



WACONIA 10th STREET SMALL AREA PLAN

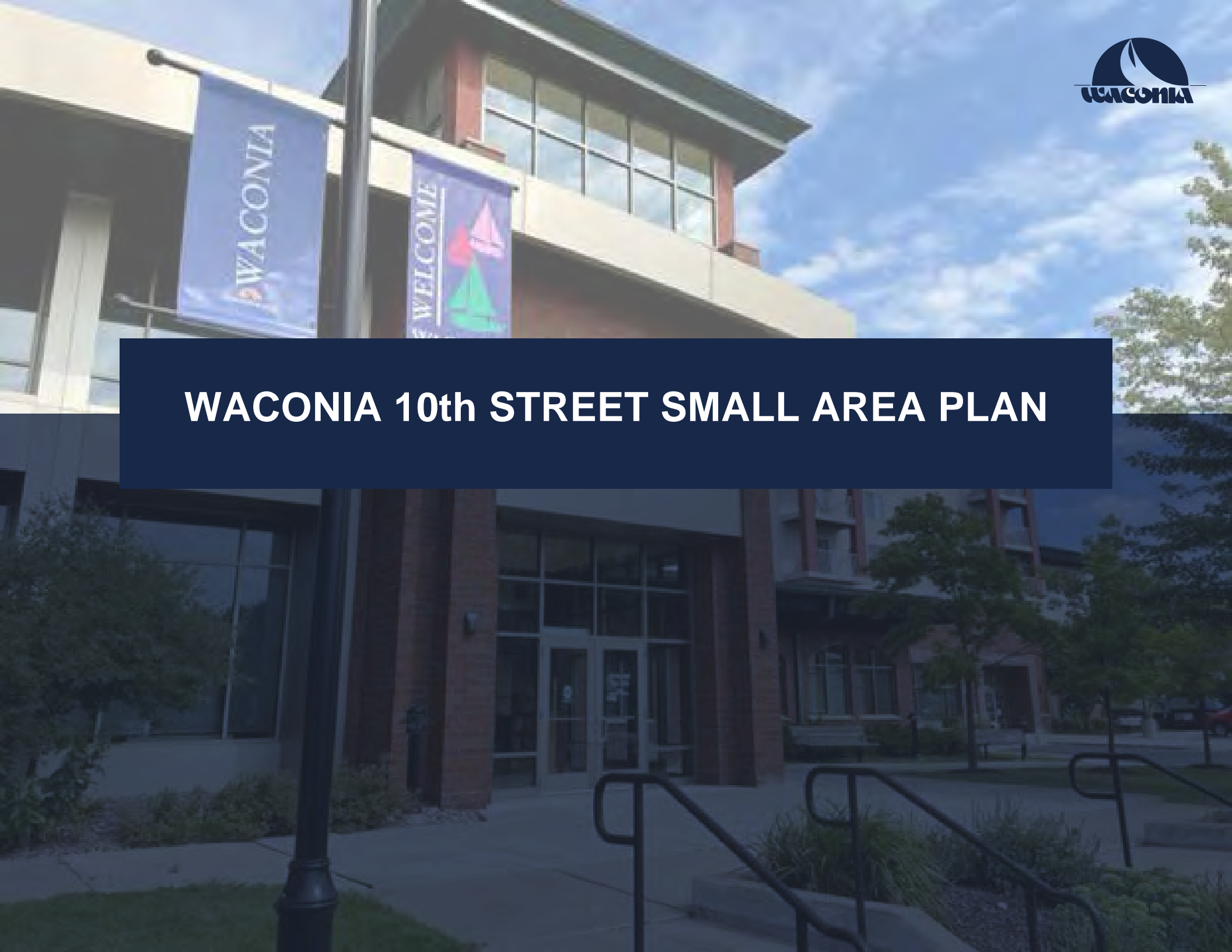


Table of Contents

Chapter 1:	Introduction and Background Information	3
Chapter 2:	Existing Conditions	6
	Site Condition and Constraints	7
	Surrounding Land Use	9
	Existing Zoning and Study Area Annexation Potential	10
	Future Comprehensive Plan Designation; City of Waconia	12
	Existing Transportation Network	14
Chapter 3:	Development Options	15
	Northern Site	19
	Northern Site Market Analysis	21
	Southern Site	23
Chapter 4:	Site Development	25
	Stormwater Management	26
	Natural Resources	28
	Utilities	28
	Water Supply	29
	Sanitary Sewer	31
Chapter 5:	Transportation	33
Chapter 6:	Community Engagement	35
Chapter 7:	Conclusion	37

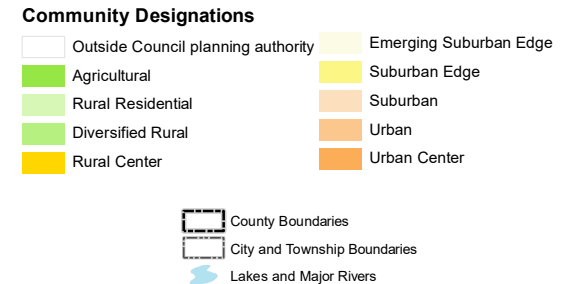
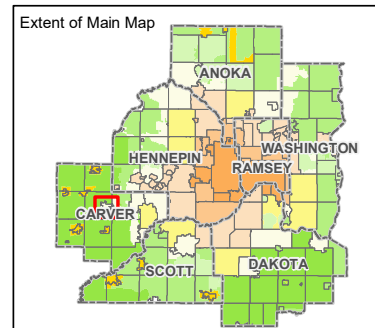
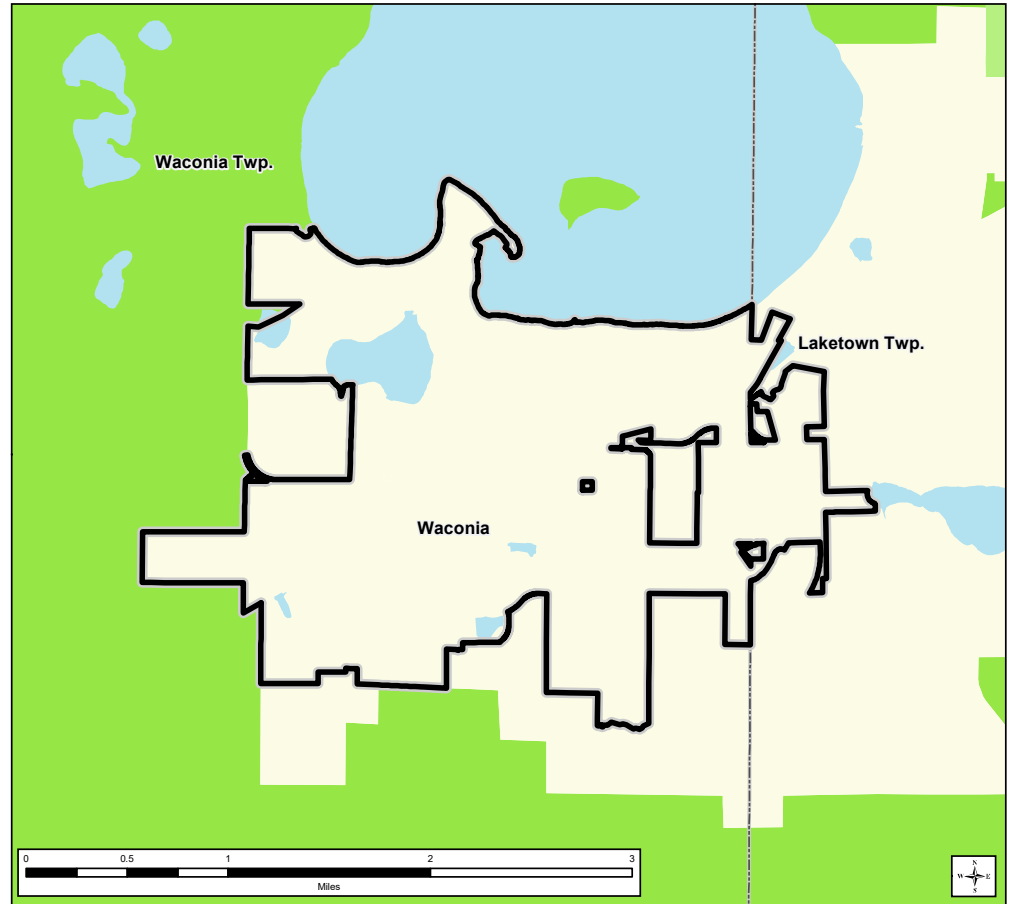
CHAPTER 1: INTRODUCTION AND BACKGROUND INFORMATION

Introduction and Background Information

The City of Waconia is an outer ring suburb of the Twin Cities located in Carver County. With its scenic location on Lake Waconia and its historic downtown serving as driving factors, the City has experienced large population growth over the last few decades. This growth has increased the need for residential, commercial, and industrial development across the City. To satisfy this need, undeveloped land in strategic locations, including adjoining unincorporated land, are designated as areas for future growth.

The Metropolitan Council designates the City of Waconia as an Emerging Suburban Edge Community. This designation aligns with increased population forecasts as communities transition from rural to urban – further highlighting the need for development that fits both the present and future needs of Waconia.

Community Designations City of Waconia, Carver County

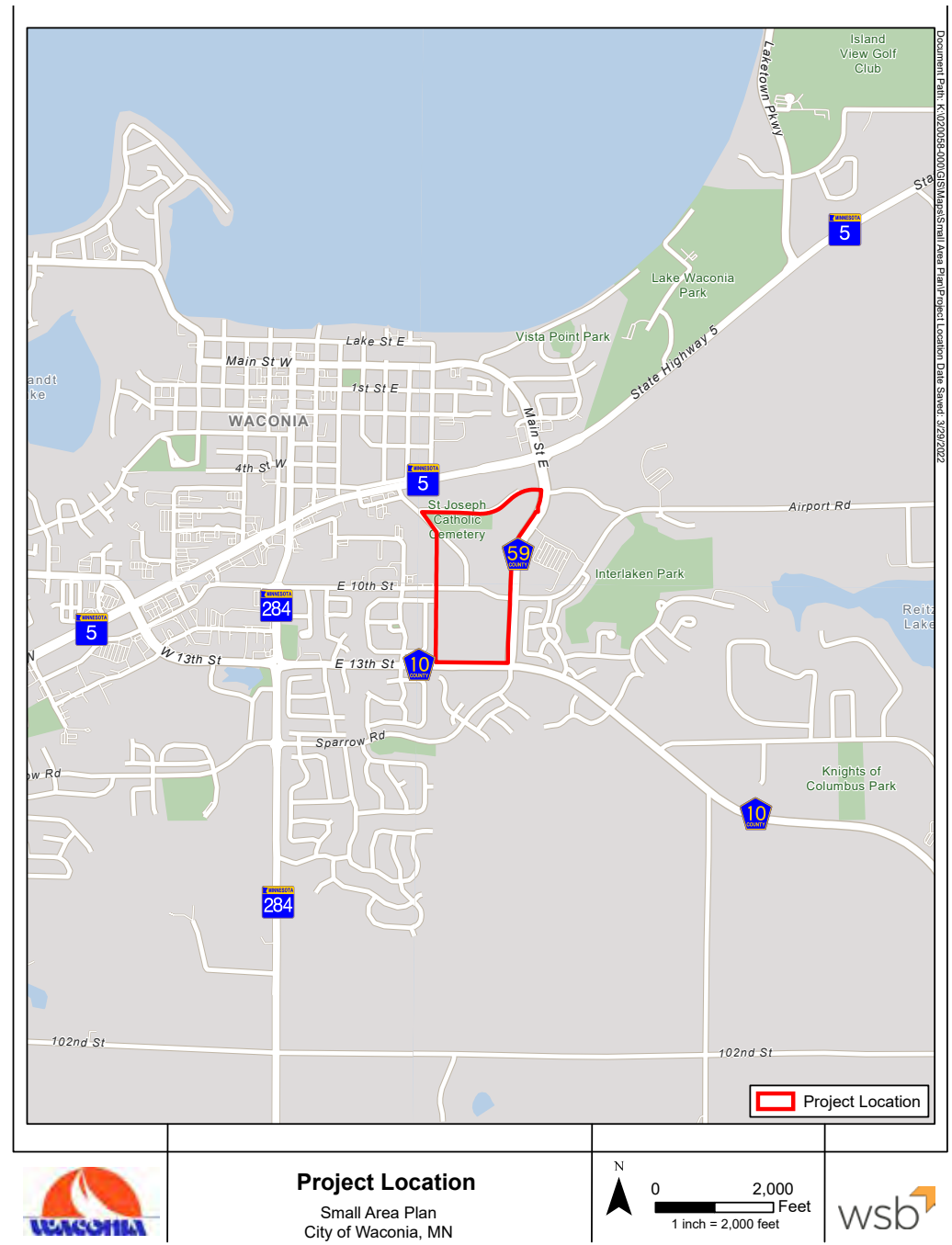


Source: Metropolitan Council | https://metro council.org/Handbook/Files/Community-Designation-Map/PDF/02397159_Waconia_CommunityDesignation.aspx

The City of Waconia has asked its consultant, WSB, to review the parcel known as the Hartmann Property and provide a vision of its future development potential based upon a number of factors including market demand, surrounding existing land uses, and community goals. The property is located south of Highway 5 and west of Highway 59 (also known, and hereby referred to, as Main Street) and bisected by 10th Street East. The property consists of unincorporated land that is located within Waconia Township.

A Small Area Plan that addresses the appropriate future land uses for the approximate 80-acre site, should the parcel be annexed into the City of Waconia, is outlined in this report. The study area also includes a 4.15 parcel in the north and east of the Hartmann property, directly south of Airport Road, owned by the Diethelms, and some excess right of way owned by the City. The St Joseph Catholic Cemetery is located to the north and northwest of the Hartmann parcels and at 7.55 acres will remain as is. In total, there are seven properties that comprise the overall site, including the cemetery, as the Hartmann property is one larger 56-acre site which is separated by existing public roads. The study area site is currently located within Waconia Township, except of city-owned lands, and is surrounded by properties within the City. The small area plan will propose potential land uses and review infrastructure impacts associated with the anticipated land uses, along with potential new roadway alignments.

