**Section 1816.116 Revegetation: Standards for Success**

a) Success of Revegetation

1) Success of revegetation shall be judged in accordance with this Section, Section 1816.117, and as described in the Agricultural Lands Productivity Formula (Illinois Department of Natural Resources, Office of Mines and Minerals, Land Reclamation Division and Illinois Department of Agriculture, Bureau of Land and Water Resources, October 19, 2021, this incorporation includes no later amendments or additions). The Agricultural Lands Productivity Formula is a program that compares reclaimed field crop yields against projected county yields adjusted annually for weather variations. The Agricultural Lands Productivity Formula is described in writing and made available to the public.

2) Requirements

A) The period of extended responsibility for successful revegetation shall begin after the last year of augmented seeding, fertilizing, irrigation, or other work, excluding husbandry practices that are approved by the Department in accordance with subsection (a)(2)(C).

B) The period of extended responsibility shall continue for a period of not less than 5 full years, except that on lands eligible for remining, the period of responsibility shall be 2 full years. Vegetation parameters identified in subsection (a)(1) shall equal or exceed the approved success standard set forth in subsection (a)(3).

C) The Department shall approve selective husbandry practices, excluding irrigation or augmented seeding or augmented fertilization, without extending the period of responsibility for revegetation success and bond liability, if such practices can be expected to continue as part of the post-mining land use or if discontinuance of the practices after the liability period expires will not reduce the probability of permanent revegetation success. Approved practices shall be normal conservation and land use management practices within the region for unmined lands having land uses similar to the approved post-mining land use of the disturbed area, including such practices as disease, pest, and vermin control; any pruning, reseeding and/or transplanting specifically necessitated by such actions; approved agricultural practices described in the Illinois Agronomy Handbook, 24th Edition (University of Illinois at Champaign-Urbana, University of Illinois Extension, College of Agriculture, Consumer and Environmental Science, (2009; this incorporation includes no later amendments or editions)); and those practices that are a part of an approved conservation plan subject to the Farm Security and Rural Investment Act of 2002 (P.L. 107-171; 116 Stat. 134). On all lands with a postmining land use other than cropland, any areas reseeded or replanted as a part or result of a normal husbandry practice must be sufficiently small in size and limited in extent of occurrence, or part of a hay management plan which is an agricultural practice described by the Illinois Agronomy Handbook or as part of an approved conservation plan subject to the Farm Security and Rural Investment Act of 2002, and the reestablished vegetation must be in place for a sufficient length of time so as not to adversely affect the Department's ability to make a valid determination at the time of bond release as to whether the site has been properly reclaimed to a condition in which it will support a diverse, effective, permanent vegetative cover of the required nature and productivity. Copies of the Illinois Agronomy Handbook and the Farm Security and Rural Investment Act of 2002 are available at the Department's Springfield office.

D) Rill and gully repair on cropland-capable reclaimed land will not be considered augmentation if a permittee has an approved erosion control plan in place in the field pursuant to 62 Ill. Adm. Code 1823.14(g) or 1825.14(f), and shortly after the first rainfall event after the repair, the Department makes the following determinations:

i) the area is a minor erosional feature;

ii) the area is small;

iii) the erosion is not expected to recur; and

iv) the area is stable.

The Department shall notify the permittee in writing whether or not a repair is augmentative after making the determination. Such written notice shall be in the form of an inspection report or other document issued by the Department.

E) Rill and gully repair on noncropland-capable land will not be considered augmentation if, shortly after the first rainfall event after the repair, the Department makes the following determinations:

i) the area is a minor erosional feature;

ii) the area is small;

iii) the erosion is not expected to recur; and

iv) the area is stable.

The Department shall notify the permittee in writing whether or not a repair is augmentative after making the determination. Such written notice shall be in the form of an inspection report or other document issued by the Department.

