



## DEPARTMENT OF COMMUNITY DEVELOPMENT SERVICES

*Planning Division*

### **m e m o r a n d u m**

**TO:** Bruce Walden, Chief Administrative Officer

**FROM:** Elizabeth H. Tyler, AICP, City Planner, Director

**DATE:** April 27, 2006

**SUBJECT:** CCZBA-523-AT-2005: Request by the Champaign County Zoning Administrator to amend the Champaign County Zoning Ordinance to add “Ethanol Manufacturing” and authorize by Special Use Permit only in the I-2, Heavy Industry Zoning District

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### **Introduction & Background**

In response to a recent inquiry from a large grain storage firm west of the City of Champaign, the Champaign County Zoning Administrator has requested a text amendment to the County Zoning Ordinance to add the use of “ethanol manufacturing” and to permit it by special use in the I-2, Heavy Industry Zoning District subject to certain conditions. Such a use is not currently addressed in the Champaign County Zoning Ordinance. Further information on the request is contained in the Champaign County Preliminary Memorandum, dated March 10, 2006 and in follow-up memorandum to the Environment and Land Use Committee, dated April 5, 2006. (Copies attached).

It should be noted in the initial draft of the text amendment reviewed by the Champaign County Zoning Board of Appeals, “Ethanol Manufacturing” would have been permitted by right. The Zoning Board of Appeals moved that the use be allowed only by special use and only in the I-2, Heavy Industry Zoning District. The Zoning Board of Appeals further added provisions that a study of impacts on adjacent water wells be required when the facility is proposed to utilize a private water well and that adequate drainage outlet be available for discharge of surface waters if the plant is not proposed to be connected to a public sanitary sewer system.

Ethanol is becoming a more popular alternative/additive to fossil fuels, and has been supported by recent state and federal energy legislation. Additional pressure to construct ethanol manufacturing facilities in Champaign County is occurring due to the recent legislation and the fact that two of the major components of ethanol production -- corn and water -- are readily accessible in Champaign County. However, such facilities pose concerns regarding odor and traffic impacts, excessive water consumption, and questions about the energy efficiency of the

product. Environmental impacts, such as waste generation, odor and noise, resulting from ethanol manufacturing are regulated by the Illinois Environmental Protection Agency.

This case was reviewed by the Champaign County Zoning Board of Appeals on Thursday, March 30, 2006, and is now open for public input for one month prior to the Environment and Land Use Committee meeting. Final approval is subject to a vote by the Champaign County Board.

The proposed text amendment is of interest to the City of Urbana as it may affect zoning and land use development decisions within the City's one-and-one-half mile extra-territorial jurisdictional (ETJ) area. The City has subdivision and land development jurisdiction within the ETJ area, while the County holds zoning jurisdiction in this area. It is important that there be consistency between these two jurisdictions to the extent that certain regulations may overlap. Additionally, development within this area may abut development within the corporate limits of the City or may eventually be annexed into the City's corporate limits. By State law, the City has an obligation to review zoning decisions within its ETJ area for consistency with the City's comprehensive plan. A municipal protest of the proposed amendment enforces a three-fourths super majority of affirmative votes for approval of the request at the County Board.

## **Issues and Discussion**

According to *Building an Ethanol Plant in Illinois*, a document published by the Illinois Environmental Protection Agency and the Illinois Department of Commerce and Economic Opportunity, there are a number of factors involved when constructing an ethanol production facility. The most important factors in this case include access to large amounts of water, adequate wastewater disposal options, rail and interstate access, proximity to production inputs, adequate space for rail and truck traffic and storage and loading facilities, and locations further away from residential areas. In addition to these requirements, the City and/or County will have to consider issues such as odor impacts, fire protection (ethanol requires foam to fight fires), road maintenance and/or construction (township roads may be stressed by added freight traffic), and environmental concerns (e.g. adequate protection of groundwater, treatment and release of wastewater). All of these factors could significantly impact public and private infrastructure and surrounding areas.

Testimony regarding the impact of ethanol plants was given by the general manager of the large grain storage firm at the March 16, 2006 Champaign County ZBA. He stated that typically six gallons of water are used to produce one gallon of ethanol, and two-thirds of the water turns into steam and the remaining one-third must be treated or recycled. For a 100 million gallon plant, approximately 600 million gallons of water would be used yearly, or two million gallons per day. By comparison, Illinois-American Water Company draws approximately 22 million gallons per day for all of the areas that the company serves. Based on these figures, a single ethanol plant could consume nearly 10 percent of the current daily water usage of Urbana-Champaign.

Urbana staff has discussed the proposed amendment with City of Champaign planning staff, who have completed a preliminary analysis of a potential ethanol facility location west of Champaign. Although many of the production inputs and final product can be transferred by rail, a significant amount of truck traffic could also be associated with an ethanol facility. Champaign staff estimates that approximately 130 truck trips per day would occur in the area surrounding the ethanol facility and en route to a highway interchange. A 10 to 12 inch natural gas line would also have to be extended to the property. Other concerns expressed by Champaign staff include the need to require the use of a “dry mill” process to minimize odor impacts and safety impacts at rail crossings due to increased freight traffic.

At their April 20, 2006 meeting, the Urbana Plan Commission voted 5-0 to recommend that the City Council pass a resolution of protest contingent upon nine conditions related to traffic impact, water usage, setbacks, and other water and air quality concerns. Representatives from the Andersons, the firm proposing to build the ethanol facility west of Champaign, gave testimony regarding the potential impacts of the facility, as well as federal and state regulatory oversight. Based on testimony and discussion at the Plan Commission meeting, additional research and communications from the petitioner, staff has revised the conditions as recommended by the Plan Commission. The original conditions recommended by the Plan Commission are included in this memo, as well as the staff revised conditions.

#### *Importance of the Mahomet Aquifer*

The following information has been taken from the website for the Mahomet Aquifer Consortium ([www.mahometaquiferconsortium.org](http://www.mahometaquiferconsortium.org)). Additional articles related to the aquifer can be found at the Illinois State Water Survey Center for Groundwater Science ([www.sws.uiuc.edu/gws](http://www.sws.uiuc.edu/gws)).

