

ILLINOIS  
POLLUTION CONTROL BOARD  
February 4, 2016

IN THE MATTER OF: )  
 )  
PETITION OF THE CITY OF ) AS 15-03  
COLLINSVILLE FOR AN ADJUSTED ) (Adjusted Standard – Water)  
STANDARD FROM 35 ILL. ADM. CODE )  
620.410 FOR CERTAIN CONSTITUENTS )

OPINION AND ORDER OF THE BOARD (by D. Glosser):

On December 4, 2014, the City of Collinsville (Collinsville) filed a petition seeking adjusted standards from 35 Ill. Adm. Code 620.410(a), (b), (c), and (e) Groundwater Quality Standards for Class I: Potable Resource Groundwater (Pet.) for the site of the closed Collinsville landfill. Collinsville requested adjusted standards for the following constituents based on the highest readings and predicted future concentrations: Picloram, p-Dioxane, Mecoprop (MCCP), total dissolved solids (TDS), chloride, iron, manganese, sulfate, pH, and perchlorate. Collinsville also requested adjusted standards for additional inorganic parameters listed under Section 620.410(a) without specifically listing them in the petition. Pet. at 9. For these parameters, Collinsville requested adjusted standards to be based on the Class II groundwater quality standards at 35 Ill. Adm. Code 620.420. Pet. at 9-10, Exh. 8. Additionally, Collinsville requested an adjusted standard from 35 Ill. Adm. Code 620.440(c), the Class IV groundwater quality standards, applying to previously mined areas. Pet. at 5. Collinsville seeks this relief in order to obtain its certification of completion of post-closure care under 35 Ill. Adm. Code 807.524. Pet. at 1-2, Pet. Resp. at 1. The Illinois Environmental Protection Agency (IEPA) filed a recommendation (Rec.) that the Board grant the adjusted standard as requested by Collinsville. Rec. at 1.

Based on the record before it, the Board finds that Collinsville has provided sufficient justification for each of the factors at Section 28.1 of the Environmental Protection Act (Act) (415 ILCS 5/28.1 (2014)). The Board grants Collinsville's petition for an adjusted standard from the Board's Class I groundwater quality regulations at 35 Ill. Adm. Code 620.410(a), (b), and (e) for p-Dioxane, TDS, chloride, iron, arsenic, manganese, pH, and perchlorate subject to the conditions listed in its order below. The Board also grants Collinsville an adjusted standard from 35 Ill. Adm. Code 620.310(a)(3)(A)(ii) and (iv) for arsenic and pH such that a preventive assessment to determine if a significant increase or change occurs shall be based upon trend analysis and not on a statistical comparison to background values.

In this opinion, the Board begins with the procedural history of the case and notice requirements, and then discusses the legal framework for an adjusted standard. Next, the Board provides a facility description followed by Collinsville's proposed adjusted standard as originally proposed and then as revised. The Board then summarizes the current applicable standards. The Board summarizes IEPA's recommendation and responses to Board questions as well as

Collinsville's reply. The Board then discusses the issues presented and statutory factors before reaching its conclusion and issuing its order.

### **PROCEDURAL HISTORY AND BACKGROUND**

Collinsville filed a petition (Pet.) for Adjusted Standard with 8 exhibits on December 4, 2014. Collinsville waived the public hearing afforded by Section 104.422 of the Board's procedural rules. Pet. at 13-14, 35 Ill. Adm. Code 104.122.

On December 17, 2014, Collinsville published notice of filing the petition in the *Granite City Press Record* and the *Collinsville Herald*. On January 2, 2015, Collinsville filed the certificate of publication of notice.

On May 21, 2015, the Board issued an order, accepting the petition for hearing and finding that a hearing would be advisable. Petition of the City of Collinsville for an Adjusted Standard from 35 Ill. Adm. Code 620.410 for Certain Constituents, AS 15-3 (May 21, 2015). The Board's Hearing Officer issued an order with questions addressed to Collinsville on May 21, 2015.

On August 10, 2015, Collinsville provided a written response to the Hearing Officer questions along with 17 attachments (Pet. Resp.). Collinsville also revised its request for relief in (Pet. Resp.). Collinsville specifically requested adjusted standards from only 35 Ill. Adm. Code 620.410(a), (b) and (e) for p-Dioxane, TDS, chloride, iron, arsenic, manganese, pH, and perchlorate. For p-Dioxane, Collinsville requested the adjusted standard be based on the highest detected concentration of 51 µg/L. For TDS, chloride, iron, arsenic, manganese, pH, and perchlorate, Collinsville requested the adjusted standard to be set at the existing concentrations. Additionally, Collinsville requested adjusted standards to entail no comparison to background values under their permit for p-Dioxane, TDS, chloride, iron, arsenic, manganese, pH, and perchlorate as well as sulfate, ammonia, boron, total organic carbon (TOC), total organic halogen (TOX), and zinc. Pet. Resp. at 1-3, 18-19, Attach. 1, Exh. 8. Collinsville also clarified it did not intend to seek an adjusted standard from 35 Ill. Adm. Code 620.410(c) for explosive constituents or 620.440(c) for Class IV: Other Groundwater within a previously mined area. Pet. Resp. at 1-2, 5.

On October 23, 2015, IEPA filed comments on Collinsville's August 10, 2015 responses (IEPA Comment) as well as responses to questions posed in a hearing officer order dated August 31, 2015 (IEPA Resp.). IEPA recommended that the Board grant the adjusted standard request as revised by Collinsville, and include 2 requirements: (1) that the facility not be allowed to submit an application for a certification of completion of post-closure care prior to fulfilling two years of annual groundwater monitoring, and (2) that Collinsville conduct a current survey of potable groundwater wells within one-half mile of the facility. IEPA Resp. at 4-5, IEPA Comment at 38-39, 46.

On August 31, 2015, the Board's Hearing Officer then issued an order with questions addressed to IEPA. On October 23, 2015, IEPA filed comments on Collinsville's August 10, 2015 responses (IEPA Comment) as well as responses to questions posed in a hearing officer

order dated August 31, 2015 (IEPA Resp.). On November 12, 2015, Collinsville replied to IEPA's October 23, 2015 comment and response and requested clarification or discussion regarding draft language for the Board's order (Pet. Reply).

Although the Board initially directed the hearing officer to set a hearing in this proceeding, after receiving the responses to questions from both Collinsville and IEPA, the Board finds that a public hearing is not required.

### **LEGAL FRAMEWORK FOR ADJUSTED STANDARD**

The Act and the Board's procedural rules provide that a petitioner may request, and the Board may grant, an adjusted standard that is different from the generally applicable standard that would otherwise apply to the petitioner. See 415 ILCS 5/28.1 (2014); 35 Ill. Adm. Code 104.Subpart D.

After adopting a regulation of general applicability, the Board may grant, in a subsequent adjudicatory determination, an adjusted standard for persons who can justify such an adjustment consistent with subsection (a) of Section 27 of this Act. In granting such adjusted standards, the Board may impose such conditions as may be necessary to accomplish the purposes of this Act. The rule-making provisions of the Illinois Administrative Procedure Act and Title VII of this Act shall not apply to such subsequent determinations. 415 ILCS 5/28.1(a) (2014).

The general procedures that govern an adjusted standard proceeding are found at Section 28.1 of the Act and Section 104.Subpart D of the Board's procedural rules. 415 ILCS 5/28.1 (2014); 35 Ill. Adm. Code 104.400.Subpart D. Section 28.1(c) of the Act provides

- (c) If a regulation of general applicability does not specify a level of justification required of a petitioner to qualify for an adjusted standard, the Board may grant individual adjusted standards whenever the Board determines, upon adequate proof by petitioner, that:
  - (1) factors relating to that petitioner are substantially and significantly different from the factors relied upon by the Board in adopting the general regulation applicable to the petitioner;
  - (2) the existence of those factors justifies an adjusted standard;
  - (3) the requested standard will not result in environmental or health effects substantially and significantly more adverse than the effects considered by the Board in adopting the rule of general applicability; and
  - (4) the adjusted standard is consistent with any applicable federal law. 415 ILCS 5/28.1 (2014).

Section 104.406 of the Board's procedural rules specifies the required contents for the adjusted standard petition. See 35 Ill. Adm. Code 104.406. After a petition for an adjusted

standard is filed, IEPA must file its recommendation with the Board within 45 days after the filing of the petition or amended petition, or at least 30 days before any scheduled hearing, whichever is earlier. 35 Ill. Adm. Code 104.416. The adjusted standard proceeding is adjudicatory in nature and therefore is not subject to the rulemaking provisions of the Illinois Administrative Procedure Act (5 ILCS 100/1-1 *et seq.* (2014)). *See* 415 ILCS 5/28.1(a) (2014); 35 Ill. Adm. Code 101.202 (defining “adjudicatory proceeding”).

The burden of proof in an adjusted standard proceeding is on the petitioner. 415 ILCS 5/28.1(b), (c) (2014); 35 Ill. Adm. Code 104.426. Once granted, the adjusted standard, instead of the rule of general applicability, applies to the petitioner. 415 ILCS 5/28.1(a) (2014); 35 Ill. Adm. Code 101.202, 104.400(a).

### **FACILITY DESCRIPTION**

Collinsville’s landfill is a closed facility located along Lebanon Road due east of the city and outside of the city limits of Collinsville. Pet. at 6. The landfill opened in 1960 and was in operation under Part 807 regulations from the early 1970s through 1984 under permit number 1972-71. *Id.* The landfill was closed in October 1986, with IEPA certifying the landfill was “satisfactorily closed in a letter dated October 24, 1986”. *Id.* at 6 and 7. The closed landfill is 22 acres in area. *Id.* at 6. A leachate collection system was installed after closure, and later a new system was installed and began operating in January 2014. *Id.* at 7. Collinsville states leachate samples will be collected each year for two years, with results compared to past samples to determine if there is a need for additional sampling. *Id.*

Shallow groundwater at the landfill “is approximately 10 feet below the ground surface and appears to be flowing in a northwesterly direction from the landfill toward Canteen Creek.” Pet. at 7. Two small ponds or lakes are located upgradient of the landfill, and two creeks are located in the immediate vicinity. Canteen Creek flows west along the northern edge of the landfill, and the second creek flows north along the western edge. The two creeks merge at the northwest edge of Collinsville’s property. Both creeks are “sustained and recharged with groundwater”. *Id.*

The landfill is now in the post-closure monitoring phase. Monitoring has detected the presence of herbicides and perchlorate, along with the metals and minerals specifically listed above that exceed background values and/or the Class I groundwater quality standards. Because of the exceedances, Collinsville states IEPA will not issue a certification of completion of post-closure care. Pet. at 1.

