**Section 1816.43 Diversions**

a) General Requirements.

1) With the approval of the Department, any flow from mined areas abandoned before May 3, 1978, and any flow from undisturbed areas or reclaimed areas, after meeting the criteria of Section 1816.46 for siltation structure removal, may be diverted from disturbed areas by means of temporary or permanent diversions. All diversions shall be designed to minimize adverse impacts to the hydrologic balance within the permit and adjacent areas, to prevent material damage outside the permit area and to assure the safety of the public. Diversions shall not be used to divert water into underground mines without approval of the Department under Section 1816.41(i).

2) The diversion and its appurtenant structures shall be designed, located, constructed, maintained and used to:

A) Be stable;

B) Provide protection against flooding and resultant damage to life and property;

C) Prevent, to the extent possible using the best technology currently available, additional contributions of suspended solids to stream flow outside the permit area. Appropriate sediment control measures for diversions may include, but not be limited to, maintenance of appropriate gradients, channel lining, revegetation, roughness structures, and detention basins; and

D) Comply with the Rivers, Lakes, and Streams Act (Ill. Rev. Stat. 1991, ch. 19, pars. 52-79) [615 ILCS 5], Section 404 of the Federal Water Pollution Control Act of 1972, as amended (30 U.S.C. 1344), and all local ordinances.

3) Temporary diversions shall be removed promptly when no longer needed to achieve the purpose for which they were authorized. The land disturbed by the removal process shall be restored in accordance with this Part. Before diversions are removed, downstream water-treatment facilities previously protected by the diversion shall be modified or removed, as necessary, to prevent overtopping or failure of the facilities. This requirement shall not relieve the permittee from maintaining water treatment facilities as otherwise required. When permanent diversions are constructed or stream channels restored prior to the removal of temporary diversions the permittee shall:

A) Establish, restore, enhance where practicable, or maintain natural riparian vegetation on the banks of the stream, including any area that is subject to annual inundation;

B) Establish, or restore the stream to its natural meandering shape and to an environmentally acceptable gradient, as determined by the Department; and

C) Establish or restore the stream to a longitudinal profile and cross-section, including aquatic habitats (usually a pattern of riffles, pools, and drops rather than uniform depth) that approxmate premining stream channel characteristics.

4) Diversion design shall incorporate the following:

A) Channel lining shall be designed using standard engineering practices to pass safely the design velocities. Riprap shall consist of non-degradable, non-acid or toxic-forming rock such as sandstone, limestone, or other durable rock that will not slake in water and will be free of coal, clay or shale;

B) Freeboard shall be no less than 0.3 feet, except as provided for in subsection (a)(5). Protection shall be provided for transition of flows and for critical areas such as swales and curves. Where the area protected is a critical area, as determined by the Department, the design freeboard may be increased;

C) Energy dissipators shall be installed, when necessary, at discharge points where diversions intersect with natural streams and exit velocity of the diversion ditch flow is greater than that of the receiving stream;

D) Excess excavated material not necessary for diversion channel geometry or regrading of the channel shall be disposed of in accordance with Sections 1816.71 through 1816.74; and

E) Topsoil shall be handled in compliance with Section 1816.22.

5) If the terrain is such that out-of-bank flows can accommodate the design precipitation event without endangering health or the environment as a result of flooding, such as physical harm or slope failure, the need for diversion ditches may be modified by taking into account channels, banks, and flood plains.

b) Diversions of perennial and intermittent streams.

1) Diversions of perennial and intermittent streams within the permit area are subject to Department approval pursuant to Section 1816.57(a).

2) The design capacity of channels for temporary and permanent stream channel diversions shall be at least equal to the capacity of the unmodified stream channel immediately upstream and downstream from the diversion.

3) The requirements of subsection (a)(2)(B) shall be met when the temporary and permanent diversions for perennial and intermittent streams are designed so that the combination of channel, bank, and floodplain configuration is adequate to pass safely the peak runoff of a ten (10) year, six (6) hour precipitation event for a temporary diversion and a one hundred (100) year, six (6) hour precipitation event for a permanent diversion.

4) The longitudinal profile of the stream, the channel, and the floodplain shall be designed and constructed to remain stable. Erosion control structures such as channel lining structures, retention basins, and artificial channel roughness structures shall be used in diversions only when approved by the Department as being necessary to control erosion.

5) The design and construction of all stream channel diversions of perennial and intermittent streams shall be sealed by a qualified registered professional engineer as meeting the performance standards of this Part.

c) Diversion of miscellaneous flows.

1) Miscellaneous flows, which consist of all flows except for perennial and intermittent streams, may be diverted away from disturbed areas if required or approved by the Department to lessen environmental impact. Miscellaneous flows shall include ground water discharges and ephemeral streams.

2) The design, location, construction, maintenance, and removal of diversions of miscellaneous flows shall meet all of the performance standards set forth in subsection (a).

3) The requirements of subsection (a)(2)(B) shall be met when the temporary and permanent diversions for miscellaneous flows are designed so that the combination of channel, bank, and flood-plain configuration is adequate to pass safely the peak runoff of a two (2) year, six (6) hour precipitation event for a temporary diversion and a ten (10) year, six (6) hour precipitation event for a permanent diversion.

(Source: Amended at 17 Ill. Reg. 11001, effective July 1, 1993)