WSB will consider appropriate land uses for the site based upon market information, community desires, and general planning tenets addressing locational attributes and proximity to other land uses. In addition, potential environmental and topographic issues will be called out along with potential mitigative measures.



CHAPTER 2: EXISTING CONDITIONS

Existing Conditions

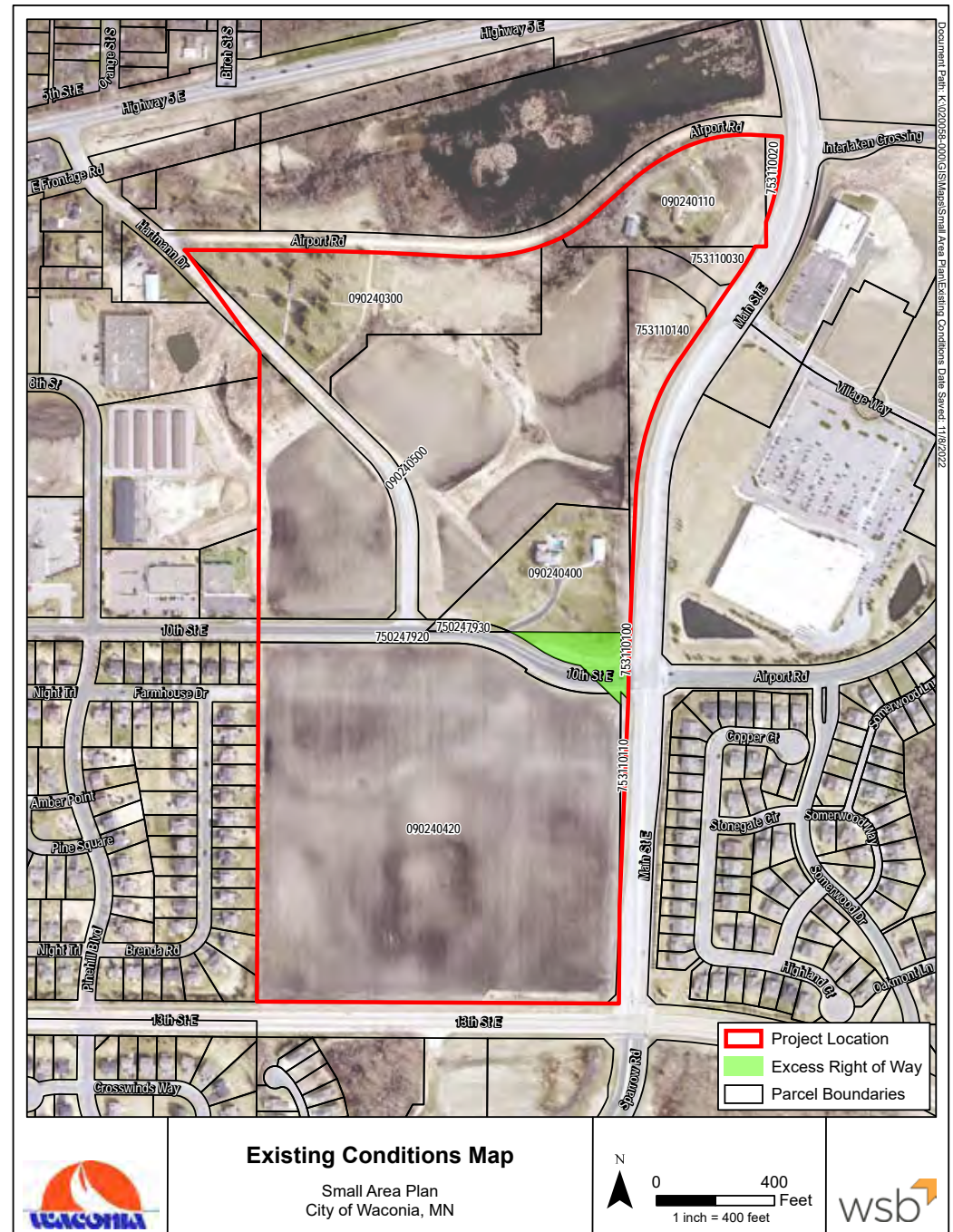
The review of the project area is a general review of the potential land use and the projected highest and best use for the city to both maximize the potential tax base generated and allow for the timely development of the area. As with all analyses, it is a snapshot in time, with the current market conditions that may change over time, potentially resulting in a different outcome for the area.

Site Condition and Constraints

The project area is comprised of 6 parcels for development for a total area of 67.67 gross acres. A cemetery on the north side of the property along Hartmann Drive and Airport Road is intended to remain and is not included in the acreage analysis or future development discussions. However, because the use, and it's access must be maintained, it is included in the overall site drawings.

- 09-02-40-420 – 56.17 acres
- 09-02-40-400 – 4.46 acres
- 09-02-40-110 – 4.15 acres
- 75-31-10-030 – 0.51 acres (city owned)
- 75-31-10-140 – 2.32 acres (city owned)
- 75-31-10-100 – 0.06 acres (city owned)

The project area also includes a parcel that is not assigned a parcel identification (PID) that would add .72 acres to the site. The parcel is highlighted in green on the adjacent exhibit. The city will need to determine the ownership of the property and the legal status of the parcel as the proposed development of the site moves forward. Should this site be added to the property, total land acreage would be 68.39 gross acres.

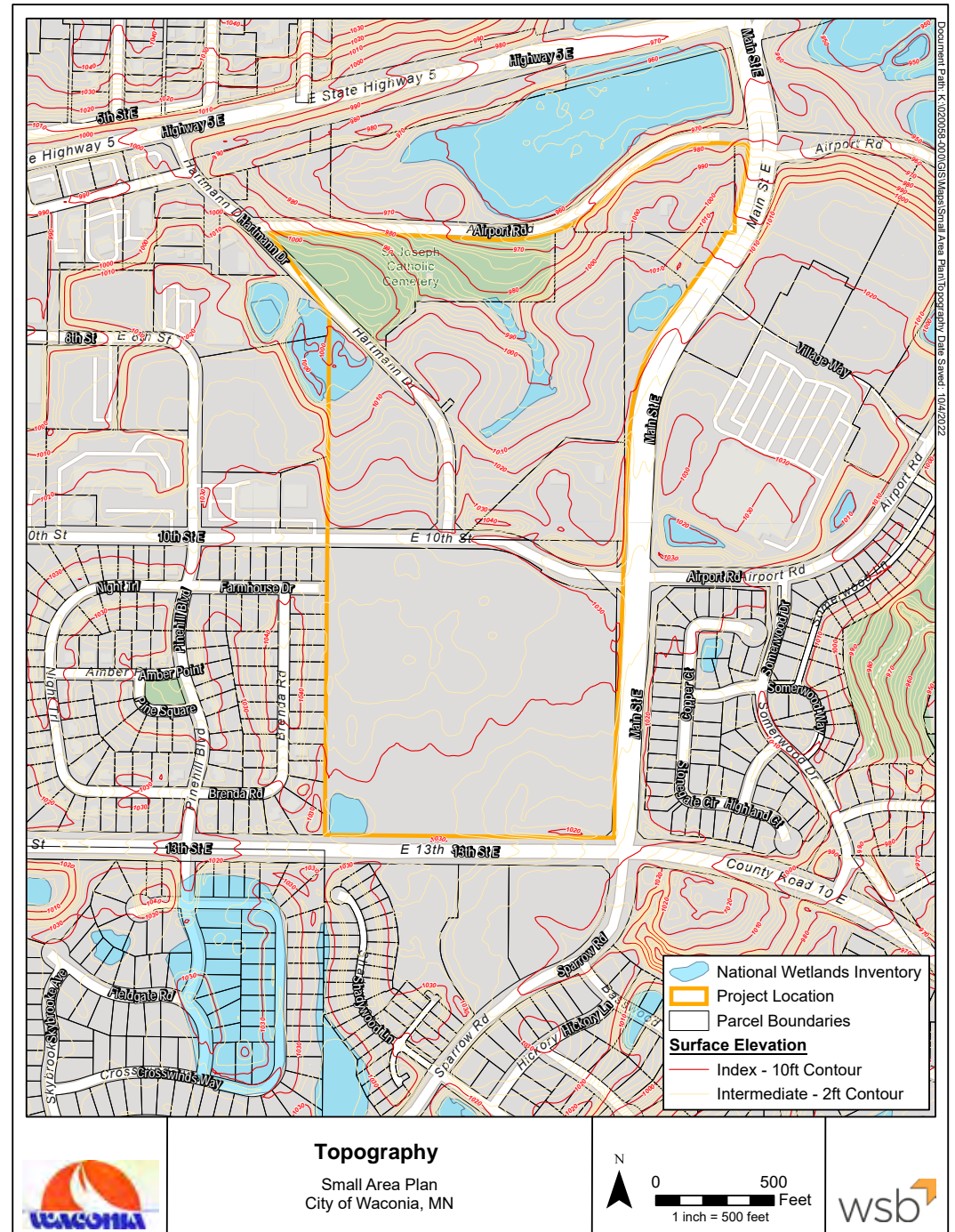


It is recognized that there are currently two residences within the subject area, and the remainder is used for agriculture. However, the area has a few constraints that may present some challenges to development.

There is a wetland area present in the north project area, which creates development restrictions and regulations that must be adhered to. The proposed road alignment will traverse the wetland and sequencing and mitigation. The north project area has specific challenges due to topography, existing lot configurations and to a lesser extent exiting road alignments. The topography is somewhat steep making it difficult to meet desired public road grades. This may also create difficulty in laying out building pads, depending upon the size of future users' structures.

Lot dimensions, coupled with the anticipated road alignment, may result in less desirable lots due to lot depth. Depending upon the future users, there may need to be further division of these lands to create building sites with access through a shared driveway or shortened cul-de-sac.




















The site is currently serviced by private utilities, meaning that public utilities will need to be extended into both the north and south properties to facilitate development. Utilities are presently available in Airport Road and 8th Street to the west that may be extended to serve the study area. A natural gas pipeline runs through the north project area, which may impact development layouts for industrial development. Also, a portion of the site lies within the City's Wellhead Protection Area and future development in the study area may be influenced by the need to ensure on-site uses are low risk to groundwater contamination.

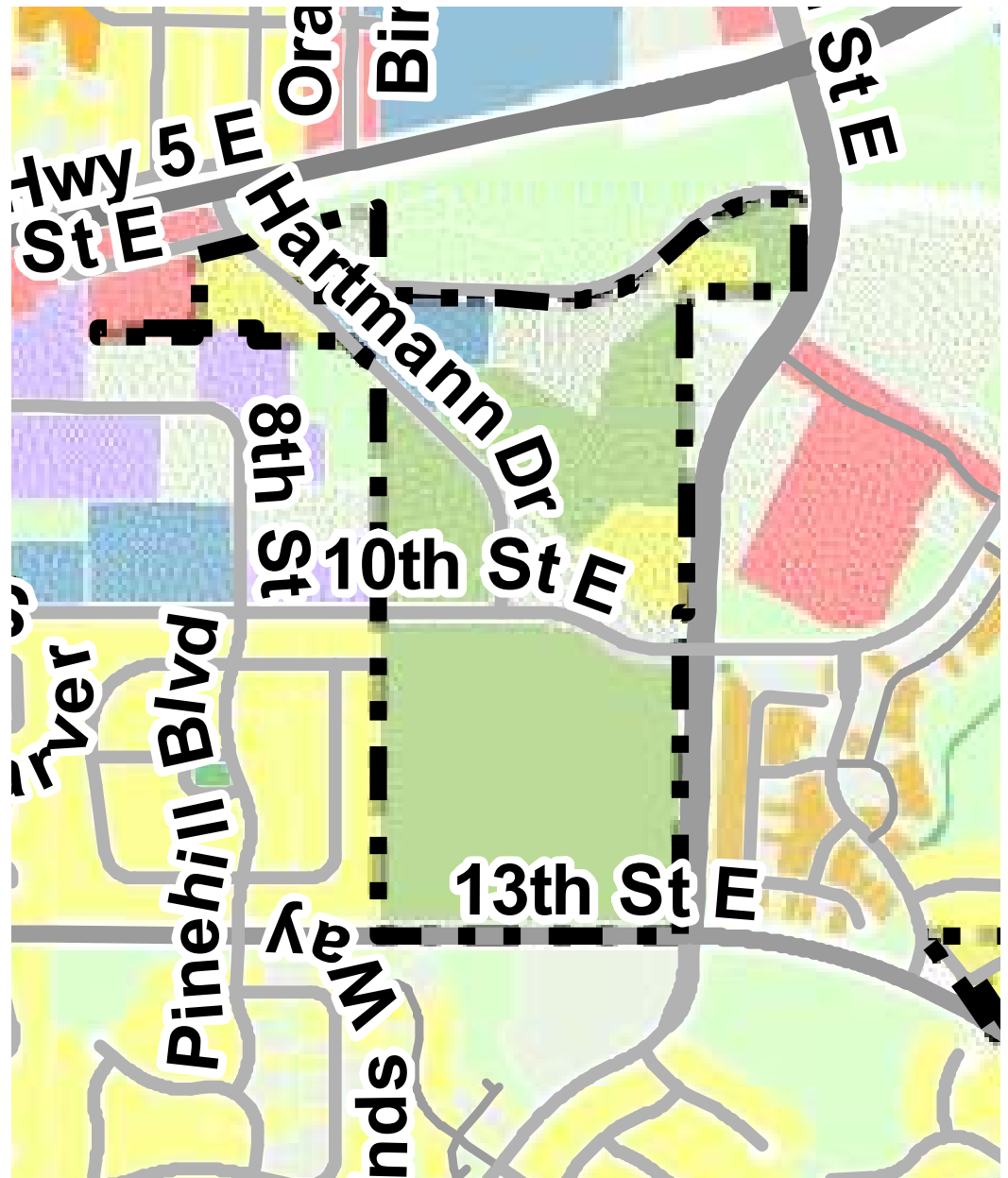


Surrounding Land Use

Parcels within the project area are largely undeveloped with a single-family home fronting the north side of 10th Street and an additional single-family home on the 4.15-acre property in the northeast. Otherwise, the property is largely utilized agriculturally.

