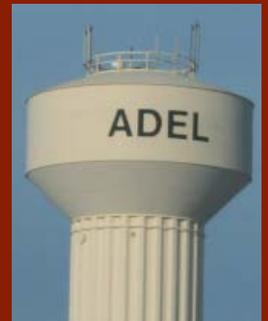




*The City of Adel*



# Comprehensive Plan Update

Prepared February 2009 by:



# Comprehensive Plan for the City of Adel, Iowa



*Final* published:  
February 2009

plan adopted:

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## Acknowledgements

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## *The City of Adel*



# Chapter 1 - History and Vision

Prepared February 2009 by:





## CHAPTER 1

### 1.1 City of Adel History and Vision

Adel, Iowa, is a community with a population of 3,435 recorded in 2000. It is a community whose history has been defined by designation as a county seat, a local brick manufacturing industry, central Iowa's agricultural industry, and the city's natural setting in the rolling hills alongside the westerly bank of the North Raccoon River. Adel's future will be *influenced* by the continuation of those historical forces, as well as by population and business growth driven by Adel's proximity to the Des Moines metro area. Adel's future will be *defined* by how its citizens and leaders respond to these influences, while embracing the strong sense of community, family values, and appreciation of historic resources, all of which guide the city now.

Adel is situated in the rich agricultural area of central Iowa, in the middle of Dallas County. It is located about 20 miles west of Des Moines, the state capital, and five miles north of Interstate 80. Adel has primary access to Iowa Highways 6 and 169, both of which pass through the city. Dallas County is situated within the watersheds of the North Raccoon River, the South Raccoon River, and the Des Moines River, which flow diagonally northwest to southeast across the county.

Although not currently the biggest city in the county, Adel's status as the county seat significantly contributed to its early growth. The political boundaries of Dallas County were established in 1847. The earliest settlement clustered in the southeast portions of the county. (Andreas: 475). It consisted of individuals and families migrating into Iowa in search of good farming land.

Adel's population has grown at around 1.5% per year through the recent past. Recent development trends in the city and surrounding area suggest that this growth rate may increase through the foreseeable future. Forecasts from Regional Economic Models Inc (REMI) suggest that Adel's population for the year 2030 may be expected to reach more than 5,000 people. The REMI forecast for the year 2060 is for approximately 9,000 people in the city.

Recent growth trends in other adjacent communities in the westerly area of the Des Moines metro area have grown faster than the REMI models, possibly indicating a scenario where Adel's population could grow more quickly.

Residents take pride in the quality of life offered in Adel, and the Adel-DeSoto-Minburn School District also shares these core values.

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## 1.2 Adel Public Square Historic District

The natural setting and physical layout of Adel as a community have played an important role in the significance and development of the Adel Public Square Historic District. The following discussion describes these characteristics. It includes a portrait of the city's setting and topography, its employment of traditional American town building schemes, and the historic district's architectural heritage.

The Adel Public Square Historic District is a collection of buildings designed and built between circa 1868 and 1959 to provide retail, professional, and governmental services to local residents of Adel and Dallas County, Iowa. Adel was platted in 1847 as the seat of government for Dallas County, Iowa, and the Dallas County Courthouse and its public square form the centerpiece of the historic district. Commercial buildings line the four streets that abut the square. As Adel's population grew in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, commercial expansion spilled over into the further reaches of some of these streets. By circa 1917, the historic district had reached its greatest extent. Following World War II, some commercial redevelopment occurred on the east side of the square. The scale of these buildings conformed to earlier designs. Further redevelopment occurred on the north side of the square at the end of the 20<sup>th</sup> century; and, although it falls outside the historic district's period of significance, the scale of this new construction is compatible with it.

## 1.3 Public Square

The Public Square formed the center of the Original Town plat. The four streets that abut the Square define it: Court Street on the north, Nile Kinnick Drive on the east, Main Street on the south, and North 9<sup>th</sup> Street on the west. The Dallas County Courthouse is a 3.5-story, limestone building, covered with a hipped roof, and surmounted with a clock and bell tower. It sits in the middle of the Square with its main entrance facing the north. This edifice is listed on the National Register of Historic Places. The Square is landscaped with pedestrian walks, lawn, trees, benches, floral plantings, and monuments to the nation's armed forces.

Architecture and business decisions reflect history and heritage. Adel values its rich history and heritage by making core attributes a priority. Classic architecture and building materials are utilized in new construction efforts and a "Downtown" feel are important to growth and development initiatives.



**1.4 Our Vision for the future**

We value the sense of community and family values that are fostered by our small town. We commit to preserving these values as our community grows.

We value the economic opportunities that support our standards of living, and allow a majority of our population to work here, where they live. We commit to encouraging and supporting economic vitality in and around our city in balance with our other values.

We value our people. We commit to encouraging and supporting quality of life for the residents of our community, and fostering diversity in our population.

We value the recreational opportunities that add to our quality of life in our community. We commit to protecting and enhancing the parks, recreational trails, open space, natural areas, and developed recreation facilities that our community has and needs.

We acknowledge the need to provide vital public services to our community. We commit to developing and maintaining effective services and facilities as needed to support our local needs.

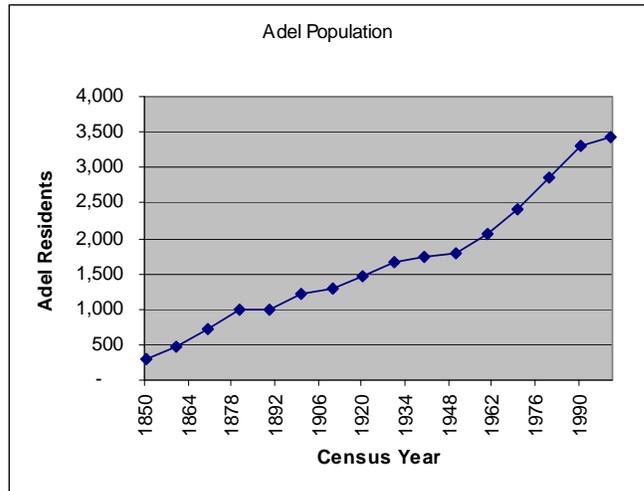
We acknowledge the need to provide and maintain public infrastructure for transportation, potable water and fire protection, sanitary sewerage, storm drainage, and other vital services.

We acknowledge that growth of our community is both valuable and inevitable. We commit to managing that growth in ways that achieve and protect the other components of our vision for our community.

**1.5 Demographics**

Population:  
 3,435 residents in 2000 (census)  
 4,098 residents in 2007  
 (estimated with interim data)

Adel Median age: 36.0 years  
 Iowa Median age: 36.6 years  
 47.6% male / 52.4% female





## *The City of Adel*



## Chapter 2 - Plan Goals

Prepared February 2009 by:





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## CHAPTER 2

### 2.1 Comprehensive Plan Goals

The City of Adel has developed this update of our Comprehensive Plan to achieve multiple goals in support of our vision for our community, and our obligations to our citizenry and neighbors. This update supersedes the previous versions of our plan, most recently adopted in January 15, 2001.

This comprehensive plan will provide guidance to community leaders, residents, property owners and developers, to:

- balance the rights of individuals with the economic, social, and environmental concerns of the public;
- encourage orderly development of our community;
- recognize citizen priorities, market forces, limited resources, and other influences; and
- help shape the character of our community.

### 2.2 Land Uses and Growth

Support and encourage infill development in suitable areas within the existing city limits. Support and encourage land use types and densities throughout the city and adjacent planned growth areas that are compatible with existing terrain, topography of the North Raccoon River and its floodplains, and compatible with limited availability of water and sewer infrastructure or service from the city.

### 2.3 Highway 6 Corridor Development and Annexation

Support and encourage annexation and orderly development of properties east of the city along Highway 6 to a future boundary with a Waukee city limits.

Provide land use guidance to support the desired character of housing, businesses and public space along and surrounding the highway corridor; focused on safety, aesthetic character, neighborhood character, and economic viability.

Coordinate annexation and development with construction of needed public infrastructure. Provide sewer service connections to Adel's existing systems, or through cooperative agreements with other providers, such as Dallas County. Provide water service through cooperative agreements with other provider(s).

### 2.4 Infrastructure Investment

Plan and finance maintenance of existing public infrastructure to extend its serviceable life to optimal cost efficiency. Plan and construct extensions and expansion of needed public infrastructure to accommodate desired growth, following orderly and cost efficient strategies.

## 2.5 Legal Requirements

The Comprehensive Plan is intended to satisfy compliance requirements defined in the code of the State of Iowa.

### Section 414.3 – Basis of regulations for zoning within city limits

This comprehensive plan has been completed in accord with these requirements, continuing Adel's authority to implement and regulate zoning within the city limits.

#### 414.3 Basis of regulations.

The regulations shall be made in accordance with a comprehensive plan and designed to preserve the availability of agricultural land; to consider the protection of soil from wind and water erosion; to encourage efficient urban development patterns; to lessen congestion in the street; to secure safety from fire, flood, panic, and other dangers; to promote health and the general welfare; to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; to promote the conservation of energy resources; to promote reasonable access to solar energy; and to facilitate the adequate provision of transportation, water, sewerage, schools, parks, and other public requirements. However, provisions of this section relating to the objectives of energy conservation and access to solar energy do not void any zoning regulation existing on July 1, 1981, or require zoning in a city that did not have zoning prior to July 1, 1981.

Such regulations shall be made with reasonable consideration, among other things, as to the character of the area of the district and the peculiar suitability of such area for particular uses, and with a view to conserving the value of buildings and encouraging the most appropriate use of land throughout such city.

[C24, 27, 31, 35, 39, § 6454; C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, 79, 81, §414.3; 81 Acts, ch 125, §2; 82 Acts, ch 1245, §18]

### Section 414.23 – Authority to regulate zoning to 2 miles outside city limits

The city has authority under Iowa Code to regulate zoning within a 2-mile limit of the city. The Iowa Code has two sections that apply to the 2-mile limit. Chapter 414 Section 23 applies to zoning.

Adel has adopted ordinance number 139 on October 8, 1991, asserting this right. Adel Code of Ordinances Chapter 166 provides additional requirements.

Property owners affected by such zoning regulations shall have the same rights of hearing, protest, and appeal as those within the municipality exercising the power.

Whenever a county in which this power is being exercised by a municipality adopts a county zoning ordinance, the power exercised by the municipality and the specific regulations and districts thereunder shall be terminated within three

---

months of the establishment of the administrative authority for county zoning, or at such a date as is mutually agreed by the municipality and county.

**414.23 Extending beyond city limits.**

The powers granted by this chapter may be extended by ordinance by any city to the unincorporated area up to two miles beyond the limits of such city, except for those areas within a county where a county zoning ordinance exists. The ordinance shall describe in general terms the area to be included. The exemption from regulation granted by section 335.2 to property used for agricultural purposes shall apply to such unincorporated area. If the limits of any such city are at any place less than four miles distant from the limits of any other city which has extended or thereafter extends its zoning jurisdiction under this section, then at such time the powers herein granted shall extend to a line equidistant between the limits of said cities.

A municipality, during the time its zoning jurisdiction is extended under this section, shall increase the size of its planning and zoning commission and its board of adjustment each by two members. The planning and zoning commission shall include a member of the board of supervisors of the affected county, or the board's designee, and a resident of the area outside the city limits over which the zoning jurisdiction is extended. The board's designee, if any, shall be a resident of the county in which such extended area is located. The additional members of the board of adjustment shall be residents of the area outside the city limits over which the zoning jurisdiction is extended. The county supervisor, or the board's designee, and the residents shall be appointed by the board of supervisors of the county in which such extended area is located. The county supervisor, or the board's designee, and the residents shall serve for the same terms of office and have the same rights, privileges, and duties as other members of each of the bodies. However, if the extended zoning jurisdiction of a municipality extends into an adjacent county without a county zoning ordinance, the boards of supervisors of the affected counties, jointly, shall appoint one of their members, or a designee, to the planning and zoning commission.