The Mahomet Aquifer under girds east-central Illinois, from just north of Danville at the Illinois-Indiana border westward to the southeastern corner of Tazewell County near Peoria. Across this nine-county span, it ranges in width from 8 to 18 miles and is buried 100 to 200 feet below the surface. Some four trillion gallons of water are in the aquifer. That's enough water to fill a lake the size of the City of Chicago to an average depth of 83 feet. Below are key facts regarding the aquifer, as outlined by a 2000 article available on the Mahomet Aquifer Consortium website:

- The water purity of the Mahomet Aquifer surpasses nearly every water source (surface water or aquifer) in Illinois and beyond.
- The only known location where water enters the aquifer at a relatively rapid rate is in Champaign County, where glaciers deposited thin layers of sand and gravel within the overlying clay.
- Water movement within the aquifer is slow. Rain and snow that falls on the surface in Champaign County begins a roughly 3,000-year journey downwards to the Mahomet Aquifer, traveling at an average rate of less than an inch a year. Once it reaches the aquifer, it travels laterally in every compass direction but south. After about 7,000

years, water that journeyed westward seeps into the Illinois River along the river bottom near Havana, Illinois.

- Water consumption from the aquifer as of 2000 averaged 84 million gallons a day. Of that amount, approximately 38 million gallons was consumed by the region's 800,000 residents, 24 million by industry, 15 million by commercial enterprises, and the remaining 7 million gallons by miscellaneous uses, such as irrigation. (These estimates were extrapolated from water consumption data for Champaign-Urbana, the only data readily available).
- The rate at which water is recharging the aquifer has been thought to be hundreds of millions of gallons per day, but that estimate may be overly optimistic. Recent studies of the aquifer by scientists from the ISGS and the Illinois State Water Survey indicate that well-water levels around Champaign and Urbana are dropping. If the original estimates are incorrect, the surplus could vanish with the addition of a few high-demand users.
- The cities of Bloomington, Normal, and Danville, with a combined population of 135,000, have expressed interest in tapping the Mahomet Aquifer. Further, the City of Decatur installed a 25-million-gallon-per-day well field within the Mahomet Aquifer as a backup supply, which the City uses periodically.

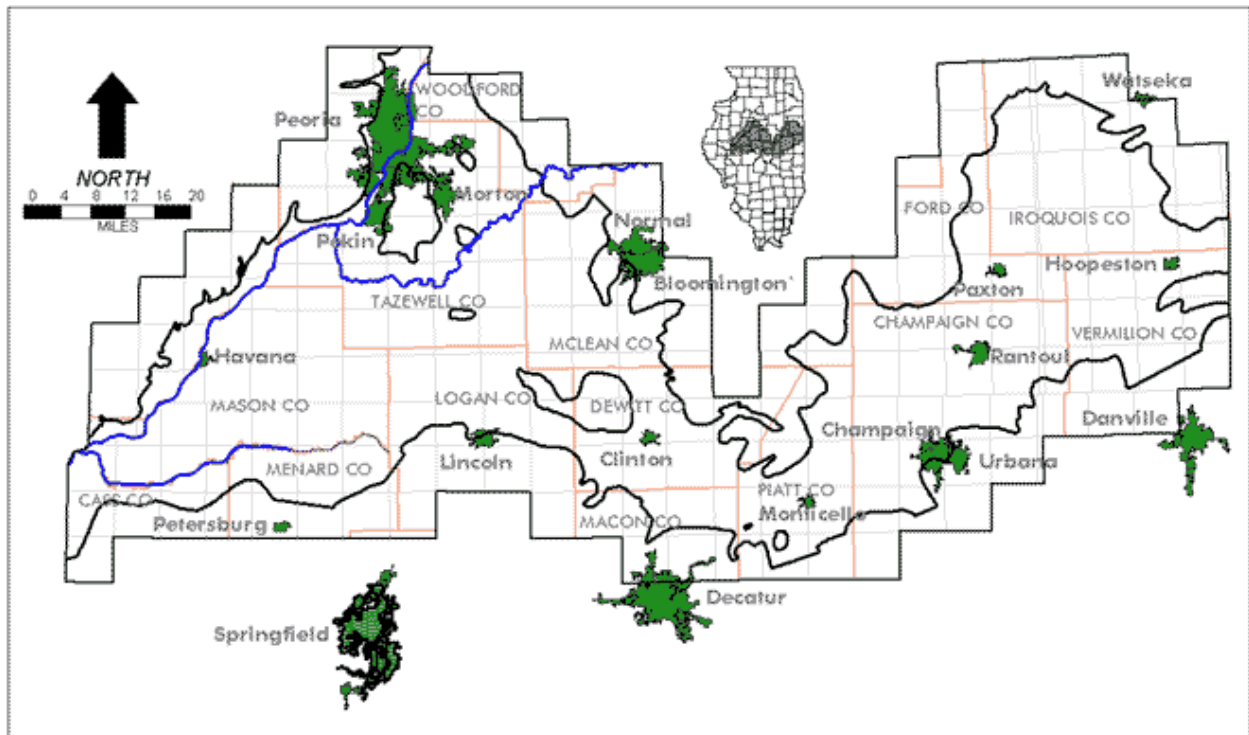


Figure 1: Map of the Mahomet Aquifer

Source: Illinois State Water Survey

Although understanding of the Mahomet Aquifer has increased significantly in the past two decades, the overall impact of development on the aquifer is still unknown. A study of such impacts is currently underway, though the findings will not be available for at least five years.

This uncertainty can be cause for concern when evaluating developments that will utilize larger amounts of water, such as ethanol plants. If one ethanol facility is placed in each of the counties served by the Mahomet Aquifer, up to an additional 18 million gallons could be drawn from the aquifer each day. This would be the equivalent of an urban area roughly the size of Champaign-Urbana. With regard to the entire aquifer, individual projects are likely to have little impact. However, many individual projects, coupled with expansion of the urban areas utilizing the aquifer, increased irrigation for agriculture, and new areas connecting to the aquifer have the potential to greatly stress this valuable resource.