A variety of current land uses surround the study area. South of County Road 10, there is mostly single-family residential housing along with planned future light commercial development. To the east of Main Street, there is medium density residential housing and a commercial center, including Target and space for other ancillary commercial uses. To the west of the study area, there is a mix of residential housing in the south, with single family immediately adjacent. Adjacent to the northern portion of the property, both on the west and north, is property generally developed with light industrial uses and beyond lies Highway 5, multiple highway business districts, and a conservation district.

Land Use Classes			
	Farmstead		Mixed Use Commercial and Other
	Seasonal / Vacation		Industrial and Utility
	Low Density Residential		Institutional
	Medium Density Residential		Park, Recreational
	High Density Residential		Golf Course
	Office		Airport
	Retail and Other Commercial		Agricultural
	Mixed Use Residential		Undeveloped
	Mixed Use Industrial		Water
			Wetland, Open Space

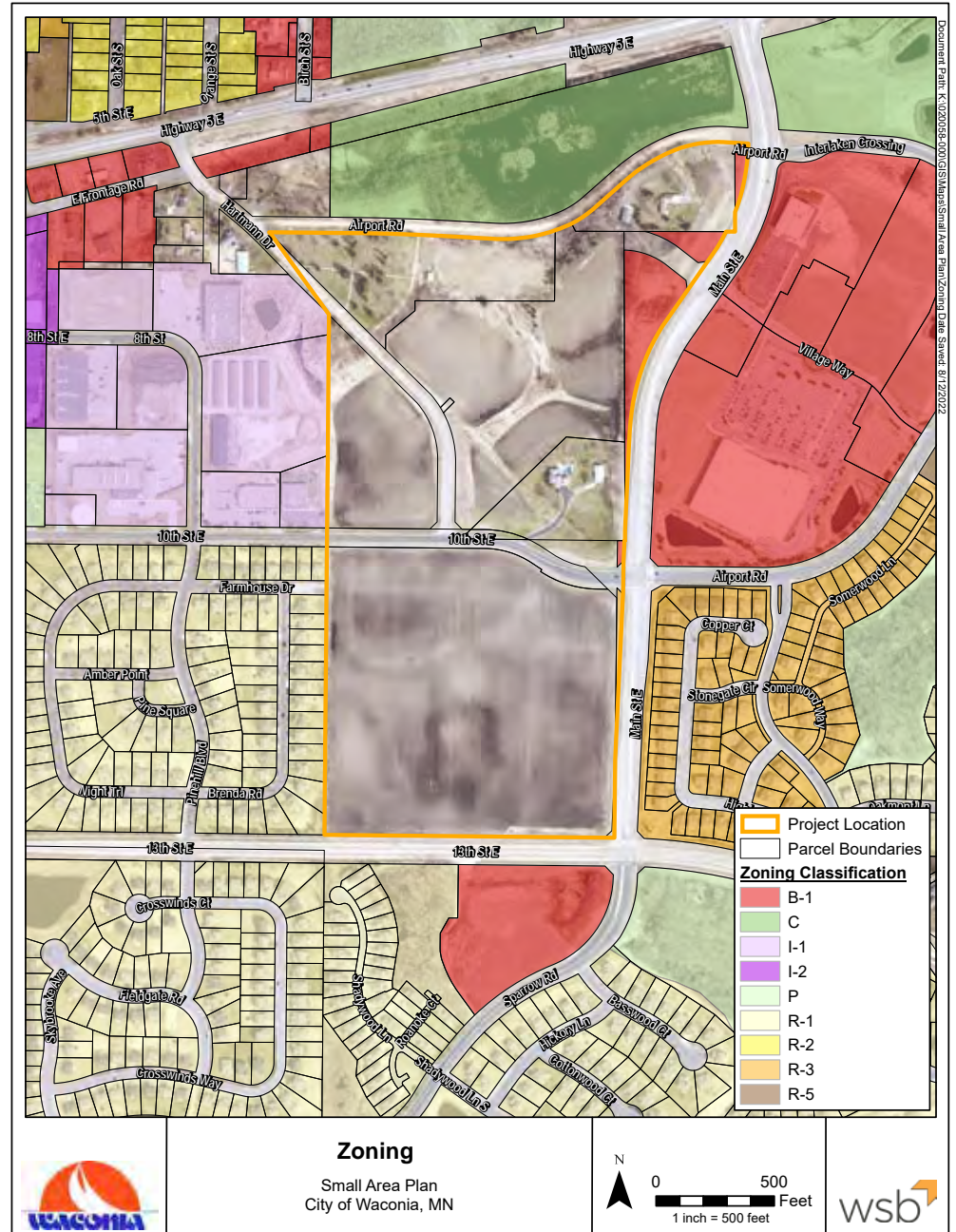


Source: Waconia 2040 Comprehensive Plan | <https://www.waconia.org/DocumentCenter/View/2320/CHAPTER-3---2040-FINAL-DRAFT---Waconia-Land-Use-Analysis-and-Plan-w-Maps-03-29-19>

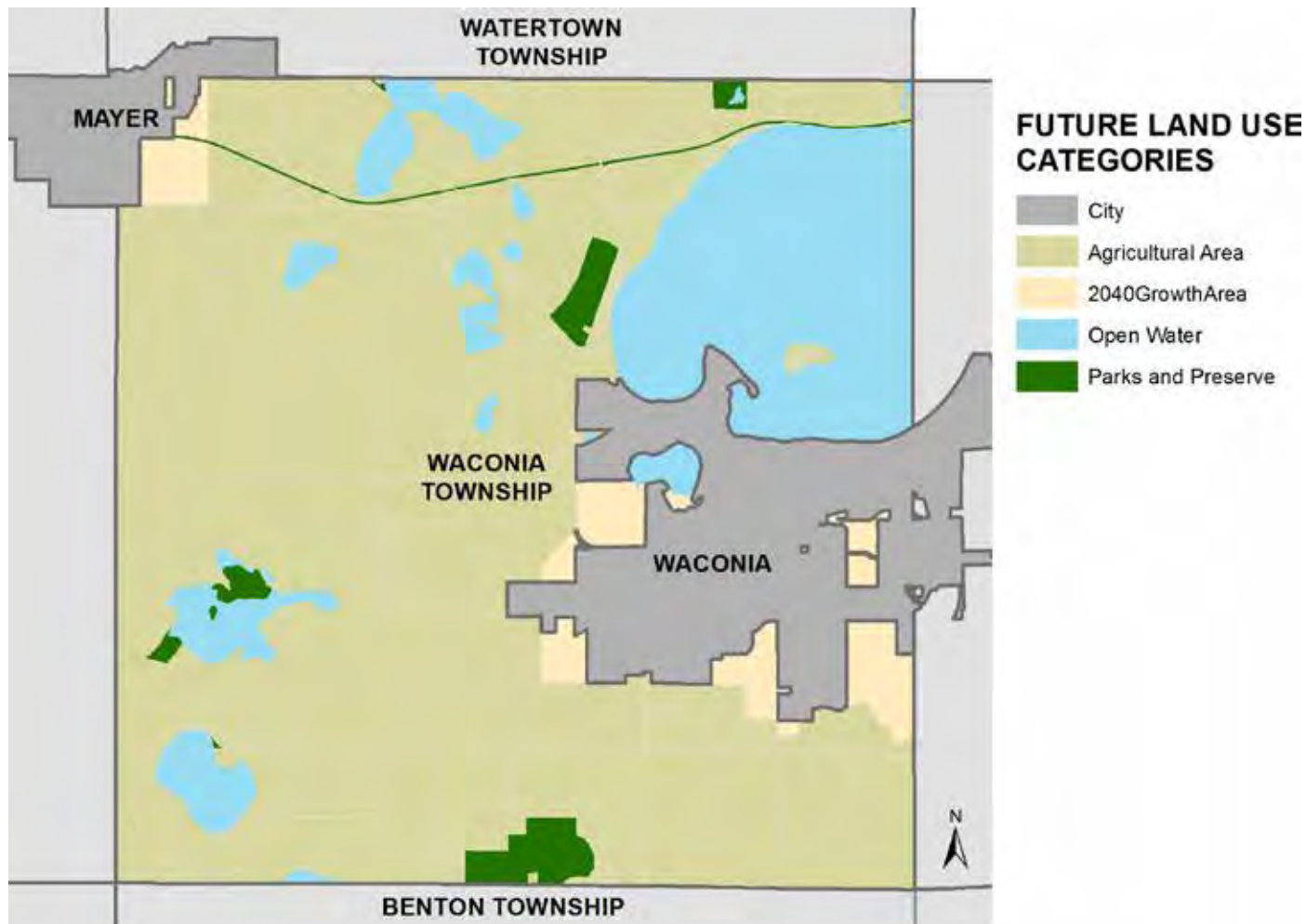
Existing Zoning and Study Area Annexation Potential

Carver County is responsible for the zoning of the study area, as the land is currently within Waconia Township. The County has declared the entire study area zoned “A” Agricultural District. The area south of 10th street that surrounds the study area, which is governed by the City of Waconia, is zoned a mix of R-1 Single Family Residential, R-3 Medium Density Residential, and B-1 Highway Business District. The area north of 10th street is zoned I-1 Industrial Park District, B-1 Highway Business District, and C Conservation District.

In Carver County’s 2040 Comprehensive Plan, the parcels within the study area that are unincorporated are defined as 2040 Growth areas. These areas are therefore already identified as potential sites for future annexation and expected to be served by sanitary sewer when developed. Consistent with the County policy, lands in transition are zoned for agricultural use. This is also consistent with the existing land use on the site.



Waconia Township formally adopted the Carver County Land Use Plan as part of the township’s comprehensive plan. Within this plan, Waconia Township notes that the City of Waconia has included areas within the Township in their comprehensive plan as areas of growth. These areas of growth, called transition areas, include the parcels within the study area. The Township has included a policy stating that they will work with the City of Waconia to develop an orderly annexation agreement to address the city’s needs in conjunction with projected growth. The goals of transition areas, as defined by the 2040 Carver County Comprehensive Plan, are to provide for efficient growth of cities and public services to developing areas, define areas that cities will need for future expansion, avoid premature annexation, and to manage expansion areas. Managing these expansion areas is outlined as prohibiting large lot residential development that would make provision of services expensive and to limit non-compatible land uses.

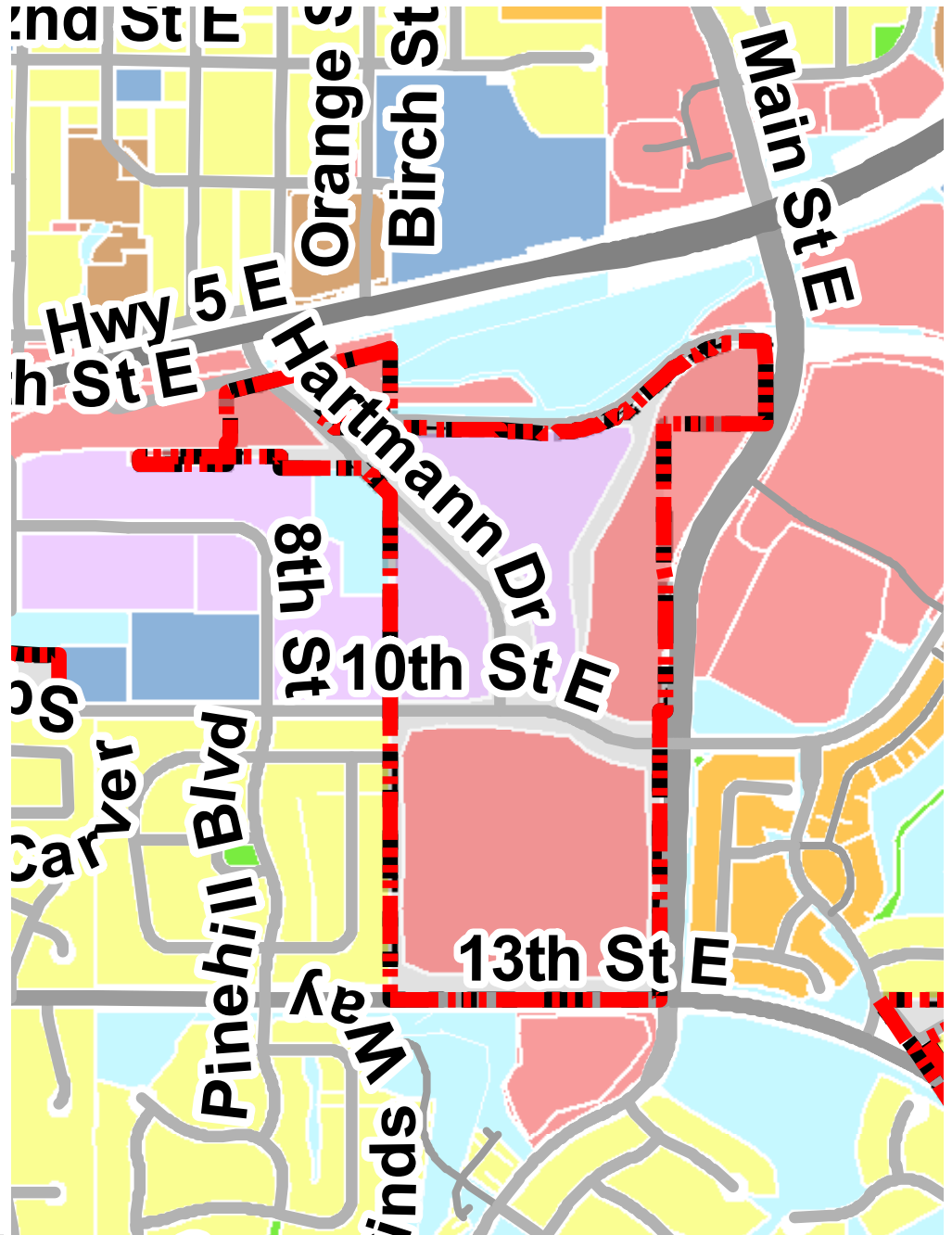


Source: Carver County Comprehensive Plan | <https://www.co.carver.mn.us/home/showpublisheddocument/19425/637194393883230000>

Future Comprehensive Plan Designation; City of Waconia

Transition areas should be managed in accordance with the policies in the County Plan and the City of Waconia has planning and zoning authority over the parcels within its annexation area. Currently, County policy requires land in transition areas to remain zoned in the “A” Agriculture Zoning District – which aligns with the current land use of the study area. If parcels are to be annexed, then their new zoning designations would reflect Waconia’s 2040 Comprehensive Guide Plan.