Before the landfill site was purchased by Collinsville, the site was used for coal mining. Collinsville reports that the landfill and surrounding areas were once part of the Lumaghi Coal Company’s Canteen Mine No. 2. Pet. at 7. The mine was a subsurface mine with mine shafts, and the area beneath the landfill and adjacent properties is said to be “mined-out”. Pet. at 7, Pet. Resp. at 7. Collinsville purchased the property from Lumaghi Coal Company in June 1960. Pet. at 8.

Collinsville provided aerial photographs (Pet. Exh. 1) indicating that prior to 1941, coal and coal “gob” were stored in the area that later became the Collinsville Landfill. Pet. at 1, 7-8, Exh. 1-2. Collinsville explains that the gob is associated with historical on-site coal mining activities that predated the siting of the landfill. *Id.* at 1. According to Collinsville, “gob” is a waste from coal mining that cannot be sold. Pet. at 1. Gob is produced by the initial processing of coal where the undesirable high sulfur pyrite is stripped from the coal. Gob contains “residual coal with pyrite or other sulfur-containing minerals”. *Id.*

Based on early aerial photographs, Collinsville states that coal and coal gob were stored north and south of Canteen Creek in the area that later became the Collinsville Landfill. Pet. at 7-8. After the City purchased the property, most of the coal and gob remained in place. By 1974, the gob stored on the site was no longer visible on aerial photographs because it had been incorporated into the landfill; whereas, the remaining coal storage area was still visible. *Id.*

Collinsville states that the sulfur-containing gob creates acid mine drainage when exposed to oxidation and contact with surface water or groundwater. Exh. 1-2 at 3. Collinsville explains that due to the acid mine drainage, acidic conditions in soil and groundwater leach metals and inorganic compounds from the soil that in turn migrate to groundwater. Pet. at 3. Collinsville states that the inorganic parameters associated with gob for which exceedances have been observed include pH, TDS, arsenic, chloride, iron, manganese, and sulfate. Pet. at 3.

In addition, perchlorate has been found in the groundwater. Collinsville states that perchlorate is typically present in black powder and ammonium nitrate dynamite, which were used to mine coal prior to 1945. Collinsville explains that perchlorate “readily dissolves in the groundwater and may remain for decades”. Pet. at 3.

Other constituents detected in the groundwater for which Collinsville originally requested an adjusted standard are associated with herbicides: p-Dioxane, MCP, and picloram. Pet. at 3-4, Exh. 8. Collinsville later revised its request to only include p-Dioxane. Pet. Resp., Exh. 8. Collinsville states that MCP appears to have been detected due to sampling or laboratory error and picloram was only found in a background well. Pet. at 3-4. Collinsville attributed the presence of p-Dioxane to the use of Roundup Pro® stating, “Roundup Pro® is periodically applied along the perimeter of the landfill road and structures during the growing season by Illinois Department of Agriculture licensed applicators.” Pet. at 3-4. Collinsville added “after detection of the p-Dioxane and the discovery of its inclusion in Roundup Pro®, use of the herbicide has been discontinued at the landfill.” Pet. at 13. For p-Dioxane, Collinsville stated “[t]he proposed adjusted standard for p-Dioxane has been revised to the highest detected concentration of 51 µg/L.” Pet. Resp. at 18, 19, 25.

Collinsville notes that there are “extensive historical mining impacts and ‘gob’ piles in the entire area”, and that Collinsville has passed two ordinances and signed a Memorandum of Understanding (MOU) with IEPA prohibiting groundwater use within the city limits by any person except by Collinsville itself. Pet. at 10-11. If Collinsville were to use the groundwater, the city must ensure that water is protected from contamination or treated before it is used as a potable water supply. Exh. 2.

Given the area's historic subsurface mining activities, Collinsville stated that it believes there is no feasible, practical way to treat the groundwater. Pet. at 8. Absent an adjusted standard, Collinsville addressed the potential costs for compliance with the Class I groundwater standards. Collinsville calculated costs for various options for remediation of the groundwater, including removal of the landfill (\$234,272,521), installation of an interceptor trench and leachate treatment (\$12,045,486), and installation of a pump and treat system (\$11,915,786). Pet. Exh. 6-1. Collinsville stated that such costs would not be economically feasible and would be beyond the resources of a city its size. Pet. at 8-9, Pet. Resp. at 27.

### **RULE OF GENERAL APPLICABILITY**

On August 10, 2015, Collinsville revised its request for relief, specifically requesting adjusted standards from only 35 Ill. Adm. Code 620.410(a), (b) and (e) for p-Dioxane, TDS, chloride, iron, arsenic, manganese, pH, and perchlorate. For p-Dioxane, Collinsville requested the adjusted standard be based on the highest detected concentration of 51 µg/L. For TDS, chloride, iron, arsenic, manganese, pH, and perchlorate; Collinsville requested the adjusted standard to be set at the existing concentrations. Resp. at 3, 18-19, Attach. 1, Exh. 8. The Board's Groundwater Quality Standards for Class I Groundwater regulations at Section 620.410(a), (b), and (e) for only p-Dioxane, TDS, chloride, iron, arsenic, manganese, pH, and perchlorate provide:

- a) Inorganic Chemical Constituents  
Except due to natural causes or as provided in Section 620.450, concentrations of the following chemical constituents must not be exceeded in Class I groundwater:

Constituent	Units	Standard
...		
Arsenic	mg/L	0.010
...		
Chloride	mg/L	200.0
...		
Iron	mg/L	5.0
...		
Manganese	mg/L	0.15
...		
Perchlorate	mg/L	0.0049
...		
Total Dissolved Solids (TDS)	mg/L	1,200
...		

- b) Organic Chemical Constituents

Except due to natural causes or as provided in Section 620.450 or subsection (d), concentrations of the following organic chemical constituents shall not be exceeded in Class I groundwater:

Constituent	Standard (mg/L)
...	
p-Dioxane	0.0077 mg/L
...	
	* * *

## e) pH

Except due to natural causes, a pH range of 6.5 - 9.0 units must not be exceeded in Class I groundwater. 35 Ill. Adm. Code 620.410 (a), (b), and (e).

Additionally, Collinsville requested the adjusted standard to entail no comparison to background values under their permit for constituents related to past mining practices and proper herbicide application: p-Dioxane, TDS, chloride, iron, arsenic, manganese, pH, and perchlorate as well as sulfate, ammonia, boron, TOC, TOX, and zinc. Pet. Resp. at 1-3, 18-19, Attach. 1, Exh. 8. In this regard, the Board's regulations at Section 620.310(a)(3)(A)(ii) and (iv) require comparison with background values only for arsenic and pH as follows:

- a) The following preventive assessment must be undertaken:...
- 3) If a preventive notification under Section 620.305(b) is provided by the owner or operator of a regulated entity and the applicable standard in Subpart D has not been exceeded:
- A) The appropriate regulatory agency shall determine if any of the following occurs for Class I: Potable Resource Groundwater:
- ...
- ii) A statistically significant increase occurs above background (as determined pursuant to other regulatory procedures (e.g., 35 Ill. Adm. Code 616, 724, 725 or 811)) for arsenic...
- ...
- iv) For pH, a statistically significant change occurs from background. 35 Ill. Adm. Code 620.310(a)(3)(A)(ii) and (iv). 35 Ill. Adm. Code 620.310(a)(3)(A)(ii) and (iv)

### **REQUESTED RELIEF**

Collinsville's initial December 4, 2014 petition requested relief from 35 Ill. Adm. Code 620.410(a), (b), (c), and (e) Groundwater Quality Standards for Class I: Potable Resource Groundwater. Collinsville initially provided a table entitled "Summary of Proposed Adjusted Standards and Parameters to be Adjusted". Pet at 8, The table listed specific parameters with proposed limits and proposed sampling frequency. More specifically, Collinsville requested

adjusted standards for the following constituents based on the highest readings and predicted future concentrations: Picloram, p-Dioxane, MCP, TDS, chloride, iron, manganese, sulfate, pH, and perchlorate. Collinsville also requested adjusted standards for additional inorganic parameters listed under Section 620.410(a) without specifically listing them in the petition. Pet. at 9. Collinsville requested adjusted standards be based on the Class II groundwater quality standards at 35 Ill. Adm. Code 620.420. Pet. at 9-10, Exh. 8. Additionally, Collinsville also requested an adjusted standard from 35 Ill. Adm. Code 620.440(c). Pet. at 5.

As a condition of the adjusted standard, Collinsville initially proposed, “[e]ach parameter shall be sampled quarterly for one year commencing with the quarter in which this adjusted standard is approved, after which there shall be two years of annual monitoring, at which point monitoring requirements shall cease. Monitoring results will be compared to the adjusted standards only.” Pet. at 10.

On August 10, 2015, Collinsville revised its request for relief, specifically requesting adjusted standards from only 35 Ill. Adm. Code 620.410(a), (b) and (e) for p-Dioxane, TDS, chloride, iron, arsenic, manganese, pH, and perchlorate. In its revised request, Collinsville provided a table entitled “Summary of Proposed Adjusted Standards and Parameters to be Adjusted”. The table listed the parameters, proposed standards and proposed sampling frequency. Pet. Resp., Attach 1, Rev.; Exh. 8. More specifically, for p-Dioxane, Collinsville requested the adjusted standard be based on the highest detected concentration of 51 µg/L. For TDS, chloride, iron, arsenic, manganese, pH, and perchlorate, Collinsville requested the adjusted standard to be set at the existing levels. Additionally, Collinsville requested that the adjusted standards entail no comparison to background values under their permit for p-Dioxane, TDS, chloride, iron, arsenic, manganese, pH, and perchlorate as well as sulfate, ammonia, boron, total organic carbon (TOC), total organic halogen (TOX), and zinc. Pet. Resp. at 1-3, 18-19, Attach. 1, Exh. 8. Collinsville also clarified it did not intend to seek an adjusted standard from 35 Ill. Adm. Code 620.410(c) for explosive constituents or 620.440(c) for Class IV: Other Groundwater within a previously mined area. Pet. Resp. at 1-2, 5.

As a condition of the adjusted standard, Collinsville proposed sampling frequency of “Quarterly for 1 year then annually for 2 years”. Pet. Resp., Attach. 1, Exh. 8. Collinsville stated that groundwater monitoring and reporting currently costs the City about \$40,000 per year. Pet. at 13-14.

