

## **CASE NO. 711-AT-12**

**PRELIMINARY MEMORANDUM**

June 14, 2012

Petitioner: **Zoning Administrator**

Prepared by: **John Hall**, Zoning Administrator  
**Andrew Kass**, Associate Planner

Request: **Amend the Champaign County Zoning Ordinance as follows:**

**Part A. In Section 3, revise the definition of “best prime farmland” as follows:**

- a) delete “Relative Value of 85” and “Land Evaluation rating of 85” and replace with “average Land Evaluation rating of 91 or higher”; and
- b) add “prime farmland soils that under optimum management have 91% to 100% of the highest soil productivities in Champaign County, on average, as reported in the *Bulletin 811 Optimum Crop Productivity Ratings for Illinois Soils*”; and
- c) add “soils identified as Agriculture Value Groups 1, 2, 3 and/or 4 in the Champaign County Land Evaluation and Site Assessment (LESA) System”; and
- d) add “Any development site that includes a significant amount (10% or more of the area proposed to be developed) of Agriculture Value Groups 1, 2, 3 and/or 4 soils”.

**Part B. Revise Footnote 13 of Section 5.3 to strike references to “has a Land Evaluation score greater than or equal to 85 on the County’s Land Evaluation and Site Assessment System” and replace with “is made up of soils that are BEST PRIME FARMLAND”**

**Part C. Revise paragraph 5.4.4 to strike references to “has a Land Evaluation score greater than or equal to 85 on the County’s Land Evaluation and Site Assessment System” and replace with “is made up of soils that are BEST PRIME FARMLAND”**

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### **BACKGROUND**

The Champaign County Board Committee of the Whole- Environment and Land Use Committee authorized this text amendment at their April 3, 2012, meeting. See the attached memorandum.

### **RELATED ZONING CASE**

This text amendment is related to Case 710-AT-12 which proposes an update to the Champaign County Land Evaluation and Site Assessment (LESA) System. These zoning cases are related and should be decided concurrently and the Documents of Record will be the same for both cases.

The Preliminary Memorandum in related Case 710-AT-12 reviews the LESA Update Committee and the proposed approach to Cases 710-AT-12 and 711-AT-12.

### **CURRENT DEFINITION OF BEST PRIME FARMLAND**

Literally, the “best” prime farmland in the existing LESA System are the soils in Agriculture Value Group 1 (with Relative Value =100) which make up about 20.8% of the total acreage of the County in the existing LESA System. In the proposed update of the Land Evaluation (LE) part of LESA, the “best” prime farmland are literally the soils in proposed Agriculture Value Groups 1 and 2 (also with Relative Value =100) which make up about 54.2% of the total acreage of the County in the proposed LE Update.

However, as used in the Zoning Ordinance and the Land Resource Management Plan, “best prime farmland” is not limited to only the most productive soils. The existing Zoning Ordinance definition of best prime farmland is consistent with the Land Resource Management Plan and is as follows:

**BEST PRIME FARMLAND:** Soils identified in the Champaign County Land Evaluation and Site Assessment (LESA) System with a Relative Value of 85 or greater and tracts of land with mixed soils that have a LESA System Land Evaluation rating of 85 or greater.

A memo to the LESA Update Committee dated 12/28/11 (and included as Attachment P to the Preliminary Memorandum in related Case 710-AT-11) demonstrates that the existing Agriculture Value Group (AVG) 4 in the existing LESA System includes many soils with a productivity index of 130 which is approximately only 82% as productive as AVG 1. Thus, the current definition of best prime farmland applies to soils that are only 82% as productive as the most productive soils.

Further, the existing approach of averaging of LE values to determine what is best prime farmland means that when soils in existing Agriculture Value Groups (AVG) 5 (Relative Value (RV)=85), AVG 6 (RV=70), AVG 7 (RV=65), or AVG 8 (RV=41) are present with AVG 1 soils (RV=100) at as much as 25% to 73% of the site, the overall LE rating can easily be less than 85 and in those cases the AVG 1 soils are “at risk” of being converted to non-agricultural use in full conformance with the Zoning Ordinance and the LRMP policies.

There is some uncertainty about the amount of LE=100 soils that are “at risk” because it is not known if these exact combinations of soils are even possible based on the actual geographic distribution of soils.

At the 1/4/12 meeting the LESA Update Committee reviewed a comparison of “at risk” amounts of LE=100 soil under different definitions of best prime farmland. See Attachment B to the 12/29/11 LESA Update Committee Memorandum that is included here as Attachment B. The table illustrates the following:

- The current definition of best prime farmland identifies 511,461 acres of land (about 80% of the County) as best prime farmland. Note that this acreage is from the existing LESA system and includes some acreage that is now already developed as urbanized area.
- 66,945 acres of LE=100 soils are at risk of being overlooked due to the averaging of LE values under the current definition of “best prime farmland”.

- 26,345 acres of LE=100 soils would be at risk under an alternative definition of “best prime farmland” based only on the percent of LE=100 (AVG 1 & 2) soils present and the proposed LE Update. This same definition of best prime farmland would only identify 394,127 acres of land as best prime farmland (about 61.7% of the County). These acreages are based on the acreages in the recommended LE Factors and those acreages probably still overstate the amount of undeveloped soil that exists in the County.

### **RECOMMENDED BEST PRIME FARMLAND DEFINITION**

Acreages outside of the existing incorporated areas (municipalities) and also outside of the “Contiguous Urban Growth Area” (or CUGA, identified in the Land Resource Management Plan as that part of the municipal extra-territorial area that is capable of being sewerred) are given on page 3 of the LESA Update Committee memorandum dated 2/14/12 (included as Attachment C in this memo). Attachment C to the LESA Update Committee memo is a different “at risk” analysis based on these soil acreages. Attachment C identifies “at risk” amounts for three alternative definitions of best prime farmland which were the following:

- All Agriculture Value Groups (AVG) 1 or 2 or any combination of soils with a minimum required percentage of AVG 1 or 2 soils
- All Agriculture Value Groups (AVG) 1, 2 or 3 or any combination of soils with a minimum required percentage of AVG 1,2 or 3 soils
- All Agriculture Value Groups (AVG) 1, 2, 3 or 4 or any combination of soils with a minimum required percentage of AVG 1,2,3 or 4 soils

The LESA Update Committee recommended a definition of best prime farmland using the alternative that included **AVG 1, 2, 3 or 4 soils** at a **10%** threshold.