The adopted City of Waconia 2019 Comprehensive Plan designates the southern portion of the site as Commercial. As defined in the Plan, the Commercial designation allows for businesses providing retail trade or services for individuals or businesses and includes office buildings. The zoning districts most appropriate for this designation would be B-1 Highway Business or B-4 Health Care Business. There was some initial thought, that the southern 40 acres of the study area could be developed in a similar fashion to the big box development, Target, across Main Street. Surrounding residential development and a changing retail market means that other land uses should be explored.



Source: City of Waconia 2040 Comprehensive Plan | <https://www.waconia.org/DocumentCenter/View/2320/CHAPTER-3---2040-FINAL-DRAFT---Waconia-Land-Use-Analysis-and-Plan-w-Maps-03-29-19>

The northern portion of the site is intended for more industrial development. The Industrial designation corresponds with the I-1, Industrial Park District and the I-2, General Industrial District. These categories include manufacturing or warehousing uses that may involve heavy truck traffic and the handling of raw materials. The purpose of the Industrial district is to provide for higher quality employment areas within the City where light manufacturing and related compatible uses can be accommodated in a value enhancing park-like setting.

Uses intended for this district may generate some nuisances like noise, glare, dust, odor, and pollution, but these nuisances can be accommodated to minimize their impact on neighboring uses through utilizing transitional uses and screening to shield single family residential uses from the potential impacts.

The Comprehensive Plan also acknowledged the potential for some commercial development along Main Street, in the northern half of the project site. This would continue the commercial node created when Target was developed on the site across the street.

Existing Transportation Network

The existing local street network within the study area does not have significant traffic counts, although it is anticipated that redevelopment of the site will require redesign of the road system running through the study area. While the City's Transportation plan notes that Main Street, County Road 10, and Airport Road are currently under their maximum capacity, increased development in the area will increase demand overall, including when development of the study area occurs. Creating new roads through the study area will require additional land to be dedicated as right-of-way. The city will pursue right-of-way dedication for future roads through the process provided in the city's subdivision ordinance. The City's Comprehensive Plan notes that 13th Street and Main Street are both designated A Minor Collectors. Development of the site would not impact those designations, although that does mean there are access restrictions on both of those roads.

New roadways in the north and south portions of the site will be needed to maximize development potential of the property. As is, the existing Hartmann Road does not provide needed access to the eastern portion of the site. Further, the City intends to create a major intersection between Village Way and Main Street, which will shift site access from the existing intersection of Airport Road and Main Street. Regardless of the final alignment of a new road for northern development, access to the existing cemetery must remain along with a residential access drive.

The southern portion of the site is used for agricultural purposes and has no public roads as this time. A future road system will need to be installed to provide access to future development.



CHAPTER 3: DEVELOPMENT OPTIONS

Development Options

The City's consultant, WSB, has formulated two distinct scenarios to serve as guides for future development of the study area. The City of Waconia may choose to follow a particular scenario based on its prescribed goals for the land in question. In general, the study area is divided into two sites bisected by 10th Street East allowing for the development of two unique areas of future growth. The northern site is comprised of 35.29 acres and is bordered by the cemetery and wetland to the north, Main Street to the east, 10th Street to the south and light industrial to the west. These adjacent uses allow for the northern site to be developed as an extension of the light industrial for the community.

The development and realignment of Village Way to the west of Main Street allows for the creation of a 4.4-acre lot that could be dedicated or directed for a more commercial use such as a convenience or small commercial service uses. The remainder of the site would be bisected by the new roadway creating two lots of 17.41 acres and 12.42 acres, respectively. Further discussion about creation of additional parcels for industrial development occurs below.

The southern site is comprised of 30.5 acres and is bordered by 10th Street to the north, Main Street to the east, County Road 10 to the south, and residential uses to the west. Because of its proximity to both residential and commercial uses, the southern portion of the site is prime for a mix of commercial and residential development slightly altering the city's adopted comprehensive plan designations.

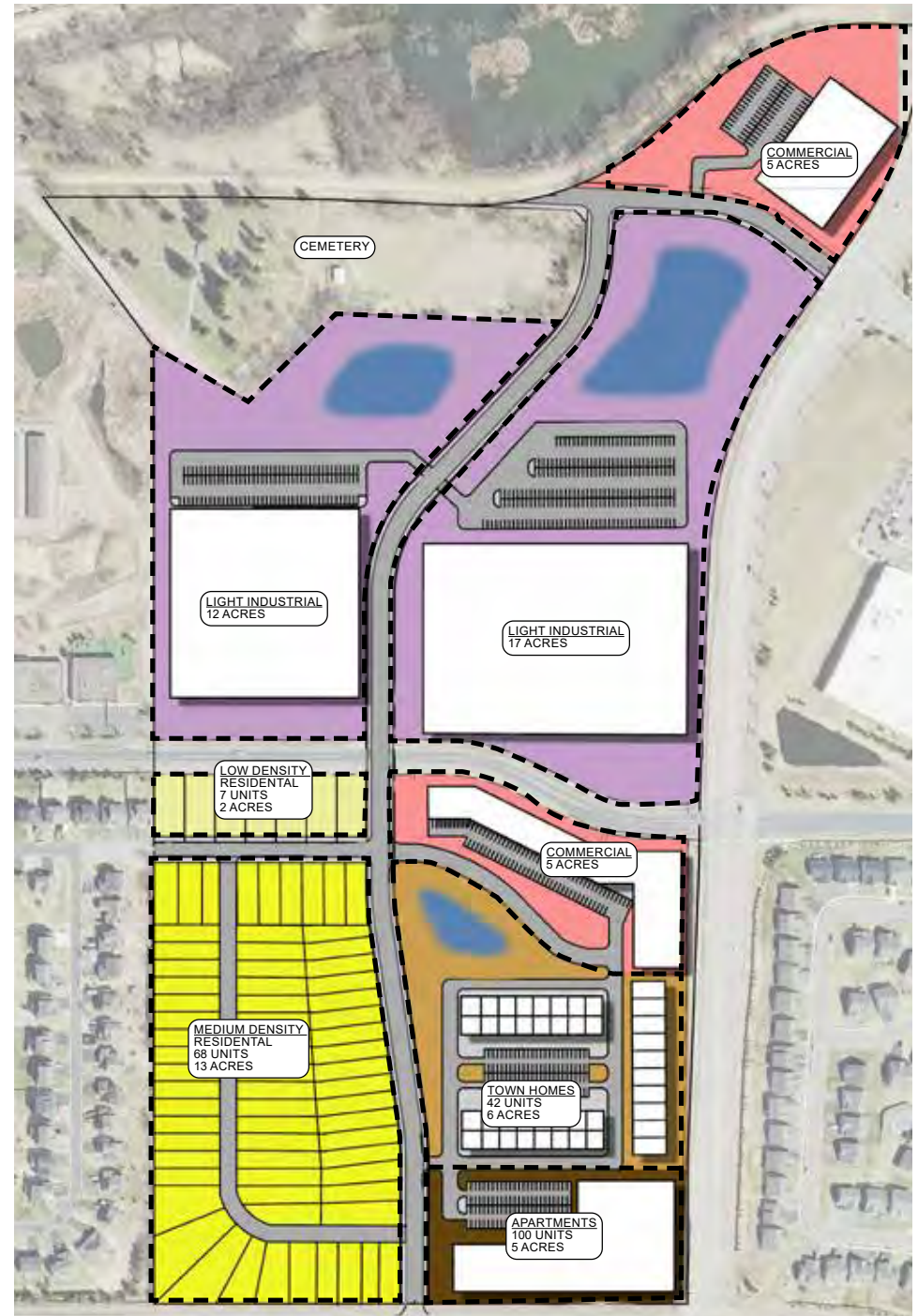


The following is a list of land use acreage and approximate density for each of the concepts:

For ease of review, the discussion and analysis of the proposed concepts will be split into two sections, one each for the northern and southern site, with a description of what each concept proposes for the sites contained therein.

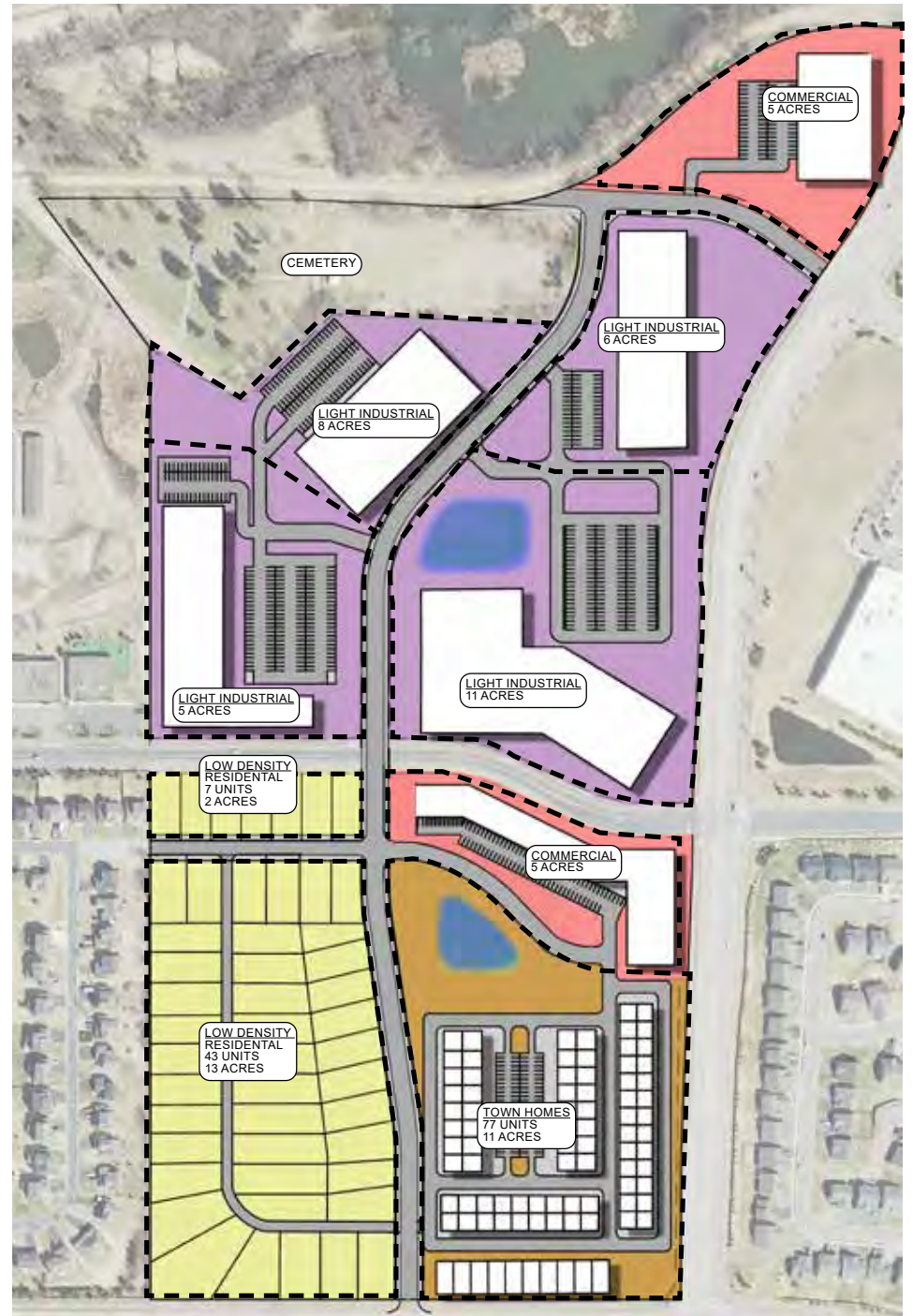
Concept #1

Northern Site		
Land Use	Acreage	
Commercial	5	
Light Industrial	29	
Southern Site		
Land Use	Acreage	Units
Commercial	5	N/A
Low Density Residential	2	3.5 DU/acre
Medium Density Residential	13	5.2 DU/acre
Town Home Residential	6	7 DU/acre
Apartment Residential	5	20 DU/acre