Property owners affected by such zoning regulations shall have the same rights of hearing, protest, and appeal as those within the municipality exercising this power.

Whenever a county in which this power is being exercised by a municipality adopts a county zoning ordinance the power exercised by the municipality and the specific regulations and districts thereunder shall be terminated within three months of the establishment of the administrative authority for county zoning, or at such date as mutually agreed upon by the municipality and county.

[C71, 73, 75, 77, 79, 81, §414.23]

2002 Acts, ch 1078, §1 ; 2004 Acts, ch 1074, §1

## **Section 354.9 – Review of plats within two miles of a city**

Chapter 354 Section 9 applies to subdivision approval.

### **354.9 Review of plats within two miles of a city.**

1. If a city, which has adopted ordinances regulating the division of land, desires to review subdivision plats or plats of survey for divisions or subdivisions outside the city's boundaries, then the city shall establish by ordinance specifically referring to the authority of this section, the area subject to the city's review and approval. The area of review may be identified by individual tracts, by describing the boundaries of the area, or by including all land within a certain distance of the city's boundaries, which shall not extend more than two miles distance from the city's boundaries. The ordinance establishing the area of review or modifying the area of review by a city, shall be recorded in the office of the recorder and filed with the county auditor.

2. If a subdivision lies in a county, which has adopted ordinances regulating the division of land, and also lies within the area of review established by a city pursuant to this section, then the subdivision plat or plat of survey for the division or subdivision shall be submitted to both the city and county for approval. The standards and conditions applied by a city or county for review and approval of the subdivision shall be the same standards and conditions used for review and approval of subdivisions within the city limits or shall be the standards and conditions for review and approval established by agreement of the city and county pursuant to chapter 28E . Either the city or county may, by resolution, waive its right to review the subdivision or waive the requirements of any of its standards or conditions for approval of subdivisions, and certify the resolution which shall be recorded with the plat.

3. If cities establish overlapping areas of review outside their boundaries, then the cities shall establish by agreement pursuant to chapter 28E reasonable standards and conditions for review of subdivisions within the overlapping area. If no agreement is recorded pursuant to chapter 28E then the city which is closest to the boundary of the subdivision shall have authority to review of the subdivision.

90 Acts, ch 1236, §23

C91, §409A.9

C93, §354.9

2002 Acts, ch 1132, §3 , 11



## *The City of Adel*



## **Chapter 3 - Study Approach**

Prepared February 2009 by:



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## CHAPTER 3 Comprehensive Plan Study Approach

This update to Adel's Comprehensive Plan has been developed with a focused intent to achieve the land use, growth, annexation, and infrastructure goals identified in Chapter 2. The plan was developed through a combination of public official workshops and consultation, as well as public input.

The update process starts with a review of what planning Adel already has in place and under way.

- Adel has an existing comprehensive plan that identifies limited areas for new development within the city limits, identifies some related infrastructure expansion, and identifies proposed land uses for some areas within the existing city limits.
- Adel has an established zoning code and basic mapping of existing zone areas. This map is updated as part of this study, and supplemented with additional mapping of planned land uses.
- Adel has recently completed a study of existing potable water and sanitary sewer facilities and future needs. The study, published in 2007, identifies maintenance strategies for existing facilities, and discusses expansion needed for expected growth, and provides concept-level cost estimates for near-term needs.

The update process includes an evaluation of what Adel is already planning.

- Adel has made preliminary investigations of the feasibility and public support for annexation of new lands along the Highway 6 corridor to the east of the city. Work completed to date has included evaluations of the city's ability to provide utility services, and several public meetings to discuss options and impacts.
- Adel, together with other agencies, has investigated the feasibility of possible development of an airport east of the city. That process is intentionally separated from this plan update, to be incorporated into the Comprehensive Plan only when and if it reaches a point where a decision is made to proceed.

The update process continues with an evaluation of growth limits and constraints. Workshop and public meeting participants reviewed topographic constraints, adjacent community boundaries and planning areas, and transportation system grids and connections. These were compared against secondary boundary influences, including school districts, phone system boundaries, zip code areas, and rural water system districts.

Building upon the evaluation of outside factors and constraints to growth limits, the participants also reviewed the amount of housing and business development that would be needed to accommodate expected growth through an approximate

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25-year planning horizon, and identified desirable locations for anticipated land uses. Finally, participants reviewed availability of municipal infrastructure (water and sewer) and estimated costs to extend service to various locations. Through this process a recommended land use map was developed.

The update process integrated evaluations of needs verses wants, as all proposed changes were tested against cost, impacts to owners and residents, and compatibility with community priorities and values.

The update process includes guidance for implementation of priorities, including land use planning, annexation, infrastructure maintenance and expansion, and future zoning code updates; to be pursued along with and after completion of the plan update.

A draft plan for major plan components was developed based upon guidance provided by community leaders through various workshops and presentations; and based upon guidance provided by participants in a first public open house, conducted on April 17, 2008.

The draft plan was reviewed by city officials in November of 2008, and presented to the public in December of 2008. Upon receipt of comments, the plan will be revised and provided for final review and acceptance in January of 2009.





*The City of Adel*



## Chapter 4 - Land Use Plan

Prepared February 2009 by:





**CHAPTER 4  
Land Use Plan**

The City of Adel’s existing city limits encompass approximately 2,045 acres. Of this, approximately 676 acres are undeveloped or underdeveloped, within the southwest, south, and southeast neighborhoods. Each of these areas is expected to be used primarily for residential neighborhoods, including parks and open space, and including commercial or retail uses along applicable sections of Highway 169 and other major roads or streets. The city limits also include approximately 20 acres of developable industrial area at their western edge. **See FIGURE 1 Adel Undeveloped Land.**

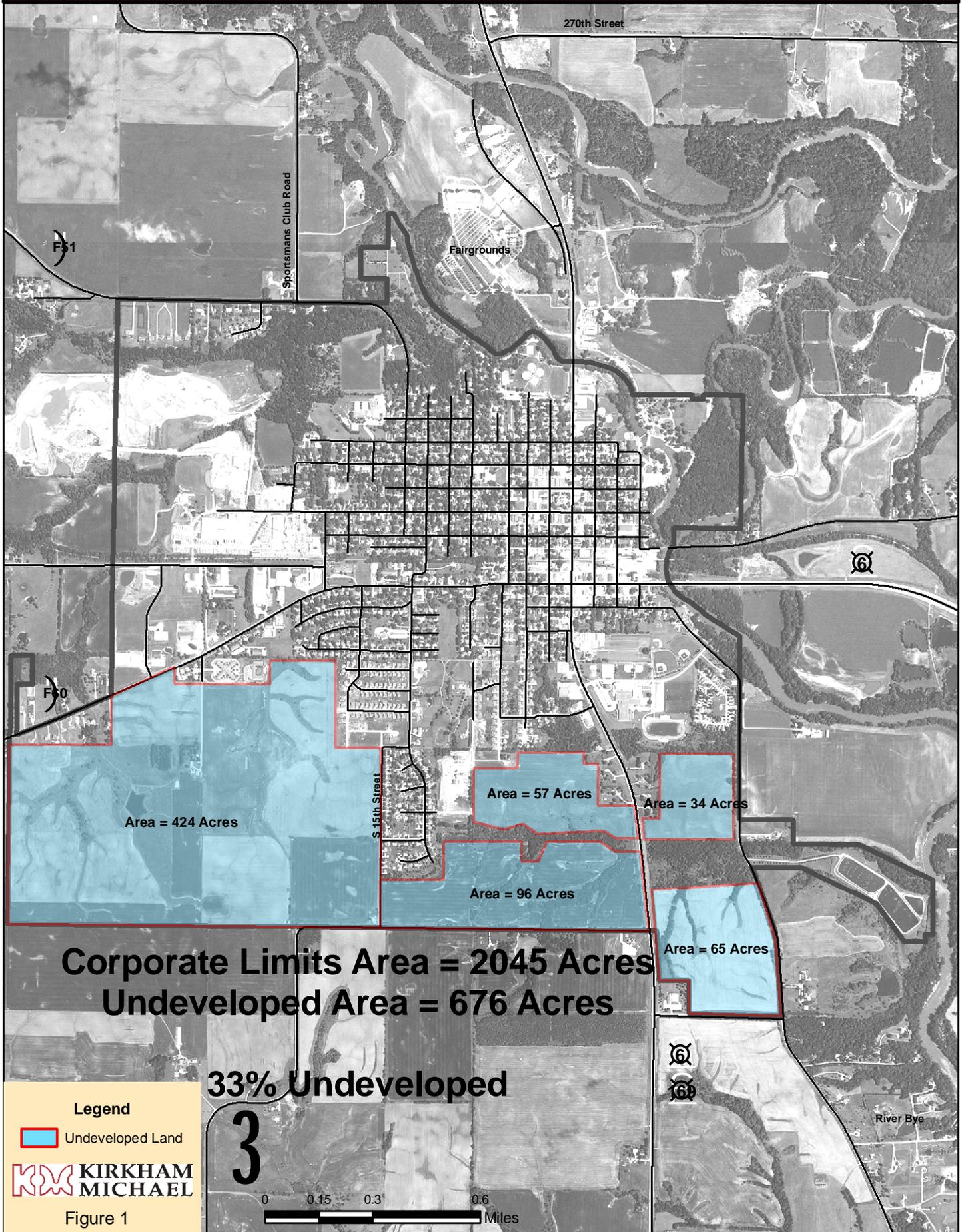
For the purposes of estimating population and employment growth that can be accommodated within these areas, the following land use types and densities are assumed:

	Residential			Commercial
	Low Density	Medium Density	High Density	
West Industrial				20 acres 400 employees
Southwest Neighborhood		424 acres 1,700 homes		20 acres 400 employees
South Neighborhood		153 homes 600 homes		
Southeast Neighborhood	30 acres 30 homes	50 acres 200 homes	20 acres 160 homes	

This analysis indicates that Adel can accommodate approximately 2,690 new homes, or about 6,700 new residents; and commercial development for approximately 800 employees, within the existing city limits. **FIGURE 2 Adel Comprehensive Plan Existing Zoning** illustrates existing zoning for all developed and undeveloped areas within the current city limits.

The infill analysis assumes however, full build-out of available space, and does not consider personal preferences as people choose where to live. As a result, priority growth areas outside the existing city limits were identified, based upon participants impressions of where people want to build, topographic features that can accommodate growth, and compatibility of growth areas with existing and planned city services.

# City of Adel Undeveloped Land



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In addition to topography and compatibility with city services, various other factors can affect selection of growth areas outside the city limits. These include the following items, which are shown on **FIGURES 3-5**:

- extent of the 2-mile boundary area outside the city, within which they can control development
- existing and planned boundaries for other nearby communities
- School Districts, zip codes, and phone system boundaries.

The external growth analysis identified four distinct growth areas recommended for future growth, as shown on **FIGURE 6, Adel Land Use Plan**.

- The East Growth area extends from the North Raccoon River to the easterly limits of expected growth for the city, along U.S. Highway 6. This growth area encompasses approximately 1,100 acres and is expected to include a combination of low, medium, and high density housing interspersed around commercial areas along the highway and at major street intersections; and include open space and recreation areas.
- The Highway 6 Business District includes the Ortonville Business Park, which is an existing subdivision in Dallas County, located east of Adel on U.S. Highway 6. The District covers approximately 355 acres, including 300 acres in the business park. Part of the business park is already developed in light industrial uses. The balance of the area is master planned for a variety of light industrial and commercial uses. This area is already served by an independent wastewater lagoon system. The Ortonville Business Park is illustrated on **FIGURE 7 Ortonville Business Park Master Plan**.

