



MEMO

To: Sangita Santhanam, MA Center
From: Brent Coulter, P.E., P.T.O.E
Coulter Transportation Consulting, LLC
Date: 10/7/2015

**Subject: MA Center Chicago -Proposed Phased Development Plan
Trip Generation and Keslinger Road Turn Lane Schedule**

Coulter Transportation Consulting, LLC has previously prepared trip generation and analysis of the timing of left-turn lane construction on Keslinger Road at the MA Center access in a 4/13/2015 report. This analysis had established a threshold volume of 42 weekday PM peak hour inbound left-turns as the critical warrant volume that would trigger the timing of left-turn lane construction and operation based on the assumption that all inbound site traffic would approach from the east (see Appendix for the data used to derive the critical left-turn volumes).

This threshold value of 42 left-turns per hour used to determine the timing of left-turn lane construction was reapplied to the phased trip generation for the current proposed MA Center (Chicago) - Phased Development Plan dated September 30, 2015. Based on the weekday PM peak hour cumulative inbound trips shown in Table 1., a left-turn lane on Keslinger Road would be required after the completion of Phase II development plus the four (4) townhome units included in Phase III development, and prior to any other component of Phase III development. As noted in my earlier report, the right-turn lane on Keslinger Road at the MA Center access drive should be constructed concurrently with the left-turn lane.

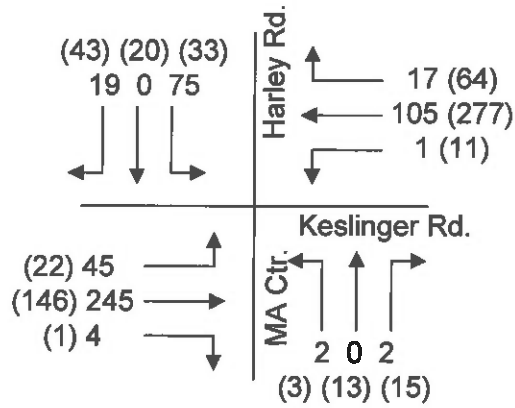
Table 1. MA Center Master Weekday Trip Generation

					Weekday Peak Hour Trip Generation								Daily Trip Gen.	
Develop. Phase	Land Use	ITE Land Use Code	Quantity	Unit	AM	Cum.	(Vehicle	Cum.	PM	Cum.	PM	Cum.	Daily	Cum.
					In	Tot.	Out	Tot.	In	Tot.	Out	Tot.	Trips	Tot.
Existing	SF	210	1	DU	0		1		1		0		10	
<i>(1 of 13 units currently unoccupied)</i>														
<i>Internal Capture at 30%</i>					0		0		0		0		-3	
<i>Net New Trips</i>					0	0	1	1	1	1	0	0	7	7
Existing	South Lodge Dorms	Elderly Housing	252	16	DU	1		2		3		3	69	
<i>(16 of 46 dorm units currently unoccupied)</i>														
<i>Internal Capture at 30%</i>					0		-1		-1		-1		-21	
<i>Net New Trips</i>					1	1	1	2	2	3	2	2	48	55
Proposed Ph 1	Duplex	210	12	DU	5		14		10		8		149	
<i>Internal Capture at 30%</i>					-1		-1		-3		-2		-45	
<i>Net New Trips</i>					4	5	10	12	7	10	4	6	104	159
Proposed Ph 1	Townhome	230	8	DU	1		6		5		3		71	
<i>Internal Capture at 30%</i>					0		-2		-2		-1		-21	
<i>Net New Trips</i>					1	6	4	16	3	13	2	8	50	209
Proposed Ph 2	Duplex	210	22	DU	6		19		17		10		261	
<i>Internal Capture at 30%</i>					-2		-6		-5		-3		-78	
<i>Net New Trips</i>					4	10	13	29	12	25	7	15	183	392
Proposed Ph 3	Townhome	230	4	DU	1		3		3		1		39	
<i>Internal Capture at 30%</i>					0		-1		-1		0		-12	
<i>Net New Trips</i>					1	11	2	31	2	27	1	16	27	419
Proposed Ph 3	Duplex	210	26	DU	7		21		20		12		304	
<i>Internal Capture at 30%</i>					-2		-6		-6		-3		-91	
<i>Net New Trips</i>					5	16	15	46	14	41	9	25	213	632
Proposed Ph 3	Admin / Multipurpose Center	710 - Gen. Off	10	1000 SF	14		2		3		12		110	
<i>Internal Capture at 30%</i>					-4		-1		-1		-4		-33	
<i>Net New Trips</i>					10	26	1	47	2	43	8	33	77	709
Proposed Ph 3	School (K-5)	500	100	students	25		20		7		8		129	
<i>Internal Capture at 30%</i>					-7		-6		-2		-2		-39	
<i>Net New Trips</i>					18	44	14	61	5	48	6	39	90	799
Proposed Ph 3	South Lodge II Short-Term	221 - Apts	120	DU	39		19		28		38		749	
<i>Internal Capture at 80%</i>					-31		-15		-22		-31		-599	
<i>Net New Trips</i>					8	52	4	65	6	54	7	46	150	949
Proposed Ph 3	Spiritual Hub		300	seats	N.A.									
Intermittent weekend and special event uses/occasional week nights														
Proposed Ph 4	East Lodge Long-Term	221 - Apts	72	DU	8		31		37		20		560	
<i>Internal Capture at 30%</i>					-2		-9		-11		-6		-196	
<i>Net New Trips</i>					6	58	22	87	26	80	14	60	364	1313
Grand Total					58		87		80		60		1313	

Source of trip rates: ITE Trip Generation Manual - 9th Edition

Note: Internal capture rates based on MA Ctr. Experience with existing uses.

APPENDIX



Note: MA Center turning movements counted Monday, March 10, 2015 by Quality Counts.

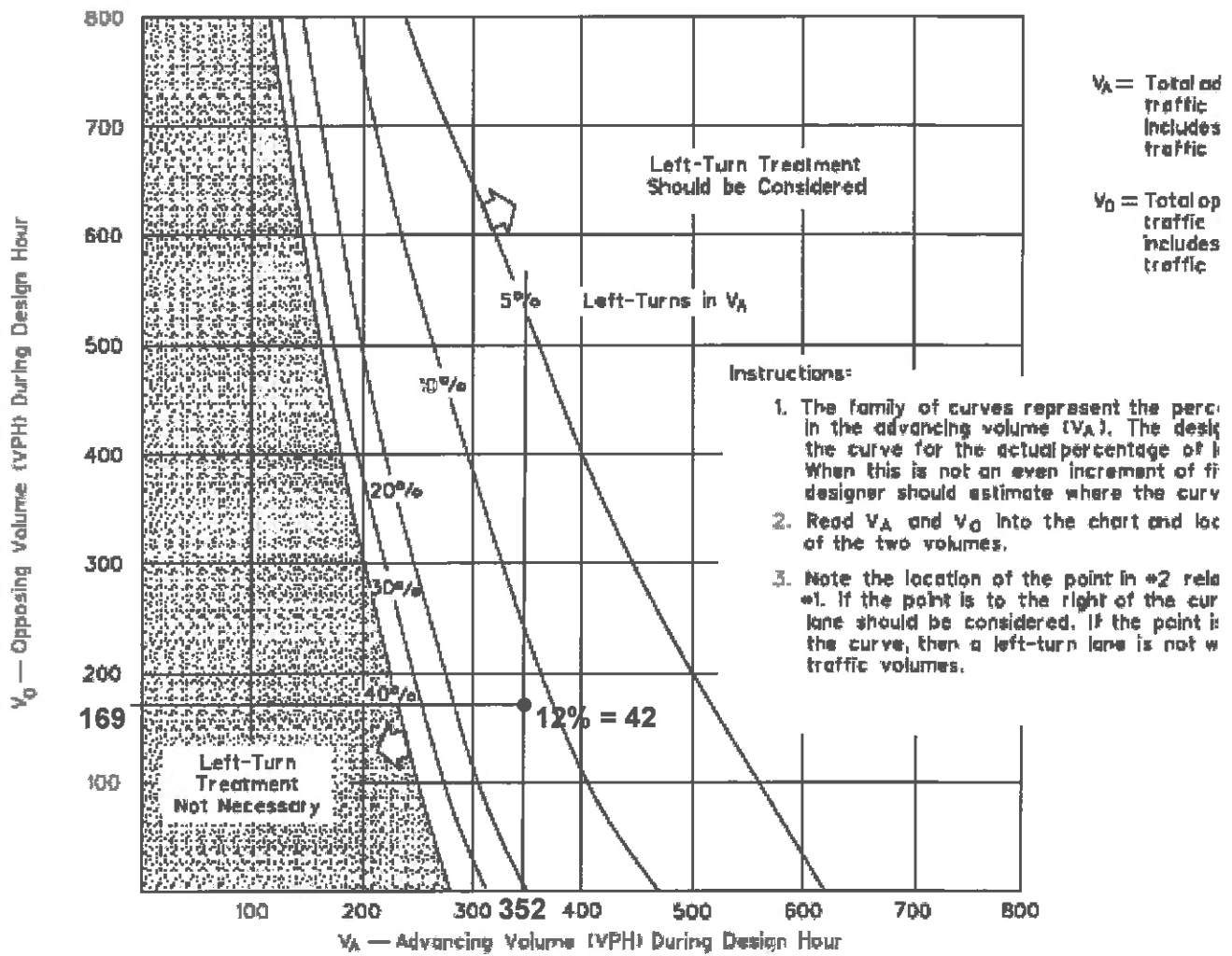


Figure 1. Background Weekday Peak Hour Counts

LEGEND

XX - AM PK HR VOL
(7:15 am to 8:15 am)