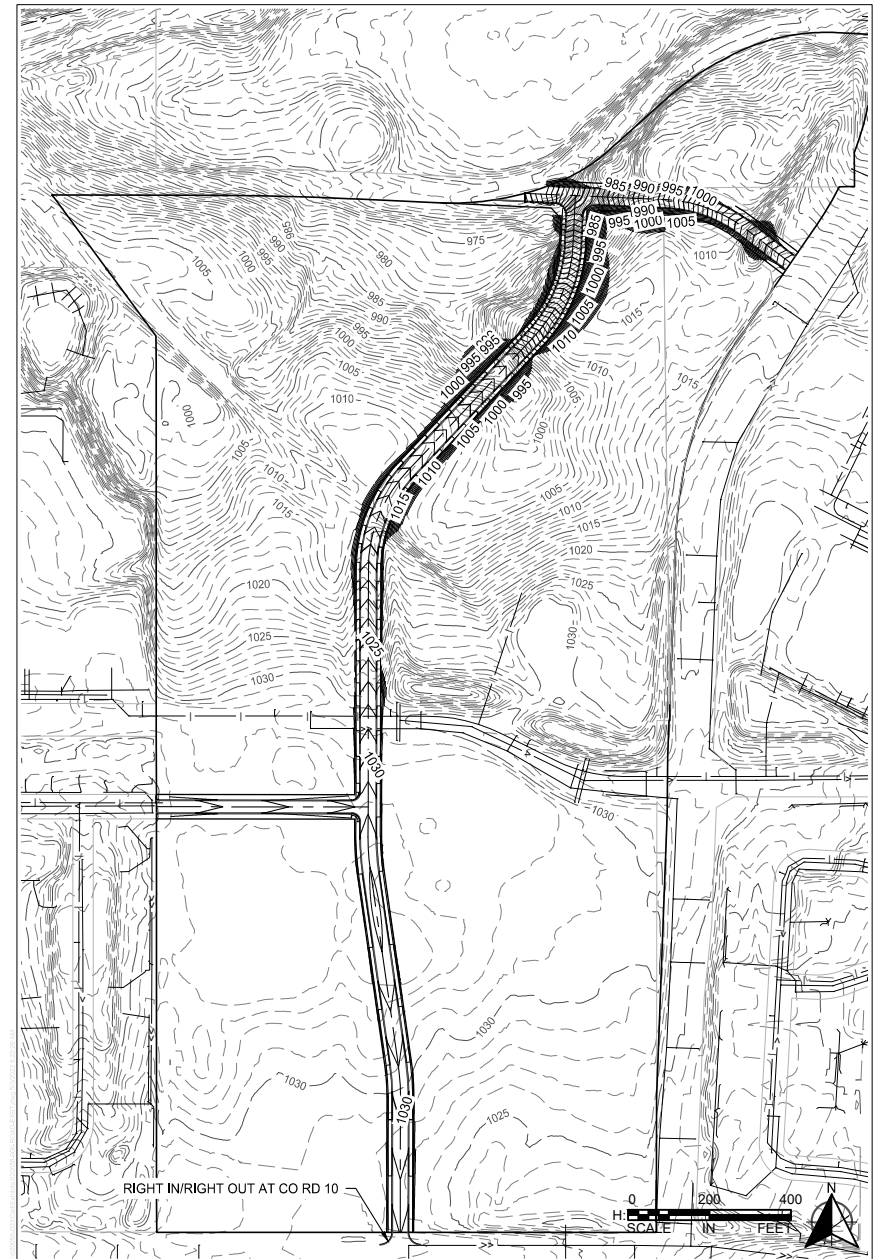
Concept #2

Northern Site		
Land Use	Acreage	
Commercial	5	
Light Industrial	30	
Southern Site		
Land Use	Acreage	Units
Commercial	5	N/A
Low Density Residential	15	3.33 DU/acre
Town Home Residential	11	7 DU/acre



Northern Site

The northern portion of the property has been primarily designated for industrial land uses. There is a 5-acre site, located at the new intersection of the proposed extension of Village Way and Main Street, that is recommended for commercial use, in part due to its high visibility and proximity to the commercial center, east of the site. The two development concepts provide options that vary only as it relates to the number of lots created. In both scenarios, a new public road is proposed that bisects the site to provide better access for development and to maximize site development potential. The location of the road is immediately adjacent to the eastern edge of the cemetery property and travels south between Airport Road and 10th Street. The alignment was chosen to meet City standards for road width and grade. The grades on the north half of the site are fairly steep and pose some challenges for installation of a road and ultimately creation of reasonable building pad sites. Another challenge in development of the north parcel is the presence of wetlands and the need to traverse a designated wetland for installation of the road and other utilities.



wsb
WSB PROJECT NO.:
020058-000
MAY 2, 2022

WACONIA SMALL AREA PLAN
ROAD GRADING EXHIBIT

EXHIBIT 1

Concept 1 uses the main road as the dividing line between two industrial parcels for future development. The two created sites, 17 acres in the east, and 12 acres in the west, provide the greatest amount of flexibility for new users due to their size. Potential grades over each of the parcels may inhibit development by one user, although the ability to parcel off smaller lots as users are identified is a reasonable development strategy. Concept 2 utilizes the same road alignment but creates four separate industrial sites, two in the west and east. Again, the exact configuration and size of the industrial lots will be more based upon user preference and need, and less on the designated land use.

Concept 1 North



Concept 2 North



Northern Site Market Analysis

The Twin Cities industrial market continues to be highly active with absorption of over 1.8 million square feet in the first quarter of 2022 and the leasing of 3.4 million square feet over the same period. This is significantly ahead of the absorption rate for the same period in 2021. While the entire market has been very active, the Southwest quadrant, of which Waconia is a part of, has trailed behind both the Northwest and Southeast metro. The Southwest area had approximately 754,952 square feet of Warehouse/Manufacturing space under construction. This compares to the Northwest quadrant with 1,885,436 square feet and 1,054,000 in the Southeast quadrant.

The Southwest area also has a lower vacancy rate than the other parts of the metro area with a vacancy rate of 4.8% for both Warehouse/Distribution/Manufacturing, compared to Metro-wide vacancy rate of 4.9% for the first quarter of 2022. This lower vacancy rate for the quadrant compared to the entire region provides an opportunity for the area to expand the availability of new space for Warehouse/Distribution/Manufacturing in the region.

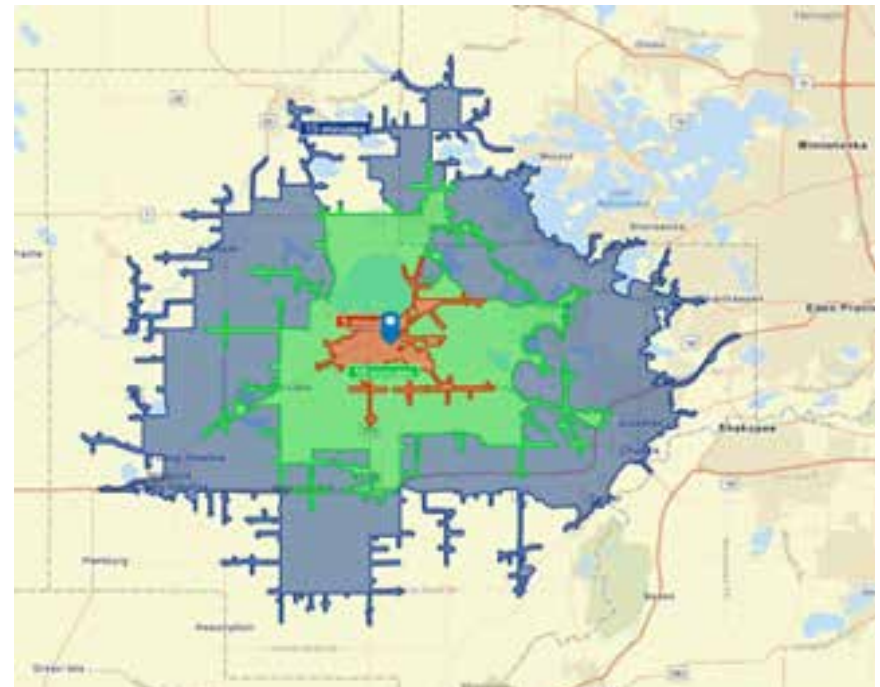
This opportunity is highlighted by the sub-region having a vacancy rate for manufacturing space of 1.8% compared to the region's rate of 3.0%. The significantly lower vacancy rate may provide Waconia an opportunity for development of additional property for light manufacturing having a higher demand. Bringing new industrial property into the market would benefit existing businesses by creating space for expansion, and new businesses by increasing the available development space. In addition to additional employment opportunities, manufacturing space also accounts for a higher level of property tax generation.

Current market conditions allow for the city's plan to create new light industrial space, an asset that could help position the city for continued growth. The lot to the east of the newly created road would be approximately 17.41 acres including the previously mentioned .72 acres along 10th Street. This site could support approximately 265,432 square feet of light industrial space using an average of 35% lot coverage. The use of a 35% lot coverage allows for the need of parking, stormwater management and required setbacks. The final amount of space that could be developed will be affected

by the existing pipeline easement and changes in the elevation across the site which will require adjustments to the developable area.

In addition to elevation changes the site is very deep, making the creation of usable smaller lots of less than two acres difficult without the construction of additional streets. A 200-foot-wide lot would have a depth of over five hundred feet resulting in lots that may be difficult to market in the future. The additional cost of the infrastructure and the reduced area for potential development should be considered. The site to the west is shallower and would allow for greater lot flexibility.

Using a very conservative value of \$75 per square foot for property tax valuation, the site could create an estimated \$19,907,400 in value. This number does not account for any additional density above the estimated 35% lot coverage for a building or the restrictions based on the site by the previously mentioned constraints.





The property to the west of the proposed roadway is comprised of 12.42 acres that abuts light industrial making it an ideal area for the City to take advantage of the lack of current industrial space. This lot based on the current roadway could facilitate the development of smaller lots based on its shallower depth. This would allow for traditionally shaped lots for future development.

The site could support an estimated 189,355 square feet of space using a 35% lot coverage for buildings. With the use of \$75 per square foot of value this area would equate to an estimated \$14,201,649 of property tax value. This estimate, as with the estimate for the eastern property, does not consider any restrictions that may be caused do to the elevation changes on the site or unique requirements for businesses that may result in a lower or higher lot coverage.

The value of creating additional development area for light industrial type of property is strengthened by the absorption of 270,525 square feet of space while the SW quadrant of the Metro currently has 754,952 square feet under construction. When this is added to the low vacancy rate for the area, the opportunity for significant growth of available space is ripe for consideration. During the first quarter, the area, despite having over 754,000 square feet of

space under construction, had no light industrial space completed during this period. While this was during the end of the winter, the rest of the Twin Cities region completed over 935,000 square feet.

This area draws from a significant market area, allowing for the opportunity for additional growth for both housing and retail environment. The market area based on the drive times of 5-10-15 minutes and illustrated below. As shown below, the area that is encompassed by the market area for a 15-minute drive time the market area extends as far east as Shakopee and far west as Norwood/Young America.

This identified market area has a total population of 51,696 compared to the population of the City of Waconia of 13,033 residents. This market area also has a median disposable income of \$79,087 compared to Waconia's disposable median income of \$76,471. The 3.4% greater level of disposable income for the market area provides a significant opportunity for Waconia's continued growth.

Southern Site

The southern site is comprised of 30.5 acres and is bordered by 10th Street to the north, Main Street to the east, County Road 10 to the south, and residential uses to the west. As mentioned, the site is uniquely prepared for a mix of commercial and residential development that aligns with the city's comprehensive plan.

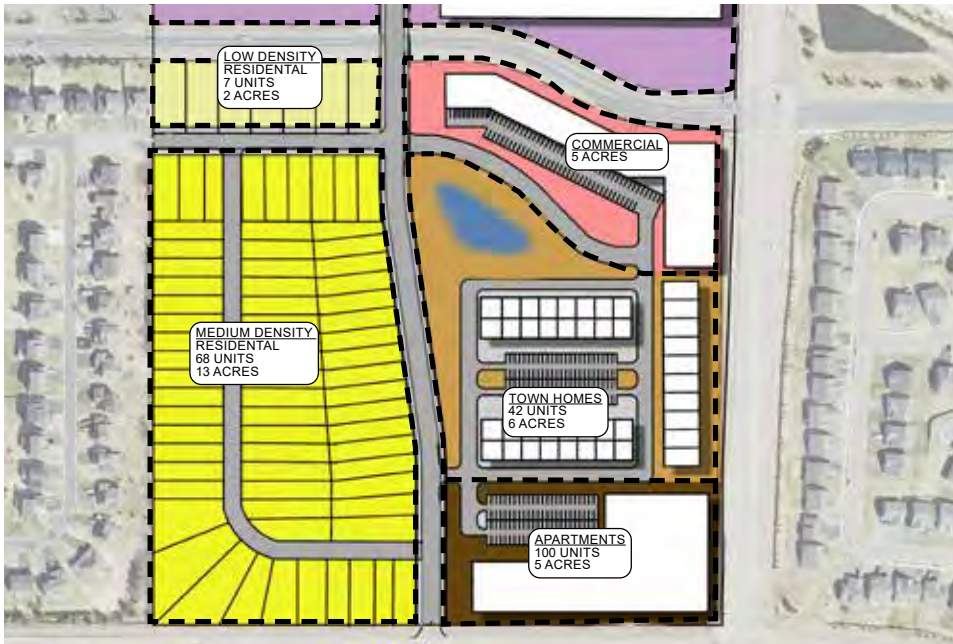
An extension of Farmhouse Dr. towards 10th street would create a 1.6-acre lot for low density single-family residential housing that would be consistent with the development pattern and use immediately to the west. The adjoining project consists of detached single family housing units with lots slightly smaller than the traditional standard.

The new roadway bisecting the site creates an opportunity for a mix of land uses, although primarily residential in nature. To the west of the roadway, a potential lot approximating 12.5 acres is recommended for residential uses to compliment the adjacent existing single-family neighborhood. This could

be either low density single-family detached homes zoned as either R-1 or R-2, or low to medium density villa-style single-family detached homes zoned as either R-2 or R-3.

On the east side of the new roadway, a greater mix of uses would best serve the community. A 5.3-acre lot abutting 10th Street is prime for commercial development. There would be sufficient access and visibility for this lot, and it would serve as a natural expansion of the commercial development occurring to the east. This area is seen as more of a community commercial area, which would provide commercial services to the immediate area. Although the commercial market is not as robust as industrial or residential, at this time, additional development in the area will continue to contribute rooftops and daytime workers which will assist in commercial retail and service attraction to the designated commercial sites.

Concept 1 South



Concept 2 South



A further extension of Farmhouse Drive through the interior site area would increase local access for future uses. The road extension cannot directly access Main Street due to County access restrictions. For that reason, Farmhouse Drive extended would function somewhat like an expanded driveway that provides internal access to future development on the site. The roads ultimate alignment will be dependent upon each individual development location and size.

For the southeastern site area, further residential development would best fit the needs of the community and its projected growth in the coming years. This 11.1-acre lot could serve as medium density residential townhomes zoned as R-3 – which would increase the mix of housing options in the area both in size and price. Another option is to split the 11.1-acre lot into two lots sized as 6.1 and 5 acres. The former, could provide the same type of townhome-style housing mentioned previously, and the latter could serve as a space for high density multi-family residential development zoned as R-5. Further exploration of this site for age-restricted housing project should be explored. A senior housing project would also reduce the traffic projections for that area of the site. A higher density project in that location also provides a transition from the commercial to the east, and the adjacent busy Main Street to the more interior detached single-family neighborhoods. In recognition of the projected population growth in Waconia, new residential development on the site should incorporate a mix of housing options.

From a market standpoint, the City of Waconia has experienced strong steady residential growth, hovering around 100 new units per year for the last 10 years. The table to the right shows recent residential growth in the community.