For TDS, arsenic, chloride, iron, manganese, and pH, Collinsville requested that the “existing concentration” become the adjusted standard. As rationale for the selection of the existing concentration for these coal-mining-related parameters, Collinsville cited to 35 Ill. Adm. Code 620.440(c) Groundwater Quality Standards for Class IV: Other Groundwater within a previously mined area. Pet. Resp. at 4-5. Collinsville reasoned, “existing concentrations are appropriate for the coal-related constituents associated with the buried coal waste...” Pet. Resp. at 5-6. Collinsville added, “The existing concentration is also proposed for perchlorate because the source of the perchlorate is pre-landfill blasting during coal mining.” Pet. Resp. at 5-6.

For p-Dioxane, Collinsville requested that the “maximum detected concentration” become the adjusted standard. Pet. Resp. at 18, 19, 25, Attach. 1, Exh. 8. Collinsville explained

that p-Dioxane is not associated with the municipal landfill operation, but is rather the result of properly applied herbicides from Illinois Department of Agriculture licensed applicators. Pet. at 4, 12-13. Collinsville replied that federal regulations do not require manufacturers of pesticides and herbicides to list 1,4-Dioxane<sup>1</sup> as an ingredient, so Collinsville has no means of determining if other glyphosate-based herbicides that might be used in the future would have lower concentrations of 1,4-Dioxane. Pet. Resp. at 14-15.

For each of the constituents listed in its revised request above, Collinsville also requested that no comparison to background values be made under its permit. Pet. Resp. at 1-3, 18-19, Attach. 1, Exh. 8. Collinsville explained that these constituents are not related to the municipal landfill operation but are impacting wells used to monitor the closed landfill. Pet. at 12-13.

### **IEPA RECOMMENDATION**

On January 22, 2015, IEPA filed its recommendation to grant the adjusted standard as requested by Collinsville. After Collinsville subsequently revised its request on August 10, 2015, IEPA recommended that the Board grant the adjusted standard request as revised by Collinsville, and include two requirements: 1) that the facility not be allowed to submit an application for a certification of completion of post-closure care prior to fulfilling two years of annual groundwater monitoring, and 2) that Collinsville conduct a current survey of potable groundwater wells within one-half mile of the facility. IEPA Resp. at 4-5, IEPA Comment at 38-39, 46.

In its initial recommendation, IEPA noted that Collinsville had been investigating post-closure exceedances of the groundwater standards at the landfill since 1999. Rec. at 2. IEPA stated that the groundwater associated with this landfill is currently impacted by a variety of organic and inorganic materials. IEPA confirmed that Collinsville is seeking to obtain a certification of completion of post-closure care at the landfill, but noted that exceedances of the groundwater standards must be addressed and resolved first. *Id. at 2.*

IEPA stated that in order for the Board to grant Collinsville's requested adjusted standard, Collinsville must address all of the informational requirements found in Section 104.406 of the Board's procedural regulations and that IEPA must respond to each issue raised by these requirements. Rec. at 2-3. IEPA noted that Collinsville has been working with IEPA since February 2011 in addressing issues related to this adjusted standard request, and Collinsville has provided several draft versions of the Petition to IEPA for review and comment. *Id. at 3.* IEPA states that this "'pre-filing' review of the Petition explains the brevity in responding to the informational requirements." *Id.*

IEPA did not "take issue" with Collinsville's narrative description of the proposed adjusted standard; however, IEPA noted that there does not appear to be any specific language proposed for a Board order that would impose the adjusted standard. Rec. at 4. Despite this, IEPA stated that it "is in agreement with the proposed adjusted standards and the proposed

---

<sup>1</sup> This substance is also known as p-Dioxane.

sampling frequency for each of the parameters listed in Exhibit 8 and in Paragraph 17 of the Petition”. *Id.*

IEPA also agreed with Collinsville’s assertion that “there would be no meaningful difference in off-site impacts between compliance with the regulation of general applicability and compliance with the adjusted standard.” Rec. at 4. IEPA reiterated that Collinsville had authorized two well water ordinances that control the use of potable water sources within city limits and authorize Collinsville’s Mayor to enter into a MOU with IEPA, which was executed on April 25, 2006. IEPA noted that the MOU prohibits the installation or use of private groundwater wells for use as a potable water supply within city limits. In its initial recommendation, IEPA noted its understanding that the ordinances and MOU applied “within the city limits, which includes the landfill.” *Id.*

IEPA addressed justification of the proposed adjusted standard required in Section 104.406(h) by noting the impact of historical mining activities and the application of herbicides at the landfill pursuant to federal and state regulations. Rec. at 5. IEPA elaborated by stating that a review of aerial photographs demonstrates that the landfill was constructed on closed or abandoned coal mine property. Past coal mining activities produced gob, which is coal mining waste containing a high percentage of pyrite and sulfide minerals. The resulting acid mine drainage can be the source for inorganic exceedances, particularly for TDS, chloride, iron, manganese, and sulfates as they seep from coal wastes. IEPA stated that the groundwater concerns at the landfill “appear to be limited to the extent of the gob area and the coal storage area”. *Id.*

IEPA explained that the 2012 amendments made to 35 Ill. Adm. Code 620.410 require Collinsville to evaluate additional parameters at the landfill. Of the 31 parameters required for analysis by the revised Class I groundwater standards, three were detected: perchlorate, p-Dioxane, and MCP. Rec. at 6. Collinsville conducted further sampling to determine background values. Collinsville also determined that these three parameters are not associated with the operation of the landfill. Perchlorate is reportedly related to use of explosives in past mining operations, and the source of p-Dioxane, and MCP is related to periodic post-closure application of herbicides at the landfill. *Id.*

In its original recommendation, IEPA contended that the proposed adjusted standards were appropriate because of the nature and source of the groundwater at the landfill and because water use restrictions are in place. Rec. at 7. In addition, IEPA noted that, other than perchlorate, the inorganic parameters are standard parameters included with the Coal Reclamation Groundwater Quality Standards and comply with the regulations’ values for underground or surface coal mining operations within the state. For these reasons, IEPA recommended that Collinsville’s request for an adjusted standard be granted. *Id.*

### **Collinsville’s Responses to Board Questions**

On May 21, 2015, the Board’s Hearing Officer issued an order directing questions to Collinsville regarding its petition for an adjusted standard. On August 10, 2015, Collinsville provided a written response with 17 attachments (Pet. Resp.).

While Collinsville's petition stated the landfill is currently subject to Class I groundwater quality standards (Pet. at 9), Collinsville further elaborated in its response that IEPA initially considered the groundwater at the site to be Class II in 1998 when a Violation Notice was issued. Subsequently in 2002, Collinsville explained that aquifer tests categorized the groundwater as Class I. Pet. Resp. at 6. Collinsville stated that it intends to proceed under 35 Ill. Adm. Code 620.260 Reclassification of Groundwater by Adjusted Standard. Pet. Resp. at 2.

In its response, Collinsville revised its request for relief, specifically requesting adjusted standards from only 35 Ill. Adm. Code 620.410(a), (b) and (e) for p-Dioxane, TDS, chloride, iron, arsenic, manganese, pH, and perchlorate. For p-Dioxane, Collinsville requested the adjusted standard be based on the highest detected concentration of 51 µg /L. For TDS, chloride, iron, arsenic, manganese, pH, and perchlorate; Collinsville requested the adjusted standard be set at the existing levels. Pet. Resp. at 3, 18-19, Attach. 1, Exh. 8.

Additionally, Collinsville requested adjusted standards to entail no comparison to background values under their permit for p-Dioxane, TDS, chloride, iron, arsenic, manganese, pH, and perchlorate as well as sulfate, ammonia, boron, total organic carbon (TOC), total organic halogen (TOX), and zinc. Pet. Resp. at 1-3, 18-19, Attach. 1, Exh. 8. Collinsville explained that ammonia, boron, sulfate, TOC, TOX, and zinc are also present as a result of gob; however, Collinsville was not seeking to adjust standards for these, only to discontinue the comparison to background values. Pet. Resp. at 3. Collinsville explained that the presence of constituents related to past mining practices and proper application of herbicides are unrelated to the municipal landfill operation; however, they are impacting monitoring well concentrations being used to monitor the closed landfill. Pet. at 12-13. If the adjusted standard is granted that requires no comparison to background values, Collinsville referred to IEPA's comment that IEPA will review groundwater analytical data from annual and assessment monitoring reports using trend analysis instead. Pet. Reply at 23.

Collinsville also clarified it did not intend to seek an adjusted standard from 35 Ill. Adm. Code 620.410(c) for explosive constituents or 620.440(c) for Class IV: Other Groundwater within a previously mined area. Pet. Resp. at 1-2, 5. Collinsville explained that the reference to Section 620.440(c) is intended to provide a "rationale for the selection of existing concentrations as the adjusted standard for coal-related parameters present above Class I and background values. These parameters include TDS, arsenic, chloride, iron, manganese, arsenic [sic], perchlorate, and pH." Pet. Resp. at 3, 5, emphasis in original. Collinsville added, "[t]he existing concentration will also apply to perchlorate because the source of perchlorate is pre-landfill blasting during coal mining." Pet. Resp. at 3, 6. Collinsville followed that it "would like to omit the comparison of the coal-related compounds to background values." Pet. Resp. at 3.

The hearing officer order's questions cited to Collinsville's mention of a leachate collection system and requested information on future maintenance and mechanisms Collinsville intends to use to address seeps identified on the northern perimeter and leachate collected in the interceptor trenches after IEPA issues a certification of completion of post-closure care. Hearing Officer Order, slip op. at 4-5 (May 21, 2015). Collinsville's original petition explained that a leachate collection system was installed to collect leachate in three subsurface interceptor

trenches, and that collected leachate is transported and discharged to the Collinsville Waste Water Treatment Plant. The petition stated, “[A] fourth interceptor trench was installed to address creek erosion adjacent to the landfill and the presence of seeps on the northern perimeter of the landfill.” Pet. at 6. Collinsville responded to the Hearing Officer Order that:

The City will continue to pump leachate from the leachate collection system and perform monthly inspections of the landfill and creek. Should seeps appear, the City will repair the seeps as they develop. Should the creek begin to negatively impact the erosion control feature or cut into the bank and jeopardize the landfill, the City will repair the erosion control feature or install additional erosion controls at the Site. Pet. Resp. at 7.