As reviewed in the Preliminary Memorandum for related Case 710-AT-12, the recommended Land Evaluation (LE) Factors include twice as many Agriculture Value Groups (AVG) as the existing LESA and the range of soil productivity within each AVG is generally no more than 4 points although some AVG do have a range of 5 points while many AVG in the existing LESA include a range of productivity of 10 points. Attachment O to that Preliminary Memorandum indicates that the lowest Soil Productivity Index in AVG 4 (Group LE=91) is 129.

The LESA Update Committee recommendation identifies 425,634 acres of land as best prime farmland and Attachment C to that memo indicates that only 14,708 acres of LE=100 soils would be put at risk by that recommendation.

Note that an alternative definition of best prime farmland that would only include AVG 1 or 2 soils or any combination of soils with a minimum 10% of AVG 1 or 2 soils, would identify only 346,332 acres of land as best prime farmland (79,302 acres or 19% less than the recommendation) but put 23,520 acres of LE=100 soils (8,812 acres or 60% more than the recommendation) at risk.

**ATTACHMENTS** (\*= attachments available on the County website)

- A Champaign County Board Committee of the Whole Memorandum dated March 26, 2012, with attachments:
  - A Brief Comparison of Existing Best Prime Farmland to Proposed Best Prime Farmland
  
- \*B Comparison of “At Risk Amounts” of LE=100 Soil Under Different Best Prime Farmland (BPF) Definitions (Attachment B to the 12/19/11 LESA Update Committee Memorandum)
  
- \*C (included separately) LESA Update Committee memorandum dated 2/14/12 (Memo#2 for the 2/22/12 LESA Update Committee meeting) with Attachments:
  - A Field Test Scores and BPF Definition Options
  - B Map of Soils Outside CUGA and Incorporated Areas
  - C BPF Definition Options Data on Soils Outside CUGA and Incorporated Areas
  - D Suggested Text for Best Prime Farmland Definition Recommendations

Champaign  
County  
Department of

**PLANNING &  
ZONING**

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To: **Champaign County Board Committee of the Whole**

From: **John Hall, Director & Zoning Administrator**

Date: **March 26, 2012**

RE: **Land Evaluation and Site Assessment (LESA) Update and Best Prime Farmland**

Request: **Request Approval from ELUC to Place a Proposed Zoning Ordinance Amendment Changing the Definition of Best Prime Farmland on the Zoning Board of Appeals Agenda for a Public Hearing**

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## **BACKGROUND**

At their March 7, 2012, meeting the LESA Update Committee voted unanimously (with one member absent) to recommend a new definition of Best Prime Farmland in addition to their Champaign County Land Evaluation and Site Assessment (LESA) Update Draft dated March 7, 2012.

The existing LESA System and other materials from the Update Committee meetings are under "Champaign County LESA Update" on the Champaign County RPC website ([www.ccrpc.org/planning/LESA\\_update](http://www.ccrpc.org/planning/LESA_update)).

Best Prime Farmland is a term recently added to the Zoning Ordinance and changing the definition will require a text amendment with public hearing at the Zoning Board of Appeals before it can be adopted by the County Board. That text amendment should occur at the same time as the public hearing for the Update Draft LESA.

## **PROPOSED DEFINITION OF BEST PRIME FARMLAND**

The Update Committee recommends the following revised definition of Best Prime Farmland that was documented in a 3/7/2012 handout by Update Committee member Kevin Donoho:

**Best Prime Farmland is Prime Farmland soils that under optimum management have 91% to 100% of the highest soil productivities in Champaign County, on average, as reported in the Bulletin 811 Optimum Crop Productivity Ratings for Illinois Soils. Best Prime Farmland consists of the following:**

- a) **Soils identified as Agriculture Value Groups 1, 2, 3 and/or 4 in the Champaign County Land Evaluation and Site Assessment (LESA) System;**
- b) **Soils that, in combination on a subject site, have an average LE of 91 or higher, as determined by the Champaign County LESA System; or**
- c) **Any development site that includes a significant amount (10% or more of the area proposed to be developed) of Agriculture Value Groups 1, 2, 3 and/or 4 soils.**

The existing definition of Best Prime Farmland is defined in the Zoning Ordinance as follows:

Soils identified in the Champaign County Land Evaluation and Site Assessment (LESA) System with a Relative Value of 85 or greater and tracts of land with mixed soils that have a LESA Land Evaluation rating of 85 or greater.

**BRIEF COMPARISON OF EXISTING DEFINITION OF BEST PRIME FARMLAND WITH THE PROPOSED DEFINITION OF BEST PRIME FARMLAND**

Attachment A is a brief comparison of the Existing Best Prime Farmland (BPF) with the proposed Best Prime Farmland (BPF). In general the Proposed BPF compares to the Existing BPF as follows:

1. The Proposed Best Prime Farmland (BPF) does not include any soil that is less than 90% of the productivity of the highest soil productivity in the County.
2. The Proposed BPF will affect 3.7% less land area. Approximately 24,165 acres of land will no longer be burdened with the added regulations that come with being identified as Best Prime Farmland.
3. The Proposed BPF puts 88% less BPF at risk of being lost when combined with other non-BPF soils. The Proposed BPF applies when there is only 10% of a site that is BPF and so there is much less BPF that can be lost. The averaging of LE that happens under the Current BPF can result in a site that is more than 10% BPF not being considered BPF if the average LE of the site is less than 85.

**PROPOSED TEXT AMENDMENT**

The proposed text amendment is not attached but will consist of the following:

1. Changing the Zoning Ordinance definition of “best prime farmland” to the proposed definition.
2. In general, replacing any reference in the Zoning Ordinance to “...Land Evaluation score of greater than or equal to 85 on the COUNTY’s Land Evaluation and Site Assessment System...” to “BEST PRIME FARMLAND”. This will also generally require some additional minor grammatical changes. Changes are only required in Footnote 13 of Section. 5.3 on p. 5-18 and subsection. 5.4.4 on p. 5-21.

