
**Staff Analysis of Proposed Amendment to the
Dane County Land Use and Transportation Plan and Water Quality Plan,
Revising the Central Urban Service Area Boundary
for the Middleton Municipal Airport in the City of Middleton**

1. Applicant. City of Middleton

2. Description of Proposal

The proposed amendment would add 5.4 acres, including 4.1 acres of existing development, with a net developable area of 1.3 acres. The proposed amendment is located north of Airport Road and west of USH 12 in the City of Middleton (see Maps 1 and 2).

This amendment is to accommodate the expansion of an existing business, Air Graphics, at the Middleton Municipal Airport – Morey Field. Air Graphics is a business which applies decals to airplanes and has been located in leased space at the airport for eight years, employing eight people. Due to the expansion needs of Air Graphics, the City is proposing this amendment to add a site at the airport to accommodate a new facility for a headquarters building and hangar (see Map 3).

3. Existing Environment

Land Use. The proposed amendment is land owned by the Middleton Municipal Airport. The western portion (4.1 acres) is within the airport. The remaining 1.3 acres are undeveloped land, part of a larger area held by the airport to protect the runway approach and enhance stormwater management for the airport. Existing land uses adjacent to the amendment area are the following:

- North: Airport (runway) (City of Middleton)
- East: Open space (City of Middleton)
- South: Commercial (City of Middleton)
- West: Airport (City of Middleton)

Natural Resources. The area proposed for addition is located on the eastern edge of the Johnstown terminal moraine and in the middle of a glacial lakebed. The surficial geology of the area is composed of layers of sand, silt, and clay. Depth to sandstone bedrock is over 50 feet. Depth to groundwater is 10 to 25 feet.

Drainage from the amendment area is to the east through a grass swale along the north side of Airport Road. This swale flows about 1,500 feet east to join a tributary of Pheasant Branch Creek (also known as the Airport Branch) which drains the east and northeast portions of the airport property and flows south on the west side of Nursery Road into a regional pond constructed by the City as part of the restoration of the North Fork and flood plain reduction. The amendment area is in the North Fork Pheasant Branch Creek Watershed. The North Fork of Pheasant Branch Creek is located approximately 2,500 feet west of the amendment area. Pheasant Branch Creek supports a limited forage fishery at this location, and flows approximately four miles south and east to Lake Mendota. The Creek supports a Warm Water Sport Fishery in its 3/4-mile reach upstream from Lake Mendota. The upper reaches of the watershed have been urbanizing and a regional pond north of USH 14 and west of USH 12 provides stormwater quality and quantity management. The floodplain for Pheasant Branch has also been changed in recent years.

Town of Middleton

Central USA

Amendment Area

Runway 10/28

Morey Airport

Airport Road

Airport Road

Kiva Center

Forsythia Street

City of Middleton

Azalea Street


Deming Way

Coral Berry Court

Livesey Boulevard


Nursery Drive

Map 1
Amendment to the
Central Urban Service
Area in the City of
Middleton

 Service Area to be added (5.4 acres)

 Existing Environmental Corridor

 Incorporated Area

 Existing Urban Service Area Boundary

 Proposed Urban Service Area Boundary



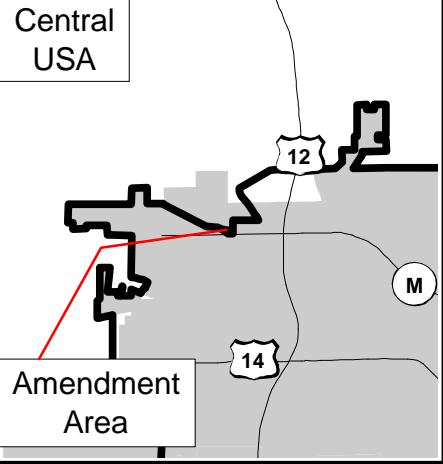
6 Mar 2008

0 500

Feet

Prepared by staff
of the CARPC.

