



**Environmental  
Protection Agency**

**John R. Kasich, Governor**  
**Mary Taylor, Lt. Governor**  
**Scott J. Nally, Director**

February 1, 2012

**RE: LORAIN COUNTY  
CITY OF LORAIN  
NEW LORAIN CITY SCHOOLS  
CONSTRUCTION STORM WATER**

**NOTICE OF VIOLATION**

Dan Denicola  
Chief Operations Officer  
Lorain City Schools  
2350 Pole Ave.  
Lorain, OH 44052

Dana Strizzi  
Hammond Construction  
1278 Park Ave SW  
Canton, OH 44706

Dear Mr. Denicola and Mr. Strizzi:

On December 1, 2011, Ohio EPA received your response regarding the implementation of post-construction storm water best management practices (BMPs) at twelve schools built since April 21, 2003, by the Lorain City School District. Ohio EPA questioned if post-construction BMPs had been installed in accordance with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit program at the following schools:

**Lorain City School Projects**

Name of School	Name of School on NOI or Former Name	General NPDES Permit #	Facility Permit #	Large or Small Construction Activity*	New or Redevelopment
Washington Elementary	Washington Elementary	OHC000002	3GC00314*AG	Large	Redevelopment
Larkmoor Elementary	Larkmoor Elementary	OHC000002	3GC00315*AG	Large	Redevelopment
Frank Jacinto Elementary	Charleston Elementary	OHC000002	3GC00316*AG	Small	Redevelopment

Longfellow Middle	Longfellow Middle	OHC000002	3GC00818*AG	Large	Redevelopment
Gen Johnnie Wilson Middle	Washington Middle	OHC000002	3GC00837*AG	Large	New Development
Garfield Elementary	Garfield Elementary	OHC000002	3GC01179*AG	Small	Redevelopment
Palm Elementary	Palm Elementary	OHC000002	3GC01181*AG	Small	Redevelopment
Hawthorne Elementary	Hawthorne Elementary	OHC000003	3GC04299*AG	Small	Redevelopment
Steven Dohanos Elementary	Lincoln Elementary	OHC000003	3GC04300*AG	Large	Redevelopment
Southview Middle	Whittier Middle	OHC000003	3GC04783*AG	Large	New Development
Adm. Ernest J. King Elementary	Irving Elementary	OHC000003	3GC04784*AG	Large	Redevelopment
Helen Steiner Rice Elementary	Homewood Elementary	Started 5/2005 NO PERMIT	3GC05756*AG as of 12/19/11	Large	Redevelopment
Toni Morrison Elementary	Masson Elementary	Started 5/2005 NO PERMIT	3GC05755*AG as of 12/19/11	Small	Redevelopment

\* Determination based on reported disturbance on Notice of Intent (NOI)

After review of your response, Ohio EPA can agree that post-construction requirements of the applicable NPDES permit have been met for the following schools:

- Longfellow Middle School
- Steven Dohanos (Lincoln) Elementary School
- Adm. Ernest J. King (Irving) Elementary School

In each of these cases, Lorain City Schools has submitted information indicating that there has been a reduction in impervious area of at least 20% over existing conditions. As such, no further action is required for these schools.

However, Ohio EPA believes the following violations of storm water regulations have occurred at other school locations:

- **Failure to obtain NPDES permit coverage for storm water associated with construction activities at the Helen Steiner Rice Elementary School and Toni Morrison Elementary School at least 21 days prior to the start of construction activities.** This is a violation of Ohio Administrative Code 3745-39-04 and Ohio Revised Code 6111.04. Redevelopment of the Homewood Elementary School into the

Helen Steiner Rice Elementary School resulted in a disturbance of 5.68 acres. Redevelopment of the Masson Elementary School into the Toni Morrison Elementary School, previously unknown to Ohio EPA, resulted in a disturbance of 4.40 acres. As such, an NPDES permit was required to discharge storm water associated with construction activities. The Lorain City School District did not obtain coverage under the applicable Ohio EPA General Storm Water NPDES Permit for this particular construction activity until December 19, 2011. Information on the NOIs submitted to obtain NPDES permit coverage indicated that construction activities at these schools started in May 2005.