The market for commercial development is more uncertain and difficult to project. According to the Marcus & Millichap 3 Quarter/2022 Report, new retail construction has slowed with the total new space for the last 12 months ending in June falling below 600,000 square feet for the first time since 2012. However, vacancy rates for retail space within the Twin Cities market continues to fall, with a 3.8 % vacancy rate at the end of June. Multi-tenant properties, which traditionally have a higher vacancy rate have contracted to 5.4% at midyear, reflecting the lower rate of new construction of retail space. It is also anticipated that the economic recovery after COVID and the change in commercial demand with on-line shopping will most likely affect new growth in the future. Commercial development, both retail and service, is now following households rather than getting in front of residential development. An increase in residential development within the study area and in the surrounding neighborhoods will help increase demand as the number of households increase.

Year	Single-Family	Townhome	Multi-Family	Total
2021	138	8	60	206
2020	27	16	N/A	43
2019	21	N/A	51	72
2018	50	20	N/A	70
2017	68	3	N/A	71
2016	105	9	N/A	114
2015	96	4	N/A	100
2014	83	1	N/A	84
2013	103	4	N/A	107
2012	86	2	N/A	88

CHAPTER 4: SITE DEVELOPMENT

Site Development

To better understand development issues that may arise in the future, the study area was analyzed for any drainage, natural resource, utility, or traffic related concerns.

Stormwater Management

Based on current land use, the existing site has approximately 4 acres of impervious surface, when developed the hard surface will be significantly different. The two development scenarios result in very similar amounts of impervious surface, approximately 48.5 acres. The regulatory agency controlling stormwater management for the site is the Carver County Water Management Organization (CCWMO). Development that meets CCWMO rules also meets the applicable stormwater management requirements of the City of Waconia and the Minnesota Pollution Control Agency (MPCA). Development should consider the following standards:

Rate control – peak rates shall not increase from the existing conditions for the 2-, 10-, and 100-year storm events.

Water quality – The water quality treatment volume is 1.0 inch of rainfall from the site’s new impervious surface. Removal of 90% total phosphorus (TP) and 90% total suspended solids (TSS) is also required.

Volume control – Volume control must be provided for 1.0 inch of rainfall from the site’s new impervious surface.

Preliminary investigation of the site indicates a mix of hydrologic soil group (HSG) B, B/D, and C/D soils. HSG C and D soils have limited infiltration capacity. The western half of the site is located within the City of Waconia’s Wellhead Protection Area (WPA) and the entire site has a very low Drinking Water Supply Management Area (DWSMA) vulnerability. The soils



and location within the WPA restrict infiltration, necessitating the CCWMO's Alternative Compliance Sequencing for Volume Control. The first alternative compliance sequence step is to provide volume control for the first 0.5 inches of rainfall from the site's new impervious surface, approximately 2.2 ac-ft. Of this, approximately 1.0 ac-ft will be required for the development north of 10th Street and 1.2 ac-ft south of 10th Street. This may be possible to provide on the site in areas with HSG B soil. The remaining water quality treatment volume (approximately 2.2 ac-ft, 1.0 ac-ft north of 10th Street and 1.2 ac-ft south of 10th Street) will likely need to be treated using methods other than infiltration. This could include water reuse, bioretention, and/or filtration.

To meet the rate control requirement, along with the volume control and water quality requirements, 3.2 to 4.2 acres will likely need to be dedicated to stormwater management. Of this, approximately 1.5 to 2.0 acres will be needed for the development north of 10th Street and 1.7 to 2.2 acres for the development south of 10th Street.

Water Supply

The study area will receive water supply from the Waconia water system, which currently includes four active wells, two emergency wells, two water treatment plants (WTPs), two active water towers, and distribution watermain. Tower No. 3 with a storage volume of 2.0 million gallons (MG) is located approximately 1,100 feet west of the project area. As shown in Figure X, an existing 16-inch diameter trunk watermain crosses through the project area in East 10th Street. Extending from the 16-inch diameter trunk watermain are one 4-inch diameter lateral and several 6-inch, 8-inch, and 10-inch diameter stubs. The lateral and stubs may need to be removed, relocated, or resized depending on the particular layout and water demands of the future occupants.

Due to the proximity of Tower No. 3 and the 16-inch trunk watermain, it is anticipated that the project area will receive ample available fire flow. However, field hydrant flow testing or computer modeling of the water distribution system should be completed to verify the available fire flow for any high density residential, commercial, or light manufacturing occupants with higher than usual needed fire flows. Looping from the existing 16-inch trunk watermain to the north and south along proposed roadways in the project area to adjacent trunk watermains is encouraged to create redundancy and increase available fire flows, and this loop sizing should be determined with computer modeling.



The projected water demands for the project area for each option are shown in Tables 1 and 2 below. From 2017 to 2021, the City's average day demand was 1.02 million gallons per day (MGD) and max day demand was 2.54 MGD. After adding the projected water demands for each option, the resulting average day demand (1.12 MGD and 1.10 MGD respectively) is satisfied by the City's total elevated storage capacity of 2.25 MGD, and the resulting max day demand (2.73 MGD and 2.69 MGD respectively) is satisfied by the City's well firm capacity of 4.36 MGD (3,030 gpm) and treatment capacity of 4.90 MGD (3,400 gpm).

Table 1 – Projected Water Demands – Option 1

Land Use	Units	Acres	Unit Demand (gpd/*)	Average Day Demand (gpd)	Peak Factor	Max Day Demand (gpd)
Low Density Residential	7	1.6	225	1,575	2.0	3,150
Medium Density Residential	110	18.6	225	24,750	2.0	49,500
High Density Residential	100	5.0	225	22,500	2.0	45,000
Commercial		9.7	1,250	12,125	2.0	24,250
Light Manufacturing		29.8	1,250	37,250	2.0	74,500
Total	217	64.7			2.0	196,400

*gpd = gallons per day

Table 2 – Projected Water Demands – Option 2

Land Use	Units	Acres	Unit Demand (gpd/*)	Average Day Demand (gpd)	Peak Factor	Max Day Demand (gpd)
Low Density Residential	50	14.1	225	11,250	2.0	22,500
Medium Density Residential	77	11.0	225	17,325	2.0	34,650
High Density Residential	0	0.0	225	0	0	2.0
Commercial		9.7	1,250	12,125	2.0	24,250
Light Manufacturing		29.9	1,250	37,375	2.0	75,750
Total	127	64.7		78,075	2.0	156,150

*gpd = gallons per day

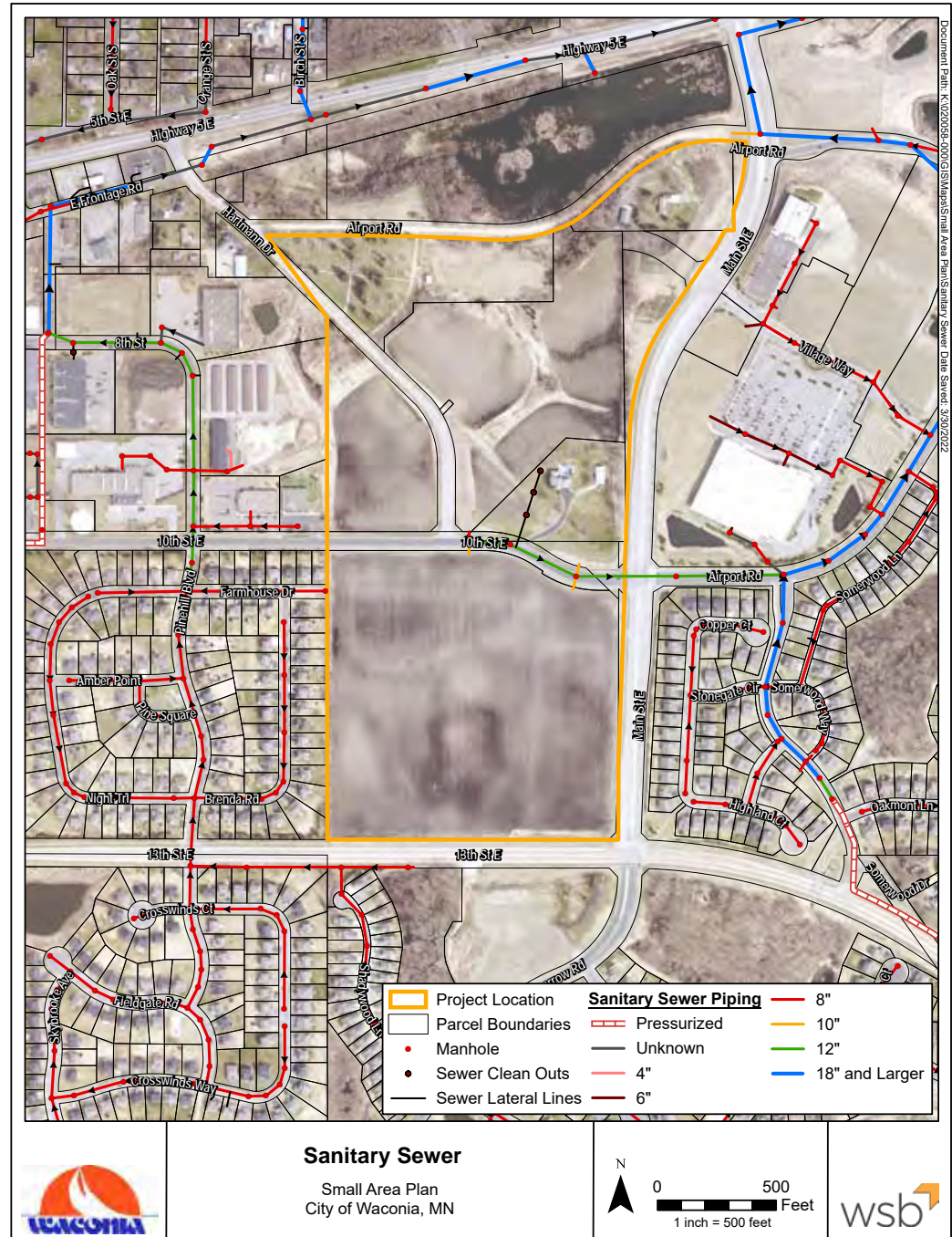
Based on Figure 6-4 in the City's Comprehensive Plan dated November 2019, the project area is located within the Very Low Vulnerability portion of the City's Drinking Water Supply Management Area (DWSMA). For Very Low Vulnerability, no issues are anticipated with the proposed land uses. Nonetheless, light manufacturing development may include potential contaminant sources to groundwater which should be considered when reviewing individual developments.

Sanitary Sewer

The wastewater from the study area will be collected by the Waconia sanitary sewer system and conveyed to the Metropolitan Council Environmental Services (MCES) regional collection and treatment system. MCES Lift Station L70 is located approximately 1,200 feet northeast of the project area and pumps the City's wastewater into the MCES regional collection system which conveys it to the Blue Lake Wastewater Treatment Plant (WWTP). The Blue Lake WWTP has a capacity of 42 MGD and receives 24 MGD as of May 2022.

Based on Figure 6-2 in the City's Comprehensive Plan dated November 2019, the project area falls within future sanitary sub-districts 3C-2 and 3C-3, which are planned to flow by gravity to MCES L70. As shown in Figure X, an existing 12-inch diameter gravity main in East 10th Street is currently extended to near the center of project area and flows east, and from which are extended one lateral and several stubs. The lateral and stubs may need to be removed, relocated, or resized depending on the particular layout and flows of the future occupants.

The low ground elevations in the northern third of the project area cannot be served by gravity from the existing 12-inch sewer in East 10th Street. However, there is an existing 10-inch sewer at the northeast corner of the project area at the existing cul-de-sac with an invert elevation low enough to serve this area by gravity.



The projected wastewater flows from the project area are shown in Tables 3 and 4 below. Although the projected peak hourly flow for the project area can be conveyed by an 8-inch diameter gravity main at minimum slope, larger diameter extensions should be considered during design based on the particular layout and wastewater flows of the future occupants.

Table 3 – Projected Wastewater Flows – Option 1

Land Use	Units	Acres	Unit Flow (gpd/*)	Average Flow (gpd)	Peak Factor	Peak Hourly Flow (gpd)
Low Density Residential	7	1.6	180	1,260	4.0	5,040
Medium Density Residential	110	18.6	180	19,800	4.0	79,200
High Density Residential	100	5.0	180	18,000	4.0	72,000
Commercial		9.7	1,000	9,700	4.0	38,800
Light Manufacturing		29.8	1,000	29,800	4.0	119,200
Total		64.7		78,560	4.0	314,240

*gpd = gallons per day

Table 3 – Projected Wastewater Flows – Option 2

Land Use	Units	Acres	Unit Flow (gpd/*)	Average Flow (gpd)	Peak Factor	Peak Hourly Flow (gpd)
Low Density Residential	50	14.1	180	9,000	4.0	36,000
Medium Density Residential	77	11.0	180	13,860	4.0	55,440
High Density Residential	0	0.0	180	0	4.0	0
Commercial		9.7	1,000	9,700	4.0	38,800
Light Manufacturing		29.9	1,000	29,900	4.0	119,600
Total	127	64.7		62,460	4.0	249,840

*gpd = gallons per day

The City’s Comprehensive Plan identifies an existing average flow to MCES L70 of 0.973 MGD, which corresponds to a peak hourly flow of 2,162 gpm. The projected wastewater flows above would increase the peak hourly flow at L70 to 2,265 gpm and 2,228 gpm respectively. Based on meter and pump data from June 2014, the L70 firm pumping capacity (three of its four pumps running at full speed using both forcemains) was 2,200 gpm. However, a significant portion of the forcemain was replaced in 2020, which may have increased this capacity. The City also has in-line storage near L70 to attenuate peak flows. MCES is willing to retest the L70 firm pumping capacity in coordination with City staff using the in-line storage to provide steady peak flow to L70, and this test is recommended in order to confirm the current firm capacity prior to full development of the project area.