Town of Middleton



Morey Airport

Airport Road

Airport Road

Coral Berry Court

Livezey Boulevard

Kiva Center

Forsythia Street

City of Middleton


Nursery Drive

Azalea Street

Deming Way

Map 2 Aerial (2006)

**Amendment to the
Central Urban Service
Area in the City of
Middleton**

 Service Area to be added (5.4 acres)

 Municipal Boundary

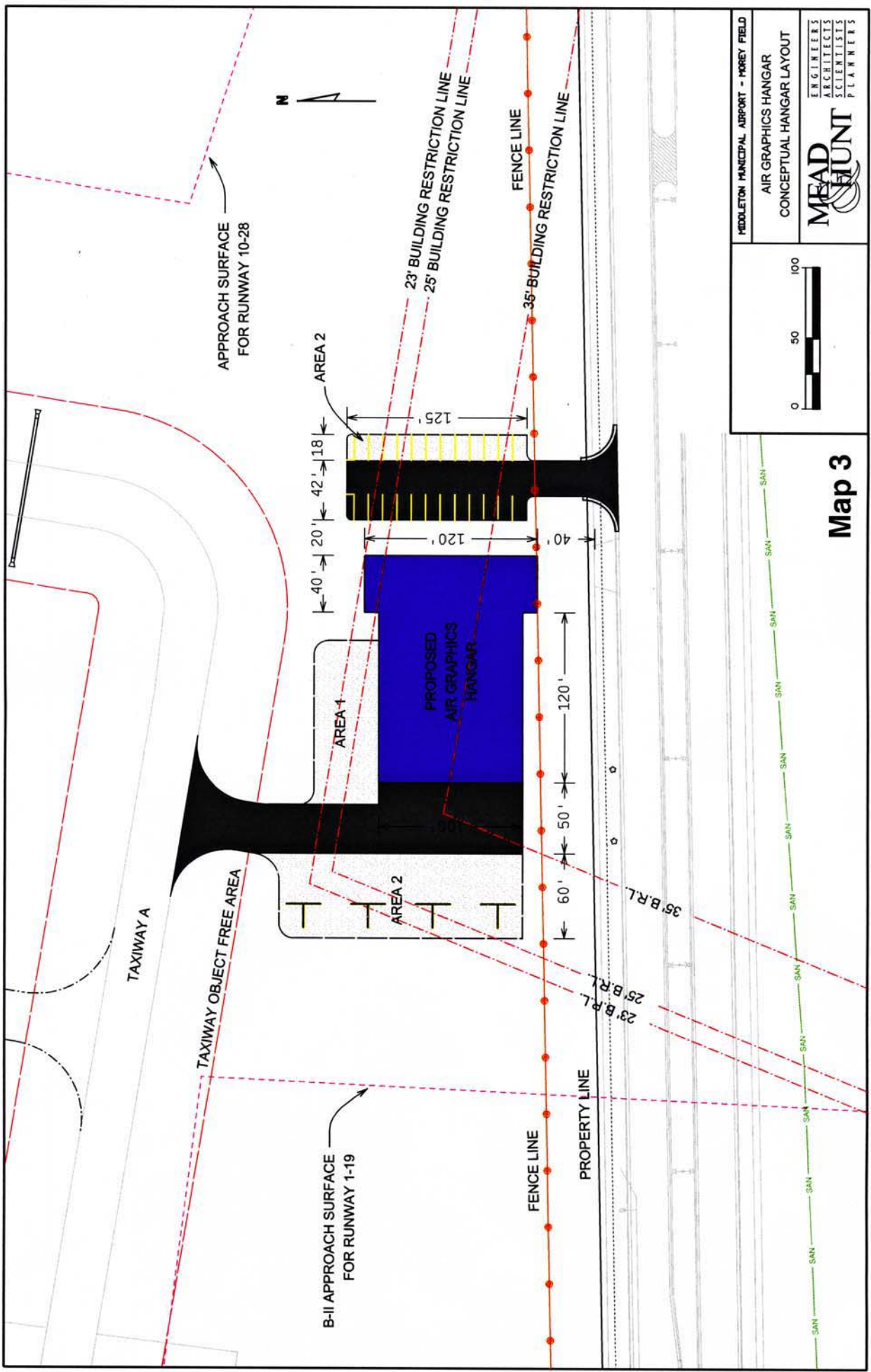
 Existing Urban Service Area Boundary



6 Mar 2008



Prepared by staff
of the CARPC.