- **Termination of NPDES permit coverage, yet failing to meet the conditions required to terminate NPDES permit coverage.** This is a violation of Part IV.B of the NPDES permit and Ohio Revised Code 6111.04 and 6111.07. On November 22, 2011, Ohio EPA terminated NPDES permit coverage for the following schools: Washington Elementary, Larkmoor Elementary, Charleston Elementary, Longfellow Middle, Washington Middle, Garfield Elementary, Palm Elementary, Hawthorne Elementary and Lincoln Elementary Schools, in response to the submittal of a Notice of Termination (NOT). However, as you are aware from our meeting September 12, 2011, and as outlined below, most of these schools are not in compliance with the post-construction requirements of the NPDES permit. Thus, the NOTs for all of these schools except Longfellow Middle and Lincoln Elementary were submitted inappropriately and these permits will be reactivated until this matter is resolved.
  
- **Failure to provide post-construction best management practices for the perpetual management of runoff quality and quantity.** This is a violation of Ohio Revised Code 6111.04 and 6111.07. This violation is noted for the following schools for the following reasons:
  - **Washington Elementary School** – The Notice of Intent (NOI) submitted by the Lorain City School District for this project indicates that the larger common plan of development disturbed 5.53 acres. Because the larger common plan of development disturbed 5 or more acres, this project is categorized as large construction for regulatory purposes. As such, post-construction BMPs that treat the Water Quality Volume (WQv) are required for this project. The response indicates that a dry detention basin with an 8-inch diameter outflow pipe was provided, but no documentation was submitted to demonstrate that this orifice drains the required extended detention volume no faster than 48 hours as required by Part III.G.2. e of NPDES permit #OHC000002 for dry extended detention ponds. As a redevelopment project, the required extended detention volume is equal to 20% of the WQv. On redevelopment projects, this requirement is more commonly met by providing extended detention of the full WQv associated with the drainage area of the best management practice and demonstrating that this is at least 20% of the WQv associated with the permitted

construction activity. Further, Ohio EPA notes that Part III.G.1.b of NPDES permit #OHC000002 requires the storm water pollution prevention plan (SWP3) to provide a description of the total area of the site and the area of the site that is expected to be disturbed (i.e., grubbing, clearing, excavation, filling or grading, including off-site borrow areas). As such, if the Lorain City School District wishes to argue that the project should be treated as small construction, you should submit a copy of the SWP3 as documentation to this effect. Ohio EPA cannot accept an unsubstantiated statement that "the disturbed developed area" was less than 5 acres "per the Civil Engineer".

- o **Larkmoor Elementary School** – The NOI submitted for this project by the Lorain City School District indicates that the larger common plan of development disturbed 5.63 acres. As with Washington Elementary School, Larkmoor is subject to the post-construction requirements of large construction activity contained in NPDES permit #OHC000002 unless the SWP3 demonstrates otherwise. As a redevelopment project, Ohio EPA accepts requirements have partially been met through an 8% reduction in impervious area over existing conditions. Thus, structural BMPs must provide treatment of at least 12% of the WQv associated with the construction activity. The response indicates that infiltration and a dry detention basin are intended to address the WQv, however, you have not submitted information to demonstrate that the 10-inch diameter outflow pipe of the basin drains the required extended detention volume no faster than 48 hours, or that a combination of the basin and an infiltration practice, e.g., an infiltration trench or infiltration basin, provides treatment of at least 12% of the WQv associated with the construction activity.
- o **Frank Jacinto (Charleston) Elementary** – Although Ohio EPA agrees that post-construction requirements in NPDES permit #OHC000002 are not as prescriptive for small construction activity as they are for large construction, your response indicates that you intended to meet post-construction requirements through the use of a dry extended detention basin. To respond, I have copied Question 14 in the Ohio EPA Post-Construction Q&A Document (available at [www.epa.ohio.gov/dsw/storm/index.aspx](http://www.epa.ohio.gov/dsw/storm/index.aspx)):

#### **14. What are the requirements for small construction sites?**

The answer is:

Post-construction BMPs are required on small construction sites (see definition under Question 6). The post-construction BMPs that will be installed must still address the anticipated impacts on the channel and floodplain morphology, hydrology and water quality. BMPs should be selected to treat the pollutants and storm water concerns associated with the proposed land use. Ohio EPA believes that this goal is best reached by implementing the BMPs listed in Table 2 of Part