**AMENDING THE LAND RESOURCE MANAGEMENT PLAN**

The Land Resource Management Plan (LRMP) also includes the current definition of “best prime farmland”. If the Board amends the Zoning Ordinance definition of “best prime farmland” it should also amend the LRMP at the next annual update.

**ATTACHMENT**

- A Brief Comparison of Existing Best Prime Farmland to Proposed Best Prime Farmland**

**Attachment A. Brief Comparison of Existing Best Prime Farmland to Proposed Best Prime Farmland** DRAFT March 26, 2012

Characteristic or Feature	Existing BPF 85% to 100%	Proposed BPF 91% to 100%	Notes
1. Range of average soil productivity identified as Best Prime Farmland as a percent of the highest soil productivity in the County based on <u>Agriculture Value Groups</u>	82%*	90%**	BPF= Best Prime Farmland
2. Lowest average soil productivity actually included in Best Prime Farmland as a percent of the highest soil productivity in the County based on <u>individual soils</u>	4	4	*see Attachment C to the 12/29/11 memo for the 1/4/12 Update Committee meeting  ** see Handout 1 of the 11/16/11 Update Committee meeting
3. Number of Agriculture Value Groups included as Best Prime Farmland	4	4	
4. Acres of land directly identified as Best Prime Farmland (percent of total County area)	511,461 acres (80.0%)	487,296 acres (76.3%)	See Attachment B to the Update Committee Agenda of 1/4/2012
5. Acres of Best Prime Farmland at risk of being lost if combined with non-BPF	66,945 acres*	14,708 acres**	* See Attachment B to the Update Committee Agenda of 1/4/2012  ** see Attachment C to Memo#2 dated 2/14/2012 for the 2/22/2012 Update Committee meeting.

Parameter	Existing LESA & Existing BPF	Alternatives							Maximum Allowable % of AVG 1&2
		Average LE				Draft LESA LE 94 BPF	Draft LESA LE 94 BPF	Draft LESA LE 94 BPF	
		Draft LESA LE 85 BPF	Draft LESA LE 88 BPF	Draft LESA LE 91 BPF	Draft LESA LE 94 BPF				
Best Prime Farmland (BPF)	LE=85	LE=85	LE=88	LE=91	LE=94	LE=94	LE=94	LE=94	100% AVG 1&2 or any combination of soils w/ % AVG 1&2 that exceeds the maximum allowable amount of AVG 1&2
Agriculture Value Groups (AVG) included as BPF	AVG 1,2,3,4 (of 8 total AVGs)	AVG 1,2,3,4,5,6,7 (of 17 total AVGs)	AVG 1,2,3,4,5 (of 17 total AVGs)	AVG 1,2,3,4 (of 17 total AVGs)	AVG 1,2,3 (of 17 total AVGs)	AVG 1,2,3 (of 17 total AVGs)	AVG 1,2,3 (of 17 total AVGs)	AVG 1 & 2 (of 17 total AVGs)	
Acres directly identified as BPF (% of County)	511,461 acres (80%)	545,049 acres (85.2%)	521,350 acres (81.6%)	487,296 acres (76.3%)	443,942 acres (69.5%)	443,942 acres (69.5%)	394,127 acres (61.7%)	394,127 acres (61.7%)	
Acres not BPF	109,973 acres	86,179 acres	109,878 acres	143,932 acres	187,286 acres	187,286 acres	237,101 acres	237,101 acres	
Acres not BPF by AVG (LE)	AVG 5 (LE=79): 69,364 acres AVG 6 (LE=70): 24,099 acres AVG 7 (LE=65): 15,565 acres AVG 8 (LE=41): 945 acres	AVG 8 (LE=84): 857 acres AVG 9 (LE=83): 46,276 acres AVG 10 (LE=79): 1,833 acres AVG 11 (LE=78): 6,331 acres AVG 12 (LE=76): 15,631 acres AVG 13 (LE=75): 2,952 acres AVG 14 (LE=71): 4,817 acres AVG 15 (LE=69): 1,393 acres AVG 16 (LE=66): 4,859 acres AVG 17 (LE=50): 1,230 acres	AVG 6 (LE=87): 11,080 acres AVG 7 (LE=85): 12,619 acres AVG 8 (LE=84): 857 acres AVG 9 (LE=83): 46,276 acres AVG 10 (LE=79): 1,833 acres AVG 11 (LE=78): 6,331 acres AVG 12 (LE=76): 15,631 acres AVG 13 (LE=75): 2,952 acres AVG 14 (LE=71): 4,817 acres AVG 15 (LE=69): 1,393 acres AVG 16 (LE=66): 4,859 acres AVG 17 (LE=50): 1,230 acres	AVG 5 (LE=88): 34,054 acres AVG 6 (LE=87): 11,080 acres AVG 7 (LE=85): 12,619 acres AVG 8 (LE=84): 857 acres AVG 9 (LE=83): 46,276 acres AVG 10 (LE=79): 1,833 acres AVG 11 (LE=78): 6,331 acres AVG 12 (LE=76): 15,631 acres AVG 13 (LE=75): 2,952 acres AVG 14 (LE=71): 4,817 acres AVG 15 (LE=69): 1,393 acres AVG 16 (LE=66): 4,859 acres AVG 17 (LE=50): 1,230 acres	AVG 4 (LE=91): 43,354 acres AVG 5 (LE=88): 34,054 acres AVG 6 (LE=87): 11,080 acres AVG 7 (LE=85): 12,619 acres AVG 8 (LE=84): 857 acres AVG 9 (LE=83): 46,276 acres AVG 10 (LE=79): 1,833 acres AVG 11 (LE=78): 6,331 acres AVG 12 (LE=76): 15,631 acres AVG 13 (LE=75): 2,952 acres AVG 14 (LE=71): 4,817 acres AVG 15 (LE=69): 1,393 acres AVG 16 (LE=66): 4,859 acres AVG 17 (LE=50): 1,230 acres	AVG 4 (LE=91): 43,354 acres AVG 5 (LE=88): 34,054 acres AVG 6 (LE=87): 11,080 acres AVG 7 (LE=85): 12,619 acres AVG 8 (LE=84): 857 acres AVG 9 (LE=83): 46,276 acres AVG 10 (LE=79): 1,833 acres AVG 11 (LE=78): 6,331 acres AVG 12 (LE=76): 15,631 acres AVG 13 (LE=75): 2,952 acres AVG 14 (LE=71): 4,817 acres AVG 15 (LE=69): 1,393 acres AVG 16 (LE=66): 4,859 acres AVG 17 (LE=50): 1,230 acres	AVG 3 (LE=94): 49,815 acres AVG 4 (LE=91): 43,354 acres AVG 5 (LE=88): 34,054 acres AVG 6 (LE=87): 11,080 acres AVG 7 (LE=85): 12,619 acres AVG 8 (LE=84): 857 acres AVG 9 (LE=83): 46,276 acres AVG 10 (LE=79): 1,833 acres AVG 11 (LE=78): 6,331 acres AVG 12 (LE=76): 15,631 acres AVG 13 (LE=75): 2,952 acres AVG 14 (LE=71): 4,817 acres AVG 15 (LE=69): 1,393 acres AVG 16 (LE=66): 4,859 acres AVG 17 (LE=50): 1,230 acres	AVG 3 (LE=94): 49,815 acres AVG 4 (LE=91): 43,354 acres AVG 5 (LE=88): 34,054 acres AVG 6 (LE=87): 11,080 acres AVG 7 (LE=85): 12,619 acres AVG 8 (LE=84): 857 acres AVG 9 (LE=83): 46,276 acres AVG 10 (LE=79): 1,833 acres AVG 11 (LE=78): 6,331 acres AVG 12 (LE=76): 15,631 acres AVG 13 (LE=75): 2,952 acres AVG 14 (LE=71): 4,817 acres AVG 15 (LE=69): 1,393 acres AVG 16 (LE=66): 4,859 acres AVG 17 (LE=50): 1,230 acres	