Commercial uses within the Highway 6 Business District are intended to support the light industrial uses in the Ortonville Business Park, provide office space, or provide local conveniences and services to the surrounding residential areas. These commercial uses are ***not expected, nor desired***, to compete with the retail core in Adel's central business district. As a result, commercial land uses within the Highway 6 Business District will be discouraged from including significant concentrations or large-sized retail businesses, or those retail businesses that draw customers from outside the immediate neighborhoods.

- The Northeast Growth area is situated north of U.S. Highway 6, east and south of topographic constraints imposed by the North Raccoon River and its tributaries. This area covers about 800 acres of rolling hills that are suitable for low density residential and open space uses. Part of this area is potentially serviceable with sewer service from Adel, and with water service from Adel or other providers.



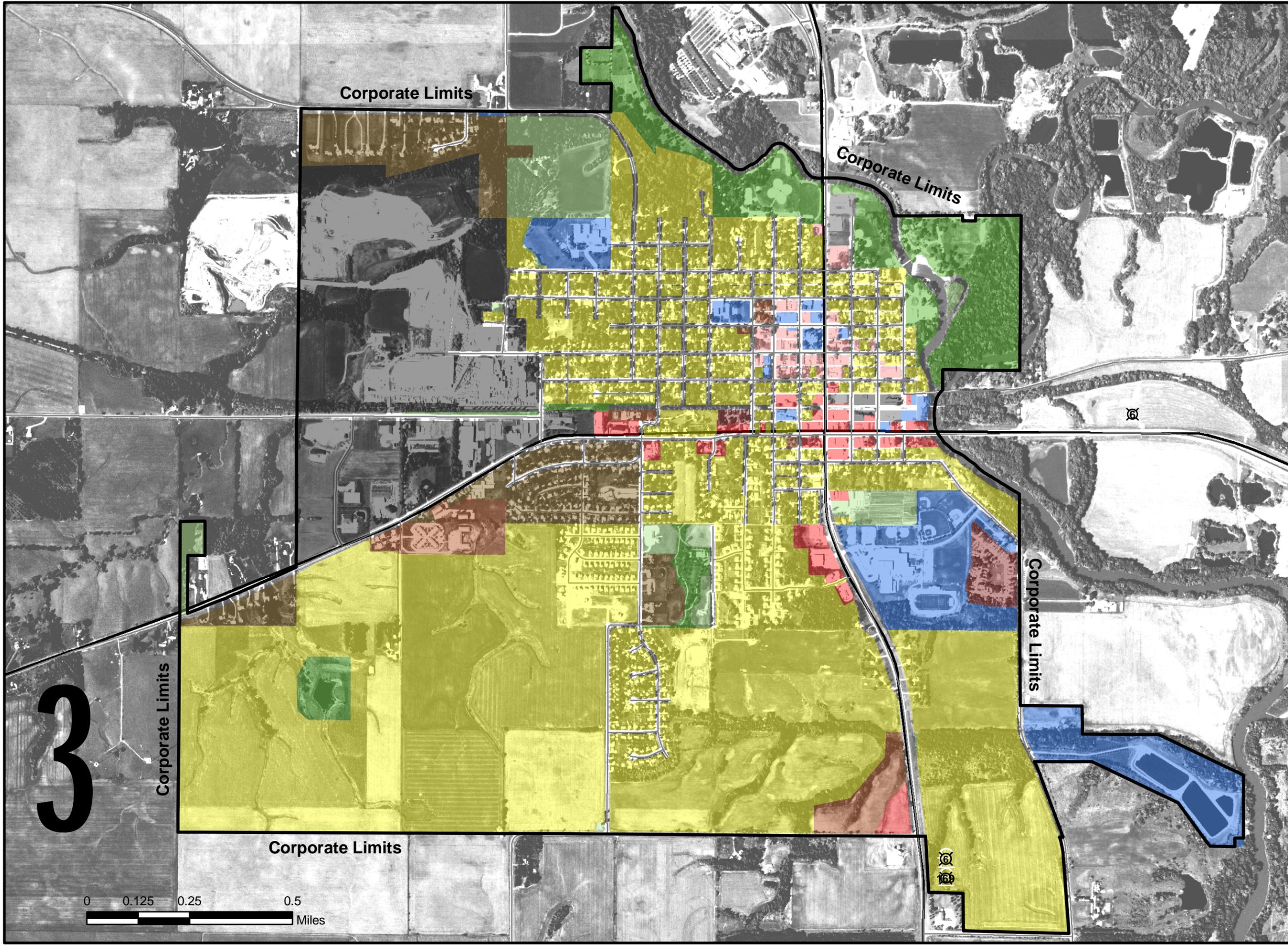
- The Northern Growth Area is situated north of Adel and northeast of the North Raccoon River and its tributaries. This area covers about 1,350 acres of rolling hills that are suitable for low density residential and open space uses. This area is not expected to be easily serviceable with water or sewer service from the City of Adel, so development would be limited to densities that can accommodate on-site septic and well systems.

Potential growth that can be accommodated from the identified growth areas area summarized in **Table 2**.

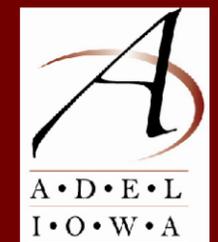
	Residential			Commercial
	Low Density	Medium Density	High Density	
East	800 acres 800 homes	200 acres 800 homes	100 acres 800 homes	
Highway 6 Business Distr.				355 acres 5,680 employees
Northeast	600 acres 600 homes	200 acres 800 homes		
North	1,350 acres 1,350 homes			

This analysis indicates that the identified growth areas can provide for approximately 5,150 homes, or about 12,500 new residents; and commercial development for approximately 5,680 employees if fully developed to the assumed maximum densities.

The combination of land inside Adel’s existing city limits and the land identified in priority growth areas would provide far more capacity than is needed for development of homes and businesses to support expected population growth in the city for the next 30 years. As a result, the proposed strategy is for the city to identify preferred densities and uses throughout each of the areas, but only focus investment of city resources to support areas with key investment interest from outside sources. These include some areas within the existing city limits, and additional areas along the U.S. Highway 6 corridor to the east of the city.



# Adel Comprehensive Plan Existing Zoning

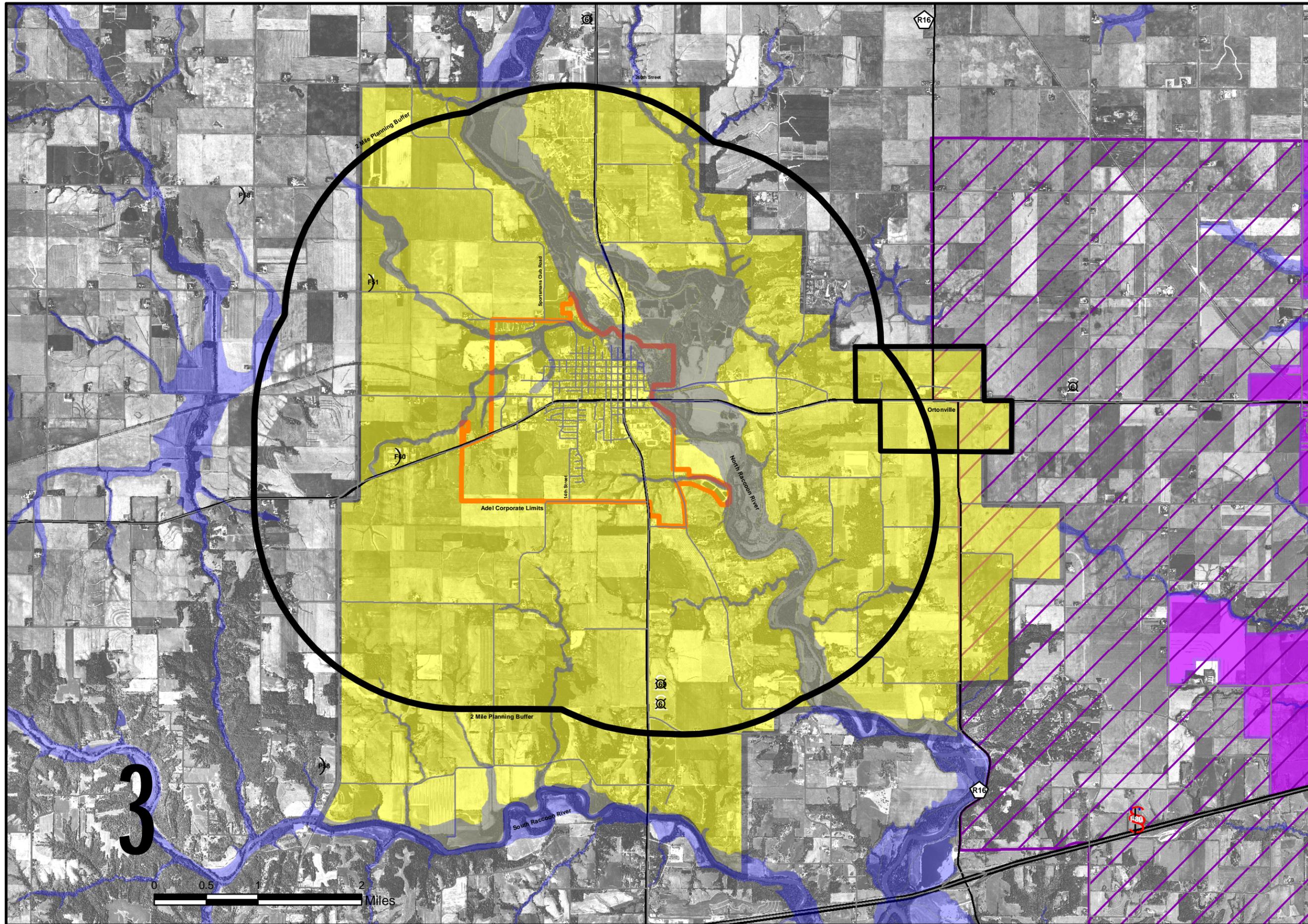


## Legend

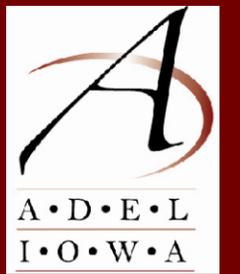
- Adel Zoning**
- Agricultural
  - Residential (Single Family)
  - Residential (Medium Density)
  - Residential (High Density)
  - Residential (Very High Density)
  - Public / Community
  - Park / Open Space
  - Commercial (Community)
  - Commercial (Local)
  - Industrial (General)
  - Industrial (Light)