F) Augmentation

Wetlands shall be considered augmented when significant alterations are made to the size or character of the watershed, pumping is used to maintain water levels, or neutralizing agents, chemical treatments or fertilizers are applied to the wetland area, except that wetlands managed as wildlife food plot areas using agricultural techniques shall not be considered augmented when normal agricultural husbandry practices, such as routine liming and fertilization, are used. The application of neutralization agents and fertilizers used for minor remediation work or repairs is considered a normal husbandry practice and not augmentative. Water level management using permanent water control structures is considered a normal husbandry practice.

G) Other Management Practices

The Department shall approve the use of deep tillage for prime farmland and high capability land as a beneficial practice that will not restart the 5 year period of responsibility, if the following conditions are met:

i) The permittee has submitted a request to use the practice and has identified the field that will be deep tilled;

ii) One or more hay crops, or other acceptable row crops, have been grown or will be grown to dry out the subsoil prior to deep tilling the field; and

iii) The Department has determined that the use of deep tillage will be beneficial to the soil structure and long term crop production of the field and the benefits will continue well beyond the responsibility period.

The Department shall notify the permittee in writing of its decision. Such written notice shall be in the form of an inspection report or other document issued by the Department.

3) Ground cover and production shall be considered equal to the approved success standard when they are not less than 90% of the success standard. The sampling techniques for measuring success shall use a 90% statistical confidence interval (i.e., one-sided t test with a 0.10 alpha error). Vegetative ground cover shall be measured using the technique set forth in 62 Ill. Adm. Code 1816.117(d). Standards for success shall be applied in accordance with the approved post-mining land use and, at a minimum, the following conditions:

A) The vegetative ground cover for areas previously disturbed by mining operations that were not reclaimed to the requirements 62 Ill. Adm. Code 1810 through 1828 and that are remined or otherwise redisturbed by surface coal mining operations, shall not be less than the greater of 70% or the percentage of ground cover existing before redisturbance, and shall be adequate to control erosion during the last year of the responsibility period;

B) For areas to be developed for industrial, commercial or residential use less than 2 years after regrading is completed, the vegetative ground cover shall not be less than that required to control erosion and shall not be less than 70%;

C) For areas designated in the approved reclamation plan as cropland, except those cropland areas subject to 62 Ill. Adm. Code 1823.15, success of revegetation of cropland areas shall be determined in accordance with subsection (a)(4) or (a)(6). Crop production shall be considered successful if it is 90% of that crop production required in subsection (a)(4) or (a)(6) with 90% statistical confidence (i.e., one-sided t test with a 0.10 alpha error) for a minimum of any 2 crop years of a 10 year period prior to release of the performance bond, except the first year of the 5 year responsibility period. During the extended 5 year responsibility period, erosion from cropland must be minimized using equivalent or better management practices than surrounding unmined cropland. The 5 year responsibility period shall begin after the last year of augmented seeding, fertilizing, or soil treatment and at the time of the planting of the crops to be grown for the productivity showing or crops grown in rotation. Crop production for proof of productivity purposes shall be initiated within 10 years after completion of backfilling and final grading. All cropland shall be maintained using proper management practices as set forth in subsection (a)(2)(C) until the end of the responsibility period. Once chosen by the permittee, the productivity alternative in subsection (a)(6) may not be modified without approval from the Department;

D) For areas to be developed for fish and wildlife habitat (including shelter belts), recreation, or forest products land uses, success of revegetation shall be determined on the basis of tree and shrub populations and ground cover. The tree and shrub population and ground cover shall meet the standards described in Section 1816.117;