Parameter	Existing LESA & Existing BPF	Alternatives				Maximum Allowable % of AVG 1&2
		Average LE				
		Draft LESA LE 85 BPF	Draft LESA LE 88 BPF	Draft LESA LE 91 BPF	Draft LESA LE 94 BPF	
Best Prime Farmland (BPF)	LE=85	LE=85	LE=88	LE=91	LE=94	Draft LESA Minimum Required AVG 1&2 for BPF 100% AVG 1&2 or any combination of soils w/ % AVG 1&2 that exceeds the maximum allowable amount of AVG 1&2
Acres of LE = 100 soils that could be lost in combination with non-best prime farmland (ie, at risk)	66,945 acres	31,140 acres	60,801 acres	122,957 acres	256,846 acres	# @ 10% of any site: 26,345 acres # @ 15% of any site: 41,841 acres # @ 20% of any site: 59,275 acres # @ 25% of any site: 79,034 acres # @ 30% of any site: 101,615 acres # @ 35% of any site: 127,670 acres # @ 40% of any site: 158,067 acres
(Maximum percentage of LE = 100 soils that together with non-BPF within a particular average non-BPF) *	--- AVG 5 (25%) 23,121 acres AVG 6 (48%) 22,245 acres AVG 7 (55%) 19,024 acres AVG 8 (73%) 2,555 acres	--- --- --- --- --- --- --- AVG 8 (1%) 9 acres AVG 9 (8%) 4,024 acres AVG 10 (25%) 611 acres AVG 11 (29%) 2,586 acres AVG 12 (35%) 8,417 acres AVG 13 (37%) 1,734 acres AVG 14 (46%) 4,103 acres AVG 15 (49%) 1,338 acres AVG 16 (54%) 5,704 acres AVG 17 (68%) 2,614 acres	--- --- --- AVG 6 (3%) 343 acres AVG 7 (16%) 2,404 acres AVG 8 (20%) 214 acres AVG 9 (25%) 15,425 acres AVG 10 (40%) 1,222 acres AVG 11 (42%) 4,585 acres AVG 12 (47%) 13,862 acres AVG 13 (49%) 2,836 acres AVG 14 (56%) 6,131 acres AVG 15 (59%) 2,005 acres AVG 16 (63%) 8,273 acres AVG 17 (74%) 3,501 acres	--- --- AVG 5 (20%) 8,514 acres AVG 6 (26%) 3,893 acres AVG 7 (36%) 7,098 acres AVG 8 (40%) 571 acres AVG 9 (43%) 34,910 acres AVG 10 (54%) 2,152 acres AVG 11 (56%) 8,058 acres AVG 12 (60%) 23,447 acres AVG 13 (61%) 4,617 acres AVG 14 (67%) 9,780 acres AVG 15 (69%) 3,101 acres AVG 16 (71%) 11,896 acres AVG 17 (80%) 4,920 acres	AVG 4 (25%) 14,451 acres AVG 5 (45%) 27,862 acres AVG 6 (49%) 10,646 acres AVG 7 (55%) 15,423 acres AVG 8 (58%) 1,184 acres AVG 9 (61%) 72,380 acres AVG 10 (68%) 3,895 acres AVG 11 (70%) 14,772 acres AVG 12 (72%) 40,194 acres AVG 13 (73%) 7,981 acres AVG 14 (77%) 16,127 acres AVG 15 (78%) 4,939 acres AVG 16 (80%) 19,436 acres AVG 17 (86%) 7,556 acres	(Not proposed to vary by AVG)

For Existing LESA analyses, the database reviews, at an aggregate countywide level, the amounts of soils in Agriculture Value Group (AVG) 1 and one other AVG.

For Draft LESA analyses, the database reviews, at an aggregate countywide level, the amounts of soils in Agriculture Value Groups (AVG) 1&2 and one other AVG.

Actual tracts of land will vary on their combinations of soils and the average LE of an actual site is affected by the amount of site area in each AVG that is present on the site.

◆ acres in these columns are taken from the Draft LESA

\* Maximum percentage of LE = 100 soils that together with non-BPF within a particular AVG average non-BPF is determined iteratively (by trial and error) by averaging the LE for the site assuming only one non-best prime farmland AVG on the site in addition to LE = 100 soils and following the normal rules of rounding.