Figure 2



# Adel Long Term Growth Analysis

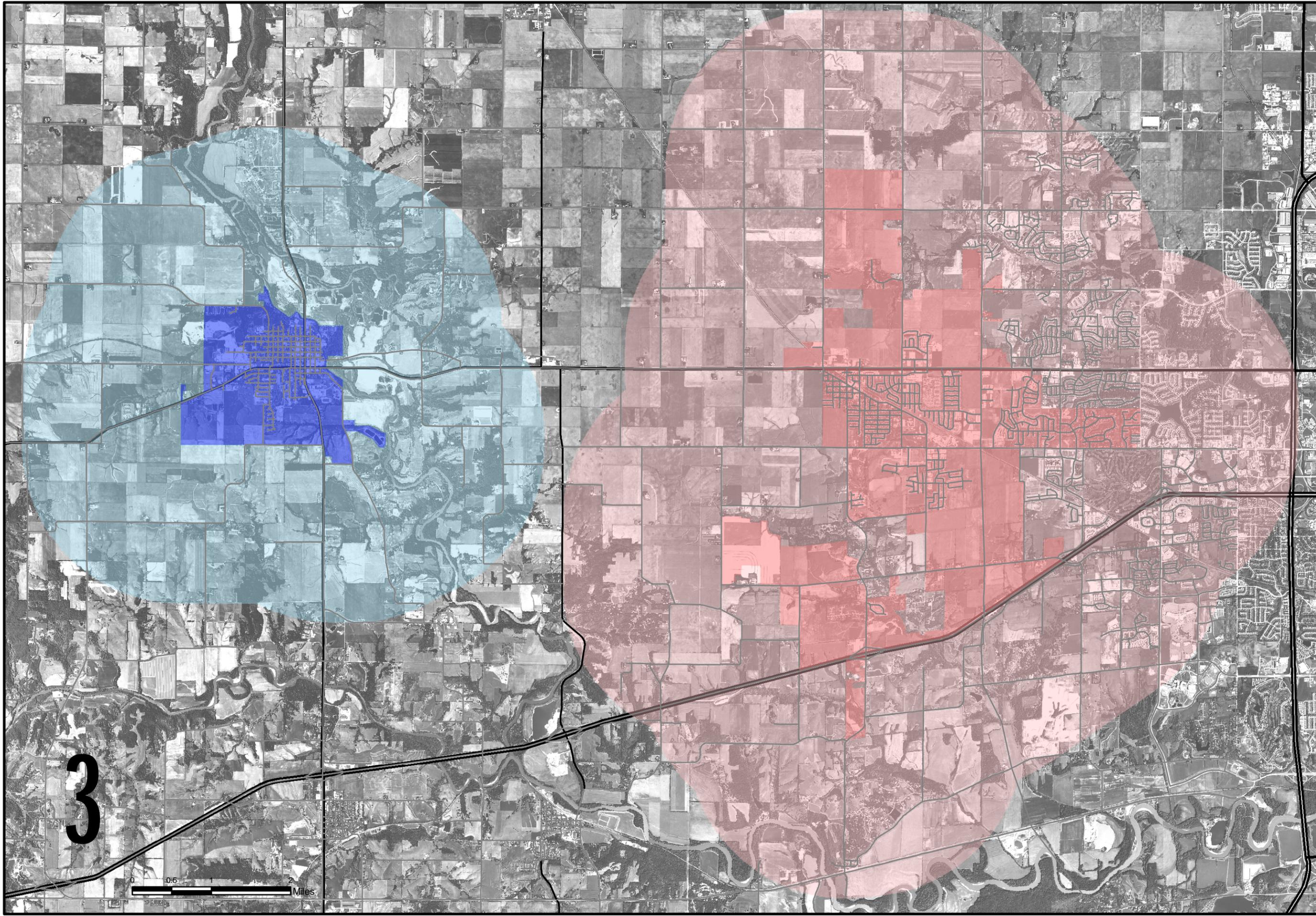


**Legend**

- Flood Plain (100-yr-Main/25-yr-Tributaries)
- Ultimate Regional Growth
- Waukeo Proposed Annexation
- City of Waukeo



Figure 3



# Planning Buffers



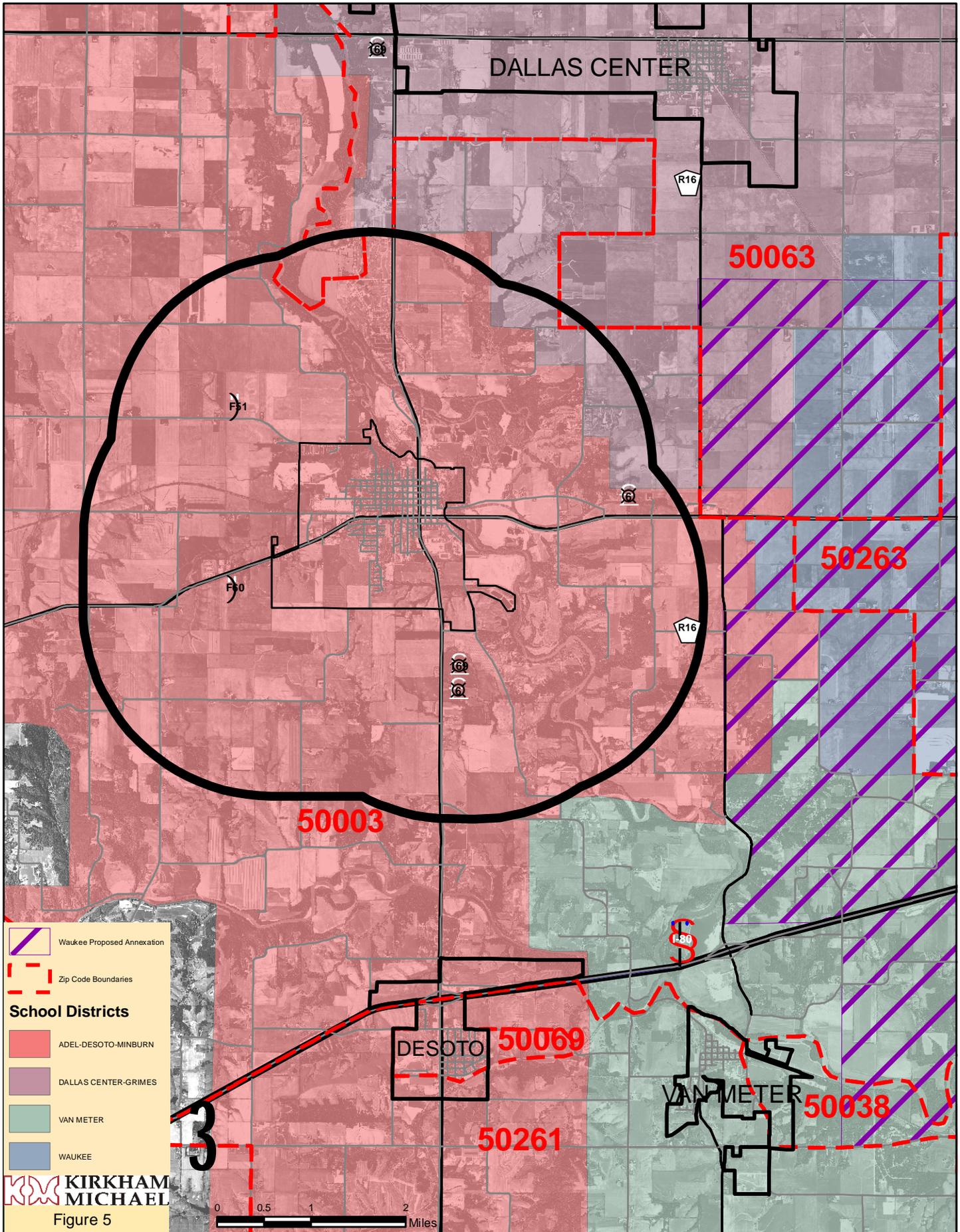
**Legend**

	City of Adel
	City of Waukee
	Waukee 2mi Buffer
	Adel 2mi Buffer



Figure 4

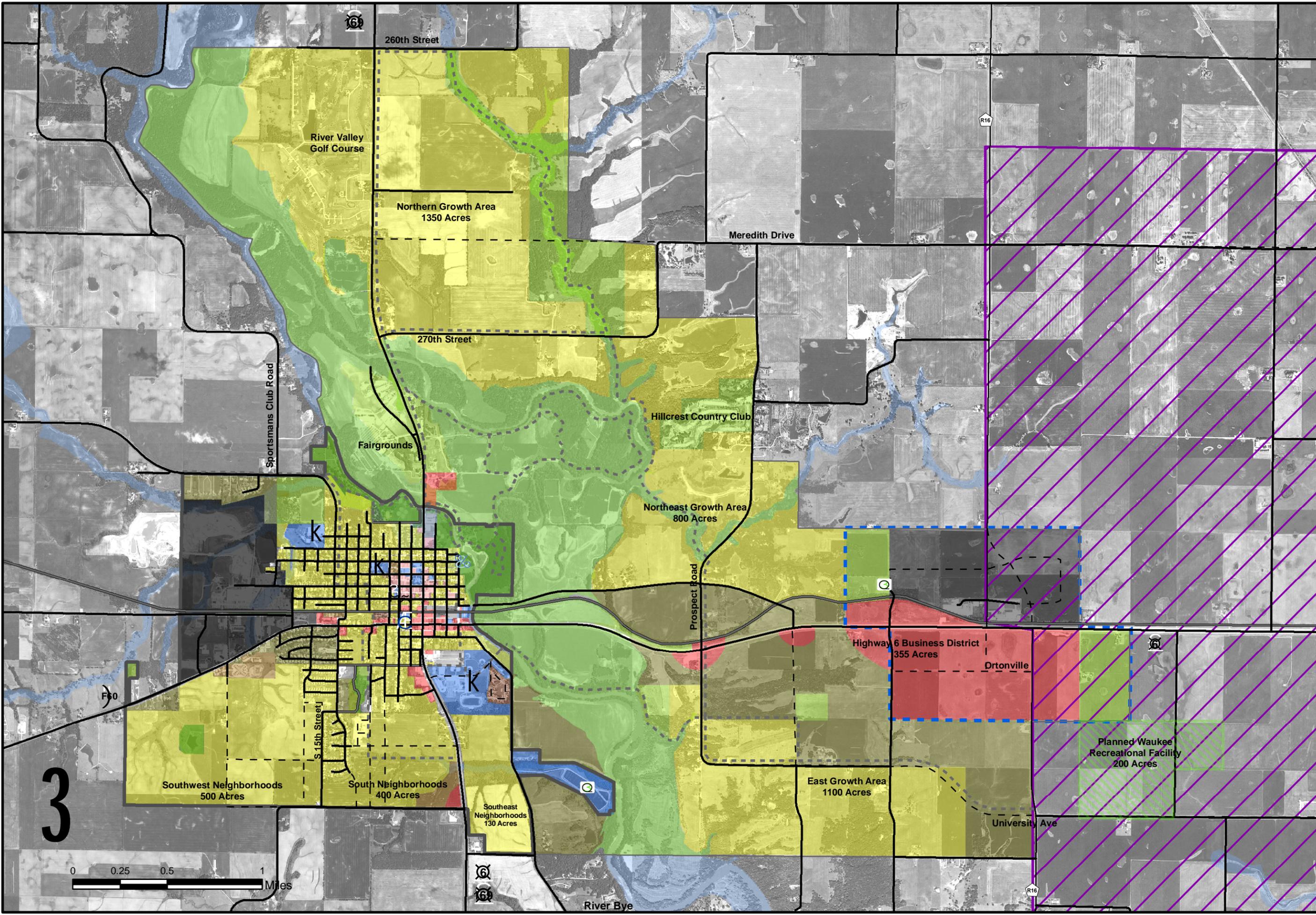
# Adel Regional Planning Influences



# Adel Land Use Plan



Legend	
<b>Adel Zoning</b>	
	Residential (Single Family)
	Residential (Mixed Use)
	Residential (High Density)
	Residential (Very High Density)
	Public / Community
	Park / Open Space
	Commercial (Community)
	Commercial (Local)
	Industrial (General)
	Industrial (Light)
	Fire / Police Station
	City Hall
	Library
	School
	Waste Water Treatment Plant
	Water Treatment Plant
<b>Transportation</b>	
	Proposed Roads
<b>Trail</b>	
	Proposed
	Existing
	Waukee Proposed Annexation
	Flood Plain (100/25 Yr)







*The City of Adel*



## Chapter 5 - Corridor Plan

Prepared February 2009 by:



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## CHAPTER 5 Highway 6 Corridor Plan

A primary focus of the comprehensive plan update is to define and guide development of property along U.S. Highway 6 from Adel to the vicinity of County Road R-16. The City of Adel plans to pursue and accommodate voluntary annexation through this area, since it is identified as the highest priority and highest demand growth area for the city. The Highway 6 corridor affects the East Growth Area and the Highway 6 Business District as discussed in CHAPTER 4.

Guided land use planning within this corridor will not permit continuous “strip development” along the corridor. Instead, commercial areas are interspersed between residential and green space areas, as illustrated in general terms on **FIGURE 6** and **FIGURE 8**.