III.G.2.e of the CGP (Page 22). However, because Ohio EPA does not explicitly require that BMPs selected for small construction sites be designed to treat the WQv and drain it down over a prescribed time period, alternative BMPs may be selected for use on these sites. In some instances, a strictly non-structural approach may be appropriate. This allows the SWP3 designer greater flexibility in selecting BMPs. **However, if the BMP selected for use on a small site is one found in Table 2 of Part III.G.2.e of the CGP, the WQv and drawdown criteria should still be applied to the design of the BMP to assure proper operation.** Velocity dissipation devices must be placed at discharge locations and along the length of any outfall channel to provide non-erosive flow velocities from the site. Examples of BMPs that may be suitable for small construction sites include conservation easements, riparian setbacks, vegetative filter strips, preservation of green spaces, grassy swales, infiltration trenches, sand filters, bioretention cells, rain barrels, use of permeable pavements, roof gardens, catch basin inserts, hydrodynamic separators, and/or media filters.

Thus, Lorain City Schools should demonstrate that the dry basin provides a minimum 48-hour drawdown of the required extended detention volume. As a redevelopment project, this volume is equal to at least 20% of the WQv. Further, for small construction, NPDES permit #OHC000002 states:

*The SWP3 must include a description of measures to be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. The SWP3 shall include an explanation of the technical basis used to select the practices to control pollution where flows exceed pre-development levels.*

Thus, at the very least, Lorain City School District must provide the technical basis for selecting the extended detention volume and drawdown time (if not at least 20% of the WQv and 48 hours, respectively) and provide an indication of how the design of the detention area controls the discharge of pollutants. This same response applies to **Palm Elementary** and **Hawthorne Elementary Schools**.

- **Gen. Johnnie Wilson Middle School** – It appears that both the Lorain City School District and Ohio EPA are in agreement that post-construction requirements have not been met on this project. As new construction and a large construction activity, post-construction BMPs should have been designed to provide treatment for the full WQv. NPDES permit #OHC000002 did not expressly provide off-site mitigation of the WQv as an option for meeting post-construction requirements. However, Ohio EPA does allow off-site mitigation in limited circumstances under the current NPDES permit #OHC000003, and thus, will allow Lorain City Schools the opportunity to mitigate for post-construction BMPs on this project via off-site mitigation, if necessary. However, we

encourage you to first look for on-site opportunities to implement storm water retrofitting.

Ohio EPA does not have sufficient information to determine if off-site mitigation for the Gen. Johnnie Wilson Middle School can be provided at the upcoming New Lorain High School project. However, the agency would be open to this solution if the opportunity exists. The New Lorain High School would only provide such opportunity if that project is a redevelopment project. If the New Lorain High School is a new development, then treatment of the WQv is already required for 100% of the site. Thus, there would be no opportunity for BMPs that could provide an additional water quality benefit above and beyond what is required. The agency would also be open to a solution that is partially met through on-site retrofit and off-site mitigation.

- o **Garfield Elementary School** – Similar to Larkmoor Elementary, post-construction BMP requirements have been partially met through the reduction in impervious area. Your response indicates that impervious area has been reduced by 10%. Thus, structural controls must be provided to treat at least 10% of the WQv. Your response indicates that some underground detention is provided within the storm sewer piping however, you have not provided any details of the detention design (volume and drawdown time). At a minimum, Lorain City School District must provide the technical basis for selecting underground detention as a structural BMP and provide an indication of how the design of the detention area controls the discharge of pollutants. Ohio EPA believes that in order to demonstrate pollutant removal within a dry detention basin, the basin must be designed to treat the WQv by detaining it and draining it down no faster than 48 hours.
- o **Southview (Whittier) Middle School** – Lorain City Schools have agreed to redesign the outlet structure of the dry basin so that it provides extended detention of the WQv. Ohio EPA agrees that this modification is required to comply with the NPDES permit. However, as stated in previous correspondence, for large construction activity, the NPDES permit requires dry extended detention basins to include a forebay and micropool, each sized at 10% of the WQv. Your response does not indicate that you intend to meet this requirement. Ohio EPA believes the basin must be modified to include a forebay and micropool.
- o **Helen Steiner Rice (Homewood) Elementary School** – Ohio EPA accepts that post-construction BMP requirements have partially been met through the reduction of impervious area by 3%, however, the remaining 17% of the WQv must be treated via structural controls. Your response indicates that a detention basin has been provided, but you have not provided details of the basin design to demonstrate that the basin provides 48-hour drawdown of 17% of the WQv. As a

large construction project, BMP design is required to meet the volume and drain time requirements of the NPDES permit.