As to what mechanism, such as an institutional control, Collinsville intends to use to ensure maintenance of the erosion protection of the creek bank, Collinsville responded:

Prior to attaining final closure, the City will evaluate their options and, in consultation with the IEPA, will develop an appropriate path, acceptable to IEPA, to ensure future maintenance of the erosion protection features at the site. The City intends to provide continued maintenance of the entire Site into the future for as long as they own the Site. According to recent discussions with the City, the City is willing to include a deed restriction that will require IEPA’s approval prior to any sale of the property. Pet. Resp. at 7.

To address 35 Ill. Adm. Code 104.406(d), Collinsville stated there are no permanent employees at the landfill, but one employee of Collinsville visits the landfill about eight times per month to inspect the landfill or pump leachate to the sanitary sewer. Additionally, two contractors typically visit the landfill on a quarterly basis. Pet. Resp. at 7-8.

To address the area affected, Collinsville provided the legal description of the property and characterized the vertical and horizontal boundaries within which the proposed adjusted standards would apply. Pet. Resp. at 8-9, 17, Attach. 4, 5. For the horizontal boundaries, Collinsville provided Figure A-4 entitled “Horizontal Extent of Pre and Post Landfill Contamination” (August 2015). Figure A-4 depicts a cross-hatched area denoted as “Application of the Proposed Adjust [sic] Standards” within the City of Collinsville property boundaries for the landfill. Pet. Resp. at 8-9, Attach. 4. In addition to the cross-hatched area, Collinsville stated it “proposes that the adjusted standards be applied to groundwater adjacent and downgradient of the landfill to the southern and eastern property boundaries, to and including MW-6. . .”. Pet. Resp. at 8.

For the vertical boundaries, Collinsville stated:

The vertical boundaries encompass groundwater elevations that are adjacent or downgradient of the landfilled waste (Approximately [an] elevation of 530 ft amsl [feet above mean sea level]) to the groundwater elevations below and adjacent to the landfilled waste, the City’s property on the north side of the creek and potential buried coal, coal residuum and gob, and the lowest elevations of Canteen

Creek. (within the City's property boundary (approximately 496 ft ams)). Pet. Resp. at 8.

As to the depth profile of the landfill itself, Collinsville stated that based on a 1991 report, the maximum depth of the trash in the landfill is 28 feet below grade level with the lowest elevation point at 488 feet above mean sea level. Pet. Resp. at 10.

Collinsville added, "[t]he upper water-bearing zone is typically encountered within the upper 20 feet and at elevations above the elevation of Canteen Creek (500-485' amsl) and the unnamed western creek (500-490' amsl)." Pet. Resp. at 11. This upper water-bearing zone discharges to Canteen Creek. Pet. Resp. at 32. Collinsville explained that groundwater was also encountered below the lowest elevation of the landfill. Collinsville noted that monitoring well MW-7 is an artesian well and the groundwater has a strong upward vertical gradient. Collinsville added "[d]ownward migration of contaminants associated with the leachate or the upper shallow water bearing zone is not likely." Pet. Resp. at 11, 13.

As to the presence of p-Dioxane, Collinsville's petition stated that Roundup Pro® had been periodically applied along the perimeter of the landfill road and structures. Pet. at 3-4. After discovering p-Dioxane was an ingredient in Roundup Pro®, Collinsville discontinued using the herbicide. Pet. at 13. The May 21, 2015 Hearing Officer Order asked Collinsville to address the potential to use alternatively available herbicides that would be effective in post-closure care maintenance of the landfill site and would not contain constituents listed under 35 Ill. Adm. Code 620.410(b) or 620.420(b) capable of migrating to groundwater. Collinsville replied that manufacturers of pesticides and herbicides are not required to list 1,4-Dioxane as an ingredient, so Collinsville has no means of determining if other glyphosate-based herbicides would have lower concentrations of 1,4-Dioxane. Pet. Resp. at 14-15.

In addressing efforts necessary to achieve the proposed adjusted standard and the corresponding costs, Collinsville stated "[t]he groundwater at the site complies with the proposed adjusted standards. As such there is no additional effort required to achieve compliance." Pet. Resp. at 27.

As to the MOU and Ordinance cited by Collinsville and IEPA as prohibiting installation of wells, the hearing officer order noted that the instruments only refer to groundwater and sites within the City of Collinsville corporate limits, but the petition notes that the Collinsville landfill is located outside the city limits. Hearing Officer Order, slip op. at 14 (May 21, 2015), referring to Pet. at 6. Collinsville responded:

For more than 10 years, the City ordinance and MOU that prohibit the installation of new potable water wells were believed to include the Closed Collinsville Landfill. During the preparation of responses to the Board's comments, we discovered the ordinance and MOU do not cover the landfill. The City of Collinsville is committed to working with the IEPA during the next several months to address this issue in the most appropriate way that will prohibit the installation of potable water wells along Lebanon Road near the landfill and gain the approval of the IEPA and the Board. Pet. Resp. at 28-29.

The hearing officer order noted that the petition relied on a water well survey performed in 2000 to identify private potable water wells within 1,300 feet from the landfill boundary, and asked whether a more current survey might identify potentially affected wells that were installed in the interim. AS 15-3 Hearing Officer Order, slip op. at 15 (May 21, 2015). Collinsville responded that a simple water well survey was performed in July 2015 using the Illinois State Geological Survey Water Well Database. Collinsville explained that a 1,300 foot radius is typically used to identify a “Recognized Environmental Condition” in Phase I Environmental Site Assessments. Collinsville stated, “[N]o water wells were found within 2,500 feet **downgradient** from the site.” Pet. Resp. at 31 (emphasis in original). Collinsville identified four wells located approximately 1,800 feet from the landfill as being side or cross-gradient of the landfill with respect to the groundwater flow. Further, Collinsville stated that two wells located 834 and 270 feet west of the landfill were side gradient to the landfill and not in the path of impacted groundwater flow and that the residents at these locations used municipal water for drinking. Pet. Resp. at 31. Collinsville added that City water is available to all properties along Lebanon Road from the City to further east of the landfill. Pet. Resp. at 31-32.

As to off-site impacts, Collinsville stated, “No off-site impacts from the landfill have been identified above Class I Groundwater Quality Standards.” Pet. Resp. at 32. Collinsville provided a map depicting impacted groundwater from the gob storage and landfill with outlining, which are all within the landfill property boundaries. Pet. Resp., Attach. 8, Rev. Fig. 4-1. Collinsville noted, “Due to the presence of the strong [upward vertical gradient] and the direction of groundwater flow, shallow groundwater at the landfill discharges to Canteen Creek and the northern upstream end of the western unnamed creek.” As such, Collinsville stated, “Unless the groundwater hydrology changes, groundwater beneath and adjacent to the landfill will not impact off-site locations.” Pet. Resp. at 32-33. Collinsville stated that identified exceedances in the upstream and downstream surface water for iron and manganese are not related to the landfill. Collinsville explained that the surface water exceedances resulted from turbid samples collected during the drought conditions when both creeks were nearly dry. Pet. Resp. at 32, 35. Collinsville noted that a source of iron and manganese may be the presence of coal remnants and coal shafts north of the creek. Pet. Resp. at 36.

Under the adjusted standard, Collinsville continued that Class I groundwater quality standards apply to off-site locations and will be achieved at the edge of the Collinsville landfill property boundary, with the exception of MW-6. Collinsville explained that MW-6 is a background well where manganese has been found to slightly exceed the Class I groundwater quality standard. Pet. Resp. at 33. IEPA agreed that Class I groundwater quality standards would apply to off-site locations, and that “[n]o off-site groundwater exceedances of Class I standards are a result of buried waste or the gob pile in the landfill.” Pet. Resp. at 33, IEPA Comment at 41.

### **IEPA’s Responses to Hearing Officer Questions**

IEPA commented on Collinsville’s answers to the May 21, 2015 Hearing Officer Order (IEPA Comment) and responded to additional questions posed in an August 31, 2015 Hearing Officer Order directing questions to IEPA (IEPA Resp.).

Where Collinsville provided information in its answers that Canteen Mine Number 2 was a subsurface mine with mine shafts, IEPA commented that the landfill's consultant had previously stated that part of the mined area was strip mined (surface mined), IEPA was later informed that the mining activities were underground. Regardless, IEPA stated that the determination of its Groundwater Unit "to not object to the proposed adjusted standards at the facility are the result of both groundwater chemical analytical data, and the presence of sources other than the landfill activities." IEPA Comment at 9-10, 21. *See also* Pet. Reply at 10-11.

As to why the Collinsville landfill property is subject to Class I groundwater quality standards rather than Class IV for groundwater within a previously mined area, IEPA stated that it was unaware of coal mining activities at the facility during permitting before 2006. The presence of old coal mining activities at the facility was identified during the permitting process and groundwater assessment investigation during 2006-2008. IEPA stated:

Because portions of the facility and downgradient of the landfill are not considered to have been previously mined areas, the facility chose to remain with the Class I Groundwater Classification for permitting purposes, while considering past mining activities as potential causes/sources to groundwater chemistry. Within the scope of this adjusted standard petition, the Illinois EPA agrees with the facility being subject to Class I groundwater quality standards. IEPA Comment at 2.

While Collinsville stated that it intends to proceed under 35 Ill. Adm. Code 620.260 Reclassification of Groundwater by Adjusted Standard (Pet. Resp. at 2), IEPA stated that this "has been discussed with the facility and the Illinois EPA has no objections." IEPA Comment at 3. IEPA noted that "not all of the groundwater at the site would be classified as Class IV: Other Groundwater." IEPA Comment at 6.

Where Collinsville referred to the Class IV standards for groundwater within a previously mined area under 35 Ill. Adm. Code 620.440(c) as a rationale for using existing concentrations for TDS, arsenic, chloride, iron, manganese, perchlorate, and pH (Pet. Resp. at 3); IEPA stated it "has no objections to the use of existing concentrations as the adjusted standard for the facility for these parameters." IEPA Comment at 4, 7. IEPA continued that it "has no disagreement with the approach to justify the alternate standards taken by the City of Collinsville." IEPA Comment at 6. IEPA explained, "[T]he actual concentrations of constituents is a practical approach given the length of time the facility has had to reach a type of equilibrium with conditions (mining activities ended in the 1950's)." IEPA Comment at 7, 22-23.

As to the specific adjusted standards proposed by Collinsville in its revised list as Exh. 8 (Pet. Resp., Attach. 1), IEPA stated that its "Groundwater Unit agrees with the revised concentrations, as the highest detected concentration (existing concentration) as the proposed adjusted standard." IEPA Comment at 21. As to the proposed adjusted standard of 51 µg/L for p-Dioxane, IEPA stated, "The Illinois EPA Groundwater Unit has no comment...to the proposed adjusted standard for p-Dioxane at 51 µg/L." IEPA Resp. at 3, IEPA Comment at 25.