(YY) - PM PK HR VOL
(4:45 pm to 5:45 pm)



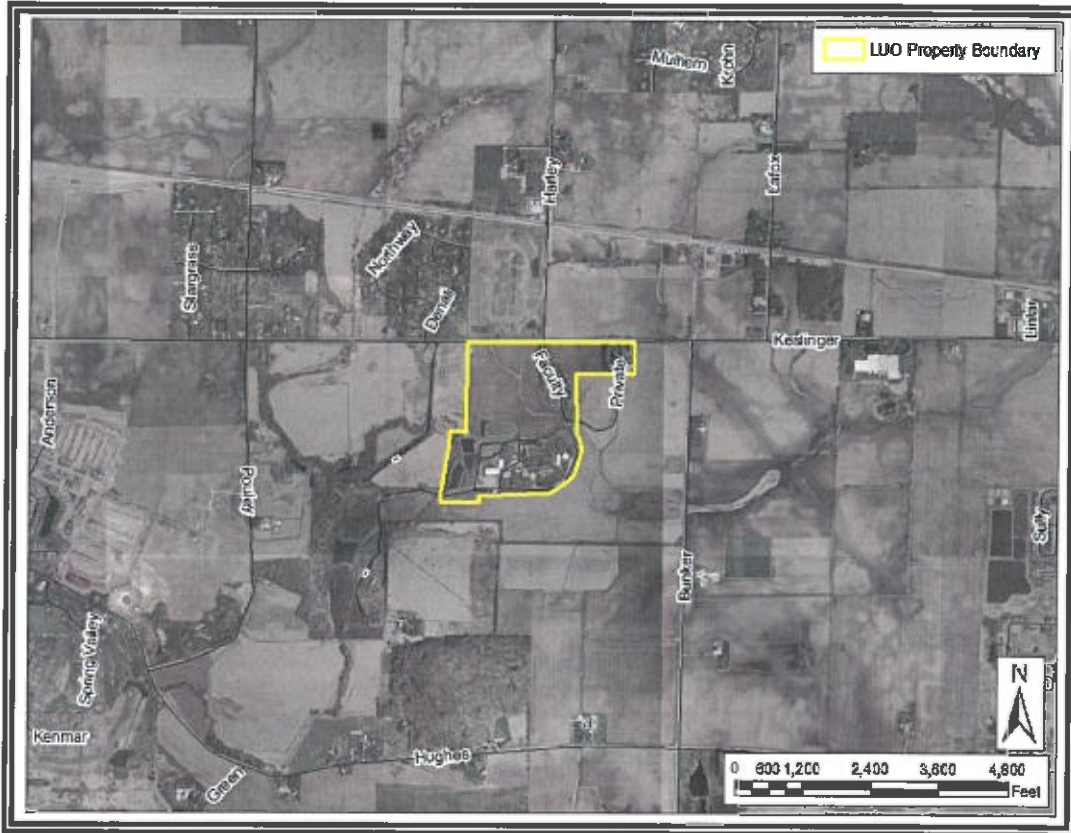
VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (55 mph Design Speed)

Figure 36-3.D

FIGURE A1. LEFT-TURN LANE CONSTRUCTION SCHEDULE ANALYSIS

**KANE-DUPAGE
SOIL AND WATER CONSERVATION DISTRICT**

**LAND USE OPINION
15-104**



November 2, 2015

**Prepared for:
Kane County**

**Petitioner:
Mata Amritanadamayi Center
c/o Charles A. Radovich
Radovich Law Office, P.C.
312 West State Street
Geneva, IL 60134**

Petitioner: Mata Amritanadamayi Center, c/o Charles A. Radovich, Radovich Law Office, P.C., 312 West State Street, Geneva, IL 60134

Contact Person: Charles A. Radovich, 630-232-4511

Unit of Government Responsible for Permits: Kane County

Acreage: 142.10

Location of Parcel: Section 10, Township 39 N, Range 7 E

Property Address/PIN#: 41W501 Keslinger Road, Elburn, IL 60119

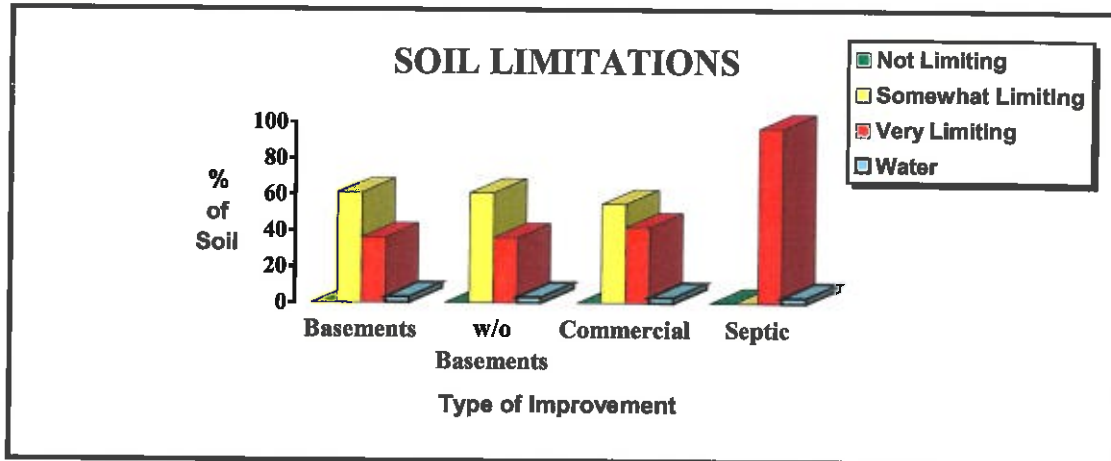
Existing Land Use: F Zoning, Former Education Center

Surrounding Land Use: Agriculture/Rural Residential

Proposed Land Use: Special Use, Spiritual Center

Natural Resource Concerns

Soils Limitations: Soils at this site contain limitations for dwellings with basements, dwellings without basements, and small commercial buildings. See soils information pages, and attached soils tables. All information is from the Soil Survey of Kane County, Illinois.



Aquifer Sensitivity: There are aquifers that may be adversely impacted by this project. (See page 3)

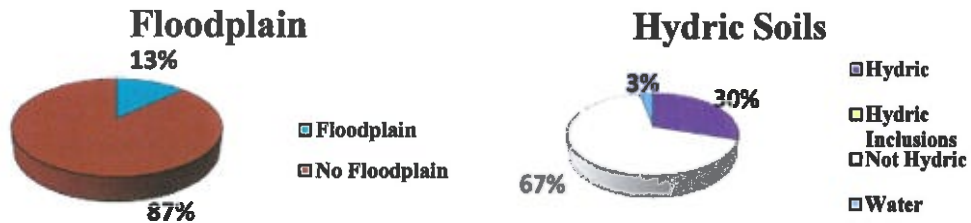
Septic Absorption Systems: The soils mapped on this site have limitations for the use of septic absorption systems. (See page 6 for more information)

Prime Farmland: Prime farmland is an important resource for Kane County. Each soil type is assigned a rating, which is then used to determine the soils portion of the LESA score for the site. Sites with a LE score of 26-33 or greater are considered to have high value farmland soils. This site has a score of 26 on the LE portion of the LESA farmland evaluation system, placing it within the definition of high value soils. (See Page 6 for more information.)

Wetlands: The National Wetland Inventory map and the ADID wetland map identify wetland areas on this site. **Therefore, a wetland delineation specialist who is recognized by the U.S. Army Corps of Engineers should determine the exact boundaries and value of any wetlands.** (See page 8 for more wetland information.)

Floodplain: There are floodplain areas identified on this site. (See page 13)

Soil Data: There are hydric soils identified on this site. Hydric soils and soils with hydric inclusions may be prone to ponding. The soil data from SSURGO (or NASIS) is part of a national dataset. The hydric rating used in this report has been modified to reflect local interpretations with guidance from the Area Soil Scientist.



Stormwater: The District encourages the use of on-site detention for stormwater runoff, and recommends the use of a 0.10cfs/acre release rate for on-site detention ponds. (See page 16 for more information concerning stormwater planning on this site.)

Sediment and Erosion Control: Development on this site should include a sedimentation and erosion control plan. (See page 19)

Woodlands: The District encourages the preservation of native woodland species. (See page 19)

NPDES Permits: An NPDES (National Pollution Discharge Elimination System) permit is required by the Illinois EPA for all construction sites over 1 acre. (See page 20)

LAND USE OPINION

Land Use Opinion: This site contains the following concerns: **Stream Onsite, Wetlands, Soil Limitations, Floodplain, Aquifer Sensitivity, Septic Limitations, LESA – Prime Farmland, Soil Erosion and Sediment Control, and Stormwater Management.** Based on the information in this report, it is the opinion of the Kane-DuPage Soil and Water Conservation District Board that this site **is not suited** for the proposed use **unless** the previously mentioned concerns are addressed.

