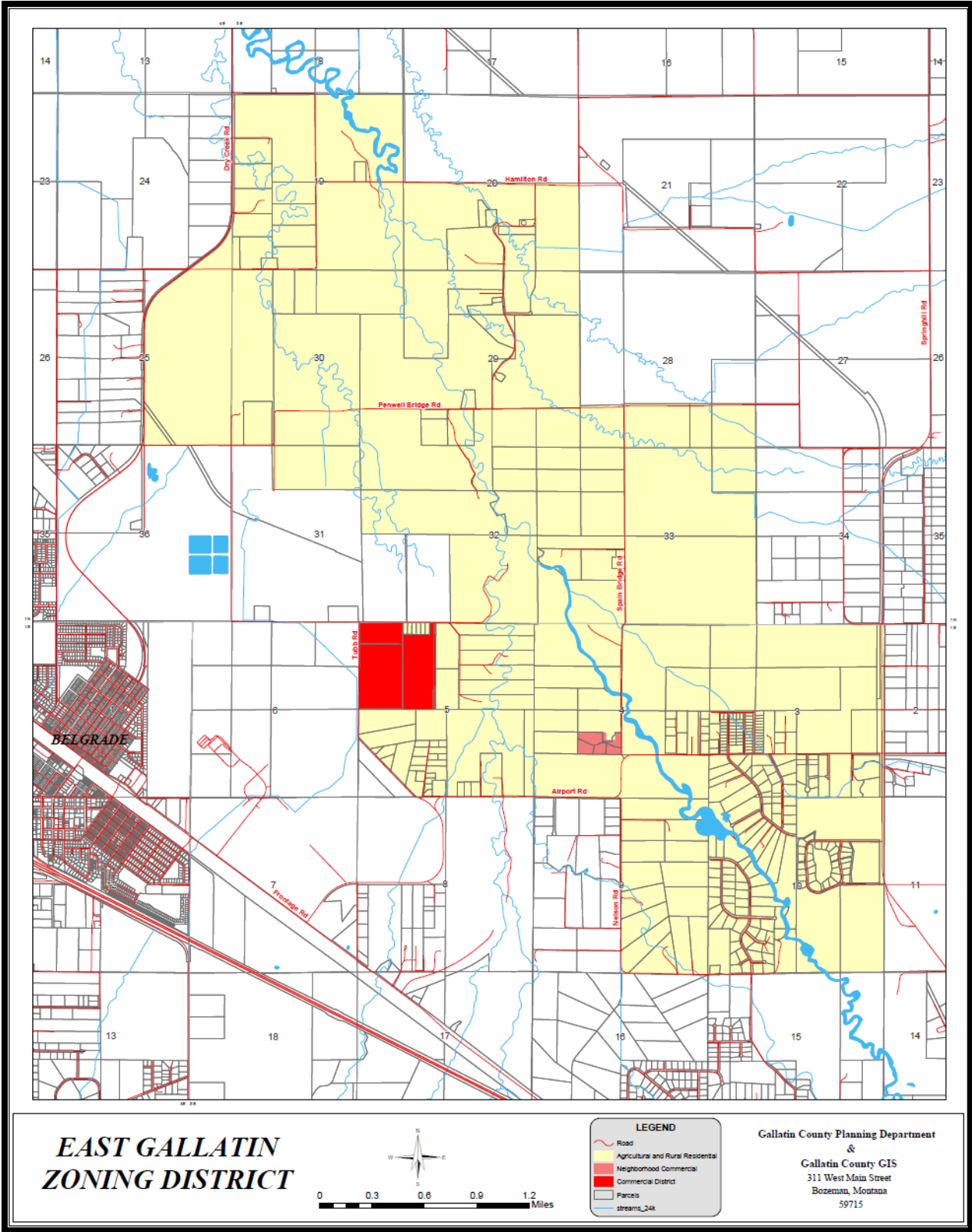


Figure 6-9: East Gallatin Zoning District