Map 3

The City of Middleton has worked with the Department of Natural Resources to reduce the floodplain by providing compensating storage and creating meanders in the heavily channelized stream. The amendment area is in the Yahara-Mendota Priority Watershed. Extensive effort and public monies have been expended to improve water quality in the watershed. Pheasant Branch Creek has also been the subject of extensive planning and work to stabilize its bed and banks and reduce velocities to prevent streambed erosion.

The proposed amendment area is outside of the regulatory 100 year floodplain according to the updated preliminary maps prepared by Wisconsin DNR for FEMA in December 2006. There are no mapped wetlands in the amendment area.

The soils of the amendment area are Wacousta Silty Clay Loam, in the Batavia-Houghton-Dresden Association. These soils are formed in outwash material and they are well-drained and poorly drained deep silt loams and mucks that are underlain by silt, sand, and gravel. The amendment area is predominated by poorly drained soils in this soil classification and contains prime agricultural soils (if drained). Soil details are summarized in Table 1.

Table 1 – Soil Characteristics

Soil	Percent of Area	Prime Agricultural Soils?	Characteristics
Wacousta Silty Clay Loam; Wa	100	Yes, if drained.	Deep, poorly drained soils on low benches in old lake basins. Soils have low fertility and moderately slow permeability. Subject to seasonally high water table. Poses severe to very severe limitations for development due to seasonally high water table and poor stability. Prime agricultural soils where drained, 110 Bu/acre corn yield.

Archaeological records at the State Historical Society do not show any entries for prehistoric cultural sites in the amendment area. The State Historical Society has commented that, due to extensive prior disturbance of this area, an archaeological investigation is not warranted (letter attached).

The Natural Heritage Inventory, maintained by the Department of Natural Resources, does not indicate the occurrence of threatened or endangered species in the amendment area.

Transportation System. The major roadway serving the proposed amendment area is Airport Road, a four-lane divided east-west minor arterial. Airport Road intersects Pleasant View Road, currently a two-lane collector, to the west of the amendment area, and the U.S. Highway (USH) 12 Bypass, a four-lane freeway, to the east.

The amendment area is currently served by one Metro Transit fixed-route, Route 74, which provides peak-period service to and from the Capitol Square and Middleton Transfer Point near the intersection of Deming Way and Discovery Drive. The Madison Area Transportation Planning Board’s Rideshare Etc. Program provides ride-matching services for individuals interested in carpooling or vanpooling. The airport operator provides a limited car rental service on the airport premises.

Town of Middleton

Central USA

Amendment Area

Morey Airport

Kiva Center

City of Middleton

Airport Road

Airport Road

Forsythia Street

Azalea Street

Deming Way

Coral Berry Court

Livezey Boulevard

Nursery Drive


12

14


M

Map 4 Soil Limitations

Amendment to the Central Urban Service Area in the City of Middleton

 Severe Limitations to Development (5.4 acres)

 Prime Farmland (5.3 acres)

 Service Area to be added (5.4 acres)

 Municipal Boundary

 Existing Urban Service Area Boundary



6 Mar 2008

0 500

Feet

Prepared by staff of the CARPC.