- o **Toni Morrison (Masson) Elementary School** – No information has been provided about the post-construction practices for this site, however since post-construction was not actively provided on any other project, it is not likely that it has been provided for this one either.

In determining appropriate solutions to bring these sites into compliance, Lorain City Schools must first determine the WQv that should have been treated for each project. Any plan for corrective action must address the difference between what was required to be treated and what was actually provided. Corrective action will typically be either via on-site retrofitting or off-site mitigation. As such, either:

- (1) Submit a site-specific retrofit plan for each school to provide the treatment required but not yet provided, or
- (2) Propose specific off-site mitigation plans for projects where on-site solutions are not feasible.

Off-site mitigation should occur on Lorain City School District properties or you may work with the City of Lorain to install appropriate retrofits within the City of Lorain municipal separate storm sewer system (MS4). Plans should include a proposed timeframe to complete each project. Ohio EPA understands the financial concerns of the school district and is open to a plan that may occur over the course of several years.

Retrofitting can be accomplished by either (a) re-engineering existing infrastructure to provide a water quality benefit, e.g., modifying a traditional detention basin outlet structure so that it provides extended detention of the Water Quality Volume (WQv) or (b) replacing existing infrastructure with low-impact development practices, e.g, disconnecting downspouts and directing roof runoff to a bioretention cell. Local examples of retrofitting existing infrastructure include the modification of the detention basin at the car rental facility for Cleveland Hopkins International Airport to provide extended detention of the WQv and conversion an off-line flood control basin into an in-line dry extended detention basin with wetland features, as was done several years back at the I-90/Crocker Road exit in Westlake. Examples of replacing existing infrastructure with low-impact development practices includes replacing traditional pavement with pervious pavement, disconnecting downspouts and collecting storm water in a rain barrel or cistern for subsequent reuse on-site, and installation of bioretention cells and dry enhanced swales. A number of local retrofit examples can be found on our website at:

<http://epa.ohio.gov/dsw/nps/swif.aspx>

And

<http://www.epa.ohio.gov/Default.aspx?tabid=5193>

On-site retrofits on redevelopment projects would only need to treat 20% of the WQv associated with the site (or for sites where requirements were partially met through impervious area reduction, 20% less the percentage of impervious area reduction).

For off-site mitigation, the Lorain City School District should expect to comply with the off-site mitigation criteria found in NPDES permit #OHC000003. Thus, the minimum off-site mitigation ratio is 1.5:1 or the WQv at the point of retrofit, whichever is greater, and a maintenance agreement or policy must be established to ensure operation of the BMP in perpetuity.

Please develop a plan for corrective action to address the violations noted above. Detailed retrofit or off-site mitigation plans should be submitted **no later than May 1, 2012**. I would be glad to meet with you to discuss concept plans and review calculations of the required treatment volume(s) at any time before this date to ensure that the submitted plans will be acceptable to Ohio EPA. If Ohio EPA does not receive a response from you by this date, we will initiate enforcement action. Failure to comply with the NPDES permit is a violation of Ohio Revised Code 6111.04 and 6111.07 and is punishable by fines of up to \$10,000 per day of violation.

If you have any questions, please contact me at (330) 963-1145.

Sincerely,



Dan Bogoevski  
District Engineer  
Division of Surface Water

DB/cs

cc: Dr. Ed Branham, Superintendent, Lorain City Schools  
Dale Vandersommen, Engineer, City of Lorain  
Douglas Tober, R.E. Warner & Associates  
Eric Shaver, MCB Inc

ec: Mark Mann, Manager, Storm Water and Enforcement Section, Ohio EPA, DSW, CO