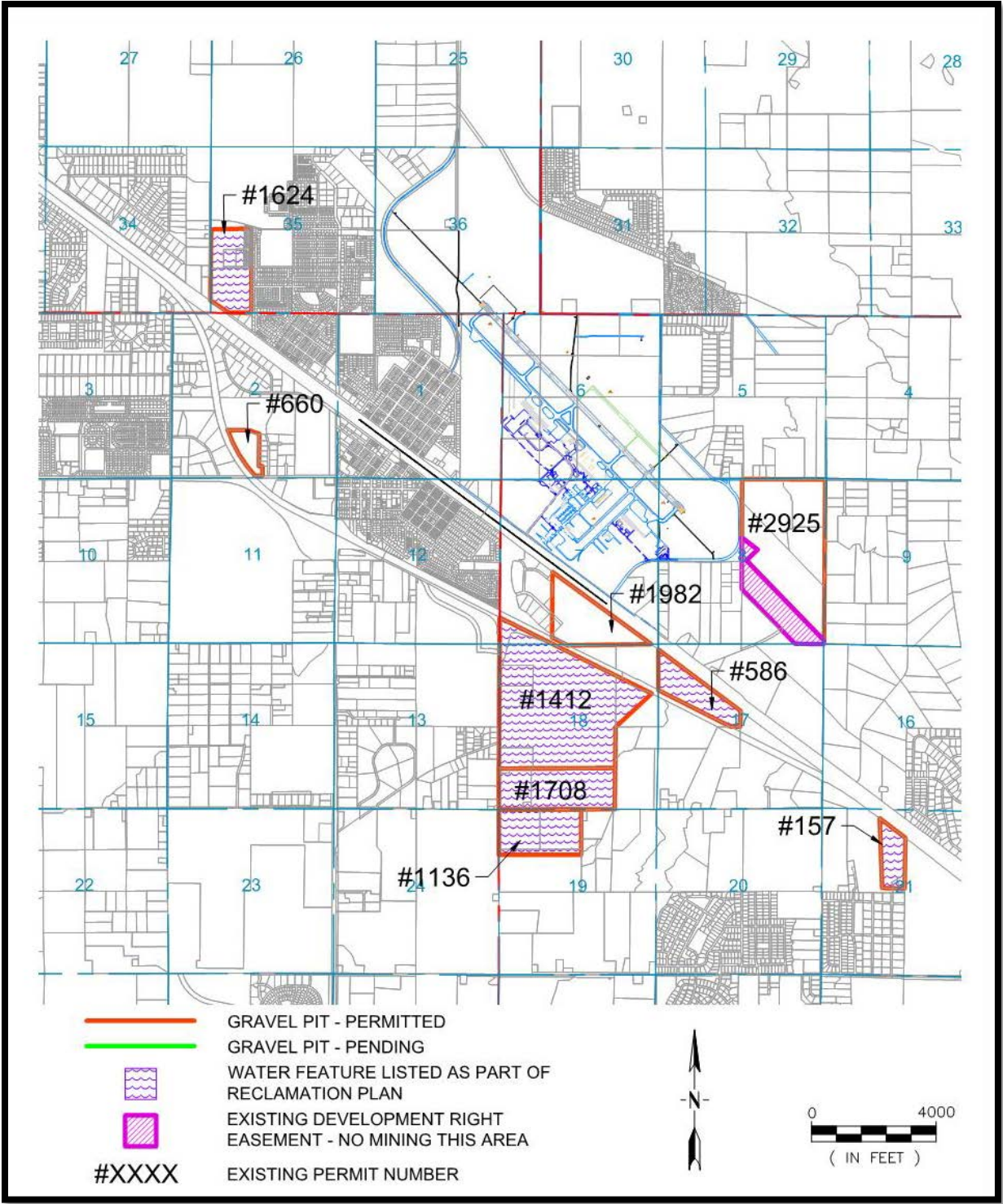


Figure 6-10: Area Gravel Pits