CHAPTER 5: TRANSPORTATION

Transportation

Regardless of what development occurs at the study area, the City of Waconia is responsible for ensuring that adequate access is provided to the developed areas while accommodating future traffic demand. To clearly understand the traffic impact of the study area scenarios, WSB performed a traffic forecasting review. Trip generation estimates were developed for both study area development scenarios and compared to the current trip forecasting. This forecast looks at daily trips utilizing 13th Street E, Main Street E, 10th Street E, Sparrow Road, Airport Road, and Village Way. The total trip generation forecasts are 11,310 weekday trips for scenario one, and 10,879 weekday trips for scenario two. With a 40% reduction of commercial pass-by trips, the final trip generation numbers are 8,457 and 8,026 for scenarios one and two respectively.



The results of the traffic forecasting review indicates that there is relatively little difference in traffic generation between the two concept plan land use scenarios. The study makes the following conclusions:

- Main Street had enough capacity to operate acceptably with the expected increase in traffic volumes associated with the site development
- Additional traffic controls along 13th Street East may be necessary in the future depending upon development within the area. A restricted access, most likely a right-in/right-out will occur at the intersection of 13th Street East and the new road within the site.

- A new intersection with Village Way/Town Road will be completed on the north end of the site. The forecasted daily volumes indicate a westbound left turn lane at the intersection of the new development road may be necessary.
- The city may wish to explore a roundabout at the intersection of the new road and 10th Street.

The full traffic forecasting review is attached to this report as Appendix A.

CHAPTER 6: COMMUNITY ENGAGEMENT

Community Engagement

On August 24, 2022, a community open house was held to provide an opportunity for surrounding neighbors to review and ask questions about the two differing development scenarios. Both scenarios were available for viewing and staff and consultant available to answer questions. Approximately 100 people were in attendance and there was the opportunity to provide written comments. The City and consultant also met with the property owner to discuss the various concepts and provide an opportunity for any comments. The primary property owner indicated that he had no interest in selling his property for development at this time. The City staff also met with the other property owner, the Diethelms who were made aware of the study and potential recommendations.

Comment cards were available which asked three questions:

- What do you like about the concepts?
- What don't you like about the concepts?
- Are there other land use scenarios not considered here that you think should be?

In response to the comment card questions there were approximately 45 separate comments received. Based upon the comments received, there was support for the transition from residential, adjacent to existing neighborhoods, to commercial, along Main Street. If there was support of one concept over the other, it was support for Concept 2 which had more lower density residential development in the west, although there were several comments against an apartment or too many townhomes. If concerns about impacts were noted, it was generally related to potential traffic impacts. The final question on the comment card was pertaining to what type of land use should be considered on the site. When asked, most asked for more park land, including up to all of the southern site for parks and open space. All comments are itemized and can be found in Appendix B.

October 6, 2022, there was a joint meeting with the Planning Commission and City Council to present the two design concepts and preliminary recommendations. There were questions regarding the recommendations, generally relating to timing, lot sizes in the north for industrial development and the location of the existing pipeline easement. Because timing to annex the property is unclear, the several members also discuss other industrial land development options in the community and the potential routes for utility extension.

After the public open house, the City received an additional comment via email. The comment related to concerns about additional traffic and 10th Street after development of the site and also requesting installation of a sidewalk. The resident asked for some sort of traffic calming along 10th Street due to increasing speeds as traveler move from east to west. A round-about at the intersection of 10th Street and the new north/south road, suggested as an option in the traffic study, could address some of those concerns. Further exploration of that option should occur during project approval.

CHAPTER 7: CONCLUSION

Conclusion

The study performed was to provide two land use concepts for Waconia small area plan site. The concepts are similar, particularly in the north, which is designated for future industrial uses. Current market trends, and the adjoining land uses lead to an industrial land use designation. A revised road alignment which generally bisects the site, promotes better access to the properties than the existing condition and creates flexibility for future users.

The property to the south, moves away from the regional commercial designation of the current comprehensive plan to more of a mixed-use development scenario. Varying residential development densities and styles, along with some ancillary commercial development creates a neighborhood that can blend into the existing development framework. A new roadway system and utilities must be extended to allow development.

The following are some conclusions resulting for the two-concept analysis:

1. Extension of public utilities and internal road systems are necessary for development of the sites. It appears that existing system capacities can accommodate either development concept.
2. The new road alignment creates a fairly steep road in the north, but it can meet City 7% road grades. Road grades are set by the elevations of Airport Road, Main Street, and 10th Street E.
3. Installation of the northern section of the new access road will traverse a wetland. Mitigation consistent with WCA rules will be necessary.
4. Designation of new industrial development in the north is consistent with current market demand in the southwest quadrant of the Metropolitan area. Until actual users are identified, lots should be created that provide flexibility for differing size buildings and needed parking.
5. Current demand for housing in Waconia will lead to residential development in the south. There is the opportunity to provide life-cycle housing within the site and still create a buffer of low-density residential development to the immediately adjoining single-family neighborhood to the west.
6. Additional development in the area will continue to contribute rooftops and daytime workers which will assist in commercial retail and service attraction to the designated commercial sites.
7. Transportation recommendations include:
 - The new road will have restricted access unto 13th Street E. (right-in, right-out or $\frac{3}{4}$ intersection)
 - The new intersection of Village Way/Town Road may need a westbound left turn lane into the site, or a 3-legged roundabout may be appropriate
 - The intersection of the new interior road (Hartmann Drive) and 10th Street may be a candidate for a single-lane roundabout.

**APPENDIX A:
TRAFFIC FORECASTING
REVIEW**

Memorandum

To: Kim Lindquist, Director of Community Planning

From: Erik Seiberlich, Traffic Senior Project Manager
Mallori Fitzpatrick, P.E., PTOE

Date: September 9, 2022

Re: Waconia Small Area Plan Traffic Forecasting Review
WSB Project No. 020058-000

INTRODUCTION

The purpose of this memorandum is to forecast traffic and identify transportation needs for the Small Area Plan in the City of Waconia. The site is bound by 13th Street East (CSAH 10) on the south side, Main Street East (CSAH 59) on the east side, a residential development on the west side, and a cemetery on the north side.

Two options were identified for the Small Area Plan site, with slight variations of land uses including:

- Office
- Manufacturing/ Warehouse
- Single-Family Housing
- Multi-Family Housing
- Commercial

EXISTING CONDITIONS

13th Street E and Main Street E both have a functional classification as Minor Arterial, 10th Street E is classified as a Minor Collector, Sparrow Road is classified as a Major Collector, and Airport Road and Village Way are classified as local roadways. The existing Hartmann Drive roadway will be removed in the future.

Three existing signalized intersections bound the site on the east side along Main Street at Village Way, 10th Street E/ Airport Road, and 13th Street E.

PROPOSED SITE GENERATED TRAFFIC

A trip generation estimate was developed for two scenarios within the Waconia Small Area Plan. Trips were developed using the data using data presented in the Institute of Traffic Engineers' (ITE) *Trip Generation Manual, Eleventh Edition*, 2021. The resulting trips for Option 1 are shown in **Table 1** and Option 2 in **Table 2**. It is assumed that 40% of the commercial (retail) trips will be pass-by, meaning users already on the roadway adjacent to the site will make a trip to the site but will not be classified as a new trip to the roadway.

Trip distribution percentages were developed based on expected travel patterns of the site traffic. It is anticipated that 35% will access via the north on Main Street, 10% via the west on 10th Street E, 15% via the west on 13th Street E, 5% via the south on Sparrow Road, 30% via the east on 13th Street E, and 5% via the east on Airport Road. Trip distribution percentages and the proposed site

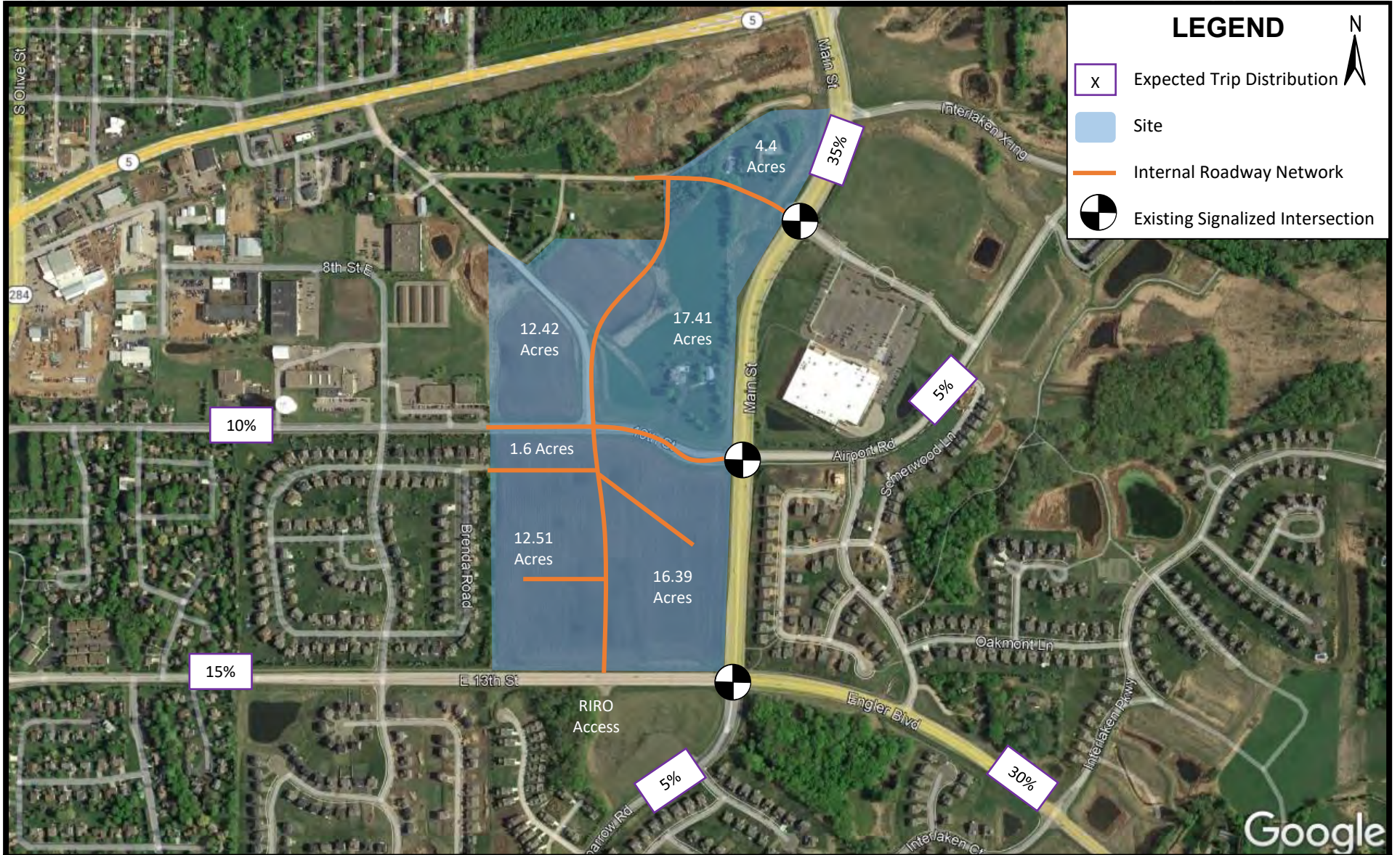
and roadway network is shown in **Figure 1**. **Figure 2** and **Figure 3** show the estimated daily trip generation for existing roadways adjacent to the site and new roadways within the site plan.

Table 1 – Option 1 Trip Generation

WACONIA SMALL AREA LAND USE AND TRIP GENERATION- OPTION 1											
Acres	Land Use	# of Units	Unit Type	ITE Code/Description	AM Trips			PM Trips			Weekday Trips
					In	Out	Total	In	Out	Total	
12.42	Office	38	KSF GFA	710 - General Office Building	51	7	58	10	46	56	411
	Warehouse/ Manufacturing	151	KSF GFA	140 - Manufacturing	79	25	104	35	78	113	720
1.6	Single-Family Homes	7	Dwelling Units	210 - Single-Family Detached Housing	2	4	6	5	3	8	66
12.51	Single-Family Homes	68	Dwelling Units	210 - Single-Family Detached Housing	13	35	48	41	24	65	641
17.41	Office	53	KSF GFA	710 - General Office Building	72	10	82	13	64	77	576
	Warehouse/ Manufacturing	212	KSF GFA	140 - Manufacturing	110	35	145	49	109	158	1,009
4.4	Commercial	59	KSF GFA	822 - Strip Retail Plaza	85	56	141	196	196	392	3,235
16.39	Commercial	72	KSF GFA	822 - Strip Retail Plaza	102	68	170	236	236	472	3,897
	Townhomes	42	Dwelling Units	215 - Single-Family Attached Housing	7	14	21	14	11	25	302
	Multifamily Housing	100	Dwelling Units	221 - Multifamily Housing (Mid-Rise)	9	29	38	24	16	40	454
Total Trips Generated					530	281	813	623	783	1,406	11,310
40% Retail Pass-by Reduction					(75)	(49)	(124)	(173)	(173)	(346)	(2,853)
Total New Trips					455	232	689	450	610	1,060	8,457

Table 2 – Option 2 Trip Generation

WACONIA SMALL AREA LAND USE AND TRIP GENERATION- OPTION 2											
Acres	Land Use	# of Units	Unit Type	ITE Code/Description	AM Trips			PM Trips			Weekday Trips
					In	Out	Total	In	Out	Total	
12.42	Office	38	KSF GFA	710 - General Office Building	51	7	58	10	46	56	413
	Warehouse/ Manufacturing	152	KSF GFA	140 - Manufacturing	79	25	104	35	78	113	724
1.6	Single-Family Homes	7	Dwelling Units	210 - Single-Family Detached Housing	2	4	6	5	3	8	66
12.51	Single-Family Homes	43	Dwelling Units	210 - Single-Family Detached Housing	8	22	30	26	15	41	406
17.41	Office	53	KSF GFA	710 - General Office Building	72	10	82	13	64	77	576
	Warehouse/ Manufacturing	212	KSF GFA	140 - Manufacturing	110	35	145	49	109	158	1,009
4.4	Commercial	59	KSF GFA	822 - Strip Retail Plaza	85	56	141	196	196	392	3,235
16.39	Commercial	72	KSF GFA	822 - Strip Retail Plaza	102	68	170	236	236	472	3,897
	Townhomes	77	Dwelling Units	215 - Single-Family Attached Housing	12	26	38	26	19	45	554
Total Trips Generated					521	252	774	596	766	1,362	10,879
40% Retail Pass-by Reduction					(75)	(49)	(124)	(173)	(173)	(346)	(2,853)
Total New Trips					446	202	650	423	593	1,016	8,026