E) For areas designated as pasture and/or hayland or grazing land in the approved reclamation plan, except for erosion control devices and other structures (i.e., levees, ditches, waterways, impounding structures, etc.) productivity success (tons of grasses and/or legumes per acre) shall be determined in accordance with subsection (a)(4) or (a)(6). Productivity shall be considered successful if it is 90% of the productivity required in subsection (a)(4) or (a)(6) with 90% statistical confidence (i.e., one-sided t test with a 0.10 alpha error) for a minimum of any 2 crop years of a 10 year period prior to release of the performance bond, except the first year of the 5 year extended responsibility period. All pasture, hayland and grazing land shall be maintained using proper management practices as set forth in subsection (a)(2)(C) until the end of the responsibility period. Production for proof of productivity purposes shall be initiated within 10 years after completion of backfilling and final grading. Ground cover shall be considered successful if it is 90% with 90% statistical confidence (i.e., one sided t test with a 0.10 alpha error) for a minimum of any 2 years of a 10 year period prior to the release of the performance bond, except the first year of the 5 year extended responsibility period. On high capability land, the Department shall allow the permittee to substitute corn production for hay production. If determined to be a proper management practice in accordance with subsection (a)(2)(C), the Department shall allow the permittee to substitute one year of crop production of an allowable crop specified in subsection (a)(4)(D) for one year of hay production on limited capability land. Once chosen by the permittee, the productivity alternative in subsection (a)(6) may not be modified without approval from the Department;

F) Non-contiguous areas less than or equal to 4 acres which were disturbed from activities such as, but not limited to, signs, boreholes, power poles, stockpiles and substations shall be considered successfully revegetated if the permittee can demonstrate that the soil disturbance was minor, i.e., the majority of the subsoil remains in place, the soil has been returned to its original capability and the area is supporting its approved post-mining land use at the end of the responsibility period.

4) In order to use the Agricultural Lands Productivity Formula, or the alternative in subsection (a)(6), to determine success of revegetation, the following shall apply:

A) The permittee shall submit annually, by February 15, a one inch equals 500 (1:500) feet or larger scale drawing or aerial photograph delineating:

i) Field boundaries, a field numbering scheme and the total acreage for each field which will be cropped to demonstrate proof of productivity for the coming crop year. The Department shall approve such submittal if the information is correct and accurate. Once field boundaries are established in a submittal, the boundaries shall not be changed without recommencing the responsibility period, unless the submittal is amended in accordance with subsection (a)(4)(A)(ii); and

ii) The crop (e.g., hay, wheat, corn, soybeans, etc.) which will be grown on each field to demonstrate proof of productivity for the coming crop year. The permittee may amend its scale drawing in accordance with 62 Ill. Adm. Code 1774.13(b)(2) until July 15 of the submittal year. Each such amendment shall contain a written explanation of changes from the original submittal and include a map reflecting the changes. A field is an area of land reclaimed by a single reclamation technique that comprises either high capability land or prime farmland or limited capability land. The size of the field and its boundaries are determined by such factors which include, but are not limited to, contour, non-cropped boundaries and size of farming equipment.

B) Fields identified in subsection (a)(4)(A) to be measured for success of revegetation for cropland shall be planted annually to a single approved crop. The current sampling method of the Agricultural Lands Productivity Formula shall apply. Soil and water conservation practices approved in the permit application including but not limited to grass waterways, diversion ditches, contour grass strips, and sedimentation ponds within the boundaries of a field shall be excluded from the sampling requirements of the Agricultural Lands Productivity Formula and shall remain vegetated with permanent ground cover species, where appropriate, to conserve soil and water resources. Subject to rulemaking, the Department in cooperation with the Illinois Department of Agriculture may determine if a portion of a field is a representative sample of the entire field when technology has developed to make it possible through physical and chemical agronomic testing to demonstrate success of vegetation through soil surveys or when statistically valid sampling procedures are developed for determining success of revegetation based upon cropping and sampling a representative portion of the field.

C) Adjustments for abnormal growing conditions shall be accepted by the Department if the adjustments are certified by a qualified professional (American Society of Agronomy certified) or National Association of State Departments of Agriculture crop enumerators used under this Section, whose ability to perform such adjustments has been previously approved by the Department.