Addressing the presence of p-Dioxane as an herbicide constituent in the groundwater and the potential for degradation or use of alternative herbicides, IEPA concurred with Collinsville's responses and stated, "[T]he upgradient portion of the facility is bounded by agricultural row crop property, which is the likely source..." IEPA Comment at 33. IEPA continued, "[A]gricultural chemicals sporadically detected in groundwater at the facility are not the result of landfill activities, rather the result of off-site agricultural application of the surrounding farm fields." IEPA Comment at 18.

IEPA commented that its Groundwater Unit believes Collinsville's groundwater monitoring network at the facility is adequate. IEPA stated that Collinsville's annual groundwater reports have adequately described the groundwater flow patterns at the facility as having fluctuated over the past 10 years, and the shallow groundwater as having an upward flow component consistent with Collinsville's description of a strong upward vertical gradient. IEPA Comment at 15-16.

Regarding the potential for off-site impacts, IEPA agreed with Collinsville's assessment that shallow groundwater discharges to Canteen Creek and the western unnamed creek due to the direction of flow and upward vertical upgradient. As such, IEPA agrees that groundwater offsite is not impacted as a result of historic landfilling activities conducted by Collinsville. IEPA Comment at 42. IEPA also agreed with Collinsville's assessment that the iron and manganese exceedances found in the surface water samples were due to turbidity, and noted that Collinsville should have implemented new sampling methodology for low flow periods. IEPA Comment at 27-28. IEPA continued that it considers "waste material from coal mining as a likely source of surface water impacts/contamination." IEPA Comment at 45.

As to providing for continued maintenance of the interceptor trenches at the landfill, IEPA stated that it will review any such proposal and may make recommendations. IEPA stated, "However, after certification of completion of post-closure care is granted, the Illinois EPA no longer has regulatory authority to direct or enforce such a maintenance plan/program." IEPA Comment at 8. Although Collinsville stated its willingness to include a deed restriction that would require IEPA's approval prior to sale of the property, IEPA suggested that it was not aware of an IEPA program that could require such approval. IEPA Comment at 9.

With regard to Collinsville's reference to the existing MOU and groundwater ordinance, IEPA stated that its "Groundwater Unit discussed the establishment/continuance of a groundwater ordinance which prohibited the installation of any type of groundwater production wells at the facility or adjacent property. The Illinois EPA Groundwater Unit has been under the impression such an ordinance has been or will be enacted by the City of Collinsville." IEPA Comment at 34, 37. IEPA added that it is not responsible for implementation of such an ordinance but would respond to questions and provide recommendations regarding any proposed ordinance. IEPA Comment at 37.

IEPA also responded to Collinsville's reference to a water well survey that was done in 2000 and another "simple" water well survey in July 2015 (Pet. Resp. at 30, *citing* Pet. at 11). IEPA stated that it "was under the impression that a recent water well survey was conducted as part of this adjusted standard petition, and it is our recommendation that a current survey of

potable groundwater wells within one-half mile of the facility be conducted.” IEPA Comment at 38, 39.

As to the issue of characterizing “a significant change in groundwater quality” and Collinsville’s request that the adjusted standard entail no comparison to background values under its permit, IEPA provided some further information. IEPA explained that Condition 6 of Attachment A of Collinsville’s permit includes requirements to evaluate groundwater quality against background values, Class I groundwater quality standards, and two times the PQL (Practical Quantitation Limit), depending on the constituent or parameter. If an adjusted standard were granted removing the requirement for comparison to background values, IEPA stated it would use a trend analysis instead to identify increasing trends which might indicate a significant change in groundwater quality. IEPA Resp. at 1-3. As of the most recent annual groundwater monitoring report, IEPA stated that no increasing trends for any parameters have been identified. IEPA Resp. at 1.

If the adjusted standard is granted, IEPA explained that it would “adjust the facility permit to reflect the Illinois Pollution Control Board’s language with respect to the clarification of what constitutes a significant change in groundwater quality.” IEPA Comment at 42. IEPA added,

The facility permit will be revised to include the language provided by the Illinois Pollution Control Board should the adjusted standard be approved. Should the facility have additional changes/exceedances of groundwater quality that constitute a significant change in groundwater quality, the facility will be required to submit a Groundwater Assessment Monitoring Plan to investigate the groundwater exceedance. IEPA Comment at 43.

IEPA further elaborated that “the facility is subject to review and potential corrective action for all constituents listed in Condition 18 of Attachment A of the permit.” IEPA Resp. at 1.

After Collinsville subsequently revised its request on August 10, 2015, IEPA recommended that the Board grant the adjusted standard request as revised by Collinsville, and include two requirements: 1) that the facility not be allowed to submit an application for a certification of completion of post-closure care prior to fulfilling two years of annual groundwater monitoring, and 2) that Collinsville conduct a current survey of potable groundwater wells within one-half mile of the facility. IEPA Resp. at 4-5, IEPA Comment at 38-39, 46.

### **Collinsville’s Reply to IEPA’s Response**

Collinsville replied to IEPA’s comments on November 12, 2015 and requested clarification or discussion regarding draft language for the Board’s order contained in the August 31, 2015 hearing officer order.

Collinsville provided information to clarify that Canteen Mine Number 2 was not characterized as a surface mine in its reports as stated by IEPA. Collinsville explained that references to “coal stripping” in the coal processing description might have given the impression of “strip mining”. Pet. Reply at 10-11.

Collinsville asked for clarification regarding IEPA’s comment that it will review groundwater analytical data from annual and assessment monitoring reports using trend analysis instead of comparison to background values. Collinsville replied, “[T]he City wishes to confirm that no additional monitoring or statistical analysis will be required.” Pet. Reply at 23. Specifically regarding arsenic, Collinsville also replied, “The City of Collinsville does not believe additional statistical evaluation is needed.” Pet. Reply at 49.

Collinsville also reiterated its intention to work with IEPA on developing a plan to address maintenance of the landfill leachate collection system and erosion control as well as an instrument to prohibit the installation of new potable water wells. Pet. Reply at 9, 36, 39.

## **BOARD DISCUSSION**

### **Section 28.1(c) Factors**

Collinsville addressed each of the 28.1(c) factors: (1) factors relating to it are substantially and significantly different from factors relied upon by the Board in adopting the general regulation; (2) the existence of these factors justifies an adjusted standard; (3) the requested standard will not result in environmental or health effects substantially and significantly more adverse than the effects considered by the Board in adopting the rule of general applicability; and (4) the adjusted standard is consistent with any applicable federal law. 415 ILCS 5/28.1 (2014).

As to the substantially and significantly different factors under 28.1(c)(1), Collinsville explained that the Part 620 regulations did not contemplate a landfill built upon a subsurface coal mine or a surface gob storage area. Pet. at 12. Collinsville pointed out that the Board instead considered the effect of mining on groundwater quality when the Board adopted the standards under the Board’s Class IV other groundwater within a previously mined area. Collinsville cited to the Class IV standards as rationale for proposing existing concentrations as the adjusted standards for the historic mining-related constituents. Pet. Resp. at 4-5. As to how these factors justify the adjusted standard under 28.1(c)(2), Collinsville explained that the presence of constituents related to past mining practices and proper application of herbicides are unrelated to the municipal landfill operation; however, they are impacting monitoring well concentrations being used to monitor the closed landfill. Pet. at 12-13. As to what the environmental and health effects would be under 28.1(c) (3), Collinsville stressed that the adjusted standard would still assure the Class I groundwater quality standards would still be met at the property line and water use restrictions would be put into place near the landfill. Pet. Resp. at 28-29, 33, Rec. at 7, IEPA Comment at 41. IEPA agreed that Class I groundwater quality standards would apply to off-site locations, and that the adjusted standard would not result in off-site impacts from the groundwater beneath and adjacent to the landfill. Pet. Resp. at 33, IEPA Comment at 41-42. Finally, Collinsville has shown that the adjusted standards would be consistent with federal law

under 28.1(c)(4) for three main reasons: (1) there are no federal standards for groundwater except water used as a drinking water supply; (2) there are no potable wells within 1,300 feet downgradient of the landfill, and new water use restrictions near the landfill would prevent such use; and (3) Class I groundwater quality standards would be met at the property line. Pet. at 11, 13; Pet. Resp. at 28-29, 31, 33; Pet. at 11; IEPA Comment at 41.

Based on this record, the Board finds that Collinsville's request for relief from the Class I groundwater quality standards satisfies Section 28.1(c) of the Act.

### **Technical Feasibility and Economic Reasonableness**

Collinsville stated that there is no feasible, practical way to treat the impacted groundwater underlying the closed landfill given the area's historic subsurface mining activities, but Collinsville prepared cost estimates for various options if such measures were technically feasible. Collinsville calculated costs for removing the landfill, collecting and treating the leachate, and pumping and treating the groundwater that ranged from \$11,915,786 to \$234,272,521. Collinsville reiterated that treating the groundwater to achieve Class I groundwater quality standards at the site was neither technically feasible nor economically reasonable for a City of its size. Pet. at 8-9, Pet. Resp. at 27.

Under these circumstances, the Board finds that Collinsville has demonstrated that it is neither technically feasible nor economically reasonable for Collinsville to comply with the regulation of general applicability at the closed landfill site.

### **Groundwater Classification**

While Collinsville's petition stated the landfill is currently subject to Class I groundwater quality standards (Pet. at 9), Collinsville stated that it intends to proceed under 35 Ill. Adm. Code 620.260 Reclassification of Groundwater by Adjusted Standard. Pet. Resp. at 2. IEPA stated that this "has been discussed with the facility and the Illinois EPA has no objections." IEPA Comment at 3. IEPA noted that "not all of the groundwater at the site would be classified as Class IV: Other Groundwater." IEPA Comment at 6. The Board notes that the instant petition does not request reclassification of groundwater or provide the informational requirements of 35 Ill. Adm. Code 620.260. Therefore, the Board finds that it is not appropriate to address reclassification at this time. The Board will review Collinsville's petition as a request for adjusted standard from applicable Class I groundwater quality standards.

### **Adjusted Groundwater Quality Standards**

Collinsville's revised request specifically seeks adjusted standards from only 35 Ill. Adm. Code 620.410(a), (b) and (e) as those provisions apply to TDS, chloride, iron, arsenic, manganese, pH, perchlorate and p-Dioxane. For coal related constituents, including TDS, chloride, iron, arsenic, manganese, pH, and perchlorate, Collinsville requested the adjusted standard be set at the existing levels. For p-Dioxane, Collinsville requested the adjusted standard be 51 µg/L, the highest detected concentration.