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PURPOSE AND INTENT

This report presents natural resource information to officials of the local governing body and other decision makers. Decisions concerning variations, amendments or relief of local zoning ordinance may reference this report. Also, decisions concerning the future of a proposed subdivision of vacant or agricultural lands and the subsequent development of these lands because of these decisions may reference this report. This report is a requirement under the SWCD Act contained in ILCS 70, 405/1 ET seq.

This report intends to present the most current natural resource information available in an understandable format. It contains a description of the present conditions and resources available and their potential impact on each other. This information comes from standardized data, on-site investigations and other information furnished by the petitioner. Please read the entire report to coordinate and inter-relate all natural resource factors considered. This report, when used properly, will provide the basis for good

land use change decisions and proper development while protecting the natural resource base of the county.

The conclusion of this report in no way indicates the impossibility of a certain land use. However, it should alert the reader to possible problems that may occur if the capabilities of the land are ignored. Please direct technical questions about data supplied in this report to: **Kane-DuPage**

Soil and Water Conservation District
2315 Dean Street
Suite 100
St. Charles, IL 60175
Phone: (630) 584-7961

SOILS INFORMATION

IMPORTANCE OF SOILS INFORMATION

Soils information is taken from the Soil Survey of Kane County, Illinois, United States Department of Agriculture, Natural Resource Conservation Service. This information is important to all parties involved in determining the suitability of the proposed land use change.

SOIL MAP UNITS

The soil survey map of this area (Figure 1) indicates soil map units. Each soil map unit has limitations for a variety of land uses such as septic systems, and buildings site development, including dwellings with and without basements. Approximately 42% of the soils contain very limiting conditions for building site development. See Soils Interpretations section and attached Soil Tables page 20.

The Soil Survey Geographic (SSURGO) data base was produced by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies for the Soil Survey of Kane County, Illinois. The soils were mapped at a scale of 1:12,000. The enlargement of these maps to scales greater than that at which they were originally mapped can cause misunderstanding of the detail of the mapping. If enlarged, maps do not show the small areas of contrasting soil that could have been shown at a larger scale. The depicted soil boundaries and interpretations derived from them do not eliminate the need of onsite sampling, testing, and detailed study of specific sites for intensive uses. Thus, this map and its interpretations are intended for planning purposes only.

LIST OF SOIL MAP UNITS

SOIL MAP UNIT	PERCENT OF PARCEL	ACRES
356A- Elpaso	27%	37.83
512B- Danabrook	39%	55.17
512C2- Danabrook	4%	6.19
618E- Senachwine	6%	9.34
656B- Octagon	3%	3.73
656C2- Octagon	9%	12.49
656D2-Octagon	6%	8.54
3076A- Otter	3%	4.27
W-Water	3%	4.54
Table 1: Soil Map Units		Total 142.10

All percentages and acreages are approximate.

We suggest that a geotechnical engineer conduct an on site investigation. This should determine, specifically, what soils type is present at a particular location, along with its associated limitations or potential for a particular use. It will also assist in determining which types of engineering procedures are necessary to account for the limitations of the soil on the site.

SOILS BUILDING LIMITATIONS

Figure 1: Soil Survey Map (Page 4)

United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Kane County SSURGO soil layer certified in 2007 and DuPage County SSURGO soil layer certified in

2007. Areas shaded red represent VERY LIMITING limitations for building site development, and areas shaded yellow represent SOMEWHAT LIMITING limitations for building site development.

AQUIFER SENSITIVITY

Figure 2: Aquifer Sensitivity Map (Page 5)

The map aquifer sensitivity to contamination (Dey et al 2007) is a representation of the potential vulnerability of aquifers in an area to contamination from sources of contaminants at or near the surface. The U.S. Environmental Protection Agency (1993) defines aquifer sensitivity/contamination potential as “a measure of the ease with which a contaminant applied on or near the land surface can migrate to an aquifer. It is a function of the intrinsic characteristics

of both the geologic materials comprising the aquifer as well as the overlying saturated and unsaturated material. It is independent of land use and the types of contaminant introduced.” The chart below shows the aquifer sensitivity classifications. **This site contains the following classifications for contamination: B1 and B2 moderately high potential, C3 moderate potential and D3 moderately low potential.**

A = High Potential, B = Moderately High Potential, C=Moderate Potential, D = Moderately Low Potential, E = Low Potential

A1	Aquifers are greater than 50ft thick and within 5ft of the surface	C1	Aquifers are greater than 50ft thick and between 20 and 50ft below the surface
A2	Aquifers are greater than 50ft thick and between 5 and 20ft below the surface	C2	Aquifers are between 20 and 50ft thick and between 20 and 50ft below the surface
A3	Aquifers are between 20 and 50ft thick and within 5ft of the surface	C3	Sand and gravel aquifers are between 5 and 20ft thick, or high-permeability bedrock aquifers are between 15 and 20ft thick, both between 20 and 50ft below the surface
A4	Aquifers are between 20 and 50ft thick and between 5 and 20ft below the surface	D1	Aquifers are greater than 50ft thick and between 20 and 50ft below the surface
B1	Sand and gravel aquifers are between 5 and 20ft thick, or high-permeability bedrock aquifers are between 15 and 20ft thick, both within 5ft of the surface	D2	Aquifers are between 20 and 50ft thick and between 50 and 100ft below the surface
B2	Sand and gravel aquifers are between 5 and 20ft thick, or high-permeability bedrock aquifers are between 15 and 20ft thick, both between 5 and 20ft below the surface	D3	Sand and gravel aquifers are between 5 and 20ft thick, or high-permeability bedrock aquifers are between 15 and 20ft thick, both between 50 and 100ft below the surface
E1	Sand and gravel or high-permeability bedrock aquifers are not present within 100ft of the land surface		

INSERT BUILDING LIMITATIONS MAP

INSERT AQUIFER SENSITIVITY MAP

SEPTIC ABSORPTION SYSTEMS

All of the soils mapped for this site contain **severe** limitations for the use of septic absorption systems. These limitations include slow percolation, ponding, and poor filter ability. See Soils Interpretations section and attached Soil Tables.

Slow percolation is due to the inefficient movement of water and air through the soil. Some soils are very plastic and expand to such a great extent when they are wet, that the pores of the soil swell shut. This slows the water movement and reduces the capacity of the soil to absorb the septic tank effluent.

Ponding is standing water in a closed depression. The water is removed only by percolation, transpiration, or evaporation. The saturated soil cannot absorb the effluent. The effluent remains near the surface or rises to the surface, and the absorption field becomes foul smelling and unhealthy.

Poor filter refers to soil conditions where the absorption field does not adequately filter the effluent causing the ground water to become contaminated.

Overburdened or malfunctioning field lines may present such difficulties as: stream pollution, potential health problems, saturated lawn areas, tree-kill from saturated soils, and objectionable odors. The District recommends that the petitioner have a professional soil scientist conduct an on-site investigation. This type of investigation may assist in locating and designing a septic absorption system that will function properly.

Figure 3: Septic Limitations (Page 7)

United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Kane County SSURGO soil layer certified in 2007 and DuPage County SSURGO soil layer certified in 2007. Shaded area represents VERY LIMITING limitations for septic absorption systems.

LESA

NOTE: The Kane County LESA System was revised and updated in 2004. Scores are reflected through a 33 point system used for the soils or Land Evaluation (LE) portion of the LESA Score.

Through the use of Kane County's Land Evaluation and Site Assessment System (LESA), a numerical value was determined for this site. The LESA System is designed to determine the quality of land for agricultural uses and to assess sites or land areas for their long term agricultural economic viability. In agricultural land evaluation, soils of a given area are rated ranging from the best to the worst suited for a stated agricultural use, i.e., cropland, forest land, or rangeland. A relative value is determined for each soil. The best soils are assigned a value of 33 and all others are assigned lower values. Therefore, the closer the relative value is to 33, the more valuable

and more productive the site's soils are for agricultural purposes.

The land evaluation for this site is **26**, which does represent the upper percent level of agricultural productivity.

The land evaluation represents thirty-three percent of the total LESA score. It is based on data from the National Cooperative Soil Survey. The site assessment portion of a LESA represents sixty-seven percent of the LESA score. It is based on factors such as zoning and land use compatibility.

INSERT SEPTIC LIMITATIONS MAP

WETLANDS

Figure 4: National Wetland Inventory Map (Page 9)

United States Department of the Interior, Fish and Wildlife Service, National Wetlands Inventory, Photo Year 1983-1984, Digitized 1985-1986.

There are wetlands within the boundaries of this site. This has been determined through the use of the National Wetlands Inventory map. The types of wetlands identified within this site include: (PUBKX- Palustrine Unconsolidated Bottom Artificially Flooded Excavated) A wetland delineation specialist who is recognized by the U.S. Army Corps of Engineers should determine the exact boundaries and value of these wetlands.

Wetlands function in many ways to benefit mankind. They control flooding by offering a slow release of excess water downstream or through the soil. They cleanse water by filtering out sediment and some pollutants. In addition, they may function as rechargers of our valuable groundwater. They are also essential breeding, rearing, and feeding grounds for many species of wildlife. This organization believes that such valuable resources should remain in a natural state.