D) The crops to be grown shall include those commonly grown on surrounding unmined cropland such as corn, soybeans, hay or wheat. The Department may approve a hay crop use where this is a common use of unmined cropland in the surrounding area. Prime farmland and other cropland areas must include a minimum of one successful year of corn and if the Department has approved its use, a maximum of one successful year each of hay and wheat crops, may be used for the productivity demonstration. If deep tillage has been completed to a minimum depth of 36 inches prior to bond release, the applicant may use more than one successful year of hay or wheat as a crop to be used for the productivity demonstration. The requirement for one successful year of corn remains unchanged under this subsection (a)(4)(D).

5) Wetland revegetation shall be deemed successful when:

A) The applicable wetland vegetation criteria included in the following reference materials have been met: Corps of Engineers Wetlands Delineation Manual (Department of the Army Technical Report Y-87-1, January 1987, published by the Department of the Army, Waterways Experiment Station, Corps of Engineers, P.O. Box 631, Vicksburg, Mississippi 39180-0631) , Regional Supplement to the Corp of Engineers Wetlands Delineation Manual: Midwest Region (Department of the Army ERDC/EL TR-10-16, August 2010, published by the Department of the Army, U.S. Army Engineer Research and Development Center, 3909 Ferry Halls Road, Vicksburg, MS 39180-6199), and the National Wetland Plant List for the State of Illinois (U.S. Army Corps of Engineers 2018, National Wetland Plant List, version 3.4 http://wetland-plants.usace.army.mil). The reference materials are available for inspection and copying at the Department's Springfield office; and

B) Areas designed to support vegetation in the approved plan shall have a minimum areal coverage of 30%. The testing procedure in Section 1816.117(d)(1) through (3) shall be used to evaluate the extent of cover. Areal cover shall be determined to be present if any approved wetland species is measured at the increment. The percentage of areal cover shall be established for the area tested by taking the total number of measurements where areal cover was determined to be present.

6) In order to use the alternative to the Agricultural Lands Productivity Formula to determine success of revegetation, the following shall apply: use of this alternative is contingent upon the permittee demonstrating for the entire field that the soil strength of the entire soil profile will average ≤ 200 psi or has been deep tilled to a minimum depth of 36 inches prior to bond release, and soil fertility will average Optimum Management for pH, P and K values as defined under the current Illinois Agronomy Handbook, and intensive land leveling is implemented, as needed, for the entire field. Areas to be tested are allowed under the provisions of subsection (a)(3)(C) or (E). The alternative to the Agricultural Lands Productivity Formula compares reclaimed field crop yields against an average of the five most recent county yields adjusted annually for weather variations.

The following substitution of the annual pit base yield adjustment shall read:

County Success Factor = Average of the Five Previous County Success Factors

b) The person who conducts surface mining activities shall:

1) Conduct periodic measurements of vegetation, soils, and water prescribed or approved by the Department, to identify if remedial actions are necessary during the applicable period of liability specified in subsection (a); and

2) Initiate a soil compaction and fertility testing plan, subject to the approval of the Department, for areas that have incurred 5 unsuccessful attempts to meet the production required by subsection (a)(3)(C) or (E) or 62 Ill. Adm. Code 1823.15, or shall initiate deep tillage under appropriate soil moisture conditions on the areas, subject to the approval of the Department.

3) Permittees shall submit by February 15 of each year a report of reclamation activities conducted during the previous calendar year, which initiate or may alter the responsibility period or are specifically required by the Department to evaluate a normal husbandry practice, using forms provided by the Department. Examples of reclamation activities to be reported and/or evaluated include but are not limited to crops used in temporary and permanent seedings, grasses and legumes planted, trees and shrubs planted, soil amendments added, and location and type of augmentation activities. The forms shall be submitted with a copy of the approved post-mining land use and capability map depicting the location of such activities. The map shall be planned as a continuous map so the reclamation activities conducted each year may be added and indicated on the map by the dates the activities were conducted.

(Source: Amended at 47 Ill. Reg. 2348, effective February 3, 2023)