IEPA stated that it has no objections to the use of the highest detected concentration of p-Dioxane and the existing concentrations as the adjusted standard for the facility for TDS, arsenic, chloride, iron, manganese, perchlorate, and pH. IEPA Resp. at 3, IEPA Comment at 4. IEPA did not specifically address Collinsville's adjusted standard request for sulfate, ammonia, boron, TOC, TOX, or zinc, but stated generally its "Groundwater Unit agrees with the proposed revisions to the adjusted standard as listed in Exhibit 8 of Attachment A of the August 10, 2015; City of Collinsville responses to Illinois Pollution Control Board questions." IEPA Comment at 46.

### **Coal Related Constituents**

The Board notes that Collinsville cited to the Class IV groundwater quality standards for other groundwater within a previously mined area as a rationale for requesting adjusted standards be set at existing concentrations for the historic coal-related constituents of TDS, arsenic, chloride, iron, manganese, perchlorate, and pH. *See* 35 Ill. Adm. Code 620.440(c). Pet. Resp. at 4-5. Collinsville reasoned "existing concentrations are appropriate for the coal-related constituents associated with the buried coal waste . . .". Pet. Resp. at 5-6. Collinsville added, "[t]he existing concentration is also proposed for perchlorate because the source of the perchlorate is pre-landfill blasting during coal mining." Pet. Resp. at 5-6. IEPA continued that it "has no disagreement with the approach to justify the alternate standards taken by the City of Collinsville." IEPA Comment at 6. IEPA explained "the actual concentrations of constituents is a practical approach given the length of time the facility has had to reach a type of equilibrium with conditions (mining activities ending the 1950's)." IEPA Comment at 15, 22-23.

Under the adjusted standard, both Collinsville and IEPA addressed surface water impacts from the adjusted standard for the closed landfill. Collinsville reported monitoring results in both groundwater and surface water for pH, TOC, TOX, arsenic, chloride, iron, manganese, sulfate, and TDS. Collinsville reported exceedances of the general use surface water quality standards for iron and manganese on site as well as for manganese both upstream, downstream, and on site. Pet. Resp. at 35, Att. 6, Tables 4-11. None of the other constituents measured in the surface water exceeded either the general use water quality standards or the Class I groundwater standards. IEPA agreed with Collinsville's assessment that the iron and manganese exceedances found in the surface water samples were due to turbidity as a result of drought conditions during the sampling period. Pet. Resp. at 35. IEPA Comment at 27-28. IEPA continued that conditions at the site have reached equilibrium and Collinsville provided adequate information to demonstrate that the source of surface water impacts is likely the waste material from coal mining and not the landfill. IEPA Comment at 7, 22-23, 45.

The Board finds that the proposed adjusted standards for the historic coal-related constituents will not interfere with the landfill achieving Class I groundwater quality standards at the property line. Given IEPA's comment that the groundwater at the facility has reached equilibrium conditions and the Board's order below requiring water use restrictions, the Board finds that Collinsville provided adequate justification that the existing concentrations are appropriate for groundwater in an area impacted by mining. The Board will set the adjusted standard for TDS, arsenic, chloride, iron, manganese, perchlorate, and pH at the existing concentrations in the order below.

## **P-Dioxane**

Collinsville attributed the presence of p-Dioxane to the use of Roundup Pro® along the perimeter of the landfill road and structures. Pet. at 3-4. Although Collinsville discontinued use of the Roundup Pro®, Collinsville cited to the uncertainty in attempting to find an alternative product since manufacturers are not required to list p-Dioxane as an ingredient. Pet. at 13, Pet. Resp. at 18. IEPA concurred with Collinsville's responses, adding that the likely source of p-Dioxane in the groundwater is not necessarily the landfill activities, but rather the agricultural row crop property located upgradient of the landfill. IEPA Comment at 18, 33

The Board notes that under the adjusted standard, both Collinsville and IEPA assert that Collinsville will still achieve Class I groundwater quality standard for p-Dioxane at the property line. Pet. Resp. at 33, IEPA Comment at 41. Neither the 2000 nor 2015 water well surveys identified potable wells within 1,300 feet downgradient of the landfill. Pet. at 11, Pet. Resp. at 31. Additionally, the water use restrictions that will be put into place in the Board's order below will prevent any new water well installations near the landfill. Since the adjusted standard would apply only on the Collinsville landfill property, and IEPA asserts the Class I groundwater quality standards will be met at the property line, the Board finds that an adjusted standard above the Class I groundwater quality standard is appropriate for p-Dioxane.

As to the appropriate value of the adjusted standard for p-Dioxane, Collinsville stated "the proposed adjusted standard is the highest detected concentration of 51 µg/L." Pet. Resp. at 18, 19, 25, Attach. 1, Exh. 8. IEPA stated that its "Groundwater Unit agrees with the revised concentrations, as the highest detected concentration as the proposed adjusted standard." IEPA Comment at 25. IEPA followed by stating its "Groundwater Unit has no comment . . . to the proposed adjusted standard for p-Dioxane at 51 µg/L." IEPA Resp. at 3.

Although Collinsville stated the highest detected concentration of p-Dioxane is 51 µg/L, the Board finds that this value is not supported by the record. For p-Dioxane, Collinsville's original petition listed the "Highest value detected to date – 0.0129 mg/L", which corresponds to a value of 12.9 µg/L. Pet. Exh. 8. The Board notes that a value of 51 µg/L does appear in the record for perchlorate, but not for p-Dioxane. For perchlorate, Collinsville's original petition listed the "Highest value detected to date – 0.051 mg/L". Pet. Exh. 8.

The Board notes that the highest value provided in the record for p-Dioxane of 12.9 µg/L is found in Pet. Exh. 7-1 at 18, 23, Table 7-1.2 for the May 2014 sampling event in MW-1. The highest value provided in the record for perchlorate of 51 µg/L is found in Pet. Exh. 5-8, Table 5-8.1 and Pet. Exh. 7-1 at 18, 23, Table 7-1.2 for the November 2013 sampling event in MW-4.

The May 21, 2015 hearing officer order noted the originally proposed adjusted standard for p-Dioxane did not appear to be based on the current maximum detected concentrations, but rather is greater than the maximum detected concentrations. In the original petition, the hearing officer order noted that p-Dioxane had a highest detected value of 0.0129 mg/L and a proposed adjusted standard of 0.025 mg/L. Collinsville was asked to provide justification for a requested adjusted standard for p-Dioxane that is greater than the highest detected value. However,

Collinsville did not provide any such justification and simply responded, “The proposed adjusted standard for p-Dioxane has been revised to the highest detected concentration of 51 µg/L.” Pet. Resp. at 20.

Given that Collinsville requested the “highest detected concentration” for p-Dioxane and IEPA agreed with Collinsville’s rationale for requesting an adjusted standard be set at the highest detected concentration, the Board will set the adjusted standard at the highest detected concentration provided in the record. For p-Dioxane, the highest detected concentration provided in the record is 0.0129 mg/L. The Board finds that an adjusted standard of 51 µg/L for p-Dioxane is not supported by the record; however, the Board finds that a value of 0.0129 mg/L is. The Board will include 0.0129 mg/L in the adjusted standard language for p-Dioxane.

### **No Comparison to Background Values and Trend Analysis**

Additionally, Collinsville also requested that the adjusted standard provide that no comparison to background values must be required under its permit for constituents related to past mining practices and proper herbicide application: p-Dioxane, TDS, chloride, iron, arsenic, manganese, sulfate, pH, and perchlorate as well as ammonia, boron, TOC, TOX, and zinc. Collinsville stated that the reason for including this provision in the adjusted standard is to “eliminate the comparison to background values” that would trigger assessment provisions to identify a “significant change in groundwater quality” under the permit. Pet. Resp. at 25.

Both Collinsville and IEPA explained that to determine if the landfill is causing a significant change in the groundwater quality, Collinsville’s current permit requires evaluation of groundwater against background values, Class I water quality standards, or two times the PQL depending on the constituent. Exh. 7-1, IEPA Resp. at 1-3. However, Collinsville explained that the constituents requested in the adjusted standard are not associated with the municipal landfill operation, but rather the historic mining activities and appropriate application of herbicide during post-closure care. Pet. at 12-13. IEPA acknowledged “the presence of sources other than the landfill activities” as one of the reasons behind its support of the adjusted standard request. IEPA Comment at 9-10, 21. *See also* Pet. Reply at 10-11.

IEPA further elaborated, stating that Condition 6 of Attachment A of Collinsville’s permit includes requirements to evaluate groundwater quality against background values, Class I groundwater quality standards, and two times the PQL (Practical Quantitation Limit), depending on the constituent or parameter. If an adjusted standard were granted removing the requirement for comparison to background values, IEPA stated it would use a trend analysis to identify increasing trends which might indicate a significant change in groundwater quality. IEPA Resp. at 1-3. Further, IEPA explained that it would “adjust the facility permit to reflect the Illinois Pollution Control Board’s language with respect to the clarification of what constitutes a significant change in groundwater quality.” IEPA Comment at 42. IEPA continued, “Should the facility have additional changes/exceedances of groundwater quality that constitute a significant change in groundwater quality, the facility will be required to submit a Groundwater Assessment Monitoring Plan to investigate the groundwater exceedance.” IEPA Comment at 43. IEPA stated “[t]he proposed adjusted standard will require revised permit language for Condition 6 of Attachment A and subsequent additional conditions added to the permit.” IEPA Resp. at 4.

Replying to IEPA's response, Collinsville requested that "to avoid future confusion, the City of Collinsville desires clarity regarding the measurement and reporting of background concentrations and parameters regarding these adjusted standards." Pet. Reply at 44.

Given that the presence of the above constituents is unrelated to the landfill operation and that the landfill is subject to Part 620 Class I standards at the property boundary, the Board finds that granting the requested relief to allow the use of trend analysis to evaluate groundwater monitoring data instead of comparison with background values will not interfere with the landfill achieving groundwater standards at the property boundary. As such, the Board adds a condition to the adjusted standard below that requires the use of trend analysis to determine if a significant change in groundwater quality occurs rather than a statistical comparison to background values for each of these constituents except arsenic and pH. The Board notes there are specific requirements for background comparisons of arsenic and pH under Section 620.310(a)(3)(A)(ii) and (iv) so a condition alone would not be sufficient. In light of this, the Board also grants Collinsville an adjusted standard from 35 Ill. Adm. Code 620.310(a)(3)(A)(ii) and (iv) for arsenic and pH such that a preventive assessment to determine if a significant increase or change occurs shall be based upon trend analysis and not on a statistical comparison to background values.