### *Champaign County Issues*

Champaign County Planning and Zoning has received preliminary inquiries about approving an ethanol production facility at the Andersons' facility west of the City of Champaign. There are also tentative plans for another facility in the county, as well as up to four facilities in East Central Illinois. Currently, the Champaign County Zoning Ordinance does not permit ethanol manufacturing, but does permit several similar uses. "Beverage (Alcoholic and Non-Alcoholic) Distilling, Manufacturing, Processing, and Bottling" is permitted by right only in the I-2 district. "Petroleum Refining" and most other industrial petroleum product uses are subject to a special use permit. The Champaign County Zoning Administrator has said that he feels beverage distilling is the most similar use to ethanol production, though he acknowledges that ethanol production occurs at a much larger scale.

The Champaign County Zoning Board of Appeals has expressed concerns about the impact of an ethanol facility on surrounding water wells. As outlined in the County staff memorandum, the only way to determine if well water drawdown could occur is to test water levels at a proposed location. Pursuant to these concerns, the Champaign County Zoning Board of Appeals has included the requirement for such a test as a part of the special use requirement. (See the April 5, 2006 memorandum).

### *City of Urbana Issues*

The Urbana Zoning Ordinance requires a special use permit when a proposal is "potentially appropriate in and compatible with other uses in its zoning district, but which, because of the potential major impact of its scale and nature on its district and the City of Urbana as a whole, necessitates close examination..." Since ethanol production is not listed in the table of uses in the Urbana Zoning Ordinance, a special use permit would be required under "All Other Industrial Uses." As a part of this review, the City would require any studies or information necessary to determine the following:

1. That the proposed use is conducive to the public convenience at that location;
2. That the proposed use is designed, located and proposed to be operated so that it will not be unreasonably injurious or detrimental to the district in which it shall be located, or otherwise injurious or detrimental to the public welfare;
3. That the proposed use conforms to the applicable regulations and standards of, and preserves the essential character of, the district in which it shall be located.

In addition, the City of Urbana currently does not distinguish between heavy and light industrial uses and only has a designation of “Industrial” use. The 2005 Comprehensive Plan recommends that the City adopt different zoning classifications for light and heavy industrial uses.

The majority of property zoned I-2, Heavy Industry in Champaign County is located around Urbana-Champaign. In Urbana, the majority of such property is located north of I-74 along Lincoln Avenue. The 2005 Urbana Comprehensive Plan identifies the future land use of this area as a mixture of Heavy Industrial (uses that are heavily dependant on transportation facilities and are not compatible with residential uses), Light Industry and Residential. The Residential future land use is located east of Lincoln Avenue and north of the Saline Branch to recognize existing residential uses in the area.

It is reasonable to expect that an ethanol production facility could have major impacts on roads, public safety, and surrounding areas in the Urbana extra-territorial jurisdictional area. In addition, there are concerns about the potential for significant water usage of such a facility. As discussed above, the Mahomet Aquifer upon which our community depends is currently under study to determine the amount of drawdown that has occurred and is expected to occur with continued development of the watershed.

Because of these potential land use and environmental concerns and the unique concerns posed by ethanol manufacturing, staff and the Plan Commission recommend that the City conditionally protest the proposed text amendment subject to the incorporation of additional studies to adequately address the issues of water usage, odor control, and traffic impact.

## **Summary of Findings**

1. In reviewing any proposal for ethanol manufacturing, the County should consider potentially significant issues related to ethanol production, including fire protection, road maintenance and/or construction, odors, diminishment of water supplies, water quality, and other environmental concerns. All of these factors could significantly impact public and private infrastructure and surrounding areas.
2. The Mahomet Aquifer is a valuable resource to the City, the region and the State. Many individual developments, coupled with expansion of the urban areas utilizing the aquifer, increased irrigation for agriculture, and new areas connecting to the aquifer have the potential to greatly stress the aquifer.

3. The Urbana Zoning Ordinance does not distinguish between light industrial and heavy industrial uses.
4. Under the Urbana Zoning Ordinance, an ethanol production facility in the City would require a special use permit under “All Other Industrial Uses” because of the potential major impact on the area and the City as a whole. As a Special Use, the City would require that the proposed facility be designed, located and operated so that it will not be unreasonably injurious or detrimental to the district in which it shall be located, or otherwise injurious or detrimental to the public welfare.
5. The Champaign County text amendment should require specific studies sufficient to address issues such as traffic impact, water usage, and odor control. As currently drafted, the proposed text amendment only addresses the issues of adjacent private well impact and stormwater discharge.
6. The proposed text amendment could pose a detriment to the City of Urbana or to the extra-territorial jurisdiction of the City of Urbana.
7. At their April 20, 2006 meeting, the Urbana Plan Commission voted 5-0 to forward a recommendation to pass a resolution of protest contingent upon nine standard conditions being address in the proposed text amendment.
8. Based on testimony and discussion at the Plan Commission meeting, additional research and communications from the petitioner, staff has revised the standard conditions recommended by the Plan Commission. Both the original Plan Commission and the staff revised recommendations are included in this memo.

## **Options**

In CCZBA Case No. 523-AT-2005, the City Council has the following options:

- a. Defeat a resolution of protest for the proposed text amendments.
- b. Defeat a resolution of protest contingent upon some specific revision(s) to the proposed text amendments.
- c. Adopt a resolution of protest for the proposed text amendments.

## **Plan Commission Recommendation**

In Champaign County ZBA Case No. 523-AT-2005, the Plan Commission recommended to **ADOPT** a resolution of protest for the proposed text amendment due to the potential for environmental impacts within the ETJ and due to the lack of consistency with the City’s

planning and zoning regulations. This resolution of protest would be contingent upon inclusion of the following concerns:

1. Require adequate setbacks around such facilities (e.g., 100 feet) as none are currently required.
2. Require a study of water usage impact to protect community water resources. The study should address how much water will be utilized and identify the impact upon public infrastructure and water sources.
3. Require a traffic impact study, including the potential for increased car and truck traffic, increased rail traffic, and safety of nearby crossings, and identifying necessary improvements to road conditions and strength. Measures to protect access to other existing uses in the area should be addressed. Road improvements necessary as a result of the proposal shall be funded by the project.
4. Require an emergency access and fire protection plan with review and approval by responding service providers.
5. Address impact of any connection to a municipal sanitary sewer. A sewer use permit from the Urbana-Champaign Sanitary District and connection permit from the IEPA shall be required, along with approval of the county or municipal engineer.
6. Require an odor control plan to protect receptors in the area. A “dry mill” process shall be used to minimize odors.
7. Require a water pollution control plan to require evidence of a current permit with the Clean Water Act, IEPA, and local regulations.
8. Require a dust and erosion control plan to require evidence of a current permit with federal, state and local environmental laws.
9. Study and address noise impacts to protect receptors in the area. Mitigation measures shall be adopted to protect receptors.