Example using the existing LESA and existing BPF = 85 and AVG 5:

1 <sup>st</sup> attempt	.70 (79) + .3 (100) = 85.3 (best prime farmland)
2 <sup>nd</sup> attempt	.71 (79) + .29(100) = 85.09 rounds to 85 (best prime farmland)
3 <sup>rd</sup> attempt:	.72 (79) + .28(100) = 84.88 rounds to 85 (best prime farmland)
4 <sup>th</sup> attempt:	.73 (79) + .27(100) = 84.67 rounds to 85 (best prime farmland)
5 <sup>th</sup> attempt:	.75 (79) + .25(100) = 84.25 rounds to 84 (less than best prime farmland- good!)

\*\* The excerpt of an LE Worksheet below contains additional detail:

Col 1	Col 2	Col 3	Col 4	Col 5	LE	LE
Map Unit Symbol & Soil Series	Ag Value Group	Group LE	Proportion	Total Acres		
e.g., 154A Flanagan	1	100	0.25	23,121	2,312,100	
e.g., 134B Camden	5	79	0.75	69,364	5,479,756	
AVG 5 (LE = 79) = 69,364 acres				92,485	7,791,856	84.2 84

‡ Acres of AVG 1&2 at risk under the approach of maximum allowable percent of AVG1&2 for non-best prime farmland area may be determined by identifying the amount of AVG 1&2 as part of a proportion of the larger aggregate. The equation used to identify the estimated value of AVG 1&2 at risk is shown below:

Total acres of AVG 1&2 at risk =  
 (total acres not best prime farmland / maximum allowable % non-best prime farmland to average non-best prime farmland) – total area of non-best prime farmland

Example using the Draft LESA & 10% maximum allowable AVG 1&2: (237,101 acres / .90) - 237,101 acres = 26,345 acres

DATE:	February 14, 2012
TO:	LESA Update Committee
FROM:	Susan Monte
RE:	Memo # 2, Additional Information for the February 22 Meeting

Field Test Scoring Results

The LESA scores for the 15 Field Test sites were completed based on the previously assumed Best Prime Farmland (BPF) at LE = 91. Staff re-scored each of the 15 test sites based on the Draft LESA Update dated 2/10/2012, and responded to SA Factor 2 regarding whether the subject site is BPF, based on each of the following assumed BPF definition options:

BPF options:	AVG = Agriculture Value Groups
LE score = 100, all AVG 1 or 2 soils, or any combination of soils with a minimum of 20% AVG 1 or 2 soils	
LE score $\geq$ 94, all AVG 1, 2 or 3 soils, or any combination of soils with a minimum of 15% AVG 1, 2, or 3 soils	
LE score $\geq$ 94, all AVG 1, 2, or 3 soils, or any combination of soils with a minimum of 25% AVG 1, 2, or 3 soils	
LE score $\geq$ 91, all AVG 1, 2, 3, or 4 soils, or any combination of soils with a minimum of 20% AVG 1, 2, 3, or 4 soils	

Attachment A is the scoring results of the 15 test sites based on the early BPF assumption of LE  $\geq$  91 and based on the current BPF option types shown above.

When re-scoring all 15 test sites based on each of the BPF definition options shown above, the same three test sites (Test Sites B, C, and 8) were additionally considered BPF because each had a minimum of 20% AVG 1 or 2 soils:

- Test Site B had 34% soils in AVG 2
- Test Site C had 44% soils in AVG 1 or 2
- Test Site 8 had 20% soils in AVG 1 or 2

These three test sites demonstrate that a subject site with a significant amount of AVG 1 or 2 soils would not otherwise be considered as BPF without a proposed BPF definition option provision such as "...any combination of soils with a minimum of 20% AVG 1, 2 ... soils.."

(continued on next page)

LESA Protection Ratings

The January 25, 2012 Handout distributed at the last meeting included two important questions:

- 1) What type of sites should receive a Very High Rating? potential response:
- sites that are BPF and larger than 25 acres
  - sites not located in CUGA

Based on assumptions outlined in the January 25, 2012 Handout, hypothetical sites meeting the following characteristics and located at least 1 mile from a municipality would typically receive a 'Very High' LESA Protection Rating of at least 250.

The site characteristics assumed in the January 25, 2012 Handout include:

- large ( $\geq$  25 acre) sites not in CUGA
- located in the AG-1 or AG-2 Zoning District
- BPF soils based on a BPF definition recommendation option under current consideration
- no livestock facility within 1 mile
- typical conditions which would not result in lower ratings for SA Factors 3, 7, 8, or 9.

Of the 15 test sites, those listed below meet all site characteristics outlined in the Handout:

	Total LESA Score	LESA Protection Rating based on Draft LESA Update dated 2/10/2012
TS 1	271	very high
TS 7	279	very high
TS 10	281	very high
TS 13	283	very high
TS 16	278	very high

Test Site C met the same outlined site characteristics and had points assigned due to a livestock management facilities within one mile:

	Total LESA Score	LESA Protection Rating based on Draft LESA Update dated 2/10/2012
TS C	263	very high

Of the 15 test sites, three were located within the CUGA and had total LESA scores as follows:

	Total LESA Score	LESA Protection Rating based on Draft LESA Update dated 2/10/2012
TS 2	97	low
TS 4	170	low
TS D	152	low

Based on test site results alone, no further adjustments to the protection ratings appear necessary. However, as indicated in the January 25, 2012 Handout, staff recommends that the Committee consider adjusting the protection ratings thresholds as shown below for a more equitable point spread between the protection rating categories overall:

Draft LESA Update 2/10/2012		<i>point spread</i>	
250 to 300	very high	50	79
220 to 249	high	29	
180 to 219	moderate	39	
179 or below	low	179	

Proposed Adjustment		<i>point spread</i>	
250 to 300	very high	50	69
230 to 249	high	19	
160 to 229	moderate	69	
159 or below	low	159	

BPF and Non-BPF Soils

Recently discussed was whether the various BPF and non-BPF soils estimates provided for review should be based only on soils not included as part of the CUGA or incorporated areas.

The CUGA (which includes 12 incorporated areas) and the remaining 12 municipalities in the County account for approximately 12.7% of all soils in the County.