Wetlands often need to receive some runoff in order to sustain vegetation and wetland conditions. In fact, low value wetlands may actually be enhanced by receiving more storm water and with selective plantings. Diversion of storm water away from wetlands may dry the wetland. However, there is a problem with using high value wetlands as a significant storm water control device. Urban storm water runoff can carry high volumes of sediment and pollutants, which do not benefit wetlands and water quality. Management of storm water and plant diversity could greatly enhance the value of the wetlands on this property.

The U.S. Army Corps of Engineers has been given jurisdiction over the utilization of our wetland resources. The responsibilities and regulatory authorities of the Corps of Engineers are based on Section 404 of the Clean Water Act (33 U.S.C. 1344). Section 301 of the Act prohibits the discharge of dredged or fill material into waters or other wetland areas without a permit from the Corps.

ADID WETLANDS

Figure 5: ADID Wetlands (Page 10)

Kane County's Wetlands and Streams Advanced Identification (ADID) Study completed in 2004.

Released in August of 2004, the Kane County Advanced Identification of Aquatic Resources (or ADID) study is a cooperative effort between federal, state, and local agencies to inventory, evaluate, and map high quality wetland and stream resources in the county. ADID studies are part of a U.S. Environmental Protection Agency program to provide improved awareness of the locations, functions, and values of wetlands and other waters of the United States. The primary purpose is to identify wetlands and streams unsuitable for dredging and filling because they are of particularly high quality. This information can be used by federal, state, and local governments to aid in zoning, permitting, and land acquisition decisions. In addition, the information can provide data to agencies, landowners, and private citizens interested in restoration, acquisition, or protection of aquatic sites and resources.

A review of the Kane County ADID map revealed that ADID wetlands were identified on this site. ADID wetland #2453 designated as having a high functional value was mapped on this site. ADID wetland #2463 was also mapped on this site. For more detailed information regarding wetlands in Kane County, please refer to the full Kane County ADID study at:

dewprojects.countyofkane.org/adid/index.htm.

INSERT NWI WETLANDS MAP

INSERT ADID WETLANDS MAP

Figure 6: Wetland Photograph Location Map

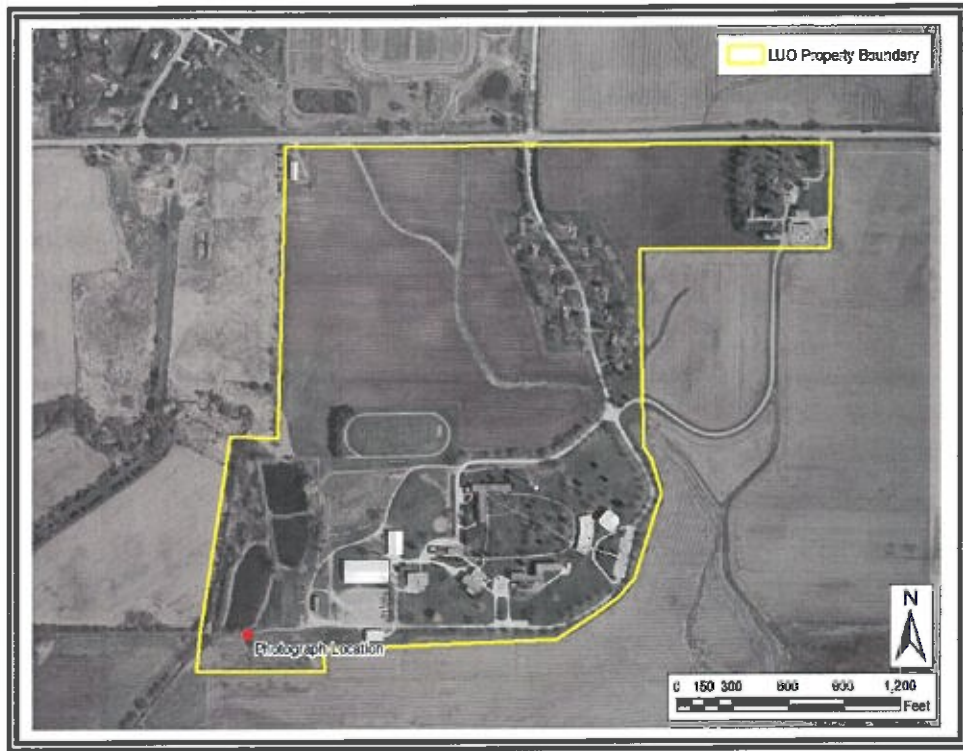


Figure 7: Photograph of Wetland
Photograph taken facing north.



FLOODPLAINS

Figure 8: Floodplain Map (Page 14)

Federal Emergency Management Agency, National Flood Insurance Program, Q3 Flood Data, Disc 6, September 1998.

According to the Flood Insurance Rate Map, approximately 13% of this site is within the boundaries of a 100-year floodplain.

This development may impede the beneficial functions of the floodplain. These functions include the temporary storage and the slow release of floodwaters. This disturbance could adversely affect other properties in the watershed.

Another indication of flooding potential can be found in the soils information. Figure 9 indicates the hydric soils mapped for the site. Hydric soils by definition have potential ponding problems.

Development in floodplains/floodways is regulated by the Department of Natural Resources, Office of Water Resources. A copy of this report is being sent to the Division Office in Bartlett.

Figure 9: Hydric Soils (Page 15)

Hydric soils are shaded purple and soils with hydric inclusions are shaded yellow.

INSERT FLOOPLAIN MAP

INSERT SOIL CONDITIONS MAP

WETLAND AND FLOODPLAIN REGULATIONS

PLEASE READ THE FOLLOWING IF YOU ARE PLANNING TO DO ANY WORK NEAR A STREAM (THIS INCLUDES SMALL UNNAMED STREAMS, LAKES, WETLANDS, AND FLOODWAYS.

The laws of the United States and the State of Illinois assign certain agencies specific and different regulatory roles to protect the waters within the State's boundaries. These roles, when considered together, include protection of navigation channels and harbors, protection against floodway encroachment, maintenance and enhancement of water quality, protection of fish and wildlife habitat as well as recreational resources. Unregulated use of waters within the State of Illinois could permanently destroy or alter the character of these valuable resources and adversely impact the public. Therefore, please contact the proper regulatory authorities when planning any work associated with Illinois waters so that proper consideration and approval can be obtained.

Who Must Apply:

Anyone proposing to dredge, fill, riprap, or otherwise alter the banks or beds of, or construct, operate, or maintain any dock, pier, wharf, sluice, dam, piling, wall, fence, utility, floodplain or floodway subject to State or Federal regulatory jurisdiction should apply for agency approvals.

REGULATORY AGENCIES:

- **Wetland/U.S. Waters:** U.S. Army Corps of Engineers, Chicago District, 111 North Canal Street, Chicago, IL 60606-7206. Phone: (312) 353-4117.
- **Floodplains:** Illinois Department of Natural Resources\Office of Water Resources, 2050 W. Sterns Road, Bartlett, IL 60103. Phone: (847) 608-3100

Coordination: We recommend early coordination with the regulatory agencies **BEFORE** finalizing work plans. This allows the agencies to recommend measures to mitigate/compensate for adverse impacts. Also, the agency can make possible environmental enhancement provisions early in the project planning stage. This could reduce time required to process necessary approvals.

CAUTION: Contact with the United States Army Corps of Engineers is strongly advised before commencement of any work in or near a water of the United States. This could save considerable time and expense. Persons responsible for willful and direct violation of Section 10 of the River and Harbor Act of 1899 or Section 404 of the Federal Water Pollution Control Act are subject to fines ranging up to \$25,000 per day of violation and imprisonment for up to one year or both.

STORMWATER

The proposed removal of vegetation, compaction of soil, and addition of impervious surfaces (rooftops, roadways, etc.) will greatly increase the amount of storm water runoff generated on this site. We strongly recommend the use of on-site storm water management. All additional runoff should be retained in on-site detention ponds and released at a rate that approximates natural, undisturbed runoff conditions. The S.W.C.D. encourages the use of a .10 cfs/acre release rate. Insufficient storm water management on this site will threaten the storm water capacity of the floodplain. This has the potential to cause or aggravate flooding conditions on surrounding properties or elsewhere in the watershed.

If detention ponds are constructed, the S.W.C.D. strongly encourages incorporating as many of the natural attributes of the existing wetlands as possible. Natural waterway features provide many benefits that

sterile detention ponds do not. These include: 1) flood control by slow release of excess water through the soil, 2) water purification by vegetation, 3) groundwater recharge, and 4) habitat for wildlife. However, there are concerns associated with allowing urban storm water flow to enter natural wetland features. If the runoff generated by impervious surfaces, such as rooftops and roadways, is loaded into these natural features, their flood control capabilities could be overburdened and flooding damage could result. Therefore, care must be used to insure that the natural features are not damaged or destroyed when used as part of a storm water detention plan.

In addition, storm water release needs to be regulated to insure that the creek flowing through the site is not adversely impacted, nor are downstream properties in the watershed.

Topography and Drainage

TOPOGRAPHY refers to the general shape of the land surface, and the position of its natural and manmade features. It includes the presence or absence of hills, and the slopes or difference in elevation between hilltops and valleys of a given region. Topography influences natural drainage. The force of gravity causes water to move down slopes towards depressions or streams, and pulls free or standing water downward through the soil. Soils on hills tend to be dry and soils in depressions and valleys often are wet or saturated.