The amendment area has good access for bicyclists. Airport Road and Pleasant View Road south of Airport Road have designated bicycle lanes to accommodate shared use of the streets with motor vehicles. The Pheasant Branch Creek (North Fork) path intersects Airport Road just west of the amendment area. This path connects to the Main Pheasant Branch Creek path, which provides grade-separated crossings of both the USH 12 Bypass and Parmenter Street. Airport Road and other connecting streets such as Deming Way have sidewalks on both sides.

4. Consistency or Conflict with Adopted Plans and Policies

The proposal is consistent with the City of Middleton Comprehensive Plan. The City has made a substantial investment in upgrading and improving the airport, and has been planning for the future growth of the airport as an important component of the region's transportation infrastructure. The City's adopted Intergovernmental Agreement with the Town of Springfield also acknowledges the City's intent to make improvements to the airport property. The plan for the relocation of Air Graphics has been submitted to the Wisconsin Bureau of Aeronautics, which has indicated to the City that it considers it to be a technical amendment to the existing Airport Layout Plan on file with the Wisconsin Bureau of Aeronautics and the Federal Aviation Administration.

Analysis of 2030 land demand, based on 2006 population data, indicates that the Central Urban Service Area needs 1,865 additional developable acres to meet the forecast 2030 land demand. This amendment adds 1.3 developable acres. Furthermore, this amendment is for airport-related business expansion which is too specialized for inclusion in land demand calculations, and should therefore be treated as a unique expansion need for the City of Middleton.

The need for this amendment is based on interests of economic development. The airport is recognized in the City's Comprehensive Plan as an important asset to the economy of the City of Middleton and the region. Air Graphics is an internationally known aviation-related business with an eight year history at the Middleton Airport which is experiencing significant growth in both national and international venues. The proposed expansion of Air Graphics is anticipated to lead to an increase to at least 20 employees in the near future. The urban service area expansion is necessary to make available a building site which has access to the airport runway and direct access to Airport Road, while maintaining minimum building setbacks from runway airspace as defined by Federal regulations. If the Middleton Airport cannot accommodate the expansion need of Air Graphics, the company would have to relocate to another airport, probably outside of Dane County, to meet these needs.

The proposed amendment area is contiguous to existing infrastructure for service access. It is surrounded on three sides by the current CUSA boundary, and by the airport runway to the north, making the addition a logical infill of the service area and expansion of airport development.

The amendment supports the CARPC goal of promoting an economic development strategy that will provide suitable employment opportunities and a stable and diversified economic base. The amendment will allow the City of Middleton to retain and facilitate the expansion of an established Middleton business which will continue to provide national and international exposure for the Middleton Airport, the City of Middleton and the Dane County region.

Although the soil type in the amendment area is a prime agricultural soil when drained, the amendment does *not* conflict with the CARPC goal of protecting agricultural lands. This

is because the amendment area is in the existing airport and reflects current non-agricultural uses.

5. Proposed Urban Services

The existing structures of the Middleton Airport are fully served by a full range of urban services. This amendment proposes to extend services to the new headquarters building and hangar.

Public Water System. Water service to the amendment area will connect with the line currently in place serving the east service area of the airport. The east area service line enters airport property along the east side of the main entrance and crosses to the west, ending in a fire hydrant near the terminal building. It is serviced from the 12-inch main line running along Airport Road. Hydrants and valves were located and designed to meet the requirements of the City of Middleton to help in maintenance of these facilities and provide adequate fire protection.

The City of Middleton water distribution system has a total pumping capacity of 5,600 gallons per minute and 2.35 million gallons of storage. The system has adequate capacity to provide a fire flow of 2000 gallons per minute for 2.5 hours for firefighting purposes.

