



**Environmental
Protection Agency**

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

December 5, 2011

RE: WAYNE COUNTY
CITY OF ORRVILLE
JM SMUCKER – DISCOVERY BUILDING
CONSTRUCTION STORM WATER

Aaron Thompson
Domokur Architects
4651 Medina Rd
Akron, OH 44321-1315

Rob Misutka
The JM Smucker Co
1 Strawberry Lane
Orrville, OH 44667

Dear Mr. Thompson and Mr. Misutka:

On November 29, 2011, Ohio EPA received your response to our letter dated November 18, 2011, regarding the post-construction best management practices (post-construction BMPs) for the above referenced project. After review of your response, it appears that post-construction BMPs for this project do not meet the minimum requirements of the Ohio EPA General Storm Water National Pollutant Discharge Elimination System (NPDES) Permit for Construction Activities #3GC04893*AG. The NPDES permit does not include provisions for the overdetention of the water quality volume (WQv) in one post-construction BMP to make up for a lack of post-construction BMP in another drainage area. Although we concur that the WQv that must be treated for this project is 965 cubic feet, the WQv to Outlet Structure 3 (OS3) is only 224 cubic feet, based on a 0.85-acre drainage area with 74% imperviousness. Thus, additional practices are needed to treat the remaining 741 cubic feet of WQv associated with this project.

Although overdetention in one structure to make up for a lack of detention in another structure is a common approach when designing for flood control, it is not a prudent tactic when designing for storm water quality. The highest concentration of pollutants in runoff from urbanized land is found in the first flush. The concentration of pollutants drops exponentially in runoff beyond the first flush (Environmental Resources Management Division, City of Austin, TX, 1990). Thus, to detain more than the WQv associated with OS3 within Detention Basin 3 does not appear to maximize water quality treatment. The WQv as defined in the NPDES permit represents the first flush for the State of Ohio.

Additional WQv treatment can be provided by modifying either outlet structures OS1 or OS2, however, since Detention Basin 3 discharges to Detention Basin 1, it would appear that modifying OS1 is the simpler option. Your response letter indicates that Detention Basin 1 is designed per the City of Orrville storm water requirements and thus, this does not allow the

basin to be used for extended detention. After consultation with Lynn Snyder, City Engineer for the City of Orrville, we are not prepared to concur with this conclusion. It may be possible to design Detention Basin 3 and Detention Basin 1 to work in concert such that the cumulative storage volume provided meets the City of Orrville requirement, but OS1 is designed to be a multi-stage outlet whose lowest orifice provides extended detention of 965 cubic feet within Detention Basin 1 and a second orifice located at the top of the WQv controls the discharge rate for the larger storm events per the City of Orrville requirement. In other words, the detention volume required by the City of Orrville does not have to be stacked on top of the WQv required by Ohio EPA as long as there will be no adverse impacts to site drainage or basin function. Considering the fairly small value of the WQv, we do not expect such adverse impacts to be the case here. Designing Detention Basin 3 to work in concert with Detention Basin 1 may also allow you to eliminate OS3 and simply keep the pipe that ties it to Detention Basin 1.

Please have your project engineer review the design of Detention Basin 1 and Detention Basin 3 so that post-construction water quality treatment is better aligned with the intent of the NPDES permit. If such a redesign is feasible, please submit revised drawings and calculations to both me and the City of Orrville for review. If a redesign is not feasible, please provide us with a letter of explanation. Please submit this information no later than December 23, 2011.

Finally, please note that although you submitted a Notice of Termination (NOT) for this project and our Central Office sent a letter acknowledging receipt of the NOT on November 29, 2011, please be aware that you have not met the conditions for terminating NPDES permit coverage until this matter is resolved. After informing our Central Office of the situation, NPDES permit coverage for this project has been reactivated and will remain in place until this matter is resolved.

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

Sincerely,



Dan Bogoevski
District Engineer
Division of Surface Water

DB/cs

Cc: Bob Metze, The JM Smucker Co
Lynn Snyder, Engineer, Village of Orrville
David Handwerk, Mayor, City of Orrville
Steve Wheeler, Public Service and Safety Director, City of Orrville

Ec: Michael Joseph, Ohio EPA, DSW, CO