The amount of moisture in the soil while it is developing, affects the rate of weathering and the development of soil colors. Soil colors are a reflection of the saturation status of the soil during development. Well-drained soils have uniformly brownish or yellowish brown subsoils; poorly drained soils have grayish subsoils; somewhat poorly drained soils have mottled brownish yellowish and grayish subsoils. Differences in natural soil drainage are typically associated with topography.

USGS Topographic maps and other topographic surveys give information on elevations, which are important to determine slopes, natural drainage directions, and watershed information. Elevations determine the area of impact of flooding. Slope information determines steepness and erosion potential of the site. Slope has the greatest impact in determining the erosion potential of a site during construction activities. Drainage directions determine where water leaves the property in question, possibly impacting surrounding natural resources.

The high point of this property is located in the northwestern portion of the site at an elevation of 822 feet above mean sea level. The property generally drains to the south via overland and through an existing wetland/stream system located onsite. The lowest elevation on the property is at 758 feet above mean sea level.

Figure 10: Municipalities 2Ft Contours (Page 18)

INSERT 2 FT CONTOUR MAP

EROSION

Development on this site should include the use of a soil erosion and sedimentation control plan. Due to the soil type and slope of the site, the S.W.C.D. believes that the potential for soil erosion during and after this proposed construction could be large. Furthermore, the erosion and sedimentation may become a primary non-point source of water pollution. Eroded soil during the construction phase can create unsafe conditions on roadways, degrade water quality, and destroy aquatic ecosystems lower in the watershed. Soil erosion also increases the risk of flooding due to choking culverts, ditches, and storm sewers, and by reducing the capacity of natural and man-made detention facilities.

Erosion and sedimentation control measures include: 1) staging the construction to minimize the amount of disturbed areas present at the same time, 2) maintaining or planting vegetative groundcover, and 3) keeping runoff velocities low. Wise placement and protection of soil stockpiles is also helpful. Siltation fences are useful controls only if they are properly installed and maintained. Soil erosion and

sedimentation control plans, including maintenance responsibilities, should be clearly communicated to all contractors working on the site. Debris basins and siltation ponds can also be used to prevent suspended sediment from leaving the property or damaging the wetland areas. On this property special care must be taken to protect any wetland features from sedimentation damage.

Detailed information on the most appropriate methods of controlling erosion and sedimentation in urbanizing areas can be found in the publication "Procedures and Standards for Urban Soil Erosion and Sedimentation Control in Illinois" (The Green Book) and the "Illinois Urban Manual". These manuals and additional technical assistance may be obtained by contacting this office. A copy of the Illinois Environmental Protection Agency "Standards and Specifications for Soil Erosion and Sediment Control" can be obtained by contacting the National Technical Information Service, 5285 Port Royal Rd, Spring, VA, 22161, (703) 487-4650.

WOODLANDS

The S.W.C.D. encourages preserving as much of the wooded character of this site as possible. Long-term preservation of the trees will require taking certain precautions during and after construction. The ground around each tree to be saved should be flagged or fenced off. Also, it should be protected from heavy machinery. This area should be at least as wide as the area covered by the spread of the tree branches. Soil compaction around the roots of the trees can permanently interfere with the uptake of

oxygen, nutrients, and water. This may cause the premature death of the trees. The placement of fill material around the trunks of trees can have the same adverse effects. Other construction practices to avoid near the trees are: cutting and filling, raising the soil level, and removing neighboring trees. Contractors and construction crews should be informed of all tree preservation efforts. Removal of invasive species is also encouraged.

NATIONAL POLLUTANT DISCHARGE ELIMINATION

Discharges of storm water from construction sites, which disturb 1 or more acres of land, must be covered by an NPDES permit. Under the NPDES General Permits for Storm Water Discharges from Construction Sites, the EPA requires the development and implementation of a pollution prevention plan. A pollution prevention plan for construction is designed to reduce pollution at the construction site before it can cause environmental problems. Many of the practices and measures required for the pollution

prevention plan represent the standard operating procedure at many construction sites. Storm water management controls, erosion and sediment controls, inspection and maintenance have all been used at a number of construction projects. The General NPDES permit can be obtained through the Illinois Environmental Protection Agency, Division of Water Pollution Control, 2200 Churchill Road, P.O. Box 19276, Springfield, Illinois 62794-9276.

SOILS INTERPRETATIONS

The soil interpretation information and a summary of the soil limitations for this site are derived from the SSURGO certified soil layers for Kane and DuPage Counties, IL.

The soil limitation ratings are used mainly for engineering designs of dwellings with or without basements, local streets and roads, small commercial buildings, septic tank absorption fields, and etc. The ratings of not limiting, somewhat limiting, and very limiting are based on national averages and are defined and used as follows:

Not Limiting (Slight) - This limitation rating indicates that the soil properties are generally

favorable for the specified use and that any limitations are minor and easily overcome.

Somewhat Limiting (Moderate) - This rating indicates that the soil properties and site features are unfavorable for the specified use, but that the limitations can be overcome or minimized with special planning and design.

Very Limiting (Severe) - This indicates that one or more soil properties or site features are very unfavorable and difficult. A major increase in construction effort, special designs, or intensive maintenance is required. These costly measures may not be feasible for some soils that are rated as severe.

SOIL LIMITATION INTERPRETATIONS

Flooding is the temporary covering of soil surface by flowing water from any source, such as streams overflowing their banks, runoff from adjacent or surrounding slopes, inflow from high tides, or any combination of sources.

Ponding is standing water in a closed depression. The water is removed only by percolation, transpiration, or evaporation.

Frost heave potential and **shrink-swell actions** are concerns when constructing paved surfaces, such as foundations and roadways.

Frost heave is the result of moisture freezing in the soil and forming ice lenses. The ice lenses cause the soil to expand, leading to the premature deterioration of paved surfaces.

Shrink-swell action is related to the type and percentage of clay present. Clays are capable of absorbing large quantities of soil moisture because of their greater surface area. Absorption of soil moisture results in the swelling of the clay horizons. Upon drying, the soil tends to shrink. The expansion and contraction exerts stress on foundations, footings, and paved surfaces due to the changes in soil moisture conditions.

Soils limited by **wetness** indicates the presence of a seasonally high water table. A seasonally **high water table** is a zone of saturation at the highest average depth during the wettest season. It is at least 6 inches thick, persists in the soil for more than a few weeks, and is within 6 feet of the soil surface.

Our opinion is based on information from the following sources:

United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Kane County, IL SSURGO soil layer certified in 2007, and DuPage County, IL SSURGO soil layer certified in 2007 and accompanying interpretations.

Federal Emergency Management Agency, National Flood Insurance Program, Q3 Flood Data, Disc 6, September 2011.

United States Department of the Interior, Fish and Wildlife Service, National Wetlands Inventory, Photo Year 1983-1984, Digitized 1985-1986.

U.S. Geological Survey, Illinois Digital Orthophoto Quadrangles, 2006 photos, published: Champaign, Illinois State Geological Survey, 2006.

U.S. Geological Survey, National Elevation Dataset, Published: Sioux Falls, SD, 2006.

Dey, W.S., A.M. Davis, and B.B. Curry, 2007, Aquifer Sensitivity to Contamination, Kane County, Illinois: Illinois State Geological Survey, Illinois County Geologic Map, ICGM Kane-AS

An on-site investigation conducted by the SWCD Resource Analyst, Ashley Jennings on October 21, 2015.

We respectfully submit this information in compliance with the Illinois Soil and Water Conservation Districts Act (ILCS 70, 405/1 et seq). The District Board reviews proposed developments. Ashley Jennings, Resource Analyst, prepared this report.

cc: Mata Amritananadamayi
c/o Charles A. Radovich
Radovich Law Office, P.C.
312 West State Street
Geneva, IL 60134

ecc Wayne Gorski, USEPA
IDNR Office of Water Resources

APPENDIX A

Soil Tables

SOIL REPORT

LUO 15-104

Dwellings With Basements

Aggregation Method: Dominant Condition
Tie-break Rule: Higher

Kane County, Illinois
Survey Area Version and Date: 0 - 01/20/2012

Map symbol	Map unit name	Rating	Component name and % composition Rating reasons
526A	Eipaso silty clay loam, 0 to 2 percent slopes	Very limited	Eipaso 90% Ponding Depth to saturated zone Shrink-swell
512B	Danabrook silt loam, 2 to 5 percent slopes	Somewhat limited	Danabrook 90% Shrink-swell Depth to saturated zone
512C2	Danabrook silt loam, 5 to 10 percent slopes, eroded	Somewhat limited	Danabrook 82% Depth to saturated zone
618E	Seneschwine silt loam, 12 to 20 percent slopes	Very limited	Seneschwine 90% Slope Shrink-swell
656B	Octagon silt loam, 2 to 4 percent slopes	Somewhat limited	Octagon 92% Depth to saturated zone
656C2	Octagon silt loam, 4 to 5 percent slopes, eroded	Somewhat limited	Octagon 92% Depth to saturated zone
656D2	Octagon silt loam, 6 to 12 percent slopes, eroded	Somewhat limited	Octagon 92% Depth to saturated zone Slope
3078A	Ober silt loam, 0 to 2 percent slopes, frequently flooded	Very limited	Ober 90% Flooding Depth to saturated zone
W	Water	Not rated	Water 100%

Dwellings With Basements

Rating Options

Attribute Name: Dwellings With Basements

Dwellings are single-family houses of three stories or less. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet.