Access to U.S. Highway 6 will be limited to public street intersections at intervals of  $\frac{1}{4}$  mile or more wherever possible. Street or driveway spacing of less than 600 feet will be strongly discouraged. Adjacent development will be required to gain access from the intersecting streets, or from a new street system parallel to highway 6, but located BEHIND developed buildings.

Development within this corridor will be encouraged to comply with the densities identified for the applicable growth areas in CHAPTER 4 of this study, to maximize utilization of public infrastructure investments and to comply with the long-term vision for this area of the city. Additional development standards for this area, applicable to building materials, setbacks, landscaping, and other features, may be developed through an anticipated update to Adel’s zoning code.

In support of voluntary annexation in this area, the City of Adel intends to develop sanitary sewer service through a combination of a trunk line along highway 6, connecting to the city’s existing lagoon system west of the river via a pump station and force main system; and through connections to the existing lagoon system in the Ortonville Business Park. Toward that end, the City of Adel will coordinate with Dallas County to obtain access to their lagoon system. Potable water service to this expansion area for the city will either be provided by an extension from Adel’s system, or through service from the nearby rural water system. Additional details for the utility systems is provided in the 2007 *Adel Infrastructure Study*.

# Highway 6 Corridor / Annexation Plan



Legend	
<b>Transportation</b>	
	Proposed Roads
<b>Trail</b>	
	Proposed
	Existing
	Waukee Proposed Annexation
<b>Adel Zoning</b>	
	Agricultural
	Residential (Single Family)
	Residential (Medium Density)
	Residential (High Density)
	Residential (Very High Density)
	Public / Community
	Park / Open Space
	Commercial (Community)
	Commercial (Local)
	Industrial (General)
	Industrial (Light)
	Flood Plain (100/25 Yr)

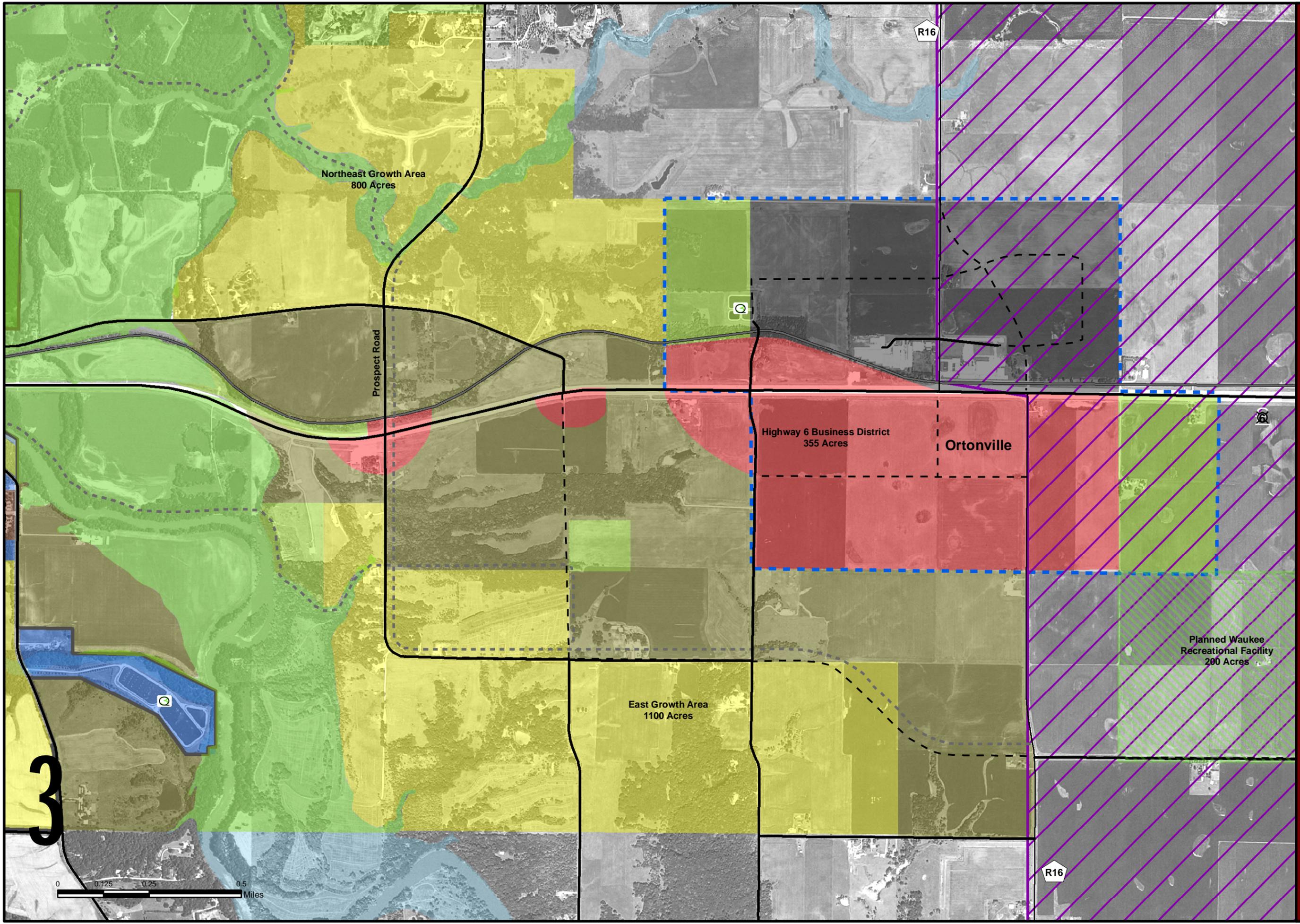


Figure 8



*The City of Adel*



## Chapter 6 - Parks and Trail Plan

Prepared February 2009 by:





**CHAPTER 6  
Parks and Trails Plan**

Adel has a relatively small amount of existing public space dedicated to public parks within the core of the city, but with larger areas on the fringe, both developed and undeveloped. Existing resources include:

- 11.6 acres Evans Park ..... Frisbee Golf, Neighborhood Park
- 20.0 acres Kinnick Feller Park ..... Softball, Football, Swimming Pool, Picnic
- 7.1 acres Adel Little League Park ..... Baseball Diamonds
- 56.8 acres Island Park ..... Soccer Fields, Campgrounds, Natural Open Space

The city also has established trail systems along the east-west rail corridor, around Kinnick Feller Park, and near the Evans Park. The city does have a good sidewalk system throughout most of its developed area.

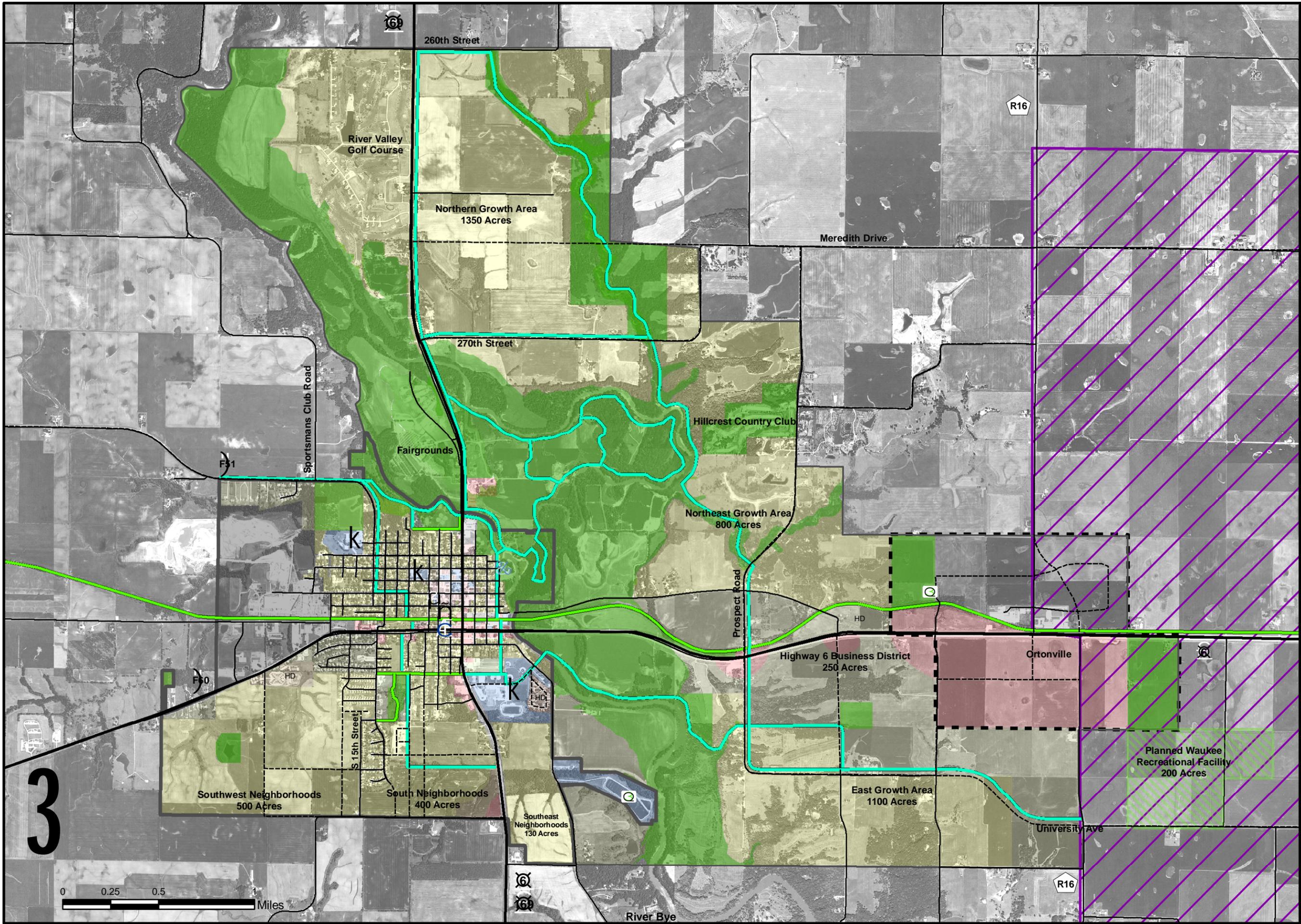
Established national standards call for a goal of 10 acres of neighborhood parks per 1000 residents (*National Recreation & Park Association, 1999*). Given this standard, Adel would strive to have over 40 acres of neighborhood parks for its current population base. The sum total of existing park space exceeds this amount, but is not well distributed through the city.

New development in identified in-fill growth areas and the priority expansion growth areas will require dedication and development of park space. Future coordination and planning between city officials and the public is recommended to determine the details of actual amount, location, and types of park space.

Based upon the National Recreation and Park Association guidance quoted herein, and the land use planning presented in CHAPTER 4, new park space could total as much as 70 acres to accommodate full build-out of existing space within the city limits, plus 120 acres to accommodate full build-out of the identified expansion growth areas.

It is recommended that approximately 20 – 30% of the park space goal be provided within 6-8 blocks of any residential area developed to medium or high density. The remainder of the park space goal can be provided in the form of recreation space, which can be developed in and around the North Raccoon River floodplain.

It is also recommended that implementation of the parks and trails plan should include development of recreation trails linking as many park areas as possible, and providing links to and through residential areas. **FIGURE 9** identifies existing parkland areas, existing trails, and proposed major trails. Local trails and future park space is not explicitly identified on the map.