### **Monitoring and Analysis**

Collinsville asked for clarification regarding IEPA's comment that it will review groundwater analytical data from annual and assessment monitoring reports using trend analysis instead of comparison to background values. Collinsville stated "the City wishes to confirm that no additional monitoring or statistical analysis will be required." Pet. Reply at 23, 25. As to arsenic, Collinsville asserted that for the first time the exceedance documented in the 2014 Annual Groundwater Monitoring Report corresponds with the lower of the Class I groundwater quality standard, and "[t]he City of Collinsville does not believe additional statistical evaluation is needed." Pet. Reply at 49.

IEPA stated "until the facility has an approved certification of completion of post-closure care, the current permit for the facility shall remain active and inforce. Routine monitoring as required in Permit Condition 18 and 21 of Attachment A of the Permit shall continue." IEPA Resp. at 4. For monitoring, the adjusted standard contains the condition requested by Collinsville to provide quarterly monitoring for one year and then annually for two years for the constituents and parameter of the adjusted standard.

For analysis, IEPA stated "[t]he review of groundwater analytical data will be conducted in the same manner as has previously been conducted for review of the groundwater annual reports and the assessment monitoring reports that are routinely submitted by the facility." IEPA Comment at 21, 24. If an adjusted standard were granted removing the requirement for comparison to background values, IEPA stated it would use a trend analysis instead to identify increasing trends which might indicate a significant change in groundwater quality. IEPA Resp. at 1-3. IEPA did not address whether the trend analysis would involve a statistical analysis.

The Board notes that the adjusted standard and conditions in the order below do not include requirements for additional monitoring or additional statistical analysis beyond that which Collinsville requested or is already required by Collinsville's permit. Therefore, as noted by IEPA, the Board expects that any revisions to Collinsville's permit regarding analysis of groundwater monitoring data would be consistent with the language of the adjusted standard. IEPA Comment at 42.

### **Environmental Instrument to Prohibit New Potable Well Installation**

In response to hearing officer order questions regarding the applicability of the existing MOU and groundwater ordinance to the landfill outside the City of Collinsville corporate limits, Collinsville acknowledged that the current instruments do not apply. Collinsville replied that "[f]or more than 10 years, the City ordinance and MOU that prohibit the installation of new potable water wells were believed to include the Closed Collinsville Landfill." Pet. Resp. at 28-29. Similarly, IEPA was under the impression that such an ordinance had already been enacted by Collinsville. Rec. at 7, IEPA Resp. at 34, 37. IEPA added that it is not responsible for implementation of such an ordinance but would respond to questions and provide recommendations regarding any proposed ordinance. IEPA Resp. at 37.

Collinsville further stated its "intent to pursue a land use control for water supply wells for the area downgradient from the landfills. [Collinsville] is in the planning process and is working with Madison County, but would like to further discuss this issue with IEPA to confirm the proper wording of the land use control instrument." Pet. Reply at 36, 39.

The Board has required Environmental Land Use Controls (ELUC) prohibiting the use of groundwater for potable purposes in similar adjusted standards even where an ordinance exists. *See, e.g. Petition by Hayden Wrecking Corporation for an Adjusted Standard from 35 Ill. Adm. Code 620.410(a)*, AS 04-3, slip op. at 8, 11, 20 (Jan. 6, 2005) ("Even if the City of Madison rescinds its ordinance forbidding the use of the groundwater beneath the Hayden site as a source of potable drinking water, an institutional control will remain in effect until the Agency modifies or removes it.") and *Petition of the Village of Bensenville for an Adjusted Standards from 35 Ill. Adm. Code 620.410 Regarding Chloride*, AS 05-2, slip op. at 5, 17 (Oct. 20, 2005). As such, the Board will include as a condition of the adjusted standard that Collinsville shall secure and record with the county recorder's office an ELUC in accordance with 35 Ill. Adm. Code 742.1010 that contains IEPA approval and remains in effect until modified or removed by IEPA.

Collinsville may also work with the unit of local government for the land surrounding the Collinsville landfill to adopt and administer an ordinance that effectively prohibits the installation of potable water supply wells (and the use of such wells) per 35 Ill. Adm. Code 742.1015.

### **Maintenance Plan**

The hearing officer order questions cited to Collinsville's mention of a leachate collection system and requested information on future maintenance and mechanisms Collinsville intends to use after IEPA issues a certification of completion of post-closure care. Hearing Officer Order, slip op. at 4-5 (May 21, 2015).

The Board notes that although Collinsville stated its willingness to include a deed restriction that would require IEPA's approval prior to sale of the property, IEPA suggested that it was not aware of an IEPA program that could require such approval. Pet. Resp. at 7. IEPA explained, "after certification of completion of post-closure care is granted, the Illinois EPA no longer has regulatory authority to direct or enforce such a maintenance plan/program." IEPA Comment at 9. IEPA did offer to review any such proposal and may make recommendations. IEPA Comment at 8. Collinsville affirmed it "would like to discuss the details of this proposed maintenance plan further with the IEPA." Pet. Reply at 9. Since IEPA indicated it does not have regulatory authority to enforce a maintenance plan after certification of completion of post-closure care, and Collinsville did not request this to be a part of the adjusted standard, the Board does not include reference to a maintenance plan in the adjusted standard conditions.

### **Conditions Recommended by IEPA**

IEPA recommended that the Board grant the adjusted standard request as revised by Collinsville and include two requirements: 1) that the facility not be allowed to submit an application for a certification of completion of post-closure care prior to fulfilling two years of annual groundwater monitoring, and 2) that Collinsville conduct a current survey of potable groundwater wells within a one-half mile of the facility. IEPA Resp. at 4-5, IEPA Comment at 38-39, 46.

As to IEPA's recommendation to require Collinsville to fulfill two years of annual groundwater monitoring before applying for a certification of completion of post-closure care, the Board notes that Collinsville actually proposed three years of monitoring: one year of quarterly monitoring and two years of annual monitoring. As such, the Board will include a requirement that Collinsville may submit an application for a certification of completion of post-closure care only after completing one year of quarterly monitoring and two subsequent years of annual monitoring.

As to IEPA's recommendation that a new water well survey be conducted, the Board notes the following regarding the survey information provided by Collinsville for the two surveys performed in 2000 and July 2015. Pet. Resp. at 30, Pet. Resp. Attach. 14, Fig. 1. During the 2000 survey, Collinsville found that property owners less than 300 feet downgradient of the landfill and within the path of the impacted groundwater used City water. Collinsville concluded, therefore, that the groundwater immediately downgradient of the landfill is not used for potable purposes. The 2000 survey found two property owners using well water for human consumption, but both were located approximately 1,300 feet north-northeast of the landfill upgradient and outside the path of impacted groundwater. Pet. at 11.

For the July 2015 survey, the Board notes the one-half mile radius appears to be centered on a point in the middle of the landfill rather than one-half mile from the outer perimeter of the landfill. Pet. Resp. Attach. 14, Fig. 1. Collinsville shows 18 water wells were located within 2,500 feet of central point. Pet. Resp. Attach. 14, Fig. 1. Collinsville stated that the 11 wells identified in the 2000 water well survey were also identified in the current survey. Pet. Resp. at 38. The 11 wells identified in the 2000 water well survey were listed in Collinsville's September

2000 Groundwater Assessment Plan and were identified by property owner, well depth, and year of construction. Pet. Resp. Attach. 15-1 at 8. The figure provided for the July 2015 water well survey only identified and annotated wells by depth in feet. Pet. Resp. Attach. 14, Fig. 1. The Board notes that the depths in the July 2015 survey do not completely correspond to the wells identified in the 2000 survey. Additionally, the Board notes that where the July 2015 survey only consisted of the figure in Attach. 14, the 2000 survey was accompanied by a section in the September 2000 Groundwater Assessment Plan entitled, "Existing and Anticipated Impact on Any Potable Water Supplies due to Contamination". Pet. Resp. Attach. 15 at 7-9.

As such, the Board will include a condition in the adjusted standard that within 12 months, Collinsville shall conduct a new survey of potable groundwater wells within one-half mile of the outer perimeter of the waste boundary and document the available information for API (American Petroleum Institute) number, latitude and longitude, location, well name, date drilled, elevation, depth, and formation.

The Board finds that both requirements recommended by IEPA are reasonable and will include them as conditions of the adjusted standard with the modification discussed above.

#### **Adjusted Standard Language**

Collinsville did not provide specific language for an adjusted standard in the format the Board typically uses.

The Board's Hearing Officer issued questions to IEPA on August 31, 2015, directing IEPA to comment on draft language for an adjusted standard. Other than suggesting conditions to fulfill monitoring requirements before applying for completion of post-closure care and to perform a new water well survey, IEPA suggested no revisions to the draft order. *See* IEPA Resp. In its reply, Collinsville also did not suggest revisions or object to the draft adjusted standard language other than to ask for clarification. *See* Pet. Reply. In light of this, the Board's adjusted standard order is consistent with the draft language in the August 31, 2015 Hearing Officer Order with the changes discussed above.

#### **CONCLUSION**

Based on the record before it, the Board finds that Collinsville has provided sufficient justification for each of the factors at Section 28.1 of the Environmental Protection Act (Act) (415 ILCS 5/28.1 (2014)). The Board grants Collinsville's petition for an adjusted standard from the Board's Class I groundwater quality standards at 35 Ill. Adm. Code 620.410(a), (b), and (e) for p-Dioxane, TDS, chloride, iron, arsenic, manganese, pH, and perchlorate subject to the conditions listed in its order below.

The Board also grants Collinsville an adjusted standard from the preventive assessment requirements at 35 Ill. Adm. Code 620.310(a)(3)(A)(ii) and (iv) for arsenic and pH such that a preventive assessment to determine if a significant increase or change occurs must be based upon trend analysis and not on a statistical comparison to background values.

The Board includes a condition to the adjusted standard below that requires the use of trend analysis to determine if a significant change in groundwater quality occurs rather than a statistical comparison to background values for the following constituents: p-Dioxane, TDS, chloride, iron, arsenic, manganese, sulfate, perchlorate, ammonia, boron, TOC, TOX, and zinc. Additionally, the Board includes conditions requiring three years of groundwater monitoring, a new survey of potable groundwater wells, and an ELUC prohibiting the installation of new potable water wells.