The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification of the soil. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Dwellings Without Basements

Aggregation Method: Dominant Condition
Tie-break Rule: Higher

Kane County, Illinois
Survey Area Version and Date: 6 - 01/20/2012

Map symbol	Map unit name	Rating	Component name and % composition Rating reasons
550A	Elpaso silty clay loam, 0 to 2 percent slopes	Very limited	Elpaso 80% Ponding Depth to saturated zone Shrink-swell
512B	Danabrook silt loam, 2 to 5 percent slopes	Somewhat limited	Danabrook 80% Shrink-swell
512C2	Danabrook silt loam, 5 to 10 percent slopes, eroded	Somewhat limited	Danabrook 82% Shrink-swell
818E	Senachwine silt loam, 12 to 20 percent slopes	Very limited	Senachwine 80% Slope Shrink-swell
554B	Octagon silt loam, 2 to 4 percent slopes	Somewhat limited	Octagon 82% Shrink-swell
554C2	Octagon silt loam, 4 to 6 percent slopes, eroded	Somewhat limited	Octagon 82% Shrink-swell
554D2	Octagon silt loam, 8 to 12 percent slopes, eroded	Somewhat limited	Octagon 82% Shrink-swell Slope
3076A	Otter silt loam, 0 to 2 percent slopes, frequently flooded	Very limited	Otter 90% Flooding Depth to saturated zone
W	Water	Not rated	Water 100%

Dwellings Without Basements

Rating Options

Attribute Name: Dwellings Without Basements:

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper.

The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification of the soil. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Small Commercial Buildings

Aggregation Method: Dominant Condition
Tie-break Rule: Higher

Kane County, Illinois
Survey Area Version and Date: 8 - 01/20/2012

Map symbol	Map unit name	Rating	Component name and % composition Rating reasons
358A	Elpaso silty clay loam, 0 to 2 percent slopes	Very limited	Elpaso 90% Ponding Depth to saturated zone Shrink-swell
512B	Danabrook silt loam, 2 to 5 percent slopes	Somewhat limited	Danabrook 80% Shrink-swell
512C2	Danabrook silt loam, 5 to 10 percent slopes, eroded	Somewhat limited	Danabrook 82% Slope Shrink-swell
516E	Senachwine silt loam, 12 to 20 percent slopes	Very limited	Senachwine 90% Slope Shrink-swell
656B	Ottagon silt loam, 2 to 4 percent slopes	Somewhat limited	Ottagon 82% Shrink-swell
656C2	Ottagon silt loam, 4 to 6 percent slopes, eroded	Somewhat limited	Ottagon 82% Shrink-swell Slope
656D2	Ottagon silt loam, 8 to 12 percent slopes, eroded	Very limited	Ottagon 92% Slope Shrink-swell
9078A	Otter silt loam, 0 to 2 percent slopes, frequently flooded	Very limited	Otter 90% Flooding Depth to saturated zone
W	Water	Not rated	Water 100%

Small Commercial Buildings

Rating Options

Attribute Name: **Small Commercial Buildings**

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification of the soil). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

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Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Septic Tank Absorption Fields

Aggregation Method: Dominant Condition
Tie-break Rule: Higher

Kane County, Illinois
Survey Area Version and Date: 8 - 01/20/2012

Map symbol	Map unit name	Rating	Component name and % composition Rating reasons
358A	Elpaso silty clay loam, 0 to 2 percent slopes	Very limited	Elpaso 90% Ponding Depth to saturated zone Slow water movement
312B	Danabrook silt loam, 2 to 5 percent slopes	Very limited	Danabrook 90% Depth to saturated zone Slow water movement
512C2	Danabrook silt loam, 5 to 10 percent slopes, eroded	Very limited	Danabrook 92% Depth to saturated zone Slow water movement
516E	Senachwine silt loam, 12 to 20 percent slopes	Very limited	Senachwine 90% Slow water movement Slope
558B	Octagon silt loam, 2 to 4 percent slopes	Very limited	Octagon 92% Depth to saturated zone Slow water movement
658C2	Octagon silt loam, 4 to 8 percent slopes, eroded	Very limited	Octagon 92% Depth to saturated zone Slow water movement
658D2	Octagon silt loam, 8 to 12 percent slopes, eroded	Very limited	Octagon 92% Depth to saturated zone Slow water movement Slope
3076A	Other silt loam, 0 to 2 percent slopes, frequently flooded	Very limited	Other 90% Flooding Depth to saturated zone Slow water movement
W	Water	Not rated	Water 100%

Septic Tank Absorption Fields

Rating Options

Attribute Name: Septic Tank Absorption Fields

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Saturated hydraulic conductivity (Ksat), depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

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APPENDIX B

Contact List

CONTACT LIST

Federal Agencies

U. S. Army Corps of Engineers
Regulatory Branch
111 North Canal Street, Suite 600
Chicago, Illinois 60606
(312) 846-6400
<http://www.usace.army.mil>

**U. S. D. A. Natural Resources
Conservation Service**
2315 Dean Street Suite 100
St. Charles, Illinois 60175
(630)584-7961 ext. 3
<http://www.il.nrcs.usda.gov/>

U. S. Fish & Wildlife Service
Chicago Illinois Field Office
1250 South Grove Street Suite 103
Barrington, Illinois 60010
(847) 381-2253
<http://www.fws.gov/>

U. S. Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604
(312) 353-2000
<http://www.epa.gov/region5/>

State Agencies

Illinois Department of Natural Resources
1 Natural Resources Way
Springfield, Illinois 62702-1271
(217) 782-6302
<http://dnr.state.il.us/>

Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276
(217) 782-3397
<http://www.epa.state.il.us/>

Illinois Department of Transportation
2300 South Dirksen Parkway
Schaumburg, Illinois 62764-0001
<http://www.dot.state.il.us/>

Illinois Natural History Survey
607 East Peabody Drive
Champaign, Illinois 61820
(217) 333-688
<http://www.inhs.uiuc.edu/>

County Offices

DuPage County

Administration Building
421 North County Farm Road
Wheaton, Illinois 60187
<http://www.co.dupage.il.us/>
630-407-6500

Development Department
(630) 407-6700

**Environmental Concerns Department
Stormwater Management Division**
(630) 407-6700

Solid Waste Department
(630) 407-6700

Health Department
111 North County Farm Road
Wheaton, Illinois 60187
(630) 682-7400

Forest Preserve District
3 S 580 Naperville Road,
Wheaton, Illinois 60189
(630) 933-7200

Kane County

Government Center
719 South Batavia Ave.
Geneva, IL 60134
<http://www.co.kane.il.us/>
630-232-3400

Development Department
(630) 232-3492

Department of Environmental Management
630-208-5118

Forest Preserve District
(630) 232-5980

Health Department
1240 North Highland Avenue
Aurora, IL 60506
(630) 897-1124

COUNTY OF KANE

KANE COUNTY DIVISION OF ENVIRONMENTAL & WATER RESOURCES

Kenneth N. Anderson, Jr
Director

Jodie L. Wollnik, P.E., CFM
Assistant Director



County Government Center
719 Batavia Avenue
Geneva, IL 60134
Phone: (630) 232-3497
Fax: (630) 208-3837
e-mail: WollnikJodie@co.kane.il.us
website: <http://www.co.kane.il.us>

TO: Blackberry Crossing HOA and MA Center Representatives

FROM: Jodie Wollnik - Water Resources Division

DATE: November 2, 2015

RE: Blackberry Crossing Development History and Current Condition

The County, through their drainage consultant, Huddleston-McBride Drainage Company, has been working to address a possible off-site drainage issue with Blackberry Crossing's south-west detention basin. The initial investigation of the restrictor manhole from the basin uncovered a surcharge outlet pipe that was believed to be connected to the 7" draintile on MA's (former Broadview Academy's) property.

The Blackberry Crossing development was permitted under the Kane County Stormwater Ordinance in 2002 as permit WS-2002-63. As this development occurred after the effective date of the Stormwater Ordinance, the HOA is responsible for the long term maintenance and improvements associated with their drainage system. In addition, a backup SSA was approved by the County Board during the development that would allow for the levy of taxes upon the subdivision should they fail to perform their duties. The County's assistance, in regards to the surcharged outlet pipe, was solely due to the fact that the issue was believed to be off-site and not under the control of the HOA.

As a result of proposed improvements on the MA Center property, the County had several meetings with representatives of MA and discussed the issue of the tile system across MA's property and the current condition of the tile based upon an investigation by Huddleston-McBride. Most recently, Kane County met with representatives of MA regarding their proposed improvements and the Stormwater Ordinance requirement to verify a reliable outfall to an open water course from their proposed detention facility. The question was raised why when Blackberry Crossing was developed under the current Stormwater Ordinance they were not required to verify the outfall and replace the draintile on MA's property before it was approved by the County?

As a result of the question raised by MA, Kane County pulled the subdivision records for Blackberry Crossing and found several new pieces of information that are key to the discussion.