In the calculations below, staff removed CUGA and incorporated areas from the soils map layer, and re-calculated total soils in each of the 18 Agriculture Value Groups (based on the Draft LESA Update dated 2/10/2012). The resulting quantities of soils in AVGs were nearly identical as the soil quantities calculated for the entire County. The table below compares AVG soil totals for the entire County and AVG soils for the County minus CUGA and incorporated areas:

Agriculture Value Group (AVG)	County Soils (est. acres)	County Soils (est. %)	County Soils minus CUGA and incorporated areas (est. acres)	County Soils minus CUGA and incorporated areas (est. %)
	<b>639,055.8</b>		<b>558,008.7</b>	
AVG 1 and 2	394,128.6	61.7	346,331.6	62.0
AVG 3	49,817.6	7.8	41,290.3	7.4
AVG 4	43,354.2	6.8	38,012.4	6.8
	<i>Subtotal:</i>	<i>76.3%</i>		<i>76.2%</i>
AVG 5-17	143,964.6	22.5	130,203.5	23.3
AVG 18*	7,790.8	1.2	2,170.8	0.4
	<i>Subtotal:</i>	<i>23.7%</i>		<i>23.7%</i>

\*AVG 18 contains urban land, water, gravel pit, landfill or orthents loamy undulating soils. No soil productivity index or land capability classification is assigned to AVG 18.

Attachment B is a map of County Soils outside of CUGA and Incorporated Areas.

Attachment C contains the BPF Definitions Options Data based on 'County Minus CUGA and incorporated areas'. As expected, the numbers reflect the same trends as the BPF Definitions Options Data distributed (also as Attachment C) as part of last Friday's mailing.

Suggested Text of BPF Definition Recommendation

Attachment D contains suggested text for a Best Prime Farmland definition recommendation to forward to the County Board.

Attachments

- A Field Test Scores and BPF Definition Options
- B Map of Soils Outside CUGA and Incorporated Areas
- C BPF Definition Options Data based on Soils Outside CUGA and Incorporated Areas
- D Suggested Text for Best Prime Farmland Definition Recommendation

## Field Test Scores and Best Prime Farmland Definition Options

Test sites were re-scored based on the LESA Update Draft dated 2/10/2012.

Assumption: BPF is defined as all AVG 1, 2, 3, and 4 soils or  $LE \geq 91$

	TS 1	TS 2	TS 4	TS 7	TS 8	TS 10	TS 11	TS 13	TS 14	TS 16	TS 17	TS A	TS B	TS C	TS D
SA Factor															
1	10	4	10	10	6	10	8	10	6	10	6	10	8	10	8
2a	30	0	30	30	0	30	0	30	30	30	30	0	0	0	30
2b	10	n/a	10	10	n/a	10	n/a	10	0	10	0	n/a	n/a	n/a	0
2c	n/a	0	n/a	n/a	0	n/a	0	n/a	n/a	n/a	n/a	10	0	10	n/a
3a	20	6	20	20	20	20	6	18	20	20	18	10	14	20	18
3b	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
4	40	0	0	40	40	40	40	40	40	40	40	40	40	40	0
5	5	n/a	n/a	15	10	15	5	10	10	5	10	5	5	5	n/a
6	15	n/a	n/a	15	0	15	11	15	15	15	15	15	15	15	n/a
7	10	n/a	n/a	10	10	10	10	10	10	10	10	10	10	10	n/a
8a	20	n/a	n/a	20	20	20	18	20	20	20	18	14	14	20	n/a
8b	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
9	16	n/a	n/a	16	16	20	14	20	18	18	14	12	12	12	n/a
10	0	n/a	n/a	0	4	0	0	0	0	0	0	4	2	2	n/a
SA Score	176	10	70	186	126	190	112	183	169	178	161	130	120	144	56
LE	95	87	100	93	88	91	76	100	97	100	97	81	89	89	96
LESA Score	271	97	170	279	214	281	188	283	266	278	258	211	209	233	152

Each of the 15 test sites were re-scored based on a sample of Best Prime Farmland definition options currently under review by the Committee:

AVG = Agriculture Value Groups

LE score = 100, all AVG 1 or 2 soils, or any combination of soils with a minimum of 20% AVG 1 or 2 soils

LE score > 94, all AVG 1, 2 or 3 soils, or any combination of soils with a minimum of 15% AVG 1, 2, or 3 soils

LE score > 94, all AVG 1, 2, or 3 soils, or any combination of soils with a minimum of 25% AVG 1, 2, or 3 soils

LE score > 91, all AVG 1, 2, 3, or 4 soils, or any combination of soils with a minimum of 20% AVG 1, 2, 3, or 4 soils

Rescored LESA totals for each test site based on the above noted sample of BPF definitions are shown on the reverse side of this page.

The re-scoring results indicate that, for each BPF definition option described above, the three test sites (highlighted below) additionally will be considered as BPF, based on the amount of AVG 1 or 2 soils present.

TS A	LE = 81	0% soils in AVG 1 through 4
TS B	LE = 89	34% soils in AVG 2
TS C	LE = 89	44% soils in AVG 1 or 2
TS D	LE = 96	35% soils in AVG 1 or 2 and 65% soils in AVG 3
TS 1	LE = 95	29% soils in AVG 1 or 2 and 5% soils in AVG 4
TS 2	LE = 87	14% soils in AVG 2
TS 4	LE = 100	94% soils in AVG 1 or 2 and 6% soils in AVG 3
TS 7	LE = 93	46% soils in AVG 1 or 2 and 44% soils in AVG 4
TS 8	LE = 88	20% soils in AVG 1 or 2
TS 10	LE = 91	31% soils in AVG 1 or 2 and 21% in AVG 4
TS 11	LE = 76	12% soils in AVG 2 and 3%
TS 13	LE = 100	100% soils in AVG 1 or 2
TS 14	LE = 97	65% soils in AVG 1 or 2 and 22% soils in AVG 3
TS 16	LE = 100	100% soils in AVG 1 or 2
TS 17	LE = 97	52% soils in AVG 1 or 2 and 47% soils in AVG 3

### Re-scored test sites using optional BPF definitions as shown:

Assumption:

**BPF is defined as all AVG 1 or 2 soils, or any combination of soils with a minimum of 20% AVG 1 or 2 soils**  
(also assumed: a site with an LE = 100 is designated as BPF)