# Parks and Trails Plan



**Legend**

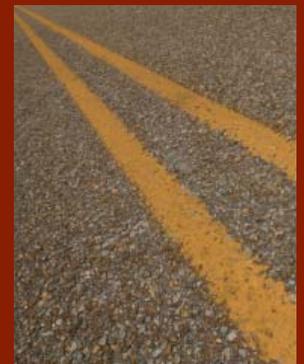
- Fire / Police Station
- City Hall
- Library
- School
- Waste Water Treatment Plant
- Water Treatment Plant
- Transportation**
- Proposed Roads
- Trail**
- Proposed
- Existing
- Waukegan Proposed Annexation
- Adel Zoning**
- Agricultural
- Residential (Single Family)
- Residential (Medium Density)
- Residential (High Density)
- Residential (Very High Density)
- Public / Community
- Park / Open Space
- Commercial (Community)
- Commercial (Local)
- Industrial (General)
- Industrial (Light)
- Flood Plain (100/25 Yr)



Figure 9



*The City of Adel*



## Chapter 7 - Transportation Plan

Prepared February 2009 by:



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## CHAPTER 7 Transportation Plan

Adel is well served with regional transportation routes, as it is located at the intersection of U.S. Highway 6 and Iowa Highway 169, just five miles from access to Interstate 80. Access to and from the city is also provided via County Road F60 and county road F51 (N. 15<sup>th</sup> Street).

Highways 6, 169, and F60 form the backbone of Adel's internal street system, comprising all of its principal arterial mileage. The primary function of the arterial street system is to move traffic through an area, and to provide connectivity to streets and roads of lower classification. Local access is a minor function of these streets, and is often discouraged to improve through capacity and reduce congestion. Despite these intended functions, these streets still have significant need to accommodate pedestrian movements, and as a result, tend to have pedestrian access and safety issues.

Grove Street, North 15<sup>th</sup> Street, and South 15<sup>th</sup> Street are existing major collectors. This classification of street has a primary purpose to move traffic within an area, providing access to arterial streets, and providing connectivity to local streets. Property access is more suitable here than on arterials, but less so than for local streets, since through-capacity of the collector streets is still a major function.

All other streets in the city are classified as local streets, whose main function is to provide access to and from the adjoining properties within the city, and provide connections to the major street system.

In-fill development areas within the city limits will require expansion of the major street system to include Meadow Road and Lynne Drive as east-west routes, and extensions of S. 14<sup>th</sup>, and S. 11<sup>th</sup> as north-south routes, along with further development of (as yet undesignated) major streets through the Southwest and Southeast growth areas.

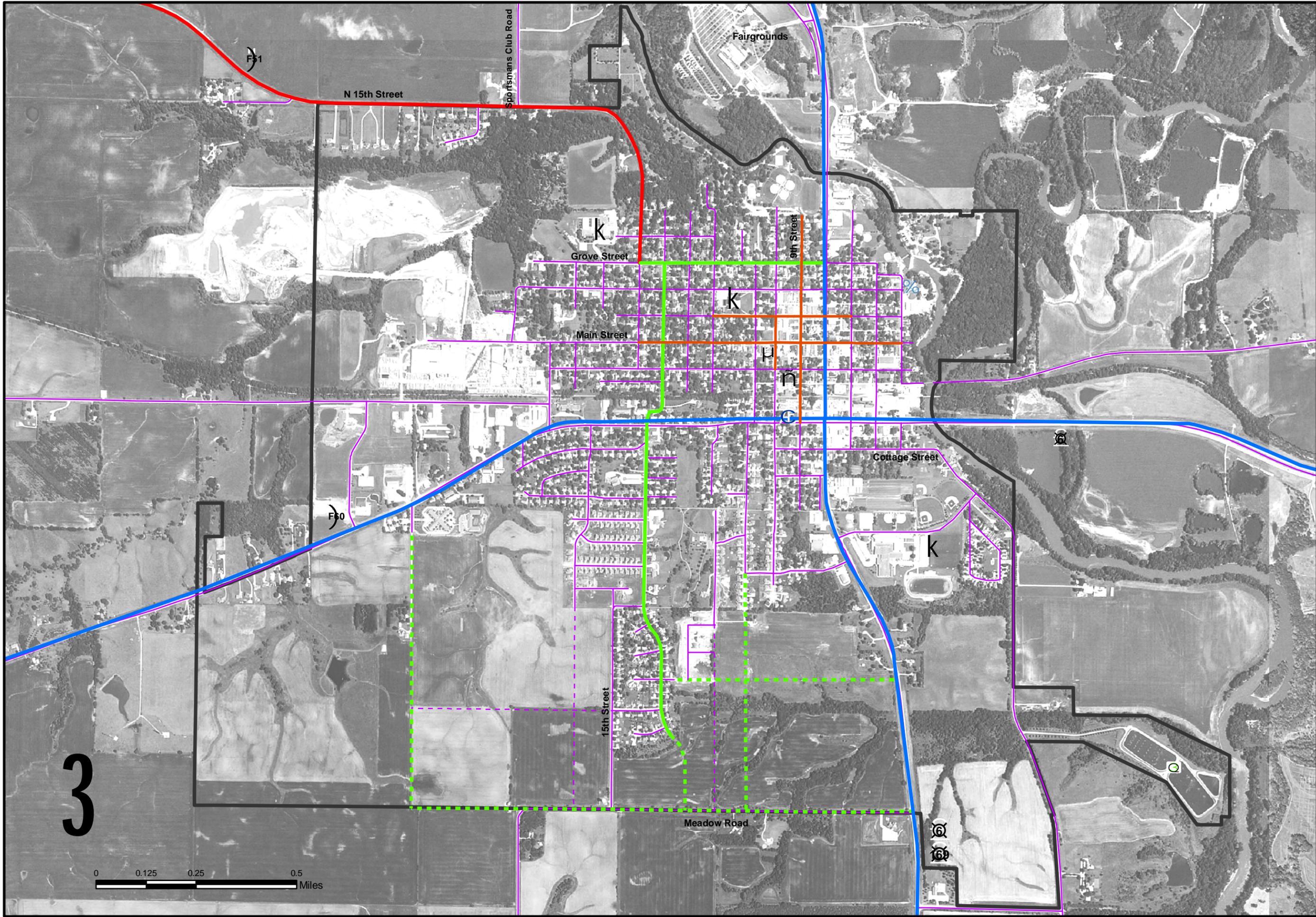
**FIGURE 10** identifies existing and planned major streets within the existing city limits.

Outside the existing city limits, the major street system is expected to expand to include Prospect Road, Puckerbrush Road, and R-16 in the north-south direction; and U.S. Highway 6 and extensions of Meredith Drive and University Avenue in the east-west direction. Additionally, collector level streets will be required within the developed areas.



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**FIGURE 11** identifies existing and planned major streets within the entire planning area. Actual alignment and location of future streets are only approximate, and should be evaluated in the context of development proposals, when they occur.



# Transportation Plan Existing City Limits



**Legend**

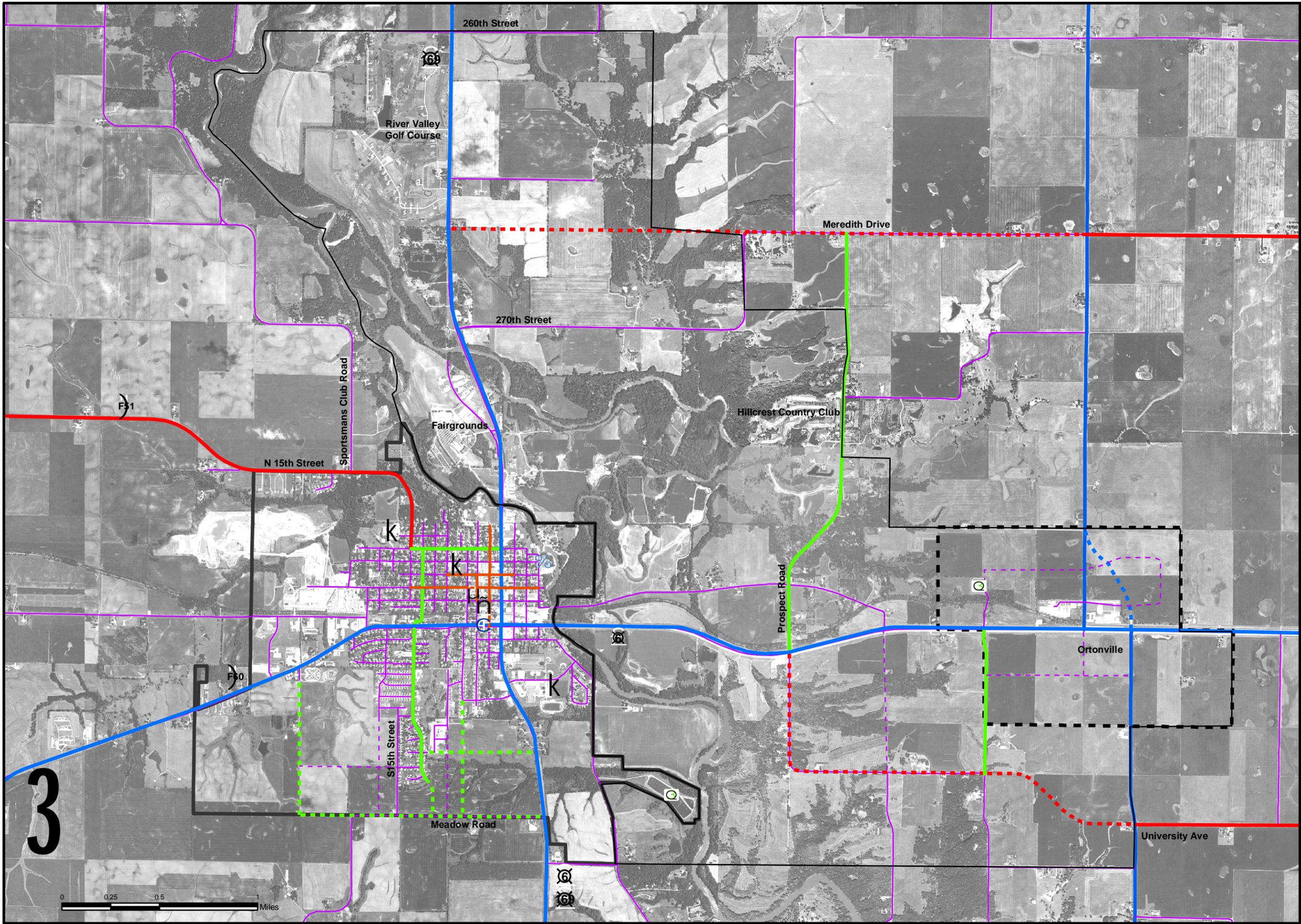
**Transportation Roads**

- Existing Principal Arterial
- Proposed Principal Arterial
- Existing Minor Arterial
- Proposed Minor Arterial
- Existing Major Collector
- Proposed Major Collector
- Existing Minor Collector
- Proposed Minor Collector
- Rehabilitation Roads

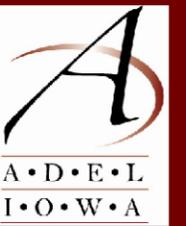
⚡ Fire / Police Station  
🏛️ City Hall  
📖 Library  
🎓 School  
🌿 Waste Water Treatment Plant  
% Water Treatment Plant



Figure 10



# Transportation Plan Planning Area



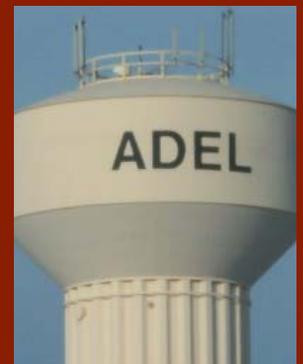
- Legend**
- Transportation**
- Roads**
- Existing Principal Arterial
  - - - Proposed Principal Arterial
  - Existing Minor Arterial
  - - - Proposed Minor Arterial
  - Existing Major Collector
  - - - Proposed Major Collector
  - Existing Minor Collector
  - - - Proposed Minor Collector
  - Rehabilitation Roads
- Planning Area
- Fire / Police Station
- City Hall
- Library
- School
- Waste Water Treatment Plant
- Water Treatment Plant



Figure 11



*The City of Adel*



## Chapter 8 - Utilities Investment Plan

Prepared February 2009 by:



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## CHAPTER 8 Utilities Investment Plan

Adel operates its own potable water system and facultative lagoon sanitary sewer treatment system. The city also provide storm drainage facilities where needed. Near term system needs for maintenance and upgrade of these systems, as well as near term upgrades to accommodate annexation along U.S. Highway 6 were evaluated in the 2007 *Adel Infrastructure Study*. The executive summary of this report is provided here, for reference.