1. The developer of Blackberry Crossing had several meetings with the owner's of the then Broadview Academy and agreed to assess the condition of the 7" tile. A map was developed of the downstream system as part of that work.
2. The developer's engineer designed the detention facilities. It was determined by the engineer, that the discharge from the restrictor for the Southwest basin would be a surface outfall and would not rely on the existing 7" drain tile. The stormwater report states the following" Southwest Detention Basin – This basin is located in the existing low area in the southwest corner of the site....It will discharge to the south, following the existing flow path to the existing Keslinger Road culvert." For this reason, under the Ordinance, the developer would not have been required to replace the existing 7" tile.
3. Further in the report, it states that the existing tile's sole purpose would be for nuisance flows.

4. Under the County Stormwater Ordinance, the southwest Blackberry Crossing basin complies with the detention requirements whether the 7" tile is functional or not. In addition, the tile was never intended to draw down the detention basin in Blackberry Crossing, and shouldn't be expected to do so.
5. The plans also protect the tile from intrusion of sediment and debris. There is a 2" orifice on the tile connection in the restrictor manhole with a downturned elbow. In addition, there is sediment capacity in the detention facility and requirements for silt fence and other erosion control measures that were in place at the time of land disturbing activities. Given all these precautionary measures, it is unlikely that the 7" failure is a result of soil erosion from the Blackberry Crossing development.

We met with a representative for the Blackberry Crossing HOA after the elevations of the restrictor manhole and downstream ditch were surveyed. Based on the survey, one of the reasons for the surcharge on the 12" pipe out of the restrictor manhole is a high point in the ditch downstream before the Keslinger Road culvert. We would recommend that the HOA consider maintenance of the ditch and removal of the high point. In addition, there remains a plugging issue with the 4 1/2" restrictor. Originally, a trash rack was installed in front of the restrictor, but given the small size of the holes (1"x1"), it was easily plugged and caused an un-maintainable situation. While the restrictor cannot be increased in size, we would recommend to the HOA that options be considered to minimize the debris entering the basin as grass clippings and other debris were noted during Huddleston's site visit. There may be an opportunity to use rock rip rap at the 12" flared end section in the basin to strain out some of the debris before it even enters the manhole. A more course trash rack may also be considered. We would recommend that the HOA work with an engineer to address the issue and develop costs for any modifications.

The question of lowering the normal water level was also raised by the HOA such that even with the restrictor partially clogged, the pond would sit closer to the design normal water level to give a buffer if the pond is slow to drain down. It is noted that there is only 0.4' of fall between between the normal water and the Keslinger culvert so doing so would create a very flat ditch with little pitch. The HOA should discuss this option with an engineer to determine the possible impacts of such a change. A revised as-built should then be submitted to the County if changes to the restrictor and normal water are made.

Lastly, a question was raised regarding the potential impact the slow drain down time may have on the groundwater in the area. The basin was designed with a normal water level of 815.0 and a high water level of 819.0 (the elevation above which water would start spilling over the spillway – as a point of reference). The nearest home to the basin is located just north. Kane County requires that the first floor of homes be constructed a minimum of 2' above the high water of an adjacent basin. There are no requirements for basement elevations or footings unless there is a walkout with a surface path from the basin (walk-ups would consider the yard grade adjacent to the walk up). The final grading survey for the home north of the basin shows the basement floor elevation to be 820.38. Even at spill over, the basement floor of this home is above the water elevation in the detention, therefore, the slow basin drain down time should not impact the nearest resident. Looking at the hydric soils in the area (which are known to be moist soils that like to retain water, it is possible that the home's basement intercepted the natural groundwater flow off the hill north and northwest of the property with the basement. Soil borings on the original building permit indicate possible seasonal high water tables around 38". We have seen success in these types of situations with whole house curtain drain systems if groundwater and moisture are an issue. The homeowner will have constructed a curtain drain system in the yard to intercept the up-gradient groundwater before it reaches their foundation. Typically, a yard sump pump is then used to pump the water, but in this case, the up gradient flow is at a higher elevation than the detention high water elevation and could likely be drained to the detention basin by gravity with a backflow preventer. The homeowner may want to discuss this option with an underground specialist.

For verification, a site visit was completed by Water Resource staff on October 30 to observe the restrictor and outlet pipe. Based upon the site visit, it was noted that the SW basin was overgrown in cattails that have created a monoculture of vegetation. Cattails are of particular nuisance in detention basins because each year the root mass builds upon the previous year's growth, effectively raising the bottom of the detention facility over time. The biomass in the basin was also dense enough to force water to labor through it to reach the outfall extending the drain down time. It is strongly suggested that the HOA begin maintenance of the vegetation in this basin as was required under the Stormwater Permit for Blackberry Crossing to reestablish the approved vegetation that was designed as part of the subdivision plans. Many of the HOA's that are responsible for maintenance of their stormwater facilities rely on a civil engineering firm to perform a yearly inspection of the stormwater facilities and note for them costs and maintenance requirements for the coming year. If the Blackberry Crossing system has not be assessed by a professional since it was constructed, we strongly urge the HOA to work with a professional to establish yearly maintenance tasks for the stormwater system in the subdivision to maintain compliance with the County Stormwater Ordinance.

If there are any further questions, please feel free to contact me.

Berkhout, Keith

From: Erin E. Willrett <ewillrett@elburn.il.us>
Sent: Tuesday, April 19, 2016 9:12 AM
To: Berkhout, Keith
Cc: Charles Radovich (radovichlaw@sbcglobal.net)
Subject: Special Use Application 41W501 Keslinger Road, Response

Dear Mr. Berkhout,

On behalf of the Village of Elburn, we would like to thank you for the opportunity to comment on the Special Use Application for 41W501 Keslinger Road, Elburn, IL. Overall, the Village has no comments or objections to what is being accomplished through the special use. However, the Board did express that the residential properties NOT be tax exempt.

The Village feels that this is an important area to plan for in the coming years. We appreciate the Kane County Development Department efforts to work cooperatively with the Village of Elburn. We thank you again for the opportunity to comment on the Special Use Application, and look forward to working together in the future.

Sincerely,

Erin

Erin Willrett

Village Administrator

Village of Elburn

301 E. North Street

Elburn, Illinois 60119

Ph. 630-365-5062

Fax 630-365-5063

www.elburn.il.us

Corporate Headquarters
40W267 Keslinger Road
PO Box 393
LaFox, IL 60147-0393
USA
Phone: (630) 208-2200
Fax: (630) 208-2550

May 5, 2016

Kane County Government Center
Kane County Building & Zoning Division
ATTN: Keith Berkhout, Zoning Planner
719 S. Batavia Avenue
Geneva, IL 60134

RE: Public Hearing for the M.A. Center

Dear Mr. Berkhout,

Thank you for the notice of the public hearing to consider the request to allow additional residential units, campus buildings, a farm stand and Montessori school on the referenced property. Unfortunately, I will be unable to attend the public hearing as I will be in Phoenix attending my son's college graduation from ASU.

We live at 0N498 Bunker Road, Elburn where we own 94 acres of property, including a large home and associated buildings which adjoin the M.A. Center's property on the southwest. Blackberry Creek runs thru the M.A. Center property and then thru the center of our 94 acre estate. We have the following concerns about the proposed request for additional development:

- We are concerned if the proposed development of the M.A. Center will be in compliance with all environmental regulations. We understand the septic systems and associated sediment ponds date back to 1970. When the Blackberry Creek floods, their ponds overflow and the polluted water drains across our property as well as other property owners that are downstream. Eventually, the water drains into the Fox River. Storm water retention is also a major concern considering the proposed density of the new development. We also understand at one time the well water from existing wells on the M.A. Center property contained high levels of Radon. What are the plans for the sewer and water system for the proposed development? We are very concerned about the high density of the proposed development under the existing conditions.
- What traffic and access improvements will be included in this project?
- Will the height of these buildings be restricted?
- We understand that the M.A. Center as a non-profit organization does not pay property taxes. How then will the Kane County infrastructure (such as Kaneland School District 302, Town & Country Library, Elburn Fire District and Blackberry Township Road District) required by this development be paid for?

Thank you for considering our concerns.

Sincerely,



Edward J. Richardson

Berkhout, Keith

From: Wollnik, Jodie
Sent: Friday, May 06, 2016 12:09 PM
To: Berkhout, Keith
Subject: RE: MA Center

A concept stormwater management report was received by Water Resources on 5/2/16 as requested during the staff meeting in September of 2015. The concept plan addresses the overall stormwater management for the site and areas set aside for stormwater management basins and outfall storm sewers. A complete stormwater management report and design will be required and a stormwater permit application will need to be submitted and approved by Water Resources prior to any site work or building permits.

*Jodie L. Wollnik, P.E.
Assistant Director – Water Resources
Kane County - Water Resources Division
719 Batavia Avenue
Geneva, IL 60134
(630)232-3499*

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Berkhout, Keith

From: Sangita Santhanam <sangita@rasadesign.net>
Sent: Sunday, May 08, 2016 6:52 PM
To: Berkhout, Keith
Subject: MA Center Sign Size Variance Request

Mr. Berkhout,

MA Center wishes to to request a sign size variance for the MA Center Monument Sign. The approximate area of the informational area of the sign with the letters "MA Center" will be approximately 40 sq.ft.