	TS 1	TS 2	TS 4	TS 7	TS 8	TS 10	TS 11	TS 13	TS 14	TS 16	TS 17	TS A	TS B	TS C	TS D
SA Factor															
2a	30	0	30	30	30	30	0	30	30	30	30	0	30	30	30
2b	10	n/a	10	10	0	10	n/a	10	0	10	0	n/a	0	10	0
2c	n/a	0	n/a	n/a	n/a	n/a	0	n/a	n/a	n/a	n/a	10	n/a	n/a	n/a
SA Score	176	10	70	186	156	190	112	183	169	178	161	130	150	174	56
LE	95	87	100	93	88	91	76	100	97	100	97	81	89	89	96
LESA Score	271	97	170	279	244	281	188	283	266	278	258	211	239	263	152

Assumption:

**BPF is defined as all AVG 1, 2 or 3 soils, or any combination of soils with a minimum of 15% AVG 1, 2, or 3 soils**  
(also assumed: a site with an LE ≥ 94 is designated as BPF)

	TS 1	TS 2	TS 4	TS 7	TS 8	TS 10	TS 11	TS 13	TS 14	TS 16	TS 17	TS A	TS B	TS C	TS D
SA Factor															
2a	30	0	30	30	30	30	0	30	30	30	30	0	30	30	30
2b	10	n/a	10	10	0	10	n/a	10	0	10	0	n/a	0	10	0
2c	n/a	0	n/a	n/a	n/a	n/a	0	n/a	n/a	n/a	n/a	10	n/a	n/a	n/a
SA Score	176	10	70	186	156	190	112	183	169	178	161	130	150	174	56
LE	95	87	100	93	88	91	76	100	97	100	97	81	89	89	96
LESA Score	271	97	170	279	244	281	188	283	266	278	258	211	239	263	152

Assumption:

**BPF is defined as all AVG 1, 2, or 3 soils, or any combination of soils with a minimum of 25% AVG 1, 2, or 3 soil:**  
(also assumed: a site with an LE ≥ 94 is designated as BPF)

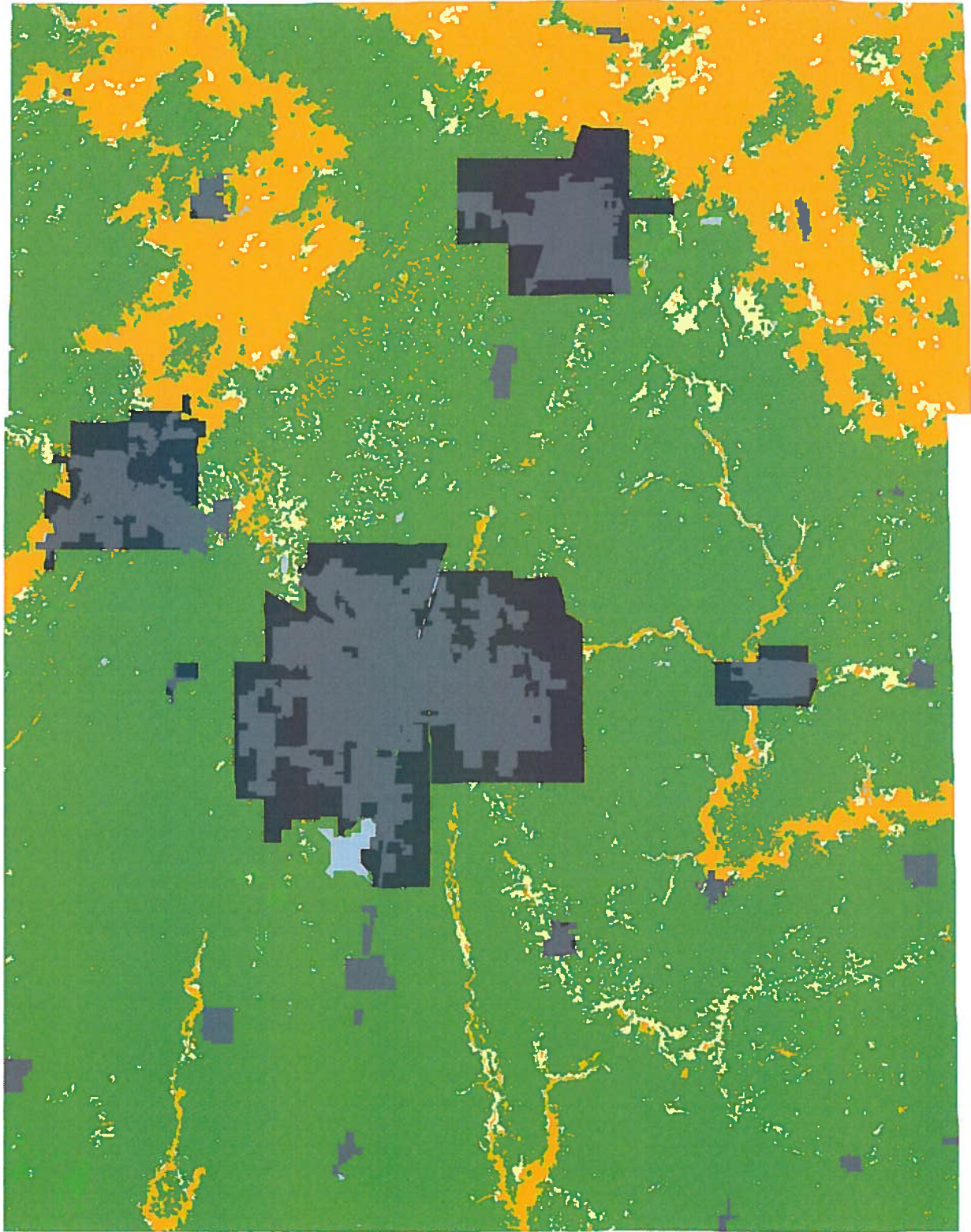
	TS 1	TS 2	TS 4	TS 7	TS 8	TS 10	TS 11	TS 13	TS 14	TS 16	TS 17	TS A	TS B	TS C	TS D
SA Factor															
2a	30	0	30	30	30	30	0	30	30	30	30	0	30	30	30
2b	10	n/a	10	10	0	10	n/a	10	0	10	0	n/a	0	10	0
2c	n/a	0	n/a	n/a	n/a	n/a	0	n/a	n/a	n/a	n/a	10	n/a	n/a	n/a
SA Score	176	10	70	186	156	190	112	183	169	178	161	130	150	174	56
LE	95	87	100	93	88	91	76	100	97	100	97	81	89	89	96
LESA Score	271	97	170	279	244	281	188	283	266	278	258	211	239	263	152