### EXECUTIVE SUMMARY

This study of Adel's municipal infrastructure is being conducted to review the condition and capacity of existing water and sewer systems, identify improvements needed for continued reliable operation and compliance with applicable regulations, and to identify expansion requirements to meet forecasted growth. The study is based upon information collected from Adel staff, operating records, permit records, and field observations. Results from this study are intended to provide guidance to City leaders in order to prioritize, plan, and budget needed improvements to these systems.

Adel's population, currently estimated at about 4,000 people, has grown at around 1.5% per year for the recent past. Recent development trends in the city and in neighboring areas suggests that this growth rate may increase through the foreseeable future. Based on a review of these trends, Adel's population for the year 2030 (which is used as a design year for this analysis) will reach approximately 5,550 at a conservative estimate, higher if recent growth trends continue.

Based on these growth forecasts, the following findings are noted through the year 2030.

- Adel's existing well capacity of 1.29 million gallons per day (mgd) should be sufficient to provide the projected 2030 maximum daily flow of 1.11 mgd.
- Adel's water treatment capacity of 1.0 mgd is slightly undersized compared to the projected 2030 demand of 1.11 mgd
- Adel's water quality is generally good. Sodium content resulting from the softening process currently being utilized exceeds that recommended for persons on a sodium-restricted diet. This condition warrants consideration of a notification effort for Adel's water users.
- Adel's water treatment plant is 35 years old, has operational limitations, and exhibits signs of ongoing corrosion damage. Short-term recommendations for upgrades and repairs are estimated at \$425,000.
- Adel's water treatment plant is operated by one person, while two are

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recommended.

- Adel's water storage and distribution system requires upgrades to satisfactorily meet fire flows now, and to provide adequate service in the future. This includes construction of one additional storage facility, and upgrades to water mains in numerous locations. Costs to complete these improvements are preliminarily estimated at \$750,000 for additional storage, and \$1.1 million for main improvements (not including surface restoration costs).
- In order to extend water service to the east of Raccoon River, additional main construction costs would be incurred. Alternatives for using Xenia Rural Water System to meet part of this demand are presented in Chapter 3 of the report. We recommend that the City of Adel consider option 1) as proposed by Xenia, which is to make a connection to their system for use in emergencies, and to supplement supply from Adel's systems if/when needed. Other alternatives for Xenia service could also be considered by Council as warranted, but require additional discussion about long-term priorities.
- Adel's lagoon-based wastewater treatment system is currently meeting effluent requirements, and provides sufficient capacity to meet forecasted demand for flow rate and biological oxygen demand.
- Regulatory changes anticipated within the next 10 years will require construction of a mechanical treatment plant.
- Wastewater collection system improvements include an estimated \$2.4 million in capital improvements for the following:
  - Add backup power for the smaller existing north lift station
  - Install Raccoon River crossing, lift station and trunkline along Highway 6 to service areas east of the river.

# CITY OF ADEL, IOWA WATER SYSTEM

**CAUTION:**  
 UTILITY LOCATIONS SHOWN HAVE BEEN PLOTTED FROM EXISTING MAPS AND RECORD DRAWINGS AND ARE APPROXIMATE IN NATURE. ACTUAL LOCATIONS SHOULD BE FIELD LOCATED PRIOR TO CONSTRUCTION.

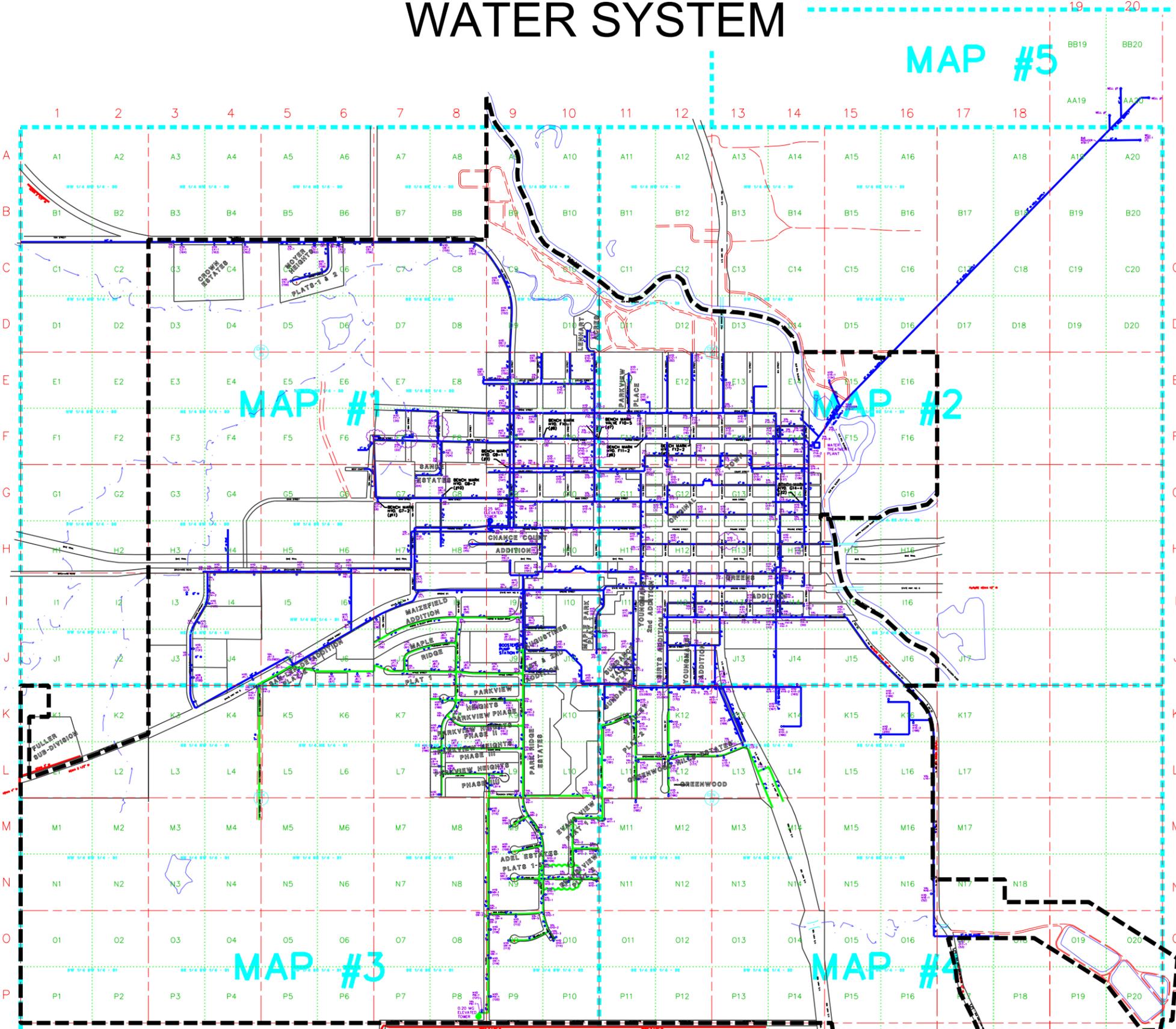
**MAP #5**

**MAP #1**

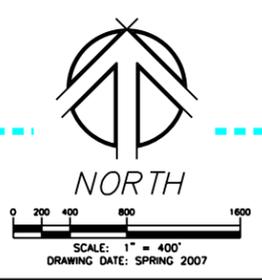
**MAP #2**

**MAP #3**

**MAP #4**



--- CORPORATE LIMITS  
 - - - 200 SCALE MAP INDEX



**BENCH MARKS:**

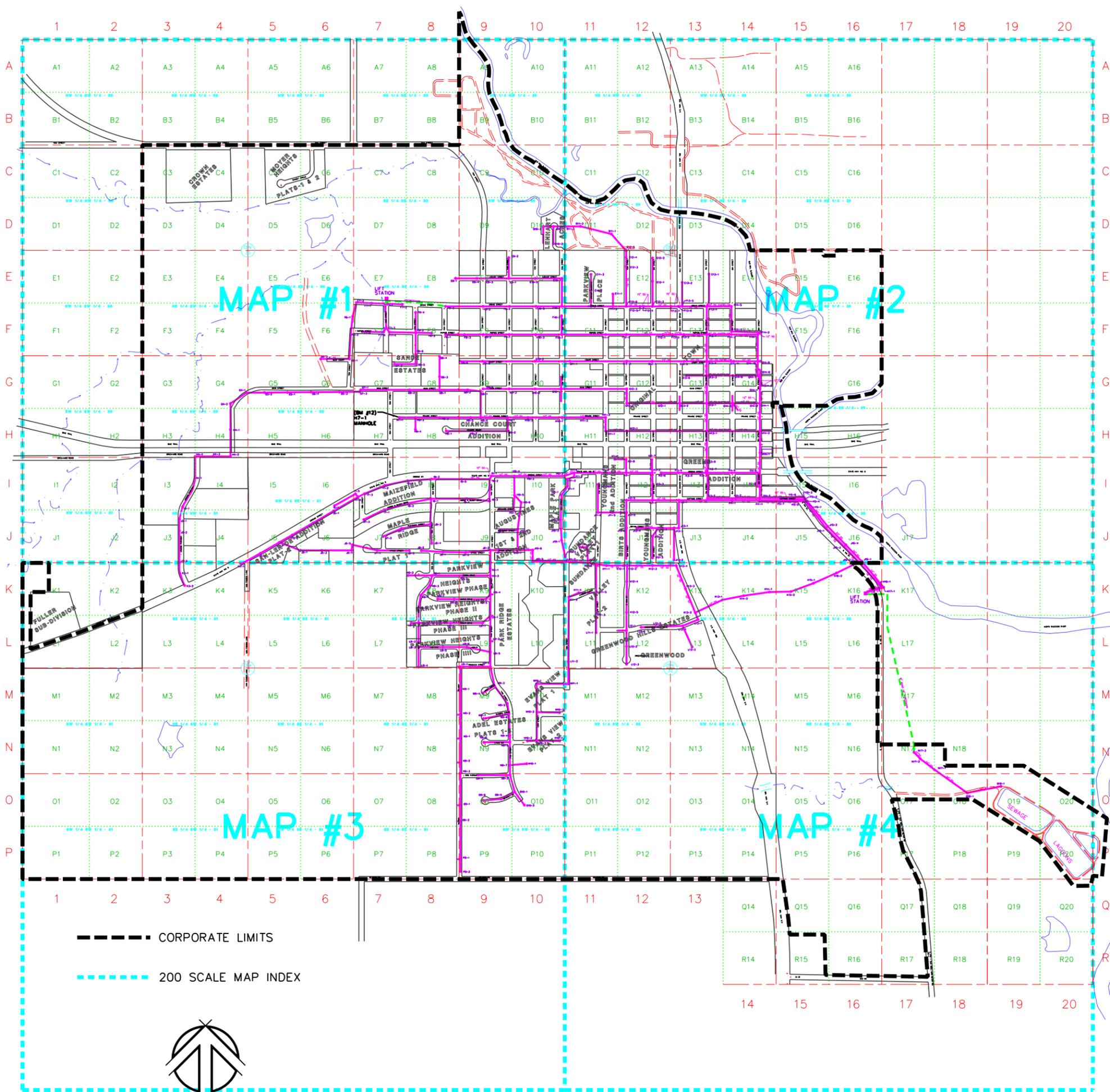
- (BM #2) ARROW ON HYDRANT AT SOUTHWEST CORNER OF NORTH 5TH ST. AND MAIN ST. ELEV.=890.34
- (BM #5) TOP OF NORTH CAP BOLT ON HYDRANT AT NORTHWEST CORNER OF NORTH 9TH ST. AND RAPIDS ST. ELEV.=890.18
- (BM #6) TOP OF NORTH CAP BOLT ON HYDRANT AT NORTHEAST CORNER OF NORTH 11TH ST. AND RAPIDS ST. ELEV.=903.21
- (BM #7) NORTH RIM OF WATER VALVE AT 10 FT. NORTH OF CENTER OF RAPIDS ST. AND 20 FT. EAST OF CENTER OF NORTH 12TH ST. ELEV.=911.36
- (BM #8) TOP OF NORTH CAP BOLT ON HYDRANT AT N.E. CORNER OF 14TH ST. AND RAPIDS ST. ELEV.=922.83
- (BM #9) SOUTHWEST BOLT ON HYDRANT AT NORTHWEST CORNER OF NORTH 15TH ST. AND COURT ST. ELEV.=930.06
- (BM #10) ARROW ON HYDRANT ON NORTH SIDE OF MAIN ST. AT ADDRESS OF 1630 MAIN ST. ELEV.=927.57
- (BM #11) ARROW ON HYDRANT ON NORTHEAST CORNER OF NORTH 19TH ST. AND MAIN ST. ELEV.=927.10