Wastewater. The City proposes to provide public sanitary sewer service to the amendment area by connecting directly to the existing 18-inch Airport Road Interceptor, located on the south side of Airport Road. It is anticipated that the total projected effluent flow for the business will be 325 gallons per day, based on the existing and anticipated number of employees. Aircraft are not washed as part of the Air Graphics business operation

The City of Middleton is served by the Madison Metropolitan Sewerage District (MMSD). The proposed amendment will not change the population forecast and projected flow to the MMSD Nine Springs Treatment Plant. Projected 2020 wastewater flow to the plant is 53.14 million gallons per day (mgd), above the plant design capacity of 50 mgd. The MMSD collection system is forecast to reach capacity at various reaches downstream from the amendment area, between 2015 and 2020. MMSD is currently in the midst of a comprehensive facility planning process to investigate various options for adding treatment capacity for the District and relieving the interceptor system.

Stormwater Management System. The Airport Development project and associated storm water management plan included the goal of improving water quality and providing infiltration. Both the realigned Pheasant Branch and Airport Branch consist of a meandered low flow channel to replace trapezoidal drainage ditches. With the re-graded stream corridor, the floodplain has been reconnected to the creek for more frequent events, improving water quality.

The proposed amendment area is outside the regulatory 100-year floodplain according to the updated preliminary maps prepared by Wisconsin DNR for FEMA in December 2006. Development on the site will be required to comply with the City's Stormwater Management and Erosion Control Ordinance which is consistent with the Dane County minimum stormwater management standards and includes maintaining pre-development runoff rates up to the 100-year storm.

The primary sources of storm water contaminants at the proposed development are aircraft fueling, oil leaking from automobiles, and soil erosion. Soil erosion associated with construction activities is adequately addressed through the enforcement of the City's

construction erosion ordinance. Aircraft maintenance and washing will be done indoors with flow drains connected to the sanitary sewer. The City proposes to treat stormwater runoff from automobile parking areas with filters.

Additional stormwater management and treatment is provided at the regional pond downstream of the airport area.

Environmental Corridors. Environmental corridors have not been proposed for this amendment. There are no sensitive natural resources in the amendment area requiring designation as environmental corridors.

Public Safety Services. The City of Middleton is part of a Fire District that encompasses all of the City plus the Town of Middleton, and portions of the Towns of Springfield and Westport. Fire protection and emergency medical services will be provided from a new station on University Avenue at Parmenter Street. The City has an average response time of five minutes for this area. The water system has sufficient capacity for fire-fighting purposes. The water distribution system includes fire hydrants. The City of Middleton has an ISO Public Protection Classification (fire risk) rating of 4.

Police service is provided by the City of Middleton Police Department, which is located on Hubbard Avenue and will be relocating to Donna Drive, at Parmenter Street, in 2009. It has 34 FTE officers, or 2.0 officers per 1,000 persons, meeting CARPC guidelines. The city also has 10 full-time and 6 part-time civilian staff members.

Other City Services. The City of Middleton provides solid waste collection and recycling as well as street repair, cleaning and snow and ice removal.

Parks and Open Space. No park areas are proposed in the amendment area. However, part of the plan for Morey Airport preserves open space north of the airport.

Urban Transportation System. No additional transportation facilities are proposed or needed to serve the amendment area. The City of Middleton will be constructing enhancements to the Main Pheasant Branch Creek path from Parmenter Street to Century Avenue in 2008, including paving and the addition of three bridges at stream crossings.

6. Impacts or Effects of Proposal

Water Resource Impacts. The potential impacts of urban development in general include an increase in stormwater runoff volumes and rates, reduced groundwater recharge, and the introduction of contaminants from urban land uses to receiving waters. This results from increased impervious ground cover from roadways, parking areas, and roofs; sedimentation and erosion associated with construction activities as well as with the long-term land use change to urban uses; and contaminants from landscaping, house keeping and street and parking surfaces.

The proposed amendment will result in expansion of impervious surface area, and the City ordinance will require measures to maintain 60% of pre-development infiltration levels. More stringent infiltration practices may not be practicable at this location due to shallow groundwater and fine-textured soils. However, staff proposes a condition of approval to maximize infiltration if and where practicable. Otherwise, the proposal is expected to have negligible impact on the groundwater (because if infiltration practices are not practicable, this would imply that the soils have low infiltrative capacity in natural state). It should be noted that adjacent areas immediately to the west and north of the amendment area include areas with seasonal flooding and shallow groundwater. Dramatically increased

infiltration could result in local mounding of the water table and increased incidences of seasonal flooding.