### **Staff Recommendation**

Based on additional research and communications from the petitioner (see attached letter from Carl Webber), in Champaign County ZBA Case No. 523-AT-2005, staff recommends the City Council **ADOPT** a resolution of protest for the proposed text amendment. This resolution of protest would be contingent upon inclusion of the following concerns:

1. Add a standard condition to read as follows: “The petitioner is required to provide a water study on the potential impacts of any proposed ethanol production facility on the Mahomet Aquifer, or other groundwater source if applicable, in terms of adverse impacts to the aquifer; rate of draw down, including analysis of drawdown rate and the effect on shallow wells; capacity analysis; and seasonality impacts. Such water study shall be performed by either an Illinois Licensed Geologist or an Illinois professional Engineer. No Special Use Permit for an ethanol facility shall be approved unless said water study determines no adverse impact on the Mahomet Aquifer or other groundwater source”
2. Add a standard condition to read as follows: “The petitioner is required to provide a traffic impact analysis (TIA) performed by a professional engineer licensed in Illinois



who is prequalified for traffic studies by IDOT and approved by the County and that the petitioner be required to make the necessary improvements identified by the TIA.”

3. Add a standard condition to read as follows: “Only ethanol production facilities utilizing a dry mill process shall be permitted.”
4. Add a standard condition to read as follows: “Fuel ethanol plants shall be required to install thermal oxidizers or other similar technology to remove the volatile organic compounds (VOCs) to reduce odors.”
5. Add a standard condition to read as follows: “When a fuel ethanol plant is not proposed to be connected to a public sanitary sewer system, sufficient information shall be provided in the Special Use Permit application to prove that an adequate drainage outlet is available for all anticipated discharges to surface waters.
6. Add a standard condition to read as follows: “The petitioner is required to file with the County Zoning Administrator the following:
  - (a) Emergency Action Plan which meets OSHA standards with written approval from the responding service providers.
  - (b) Sewer Connection Permit from the sanitary district and any required Connection Permit from the IEPA if the manufacturing facility discharges into a municipal sanitary sewer
  - (c) Certificate of Compliance or Letter of Approval as a result of the application under the Clean Water Act
  - (d) Air Permit issued by the IEPA”
7. Add a standard condition to read as follows: “The petitioner shall provide a letter from a Registered Illinois Professional Engineer indicated, based on the proposed design, the factory is not expected to violate the Illinois Noise Statute. Post construction, the petitioner shall place on file a letter from a Registered Illinois Professional Engineer indicated that while operating, the plat does not violate the Illinois Noise Statute.”
8. Revise Section 6.1.3 Schedule of Requirements and Standard Conditions for Fuel Ethanol Manufacturing to require that the Required Yards are the same as the applicable zoning district.

Champaign County is currently undergoing a comprehensive review of the County Zoning Ordinance. As a part of this review, County staff has proposed that a County Board Special Use Permit procedure be created for uses that have potentially significant adverse impacts. Such protection is appropriate for a use such as ethanol manufacturing which has a potential to create environmental impacts at a level not normally anticipated by ordinary special use review. It is important that public input be provided throughout the process and that impacted parties have an opportunity to voice their concerns and receive adequate protections. Because this amendment will likely be adopted prior to adoption of a new County Zoning Ordinance, City staff recommends that “Fuel Ethanol Manufacturing” be classified as a County Board Special Use Permit at such time as a new County Zoning Ordinance is adopted.

By adding these provisions to the Champaign County Zoning Ordinance, the County will be in a better position to ensure that all of the potential impacts are adequately studied and resolved by the appropriate party.

Prepared by:

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Matt Wempe, Planner II

Attachments:     Exhibit A: Champaign County ZBA Preliminary Memorandum (3/10/2006)  
                     Exhibit B: Champaign County ELUC Memorandum (4/5/2006)  
                     Exhibit C: Plan Commission Meeting Minutes (4/20/2006)  
                     Exhibit D: Proposed Changes Letter from Carl Webber (4/25/2006)  
                     Exhibit E: Draft Resolution of Protest

Cc:     John Hall, Champaign County Planning and Zoning  
         Bruce Knight, City of Champaign  
         Carl Webber, Webber & Thies  
         Larry Wood, the Anderson's

**RESOLUTION NO. 2006-05-014R**

**A RESOLUTION OF PROTEST AGAINST A PROPOSED TEXT AMENDMENT TO THE  
CHAMPAIGN COUNTY ZONING ORDINANCE**

(Request by the Champaign County Zoning Administrator to amend Sections 5.2 and 6.1 of the Champaign County Zoning Ordinance to authorize "Ethanol Manufacturing" by Special Use Permit with standard conditions in the I-2, Heavy Industry Zoning District - CCZBA Case No. 523-AT-05)

WHEREAS, Mr. John Hall, Champaign County Zoning Administrator, has petitioned the County of Champaign for an amendment to the text of the Champaign County Zoning Ordinance in Champaign County ZBA Case No. 523-AT-05 to authorize "Ethanol Manufacturing" by Special Use Permit with standard conditions in the I-2, Heavy Industry Zoning District; and

WHEREAS, the Urbana Plan Commission, after considering the matters pertaining to the proposed zoning text amendment at their April 20, 2006 meeting, has recommended by a vote of 5-0 that the City Council pass a resolution of protest against said proposed amendment with conditions:

WHEREAS, the Urbana City Council, having duly considered all matters pertaining thereto, finds and determines that the proposed text amendment is not in the best interest of the City of Urbana because the standard conditions proposed for "Ethanol Manufacturing" do not fully address the potential negative impacts of such a facility on the City, the City's extraterritorial jurisdictional area.