**LEGEND**

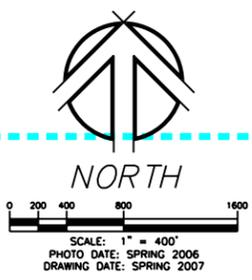
- Blue line: 12" water main with valve
- Red line: 18" water main with valve
- Green line: 24" water main with valve
- Black line: 30" water main with valve
- Blue circle: 12" water main with valve
- Red circle: 18" water main with valve
- Green circle: 24" water main with valve
- Black circle: 30" water main with valve
- Blue square: 12" water main with valve
- Red square: 18" water main with valve
- Green square: 24" water main with valve
- Black square: 30" water main with valve
- Blue triangle: 12" water main with valve
- Red triangle: 18" water main with valve
- Green triangle: 24" water main with valve
- Black triangle: 30" water main with valve
- Blue diamond: 12" water main with valve
- Red diamond: 18" water main with valve
- Green diamond: 24" water main with valve
- Black diamond: 30" water main with valve
- Blue circle with cross: 12" water main with valve
- Red circle with cross: 18" water main with valve
- Green circle with cross: 24" water main with valve
- Black circle with cross: 30" water main with valve
- Blue square with cross: 12" water main with valve
- Red square with cross: 18" water main with valve
- Green square with cross: 24" water main with valve
- Black square with cross: 30" water main with valve
- Blue triangle with cross: 12" water main with valve
- Red triangle with cross: 18" water main with valve
- Green triangle with cross: 24" water main with valve
- Black triangle with cross: 30" water main with valve
- Blue diamond with cross: 12" water main with valve
- Red diamond with cross: 18" water main with valve
- Green diamond with cross: 24" water main with valve
- Black diamond with cross: 30" water main with valve
- Blue circle with dot: 12" water main with valve
- Red circle with dot: 18" water main with valve
- Green circle with dot: 24" water main with valve
- Black circle with dot: 30" water main with valve
- Blue square with dot: 12" water main with valve
- Red square with dot: 18" water main with valve
- Green square with dot: 24" water main with valve
- Black square with dot: 30" water main with valve
- Blue triangle with dot: 12" water main with valve
- Red triangle with dot: 18" water main with valve
- Green triangle with dot: 24" water main with valve
- Black triangle with dot: 30" water main with valve
- Blue diamond with dot: 12" water main with valve
- Red diamond with dot: 18" water main with valve
- Green diamond with dot: 24" water main with valve
- Black diamond with dot: 30" water main with valve
- Blue circle with cross and dot: 12" water main with valve
- Red circle with cross and dot: 18" water main with valve
- Green circle with cross and dot: 24" water main with valve
- Black circle with cross and dot: 30" water main with valve
- Blue square with cross and dot: 12" water main with valve
- Red square with cross and dot: 18" water main with valve
- Green square with cross and dot: 24" water main with valve
- Black square with cross and dot: 30" water main with valve
- Blue triangle with cross and dot: 12" water main with valve
- Red triangle with cross and dot: 18" water main with valve
- Green triangle with cross and dot: 24" water main with valve
- Black triangle with cross and dot: 30" water main with valve
- Blue diamond with cross and dot: 12" water main with valve
- Red diamond with cross and dot: 18" water main with valve
- Green diamond with cross and dot: 24" water main with valve
- Black diamond with cross and dot: 30" water main with valve

# CITY OF ADEL, IOWA SANITARY SEWER SYSTEM

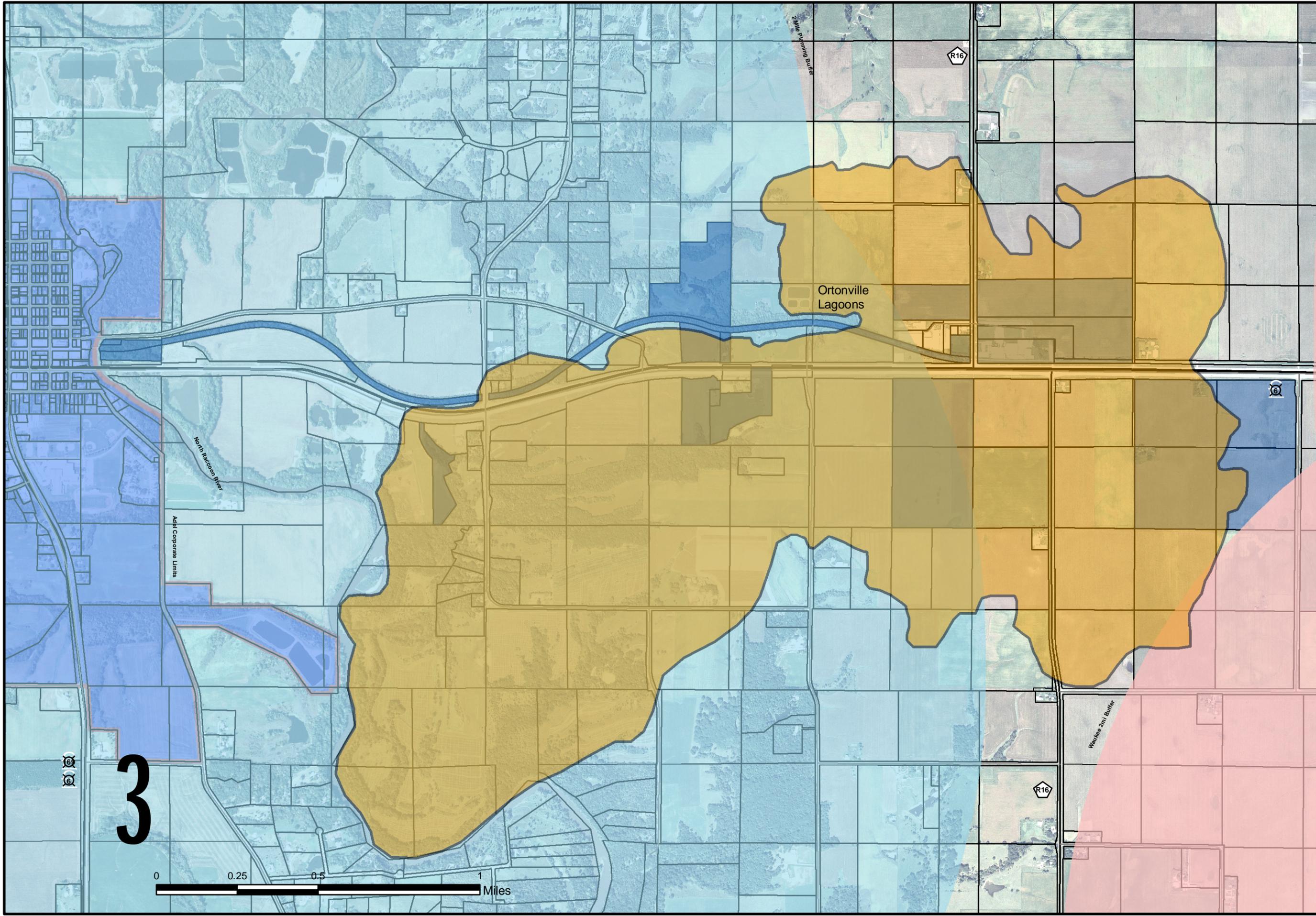
**CAUTION:**  
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EXISTING MAPS AND RECORD DRAWINGS AND ARE  
APPROXIMATE IN NATURE. ACTUAL LOCATIONS SHOULD  
BE FIELD LOCATED PRIOR TO CONSTRUCTION.



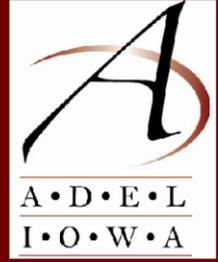
--- CORPORATE LIMITS  
--- 200 SCALE MAP INDEX



**BENCH MARKS:**  
(BM #12) NORTH LINE OF MANHOLE AT 12 FT. NORTH OF CENTER OF PRIME ST.  
(BM #1) AND 30 FT. EAST OF CENTER OF NORTH 16TH ST. ELEV. = 926.24  
MANHOLE



# Adel Highway 6 Corridor Proposed Sewer Service Boundary



**Legend**

<span style="display:inline-block; width:15px; height:15px; background-color:orange; border:1px solid black;"></span>	Pump Station Drainage
<span style="display:inline-block; width:15px; height:15px; background-color:blue; border:1px solid black;"></span>	Annex Parcels
<span style="display:inline-block; width:15px; height:15px; background-color:lightpink; border:1px solid black;"></span>	Waukee 2mi Buffer
<span style="display:inline-block; width:15px; height:15px; background-color:lightblue; border:1px solid black;"></span>	Adel 2mi Buffer



Figure 14



*The City of Adel*



## Chapter 9 - Zone Code Updates

Prepared February 2009 by:



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## CHAPTER 9 Zone Code Updates

### Background and Structure

The organization, arrangement, content, and characteristics of developments within a community are defined by a combination of documents and local code.

The Comprehensive Plan provides the highest level (most generalized and least specific) vision for how the community is planned to grow. This plan is intended to outline concepts or visions for land use, including relationships between neighborhoods, suitability to landforms, coordination with transportation and other municipal infrastructure. The plan is not intended to define specific requirements, contexts, and designs other than in general terms.

The Subdivision Ordinances provide the next most specific level of detail. These define the development patterns for the community, and address context of development, connections, and basic design requirements – still without reaching the level of specificity in zoning code.

Zoning Ordinances provide the greatest level of specific requirements for development, within the context of the vision of the Comprehensive Plan and the organizational structure of the Subdivision Ordinances. Zoning determines the character of distinct areas through combinations of districts with compatible and complimentary character. The Zoning Code requirements creates effective relationships and transitions between different land use concepts identified in the higher level planning documents. The Zoning Code also establishes specific regulations to govern the use, placement, spacing, and size of sites, open areas, buildings, and other features within districts.

### Update Plan

The City of Adel's current zoning code was adopted by ordinance number 171, and became effective July 20, 1995.

It is anticipated that a comprehensive re-write of Adel's zoning code will take place during the winter months of 2008 / 2009.

It is recommended that the new zoning revisions encompass this updated comprehensive plan and guide growth and development projects into the next decade.

The update to Adel's zoning code will be crafted to incorporate formatting, terminology, and specific requirements that are compatible with and similar to



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code from other communities in the metro area. This goal is intended to provide the public, property owners, and developers with a better understanding of Adel's requirements, by stating them in ways that are already familiar and accepted in the region.

The zoning code update is also intended to develop greater specificity in requirements where applicable, and to craft those requirements so that they are compatible with current best practices and known successes.