The City ordinance requires control of stormwater rate of runoff to pre-development rates up to the 100-year storm event. This aspect of the City ordinance is more stringent than the County standards and will adequately address stormwater quantity concerns from the proposed development. The City ordinance would also provide adequate protection against short-term construction erosion impacts if the construction erosion control measures are aggressively reviewed by the City Engineer and enforced.

Stormwater quality concerns from the proposed amendment are limited to runoff from parking areas since aircraft pollutants are collected in the hangar and treated as wastewater. Runoff from parking areas will be treated with inlet filters. If properly maintained, this approach will provide adequate water quality protection for receiving streams. Furthermore, a regional pond downstream of the airport area will provide additional stormwater management and treatment for the amendment area.

The proposed amendment is expected to have negligible impacts on the water supply and the wastewater conveyance and treatment systems.

Transportation System Impacts. The proposed amendment area consists of a net addition of 1.3 developable acres for the expansion of an existing business at the Middleton Municipal Airport – Morey Field. It is anticipated that the expansion would allow the business to add around twelve employees, resulting in the generation of around 50 one-way vehicle trips on an average weekday.

In 2002, the average daily traffic (ADT) volume on Airport Road west of USH 12 was 5,100. More recent traffic counts are not available.

There is sufficient capacity on Airport Road to handle the small amount of expected additional traffic from the proposed amendment.

School System Impacts. The proposed amendment is located within the Middleton-Cross Plains Area School District but has no residential component and will not affect enrollment. The school district has been notified of the proposed amendment.

7. Alternatives

The City has evaluated alternative expansion sites for Air Graphic on the airport property. Due to airport safety zone and height requirements, there are no other expansion sites currently available for this operation. If Air Graphics' expansion needs are not accommodated at Morey Airport, the business is likely to seek alternative airports for its operation, resulting in the loss of an employer in Middleton, and likely the region.

8. Controversies, Comments Received, Unresolved Issues

A public hearing has been scheduled before the Capital Area Regional Planning Commission on March 27, 2008. The Town of Springfield has been notified. Staff is not aware of any controversies associated with this proposal, and no comments have been received as of this writing.

9. Conclusions and Staff Recommendation

The request is based on the business expansion needs of Air Graphics, an existing airport commercial outfit. The proposed expansion site is on the airport property but is partially outside the urban service area. If the expansion needs of Air Graphics are not met at the Morey Airport, the business is likely to seek other airport locations outside of Dane County, and result in the loss of one tenant at the airport.

The proposal is consistent with local plans and intergovernmental agreements between the City of Middleton and the Town of Springfield. The proposal represents an infill adjustment of the Central Urban Service Area boundary in this area, since the parcel is part of the airport which is a current use, and the boundary is part of the original service area boundary in this area, dating back to 1982 before the airport redevelopment. The proposal also supports the redevelopment of Morey Airport.

The proposed amendment supports employment and economic growth. It is also contiguous to the urban service area and the infrastructures needed to support this business. The proposal does not appear to be in conflict with any of the policies and criteria of the CARPC.

Based on the supportive findings noted, staff recommends adoption of the proposed amendment based on the land uses and services outlined in the submittal, and conditioned on the City of Middleton pursuing the following:

Submit a detailed stormwater management plan for the development for CARPC and DCL&WCD staff review and approval prior to any land disturbing activities. The plan should include an approval from the City of Middleton Engineering Department based on City stormwater ordinance, and provide infiltration and mitigate the stormwater quality and quantity impacts of the development to the maximum extent practicable. Stormwater management facilities should be publicly managed (requires a perpetual, legally enforceable maintenance agreement with the City if stormwater facilities are privately owned).