Assumption:

**BPF is defined as all AVG 1, 2, 3, or 4 soils, or any combination of soils with a minimum of 20% AVG 1, 2, 3, or 4 soils**  
(also assumed: a site with an LE > 94 is designated as BPF)

	TS 1	TS 2	TS 4	TS 7	TS 8	TS 10	TS 11	TS 13	TS 14	TS 16	TS 17	TS A	TS B	TS C	TS D
SA Factor															
2a	30	0	30	30	30	30	0	30	30	30	30	0	30	30	30
2b	10	n/a	10	10	0	10	n/a	10	0	10	0	n/a	0	10	0
2c	n/a	0	n/a	n/a	0	n/a	0	n/a	n/a	n/a	n/a	10	n/a	n/a	n/a
SA Score	176	10	70	186	156	190	112	183	169	178	161	130	150	174	56
LE	95	87	100	93	88	91	76	100	97	100	97	81	89	89	96
LESA Score	271	97	170	279	244	281	188	283	266	278	258	211	239	263	152





### County Soils outside of CUGA and Incorporated Areas

AVG = Agriculture Value Group

- AVG 1 and 2
- AVG 3
- AVG 4
- AVG 5-17
- AVG 18 (n/a)
- Incorporated Areas
- CUGA\_2012

62.0 % of soils are in AVG 1 & 2 (LE = 100)  
 69.4 % of soils are in AVG 1, 2 and 3 (LE = 94 or Greater)  
 76.2 % of soils are in AVG 1, 2, 3, and 4 (LE = 91 or Greater)

23.3 % of soils are in AVG 5 thru 17 (LE = 88 thru 50)  
 0.4 % soils are n/a (in AVG 18)

Map Preparation Date: 2/13/2012





Acronyms:  
 AVG Agriculture Value Group  
 BPF Best Prime Farmland  
 LE Land Evaluation

**BPF Definition: all AVG 1 or 2 soils, or any combination of soils with a minimum \_\_\_ % of AVG 1 or 2 soils**

total acres of Non-BPF		acres of BPF at risk of not being protected when combined with non-BPF <sup>1, 2</sup>	maximum total acres of non-BPF and BPF at risk of not being protected
211,677	@ 10% of any site:	23,520	235,197
	@ 15% of any site:	37,355	249,032
	@ 20% of any site:	52,919	264,596
	@ 25% of any site:	70,559	282,236
	@ 30% of any site:	90,719	302,396
	@ 35% of any site:	113,980	325,657
	@ 40% of any site:	141,118	352,795

Notes:

1. The calculation to estimate acres of BPF at risk is the same type of calculation used in the Attachment B table entitled *Comparison of At Risk Amounts of LE = 100 Soil under different BPF Definitions* dated 12/28/2011. (See the following page for details regarding the calculation.)

**BPF Definition: all AVG 1, 2 or 3 soils, or any combination of soils with a minimum \_\_\_ % of AVG 1, 2, or 3 soils**

total acres of Non-BPF		acres of BPF at risk of not being protected when combined with non-BPF <sup>1, 2</sup>	maximum total of non-BPF and BPF at risk of not being protected
170,387	@ 10% of any site:	18,932	189,319
	@ 15% of any site:	30,068	200,455
	@ 20% of any site:	42,597	212,984
	@ 25% of any site:	56,796	227,183
	@ 30% of any site:	73,023	243,410
	@ 35% of any site:	91,747	262,134
	@ 40% of any site:	113,591	283,978

2.

The 'at risk' BPF could be any one of the various AVG soils included in the BPF definition.

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**BPF Definition: all AVG 1, 2, 3, or 4 soils, or any combination of soils with a minimum \_\_\_ % of AVG 1, 2, 3, or 4 soils**

total acres of Non-BPF		acres of BPF at risk of not being protected when combined with non-BPF <sup>1, 2</sup>	maximum total of non-BPF and BPF at risk of not being protected
132,375	@ 10% of any site:	14,708	147,083
	@ 15% of any site:	23,360	155,735
	@ 20% of any site:	33,094	165,469
	@ 25% of any site:	44,125	176,500
	@ 30% of any site:	56,732	189,107
	@ 35% of any site:	71,279	203,654
	@ 40% of any site:	88,250	220,625

**Calculation Explanation**

Equation used to identify 'x', where 'x' is the unknown acres of BPF 'at risk' of being not counted as BPF when occurring in combination with non-BPF soils on a county-wide aggregate basis.

$$\frac{x}{\text{total acres of non-BPF}} = \frac{\text{proportion of aggregate consisting of BPF}}{\text{proportion of aggregate consisting of non-BPF}}$$

**Example:** Assume BPF is defined as AVG 1 or 2 soils, or any combination of soils with a minimum 20% of AVG 1 or 2 soils.

The total acres of BPF soils (consisting of AVG 1 or 2) countywide is: 394,127 acres.

The total acres of non-BPF soils (consisting of all other AVG soils) countywide is: 237,101 acres.

The following calculation is intended to represent the hypothetical aggregate amount of BPF soils that would be at risk of not being identified as BPF when occurring in combination with non-BPF soils.

$$\frac{x}{237,101} = \frac{.20}{.80}$$

$$x (.80) = 237,101 (.20)$$

$$x = 59,275$$

### Suggested Text for Best Prime Farmland Definition Recommendation

Best Prime Farmland is Prime Farmland soils that under optimum management have **{x% to 100%}** of the highest soil productivities in Champaign County, as reported in the *Bulletin 811 Optimum Crop Productivity Ratings for Illinois Soils*. Best Prime Farmland consists of:

- a) soils identified as Agriculture Value Groups 1, 2 **{and 3 / 3, and 4}** in the Champaign County Land Evaluation and Site Assessment (LESA) System;
- b) soils that, in combination on a subject site, have an average LE of **x** or higher, as determined by the Champaign County LESA System; or
- c) any development site that includes a significant amount **x%** or more of the area proposed to be developed) of Agriculture Value Groups 1, 2, **{and 3 / 3, and 4}** soils.