WHEREAS, the proposed text amendment would allow a zoning use that could have a potential adverse impact on the Mahomet Aquifer, a vital resource for the City, the region and East-Central Illinois.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF URBANA, ILLINOIS, as follows:

Section 1. The City Council finds and determines that the facts contained in the above recitations are true.

Section 2. That the Urbana City Council hereby resolves that the City of Urbana, pursuant to the provisions of 55 ILCS 5/5-12014, does hereby approve a Resolution of Protest against the proposed text amendment as presented in Champaign County ZBA Case No. 523-AT-05.

Section 3. This protest is withdrawn, however, if the text to the proposed amendment is revised to do the following:

1. Add a standard condition to read as follows: "The petitioner is required to provide a water study on the potential impacts of any proposed ethanol production facility on the Mahomet Aquifer, or other groundwater source if applicable, in terms of adverse impacts to the aquifer; rate of draw down, including analysis of drawdown rate and the effect on shallow wells; capacity analysis; and seasonality impacts. Such water study shall be performed by either an Illinois Licensed Geologist or an Illinois professional Engineer. No Special Use Permit for an ethanol facility shall be approved unless said water

study determines no adverse impact on the Mahomet Aquifer or other groundwater source"

2. Add a standard condition to read as follows: "The petitioner is required to provide a traffic impact analysis (TIA) performed by a professional engineer licensed in Illinois who is prequalified for traffic studies by IDOT and approved by the County and that the petitioner be required to make the necessary improvements identified by the TIA."
3. Add a standard condition to read as follows: "Only ethanol production facilities utilizing a dry mill process shall be permitted."
4. Add a standard condition to read as follows: "Fuel ethanol plants shall be required to install thermal oxidizers or other similar technology to remove the volatile organic compounds (VOCs) to reduce odors."
5. Add a standard condition to read as follows: "When a fuel ethanol plant is not proposed to be connected to a public sanitary sewer system, sufficient information shall be provided in the Special Use Permit application to prove that an adequate drainage outlet is available for all anticipated discharges to surface waters."
6. Add a standard condition to read as follows: "The petitioner is required to file with the County Zoning Administrator the following:
  - (a) Emergency Action Plan which meets OSHA standards with written approval from the responding service providers.
  - (b) Sewer Connection Permit from the sanitary district and any required Connection Permit from the IEPA if the manufacturing facility discharges into a municipal sanitary sewer
  - (c) Certificate of Compliance or Letter of Approval as a result of the application under the Clean Water Act
  - (d) Air Permit issued by the IEPA"
7. Add a standard condition to read as follows: "The petitioner shall provide a letter from a Registered Illinois Professional Engineer indicated, based on the proposed design, the factory is not expected to violate the Illinois Noise Statute. Post construction, the petitioner shall place on file a letter from a Registered Illinois Professional Engineer indicated that while operating, the plat does not violate the Illinois Noise Statute."

8. Revise Section 6.1.3 Schedule of Requirements and Standard Conditions for Fuel Ethanol Manufacturing to require that the Required Yards are the same as the applicable zoning district.

Section 4. The City Clerk of the City of Urbana is authorized and directed to file a certified copy of the Resolution of Protest with the County Clerk of the County of Champaign, and to mail a certified copy of this resolution to the Petitioner, Mr. John Hall at 1776 East Washington, Urbana, Illinois, 61801 and to Ms. Julia Reitz, State's Attorney for Champaign County and Attorney for the Petitioner, at the Champaign County Courthouse, Urbana, Illinois, 61801.

PASSED by the City Council this \_\_\_\_\_ day of \_\_\_\_\_, 2006.

\_\_\_\_\_  
Phyllis D. Clark, City Clerk

APPROVED by the Mayor this \_\_\_\_\_ day of \_\_\_\_\_, 2006.

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Laurel Lunt Prussing, Mayor

**MINUTES OF A REGULAR MEETING**

**URBANA PLAN COMMISSION**

**DRAFT**

**DATE:** April 20, 2006  
**TIME:** 7:30 P.M.  
**PLACE:** Urbana City Building  
400 South Vine Street  
Urbana, IL 61801

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**MEMBERS PRESENT:** Ben Grosser, Lew Hopkins, Michael Pollock, Bernadine Stake, James Ward, Don White

**MEMBERS EXCUSED:** Jane Burris, Laurie Goscha, Marilyn Upah-Bant

**STAFF PRESENT:** Elizabeth Tyler, Director of Community Development Services; Robert Myers, Planning Manager; Matt Wempe, Planner II; Paul Lindahl, Planner I; Teri Anandel, Planning Secretary

**OTHERS PRESENT:** Walter Crackel, Robert DeAtley, Doug Delashmitt, Kathy Ekstrom, Fred Heinrich, Lorean Howard, Bob Lord, Lisa Denson-Rives, Larry Wood, Carl Webber

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**CCZBA-523-AT-2005 – Request by the Champaign County Zoning Administrator to amend the Champaign County Zoning Ordinance to add “Ethanol Manufacturing” and authorize by Special Use Permit only in the I-2, Heavy Industry Zoning District.**

Mr. Wempe presented this case to the Plan Commission. He began by explaining the purpose for the proposed text amendment to the Champaign County Zoning Ordinance, which is to allow an ethanol plant by special use permit in the County I-2, Heavy Industry Zoning District. He talked about the important issues of a potential plant having access to large amounts of water, adequate wastewater disposal options, rail and interstate access, proximity to production inputs, adequate space for rail and truck traffic, and storage and loading facilities. He mentioned that a proposed ethanol facility would be located within the Extraterritorial Jurisdiction (ETJ) area of the City of Champaign on the west side. He reviewed the issues that Champaign County has and the issues that the City of Urbana has with the proposed text amendment. He read the options of the Plan Commission in this case and presented staff’s recommendation, which was as follows:

*In Champaign County ZBA Case No. 523-AT-2005, Urbana City staff recommended that the Plan Commission recommend that the City Council adopt*

*a resolution of protest for the proposed text amendment due to the potential for environmental impacts within the ETJ and due to the lack of consistency with the City's planning and zoning regulations. This resolution of protest would be contingent upon inclusion of the following concerns:*

- 1. Require adequate setbacks around such facilities (e.g., 100 feet) as none are currently required.*
- 2. Require a study of water usage impact to protect community water resources. The study should address how much water will be utilized and identify the impact upon public infrastructure and water sources.*
- 3. Require a traffic impact study, including the potential for increased car and truck traffic, increased rail traffic, and safety of nearby crossings, and identifying necessary improvements to road conditions and strength. Measures to protect access to other existing uses in the area should be addressed. Road improvements necessary as a result of the proposal shall be funded by the project.*
- 4. Require an emergency access and fire protection plan with review and approval by responding service providers.*
- 5. Address impact of any connection to a municipal sanitary sewer. A sewer use permit from the Urbana-Champaign Sanitary District and connection permit from the IEPA shall be required, along with approval of the county or municipal engineer.*
- 6. Require an odor control plan to protect receptors in the area. A "dry mill" process shall be used to minimize odors.*
- 7. Require a water pollution control plan to demonstrate compliance with Clean Water Act, IEPA, and local regulations.*
- 8. Require a dust and erosion control plan to demonstrate compliance with federal, state and local environmental laws.*
- 9. Study and address noise impacts to protect receptors in the area. Mitigation measures shall be adopted to protect receptors.*

Mr. Wempe reminded the Plan Commission that if the City of Urbana approves a resolution of protest of the proposed text amendment, then it would force a three-quarter super majority vote for approval of the request at the County Board. City staff would like to have the leeway to negotiate these conditions with the County staff.

Mr. White commented that eight of the nine conditions would be eliminated because they would have already been done by the time The Andersons are granted permission to set up an ethanol plant. Mr. Wempe stated that staff had added the language to point out that the County should get copies of federal and state permits to insure compliance.

Mr. Grosser inquired as to what are the consequences of a water impact study. Simply having a study done is easy to accomplish. His concern is what happens based on the results of that study. Mr. Wempe replied that the study would outline specific measures that could be taken to mitigate any negative impacts. A petitioner would be required to implement the measures outlined in the study. Ms. Tyler stated that for example, there could be some water conservation measures



introduced. The numbers that suggest the water use as a proportion of our whole municipal Champaign-Urbana use is very high and worrisome because we have the Mahomet Aquifer study underway and not yet completed. With the proposed conditions, there would at least some analysis conducted. Champaign County's recommendation was just focused on adjacent wells. The City of Urbana's conditions state that there is a broader environmental concern. Perhaps there are some ways to mitigate that usage if there is a problem.

Ms. Stake questioned how City staff saw the public being involved in this. Mr. Wempe answered by saying that if an ethanol plant requires a special use permit, then there would be meetings where people could testify. Mr. Myers added that special use permit applications at the County level go to the Champaign County Zoning Board of Appeals. There is a public process and public notification. The goal is to have full public knowledge as part of the decision making process.

Mr. Myers went on to explain the difference between the City's and the County's interpretations of the word "adjacent". The City often interprets "adjacent" to be across the street, but in a rural context "adjacent" water wells can be a half a mile away. There is a concern that if the language is too vague, then it might require the applicant to do a study of the entire Mahomet Aquifer. On the other hand, we want it to be larger than 200 feet of the property.

The Andersons have pointed out that there would be monitoring wells surrounding the property to constantly check the water level and to monitor the changes in water level. They also pointed out that there may be a water conservation aspect of this, because there is currently four wells where 500,000 to 600,000 gallons of water a day are drawn out and dumped into the Kaskaskia River for the sole purpose of diluting waste being put into the river downstream in Tuscola.

Mr. White asked if The Andersons would treat their own waste water. Mr. Wempe said yes. There was a requirement to treat your own waste water on site.

Chair Pollock opened the public hearing up to hear testimony from the members of the audience.

Larry Wood, General Manager of The Andersons, stated that he has been involved in ethanol for the last six months. They currently have two ethanol plants under construction: one in Michigan and the other is in Indiana.

Everything mentioned in the County staff report is the standards that his company follows. They are currently monitoring wells out to a mile away from their current facilities. They would also have electronic monitoring systems on the perimeter wells that they put in place around their property. He mentioned that they would also be drawing water from about 350 feet down in the Mahomet Aquifer. There are three water levels to the Aquifer. The Andersons would have monitoring wells that would be watching the other two water levels (150 and 250 feet) as well to give them an early warning notice if a drawn down of water began to occur, because it would effect the neighboring wells. They wanted to be a good neighbor to the people around them.

The Anderson company has been in the community since 1968. They have been good corporate stewards since they located in the community, and they have brought a lot of revenue and raised

the economy for many years. The impact of an ethanol plant would probably raise the value of corn by at least 10 cents a bushel. Champaign County produces about 50 million bushels of corn. So, that would be about \$5,000,000 in additional revenue that would be going into the County every year.

Mr. Wood went on to talk about the four wells on the west side of Champaign down along the Kaskaskia River. They pump out in excess of 500,000 gallons a day into the Kaskaskia. It changes from day to day depending on the need, because they have to have a certain amount of flow in the Kaskaskia in order to meet their dilution requirements in Tuscola. He was not sure how this was originally set up. The water that The Andersons would be putting back into the Kaskaskia after it went through their treatment process would mitigate the need to pump water from the four wells.

The Andersons have a hydrologist that works for them out of a large consulting company in Columbus, Ohio. The consulting company has studied the water all over the Midwest. The Mahomet Aquifer extends from the Illinois River over to the Illinois State line on the east side. It covers a fairly large area. Currently what is being drawn out of the Aquifer by both the public utilities as well as the private independent wells is estimated to be in the neighborhood of 80,000,000 to 90,000,000 gallons of water a day. This information is documented in the County staff report. An ethanol plant would add about 2,000,000 gallons to this number. It has been estimated that the Aquifer itself has the capacity on a day by day basis without affecting the water level to produce over 400,000,000 gallons a day. Therefore, it currently was not even being used at 25% capacity.