Thank you,
Sangita Santhanam

Berkhout, Keith

From: Sangita Santhanam <sangita@rasadesign.net>
Sent: Monday, May 09, 2016 11:30 AM
To: Berkhout, Keith
Cc: Ron Gottsegen MAC; Charles Radovich; Ramu Ramachandran
Subject: MA Center Farm Stand

Keith,
Here is a list of items that MA Center plans to sell at the existing Farm Stand at the NW corner of the property.

Thanks!
Sangita

MA Center Farm Stand

Request for Special Use for the sale of the following items:

- Fresh vegetables, fruits, grains, nuts, berries, seeds and other foodstuffs and edibles produced at MA Center or one of its affiliated growers.
- Edibles that are processed at the MA Center commercial Kitchen, or procured from other sources (salsa, pickles, pies, bread, etc) in whole or part from the above as packaged, or snack foods.
- Items including but not limited to the following:
 - Drinks and juices, processed at MA Center from fruits grown there, or procured from other sources, with or without other additives.
 - Plants, herbs, seedlings, trees, seeds, flowers, compost and other horticultural products grown or prepared at MA Center, at various stages of growth, optionally in pots with potting soils and nutrients.
 - Supplemental health herbs, their extracts and extract blends, produced from herbs grown locally or procured from other sources. (e.g. echinacea, astragalus, sage, thyme, chamomile, cilantro, lavender, lemon balm, licorice, peppermint, rhubarb, St. Johns Wort, stevia, etc)
- Honey produced locally and procured from other sources.
- Artisan soaps hand-crafted using herbs and flowers produced locally or procured from other sources, as well as organic oils.
- Beekeeping products: soap, lip balm, salves, hand cream, etc
- Sign up for training or educational sessions on herb farming, soil testing, permaculture etc. to be held at the MA Center.
- All packaging and bottling to conform to Department of Health Standards as well as appropriate labeling per AHJ recommendations or regulations.

Berkhout, Keith

From: Wiegel, Julie
Sent: Tuesday, May 10, 2016 1:24 PM
To: Berkhout, Keith
Subject: Fwd: May 10th Public Hearing Regarding M.A. Center
Attachments: Letter to Keith Berkhout_Kane County_5.10.16_M.A. Center Hearing.pdf; ATT00001.htm

The septic was permitted, renovated and inspected when the MA center initially moved into the property. The requested change will only require a relatively small change to the existing septic system. All changes will be permitted and inspected by the health department. Their water system is permitted by the EPA.

Julie Wiegel, LEHP
Kane County Health Department
630-208-5131 phone
847-888-6458 Elgin Fax
630-897-8123 Aurora Fax

Begin forwarded message:

From: "Berkhout, Keith" <BerkhoutKeith@co.kane.il.us>
To: "VanKerkhoff, Mark" <vankerkhoffmark@co.kane.il.us>
Cc: "Wiegel, Julie" <WiegelJulie@co.kane.il.us>, "Wollnik, Jodie" <WollnikJodie@co.kane.il.us>, "McGraw, Keith" <McGrawKeith@co.kane.il.us>
Subject: FW: May 10th Public Hearing Regarding M.A. Center

Just received.
Keith

From: Victoria Zionts [<mailto:vzionts@rell.com>]
Sent: Thursday, May 05, 2016 4:17 PM
To: Berkhout, Keith <BerkhoutKeith@co.kane.il.us>
Subject: May 10th Public Hearing Regarding M.A. Center

Good afternoon Mr. Berkhout,

Attached is a letter from Mr. Richardson regarding the upcoming Zoning Board of Appeals public hearing. As Mr. Richardson cannot attend the hearing in person, please accept this letter and ensure it is read at the hearing on his behalf.

A hard copy of the letter is also being mailed to your attention.

Feel free to contact me if you have any questions.

Regards,
Vicky

Vicky Zionts

KANE COUNTY

DIVISION of TRANSPORTATION

Carl Schoedel, P.E.
Director of Transportation
County Engineer



41W011 Burlington Road
St. Charles, IL 60175
Phone: (630) 584-1170
Fax: (630) 584-5265

MEMORANDUM

TO: Keith Berkhout, Building & Zoning Division

FROM: Kurt E. Nika, KDOT

DATE: May 10, 2016

RE: Transportation Recommendations
Amending the existing Special Use – Access Review
Mata Amritanandamayi Center – Section 10, Blackberry Township

Staff from the Kane County Division of Transportation (KDOT) has reviewed the above-referenced rezoning request and we offer the following comments:

Comments

1. While evaluating the proposed build-out of the site outlined in the petition, we considered the historical uses of the site and the previous land use approval in 2012. Some historic/existing uses (the former Administration building and the former 100-dual occupant Boy's Dormitory) were to be rehabilitated, but have subsequently been demolished. The immediate effect is that these demolitions will result in a diminished trip generation to the site until they are reconstructed in the future.
2. The existing Multi-unit residential building (former Girl's Dormitory) is only partially occupied (14 of 46 units) and is geared toward retired/semi-retired elderly people who do not work off-campus. In addition, a past survey of the existing rental single family units showed that half did not work off-campus. Therefore, the expectation is that both of these uses will not add the typical amount of traffic to the site's Keslinger Road access.
3. The petition outlines a build-out of the site in four phases over the course of many years (an unspecified time). At some point before full build-out, the threshold for left- and right- turn lane warrants on Keslinger Road at "MA Center Drive" for a typical weekday will be met. Therefore, the MA Center will be responsible for all costs to widen Keslinger Road to provide a left- and right-turn lane on Keslinger at MA Center Drive with a minimal left turn lane for Harley Road. This will ensure the safe and efficient movement of traffic associated with access to this development.
4. The residential traffic generated from this development is atypical of that normally associated with such land uses because of the above-mentioned considerations. Therefore, standard estimations using trip generation manuals would overstate the site-generated traffic.
5. KDOT has concluded that the installation of left- and right-turn lanes should be constructed and operational before the conclusion of Phase 2 or before October 31, 2021, whichever occurs first. KDOT

reserves the ability to accelerate the timing of this requirement due to traffic operations and/or crash history.

6. In addition, there can be no intensification of the existing farmstead land at the northeast corner of the site that would add traffic to the associated Keslinger Road access points. Should a future school be located here or other building at this location, the two Keslinger Road accesses will be removed and access will be via "MA Center Drive".
7. The farmstand at the northwest corner of the site can retain its existing access to Keslinger Road. The access road between the main campus and the farmstand is to be used for operations of the farmstand and not for public use. This access road is to be gated, which will allow access for emergency vehicles to the main campus, when necessary.
8. KDOT has no objection to the proposed sign setback variance, since it is located outside the ultimate right-of-way for Keslinger Road (previously dedicated).

Proposed Zoning Stipulations

1. The MA Center shall install left- and right-turn lanes on Keslinger Road at "MA Center Drive" before the conclusion of Phase 2 or before October 31, 2021, whichever occurs first. KDOT reserves the ability to accelerate the timing of this requirement due to traffic operations and/or crash history.
2. There shall be no intensification of the existing farmstead land at the northeast corner of the site that would add traffic to the associated Keslinger Road access points. Any future school or other building located on these lands will require the removal of the two Keslinger Road accesses. Future access to this site will be via "MA Center Drive".
3. The farmstand at the northwest corner of the site shall retain its existing access to Keslinger Road. The proposed access road between the main campus and the farmstand is to be used for operations of the farmstand and not for public use. This proposed access road is to be gated, which will allow access for emergency vehicles to the main campus, when necessary.

If you have any questions, please contact this office.

Cc: Sangita Santhanam (via email)
Rod Feece, Blackberry Township (via email)
KDOT: Keith McGraw, Lydia Benda (via email)
File

COUNTY OF KANE)
) SS
STATE OF ILLINOIS)

NUNC PRO TUNC AMENDMENT TO APPLICATION FOR SPECIAL USE
[M.A. CENTER (MATA AMRITANANDAMAYI CENTER)]
41W501 KESLINGER ROAD, ELBURN, ILLINOIS

The Applicant and Owner, MATA AMRITANANDAMAYI CENTER, also known as the M. A. Center, Inc. a California not-for-profit corporation, hereby amends its Application for Special Use dated January 20, 2016, *nunc pro tunc*, to conform to Applicant’s oral statements to the Zoning Board of Appeals at and during the public hearing on May 10, 2016 at the Kane County Government Center, in the City of Geneva, Kane County, Illinois.

The amendments to the Application are as follows:

1. With regard to the proposed 72 single family homes (constructed in groups of two [2] up to six [6] attached units), the Applicant and Owner will not seek an exemption from real estate taxation for these units, and the land beneath them, as the units are completed and certificates of occupancy are issued by the County of Kane.

2. As to the Application’s description of the “192 apartment residential living units within 3 buildings,” and for the purposes of clarification, these units are limited to be used as temporary housing for members and guests participating in the M.A. Center’s activities, outings and retreats in order to be eligible and compliant with the provisions of Section 501 (c)(3) of the Internal Revenue Code. For the purpose of this amendment, ‘temporary housing’ shall mean occupancy of nine (9) consecutive months.

3. Additionally, Applicant and Owner will use down cast lighting fixtures on all future exterior construction to minimize light proliferation beyond its property lines.

Except as specifically amended above, the Application submitted by the Applicant and Owner is acknowledged and confirmed

Respectfully Submitted,



Ron Gottsegen, M.A. Center Chief Executive Officer
May 11, 2016