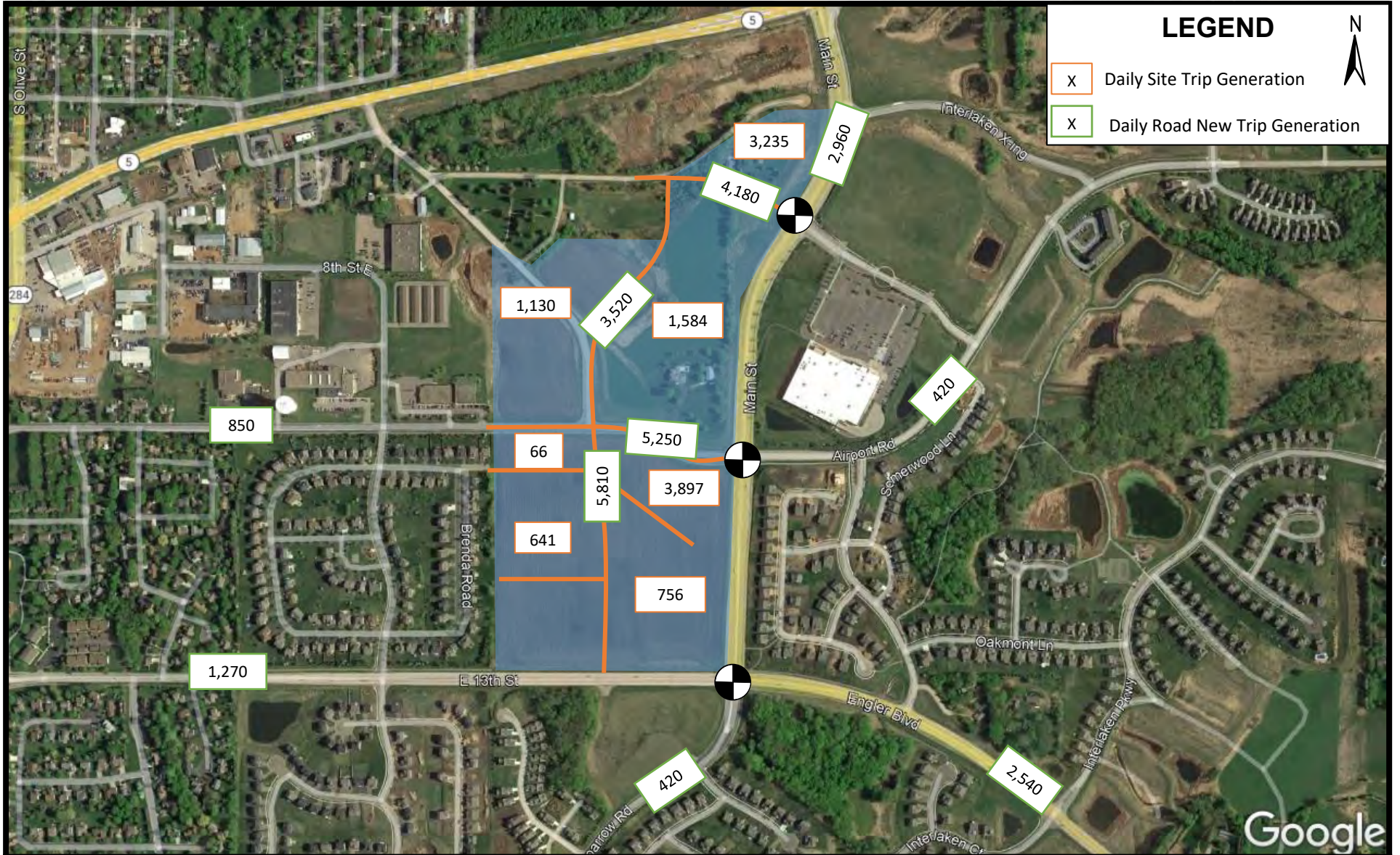


Waconia Small Area Plan

Waconia, MN

Figure 1

Trip Distribution Map



Waconia Small Area Plan

Waconia, MN

Figure 2

Daily Trip Generation Map- Option 1



Waconia Small Area Plan

Waconia, MN

Figure 3

Daily Trip Generation Map- Option 2

TRAFFIC FORECASTS

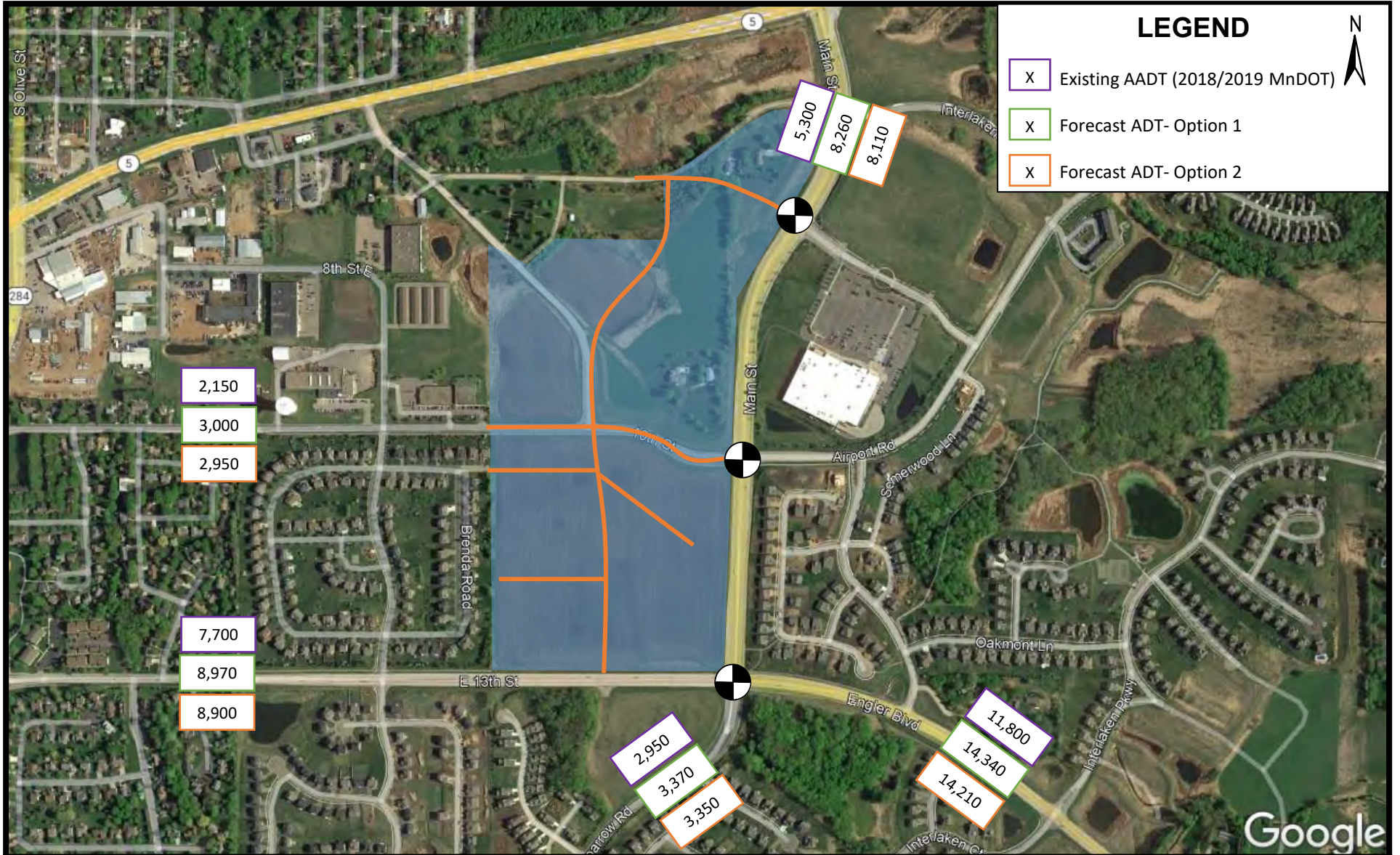
The existing daily traffic volumes were used as a basis to forecast future daily traffic adjacent to the site area. **Figure 4** shows the existing (year 2018/2019) Average Daily Traffic (ADT) from MnDOT, as well as the forecasted ADTs for each option that include development traffic distributed on the network.

FINDINGS

The existing roadway capacity and traffic control was evaluated based on the high-level traffic forecasting provided in this memo. The following highlights some of the key segments and intersections around the Small Area Plan site:

- Main Street is currently a four-lane divided roadway with traffic signal control at intersections. This corridor has enough capacity to operate acceptably with the expected increase in volume generated by the land-uses in the Small Area Plan.
- East 13th Avenue currently has a three-lane section with a full access, minor-approach stop-controlled intersection at Pinehill Boulevard. An enhanced method of traffic control (traffic signal or roundabout) may be necessary as the area develops. The Hartman Drive extension should have restricted access (right-in/right-out or possibly $\frac{3}{4}$) to/from 13th Avenue based on access spacing guidelines.
- Village Way/Town Road will be completed on the north side of the development. Based on the forecast daily volumes this road will likely need a westbound left turn lane at the intersection with the primary north/south roadway through the site. A three-legged roundabout may be appropriate.
- The intersection of Hartman Drive and 10th Street may be a good candidate for a single-lane roundabout, as it will be the center of the Small Area and will be the intersection of two similar roadways that are expected to have similar daily volumes.

As the Small Area develops, detailed traffic operations analysis should be completed to identify the necessary geometry and traffic control for segments and intersections.



Waconia Small Area Plan

Waconia, MN

Figure 4

ADT Map

**APPENDIX B:
COMMUNITY
ENGAGEMENT SUMMARY**

Community Engagement Summary

-Waconia Small Area Plan-

On August 24, 2022, a community open house was held to provide an opportunity for surrounding neighbors to review and ask questions about the two differing development concepts. Approximately 100 people were in attendance and there was the opportunity to provide written comments. A summary of the responses to the questions asked of open house attendees is provided below. Overall, residents expressed interest in mixed-use and transitional development but noted concern about higher-density housing and the effects it may have on their neighborhood.

What do you like about the concepts? (16 responses)

When asked what they liked about the concepts, resident responses can be grouped into four different categories. Seven respondents mentioned, in some capacity, that they like the gradual transition from residential uses to commercial space in both concepts – in this, comments expressed a general interest in mixed-use development. Six residents specifically mentioned a preference for Concept #2 and the lower-density housing it contains. Two residents were happy to see more residential housing planned for the project area in general, and one resident enjoyed the increased road connectivity proposed in both concepts.

What don't you like about the concepts? (16 responses)

As for what they didn't like about the concepts, a large proportion, eleven people, mentioned some level of concern with concept #1 and its higher-density residential development. Out of this group, six specifically mentioned fear of increased traffic congestion and/or noise, and three noted that the increased density would be intrusive to the existing neighborhoods in the area. As for other things that residents didn't like, two respondents stated a distaste for the industrial uses proposed on the northern site and another resident preferred all commercial uses to move south of 10th street. Finally, one resident stated that they didn't like concept #2 because they believed that it didn't transition as well as concept #1.

Are there any other land use scenarios not considered here that you think should be? (13 responses)

Given the opportunity to note changes or additions that they desire for the area, there were three general suggestions. Six residents mentioned their desire for a city park or some type of green space in the project area. Four respondents wanted changes made to the residential mix proposed on the southern site. Specifically, two residents wanted entirely low-density housing in this area, one wanted no commercial, and another mentioned they wanted a clearer split between commercial and residential uses. In addition, two other respondents noted an interest in the City pursuing either affordable or senior housing options on the southern site.

Waconia 10th Street Small Area Plan Community Engagement Responses

<u>Question</u>	<u>Answer</u>
What do you like about the concepts?	"I like the transition from residential to light commercial"
	"I like more concept 2 with low residential density, will blend better with the existent pine hill development."
	"Road connectivity"
	"The blend of residential to commercial"
	"Prefer low density"
	"I like the there is transition of residential before retail"
	"Overall good. Happy that the plan includes residential space."
	"Residential area - Houses are fine"
	"Overall good use of space."
	"Please consider fewer homes"
	"Gradual, mixed use"
	"The low-density zoning in concept 2"
	"Concept #2 is the better of the two"
	"Having buffer between the development and residential neighborhoods to the west"
	"I like the gradual transition from low residential to medium residential to commercial"
	"Residential near Pinehill Neighborhood - lower density preferred for traffic reasons"
What don't you like about the concepts?	"Good overall concept"
	"Scenario #1 - medium density and apartments will bring more traffic and require more utilities."
	"Higher/medium density residential. Large, standalone industrial."
	"Don't like Concept 2. Concept 1 seems like a better transition."
	"Apartments"
	"That we would lose trees and wide-open spaces"
	"Townhomes/apartments, congestion"
	"5 acres of commercial north of 10th street. Move it south of 10th street."

	"Adding more traffic to an already crowded traffic road"
	"Would prefer low density to minimize noise, traffic, and congestion"
	"Please do not put an industrial area next to the cemetery."
	"Medium density in concept 1"
	"The height that the apartment buildings are would be very intrusive to neighboring homes. This makes it dense, creating traffic congestion."
	"Don't like the high and medium density options."
	"I prefer concept 2, not as much a fan of concept 1"
	"Some concerns about increased traffic cutting through existing neighborhood"
Are there other land use scenarios not considered here that you think should be?	"55 + community and affordable - we need that in this area"
	"Full residential and commercial split."
	"What about residential on all of the property south of 10th street."
	"Home Depot or Menards"
	"Large Park, pool, splash pad"
	"A city park. Do whatever possible to keep housing affordable."
	"Dog Park!"
	"No, but concerned about height of buildings. We live in Stonegate."
	"One big park! :)"
	"Green space, parks"
	"Where is the park that is required new neighborhood?"
	"Something that isn't so dense would be better for existing neighborhoods and traffic."
	"Pretty good :)"