One reason for ethanol use is because it is state mandated in some areas to reduce air pollution. The federal government is pushing it. Ethanol will never replace oil, but there will be at least one ethanol plant in this area regardless of where it goes. If The Andersons put an ethanol plant in, they will meet the standards that are set.

From a safety standpoint, The Andersons have a safety record that is number one in the country for all grain elevators. They have gone 14 years without a recordable accident, which is due to their safety programs that they have in place. They have been first in the country three times in the last six years of all grain elevators and grain processing facilities.

Regarding setback distances, Mr. Wood asked that they be reasonable. They asked that setbacks relate to the project and not to the parcel, because The Andersons will have multiple parcels upon which one ethanol plant would be located. They also asked for consideration for practical circumstances like proximity to rail and access. He noted that they have 120 acres. The proposed ethanol plant would only take up 40 acres.

Changing the wording from "adjacent" to "neighboring" does not make any difference to The Andersons. It is just a matter of semantics. They would be monitoring the wells and doing well surveys of the surrounding neighbors regardless.

Regarding traffic, what Champaign came up with for a traffic impact analysis was fine with The Andersons. They intended to do a traffic impact analysis anyway; because that is the only way

they could get Illinois Department of Transportation (IDOT) funding for any upgrades or changes they need to make.

On the emergency issue, The Andersons did not have a problem with getting an emergency plan approved by Cornbelt or by the Champaign Fire Department. They currently have an emergency action plan in place which is state required and will have one for whatever facilities that are located out there.

Mr. Wood mentioned that there will be no gravel roads. The current facilities are asphalted, and the proposed ethanol plant would be as well. In terms of dust, fugitive dust particularly, it would not be an issue. Dust control is monitored and is limited by the state to a maximum of 100 tons of dust per year. Both the existing facility, which is currently permitted as a synthetic minor, and the proposed ethanol plant would produce less than 100 tons of dust per year.

On the subject of sewer connection, if The Andersons would connect to a sewer system, any waste water discharge out of a facility like this would always be subject to Illinois Environmental Protection Agency (IEPA) approval. Therefore, he did not know why this was included as a condition. One reason for not connecting to a sewer system is because they would have to pump the waste water uphill over to where the Horizon Church is located. Instead, the waste water would be surface discharged into the Kaskaskia about a mile and a half away. They would still be regulated by the IEPA.

Concerning odor, thermal oxidizers are the latest technology for these types of plants and would be installed at the proposed ethanol plant. The thermal oxidizers destroy the volatile oils that come off and create an odor. Also, no one is building wet process mills anymore. The Andersons would be building a dry process mill.

Regarding erosion, they would have to meet the standards for the County in terms of stormwater. Every time they build something that is over a certain size, they have to make sure that they have provided detention ponds to manage stormwater. They currently have a retention pond that was basically designed for a 100-year flood.

In conclusion, several of the issues he mentioned are not an issue for them to have listed as a standard as part of the special use permit. They would prefer that the conditions not be on items that are already regulated or managed by the IEPA or by OSHA.

With regards to the alcohol itself, The Andersons must conform to the specifications for the Bureau of Alcohol, Tobacco and Firearms. The alcohol must be inedible when it leaves the facility.

Mr. White asked for clarification in that The Andersons did not have any problems with any of the recommended City staff conditions other than that some of them were already addressed through Federal and state laws. Mr. Wood said that was correct.

Ms. Stake inquired if The Andersons would get any subsidies from the Federal government for creating ethanol. Mr. Wood said no. The subsidies from the Federal government, with respect to

alcohol, go to the blenders, who are the companies that blend ethanol with gasoline. The Andersons would produce ethanol and sell it on the market as raw ethanol.

Ms. Stake recalled Mr. Wood saying something about ethanol being state mandated. Mr. Wood stated that the Federal government was pushing the production of ethanol. The state government is talking about providing incentives to build ethanol plants. The State is offering funds through the Department of Commerce and Economic Opportunity (DCEO) as grants to build ethanol plants.

He went on to say that there is a mandate by the Federal government. All of the gasoline that has been used in this country up to this point has been mixed with a type of oxygen called MTBE. MTBE has been banned by the federal government and by various states. However, there is still an oxygen requirement. This requirement is being fulfilled by ethanol.

Ms. Stake stated that the issue is that it will take six gallons of water to make one gallon of ethanol. In addition, we would need to subsidize it. We are so very fortunate to have the Mahomet Aquifer. In visioning for the future, we need to protect and save the water. Mr. Wood stated that his understanding is that the water level would be sustainable up to a usage of four times what is being taken out of it now. Ms. Stake said that is a little encouraging, but water is a scarce resource in the world and so is food. We should not be using all that water just to produce one gallon of ethanol.

Ms. Stake questioned what a dry mill process is. Mr. Wood explained that a dry mill process is where the corn is ground dry. A wet mill process is where the corn is soaked first so it bloats up with water before it is run through a chemical process.

Mr. Hopkins left around 11:15 p.m.

Ms. Stake inquired if the 100 tons of dust a year causes asthma. Mr. Wood did not believe so. Mr. Wempe added that this was the standard that the IEPA has for this type of permit. As Mr. Wood pointed out, they would be far below this standard.

Ms. Tyler stated that Mr. Wood raised some interesting facts and hypothesis with the water use. She believed it would be helpful for The Andersons to provide some of the hydrologist's reports regarding the Aquifer and any preliminary studies to the City Council should the Plan Commission forward this case on.

Regarding the nine conditions recommended by City staff, in suggesting these the City was responding to very specific conditions requested by the Champaign County Zoning Board as well as by the City of Champaign, but that seemed to miss other areas of impact. She did not have any doubt that The Anderson proposal would be state-of-the-art. As Mr. Wood has stated, they would have no problem meeting the regulations. The conditions recommended by Urbana City staff would be for any ethanol plant, not specifically for The Andersons proposal. Therefore, there could be an ethanol plant that might use municipal facilities, for example. So, the City of Urbana wanted to make sure that they were covering all classifications and uses that may not already have the ability to work with the state.