## **ORDER**

Pursuant to Section 28.1 of the Act (415 ILCS 5/28.1) (2014)), the Board grants the City of Collinsville an adjusted standard from the Class I Groundwater Quality Standards of 35 Ill. Adm. Code 620.410(a), (b), and (e) for the constituents and parameter listed below. The Board also grants an adjusted standard from the preventive assessment requirements at 35 Ill. Adm. Code 620.310(a)(3)(A)(ii) and (iv) for arsenic and pH as provided below. The adjusted groundwater quality standards and conditions, as set forth below, are applicable to the City of Collinsville Landfill (permit number 1972-71) located along Lebanon Road in the northwest quarter of Section 36, Township 3 North, Range 8 West, Madison County.

### 1. **Extent of Adjusted Groundwater Quality Standards**

The adjusted groundwater quality standards set forth below are applicable to the groundwater located within and below the cross-hatched area denoted “Application of the Proposed Adjust Standards” as well as the eastern and southern area adjacent to the landfill within the City of Collinsville property boundaries for the landfill as depicted in Attachment 1 to this order. Attachment 1 to this order consists of Figure A-4 “Horizontal Extent of Pre and Post Landfill Contamination” (August 2015) from Attachment 4 of the City of Collinsville’s August 10, 2015 Written Responses to Board Questions for City of Collinsville.

### 2. **Adjusted Groundwater Quality Standards**

In lieu of the Class I Groundwater Quality Standards found at 35 Ill. Adm. Code 620.410(a), (b), and (e) for the following constituents and parameter, the adjusted standards are set forth below.

#### a. **Inorganic Chemical Constituents:**

The standards for the following chemical constituents are the existing concentrations:

Arsenic  
Chloride  
Iron  
Manganese  
Perchlorate

Total Dissolved Solids (TDS)

**b. Organic Chemical Constituents:**

Except due to natural causes, concentrations of the following organic constituent shall not be exceeded in the groundwater:

<u>Constituent</u>	<u>Units</u>	<u>Adjusted Standard</u>
P-Dioxane	mg/L	0.0129

**c. pH:**

The standard for the pH range is the existing pH.

**3. Trend Analysis**

Trend analysis shall be used to determine if a significant change in groundwater quality occurs rather than a statistical comparison to background values for the following constituents:

- Ammonia
- Boron
- Chloride
- Iron
- Manganese
- p-Dioxane
- Perchlorate
- Sulfate
- Total Dissolved Solids (TDS)
- Total Organic Carbon
- Total Organic Halogen
- Zinc

**4. Preventive Assessment**

The preventive assessment to determine if a significant increase occurs as provided in 35 Ill. Adm. Code 620.310(a)(3)(A)(ii) shall be based upon trend analysis and not on a statistical comparison to background values for the following constituent: Arsenic.

The preventive assessment to determine if a significant change occurs as provided in 35 Ill. Adm. Code 620.310(a)(3)(A)(iv) shall be based upon trend analysis and not on a statistical comparison to background values for the following parameter: pH.

**5. Groundwater Monitoring**

For the constituents and parameter listed in item 2 above, the City of Collinsville shall provide quarterly monitoring for one year and then annually for two years. Results of the monitoring shall be submitted to Illinois Environmental Protection Agency (IEPA) with

other post-closure monitoring results in accordance with the currently applicable permit for the City of Collinsville Landfill. Collinsville shall not be allowed to submit an application for the end of the post-closure care period until after one year of quarterly monitoring and two subsequent years of annual monitoring have been completed.

6. **New Survey of Potable Groundwater Wells**

Within 12 months of the date of this Order, the City of Collinsville shall conduct a new survey of potable groundwater wells within one-half mile of the outer perimeter of the waste boundary as shown in Attachment 1 to this Order and submit the survey to IEPA's Groundwater Unit, documenting available information for API (American Petroleum Institute) number, latitude and longitude, location, well name, date drilled, elevation, depth, and formation.

7. **Prohibition on Installation of New Potable Water Wells**

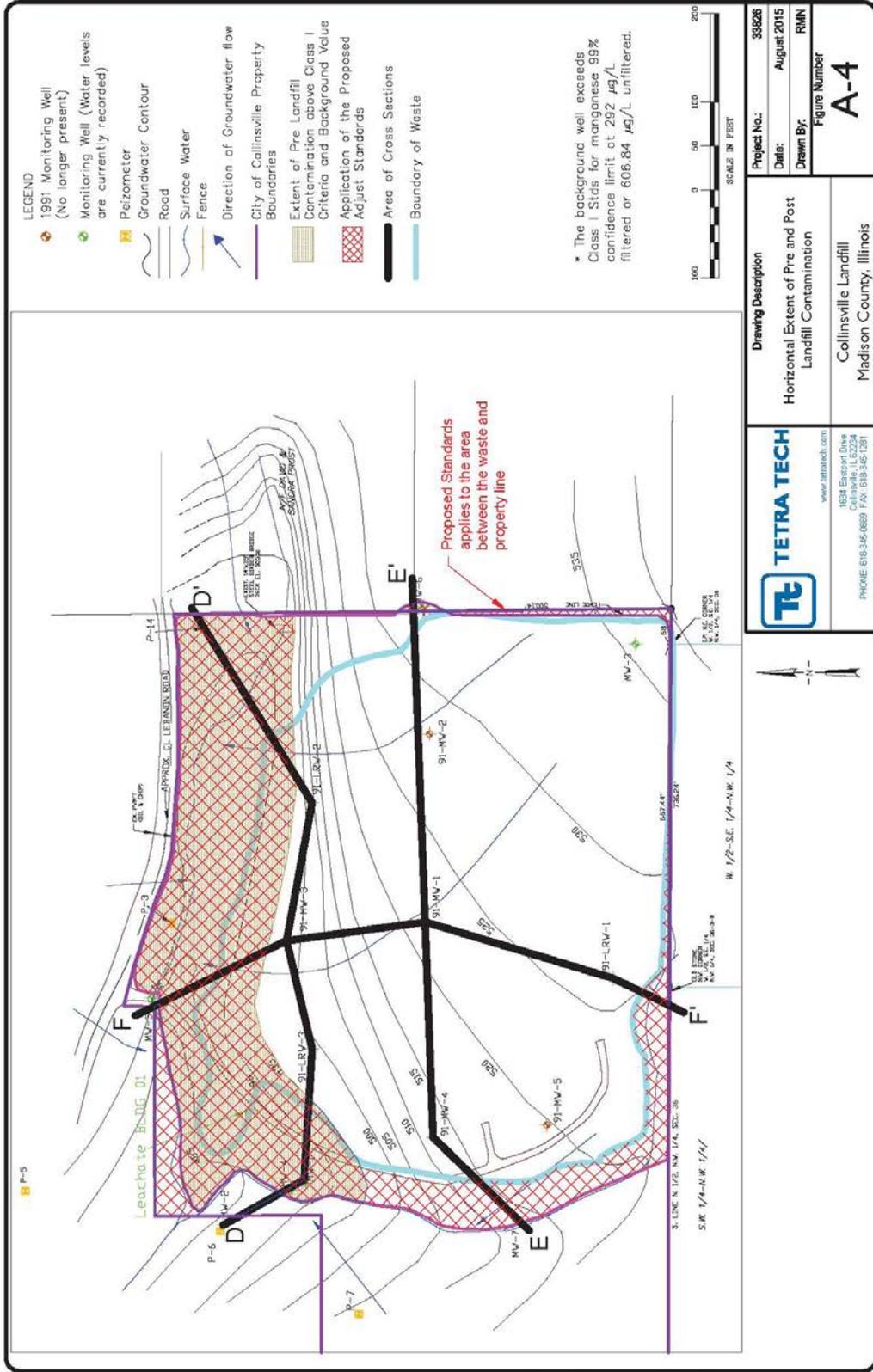
Within 12 months of the date of this Order, the City of Collinsville shall secure and record with the Madison County Recorder's Office an Environmental Land Use Control (ELUC) in accordance with 35 Ill. Adm. Code 742.1010 that prohibits the installation of potable water wells that may be impacted by the landfill and identifies the legal boundaries, or equivalent, under which the ELUC is applicable. The ELUC must contain IEPA approval and remain in effect until modified or removed by IEPA. Upon recording the ELUC, a copy of the ELUC demonstrating that it has been recorded must be submitted by Collinsville to:

James M. Kropid  
Assistant Counsel  
Division of Legal Counsel  
Illinois Environmental Protection Agency  
1021 North Grand Avenue East  
P.O. Box 19276  
Springfield, Illinois 62794-9276

AND

John T. Therriault, Clerk Illinois Pollution Control Board  
100 W. Randolph, Ste 11-500  
Chicago IL 60601

Attachment 1



LEGEND

- 1991 Monitoring Well (No longer present)
- Monitoring Well (Water levels are currently recorded)
- Peizometer
- Groundwater Contour
- Road
- Surface Water
- Fence
- Direction of Groundwater flow
- City of Collinsville Property Boundaries
- Extent of Pre Landfill Contamination above Class I Criteria and Background Value
- Application of the Proposed Adjust Standards
- Area of Cross Sections
- Boundary of Waste

The background well exceeds Class I Status for manganese 99% confidence limit at 292 µg/L filtered or 606.84 µg/L unfiltered.



<p><b>TETRA TECH</b> www.tetrattech.com 1824 Eastport Drive Columbia, IL 62234 PHONE: 618-345-0859 FAX: 618-345-1281</p>	<p><b>Drawing Description</b> Horizontal Extent of Pre and Post Landfill Contamination</p>	<p><b>Project No.:</b> 38628 <b>Date:</b> August 2015 <b>Drawn By:</b> RMIN <b>Figure Number:</b> A-4</p>
	<p>Collinsville Landfill Madison County, Illinois</p>	

Copyright: Tetra Tech

IT IS SO ORDERED.

Section 41(a) of the Act provides that final Board orders may be appealed directly to the Illinois Appellate Court within 35 days after the Board serves the order. 415 ILCS 5/41(a) (2014); *see also* 35 Ill. Adm. Code 101.300(d)(2), 101.906, 102.706. Illinois Supreme Court Rule 335 establishes filing requirements that apply when the Illinois Appellate Court, by statute, directly reviews administrative orders. 172 Ill. 2d R. 335. The Board's procedural rules provide that motions for the Board to reconsider or modify its final orders may be filed with the Board within 35 days after the order is received. 35 Ill. Adm. Code 101.520; *see also* 35 Ill. Adm. Code 101.902, 102.700, 102.702.

I, John T. Therriault, Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above opinion and order on February 4, 2016 by a vote of 5-0.



---

John T. Therriault, Clerk  
Illinois Pollution Control Board