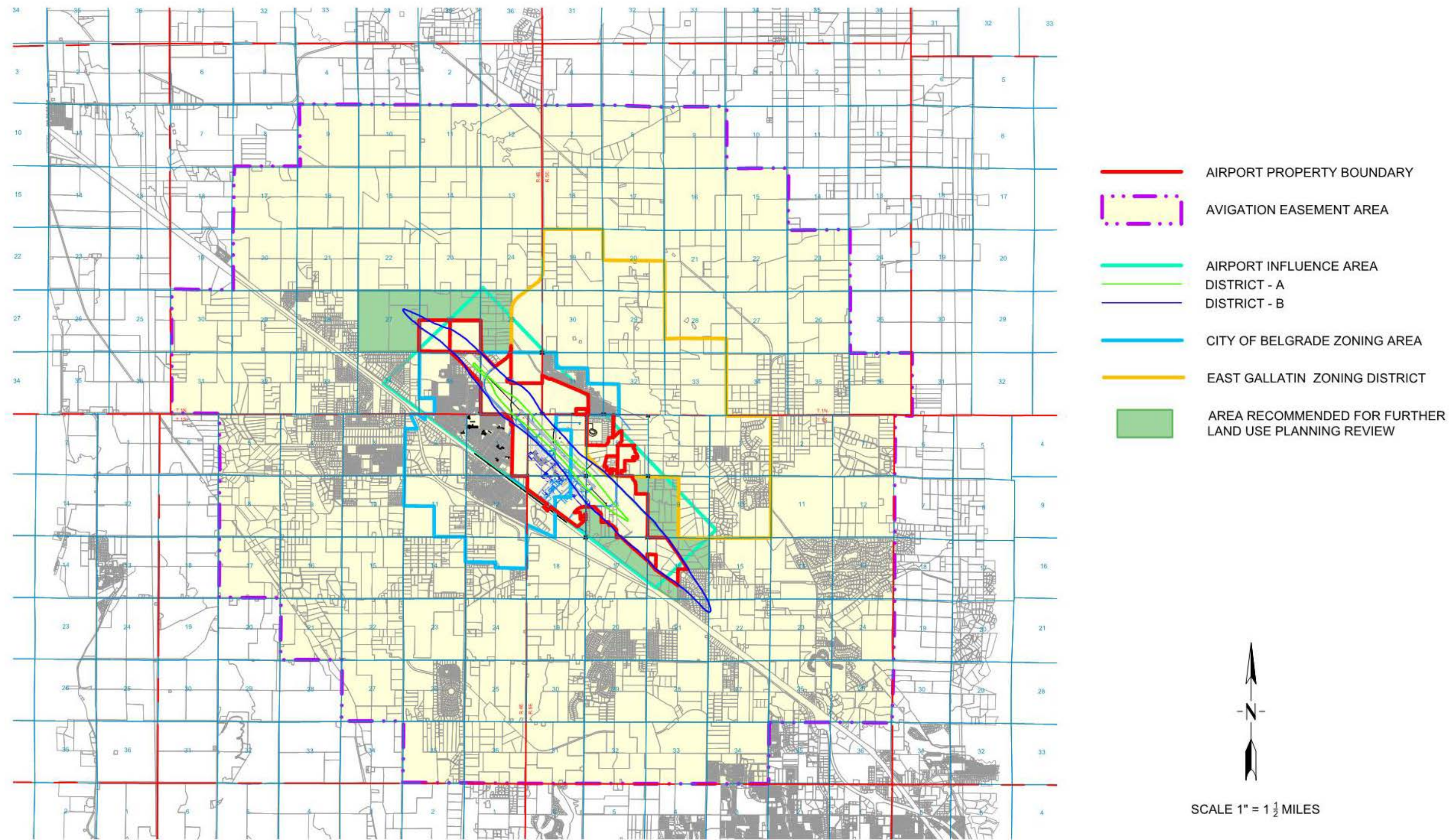
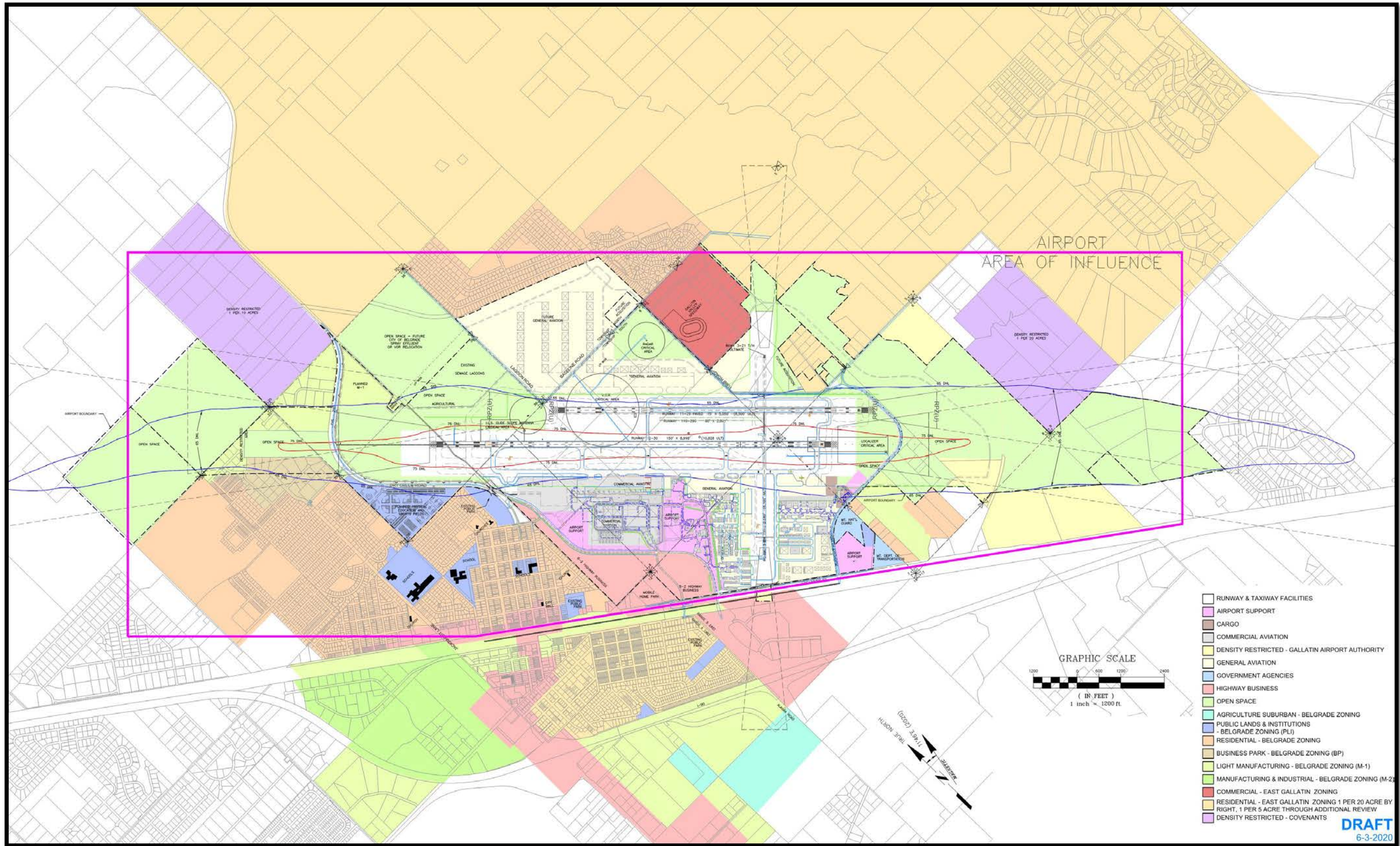


Figure 6-11: Land Use Planning Boundaries





**Figure 6-12 Land Use Planning on Airport**