Mr. Wood remarked that if The Andersons build an ethanol plant, then another ethanol plant would not be built in Champaign County because The Andersons would use up most all of the corn in Champaign County. However, if the City of Urbana makes it too strict, then The Andersons won't build it; and then someone else will, and the City of Urbana will not have any control over it. Many of these conditions are already regulated.

Carl Webber, attorney for The Andersons, had difficulty if the special use permit would include items under the County's jurisdiction, which are under the expertise of other agencies. The Bureau of Alcohol, Tobacco and Firearms, the IEPA, the USEPA and OSHA all have certain provisions that The Andersons must follow. If these same provisions are written into the County's ordinance, then it puts the burden upon the County Planning and Zoning to assure that the provisions are being followed. If the County enforces the provisions in a wrong way, then the company has no way to complain about it because of governmental immunity.

Mr. Pollock said that the City was just asking for copies of the paperwork to make sure that the provisions of the other agencies were being met. Mr. Wempe said that was correct.

Mr. Webber remarked that The Andersons would be perfectly willing to send copies of the federal and state permits to the City or County. This was different than making it a provision of a special use permit. Mr. Ward commented that the language was clear in the City's staff report that the City only wanted demonstration on behalf of a petitioner for an ethanol plant that they comply with other agencies' provisions. This means send a copy of the certification that the petitioner is complying with the required provisions.

Mr. Webber argued that there could be a circumstance where there is an issue of whether or not a particular item was being complied with. IEPA may think that a petitioner is complying with something, and because of some political pressure or engineering concern, it was brought before the County, and then the County would be put in a position of being able to act as a mini IEPA. This is a big concern. Mr. Ward did not feel that the language says that. Mr. Webber remarked that as long it is does not say that, and then they do not care about the conditions. The Andersons want it worded so that it would not be questionable. Mr. Ward understood the language of the conditions to say that a petitioner for an ethanol plant would be required by federal and state law to comply with certain regulations. All the City of Urbana is asking for is some demonstration that a petitioner is complying with those regulations. A petitioner deals with IEPA. The County is not in the mix.

Mr. Webber asked Mr. Wood if he was willing to forward copies of all IEPA permits to Champaign County. Mr. Wood responded yes, however, all permits they would get from the IEPA or OSHA are posted in a public spot in their office.

Ms. Tyler commented that it has really helped the City in the past to have access to this information. Just to have the permits and the reports helps the City to interact with neighbors. The conditions would not pose any new regulations. It was really only a paperwork filing exercise. Mr. Myers added that the only condition that required review and approval was Condition #4, which states: *Require an emergency access and fire protection plan with review*

*and approval by responding service providers.* Mr. Wood said that they do not mind this condition at all.

Chair Pollock closed the public input portion of the item.

Mr. Grosser mentioned that he liked having the conditions as part of the special use permit, because if a future ethanol plant was not in compliance, the special use permit would become void. It would be another level of control. Mr. Webber stated that this was the reason for his concern. There is a fine line of who enforces the regulations set by other agencies. If the County does not feel that a petitioner is in compliance, then they could revoke the special use permit, even though the other agencies say that the petitioner is in compliance.

Mr. Wempe stated that intent would be that the special use permit itself would be the proof that an ethanol plant was being in compliance with the other agencies revisions. The City of Urbana has had some special use permits under question of whether or not the holders of the special use permits were complying with the conditions of their permits. The City of Urbana did not immediately revoke the permit when they do an investigation. This is where the fine line is. The possibility of non-compliance would not result in revoking of a special use permit. Now if the IEPA revokes their permit, then The Andersons would be non-compliant with the County's special use permit, and The Andersons would lose the right to operate an ethanol plant. Obviously, the IEPA permit loss would shut down the business before Champaign County would.

Mr. White moved that the Plan Commission forward Plan Case CCZBA-523-AT-2005 to the City Council with a recommendation to adopt a resolution of protest with conditions 1-6. Due to lack of a second, the motion failed.

Mr. Ward moved that the Plan Commission forward Plan Case CCZBA-523-AT-2005 to the city Council with a recommendation to adopt a resolution of protest according to the staff recommendation including provisions 1-9. Mr. Grosser seconded the motion.

Mr. Webber wondered if implicit in the motion was the discussion about amending the wording of conditions 7, 8 and 9. Mr. Ward felt that the wording was quite clear to cover the discussion that took place. The language simply says to require demonstration of compliance, which would be the compliance certificate. Mr. Webber felt it would be better to say "Require evidence of a current permit". Mr. Ward believed that a permit was a demonstration of compliance.

Mr. White suggested an amendment to change the language in conditions 7, 8 and 9 to say "require evidence of a current permit" rather than "require demonstration of compliance". Mr. Ward and Mr. Grosser were comfortable with the amendment.

Mr. Grosser commented that the prospect of 2 million gallons of water per day is shocking to him. Certainly there is debate over whether 400,000,000 gallons of water per day could be pumped out of the Mahomet Aquifer. The study is not complete, so no one knows for sure. The two natural amenities that the City of Urbana does have a nice beautiful big sky and deep aquifer

full of water. The prospect of having an ethanol plant sucking all of the water out of the aquifer is disconcerting to him.

He certainly agrees with protesting the proposal as presented. His concern with the conditions placed on a special use permit for an ethanol plant is that there was nothing mentioned about the outcome of the study of the Mahomet Aquifer if it is negative. While one would hope that a special use permit request for an ethanol plant would be denied, there would not be one single elected official to review the special use permit on the County level. This worried him as well. Therefore, he would support the motion, because he did not feel like he had any other option.

He understood The Andersons' point of view. They are established in the community and would build something state-of-the-art. However, the proposed text amendment would allow anyone to potentially build one. This was a concern as well.

Roll call was as follows:

Ms. Stake	-	Yes	Mr. Ward	-	Yes
Mr. White	-	Yes	Mr. Grosser	-	Yes
Mr. Pollock	-	Yes			

The motion was passed by unanimous vote.